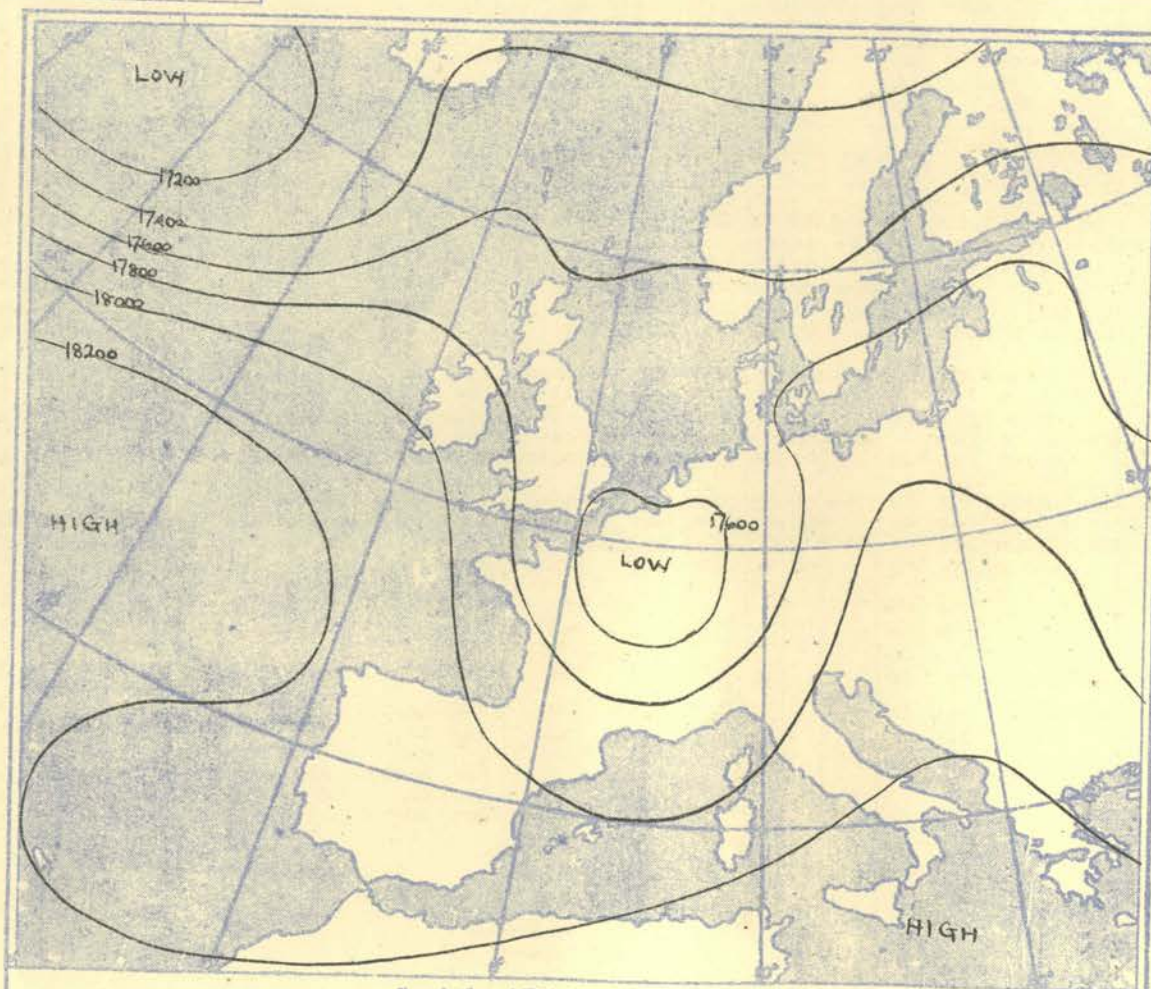
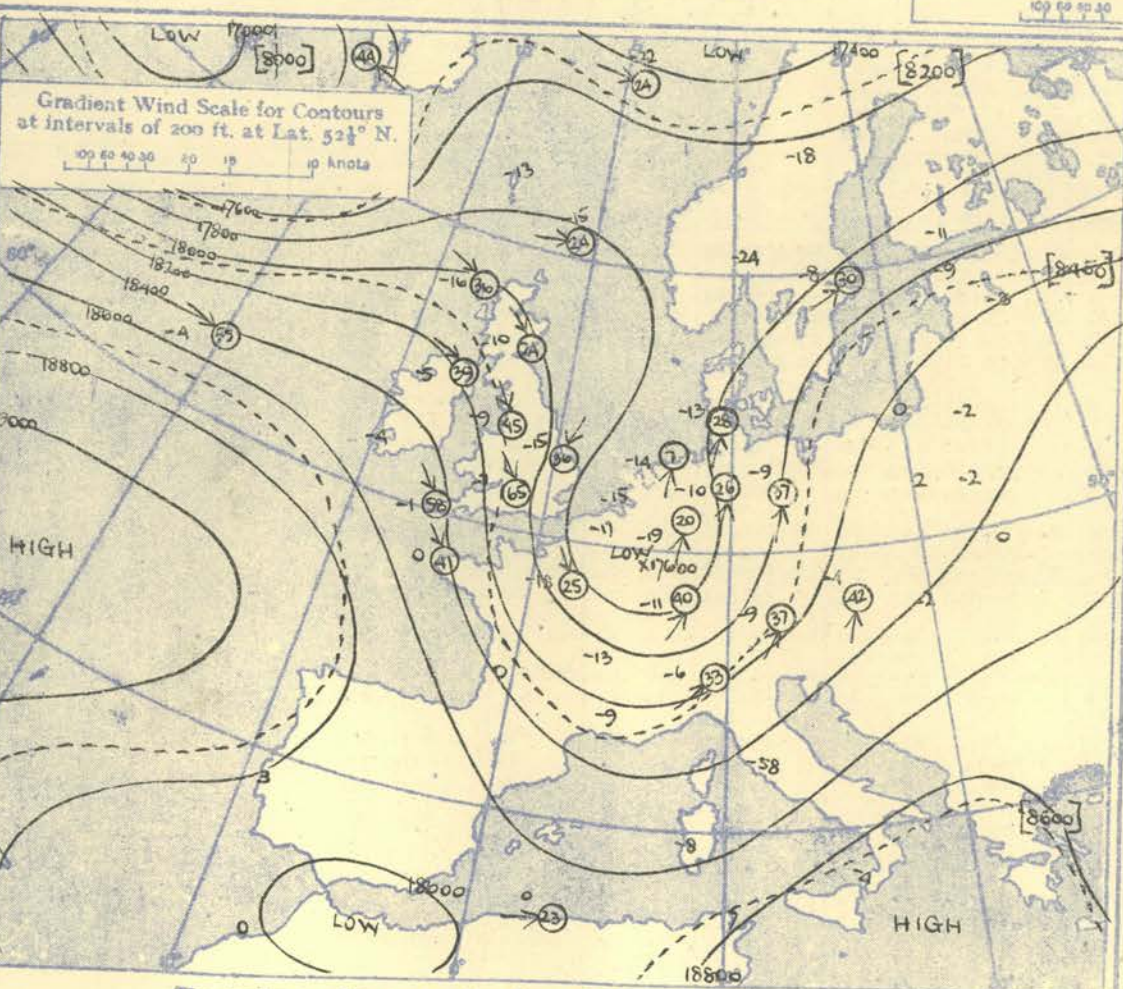
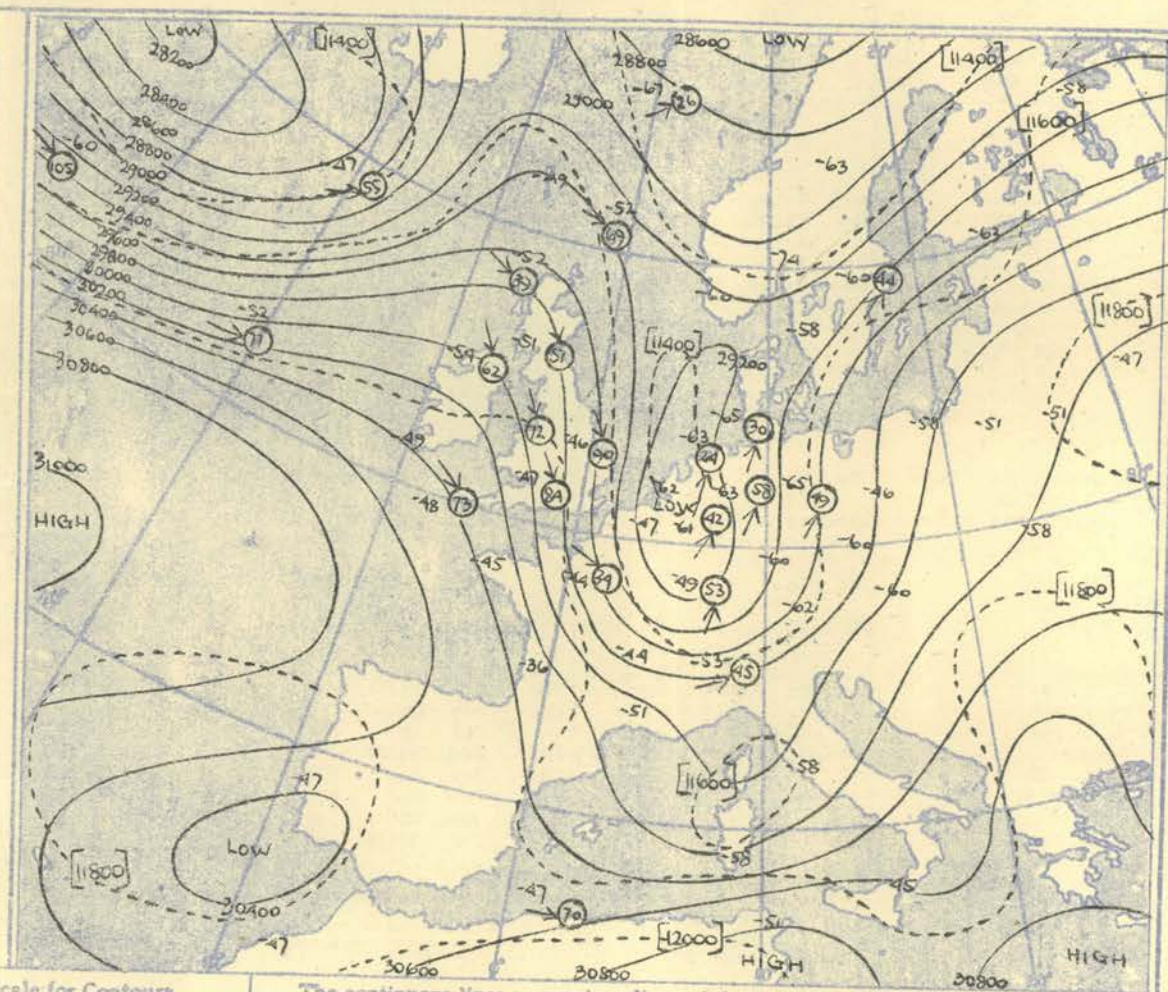
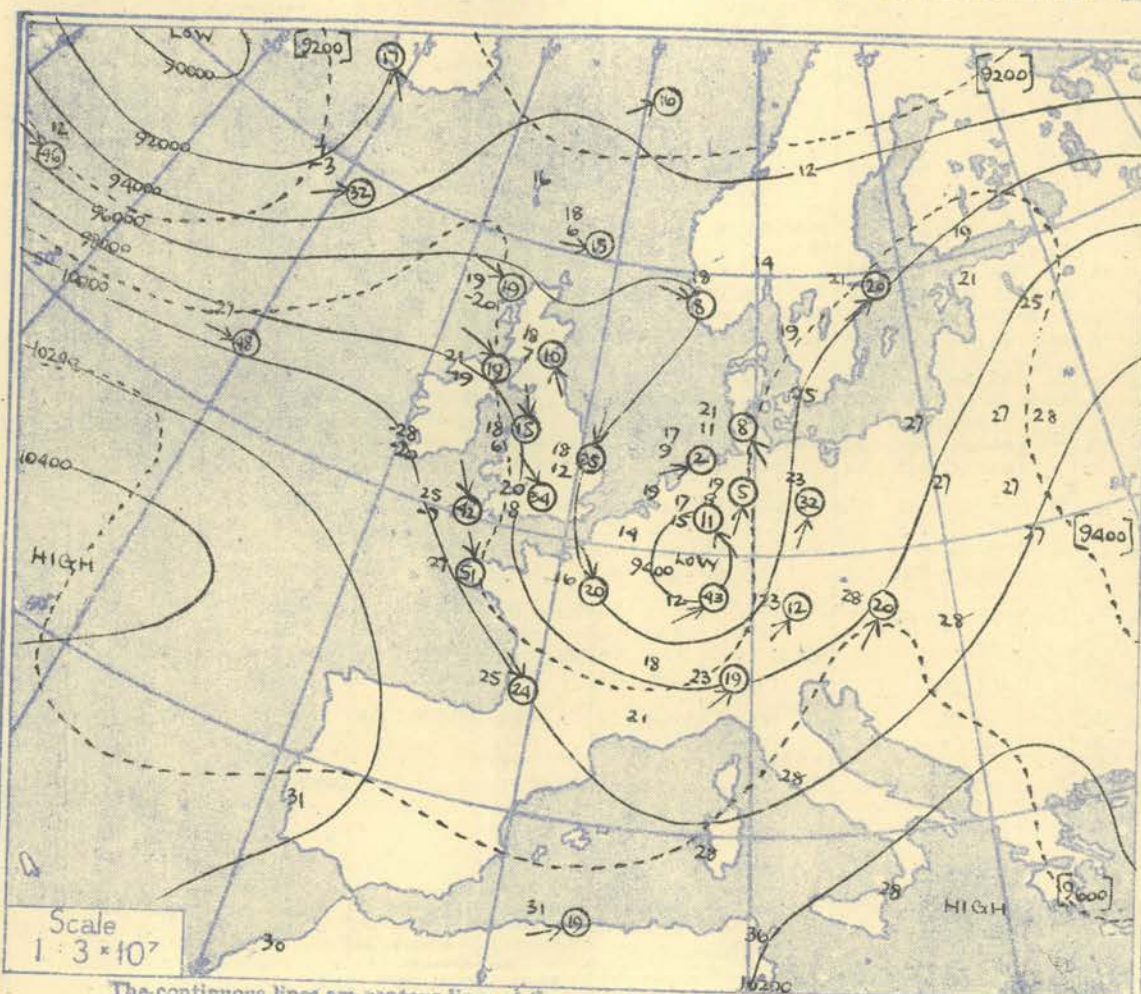


RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION						
Time M.S.L. Surf Pressing	03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		03h.	G.M.T.	mb		Time M.S.L. Surf Pressing						
	1010.2		mb		1011.6		mb		1012.1		mb		1018.0		mb		1013.1		mb		1009.1		mb		1013.2		mb		1018.3		mb		1017.8		mb								
	1000.0		mb		1010.0		mb		1011.2		mb		1008.6		mb		1011.1		mb		1004.6		mb		997.0		mb		1007.7		mb		1010.6		mb								
	889		mb		861		mb		861		mb		879, 850, 820		mb		858		mb		842		mb		845		mb		825		mb		730		mb								
Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb						
Surf	02.7	40	38		00.4	41	39	Calm	00.2	38	33	29.0	08	02.5	44	43	29.0	06	00.6	44	42	32.0	02	01.2	45	43	30.0	10	04.4	48	39	30.0	10	02.9	49	40	31.5	13	00.3	55	54	Surf	
1000	02.7	40	38		00.4	41	39		00.2	38	33			02.5	44	43			00.6	44	42			01.2	45	43			04.4	48	39		02.9	49	40		00.3	55	54	1000			
950	02.7	40	38		00.4	41	39		00.2	38	33			02.5	44	43			00.6	44	42			01.2	45	43			04.4	48	39		02.9	49	40		00.3	55	54	950			
900	30.7	33	31		31.4	37	32	22.0	10	31.3	37	30	21.9	08	32.3	35	32	29.2	15	31.9	37	31	32.8	17	30.7	38	37	35.3	24	31.7	36	33	34.5	30	33.4	38	31	32.7	24	33.5	44	42	900
850	45.7	29	23		46.4	31	28	22.3	16	46.4	30	25	21.7	05	47.3	32	24	29.7	18	46.9	31	26	33.5	20	45.8	33	32	01.2	23	46.8	33	29	35.3	31	48.0	34	11	31.5	30	38	35	850	
800	61.4	25	14	For	62.4	29	00	24.3	17	62.2	28	20	25.5	05	63.3	30	26	29.9	17	62.9	29	19	34.0	18	61.7	26	26	01.8	23	62.7	26	22	34.4	34	64.4	30	06	31.5	28	64.9	36	25	800
750	75.7	23	09		76.8	23	04	26.6	16	76.6	24	14	25.4	09	77.9	21	07	30.2	18	77.4	18	06	34.3	17	76.0	18	12	02.1	22	77.3	20	08	34.4	34	78.6	16	09	32.7	32	78.6	20	15	750
700	95.7	18	06	winds	96.8	19	04	28.0	10	96.6	18	07	26.7	10	97.9	16	21	30.0	19	97.4	14	01	34.2	15	96.0	11	05	02.1	29	97.3	13	01	34.5	30	98.6	10	09	33.2	46	98.6	14	13	700
650	110.7	10	03		112.4	12	54	27.6	26	112.0	12	00	28.2	10	113.1	12	18	32.2	30	112.6	10	10	34.0	18	111.7	04	02	02.1	32	112.6	07	09	34.8	42	113.6	06	09	33.2	50	113.6	10	15	650
600	134.3	02	04	sea	135.7	07	77	28.9	22	135.4	05	09	30.3	11	137.1	12	18	32.2	30	136.2	06	10	34.0	18	134.7	04	02	02.1	32	136.2	07	09	34.8	42	138.6	06	09	33.2	50	139.5	14	13	600
550	156.6	06	13		158.6	09	24	29.9	24	158.2	05	21	30.3	16	160.2	02	30	32.1	35	159.7	02	19	33.8	22	158.7	04	13	01.8	34	159.7	07	09	34.7	43	161.6	06	23	32.6	52	161.6	10	18	550
500	178.4	15	24	Page	180.2	19	48	30.0	36	179.6	14	31	32.1	24	182.0	05	29	31.8	39	180.7	09	28	34.0	45	179.1	15	23	01.2	36	180.8	09	28	34.5	65	184.6	01	17	32.7	58	184.6	04	24	500
450	200.0	26	36		202.4	25	45	30.8	42	201.8	20	33	33.5	37	204.9	15	31	31.4	45	203.6	15	31	34.1	61	202.0	17	41	01.5	43	203.1	16	29	34.0	72	207.2	11	25	32.6	64	207.2	12	33	450
400	230.0	34	44	3.	232.4	31	44	30.0	43	231.8	30	43	32.4	48	234.9	26	35	31.0	54	233.6	24	36	33.7	66	232.0	32	47	05.7	66	233.1	21	35	33.4	76	237.2	25	39	32.8	66	237.2	22	41	400
350	264.0	52			266.5	48		30.6	39	265.3	51		32.5	51	269.3	54		31.0	62	268.5	50		33.3	72	266.8	46		3.47	90	267.4	47		33.2	84	271.4	48		31.8	73	271.4	49		350
300	297.8	73			298.2	51		30.8	38	297.4	56		32.7	56	300.5	58		30.5	58	299.2	52		33.5	76	297.8	49				298.6	51		33.3	84	302.0	51		31.8	64	302.0	52		300
250	319.8	73			321.2	51		28.9	44	319.4	56		32.9	51	322.5	58		29.2	52	321.2	52		33.1	60	319.8	49				320.6	51		33.3	84	324.0	51		31.5	54	324.0	52		250
200	341.8	73			343.2	51		29.0	36	341.4	56		32.4	42	343.5	58		30.0	38	342.0	38		33.0	51	340.0	48				341.8	49		33.8	51	346.0	48		31.2	52	346.0	49		200
170	371.8	73			373.2	51		29.4	34	371.4	56		31.9	32	373.5	58		29.4	32	372.0	32		32.4	36	370.0	48				371													



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



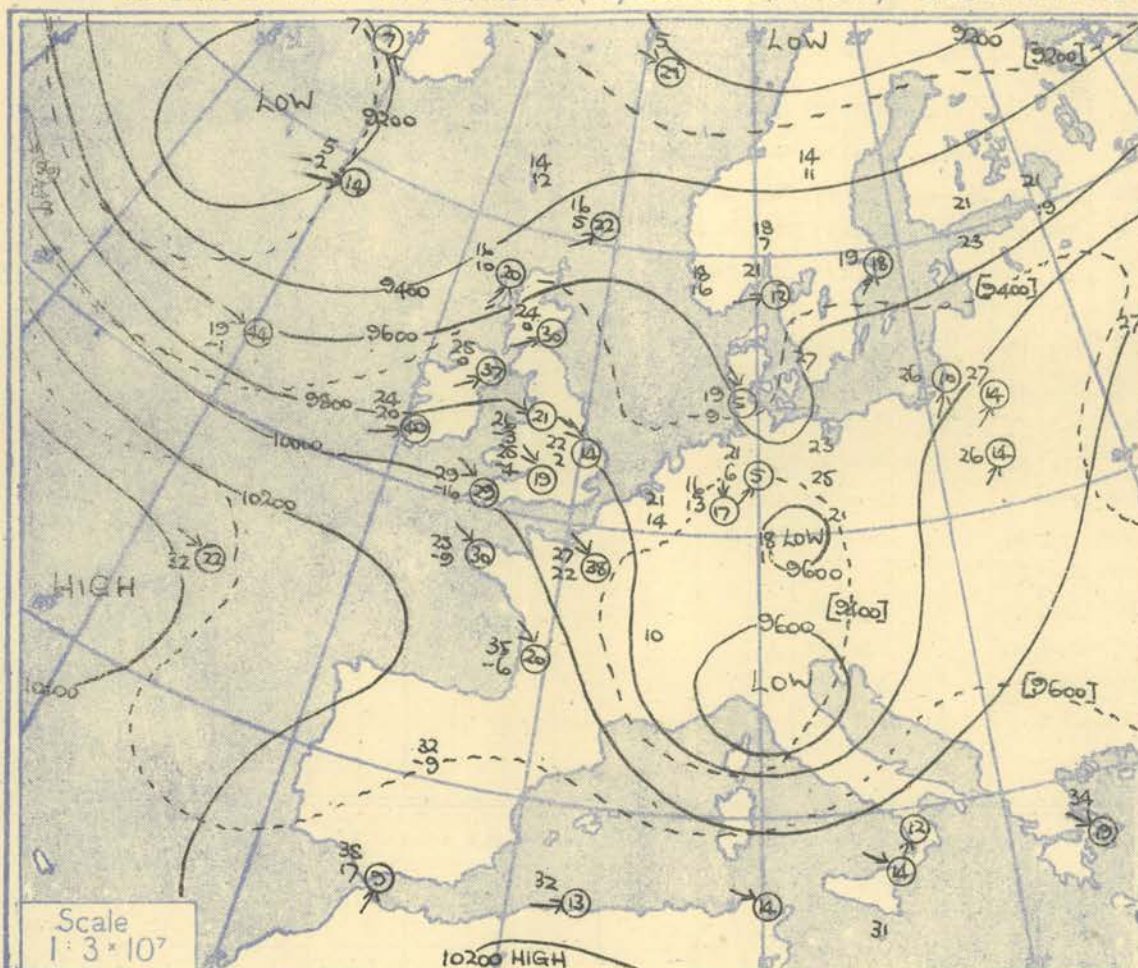


## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]



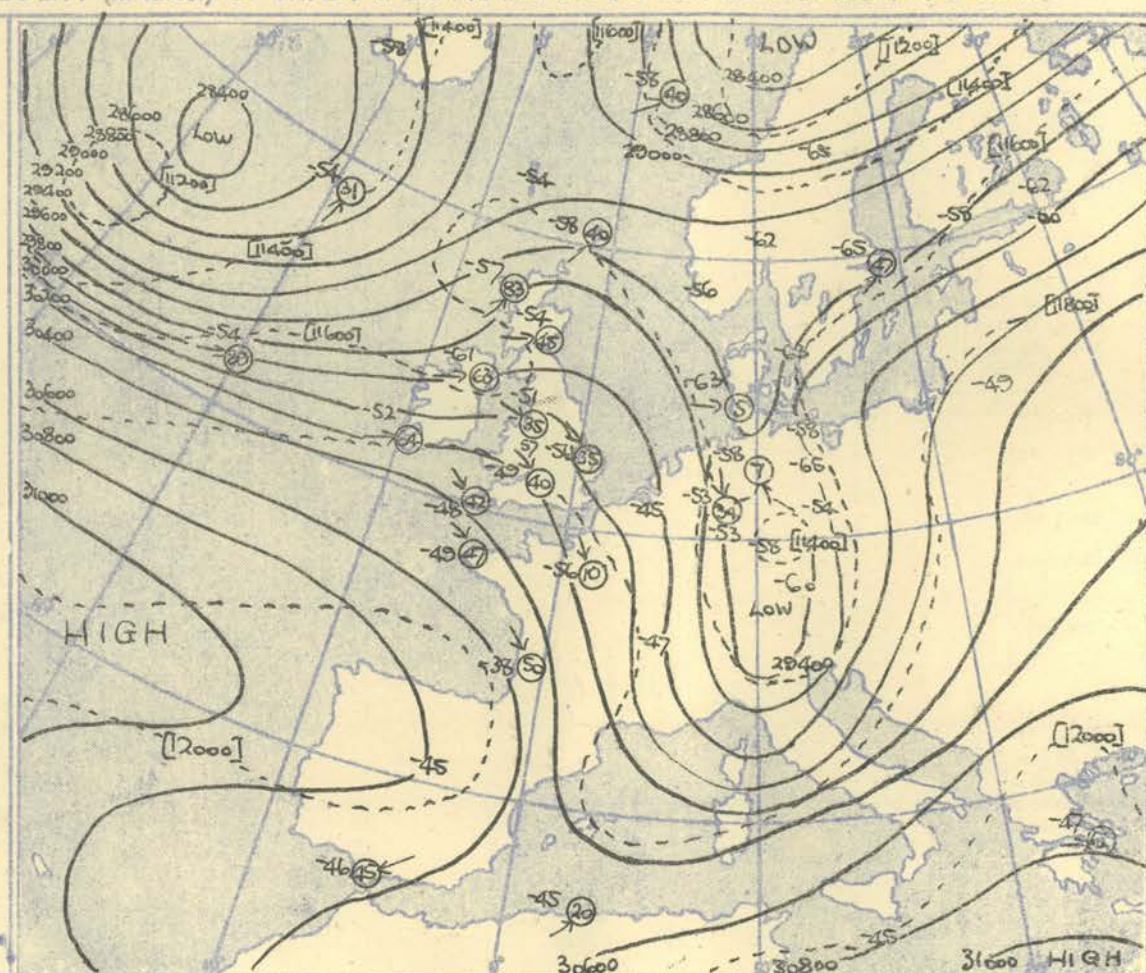
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

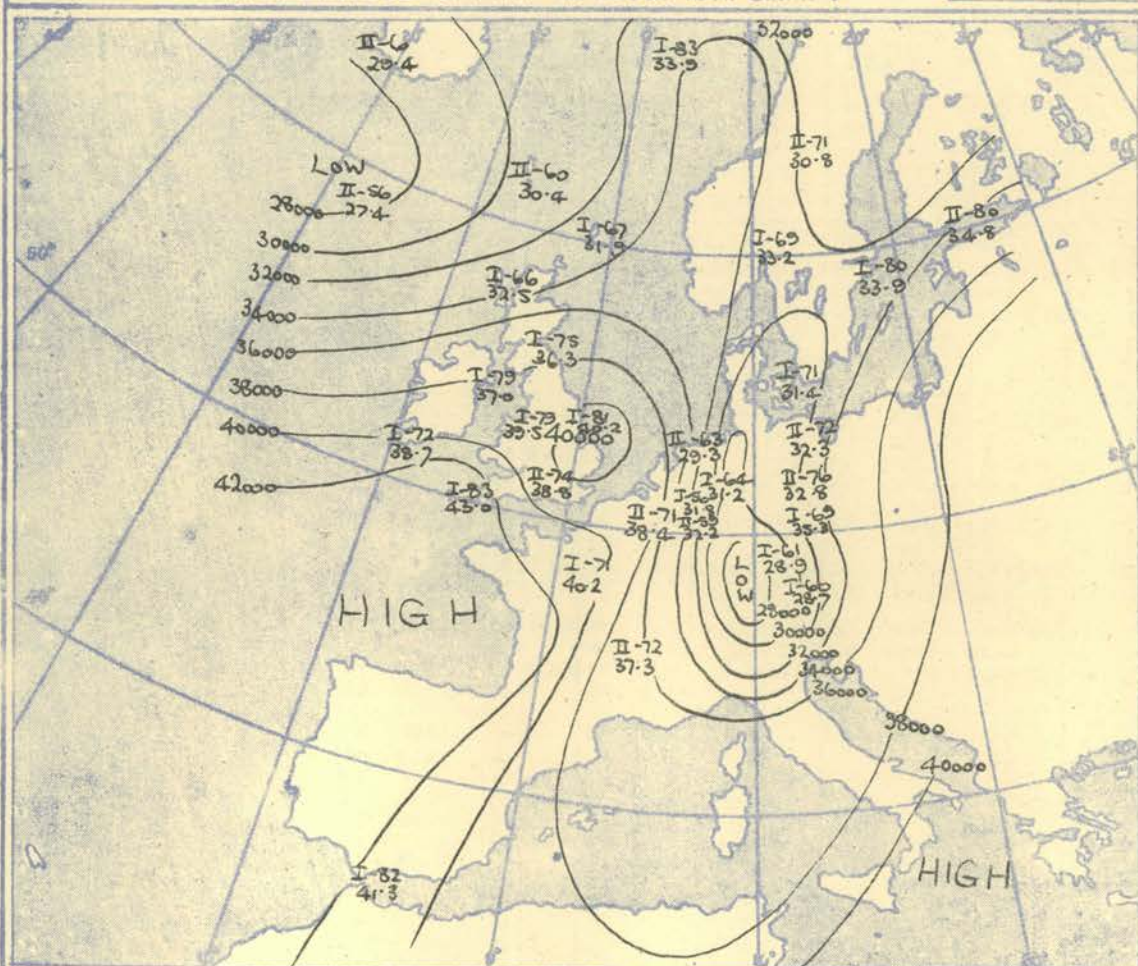
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

100 60 40 30 20 15 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. GMT.

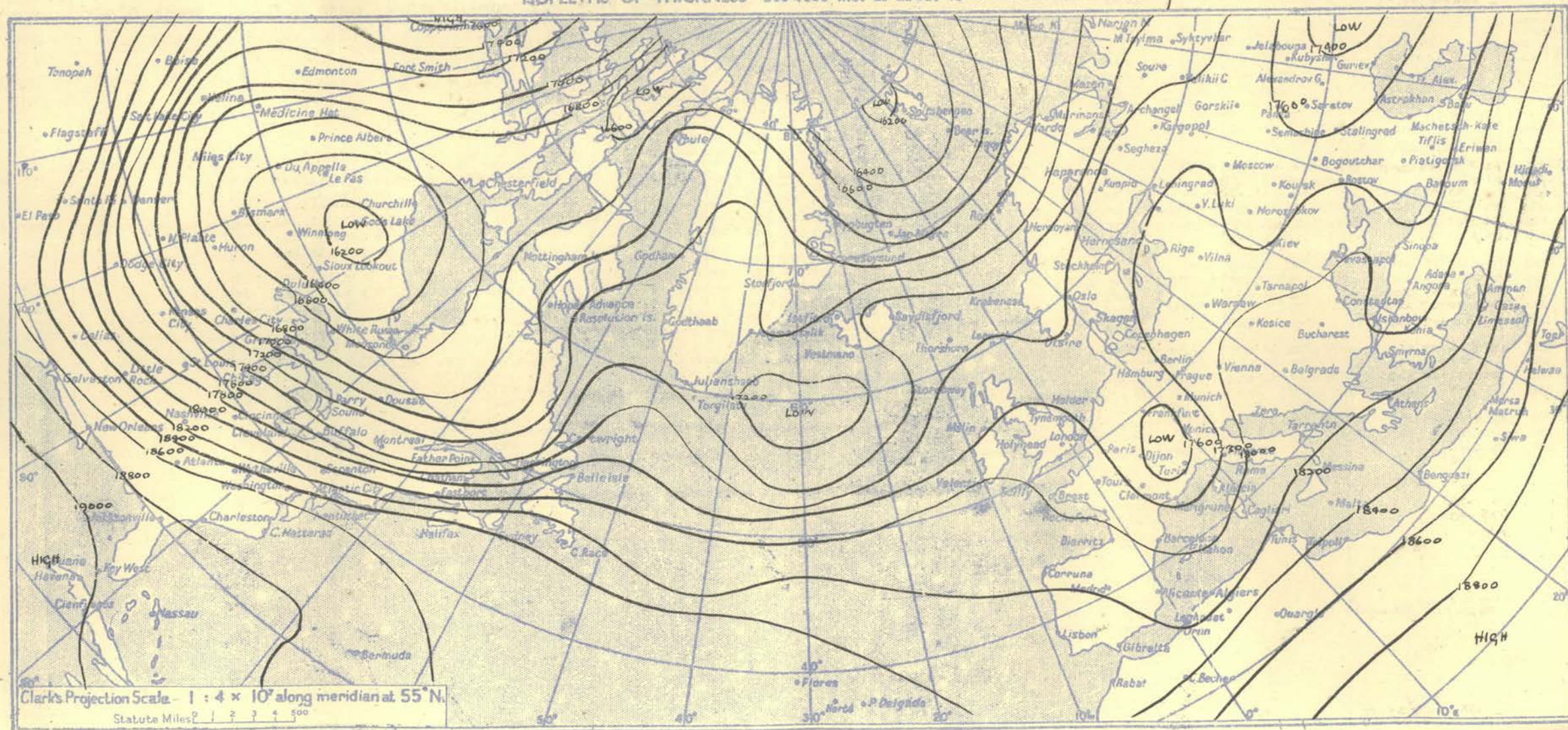
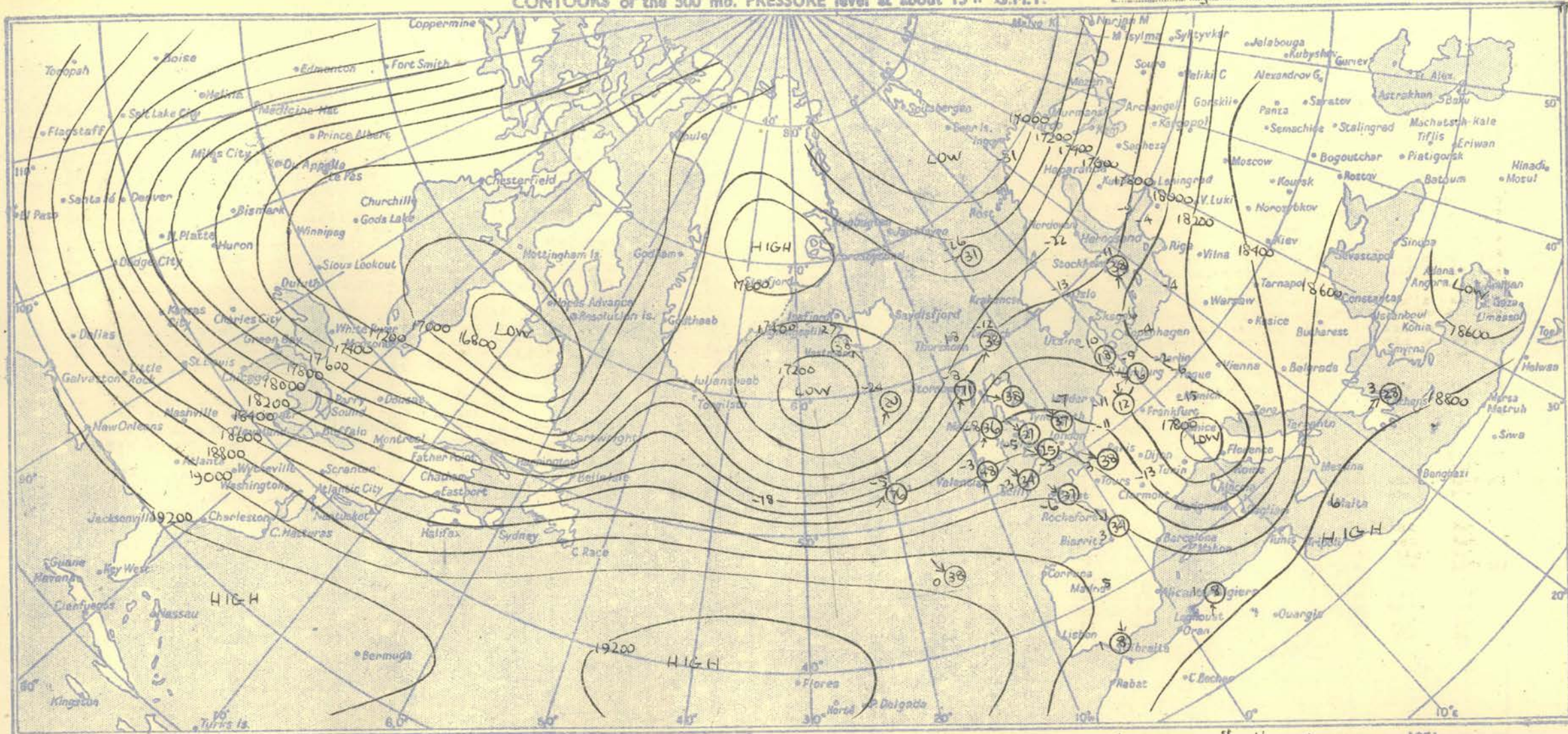


Contour lines of Height of Tropopause.  
Temperature of Tropopause.

### NOTES ON THE AEROLOGICAL SITUATION.

The lack of warming over the ship at  $52^\circ\text{N } 35^\circ\text{W}$  suggests southeastward movement of the Greenland cold pool.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION									
Time M.S.L. Surf Pressure	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	15h	G.M.T.	Time M.S.L. Surf Pressure													
	1006.9	mb	1005.1	mb	1003.5	mb	1003.5	mb	1011.1	mb	1011.8	mb	1013.8	mb	1014.3	mb	1016.0	mb	1017.1	mb	1017.1	mb	1017.1	mb	1017.1	mb	1017.1	mb	1014.1	mb	1014.1	mb	Time M.S.L. Surf Pressure													
	996.8	mb	1003.5	mb	1003.5	mb	1008.7	mb	1001.9	mb	1011.8	mb	1013.8	mb	1014.3	mb	1016.0	mb	1017.1	mb	1017.1	mb	1017.1	mb	1017.1	mb	1017.1	mb	1017.1	mb	1014.1	mb	1014.1	mb	Time M.S.L. Surf Pressure											
Pressure	873	mb	839	mb	805	mb	860, 776, 744	mb	860, 776, 744	mb	860, 776, 744	mb	750	mb	791	mb	780	mb	730	mb	730	mb	730	mb	730	mb	730	mb	730	mb	730	mb	Pressure													
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure													
mb	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	mb													
Surf	02.7	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	Surf
1000	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	1000
950	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	950
900	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	900
850	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	850
800	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	800
750	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	750
700	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	700
650	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	650
600	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	600
550	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	550
500	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	500
450	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	450
400	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	400
350	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	350
300	01.8	47	43	180	10	00.4	48	44	250	09	00.2	50	44	270	10	02.5	49	45	230	06	00.6	52	44	270	02	01.2	51	45	320	05	04.4	53	43	270	05	02.9	56	52	277	12	00.3	53	50	220	05	300
250	01.87																																													

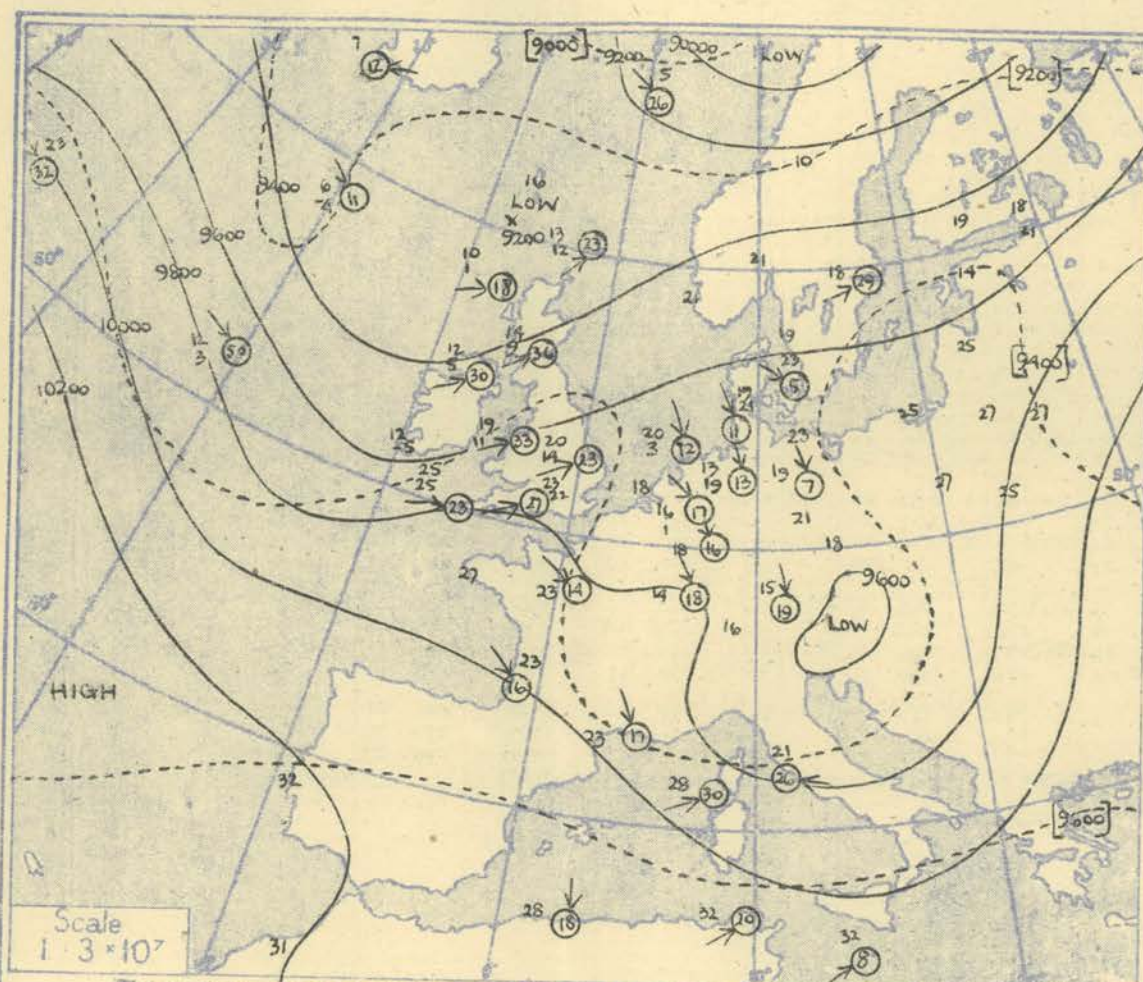


### RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																																																																																																				
Pressure mb	Time M.S.L. Surf (Freezing)	03h. 1000-2 990-2 866	G.M.T. mb mb mb	03h. 1001-9 1000-2 881	G.M.T. mb mb mb	03h. 1004-3 1003-4 856	G.M.T. mb mb mb	03h. 1006-3 997-0 870	G.M.T. mb mb mb	03h. 1006-8 1004-8 810	G.M.T. mb mb mb	03h. 1010-9 1006-3 800	G.M.T. mb mb mb	03h. 1011-4 995-2 792	G.M.T. mb mb mb	03h. 1011-0 1000-4 762	G.M.T. mb mb mb	03h. 1010-10 1008 880	G.M.T. mb mb mb	Time M.S.L. Surf (Freezing)	03h. 1000-2 990-2 866	G.M.T. mb mb mb	03h. 1001-9 1000-2 881	G.M.T. mb mb mb	03h. 1004-3 1003-4 856	G.M.T. mb mb mb	03h. 1006-3 997-0 870	G.M.T. mb mb mb	03h. 1006-8 1004-8 810	G.M.T. mb mb mb	03h. 1010-9 1006-3 800	G.M.T. mb mb mb	03h. 1011-4 995-2 792	G.M.T. mb mb mb	03h. 1011-0 1000-4 762	G.M.T. mb mb mb	03h. 1010-10 1008 880	G.M.T. mb mb mb	Time M.S.L. Surf (Freezing)																																																																																																																																																																																																																																																																																																																																																																		
																																								Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Temp. °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.



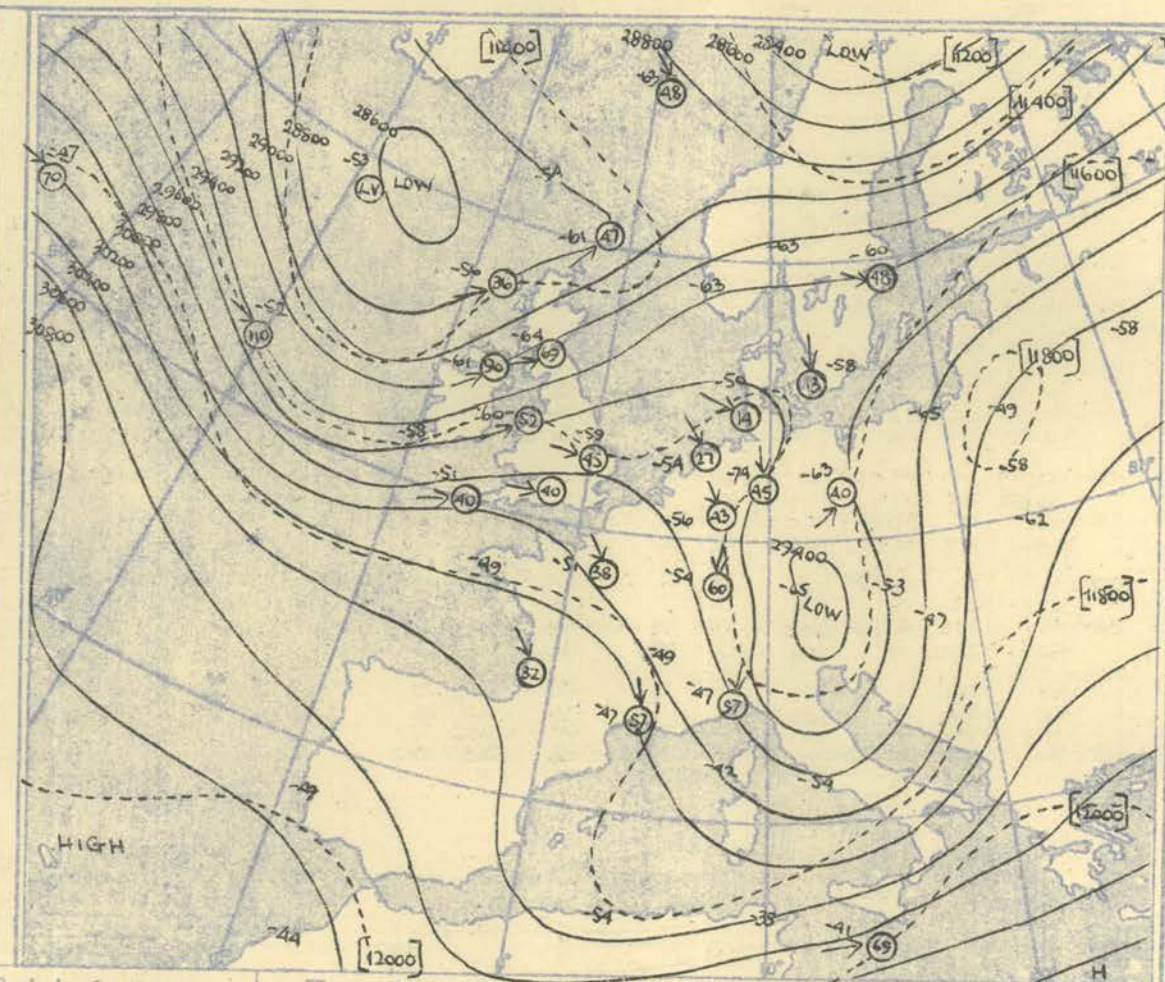
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



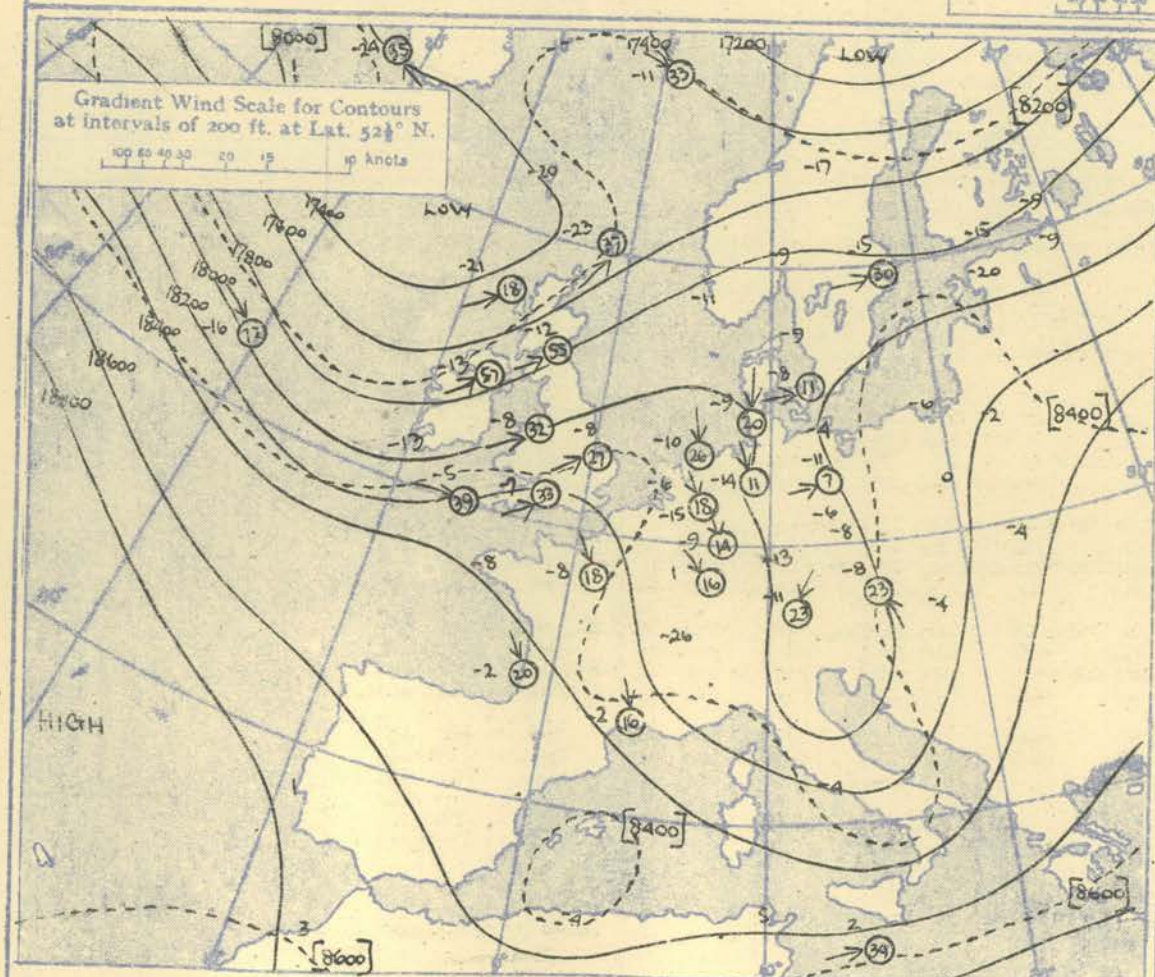
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

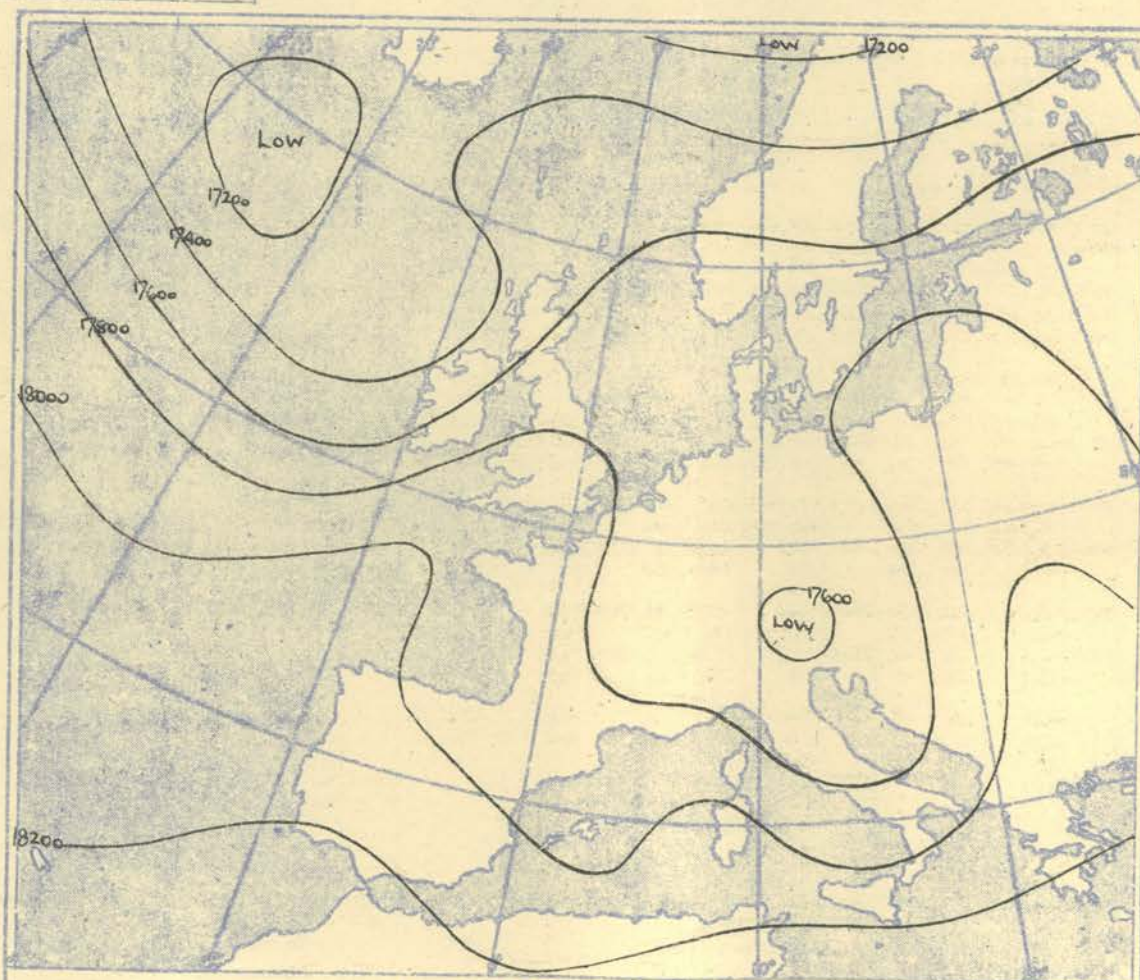
100	80	60	40	20	10	0
in knots						



The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.

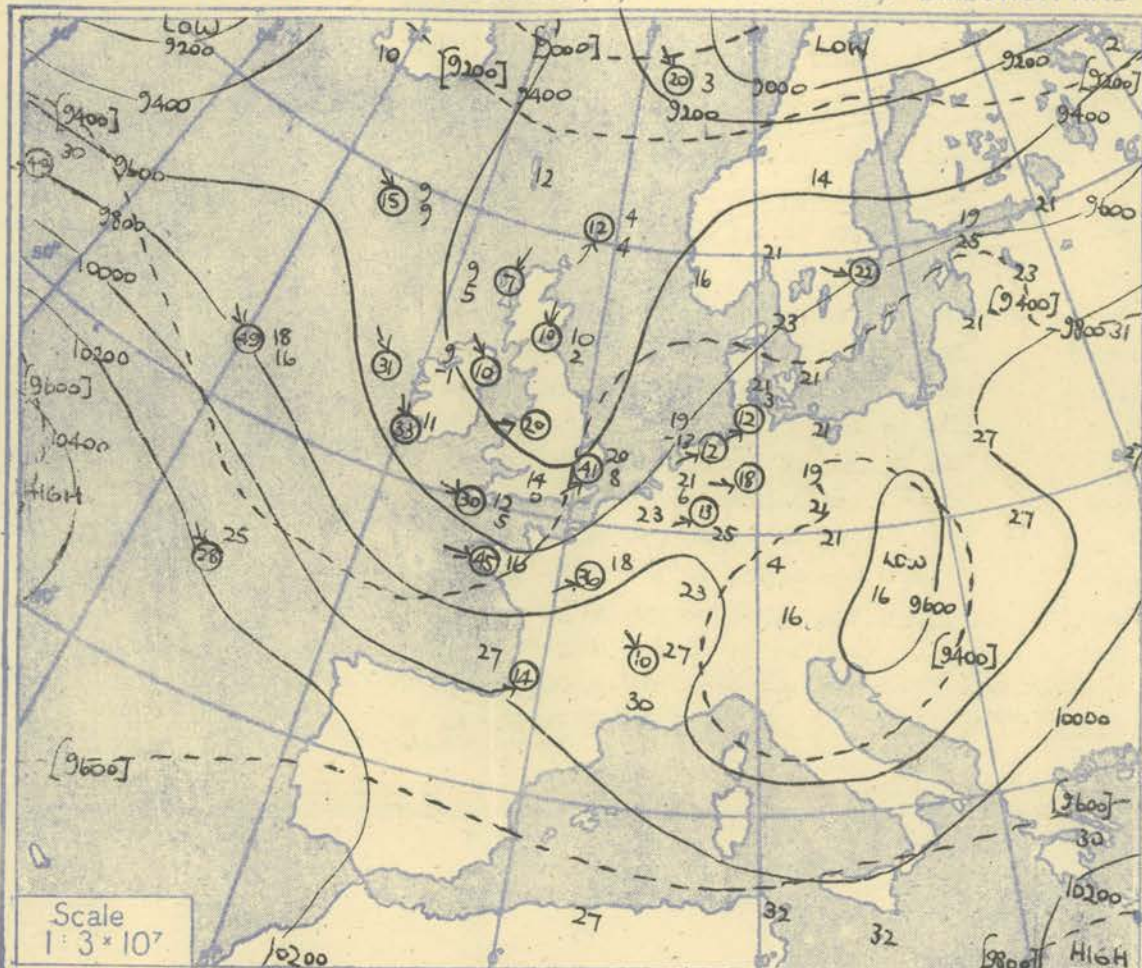


## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.[illegible]



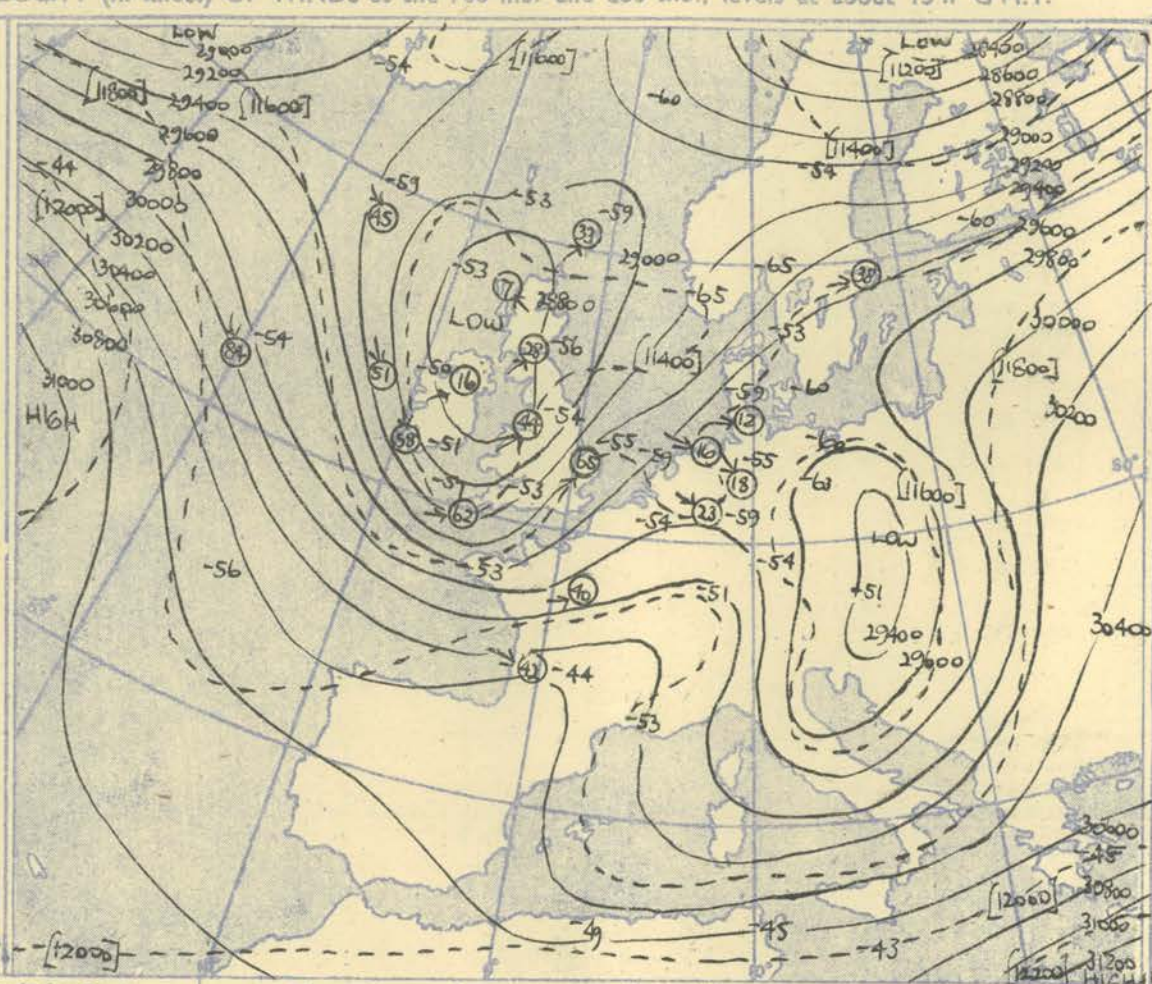
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

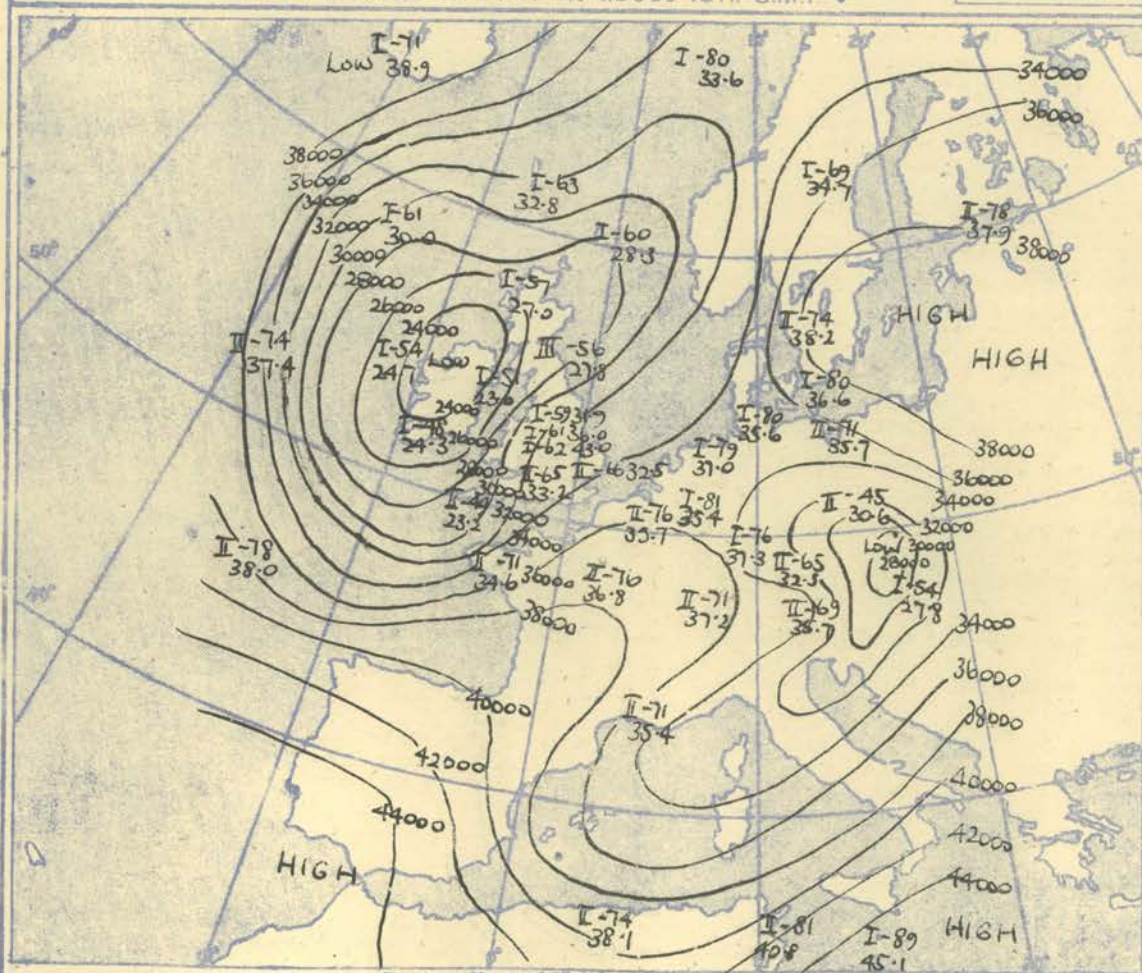
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

100 50 30 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

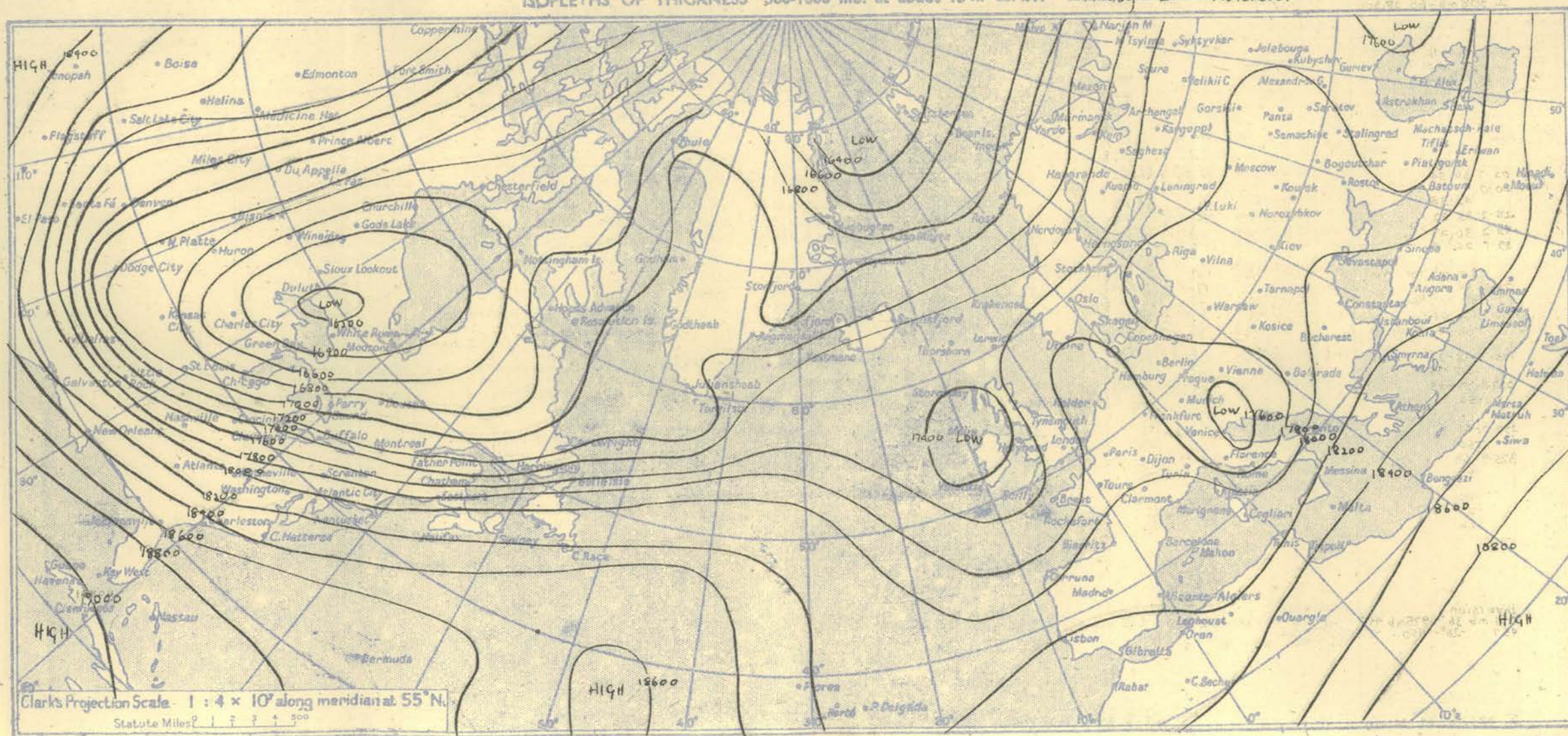
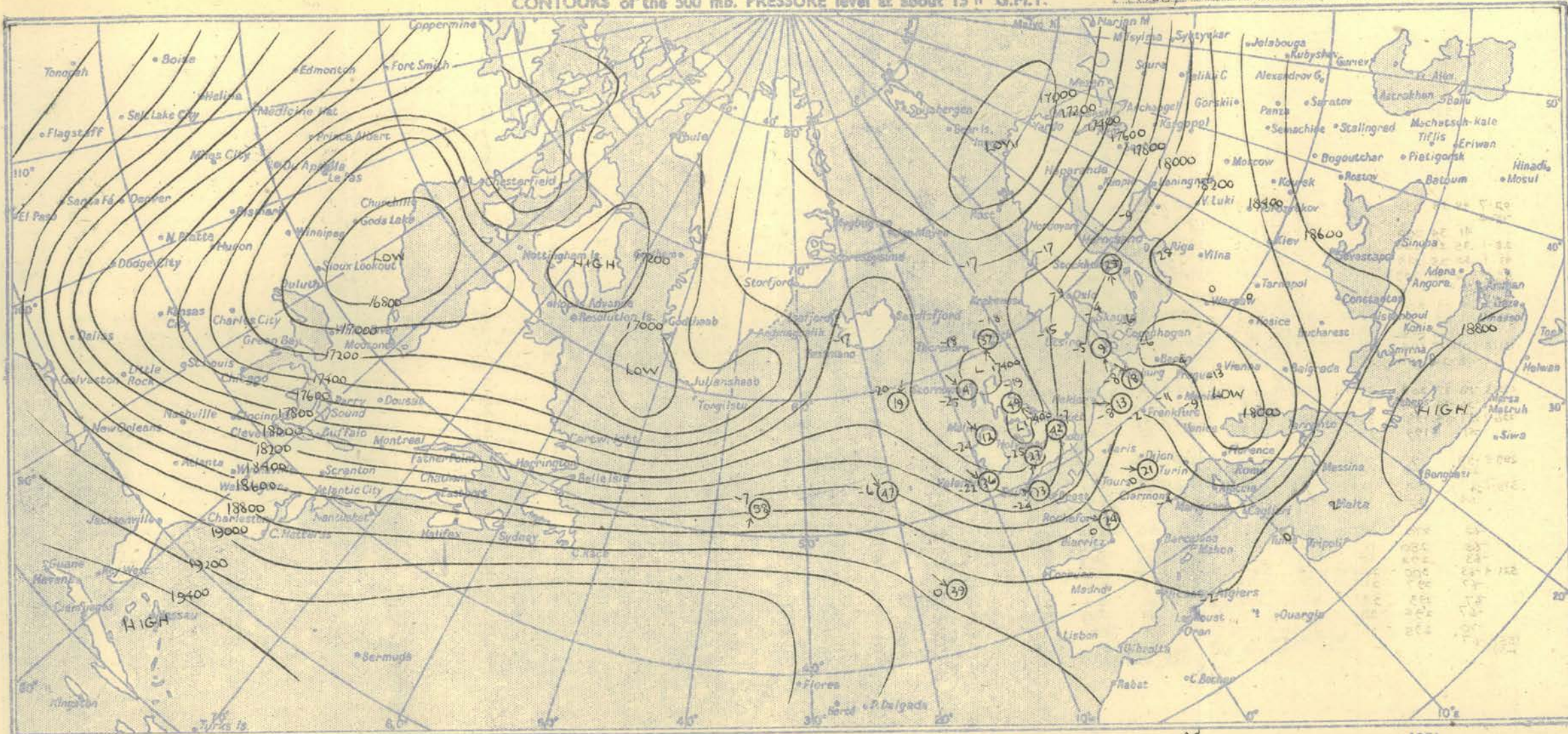
### NOTES ON THE AEROLOGICAL SITUATION.

Fairly rapid southeastward movement of pool of cold air towards the British Isles to rear of surface depression, followed in quick succession across the North Atlantic by a warm tongue associated with a new disturbance off Southeast Greenland.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.







## 1951.

HMSO Press, MO, Dunstable

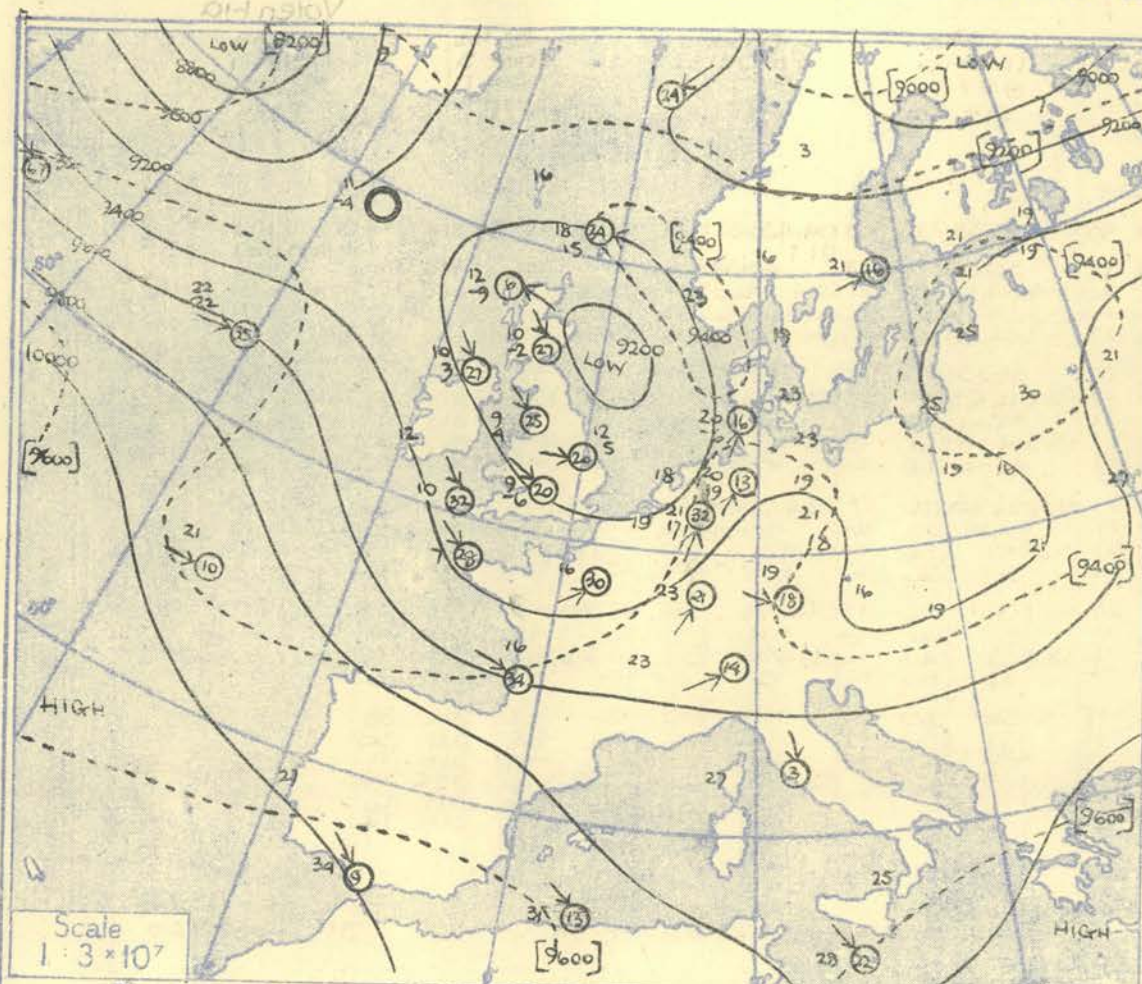


RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	DOWNHAM MARKET	LARKHILL	CAMBORNE	Valencia	STATION						
Time M.S.L. Surf	03hrs 1000.8 990.7 856	03hrs G.M.T. 999.5 991.8 877	03hrs G.M.T. 997.2 996.3 878	03hrs G.M.T. 1002.9 995.6 890	03hrs G.M.T. 1000.8 998.7 890	03hrs G.M.T. 1001.6 997.1 880	03hrs G.M.T. 1004.2 987.7 888	03hrs G.M.T. 1008.3 997.8 878	03hrs G.M.T. 1011.1 1010 870	Time M.S.L. Surf						
Pressure mb	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100						
Surf	01.74640	050160.4	3535	01.42363	2018	01.42339	280	0501236	35250	0504435	33270	0802947	38310	18015	4938	
1000	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
950	4339059	22	4036	2933	313	27	3835	312	15	4034310	18	0.3	3935	271	18	
900	28.23630	066	2427.8	3531	273	3530	344	28	288	3529	344	16	28433	28	317	
850	43.531	23	071	25	42.3	2926	351	27	43.8	28	344	22	43.3	29	24306	
800	59.427	24	084	27	58.2	2822	338	22	59.5	22	18	318	28	59.0	22	
750	24.21	094	34	18	05130	08	18	08	325	23	17	11	315	28	16	
700	939	18	15	091	3492.6	11	911	06	92.2	10	2	326	27	93.4	10	
650	12	10	112	34	04	1101	06	05	6	340	23	03	4	314	25	
600	132	805	03118	34	1307	3	23	093	09	1304	4	18	003	18	1315	4
550	4	6	126	36	1235	126	14	10	14	042	17	14	25	322	25	
500	177	142	5129	37	1745	25	39143	27	174	14	23	051	18	1748	25	
450	23	26	136	34	29	45137	36	30	36	061	22	37	43	255	27	
400	229	134	38142	40	2255	41	126	34	225	343	33	224	3	296	31	
350	48	153	48	51	131	36	56	080	18	52	328	33	52	315	24	
300	291	163	37	288	454	17	15	287	338	087	18	288	254	330	36	
250	68	131	25	188	404	09	101	08	52	326	37	51	305	18	51	
200	376	970	123	20	3759	53	341	03	376	258	328	33	375	1	53	
170	68	111	11	58	345	18	58	329	06	53	325	30	57	257	16	
150	67	121	10	58	345	20	61	340	07	56	323	21	55	303	18	
130	67	291	03	61	337	15	61	317	10	58	326	17	58	317	18	
110	66	300	13	63	320	18	62	264	12	61	308	12	61	319	13	
100	52	166	302	19	323	66	52	2	63	310	26	52	4	307	13	
90	68	316	24	64	305	24	60	313	24	63	300	19	63	300	19	
80	70	301	20	65	308	21	63	295	25	65	300	21	65	300	21	
70	71	293	20	65	308	21	63	295	25	65	300	21	65	300	21	
60	74	300	22	65	300	21	65	300	21	65	300	21	65	300	21	
Isothermal 991-974 mb 46°										Isothermal 582-563 mb 00°						
Inversion 998 mb 35-974 mb 42°										Inversion 999 mb 42-984 mb 44°						
Inversion 996-979 mb 42°										Inversion 999 mb 42-984 mb 44°						
Isothermal 996-979 mb 42°										Isothermal 404-377 mb 41°						
Tropopause	II 304 mb 762°	II 348 mb 52°	I 345 mb 57°	I 327 mb 54°	I 375 mb 54°	II 363 mb 50°	I 382 mb 55°	I 329 mb 57°	NR.	Tropopause						
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	DOWNHAM MARKET	LARKHILL	CAMBORNE		STATION						
Time M.S.L. Surf	09hrs 998.3 998.4 830	09hrs G.M.T. 996.9 995.2 859	09hrs G.M.T. 992.4 991.2 808	09hrs G.M.T. 998.2 989.9 865	09hrs G.M.T. 1000.6 998.6 882	09hrs G.M.T. 1002.7 998.1 880	09hrs G.M.T. 1005.9 989.1 884	09hrs G.M.T. 1009.2 998.5 870		Time M.S.L. Surf						
Pressure mb	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100	Height ft./100						
Surf	01.74945	0.44439	360	120.2	4237	210	22	01.5434	4300	140.6	4540	290	1001.2	3534	260	
1000	0.5	0.9	0.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
950	45	44	37003	21	3834	285	25	4139	302	24	4235	282	26	4036	285	
900	72	37	33015	24	259	3120296	48	28036	35304	33285	3531	288	19	3933	299	
850	43	034	21	016	2440	928	17308	5143	03029308	3343	518	24294	28	43	3428	
800	59	029	16	016	2556	623	22327	4558	92522313	3459	22	18300	26	59	521	
750	23	23	4018	24	19	18321	33	20	15314	36	16	09305	22	17	10276	
700	50	519	1674	018	25	908	13	26	2813	07316	37	30.1	10	09304	26	
650	13	13	10140	32	21	0807	343	16	04	5306	36	05	8	304	27	
600	13	06	404	3060	22	1293	0100326	13	1313	44532	33	131	1	5	16304	
550	5	5	813080	26	7	9327	17	13	26322	30	13	25305	22	14	24257	
500	176	811	1156	15310	31	17337	15331	16	1747	233825	26	1743	25	3308	19	
450	228	53	26500	88	38	2831	315	13	34	50329	28	36	4302	13	36	
400	228	53	172	3357	093	43247	41	308	18225	443	321	37	24	84	001	
350	45	45	51	096	53	344	15	47	321	57	51	306	17	51	306	
300	292	458	230	258	094	43287	751	072	0928	651	316	63	287	750	329	
250	68	68	68	68	046	13	323	46	51	325	28	48	274	12	48	
200	70	70	376	660	346	19	375	657	324	39376	251	327	24376	48	292	
170	849	849	62	350	18	54	321	20	50	306	16	50	306	16	50	
150	59	59	59	59	330	15	56	328	18	52	322	15	52	322	15	
130	64	64	64	64	336	18	57	314	18	53	333	12	53	333	12	
110	62	62	62	62	336	18	57	314	18	53	333	12	53	333	12	
100	62	62	62	62	336	18	57	314	18	53	333	12	53	333	12	
90	62	62	62	62	336	18	57	314	18	53	333	12	53	333	12	
80	62	62	62	62	336	18	57	314	18	53	333	12	53	333	12	
70	62	62	62	62	336	18	57	314	18	53	333	12	53	333	12	
60	62	62	62	62	336	18	57	314	18	53	333	12	53	333	12	
Isothermal 885-871 mb 37°										Isothermal 415-450 mb 20°						
Inversion 995 mb 44-969 mb 47°										Inversion 999 mb 45-985 mb 46°						
Inversion 998 mb 35-974 mb 42°										Inversion 999 mb 45-985 mb 46°						
Inversion 998 mb 35-974 mb 42°										Inversion 999 mb 45-985 mb 46°						
Tropopause	NR.	II 266 mb 62°	I 350 mb 51°	II 382 mb 46°	I 342 mb 52°	I 365 mb 54°	I 339 mb 55°	II 308 mb 54°	29000'	Tropopause						

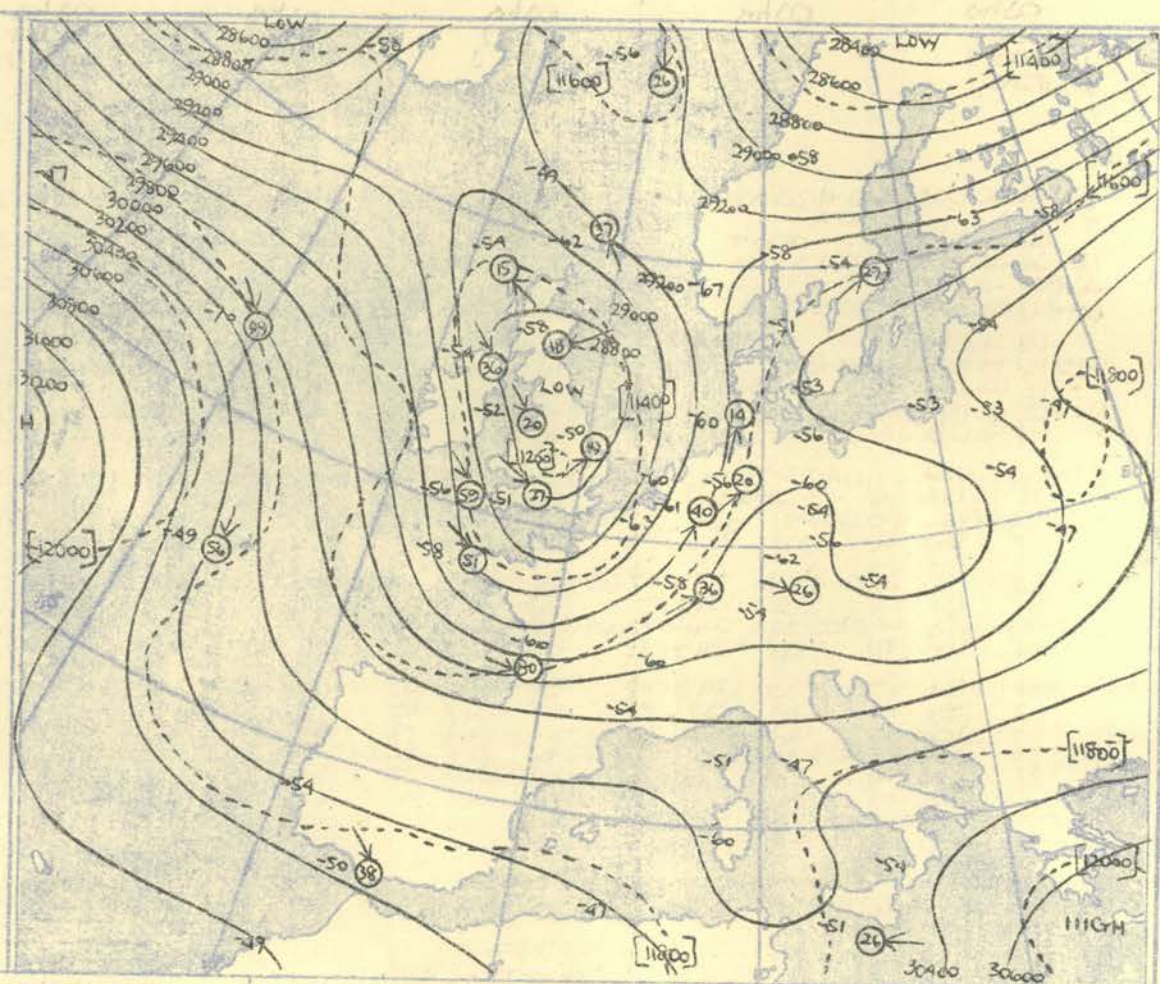


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

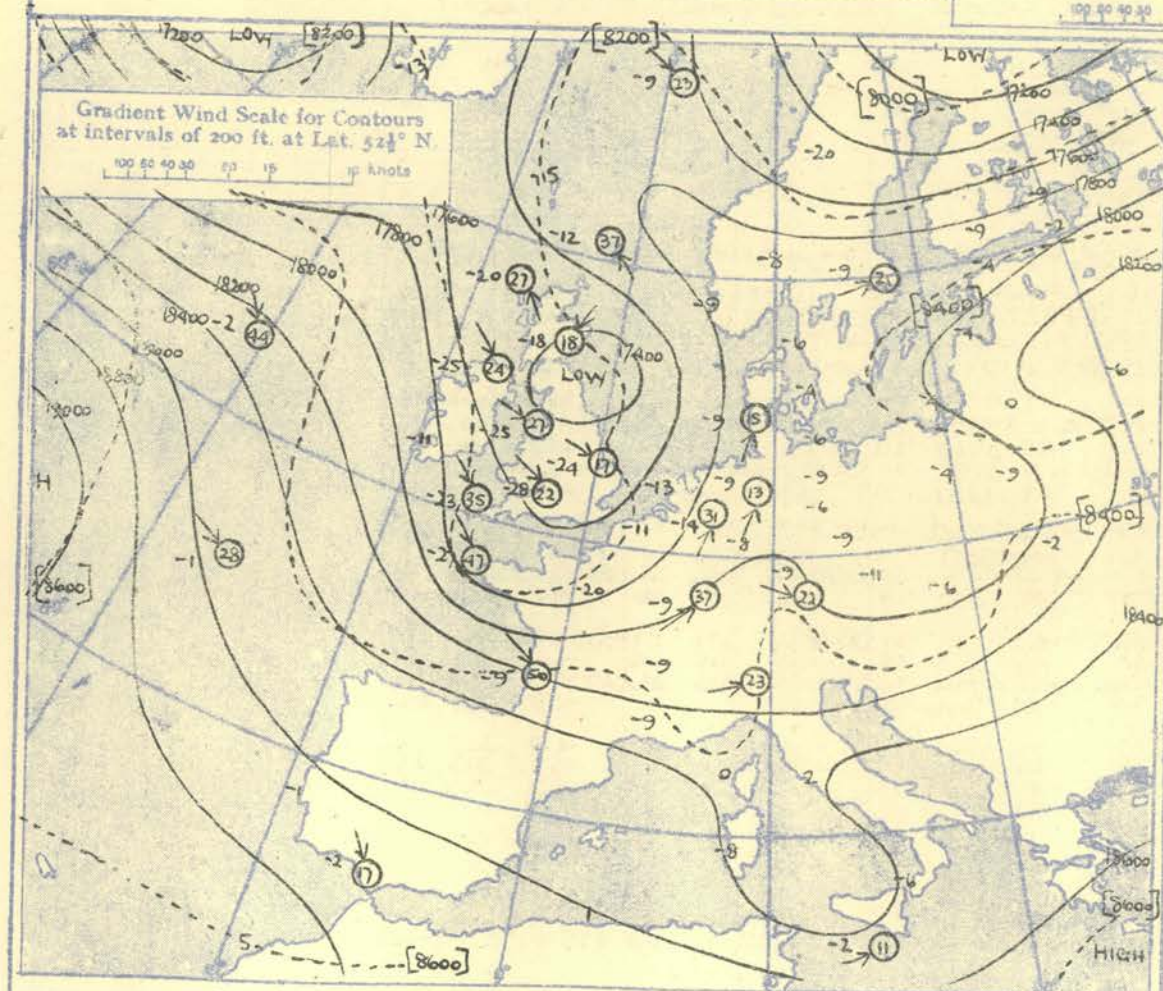


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

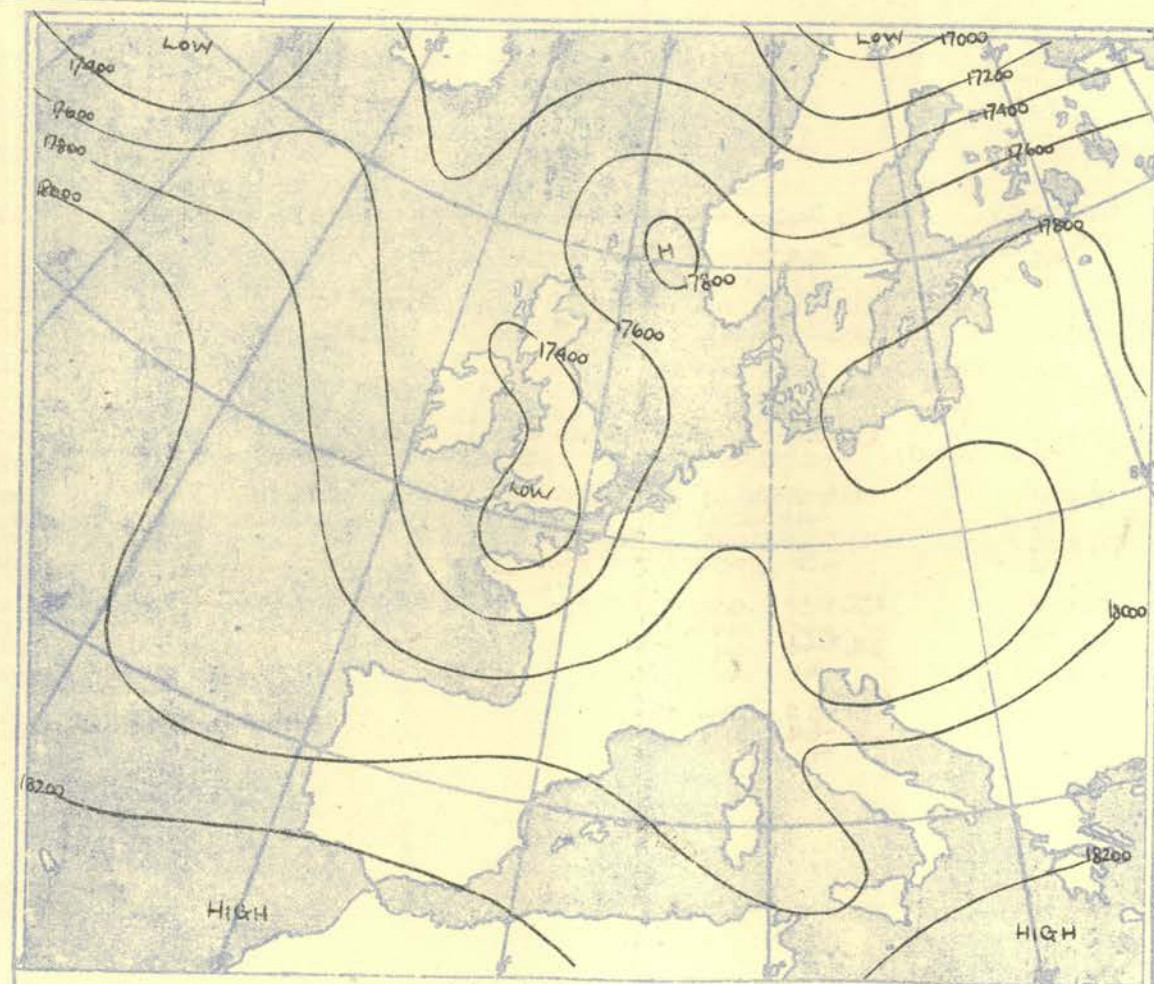
Gradient Wind Scale for Contours  
at intervals of 300 ft. at Lat.  $52\frac{1}{2}^\circ$  N  
100 80 60 40 20 10 0 10 20 30 40 60 80 100  
knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 800-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

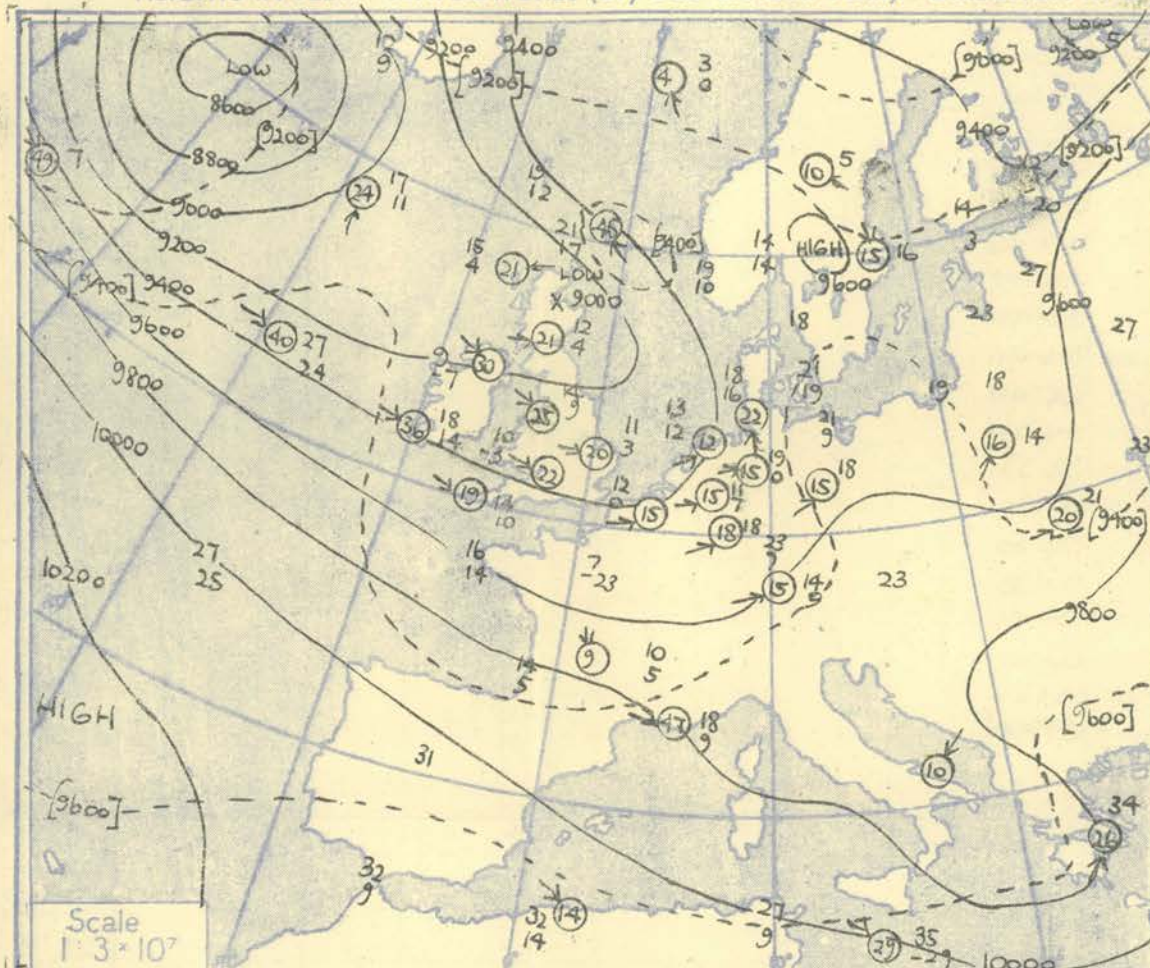
[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

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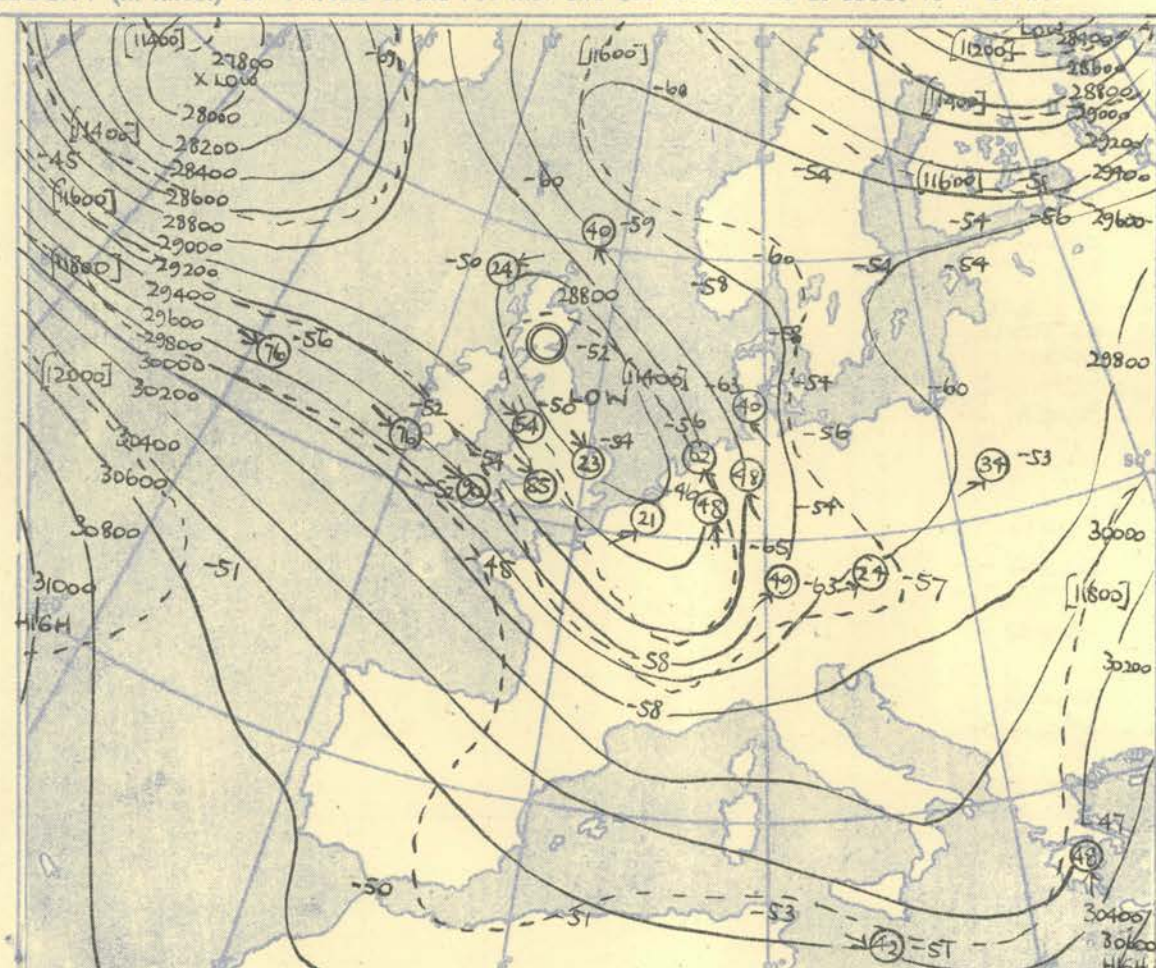
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 200 mb. levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 1000-700 mb.

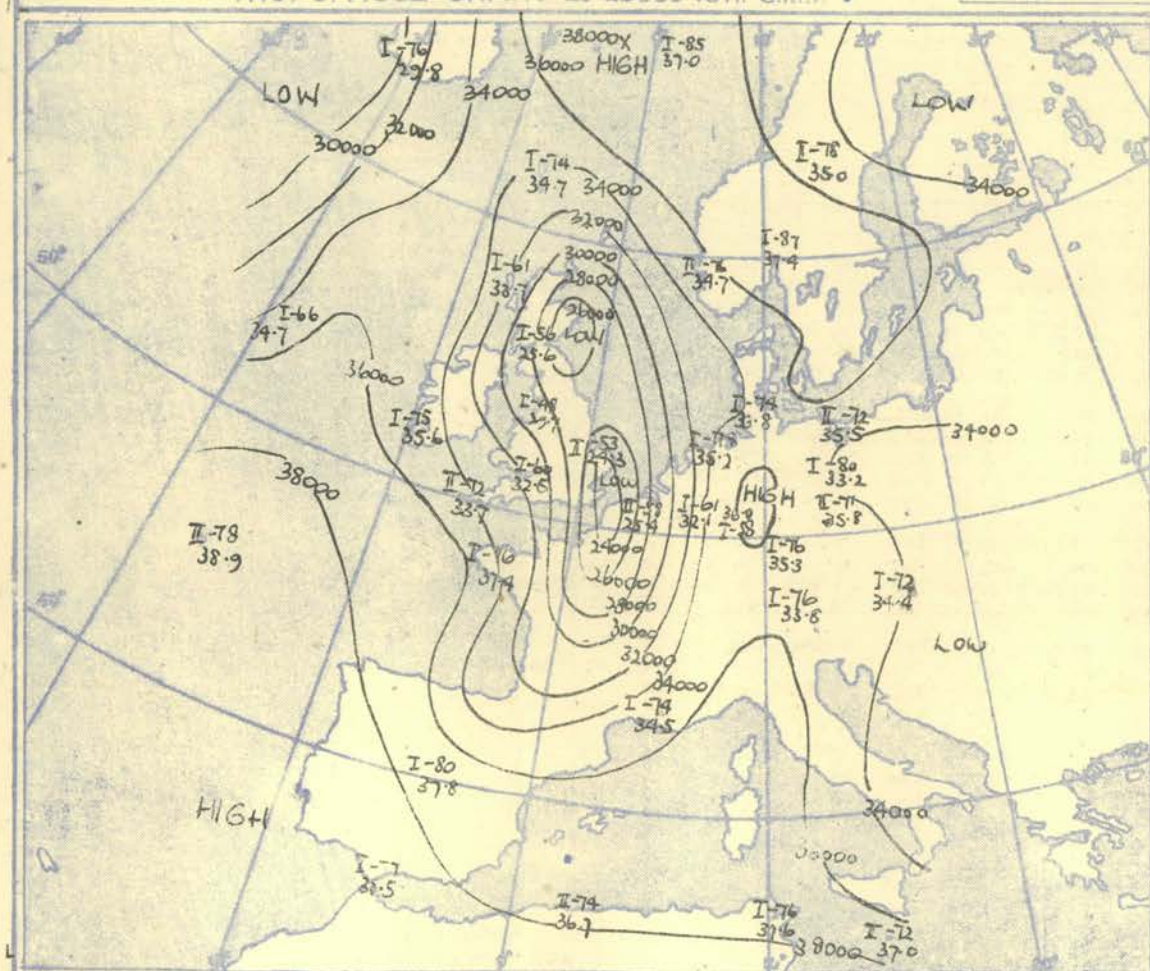
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

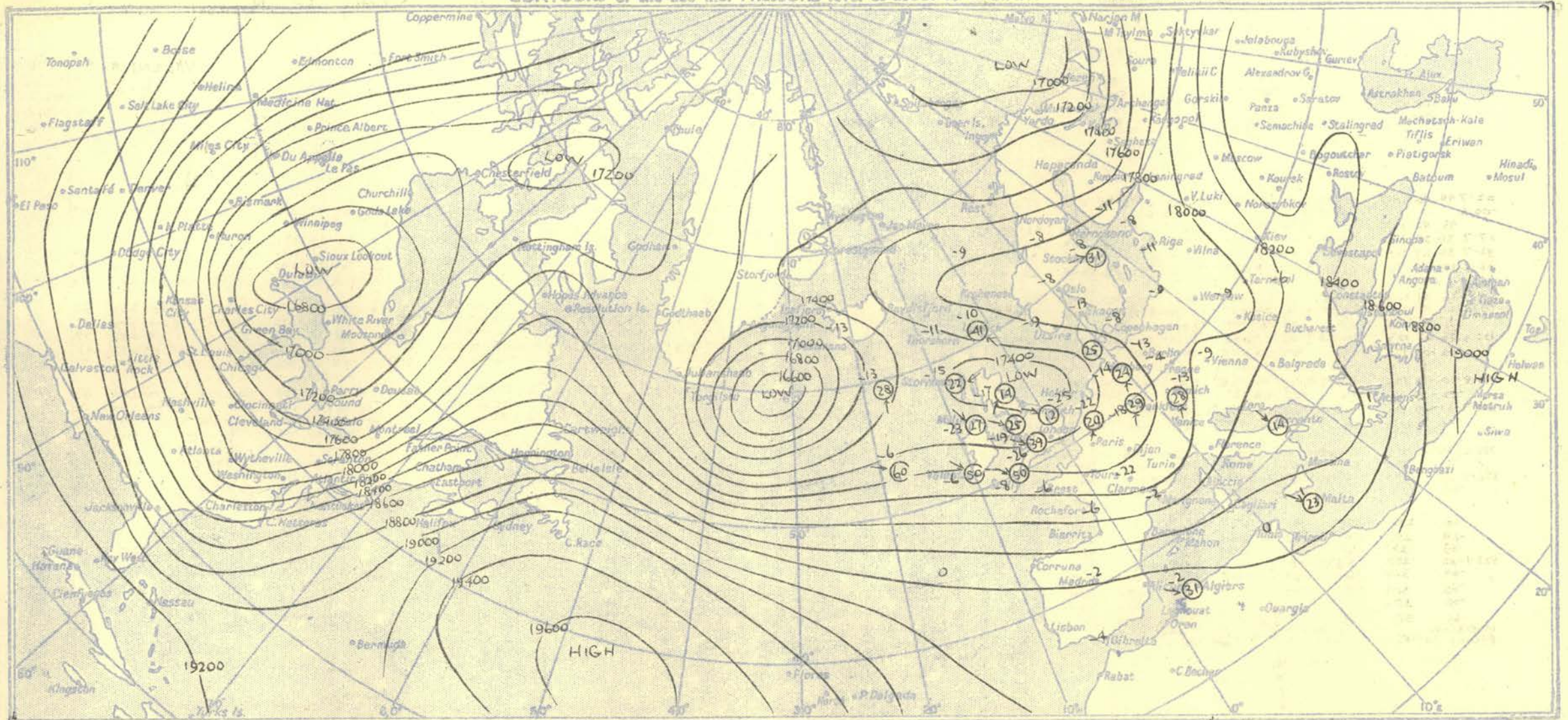
### NOTES ON THE AEROLOGICAL SITUATION.

Retardation of the cold pool over the British Isles and gradual warming. A further cold trough moves east to south-east across North Atlantic.

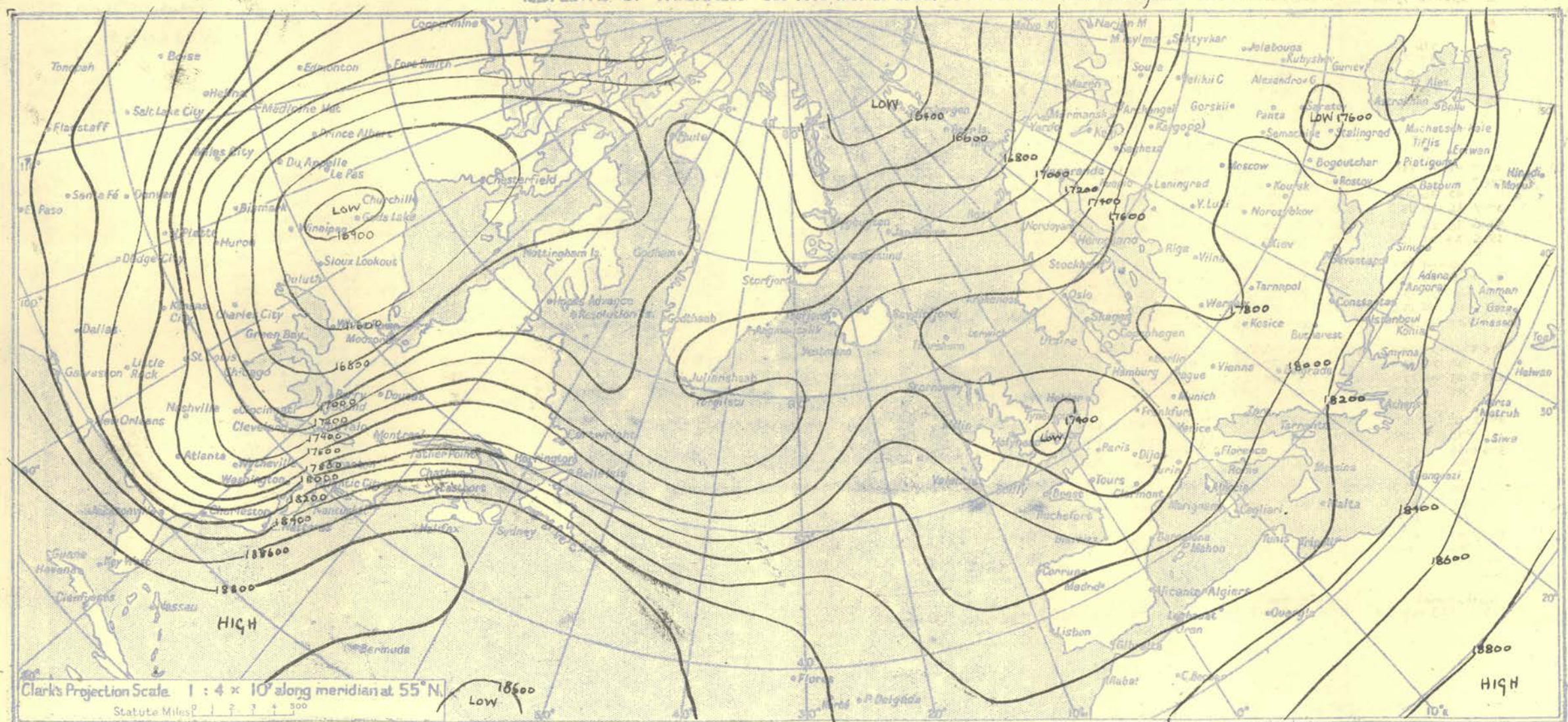
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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.





ISOPLETHS OF THICKNESS 500-1000 mb. at about 15 h. G.M.T.





STATION	LERWICK					STORNOWAY					LEUCHARS					ALDERGROVE					LIVERPOOL					DOWNHAM MARKET					LARKHILL					CAMBORNE					VALENTIA					STATION																																																																																																																																																																																																																																																																																																																																																																																														
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Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																																																																																																																																								
Surf	02.7	48	46	100	20	00.4	49	44	050	12	00.2	48	38	270	17	02.5	49	42	270	15	00.6	45	40	250	08	01.2	48	41	215	10	04.4	47	38	170	15	02.9	49	45	270	18	00.3	47	44	210	07																																																																																																																																																																																																																																																																																																																																																																																															
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980		43	42	122	39		46	39	051	21		43	33	252	21		39	33	272	24		42	39	269	19		42	35	238	17		40	34	250	16		43	39	265	24		42	39	206	17																																																																																																																																																																																																																																																																																																																																																																																															
900	27.7	36	34	122	40	25.1	40	35	051	19	25.9	36	36	253	22	27.5	32	27	274	26	27.8	36	35	271	26	28.8	35	29	248	17	29.3	34	27	268	20	30.0	37	33	276	20	28.4	38	35	220	24																																																																																																																																																																																																																																																																																																																																																																																															
850	42.7	34	27	119	39	40.2	33	27	053	21	41.0	29	22	251	21	42.3	26	21	274	28	42.9	30	30	278	27	43.7	28	21	262	18	44.3	27	22	282	23	45.1	31	27	280	20		32	29	242	29																																																																																																																																																																																																																																																																																																																																																																																															
800	58.8	30	17	118	41	56.2	27	19	059	21	56.7	23	16	248	22	58.1	19	12	284	31	58.7	26	26	278	27	59.4	23	13	264	19	59.9	21	18	291	24	61.0	26	21	283	20	59.3	28	25	257	72																																																																																																																																																																																																																																																																																																																																																																																															
750		26	21	117	42		21	11	057	18		17	10	246	25		15	01	286	30		19	17	287	25		17	07	256	18		16	09	289	23		20	14	283	22		23	20	263	35																																																																																																																																																																																																																																																																																																																																																																																															
700	93.5	21	17	118	45	90.4	15	04	047	21	90.8	12	04	246	21	92.0	09	07	288	30	92.8	14	09	290	25	93.3	11	03	267	20	93.7	09	03	286	22	95.1	14	10	278	19	93.7	18	14	272	36																																																																																																																																																																																																																																																																																																																																																																																															
650		13	10	119	46		09	02	045	24		08	02	243	15		03	14	293	31		06	03	298	24		03	09	267	16		02	03	286	25		08	04	283	34		12	08	285	39																																																																																																																																																																																																																																																																																																																																																																																															
600	132.3	06	02	123	44	128.9	02	17	048	21	129.1	02	11	231	13	130.0	07	24	297	30	131.1	02	10	303	27	131.4	04	18	267	13	131.6	08	16	294	29	133.5	04	01	296	45	132.6	07	02	293	41																																																																																																																																																																																																																																																																																																																																																																																															
550		02	07	125	42		07	25	057	16		07	23	230	09		18	35	300	29		09	16	301	27		14	27	284	14		16	24	307	34		02	05	305	54		02	07	296	51																																																																																																																																																																																																																																																																																																																																																																																															
500	176.8	10	16	125	41	172.9	15	46	068	22	173.1	17	35	253	14	173.1	23	42	318	27	174.8	19	26	303	25	174.8	25	37	287	12	174.7	26	37	310	39	178.0	08	12	308	50	177.5	06	14	295	50																																																																																																																																																																																																																																																																																																																																																																																															
450		22	29	115	43		26	58	087	28		29	49	246	19		30	51	316	46		29	38	309	14		36	17	292	11		35	47	304	41		15	19	312	63		16	23	294	53																																																																																																																																																																																																																																																																																																																																																																																															
400	228.9	34	40	111	44	224.5	38	58	090	33	224.3	42		238	19	224.2	38	58	308	80	226.0	40	49	307	14	225.2	47		330	14	228.3	30	53	316	61	230.8	26	31	305	68	230.3	27	37	297	49																																																																																																																																																																																																																																																																																																																																																																																															
350		46		117	48		43		091	32		45		239	12						48			310	35		53		325	16		44		317	59		40	45	309	77		41		300	27																																																																																																																																																																																																																																																																																																																																																																																															
300	292.2	59		119	46	288.4	50		057	24	288.9	52		Hand V							289.5	50		311	54	287.7	54		307	16		23	288.7	54		324	85	295.1	52		310	90	294.4	52		292	76																																																																																																																																																																																																																																																																																																																																																																																													
250		71		127	50		56		023	14		52		277	04						310	50		320	45		53		316	24		59		322	89		316	97		316	97		293	77																																																																																																																																																																																																																																																																																																																																																																																																
200	376.9	67		134	17	375.7	67		017	10	374.8	64		011	05						318	50		318	45		53		314	18		57	315	35	380.1	68		319	62	379.4	72		300	58																																																																																																																																																																																																																																																																																																																																																																																																
170		64		131	11		60		301	15		59		307	10						321	51		321	27		56		304	18		59		323	33		311	50		303	52		303	52																																																																																																																																																																																																																																																																																																																																																																																																
150		66		230	06		60		297	15		58		315	13						312	54		312	25		58		296	16		61		311	33		319	45		304	49																																																																																																																																																																																																																																																																																																																																																																																																			
130		64		290	09		62		305	16		59		325	08						312	55		312	22		57		298	21		58		297	20		323	38		310	42																																																																																																																																																																																																																																																																																																																																																																																																			
110		63		297	10		61		316	19		59		312	19						315	56		315	19		57		291	24		60					322	38		304	42																																																																																																																																																																																																																																																																																																																																																																																																			
100	523.1	62		290	15	523.4	60		310	21	523.3	61		312	15						308	56		308	19	523.4	68		275	22				313	36	525.1	67		317	32		317	32																																																																																																																																																																																																																																																																																																																																																																																																	
90		64		300	16		60		306	21		60		317	16						308	55		308	19		57		295	21				313	30		320	30		317	32																																																																																																																																																																																																																																																																																																																																																																																																			
80		65		301	18		62					59		308	16						304	55		304	14		60		290	14				320	25		326	25		317	32																																																																																																																																																																																																																																																																																																																																																																																																			
70		65		296	19							59		300	21						304	55		304	14		61		294	15				326	16		326	16																																																																																																																																																																																																																																																																																																																																																																																																						
60		65		315	23							63									304	55		304	14		61		294	15				326	16		326	16																																																																																																																																																																																																																																																																																																																																																																																																						
Inversion 850mb-340-836mb-35°																																	Inversion 286mb-510-276mb-50°																																	Isothermal 400-378mb-38°																																	Isothermal 177-756mb-16°																																	Inversion 996mb-450-985mb-46°																																	Inversion 350-480-347-470°																																	Isothermal 547-317mb-47°																																	Inversion 767mb-150-750mb-16°																																	(58mb)																																	Isothermal 620-600mb-04°																																	Max. Wind 33,400 250mb 319°																																	Isothermal 833-566mb-5°																																	Isothermal 331-318-47°																																
Tropopause I 230mb-73° 34,700'																																	Tropopause I 240mb-61° 33,700'																																	Tropopause I 343mb-56° 25,600'																																	N.R.																																	Tropopause I 350mb-48° 26,500'																																	Tropopause I 297-61° 29,200'																																	Tropopause II 367mb-53° 24,300'																																	Tropopause II 283mb-57° 30,100'																																	Tropopause I 254-60° 32,500'																																	Tropopause II 245mb-72° 33,700'																																	Tropopause I 224mb-75° 36,600'																																	Tropopause																																																																	
STATION	LERWICK					STORNOWAY					LEUCHARS					ALDERGROVE					LIVERPOOL					DOWNHAM MARKET					LARKHILL					CAMBORNE					VALENTIA					STATION																																																																																																																																																																																																																																																																																																																																																																																														
Pressure Time M.S.L. Surf Freezing	21h G.M.T.					21h G.M.T.					21h G.M.T.					21h G.M.T.					21h G.M.T.					21h G.M.T.					21h G.M.T.					21h G.M.T.					21h G.M.T.					Time M.S.L. Surf Freezing																																																																																																																																																																																																																																																																																																																																																																																														
	997.7 mb					983.5 mb					992.7 mb					990.4 mb					998.2 mb					1002.2 mb					1002.6 mb					1000.1 mb					999.6 mb																																																																																																																																																																																																																																																																																																																																																																																																			
	987.8 mb					981.9 mb					991.8 mb					981.2 mb					995.6 mb					997.7 mb					986.4 mb					988.6 mb					988.6 mb																																																																																																																																																																																																																																																																																																																																																																																																			
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Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir.	Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																																																																																																																																			
Surf	02.7	46	41	130	25	00.4	47	43	200	07	00.2	43	41	240	12	02.5	43	38			00.6	44	40	180	08	01.2	43	38	200	07	04.4	39	36	210	06	02.9	47	46	190	07					Surf																																																																																																																																																																																																																																																																																																																																																																																															
1000	00.7					04.5					02.1					02.6					00.7					00.6					07	04.4					00.1									1000																																																																																																																																																																																																																																																																																																																																																																																														
950		43	36	138	37		45	41	181	19		40	37	223	16		39	36			41	35	206	14		43	37	230	20		43	36	229	15		45	44	223	24								950																																																																																																																																																																																																																																																																																																																																																																																													
900	17.7	36	29	137	38	23.8	39	35	172	19	26.2	36	30	218	16	25.6	34	30			27.5	37	31	222	13	28.8	36	31	241	17	28.9	37	33	227	16	28.5	40	38	242	26							900																																																																																																																																																																																																																																																																																																																																																																																													
850	42.6	30	26	134	42	38.9	32	29	175	22	41.8	31	27	200	12	40.6	30	26			42.6	31	27	229	15	43.8	29	25	2																																																																																																																																																																																																																																																																																																																																																																																																															

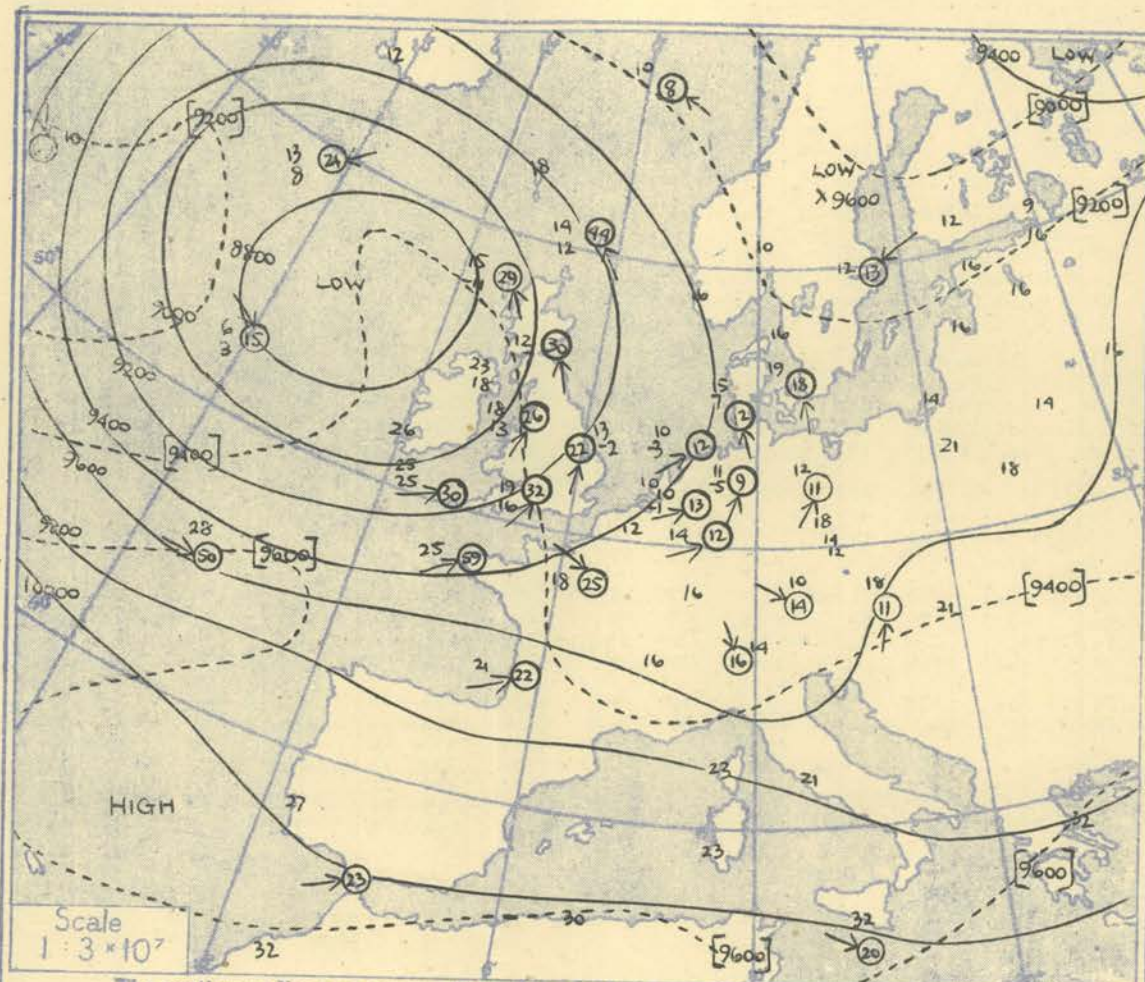


RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																										
Time M.S.L. Surf Freezing	03L				03L				03L				03L				03L				03L				03L				03L				03L				03L				Time M.S.L. Surf Freezing																																																																																																																																																																																																																																																																																						
	998.8				987.4				993.6				982.9				992.0				999.3				995.3				987.9				978.2				976.4																																																																																																																																																																																																																																																																																										
	878				865				868				792				834				869				829				768				740																																																																																																																																																																																																																																																																																														
Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																														
Surf	02.7	46	41	130	23	00.4	47	37	160	15	00.2	43	39	190	16	02.5	47	45															Surf																																																																																																																																																																																																																																																																																														
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950		42	35	146	33		43	36	154	27		43	34	157	24		45	41															950																																																																																																																																																																																																																																																																																														
900	27.9	35	28	146	37	24.8	36	33	154	32	26.5	37	30	160	25	23.8	40	36															900																																																																																																																																																																																																																																																																																														
850	42.8	29	19	145	38	39.8	31	22	160	33	41.5	30	24	159	29	39.0	35	30															850																																																																																																																																																																																																																																																																																														
800	58.7	25	10	141	40	55.6	26	05	161	30	57.3	24	19	155	25	55.1	33	26															800																																																																																																																																																																																																																																																																																														
750		19	00	138	44		20	04	155	30		18	13	158	25		28	22															750																																																																																																																																																																																																																																																																																														
700	92.8	14	-12	140	44	89.8	15	-11	155	29	91.4	12	07	168	30	89.8	23	18															700																																																																																																																																																																																																																																																																																														
650		05	-23	141	47		08	-17	158	30		04	-04	178	36		18	12															650																																																																																																																																																																																																																																																																																														
600	131.9	02	-27	140	51	128.2	00	-19	163	31	129.5	02	-14	190	28	129.1	11	04															600																																																																																																																																																																																																																																																																																														
550		-09	-20	133	55		-08	-17	170	25		-03	-33	217	16		03	-05															550																																																																																																																																																																																																																																																																																														
500	174.9	-16	-30	143	60	172.1	-19	-23	182	26	173.7	-13	-39	219	13	174.1	-06	-15															500																																																																																																																																																																																																																																																																																														
450		-27	-39	141	64		-28	-33	242	30		-24	-39	273	21		-17	-21															450																																																																																																																																																																																																																																																																																														
400	226.4	-37	-49	133	66	223.6	-34	-41	253	41	225.5	-35	-44	283	36	226.7	-31	-41															400																																																																																																																																																																																																																																																																																														
350		-51		135	66		-48		256	38		-49		283	48																		350																																																																																																																																																																																																																																																																																														
300	289.0	-67		128	70	286.7	-60		246	29	288.3	-65		280	37																		300																																																																																																																																																																																																																																																																																														
250		-69		128	54		-62		222	29		-67		263	17																		250																																																																																																																																																																																																																																																																																														
200	373.5	-67		147	28	373.0	-59		179	10	373.6	-63		227	10																		200																																																																																																																																																																																																																																																																																														
170		-63		142	14		-57		231	13		-60		241	10																		170																																																																																																																																																																																																																																																																																														
150		-67		200	10		-58		257	11		-61		269	11																		150																																																																																																																																																																																																																																																																																														
130		-65		230	09		-60		271	09		-60																					130																																																																																																																																																																																																																																																																																														
110		-68					-64		301	10																							110																																																																																																																																																																																																																																																																																														
100		(14mb)				520.8	-65		257	08																							100																																																																																																																																																																																																																																																																																														
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Tropopause II 290mb -69° 29.500°																																I 300mb 40° 28.700°																																I 285mb -70° 29.900°																																N/A																																I 238mb -75° 34.000°																																II 250mb -77° 32.900°																																I 234mb -82° 34.400°																																I 212mb -87° 36.500°																																I 258mb -69° 32.200°																																Tropopause																															
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE								STATION																																																																																																																																																																																																																																																																																										
Time M.S.L. Surf Freezing	09L				09L				09L				09L				09L				09L				09L				09L								Time M.S.L. Surf Freezing																																																																																																																																																																																																																																																																																										
	1001.7				988.1				993.5				978.4				985.4				995.3				988.5				978.5																																																																																																																																																																																																																																																																																																		
	991.7				986.5				992.7				969.5				983.4				990.8				972.8				968.3																																																																																																																																																																																																																																																																																																		
	860				850				880				773				792				833				794				710																																																																																																																																																																																																																																																																																																		
Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																														
Surf	02.7	47	40	120	23	00.4	48	38	110	20	00.2	47	38	170	25	02.5	48	47															Surf																																																																																																																																																																																																																																																																																														
1000	00.4					03.2					01.8					05.9																	1000																																																																																																																																																																																																																																																																																														
950		46	40	133	36		44	35	121	39		43	35	138	36		46	44															950																																																																																																																																																																																																																																																																																														
900	28.8	38	33	132	37	25.2	38	29	134	42	26.5	35	28	141	41	22.6	41	40															900																																																																																																																																																																																																																																																																																														
850	43.8	31	26	136	34	40.2	32	23	142	42	41.5	28	12	144	41	37.8	39	38															850																																																																																																																																																																																																																																																																																														
800	59.8	26	16	137	31	56.2	27	17	147	40	57.3	27	08	147	42	54.0	34	33															800																																																																																																																																																																																																																																																																																														
750		22	05	138	34		25	18	130	30		21	01	147	41		30	26															750																																																																																																																																																																																																																																																																																														
700	94.1	17	-04	137	37	90.7	19	09	123	32	91.5	15	-10	151	36	88.8	28	19															700																																																																																																																																																																																																																																																																																														
650		10	-09	136	39		13	-02	130	31		08	-04	150	32		17	06															650																																																																																																																																																																																																																																																																																														
600	132.7	02	-14	139	38	129.5	07	-04	142	29	130.0	04	-04	149	21	128.0	08	-08															600																																																																																																																																																																																																																																																																																														
550		-07	-20	142	43		01	-06	157	25		01	-11	176	16		00	-14															550																																																																																																																																																																																																																																																																																														
500	176.7	-14	-27	141	57	174.1	-09	-16	165	19	174.6	-08	-21	195	13	172.7	-07	-19															500																																																																																																																																																																																																																																																																																														
450		-23	-36	139	56		-20	-28	172	17		-19	-29	220	17		-18	-29															450																																																																																																																																																																																																																																																																																														
400	228.6	-34	-44	138	59	226.3	-34	-42	187	15	227.2	-31	-40	230	19	225.2	-30	-41															400																																																																																																																																																																																																																																																																																														
350		-46		135	61		-50		200	19		-45		249	24		-44																350																																																																																																																																																																																																																																																																																														
300	292.0	-59		132	61	289.0	-65		190	22	290.7	-60		242	39	288.7	-60																300																																																																																																																																																																																																																																																																																														
250		-66		149	54		-71		189	18		-72		235	24		-74																250																																																																																																																																																																																																																																																																																														
200	377.4	-64		151	20	373.1	-68		183	18	374.7	-69		225	15	372.9	-66																200																																																																																																																																																																																																																																																																																														
170		-63		167	09		-60		177	12		-62		225	11		-63																170																																																																																																																																																																																																																																																																																														
150		-62		196	07		-63		150	09		-61		258	08		-76																150																																																																																																																																																																																																																																																																																														
130		-60					-62					-63		236	10		-61																130																																																																																																																																																																																																																																																																																														
110		-59										-62		247	07		-60																110																																																																																																																																																																																																																																																																																														
100	525.1	-69									521.4	-62		211	15																			100																																																																																																																																																																																																																																																																																													
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HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

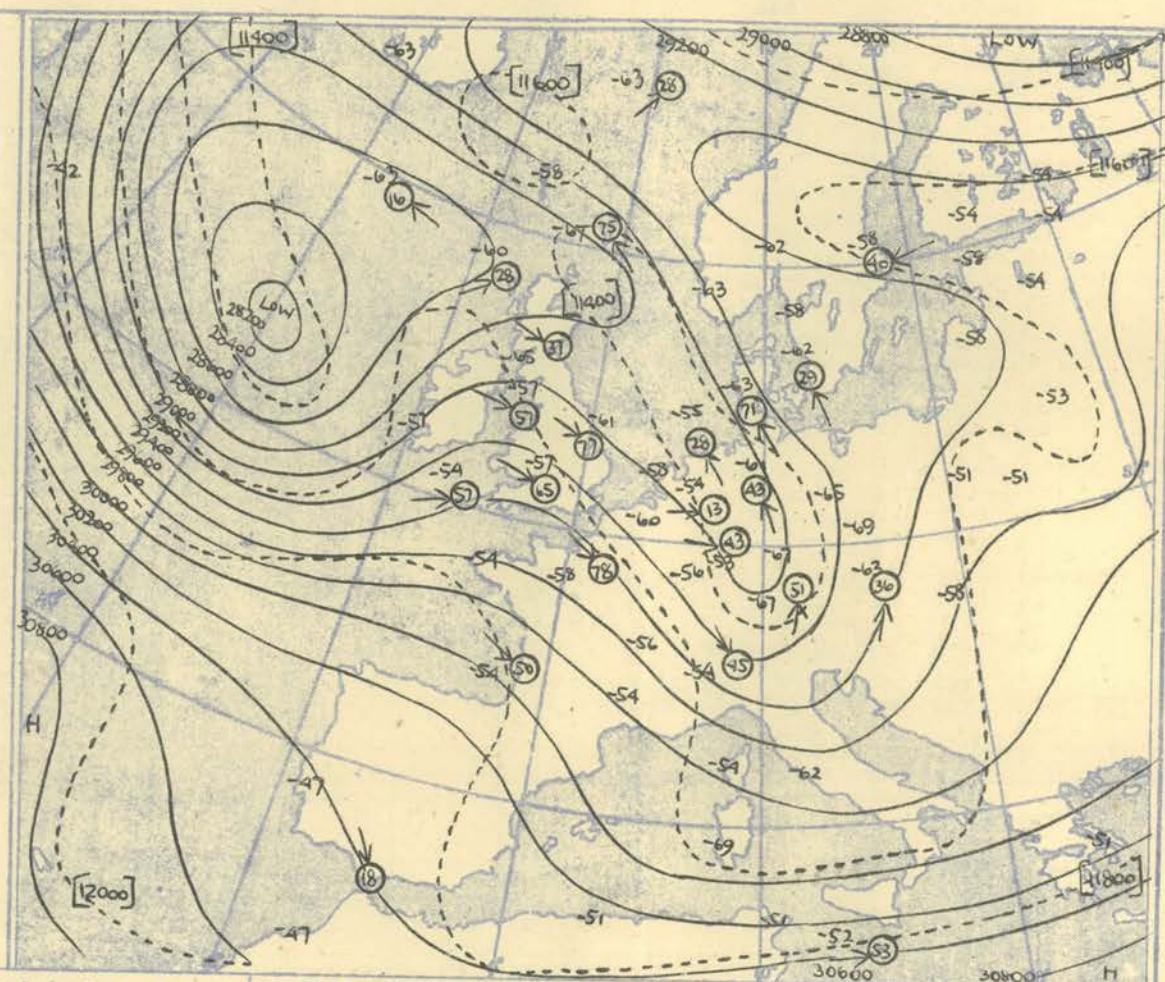


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

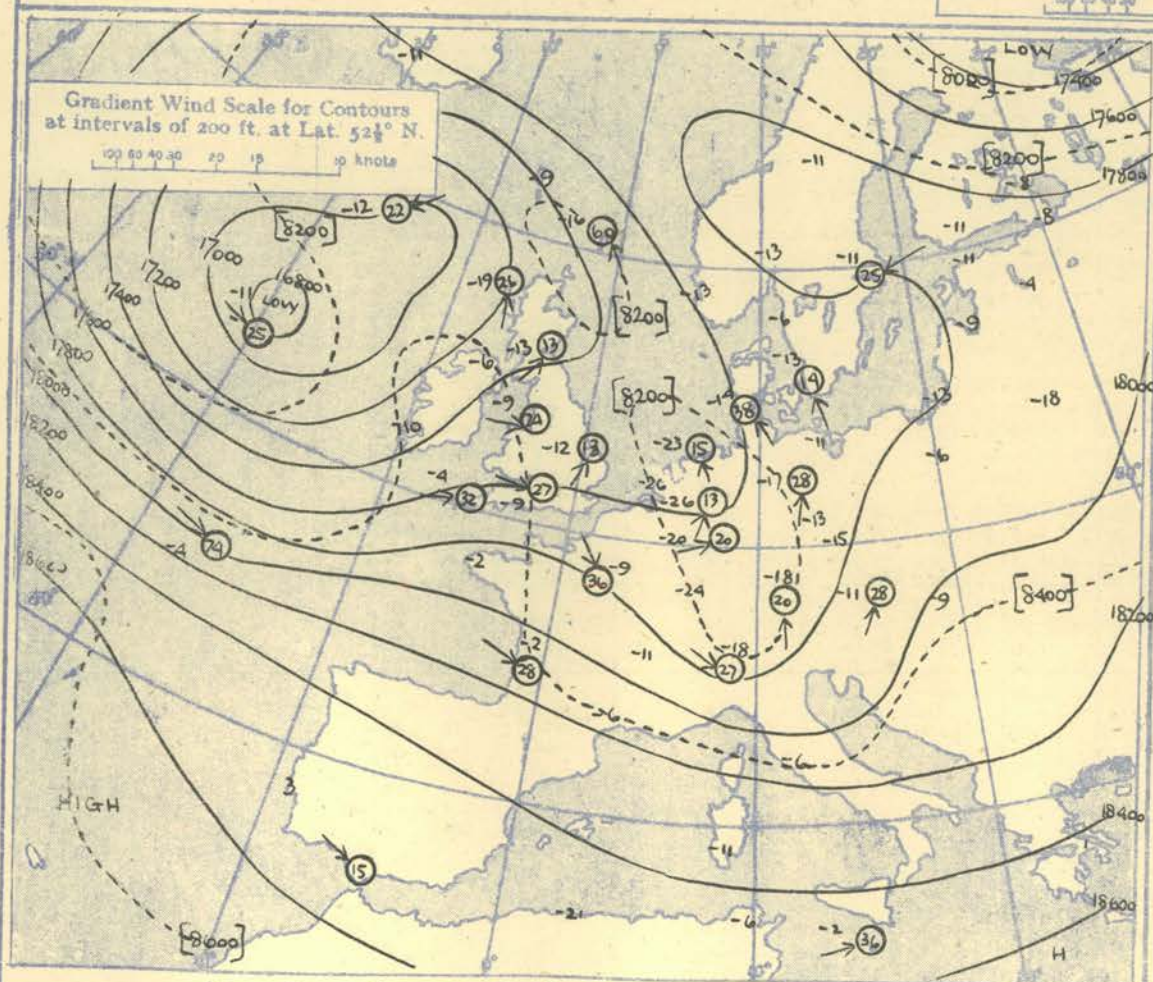
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52<sup>1</sup>/<sub>2</sub>° N

100	80	60	40	20	10	5	2
10	8	6	4	2	1	0.5	0.2

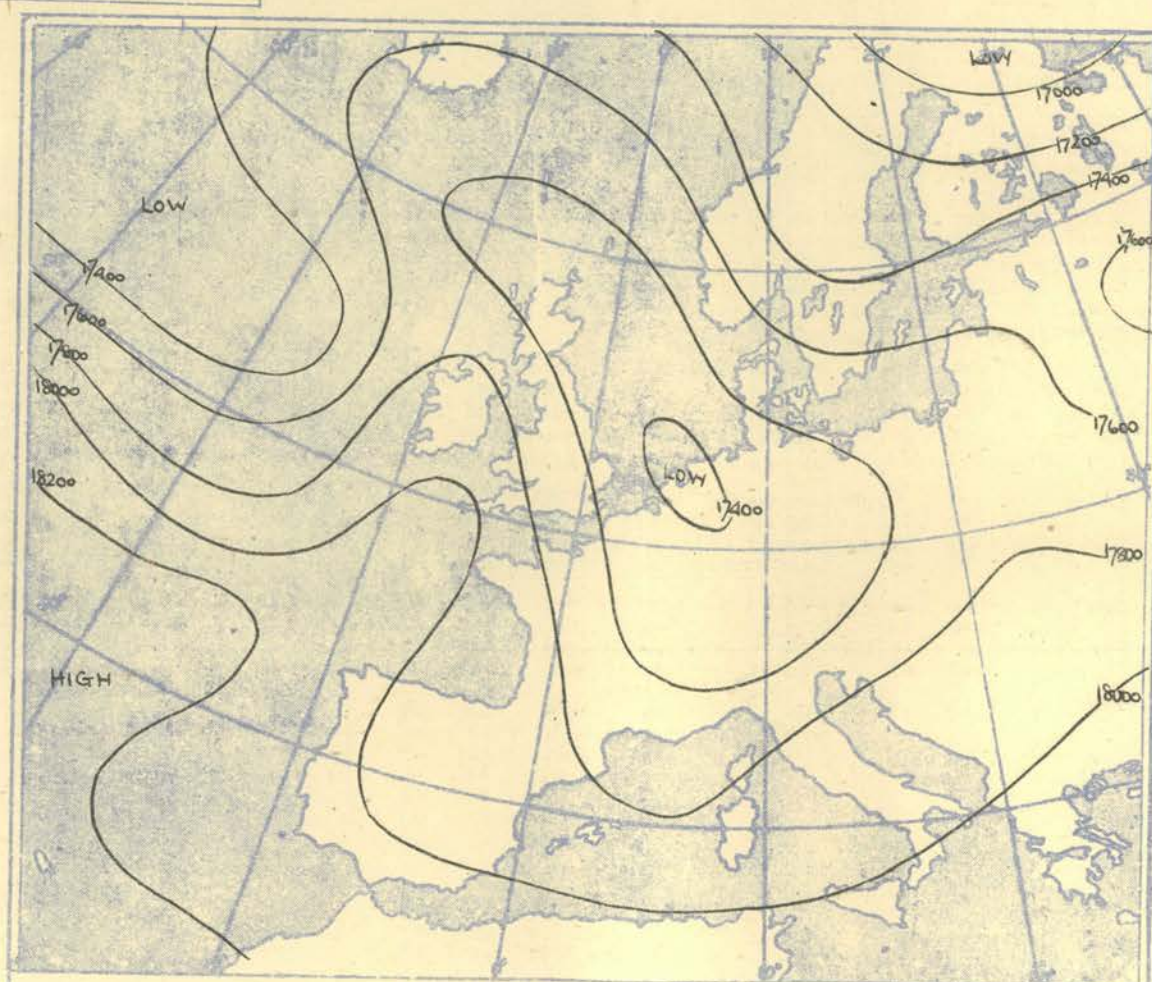
knots



The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

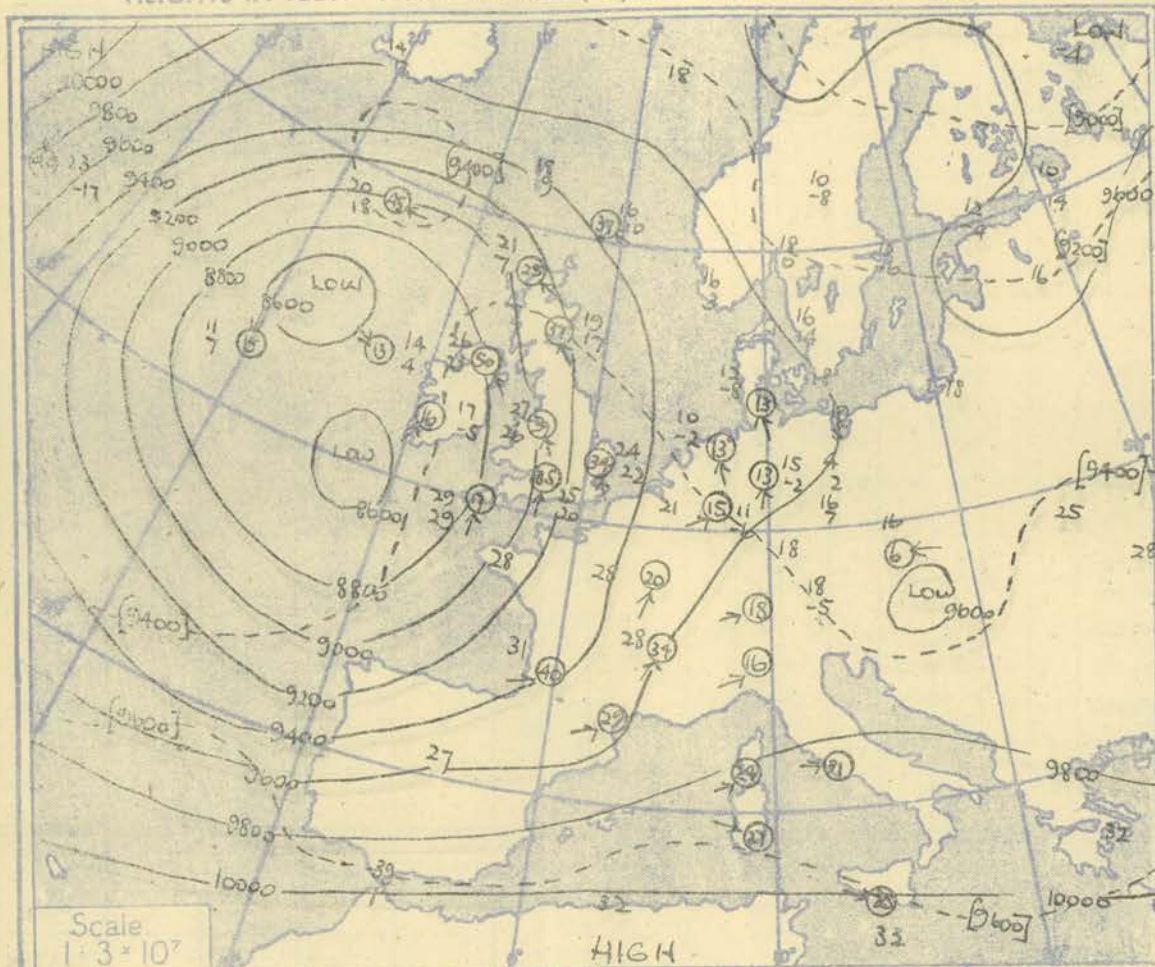
## NEPHOSCOPE OBSERVATIONS

[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	Weather Recorder				Weather Recorder				Weather Recorder				Weather Explorer				Weather Explorer				Weather Explorer				Weather Explorer				Weather Observer				Ship																										
Lat/Long	58-0°N 15-7°W				58-0°N 15-9°W				58-0°N 15-8°W				58-1°N 15-6°W				58-7°N 19-3°W				58-7°N 20-3°W				58-4°N 20-5°W				58-4°N 20-6°W				57-1°N 11-0°W				Lat/Long																						
Program	Time	0200h			G.M.T.	0900h			G.M.T.	1400h			G.M.T.	2100h			G.M.T.	0200h			G.M.T.	0900h			G.M.T.	1500h			G.M.T.	2100h			G.M.T.	0900			G.M.T.	Time																					
	M.S.L.	977			mb	975			mb	984			mb	982			mb	981			mb	976			mb	977			mb	980			mb	972			mb	M.S.L.																					
	Surf	977			mb	975			mb	984			mb	982			mb	981			mb	976			mb	977			mb	980			mb	972			mb	Surf																					
	Freezing	850			mb	840			mb	820			mb	835			mb	910			mb	890			mb	860			mb	860			mb	790			mb	Freezing																					
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure																						
	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	ft./100	°F	°F	Dir. Vel. knots	mb																						
Surf		48 47	067	20		49 49	080	30		48 48	075	35		51 48	060	25		42 41	290	17		42 39	306	11		47 43	020	15		47 40	090	15		51 47	170	25	Surf																						
1000	6-3	45 44	073	23	6-9	46 45	080	26	-4-3	45 45	078	45	-2-2	46 40	065	29	-5-1	39 39	298	17	-6-6	41 37	329	12	-6-4	44 41	015	13	-5-6	44 38	049	24	43 45	159	24	1000																							
950		38 37	078	25	21-7	40 36	085	38	24-2	40 39	080	49	26-3	40 30	064	45	22-8	31 31	300	17	21-6	34 28	352	10	22-0	38 26	079	15	22-8	39 26	050	23	21-0	45 44	155	22	950																						
900		32 32	076	26		33 29	093	45		34 32	088	47		34 24	066	45		25 24	291	14		27 22	405	07		31 31	015	16		31 29	061	24	33 36	158	30	900																							
850		531	26 26	074	24	527	23 23	097	45	553	30 27	088	45	574	30 19	070	49	523	20 19	277	18	523	21 14	254	07	529	24 23	001	15	538	24 23	062	24	524	34 25	160	28	850																					
800		20 19	065	24		24 18	097	46		26 23	087	41		29 13	075	45		13 12	280	18		16 09	338	12		18 16	348	12		17 17	062	21	27 21	162	24	750																							
750	873	3 8	058	24	871	18 13	099	39	20-0	20 18	090	45	22-1	23 4	077	46	27-1	06 03	283	15	26-1	09 02	344	17	26-9	11 7	358	15	27-7	11 07	062	22	27-2	23 19	182	22	700																						
700		09 1	062	19		11 06	100	38		17 8	090	42		16 00	078	42		-1 -12	281	24		00 -08	353	18		4 -2	360	15		4 -4	062	24	19 04	181	32	650																							
650	1257	02 -13	026	20	1259	04 -02	099	33	128-9	7 -12	094	33	131-2	08 03	075	42	124-8	-9 -21	285	21	123-9	-7 -17	359	16	125-0	-4 -13	356	18	125-8	-5 -12	060	27	126-5	10 -4	162	24	600																						
600		74 -23	057	22		-4 -9	110	31		1 -23	100	40		1 -5	019	50		-18 -21	296	22		-17 -30	346	24		-15 -25	353	23		-14 -21	058	27	2 -9	152	28	550																							
550		700 -12	-31	058	22	701 -24	-19	122 33	1737	-8 -27	094 45	1760	-9 -14	090 33	1677	-28 -40	282 25	1669	-27 -38	325 35	1682	-27 -36	354 27	1692	-24 -31	055 28	1713	-10 -19	151 32	1713	-10 -19	151 32	1713	-10 -19	151 32	500																							
500		2220 -22	-41	060	21	-24 -31	124 33	-18 -29	100 37	-17 -24	090 33	-38 -48	283 28	-40 -49	326 28	-36 -46	007 30	-34 -43	054 36	-23 -34	151 39	-23 -34	151 39	-23 -34	151 39	-23 -34	151 39	-23 -34	151 39	-23 -34	151 39	-23 -34	151 39	-23 -34	151 39	450																							
450		2220 -22	-41	060	21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	2220 -22	-41	060 21	400																				
400		-48 -	075	17		-49	129	35		-42	098	30		-43	160	30		-50 -	284	22		-48 -	013	30		-46 -	031	48		-47 -	158	60		-47 -	158	60	350																						
350		2860 -63	-099	16	2850 -58	115	33	2803 -56	124	27	2922 -60	100	27	-50 -																							300																						
300		-66 -	080	19		-60	108	25		-65	126	39		-76	111	24																					250																						
250		2705 -61	103	15	2718 -53	085	18	2762 -58	090	26	2767 -64	093	18																								200																						
200		-57 -	45	10		-53	073	13		-57	075	30		-63	091	15																					170																						
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100																																																											
90																																																											
80																																																											
70																																																											
60																																																											
Tropopause				280 mbs -60°F				280 mbs -62°F				270 mbs -68°F				247 mbs -77°F				400 mbs -50°F				N.R.				365 mbs -50°F				334 mbs -49°F				266 mbs -64°F				Tropopause																			
				30,000ft.				29,000ft.				31,200ft.				33,400ft.				21,000ft.												23,000ft.				26,000ft.				31,300ft.																			
												Inversion.																																															
												812 mbs 29°-																																															
												800 mbs 30°																																															
												Isobothermal.																																															
												470 - 450 mbs -17°F																																															

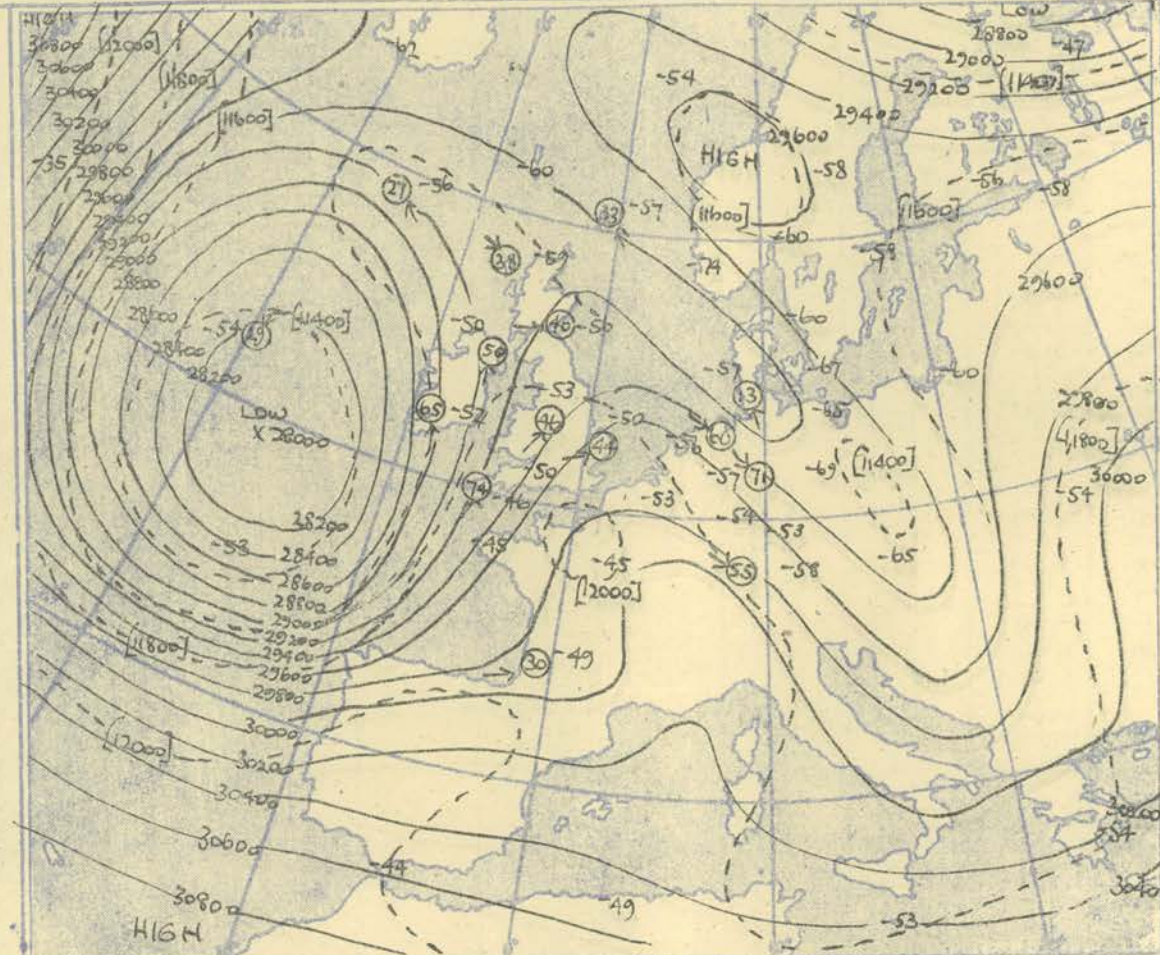




The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000—700 mb.

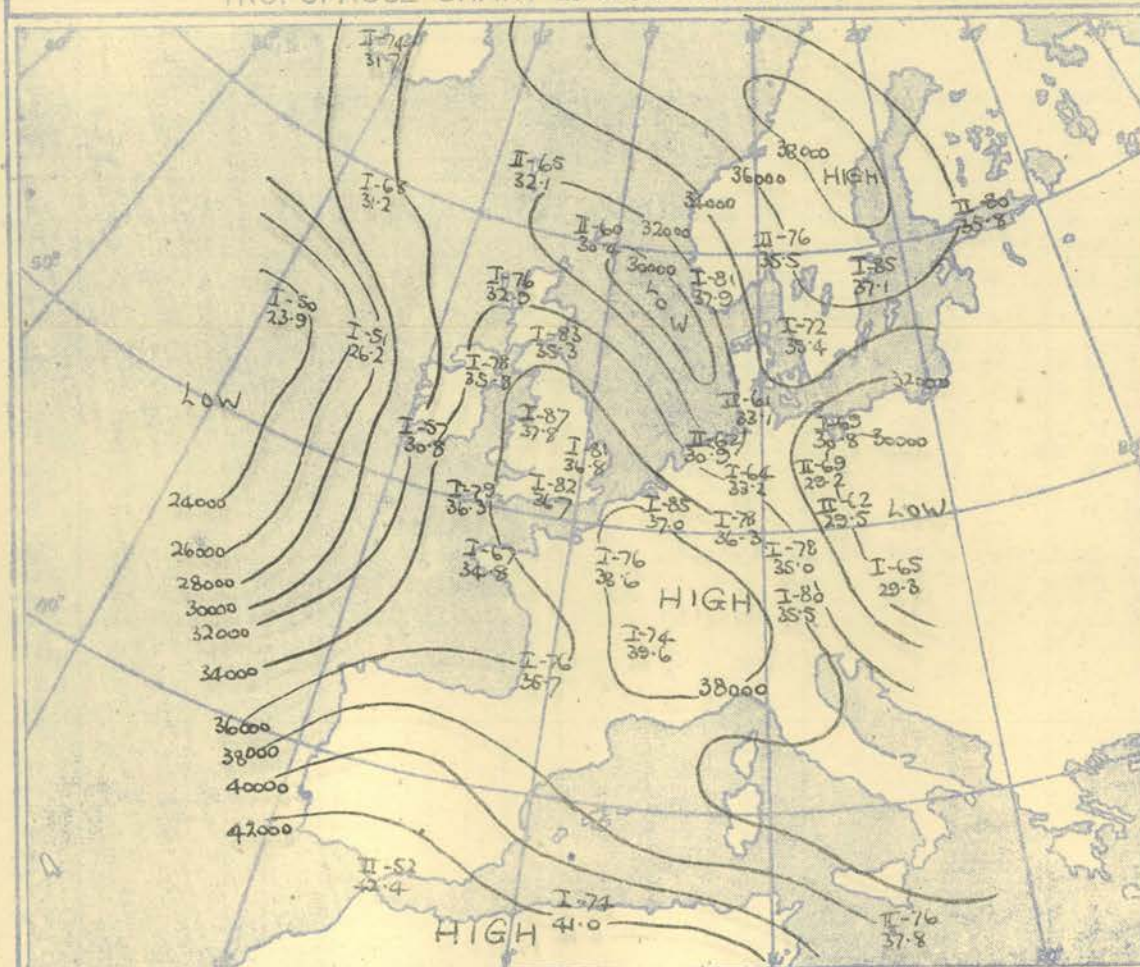
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500—300 mb.

### TROPOPAUSE CHART at about 15h GMT.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

### NOTES ON THE AEROLOGICAL SITUATION.

The cold pool which crossed the British Isles on 3<sup>rd</sup> moved to Holland and degenerated into a cold trough over Scandinavia and Northwest Germany.

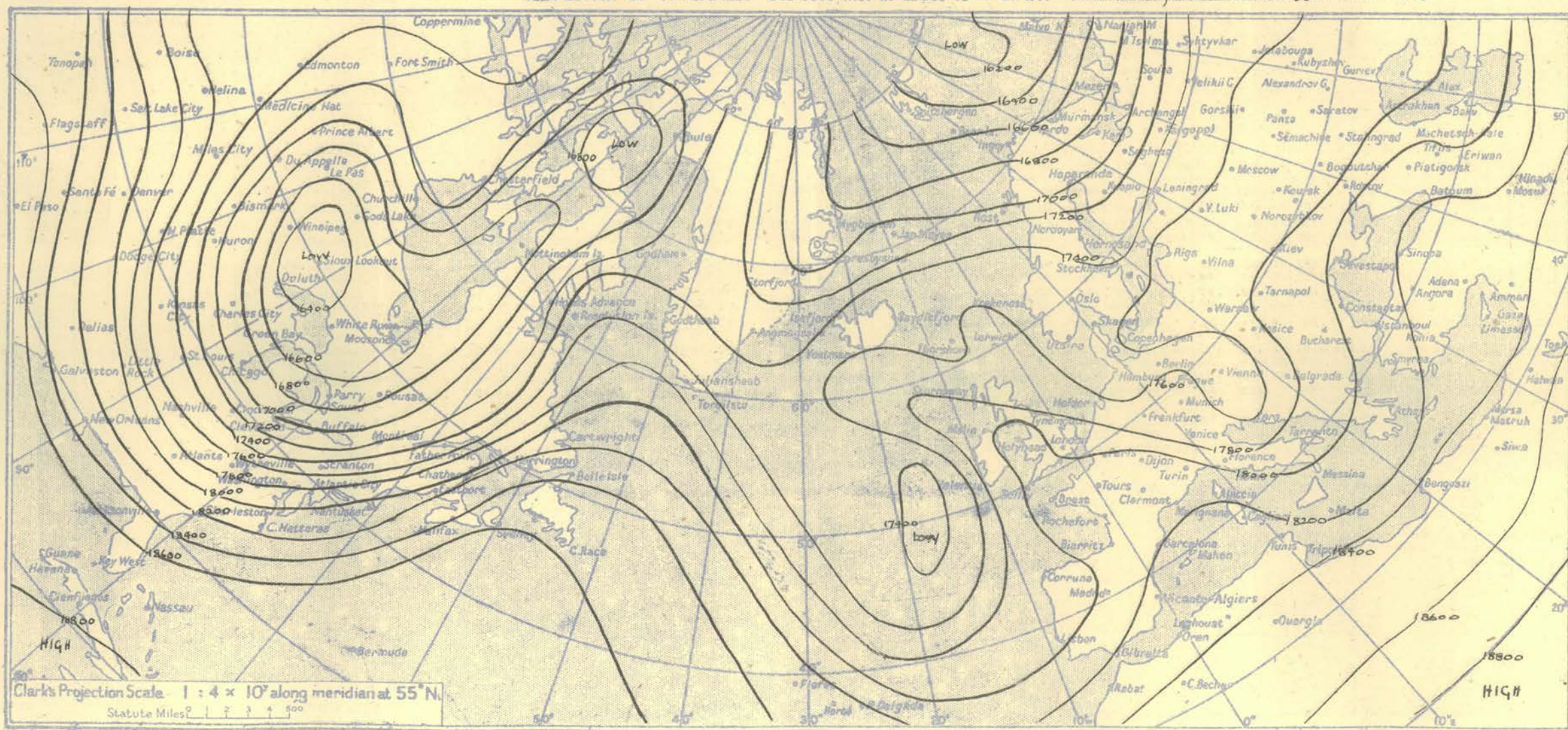
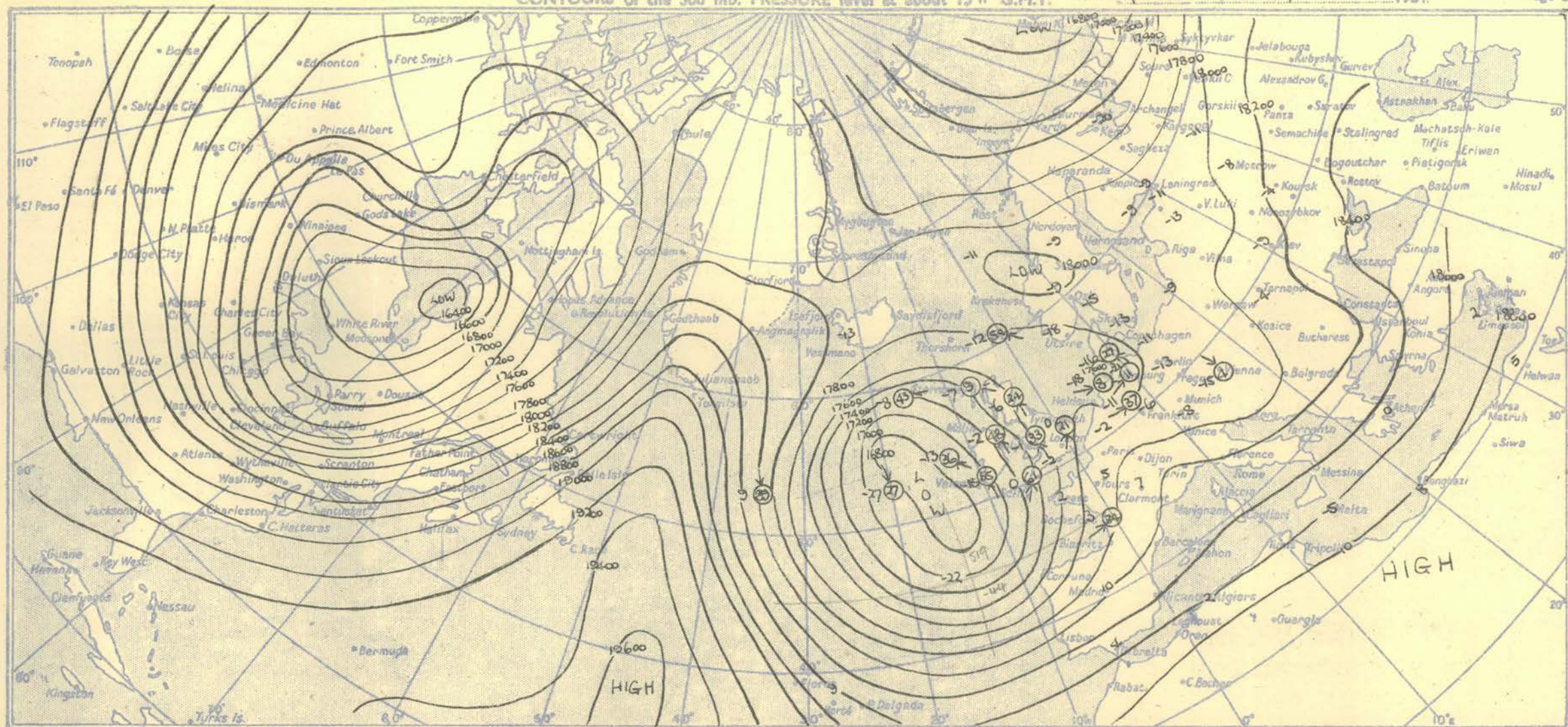
The cold trough in the Atlantic cut off a cold pool to the Southwest of the British Isles.

A warm ridge crossed the British Isles.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. JOHNSON, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

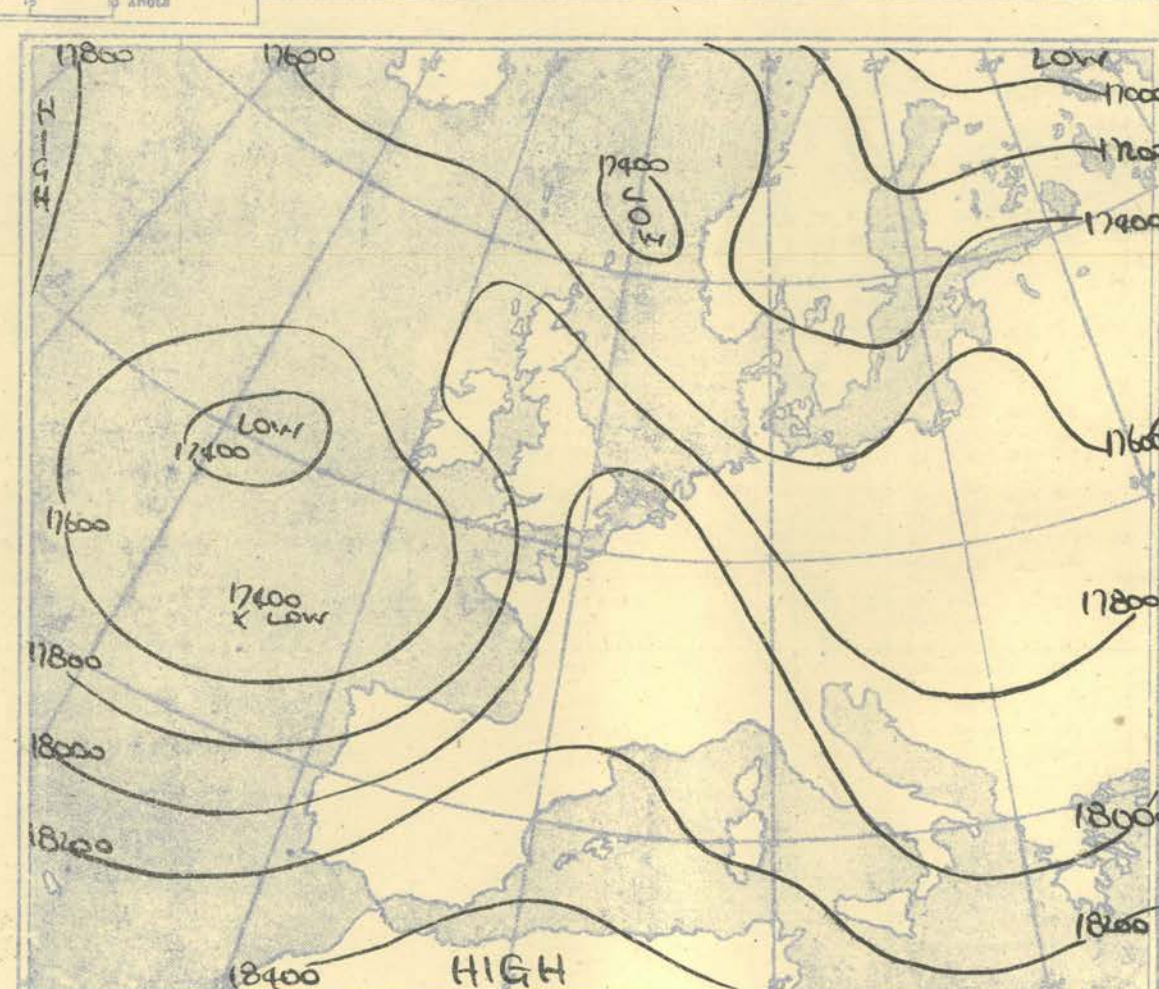
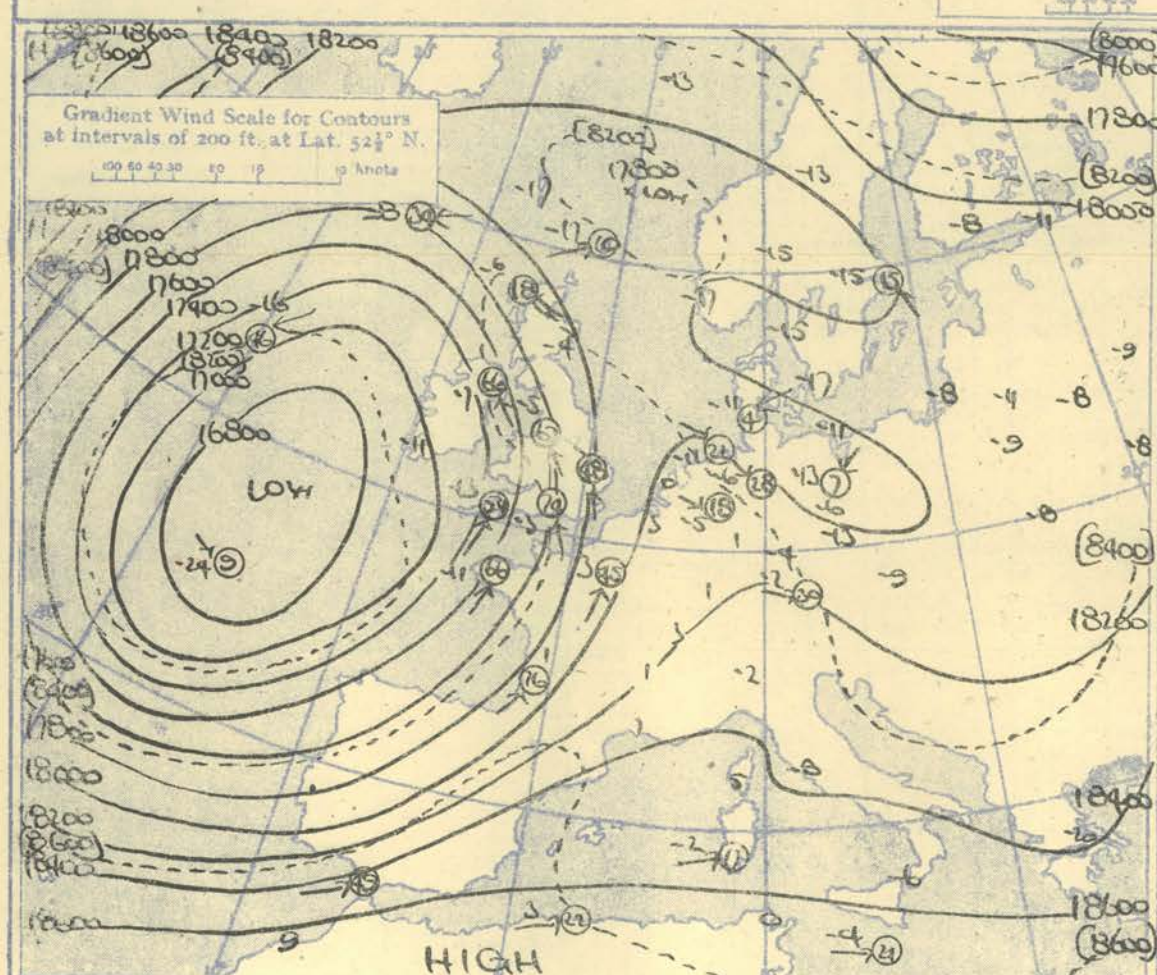
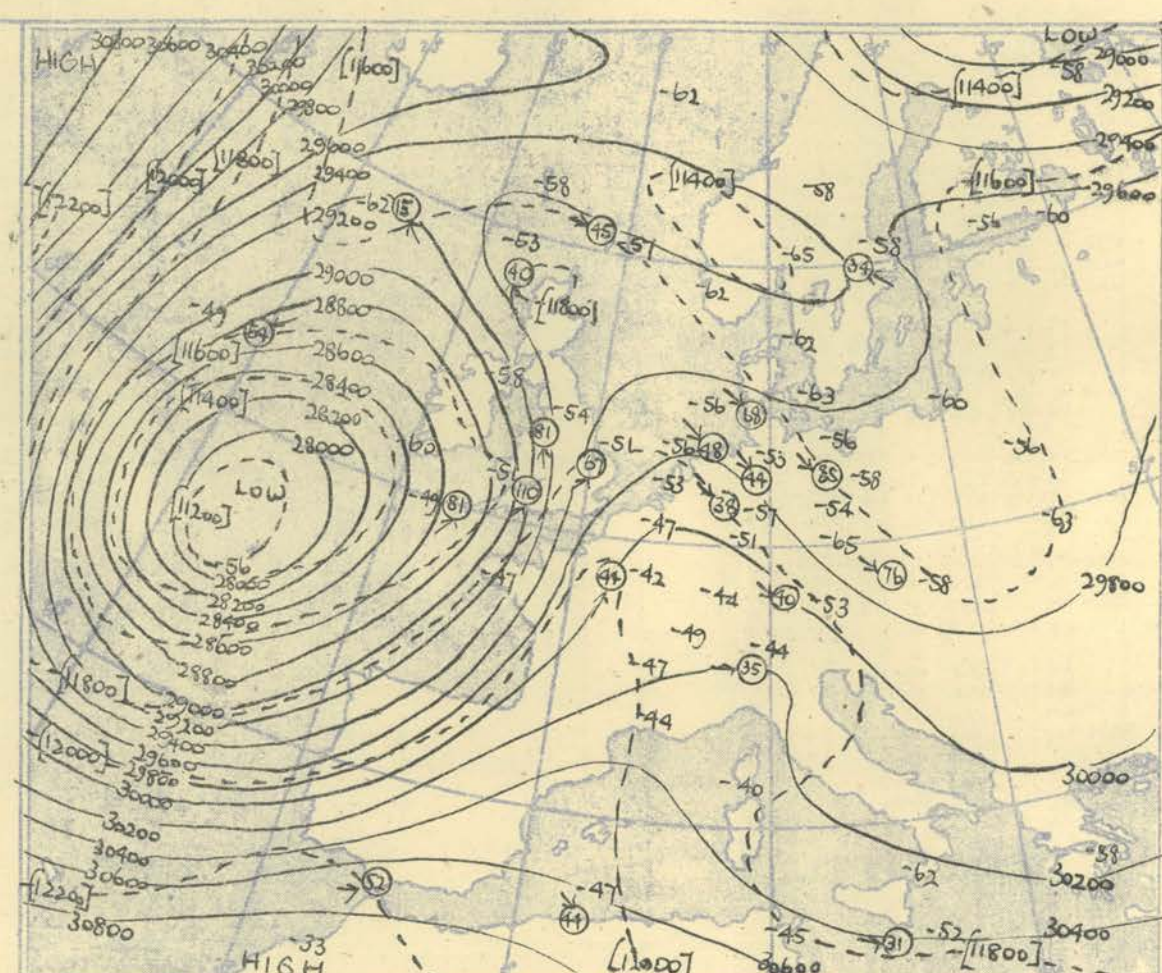
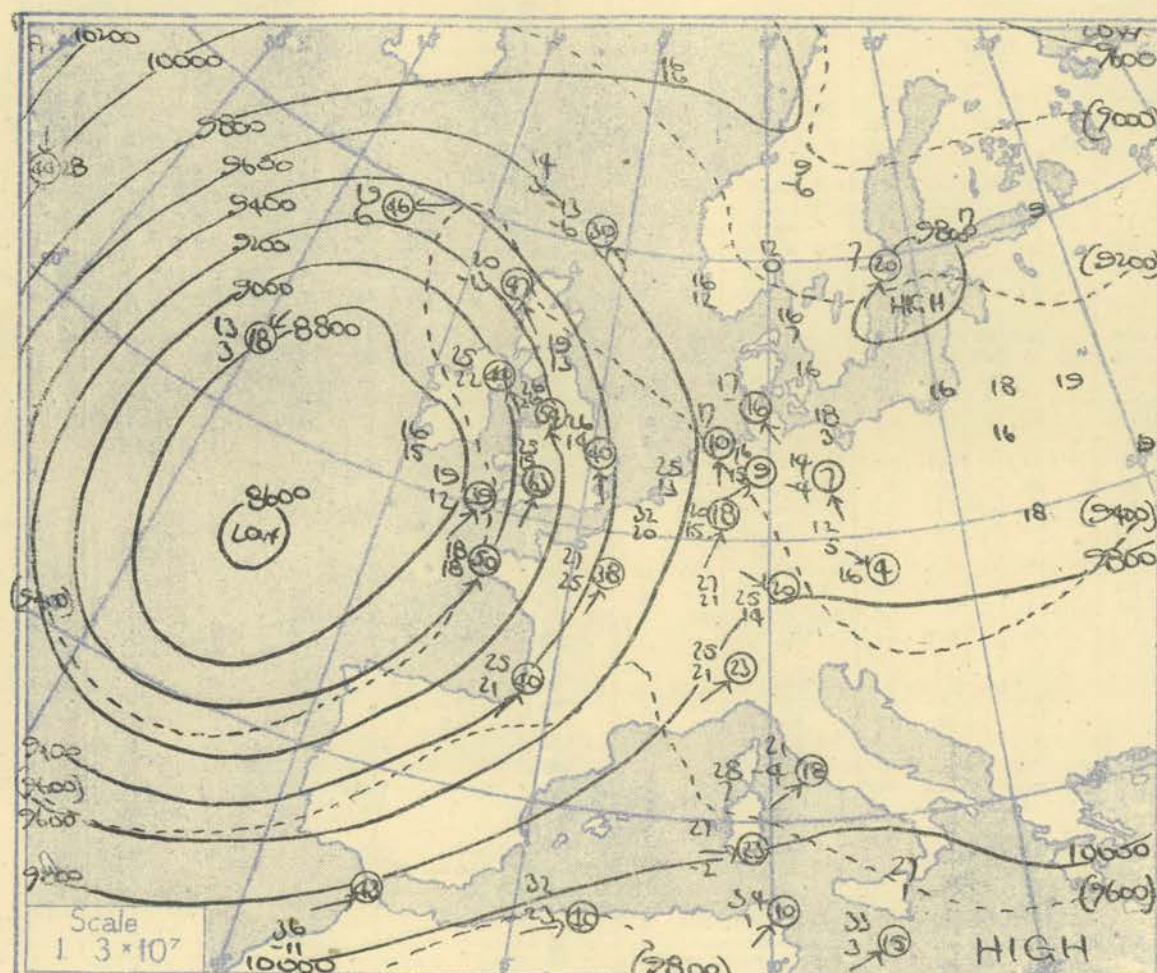
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Pressure mb	Time M.S.L.	15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		Time M.S.L.	Pressure mb																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing	Surf	Freezing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew	Temp.	Dew																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1000	02.7	46	42	125	26	00.4	50	38	090	25	00.2	50	39	160	30	02.5	51	49			00.6	51	47	120	22	01.2	48	47	120	15	04.4	51	49	170	22	02.9	51	51	290	05	00.3	47	39	010	06																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
950	01.4					02.4					01.9					04.5					04.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</



RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																							
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time M.S.L.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		Time M.S.L.					
Surf		1013.3		mb		998.9		mb		977.1		mb		983.1		mb		986.8		mb		994.4		mb		986.8		mb		981.6		mb		976.0					
Pressure		1003.2		mb		997.3		mb		978.2		mb		974.2		mb		984.8		mb		990.6		mb		971.3		mb		971.2		mb		975.0					
Freezing		909		mb		850		mb		828		mb		800 + 771		mb		780		mb		790		mb		771		mb		835		mb		840					
Pressure		02.7		45		39		110		20		00.4		50		42		00.2		49		48		150		35		02.5		50		48		00.6					
1000		03.5		44		38		120		33		0.2		44		37		00.3		44		42		150		35		02.5		50		48		00.6					
950		03.6		36		32		120		33		0.2		44		37		00.3		44		42		150		35		02.5		50		48		00.6					
900		01.5		31		28		124		31		28.2		33		34		28.1		37		36		150		35		02.5		50		48		00.6					
850		04.4		27		24		124		34		43.3		32		28		43.3		34		30		150		35		02.5		50		48		00.6					
800		02.2		21		18		124		35		59.2		30		25		59.2		30		25		150		35		02.5		50		48		00.6					
750		19		04		127		32		26		19		25		18		19		04		127		32		26		19		25		18		19					
700		96.2		13		16		133		30		93.8		20		13		95.8		19		12		133		30		93.8		20		13		95.8					
650		06		32		135		30		15		09		13		05		09		13		05		133		30		93.8		20		13		95.8					
600		134.5		02		40		141		30		132.8		08		01		132.8		08		01		133		30		93.8		20		13		95.8					
550		07		48		156		18		02		06		03		06		07		48		156		18		02		06		03		06		07					
500		178.4		12		52		243		10		171.6		06		12		177.7		04		14		page		177.7		04		14		page		177.7					
450		20		55		260		20		12		22		24		3.		220.7		27		38		3.		220.7		27		38		3.		220.7					
400		230.6		32		59		273		29		230.8		23		34		227.0		29		35		3.		227.0		29		35		3.		227.0					
350		43		282		40		286		45		44		3.		3.		227.0		29		35		3.		227.0		29		35		3.		227.0					
300		294.5		57		278		45		295.6		53		278		45		293.3		54		161		8		297.0		51		203		67		294.0					
250		75		264		49		73		264		49		73		264		371.7		75		158		89		381.5		89		210		79		378.4					
200		378.5		72		259		12		378.9		70		259		12		371.7		75		158		89		381.5		89		210		79		378.4					
170		68		268		05		63		268		05		63		268		371.7		75		158		89		381.5		89		210		79		378.4					
150		68		254		06		64		254		06		64		254		371.7		75		158		89		381.5		89		210		79		378.4					
130		68		250		09		64		250		09		64		250		371.7		75		158		89		381.5		89		210		79		378.4					
110		69		269		20		64		269		20		64		269		371.7		75		158		89		381.5		89		210		79		378.4					
100		523.1		63		283		09		523.1		63		283		09		523.1		63		283		09		523.1		63		283		09		523.1					
90		70		248		06		70		248		06		70		248		70		248		06		70		248		06		70		248		06					
80		76		254		24		76		254		24		76		254		76		254		24		76		254		24		76		254		24					
70		66		265		24		66		265		24		66		265		66		265		24		66		265		24		66		265		24					
60		Inversion		391mb. 53°-385mb. 32°		Isothermal		T74 - 750mb. 19°		SSO - 520mb. 9°		Inversion		505mb. 70°-485mb. 5°		Isothermal		832 - 800mb. 30°		Isothermal		800 - 771mb. 32°		Inversion		945mb. 46°-908mb. 48°		Isothermal		T75mb. 25°-762mb. 26°		Inversion							
Tropopause		I 241mb. -78° 34,000'		I 200mb. -90° 31,900'		N.R.		I 280mb. -65° 30,500'		I 235mb. -76° 34,500'		I 187mb. -94° 37,300'		I 179mb. -90° 40,000'		I 230mb. -60° 34,500'		I 307mb. -61° 28,100'		Tropopause		I 241mb. -78° 34,000'		I 200mb. -90° 31,900'		N.R.		I 280mb. -65° 30,500'		I 235mb. -76° 34,500'		I 187mb. -94° 37,300'		I 179mb. -90° 40,000'		I 230mb. -60° 34,500'		I 307mb. -61° 28,100'	
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE									
Time M.S.L.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		Time M.S.L.					
Surf		1015.4		mb		1000.5		mb		1000.8		mb		987.7		mb		992.0		mb		996.6		mb		992.6		mb		989.6		mb		979.1					
Pressure		1005.3		mb		999.9		mb		1000.0		mb		978.7		mb		990.0		mb		992.2		mb		976.9		mb		979.1		mb		979.1					
Freezing		900		mb		818		mb		840		mb		800		mb		818		mb		750		mb		807		mb		819		mb		819					
Pressure		02.7		45		39		120		27		00.4		50		42		00.2		49		47		140		30		02.5		48		45		150					
1000		04.1		45		39		120		32		00.4		45		38		00.2		49		46		130		12		01.2		49		47		120					
950		04.1		38		34		120		32		45		38		For		00.2		49		46		130		12		01.2		49		46		120					
900		02.2		32		28		121		34		28.8		38		32		28.6		39		35		150		36		26.4		42		35		163					
850		07.1		26		23		118		30		43.9		34		27		43.7		34		30		152		44		41.6		36		32		167					
800		02.8		23		13		125		38		59.8		30		23		59.7		29		25		152		44		57.6		30		27		168					
750		20		00		125		33		25		18		23		19		23		19		15		156		42		28		20		163		33					
700		96.9		15		14		128		26		94.4		19		12		94.1		19		13		156		45		92.3		21		16		176					
650		00		34		183		20		15		05		15		08		15		08		13		151		44		14		07		190		39					
600		05.3		01		43		139		19		133.4		10		02		133.0		09		03		150		43		131.3		07		01		183					
550		00		44		147		12		04		04		page		05		05		01		05		143		47		02		03		165		57					
500		178.8		08		46		178		10		178.5		01		09		178.0		03		10		134		48		176.1		06		10		165					
450		18		49		198		12		10		20		11		15		174.4		13		20		140		52		176.1		06		10		165					
400		232.4		27		59		272		12		232.0		21		32		231.4		20		29		146		60		228.9		27		32		171					
350		40		60		269		21		33		43		39		34		39		34		139		71		171		87		34		39		173					
300		296.7		53		240		42		271.4		46		296.8		47		296.8		47		46		151		61		293.3		53		171							
250		73		253		49		73		253		49		73		253		296.8		47		46		151		61		293.3		53		171							
200		380.2		87		227		34		382.0		76		380.4		53		380.4		53		152		45		380.4		53		152		45		380.4					
170		78		226		15		78		226		15		78		226		380.4		53		152		45		380.4		53		152		45		380.4					
150		72		233		10		72		233		10		72		233		72		233		10		72		233		10		72		233		10					
130		71		275		08		71		275		08		71		275		71		275		08		71		275		08		71		275		08					
110		(13)		70				(13)		70				(13)		70		(13)		70				(13)		70				(13)		70							
90																																							
80																																							
70																																							



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.





## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

Time	48° 14' N.	47° 14' N.	52° 12' N.							Time
M.S.L.	17.0W.	12.3W.	02.12W.							M.S.L.
Surf	980 mb	981 mb	996.0 mb	mb	mb	mb	mb	mb	mb	Surf
Freezing	850 mb	810 mb	835 mb	mb	mb	mb	mb	mb	mb	Freezing
Pressure	Height	Temp.	Dew	Height	Temp.	Dew	Height	Temp.	Dew	Pressure
mb	ft./100	°F.	°F.	ft./100	°F.	°F.	ft./100	°F.	°F.	mb
Surf	02.0	47	45	01.5	52	44.0	4			Surf
1000	055	46	42	05.4	48	44	1.1			1000
950	22.9	35	35	23.2	41	41	11.3	41	35	950
900	31.9	32	32	38.4	37	35	22.6	34	30	900
850	53.8	26		54.4	30	30	58.4	29		850
800										800
750										750
700	88.0	15		89.0	18	92.9	21			700
650										650
600	126.0	00		128.0	00	132.0	09			600
550										550
500	170.0	-19		172.0	-17	177.1	-05			500
450										450
400										400
350										350
300										300
250										250
200										200
170										170
Cloud: 3/8 St. 900-800mb, 4/8 Cu 920-800mb, 4/8 St. 955- 4/8 Cu 950-2000, 3/8 Sc 1000-1100mb, 950mb. 4/8 As 620-620mb, 4/8 As 620-620mb, 4/8 As 825- 3/8 Cu 930-800mb, 4/8 Cu 820-400, Top of climb 5/8 As 730-680mb, 4/8 As 660-650mb, 4/8 As 660- 400mb.										

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

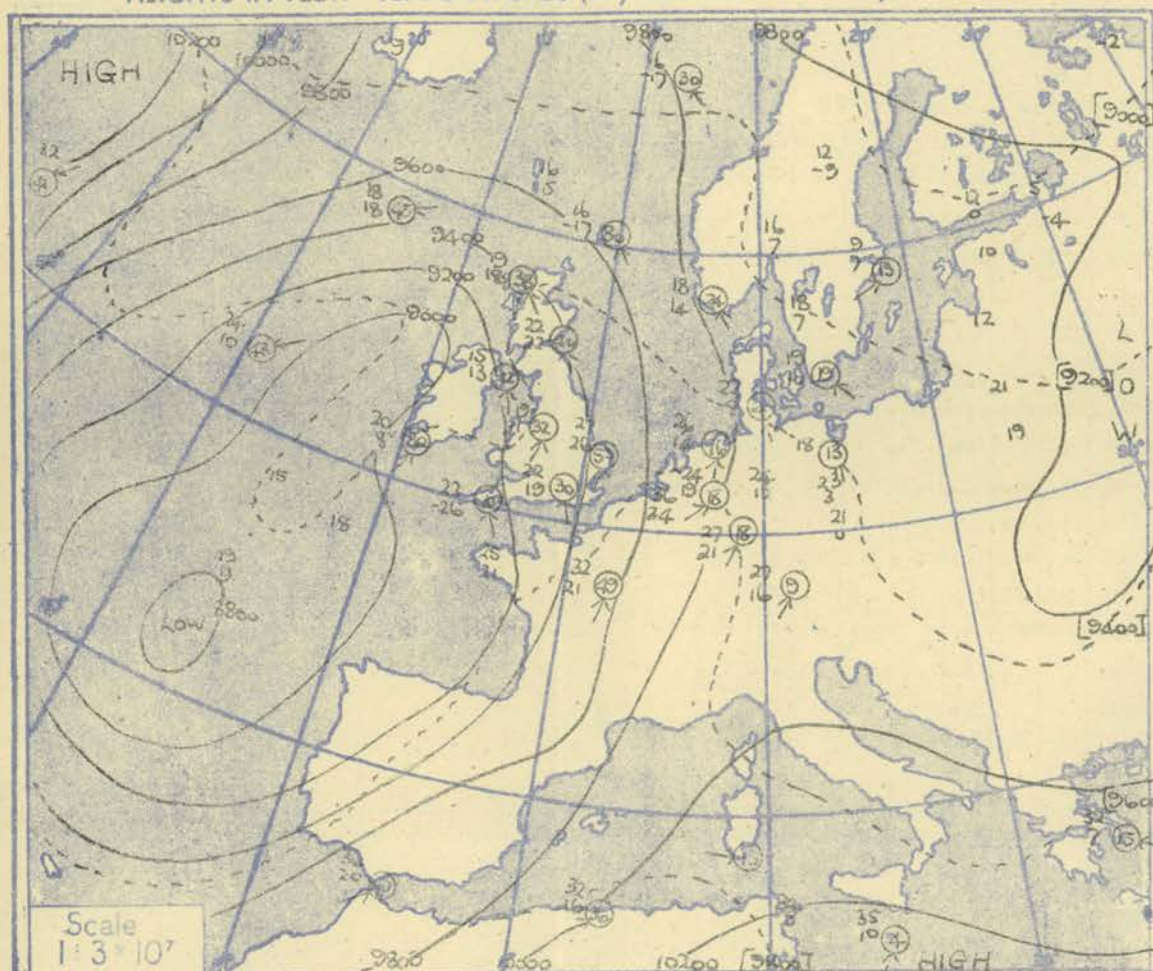
Place	Aldergrove	Stornoway	Stornoway	Shetburgh	St. Eval	Downham	Gloucester	Leuchars	Ronaldsway	Place
Time	09h.	09h.	09h.	10h.	11h.	15h.	15h.	15h.	15h.	Time
Type	Pilar	Pilar	Pilar			Radar		Pilar	Pilar	Type
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
Surf	100	36	100	40	090	35	130	12	160	05
1,000	110	49	101	50	094	48	160	27	180	13
2,000	117	52	107	49	100	51	180	33	180	14
3,000	122	54	112	49	105	54	180	32	180	19
4,000	127	48	116	49	110	52	170	30	170	17
5,000	136	45	125	48	114	53	170	31	180	21
6,000	142	44	127	49	116	57	170	38	180	22
8,000	146	39	128	48	117	57	170	50	180	27
10,000	140	44	123	43	115	56	170	48	180	16
14,000	140	55	119	36	112	37	190	49		
18,000	147	66	107	18	111	27	180	50		
24,000	137	82	120	17	106	34	190	68		
30,000	(23,000)									
40,000										
50,000										
NEPHOSCOPE OBSERVATIONS										
Place										Place
Time Type										Time Type
Dir. Vel.										Dir. Vel.

## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	Weather Recorder	Weather Recorder	Weather Observer	Weather Observer	Weather Explorer	Weather Explorer	Weather Explorer	Weather Explorer	Ship
Lat/Long	53° 10' N	15° 50' W	53° 00' N	15° 60' W	52° 50' N	20° 50' W	52° 70' N	20° 40' W	Lat/Long
Time	0200h	G.M.T.	0800	G.M.T.	1500	G.M.T.	0200	G.M.T.	Time
M.S.L.	997	mb	1000	mb	1004	mb	983	mb	M.S.L.
Surf	997	mb	1000	mb	1004	mb	983	mb	Surf
Freezing	860	mb	850	mb	840	mb	870	mb	Freezing
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure
mb	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	mb
Surf	0	51	49	055 38	0	50	46	075 40	Surf
1000	0	44	40	059 40	1	50	46	075 40	1000
950	27.5	37	31	067 51	28.4	37	35	064 47	950
900	31	24	24	076 53	32	31	29	064 42	900
850	58.4	26	16	072 43	59.4	29	29	068 38	850
800					60.1	20	25	070 45	800
750	24	13	070 47		24	19	074 44		750
700	32.8	19	6	070 46	34.0	19	18	072 32	700
650	13	0	080 27		13	11	074 27		650
600	131.7	08	0	080 39	133.0	7	4	077 30	600
550		-21	076 35			-8	073 27		550
500	176.5	-8	27	079 34	177.7	-7	23	070 25	500
450	-19	33	076 27		-17	27	070 19		450
400	228.9	-31	45	060 18	230.3	-28	37	070 10	400
350		-45		060 14		-40	49	077 08	350
300	292.3	-62		136 15	294.4	-57		083 07	300
250		-79		155 27		-76		083 05	250
200	374.9	-80		106 13	378.1	-73		077 07	200
170		-71		053 21		-69		070 13	170
150									150
130									130
110									110
100									100
90									90
80									80
70									70
60									60
Isothermal. 800-785 mbs 26°F. Isothermal. 655-618 mbs 10°F. Isothermal. 881-859 mbs 32°F. Isothermal. 812-792 mbs 31°F. Isothermal. 650-700 mbs 18°F. Isothermal. 816-800 mbs 36°F. Inversion. 734 mbs 29°F - 725 mbs 30°F.									
Tropopause	227 mbs 86°F	228 mbs 82°F	228 mbs 77°F	258 mbs 74°F	350 mbs 50°F	N.R. 317 mbs 27,700ft.	N.R. 25,000ft.	250 mbs 50°F	Tropopause



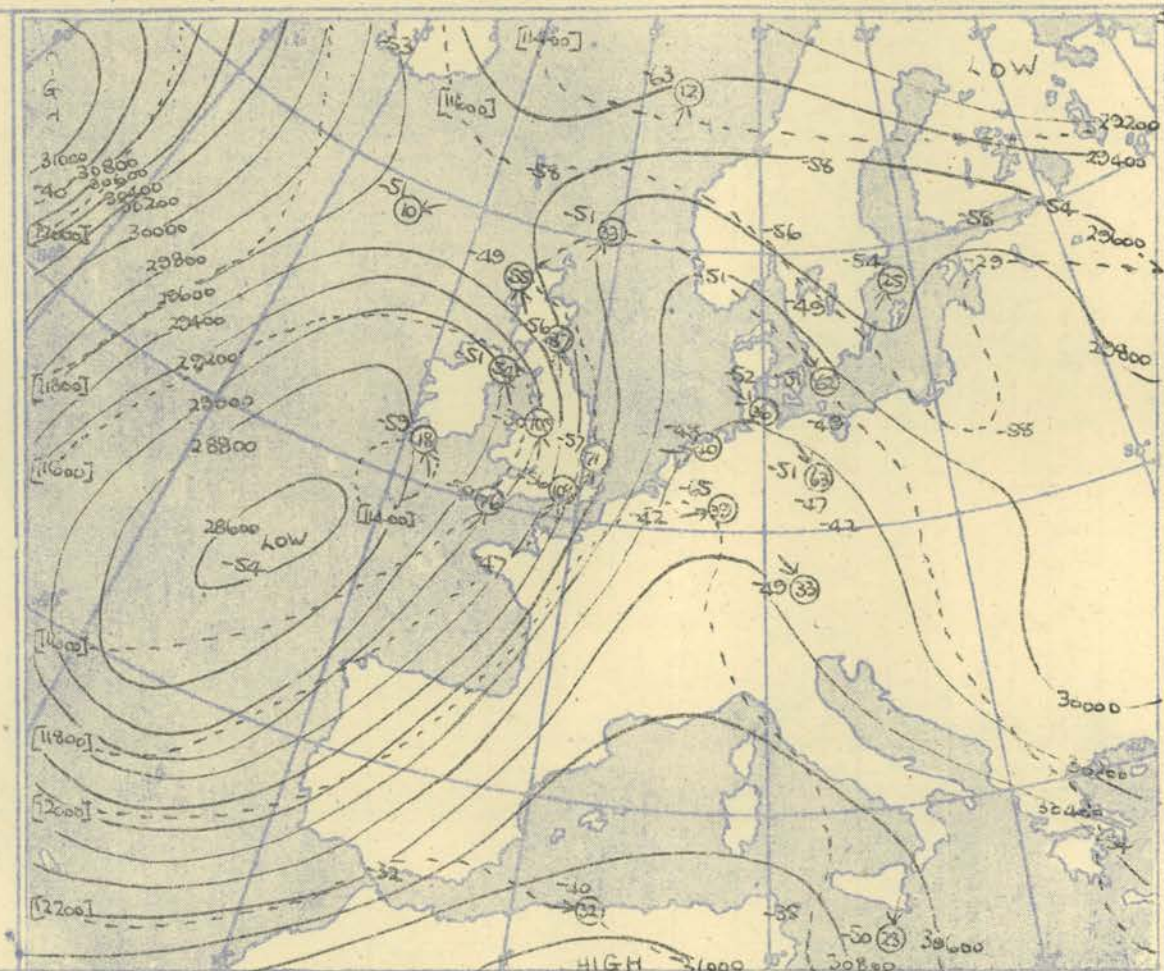
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb. levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

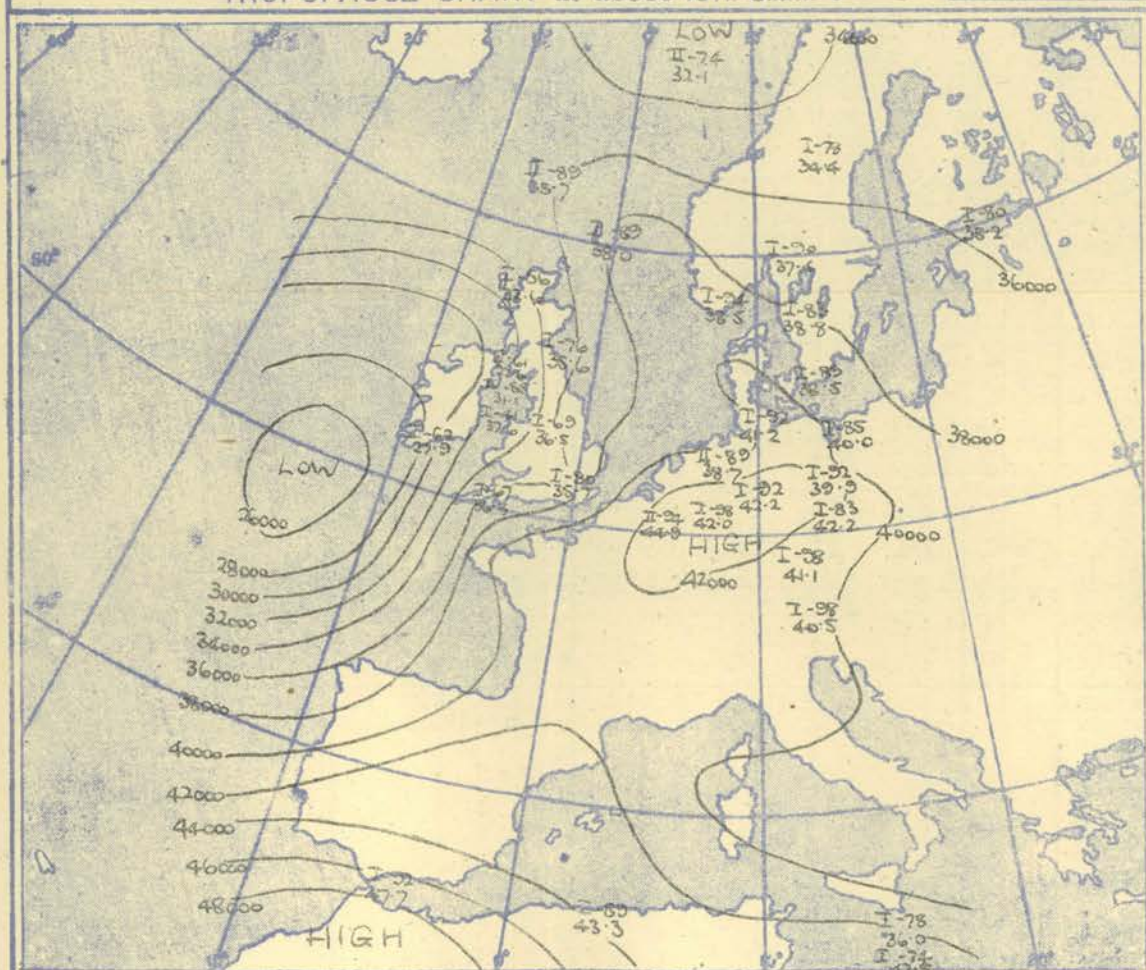
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

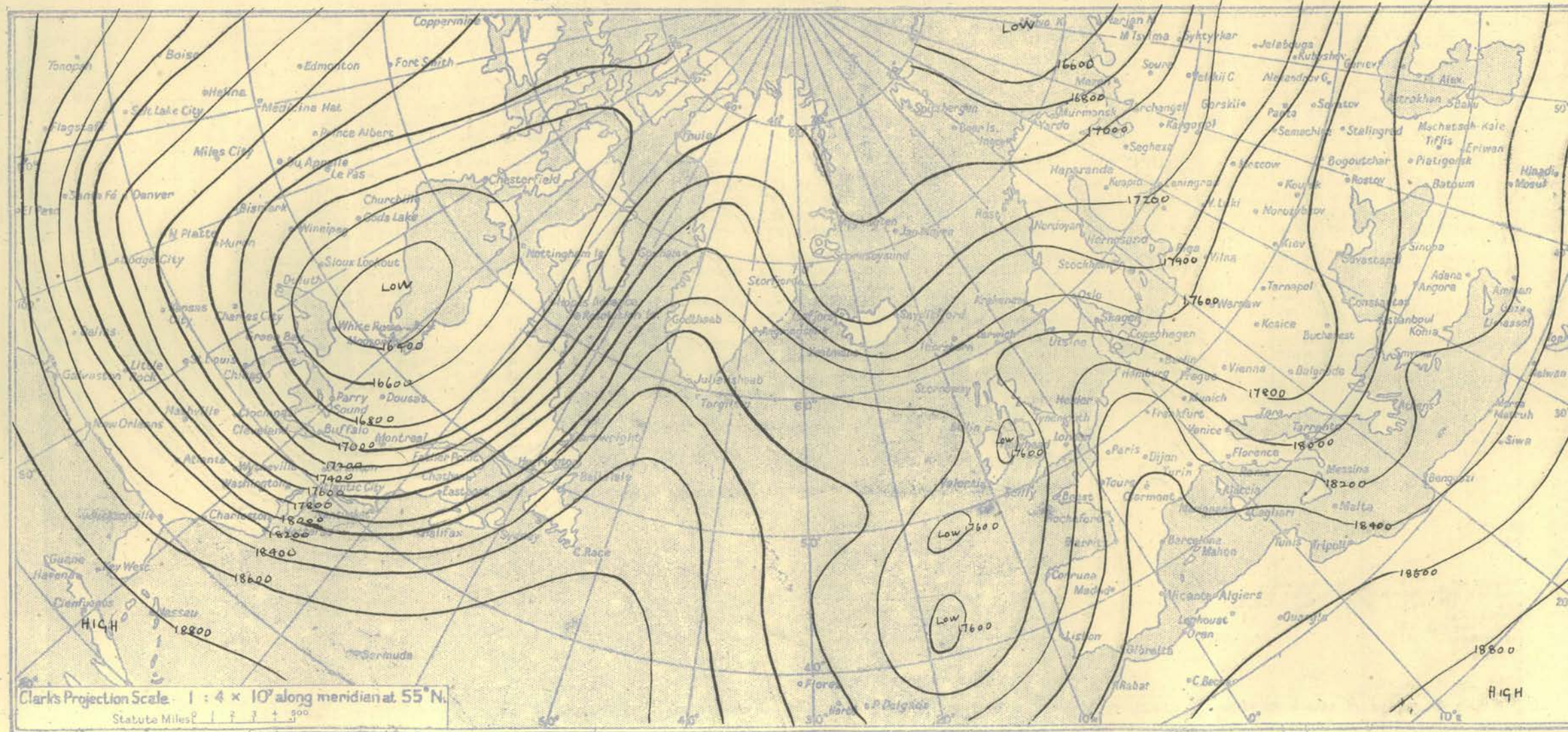
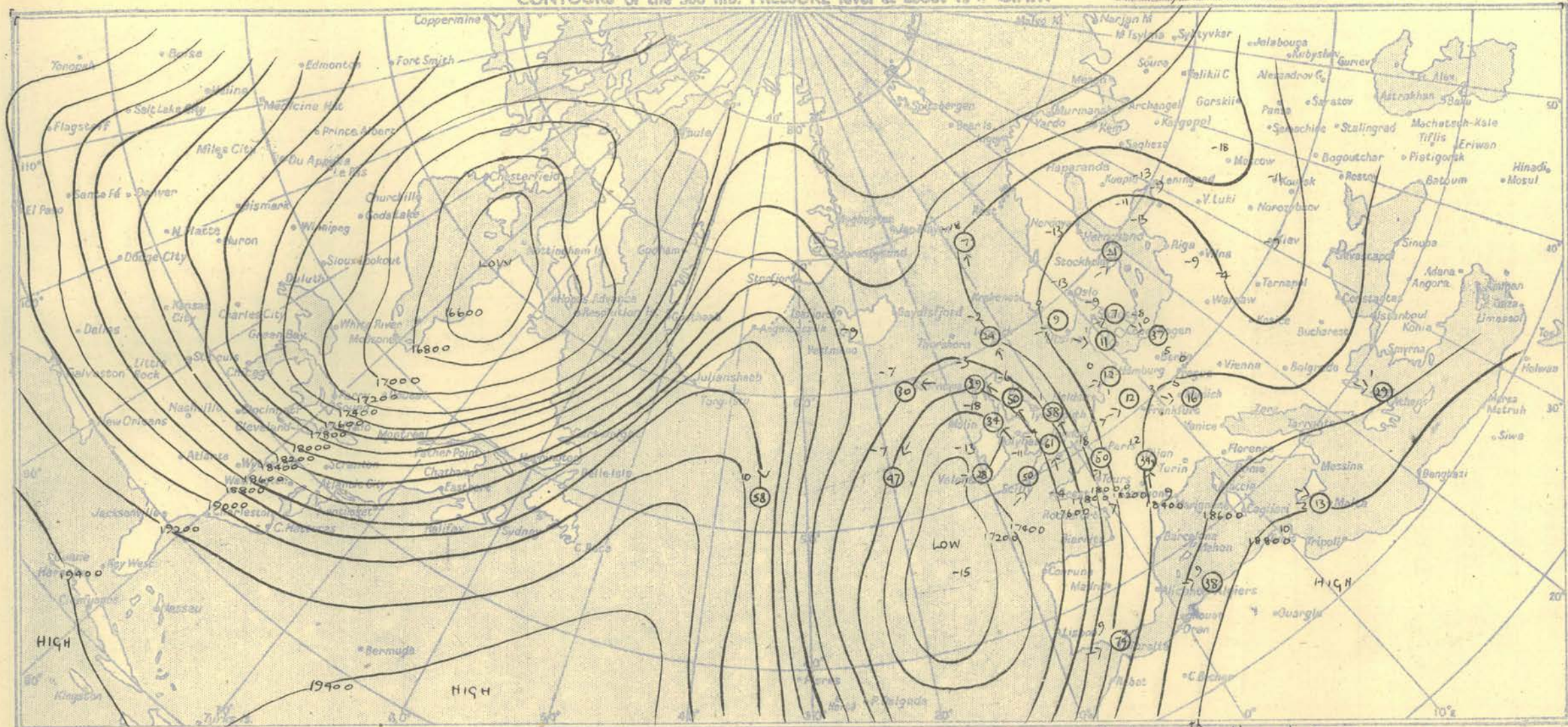
### NOTES ON THE AEROLOGICAL SITUATION.

The warm ridge over the British Isles on 4th moved slowly eastward and intensified.  
The cold pool to the southwest of Britain filled a little and became complex.  
Considerable warming occurred in the western Atlantic.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







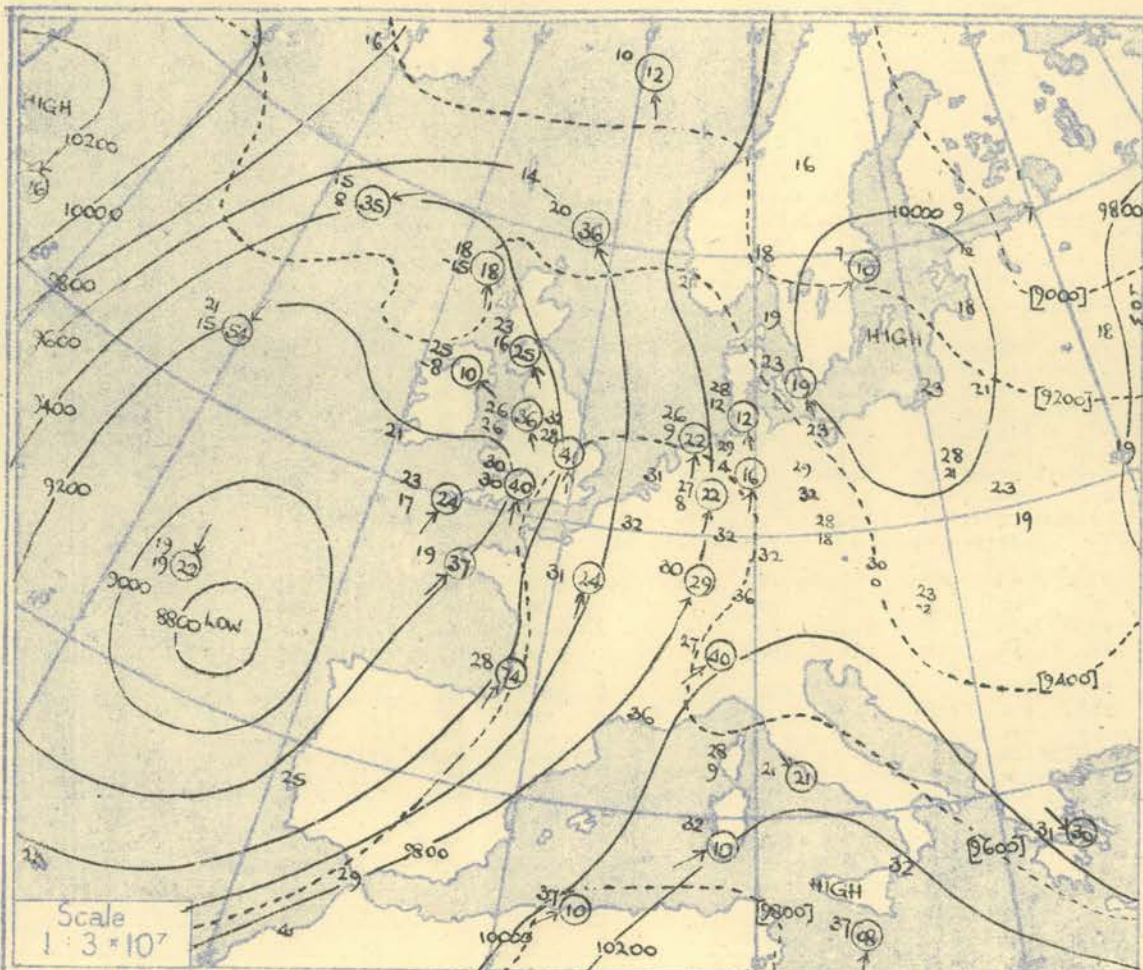
[illegible]



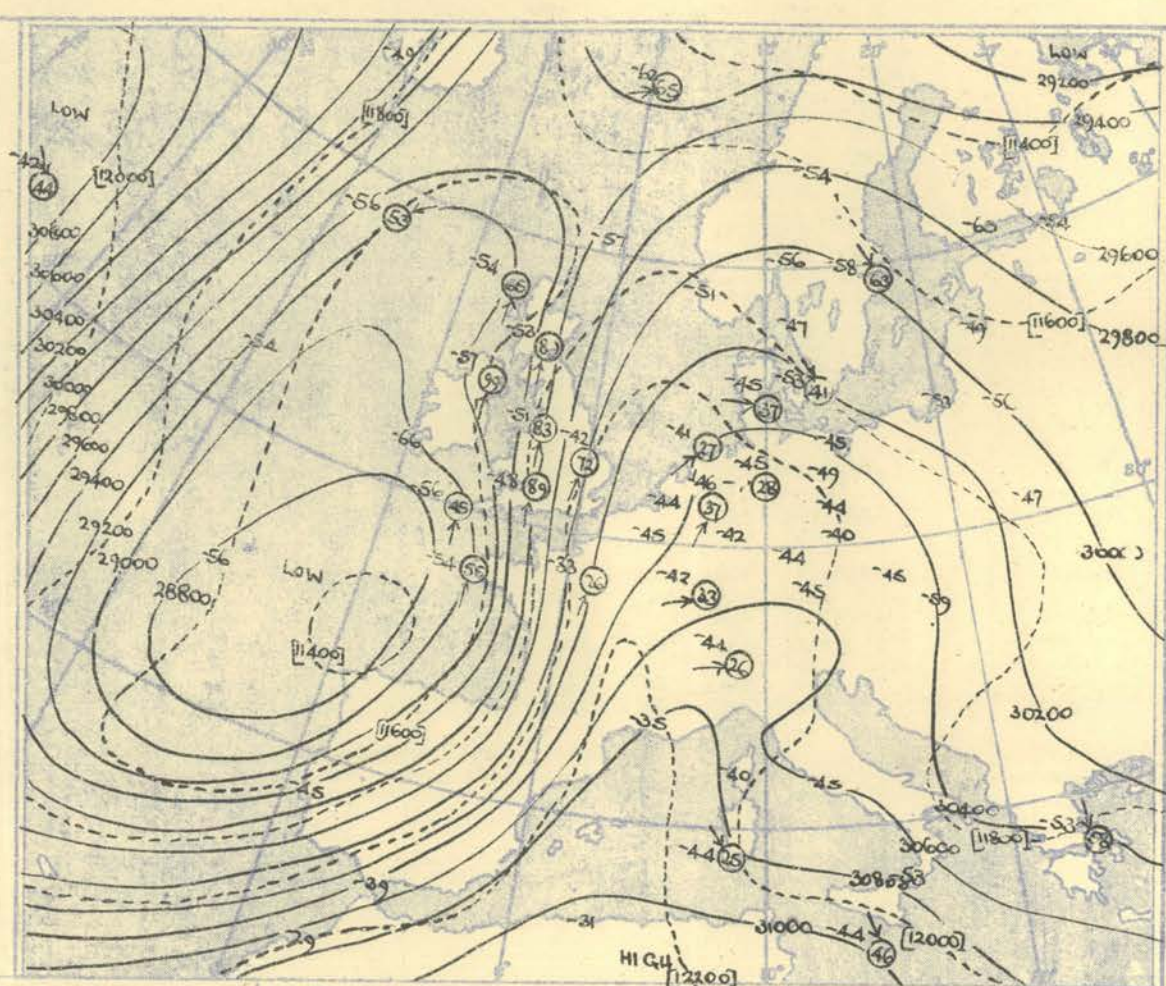
RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																								
STATION			LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time M.S.L.			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Surf			1009.6				998.8				998.7				997.5				991.6				995.4				989.8				985.5				989				984	
Pressure			993.6				997.2				997.9				988.2				989.6				991.0				974.3				975.2				976.5				976.5	
Forecast			900				808				800				755				784				700				727				780				765				765	
Pressure			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Height ft/100			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Temp.			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Dew			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Wind			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Dir.			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Vel.			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
knots			03L				03L				03L				03L				03L				03L				03L				03L				03L				03L	
Surf			02.7				00.4				00.2				02.5				00.6				01.2				04.4				02.9				00.3				00.3	
1000			02.6				00.3				00.4				00.7				02.3				01.3				02.8				03.9				02.7				02.7	
950			38				44				46				44				47				53				37				48				45				45	
900			32				39				42				40				45				52				37				24				44				44	
850			23				24				33				36				41				47				39				36				39				39	
800			25				21				28				33				34				59				41				33				39				36	
750			25				24				25				31				30				35				41				33				29				29	
700			20				18				23				25				26				36				43				30				23				23	
650			13				11				15				17				20				38				42				23				17				17	
600			10				04				09				08				14				42				51				13				10				10	
550			02				-03				-05				-03				06				12				09				03				-01				-01	
500			179.5-07				176.8-13				178.1-06				177.4-11				180.8-05				180.8-05				186.1-04				175.0-07				175.4-11				175.4	
450			14				-24				-14				-19				-12				61				-04				-19				-41				-41	
400			232.3-26				228.7-35				231.1-25				229.8-29				231.0-24				232.3-19				232.3-19				227.3-33				227.6-34				227.6	
350			-40				-45				-45				-41				-36				73				-25				-31				-45				-45	
300			296.6-57				292.3-54				295.7-53				293.8-57				295.8-51				83.301-3-42				72.297-9-48				89.290-56				290.4-66				290.4	
250			-77				-65				-70				-66				71				87				-60				-55				-66				-66	
200			379.9-84				373.3-61				380.5-72				379.8-62				380.1-78				83.382-2-82				86.382-7-77				378.3-57				375.9-61				375.9	
170			-82				-59				-76				-63				-73				45				-83				-66				-70				-70	
150			-75				-64				-72				-62				-73				193				-77				-70				-63				-63	
130			(152mb)				-66				-74				-63				-70				176				-74				-60				-60				-60	
110							-60				-70				-67				-71				190				-72				-65				-66				-66	
90							52.5-74				12.5-71				52.2-74				19.5-70				19.5-70				52.3-65				180				52.2-64				52.2	
80							-74				-70				-75				-75				-75				-71				-64				-70				-70	
70							-72				-70				-75				-75				-75				-75				-75				-74				-74	
60																																								
Isothermal			800-750mb 25°				Inversion 81mb 30° 808mb 32°				Inversion 580mb 06° 568mb 07°				Inversion 988mb 41° 950mb 44°				Inversion 957mb 52° 937mb 55°				Isothermal 975-940mb 48°				Isothermal 850mb - 820mb 39°				Isothermal									
Tropopause			I 208mb -8.5° 37.200°				I 250mb -6.5° 33.300°				I 240mb -7.4° 34.300°				I 273mb -6.5° 31.300°				I 226mb -8.0° 35.500°				I 196mb -8.4° 39.100°				I 244mb -7.3° 34.100°				I 300mb -5.6° 29.100°				I 283mb -7.2° 30.300°				Tropopause	
STATION			LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE								STATION	
Time M.S.L.			09L				09L				09L				09L				09L				09L				09L				09L								Time M.S.L.	
Surf			1006.4				997.3				993.7				990.3				989.0				995.4				993.1				978.4								Time M.S.L.	
Pressure			996.4				995.7				992.8				981.3				987.0				990.8				977.3				989.1								Time M.S.L.	
Forecast			985				781				759				796				776				760				789				800								Time M.S.L.	
Pressure			09L				09L				09L				09L				09L				09L				09L				09L								Pressure	
Height ft/100			09L				09L				09L				09L				09L				09L				09L				09L								Height ft/100	
Temp.			09L				09L				09L				09L				09L				09L				09L				09L								Temp.	
Dew			09L				09L				09L				09L				09L				09L				09L				09L								Dew	
Wind			09L				09L				09L				09L				09L				09L				09L				09L								Wind	
Dir.			09L				09L				09L				09L				09L				09L				09L				09L								Dir.	
Vel.			09L				09L				09L				09L				09L				09L				09L				09L								Vel.	
knots			09L				09L				09L				09L				09L				09L				09L				09L								knots	
Surf			01.7				00.4				00.2				02.5				00.6				01.2				04.4				02.9								Surf	
1000			01.7				00.7				02.6				03.1				01.3				01.3				01.9				03.0								1000	
950			41				45				47				48				50				32				49				50								950	
900			29.9				27.7				25.9				25.7				35				27.4				48				29.7								900	
850			34				37				41				42				36				43				33				40.9								850	
800			28				33				35				32				39				32				36				57.0								800	
750			27				30				31				29				29				30				36				26								750	
700			23				23				27				26				32				34				24				21.7								700	
650			19				17				14				17				31				20				44				15								650	
600			14				10				13				13				11				34				31				30.7								600	
550			05				-02				-03				-03				06				06				01				00								550	
500			180.1-00				177.8-07				178.9-03				176.6-04				178.8-03				176.9-09				175.2-11								500					
450			-10				-17				-07				-13				-13				-13				-21				-21								450	
400			233.5-22				230.6-26				232.7-18				229.5-21				231.8-26				60.229-1-34				227.3-33								400					
350			-34				-39				-29				-43				-41				-40				-44				-46								350	
300			298.7-50				295.0-54				297.7-44				293.6-57				296.1-52				78.297-56				290.6-61								300					
250			-65				-67				-58				-63				-68				-68				-57				-56								250	
200			383.7-78				380.5-64				385.4-72				379.2-61				380.3-72				65.379-6-60				377.3-54								200					
170			-75				-62				-64				-65				-71				-63				-56				-56								170	
150			(180mb)				-63				-62				-68				-68				180				-69				-61								150	
130							Colim				-62				-63				201				192				-63				-63								130	
110															525.4-64				180				16.5248-68				524.9-63								110					
90																			186				207				21				-62								90	
80																																							80	
70																																							70	
60																																							60	
Isothermal			825-760mb 28°				Inversion 996mb 44°-987mb 48°				Inversion 630mb 12°-625mb 13°				Inversion 266mb -64°-250mb -63°				Inversion 707mb 23°-694mb 24°				Isothermal 733-700mb 24°								Isothermal									
Tropopause			I 206mb -7.9° 37.900°				NR				I 200mb -7.1° 38.500°				I 256mb -7.1° 32.100°				I 226mb -6.4° 32.000°				I 223mb -7.8° 36.900°				I 293mb -5.8° 29.900°				I 286mb -6.3° 32.000°				Tropopause					



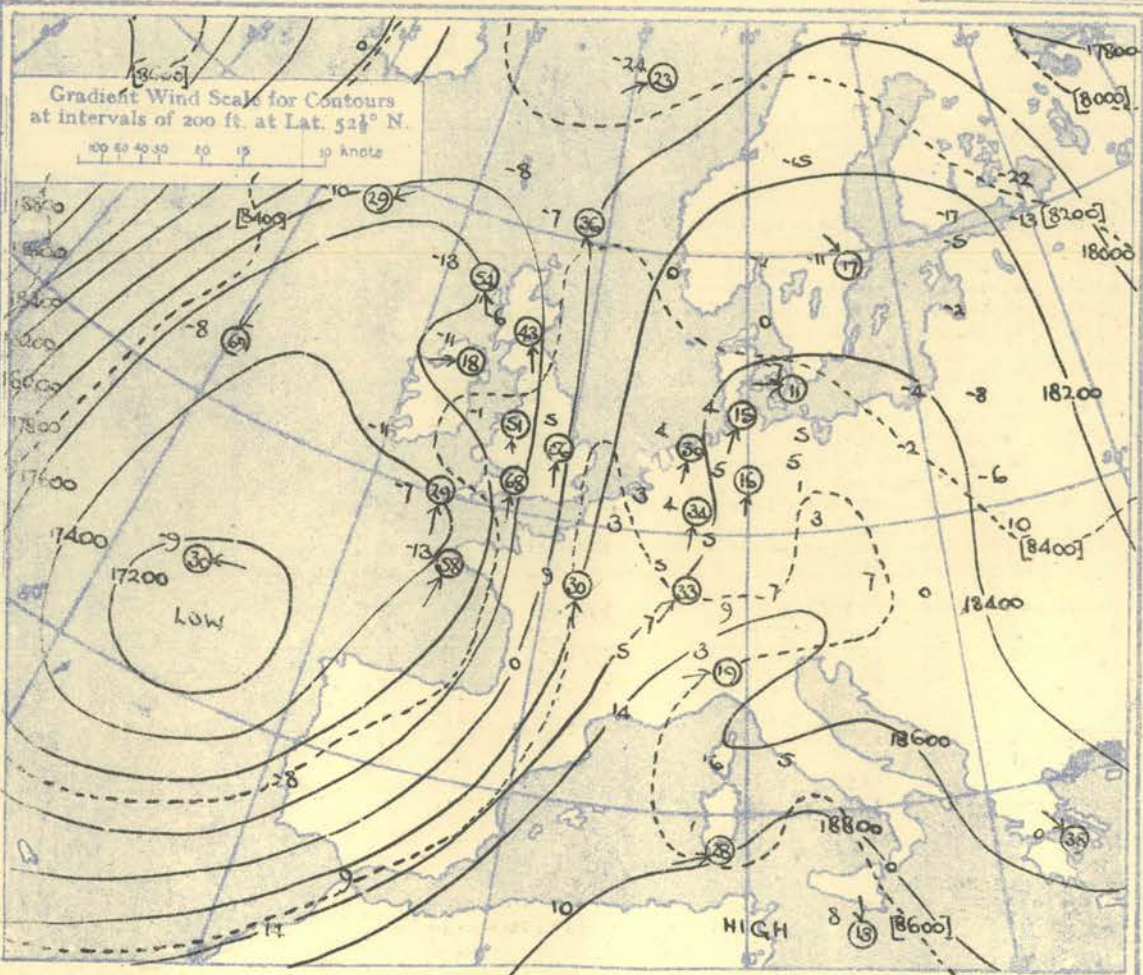
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (In knots) OF WINDS at the 700 mb. 500 mb. and 300 mb. levels at about 03h G.M.T.



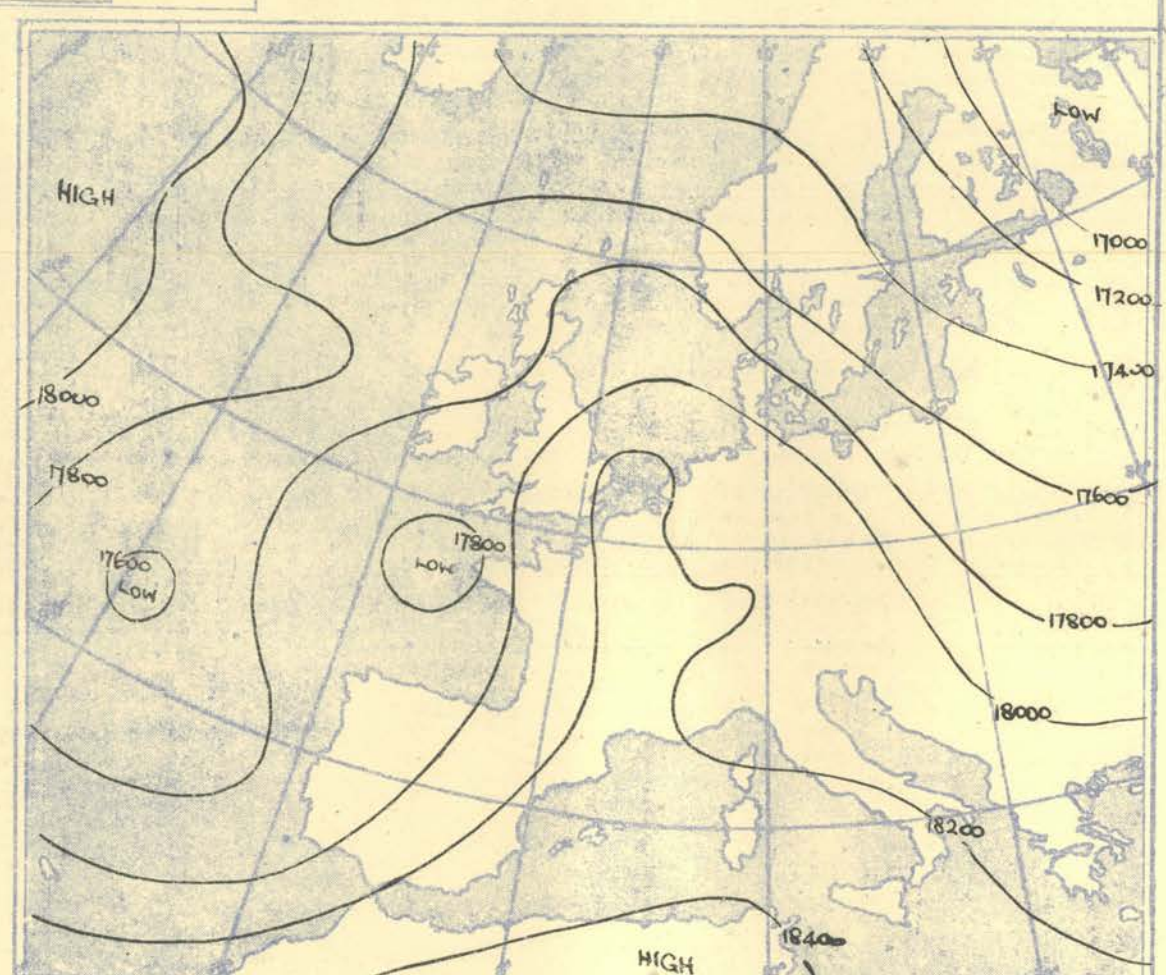
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500 - 300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

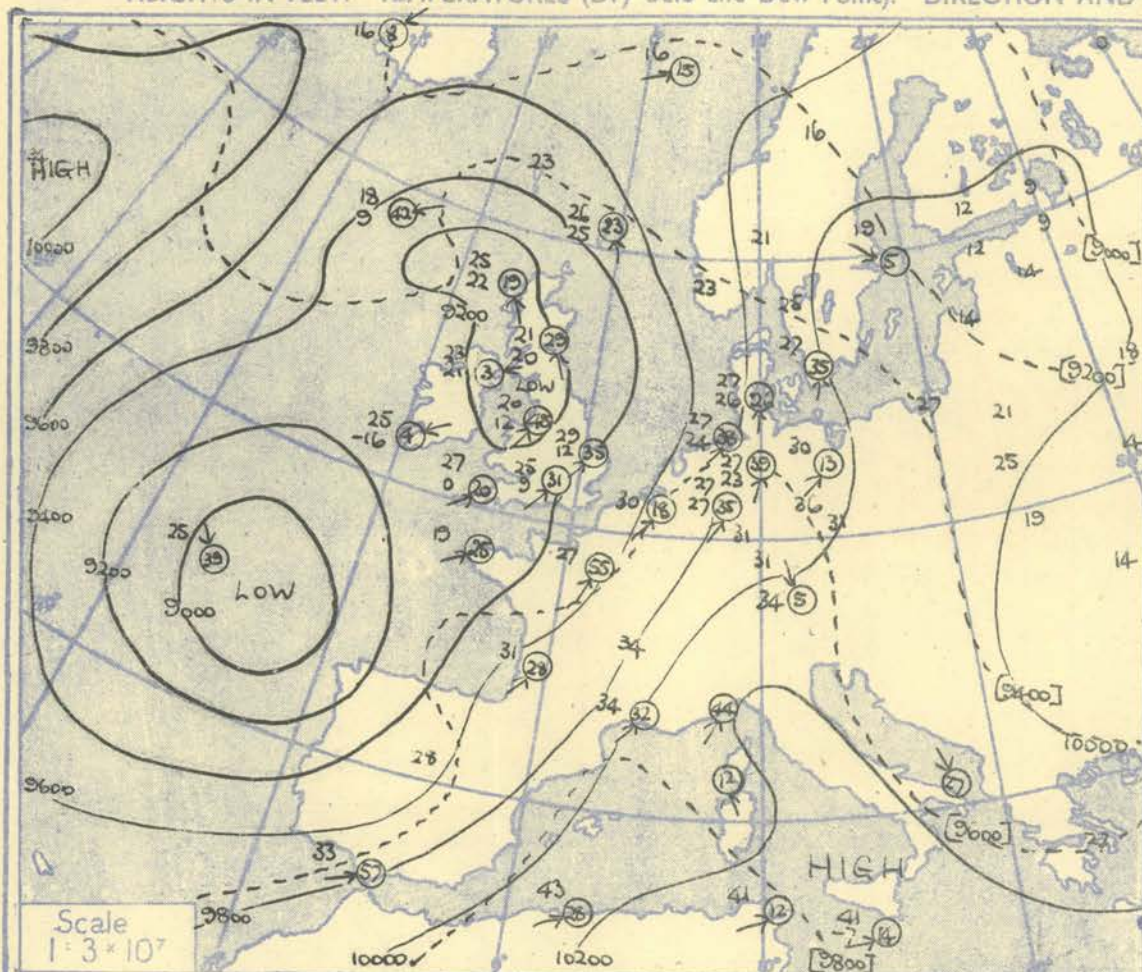
[illegible]

## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS

[illegible]



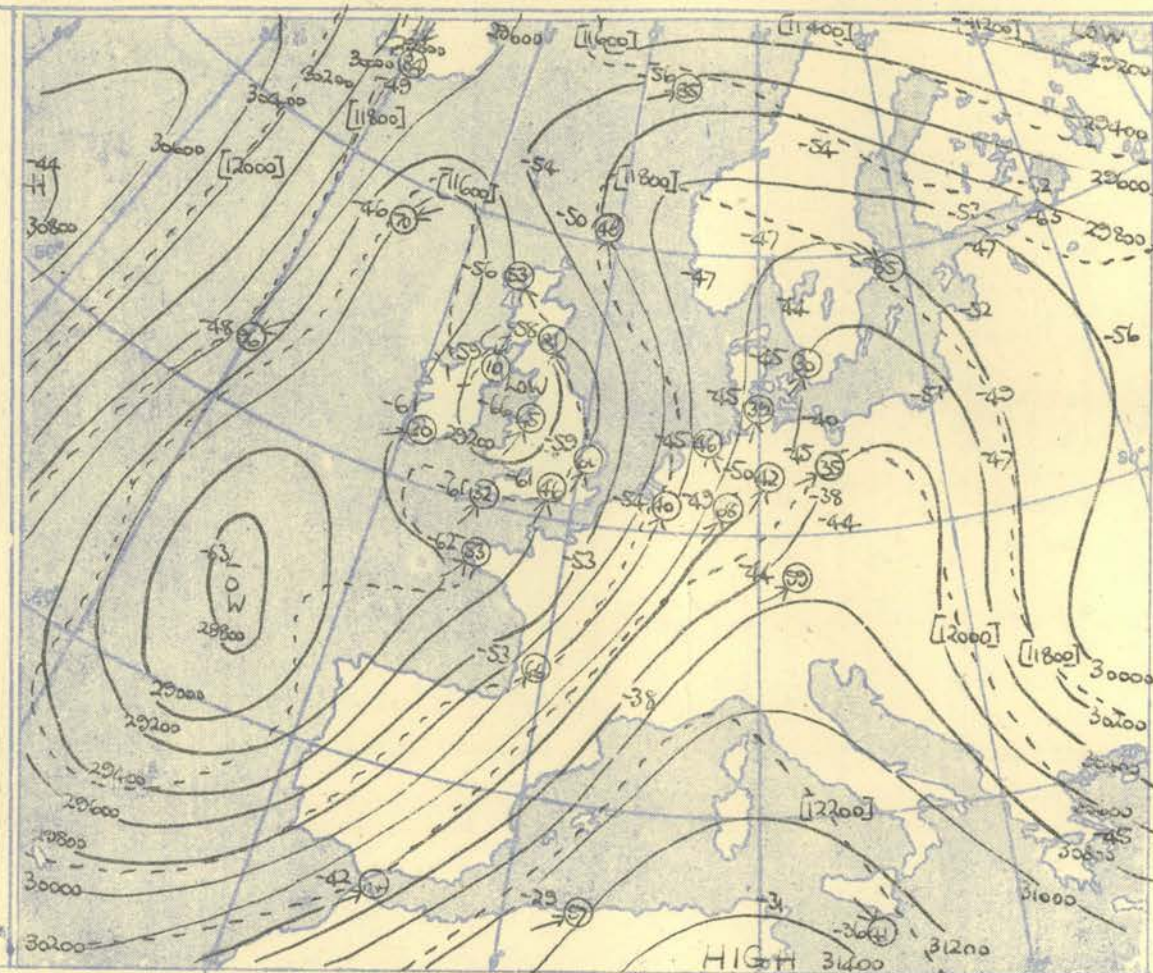
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

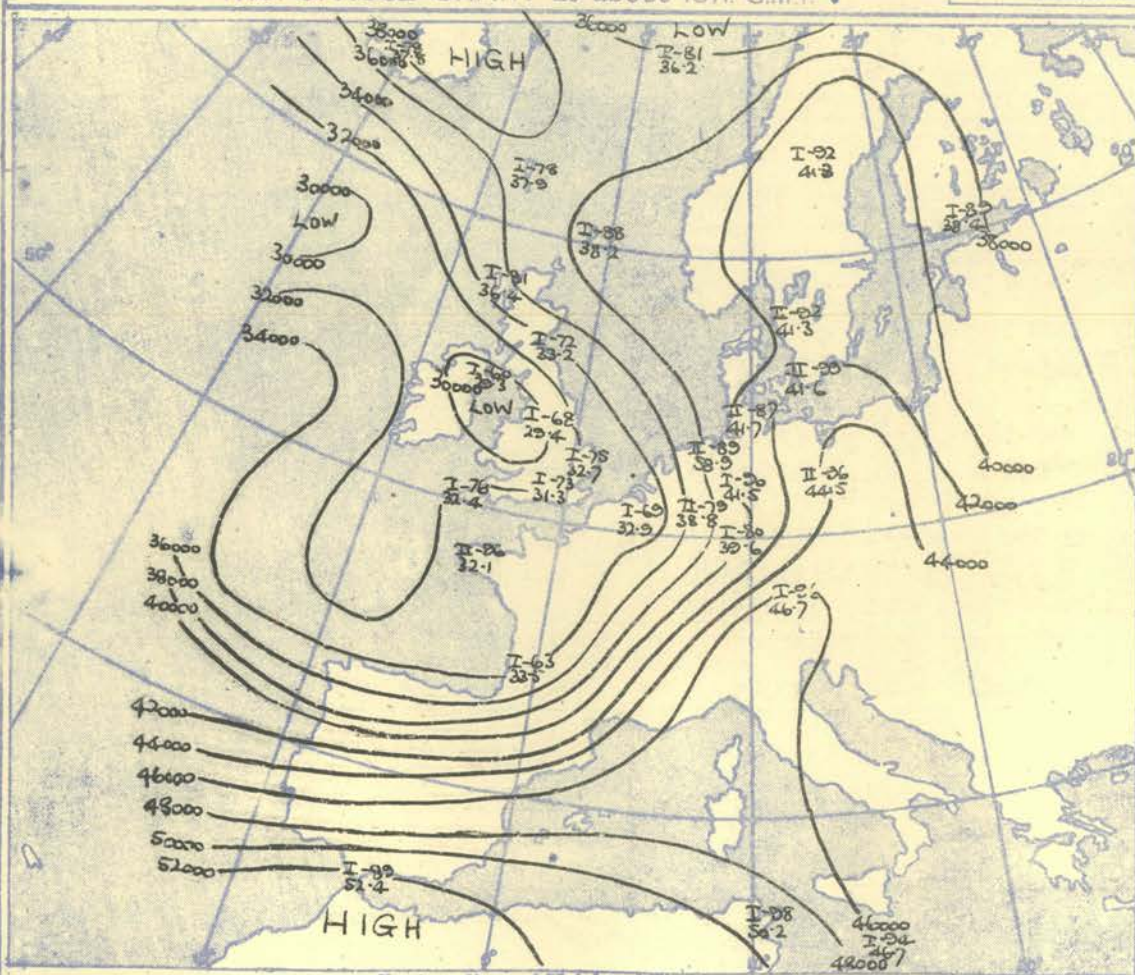
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

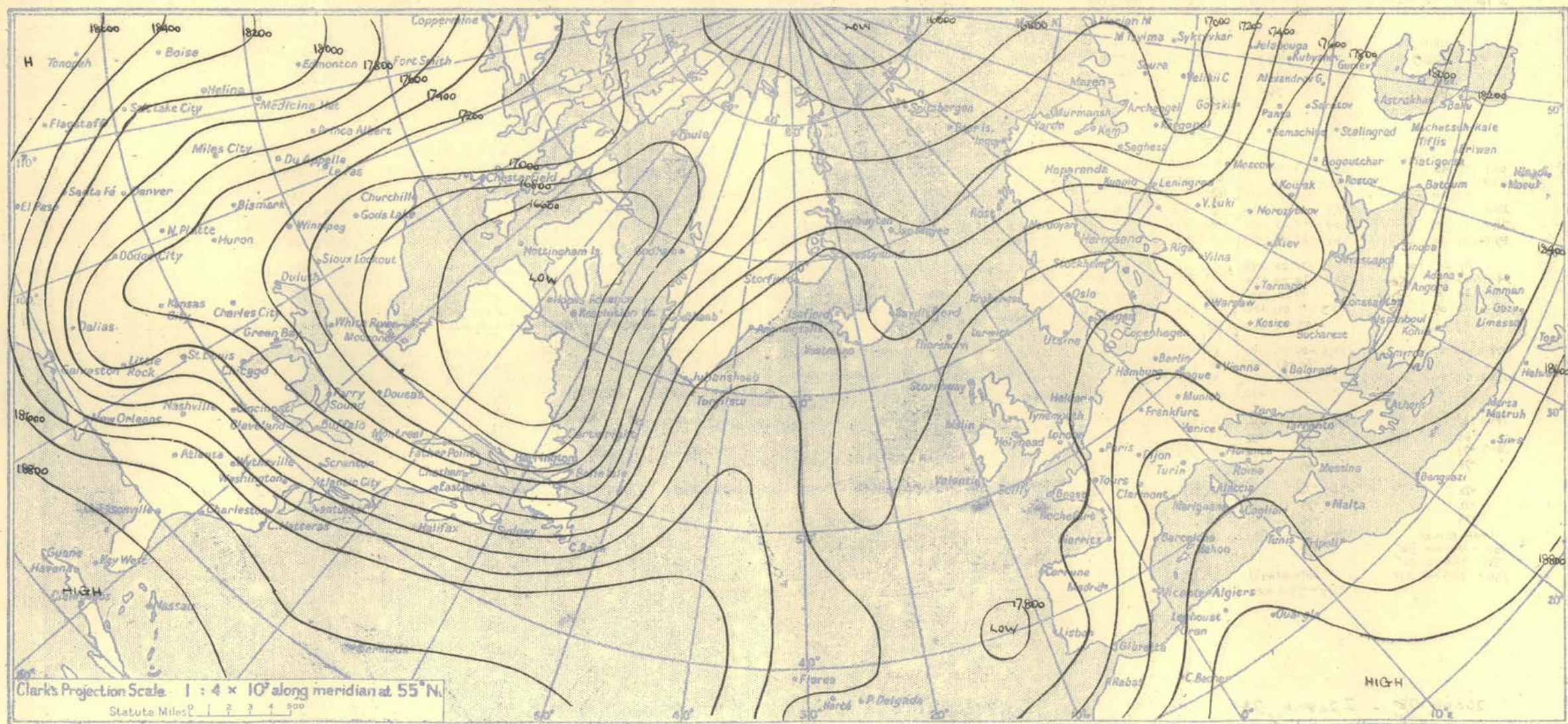
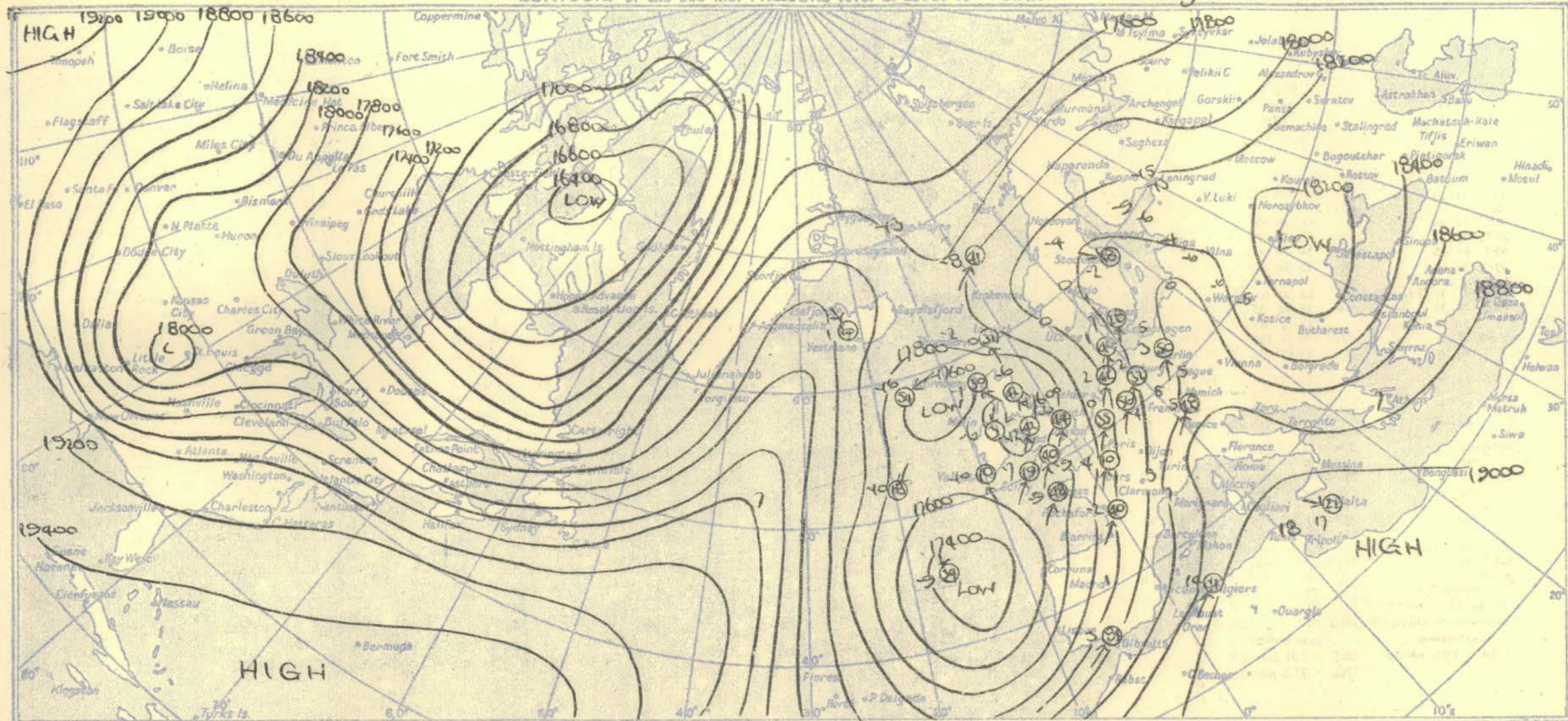
### NOTES ON THE AEROLOGICAL SITUATION.

The warm ridge in West Atlantic moved East and decreased in intensity. The cold trough in East Atlantic remained very complex, and warmed slightly during the period.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time	M.S.L.	ISH.	G.M.T.			ISH.	G.M.T.			ISH.	G.M.T.			ISH.	G.M.T.			ISH.	G.M.T.			ISH.	G.M.T.			ISH.	G.M.T.			ISH.	G.M.T.	Time	M.S.L.						
Surf	Surf	991.9	mb			990.2	mb			989.9	mb			988.0	mb			989.4	mb			996.4	mb			995.7	mb			993.2	mb			994.8	mb				
Pressure	Pressure	706	mb			790	mb			785	mb			795	mb			816	mb			728	mb			761	mb			795	mb			770	mb				
Pressure	Pressure	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb					
Surf	Surf	1000	980	900	850	800	750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf					
1000	980	900	850	800	750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000						
980	900	850	800	750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980						
900	850	800	750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980	900						
850	800	750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980	900	850						
800	750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980	900	850	800						
750	700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980	900	850	800	750						
700	650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980	900	850	800	750	700						
650	600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000	980	900	850	800	750	700	650						
600	550	500	450	400	350	300	250	200	170	150	130	110	100	90	80	70	60	50	40	30	20	10	0	Surf	1000														

Tropopause										I 200 mb -88° 58,200'										I 215 mb -81° 36,400'										I 248 mb -71° 33,200'										I 297 mb -60° 29,300'										I 294 mb -68° 29,400'										I 257 mb -75° 32,700'										I 273 mb -73° 31,300'										I 260 mb -76° 32,200'										I 265 mb -75° 31,900'										Tropopause																			
STATION										LERWICK										STORNOWAY										LEUCHARS										ALDERGROVE										LIVERPOOL										DOWNHAM MARKET										LARKHILL										CAMBORNE										STATION																													
Time										21h. G.M.T.										21h. G.M.T.										21h. G.M.T.										21h. G.M.T.										21h. G.M.T.										21h. G.M.T.										21h. G.M.T.										21h. G.M.T.										G.M.T.										Time																			
M.S.L.										1000.9 mb										989.2 mb										991.1 mb										992.4 mb										993.5 mb										999.1 mb										997.5 mb										993.6 mb										mb										M.S.L.																			
Surf										990.9 mb										989.6 mb										990.3 mb										983.3 mb										991.5 mb										994.6 mb										981.7 mb										983.2 mb										mb										Surf																			
Freezing										987 mb										764 mb										800 mb										818 mb										817 mb										778 mb										771 mb										735 mb										mb										Freezing																			
Pressure mb										Height ft./100										Height ft./100										Height ft./100										Height ft./100										Height ft./100										Height ft./100										Height ft./100										Height ft./100										Height ft./100										Pressure mb																			
Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.										Temp. °F.																			
Dew °F.										Dew °F.										Dew °F.										Dew °F.										Dew °F.										Dew °F.										Dew °F.										Dew °F.										Dew °F.										Dew °F.																													
Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots										Wind Dir. Vel. knots																													
Surf										00.1 41 45										00.4 52 50 130 05										00.2 51 49 170 14										02.5 46 44 150 06										00.6 51 46 150 16										01.2 49 48 160 10										04.4 52 52 170 04										02.9 53 50 090 12																				Surf																			
1000										00.2 42 40										-05.1 50 47 143 07										-02.4 48 47 154 23										-01.8 47 43 211 28										-00.3 51 44 199 22										-00.7 50 50 165 12										51.8 54 47 135 16																				1000																													
950										28.5 36 34										25.5 45 42 154 20										26.4 43 39 165 26										26.8 41 39 227 27										28.5 48 34 207 27										28.1 47 27 171 14										27.1 49 36 150 12																				950																													
900										43.5 31 28										40.7 40 37 158 27										41.4 37 34 169 26										41.5 36 31 224 15										43.8 41 28 208 28										43.6 42 25 190 16										42.4 43 31 168 19																				900																													
850										59.5 31 20										57.1 35 32 156 22										57.5 32 31 168 22										58.0 30 30 227 30										60.8 35 22 202 27										59.7 36 19 213 22										58.8 37 27 176 24																				850																													
800										27 24 45										31 28 148 21										27 24 169 26										28 24 225 31										28 19 197 28										28 15 213 28										33 23 177 24																				800																													
750										25 22 45										24 20 134 21										27 24 162 27										20 16 227 21										22 09 199 25										20 06 216 34										93.9 25 18 182 25																				750																													
700										20 18 45										17 10 112 25										14 09 159 31										14 26 276 24										17 06 208 33										19 01 208 25										14 02 224 39										17 12 189 25																				700																			
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90										905 -891 mb 36°										988 -974 mb 52°										617 -600 mb 09°										523.0 -69										441.2 -65										440.3 -68										524.5 -74										527.7 -64																				90																			
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Tropopause										I 200 mb -78° 37,400'										I 248 mb -78° 33,400'										I 305 mb -59° 29,500'										I 270 mb -70° 31,200'										I 269 mb -70° 31,600'										I 274 mb -70° 31,400'										I 263 mb -70° 32,200'										I 245 mb -74° 33,700'										Tropopause																													

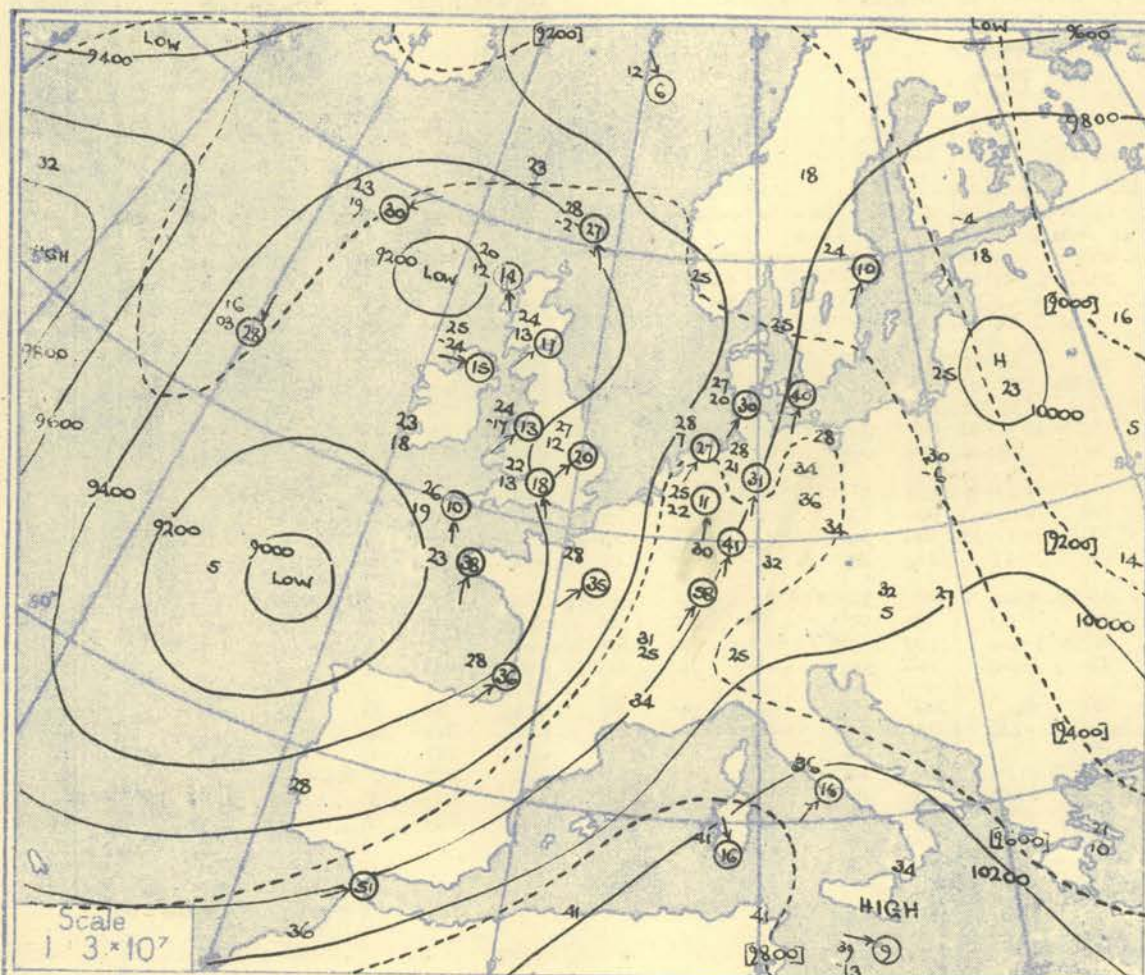


## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

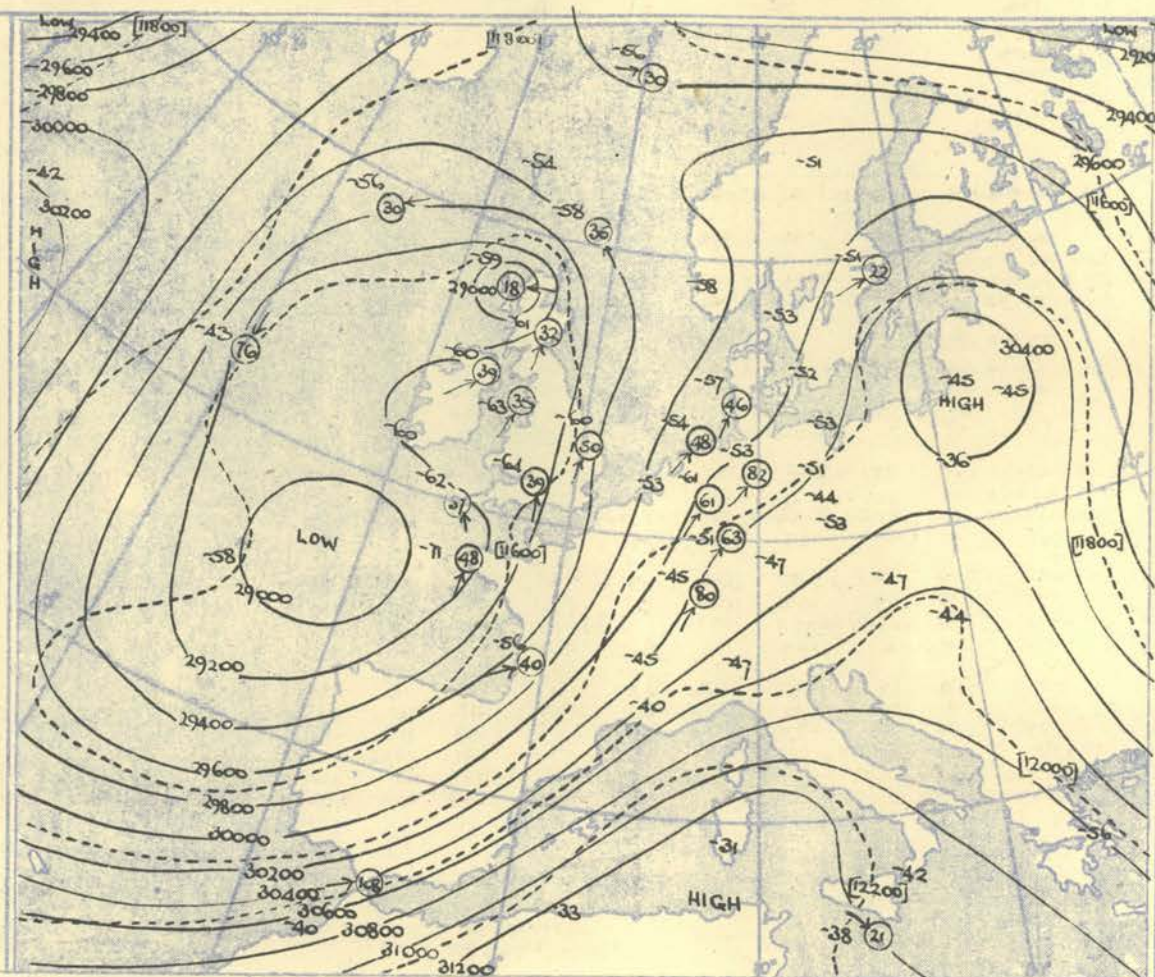
Station	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	DOWNHAM MARKET	LARKHILL	CAMBORNE	VALENTIA	Station
Time M.S.L. Surf Pressure	03h 1000.8 990.9 750	03h 991.6 990.0 790	03h 993.6 992.8 795	03h 996.0 986.8 774	03h 997.1 995.1 785	03h 999.3 994.8 770	03h 996.3 980.5 774	03h 991.3 980.9 740	03h 991.5 991.7 770	Time M.S.L. Surf Pressure
Pressure mb	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Height ft/100 Temp. °F. Dew. °F. Wind Dir. Vel. knots	Pressure mb
Surf 1000	02.7 48 46 110 22 00.4 51 47 140	06 00.2 48 47 210	08 02.5 38 37 170	08 00.6 44 43 140	05 01.2 50 50 Calm	04.4 50 50 090	05 02.9 54 52 135	15 00.3 43 39 090	06 Surf 1000	
950	00.2 44 44 133 33 00.4 50 46 139	01.8 47 43 208	01.0 43 40 202	00.7 45 41 185	00.2 51 51 126	01.0 51 51 130	02.4 52 50 148	02.1 50 44 090	950	
900	28.5 40 40 138 30 26.4 45 41 144	11 26.7 42 40 214	11 27.2 39 32 259	17 27.7 41 34 211	09 28.5 48 29 171	10 27.7 48 44 152	18 26.4 49 46 168	21 26.5 46 40 102	900	
850	43.7 36 36 146 28 41.7 39 35 155	10 42.0 36 25 215	15 42.3 37 10 275	17 42.9 37 30 242	14 43.8 42 28 200	14 43.1 40 36 157	20 42.0 45 36 151	23 41 35 111	850	
800	59.8 31 31 147 28 57.8 33 29 156	11 58.0 33 29 215	19 58.4 34 09 275	15 59.0 34 26 240	16 60.2 36 23 208	16 59.3 35 32 167	15 58.2 37 30 136	18 58.1 36 30	800	
750	32.0 4 152 27 32.0 26 21 158	12 26 22 213	19 29 17 272	15 30 15 223	14 29 18 216	17 29 24 158	13 33 23 145	10 29 24	750	
700	94.8 28 02 162 27 92.4 20 12 151	14 92.7 24 13 216	17 93.2 25 24 268	15 94.0 24 17 216	13 95.1 27 12 223	20 94.2 22 13 137	18 93.3 26 19 163	10 92.9 23 18	700	
650	21 14 172 31 21 11 06 148	17 19 02 216 22 19 34 244	21 19 34 244	21 17 23 208	12 20 02 222	22 13 07 134	21 17 12 172	15 17 08	650	
600	134.2 13 31 171 36 131.1 04 04 141	17 132.0 11 20 210	24 132.5 11 45 238	22 133.1 09 29 183	11 134.5 12 09 213	30 133.1 09 07 160	29 132.5 09 05 173	18 131.0 10 04	600	
550	04 26 157 33 04 10 131 19 02 32 206	28 01 52 236 24 01 33 182	16 03 16 204 32 02 01 181	33 02 01 181	33 02 01 181	33 02 01 181	33 02 01 173	15 02 10	550	
500	173.4 03 30 154 35 175.3 14 21 130	20 176.9 06 40 204	30 177.3 09 51 230	29 177.8 09 36 203	14 179.5 07 19 203	27 177.9 08 13 183	37 177.3 07 10 172	22 176.9 07 19	500	
450	14 42 153 36 14 34 130	14 18 51 198	27 21 54 220	31 21 41 202	20 22 16 23 206	33 22 19 183	39 22 18 165	27 22 19 165	450	
400	232.4 27 54 148 37 226.8 39 48 134	15 229.4 31 60 190	29 229.5 33 60 208	35 230.0 35 53 201	22 232.2 27 39 206	34 230.3 32 39 177	37 229.8 30 35 149	24 229.2 31 44	400	
350	41 133 40 53 100 15 45 185	33 48 218 37 49 211	26 42 208 39 293.0 63 218	35 296.0 60 201	50 293.5 64 170	39 293.2 62 125	37 292.6 60 300	250		
300	296.4 58 74 135 39 58 108	17 377.7 63 177 21 378.1 62 170	14 376.6 67 170	26 380.3 64 208	26 380.3 64 208	33 377.3 69 190	30 378.4 62 188	19 377.2 62 170	300	
250	380.6 72 71 129 14 69 107	08 65 173 16 63 173	16 63 173 16 63 173	06 65 173 16 63 173	23 64 204 33 67 204	33 67 204 33 67 204	31 69 202 31 69 202	18 63 190	250	
200	70 113 14 70 068 09 67 191	13 63 145 05 66 208	19 66 208 19 66 208	15 66 204 15 66 204	31 67 204 31 67 204	28 69 209 28 69 209	24 66 223 24 66 223	15 63 223	200	
150	71 113 09 70 099 06 6									



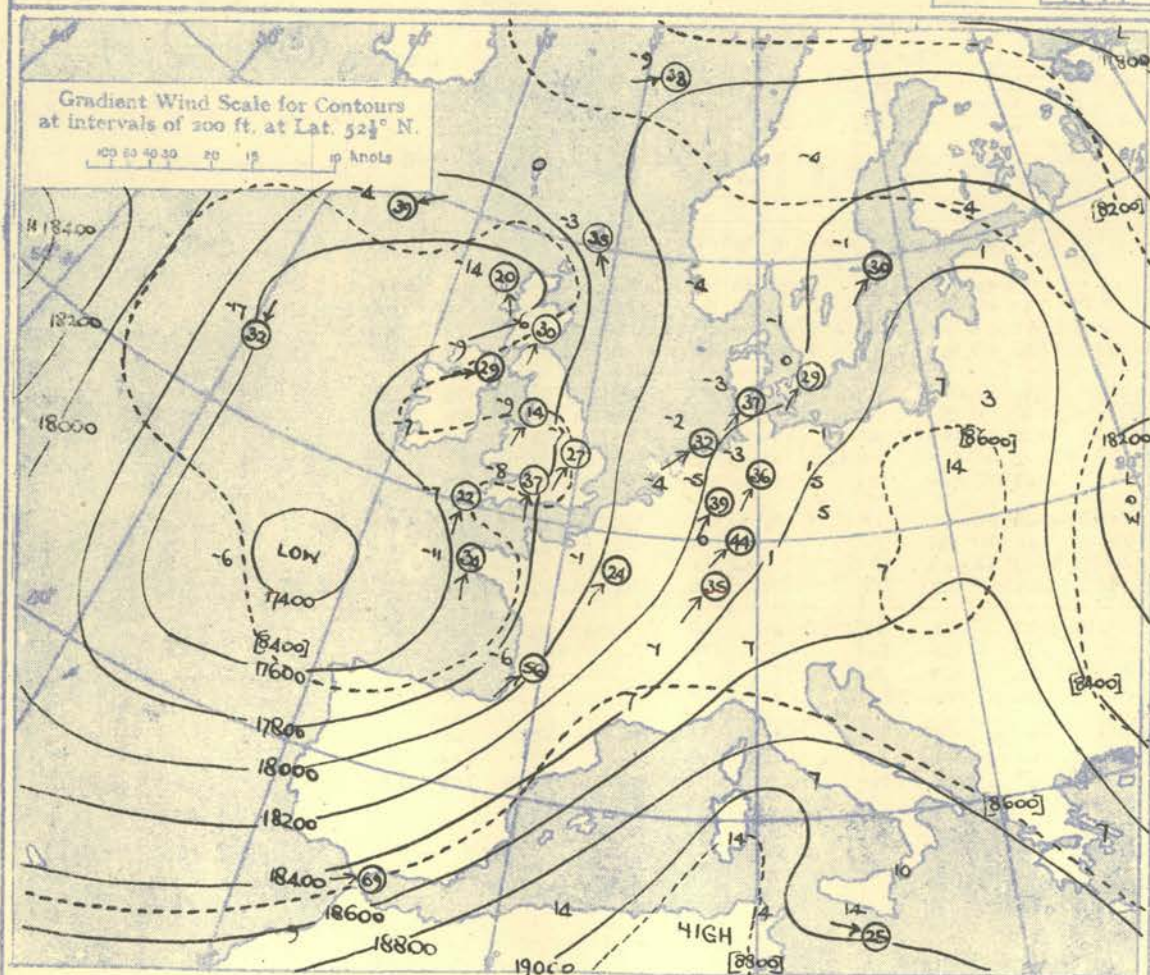
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Points). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



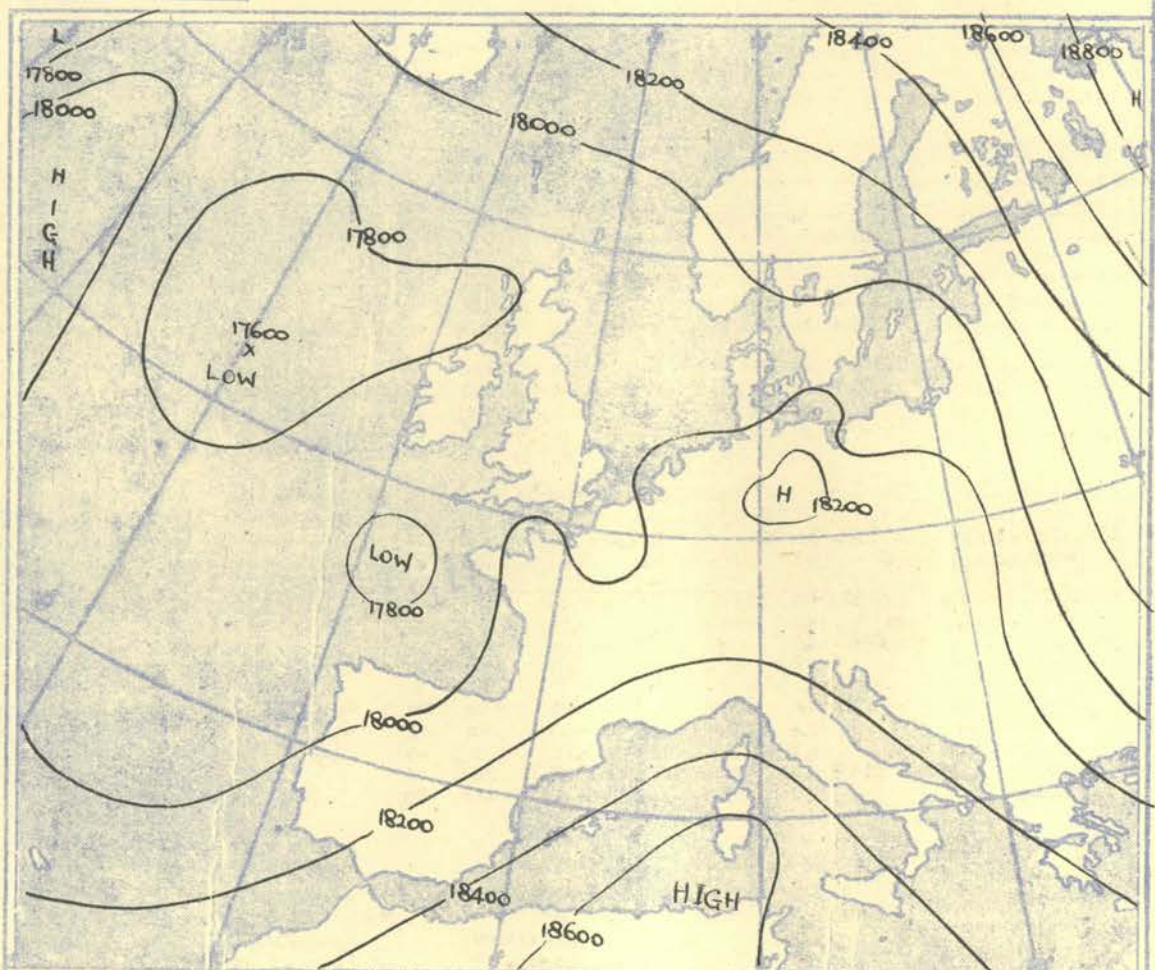
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52 1/2° N



Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52 1/2° N



Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52 1/2° N





## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above 1000 ft.

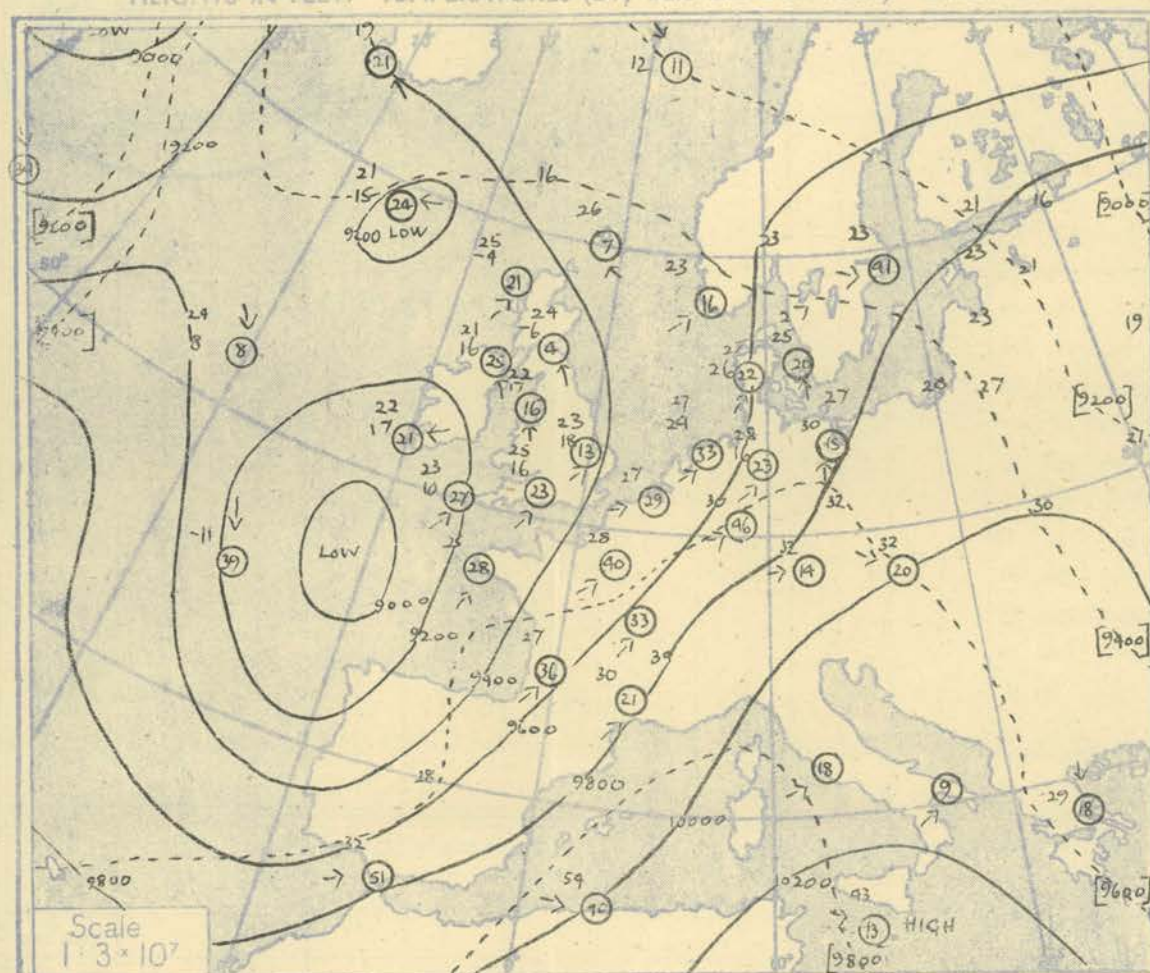
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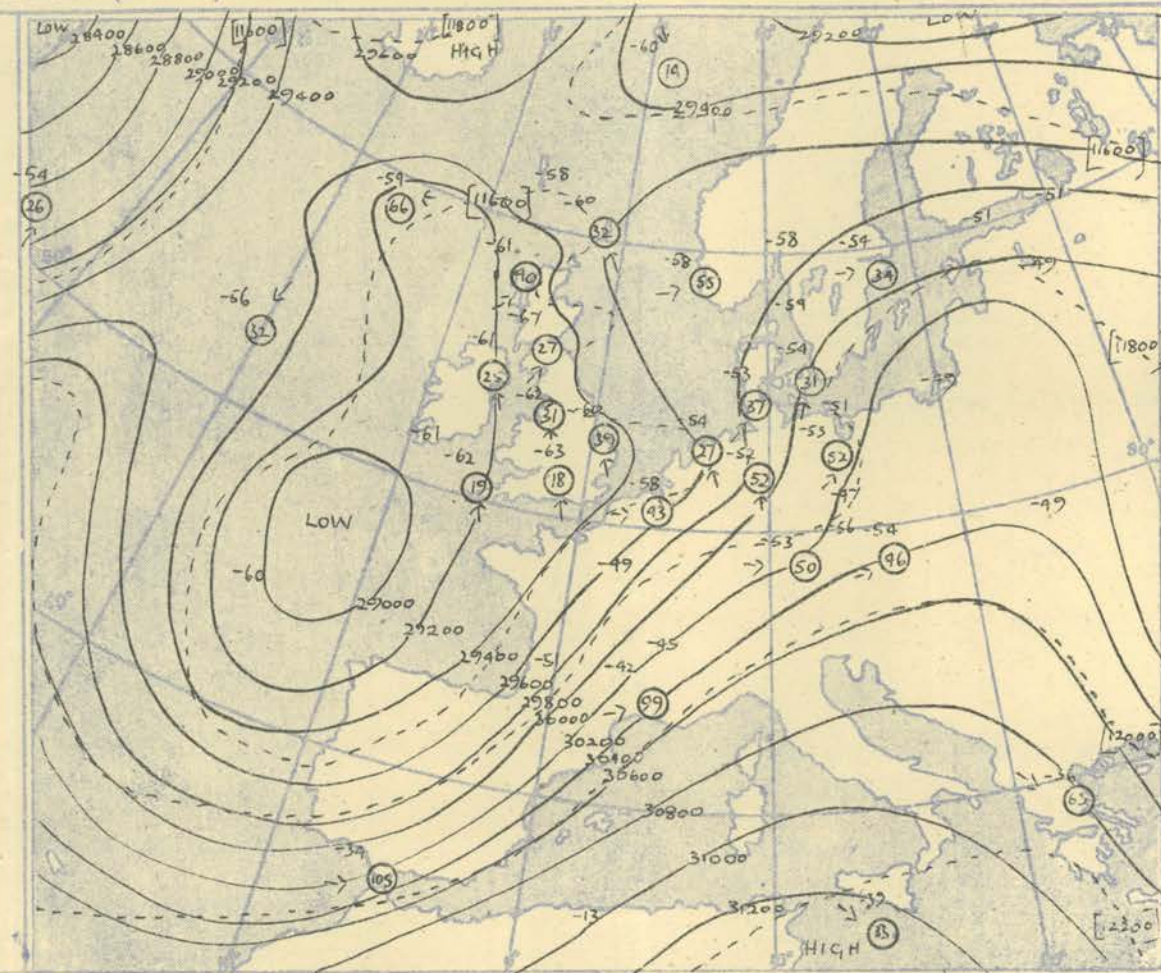
[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb. levels at about 15 h G.M.T.



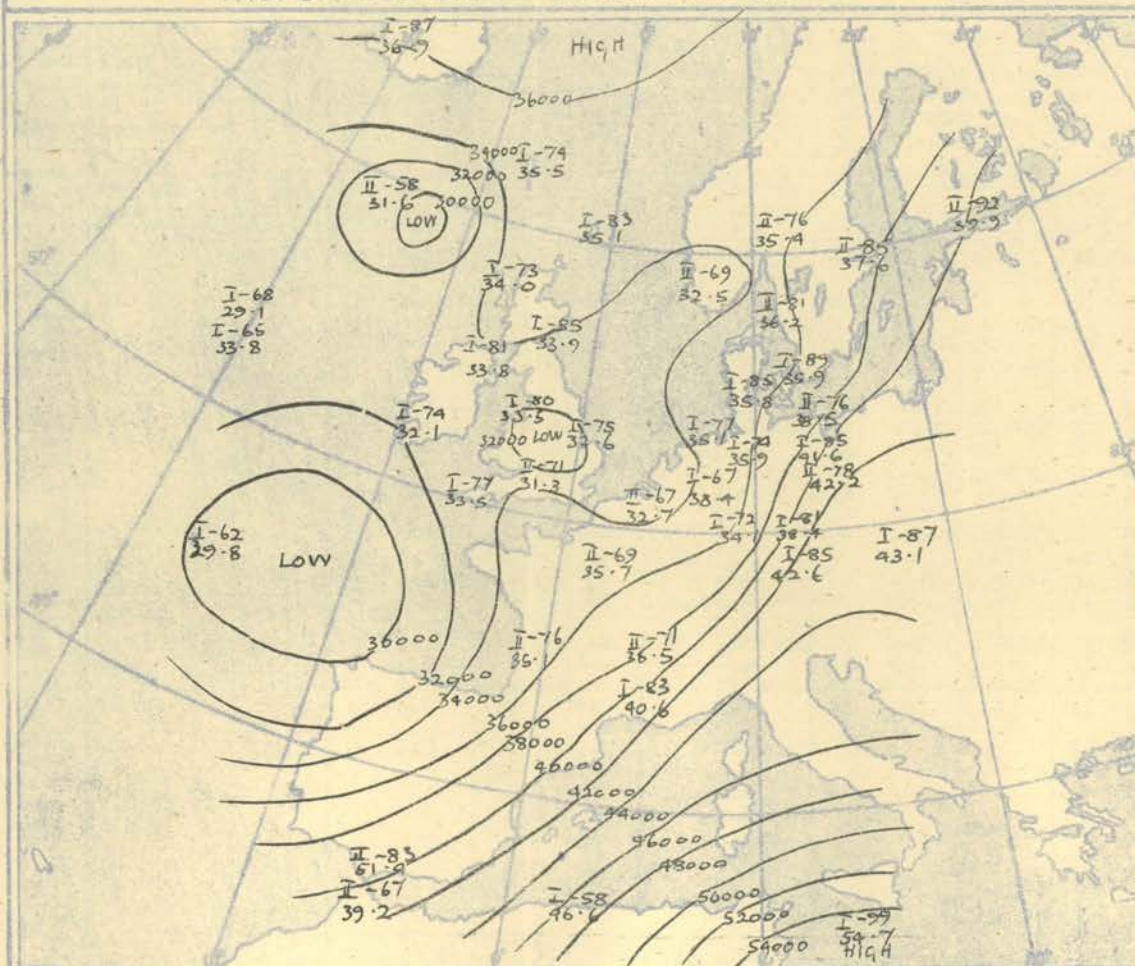
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 500-300 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

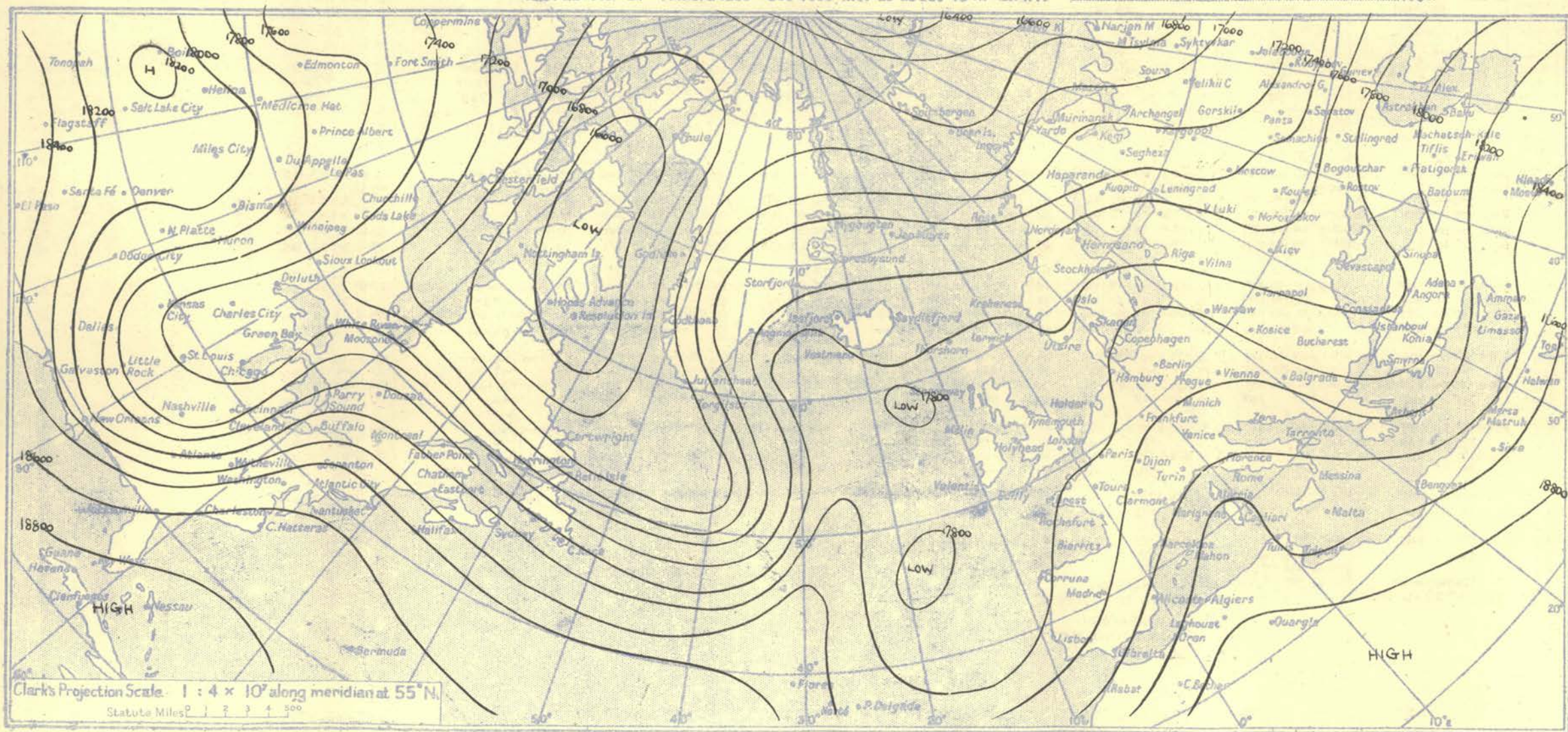
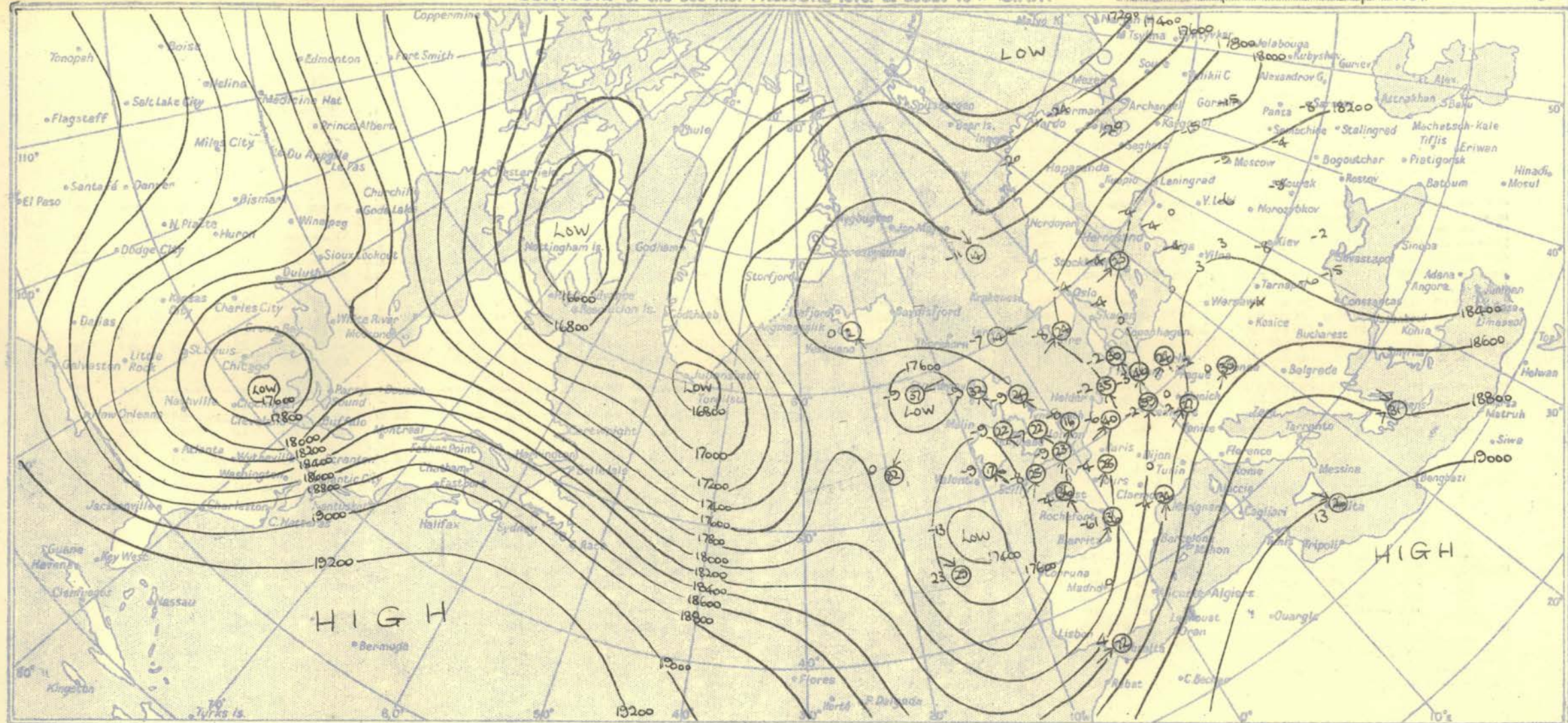
### NOTES ON THE AEROLOGICAL SITUATION.

The warm ridge in mid-Atlantic weakened rapidly in the south as cold air penetrated quickly southeastwards from the Davis Strait. A warm ridge over Europe moved a little eastwards.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK					STORNOWAY					LEUCHARS					ALDERGROVE					LIVERPOOL					DOWNHAM MARKET					LARKHILL					CAMBORNE					VALENTIA					STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Pressure mb	Time M.S.L. Surf Freezing	15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		Time M.S.L. Surf Freezing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		1002.7	mb	992.7	mb	997.4	mb	997.4	mb	993.6	mb	994.0	mb	996.0	mb	994.4	mb	989.2	mb	986	mb	991.7	mb	994.4	mb	979.0	mb	978.8	mb	989.2	mb	985	mb																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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850	44.1	35	34	132	16	42.7	35	28	081	27	42.9	37	23	194	10	42.2	40	33	124	21	42.4	39	36	173	15	43.1	41	36	218	13	42.8	41	34	205	18	41.4	41	34	185	30		42	36	087	24	850																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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750		29	17	147	08		31	07	174	21		30	01	185	03		27	22	125	20		28	24	160	11		29	25	211	12		28	25	214	22		29	14	185	29		29	23	071	21	750																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
700	95.1	26	07	137	07	93.7	25	04	184	21	93.8	24	06	156	04	93.2	21	16	131	25	93.4	22	17	160	16	94.1	23	18	217	13	93.8	25	15	205	23	92.4	23	10	185	27	91.4	22	17	071	21	700																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
650		22	05	112	07		19	15	177	20		19	12	116	10		18	11	136	22		16	12	164	20		16	12	215	11		17	05	206	25		17	05	186	25		16	09	075	22	650																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
600	134.7	14	15	071	10	133.0	11	23	176	22	133.2	12	20	108	16	132.3	10	04	141	18	132.6	09	01	169	21	133.1	09	05	210	10	133.0	09	04	208	25	131.6	11	06	189	28	130.5	09	00	095	22	600																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
550		03	21	064	14		01	31	175	31		01	31	121	20		00	04	136	19		02	17	166	22		02	03	204	15		01	12	210	22		03	19	189	33		01	12	110	21	550																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
500	179.7	07	22	091	14	177.7	09	37	173	32	178.0	09	37	140	24	177.0	09	15	131	22	177.5	07	37	164	22	178.0	08	14	195	16	177.8	09	21	199	23	176.5	08	27	191	25	175.4	09	17	112	17	500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
450		16	24	121	14		21	43	171	35		19	38	174	24		19	27	151	22		18	39	165	22		20	25	175	17		20	33	170	18		21	37	199	22		20	26	113	17	450																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
400	232.3	28	35	118	23	229.9	32	51	173	33	230.4	30	44	184	22	229.4	31	27	153	30	230.0	30	47	170	26	230.3	33	39	149	23	230.1	32	44	163	24	228.7	33	48	197	21	227.7	32	37	120	17	400																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
350		242		117	28		44		195	38		46		168	28		45		145	26		45		163	27		46		134	30		47		152	26		46		188	22		46		122	20	350																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
300	296.1	60		128	32	293.5	61		190	40	293.6	64		183	27	292.9	61		140	25	293.5	62		160	31	293.5	60		130	39	293.3	63		150	18	292.4	62		175	19	291.1	61		126	19	300																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
250		78		126	29		71		191	33		84		171	27		78		153	24		78		158	36		77		183	24		72		202	14		75		197	25		72		124	15	250																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
200	379.6	71		129	14				146	30	376.5	70		171	15	376.7	66		162	15	377.3	69		170	21	378.0	66		197	27	377.7	66		209	31	376.3	67		208	23	375.6	62					200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
170		71		115	13							68		167	10		66		150	11		67		175	20		64		199	29		67		212	27		66		211	21		61			170																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
150		71		126	10	Inversion					436.5	70		180	14	437.1	65		176	09		65		189	20	438.7	63		213	29	438.0	66		212	23		66		212	21		59			150																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
130		72		110	10	840	nb	33°	820	nb	35°						66		251	05		63		210	20		61		222	24		66		208	23		66		213	21		64			130																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
110		74		104	10							75		196	12		70		138	04		60		208	08		60		220	24		67		221	24		68		220	17	(112nb)	62			110																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
100	522.8	75		197	08	Isothermal					520.4	73		209	12	522.0	68		219	07	522.9	69		206	08	524.3	69		215	24	523.1	66		210	23	521.7	67		227	15				100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
90		75		240	07	900	-887	nb	39°			76		232	11		71		228	10		70		215	13		68		213	20		68		206	27		68		230	11	Inversion					90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
80		77		275	08	785	-763	nb	33°			79		244	12		74		227	09		70		233	14		71					71		223	25		69		222	13	880	nb	42°	862	nb	44°	80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
70		81		290	05	Inversion										627.2	76		242	13		74		224	19	Inversion					628.8	74		243	26	(63nb)	73					70																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
60	(64nb)					Inversion					820nb 32°-797nb 34°					Isothermal					689-666nb 25°																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</				

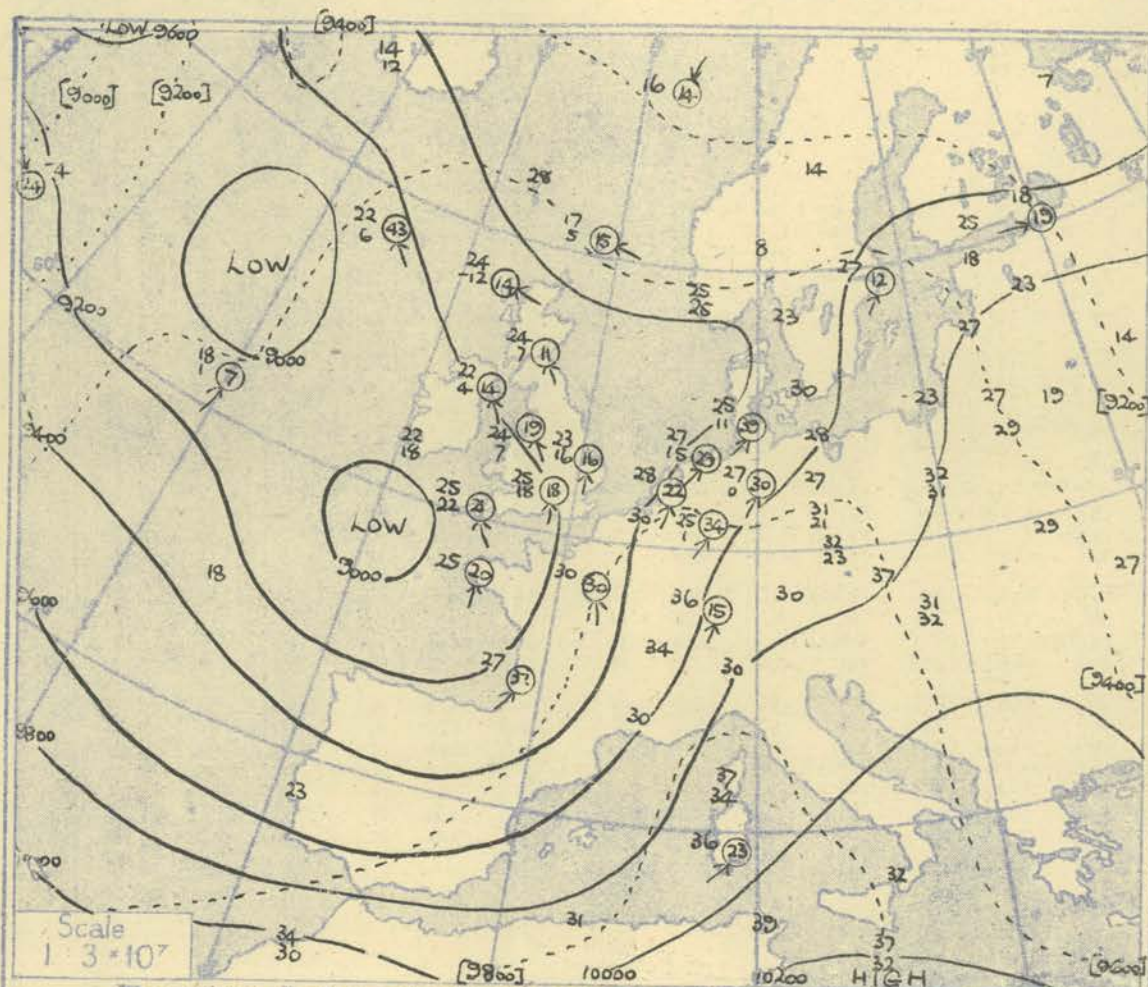


RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA			
Time M.S.L.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.	
Surf		1002.1		mb		995.8		mb		996.8		mb		991.4		mb		991.8		mb		993.5		mb		989.5		mb		984.4		mb		984.4		mb	
Pres		992.1		mb		994.2		mb		996.0		mb		982.4		mb		989.8		mb		989.2		mb		973.8		mb		974.1		mb		982.4		mb	
Pres		832		mb		783		mb		800		mb		805		mb		790		mb		771		mb		769		mb		760		mb		760		mb	
Pressure		Height		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.		Temp.	
Surf		02.7		47		02		00.4		07		00.2		08		02.5		10		00.6		01.2		01.4		01.4		01.4		01.4		01.4		01.4		01.4	
1000		00.6		47		01.2		45		07		00.2		08		02.5		10		00.6		01.2		01.4		01.4		01.4		01.4		01.4		01.4		01.4	
950		42		42		11		45		13		44		47		45		48		45		52		48		48		48		48		48		48		48	
900		28.9		36		27.2		41		27.5		38		38		26.3		44		40		26.9		46		39		46		43		46		46		46	
850		43.9		33		42.4		37		42.7		35		33		41.6		38		33		42.2		40		31		46		44		41		49		41	
800		59.9		29		58.5		36		58.5		32		22		57.6		31		27		58.5		36		29		45		17		56.1		36		35	
750		24		23		30		06		26		15		14		25		21		14		29		20		15		30		24		17		31		30	
700		17		15		24		12		14		23		24		18		08		14		24		16		17		18		17		18		25		22	
650		15		13		17		17		16		08		14		18		08		14		20		11		17		17		17		17		17		17	
600		133.4		09		18		13		13		13		13		13		13		13		13		13		13		13		13		13		13		13	
550		01		02		08		08		08		08		08		08		08		08		08		08		08		08		08		08		08		08	
500		178.2		07		18		17		17		17		17		17		17		17		17		17		17		17		17		17		17		17	
450		19		34		15		20		15		20		15		20		15		20		15		20		15		20		15		20		15		20	
400		230.8		28		47		14		17		29		31		29		31		29		31		29		31		29		31		29		31		29	
350		43		173		21		46		30		44		23		51		17		46		27		42		21		43		60		44		171		22	
300		29.4		58		24		29		30		60		125		34		29		67		119		14		29		63		197		26		29		48	
250		76		210		27		78		153		44		79		138		39		84		148		15		79		188		30		58		81		192	
200		378.2		75		107		15		37		73		145		19		37		71		163		15		37		73		180		30		37		73	
170		71		103		12		72		18		69		151		16		69		193		09		70		187		19		34		68		207		29	
150		73		112		15		69		125																											
130		75		107		12		71		107																											
110		78		157		07		73		07																											
100		52.07		76						51.6																											
90		78								74																											
80		81								79																											
70		82								81																											
60		83								84																											
		(b.s.m.)																																			
		Isothermal.																																			
		68.6-65.0 mb 15°																																			

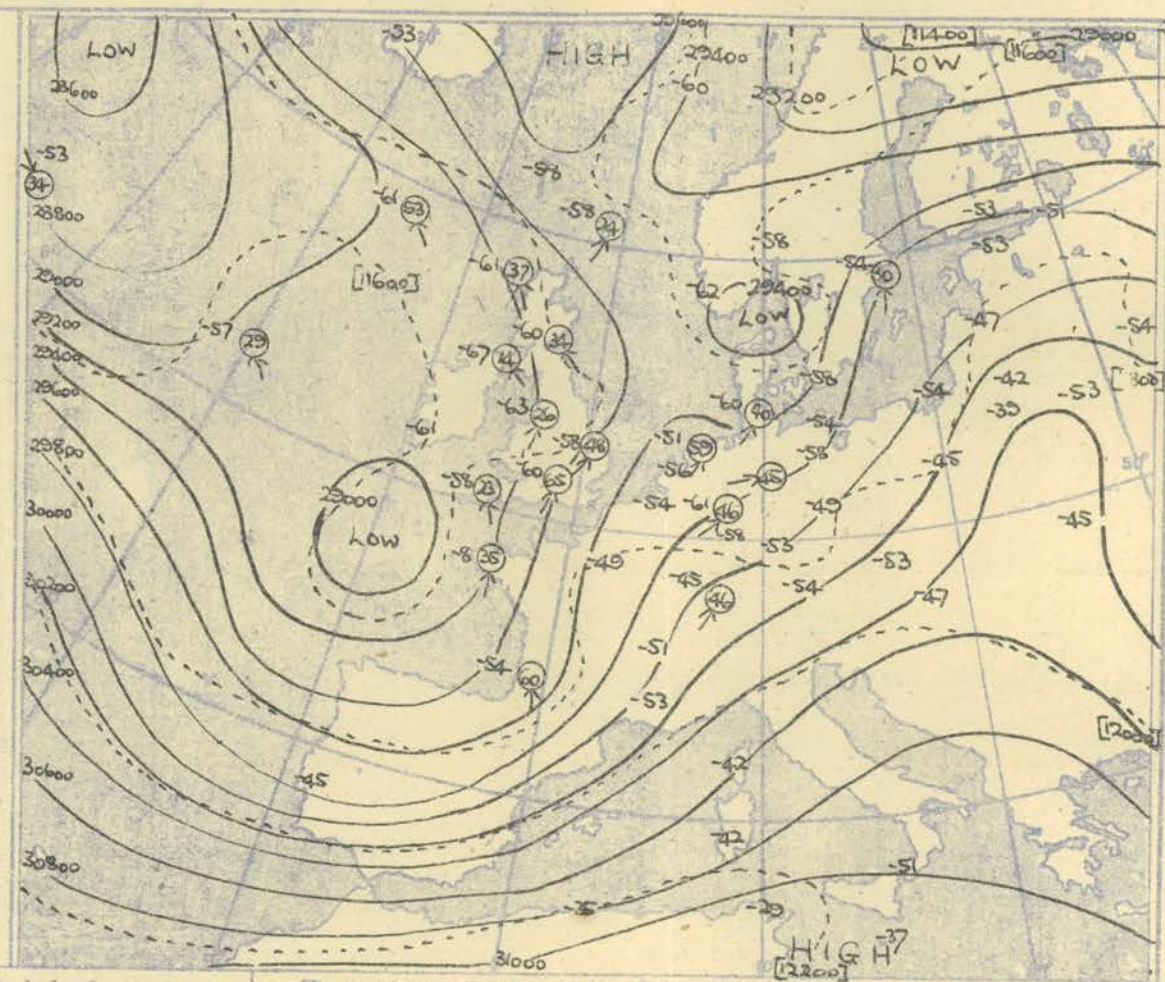


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb. and 300 mb. levels at about 03h. G.M.T.

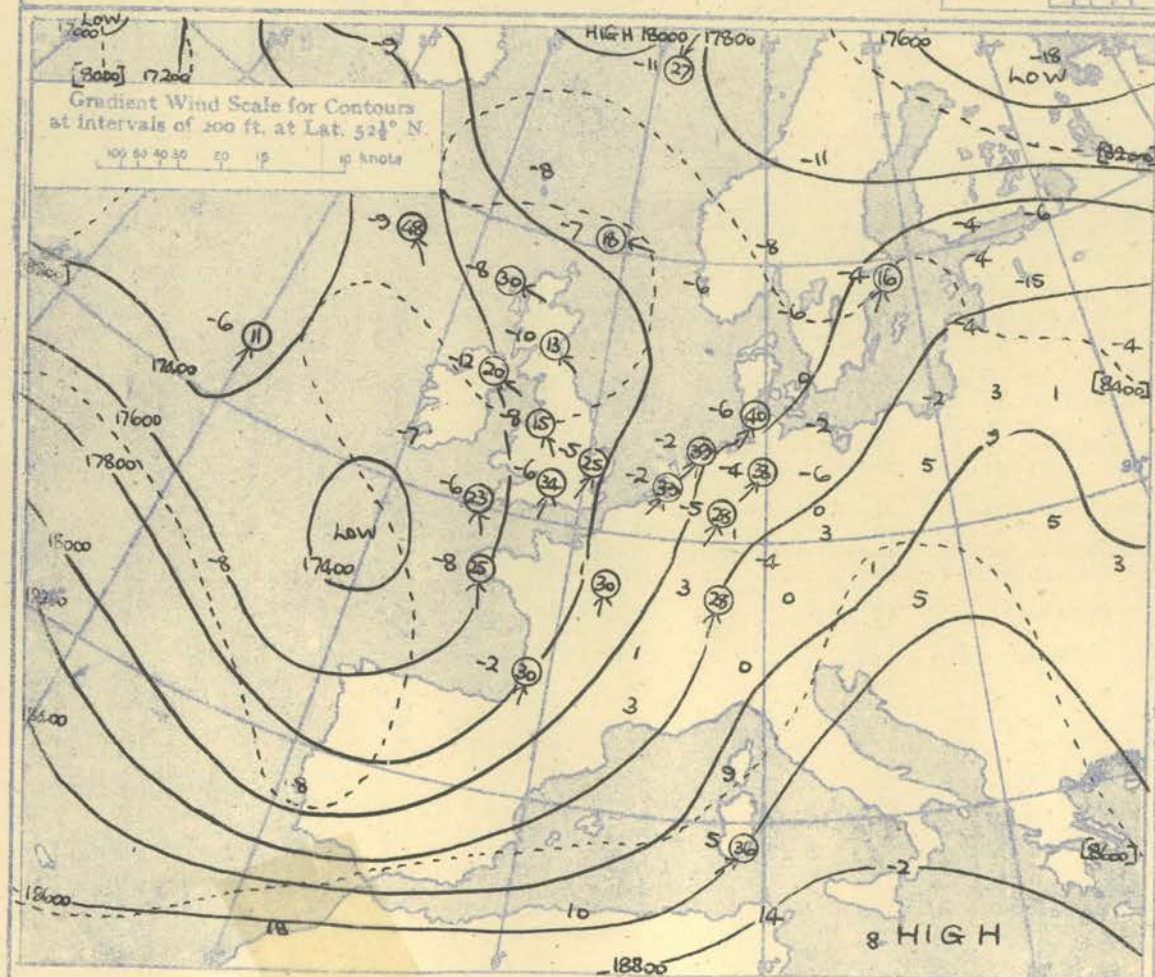


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

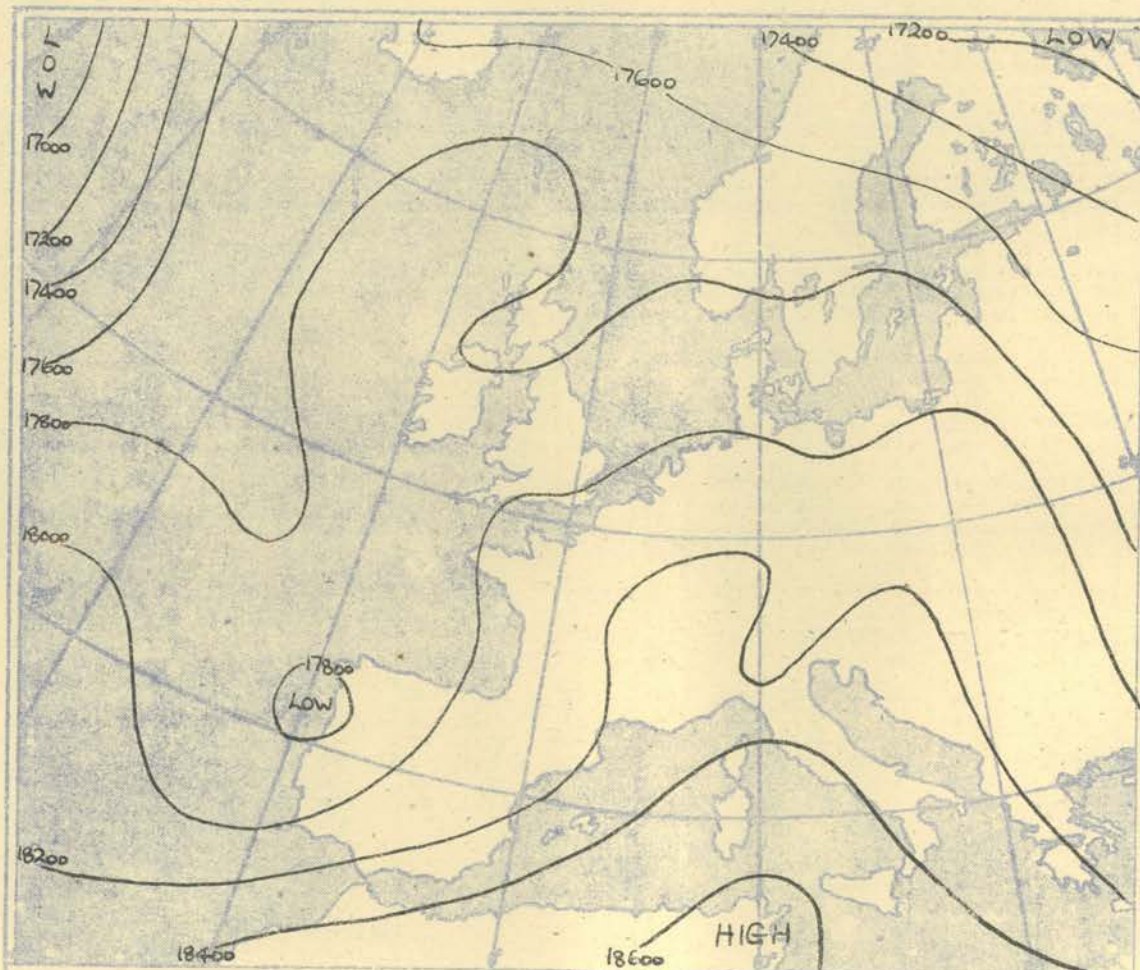
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N  
100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

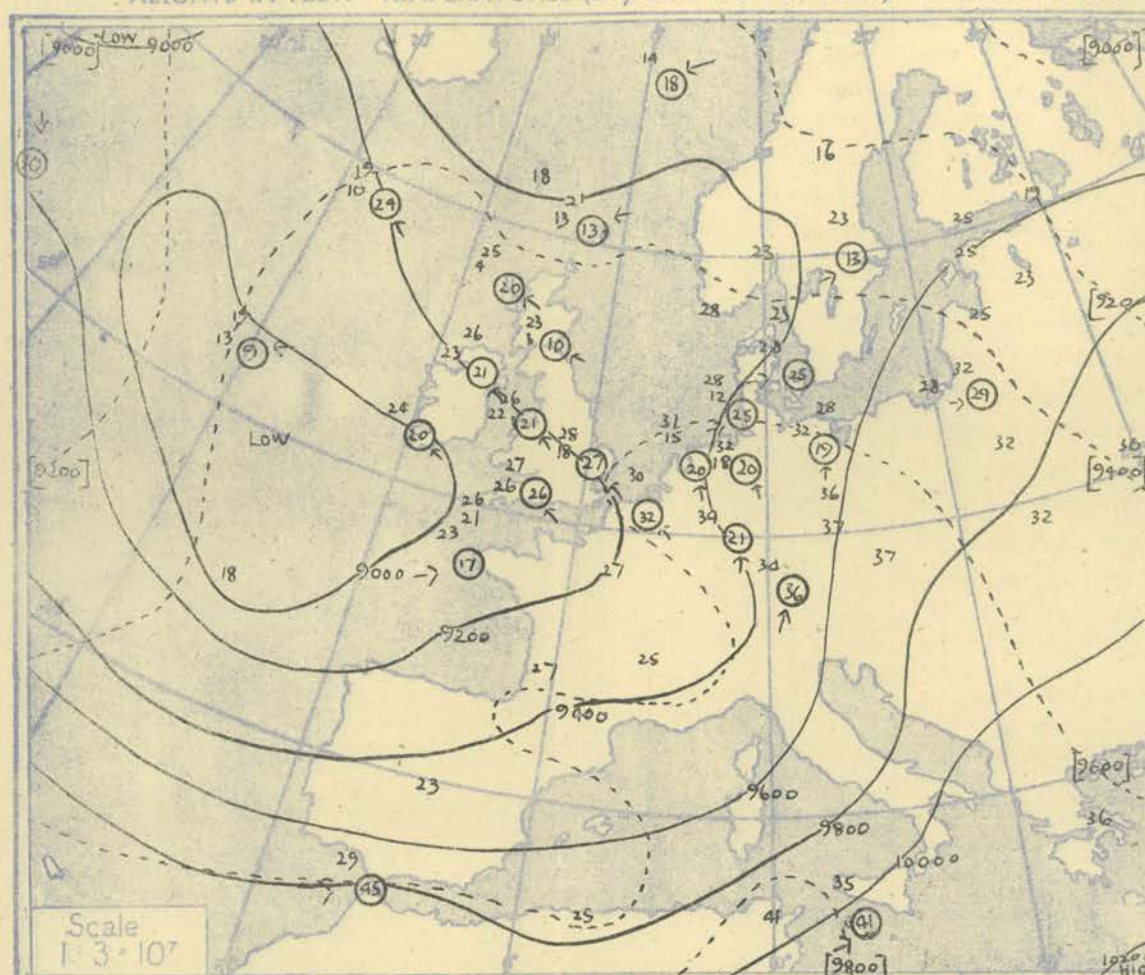


## NEPHOSCOPE OBSERVATIONS

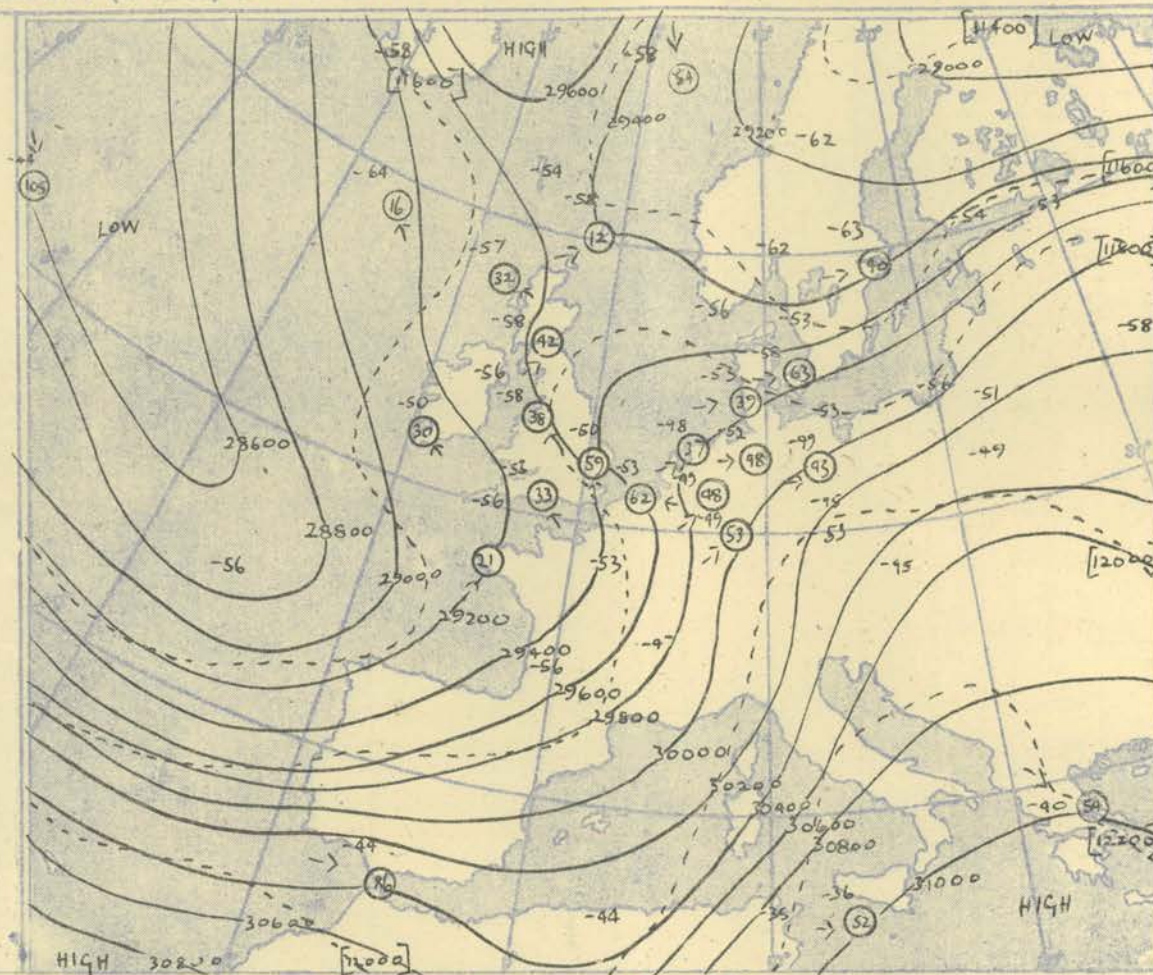
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HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



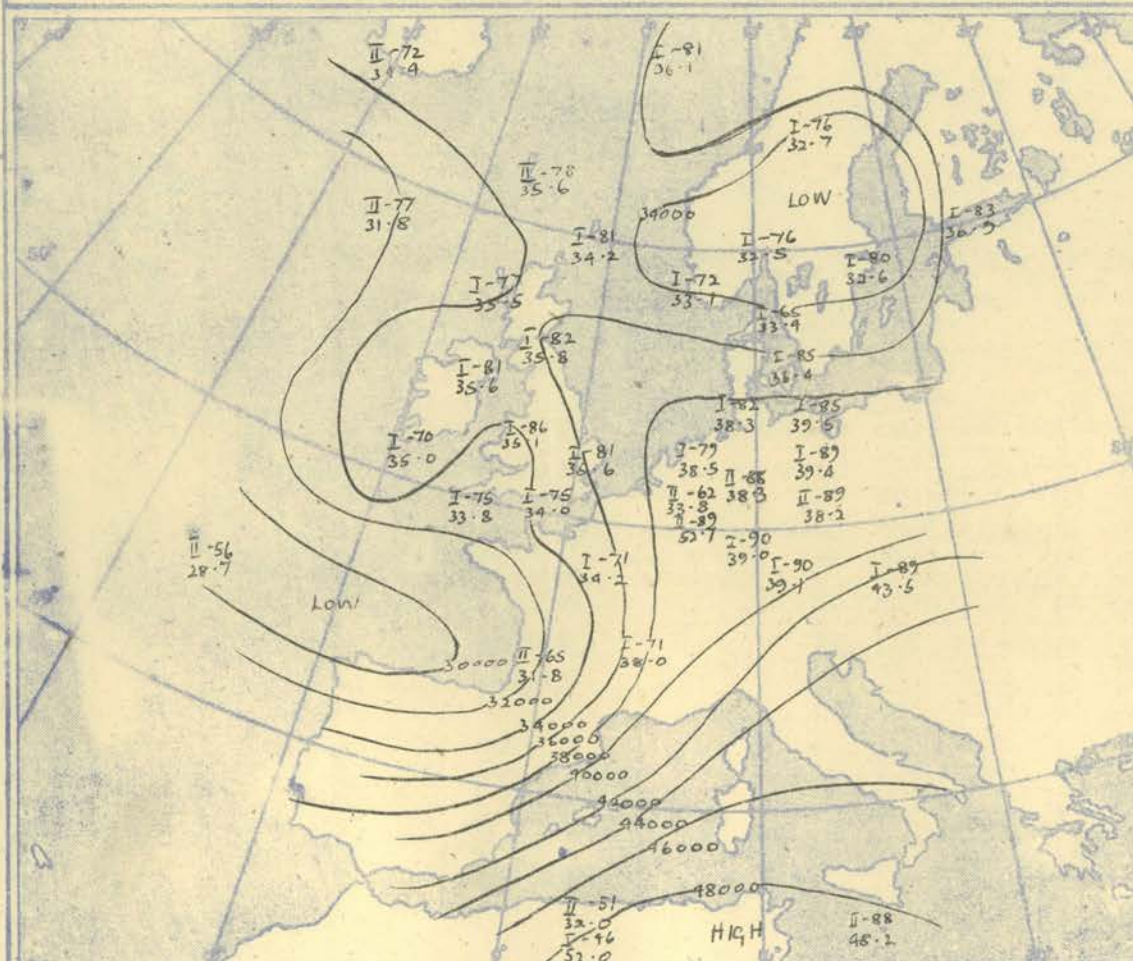
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 1000-700 mb.



Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

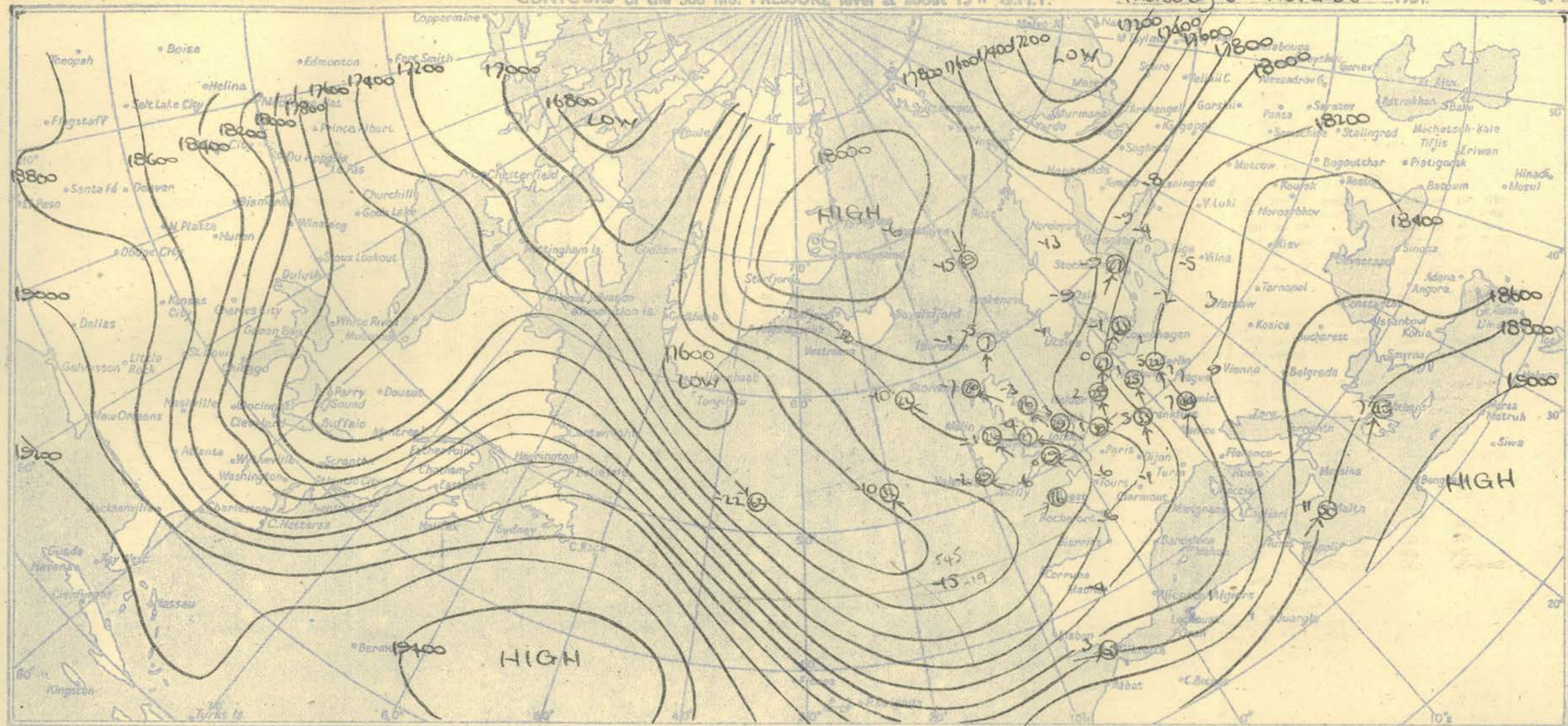
### NOTES ON THE AEROLOGICAL SITUATION.

Continued penetration of very cold air southeastwards from Greenland. By afternoon the November extreme had been reached in the region between Portugal and the Azores.

RATES of SUBSCRIPTION: Single copy 2d. or post free 3d. One calendar month 7/- One quarter 18/- One year 70/-  
For special arrangements for supply to schools and colleges, see Form 2452.

Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.

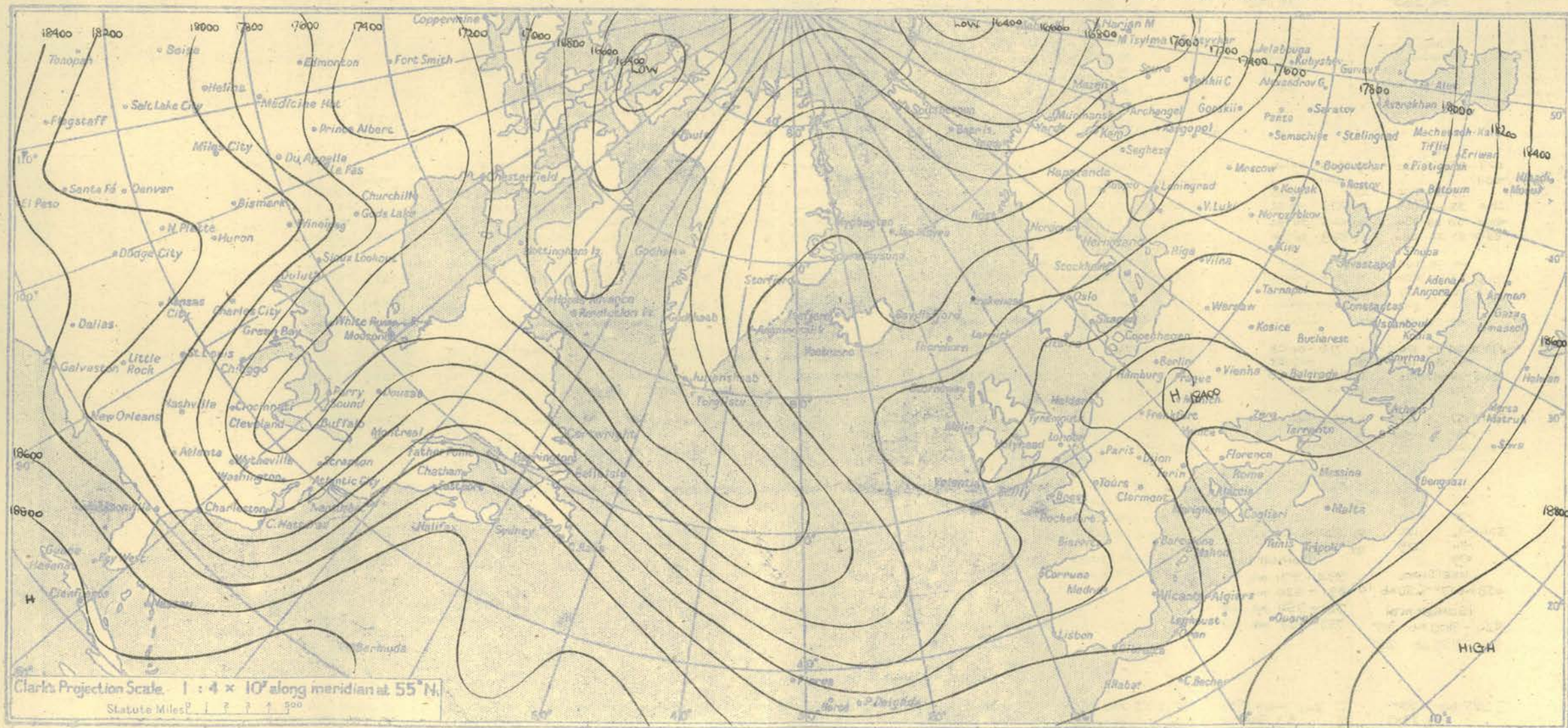




ISOPLETHS OF THICKNESS 500-1000 mb. at about 15 h. G.M.T.

Thursday 8<sup>th</sup>. November

1951





RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

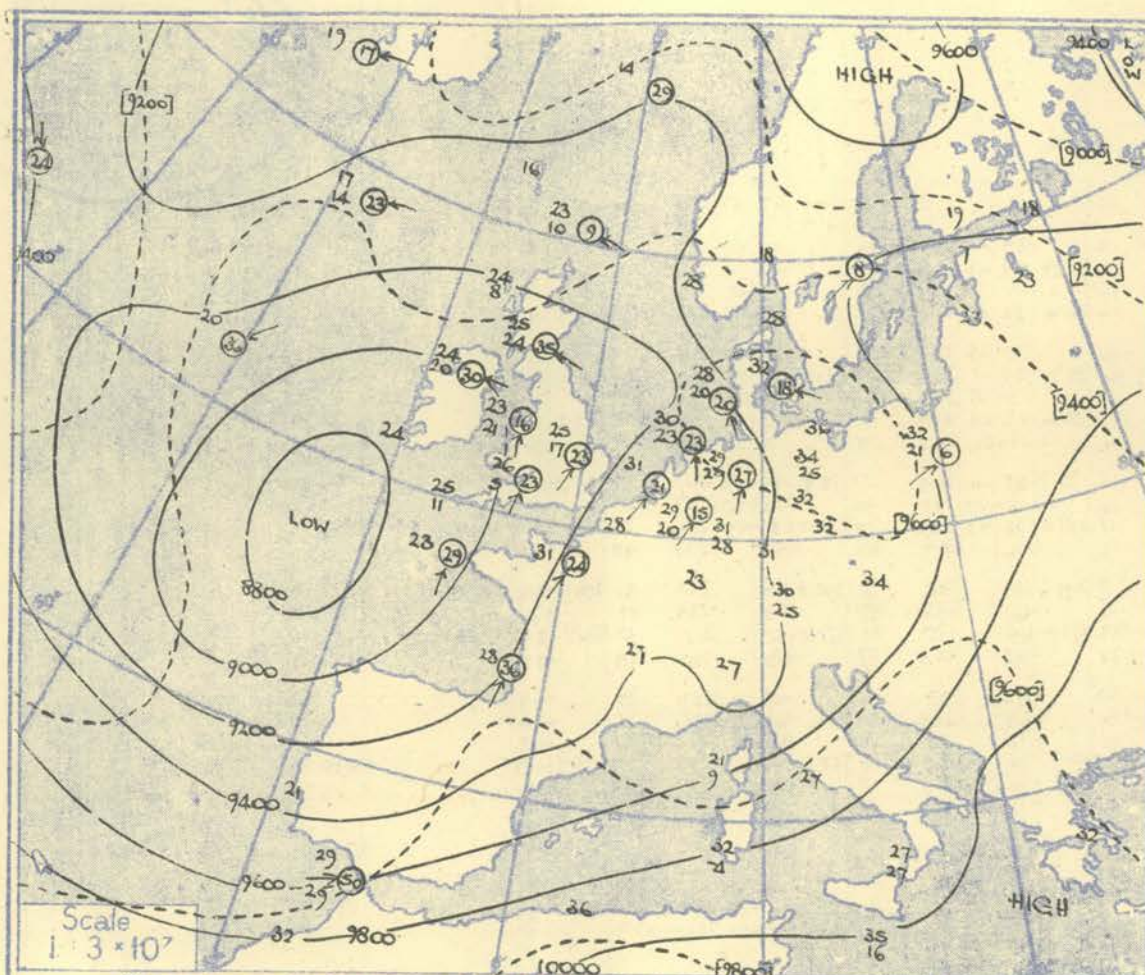
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION					
Pressure mb	Time M.S.L.	15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		Time M.S.L.	Surf Pressure								
		Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb												
		878	mb	833	mb	994.8	mb	994.1	mb	989.1	mb	984.8	mb	985.9	mb	983.4	mb	982.2	mb	980.6	mb	979	mb	977	mb	972.1	mb	970	mb														
Surf	02.7	46	44	050	14	00.4	51	45	090	08	00.2	49	47	02.5	50	47	00.6	50	48	080	15	01.2	54	52	090	10	04.4	51	51	080	08	02.9	55	41	240	14	00.3	55	48	060	08	Surf	
1000	00.2					-1.0					-0.4			-0.3			-0.3					-0.3				10	-0.4					-0.4					-0.3					1000	
950		41	37	052	24		41	41	100	25		45	42		47	44		47	44	090	34		50	48	100	25		50	49	084	14		52	49							950		
900	28.5	35	31	052	19	27.5	42	36	111	28	27.0	40	36	25.6	42	39	25.0	45	39	107	32	24.9	52	47	126	26	24.1	45	42	133	14	23.9	46	45			23.6	46	43	089	14	900	
850	43.5	30	26	050	15	42.7	35	31	112	26	42.2	35	28	40.9	39	35	40.4	41	36	119	29	40.6	46	41	130	22	39.5	40	38	149	16	39.3	40	39			40	38	110	19	850		
800	59.4	26	22	050	13	58.8	34	27	117	25	58.2	31	23	57.0	35	31	56.5	35	31	127	27	56.9	40	35	124	22	55.4	33	31	153	17	55.4	35	33			55.1	34	31	115	25	800	
750		24	19	051	13		27	17	117	22		28	07	For Winds See Page 3.			30	26	130	23		35	32	126	22		31	30	138	21		31	28									750	
700	93.9	21	13	064	13	93.7	25	04	113	20	93.0	23	03	See Page 3.			26	23	127	21	92.1	28	18	130	27	90.6	27	26	131	26	90.4	26	21			90.0	24	17	116	20	700		
650		15	07	103	10		17	04	149	11		17	02	See Page 3.			20	16	125	23		22	16	133	30		21	19	132	29		20	16			20	12	111	18	650			
600	132.9	10	03	145	09	132.9	09	03	134	11	132.3	12	09	See Page 3.			13	08	123	25	131.7	15	12	139	32	130.2	15	12	129	26	129.8	13	08			129.4	14	01	110	18	600		
550		04	18	180	07		00	05	106	16		04	20	See Page 3.			04	01	129	31		11	07	138	29		08	04	127	26		04	03			08	05	112	24	550			
500	178.0	05	29	180	07	177.7	07	13	117	26	177.4	03	28	See Page 3.			176.1	04	11	129	27	177.5	03	00	141	29	175.7	00	04	128	29	174.9	05	14			174.8	02	28	109	29	500	
450		16	40	190	07		17	21	105	20		13	34	See Page 3.				15	22	142	29		06	11	151	30		11	15	137	30		11	15	137	30							450
400	230.8	27	50	199	11	230.3	30	35	112	22	230.5	26	47	See Page 3.			229.0	26	34	154	35	231.3	19	25	155	25	229.0	23	28	122	31	227.7	27	41			228.2	24	43	109	30	400	
350		43		210	10		43		101	30		41		See Page 3.				42		157	36		33	37	169	33		38	44	123	35		41									350	
300	294.6	58		225	12	294.1	57		103	32	294.5	58		See Page 3.			293.0	58		152	38	296.5	50		163	39	293.5	55		122	33	291.8	56				292.7	50		116	30	300	
250		77		176	10		76		110	33		75		See Page 3.				76		172	57		65		165	59		67		128	67		73									250	
200	378.0	75		106	16	378.4	68		114	26	378.2	73		See Page 3.			376.5	70		177	27	381.3	77		175	45	378.4	65		173	28	377.0	62				378.6	63		125	31	200	
170		73		114	12		67		122	19		71		See Page 3.				69		183	20		70		182	31		64		202	27		60									170	
150		74		110	10	436.6	66		137	15	437.6	70		See Page 3.				68		189	18	440.8	68		190	31	439.2	62		196	22		60									150	
130		75		123	10		66		133	10		71		See Page 3.				66		189	18		66		190	27		61		210	20		62									130	
110		76		128	07		64		125	07		69		See Page 3.				67		197	15		65		219	22		62		223	21		65									110	
100	520.6	76		127	05	523.8	65		132	05	522.0	71		See Page 3.			521.8	68		214	15	525.9	66		215	20	525.1	69		224	15	524.0	65									100	
90							67		160	07		73		See Page 3.				69		230	16		65		221	21		67					65									90	
80							70					76		See Page 3.				70		231	17	Inversion																				80	
70														See Page 3.								Inversion																				70	
60														See Page 3.								Inversion																				60	
Tropopause		I 238 mb - 81° 34,200'				I 247 mb - 77° 33,500'				I 222 mb - 82° 35,800'				I 223 mb - 81° 35,600'				I 227 mb - 86° 35,100'				I 215 mb - 81° 36,600'				I 240 mb - 75° 34,000'				I 242 mb - 75° 33,800'				I 230 mb - 70° 35,000'				Tropopause					
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION					
Pressure mb	Time M.S.L.	21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		Time M.S.L.	Surf Pressure								
		Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb												
		999.6	mb	996.0	mb	994.4	mb	993.3	mb	985.9	mb	982.8	mb	984.1	mb	983.4	mb	981.9	mb	971.6	mb	970	mb																				
Surf	02.7	45	44	020	19	00.4	49	41		00.2	49	47	100	25	02.5	49	46	00.6	49	49	080	16	01.2	53	53	110	08	04.4	48	47	210	03	02.9	51	48	180	07					Surf	
1000						-0.1					-0.1				-0.3			-0.4					-0.4				10	-0.4					-0.5									1000	
950		39	39	048	22		47	35			45	44	070	30		47	44		47	46	081	35		51	50	167	26		48	45	228	09		50	46							950	
900	28.0	35	35	054	21	27.3	40	32		26.6	40	39	0																														



RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																
STATION			LERWICK			STORNOWAY			LEUCHARS			ALDERGROVE			LIVERPOOL			DOWNHAM MARKET			LARKHILL			CAMBORNE			VALANCEY			METEOROLOGICAL		
Time			03h			03h			03h			03h			03h			03h			03h			03h			03h			03h		
M.S.L.			998.0			994.5			990.1			982.6			981.8			986.4			985.6			981.0			976.2			975.0		
Surf			988.0			992.9			989.3			973.7			979.8			982.0			969.9			970.7			975.0			975.0		
Pressure			860			856			820			791			778			780			750			771			790			790		
Pressure			Height			Height			Height			Height			Height			Height			Height			Height			Height			Height		
Surf			02.7			00.4			00.2			02.5			00.6			01.2			04.4			02.9			00.3			00.3		
1000			-00.4			-01.5			-02.7			-04.8			-05.0			-03.7			-03.9			-05.3			-06.4			-06.4		
950			42 38			42 39			44 38			46 44			50 45			49 47			49 49			51 47			50 47			50 47		
900			27.9			18.26			25.7			32.23			36.23			44.41			44.39			45.39			44.43			44.43		
850			42.9			15.41			40.9			33.39			46.40			41.35			38.37			40.34			38.35			38.35		
800			58.8			15.57			56.9			31.55			29.55			35.29			35.23			34.30			33.32			33.32		
750			27 20			13 23			27 23			28 24			29 27			30 25			32 10			30 20			29 25			29 25		
700			93.3			09.23			31.7			35.89			30.30			25.17			23.91			25.11			24.16			24.16		
650			20 04			12 17			21 19			32 19			16 14			19 07			26 05			17 11			18 05			18 05		
600			32.7			13 13			131.3			12.07			130.6			12.01			130.4			23.29			11 06			12.8		
550			04.11			-04.15			07.01			-02.08			01.05			03.06			05.26			04.04			02.26			02.26		
500			177.9			16.17			176.7			-01.08			14.17			175.7			-06.38			174.3			172.7			172.7		
450			-15.35			-13.34			-12.21			-16.24			-21.31			-18.29			-18.50			-17.30			-21.50			-21.50		
400			230.7			229.6			229.9			35.27			35.26			32.45			29.28			28.27			22.49			22.49		
350			-43			-39.55			-42			08.9			-47			-46			-43			-42			-47			-47		
300			294.3			45.29			291.0			09.3			34.28			17.59			31.29			29.10			28.79			28.79		
250			-76			-74			-83			08.0			31			16.3			18.8			22.4			-70			-70		
200			378.3			13.17			374.7			12.8			21.37			17.9			37.4			27.37			373.2			373.2		
170			-72			-72			-68			117			-64			19.9			20.3			22.9			-61			-61		
150			-70			-71			-70			166			-65			20.3			19.3			22.7			-63			-63		
130			-74			-70			-72			-67			-67			20.7			16			23.6			-66			-66		
110			-72			-72			-69			-69			-69			18.1			-72			22.3			-67			-67		
100			521.4			153			520.6			-71			-73			18.1			-74			23.9			-71			-71		
90			-77			09			-75			-75			-75			20.6			-77			25.9			-70			-70		
80			-80			-75			-75			-75			-75			20.4			-76			23			-71			-71		
70																																
60																																
Inversion			785 mb 22° 750 mb 22°			745 mb 22° 721 mb 25°			750 mb 27° 736 mb 28°			(78 mb)			Inversion			982 mb 48° 943 mb 49°			970 mb 47° 950 mb 50°			971 - 950 mb 51°			761 - 750 mb 29°					
Tropopause			I 245 mb -77°			I 216 mb -85°			NR			I 250 mb -83°			I 276 mb -66°			II 281 mb -63°			I 250 mb -73°			I 242 mb -74°			I 243 mb -71°					
STATION			LERWICK			STORNOWAY			LEUCHARS			ALDERGROVE			LIVERPOOL			DOWNHAM MARKET			LARKHILL			CAMBORNE								
Time			09h			09h			09h			09h			09h			09h			09h			09h			09h					
M.S.L.			997.1			992.0			986.0			982.2			985.0			988.6			985.2			967.0			975.0					
Surf			987.1			990.4			985.1			973.3			983.0			984.2			983.4			977.3			975.0					
Pressure			750			830			790			800			766			741			782			770			770					
Pressure			Height			Height			Height			Height			Height			Height			Height			Height			Height					
Surf			02.7			00.4			00.2			02.5			00.6			01.2			04.4			02.9			00.3					
1000			-00.8			-02.2			-04.0			-04.9			-04.1			-03.1			-04.1			-06.3			-06.3					
950			43 37			46 40			47 47			50 47			47 44			49 49			49 48			51 50			51 50					
900			27.6			26.3			24.7			23.8			24.5			25.5			24.5			25.2			25.2					
850			42.7			28.41			33.9			39.1			39.7			40.7			39.9			37.8			37.8					
800			58.7			24.57			56.0			55.2			55.3			57.0			55.9			53.9			53.9					
750			32 24			24 21			29 29			27 23			31 16			33 09			29 20			31			30 29					
700			93.7			23.21			30.9			30.0			30.9			32.1			28.02			33.89			25 23					
650			18 15			20 18			17 13			17 13			17.02			21.01			21 03			32			20 19					
600			33.1			13.11			130.1			12.93			130.1			131.6			26.30			32.28			13 11					
550			06.01			06.01			09.09			02.05			04.19			10.14			07.05			37			05 02					
500			178.3			176.7			174.7			174.2			175.1			177.2			175.7			176.4			176.4					
450			-12.19			-15.16			-24.57			-18.33			-17.41			-11.25			-11.13			43			-14.18					
400			231.4			229.6			226.5			226.6			227.7			230.6			229.1			45.22			45.22					
350			-39.47			-39.44			-48			-46			-44			-39.51			-36.40			49			-41					
300			295.8			45.29			375.4			299.9			291.2			295.0			294.1			52.29			52.29					
250			-72			-72			-62			-66			-63			-62			-63			70			-63					
200			379.6			13.17			375.0			375.0			375.9			379.2			379.1			383.7			383.7					
170			-73			-71			-64			-65			-63			-62			-58			30			-53					
150			-72			-68			-68			-67			-65			-67			-58			205			55					
130			-72			-67			-67			-69			-70			-71			-65			22.2			59					
110			-72			-69			-71			-70			-70			-73			-67			22.8			63					
100			522.7			522.2			520.6			520.2			523.9			523.9			526.1			525.8			525.8					
90			-72			-73			-71			-71			-71			-71			-68			525.8			64					
80																																
70																																
60																																
Inversion			810 mb 30° 772 mb 35°			740 mb 23° 693 mb 25°			73.950 mb 50°			Inversion			983 mb 47° 963 mb 49°			984 mb 47° 963 mb 49°			969 mb 46 mb 49°			Inversion								
Tropopause			I 207 mb -87°			I 222 mb -81°			II 303 mb -60°			I 285 mb -68°			I 237 mb -79°			I 225 mb -81°			II 245 mb -75°			I 270 mb -67°								



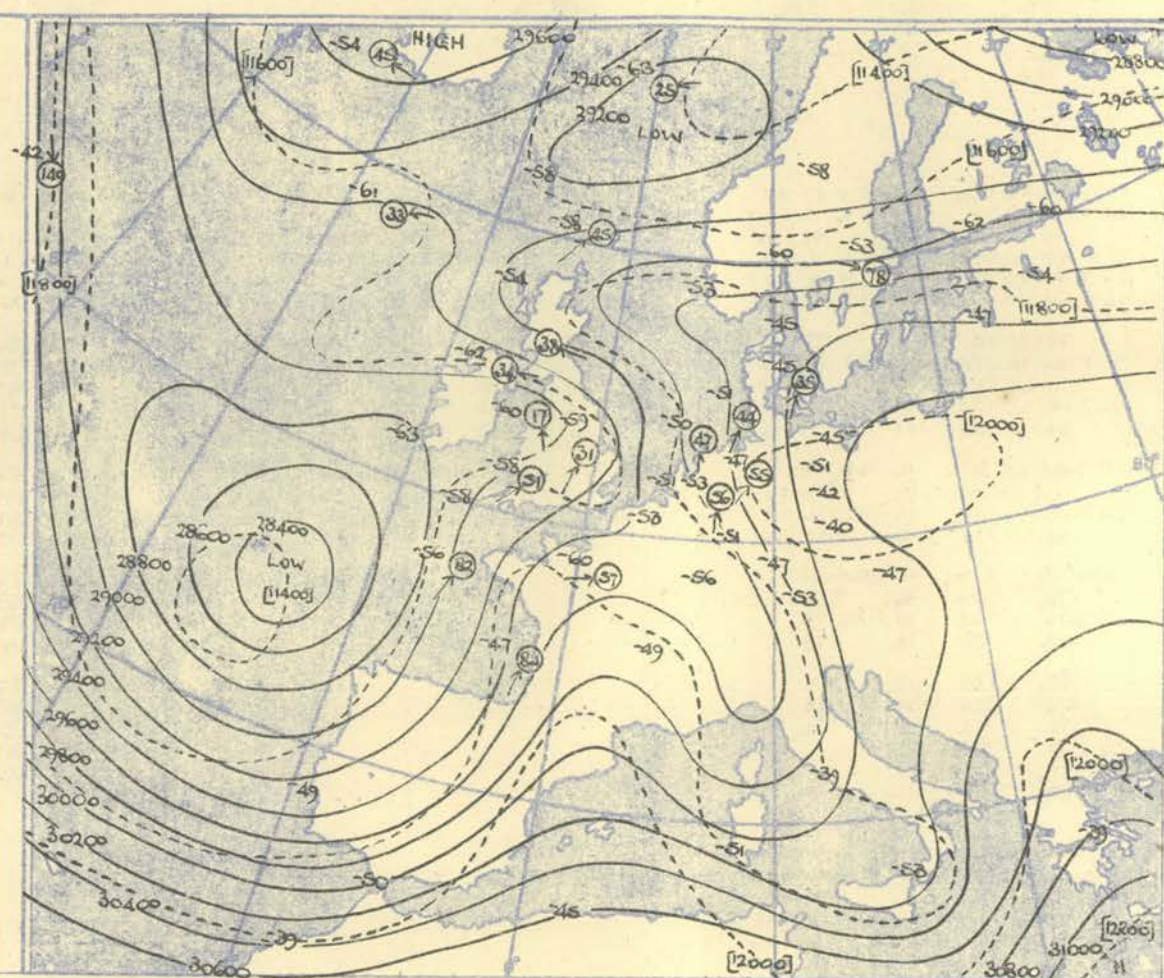
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



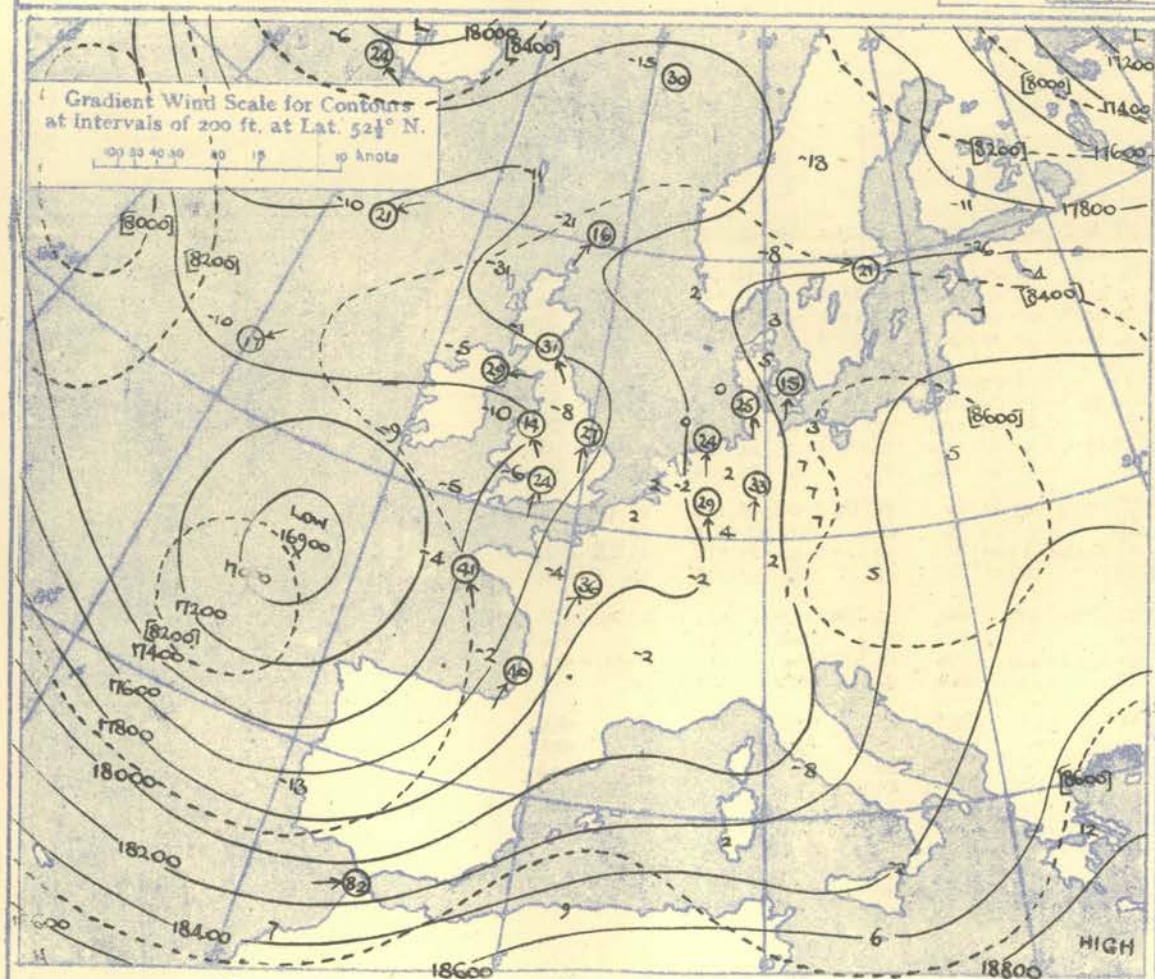
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

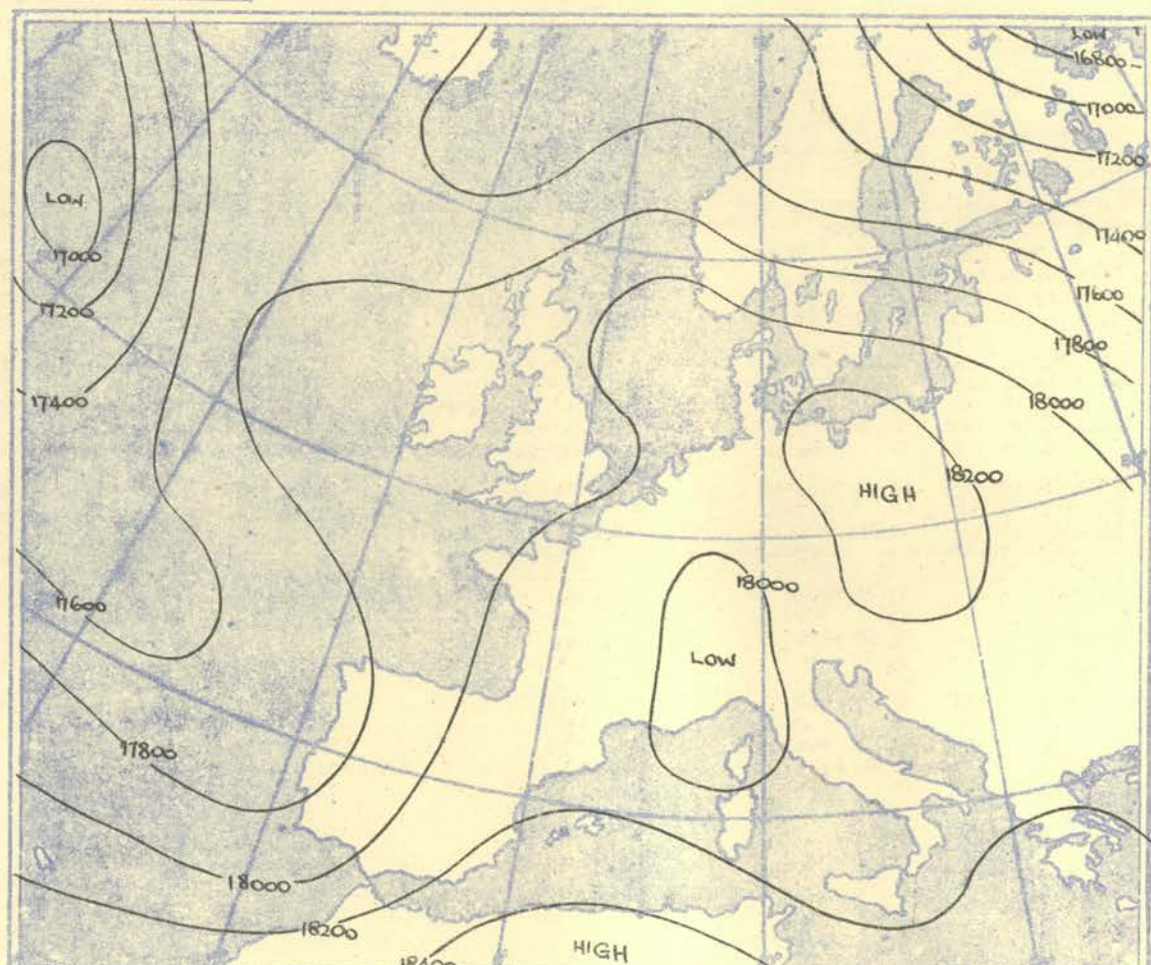
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The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.





## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

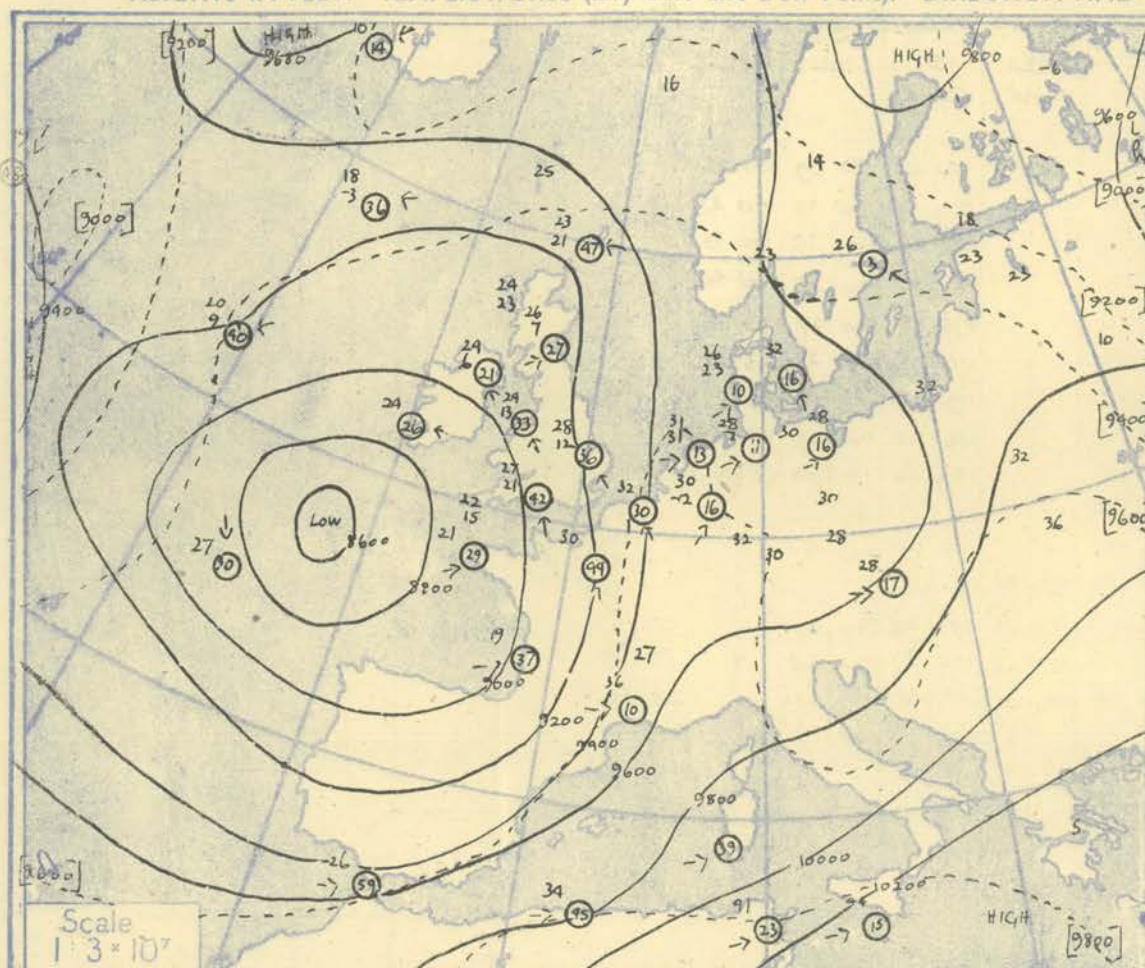
NEPHOSCOPE OBSERVATIONS

NONE REPORTED

[illegible]



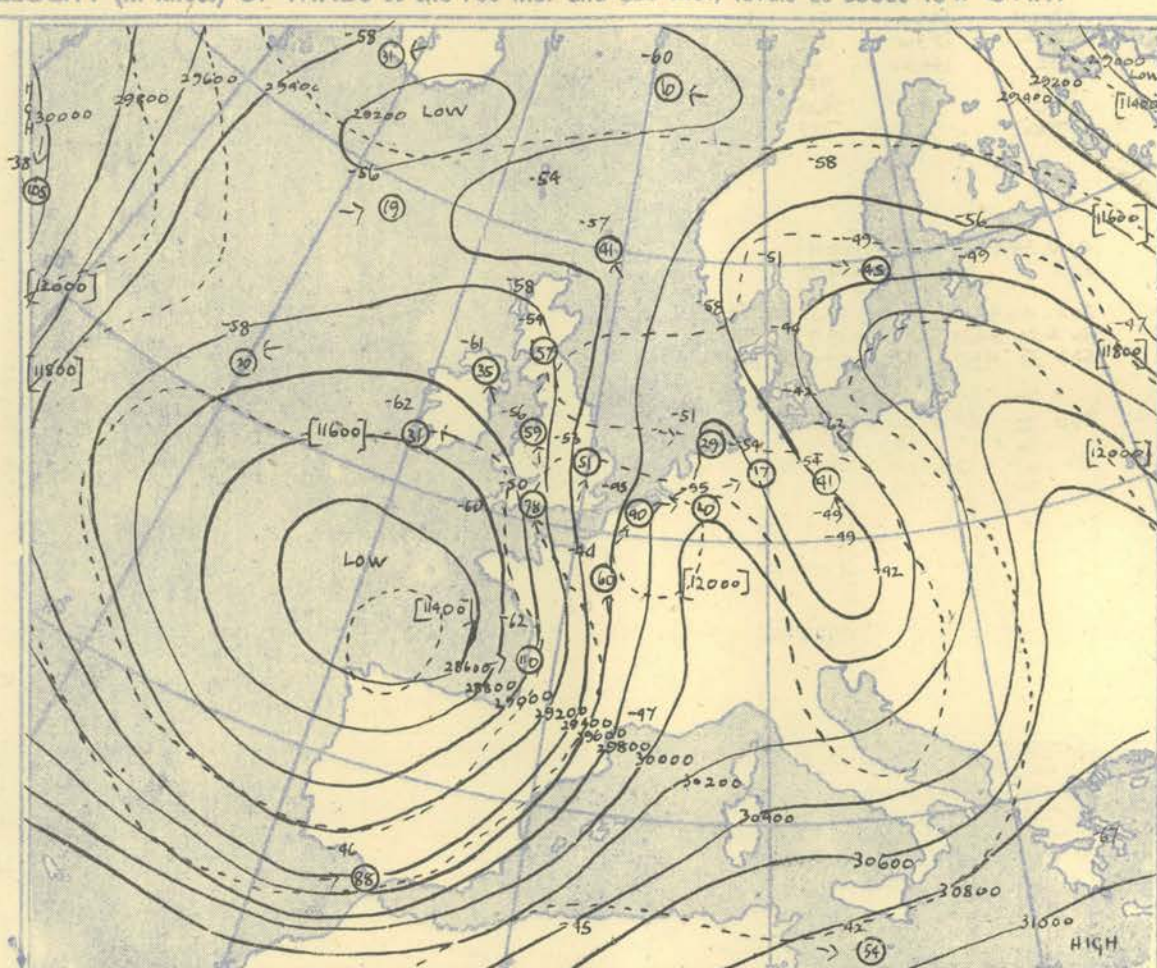
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 1000—700 mb.

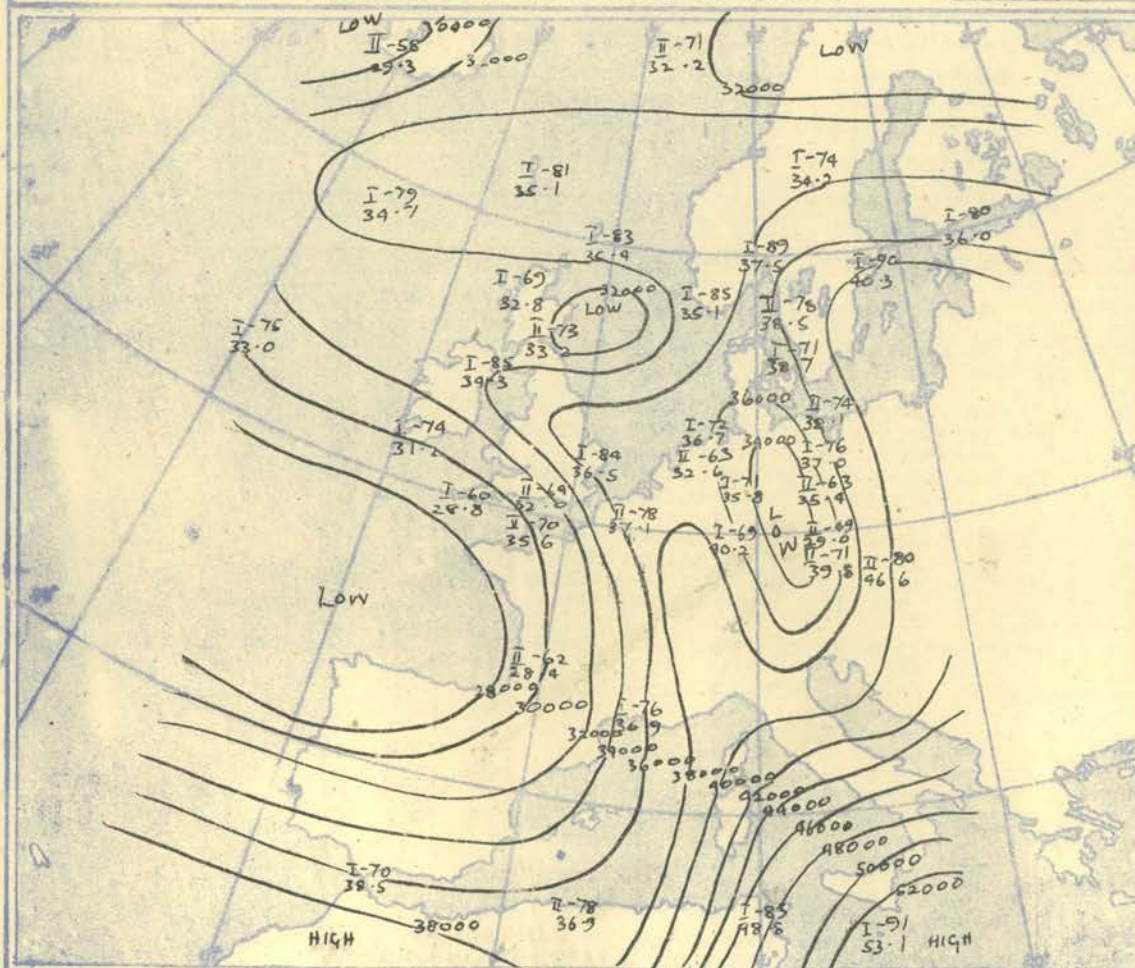
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 500—300 mb.

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

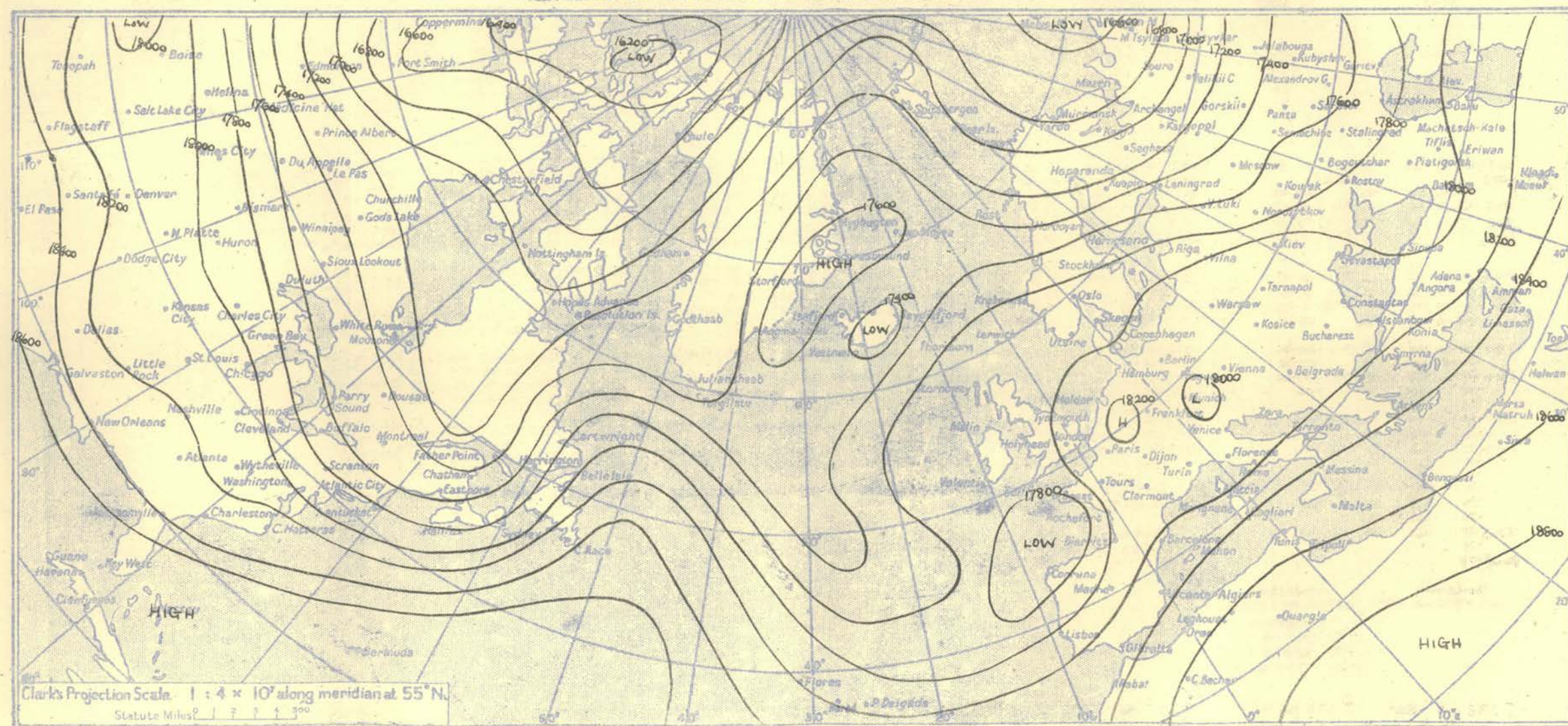
### NOTES ON THE AEROLOGICAL SITUATION.

Rapid warming in mid-Atlantic with the northeastward advance of warm air under the influence of the low near Newfoundland. Unexpected cooling in the Iceland region.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







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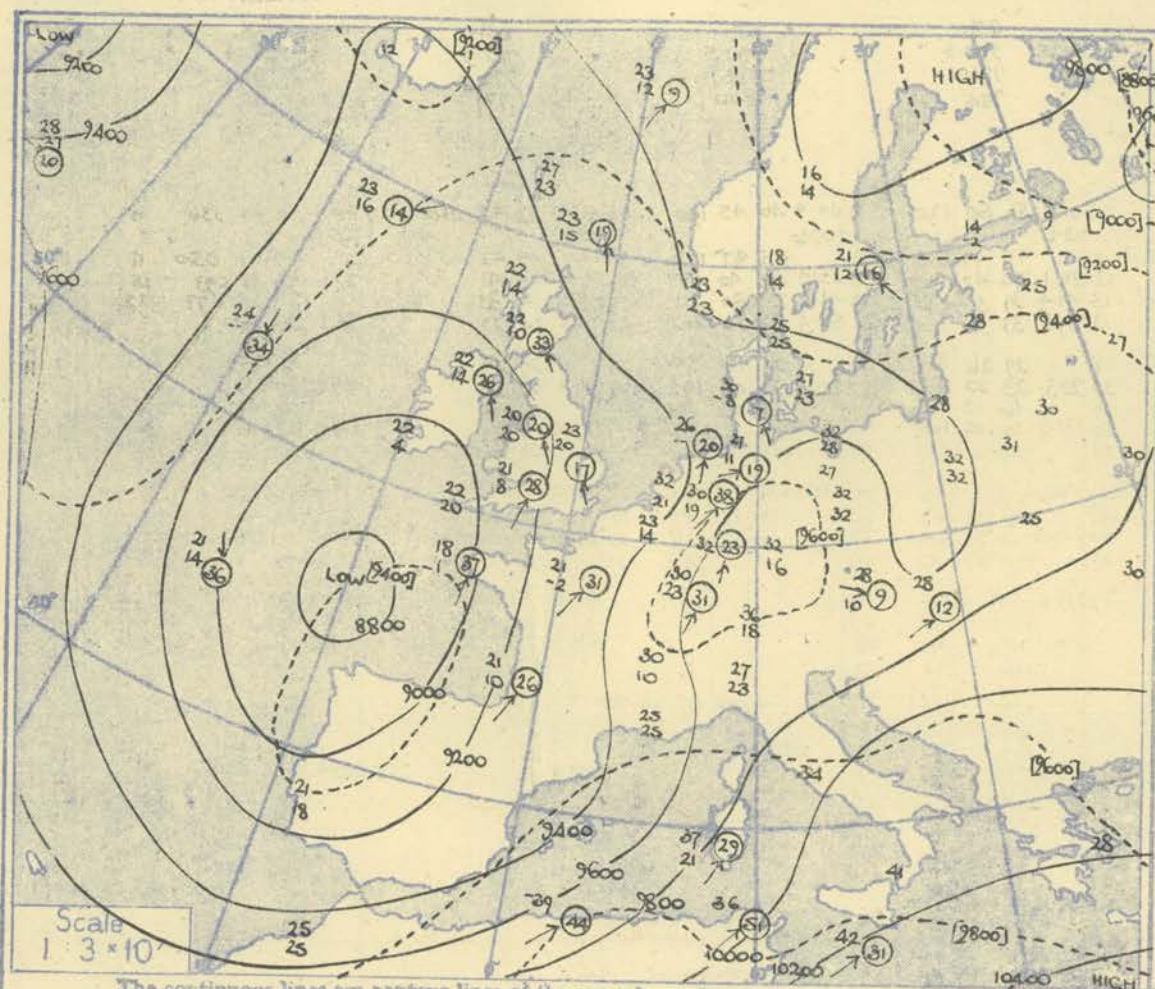


## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	DOWNHAM MARKET	LARKHILL	CAMBORNE	VALENTIA	STATION
Time M.S.L.	03h 1003.5 995.6 812	03h 994.3 992.7 764	03h 995.1 994.3 807	03h 987.8 978.8 790	03h 989.4 987.4 830	03h 990.5 986.1 784	03h 990.5 974.7 800	03h 982.9 972.6 777	03h 981.4 980.8 815	Time M.S.L.
Pressure mb	1003.5 995.6 812	994.3 992.7 764	995.1 994.3 807	987.8 978.8 790	989.4 987.4 830	990.5 986.1 784	990.5 974.7 800	982.9 972.6 777	981.4 980.8 815	Pressure mb
Temp. °F.	49 47 44 40 36 30	51 49 47 44 40 36	51 49 47 44 40 36	51 49 47 44 40 36	51 49 47 44 40 36	51 49 47 44 40 36	51 49 47 44 40 36	51 49 47 44 40 36	51 49 47 44 40 36	Temp. °F.
Dew. °F.	47 45 43 40 37 34	45 43 41 38 35 32	45 43 41 38 35 32	45 43 41 38 35 32	45 43 41 38 35 32	45 43 41 38 35 32	45 43 41 38 35 32	45 43 41 38 35 32	45 43 41 38 35 32	Dew. °F.
Wind Dir. Vel. knots	For winds See page 3.	For winds See page 3.	For winds See page 3.	For winds See page 3.	For winds See page 3.	For winds See page 3.	For winds See page 3.	For winds See page 3.	For winds See page 3.	Wind Dir. Vel. knots
Height ft./100	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	Height ft./100
Surf	02.7 01.7 30.0 45.0 61.0	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	Surf
1000	01.7 41 30.0 45.0 61.0	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	1000
950	41 38 35 33 30	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	950
900	38 35 33 30 27	45 42 39 36 33	45 42 39 36 33	45 42 39 36 33	45 42 39 36 33	45 42 39 36 33	45 42 39 36 33	45 42 39 36 33	45 42 39 36 33	900
850	35 33 30 27 24	42 39 36 33 30	42 39 36 33 30	42 39 36 33 30	42 39 36 33 30	42 39 36 33 30	42 39 36 33 30	42 39 36 33 30	42 39 36 33 30	850
800	32 30 27 24 21	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	800
750	29 27 24 21 18	36 33 30 27 24	36 33 30 27 24	36 33 30 27 24	36 33 30 27 24	36 33 30 27 24	36 33 30 27 24	36 33 30 27 24	36 33 30 27 24	750
700	26 24 21 18 15	33 30 27 24 21	33 30 27 24 21	33 30 27 24 21	33 30 27 24 21	33 30 27 24 21	33 30 27 24 21	33 30 27 24 21	33 30 27 24 21	700
650	23 21 18 15 12	30 27 24 21 18	30 27 24 21 18	30 27 24 21 18	30 27 24 21 18	30 27 24 21 18	30 27 24 21 18	30 27 24 21 18	30 27 24 21 18	650
600	20 18 15 12 9	27 24 21 18 15	27 24 21 18 15	27 24 21 18 15	27 24 21 18 15	27 24 21 18 15	27 24 21 18 15	27 24 21 18 15	27 24 21 18 15	600
550	17 15 12 9 6	24 21 18 15 12	24 21 18 15 12	24 21 18 15 12	24 21 18 15 12	24 21 18 15 12	24 21 18 15 12	24 21 18 15 12	24 21 18 15 12	550
500	14 12 9 6 3	21 18 15 12 9	21 18 15 12 9	21 18 15 12 9	21 18 15 12 9	21 18 15 12 9	21 18 15 12 9	21 18 15 12 9	21 18 15 12 9	500
450	11 9 6 3 0	18 15 12 9 6	18 15 12 9 6	18 15 12 9 6	18 15 12 9 6	18 15 12 9 6	18 15 12 9 6	18 15 12 9 6	18 15 12 9 6	450
400	8 6 3 0 -3	15 12 9 6 3	15 12 9 6 3	15 12 9 6 3	15 12 9 6 3	15 12 9 6 3	15 12 9 6 3	15 12 9 6 3	15 12 9 6 3	400
350	5 3 0 -3 -6	12 9 6 3 0	12 9 6 3 0	12 9 6 3 0	12 9 6 3 0	12 9 6 3 0	12 9 6 3 0	12 9 6 3 0	12 9 6 3 0	350
300	2 0 -3 -6 -9	9 6 3 0 -3	9 6 3 0 -3	9 6 3 0 -3	9 6 3 0 -3	9 6 3 0 -3	9 6 3 0 -3	9 6 3 0 -3	9 6 3 0 -3	300
250	-1 -3 -6 -9 -12	6 3 0 -3 -6	6 3 0 -3 -6	6 3 0 -3 -6	6 3 0 -3 -6	6 3 0 -3 -6	6 3 0 -3 -6	6 3 0 -3 -6	6 3 0 -3 -6	250
200	-4 -6 -9 -12 -15	3 0 -3 -6 -9	3 0 -3 -6 -9	3 0 -3 -6 -9	3 0 -3 -6 -9	3 0 -3 -6 -9	3 0 -3 -6 -9	3 0 -3 -6 -9	3 0 -3 -6 -9	200
170	-7 -9 -12 -15 -18	0 -3 -6 -9 -12	0 -3 -6 -9 -12	0 -3 -6 -9 -12	0 -3 -6 -9 -12	0 -3 -6 -9 -12	0 -3 -6 -9 -12	0 -3 -6 -9 -12	0 -3 -6 -9 -12	170
150	-10 -12 -15 -18 -21	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	-3 -6 -9 -12 -15	150
130	-13 -15 -18 -21 -24	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	-6 -9 -12 -15 -18	130
110	-16 -18 -21 -24 -27	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	-9 -12 -15 -18 -21	110
90	-19 -21 -24 -27 -30	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	-12 -15 -18 -21 -24	90
80	-22 -24 -27 -30 -33	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	-15 -18 -21 -24 -27	80
70	-25 -27 -30 -33 -36	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	-18 -21 -24 -27 -30	70
60	-28 -30 -33 -36 -39	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	-21 -24 -27 -30 -33	60
50	-31 -33 -36 -39 -42	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	-24 -27 -30 -33 -36	50
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30	-37 -39 -42 -45 -48	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	-30 -33 -36 -39 -42	30
20	-40 -42 -45 -48 -51	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	-33 -36 -39 -42 -45	20
10	-43 -45 -48 -51 -54	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	-36 -39 -42 -45 -48	10
0	-46 -48 -51 -54 -57	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	-39 -42 -45 -48 -51	0
Surf	02.7 01.7 30.0 45.0 61.0	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	00.4 01.6 27.1 42.5 58.7	Surf
1000	01.7 41 30.0 45.0 61.0	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	01.6 48 33 48 64	1000
950	41 38 35 33 30	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	48 45 42 40 37	950
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800	32 30 27 24 21	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	39 36 33 30 27	800
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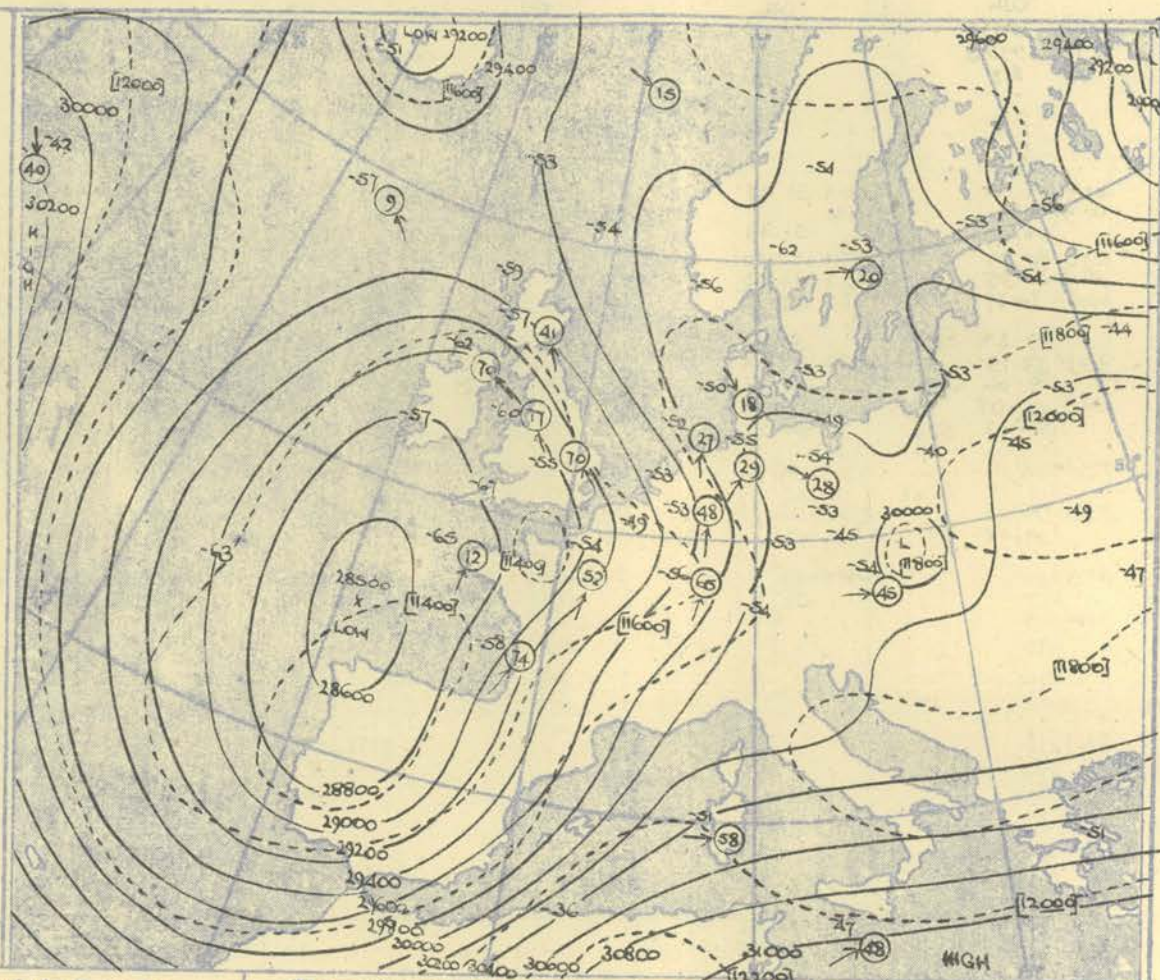
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



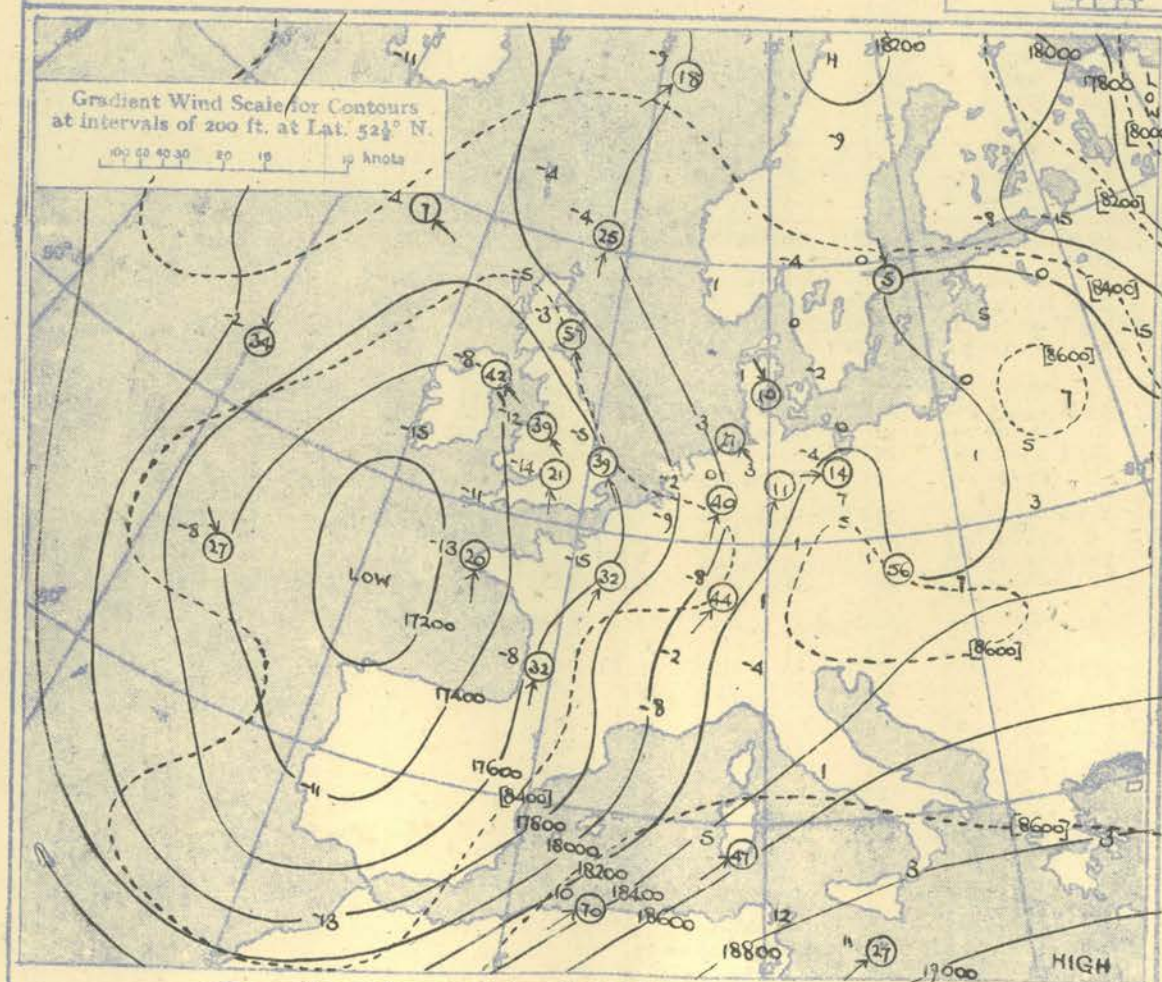
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N

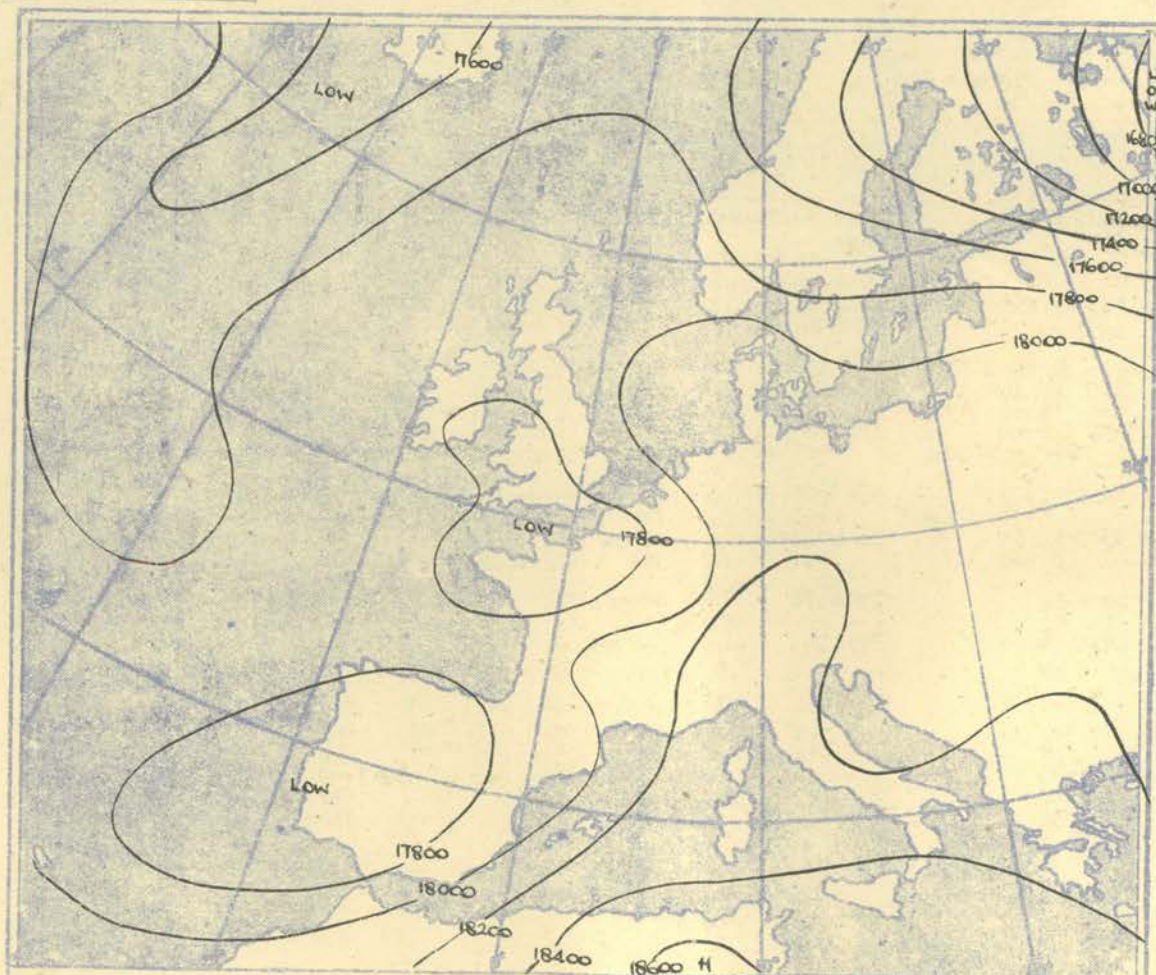
100 80 60 40 20 10 knots



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-300 mb.



Isopleths of Thickness 300-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

5272 H 02-12 W																											
Pressure mb	Time M.S.L. Surf Forecast	1420 L																					Time M.S.L. Surf Forecast	Remarks			
		994 mb			mb			mb			mb			mb			mb			mb							
		992.5 mb			mb			mb			mb			mb			mb			mb							
		790 mb			mb			mb			mb			mb			mb			mb							
Pressure mb	Height ft./100	Temp.	Dew	Height ft./100	Temp.	Dew	Height ft./100	Temp.	Dew	Height ft./100	Temp.	Dew	Height ft./100	Temp.	Dew	Height ft./100	Temp.	Dew	Height ft./100	Temp.	Dew	Pressure mb					
Surf	4																					Surf					
1000	-01.7																					1000					
950																						950					
900	27.1	44	43																			900					
850	42.4	40	32																			850					
800	58.5	33	25																			800					
750																						750					
700	93.3	22	12																			700					
650																						650					
600	132.3	06	-01																			600					
550																						550					
500	176.9	-11																				500					
450																						450					
400	238.9	-32																				400					
350																						350					
300	292.3	-62																				300					
250																						250					
200																						200					
170																						170					
Cloud.																											
7/8 - 6/8 Sc																											
920-900 mb																											
5/8 - 6/8 Cb																											
440-295 mb.																											

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

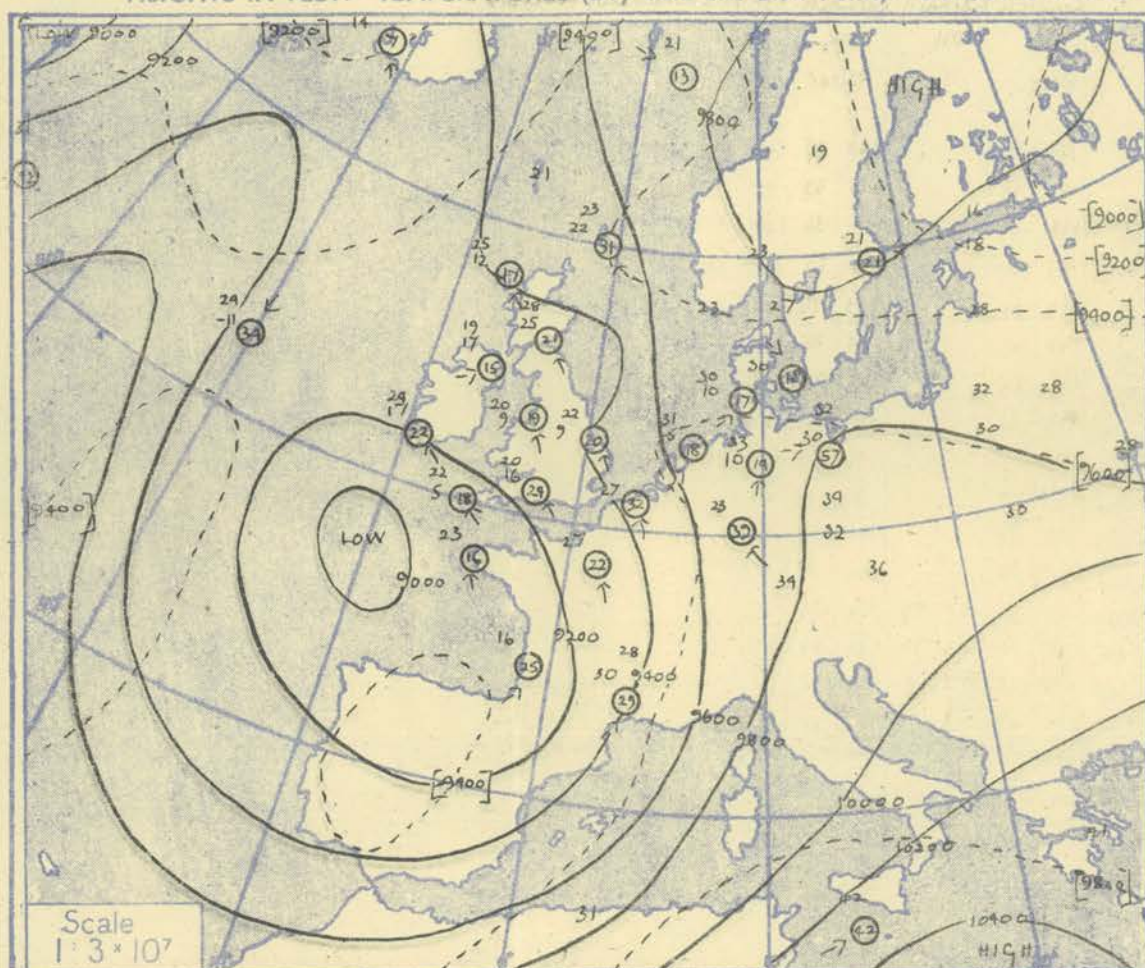
[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

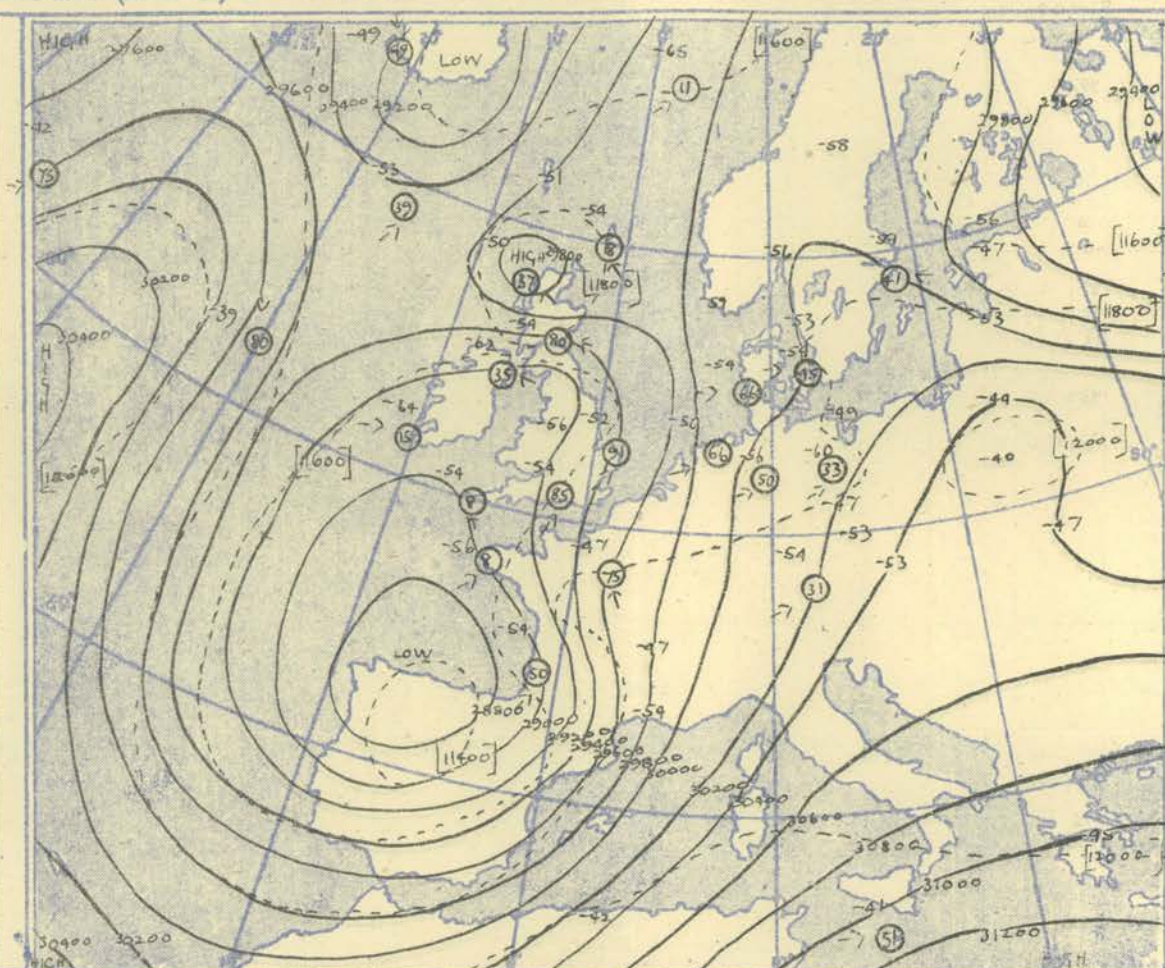
[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

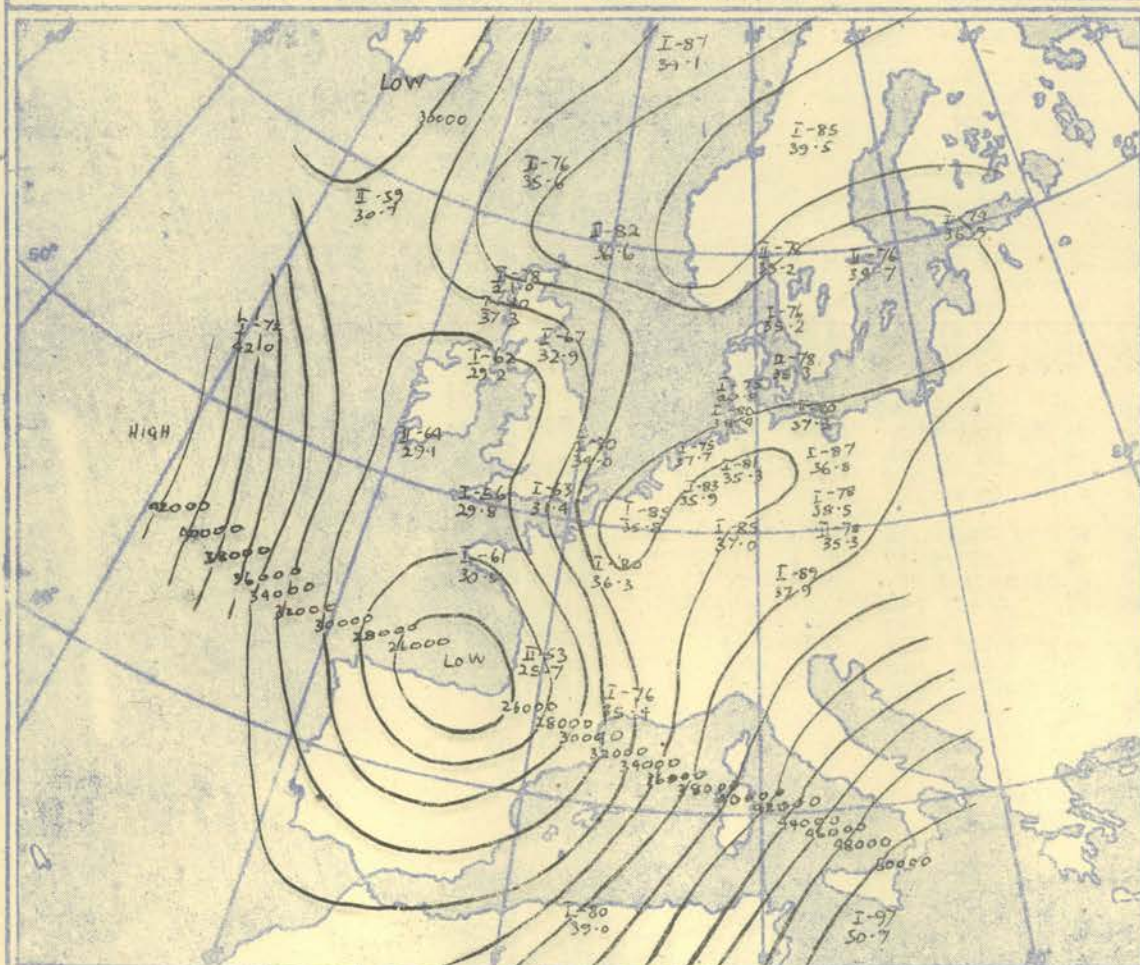


The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N

100	80	60	40	20	10	0	10	20	30	40	50	60	80	100
-----	----	----	----	----	----	---	----	----	----	----	----	----	----	-----

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

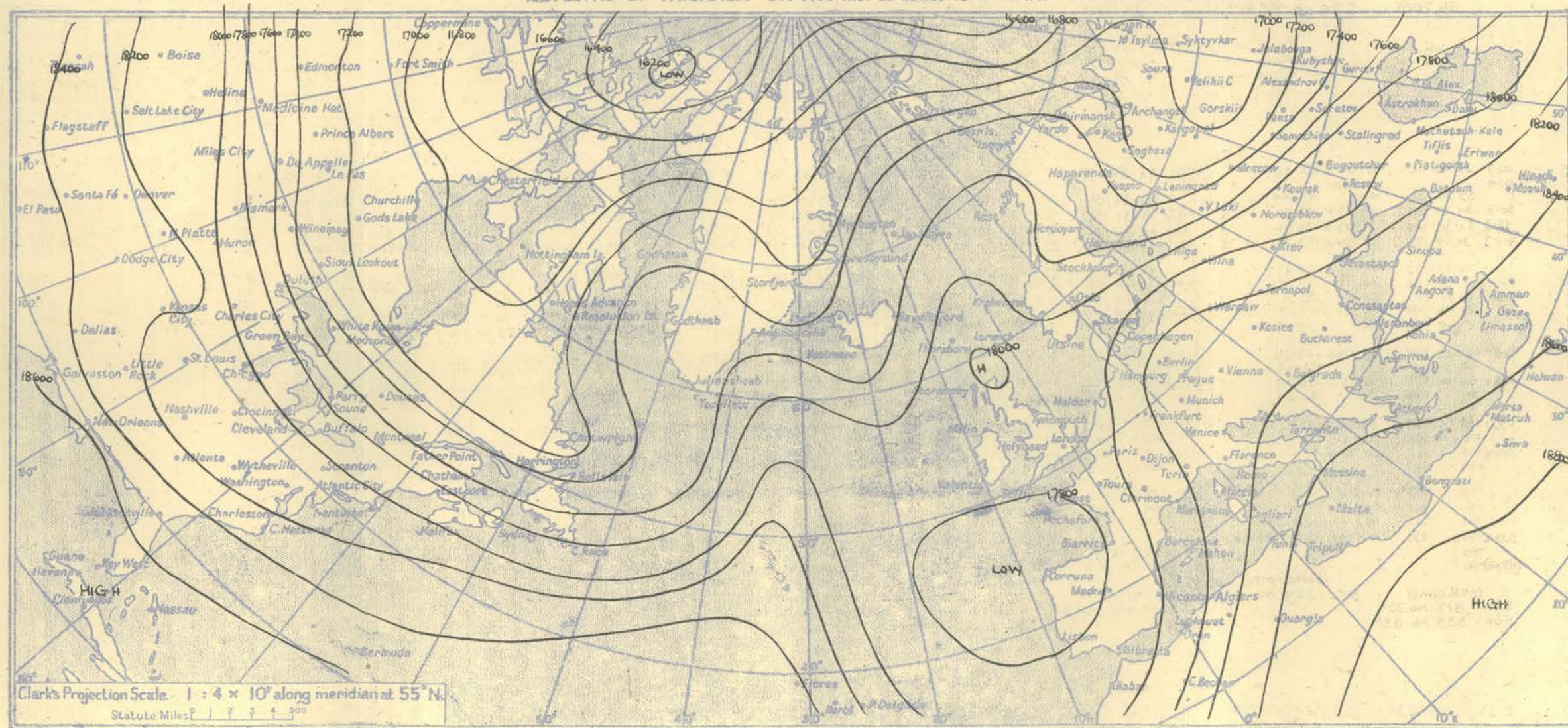
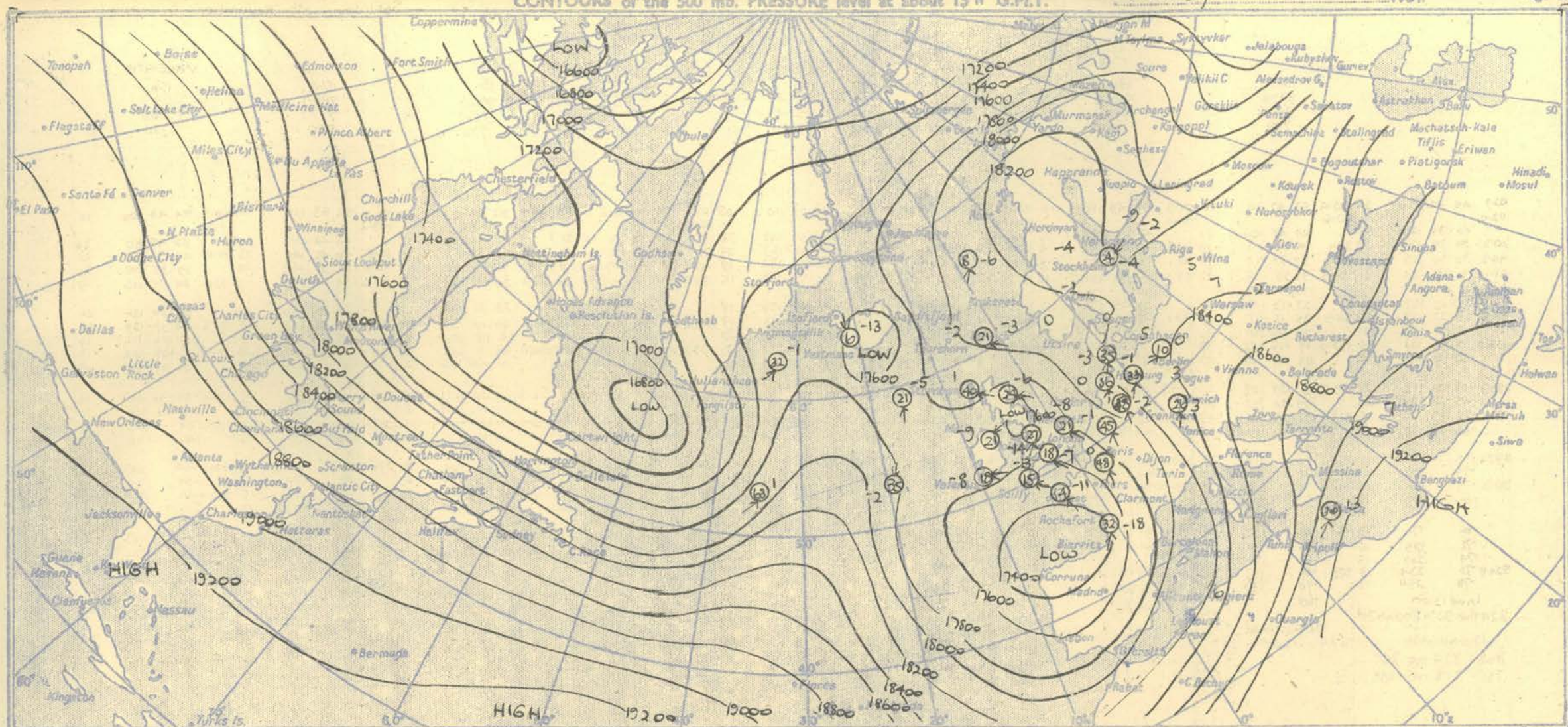
### NOTES ON THE AEROLOGICAL SITUATION.

Little of note.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION											
Time M.S.L. Surf Pressure	Time M.S.L. Surf Pressure	15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		Time M.S.L. Surf Pressure															
		1007.4	mb	997.8	mb	993.8	mb	993.6	mb	994.4	mb	996.3	mb	992.3	mb	988.1	mb	988	mb																														
		997.3	mb	996.2	mb	993.0	mb	992.4	mb	992.0	mb	992.0	mb	992.3	mb	977.7	mb	977.7	mb																														
883		883		789		790		800		784		774		774		780		770																															
Pressure mb	Height ft./100	Temp. °F.	Dew. °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew. °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew. °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew. °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew. °F.	Wind Dir.	Vel. knots	Height ft./100	Temp. °F.	Dew. °F.	Wind Dir.	Vel. knots	Pressure mb																		
Surf	02.7	45	42	120	24	00.4	53	47	110	15	00.2	51	49	180	10	02.5	54	50	CALM	00.6	53	49	110	05	01.2	54	49	095	08	04.4	52	49	120	08	02.9	55	53	120	18	00.3	54	48	100	11	Surf				
1000	02.0	40	39	125	35	00.6	49	43	106	27	01.7	47	44	172	15	01.8	45	45	157	07	01.5	48	39	142	16	01.0	50	42	115	21	02.1	49	46	120	16	03.4	52	49	138	24	00.3	54	48	100	11	1000			
950	30.2	34	34	124	33	28.1	44	38	111	28	26.8	43	42	166	18	27.0	45	39	185	09	27.2	47	32	153	23	27.8	48	37	135	22	26.6	47	38	134	15	25.5	46	42	145	23	25.8	44	41	112	24	950			
900	45.2	30	30	123	31	43.3	39	33	114	27	42.1	38	36	153	18	42.2	39	33	201	11	42.4	40	34	152	19	43.1	41	32	142	19	42.1	42	33	158	19	40.9	41	31	149	26	39.3	35	115	30	900				
850	61.1	31	31	124	31	59.5	33	28	115	22	58.2	33	31	151	16	58.3	32	24	204	11	58.7	34	21	152	15	59.3	35	24	144	13	58.2	36	22	157	21	57.0	34	20	147	19	57.2	34	31	116	29	850			
800																																												800					
750	27	27	127	34		27	23	115	19		28	25	137	17		27	20	202	12		27	14	155	15		29	16	146	14		28	22	155	23		28	13	146	20		30	26	126	26	750				
700	95.8	23	22	129	31	94.3	25	121	11	17	93.1	28	25	118	21	93.0	19	17	195	15	93.5	20	09	163	19	94.2	22	09	151	20	93.1	20	16	153	24	91.8	22	05	142	18	92.2	24	17	129	22	700			
650	15	01	133	18		22	06	101	36		18	14	110	23		18	03	183	13		18	03	183	13		15	01	160	25		12	08	145	28		15	04	136	17		17	26	112	19	650				
600	135.0	12	16	127	15	133.9	17	15	102	37	132.6	11	04	108	26	131.8	04	02	098	09	132.1	02	11	160	32	133.2	08	01	155	27	132.0	08	01	140	28	130.8	07	09	127	20	131.4	12	15	104	17	600			
550	07	18	120	12		09	27	108	42		02	06	104	25		00	03	072	09		05	19	169	27		00	13	152	24		01	06	135	22		03	116	123	19		02	17	093	15	550				
500	180.3	03	22	112	21	179.5	01	29	109	40		17.5	06	113	100	24	176.4	09	12	061	21		176.2	14	27	188	27		178.0	08	17	162	21	176.8	07	14	140	18	175.2	13	28	131	15	176.4	08	30	090	18	500
450	233.1	26	33	124	18	233.1	21	35	125	45		230.1	28	42	095	55	228.6	33	38	078	37		227.8	39	49	189	35		230.6	26	32	181	54	229.4	28	33	167	44	227.0	35	49	126	15	228.6	34	41	109	11	450
400	40	45	138	17		34	46	112	34		40	50	092	75		37		087	47		37		087	47		38		183	72		40	46	171	66		40	46	171	66		48	031	13	400					
350																																															350		
300	297.4	55	52	18	299.2	50	117	37	294.4	54	996	80	291.8	62	094	35	290.8	56		295.1	52	185	91	293.7	54	167	85	290.4	54	142	08	291.5	64	043	15	300													
250	73	152	22		69	44	119	44	380.4	58	111	25	377.8	61	115	12				380.5	60	170	30	380.4	55	175	27	377.5	57	171	15	378.4	54	023	19	250													
200	261.2	73	152	15	66	126	18																																						200				
170	76	199	15		66	126	18																																						170				
150																																															150		
130																																																	



## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

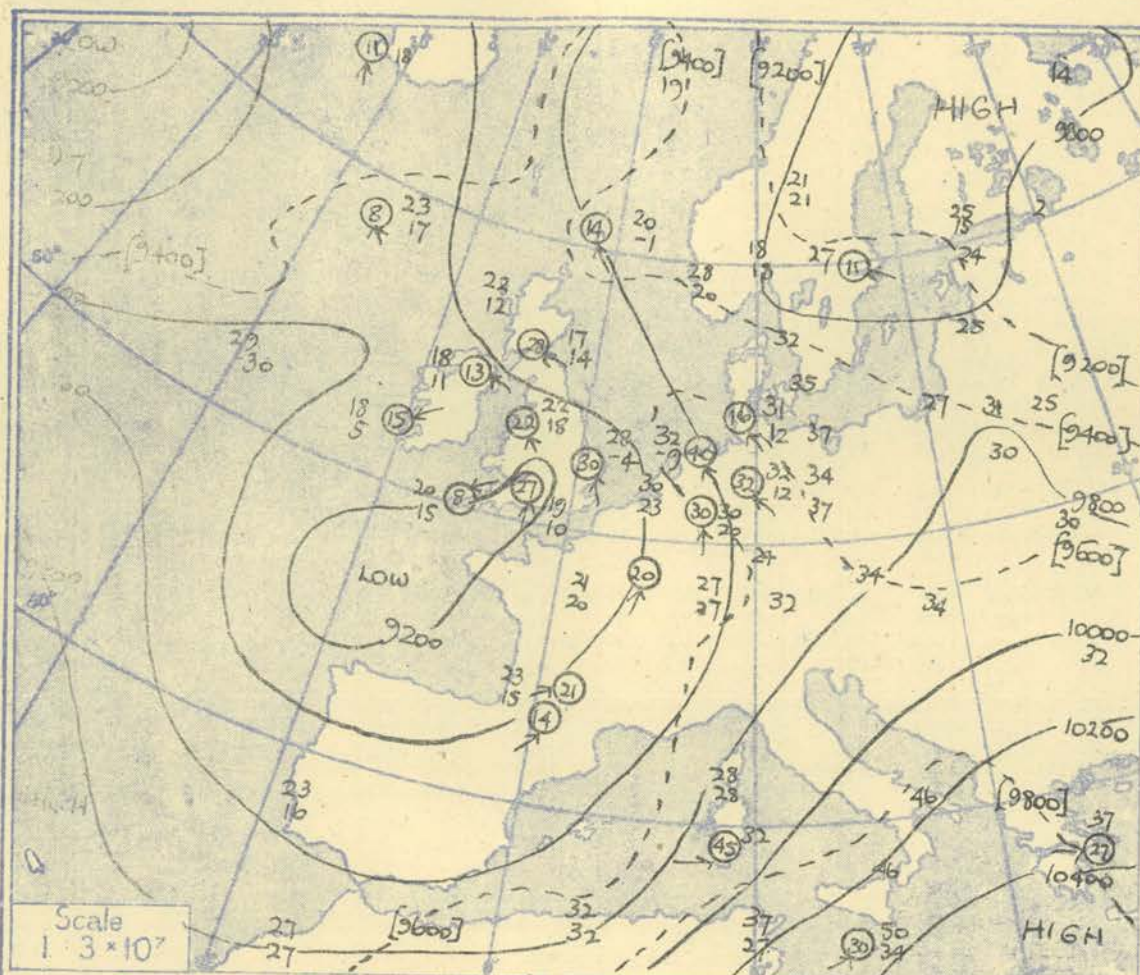
RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

METEOROLOGICAL

VALERIE L.



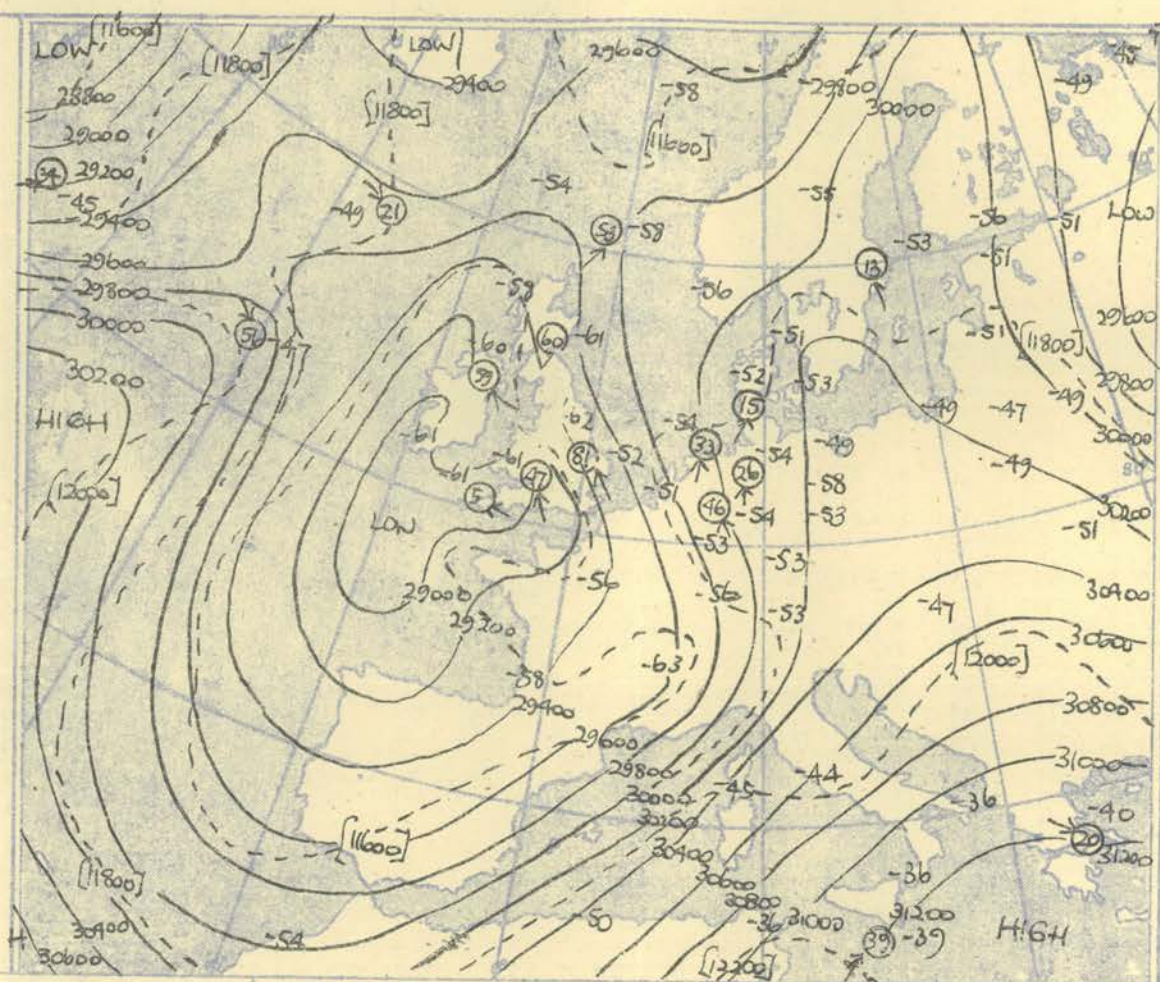
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (In knots) OF WINDS at the 700 mb. 500 mb. and 300 mb. levels at about 03h G.M.T.



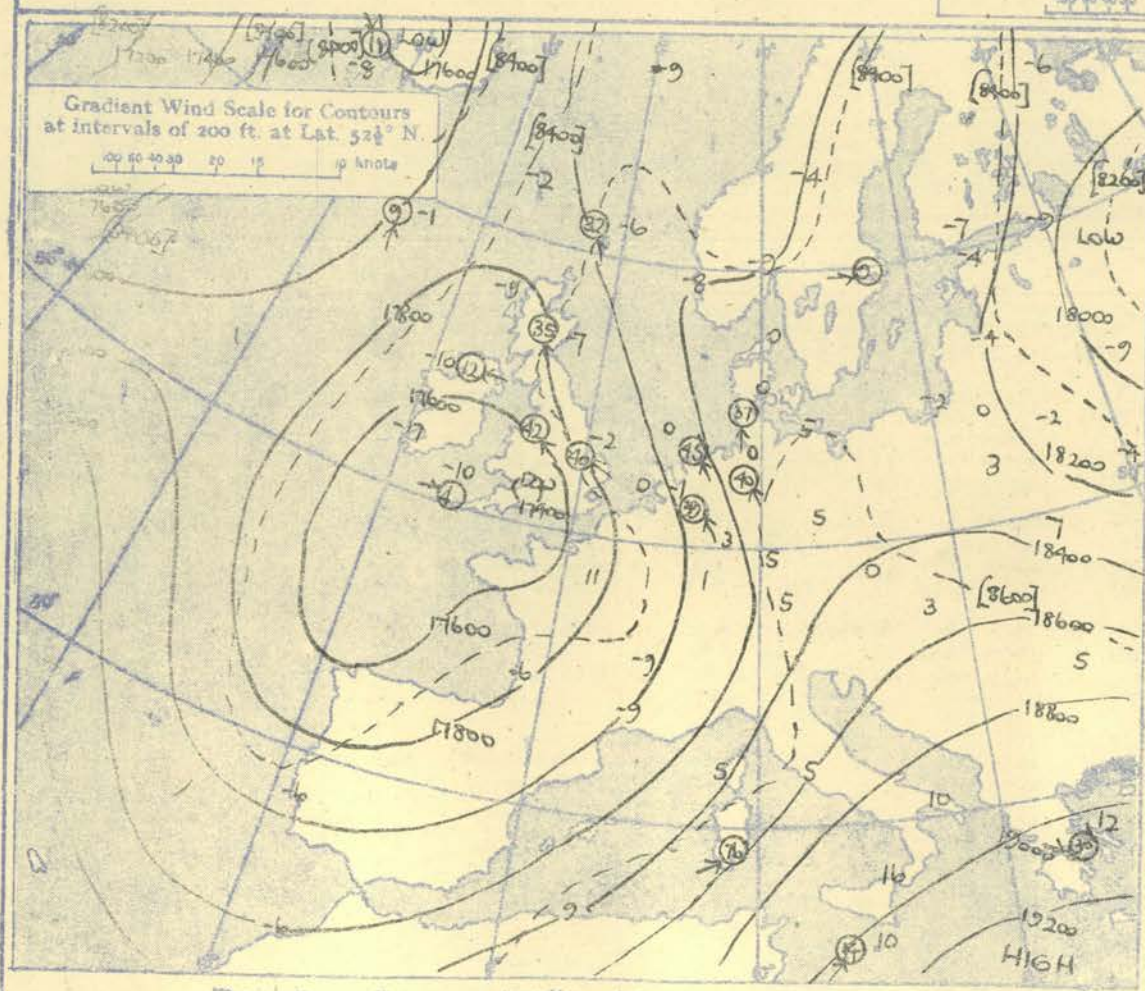
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N

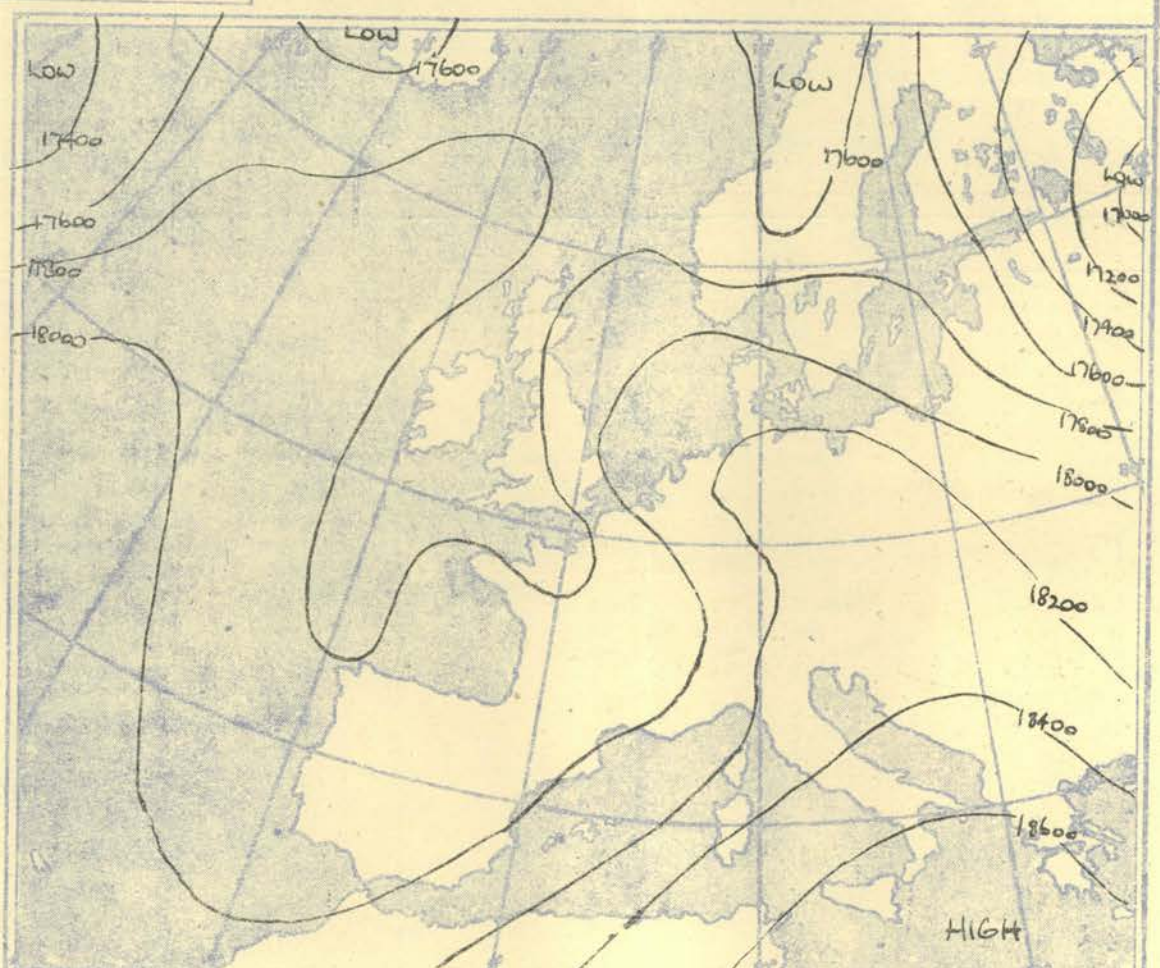
100 80 60 40 20 10 0 10 20 30 40 50 60 70 80 90 100



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 800-1000mb.

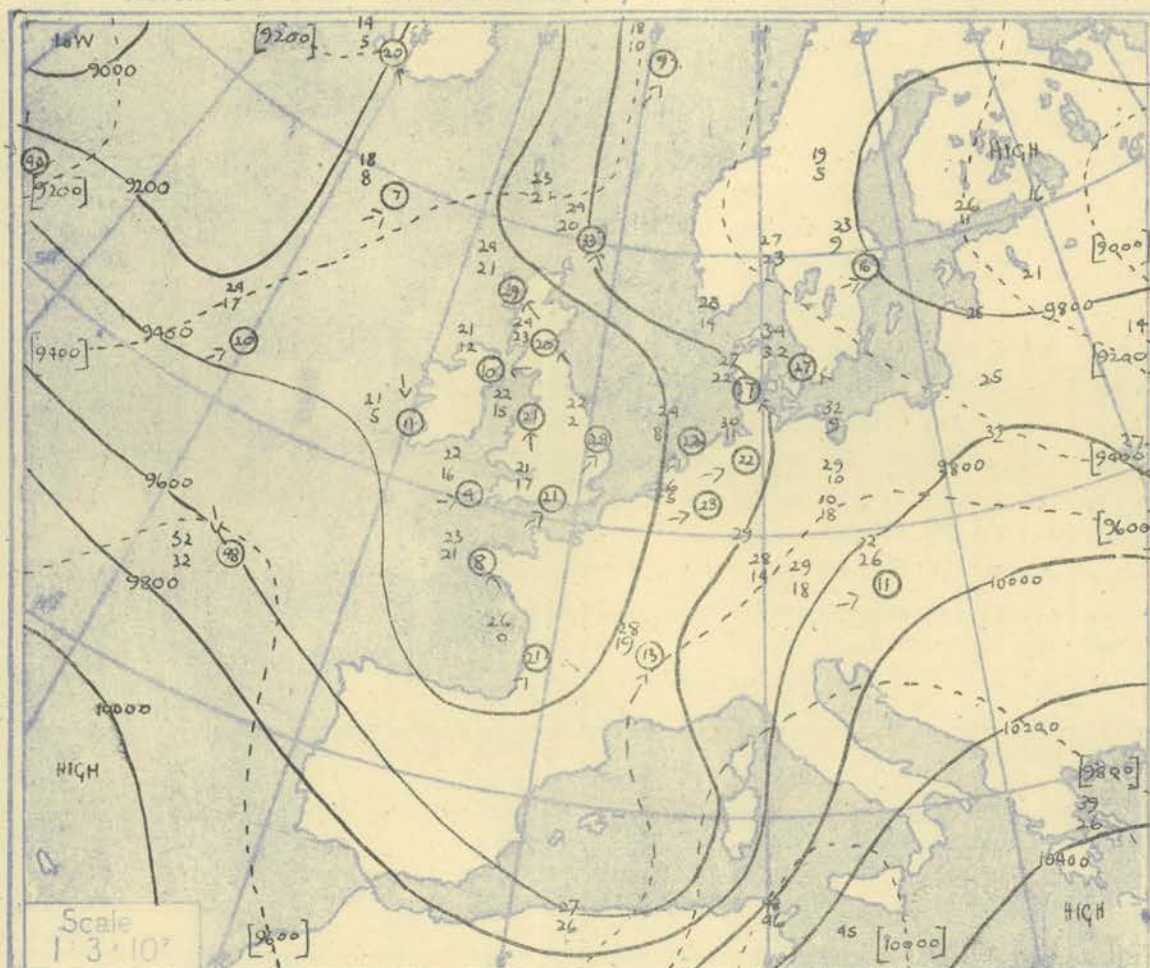


## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

NEPHOSCOPE OBSERVATIONS[illegible]



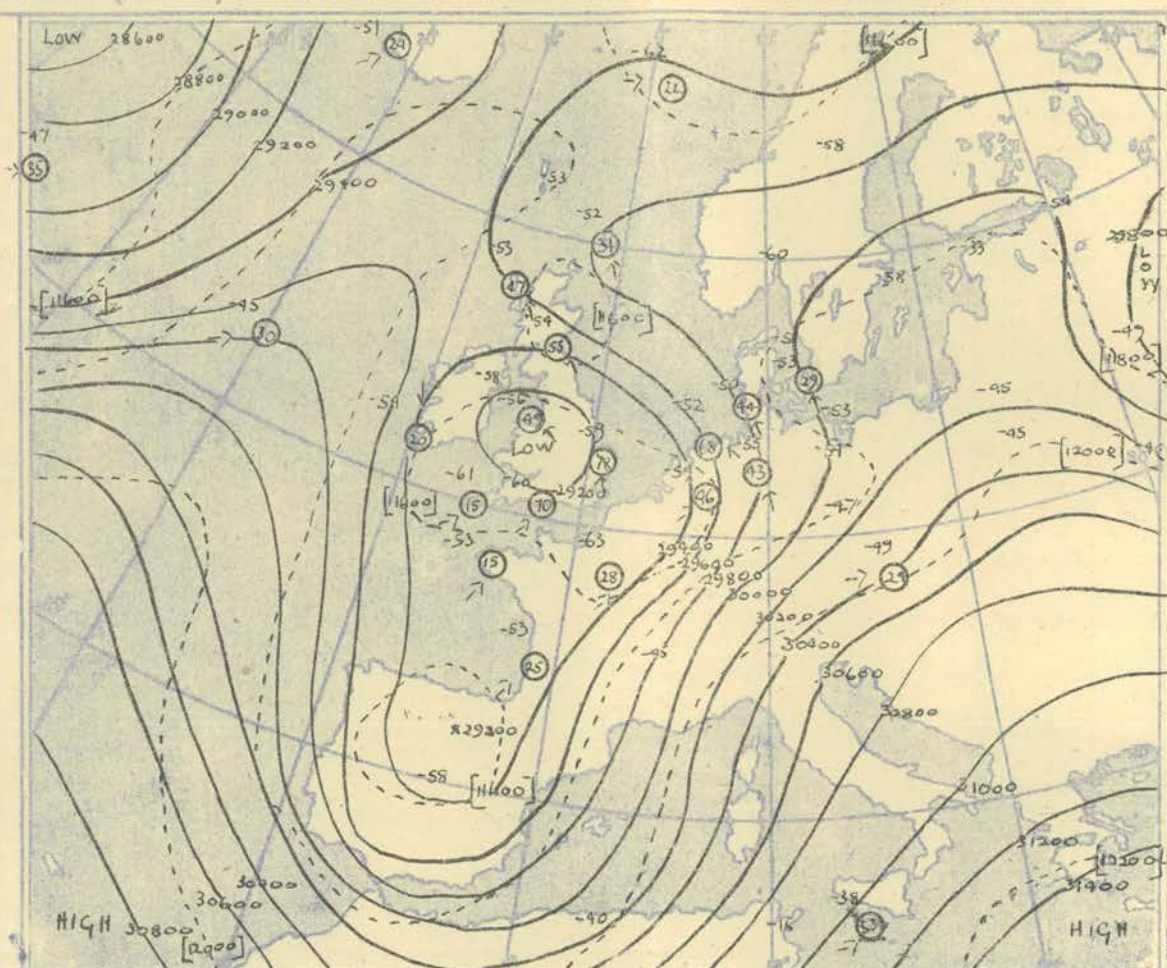
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

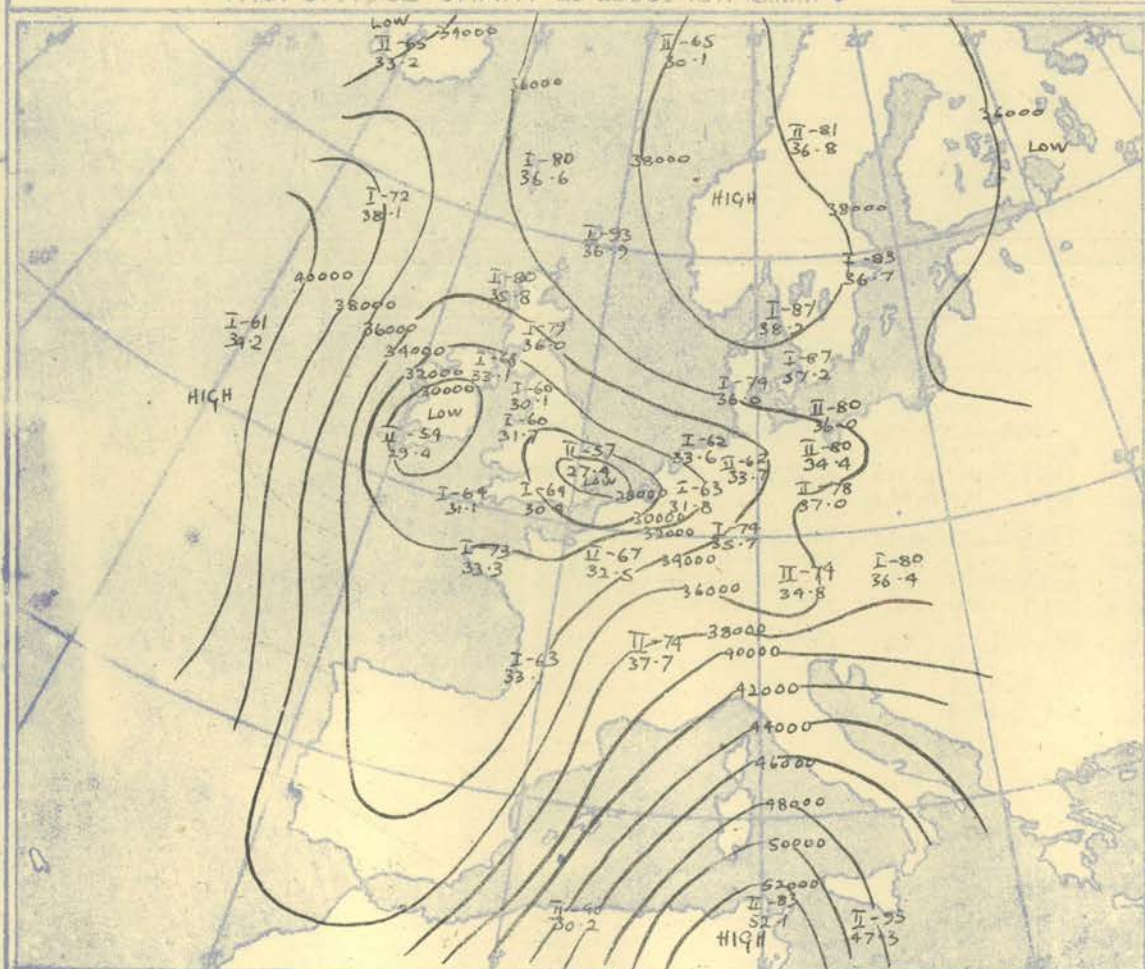
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

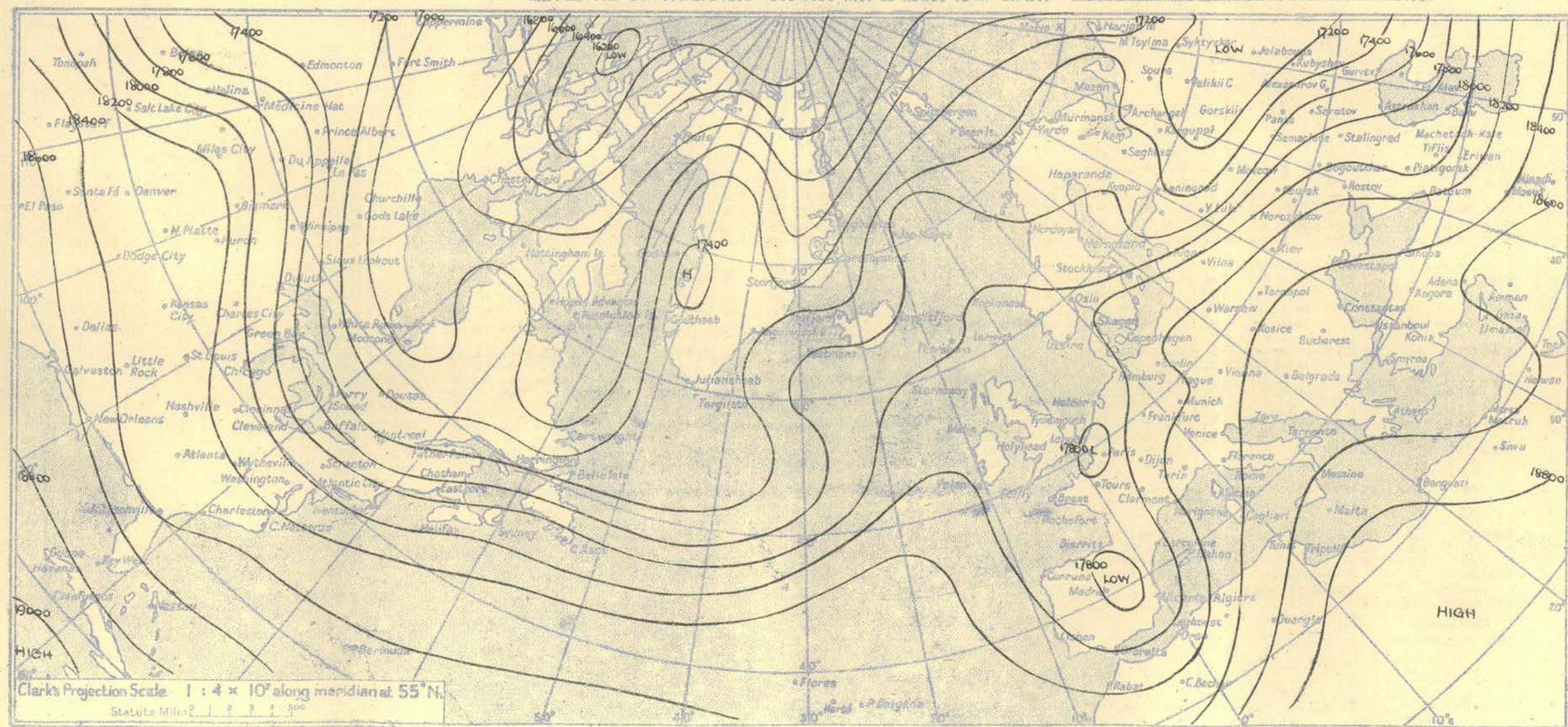
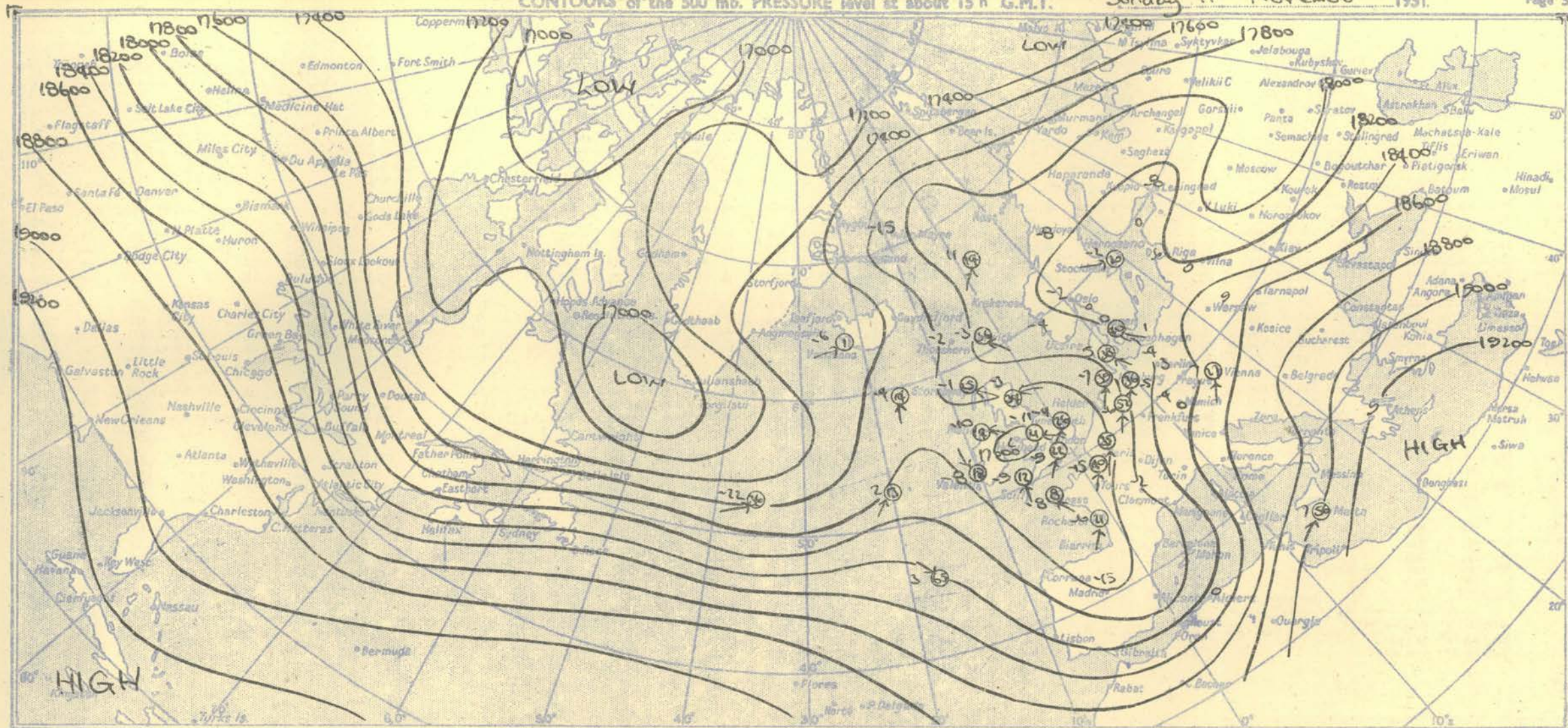
### NOTES ON THE AEROLOGICAL SITUATION.

Development of strong thermal gradient over southwest Russia.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

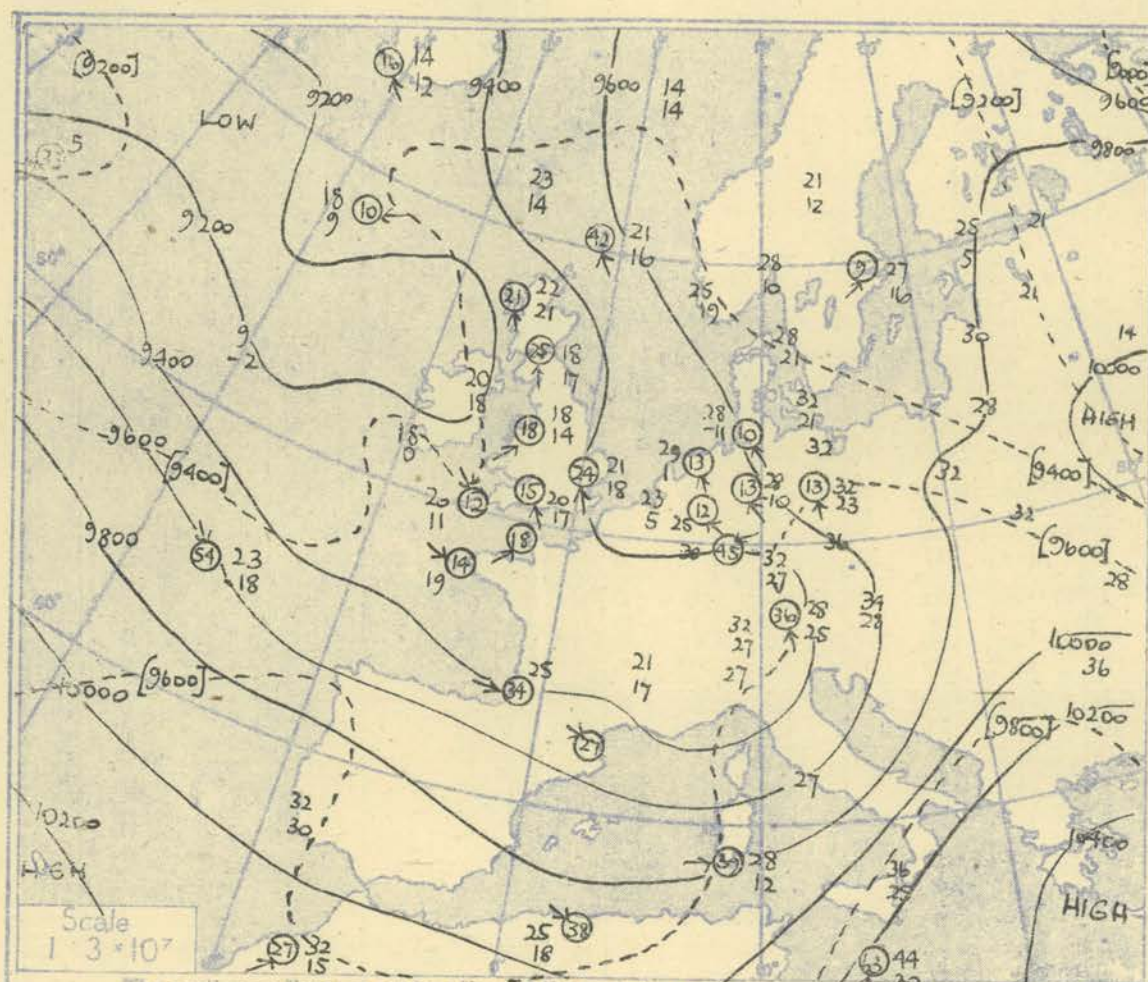
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION										
Pressure mb	Time M.S.L. Surf Forecasting	15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		15h.		G.M.T.		Time M.S.L. Surf Forecasting														
		1008.0	mb	997.9	mb	998.8	mb	997.2	mb	996.4	mb	995.4	mb	993.0	mb	984.0	mb	990.9	mb	988.9	mb	995.6	mb	991.2	mb	994.8	mb	979.0	mb	993.8	mb	983.5	mb	994	mb	790	mb											
		770	mb	810	mb	800	mb	810	mb	800	mb	810	mb	800	mb	812	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb													
Pressure mb	Height ft/100	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Pressure mb														
Surf	02.7	45	39	120	22	00.4	51	48	100	10	00.2	50	49	130	18	02.5	50	47	340	08	00.6	50	46	150	10	01.2	55	47	180	08	04.4	52	46	190	12	02.9	56	45	CALM	00.3	48	47	330	05	Surf			
1000	01.1					00.4					00.2					01.9					00.6						01.2					04.4					01.7					01.1				1000		
950		39	35	127	29		47	44	103	27		46	45	103	27		46	43	356	12		45	44	164	16		50	44	181	15		48	43			51	42	234	04		50	45	338	03	950			
900	30.2	33	29	126	30	28.2	43	39	118	24	27.5	42	42	113	28	26.4	41	37	006	13	25.9	40	39	178	16	27.5	43	39	191	21	27.1	42	35			27.1	46	41	296	05	27.5	46	35	350	06	900		
850	45.2	32	28	127	33	43.5	37	33	119	23	42.7	37	37	115	21	41.8	36	31	023	17	41.2	35	35	180	17	42.7	38	31	207	25	42.3	37	31			42.4	38	33	324	05	42.7	42	27	002	07	850		
800	61.3	34	30	140	39	59.5	31	28	116	25	58.8	32	32	116	19	57.9	31	26	026	17	57.2	32	29	176	18	58.8	30	24	207	27	58.4	32	28			58.5	32	28	329	05	59.6	34	19	005	10	800		
750		31	21	154	30		28	27	118	26		28	28	116	20		28	28	116	11		28	22	171	19		29	17	199	27		27	33	For Winds See Page 3.					28	21	304	03		27	12	333	11	750
700	96.3	24	20	155	33	94.3	24	21	118	29	93.6	24	23	115	20	92.6	21	12	070	10	92.0	22	15	168	21	93.6	22	02	195	24	93.1	21	17						22	16	242	04	93.7	21	05	328	11	700
650		19	14	152	31		19	17	120	28		20	19	114	20		17	06	091	10		15	06	167	23		14	01	199	21		14	10						14	00	235	06		15	02	333	13	650
600	135.6	10	07	143	28	133.7	14	10	120	29	133.0	12	10	115	19	131.7	10	09	097	14	131.0	09	03	151	20	132.6	06	05	200	27	132.1	08	01						08	09	237	05	132.7	06	02	331	16	600
550		05	01	143	36		07	01	121	25		03	00	115	25		00	088	14		00	00	134	21		00	02	199	28		01	08						01	00	212	07		09	02	352	16	550	
500	180.7	03	09	145	36	179.1	01	07	124	24	178.0	07	12	120	34	176.3	10	05	095	14	175.6	11	02	130	21	177.2	11	02	194	26	176.7	09	02												500			
450		13	19	153	31		12	18	134	18		14	19	129	32		12	043	107	27		12	04	138	20		12	04	190	23		12	04												450			
400	233.8	25	30	162	31	232.3	25	30	131	30	230.9	25	31	122	42	228.6	24	48	105	43	227.6	24	52	129	28	229.2	24	54	198	26	228.8	24	50													400		
350		39	44	166	30		39	44	147	36		38	44	123	52		43	104	57			43	109	52			50		198	29		48	50													350		
300	292.1	57		170	31	291.7	53		149	47	291.4	54		129	53	292.4	58			291.3	56		116	49	292.0	59		171	28	292.0	60																	300
250		83		180	36		72		152	53		74		127	76		68				291.3	56		128	22		156	22		156	22																	250
200	380.0	92		181	28	381.0	71		153	13	378.1	69		117	20	378.2	64			(2126)	59					378.4	57		168	20	378.5	56													200			
170		85		185	15		67		144	08		64		128	10		63													179	20		57											170				
150		84		194	12	441.1	66		163	04	440.1	62		136	09		61													180	19	440.3	60												150			
130		82		206	09		67		180	06		64		136	08		65														177	13		60										130				
110		85		215	14		71		205	06						69															179	10													110			
100	518.6	86		229	18	525.7	73									72															181	11													100			
90		88		243	18											78															188	13													90			
80	(84mb)	88														78															213	13													80			
70																															212	12														70		
60																																															60	
Tropopause		II 212 mb -93° 36,900'				I 224 mb -80° 35,800'				I 222 mb -79° 36,000'				I 250 mb -68° 33,100'				I 286 mb -60° 30,600'				I 326 mb -57° 27,400'				I 283 mb -64° 30,400'				I 273 mb -64° 31,100'				II 300 mb -54° 29,400'				Tropopause										
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION										
Pressure mb	Time M.S.L. Surf Forecasting	21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		21h.		G.M.T.		Time M.S.L. Surf Forecasting														
		1007.0	mb	996.9	mb	996.4	mb	994.2	mb	995.2	mb	994.2	mb	993.0	mb	982.7	mb	990.2	mb	989.2	mb	997.6	mb	993.1	mb	995.8	mb	980.0	mb	984.7	mb	995.0	mb	984.7	mb	994	mb	790	mb									
		777	mb	810	mb	800	mb	810	mb	800	mb	810	mb	800	mb	810	mb	800	mb	810	mb	800	mb	810	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb	800	mb							
Pressure mb	Height ft/100	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Temp. °F	Dew °F	Wind Dir. °	Wind Vel. knots	Pressure mb														
Surf	02.7	45	41	120	23	00.4	47	42	100	18	00.2	49																																				



RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Pressure	Time M.S.L.	Surf	Freezing	03L		G.M.T.		03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	Time M.S.L.	Surf	Freezing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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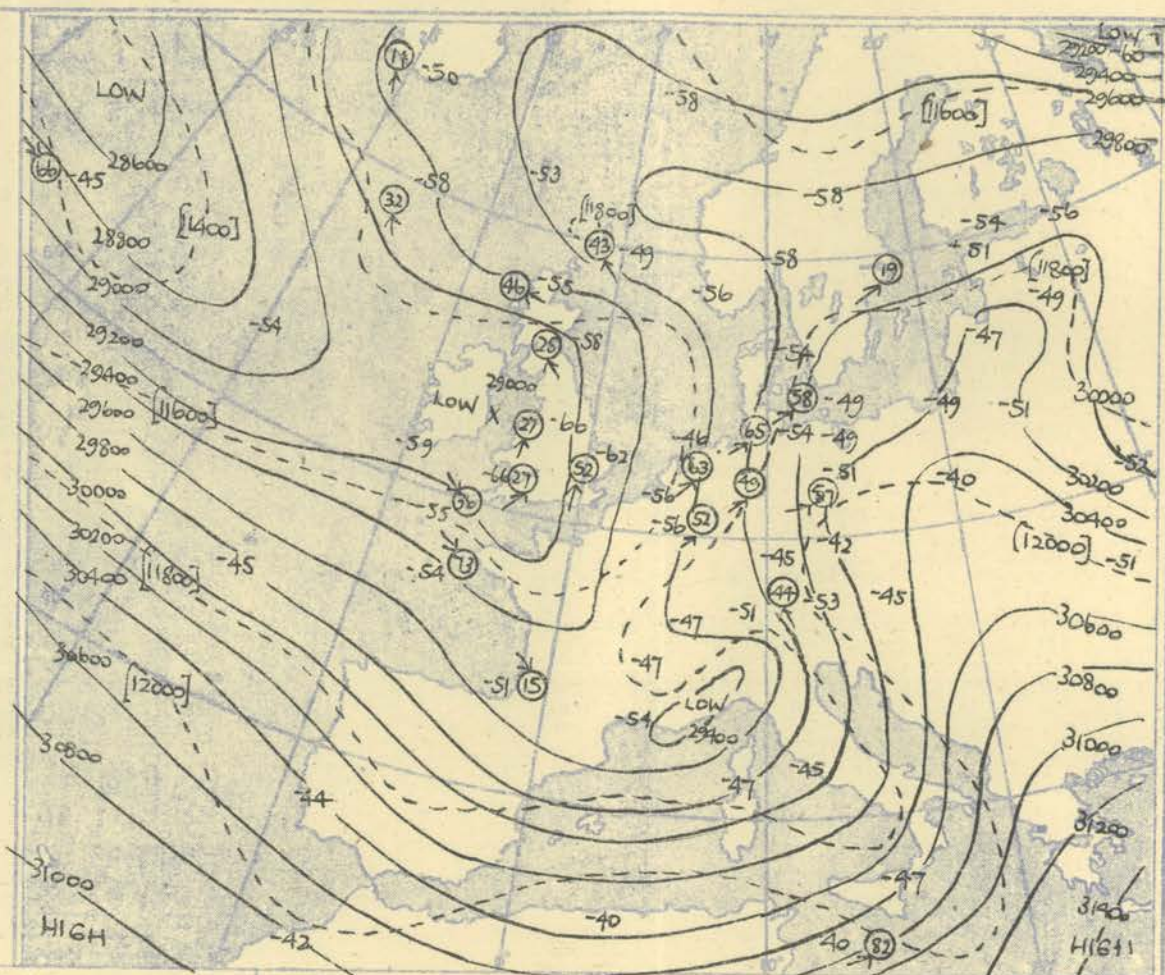


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

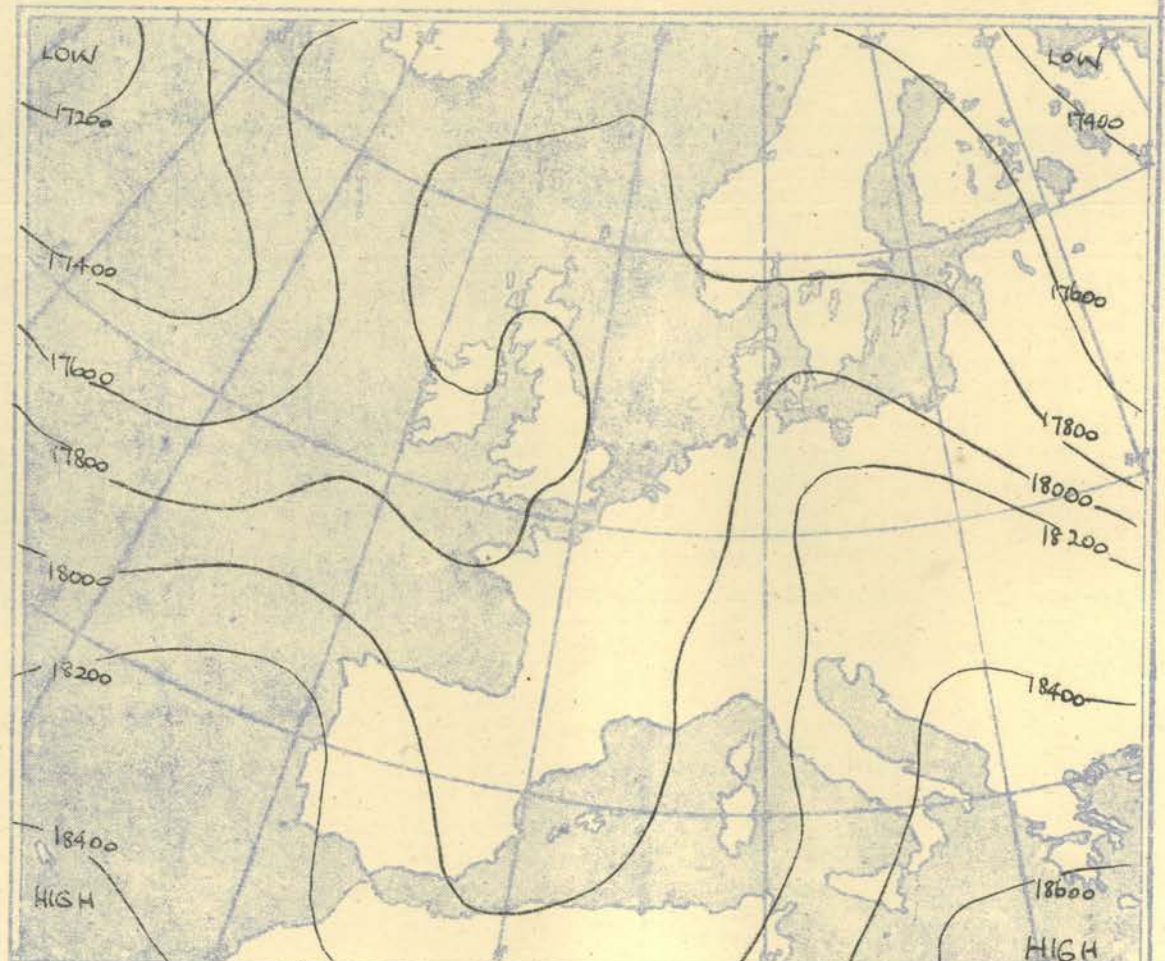
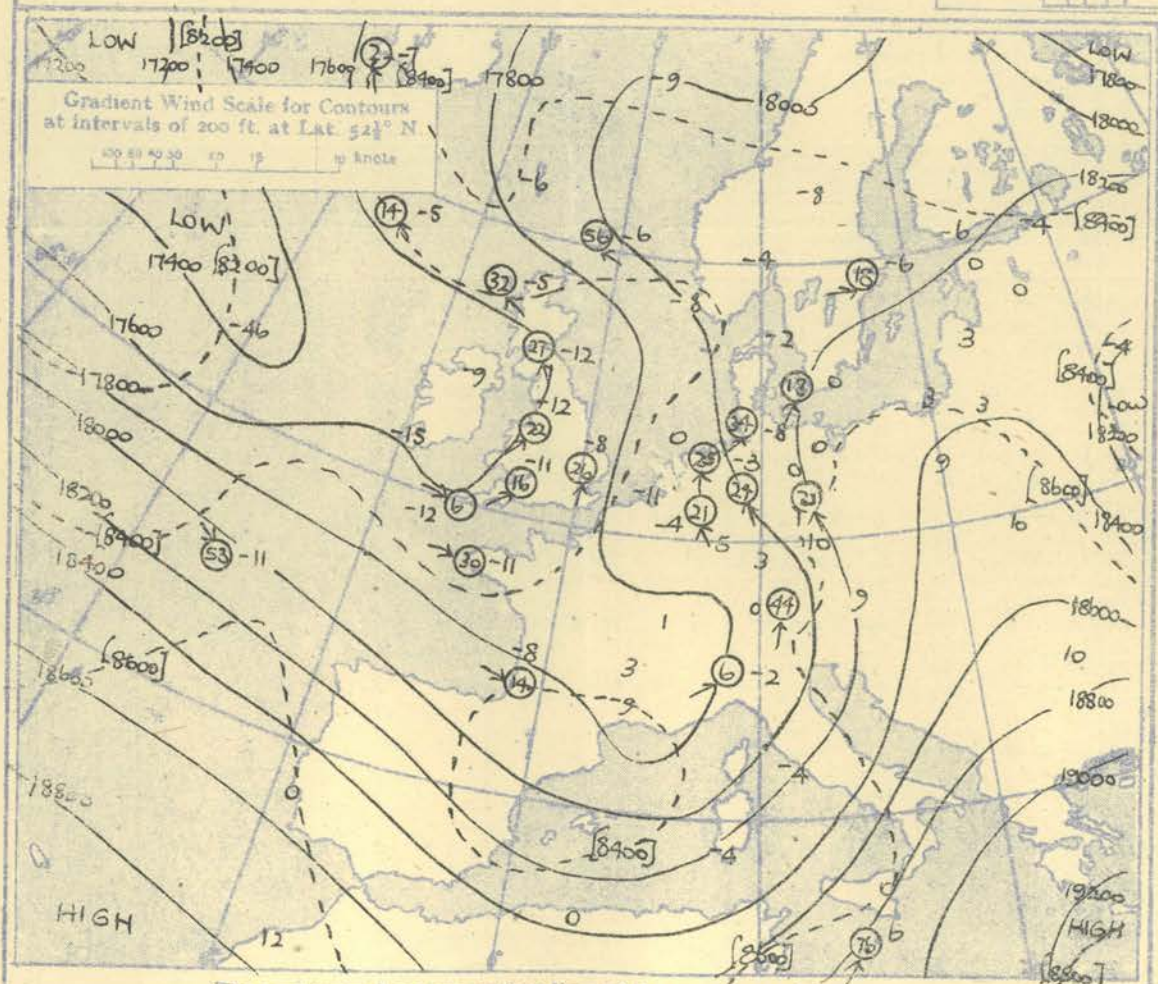


Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N

100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



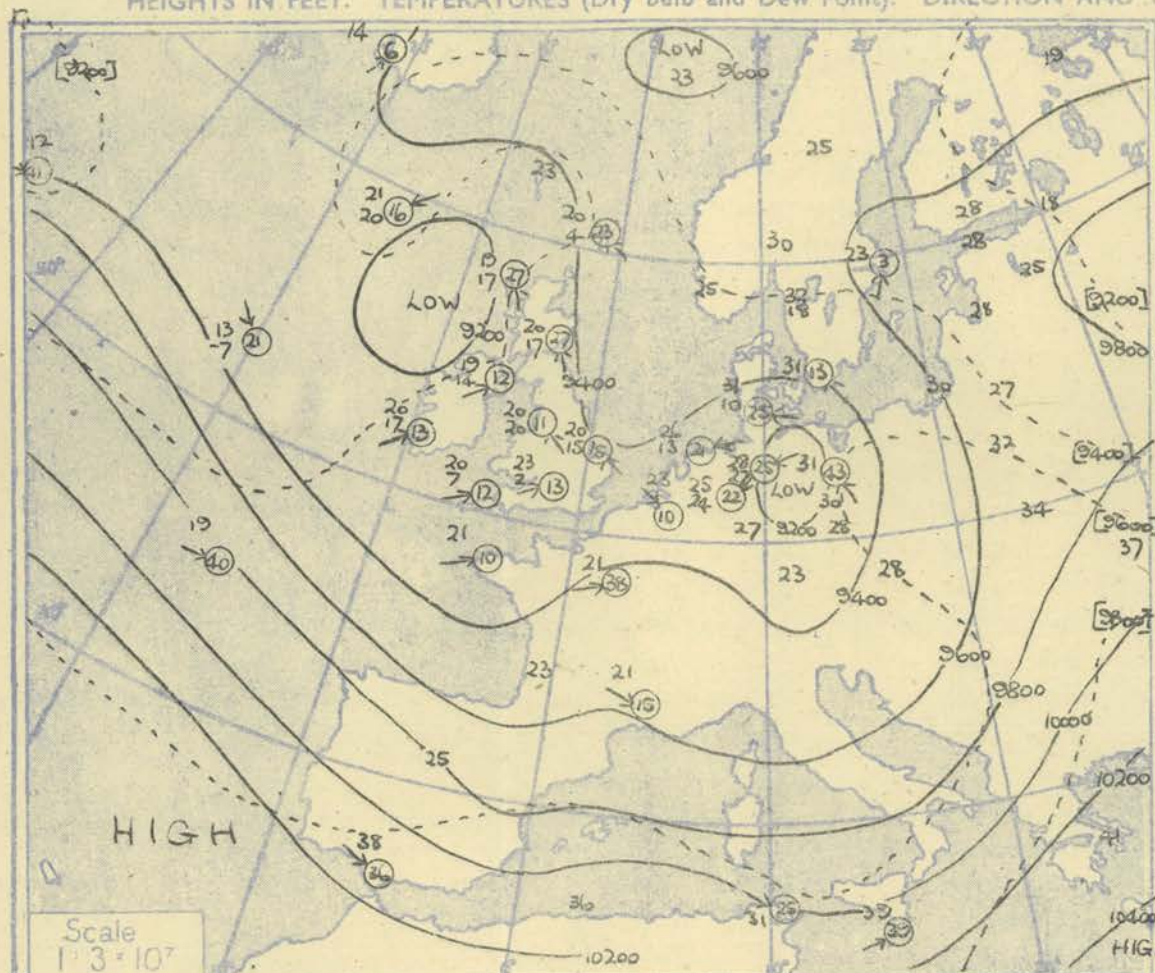


## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS[illegible]



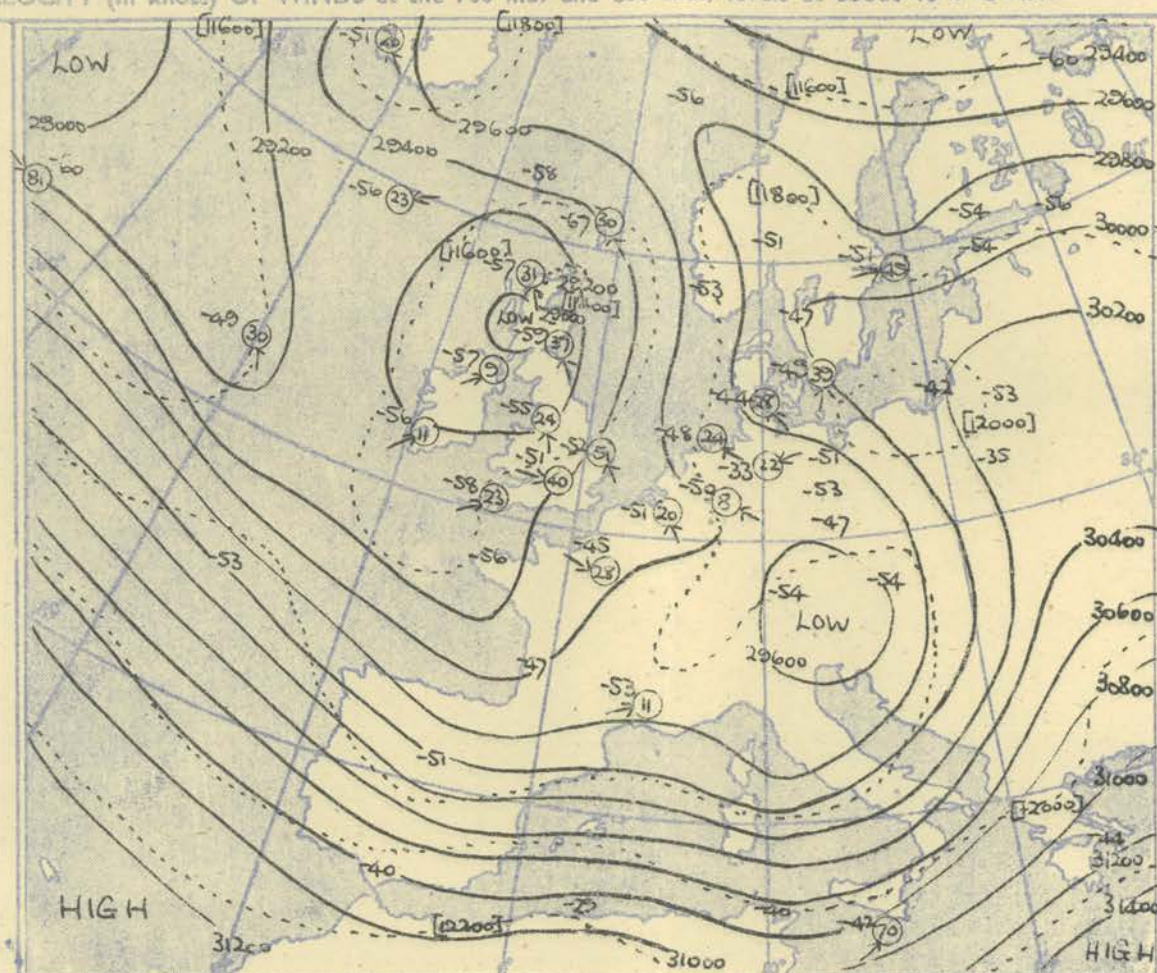
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.

Scale  
1:3 x 10^7

The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 1000-700 mb.

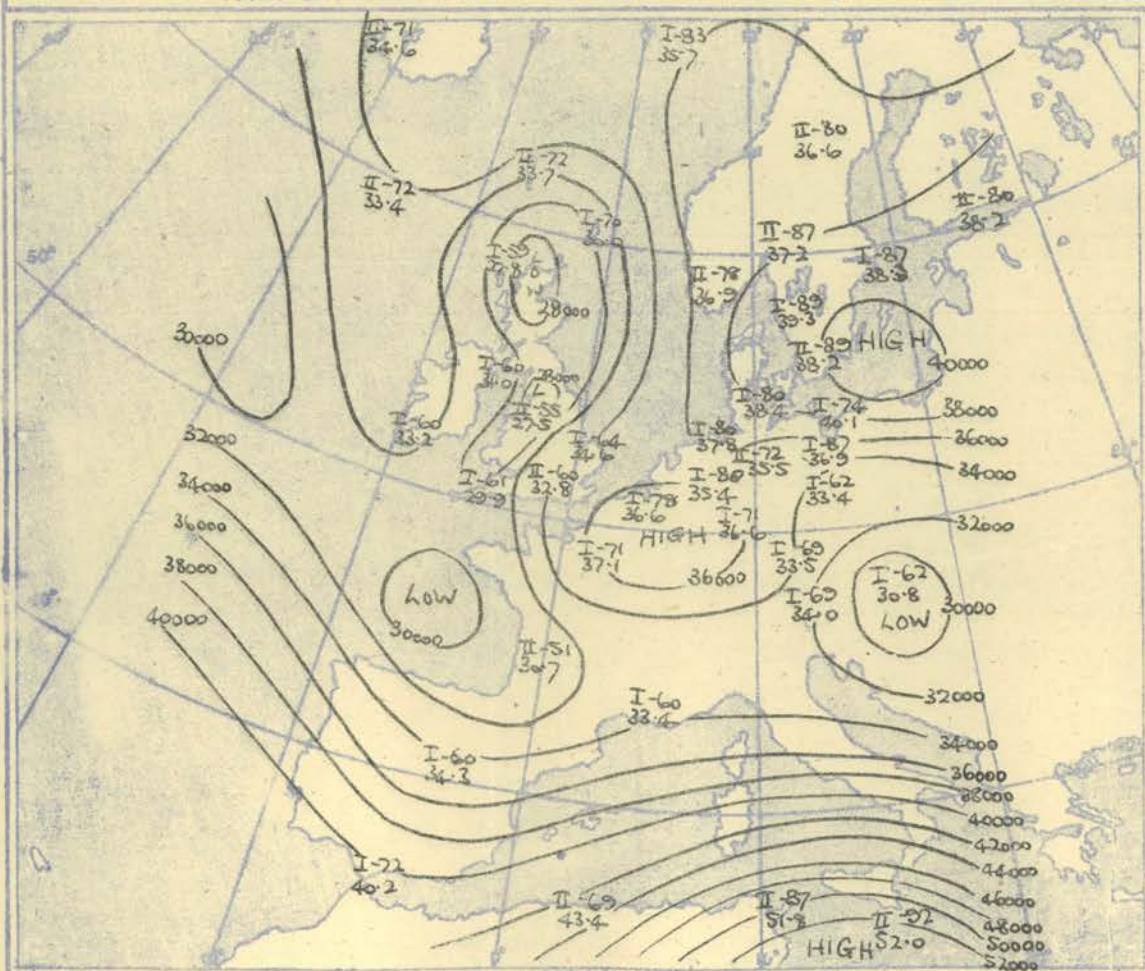
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 500-300 mb.

## TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

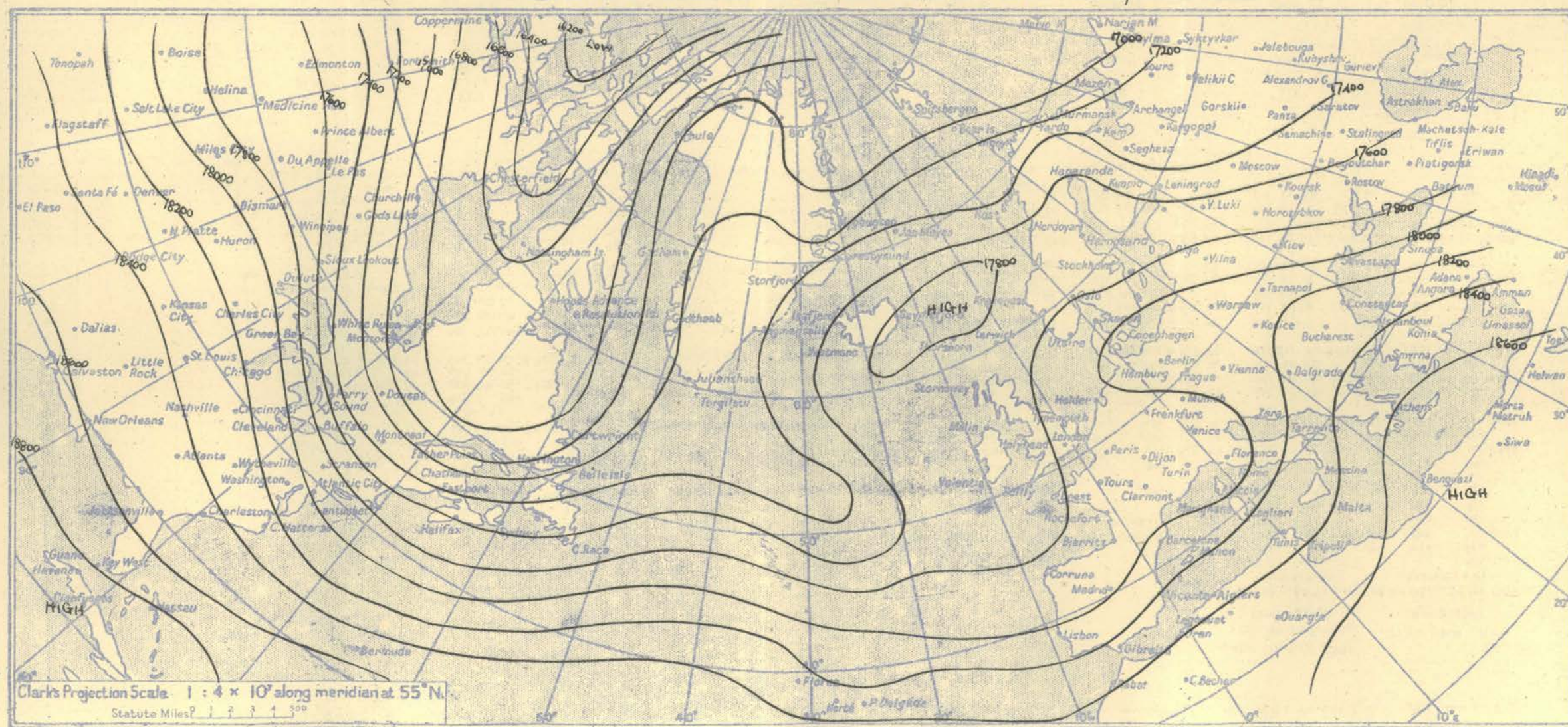
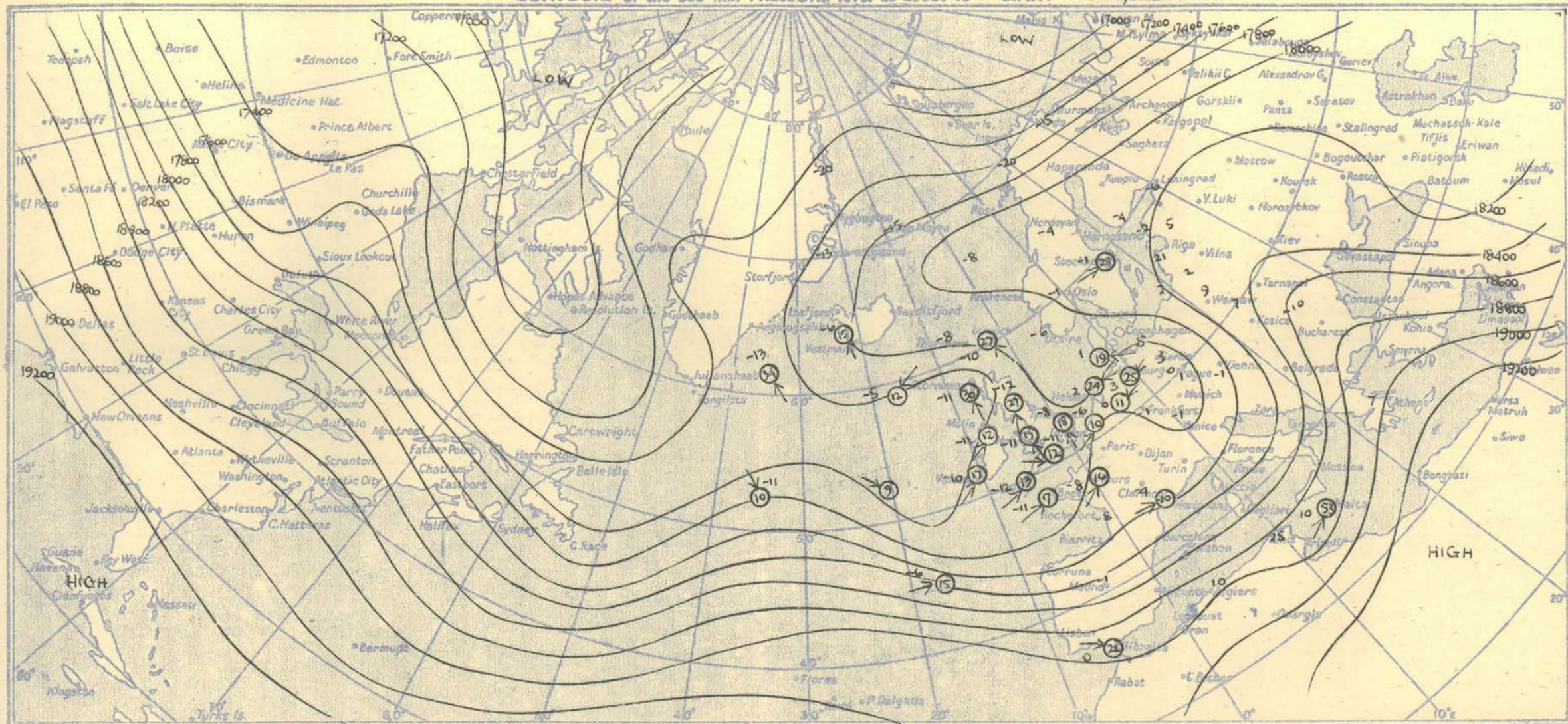
## NOTES ON THE AEROLOGICAL SITUATION.

Little noteworthy change occurred in the vicinity of the British Isles which remained in a rather flat cold trough extending from Southern Greenland to Italy.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

Station	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				Station																														
Pressure Time M.S.L. Surf Forecasting	1002.9 993.0 835				1001.9 993.1 815				997.1 994.3 824				995.2 986.2 820				995.5 993.5 822				996.2 991.6 780				995.7 979.4 823				996.5 986.0 800				994.8 993 800				Time M.S.L. Surf Forecasting																														
	G.M.T. mb mb mb				G.M.T. mb mb mb				G.M.T. mb mb mb				G.M.T. mb mb mb				G.M.T. mb mb mb				G.M.T. mb mb mb				G.M.T. mb mb mb				G.M.T. mb mb mb																																						
	Surf				Surf				Surf				Surf				Surf				Surf				Surf				Surf																																						
Pressure Time M.S.L. Surf Forecasting	02.7	48	46	115	15	00.4	51	47	150	10	00.2	51	47	190	04	02.5	49	48	00.6	51	49	CALM	01.2	55	52	140	04	04.4	48	46	300	05	02.9	53	48	270	03	00.3	50	48	200	05	Surf																								
1000	00.4	44	41	150	24	01.9	49	42	150	22	00.8	48	42	182	13	01.3	45	43	01.2	40	43	128	08	50	46	156	10	01.2	45	43	297	10	01.0	48	43	240	09	01.4	46	44	243	11	1000																								
950	28.8	39	36	153	24	26.7	43	38	162	26	27.8	42	33	176	14	27.2	40	37	27.3	41	40	130	07	27.7	47	39	155	10	27.2	40	36	254	15	27.6	42	38	240	10	27.2	40	38	242	11	950																							
900	43.8	34	31	149	25	41.9	36	33	160	25	42.9	35	30	166	15	42.4	35	31	42.4	36	36	130	05	42.0	40	35	157	11	42.4	35	34	286	11	42.8	36	31	253	11	42.8	36	33	241	14	900																							
850	59.9	30	26	142	23	57.9	30	27	155	27	59.0	30	28	161	19	58.4	30	27	58.5	31	31	193	03	59.2	34	29	154	09	58.4	29	27	282	09	58.9	32	23	254	11	58.3	32	29	239	13	850																							
800	26	11	132	21	25	22	156	26	23	22	163	22	25	22	22	25	22	22	26	26	111	08	28	22	158	13	28	21	258	13	28	21	258	13	28	16	245	12	24	21	220	11	800																								
750	94.5	20	04	142	23	92.5	19	17	164	27	93.5	20	17	165	27	92.9	19	14	93.2	20	20	118	11	93.9	20	15	142	15	93.2	20	02	247	13	93.6	20	07	241	12	93.0	20	17	219	13	750																							
700	14	02	144	23	11	07	167	30	13	08	161	25	13	08	161	25	13	12	14	13	112	13	17	06	136	15	16	14	227	14	13	02	245	11	13	02	245	11	14	10	205	13	700																								
650	133.5	09	09	141	24	131.3	05	10	166	30	132.3	05	01	161	23	131.7	08	03	132.2	06	05	123	12	133.1	10	01	134	13	132.3	06	02	241	11	132.5	06	07	257	11	132.0	06	01	202	16	650																							
600	01	21	136	25	02	13	167	30	03	09	173	21	03	09	173	21	03	00	02	02	147	20	01	05	152	14	04	11	258	11	04	14	249	12	04	14	198	14	02	07	198	14	600																								
550	178.1	10	28	137	27	175.7	11	23	165	30	176.7	12	20	177	27	176.3	11	14	176.7	11	14	158	17	177.9	10	18	170	18	176.7	11	23	270	12	176.8	12	20	249	13	176.6	10	15	201	17	550																							
500	230.1	36	55	149	27	227.7	37	49	157	39	228.7	35	48	185	27	228.4	34	42	228.7	32	40	169	24	230.5	30	42	168	24	228.9	30	49	272	24	229.2	28	36	249	15	228.8	32	37	212	15	500																							
450	50	144	29	50	153	36	50	153	36	50	182	28	49	182	28	49	182	28	49	182	28	49	182	27	230.5	30	42	168	24	228.9	30	49	272	24	229.2	28	36	249	15	228.8	32	37	212	15	450																						
400	292.7	67	148	30	290.6	57	155	31	291.6	59	175	37	291.6	57	175	37	291.6	57	291.8	55	172	24	294.8	52	157	51	293.2	51	246	40	293.3	58	231	23	292.5	56	220	11	300	292.5	56	220	11	400																							
350	377.6	65	146	26	377.4	58	142	11	377.2	64	183	21	378.7	54	183	21	378.7	54	379.2	58	214	19	381.4	59	166	48	380.2	58	251	27	380.2	58	246	20	379.8	55	246	20	379.5	56	256	14	350																								
300	438.2	66	165	10	438.9	58	136	10	438.0	65	186	12	440.6	50	186	12	440.6	50	442.8	58	212	19	442.8	60	163	51	442.8	58	254	22	442.8	58	254	22	442.8	58	254	22	442.8	58	254	22	442.8	58	300																						
250	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	522.5	73	217	10	522.5	73	191	09	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	250																						
200	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	522.5	73	217	10	522.5	73	191	09	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	200																						
150	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	522.5	73	217	10	522.5	73	191	09	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	150																						
100	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	522.5	73	217	10	522.5	73	191	09	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	100																						
50	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	522.5	73	217	10	522.5	73	191	09	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	50																						
0	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	191	09	522.5	73	522.5	73	217	10	522.5	73	191	09	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	217	10	522.5	73	0																						
For Winds See Page 3.																																																																			

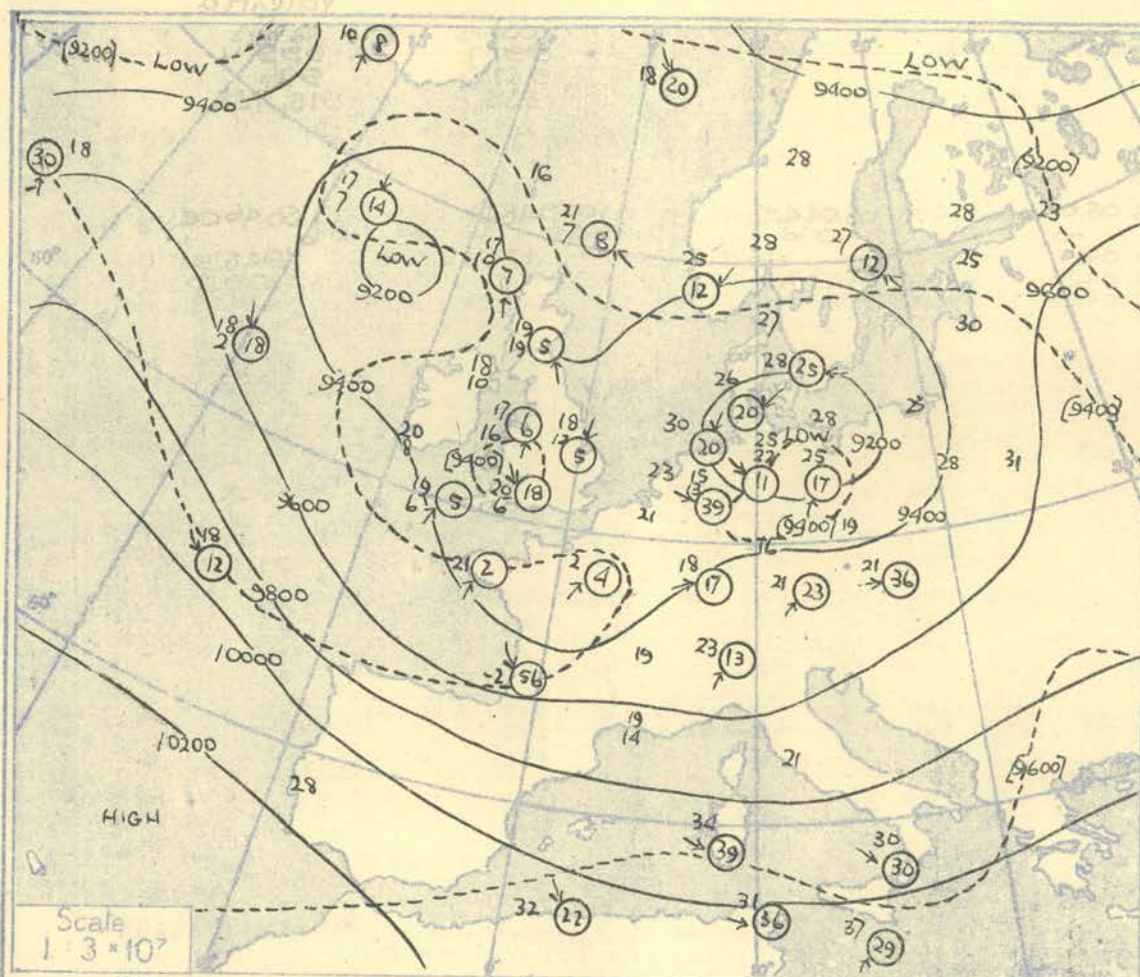


## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				Valentia				Station																																																																																																																																																																																																																																																																																										
Pressure	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf																																																																																																																																																																																																																																																																																												
	M.S.L.	1004.3		mb		M.S.L.	998.9		mb		M.S.L.	1000.2		mb		M.S.L.	998.8		mb		M.S.L.	997.4		mb		M.S.L.	996.8		mb		M.S.L.	997.7		mb		M.S.L.	997.7		mb	M.S.L.	999.2		mb																																																																																																																																																																																																																																																																																				
	Forecast	994.3		mb		Forecast	997.3		mb		Forecast	999.4		mb		Forecast	998.6		mb		Forecast	995.4		mb		Forecast	992.3		mb		Forecast	981.7		mb		Forecast	987.3		mb	Forecast	996		mb																																																																																																																																																																																																																																																																																				
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure																																																																																																																																																																																																																																																																																														
mb	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	mb																																																																																																																																																																																																																																																																																														
Surf	02.74542	100	01.04	5143140	05.02504	130	06.02544	calm	0.64747	293	05.01249	47050	05.04443	41200	07.02346	44	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	Surf																																																																																																																																																																																																																																																																																															
1000	01.2				0.3				0.3				0.3				0.3				0.3				0.3				0.3				1000																																																																																																																																																																																																																																																																																														
950	41.38091	07		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
900	29.33531	09		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
850	44.33219	09		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
800	60.33018	100		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
750	25.14109	07		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
700	24.92107	08		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
650	15.04135	09		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
600	13.90751	10		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
550	-1.16166	12		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
500	17.51125	16		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
450	24.27815	23		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
400	20.72934	31		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
350	29.44166	46		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
300	29.45516	167		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
250	71.17366	66		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
200	39.27617	174		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
170	71.17615	15		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
150	49.18211	11		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
130	70.19401	01		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
110	74.20309	09		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
100	52.7178	214		4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
90	(93)			4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
80				4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
70				4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
60				4640176	18			4544117	13			4646142	06			4342330	06			4643047	10			4442327	17			4746195	07			4945298	02																																																																																																																																																																																																																																																																																														
Inversion 817mb 28-750mb 31° Isothermal 900-878mb 25°																																Inversion 808mb 21-700mb 31° Isothermal 795mb 29-782mb 20°																																Inversion 884mb 26-855mb 31°																																Inversion 663mb 10-644mb 12° Isothermal 587-573mb 3°																																Inversion 582mb 43-570mb 14° Isothermal 780-750mb 25°																																Inversion 597mb 46-575mb 50° Isothermal 792-756mb 26°																																Inversion 596mb 50-570mb 52° Isothermal 810mb 31-793mb 33°																																																																																																																															
Tropopause 1213mb -70° 35000'																																Tropopause 1289mb -67° 29800'																																Tropopause 1216mb -57° 29100'																																Tropopause 1287mb -68° 30000'																																Tropopause 1255mb -67° 31000'																																Tropopause 1230mb -70° 35000'																																Tropopause 1272mb -64° 31300'																																Tropopause 1335mb -60° 26500'																																Tropopause 1342mb -53° 26200'																																Tropopause																															
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				Valentia				Station																																																																																																																																																																																																																																																																																										
Pressure	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf	Time	03hrs		G.M.T.	Surf																																																																																																																																																																																																																																																																																												
	M.S.L.	1004.3		mb		M.S.L.	1001.9		mb		M.S.L.	1002.0		mb		M.S.L.	1001.9		mb		M.S.L.	1000.1		mb		M.S.L.	998.1		mb		M.S.L.	999.7		mb		M.S.L.	1000.0		mb	M.S.L.	999.2		mb																																																																																																																																																																																																																																																																																				
	Forecast	994.3		mb		Forecast	1000.3		mb		Forecast	1001.2		mb		Forecast	991.6		mb		Forecast	871		mb		Forecast	810		mb		Forecast	810		mb		Forecast	814		mb	Forecast	832		mb																																																																																																																																																																																																																																																																																				
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure																																																																																																																																																																																																																																																																																														
mb	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	mb																																																																																																																																																																																																																																																																																														
Surf	02.74442	calm		0.44743	0.24743	050		0.20154	41			0.64747	calm	0.12464	6360	04.04412	29350	04.01946	4646	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	0.35046	calm	Surf																																																																																																																																																																																																																																																																																														
1000	01.2				0.4				0.3				0.0				0.3				0.3				0.3				0.3				1000																																																																																																																																																																																																																																																																																														
950	41.38091	10		4538	43.42059	07		4343				4640102	05			4643004	15			4342351	18			4643240	03			4643240	03			4643240	03																																																																																																																																																																																																																																																																																														
900	29.33633	042		102904034	28.63330	053		052823839				28.63330	053			052823839				1428233839	15			152854034232	03			152854034232	03			152854034232	03																																																																																																																																																																																																																																																																																														
850	44.33219	046		114423218	43.83331	048		102833330				43.83331	048			102833330				14434363032	17			174373420	L.V			174373420	L.V			174373420	L.V																																																																																																																																																																																																																																																																																														
800	60.42829	046		116012622	59.83127	029		075972914				59.83127	029			075972914				145943024332	11			115963026	L.V			115963026	L.V			115963026	L.V																																																																																																																																																																																																																																																																																														
750	26.16042	10		2518	26.21026	08		2507				26.21026	08			2507				26.18333	14			2316351	10			2322311	05			2322311	05																																																																																																																																																																																																																																																																																														
700	25.13034	09		109462003	24.41914	013		089421907				24.41914	013			089421907				130614347	11			130381710331	10			130381710331	10			130381710331	10																																																																																																																																																																																																																																																																																														
650	18.03071	09		1203	11.08044	07		1300				13.04045	08			1301027	16			124330	16			124330	17			1207317	11			1207317	11																																																																																																																																																																																																																																																																																														
600	13.43111	08		12334036	13.10000	056		06133069				13.10000	056			06133069				14314034327	15			153310400350	02			153310400350	02			153310400350	02																																																																																																																																																																																																																																																																																														
550	01.																																																																																																																																																																																																																																																																																																																														

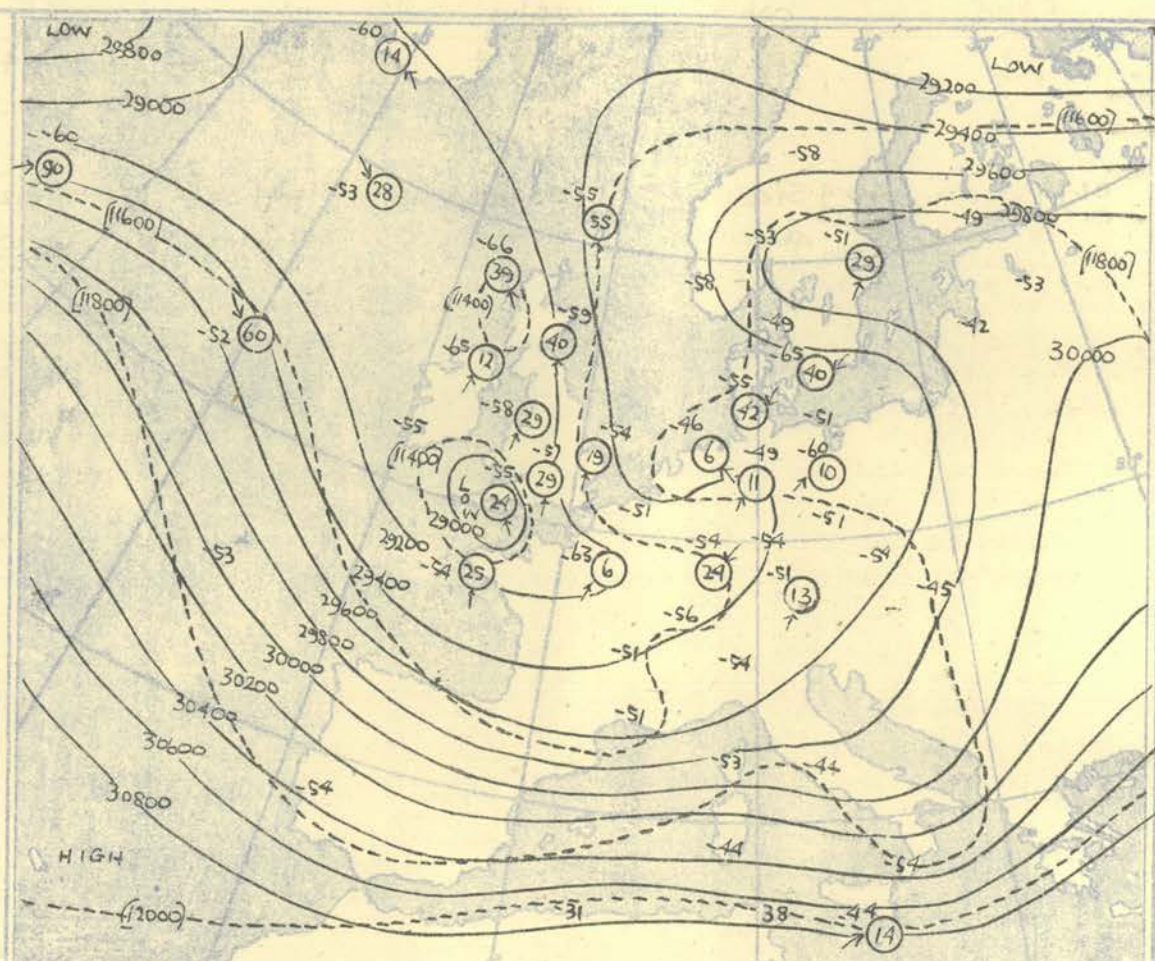


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

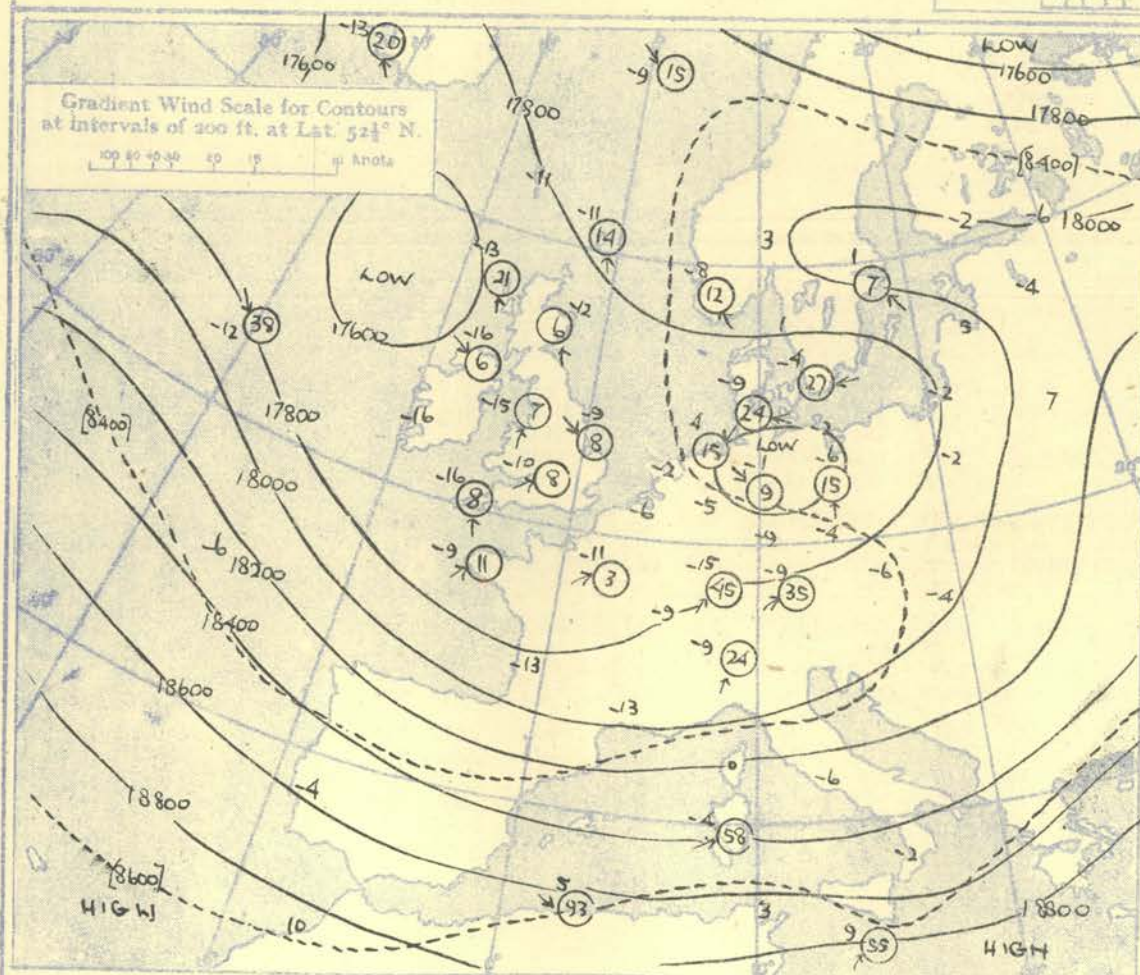


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

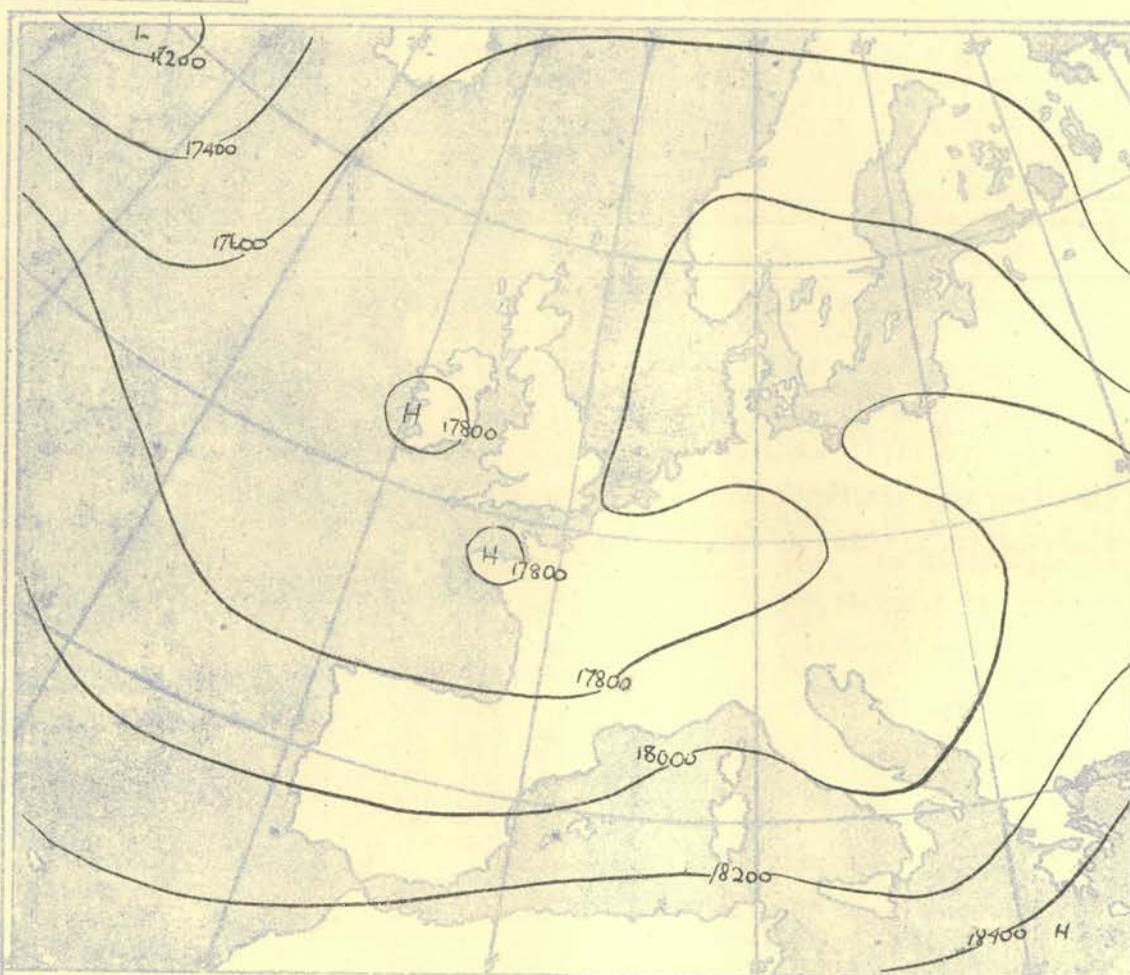
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

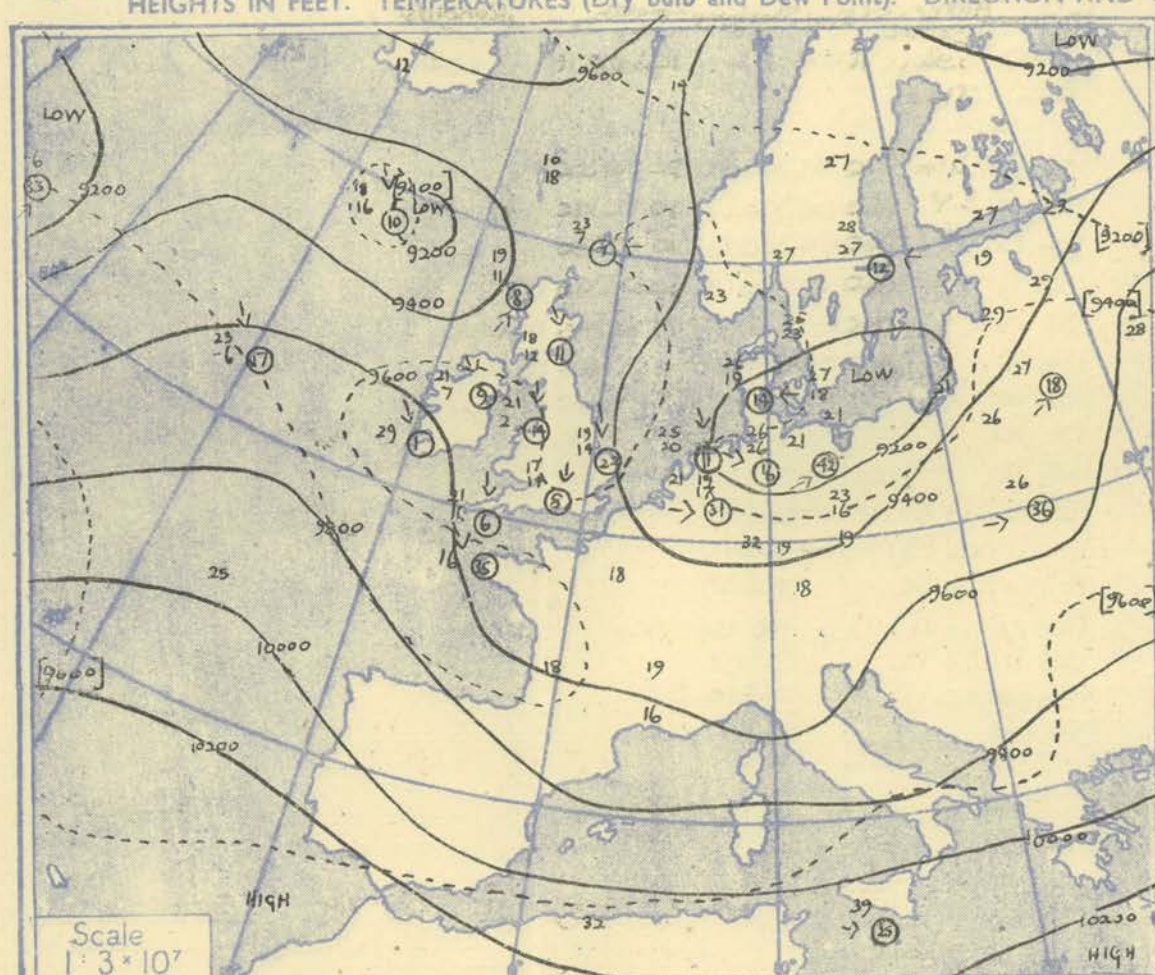
[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS

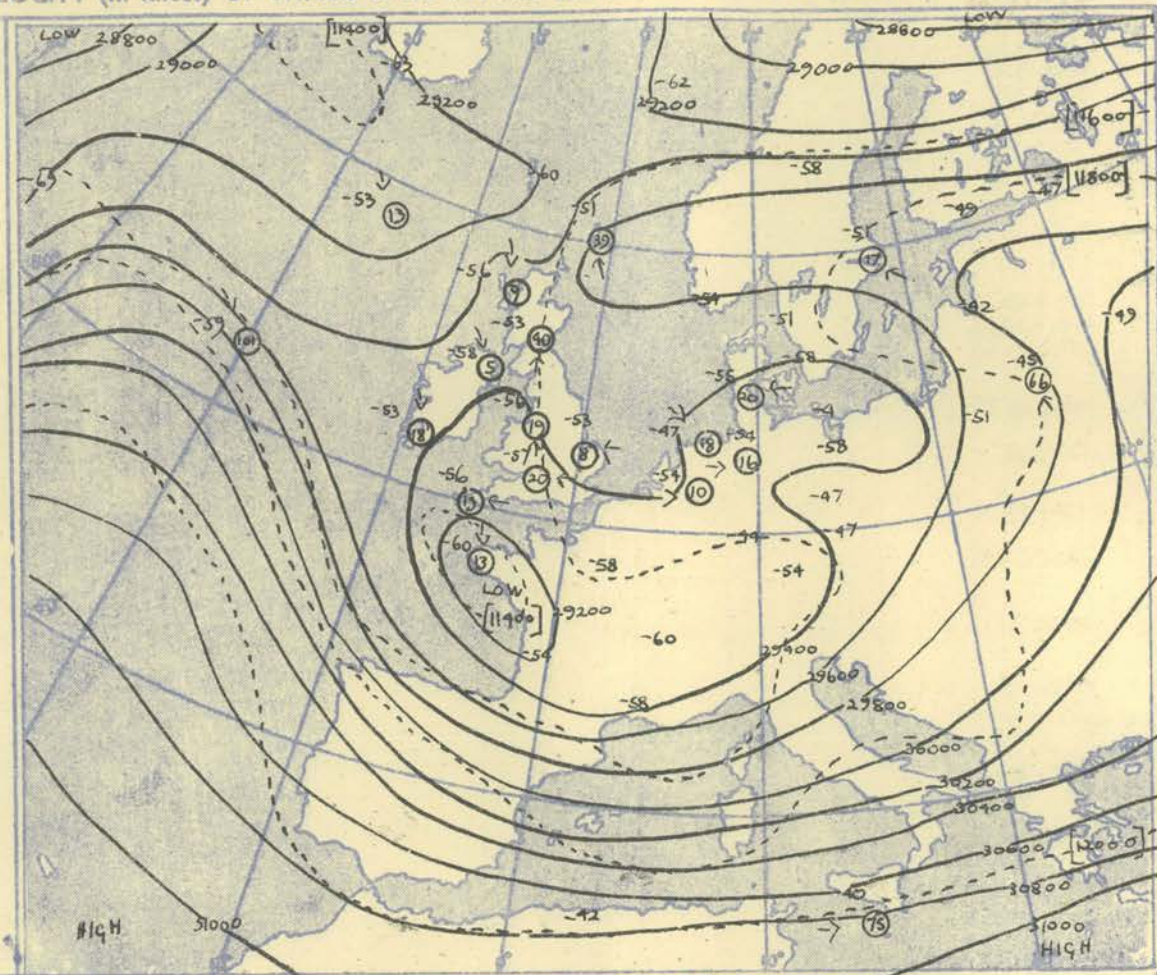
[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000—700 mb.

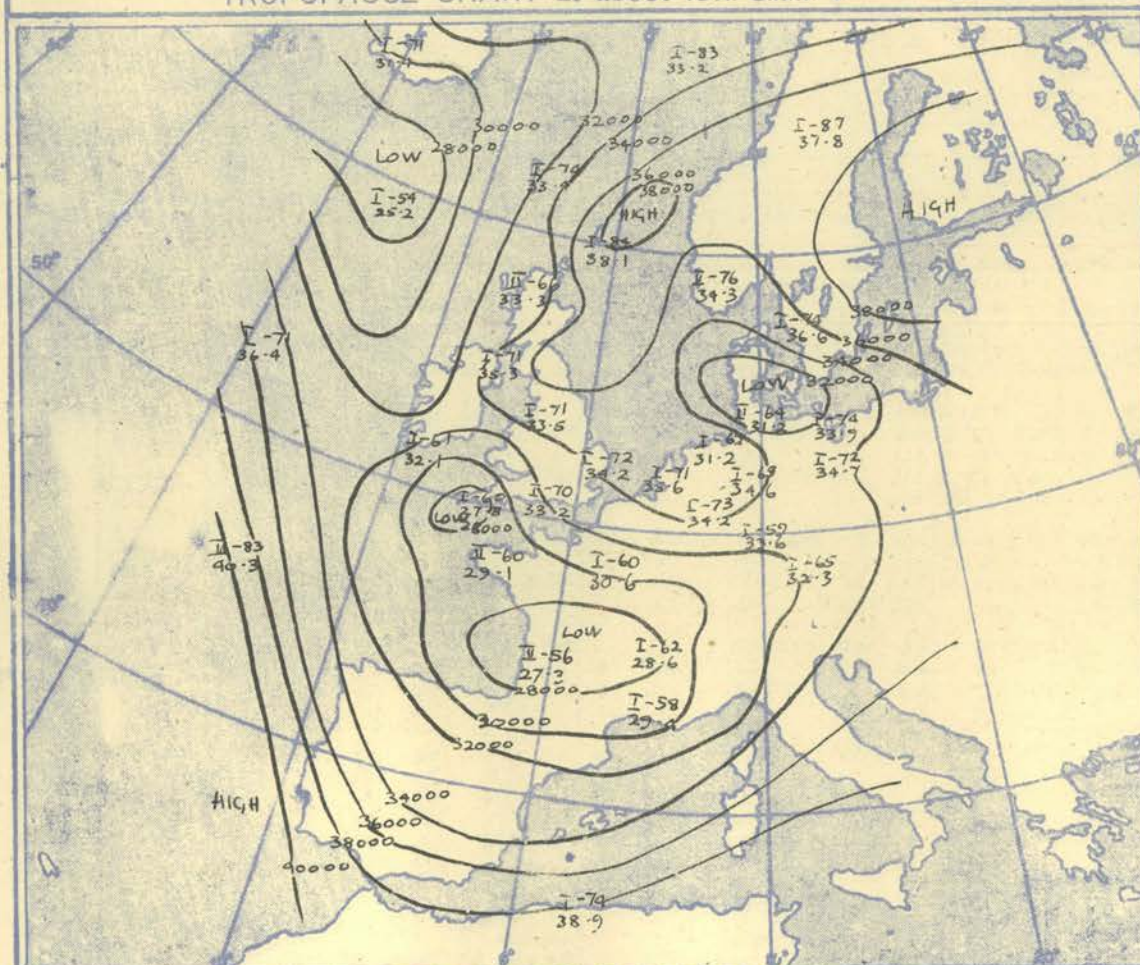


Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52^\circ$  N

100 80 60 40 20 10 0 knots

The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500—300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

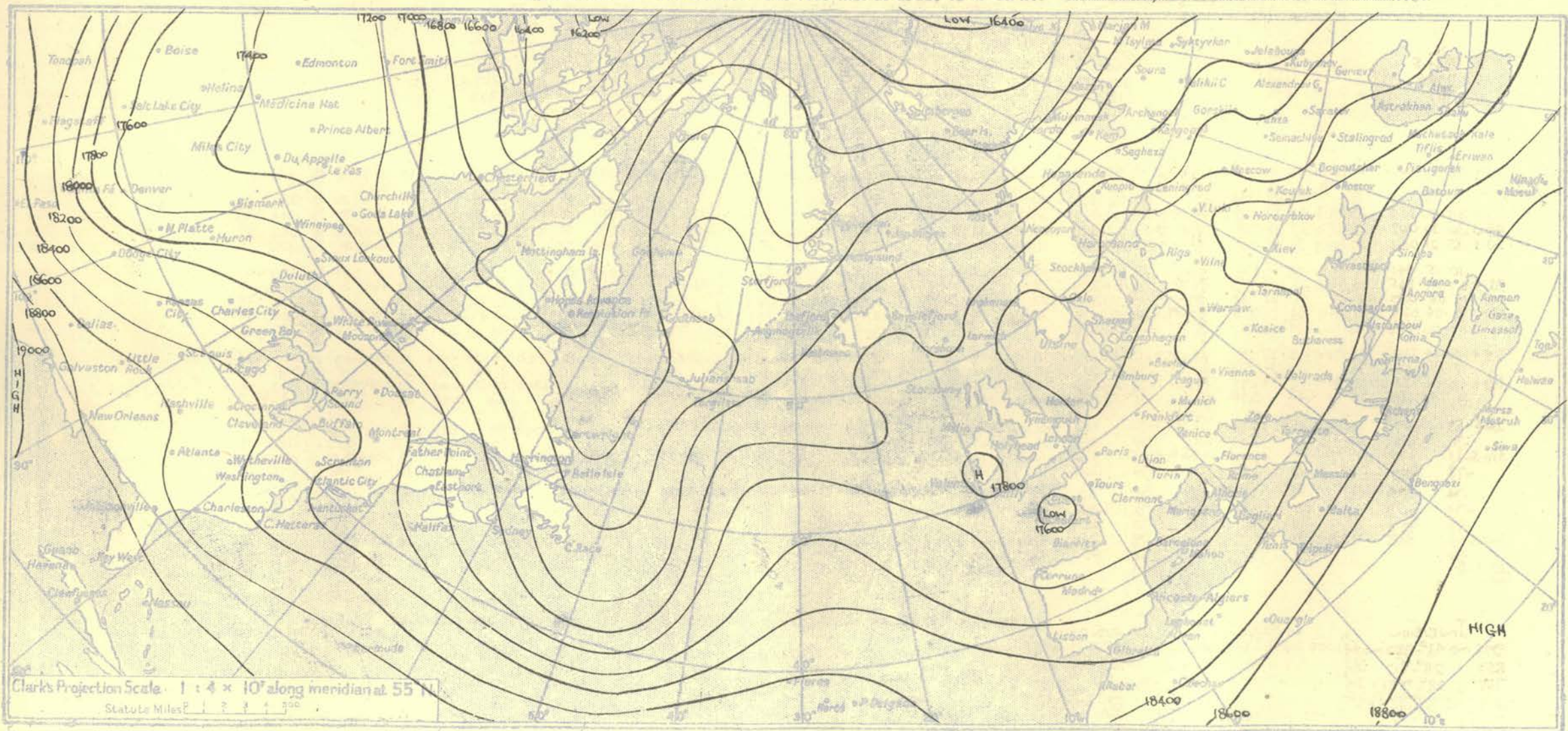
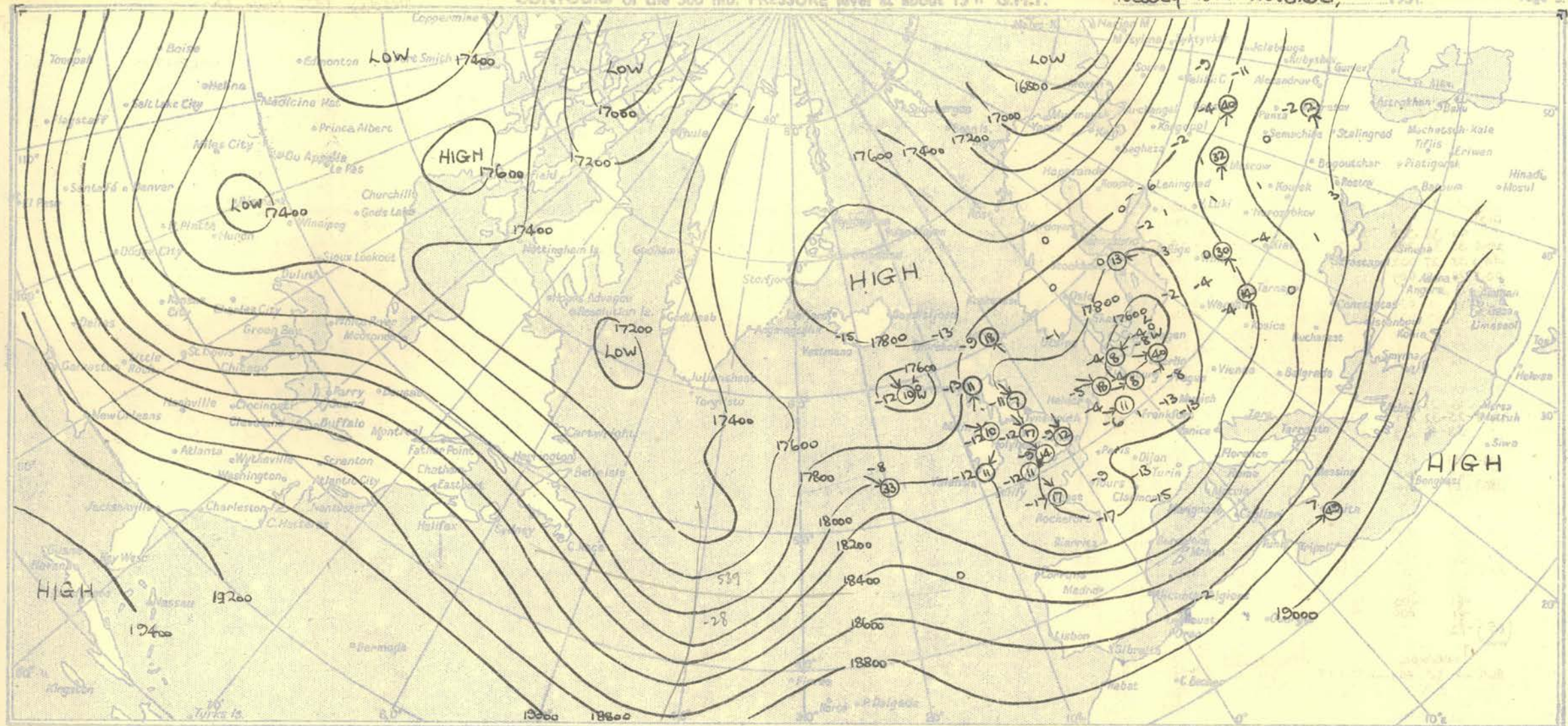
### NOTES ON THE AEROLOGICAL SITUATION.

The British Isles remained in a flat cold trough. A warm ridge followed by a further cold trough advanced rapidly across the southern Atlantic.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

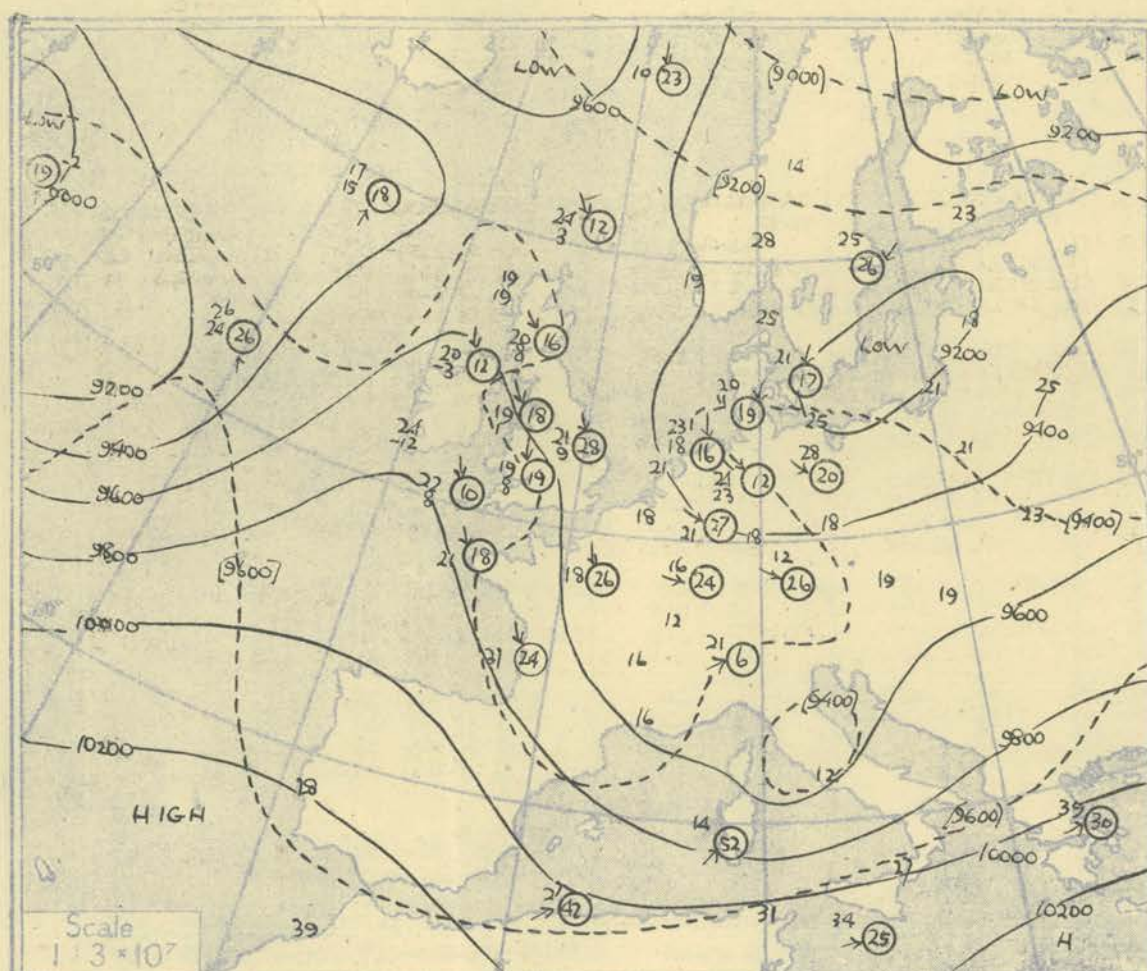
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time M.S.L. Surf (Forecast)	Pressure mb	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Wind Dir. Vel. knots	15h		G.M.T.	Time M.S.L. Surf (Forecast)						
		mb	mb	mb		mb	mb	mb		mb	mb	mb		mb	mb	mb		mb	mb	mb		mb	mb	mb		mb	mb	mb		mb	mb	mb		mb	mb	mb	mb	mb	mb
		1004.4	994.4	829		1003.7	1002.1	811		1004.1	1003.3	838		1004.9	995.5	822		1002.7	1000.7	832		1000.6	996.1	819		1002.3	986.4	822		1003.5	993.0	818		1005	1002	790			
		45	41	005	09	46	46	180	03	49	47	CALM		43	43	CALM		52	46	350	05	48	47	360	10	44	47	45	330	04	52	50	330	08	Surf				
		40	35	358	20	47	38	188	06	43	41	355	09	43	43	303	04	46	37	340	08	44	43	357	21	44	42	343	09	47	44	337	06	1000					
		29.4	35	32	358	20	29.6	42	33	29.4	38	34	349	11	29.6	40	37	299	05	29.3	40	31	338	08	28.5	44	43	350	19	29.0	41	38	357	07	950				
		44.3	32	27	002	16	44.8	36	29	44.6	34	28	347	11	44.7	35	31	293	06	44.4	34	28	345	09	43.7	35	34	342	18	44.2	34	32	358	13	900				
		60.3	29	22	009	17	60.8	31	22	60.5	26	24	349	11	60.8	30	20	270	07	60.4	29	21	351	12	59.7	30	30	340	15	60.2	30	21	359	15	850				
		28	11	024	14	25	18	189	09	23	19	344	12	26	15	286	07	25	14	065	14	23	22	340	17	23	19	005	12	25	23	351	05	750					
		25.1	23	07	072	09	25.3	19	11	24.9	18	12	343	10	25.2	21	07	282	09	25.0	19	12	348	14	24.2	19	14	343	22	24.6	17	14	358	09	700				
		18	-02	122	09	13	02	222	08	13	04	359	08	15	05	283	10	13	06	328	14	11	01	341	24	12	07	358	09	14	08	350	08	650					
		134.3	10	-01	125	10	134.1	06	-08	133.7	06	-04	346	07	134.2	07	-08	284	09	133.8	06	04	335	12	132.9	05	-06	334	19	133.4	06	00	353	11	600				
		02	-09	133	13	-03	-19	180	12	-01	-13	320	08	-02	-10	280	10	-03	-15	354	13	-01	-12	336	16	-02	-18	351	12	-03	-10	002	12	550					
		179.1	-09	-17	153	18	178.6	-13	-32	178.3	-11	-26	309	07	178.7	-12	-25	280	10	178.2	-12	-29	356	17	177.5	-09	-21	007	12	177.9	-09	-34	341	14	500				
		-16	-22	149	23	-22	-44	223	11	-21	-41	196	07	-21	-37	294	08	-21	-38	344	12	-17	-23	072	12	-17	-23	072	12	-19	-38	352	14	450					
		231.8	-25	-32	157	27	230.6	-33	-55	230.6	-31	-53	182	07	230.3	-31	-47	212	05	230.3	-31	-47	212	05	230.1	-27	-32	077	15	230.2	-31	-44	357	09	400				
		-38	-46	159	31	-43	-59	294	10	-39	-59	176	07	-46	-50	007	10	-43	-47	174	14	-40	-46	071	10	-40	-46	071	10	-42	-46	083	16	350					
		296.5	-51	-57	153	39	294.3	-56	-66	295.0	-53	-69	169	07	294.1	-58	-65	211	14	294.2	-56	-65	211	14	294.3	-53	-61	077	13	294.0	-57	-61	077	13	300				
		-69	-75	170	43	-66	-71	194	09	-68	-70	188	07	-65	-68	211	14	-67	-65	245	16	-67	-65	245	16	-67	-65	245	16	-61	-61	077	13	250					
		380.7	-84	-81	183	43	380.1	-64	-71	379.7	-61	-68	164	07	379.4	-67	-65	245	16	379.5	-65	-67	245	16	379.7	-64	-61	077	13	379.0	-61	-61	077	13	200				
		-75	-81	183	43	-66	-71	194	09	-68	-70	188	07	-65	-68	211	14	-67	-65	245	16	-67	-65	245	16	-67	-65	245	16	-61	-61	077	13	170					
		-73	-79	204	07	-67	-71	227	07	-68	-72	248	06	-66	-68	280	21	-67	-65	268	16	-67	-65	268	16	-67	-65	268	16	-65	-65	268	16	150					
		-71	-77	258	09	-68	-72	245	06	-72	-74	284	06	-70	-72	294	23	-71	-69	294	23	-71	-69	294	23	-71	-69	294	23	-69	-69	294	23	130					
		-76	-82	286	07	-69	-73	252	08	-72	-74	303	17	-70	-72	304	17	-71	-69	304	17	-71	-69	304	17	-71	-69	304	17	-73	-73	304	17	110					
		523.1	-75	-81	304	08	523.1	-71	-75	523.4	-68	-72	305	11	523.1	-65	-69	304	19	523.1	-65	-69	304	19	523.1	-65	-69	304	19	523.1	-65	-69	304	19	100				
		-77	-83	305	11	-71	-75	273	08	-74	-76	302	12	-72	-74	303	27	-73	-71	303	27	-73	-71	303	27	-73	-71	303	27	-74	-74	303	27	90					
		-81	-87	300	12	-75	-79	309	12	-76	-78	303	20	-74	-76	303	27	-75	-73	303	27	-75	-73	303	27	-75	-73	303	27	-77	-77	303	27	80					
		-82	-88	300	14	-76	-80	309	14	-78	-80	303	20	-78	-80	303	27	-78	-76	303	27	-78	-76	303	27	-78	-76	303	27	-80	-80	303	27	70					
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Inversion 865 mb 30° - 340 mb 33° 925 - 23 mb 44° 880 - 862 mb 26° Isothermal 792 - 28° - 765 - 30° 861 - 850 - 36° 800 - 781 - 26° Isothermal 695 - 680 mb 22° Isothermal 438 - 420 - 24° Isothermal 339 - 318 mb -49°																																							
Tropopause I 200 mb -84° 38,100' I 250 mb -66° 33,300' I 205 mb -76° 37,500' I 226 mb -71° 35,000' I 247 mb -71° 33,500' I 240 mb -72° 34,200' I 250 mb -70° 33,200' I 320 mb -60° 27,800' I 266 mb -61° 32,500'																																							
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time M.S.L. Surf (Forecast)	Pressure mb	21h		G.M.T.	Wind Dir. Vel. knots	21h		G.M.T.	Wind Dir. Vel. knots	21h		G.M.T.	Wind Dir. Vel. knots	21h		G.M.T.	Wind Dir. Vel. knots																						



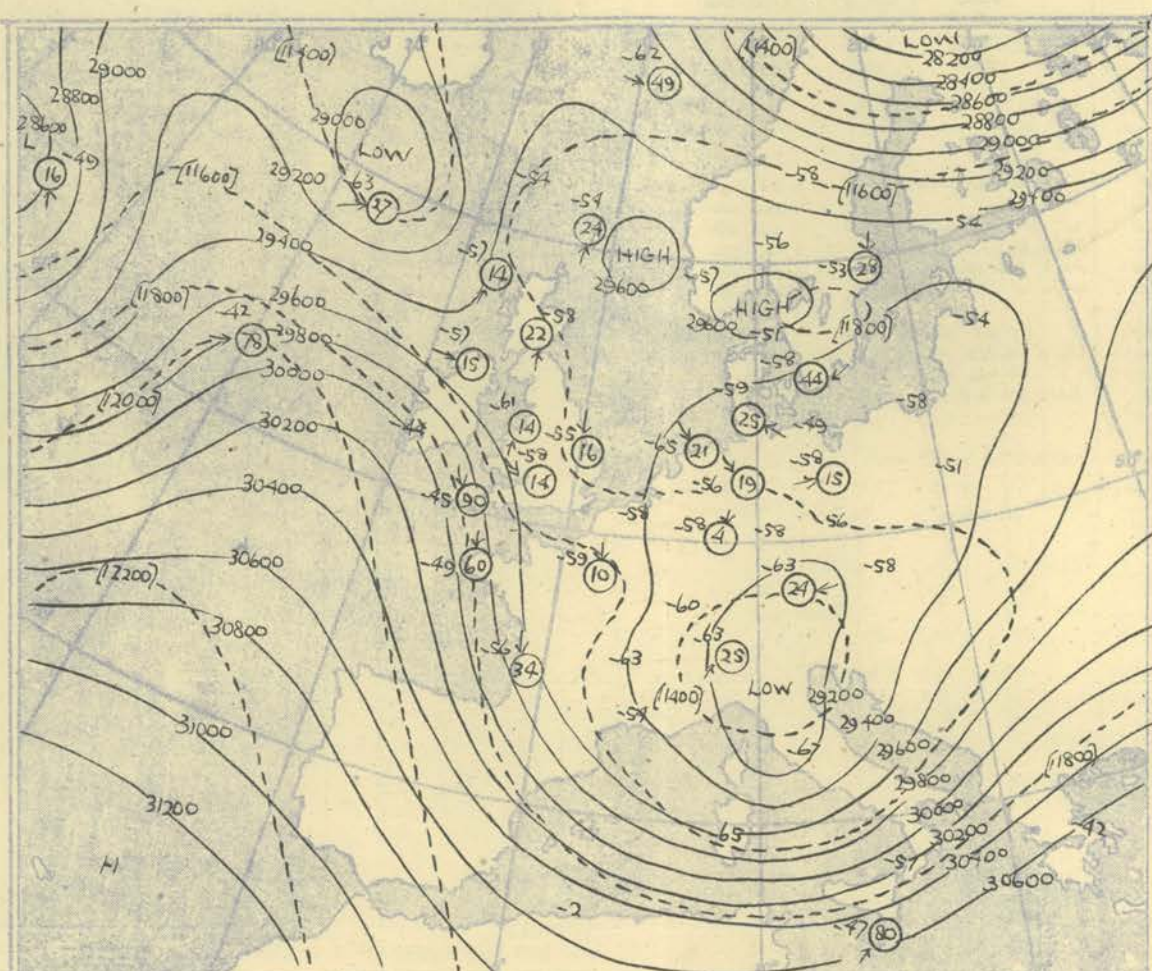
RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Time					0300 G.M.T.					0300 G.M.T.					0300 G.M.T.					0300 G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T.					03hrs G.M.T				



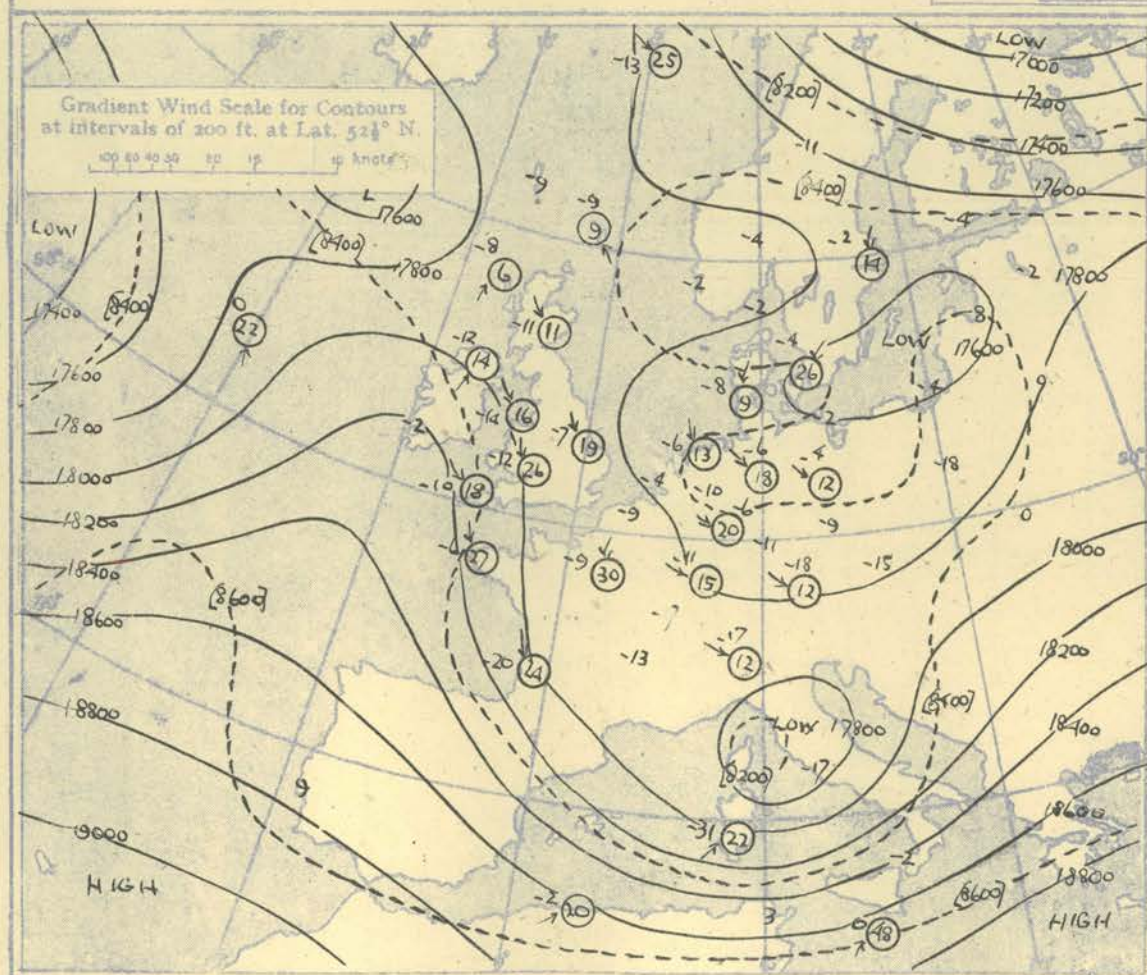
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (In knots) OF WINDS at the 700 mb. 500 mb. and 300 mb. levels at about 03h G.M.T.



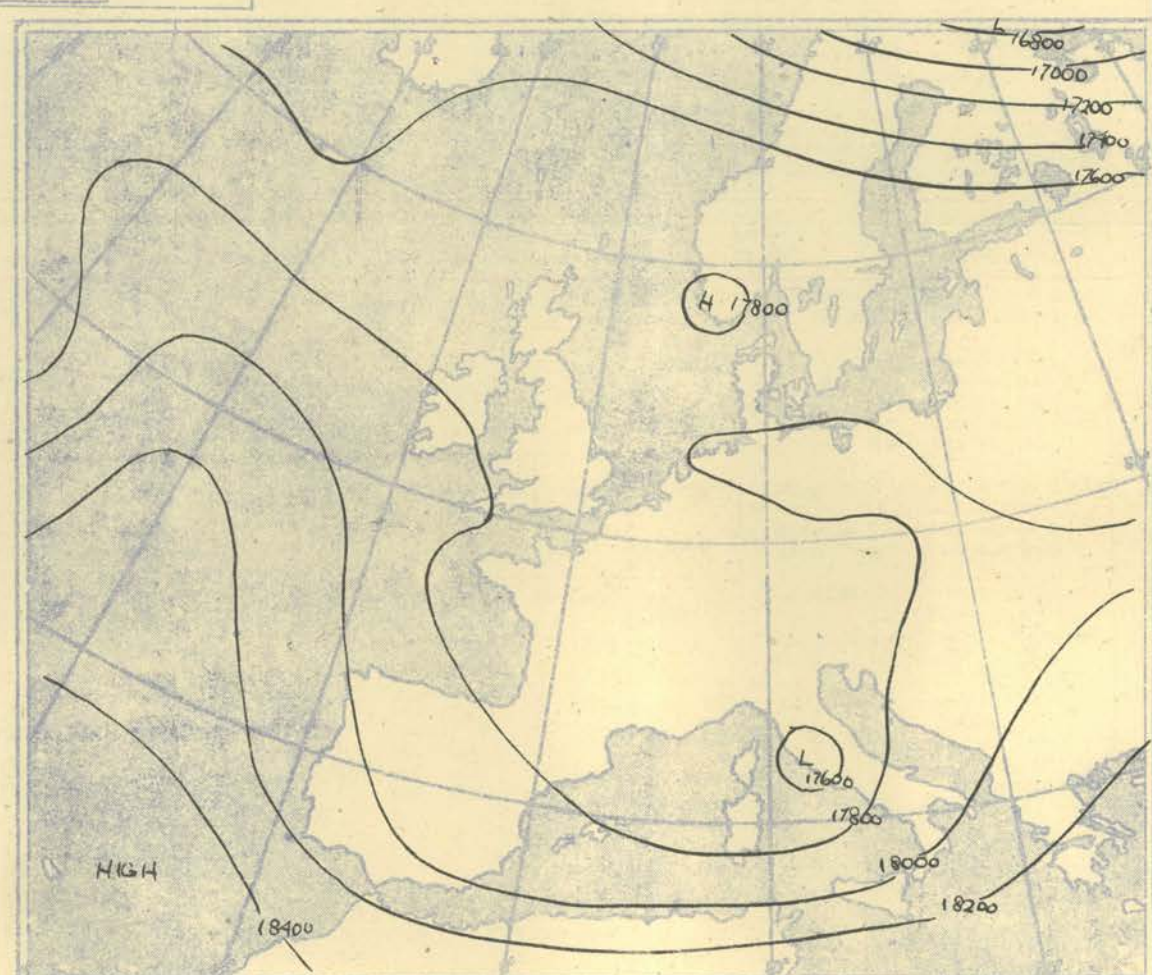
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 300-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

Pressure				Time				M.S.L.				Surf				Freezing				Time				M.S.L.				Surf				Freezing							
mb				mb				mb				mb				mb				mb				mb				mb				mb				mb			
17.0°W				12.3°W				12.1°W																															
1300hs				1500hs				1420hs																															
993 mb				1003 mb				1012 mb																															
989 mb				999 mb				1010 mb																															
720 mb				710 mb				715 mb																															
Height ft./100				Height ft./100				Height ft./100				Height ft./100				Height ft./100				Height ft./100				Height ft./100				Height ft./100				Height ft./100				Height ft./100			
Temp.				Temp.				Temp.				Temp.				Temp.				Temp.				Temp.				Temp.				Temp.				Temp.			
Dew				Dew				Dew				Dew				Dew				Dew				Dew				Dew				Dew				Dew			
Surf				Surf				Surf				Surf				Surf				Surf				Surf				Surf				Surf				Surf			
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750				750				750				750				750				750				750				750				750				750			
700				700				700				700				700				700				700				700				700				700			
650				650				650				650				650				650				650				650				650				650			
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170				170				170				170				170				170				170				170				170				170			
Cloud				Cloud				Cloud				Cloud				Cloud				Cloud				Cloud				Cloud				Cloud				Cloud			
618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-				618SC 70-418SC 70-							
900				900				900				900				900				900				900				900				900				900			
818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-				818SC 70-718SC 70-							
800				800				800				800				800				800				800				800				800				800			
718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-				718SC 70-618AC 700-							
780				780				780				780				780				780				780				780				780				780			
618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-				618AS 700-618AS 600-							
600				600				600				600				600				600				600				600				600				600			
218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9				218C.H.M. 218C.H.M. 9							
Isothermal				Isothermal				Isothermal				Isothermal				Isothermal				Isothermal				Isothermal				Isothermal				Isothermal				Isothermal			
650-600				650-600				650-600				650-600				650-600				650-600				650-600				650-600				650-600				650-600			
mb 22°				mb 22°				mb 22°				mb 22°				mb 22°				mb 22°				mb 22°				mb 22°				mb 22°				mb 22°			

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at height above M.S.L.

Place	Stornoway	Shoeburyness	Lymington	Firee	Alder Grove	Kerwick	Kerwick
Time	03hrs	03hrs	10hrs	14hrs	14hrs	15hrs	15hrs 22hrs
Type	Pilar	Pilar				Pilar	Pilar
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.
Surf.	Calm	Calm	270 07	290 05	180 05		050 18 050 10
1,000		181 03	300 16	290 11	170 14		047 24 050 12
2,000		185 06	310 15	290 16	170 12		045 24 060 12
3,000		198 06	320 14	290 11	180 17		042 24 060 12
4,000		227 06	330 15	290 11	180 18		036 22 060 10
5,000		230 07	330 16	290 10	180 15		020 17 070 09
6,000		215 07	330 19		160 17		026 13 070 06
8,000		181 06	320 24		170 16		016 09 100 03
10,000		194 05	330 26				004 07 160 02
14,000	217 04	180 06	320 25				265 04 230 06
18,000	225 06	196 05	310 25				215 11 260 18
24,000	247 06	192 13	- -				200 21 270 27
30,000	215 14	204 25	300 22				208 41 290 65
40,000	267 13	277 28	320 52				264 24 270 42
50,000	(36000)	284 24	320 36				288 31 299 30 210 25
60000	(46000)						285 25 305 22 200 22
70000							299 22 (40000) 320 25 (65000)

## NEPHOSCOPE OBSERVATIONS

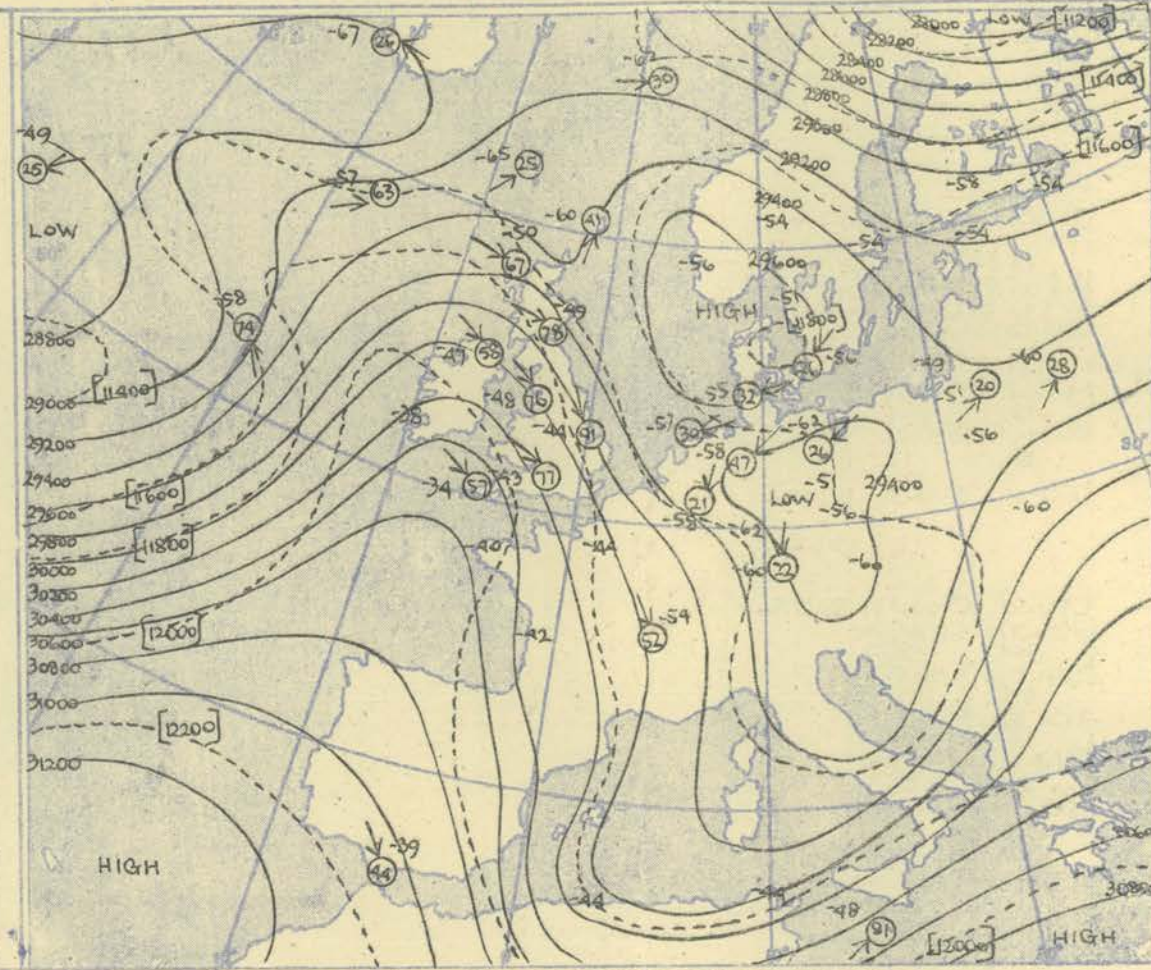
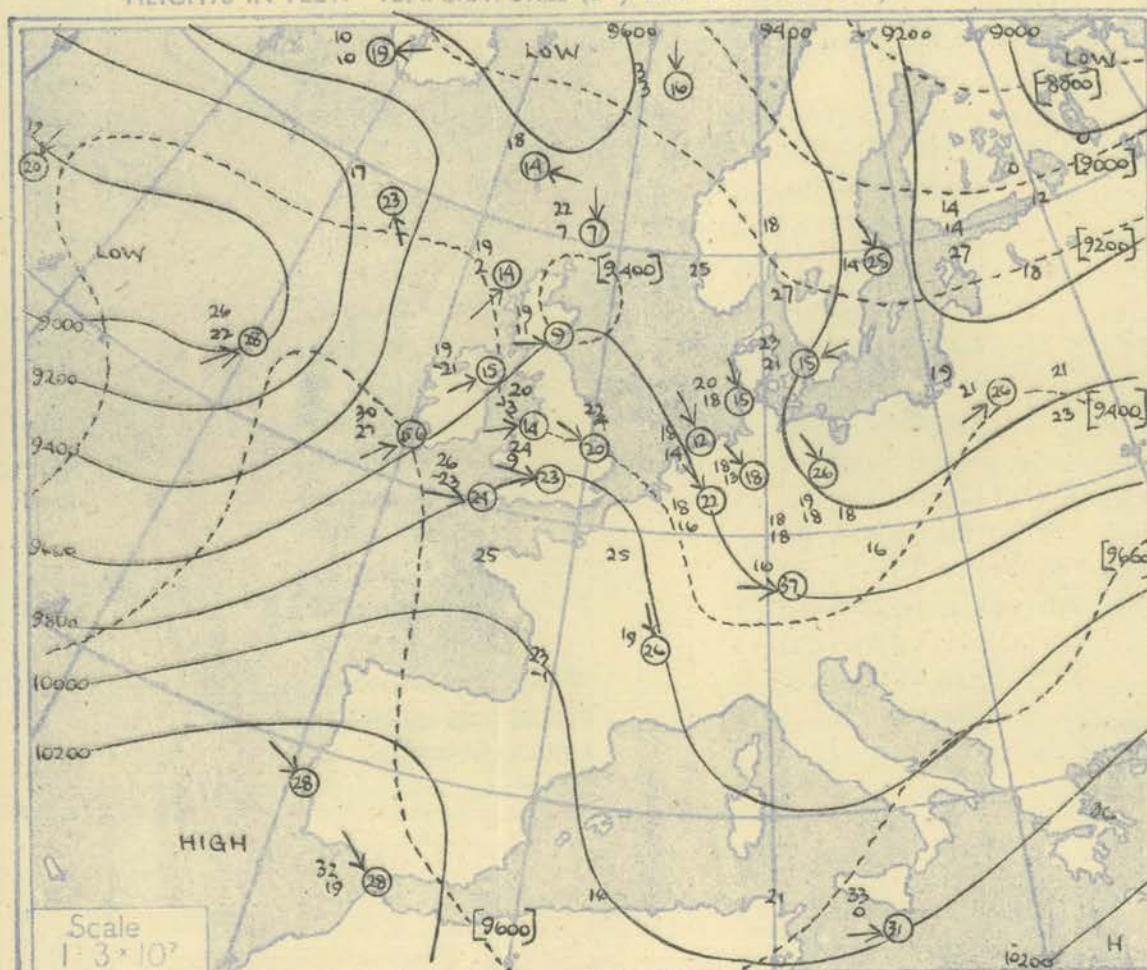
[illegible]

## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	WEATHER OBSERVER					WEATHER OBSERVER					WEATHER OBSERVER					WEATHER OBSERVER					WEATHER OBSERVER					WEATHER OBSERVER					WEATHER OBSERVER					Ship															
Lat/Long	59° 0' N 15° 8' W					59° 1' N 15° 8' W					58° 9' N 15° 9' W					52° 6' N 20° 6' W					52° 6' N 20° 4' W					52° 5' N 20° 5' W					52° 5' N 20° 3' W					Lat/Long															
Pressure	Time	03h				09h				15h				21h				03h				09h				15h				21h				Time																	
	M.S.L.	997				999				1000				994				996				980				979				980					M.S.L.																
	Surf	997				999				1000				994				996				980				979				980						Surf															
	Freezing	840				840				890				840				780				745				840				Freezing																					
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure																						
mb	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100		°F.	°F.	Dir. Vel. knots	mb																	
Surf	-7	49	48	215	18	-2	49	47	195	20	-1	48	41	165	22	-16	49	45	105	28	-10	50	48	123	05	-56	53	51	120		33	-60	53	49	240	27	-56	52	47	240	33	Surf									
1000																																							1000												
850		43	43	220	17		44	38	195	23		40	33	138	20		43	39	093	30		44	41	131	37		52	50	137	35		50	47	247	30		48	44	252	26	850										
900	27.6	38	38	218	17	28.2	38	34	198	21	28.1	34		139	24	26.7	39	33	095	37	28.4	41	39	145	36	232	50	47	148	35	22.8	46	44	247	33	22.9	40	39	265	30	900										
850		33	32	216	18		33	27	200	20		31		142	25		34	30	100	33		30	36	33	149	37		46	43	171	31		43	39	243	34		33	32	254	30	850									
800	58.6	27	26	212	19	59.2	28	21	199	16	59.1	27		145	28	57.8	34	30	100	33	59.6	33	32	156	33	55.1	42	43	189	33	54.5	41	32	231	36	54.0	26	20	254	34	800										
750		23	22	212	20		24	17	194	16		21		147	30		25	92	103	43		30	28	171	31		37	33	200	33		33	28	236	36		26	38	255	35	750										
700	93.7	17	15	210	18	93.6	19	11	190	17	93.3	17		150	23	92.3	18	02	106	36	94.6	26	24	170	26	90.6	31	22	219	39	89.6	26	22	218	28	88.4	19	10	249	33	700										
650		09	07	211	18		12	13	192	18		09		152	20		14	04	108	34		20	18	171	24		24	19	215	37		23	14	214	28		12	01	225	28	650										
600	131.4	01	04	215	21	132.4	04	07	193	18	131.9	00		152	15	131.2	09	19	112	27	139.2	15	12	165	21	130.4	19	14	197	32	29.2	15	02	196	22	127.1	04	09	206	30	600										
550		06	15	214	18		03	18	198	18		03		171	06		03	14	115	24		09	05	142	18		12	07	195	34		05	10	203	37		05	17	204	35	550										
500	175.5	17	27	214	19	176.6	14	29	199	17	176.1	10		229	06	176.2	04	11	119	24	179.7	00	04	155	22	176.2	04	01	191	35	174.3	07	19	220	48	71.3	14	24	202	36	500										
450		31	40	220	19		25	43	200	16		19		236	22		12	16	138	24		09	14	188	28		05	14	192	44		18	24	211	30		28	34	199	36	450										
400	226.5	44		230	22	228.3	35	46	212	19	228.5	31		241	30	229.4	23	27	153	21	233.4	17	22	208	46	230.3	17	25	198	38	226.8	30	34	168	49	222.7	41		194	40	400										
350		55		235	31				223	37		43		240	49		35	40	168	18		27	32	224	56		30	41	220	25		42		154	72		56		185	40	350										
300	288.6	63		240	27	291.9	55		258	53	292.3	57		235	69	294.4	60		168	19	299.2	42		241	78	296.3	43		197	66	290.7	58		156	74	284.5	63		181	40	300										
250		68		238	26		60		274	70		71		221	64		67		162	42		59		246	111		61		210	73										250											
200	373.6	66		260	24	378.3	65		273	40	376.6	73		237	60	379.6	70		198	33	385.9	80		244	106	382.7	73		201	85										200											
170		70		259	26		65		273	30		69		243	29	184	72																								170										
150		73		273	23		68		276	23		69		213	20	mb)																									150										
130		75		300	15		68		251	54		72		229	19																										130										
110		79		285	22		72		252	16		74		237	18																										110										
100	516.4	81		287	20	522.8	74		258	13	536.4	76		223	16																										100										
90		83		289	17		74		262	07																															90										
80		86					77		262	15																															80										
70							78		260	20																															70										
60																																										60									
	Isothermal					Inversion					Isothermal					Isothermal					Inversion					Inversion					Inversion																				
	361 - 350mb -55°					869mb 30° 843mb 32°					822 - 800mb 30°					600 - 576mb 0°					615 - 585... 9°					918 - 900mb 41°					884 - 810 - 34°					739 - 727 - 29°					593 - 585 - 14°					496 - 440 - 10°					



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.

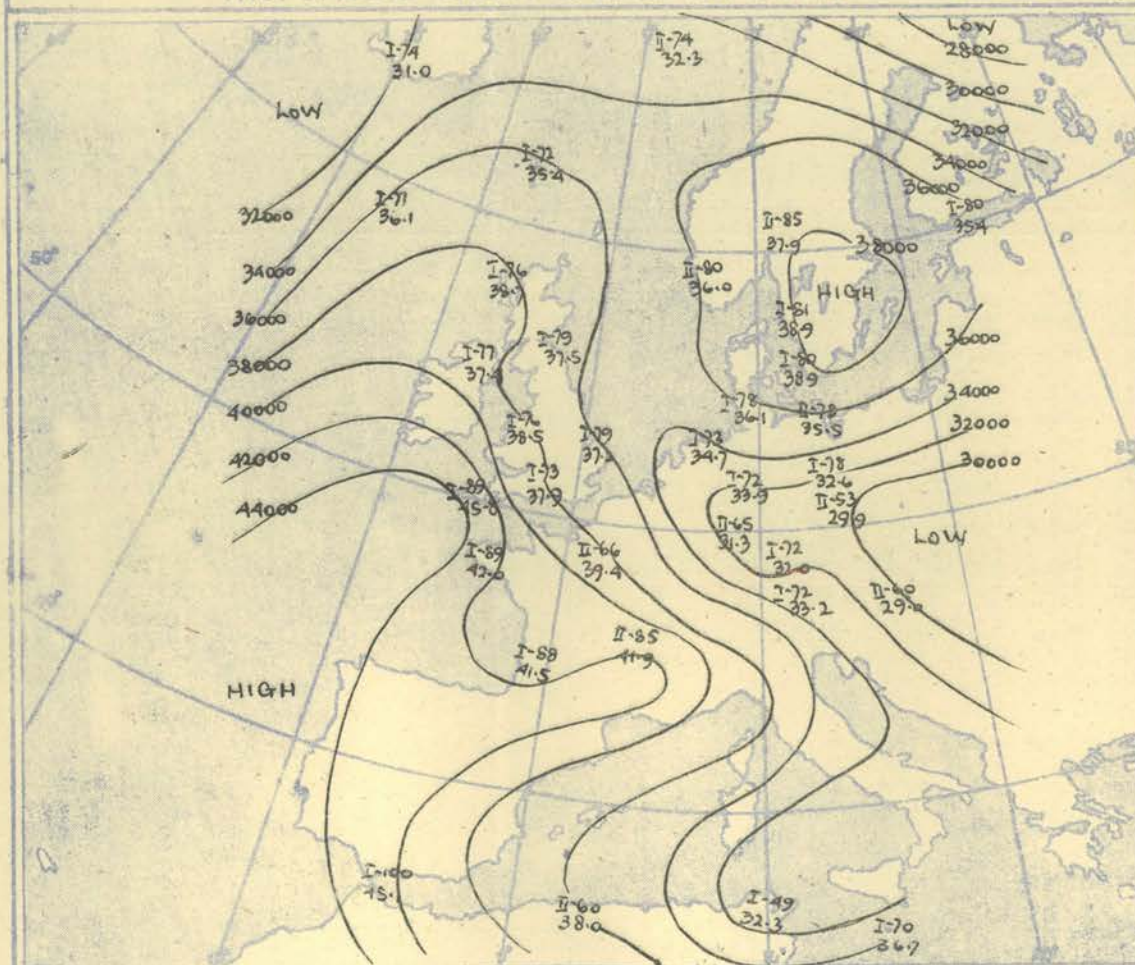


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h GMT.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

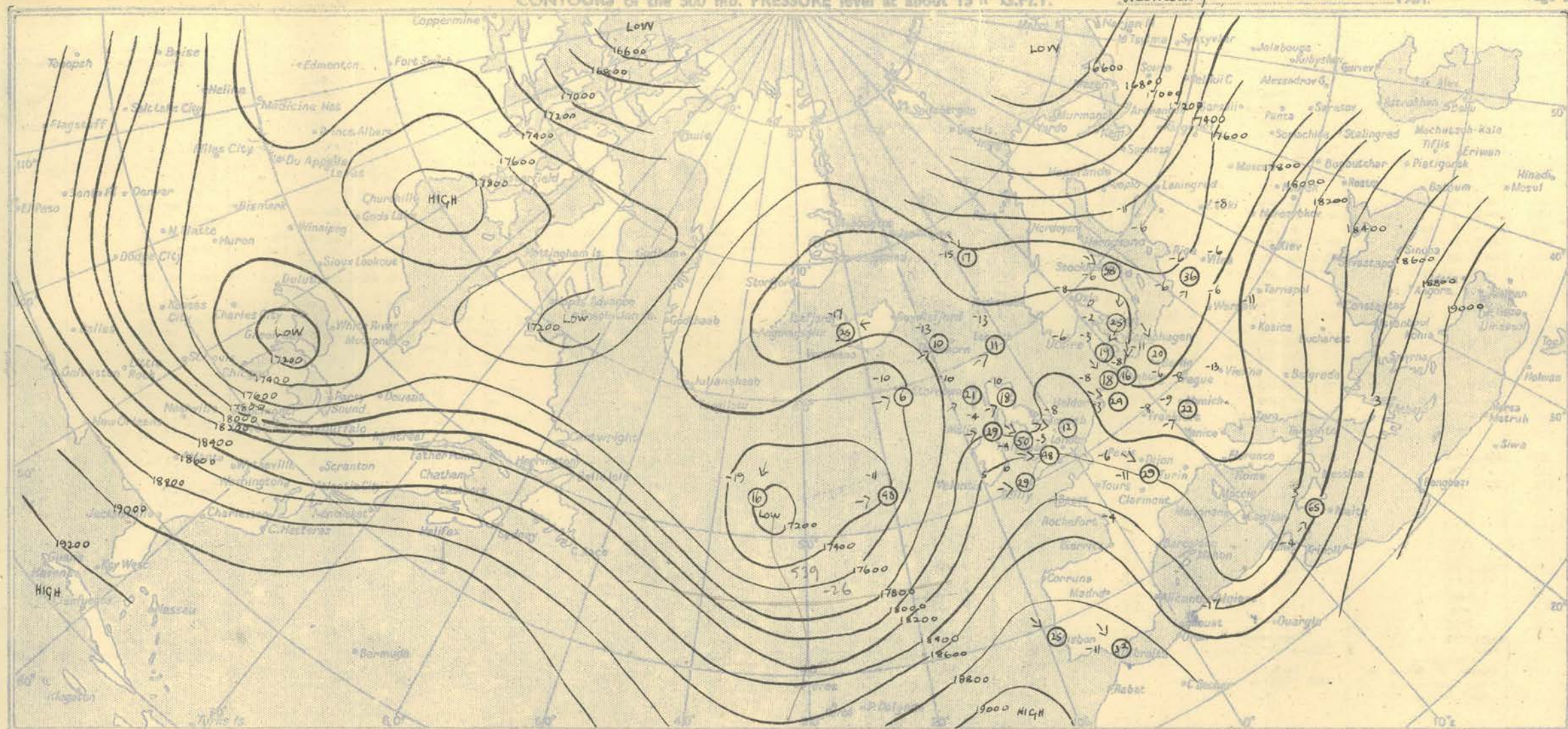
### NOTES ON THE AEROLOGICAL SITUATION.

The warm ridge in the East Atlantic continued a steady eastward motion to a position across the British Isles. The cold trough behind it was reduced by surface heating and also subsidence across the central area which resulted in the detachment of a separate cold pool to the southeast. The ridge crossing England was marked in the east by a very sharp jet stream at high levels.

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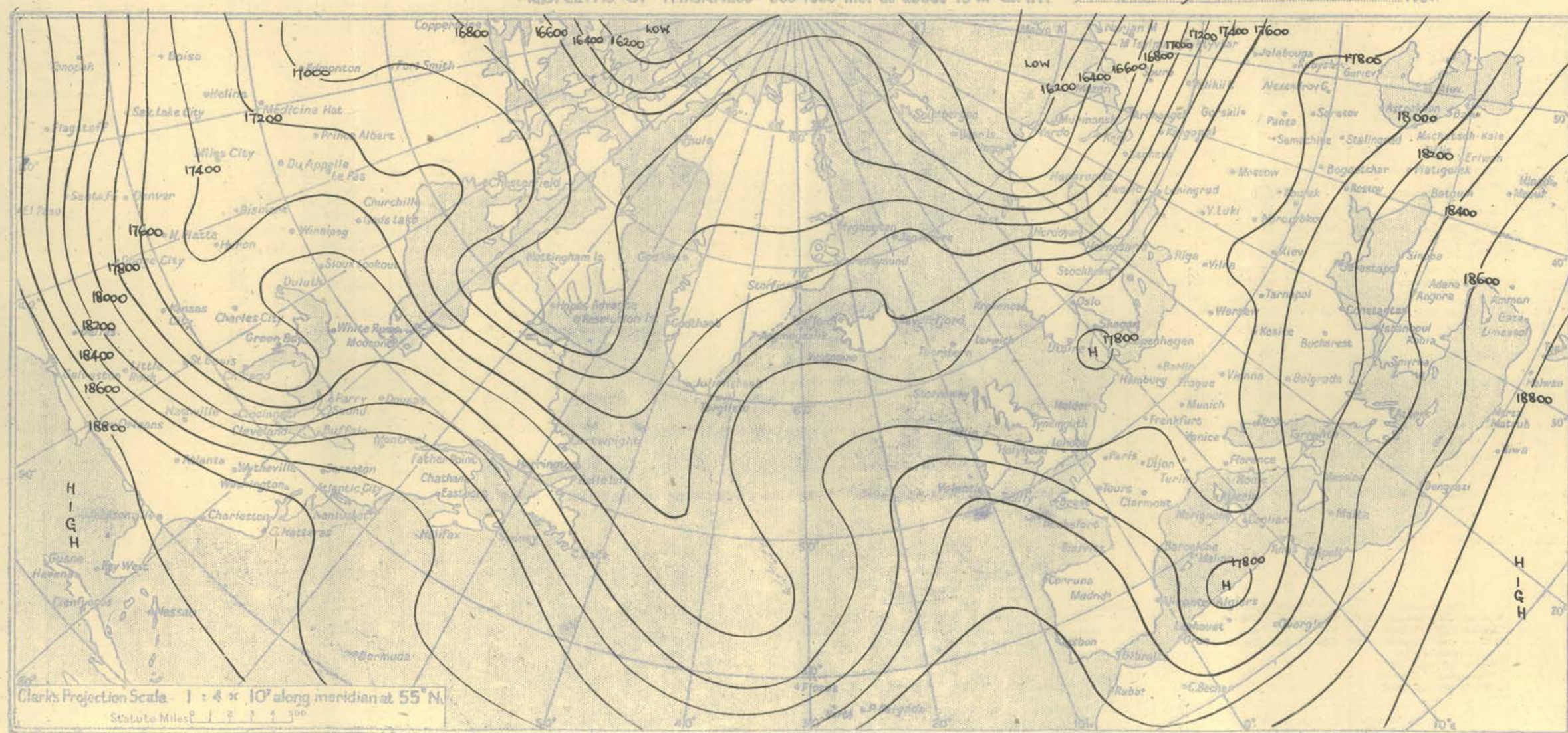
Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. JOHNSON, K.C.B., D.Sc., Director.





Wednesday 14<sup>th</sup> November,

1951





STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time	M.S.L.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	Time	M.S.L.								
Surf	Pressing	898	mb	mb	mb	840	mb	mb	mb	843	mb	mb	mb	864	mb	mb	mb	mb	mb	850	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb							
Surf	1000	02.7	45	40	00.4	50	46	00.2	50	45	300	04	02.5	49	44	170	05	00.6	54	46	260	03	01.2	52	46	04.4	51	46	02.9	53	47	00.3	51	48					
950	01.8	39	35	01.7	50	46	02.1	49	43	02.2	44	37	02.8	53	43	238	08	02.9	51	43	238	08	02.9	51	43	03.4	51	43	03.3	53	47	01.2	49	43					
900	29.9	32	28	30.2	45	41	196	08	30.5	39	35	170	06	31.3	39	35	196	19	31.4	39	35	213	13	31.8	40	33	31.8	40	33	31.8	40	33	28.4	45	43				
850	44.8	28	25	45.3	34	28	198	07	45.7	33	27	278	06	46.4	32	25	199	19	46.5	33	28	269	18	46.9	34	29	47.2	38	33	47.2	38	33	45.4	45	43				
800	60.8	29	19	61.2	26	23	200	10	61.6	27	23	270	07	62.3	28	22	242	15	62.4	28	21	281	16	63.0	34	25	63.2	34	17	63.2	34	17	60.2	41	37				
750	25	13	03	25	06	209	12	25	21	255	08	22	04	23	12	248	16	27	12	295	16	27	12	295	16	27	29	15	260	22	32	08	239	25	34	30			
700	70.5	22	07	70.7	19	02	210	14	70.1	19	11	253	09	70.8	19	21	229	15	71.0	20	04	291	20	71.8	24	09	71.8	24	09	71.8	24	09	71.8	24	09	71.8	24	09	
650	12	01	00	12	02	186	14	12	00	227	09	14	38	12	11	268	16	12	07	296	22	16	03	268	24	16	03	268	24	16	03	268	24	16	03	268	24	16	
600	134.4	05	02	134.5	05	03	175	14	134.9	07	26	214	14	135.6	08	23	297	21	136.1	10	29	307	20	136.9	09	14	137.9	19	28	253	25	135.3	18	14	135.3	18	14		
550	04	09	00	00	22	196	16	00	30	217	18	05	51	04	28	309	40	00	36	304	17	00	36	304	17	00	36	304	17	00	36	304	17	00	36	304	17	00	
500	178.7	13	19	179.1	10	32	194	21	179.6	11	36	212	18	180.0	10	54	266	29	180.6																				

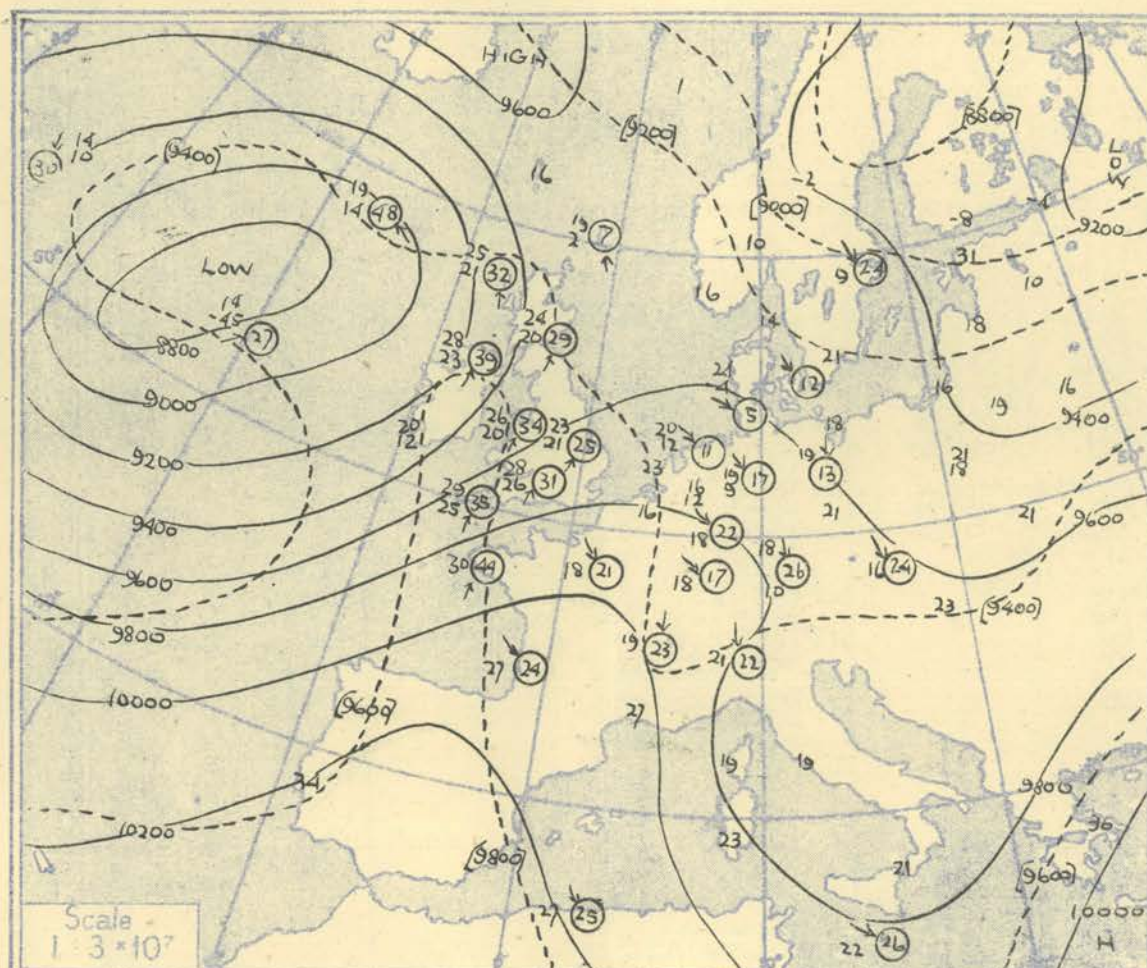


RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

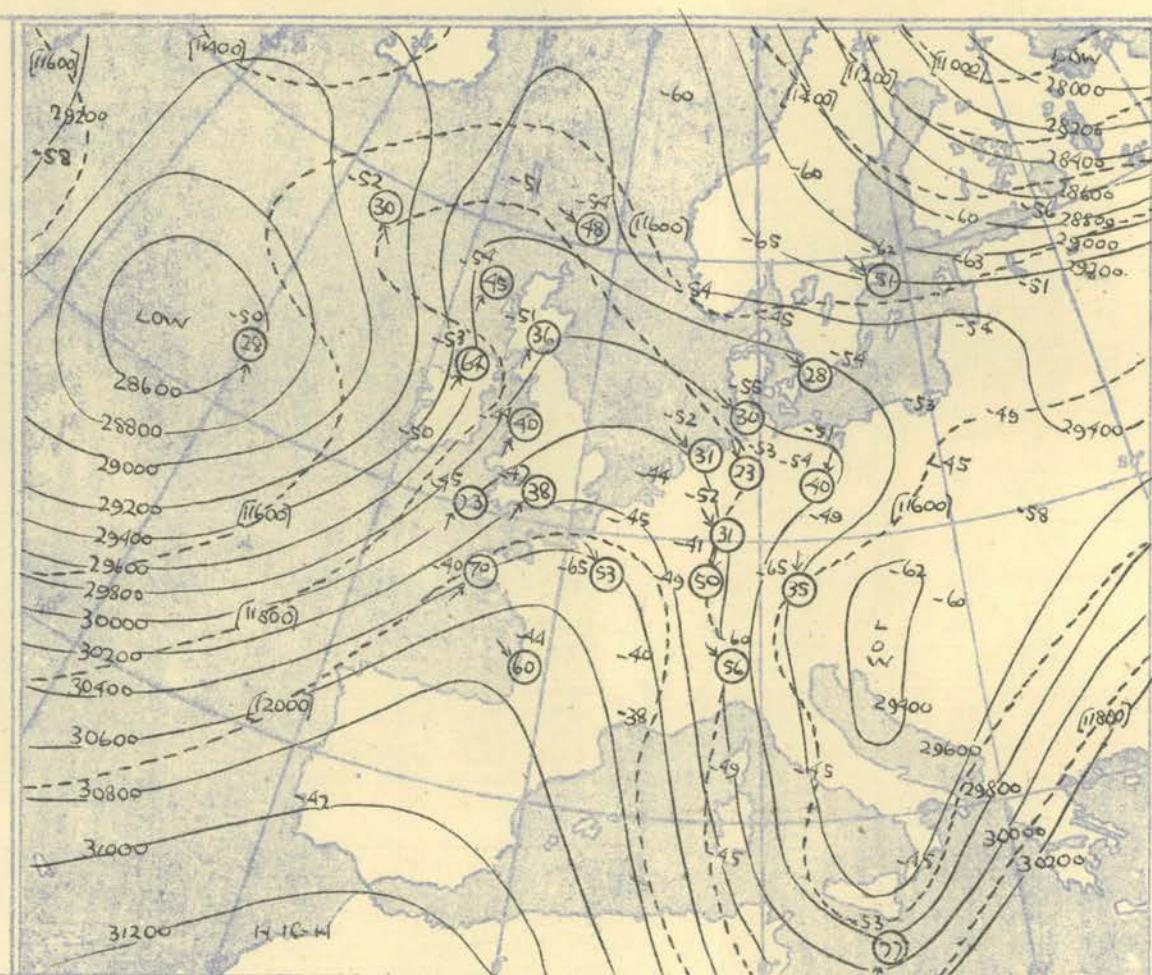
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	DOWNHAM MARKET	LARKHILL	CAMBORNE	Valentia	STATION
Time M.S.L.	03hrs 1005.2	03hrs 0957.7	03hrs 1000.0	03hrs 0950.1	03hrs 1002.6	03hrs 1010.1	03hrs 1007.8	03hrs 1001.5	03hrs 0959	Time M.S.L.
Surf	995.2	996.1	1001.2	998.1	1000.6	1005.6	999.8	991.5	999	Surf
Pressure	900	800	859	734	780	750	760	726	700	Pressure
Height ft/100	0	0	0	0	0	0	0	0	0	Height ft/100
Temp. °F	44	41	40	40	44	41	41	40	40	Temp. °F
Dew °F	07	06	05	05	07	06	06	05	05	Dew °F
Wind Dir.	010	010	010	010	010	010	010	010	010	Wind Dir.
Wind Vel. knots	12	12	12	12	12	12	12	12	12	Wind Vel. knots
Surf	02.7	02.7	02.7	02.7	02.7	02.7	02.7	02.7	02.7	Surf
1000	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	1000
950	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	950
900	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	900
850	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	850
800	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	800
750	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	750
700	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	700
650	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	650
600	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	600
550	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	550
500	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	500
450	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	450
400	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	400
350	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	350
300	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	300
250	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	250
200	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	200
170	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	170
150	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	150
130	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	130
110	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	110
100	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	100
90	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	90
80	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	80
70	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	70
60	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	60
Tropopause	1200 mb - 89°	1230 mb - 80°	1218 mb - 83°	1232 mb - 76°	1208 mb - 89°	NR	1189 mb - 88°	NR	1211 mb - 60°	Tropopause
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	DOWNHAM MARKET	LARKHILL	CAMBORNE	Valentia	STATION
Time M.S.L.	03hrs 1002.0	03hrs 0959.0	03hrs 1000.0	03hrs 0951.4	03hrs 1002.6	03hrs 1005.6	03hrs 1007.8	03hrs 1001.5	03hrs 0959	Time M.S.L.
Surf	992.0	997.4	1000.0	998.4	1000.6	1005.6	999.8	991.5	999	Surf
Pressure	848	800	859	734	780	750	760	726	700	Pressure
Height ft/100	0	0	0	0	0	0	0	0	0	Height ft/100
Temp. °F	44	41	40	40	44	41	41	40	40	Temp. °F
Dew °F	07	06	05	05	07	06	06	05	05	Dew °F
Wind Dir.	010	010	010	010	010	010	010	010	010	Wind Dir.
Wind Vel. knots	12	12	12	12	12	12	12	12	12	Wind Vel. knots
Surf	02.7	02.7	02.7	02.7	02.7	02.7	02.7	02.7	02.7	Surf
1000	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	1000
950	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	950
900	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	900
850	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	850
800	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	800
750	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	750
700	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	700
650	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	650
600	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	600
550	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	550
500	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	500
450	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	450
400	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	400
350	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	350
300	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	300
250	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	250
200	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	200
170	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	170
150	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	150
130	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	130
110	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	110
100	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	100
90	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	90
80	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	80
70	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	70
60	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	01.4	60
Tropopause	1180 mb - 89°	1244 mb - 75°	1216 mb - 80°	1262 mb - 60°	1240 mb - 70°	1186 mb - 88°	1195 mb - 78°	1205 mb - 74°	NR	Tropopause



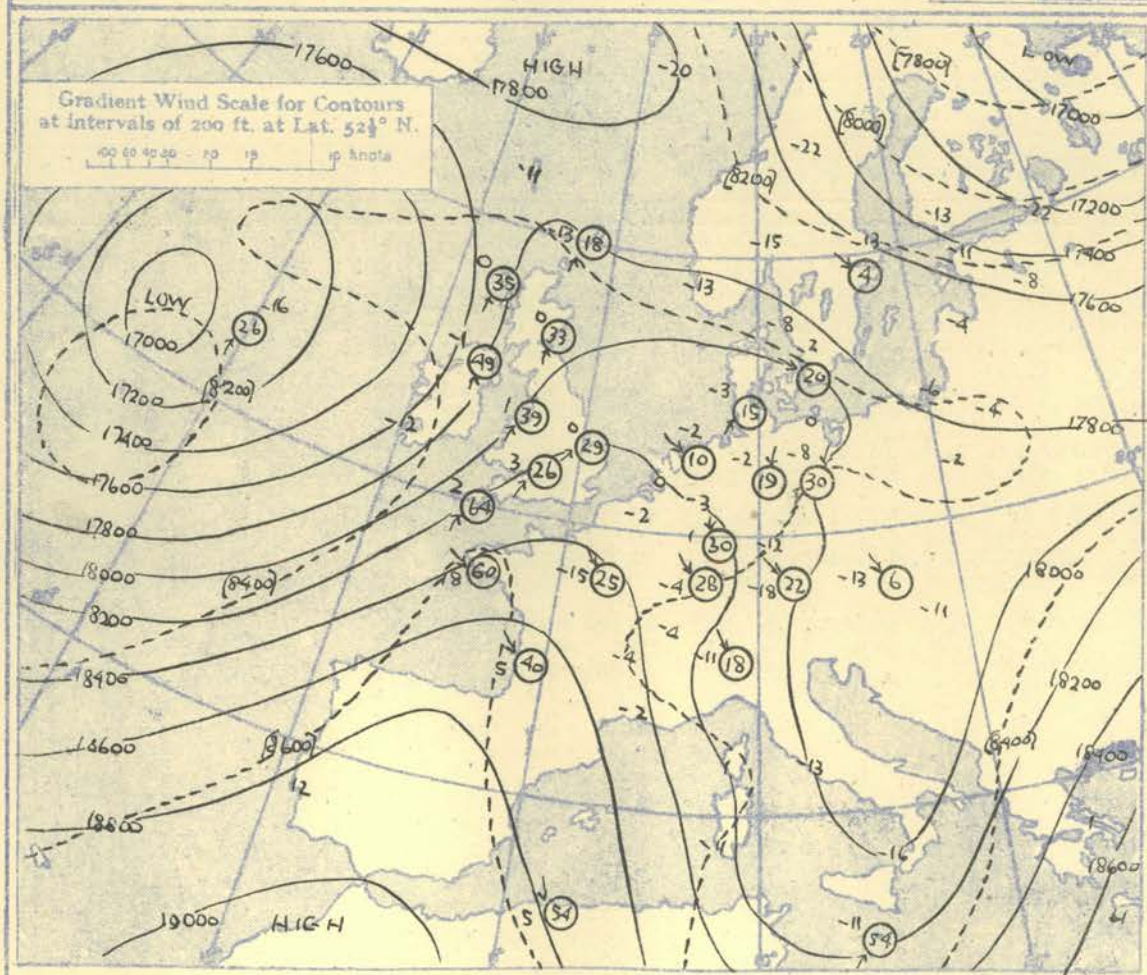
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



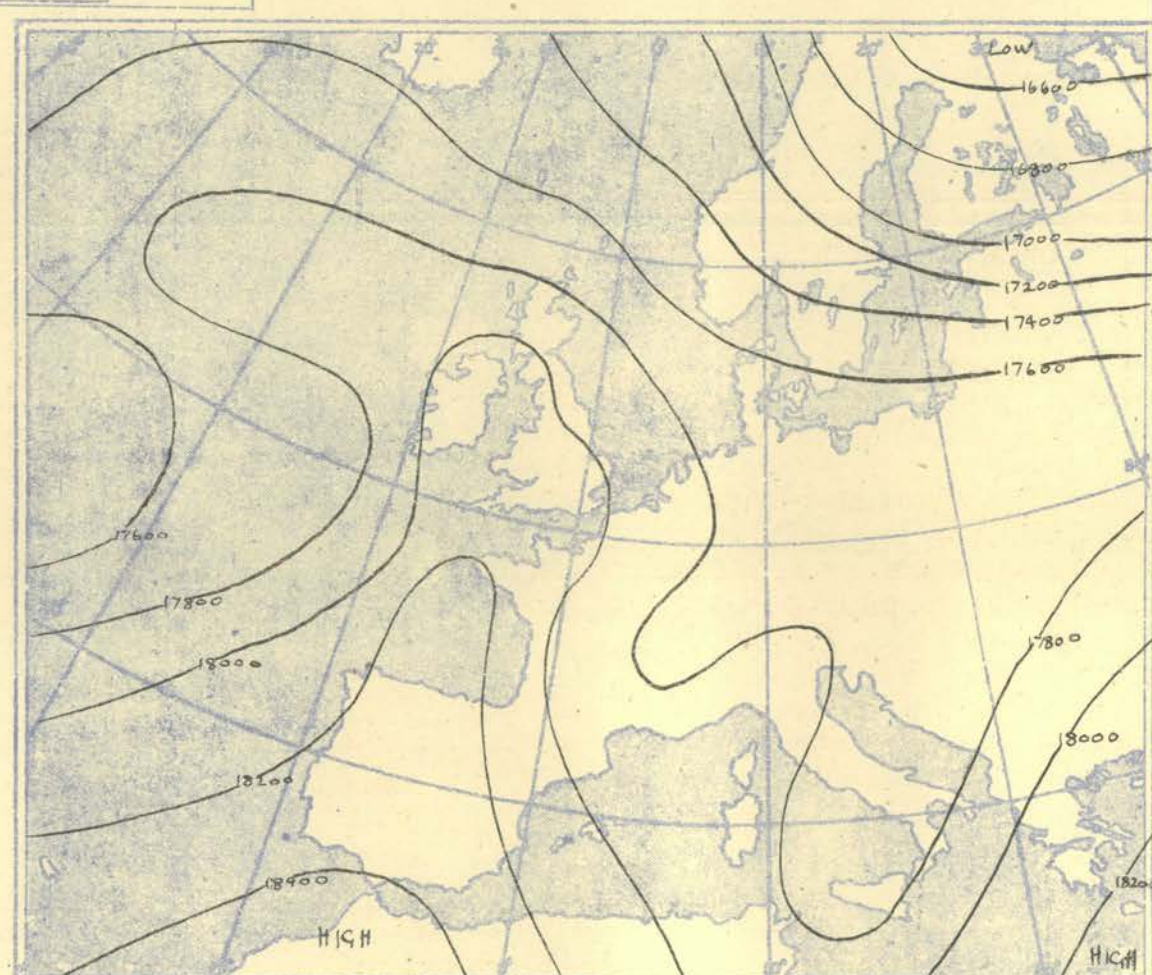
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHROSCOPE OBSERVATIONS

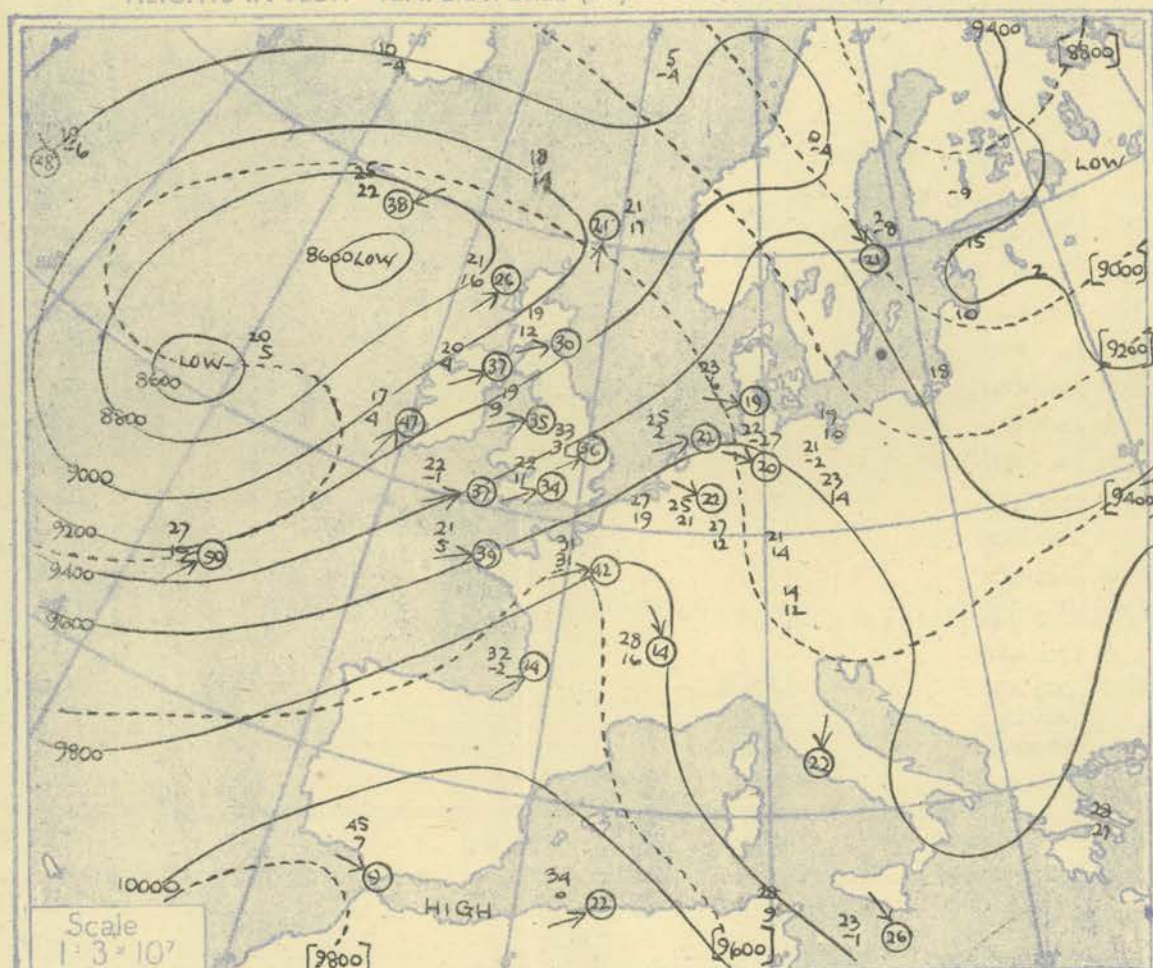
[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS

[illegible]



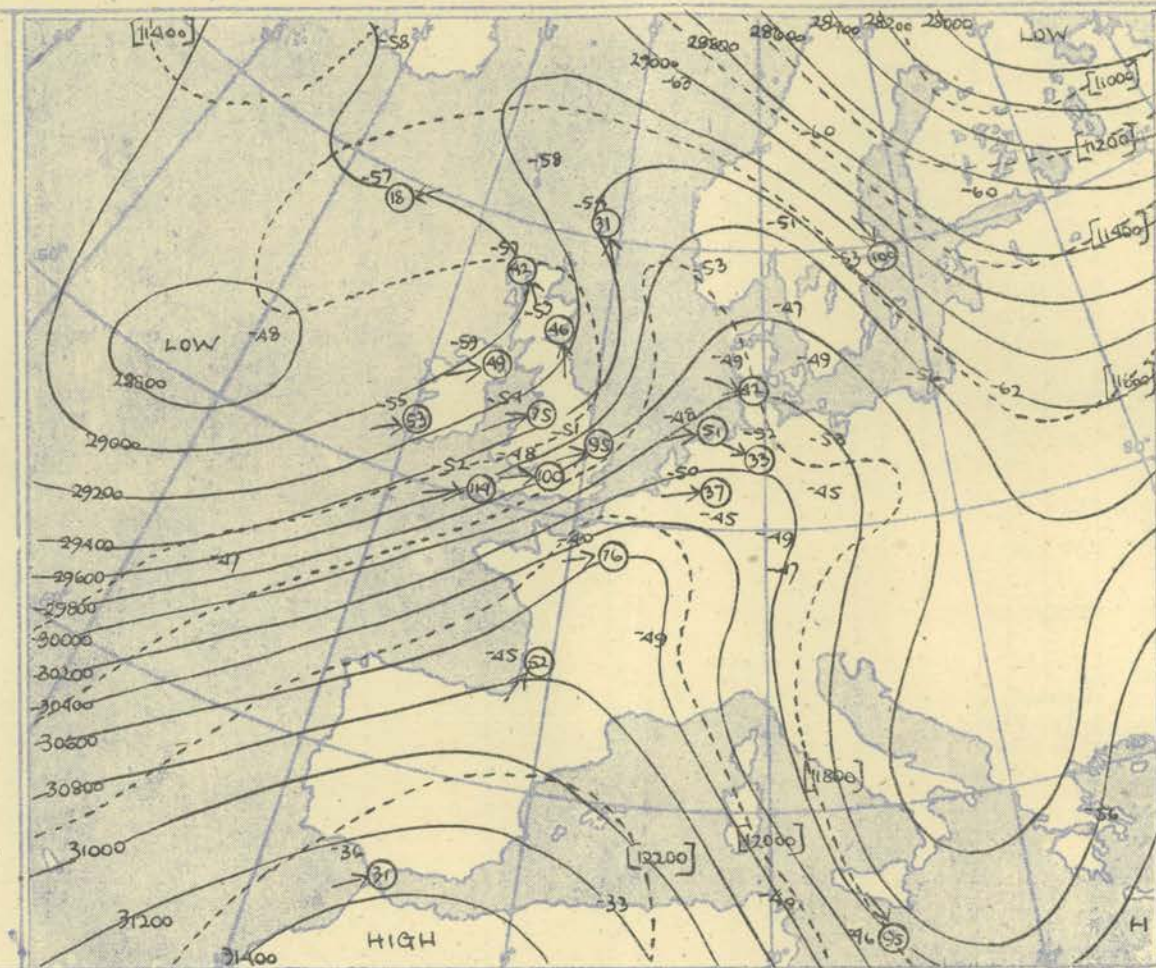
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

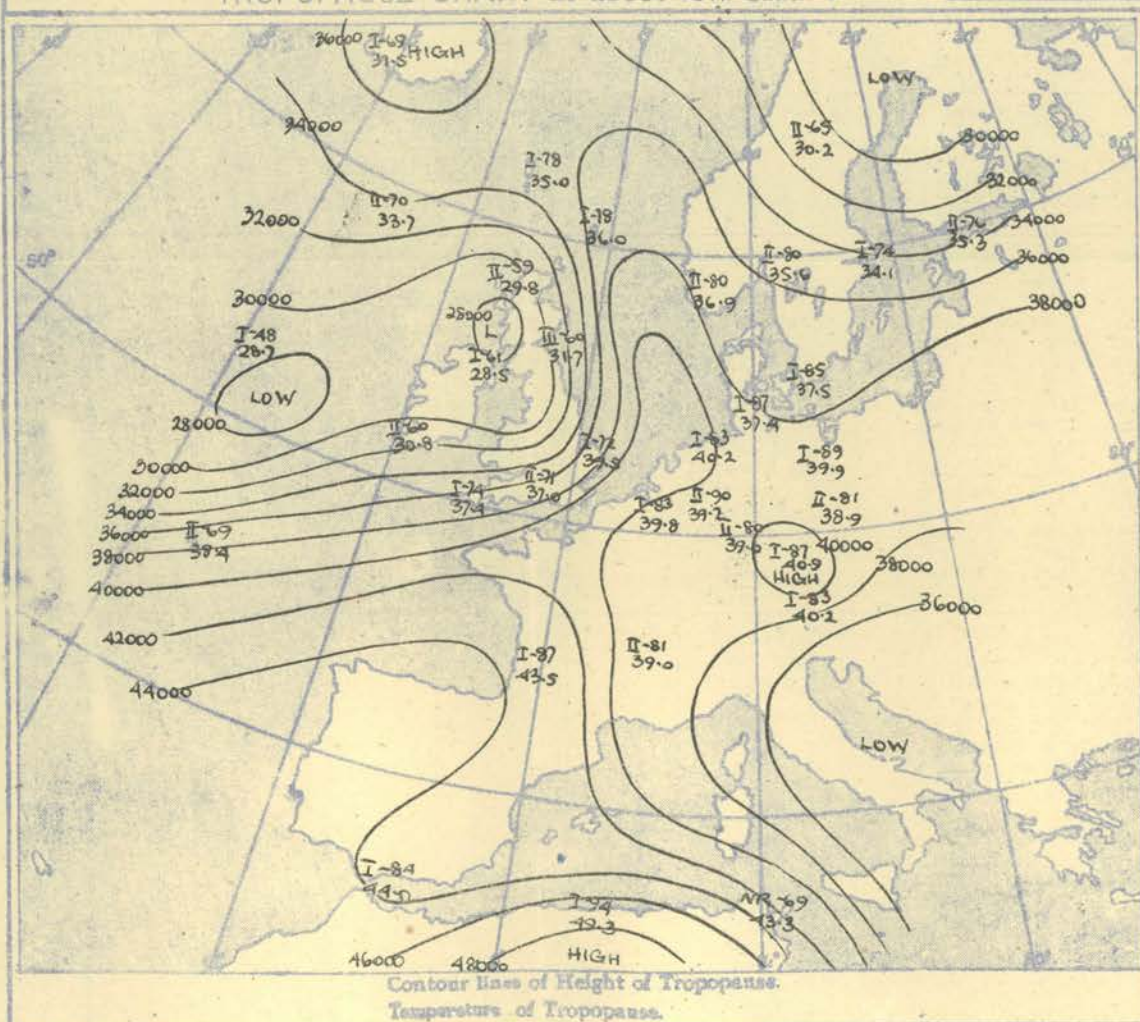
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h GMT.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

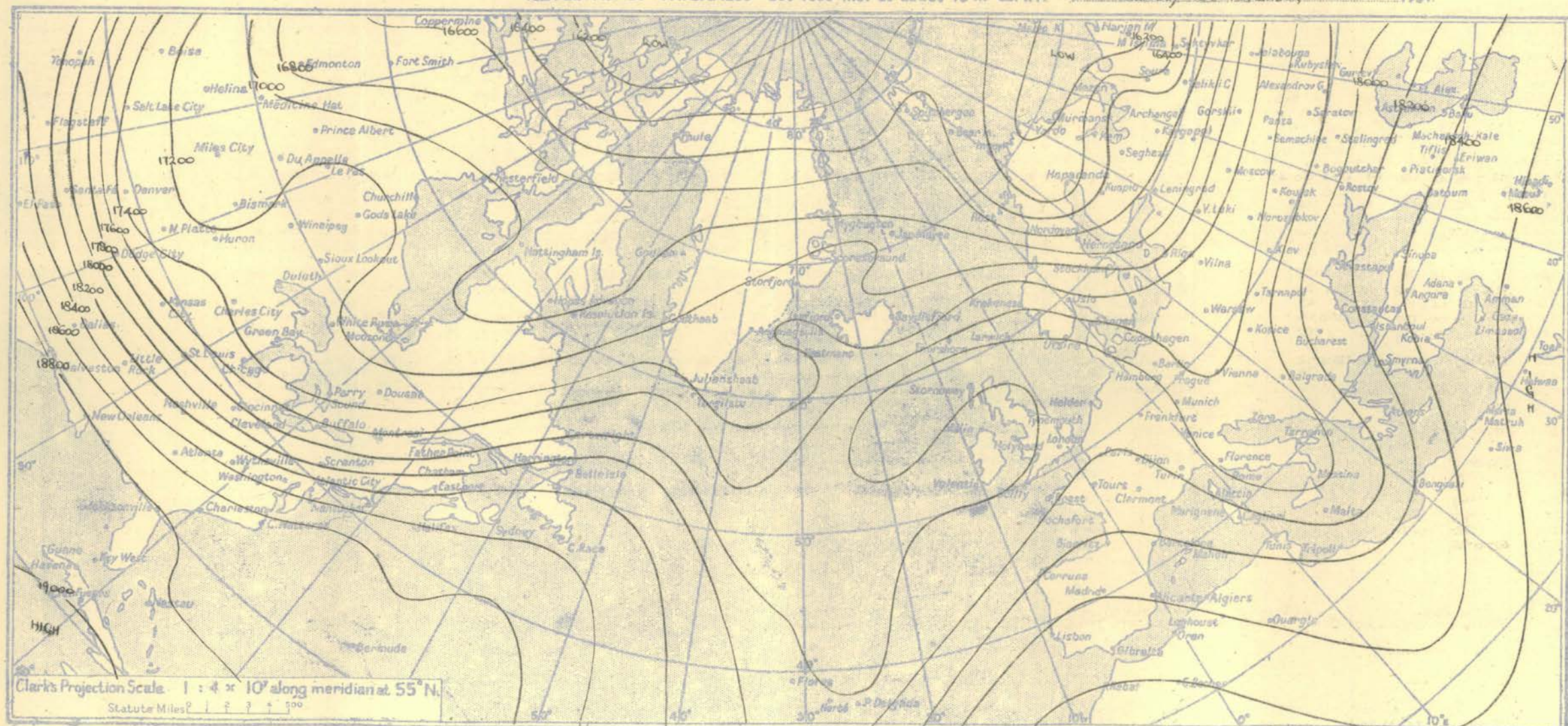
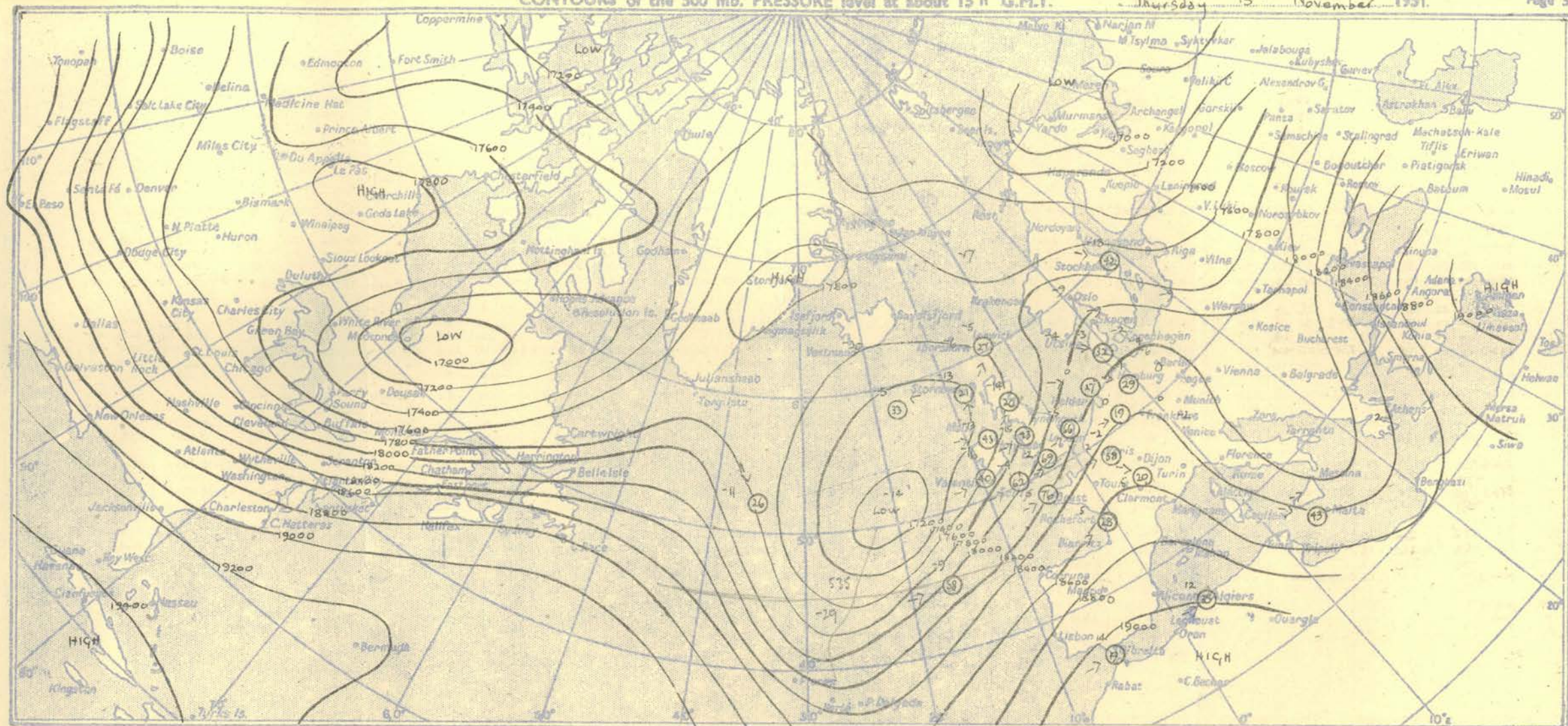
### NOTES ON THE AEROLOGICAL SITUATION.

The ridge over the British Isles moved east and weakened.  
Further warming occurred in the southern portion of the  
Atlantic cold trough.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.







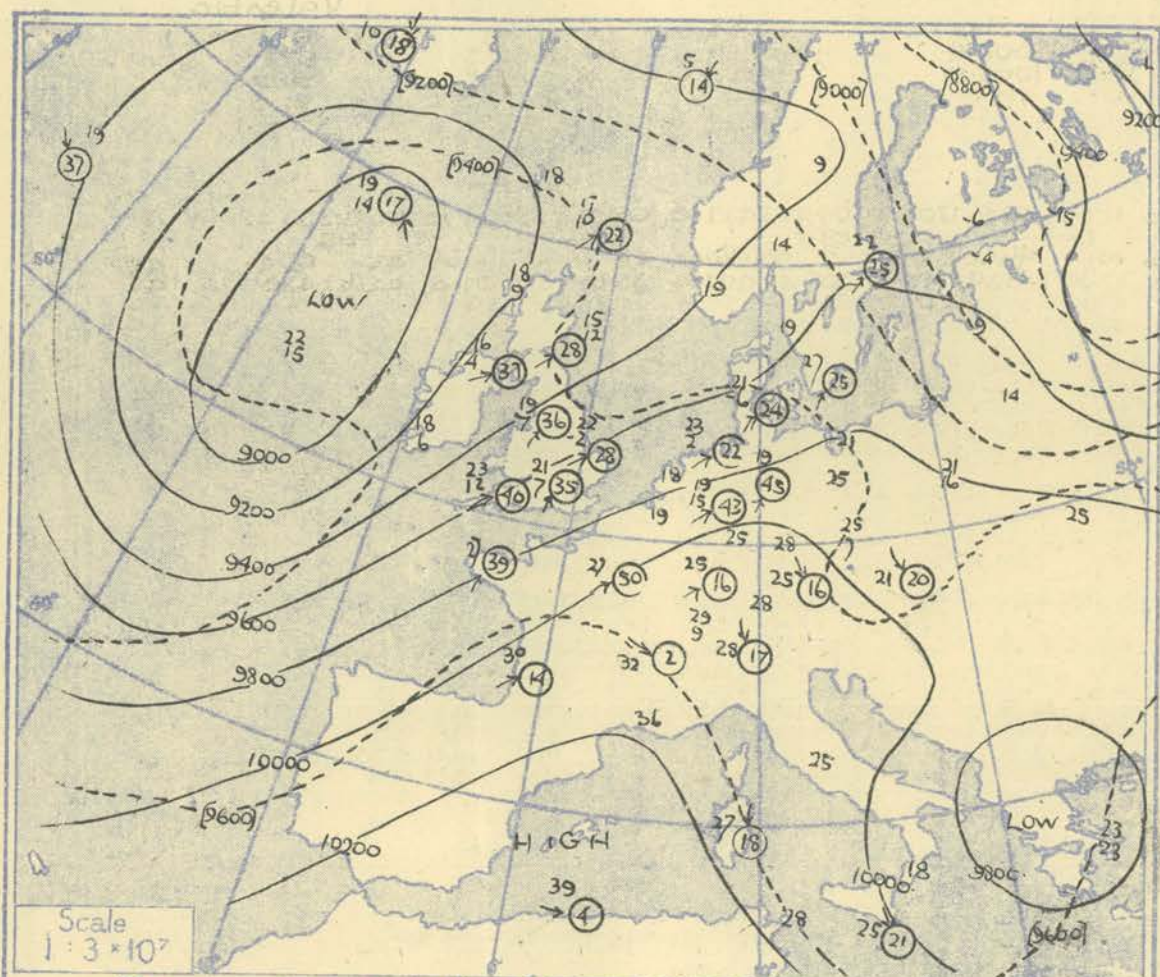
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																												
Time M.S.L. Surf Pressure	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	15h.	G.M.T.	Time M.S.L. Surf Pressure																																																																																																																		
	997.5 987.6 850	mb mb mb	989.1 987.5 816	mb mb mb	994.6 993.8 817	mb mb mb	995.3 986.3 822	mb mb mb	1000.4 998.4 819	mb mb mb	1004.2 999.8 795	mb mb mb	1005.4 989.7 794	mb mb mb	1005.7 995.3 800	mb mb mb	996 994 825	mb mb mb																																																																																																																															
Pressure mb	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Height ft./100	Temp. °F. °F.	Wind Dir. knots	Wind Vel. knots	Pressure mb																																																																																																																				
Surf 1000 950 900 850 800	02.7 00.7 42 21.6 42.6 58.6	46 42 36 32 29	43 120 140 144 150 159	22 26 37 37 27	00.4 02.0 47 43 37 30	50 47 43 34 26	180 195 191 191 197	20 42 44 37 33	00.2 01.5 49 44 42 30	32 43 39 31 25	270 245 248 249 249	09 24 27 29 33	02.5 01.3 50 42 35 29	43 39 37 30 23	190 208 217 224 230	15 34 37 40 39	00.6 00.1 56 53 46 29	44 38 32 25 16	240 246 250 257 259	12 23 26 30 35	01.2 01.2 56 51 45 39	50 50 47 42 37 31	200 234 245 253 247	15 15 31 28 34	04.4 01.5 56 50 43 38	50 44 37 31 25	230 230 235 246 250	15 21 21 25 29	02.9 01.6 56 50 43 38	50 46 42 37 31	230 228 232 236 241	18 30 28 29 31	00.3 -1.1 54 48 35 29	48 44 35 28	220 208 214 214 214	20 28 48 41																																																																																																													
750 700 650 600 550	25 35.1 17 132.2 04	22 17 13 07 -01	165 182 191 196 209	22 21 23 20 20	26 21 12 05 -03	22 16 08 -04 -15	200 201 198 194 192	29 26 23 27 23	25 19 13 04 -03	16 12 03 -06 -11	246 247 257 250 238	35 30 25 29 30	25 28 04 -02 -11	39 37 40 42 36	235 236 229 230 230	39 37 42 42 36	60.1 29 16 259 35	27 20 16 10 02	245 238 242 247 244	37 36 40 45 50	27 20 16 10 02	245 238 242 247 244	37 36 40 45 50	04.4 01.5 56 50 43 38	50 44 37 31 25	230 230 235 246 250	15 21 21 25 29	02.9 01.6 56 50 43 38	50 46 42 37 31	230 228 232 236 241	18 30 28 29 31	00.3 -1.1 54 48 35 29	48 44 35 28	220 208 214 214 214	20 28 48 41																																																																																																														
500 450 400 350	177.3 15 230.2 89	-06 -15 -26 -47	193 187 188 178	27 24 22 28	174.9 -25 -31 -45	-13 -41 -51 -45	173 161 147 136	21 29 29 45	176.0 23 -27 -45	-14 -27 -31 -45	203 201 195 171	20 26 31 36	176.3 -26 -40 -50	-13 -26 -39 -52	227 231 241 250	43 48 45 50	180.1 -05 -20 -35	20 20 17 10	234 235 240 245	66 75 81 88	180.1 -05 -20 -35	20 20 17 10	234 235 240 245	66 75 81 88	180.4 02 -33 -11	69 74 79 84	180.4 04 -35 -16	62 72 76 84	175.9 -16 -31 -44	31 42 42 44	231 229 228 238	46 53 59 63																																																																																																																	
300 250 200 170	294.6 70 379.2 69	-54 -70 -73 -69	169 180 194 206	31 32 21 18	290.5 -59 -64 -68	-57 -59 -64 -68	140 156 173 206	42 15 23 12	291.2 -61 -63 -64	-53 -61 -63 -64	176 196 201 213	46 37 32 33	290.6 -59 -59 -59	-59 -59 -59 -59	239 229 225 227	49 43 42 35	292.9 -54 -57 -61 -62	75 58 57 45	291.7 -51 -61 -61 -65	239 242 242 246	95 86 80 68	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100 102 97 78	291.7 -52 -66 -68 -72	100



RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																					
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				Valencia			
Time M.S.L.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Surf		995.3		mb		993.5		mb		999.0		mb		995.8		mb		1001.8		mb		1001.4		mb		1005.1		mb		1004.3		mb					
Pressure		985.5		mb		991.9		mb		998.2		mb		986.7		mb		1000.8		mb		1003.9		mb		992.1		mb		993.8		mb					
Height ft/100		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Temp.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Dew		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Wind		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Dir.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Vel.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
knots		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Surf		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
1000		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
950		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
900		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
850		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
800		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
750		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
700		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
650		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
600		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
550		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
500		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
450		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
400		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
350		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
300		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
250		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
200		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
170		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
150		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
130		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
110		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
100		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
90		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
80		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
70		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
60		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Isothermal		985-963 ms 48°																																			
Tropopause		II 250 ms -68°																																			
Station		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				Valencia			
Time M.S.L.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Surf		996.3		mb		992.9		mb		997.6		mb		992.1		mb		999.3		mb		1006.9		mb		1005.9		mb		1001.3		mb					
Pressure		986.3		mb		991.3		mb		996.8		mb		983.0		mb		997.5		mb		1002.5		mb		990.0		mb		991.0		mb					
Height ft/100		840				834				845				818				817				809				803				792							
Temp.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Dew		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Wind		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Dir.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Vel.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
knots		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
Surf		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
1000		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
950		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
900		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
850		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
800		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
750		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
700		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
650		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
600		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
550		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
500		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
450		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
400		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
350		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.		03hrs		G.M.T.					
300		03hrs		G.M.T.																																	

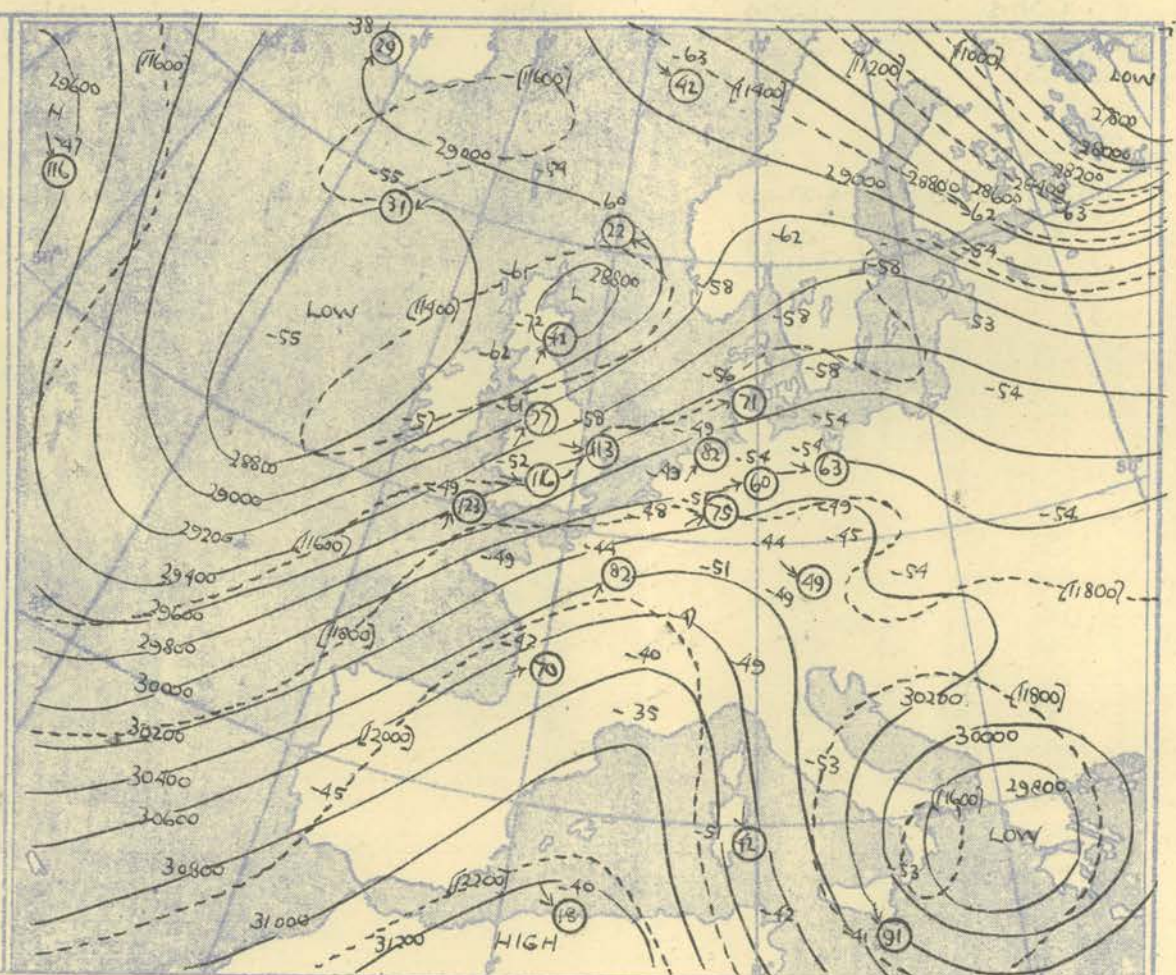


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

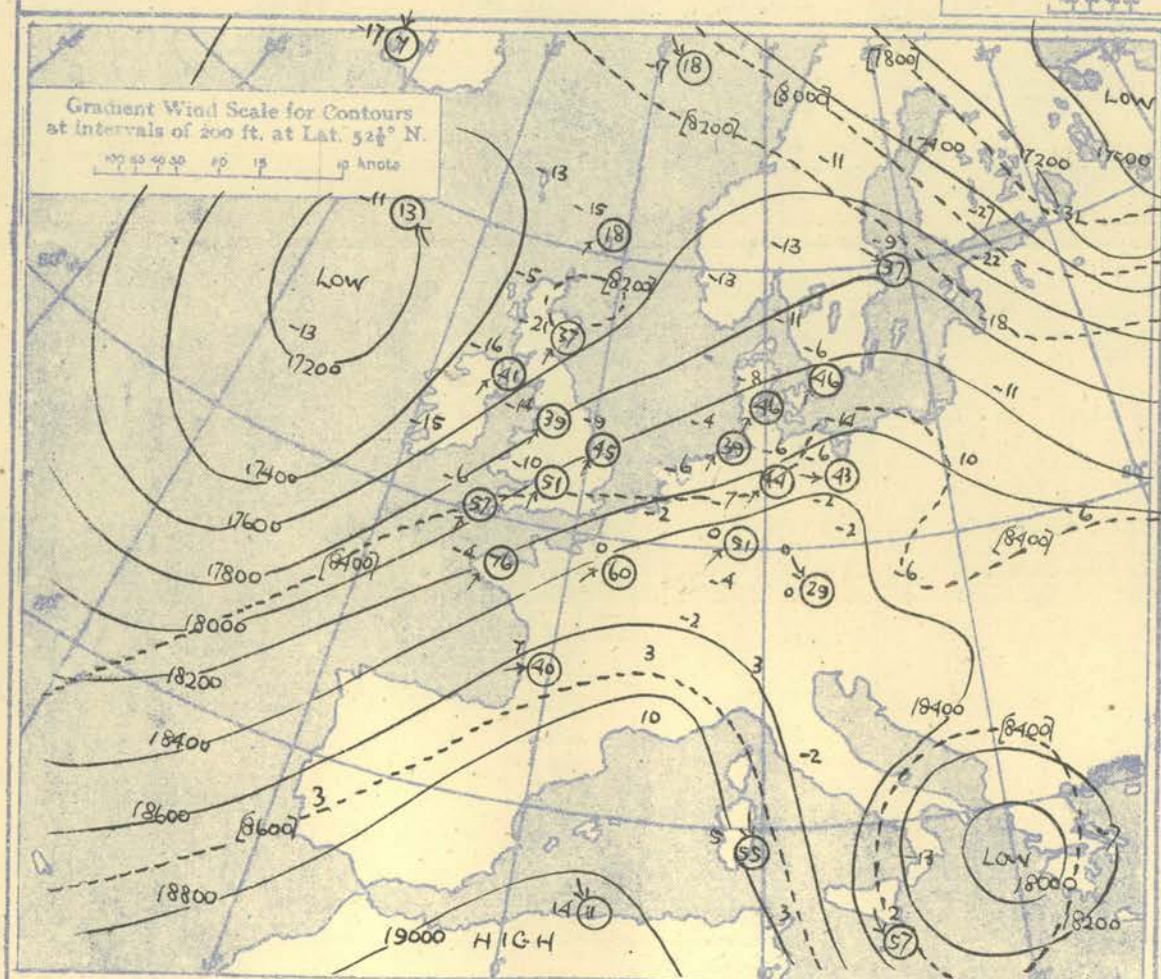


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

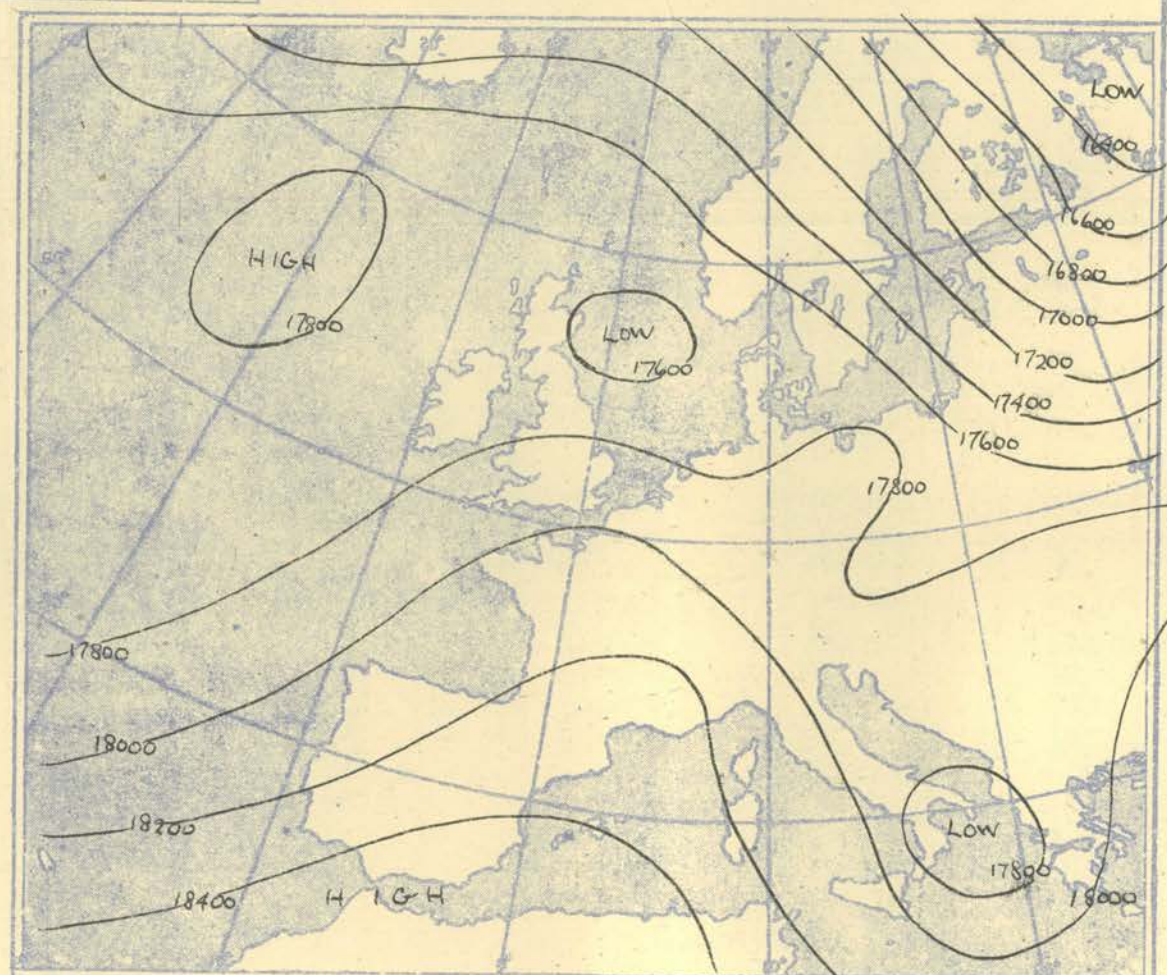
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52^\circ$  N  
100 80 60 40 20 10 up knots



The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

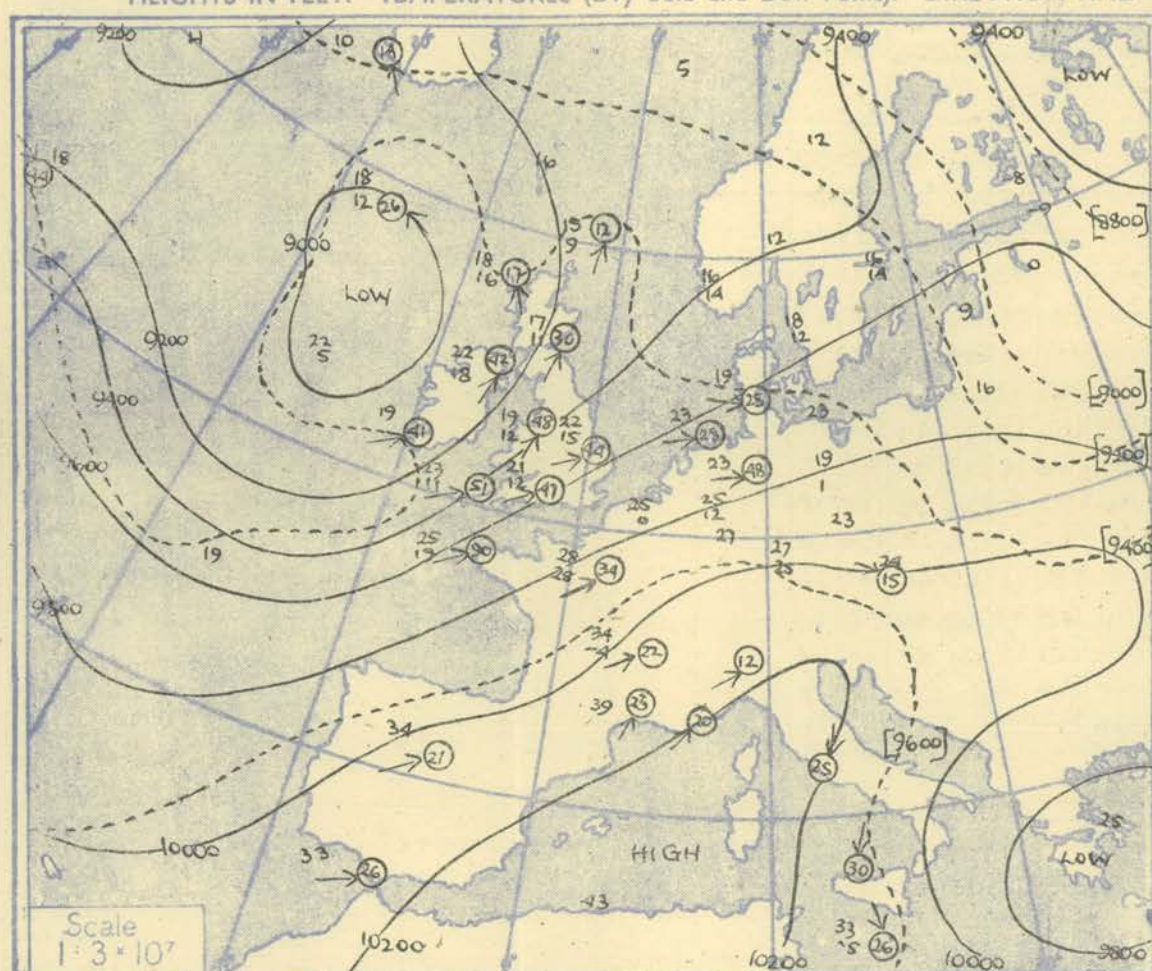
[illegible]

## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

[illegible]



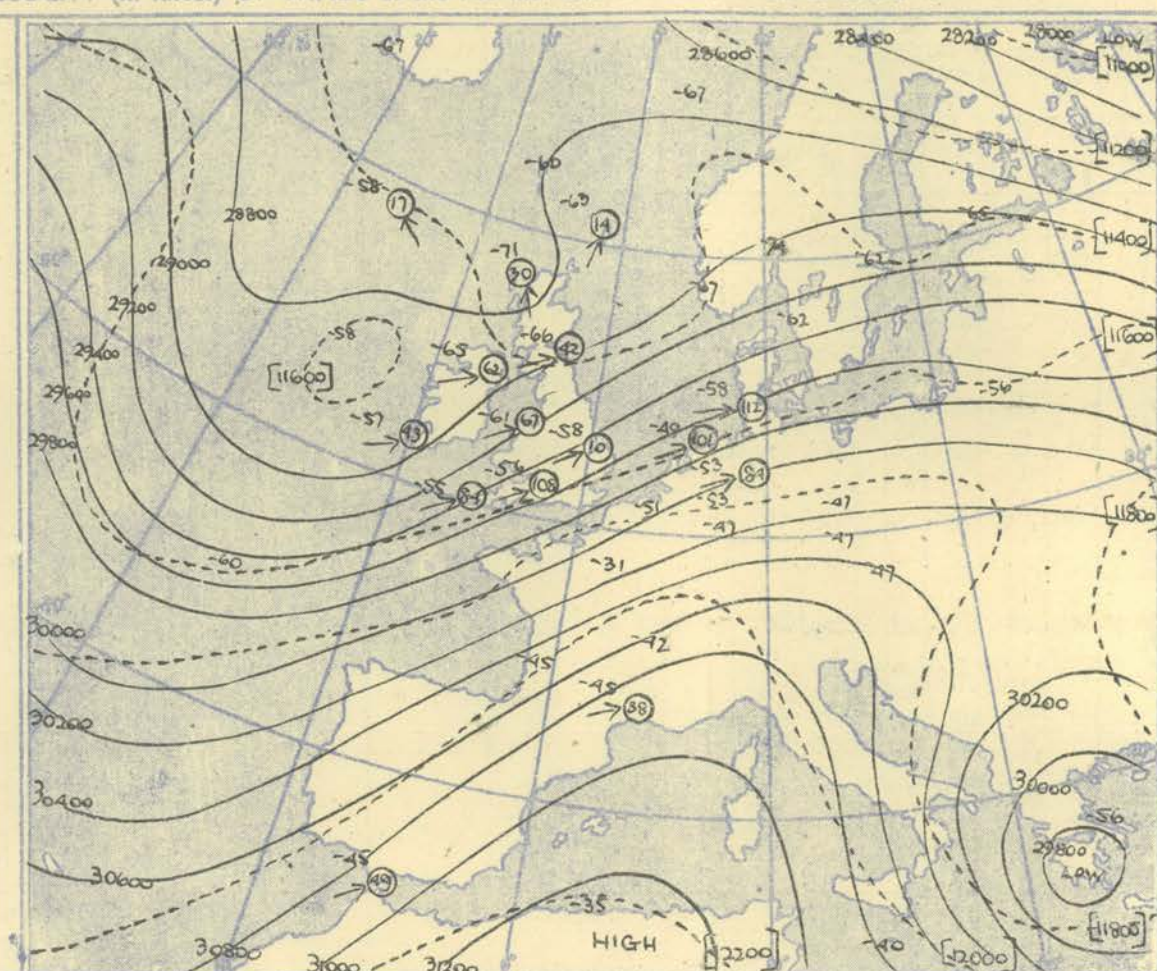
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 1000-700 mb.

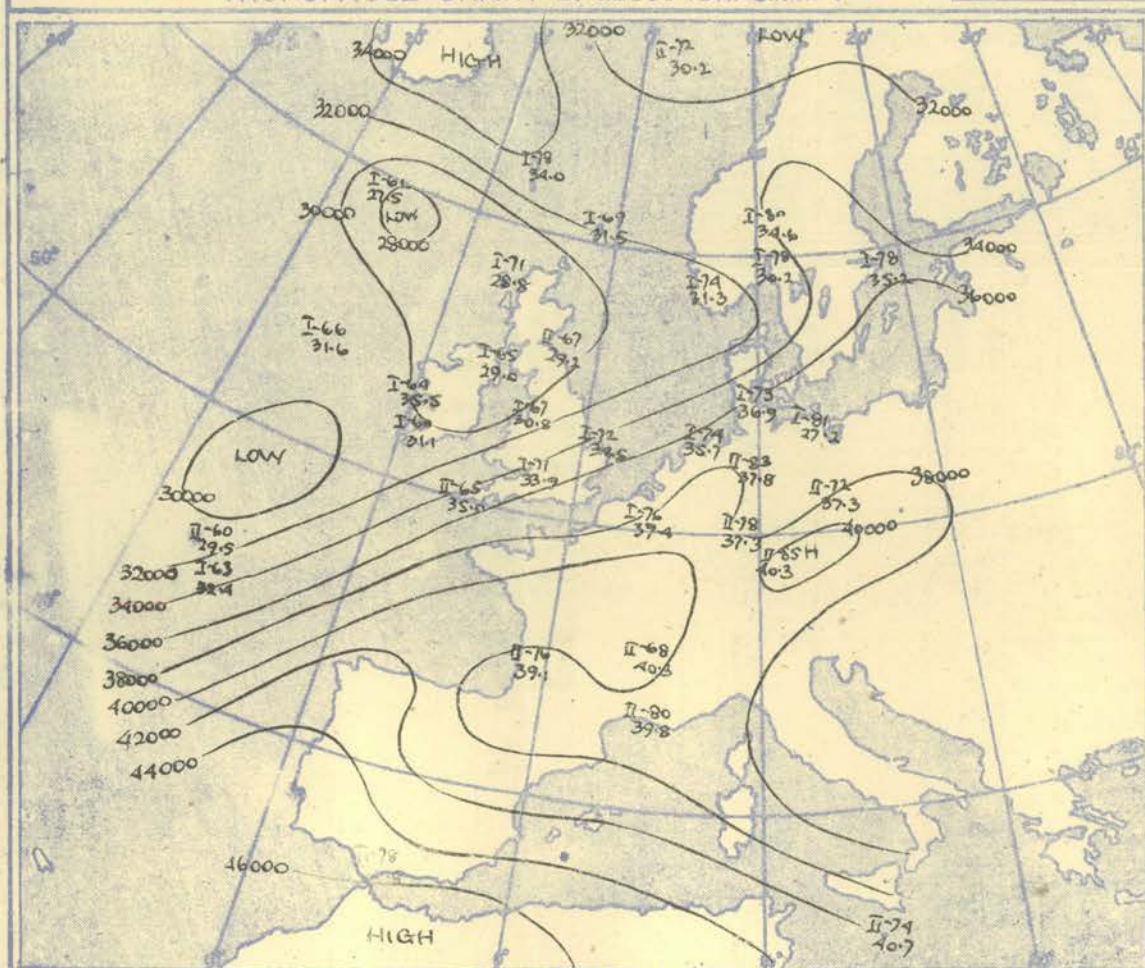
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isotherms of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

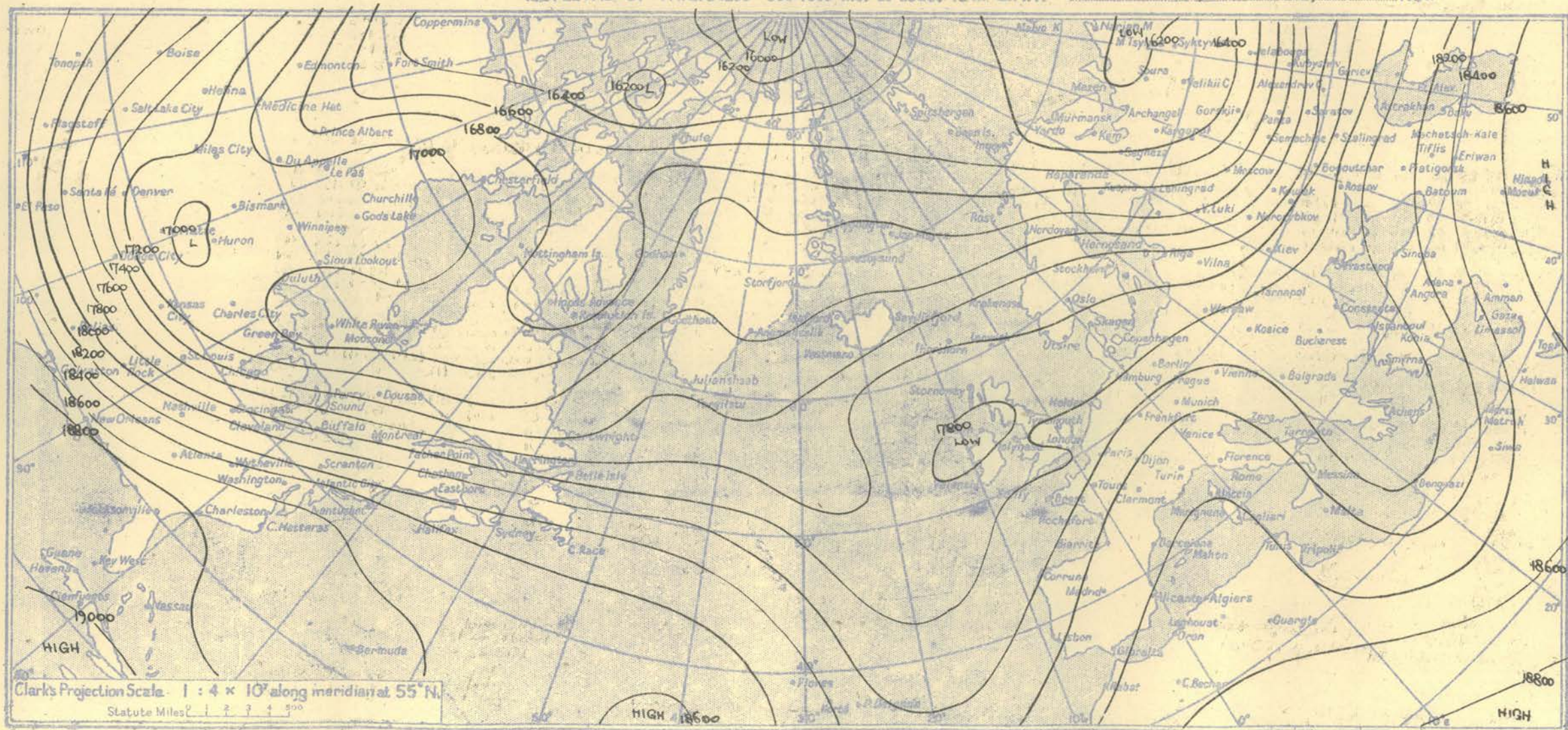
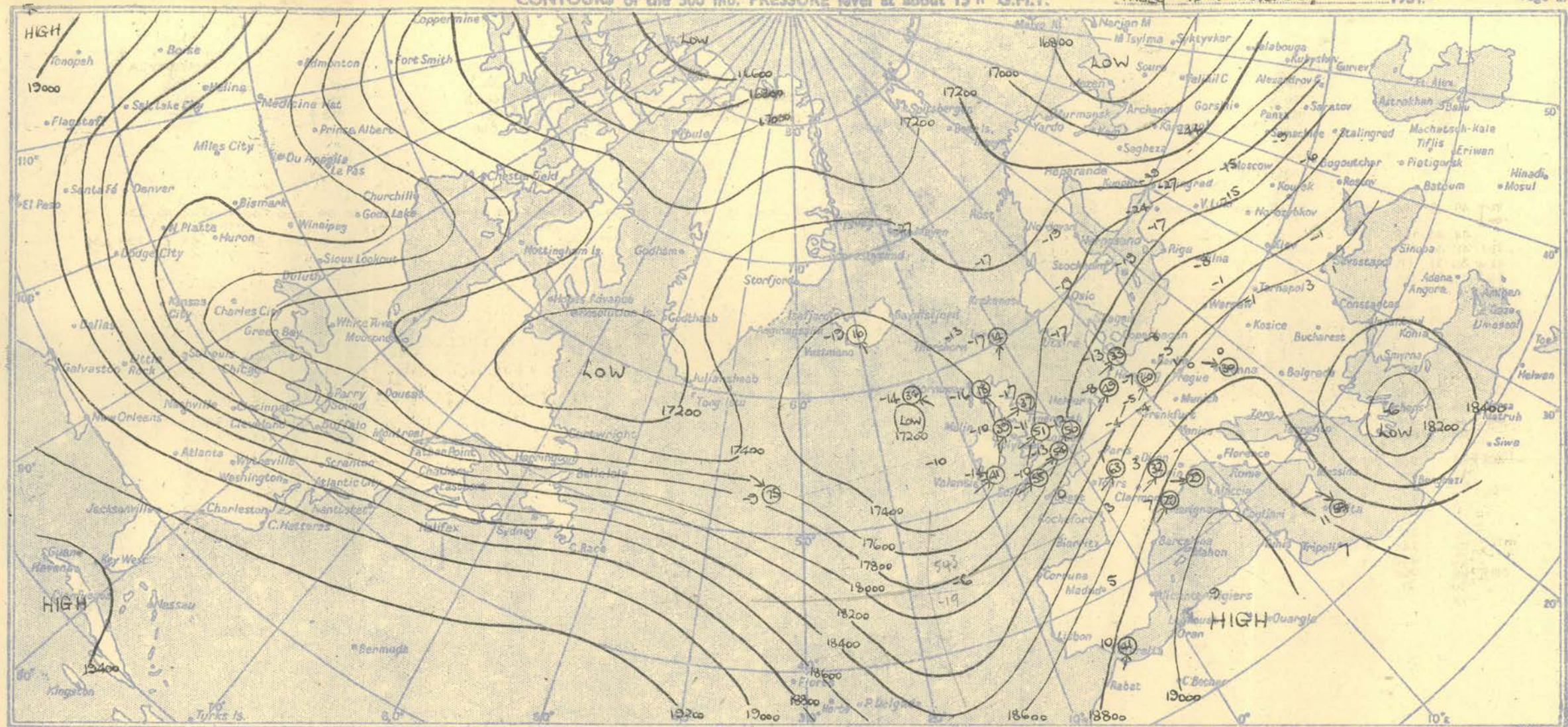
### NOTES ON THE AEROLOGICAL SITUATION.

Steady eastward extension of the strong thermal gradient over the Western Atlantic, Newfoundland and the Northeast United States.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

Station	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				DOWNHAM MARKET				LARKHILL				CAMBORNE				VALENTIA				Station
Time M.S.L. Surf Pressure	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	ish.	G.M.T.	Time M.S.L. Surf Pressure				
	995.1 985.2 828	mb mb mb	990.5 988.9 842	mb mb mb	993.6 992.8 836	mb mb mb	987.7 978.7 795	mb mb mb	995.9 993.9 813	mb mb mb	1003.5 999.1 793	mb mb mb	1002.8 987.0 800	mb mb mb	999.2 988.9 780	mb mb mb	988.8 986 820	mb mb mb																			
Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb				
Surf	02.7	49	48	160 08	00.4	49	45	140 08	00.2	51	47	210 09	02.5	51	46	170 15	00.6	55	45	200 17	01.2	54	49	190 12	04.4	53	51	203 25	02.9	55	50	200 30	00.3	54	46	230 19	Surf
1000	02.1	44	43	160 16	02.3	46	40	144 15	01.8	47	43	192 20	03.4	48	43	188 27	01.1	52	42	208 27	01.0	54	49	190 12	00.7	53	51	203 25	00.3	52	49	207 42	03.5	48	42	239 34	1000
950	04.4	43	34	169 16	26.1	40	37	147 16	26.7	41	37	206 25	25.2	42	37	198 41	21.7	45	37	217 34	29.7	43	41	217 38	29.4	42	38	219 34	28.5	44	43	222 45	25.2	41	38	238 37	950
900	02.4	35	27	177 13	41.2	33	30	151 14	41.9	34	30	218 28	40.4	36	32	205 45	42.9	38	31	220 44	45.0	38	37	231 43	44.6	37	32	223 40	43.8	38	35	224 50	34.3	31	243 38	900	
850	03.3	29	25	183 12	57.1	28	25	157 14	57.8	28	25	223 29	56.5	32	28	205 44	59.4	30	24	220 46	61.0	33	32	234 43	60.7	32	26	224 41	59.9	34	12	228 50	56.3	29	27	245 38	850
800	04.2	22	14	185 12	91.5	25	22	145 15	92.3	23	21	219 32	91.3	27	23	204 42	94.0	25	20	218 48	95.8	28	25	231 43	95.4	27	20	224 41	94.8	29	18	227 53	92.4	24	20	243 42	800
750	05.6	15	09	183 12	101.5	18	16	145 17	102.3	17	11	216 30	101.3	22	18	200 42	104.0	19	12	218 48	105.8	22	15	235 44	105.4	21	12	225 47	104.8	23	11	227 51	100.7	19	07	239 44	750
700	06.0	08	00	182 14	101.5	10	08	146 15	102.3	12	01	218 33	101.3	16	11	200 44	104.0	12	07	222 48	105.8	14	05	239 45	105.4	14	05	225 48	104.8	17	06	227 50	100.7	12	03	237 44	700
650	07.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	650
600	08.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	600
550	08.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	550
500	09.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	500
450	10.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	450
400	11.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	400
350	12.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	350
300	13.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	300
250	14.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	250
200	15.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	200
170	16.0	01	12	189 14	130.1	02	00	158 17	131.0	04	14	211 27	130.4	09	04	201 43	132.8	05	03	227 49	134.7	06	09	237 48	134.3	06	04	230 51	134.0	09	00	227 54	129.4	04	06	243 46	170
150	17.0	01	12	189 14	130.1	02	00	158 17	131.0</																												

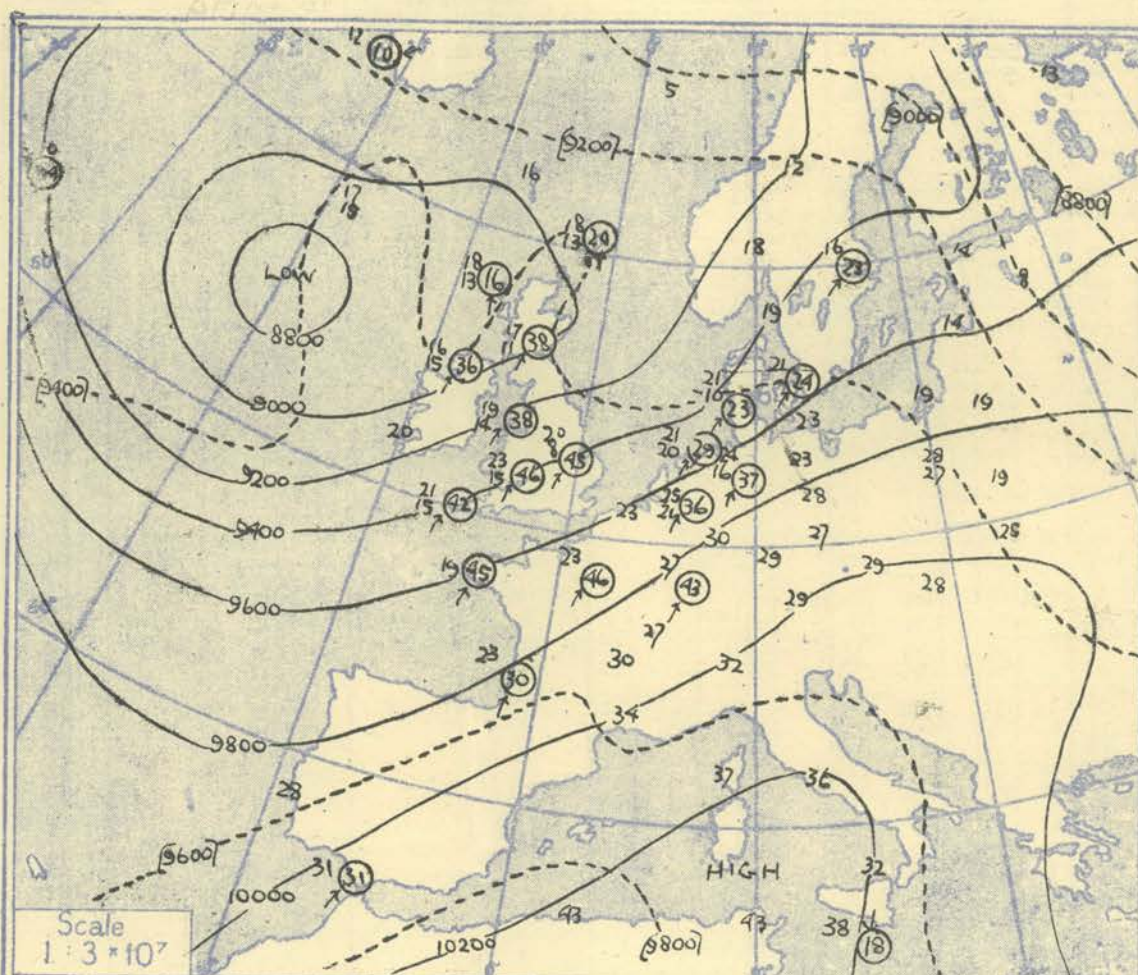


## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

[illegible]



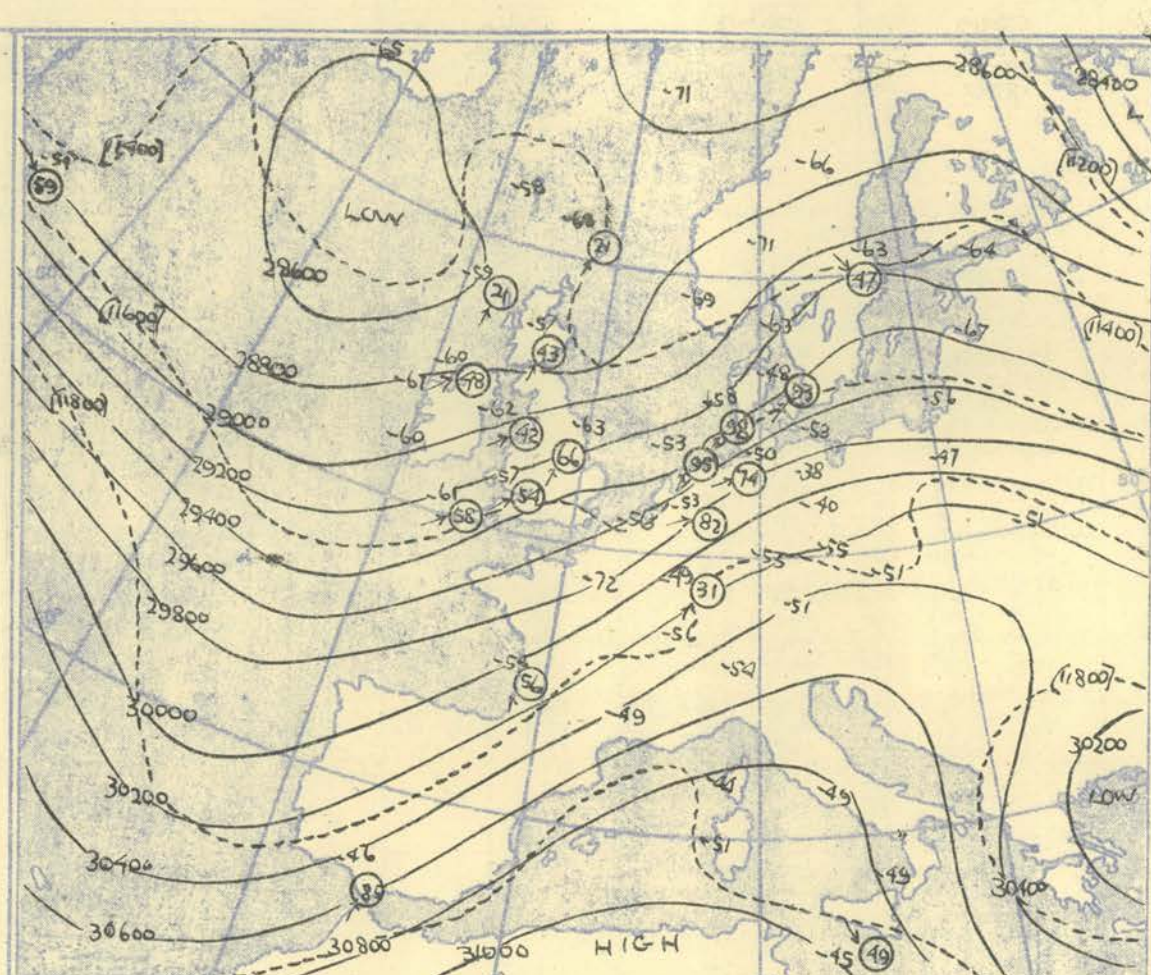
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. 500 mb. and 300 mb. levels at about 03h G.M.T.



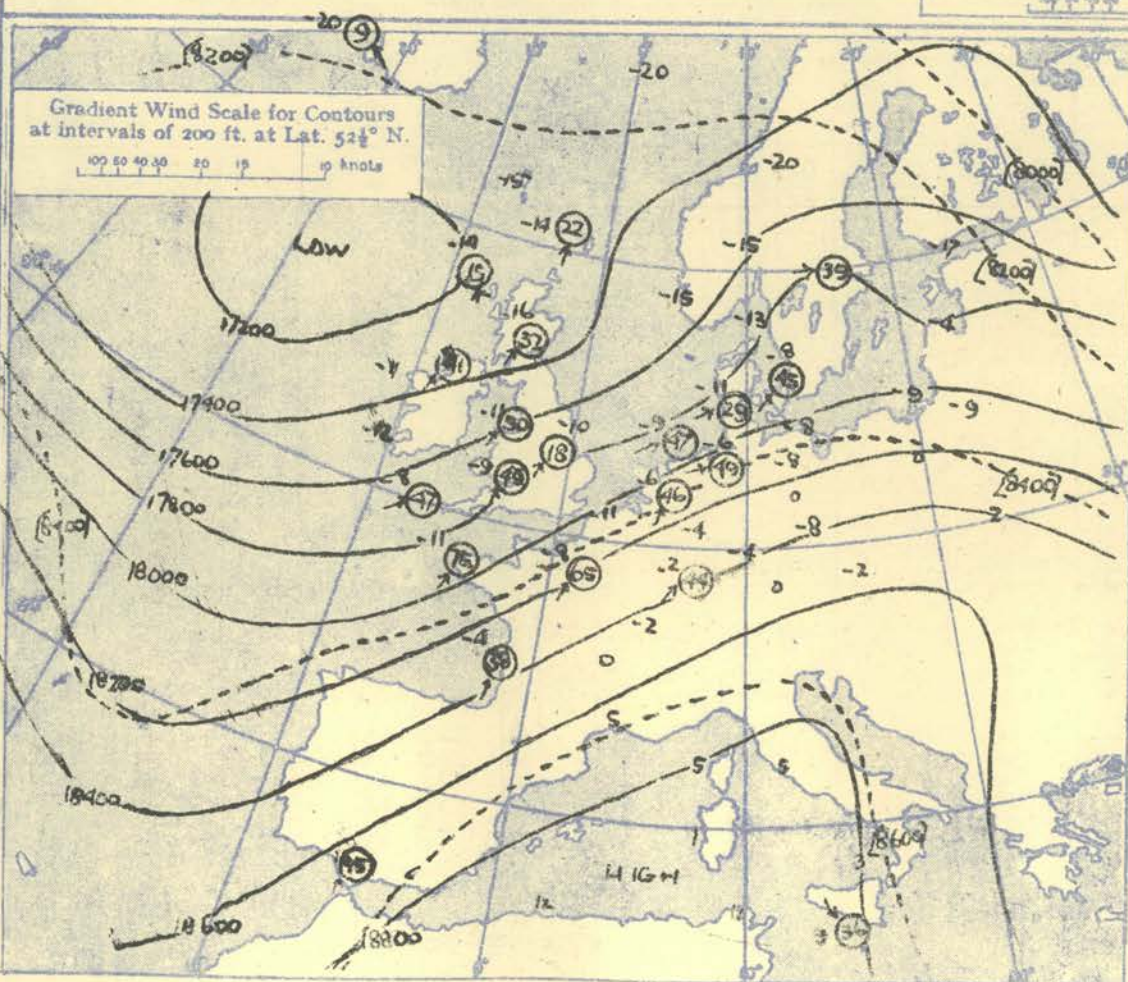
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-1000 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52½° N

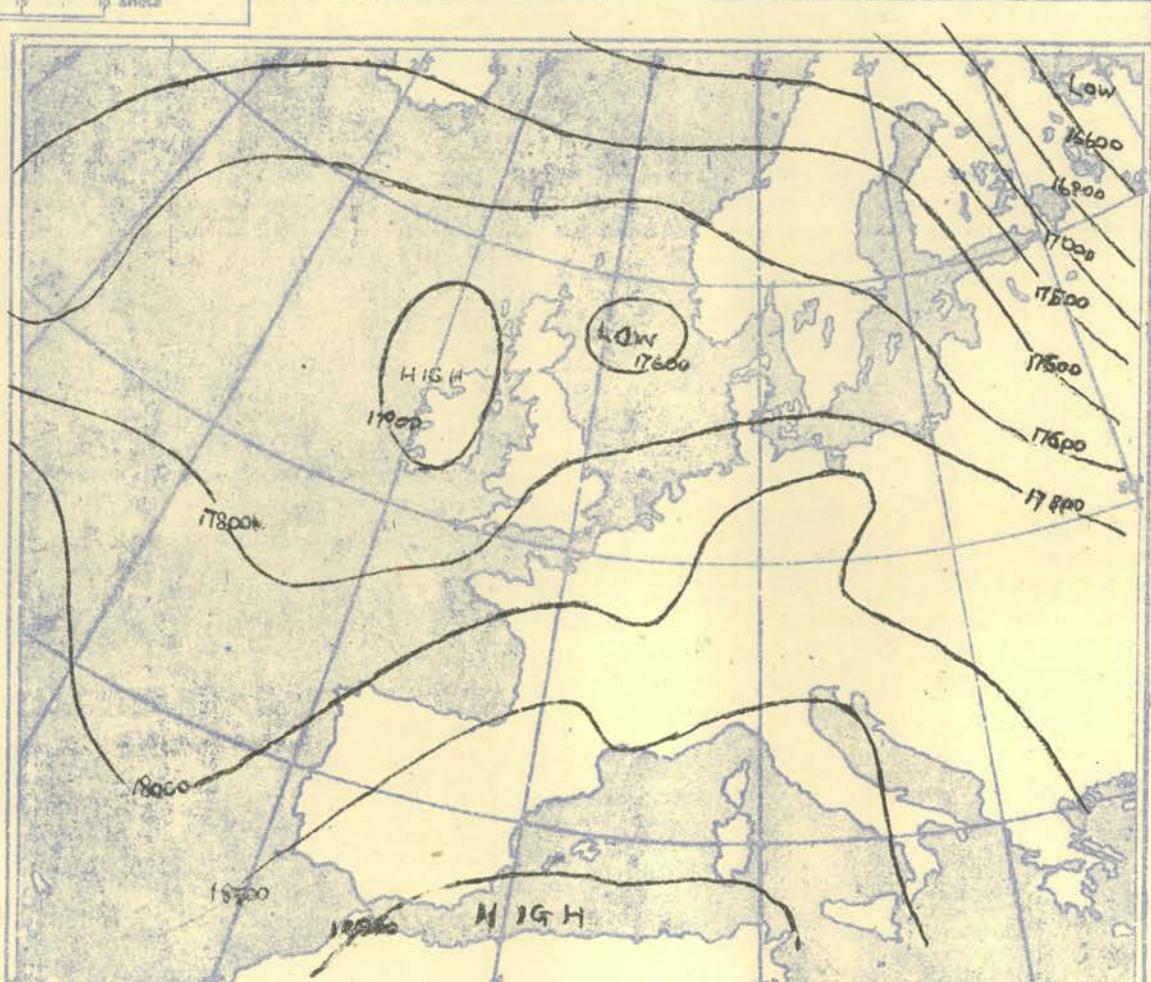
100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500-700 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.

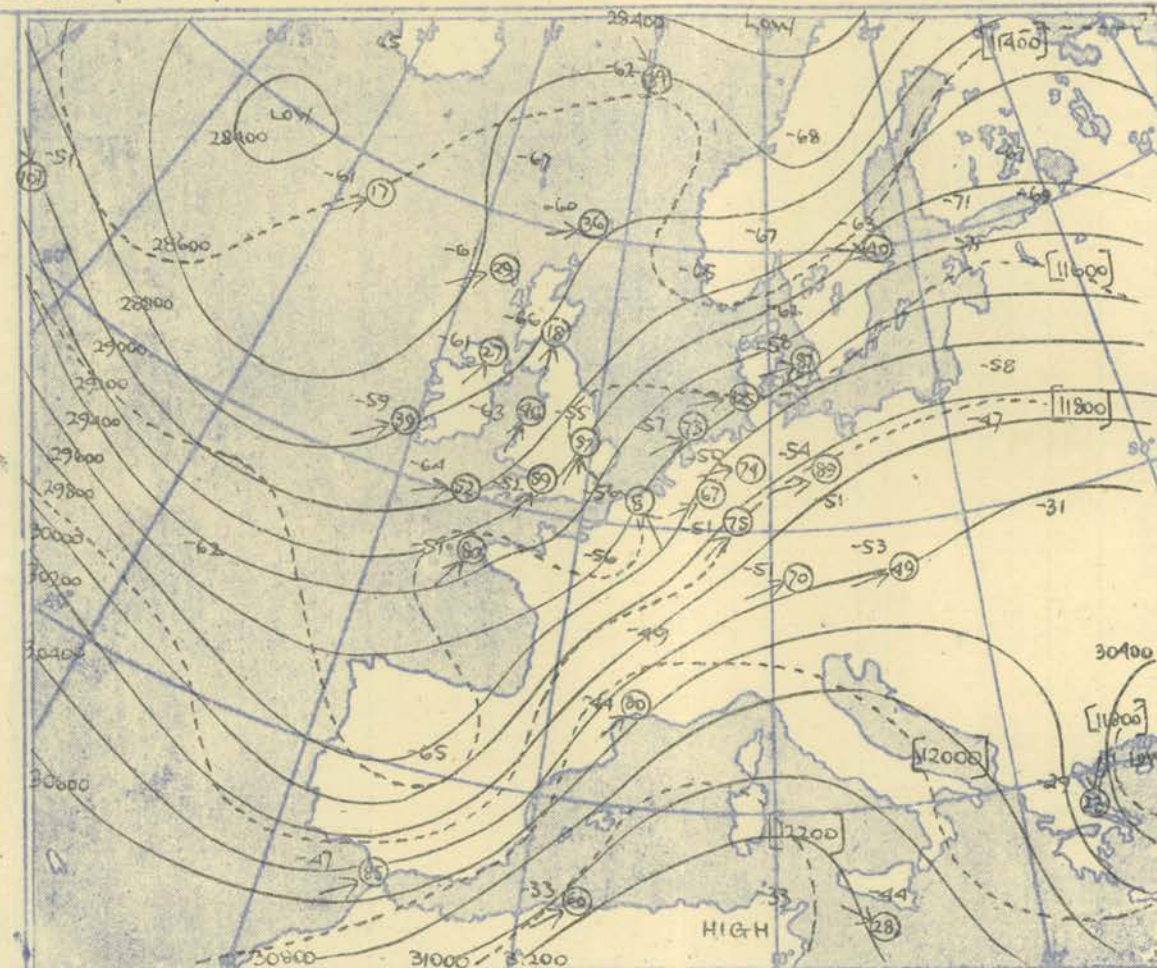
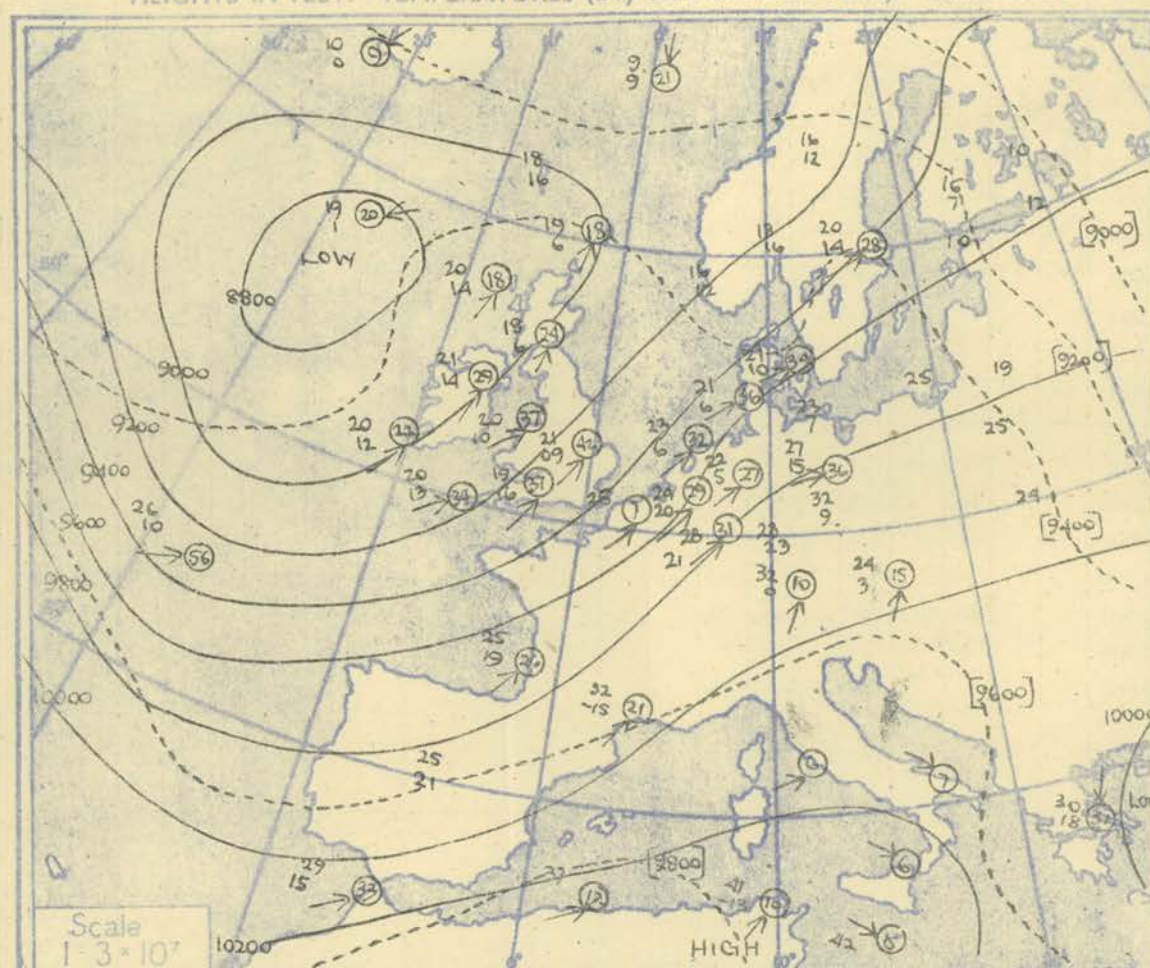


## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

NEPHOSCOPE OBSERVATIONS[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 200 mb., levels at about 15 h G.M.T.



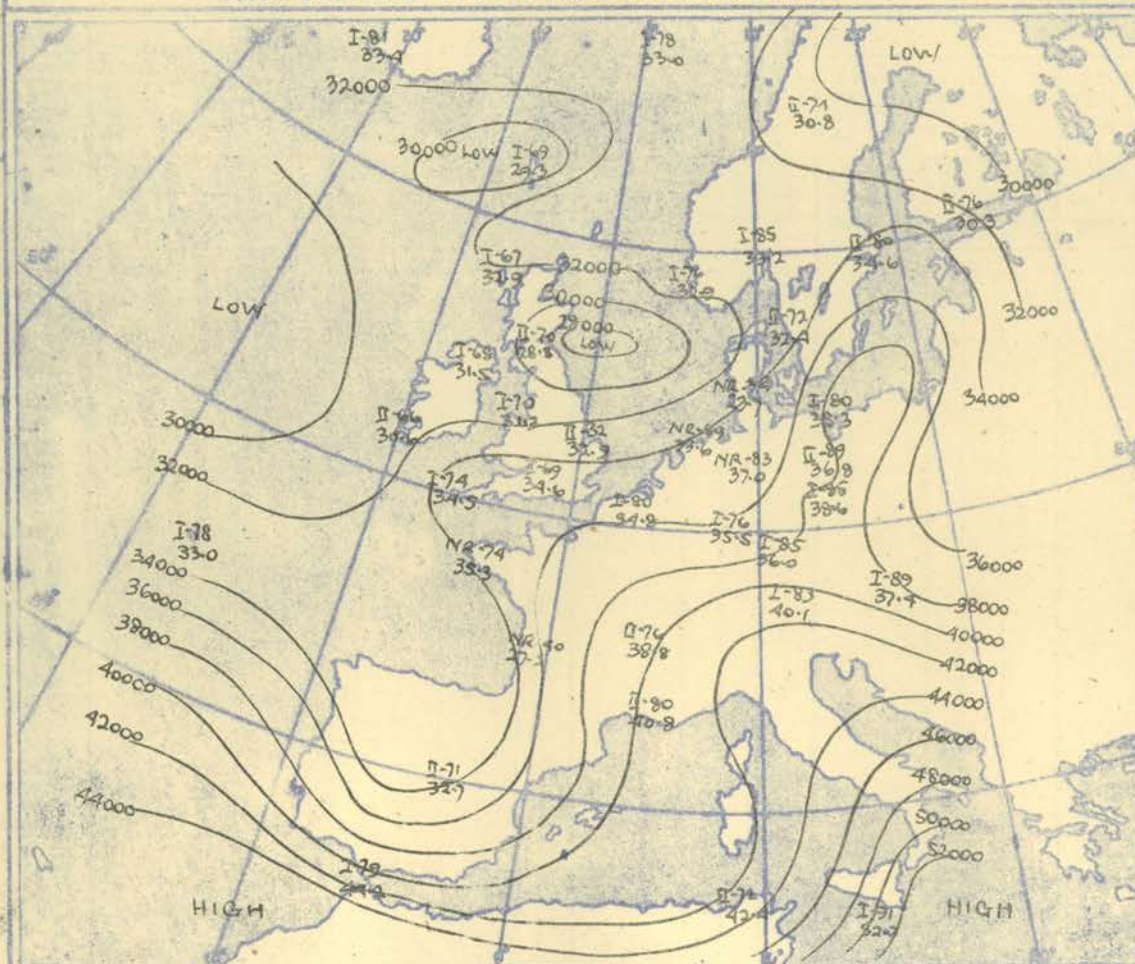
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52 $\frac{1}{2}$ ° N.

10 20 30 40 50 60 70 80 90 100 knots

The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

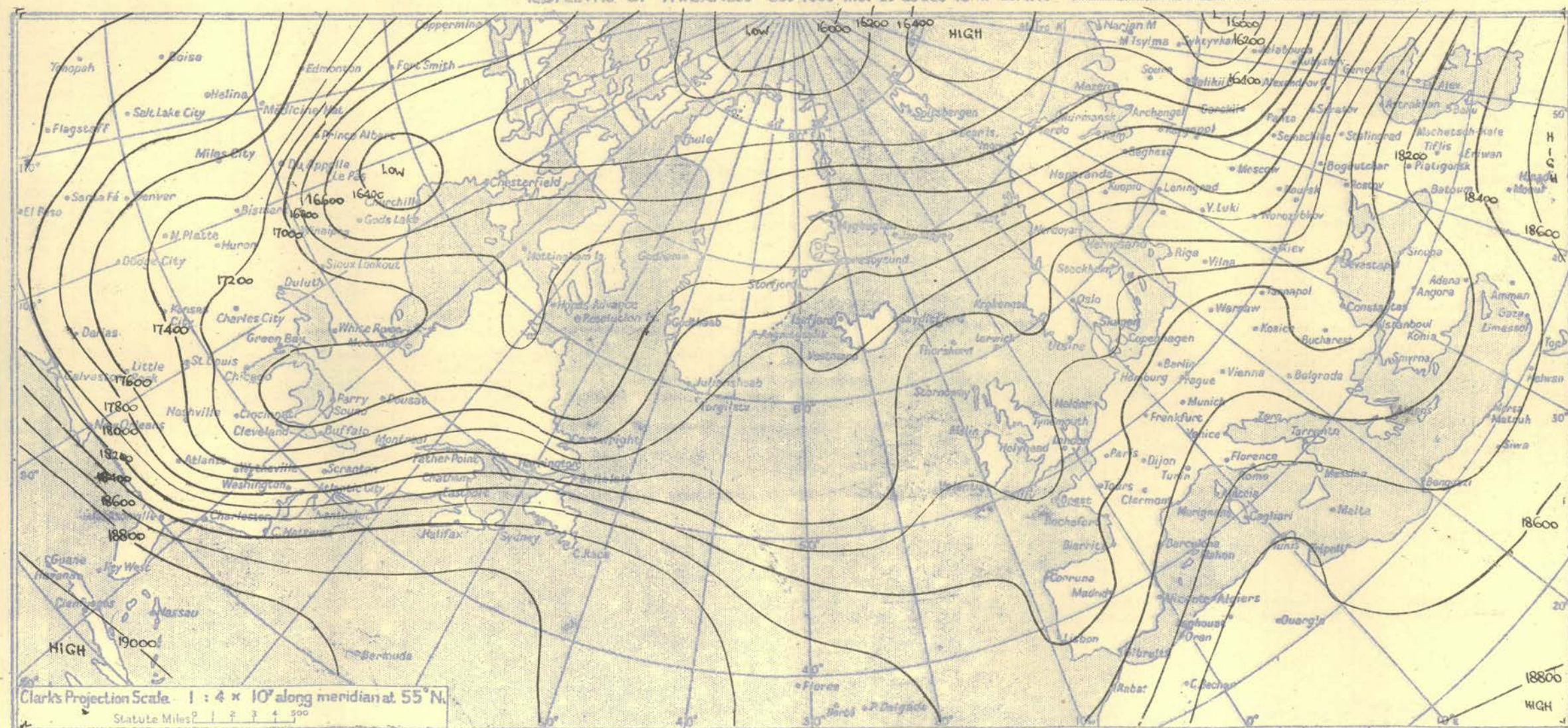
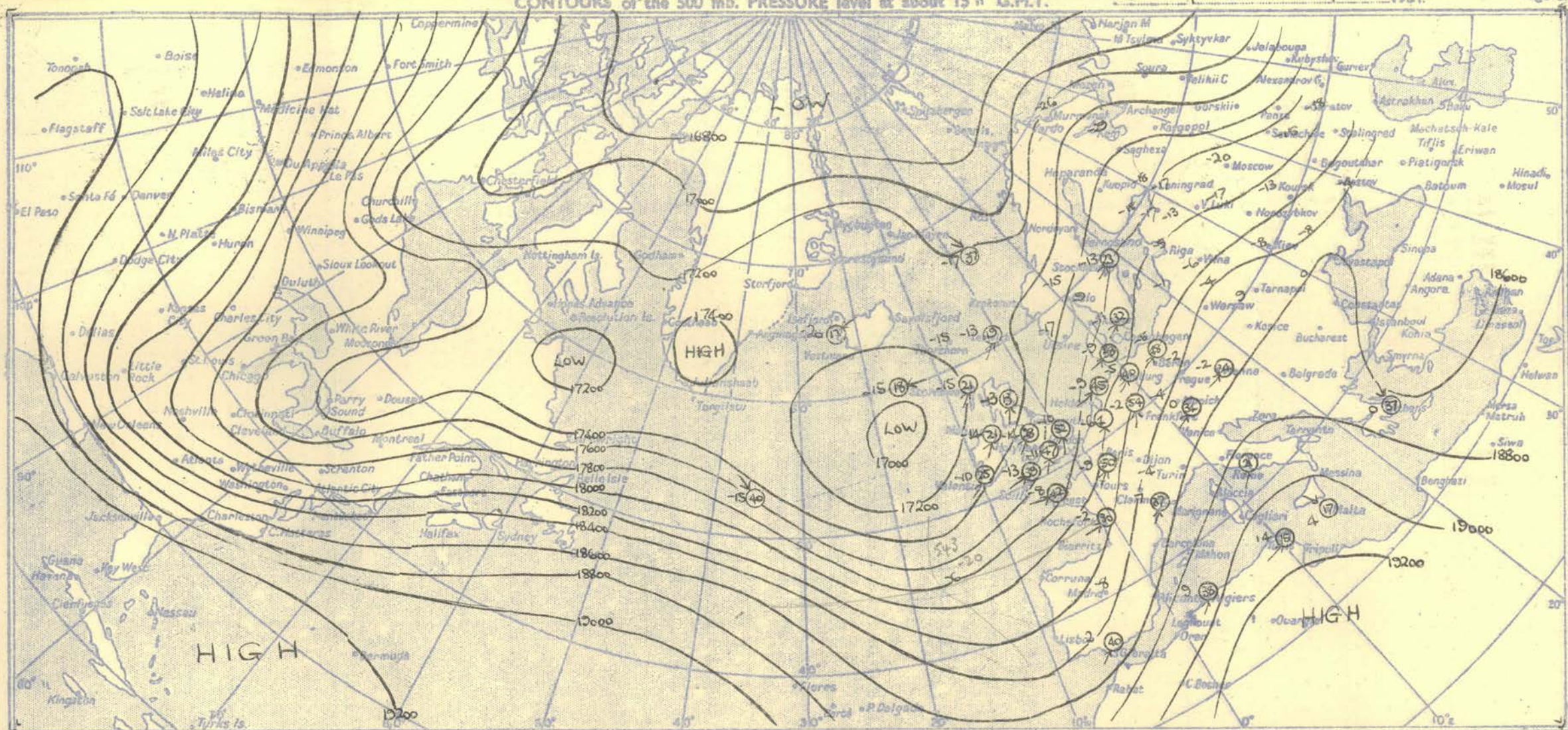
### NOTES ON THE AEROLOGICAL SITUATION.

Note the rapid deepening of the surface low off Southwest Ireland in the region of the left exit of the strong thermal gradient over the Atlantic.

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## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION							
Pressure mb	Time M.S.L.	15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		15h		G.M.T.		Time M.S.L.	Pressure mb										
		Surf	840	mb	mb	Surf	811	mb	mb	Surf	830	mb	mb	Surf	810	mb	mb	Surf	820	mb	mb	Surf	798	mb	mb	Surf	829	mb	mb	Surf	820	mb	mb			Surf	830	mb	mb						
		Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.			Vel.									
Surf	02-7	43	46	170	09	00-4	50	47	180	10	00-2	52	44	220	12	02-5	50	45	180	10	00-6	52	44	170	18	01-2	51	46	190	11	04-4	49	47	230	13	02-9	54	47	210	20	00-3	50	44	Surf	
1000	04-2	46	40	188	18	05-0	46	43	193	23	03-8	48	40	204	21	04-8	47	42	198	17	03-2	48	40	181	25	01-4	48	43	214	30	04-6	46	43	203	32	02-6	49	45	210	33	05-5	47	41	Surf	
950	24-3	40	37	194	18	23-0	41	38	197	26	24-8	41	35	210	24	23-8	41	37	203	21	25-2	42	35	195	31	21-2	43	37	221	36	21-0	45	36	203	32	26-1	42	39	216	36	23-1	40	36	Surf	
900	39-4	34	31	194	19	38-8	36	32	199	25	39-9	34	27	214	29	38-9	35	31	204	24	40-6	36	30	207	37	42-5	38	31	220	39	42-2	35	30	224	37	41-3	36	32	218	38	40-0	34	30	Surf	
850	55-4	27	25	194	21	54-8	31	27	205	22	55-9	29	21	212	26	55-0	31	26	203	24	56-6	30	24	217	38	58-6	32	20	219	44	58-2	29	26	233	41	57-3	29	26	220	39	54-2	30	26	Surf	
800																																												For	
750																																												750	
700	89-8	24	16	195	21	89-4	20	14	208	18	90-4	18	06	203	23	89-7	21	14	212	29	91-3	20	10	223	37	93-3	21	09	217	42	92-7	19	06	216	37	91-8	20	13	229	34	88-7	20	12	700	
650		11	01	198	18		14	09	205	19		10	04	206	25		13	09	211	28		14	00	223	37		14	05	217	48		12	09	213	34		13	07	227	35		12	04	650	
600	128-5	04	05	208	21	128-3	05	00	204	20	129-0	04	15	201	27	128-5	05	01	213	27	130-1	05	07	220	37	132-2	07	02	216	50	131-5	05	01	213	35	130-7	05	00	224	41	127-6	05	01	600	
550	03-24	23	0	230	18		10		208	22	05-26	19		192	24	04-11	215	26		04-04	218	26				00-12	216	50			03-07	212	42		04-12	232	39		00-11			550			
500	172-8	13	34	228	19	172-6	13	20	209	21	173-3	13	36	186	13	172-7	14	21	210	21	174-4	14	24	225	28	176-9	10	24	209	52	175-9	11	16	215	47	174-9	13	25	255	39	172-3	10	17	500	
450	26-45	226	19		25	33	209	22		24	43	188	13		25	33	205	21		26	39	231	30		22	30	211	55			22-27	219	47		23-36	266	46		21	26	450				
400	274-4	38	56	234	24	274-2	37	46	216	25	275-0	38	56	184	15	274-5	35	44	207	26	276-0	37	52	224	37	279-1	32	43	216	51	277-9	33	39	219	50	276-8	36	47	267	51	274-4	34	39	400	
350	49	244	33		50		31		234	31	52		175	12	49		210	27		46		214	44		42		217	53			46		219	61		50		262	54		34	350			
300	287-3	60		242	36	287-0	61		240	29	287-5	66		182	18	287-6	61		214	27	289-0	63		209	46	293-0	55			215	57	291-2	59		216	59	289-5	64		249	50	287-7	59	300	
250	6-6	240	39		70		19		221	19	6-70		211	27		207	23		213	23		215	36		214	30		212	60			6-65	222	54		71		241	46	6-65	250				
200	372-3	28		237	29	372-1	64		206	17	371-8	70		220	26	373-1	60		215	25	373-6	65		214	30	377-8	68			217	50	376-7	65		225	46	374-0	65		373-4	57	200			
170	6-5	232	19		64		9		214	9	6-68		220	26		220	26		218	23	6-64			224	36		215	51			6-60	220	43		66		229	36	6-57	170					
150	66	232	19		62		9		215	9	68		233	23		217	23		217	23	61			221	31		216	43			62	219	42		65		230	34	61	150					
130	65	237	18		62		18		223	18	68		233	27		210	24		210	24	64			223	33		231	31			65	223	34		67		227	37	64	130					
110	68	246	10		66		18		244	18	71		231	28		222	25		222	25	67			230	28		235	39			69	224	37		70		234	35	69	110					
100	517-6	69		257	15	518-6	67		236	16	73		235	26		519-6	69		243	20	74			230	27	523-2	67			70		69	225	36		71		238	36	70	100				
90	70	257	16		67		12		220	12	75		248	21		243	20		243	20	73			236	29		232	29			74		74		75		241	29	74	90					
80	68												258	22		76			76		76			241	29		228	29			74		75		74		228	35	74	80					
70																																											70		
60																																											60		
Tropopause		247mb -68° 32,800'				245mb -71° 32,800'				238mb -70° 29,900'				264mb -68° 31,500'				267mb -70° 31,300'				255mb -72° 32,700'				232mb -69° 34,600'				230mb -74° 34,500'				276mb -66° 30,600'				Tropopause							
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				STATION											
Pressure mb	Time M.S.L.	21h		G.M.T.		21h		G.M.T.		21h		G.M.T.		21h		G.M.T.		21h		G.M.T.		21h		G.M.T.		21h		G.M.T.		21h		G.M.T.		Time M.S.L.	Pressure mb										
		Surf	812	mb	mb	Surf	822	mb	mb	Surf	820	mb	mb	Surf	827	mb	mb	Surf	836	mb	mb	Surf	800	mb	mb	Surf	809	mb	mb	Surf	800	mb	mb												
		Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.	Vel.	Temp.	Dir.			Vel.									
Surf	02-7	47	47	135	07	00-4	50	46			00-2	49	45	190	06	02-8	43	42	140	05	00-6	46	42	140	08	01-2	49	44	180	10	04-4	48	46	200	12	02-9	52	52	170	28			Surf		
1000	03-5	44	44	170	12	04-9	48	44			04-0	45	42	202	20	04-3	46	44	184	21	03-1	45	39	185	24	01-5	47	41	201	32	01-8	49	48	196	31	04-2	49	49	185	34			1000		
950	24-9	40	38	168	14	23-7	42	37			24-5	41	38	222	18	24-1	40	36	183	18	25-4	42	34	208	29	21-1	42	36	218	42	26-8	42	41	193	34	24-5	45	44	189	36			950		
900	40-0	35	32	173	15	38-9	35	30			39-6	35	32	226	21	39-2	34	29	189	18	40-6	35	28	214	28	42-2	37	33	222	35	42-1	38	36	202	39	39-9	39	37	203	43			900		
850	56-1	30	26	173	15	54-9	29	24			55-7	30	27	228	23	55-2	30	23	193	14	56-5	29	12	217	25	58-4	32	28	222	33	58-1	31	29	206	34	55-9	32	32	199	45			850		
800																																											800		
750		24	21	173	13		25	19			25	21	228	20		24	14	196	23			25	16	219	25		26	22	227	33		26	23	212	48		29	29	200	46			750		
700	90-5	18	17	179	10	89-5	18	11			90-3	18	14	220	21	89-6	18	06	196	24			91-0	19	11	214	27	93-1	21	16	224	35	92-8	21	16	215	34	90-8	24	24	199	45			700
650		12	10	192	14		11	03			13	07	214	22		12	01	203	25			12	04	214	32		15	09	224	37		16	05	217	37		18	18	194	50			650		
600	29-3	04	02	212	14																																								



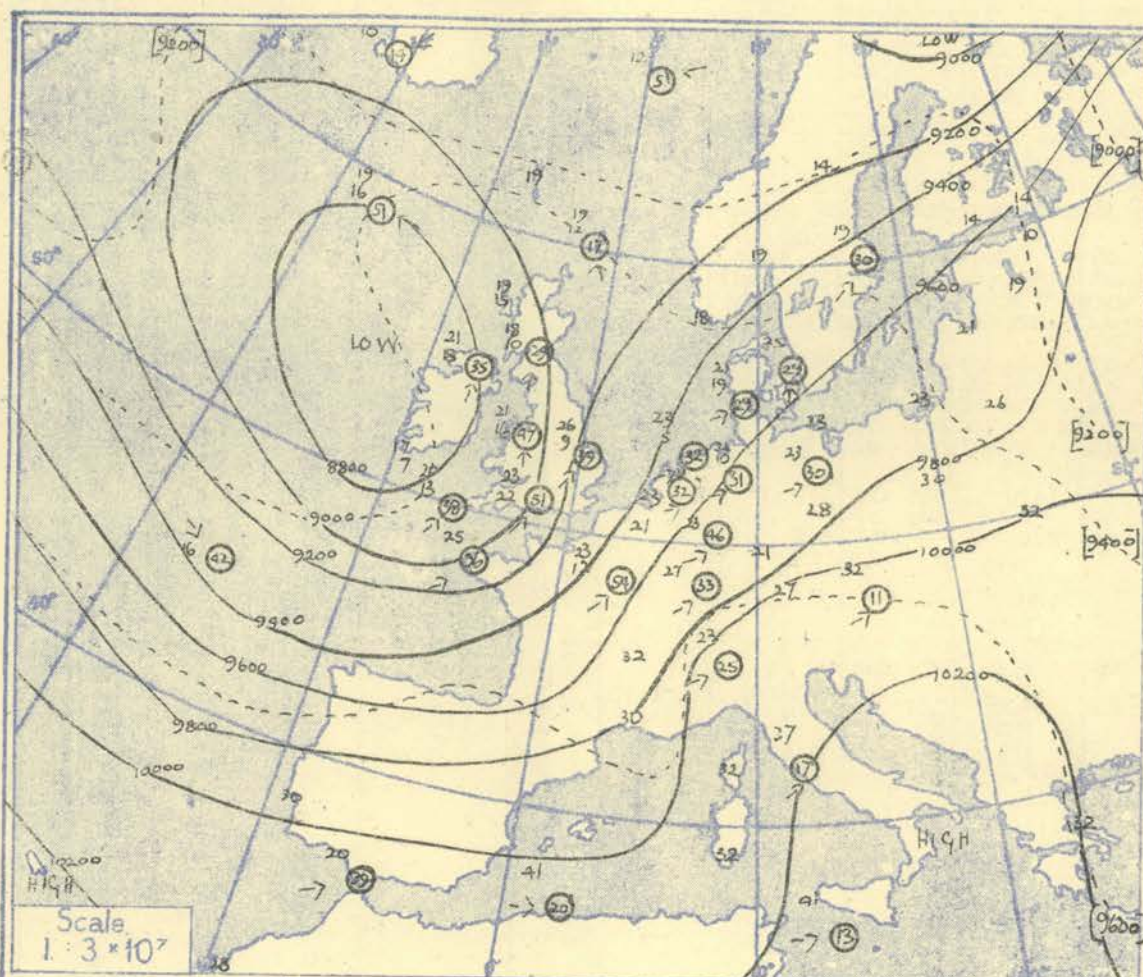
## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

[illegible]



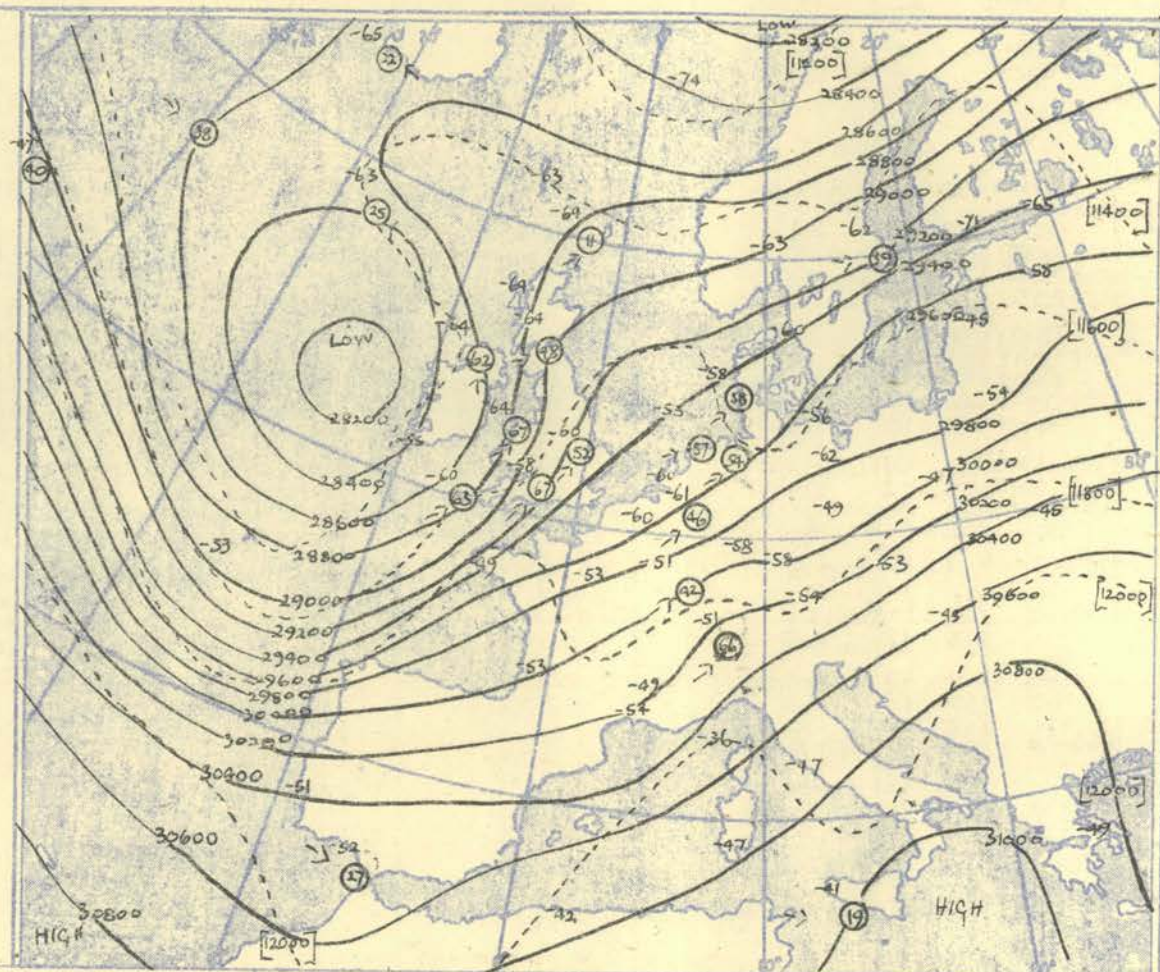
Sunday 18<sup>th</sup> November 1951.

HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

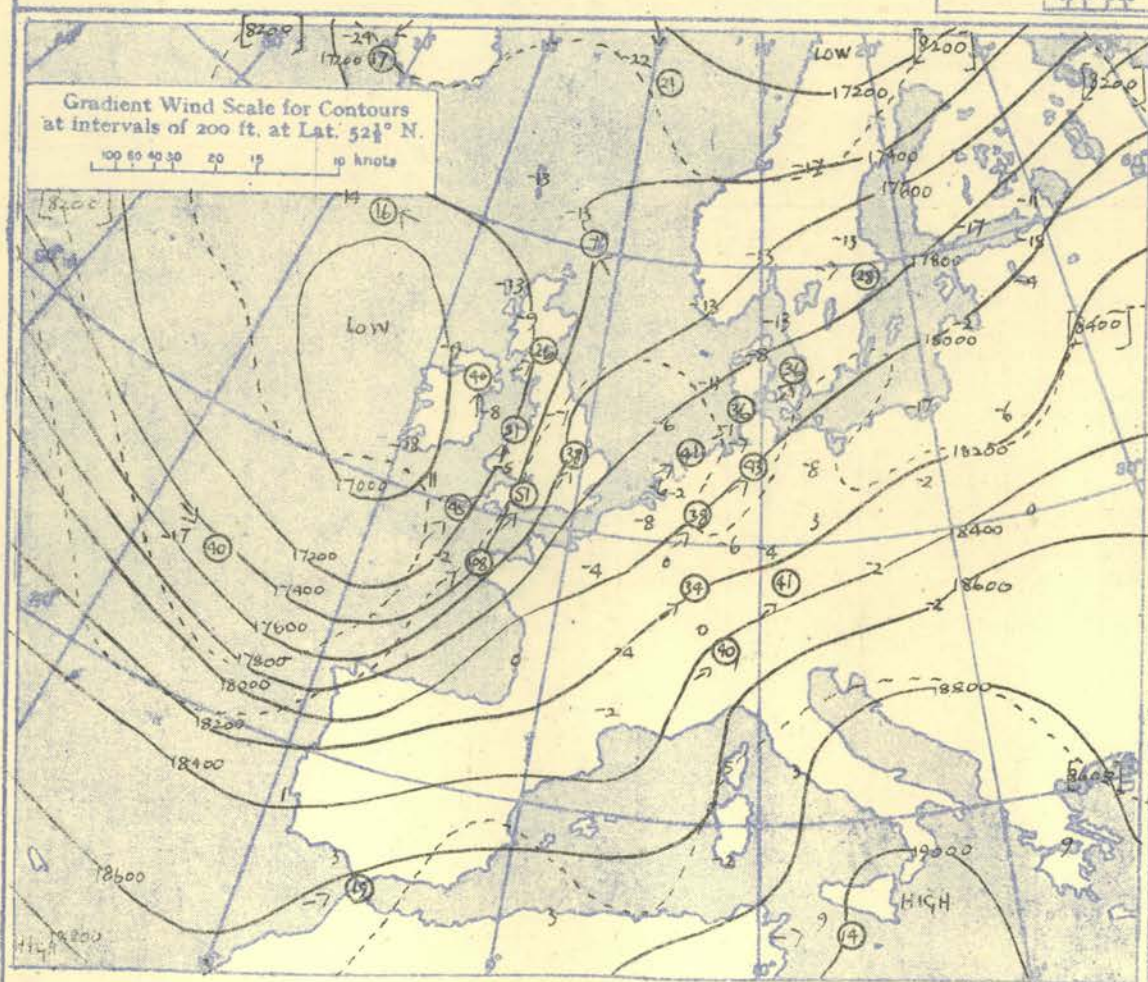


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

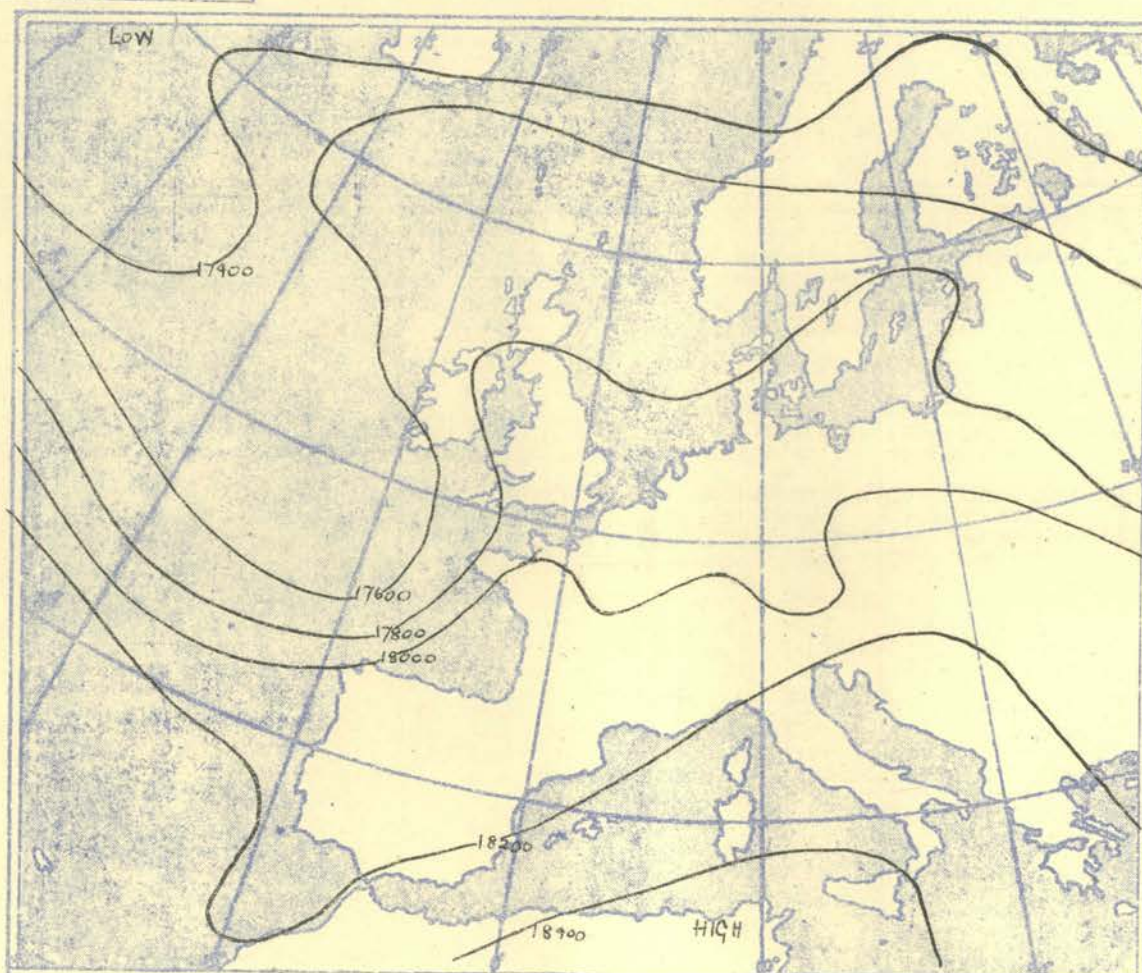
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N  
100 80 60 40 20 10 0 10 20 30 40 60 80 100 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

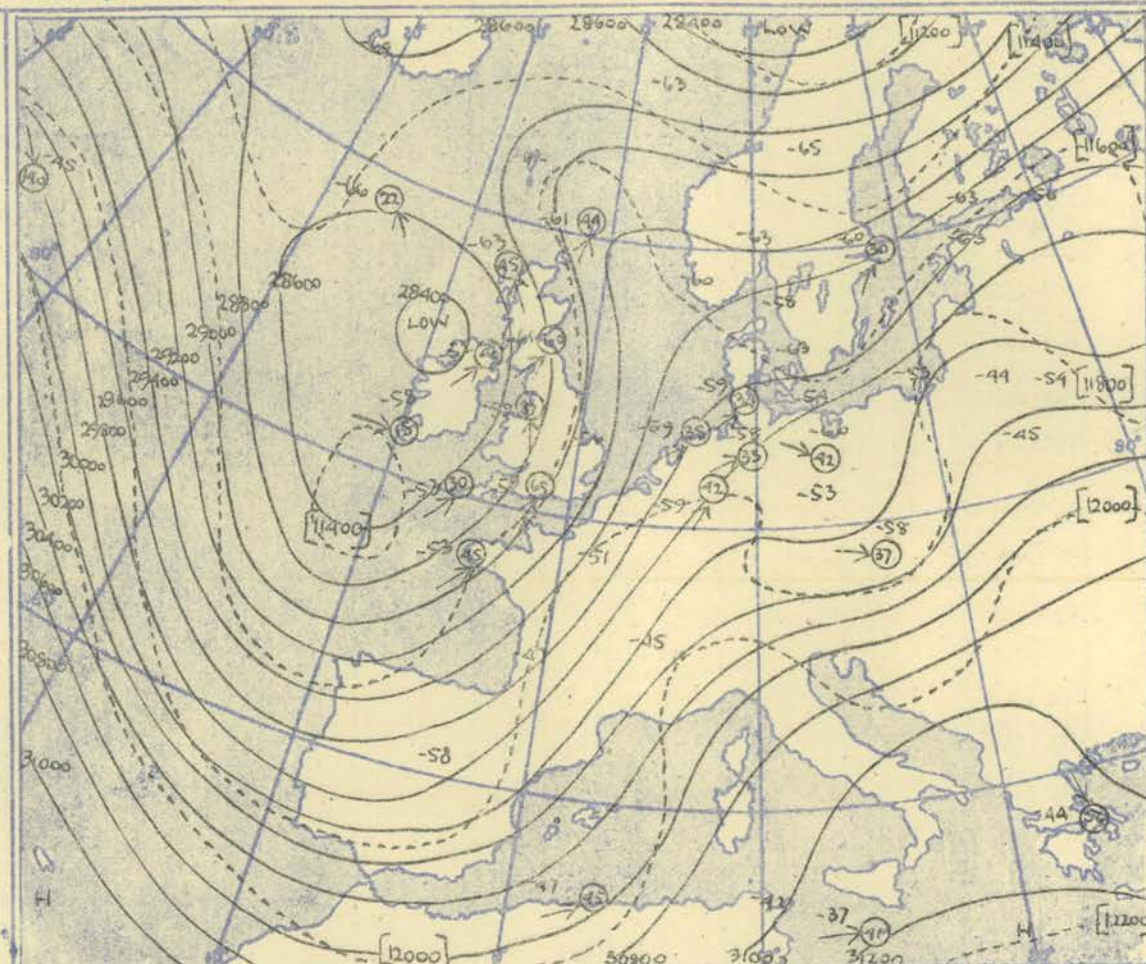
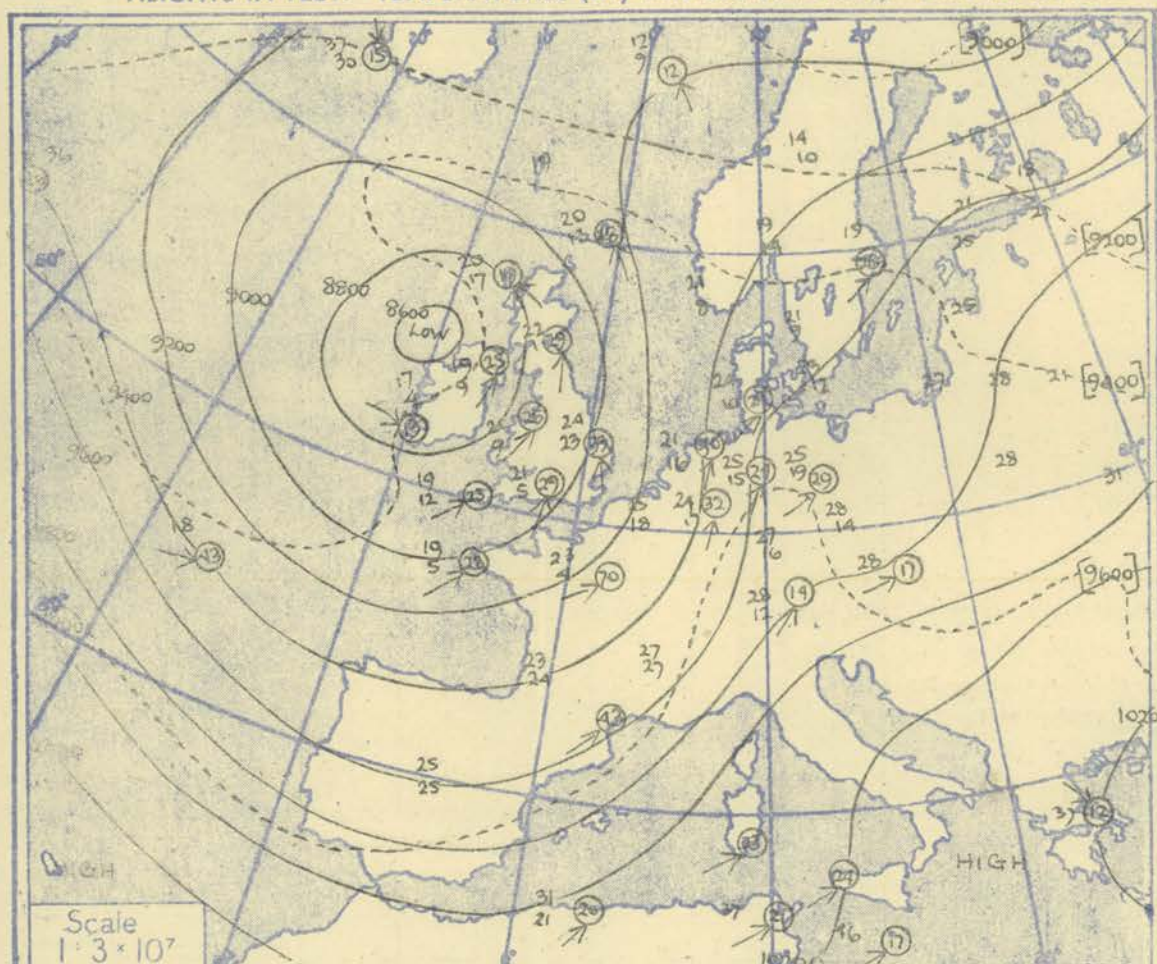
[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb. levels at about 15 h G.M.T.

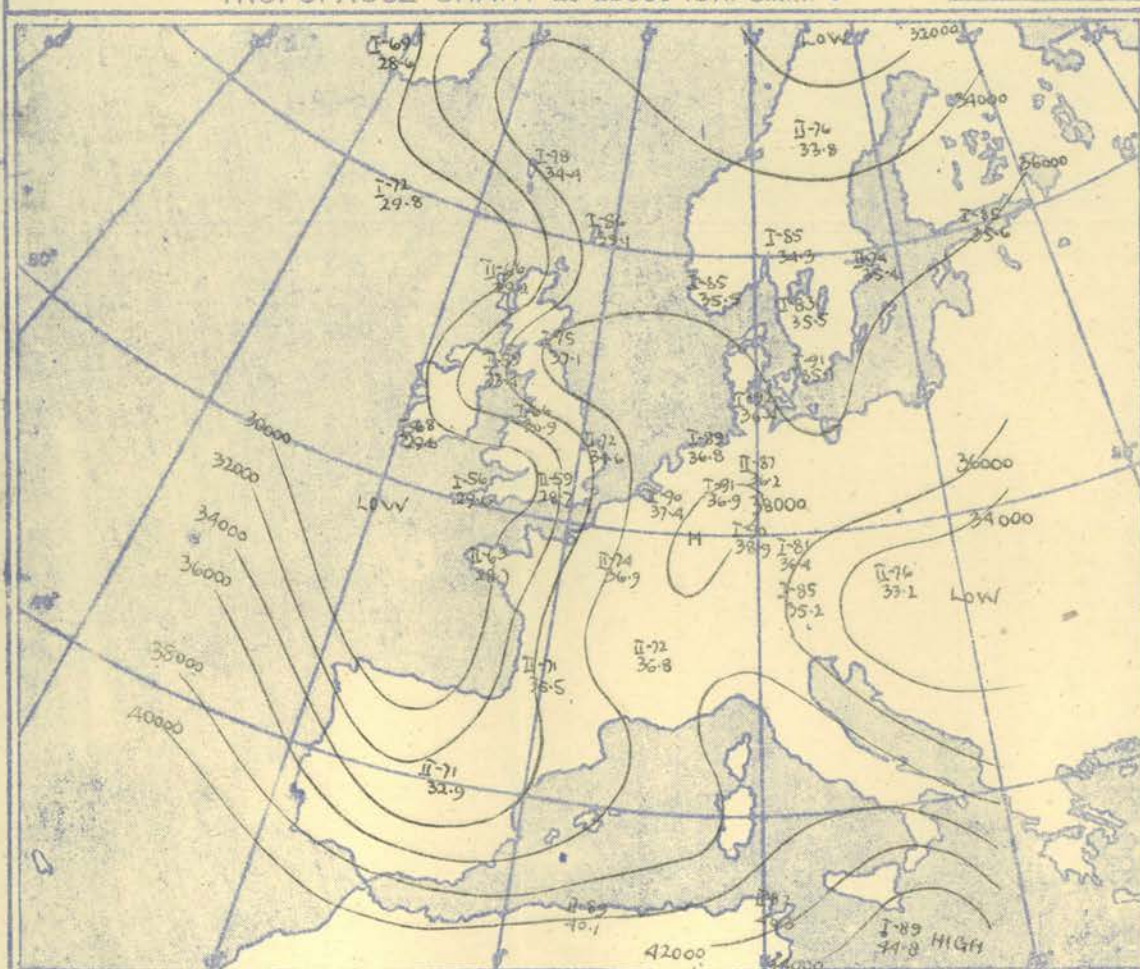


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

### NOTES ON THE AEROLOGICAL SITUATION.

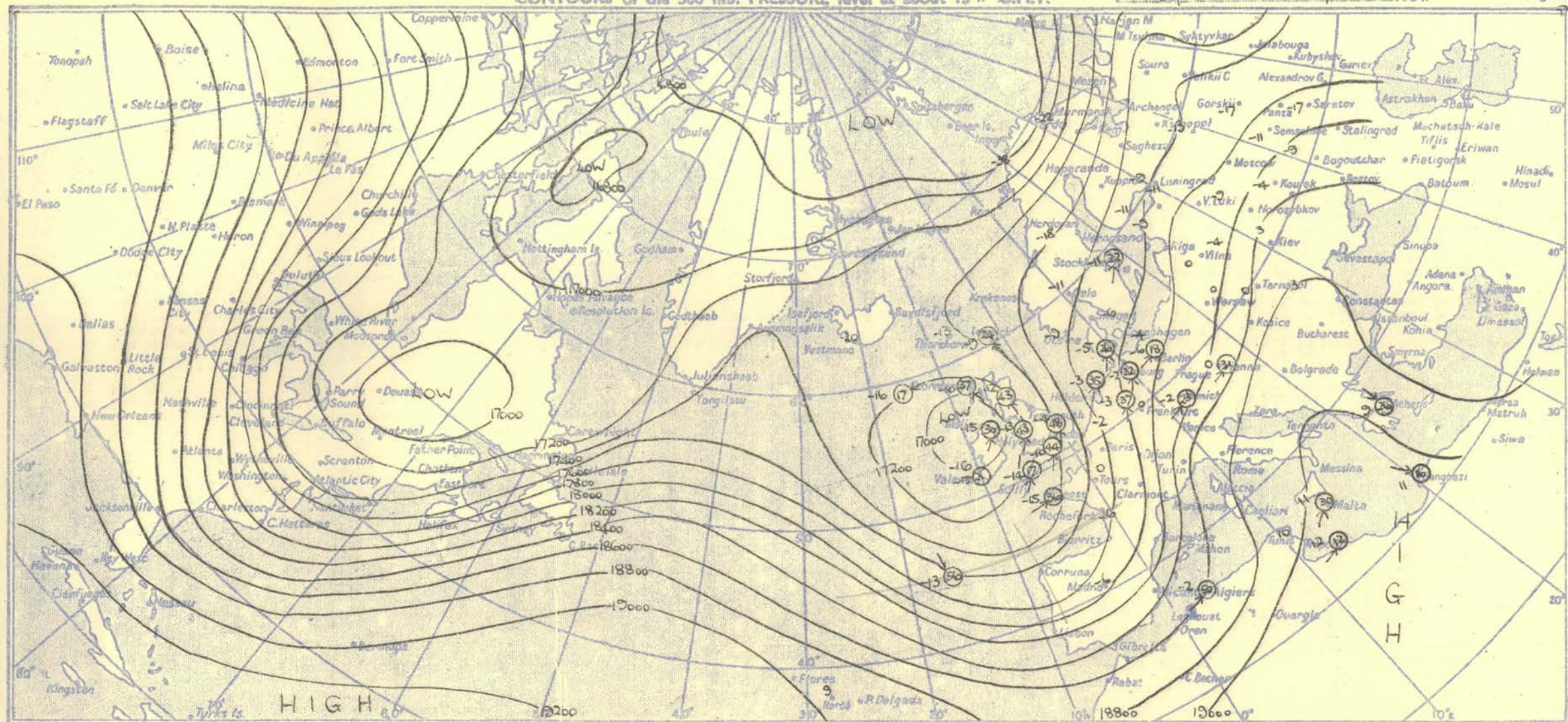
Note rapid changes in thermal gradient over Western approaches in rear of surface depression and associated cold occlusion.

Note also the development of intense westnorthwest thermal gradient over West Atlantic ahead of surface low which moved across to Canada and Newfoundland to Davis Strait.

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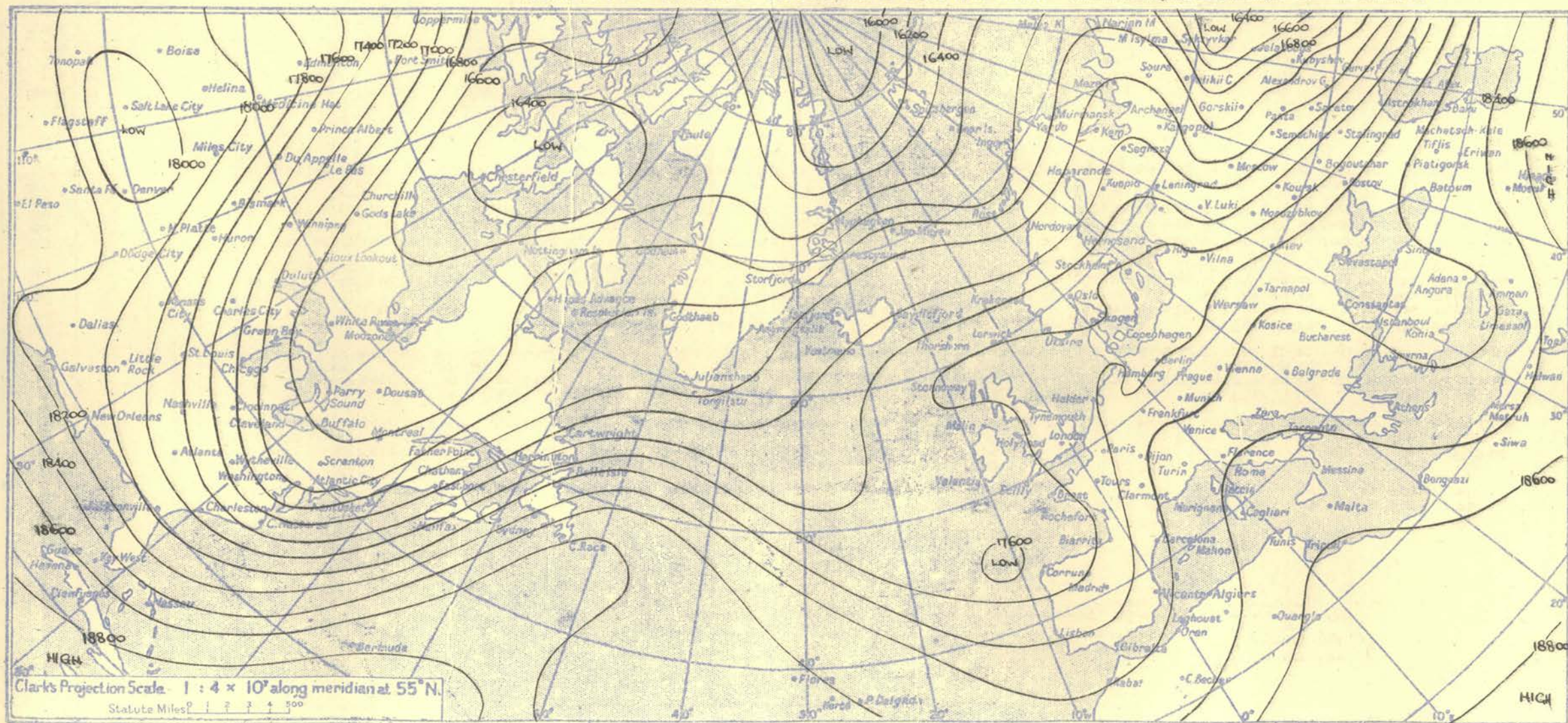
Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.





ISOPLETHS OF THICKNESS 500-1000 mb. at about 15 h. G.M.T.

Sunday 18th November, 1951.





RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Time M.S.L. Surf Pressure	15h. 989.5 919.7 825	G.M.T. mb mb mb	15h. 978.4 916.9 800	G.M.T. mb mb mb	15h. 978.8 918.4 879	G.M.T. mb mb mb	15h. 973.2 964.6 828	G.M.T. mb mb mb	15h. 979.3 977.3 980	G.M.T. mb mb mb	15h. 983.3 978.8 777	G.M.T. mb mb mb	15h. 983.4 967.8 813	G.M.T. mb mb mb	15h. 982.6 971.7 812	G.M.T. mb mb mb	15h. 977 976 840	G.M.T. mb mb mb	Time M.S.L. Surf Pressure																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
																				Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Surf	02.7	47	45	125	20	00.4	50	46	110	05	00.2	48	46	180	08	02.5	50	43	175	07	00.6	51	45	140	12	01.2	52	50	150	12	04.4	49	47	210	06	02.9	51	48	225	09	00.3	51	44	290	06	Surf																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1000	02.9	43	42	136	27	05.9	47	43	120	16	05.7	46	41	For		07.3	48	42	186	12	05.7	48	42	151	21	04.7	49	48	174	23	04.6	48	44	210	10	04.9	48	45	212	21	06.3	48	41	285	09	1000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
950	25.5	40	38	136	30	22.6	41	37	129	17	22.8	42	36	For		21.3	42	37	188	16	22.9	42	36	190	27	24.0	45	44	191	34	24.0	42	37	221	11	23.6	42	41	230	26	22.4	41	34	282	12	950																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
900	40.7	35	30	141	30	37.8	36	33	138	13	38.0	36	31	For		36.5	36	30	189	15	38.1	37	31	205	30	39.4	39	39	197	37	39.3	35	33	230	46	38.9	36	33	231	25	34.2	34	26	288	12	900																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
850	56.7	29	26	142	29	53.9	32	28	143	16	54.0	29	26	For		52.4	27	22	183	19	54.2	31	24	213	31	55.4	33	32	197	35	55.2	31	29	217	21	54.9	31	27	232	24	53.4	29	21	289	14	850																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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700	91.4	20	15	150	28	88.6	20	17	142	19	88.7	22	11			86.8	19	09	188	25	89.0	20	09	197	25	90.3	24	23	182	33	89.9	21	15	208	29	89.5	19	12	234	24	87.8	17	04	277	13	700																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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		Isothermal		772-755mb. 28°						Isothermal		290-280mb. -64°								Inversion		800mb. 31°-780mb. 32°						Inversion		254mb. 71°-248mb. 70°																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

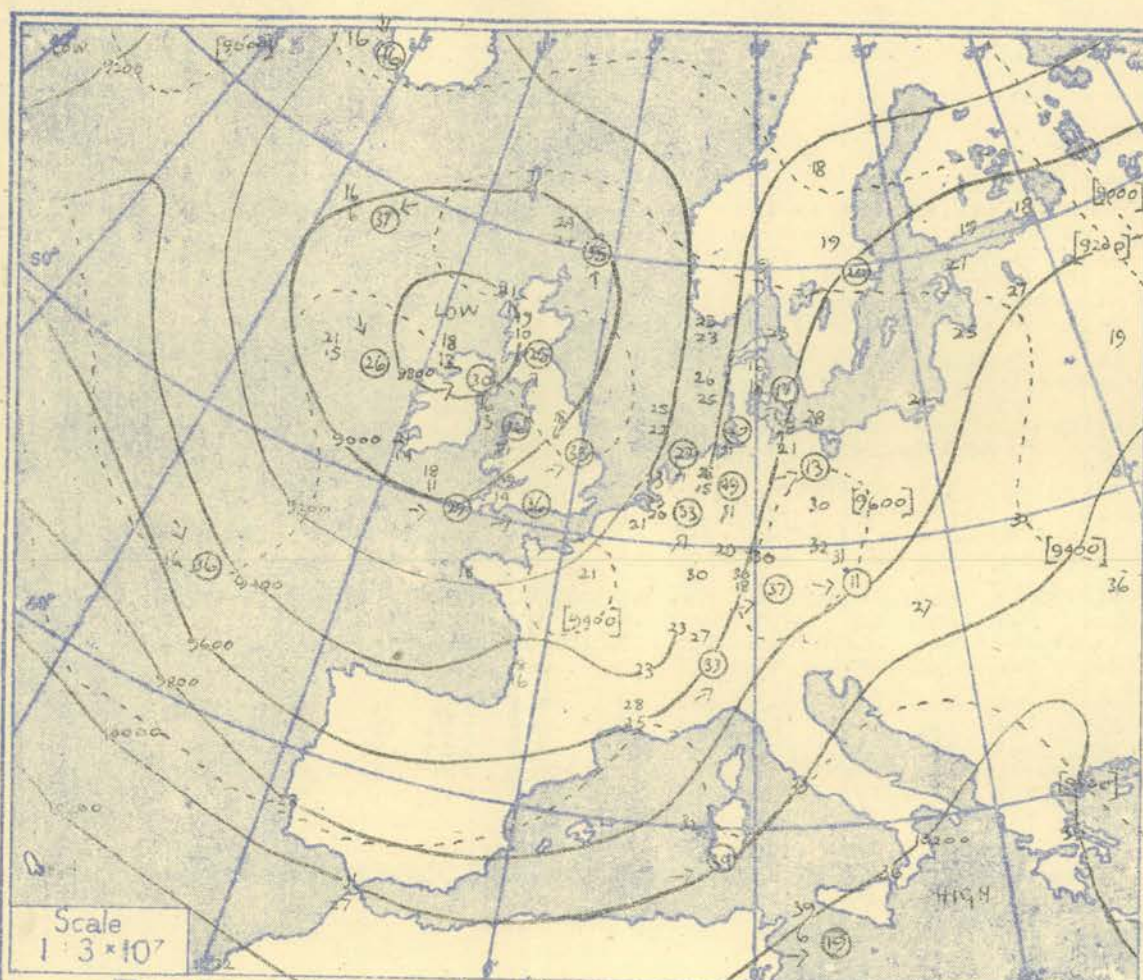


## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	Vale of Glamorgan
Time	03hs	03hs	03hs	03hs	03hs	03hs	03hs	03hs	03hs
M.S.L.	971.4	971.1	971.1	971.5	971.1	971.1	971.1	971.1	971.1
Surf	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1
Pressure	776	776	776	776	776	776	776	776	776
Pressure	1000	1000	1000	1000	1000	1000	1000	1000	1000
950	950	950	950	950	950	950	950	950	950
900	900	900	900	900	900	900	900	900	900
850	850	850	850	850	850	850	850	850	850
800	800	800	800	800	800	800	800	800	800
750	750	750	750	750	750	750	750	750	750
700	700	700	700	700	700	700	700	700	700
650	650	650	650	650	650	650	650	650	650
600	600	600	600	600	600	600	600	600	600
550	550	550	550	550	550	550	550	550	550
500	500	500	500	500	500	500	500	500	500
450	450	450	450	450	450	450	450	450	450
400	400	400	400	400	400	400	400	400	400
350	350	350	350	350	350	350	350	350	350
300	300	300	300	300	300	300	300	300	300
250	250	250	250	250	250	250	250	250	250
200	200	200	200	200	200	200	200	200	200
170	170	170	170	170	170	170	170	170	170
150	150	150	150	150	150	150	150	150	150
130	130	130	130	130	130	130	130	130	130
110	110	110	110	110	110	110	110	110	110
100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60	60	60
Tropopause	11271 ms -72°	1280 ms -57°	1330 ms -61°	1319 ms -60°	1213 ms -64°	1259 ms -63°	1270 ms -70°	1325 ms -62°	1283 ms -60°
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	STATION
Time	03hs	03hs	03hs	03hs	03hs	03hs	03hs	03hs	Time
M.S.L.	980.5	979.5	980.0	981.4	983.0	981.1	983.5	983.7	M.S.L.
Surf	970.8	978.0	972.1	972.3	973.0	983.6	973.7	979.0	Surf
Pressure	830	824	832	842	830	789	820	826	Pressure
Pressure	1000	1000	1000	1000	1000	1000	1000	1000	Pressure
950	950	950	950	950	950	950	950	950	950
900	900	900	900	900	900	900	900	900	900
850	850	850	850	850	850	850	850	850	850
800	800	800	800	800	800	800	800	800	800
750	750	750	750	750	750	750	750	750	750
700	700	700	700	700	700	700	700	700	700
650	650	650	650	650	650	650	650	650	650
600	600	600	600	600	600	600	600	600	600
550	550	550	550	550	550	550	550	550	550
500	500	500	500	500	500	500	500	500	500
450	450	450	450	450	450	450	450	450	450
400	400	400	400	400	400	400	400	400	400
350	350	350	350	350	350	350	350	350	350
300	300	300	300	300	300	300	300	300	300
250	250	250	250	250	250	250	250	250	250
200	200	200	200	200	200	200	200	200	200
170	170	170	170	170	170	170	170	170	170
150	150	150	150	150	150	150	150	150	150
130	130	130	130	130	130	130	130	130	130
110	110	110	110	110	110	110	110	110	110
100	100	100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60	60	60
Tropopause	12305 ms -64°	1306 ms -56°	1210 ms -61°	1243 ms -55°	1336 ms -57°	1290 ms -65°	1283 ms -64°	1300 ms -64°	Tropopause



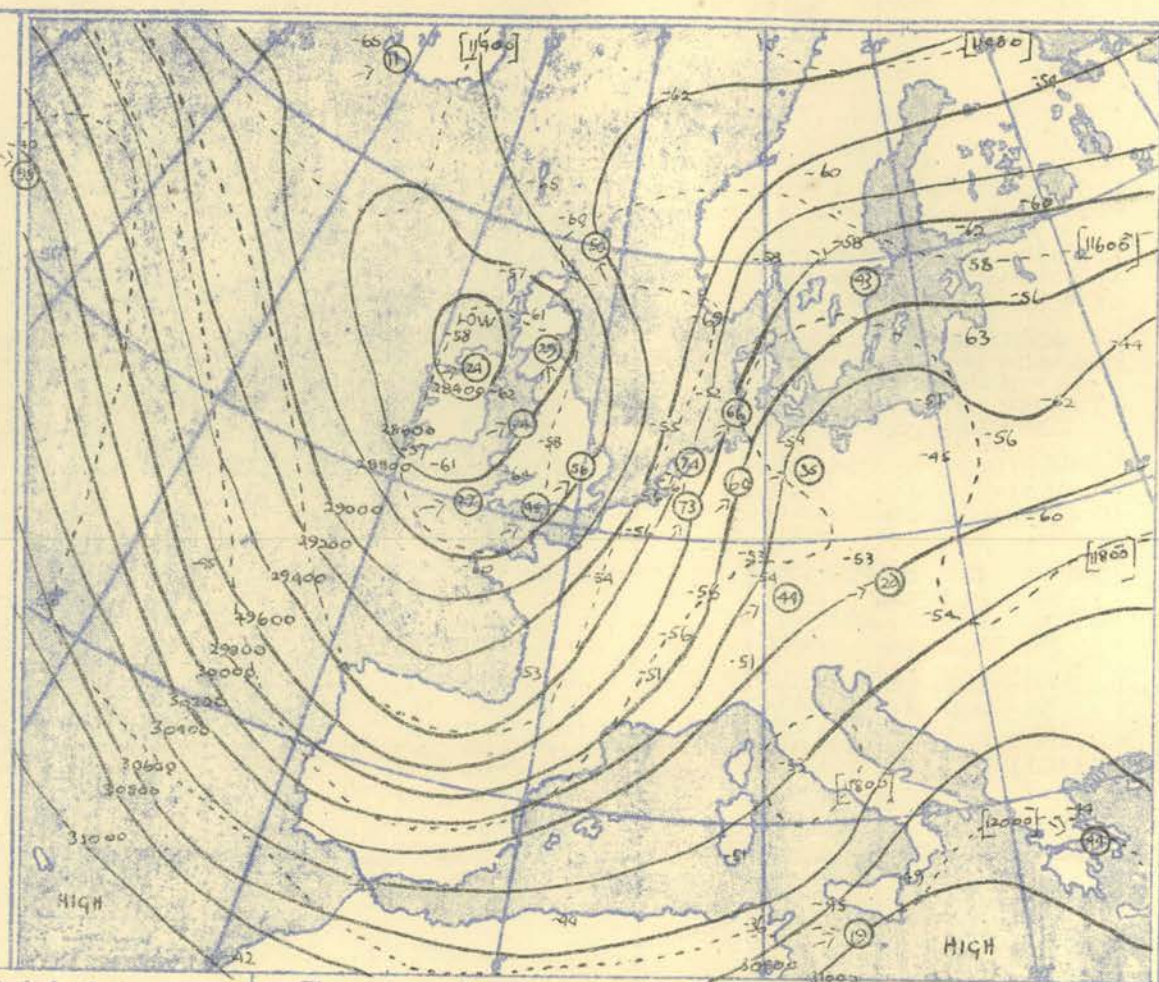
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



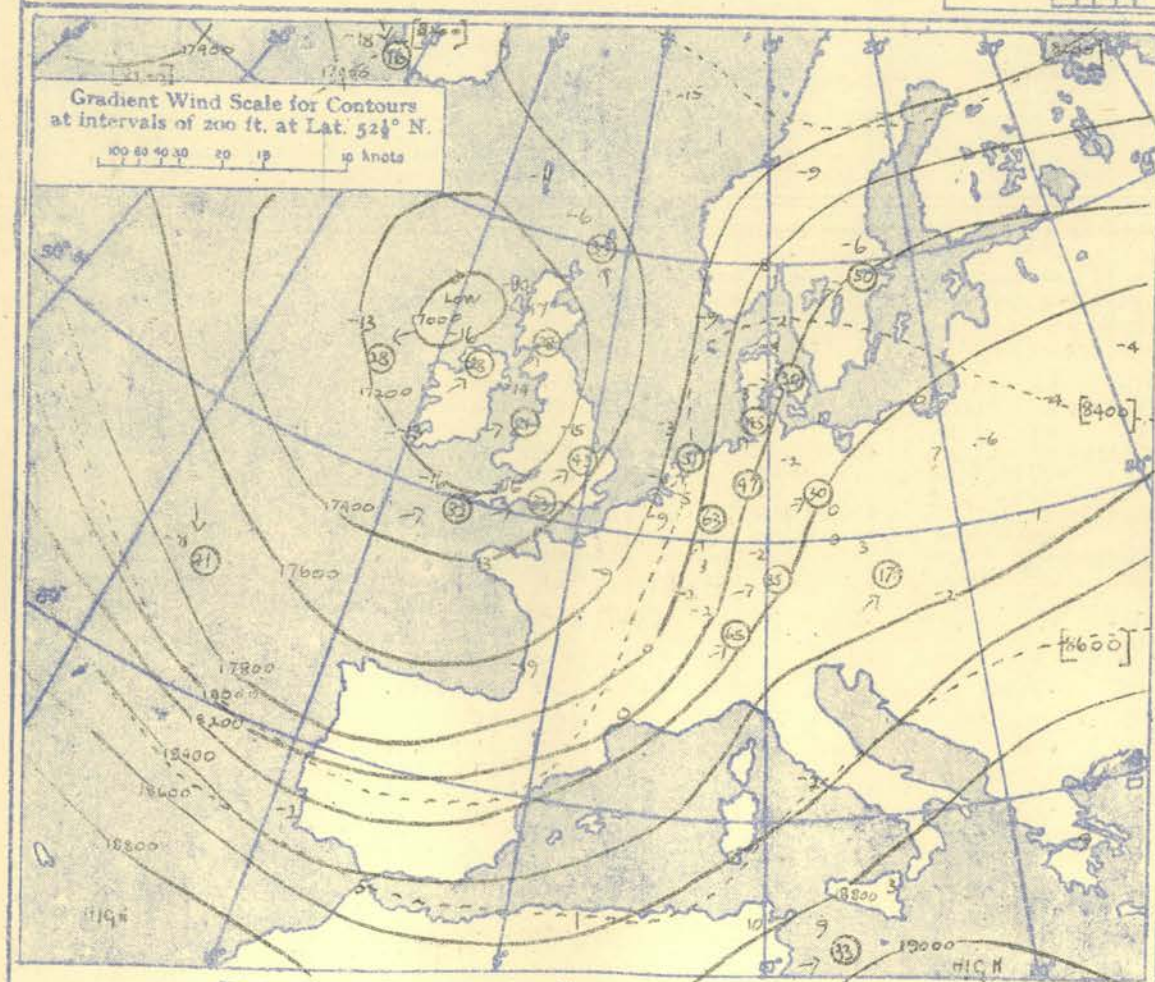
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

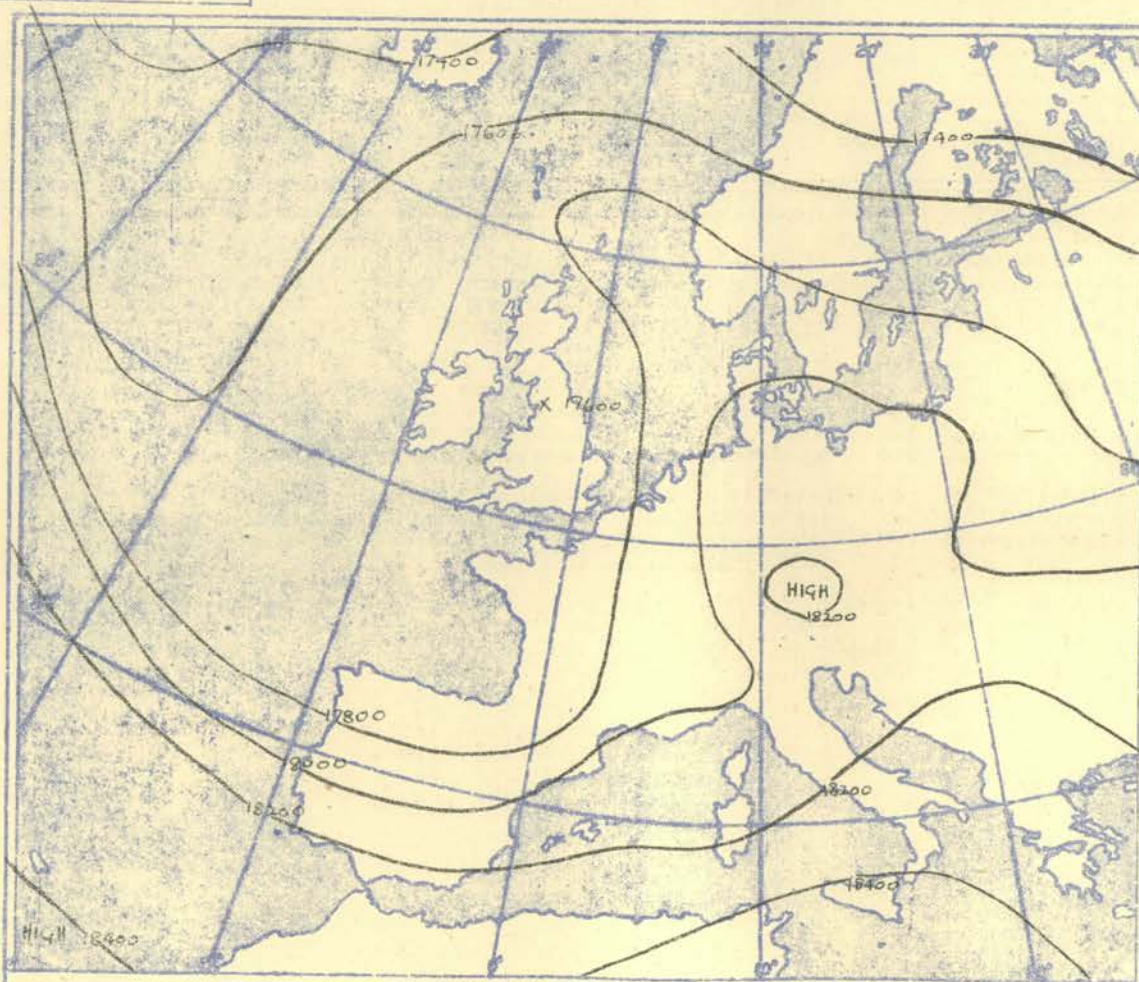
100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



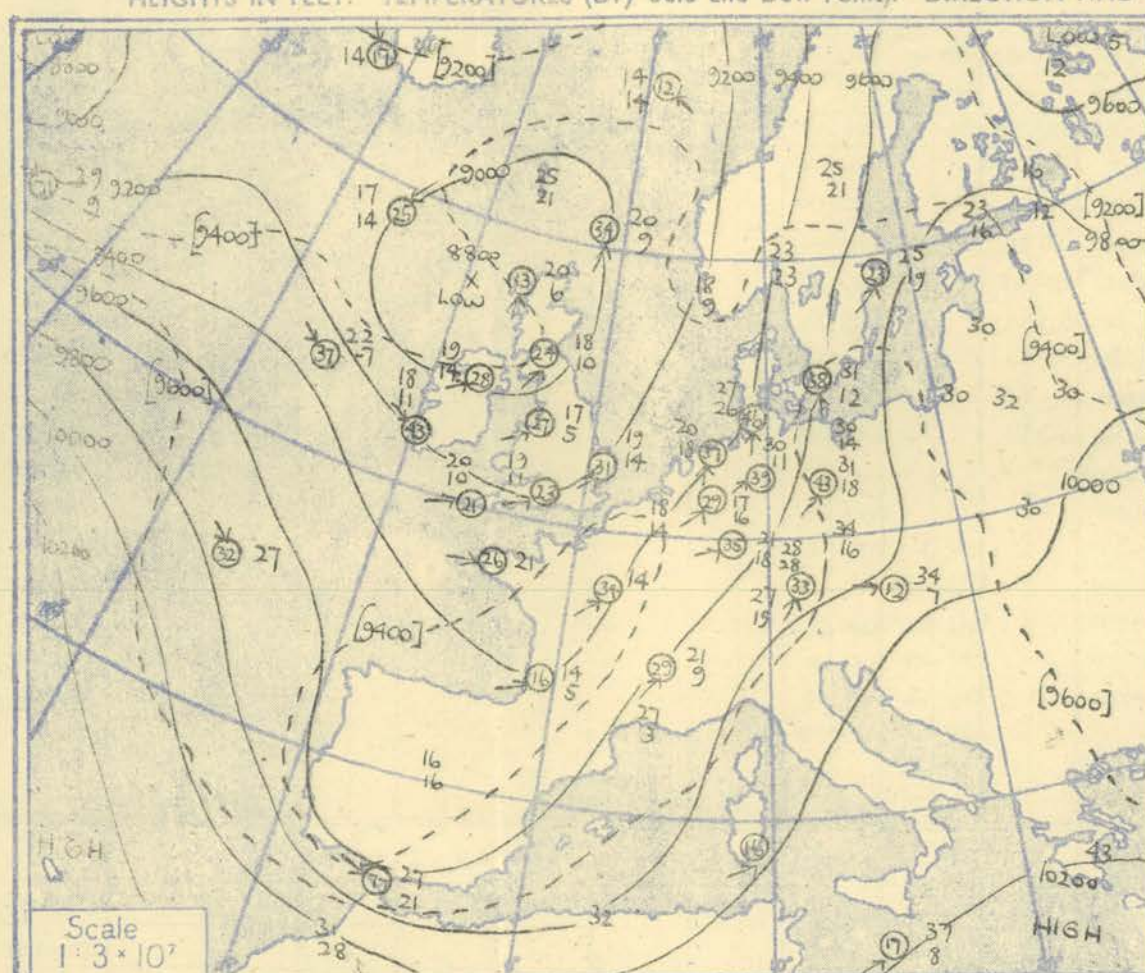
## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.

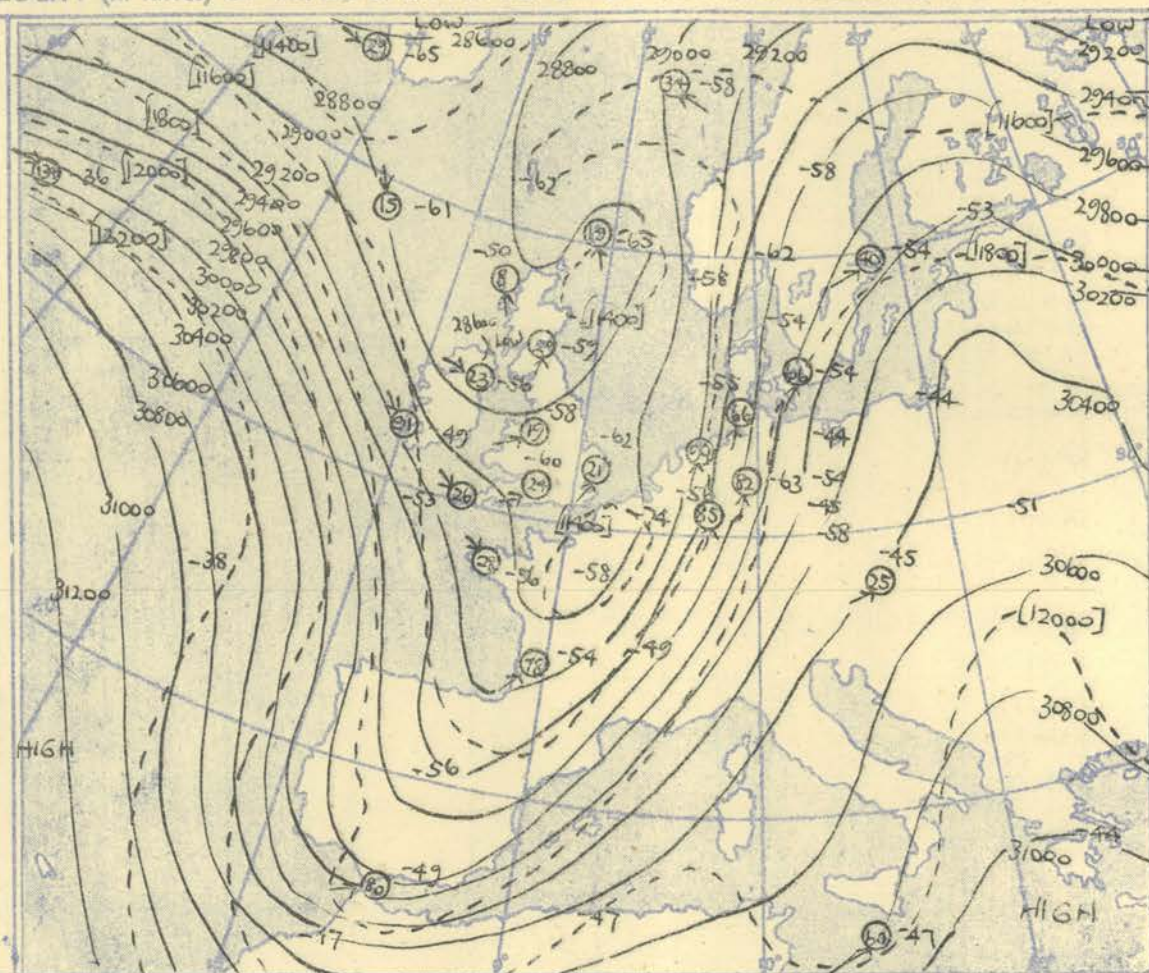


Scale  
1:3 x 10<sup>7</sup>

The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

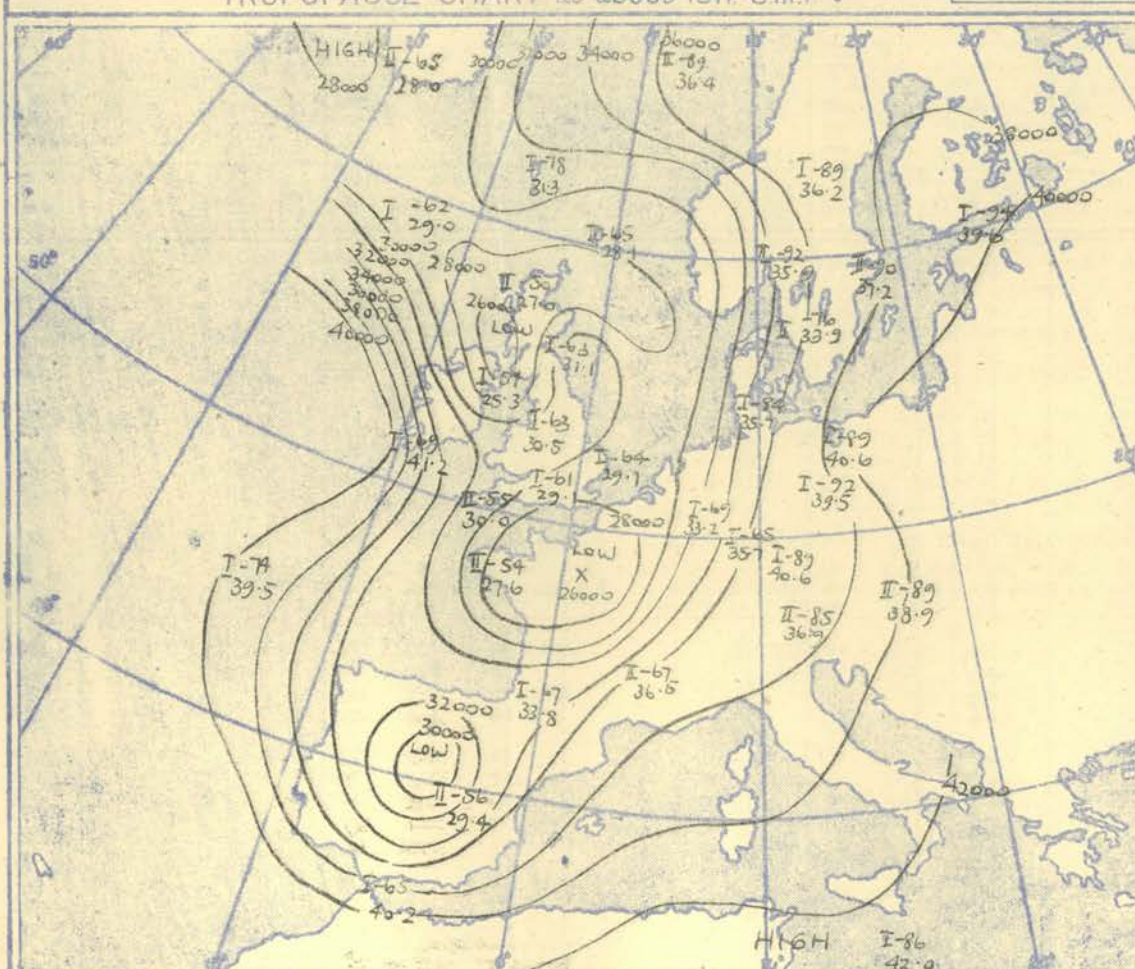
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h GMT.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

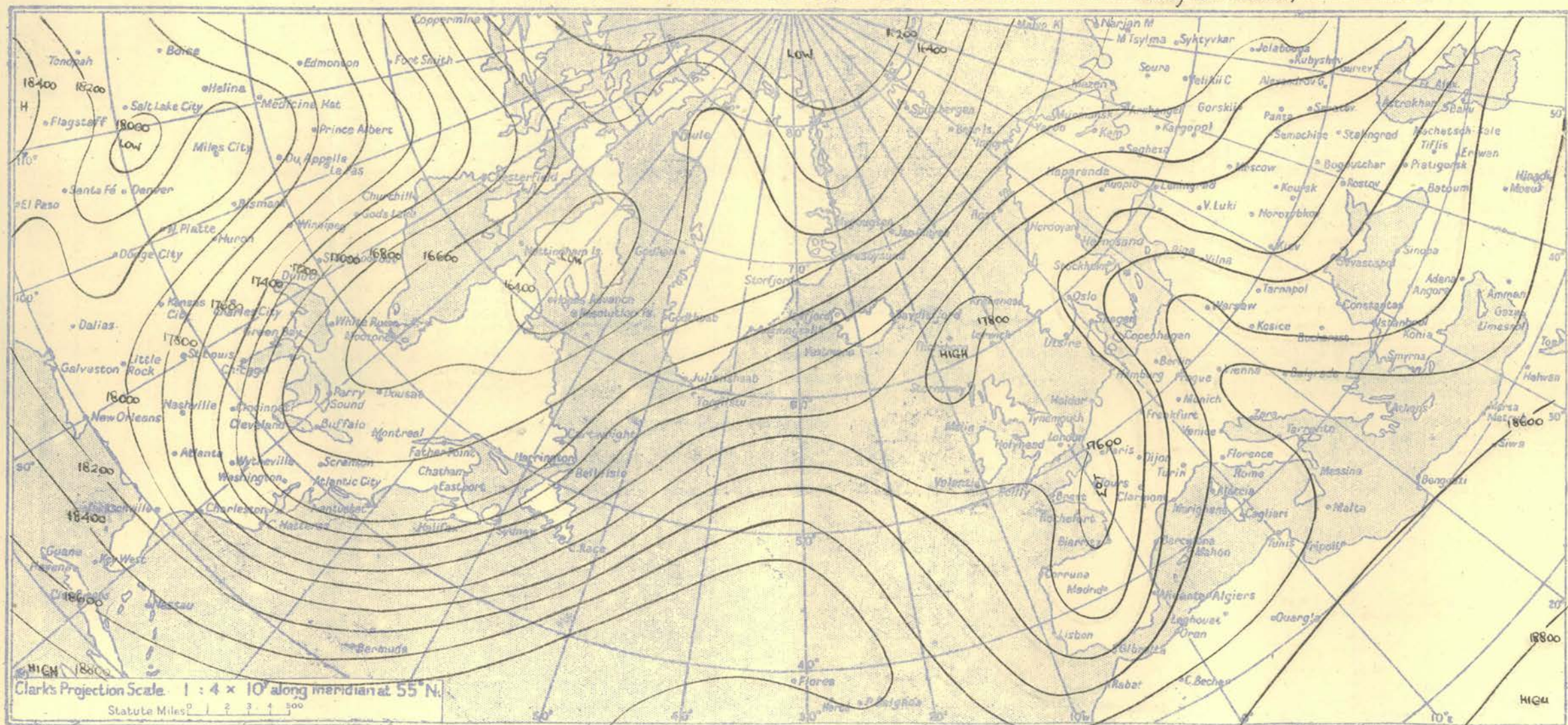
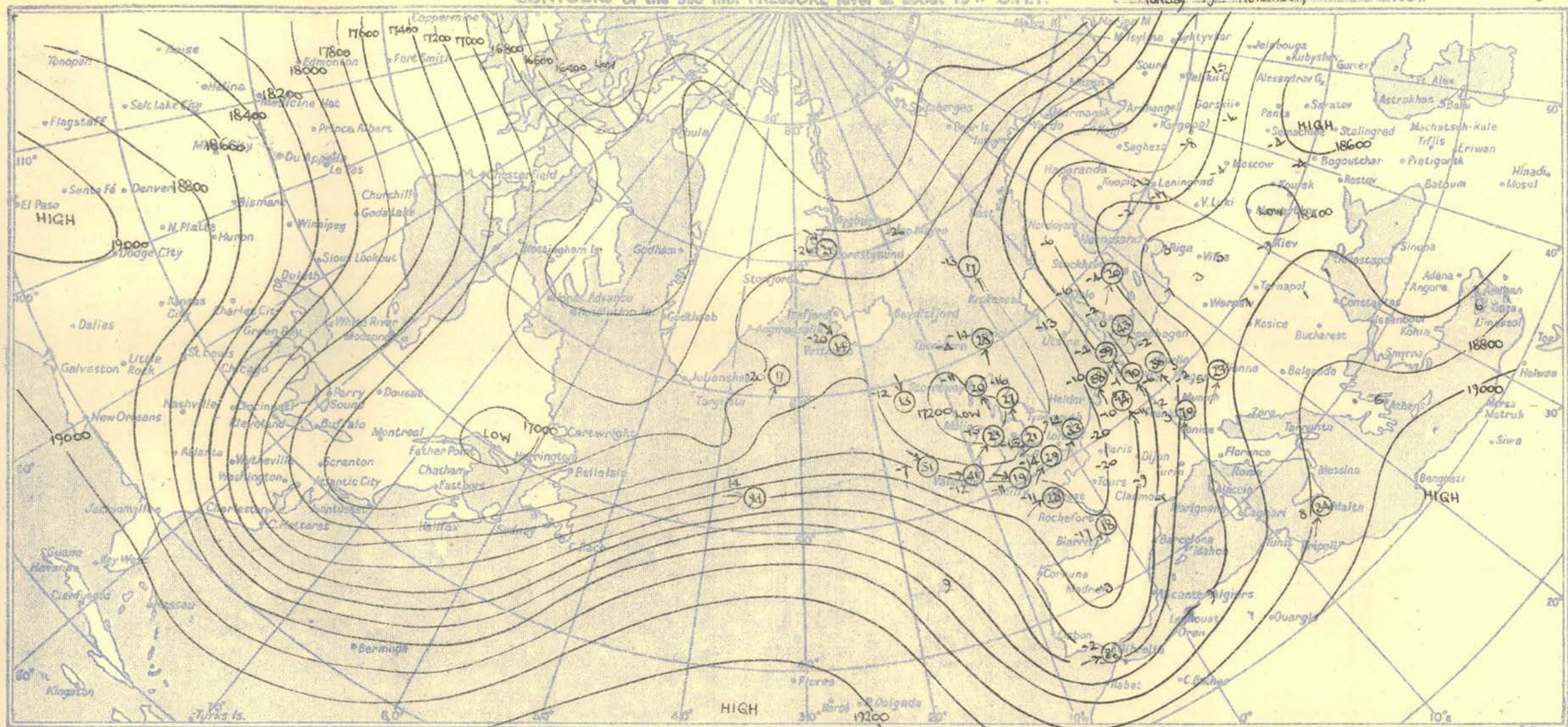
### NOTES ON THE AEROLOGICAL SITUATION.

Intense westnorthwest thermal gradient over West Atlantic weakened considerably as vigorous surface low moved east-northeast and then east across the North Atlantic. Strengthening of the thermal gradient around the cold trough over Western Europe occurred on the eastern side and also in the south over Western Mediterranean.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																																																																																																																								
Time M.S.L. Surf Pressure	15h. 984.5 974.8 800	G.M.T. mb mb mb	15h. 980.5 979.0 830	G.M.T. mb mb mb	15h. 983.5 982.7 830	G.M.T. mb mb mb	15h. 981.4 972.4 832	G.M.T. mb mb mb	15h. 986.8 984.8 810	G.M.T. mb mb mb	15h. 992.2 990.6 818	G.M.T. mb mb mb	15h. 991.4 975.7 825	G.M.T. mb mb mb	15h. 992.2 981.8 808	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb	15h. 992.1 992 825	G.M.T. mb mb mb																																																																																																																																																																																																																																																																																																																																																																																														
																																	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100	Temp. °F.	Dir. °	Wind Vel. knots	Pressure mb	Height ft./100

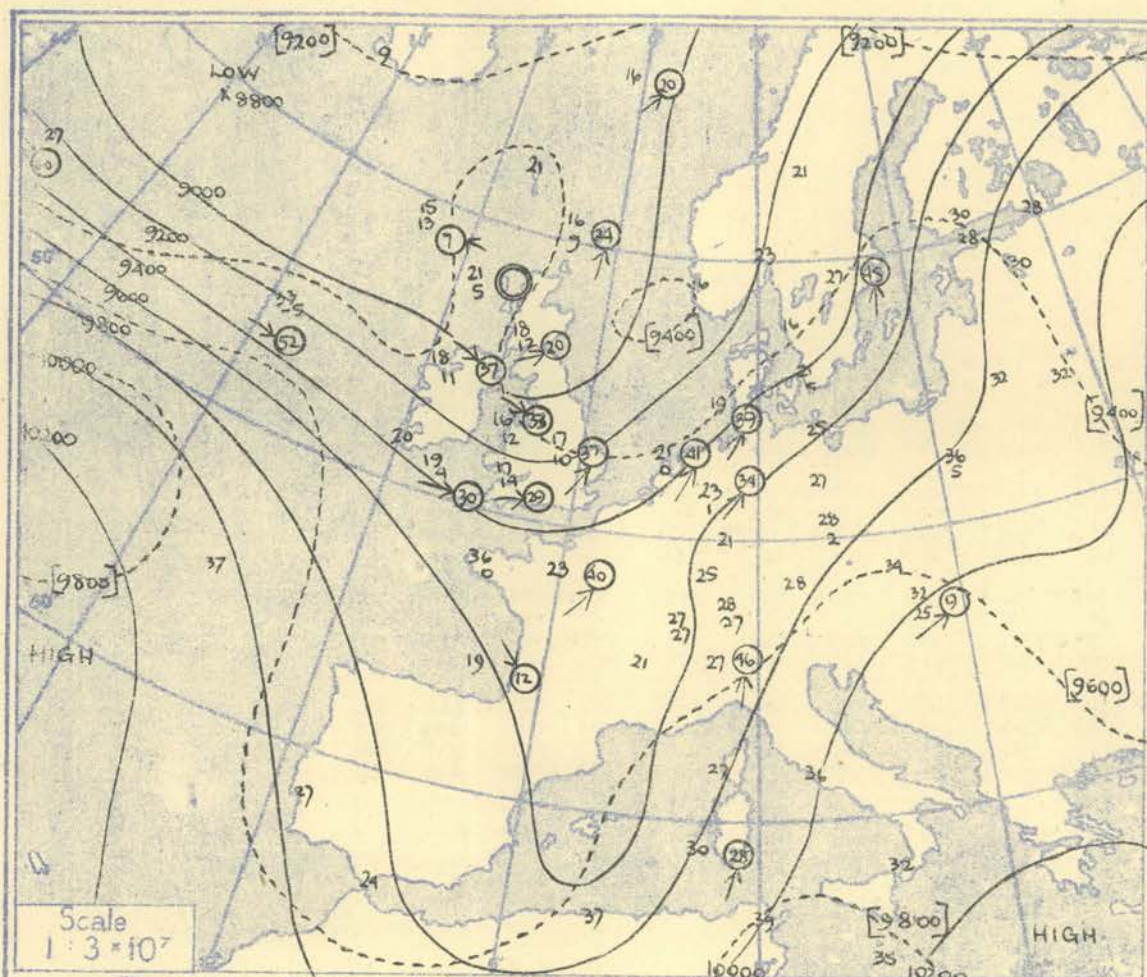


### RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

[illegible]

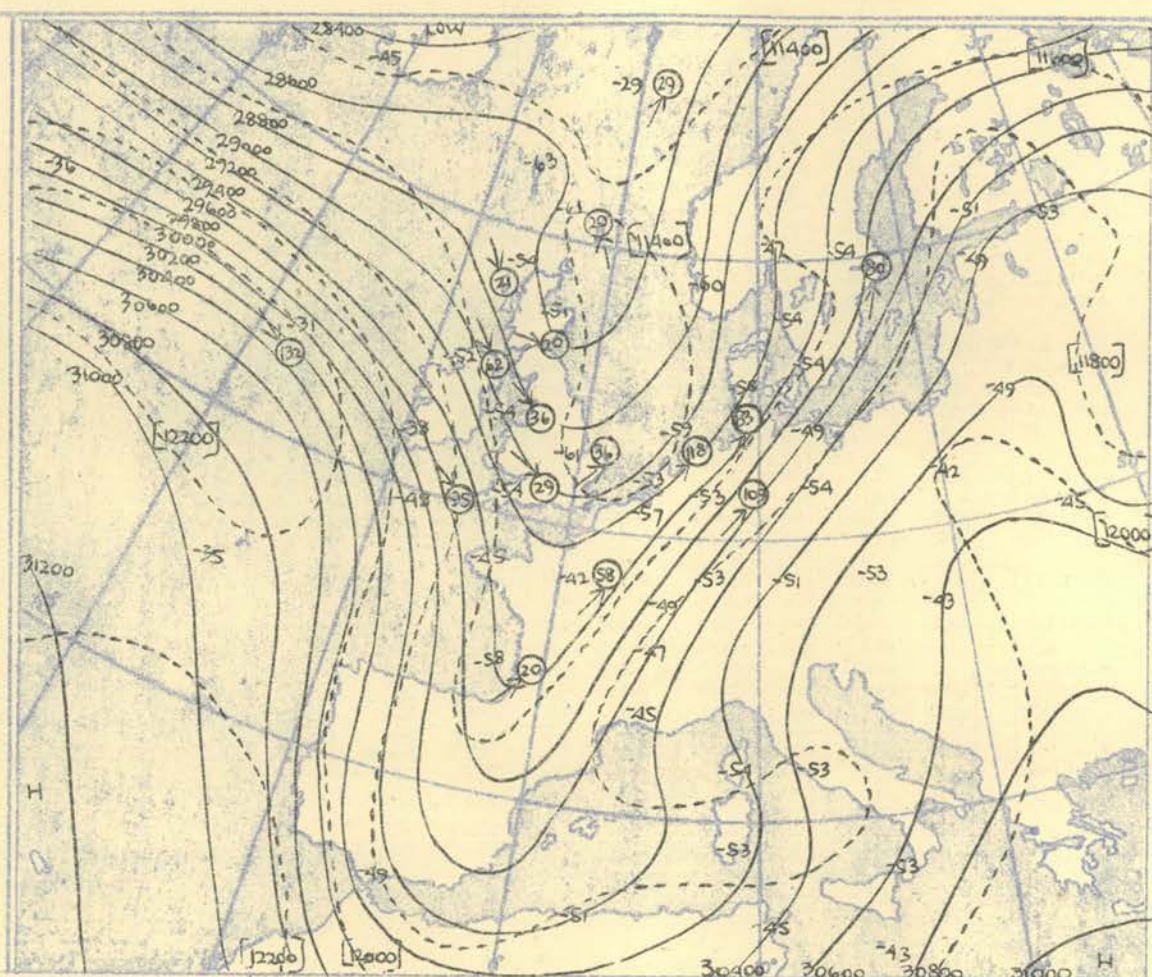


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

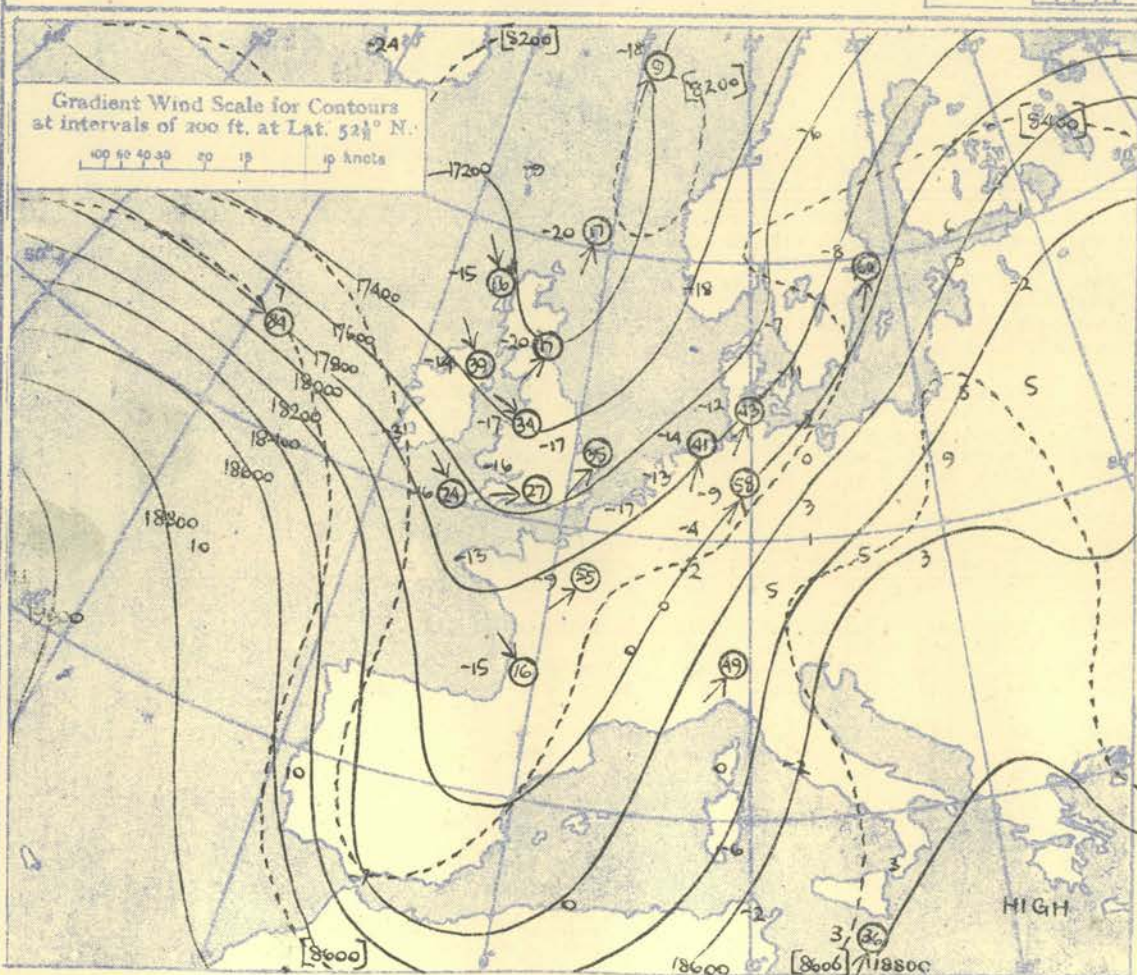


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

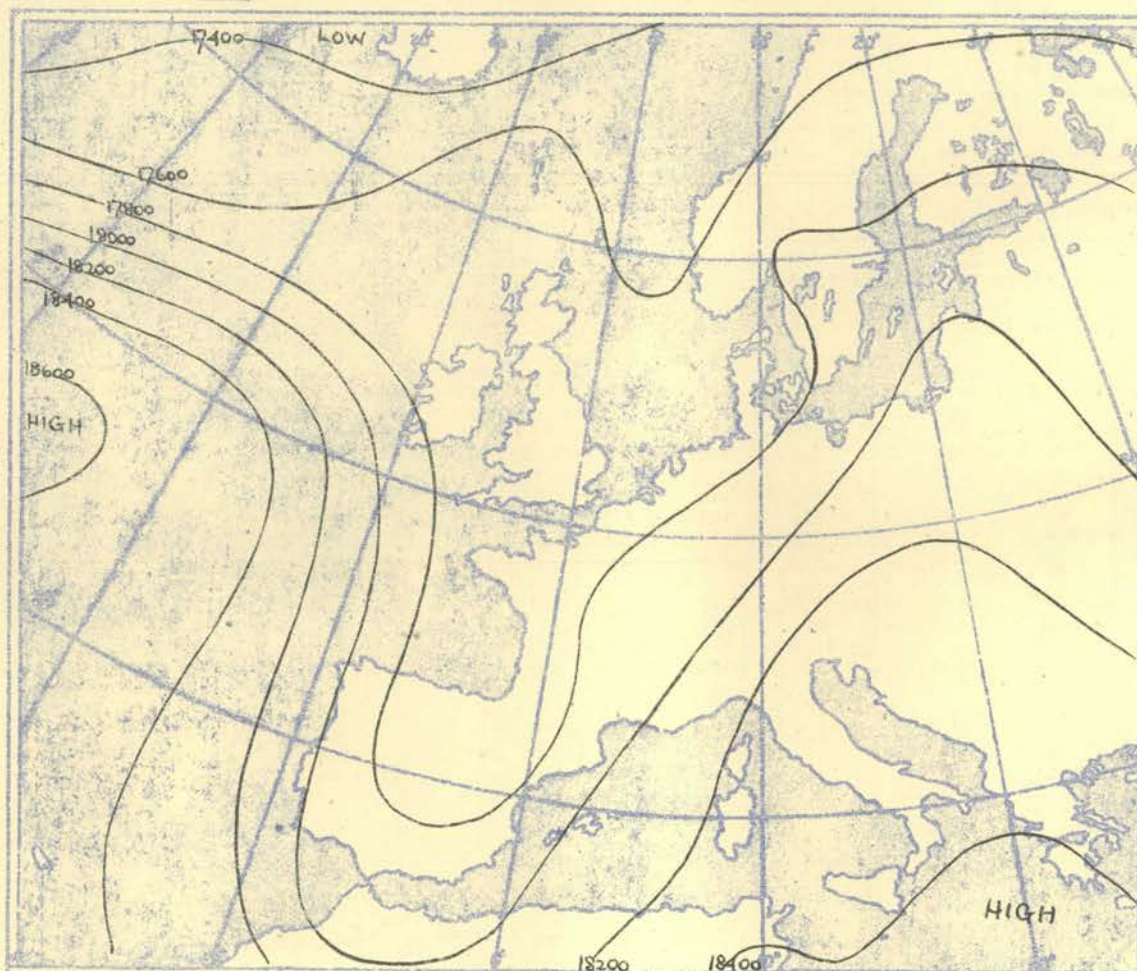
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N  
100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.




The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

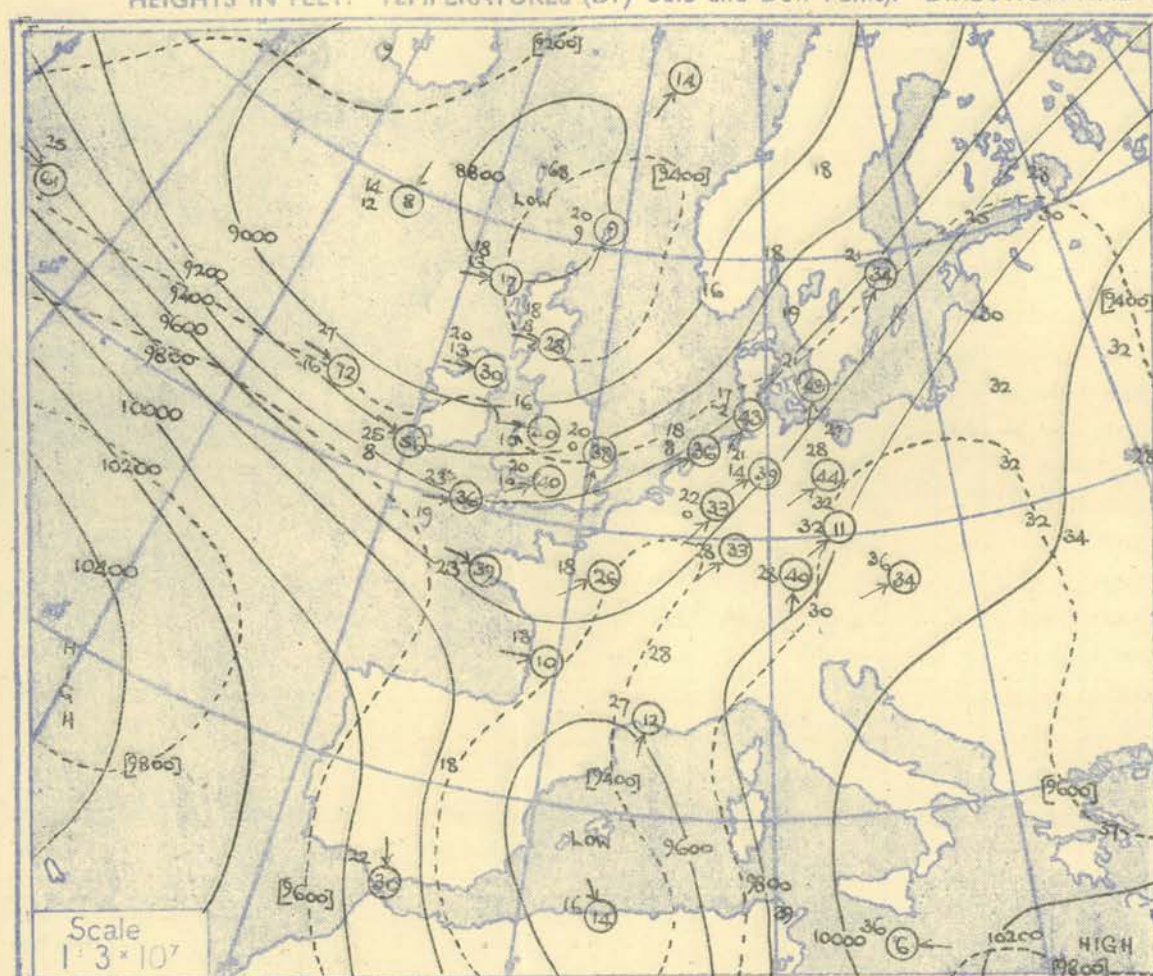


## NEPHOSCOPE OBSERVATIONS

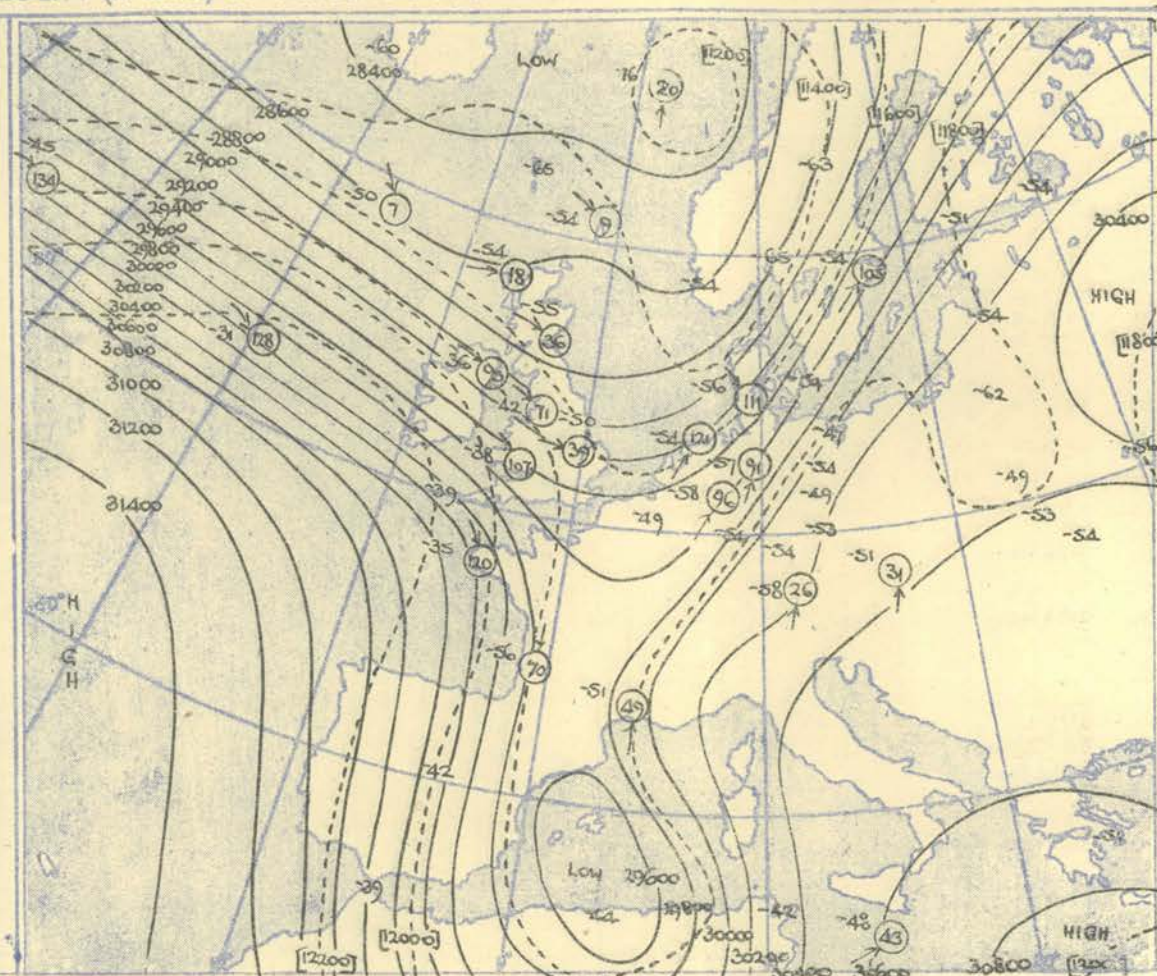
[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.

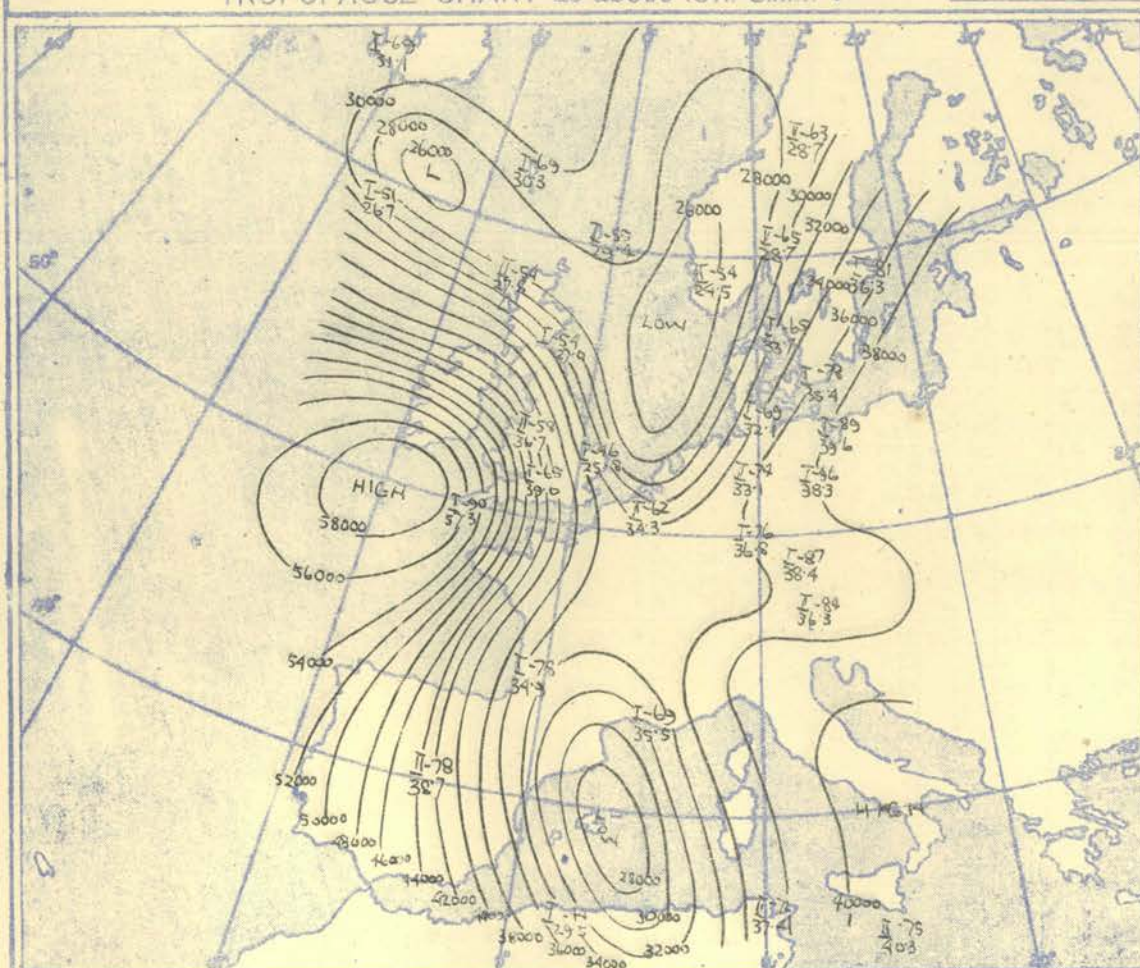


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

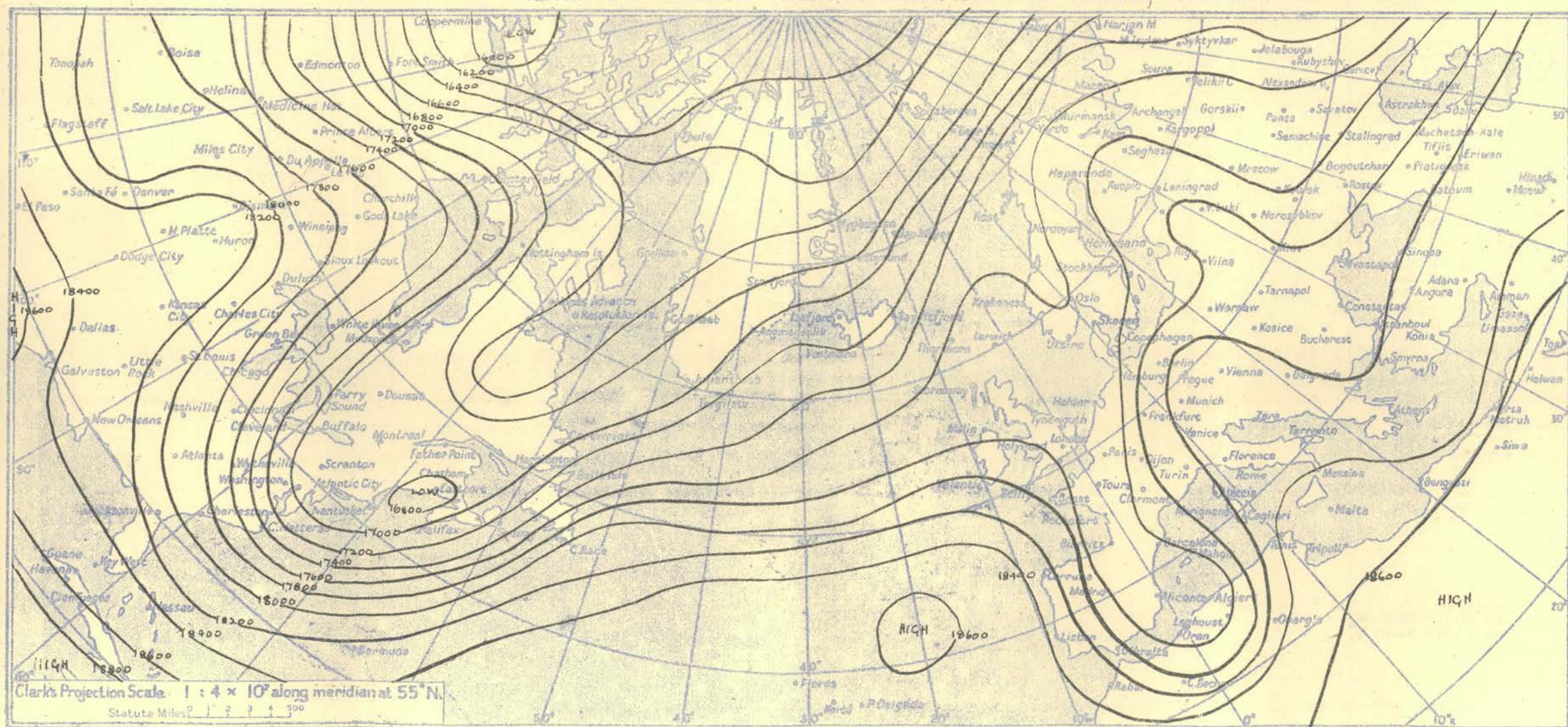
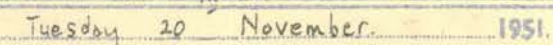
### NOTES ON THE AEROLOGICAL SITUATION.

The light thermal gradient on the Atlantic veered steadily and a minor warm ridge crossed the South Western districts of the British Isles. The thermal distribution on the Continent showed little change and the cold trough over Western Europe sharpened, cutting off a cold pool in the Mediterranean. A highly complex tropopause system appeared over the British Isles.

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NELSON K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

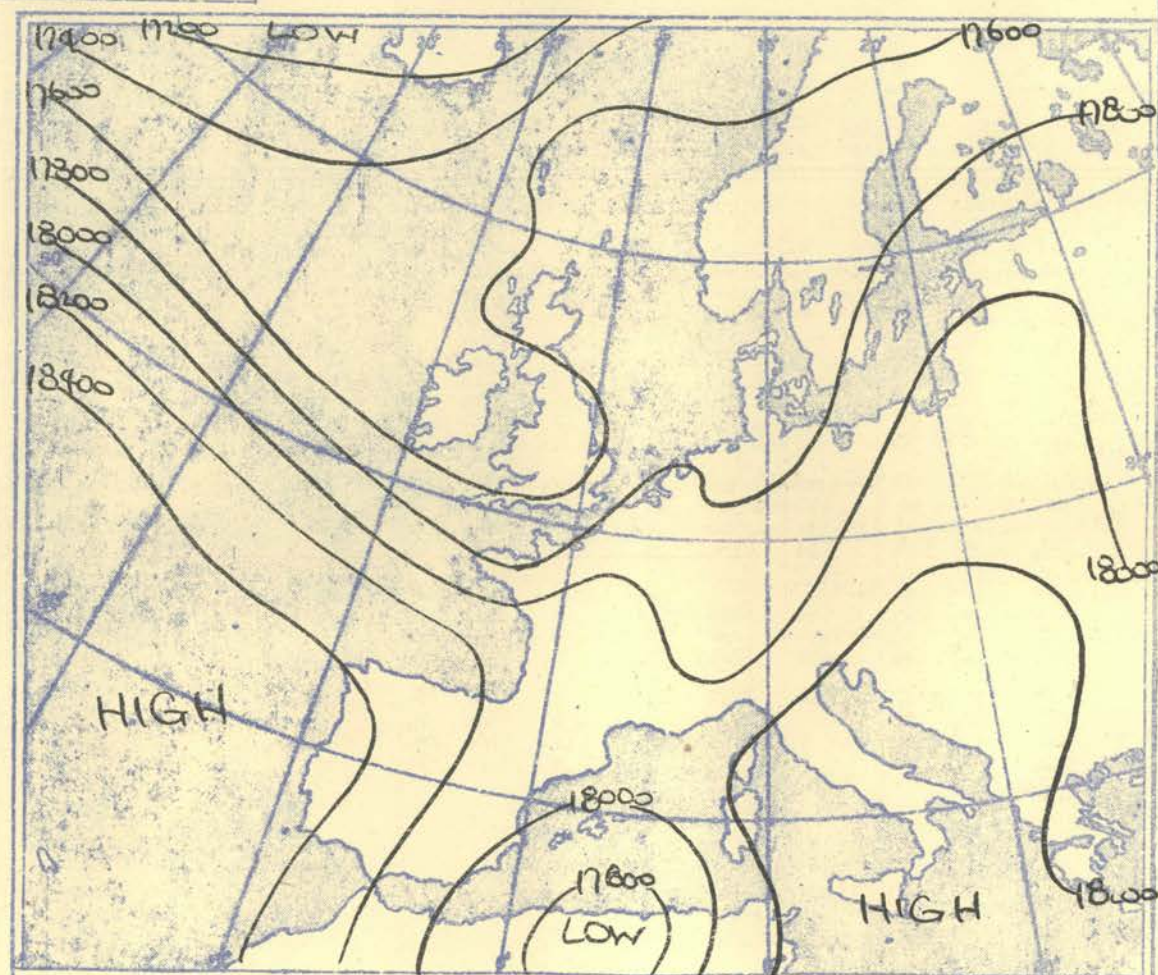
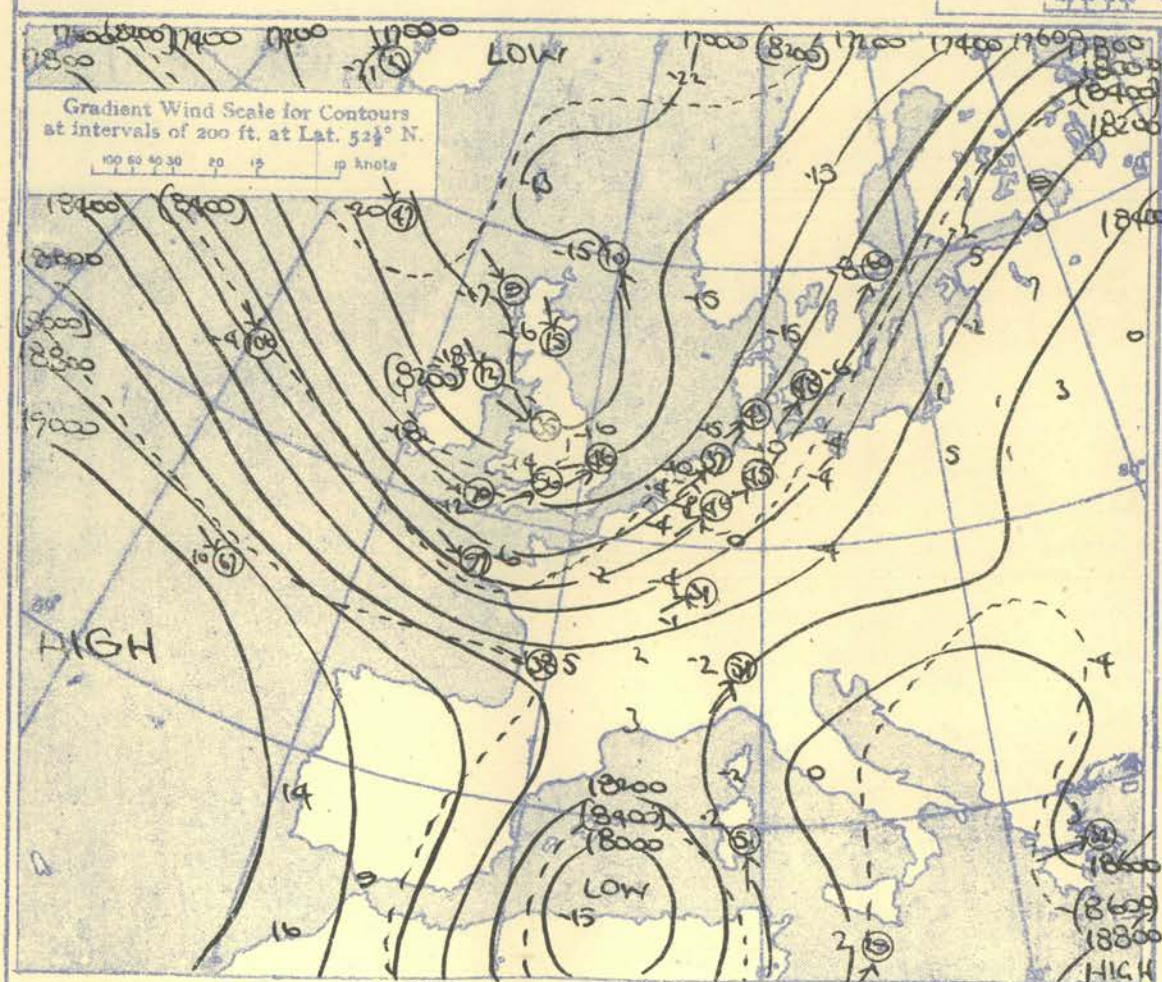
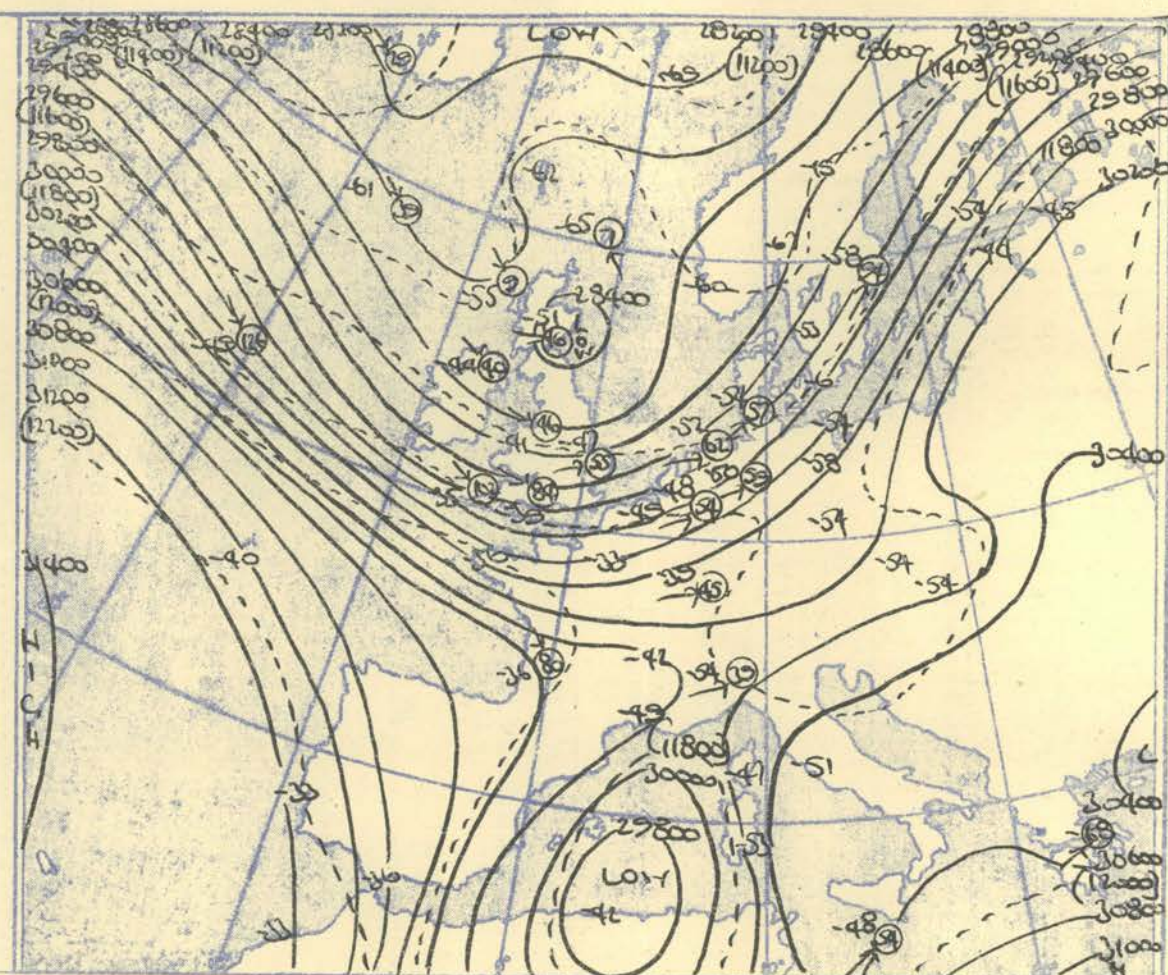
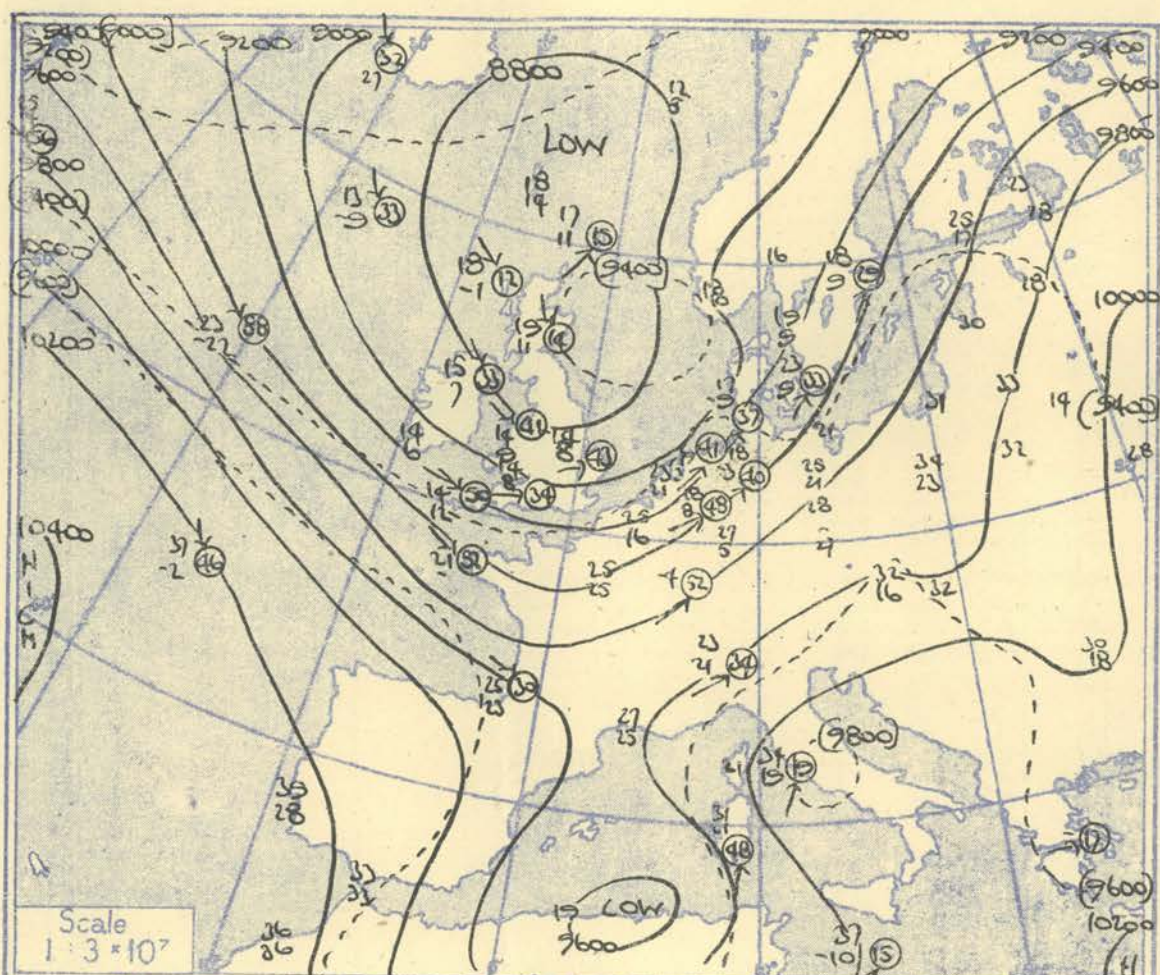
Station	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				REMSBY				LARKHILL				CAMBORNE				Valentia				Station	
Time M.S.L. Surf Pressure	1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		Time					
	977.1		mb		977.0		mb		981.6		mb		983.6		mb		989.1		mb		995.5		mb		996.9		mb		995.8		mb		M.S.L.					
	967.3		mb		975.5		mb		980.6		mb		974.6		mb		987.1		mb		994.0		mb		981.1		mb		985.4		mb		Surf					
	815		mb		823		mb		810		mb		840		mb		847		mb		832		mb		830		mb		770		mb		Pressure					
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure					
mb	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	mb					
Surf	02.7	46	45	180 05	00.4	47	46	260 07	05.1	49	45	270 20	02.5	48	44	195 08	00.6	50	43	210 11	00.4	52	44	230 12	04.4	49	45	230 12	02.9	51	49	210 18	00.3	51	47	Surf		
1000	06.3	45	44	200 17	06.3	47	43	287 15	04.5	46	32	237 30	04.5	45	41	194 16	02.0	46	39	220 24	01.3	46	40	217 28	00.8	46	42	221 28	01.1	47	47	213 34	02.5	43	45	1000		
950	22.1	40	38	201 12	22.2	41	36	268 13	23.5	41	33	258 30	24.0	39	33	230 24	25.3	40	33	230 31	27.3	40	33	230 31	27.7	41	36	235 31	27.4	42	41	227 39	26.1	42	38	950		
900	37.2	35	32	203 09	37.4	35	31	258 12	38.7	34	28	258 29	39.1	33	29	230 24	40.6	33	30	231 28	42.9	34	28	235 35	42.9	34	30	235 33	42.8	39	38	244 39	35.3	32		900		
850	53.3	31	26	202 07	53.4	30	27	257 12	54.7	31	21	257 30	54.9	29	24	240 19	56.5	27	24	236 29	58.3	28	24	235 34	58.8	29	25	228 37	58.8	35	32	258 33	57.2	30	27	850		
800	78.8	23	18	199 08	78.0	24	20	258 15	78.2	18	07	257 30	78.4	19	250 21	78.9	22	21	224 34	78.3	23	13	234 35	78.3	20	234 39	78.3	23	19	258 33	78.3	23	19	258 33	78.3	23	19	800
750	126.6	05	09	184 09	126.6	08	13	256 17	127.8	01	04	245 30	128.3	07	12	262 30	129.5	02	16	237 40	131.5	05	08	227 41	132.3	07	01	265 34	132.9	10	02	274 49	131.1	15	01	750		
700	126.6	05	09	183 09	126.6	03	05	244 12	127.8	01	05	247 30	128.3	07	18	253 40	129.5	02	00	253 37	131.5	05	08	227 41	132.3	07	01	265 34	132.9	10	02	274 49	131.1	15	01	700		
650	126.6	05	09	183 09	126.6	03	05	244 12	127.8	01	05	247 30	128.3	07	18	253 40	129.5	02	00	253 37	131.5	05	08	227 41	132.3	07	01	265 34	132.9	10	02	274 49	131.1	15	01	650		
600	126.6	05	09	183 09	126.6	03	05	244 12	127.8	01	05	247 30	128.3	07	18	253 40	129.5	02	00	253 37	131.5	05	08	227 41	132.3	07	01	265 34	132.9	10	02	274 49	131.1	15	01	600		
550	126.6	05	09	183 09	126.6	03	05	244 12	127.8	01	05	247 30	128.3	07	18	253 40	129.5	02	00	253 37	131.5	05	08	227 41	132.3	07	01	265 34	132.9	10	02	274 49	131.1	15	01	550		
500	170.9	13	28	202 09	170.9	14	28	213 15	171.8	16	25	240 21	172.7	12	38	272 45	173.6	15	21	253 40	175.9	12	36	227 43	176.9	11	18	273 42	176.9	11	18	273 42	176.9	11	18	500		
450	222.5	37	54	225 06	222.8	35	57	182 22	223.6	35	52	215 20	224.5	35	53	268 54	225.3	34	48	276 49	228.1	32	44	238 38	229.2	25	40	291 61	231.4	18	45	310 102	231.4	18	45	450		
400	285.5	54	256 09	286.1	54	256 18	286.8	55	274 36	287.7	56	289 95	290.0	42	291 71	291.9	50	271 39	295.2	38	60	310 107	297.8	39	52		297.8	39	52		297.8	39	52	400				
350	373.1	53	263 24	374.3	56	284 46	374.6	55	288 52	379.9	49	290 90	378.5	58	292 63	379.7	56	287 52	384.0	62	315 63	384.9	72	73		384.9	72	73		384.9	72	73	350					
300	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	300				
250	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	250				
200	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	200				
170	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	170				
150	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	150				
130	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	130				
110	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	110				
100	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	100				
90	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	90				
80	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	80				
70	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	70				
60	521.9	61	290 27	522.6	65	283 42	521.7	63	292 37	526.7	72	292 37	524.0	73	292 37	525.5	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	528.4	71	291 35	60				
Inversion.		748 nbs 23° - 734 nbs 24°		Inversion.		775 nbs 47° - 760 nbs 48°		Inversion.		324 nbs 50° - 310 nbs 53°		Inversion.		406 nbs 36° - 382 nbs 34°		Inversion.		371 nbs 35° - 350 nbs 33°		Inversion.		380 nbs 28° - 367 nbs 28°		Inversion.		380 nbs 28° - 367 nbs 28°		Inversion.		380 nbs 28° - 367 nbs 28°		Inversion.		380 nbs 28° - 367 nbs 28°				
Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F		Isothermal.		840 - 816 nbs 33°F				
Tropopause		I 288 nbs -55°F. 29,400ft.		I 311 nbs -54°F. 27,800ft.		I 324 nbs -54°F. 27,000ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.		I 323 nbs -57°F. 29,200ft.						
Station	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				REMSBY				LARKHILL				CAMBORNE				Valentia				Station	
Time M.S.L. Surf Pressure	2100		G.M.T.		2100		G.M.T.		2100		G.M.T.		2100		G.M.T.		2100		G.M.T.		2100		G.M.T.		2100		G.M.T.		2100		G.M.T.		Time					
	977.0		mb		977.0		mb		973.4		mb		978.9		mb		983.3		mb		980.1		mb		980.2		mb		983.7		mb		M.S.L.					
	967.2		mb		975.5		mb		978.5		mb		969.9		mb		981.3		mb		988.6		mb		974.5		mb		983.3		mb		Surf					
	836		mb		835		mb		835		mb		850		mb		855		mb		800		mb		812		mb		827		mb		Pressure					
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure					
mb	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft/100	°F.	°F.	Dir. Vel. knots	ft																									



STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION	
Pressure	Time M.S.L. Surf	0300		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		Time M.S.L. Surf					
		mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb							
Surf	02-7	46	45	140	07	04-2	42	39	340	07	00-2	42	39	320	16	02-5	43	41	290	15	00-6	46	43	230	12	04-4	45	42	290	15	02-9	47	44	280	24	00-3	49	43	
1000	06-6	-	-	-	-	06-1	-	-	-	06-9	-	-	-	-	05-5	-	-	-	05-4	-	-	-	-	04-3	-	-	-	-	03-1	-	-	-	01-7	-	-	Surf			
950	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
900	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
850	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
800	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
750	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
700	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
650	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
600	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
550	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
500	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
450	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
400	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
350	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
300	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
250	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
200	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
170	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
150	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
130	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
110	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
90	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
80	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
70	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
60	21-7	39	38	182	13	22-2	36	31	21-5	39	31	339	17	22-7	38	38	293	31	23-0	38	35	264	45	24-1	39	31	252	38	25-2	37	32	276	39	41	48	39			
Tropopause		II 238 mb -68°F				I 295 mb -56°				I 347 mb -50°				I 097 mb -74°				I 237 mb -45°				I 259 mb -51°				I 347 mb -73°				NR				NR				Tropopause	
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE								STATION	
Pressure	Time M.S.L. Surf	0300		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		Time M.S.L. Surf					
		mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb							
Surf	02-7	46	45	140	04	04-2	42	39	300	09	00-2	45	36	300	17	02-5	44	37			00-6	46	45	290	16	00-4	44	39	230	14	04-4	42	41	250	15	02-9	48	45	
1000	06-4	-	-	-	-	05-3	-	-	-	06-2	-	-	-	-	03-3	-	-	-			05-3	-	-	-	04-8	-	-	-	-	03-4	-	-	-	02-2	-	-	1000		
950	22-0	39	35	156	10	22-6	36	32	296	25	22-1	37	31	224	30	24-4	36	29			23-1	38	36	300	33	23-5	37	35	257	37	24-9	39	36	280	37	26-1	36	32	
900	37-1	34	29	141	10	37-7	29	25	304	24	37-2	31	28	285	82	39-4	30	22			38-2	33	32	304	31	38-5	33	30	263	31	40-1	32	30	286	39	41-2	29	26	
850	53-1	26	22	134	09	53-4	25	20	305	24	53-1	23	26	247	33	55-3	26	15			54-1	27	25	312	30	54-5	27	23	263	29	55-9	25	23	285	39	56-9	24	22	
750	22	14	135	07		19	03	309	21		19	18	247	23		21	09	For			31	19	312	31		21	16	258	30		20	16	282	37		20	18		
700	87-3	17	05	143	07	87-6	17	23	307	18	87-4	14	12	238	21	89-5	17	02			88-3	15	13	312	33	88-7	14	10	255	23	90-1	14	07	281	37	91-1	14	10	
650	10	01	136	09		09	33	289	15		06	03	225	23		09	03	Winds			07	03	315	31		06	01	251	27		08	00	282	33		08	04		
600	125-9	02	10	122	09	126-0	01	42	282	15	125-7	02	05	220	27	28-0	00	12			126-7	01	06	313	29	27-0	02	05	249	29	28-8	01	10	283	31	29-5	02	03	
550	07	18	123	08		09	48	301	15		10	14	222	28		08	12	See			09	13	313	29		11	15	252	32		07	24	283	29		03	09		
500	169-9	16	28	133	09	169-8	18	55	330	14	169-4	19	29	218	22	71-9	18	33	page			170-5	19	26	308	24	170-7	21	26	256	33	72-4	18	33	289	29	174-1	07	14
450	26	39	122	14		28	56	326	13		29	39	211	12		30	42				221-5	44	29	308	19		34	41	258	37		30	40	281	26		12	21	
400	221-5	36	50	098	15	221-0	41	337	14		220-6	42	211	11		222-9	45	3			221-5	44	29	308	12		221-9	36	46	250	39	223-6	36	50	276	36	227-1	16	26
350	49	-	105	19		54	-	340	15		57	-	241	03		50	-				50	-	302	23		45	-	248	37</										



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. 500 mb. and 300 mb. levels at about 03h G.M.T.





## AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY

[illegible]

## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

[illegible]

## NEPHOSCOPE OBSERVATIONS

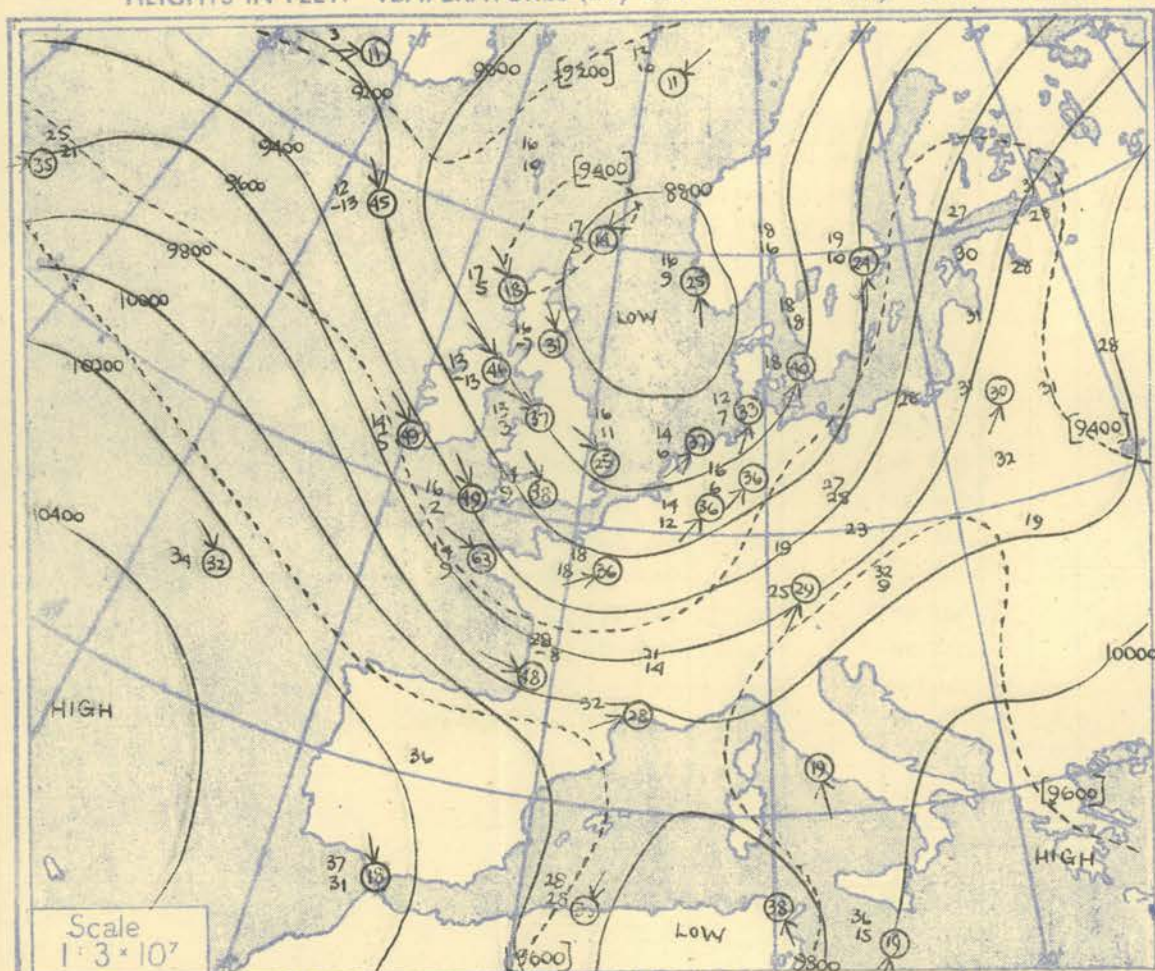
[illegible]

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				Ship	
Lat/Long	59.0N. 15.6W.				58.9N. 15.6				59.1N. 15.7W.				59.1N. 15.6W.				59.1N. 15.6W.				59.1N. 15.6W.				59.1N. 15.6W.				59.1N. 15.6W.				59.1N. 15.6W.				Lat/Long	
Pressure	03h. G.M.T.				09h. G.M.T.				15h. G.M.T.				21h. G.M.T.				03h. G.M.T.				09h. G.M.T.				15h. G.M.T.				21h. G.M.T.				03h. G.M.T.				Time	
	M.S.L.				M.S.L.				M.S.L.				M.S.L.				M.S.L.				M.S.L.				M.S.L.				M.S.L.				M.S.L.					Time
	Surf				Surf				Surf				Surf				Surf				Surf				Surf				Surf				Time					
	Freezing				Freezing				Freezing				Freezing				Freezing				Freezing				Freezing				Time									
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure					
mb	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	mb					
Surf		44	34	340	28	44	34	340	30	43	31	330	30	44	35	320	26	49	35	278	45	25	50	41	290	30	49	42	250	13	49	42	258	12	Surf			
1000	-03.6	40	33	314	21	38	28	324	28	37	33	322	27	36	30		1	48	35				49	41	304	23	47	42	258	12	47	42	258	12	1000			
950		40	33	314	21	38	28	324	28	37	33	322	27	36	30			42	32	289	47		41	35	304	36	42	40	260	15	42	40	260	15	950			
900	24.6	33	29	315	28	31	21	328	32	29	26	323	36	28	27		28.0	35	28	276	51	208	34	29	305	38	35	26	260	18	35	26	260	18	900			
850		27	26	316	33	22	13	328	33	21	19	324	38	31	15			27	22	299	58		31	27	305	58	39	10	264	22	39	10	264	22	850			
800	55.2	21	20	316	37	18	10	332	34	17.5	23	05	326	40	15.6	25	-02	27	06	303	68	61.5	22	08	298	54	37	00	275	31	37	00	275	31	800			
		17	09	316	37	15	09	335	33	19	05	327	46	19	05			26	13	303	75		29	21	298	65	31	03	285	45	31	03	285	45	750			
750		13	09	316	33	15	09	335	33	19	05	327	46	19	05			26	13	303	75		29	21	298	65	31	03	285	45	31	03	285	45	750			
700		06	16	314	33	10	23	337	37	12	13	327	45	11	11			23	22	301	88	96.3	27	23	302	69	23	15	282	57	23	15	282	57	700			
650		04	16	314	33	04	32	337	38	04	21	325	45	03	12			18	24	300	100		20	28	302	71	19	04	294	68	19	04	294	68	650			
600	127.3	01	23	314	36	127.9	02	39	329	39	129.6	04	26	325	42	130.7	05	26	303	88	135.7	13	26	302	75	137.9	19	04	294	68	137.9	19	04	294	68	600		
550		-11	-34	314	45	-10	-48	325	42	-13	-32	325	39	-13	-33			05	32	299	96		05	27	302	85	11	-04	294	75	11	-04	294	75	550			
		20	42	310	47	171.6	19	56	326	45	173.0	22	40	325	29	174.4	23	42	303	106	180.8	04	30	302	95	183.6	01	25	291	68	183.6	01	25	291	68	500		
500		30	51	311	43	22.9	28	41	325	41	22.8	32	49	325	26	22.9	35	50	307	125		14	40	302	103		10	30	287	78		10	30	287	78	450		
450	221.9	43	303	31	222.8	41	302	40	323.8	45	224.9	39	55	325	39	224.9	39	55	309	120	233.8	24	51	302	112	237.2	19	30	285	88	237.2	19	30	285	88	400		
400	-53	314	41		-54	317	45		-55	316	27			-50				37	56	309	126		37	60	302	120	29	40	275	94	29	40	275	94	350			
350		284.3	61	313	39	285	65	304	42	286.0	59	302	53	287.7	60	287.7	60		56	309	126	297.0	51	302	120										300			
300		257	315	37	259	39	45	291	45	258	39	275	39	258	39	258	39		56	309	126	(280)	64	302	132										250			
250	371.4	53	313	36	371.4	57	301	51	(236)	58	374.4	60		62		374.4	60		56	309	126	297.0	51	302	120										200			
200	-86	306	46		-86	278	49		-86	278	49			-62					56	309	126	297.0	51	302	120										170			
150		58	300	47	57	289	48		57	289	48			62					56	309	126	297.0	51	302	120										150			
130		60	295	52	61	285	51		61	285	51			63					56	309	126	297.0	51	302	120										130			
110		66	291	42	63	289	49		63	289	49			62					56	309	126	297.0	51	302	120										110			
100	519.2	68	295	46	519.3	64	292	46	519.3	64	292	46			62				56	309	126	297.0	51	302	120										100			
90		70			71	282	40		71	282	40			62					56	309	126	297.0	51	302	120										90			
80					74	293	38		74	293	38			62					56	309	126	297.0	51	302	120										80			
70																			56	309	126	297.0	51	302	120										70			
60																			56	309	126	297.0	51	302	120										60			
																			56	309	126	297.0	51	302	120													
																			56	309	126	297.0	51	302	120													
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																			56	309	126	297.0	51	302	120													

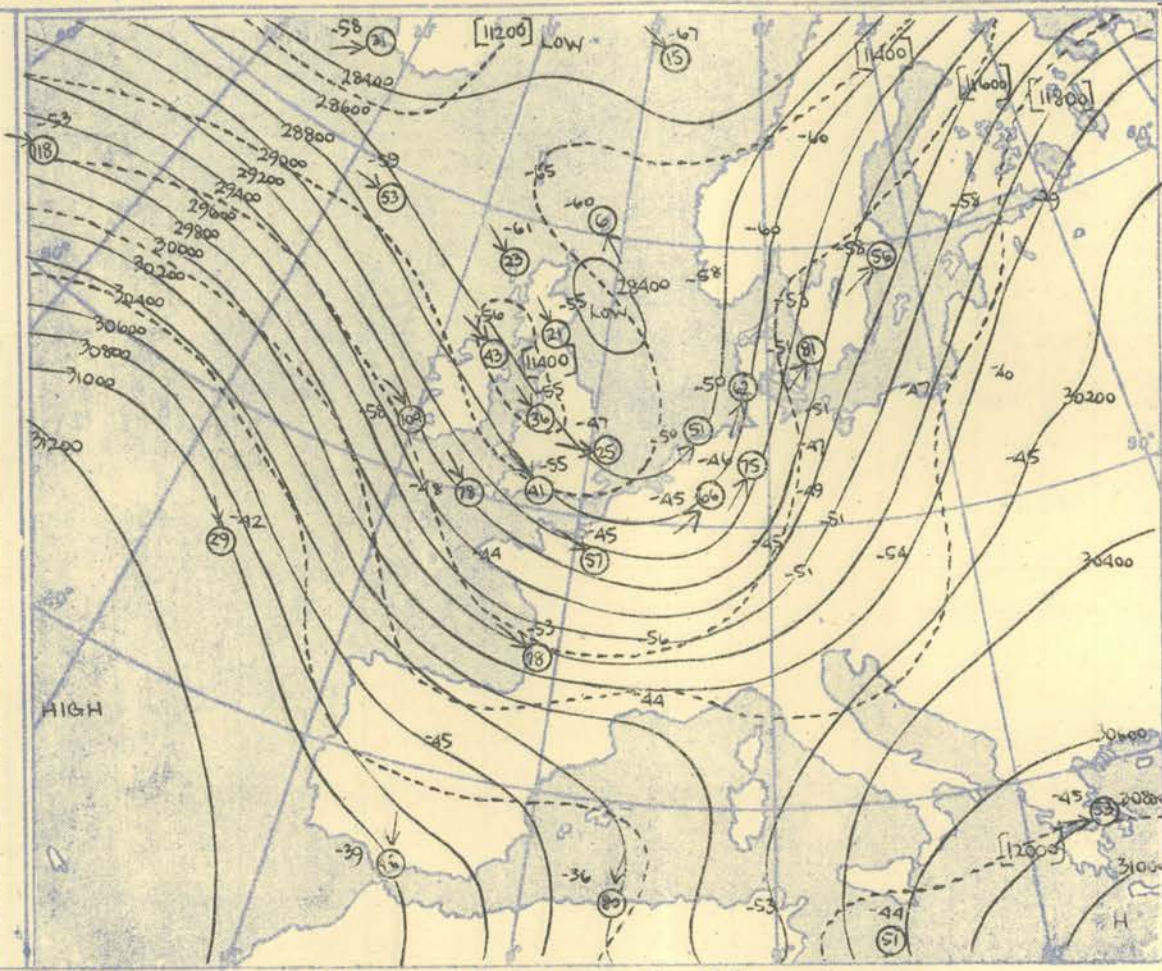


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb. levels at about 15 h G.M.T.



Scale  
 $1:3 \times 10^7$

The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 2000-700 mb.

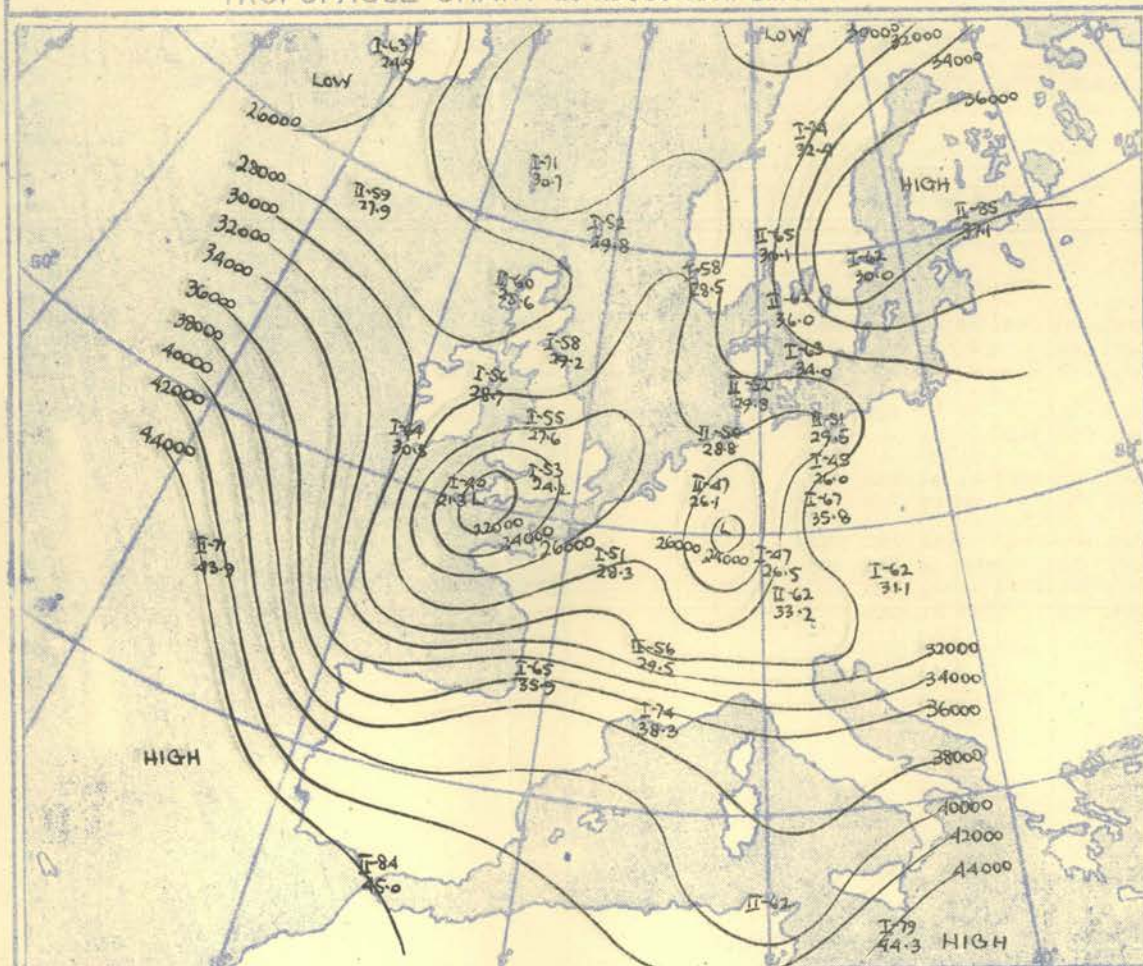


Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52^\circ$  N.

100 80 60 40 20 10 knots

The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

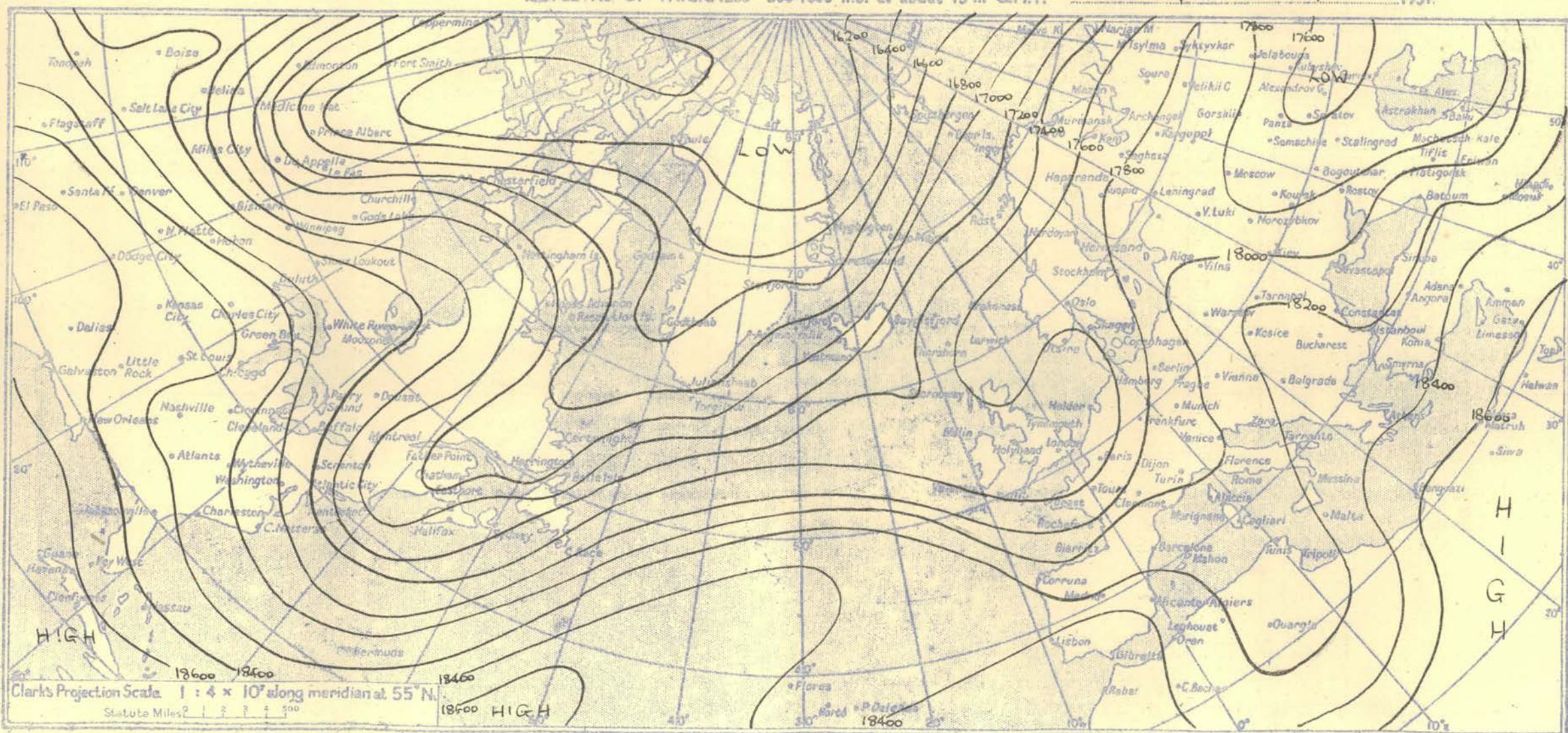
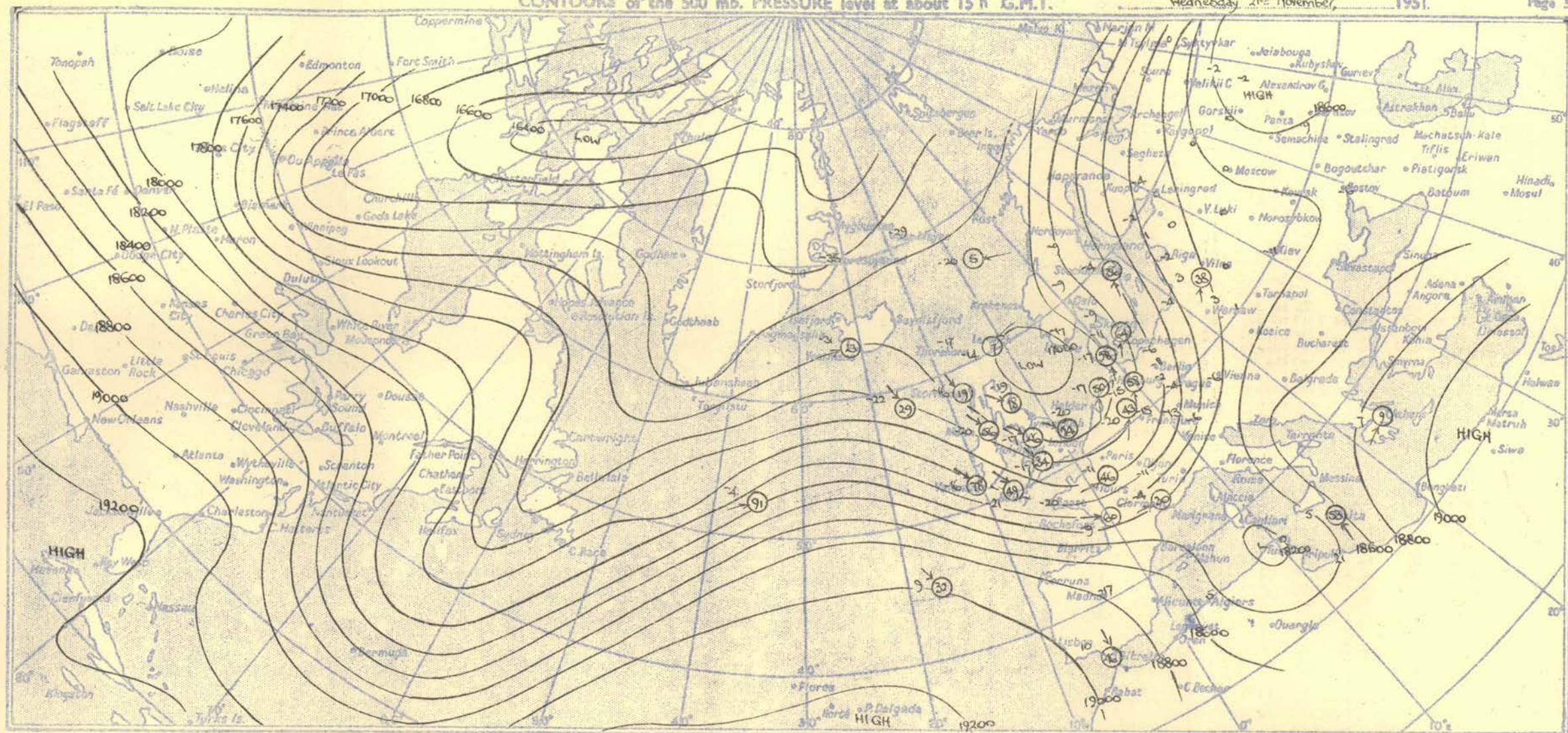
### NOTES ON THE AEROLOGICAL SITUATION.

The weak warm ridge over the southwestern districts of the British Isles disappeared and a large cold trough centred over France resulted. A large cold trough entered the West Atlantic.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

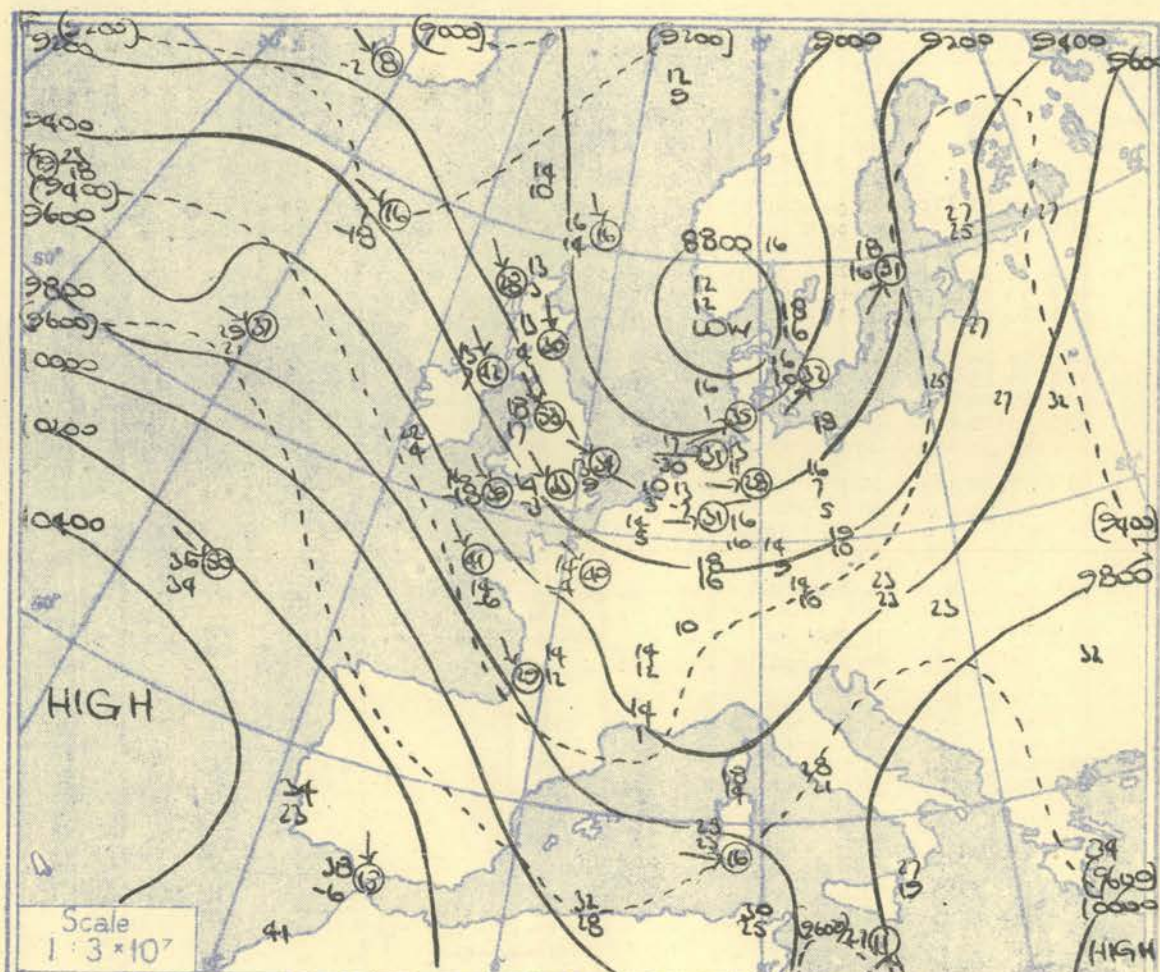
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				Valentia				STATION							
Time M.S.L. Surf Pressure	1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				1500 G.M.T.				Time M.S.L. Surf Pressure							
	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots												
Surf	02.7	46	44	005	09	04.2	47	43	320	08	04.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	Surf
1000	06.3	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	1000
950	07.1	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	950
900	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	900
850	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	850
800	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	800
750	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	750
700	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	700
650	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	650
600	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	600
550	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	550
500	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	500
450	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	450
400	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	400
350	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	350
300	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	300
250	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	250
200	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	200
170	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	170
150	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	150
130	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	130
110	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	110
100	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	100
90	07.2	44	42	013	12	05.2	47	43	320	08	05.2	47	36	310	17	02.5	44	37	295	20	00.6	47	40	300	25	00.4	47	42	270	15	04.4	43	43	310	10	02.9	50	42	315	25	00.3	52	46	



RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
STATION					LERWICK					STORNOWAY					LEUCHARS					ALDERGROVE					LIVERPOOL					HEMSEY					LARKHILL					CAMBORNE					VIENTIANE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Time					03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G.M.T.	03L	G



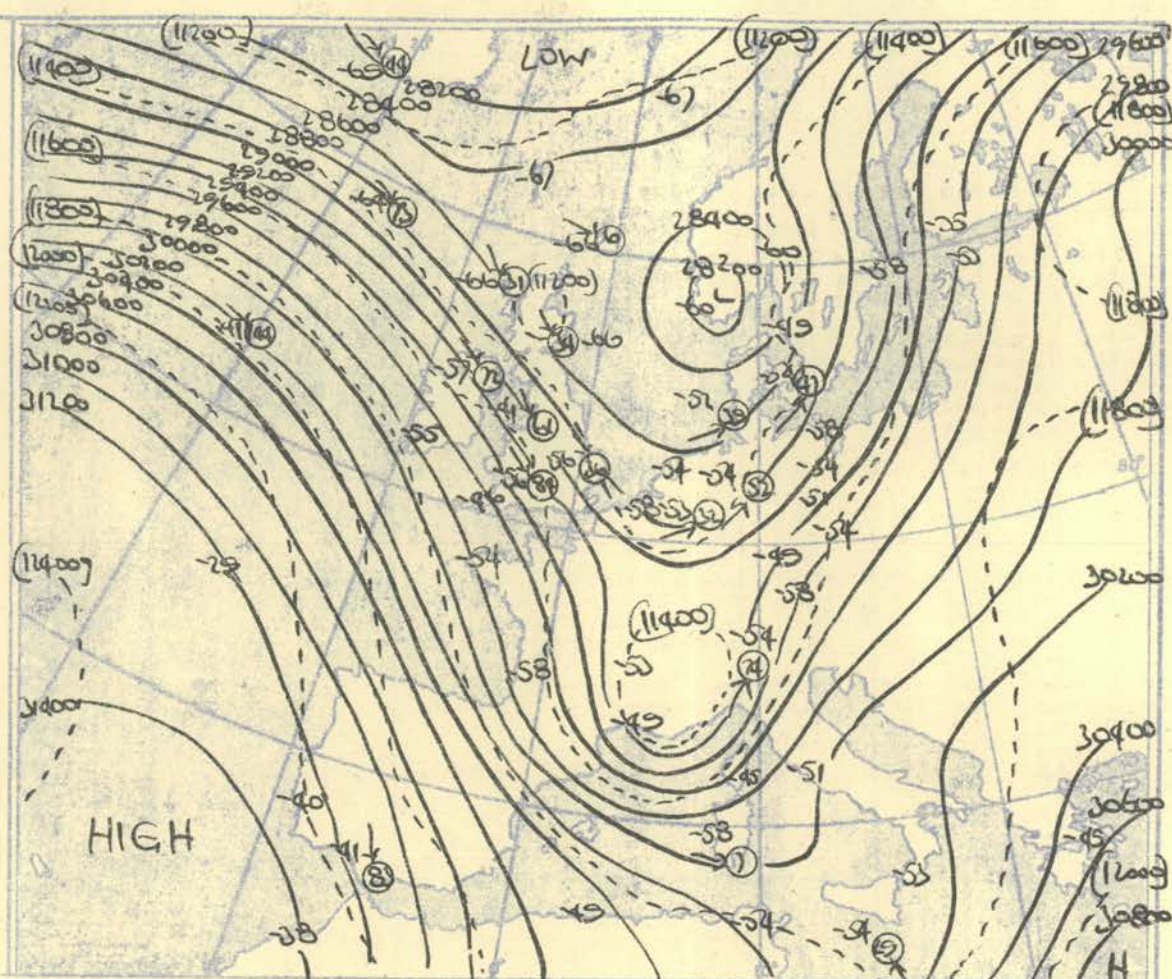
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Points). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



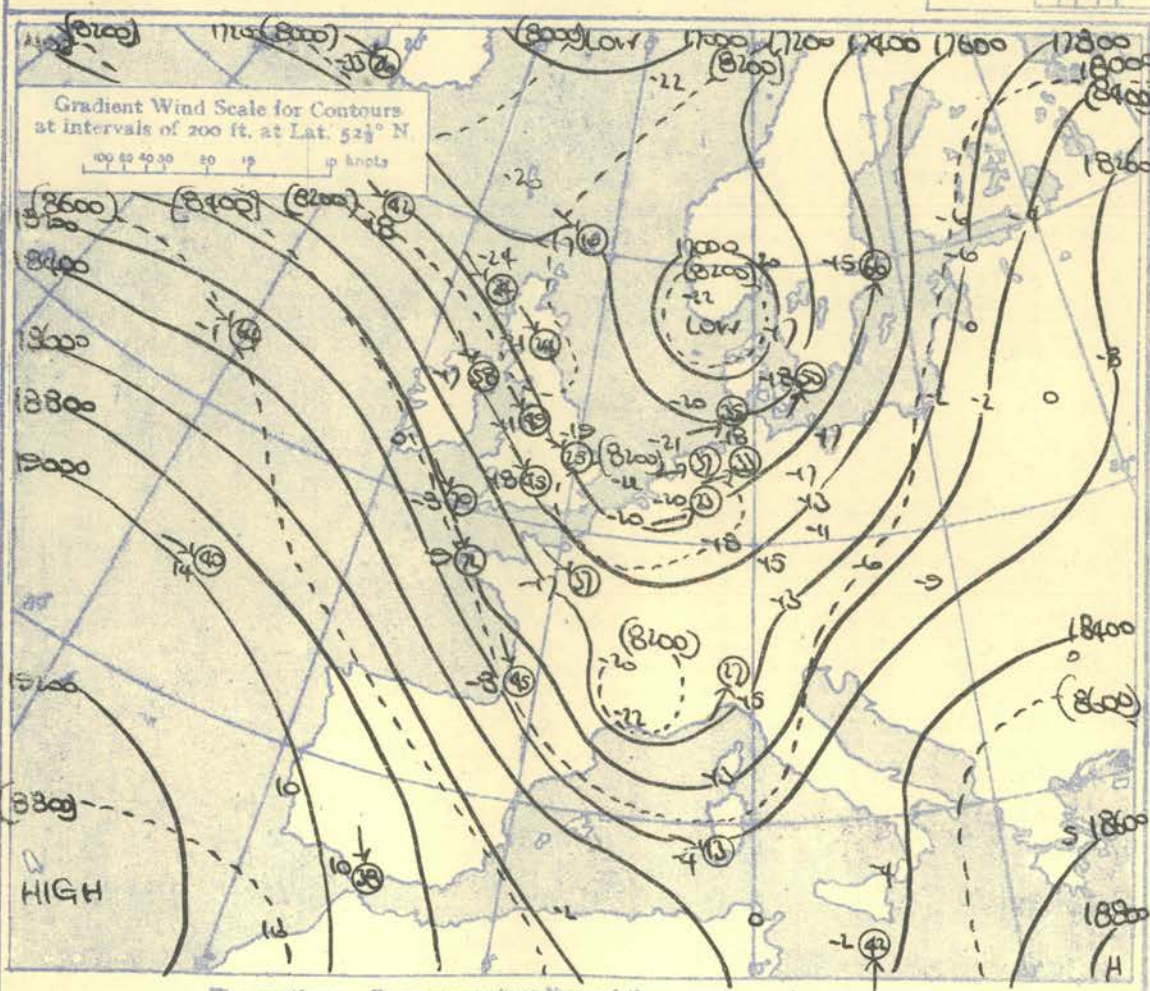
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

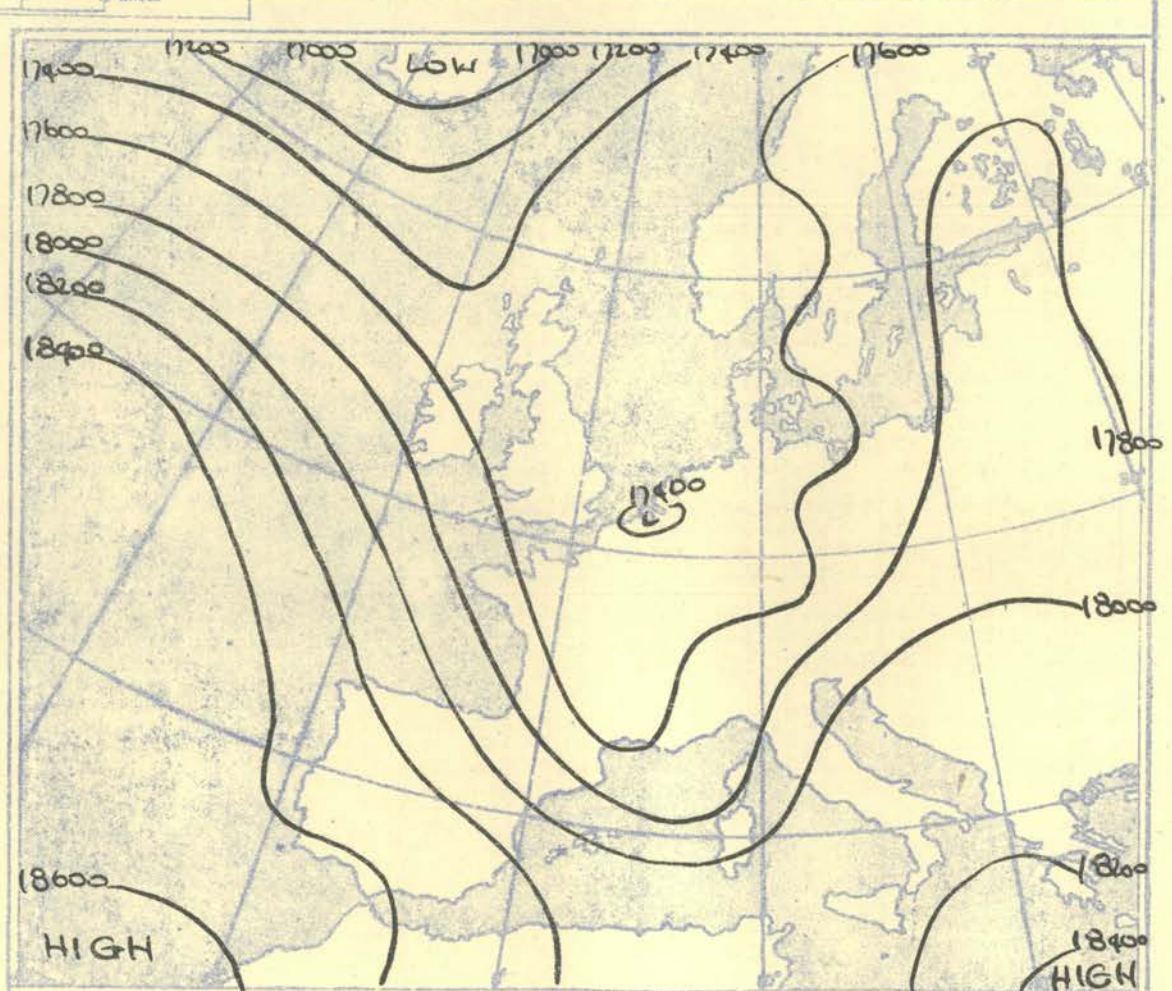
100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 300-1000mb.

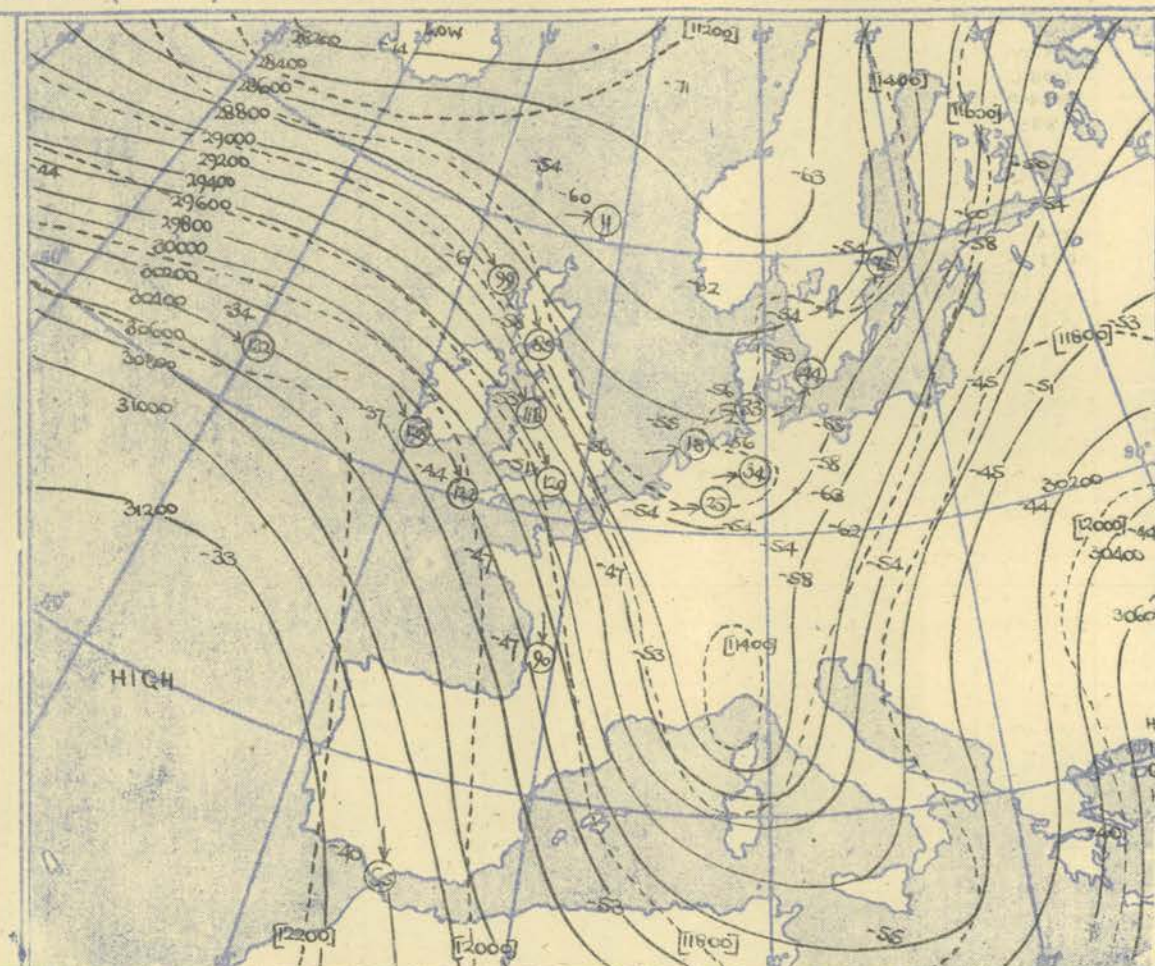


## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

NEPHOSCOPE OBSERVATIONS[illegible]

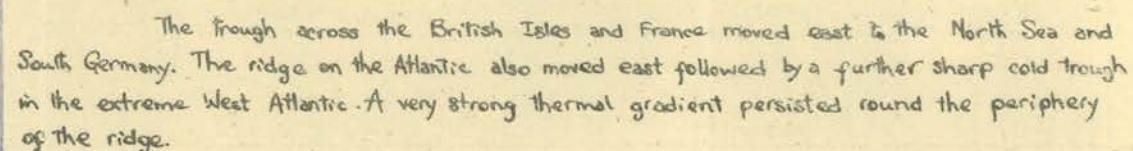


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



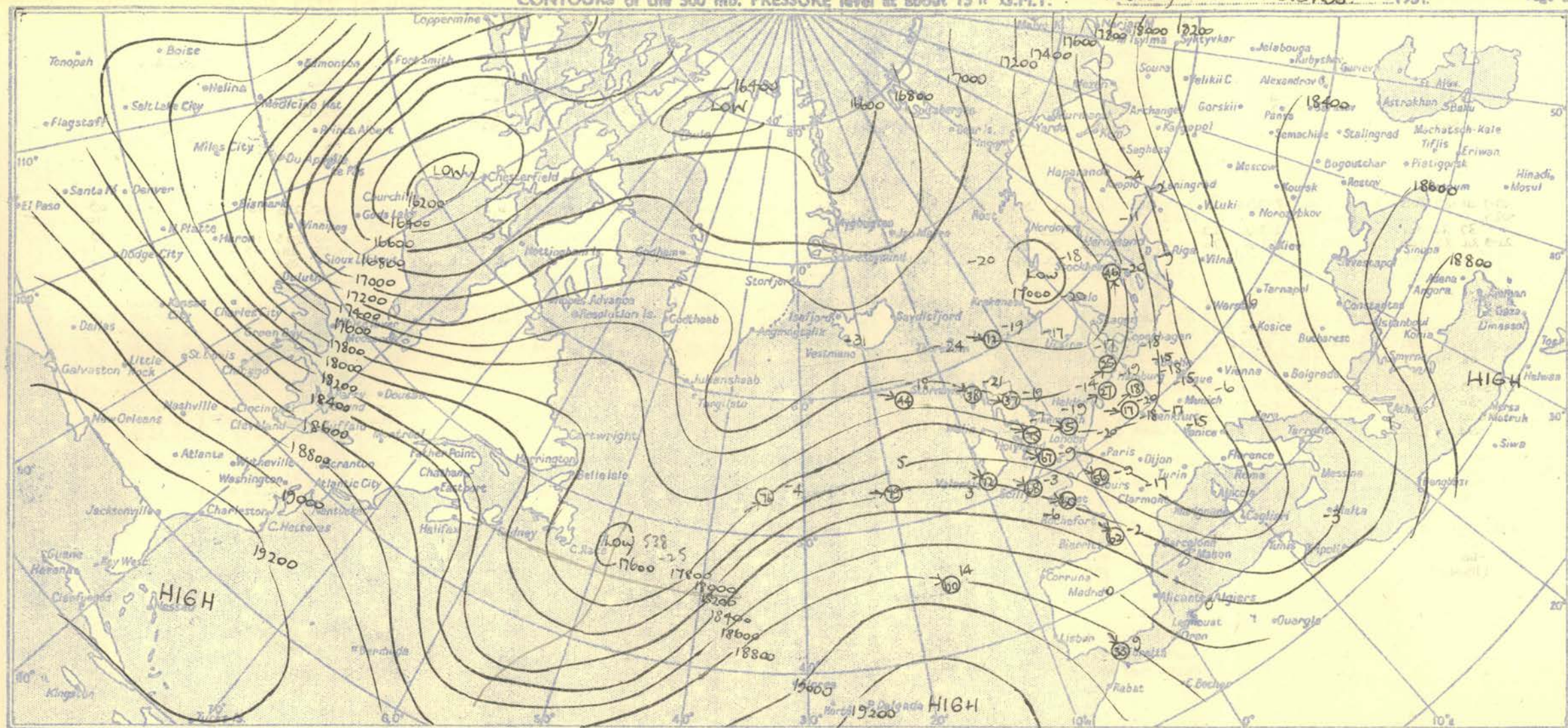
The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500 - 300 mb.

## NOTES ON THE AEROLOGICAL SITUATION.

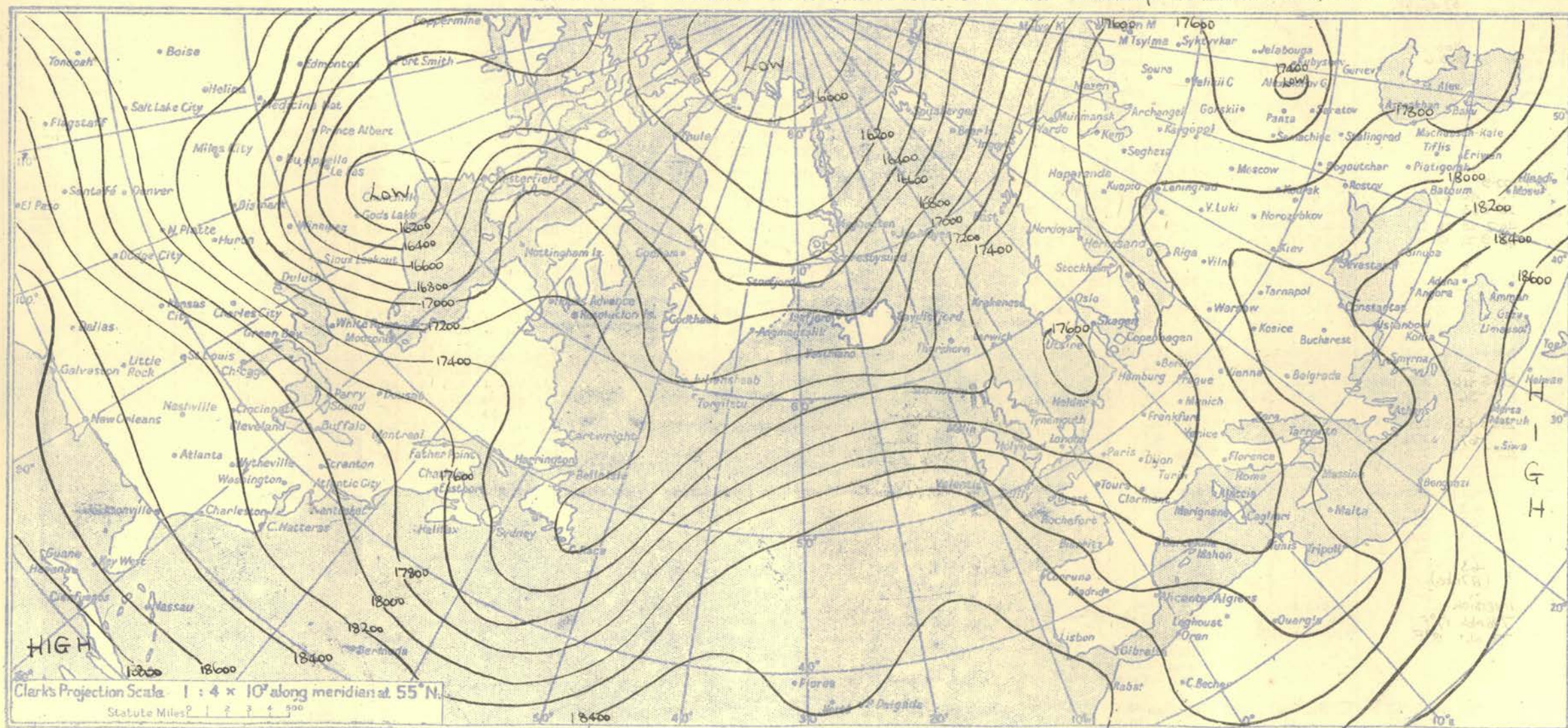


Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.





ISOPLETHS OF THICKNESS 500-1000 mb. at about 15 h. G.M.T. Thursday 22nd November, 1951.





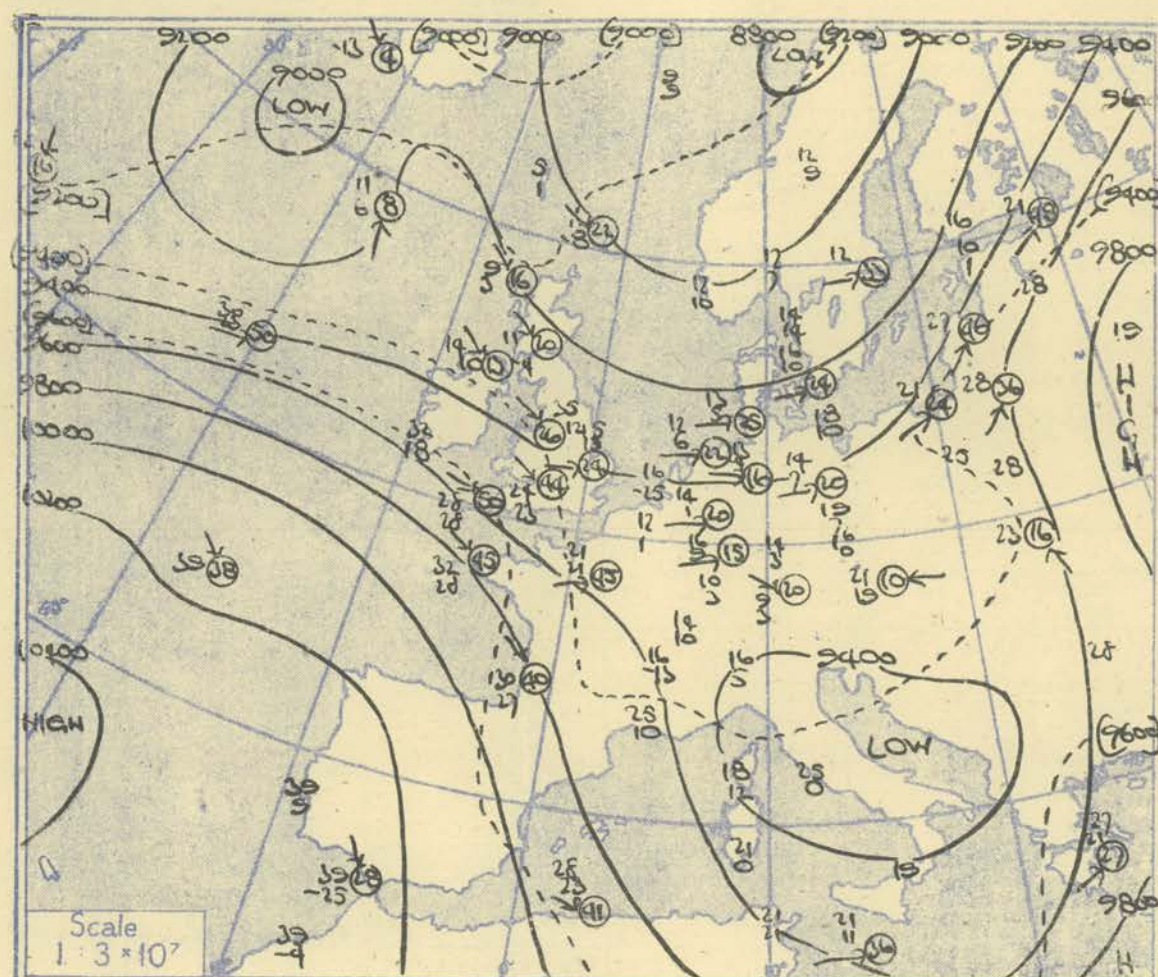
RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																							
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				Valentia				STATION		
Time M.S.L. Surf Pressure	1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		1500		G.M.T.		Time M.S.L. Surf Pressure						
	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb	Surf	mb									
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure						
mb	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	mb						
Surf	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	09	Surf
1000	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	1000
950	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	950
900	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	900
850	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	850
800	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	800
750	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	750
700	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	700
650	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	650
600	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	600
550	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	550
500	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	500
450	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	450
400	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	400
350	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	350
300	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	300
250	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	250
200	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	200
170	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	170
150	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	150
130	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	130
110	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	110
100	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45	38		00.6	43	38	290	10	04.4	46	37		02.9	50	45	270	10	00.3	47	46	170	10	100
90	02.7	41	39	305	24	00.4	43	35	290	02	00.2	48	33	320	15	25.1	45																						



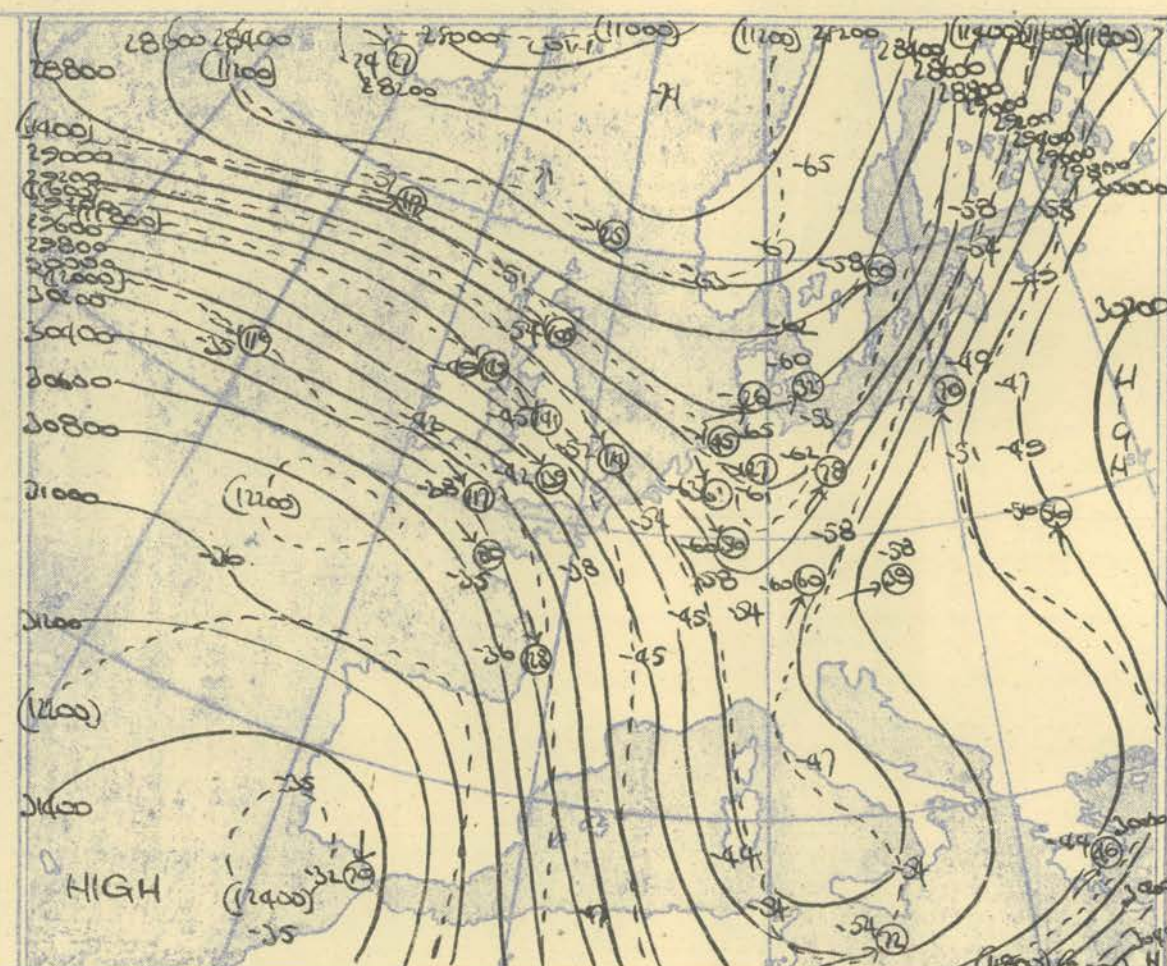
RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
STATION					LERWICK					STORNOWAY					LEUCHARS					ALDERGROVE					LIVERPOOL					HEMSBY					LARKHILL					CAMBORNE					VALENTIA					STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Pressure mb	Time M.S.L.	Surf Forecast	03L		G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M.T.		03L	G.M	



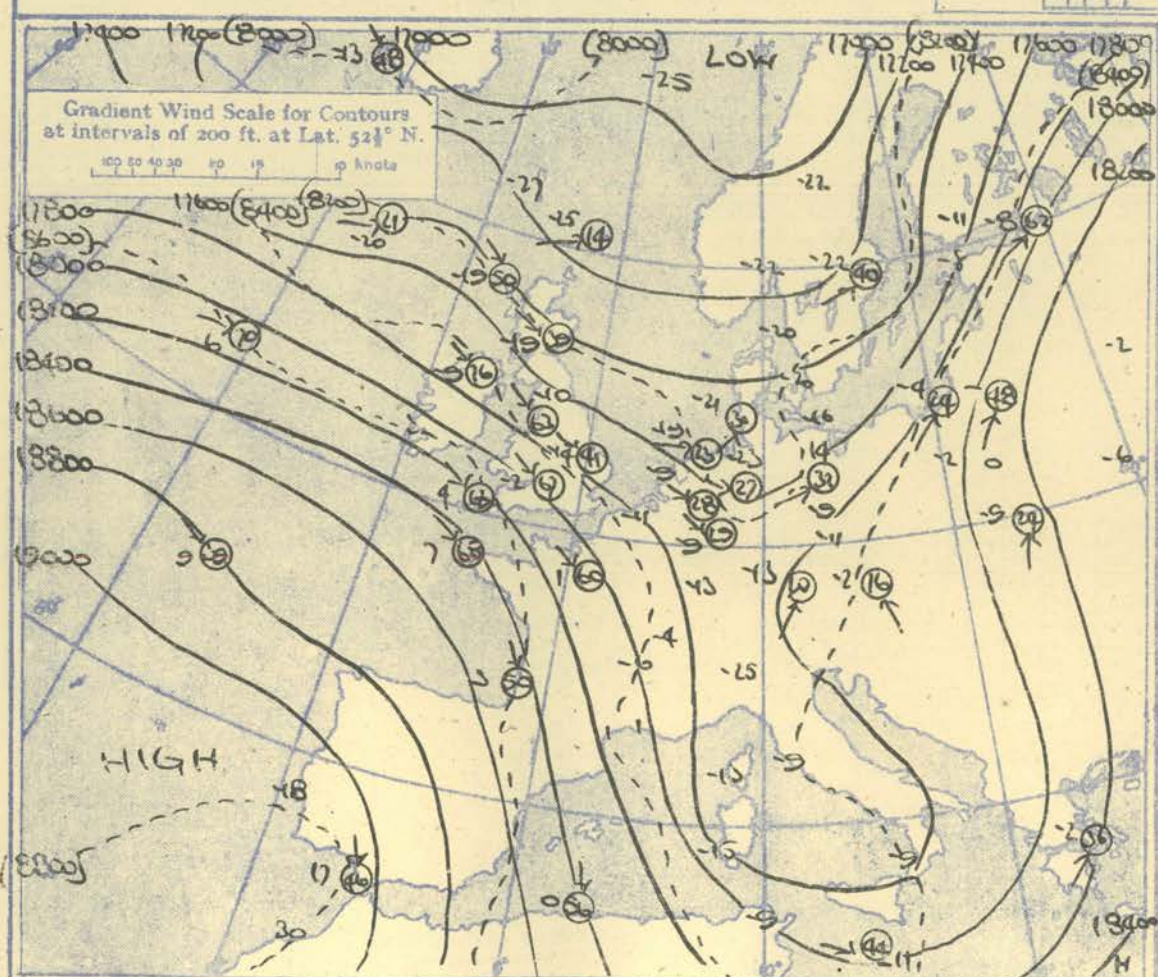
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



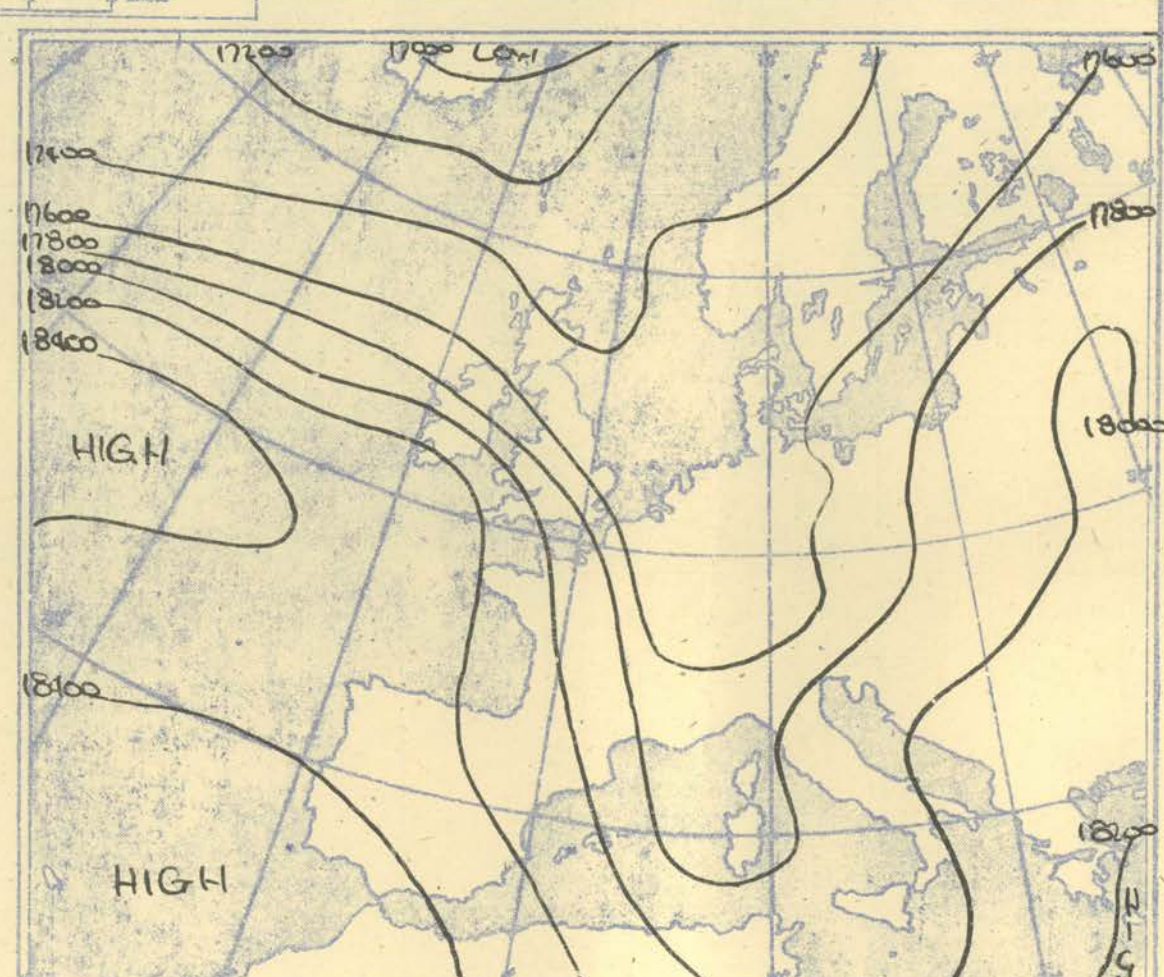
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

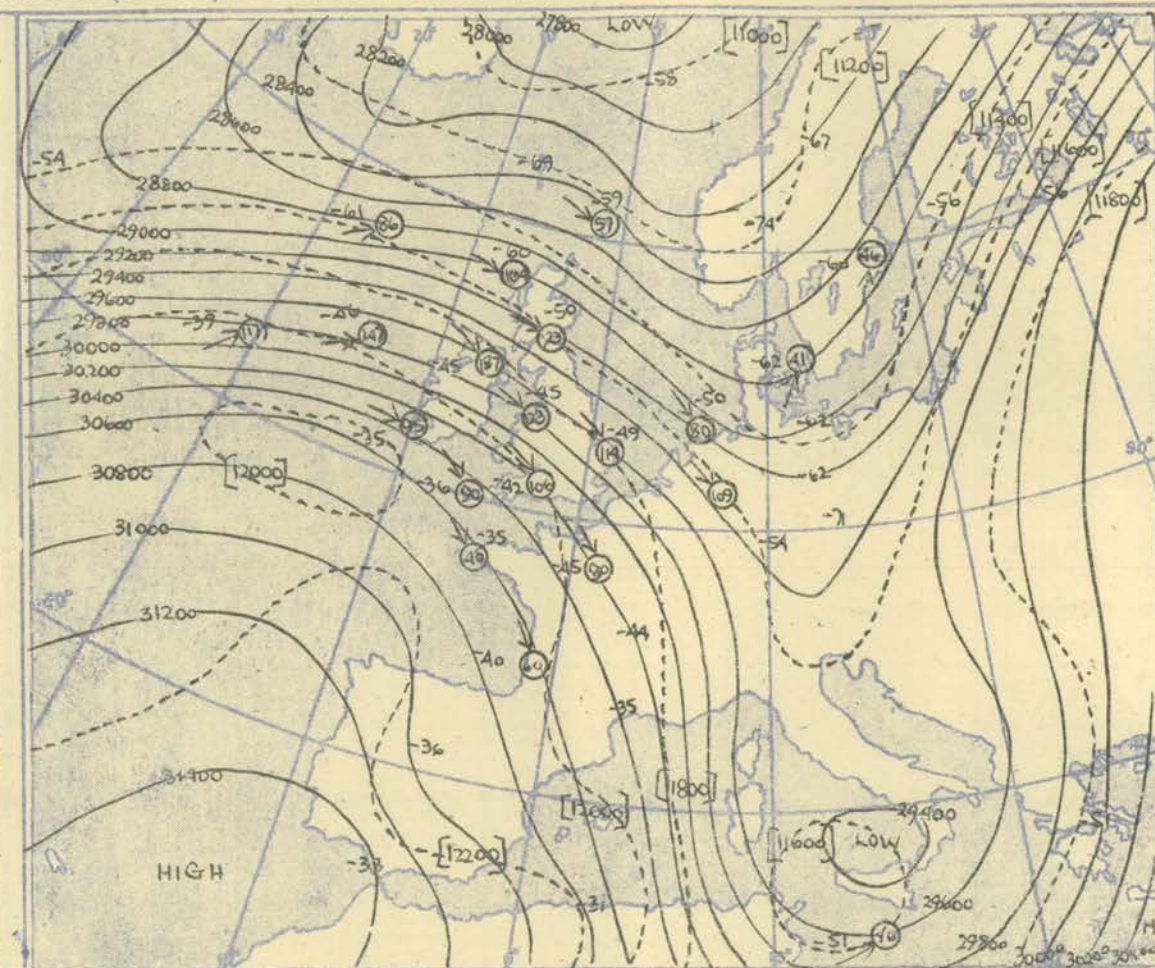
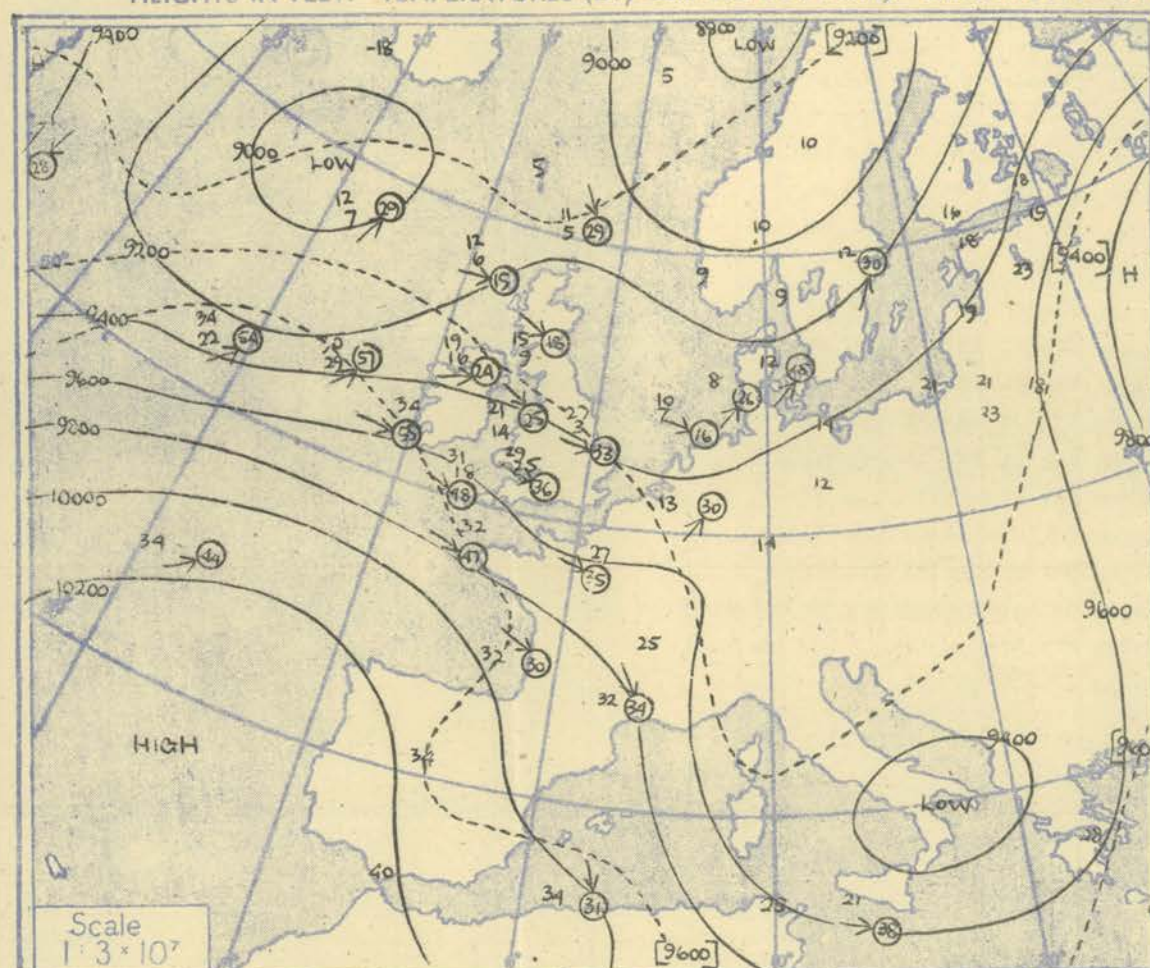
NEPHOSCOPE OBSERVATIONS

## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				WEATHER OBSERVER				Ship			
Lat/Long	59.0N 15.7W				59.0N 15.8W				58.9N 15.6W				58.9N 15.6W				52.8N 20.2W				52.8N 20.2W				52.8N 20.2W				52.8N 20.2W				52.8N 20.2W				Lat/Long			
Pressure	Time	03h	G.M.T.		09h	G.M.T.		15h	G.M.T.		21h	G.M.T.		03L	G.M.T.		09h	G.M.T.		15h	G.M.T.		20h	G.M.T.			G.M.T.			G.M.T.	Time									
	M.S.L.	998	mb		992	mb		988	mb		985	mb		997	mb		993	mb		986	mb		990	mb			mb			mb	M.S.L.									
	Surf	998	mb		992	mb		988	mb		985	mb		997	mb		993	mb		986	mb		990	mb			mb			mb	Surf									
	Freezing	905	mb		920	mb		880	mb		880	mb		720	mb		695	mb		680	mb		760	mb			mb			mb	Freezing									
Pressure	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb							
Surf	1000	44	32	135	11	44	37	135	33	44	43	225	18	44	41	050	15	51	49	230	04	51	48	040	05	55	54	230	31	49	44	340	20	Surf						
1000	00.6				02.1					03.4				04.0				00.9				02.0				03.8				02.9				1000						
950		38	31	119	09	36	31	125	34	41	40	209	15	39	37	352	08	47	43	245	07	47	46	242	03	53	50	242	42	44	38	336	15	950						
900	27.4	31	22	122	10	25.9	30	28	126	35	24.8	34	34	205	16	24.2	34	32	016	08	27.6	41	35	261	07	25.1	43	43	245	45	25.5	38	31	330	17	900				
850		24	17	127	09	25	28	129	35	28	27	193	15	30	28	062	06	41	36	258	14	45	43	248	25	47	43	254	49	35	31	302	21	850						
800	57.7	22	09	135	09	56.4	21	21	130	33	55.4	24	20	194	16	54.9	25	23	071	06	59.1	37	31	253	29	58.4	43	44	247	57	56.7	35	28	274	30	800				
750		16	04	144	08	18	18	138	27	18	13	205	18	20	18	094	06	35	28	248	39	37	33	260	42	39	26	248	58	31	18	256	66	750						
700	91.8	11	06	159	08	90.5	13	13	166	24	89.5	12	07	207	21	89.1	14	11	174	13	94.3	30	23	246	50	94.0	33	28	275	42	92.5	34	22	248	54	700				
650		05	01	187	12	06	04	193	31	04	02	206	36	08	04	206	21	25	17	255	36	26	18	269	54	26	19	251	67	18	10	252	58	650						
600	130.0	-01	-04	222	15	28.7	-02	-04	204	32	27.7	-02	-03	202	31	27.5	-01	-03	213	24	34.2	19	10	265	59	34.1	20	16	261	50	132.4	21	14	247	72	600				
550		-11	-15	233	23	-10	-13	205	35	-12	-18	199	22	-07	-12	198	34	12	03	264	61	12	08	259	65	14	-09	247	75	3	-14	239	90	550						
500	173.7	-20	-24	230	21	72.3	-20	-23	214	35	71.3	-18	-29	206	37	171.6	-13	-20	207	24	180.1	06	-06	264	70	180.0	05	-06	259	75	178.4	06	-27	247	85	500				
450		-32		235	23	-32	-36	218	37	-23	-31	230	60	-23	-31	214	33		-04	-15	262	77	-04	-09	259	71	-03	-24	247	101	-6	-43	234	110	450					
400	224.5	45		234	25	232	40	47	228	49	228.0	36	43	246	62	223.5	35	44	218	51	234.3	-16	-30	263	89	234.1	-15	-19	259	97	232.7	-13	-25	247	114	400				
350		49		233	100	49		231	76	50		247	76	50		234	39	-27	-41	264	101	-28	-32	259	106	-25	-36	247	120	-20		242	135	350						
300	267.3	57		264	117	286	259	233	97	285.8	61	244	86	286.5	57	231	63	300.7	-35	51	265	116	300.3	-41	259	123	299.2	-39	51	247	117	295.8	44	143	132	300				
250		62		276	140	65		248	150	63		247	109	59	224	76		52		262	135	55		259	116	52		247	119	66		241	121	250						
200	373.4	62		280	111	371.9	61	272	130	371.4	66	258	109	373.2	61	231	73	235	57		387.6	70	85		259	132	387.0	71	247	132	371.7	70	242	91	200					
170		65		280	110	61		278	99	63		256	90	63		236	70	mb				85		259	99	73		247	100		240		86	170						
150		67			62			284	87	63		262	80	64		244	67				80		259	81	78						71		241	73	150					
130								64		64		259	75	65		239	54				82										74			130						
110								65		65		261	60	66		257	61														70			110						
100								66		66		266	61	519.1	70	265	61														70			100						
90								69		69		271	59																		70			90						
80								72		72		274	57																		72			80						
70																																			70					
60																																			60					
Inversion	377 mb -49°-359 mb 49°				Isothermal				484 -460 mb-20°				Isothermal				900-833 mb 41°				Inversion				892 mb 44°-838 mb 46°				Inversion				825 mb 33°-800 mb 35°				Inversion			
	819 -797 mb 22°																785 -750 " 35°				Isothermal				850 -814 mb 43°				Isothermal				880 -865 mb 36°				Isothermal			
	700 -684 " 11°																320 -300 " -35°								956 -927 mb 47°				850 -822 -607 " 22°				550 -522 " 03°							
																									782 -762 " 40°				622 -607 " 22°				550 -545 -140							
																													280 -273 " -47°				550 -545 -140							
Tropopause	I 227 mb -65°				II 277 mb -64°				II 294 mb -62°				I 332 mb -56°				NR.				I 170 mb -85°				I 191 mb -75°				I 200 mb -70°				I 143 " -78°				Tropopause			
	34,700'				30,300'				28,700'				26,400'								42,100'				39,600'				38,200'				45,000'							



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb. levels at about 15 h G.M.T.

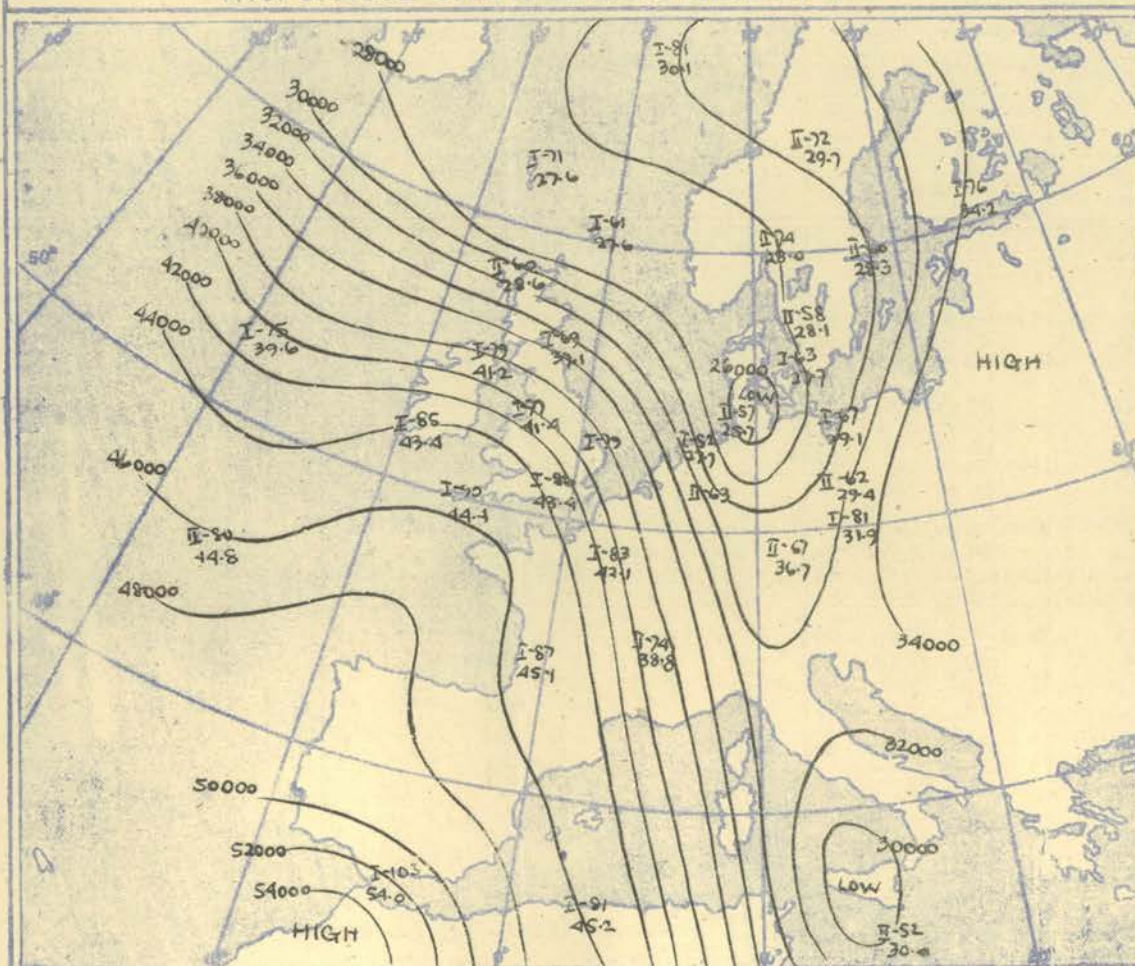


The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000—700 mb.

Gradient Wind Scale for Contours.  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500—300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

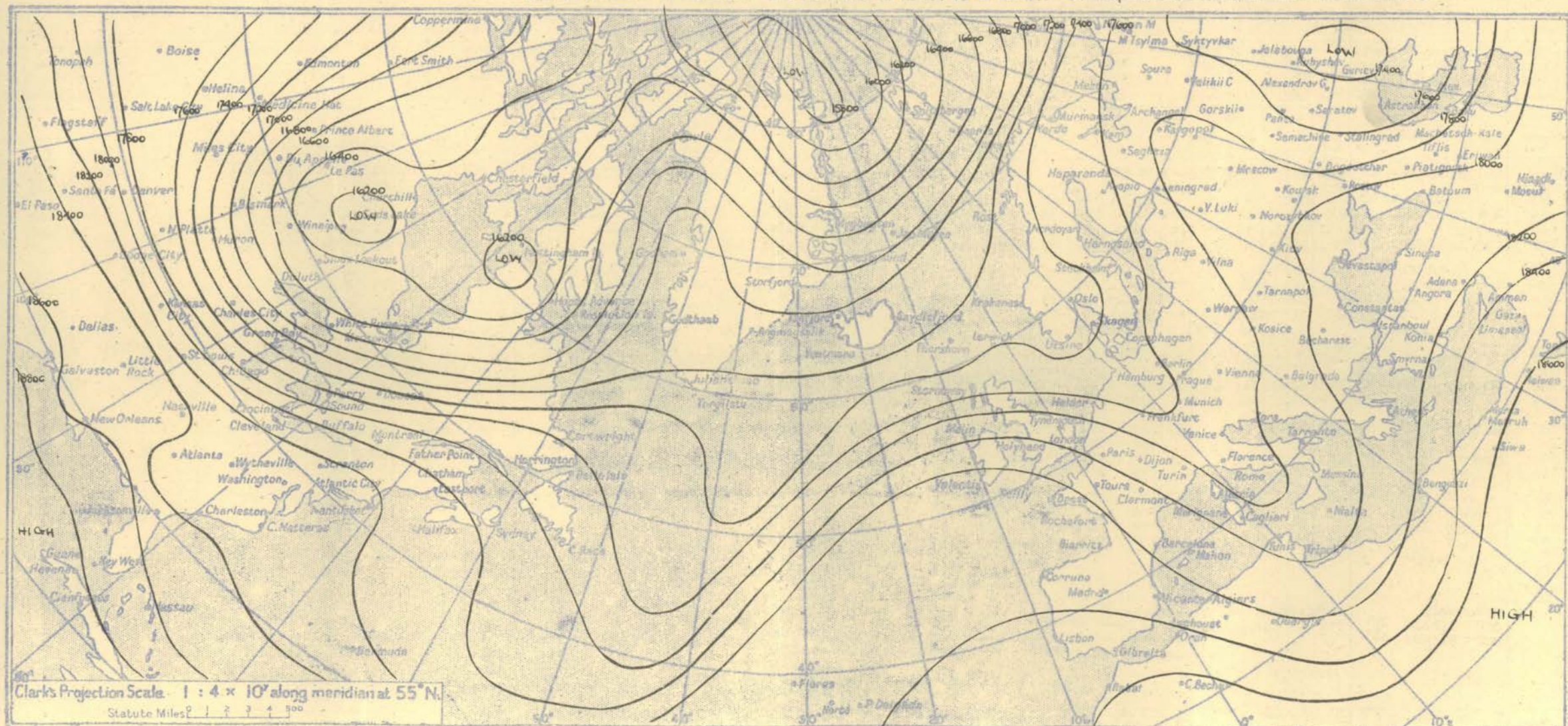
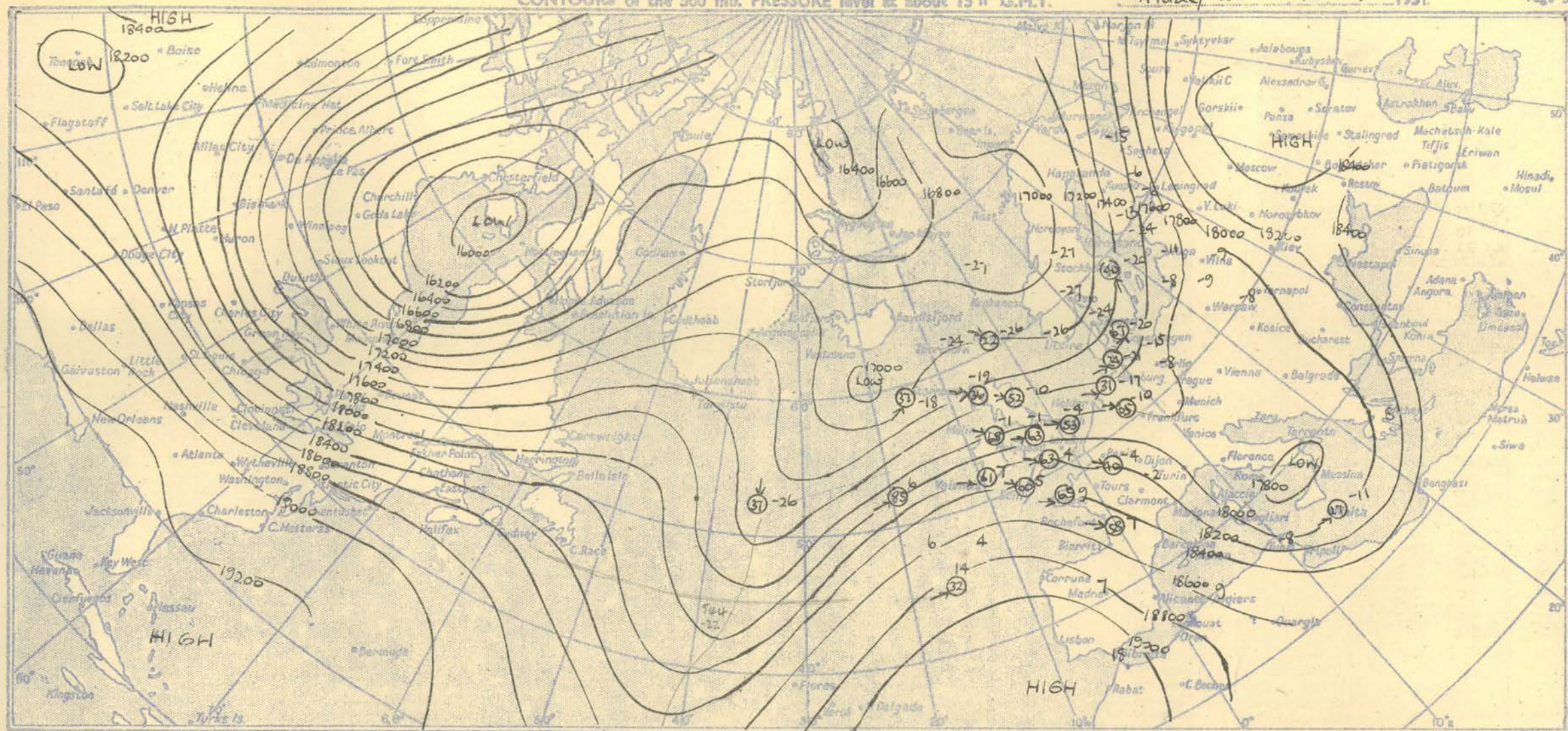
### NOTES ON THE AEROLOGICAL SITUATION.

Continued steady eastward motion of the troughs over Europe and the Atlantic. Otherwise little of note.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

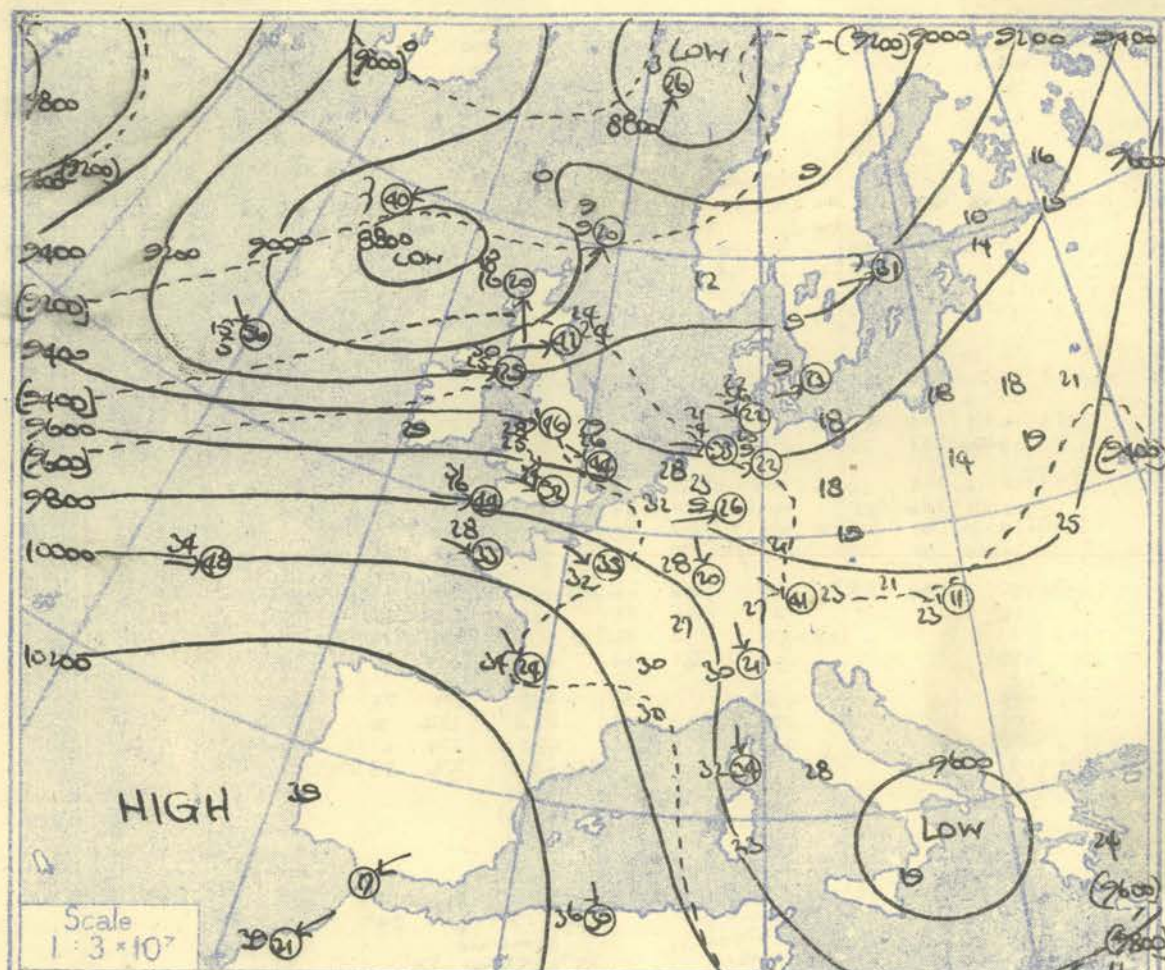
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				Valencia				STATION
Pressure Time M.S.L. Surf Freezing	1500h		G.M.T.		1500h		G.M.T.		1500h		G.M.T.		1500h		G.M.T.		1500h		G.M.T.		1500h		G.M.T.		1500h		G.M.T.		1500h		G.M.T.		Time M.S.L. Surf Freezing				
	982.6		mb		998.8		mb		1000.2		mb		996.8		mb		996.3		mb		1000.0		mb		983.7		mb		991.8		mb		Surf				
	900		mb		906		mb		895		mb		830		mb		769		mb		833		mb		722		mb		727		mb		Freezing				
Pressure Height Temp. Dir. Vel.	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	Pressure mb				
Surf	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	Surf
1000	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	1000
950	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	950
900	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	900
850	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	850
800	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	800
750	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	750
700	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	700
650	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	650
600	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	600
550	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	550
500	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	500
450	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	450
400	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	400
350	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	350
300	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	300
250	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	250
200	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	200
170	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	170
150	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	150
130	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	130
110	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	110
100	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	100
90	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	90
80	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	80
70	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	70
60	02.7	40	39	350	27	00.4	42	38	Calm	00.0	37	35	Calm	02.5	46	42	150	10	00.4	44	42	110	10	00.4	46	43	04.4	52	51	270	03	02.9	54	54	270	21	60
Inversion. 307 mbs 42°F - 383 mbs 44°F - 357 mbs 25°F - 343 mbs 27°F																																				Tropopause	
I 311 mbs -60°F. 27,600ft. II 305 mbs -60°F. 28,000ft. I 237 mbs -68°F. 34,400ft. I 208 mbs -60°F. 32,400ft. I 173 mbs -79°F. 41,200ft. I 173 mbs -79°F. 41,400ft. I 192 mbs -80°F. 38,000ft. I 160 mbs -86°F. 43,400ft. I 150 mbs -90°F. 34,400ft. I 158 mbs -85°F. 43,400ft.																																				Tropopause	
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				Valencia				STATION
Pressure Time M.S.L. Surf Freezing	2100h		G.M.T.		2100h		G.M.T.		2100h		G.M.T.		2100h		G.M.T.		2100h		G.M.T.		2100h		G.M.T.		2100h		G.M.T.		2100h		G.M.T.		Time M.S.L. Surf Freezing				
	987.5		mb		993.9		mb		997.6		mb		982.5		mb		994.3		mb		998.0		mb		984.0		mb		1003.8		mb		Surf				
	943		mb		887		mb		900		mb		728		mb		725		mb		790		mb		700		mb		722		mb		Freezing				
Pressure Height Temp. Dir. Vel.	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F	Dir. °	Vel. knots	ft/100	Temp. °F															



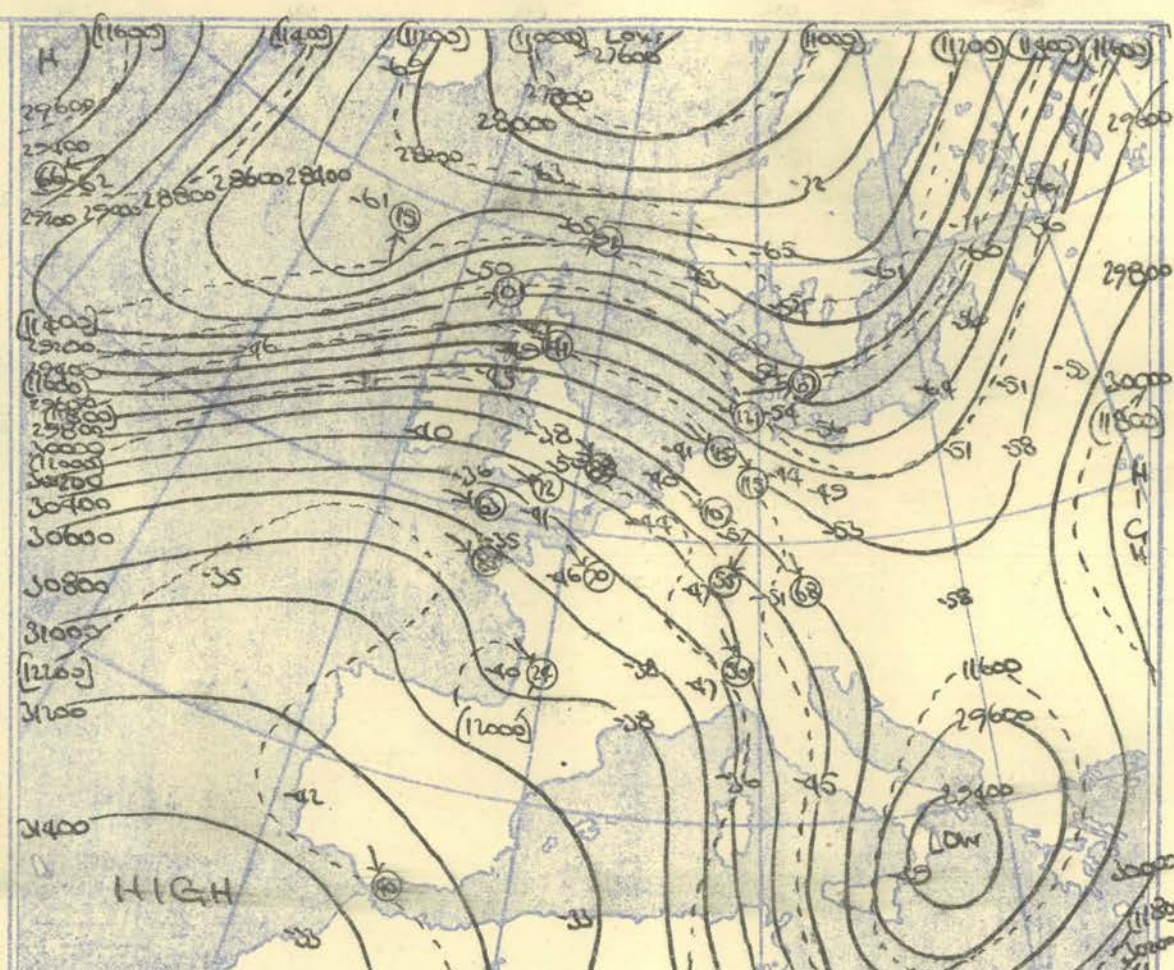
RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)																																							
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION	
Time M.S.L. Surf Forecast	Pressure mb	03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		03L		G.M.T.		Time M.S.L. Surf Forecast					
		996.3		mb		987.5		mb		989.0		mb		986.7		mb		991.7		mb		996.0		mb		1000.1		mb		1004.0		mb							
		986.2		mb		985.8		mb		988.1		mb		977.7		mb		989.7		mb		994.5		mb		984.4		mb		993.6		mb							
		950		mb		910		mb		888		mb		722		mb		728		mb		730		mb		712		mb		705		mb							
		02.7		35		00.4		41		00.2		43		00.6		54		00.4		48		04.4		55		02.9		55		00.3		56							
		01.0		32		03.5		36		03.7		52		01.1		54		01.1		47		04.4		52		01.1		51		01.4		53							
		26.7		24		24.5		31		26.0		33		25.1		48		26.6		42		30		33.3		29.9		46		27.6		49							
		41.4		24		39.4		29		41.0		31		40.3		43		42.1		44		37		48.9		54		45.5		50		45							
		57.0		19		55.2		26		56.9		27		58.5		39		59.1		49		65.2		43		61.9		46		51.5		41							
		13		05		23		21		26		22		36		31		36		49		37		37		37		39		11		26							
		09.6		09		18		16		20		24		24		25		25		25		46		37		32		31		16		26							
		02-22		12		12		10		20		20		25		25		25		25		46		37		32		31		16		26							
		128.6		04-12		128.4		07		131.1		12		12		18		12		14		13		14		13		12		17		13							
		12-16		00-03		00-03		24		03		02		10		04		10		08		13		03		13		17		17		13							
		172.1		22-26		173.1		09		176.1		04		179.2		02		179.2		02		179.3		02		183.6		10		27		27							
		30-35		22-27		30-35		22-27		30-35		22-27		30-35		22-27		30-35		22-27		30-35		22-27		30-35		22-27		30-35		22-27							
		223.2		39-44		225.2		34-40		228.9		27-31		233.1		15-21		232.7		20-29		232.7		20-29		238.0		13-37		270		78							
		-52		-45		-45		-45		-38		-41		-25		-32		-34		-44		-26		-34		-23		-36		276		62							
		285.8		-65		289.1		-50		141		297.6		-43		-57		297.8		-50		88		307.2		41		286		66		301.1							
		-68		-61		-61		-61		-61		-61		-61		-61		-61		-61		-62		290		72		-53		273		66							
		370.4		-71		375.2		-73		378.7		-75		384.3		-74		389.0		-54		382.8		-81		-90		290		86		392.4							
		-70		-74		-74		-74		-82		-82		-80		-80		-89		-89		-90		-90		284		94		-86		267							
		-70		-75		-75		-75		-82		-82		-80		-80		-85		-85		-84		-84		-84		-84		-84		-84							
		-72		-72		-72		-72		-79		-79		-81		-81		-85		-85		-84		-84		-84		-84		-84		-84							
		-72		-72		-72		-72		-79		-79		-81		-81		-85		-85		-84		-84		-84		-84		-84		-84							
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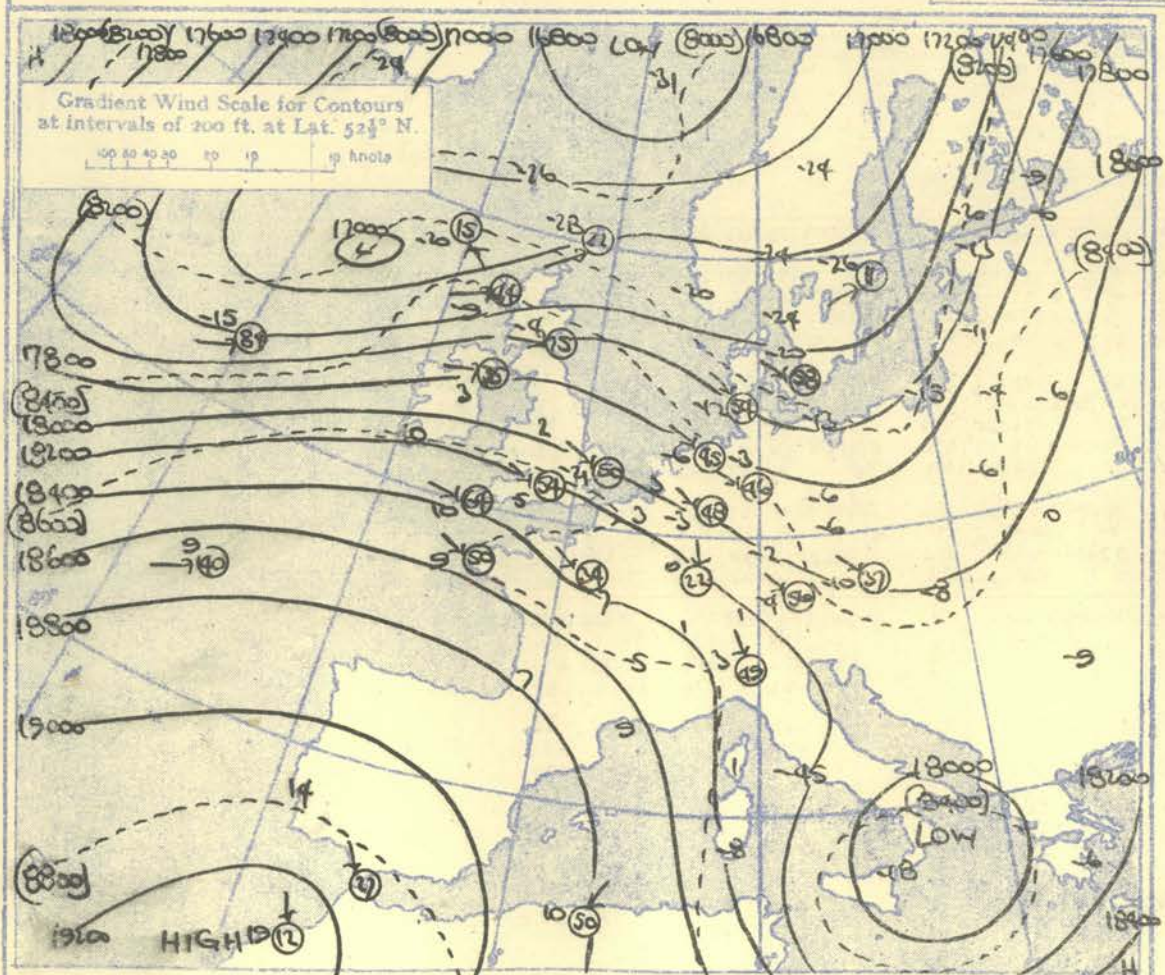
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. 500 mb. and 300 mb. levels at about 03h G.M.T.



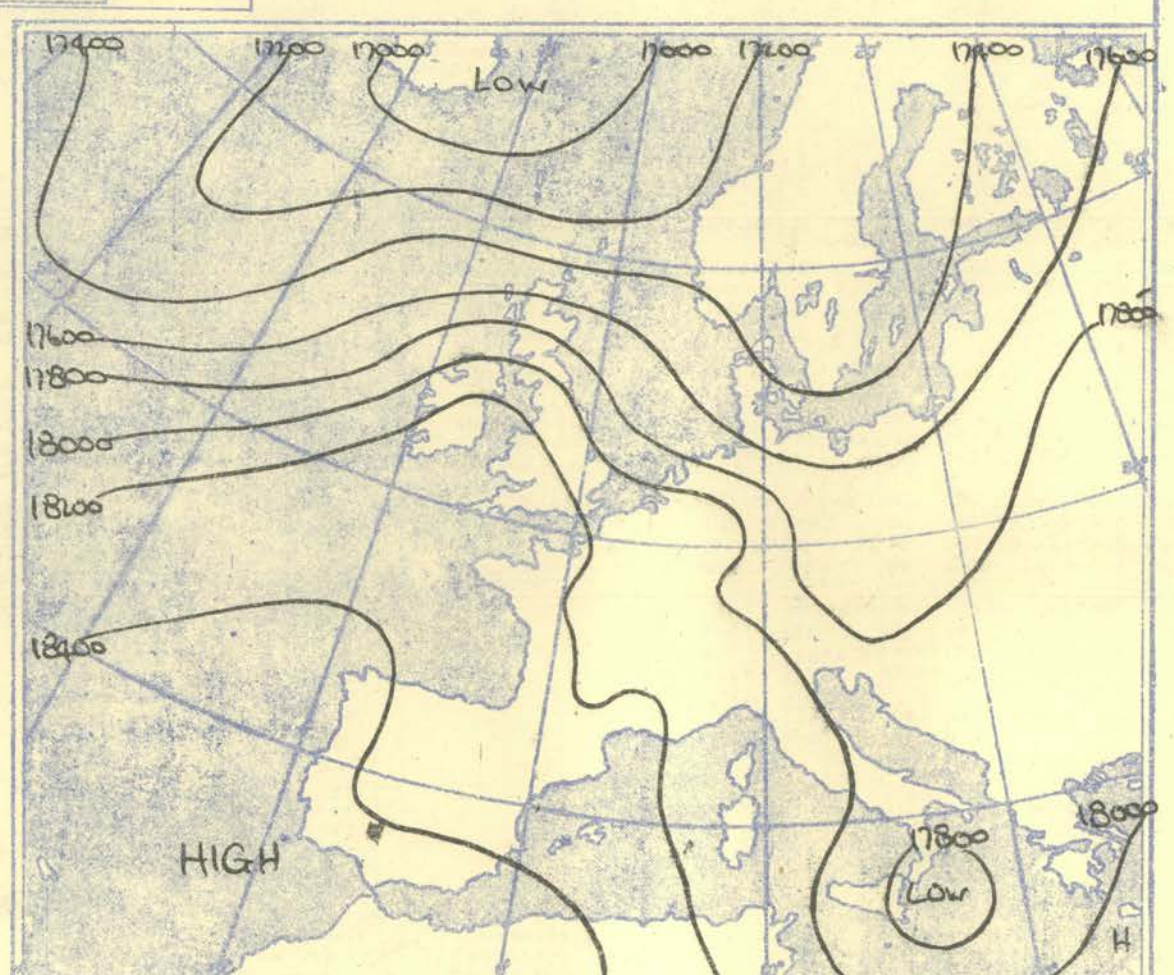
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 500-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

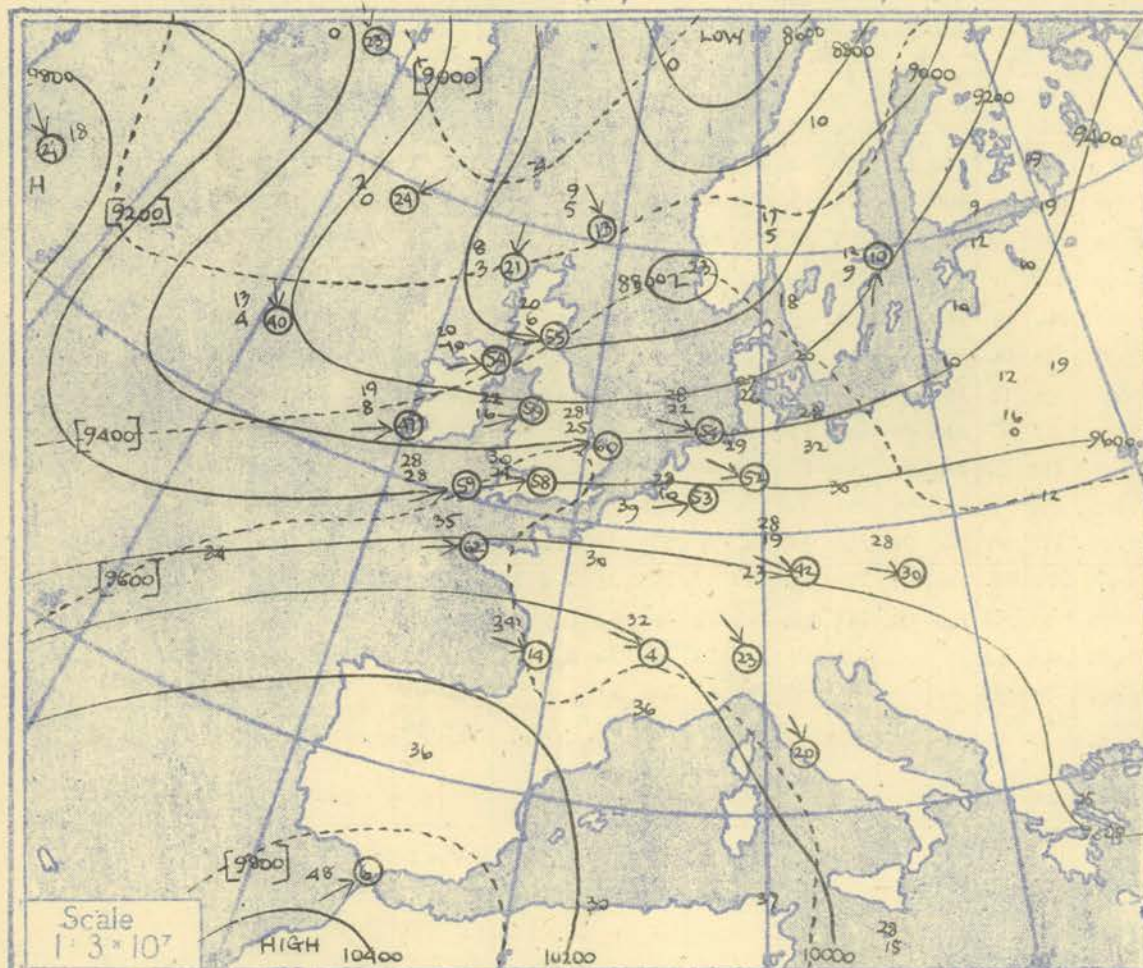
NEPHOSCOPE OBSERVATIONS

RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

[illegible]



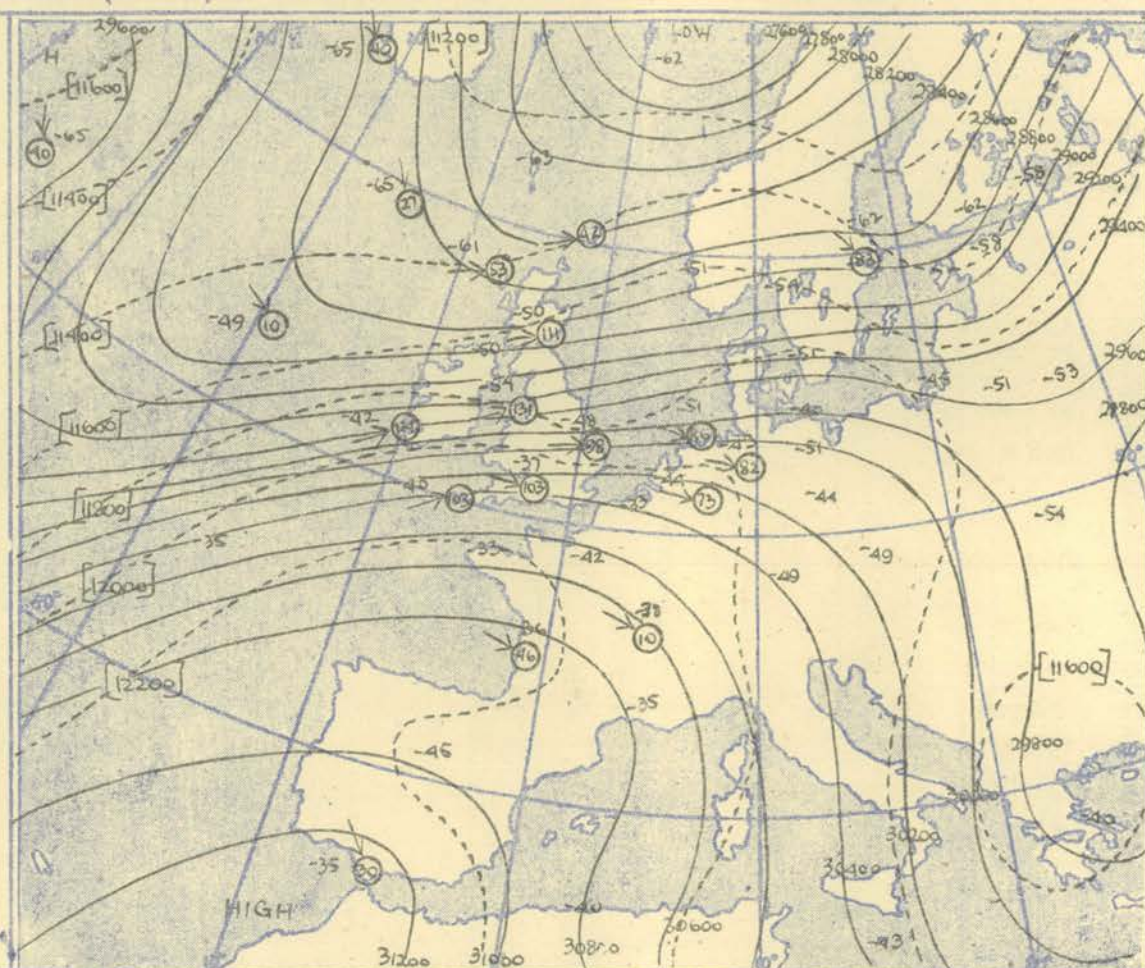
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 2000—700 mb.

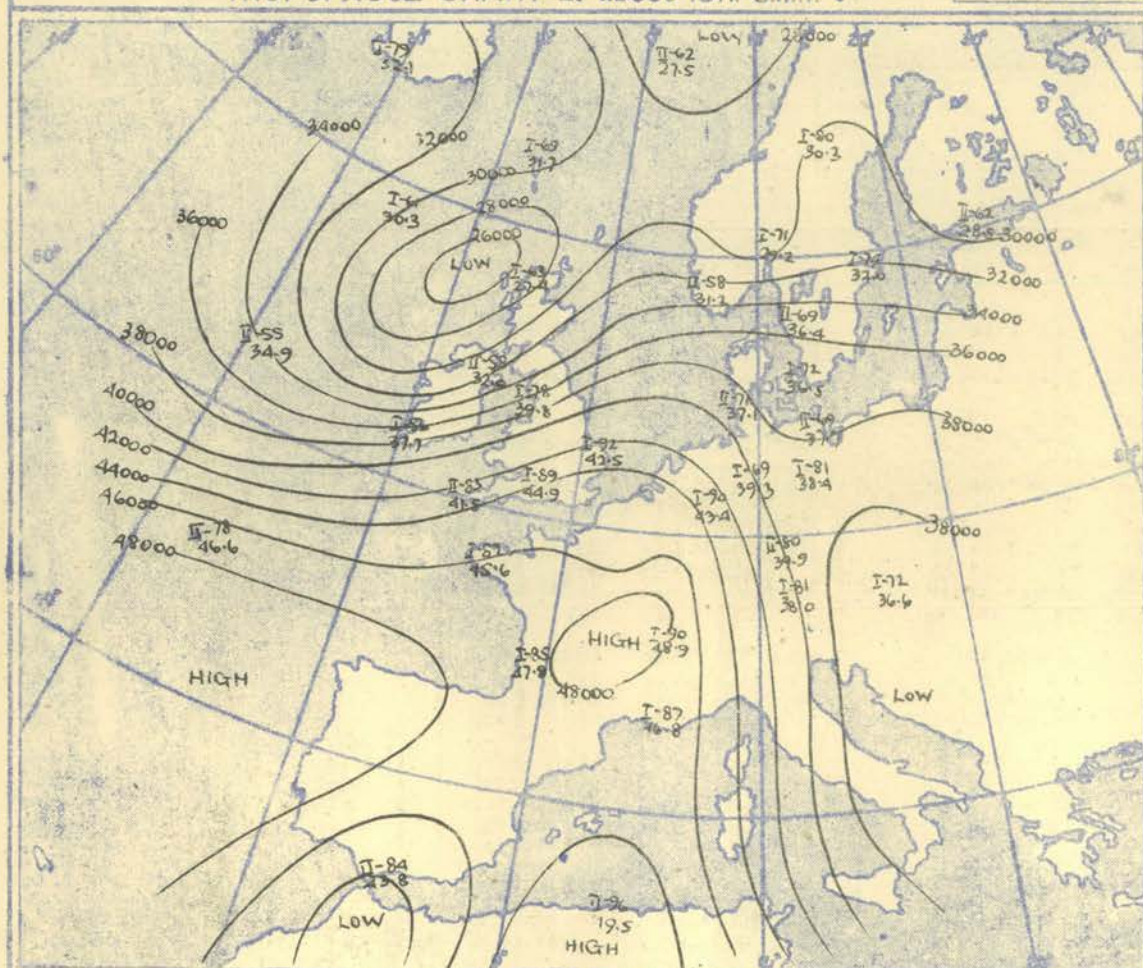
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500—300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

### NOTES ON THE AEROLOGICAL SITUATION.

A strong eastward penetration of warm air occurred in the period, leading to the rapid destruction of the cold trough over Europe.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. JOHNSON, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				Valentic.				STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Pressure mb	Time M.S.L.	Surf	Freezing	1500h		G.M.T.		Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.	Dew	Wind	Dir.	Vel.	Temp.



## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

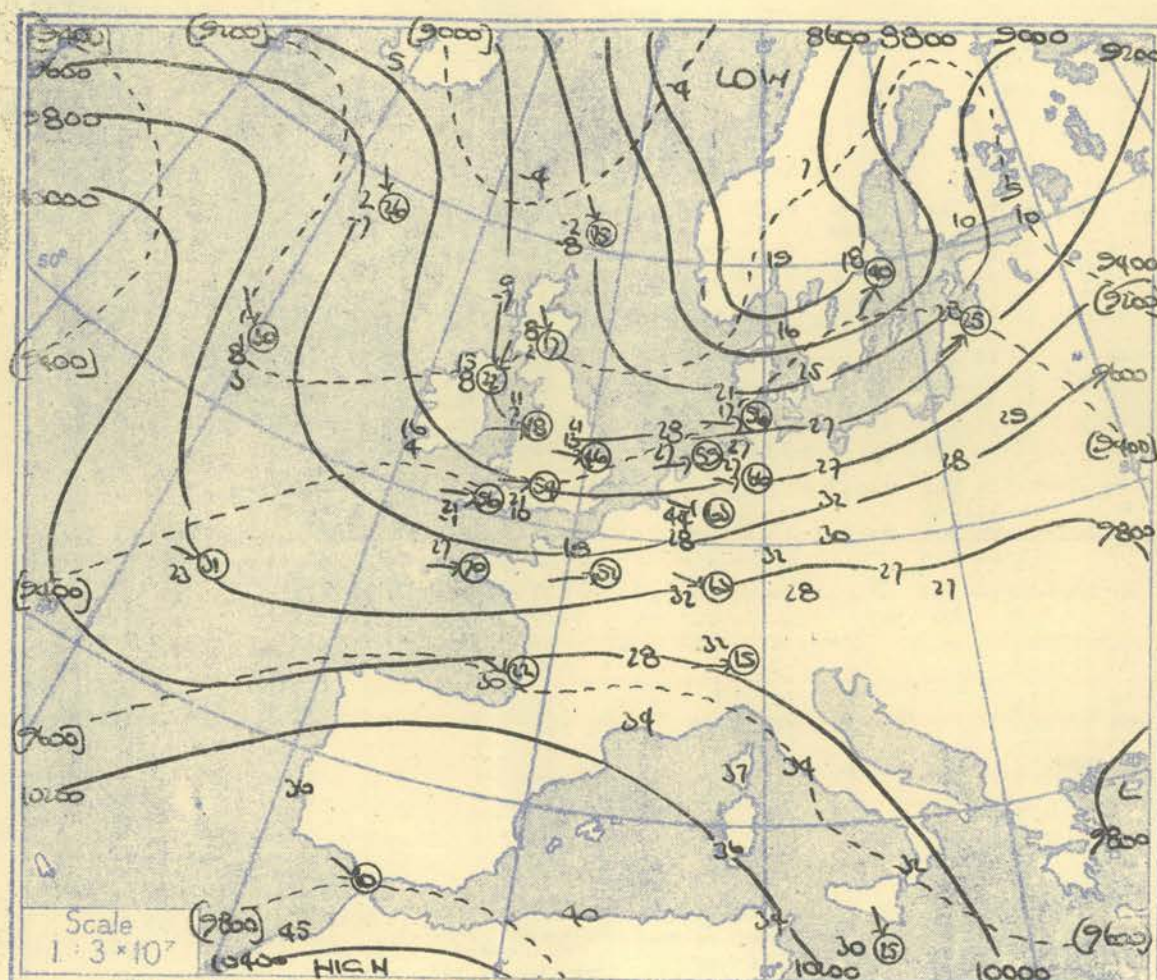
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5 DEC 1951

Station	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				Station			
Time	031				031				031				031				031				031				031				031				031				Time			
M.S.L.	396.8				1004.3				999.8				996.5				997.0				998.4				999.7				1006.4				1002.2				M.S.L.			
Surf	986.6				1002.7				996.3				987.1				994.9				994.3				882.8				895.8				1001				Surf			
Pressure	968				954				940				922				897				880				873				857				870				Pressure			
Height	ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				Height			
Temp.	°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				Temp.			
Dew	°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				Dew			
Wind	Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Wind			
Surf	02.7	31	29	355	23	00.4	35	28	00.2	33	30	050	08	02.5	36	33	360	30	00.6	43	41	Cal	00.4	46	45	300	08	04.4	49	47	260	10	02.9	49	42	270	17	00.3	47	39
1000	00.9	30	26	340	01.1	35	26	01.1	33	25	025	19	01.0	34	33	013	40	00.9	39	33	303	14	43	37	333	12	47	45	273	26	43	38	268	27	42	35	27	42	35	
950	00.6	25	18	338	01.2	34	24	01.2	32	24	016	20	00.9	31	30	016	47	00.8	33	29	288	13	43	37	333	12	47	45	273	26	43	38	268	27	42	35	27	42	35	
900	01.2	19	11	333	01.3	33	17	12	01.4	32	14	014	20	00.8	28	27	028	49	00.7	28	25	287	18	42	36	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
850	01.6	12	06	331	01.5	31	11	07	01.8	30	08	006	18	00.5	24	17	037	42	00.4	23	19	281	18	42	36	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
800	02.0	06	00	329	01.8	28	06	00	02.1	27	05	000	17	00.4	18	07	047	40	00.3	17	10	270	19	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
750	02.4	01	00	327	02.1	25	05	00	02.5	24	04	000	16	00.3	17	09	054	38	00.2	16	11	269	18	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
700	02.8	00	00	325	02.4	22	04	00	02.8	21	03	000	15	00.2	16	12	061	36	00.1	15	12	268	17	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
650	03.2	00	00	323	02.7	19	03	00	03.1	18	02	000	14	00.1	15	13	068	34	00.0	14	13	267	16	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
600	03.6	00	00	321	03.0	16	02	00	03.4	15	01	000	13	00.0	14	14	075	32	00.0	13	14	266	15	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
550	04.0	00	00	319	03.3	13	01	00	03.7	12	00	000	12	00.0	13	15	082	30	00.0	12	15	265	14	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
500	04.4	00	00	317	03.6	10	00	00	04.0	11	00	000	11	00.0	12	16	089	28	00.0	11	16	264	13	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
450	04.8	00	00	315	03.9	07	00	00	04.3	10	00	000	10	00.0	11	17	096	26	00.0	10	17	263	12	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
400	05.2	00	00	313	04.2	04	00	00	04.6	09	00	000	09	00.0	10	18	103	24	00.0	09	18	262	11	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
350	05.6	00	00	311	04.5	01	00	00	05.0	08	00	000	08	00.0	09	19	110	22	00.0	08	19	261	10	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
300	06.0	00	00	309	04.8	00	00	00	05.3	07	00	000	07	00.0	08	20	117	20	00.0	07	20	260	09	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
250	06.4	00	00	307	05.1	00	00	00	05.6	06	00	000	06	00.0	07	21	124	18	00.0	06	21	259	08	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
200	06.8	00	00	305	05.4	00	00	00	05.9	05	00	000	05	00.0	06	22	131	16	00.0	05	22	258	07	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
150	07.2	00	00	303	05.7	00	00	00	06.2	04	00	000	04	00.0	05	23	138	14	00.0	04	23	257	06	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
100	07.6	00	00	301	06.0	00	00	00	06.5	03	00	000	03	00.0	04	24	145	12	00.0	03	24	256	05	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
50	08.0	00	00	299	06.3	00	00	00	06.8	02	00	000	02	00.0	03	25	152	10	00.0	02	25	255	04	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
0	08.4	00	00	297	06.6	00	00	00	07.1	01	00	000	01	00.0	02	26	159	08	00.0	01	26	254	03	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
Pressure	mb				mb				mb				mb				mb				mb				mb				mb				mb				Pressure			
Height	ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				ft/100				Height			
Temp.	°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				Temp.			
Dew	°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				°F.				Dew			
Wind	Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Dir. Vel. knots				Wind			
Surf	02.7	31	29	355	23	00.4	35	28	00.2	33	30	050	08	02.5	36	33	360	30	00.6	43	41	Cal	00.4	46	45	300	08	04.4	49	47	260	10	02.9	49	42	270	17	00.3	47	39
1000	00.9	30	26	340	01.1	35	26	01.1	33	25	025	19	01.0	34	33	013	40	00.9	39	33	303	14	43	37	333	12	47	45	273	26	43	38	268	27	42	35	27	42	35	
950	00.6	25	18	338	01.2	34	24	01.2	32	24	016	20	00.9	31	30	016	47	00.8	33	29	288	13	43	37	333	12	47	45	273	26	43	38	268	27	42	35	27	42	35	
900	01.2	19	11	333	01.3	33	17	12	01.4	32	14	014	20	00.8	28	27	028	49	00.7	28	25	287	18	42	36	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
850	01.6	12	06	331	01.5	31	11	07	01.8	30	08	006	18	00.5	24	17	037	42	00.4	23	19	281	18	42	36	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
800	02.0	06	00	329	01.8	28	06	00	02.1	27	05	000	17	00.4	18	07	047	40	00.3	17	10	270	19	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
750	02.4	01	00	327	02.1	25	05	00	02.5	24	04	000	16	00.3	17	09	054	38	00.2	16	11	269	18	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
700	02.8	00	00	325	02.4	22	04	00	02.8	21	03	000	15	00.2	16	12	061	36	00.1	15	12	268	17	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
650	03.2	00	00	323	02.7	19	03	00	03.1	18	02	000	14	00.1	15	13	068	34	00.0	14	13	267	16	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
600	03.6	00	00	321	03.0	16	02	00	03.4	15	01	000	13	00.0	14	14	075	32	00.0	13	14	266	15	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
550	04.0	00	00	319	03.3	13	01	00	03.7	12	00	000	12	00.0	13	15	082	30	00.0	12	15	265	14	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
500	04.4	00	00	317	03.6	10	00	00	04.0	11	00	000	11	00.0	12	16	089	28	00.0	11	16	264	13	40	35	333	32	42	37	31	268	39	45	2	31	29	267	36	36	23
450	04.8	00	00	315	03.9	07	00	00	04.3	10	00	000	10	00.0	11	17	096	26	00.0	10	17	263	1																	

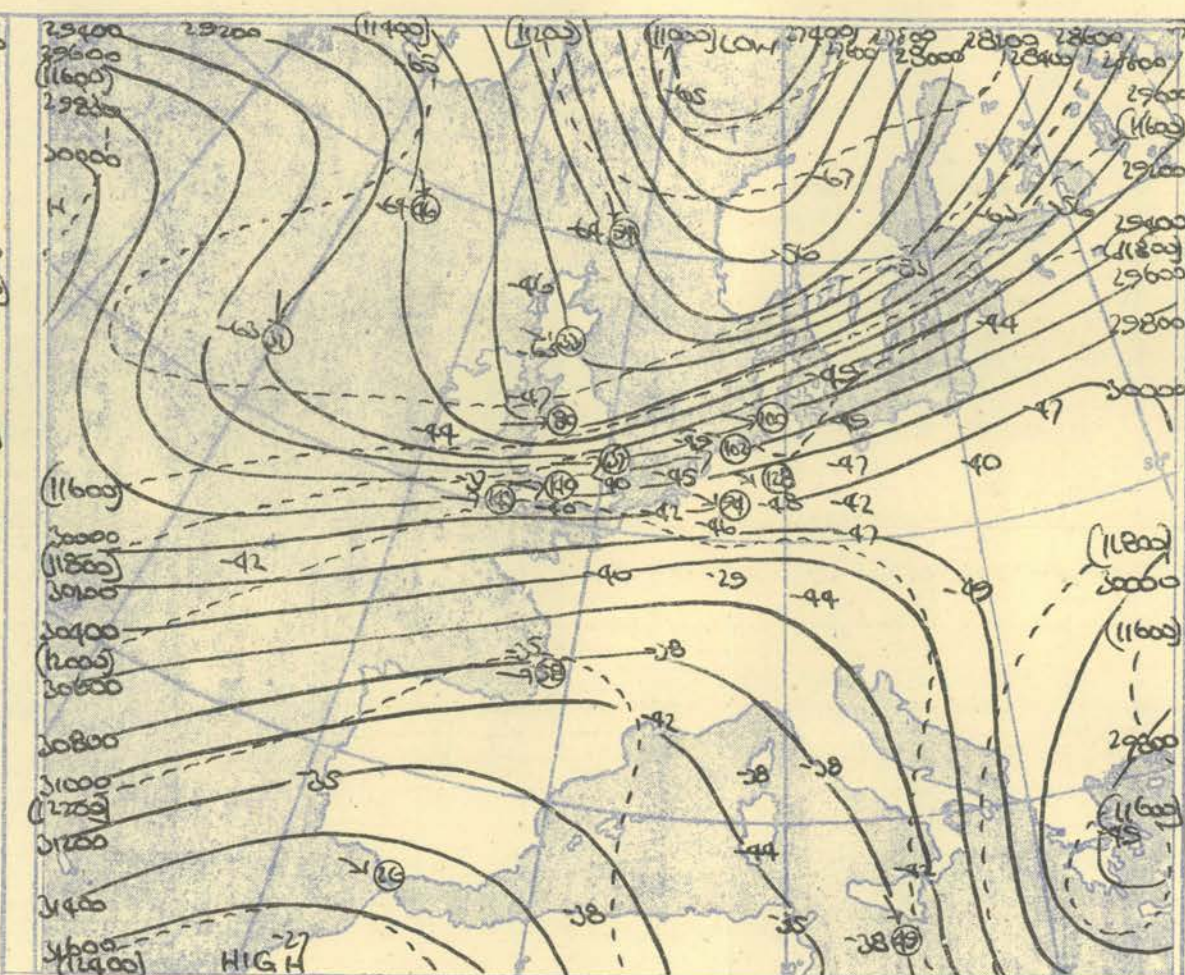




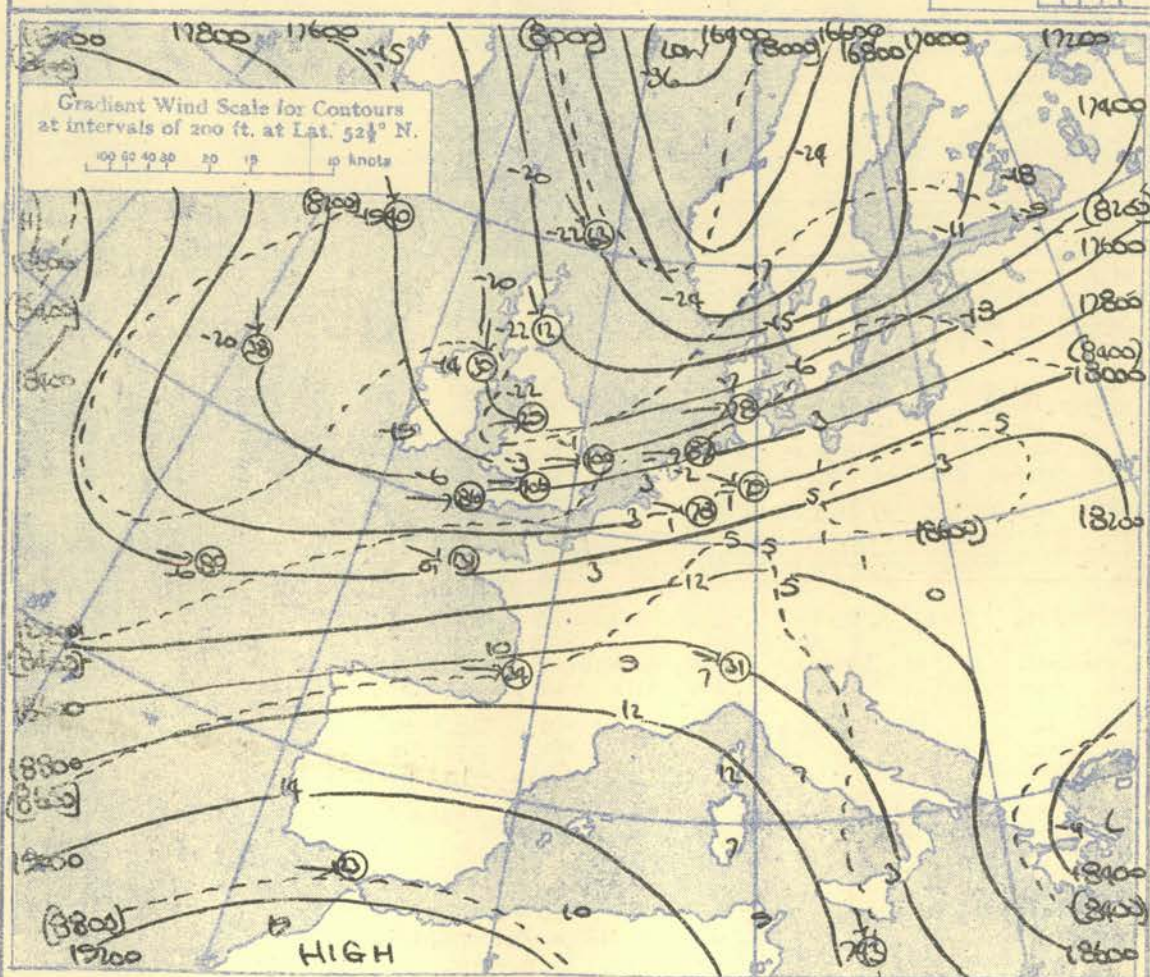
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



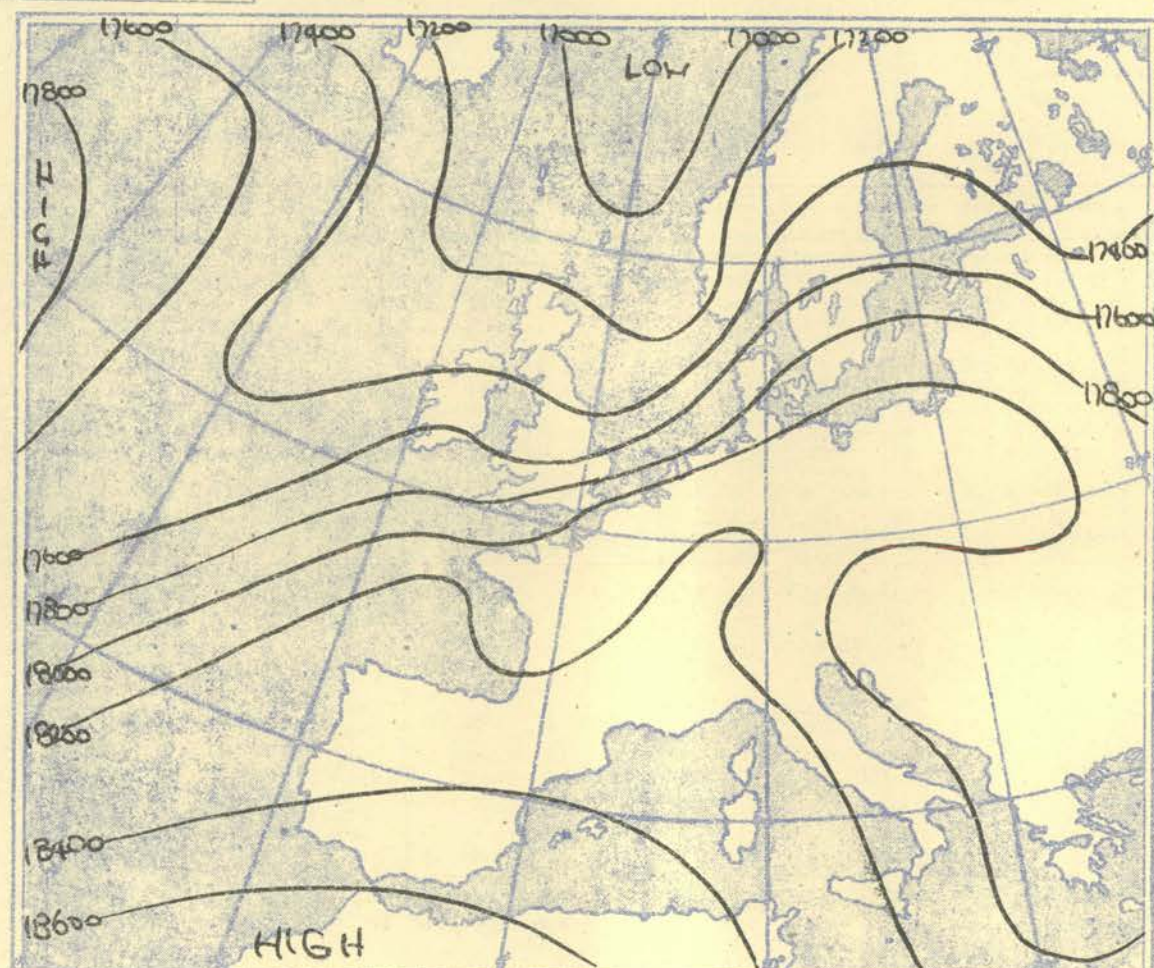
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 850-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

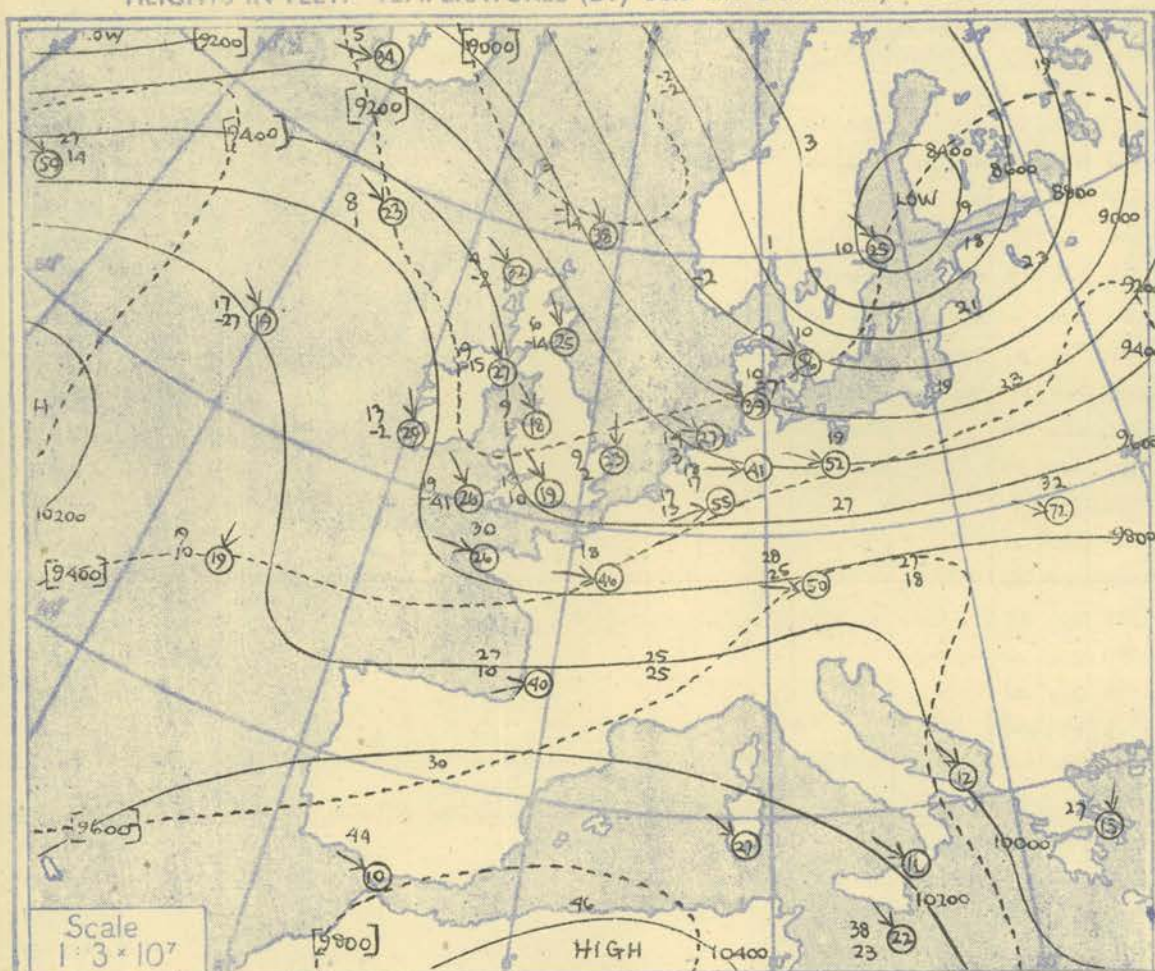
A circular library stamp from the Meteorologic Office. The text "METEOROLOGIC" is curved along the top inner edge, and "OFFICE" is curved along the bottom inner edge. In the center, the word "LIBRARY" is printed above the date "5 DEC 1951". A small five-pointed star is located to the left of the date.

## NEPHOSCOPE OBSERVATIONS

Ship	Weather Watcher				Weather Watcher				Weather Watcher				Weather Recorder				Weather Recorder				Weather Recorder				Weather Recorder				Ship												
Lat/Long	59-1N		16-6W		59-0N		15-7W		59-0N		15-5W		59-0N		15-5W		52-5N		19-3W		52-5N		19-8W		52-4N		19-9W		52-3N		20-1W		Lat/Long								
Pressure	Time	03h	G.M.T.		09h	G.M.T.		15h	G.M.T.		21h	G.M.T.		03h	G.M.T.		09h	G.M.T.		15h	G.M.T.		21h	G.M.T.		03h	G.M.T.		15h	G.M.T.		Time									
	M.S.L.	1013	mb		1015	mb		1018	mb		1017	mb		1017	mb		1023	mb		1026	mb		1028	mb		1026	mb		1028	mb		M.S.L.									
	Surf	1013	mb		1015	mb		1018	mb		1017	mb		1017	mb		1023	mb		1023	mb		1026	mb		1026	mb		1028	mb		Surf									
	Freezing	955	mb		940	mb		920	mb		920	mb		910	mb		905	mb		905	mb		910	mb		825	mb		825	mb		Freezing									
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure								
mb	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	ft./100	°F.	°F.	Dir. Vel.	mb								
Surf		40	23	320	05	42	36	305	17	45	32	270	18	46	32	235	23	48	39	340	25	48	46	830	21	49	48	280	15	49	40	230	20	Surf							
1000	34	38	21	326	06	41	40	35	312	13	48	43	31	268	18	46	44	31	242	24	47	46	38	334	18	62	44	40	239	21	71	46	43	278	13	76	47	38	230	19	
950		31	18	326	06		33	29	312	15		36	26	269	19		37	28	242	21		38	32	336	20		37	30	329	21		38	34	275	21		40	32	227	20	
900	31-1	25	15	326	13	31-9	28	20	312	16	32-8	29	21	274	21	32-6	29	20	244	23	32-7	30	27	337	21	34-3	31	25	320	22	35-1	30	23	266	16	35-8	34	20	236	25	
850		18	09	326	20		22	11	312	16		23	14	285	21		22	15	245	24		22	21	336	26		24	18	308	21		22	09	263	16		34	06	254	27	
800	61-2	12	03	328	25	62-3	15	07	311	16	63-1	17	09	290	22	63-7	20	04	250	24	63-1	18	16	333	27	64-7	21	06	310	20	65-7	25	02	268	16	66-8	30	04	263	26	
750		06	-02	334	26		09	05	307	19		11	03	287	22		17	-06	254	26		12	10	331	30		19	04	312	24		20	-10	273	16		26	-01	265	25	
700	74-4	02	-07	336	26	75-7	05	-03	305	22	76-7	08	01	286	23	76-8	13	-07	259	26	76-7	08	03	332	30	78-7	16	-07	309	22	79-8	17	-27	296	19	101-4	21	00	274	24	
650		01	-12	333	27		03	-06	308	25		03	-04	289	26		07	-02	273	34		03	-05	334	33		11	-28	317	24		11	-35	308	27		16	-02	294	22	
600	82-2	-04	-18	334	27	83-7	-01	-11	315	30	84-8	-00	-05	297	28	85-2	04	-11	277	36	84-7	-04	-12	333	33	87-4	02	-27	320	30	88-5	05	-27	311	30	90-5	10	-15	286	28	
550		-12	-15	333	27		-09	-19	320	35		-06	-13	302	28		-02	-15	280	36		-12	-21	334	38		-06	-27	322	32		-02	-22	306	29		03	-21	290	30	
500	75-8	-19	-33	332	40	77-6	-15	-28	331	48	78-9	-15	-23	305	33	79-6	-13	-21	283	43	78-2	-20	-32	343	38	81-4	-16	-33	336	34	83-0	-10	-36	322	30	85-5	-06	-29	293	25	
450		-27	-43	329	44		-24	-41	327	41		-24	-34	313	43		-23	-30	291	40		-30	-44	352	35		-26	-40	339	43		-21	-48	338	36		-18	-31	297	26	
400	227-0	-40	-54	333	44	229-3	-37	-50	319	41	230-6	-36	-43	314	43	231-5	-34	-40	302	57	229-3	-41	-49	348	38	232-9	-39	-51	332	34	235-2	-34	-54	329	40	238-0	-31	-48	300	36	
350		-53		334	46		-49		319	45		-48		312	43		-47		291	57		-53		339	30		-52		339	45		-46		348	52		-42		331	36	
300	289-4	-64		345	46	292-5	-62		325	49	293-7	-60		313	39	294-7	-61		291	62	291-6	-63		328	32	295-3	-65		346	35	298-6	-58		346	63	302-0	-54		340	63	
250		-71		340	44		-78		332	61		-72		303	38		-77		312	81		-67		338	27		-68		344	67		-71		344	67		-71		336	78	
200	373-9	-69		342	36	375-1	-78		343	40	377-6	-76		307	47	377-8	-85		314	75	376-6	-67		311	32		383-2	-76		327	51	385-9	-84		327	51	385-9	-84		340	79
170		-67		315	33		-70		292	39		-72		294	48		-78		310	57		-69		280	40		-72		326	39		-85		326	39		-85		342	99	
150		-66		308	34		-69		290	40		-68		300	39		-78		301	53								-70		296	36		-82		344	37					
130		-66		300	35		-69		285	45		-67		292	41		-79		291	45								-68		275	36		-80		293	59					
110		-69		282	43		-69		280	43		-67		301	43		-78		292	42								-69		305	26		-72		285	33					
100	510-9	-70		269	50	519-2	-69		278	48	522-0	-66		301	41	510-9	-79		294	92								527-0	-72		319	30	526-1	-79		267	33				
90		-72		265	53		-72		277	45		-66		300	48		-79		294	54								-75		289	20		-84		267	33					
80		-72					-75		270	48		-67		296	44		-79		293	42								-72		255	21		-84		265	30					
70							-76		267	51							-81											-71		264	32		-85		268	30					
60	Inversion 685 mb 0° - 669 mb 30° Isothermal 736 - 715 mb 4° 608 - 587 .. -4°										Inversion 650 mb 03° 640 mb 84° Isothermal 600 - 594 mb 0°						Inversion 815 mb 19° 793 mb 21° Isothermal 628 .. 03° 610 .. 05°						Inversion 705 mb 70° 700 mb 8° Isothermal 761 - 770 mb 13° 844 - 830 .. 21°						Inversion 720 mb 14° 688 mb 17° Isothermal 888 - 874 mb 29°						Inversion 850 mb 22° - 825 mb 27° Inversion 910 mb 34° - 875 mb 36°						
Tropopause	II 265 mb -72° 31,500'				I 233 mb -84° 34,300'				I 210 mb -79° 36,800'				I 188 mb -85° 39,000'				III 312 mb -62° 29,200'				N.R.				I 205 mb -77° 37,900'				I 188 mb -87° 39,800'				Tropopause								



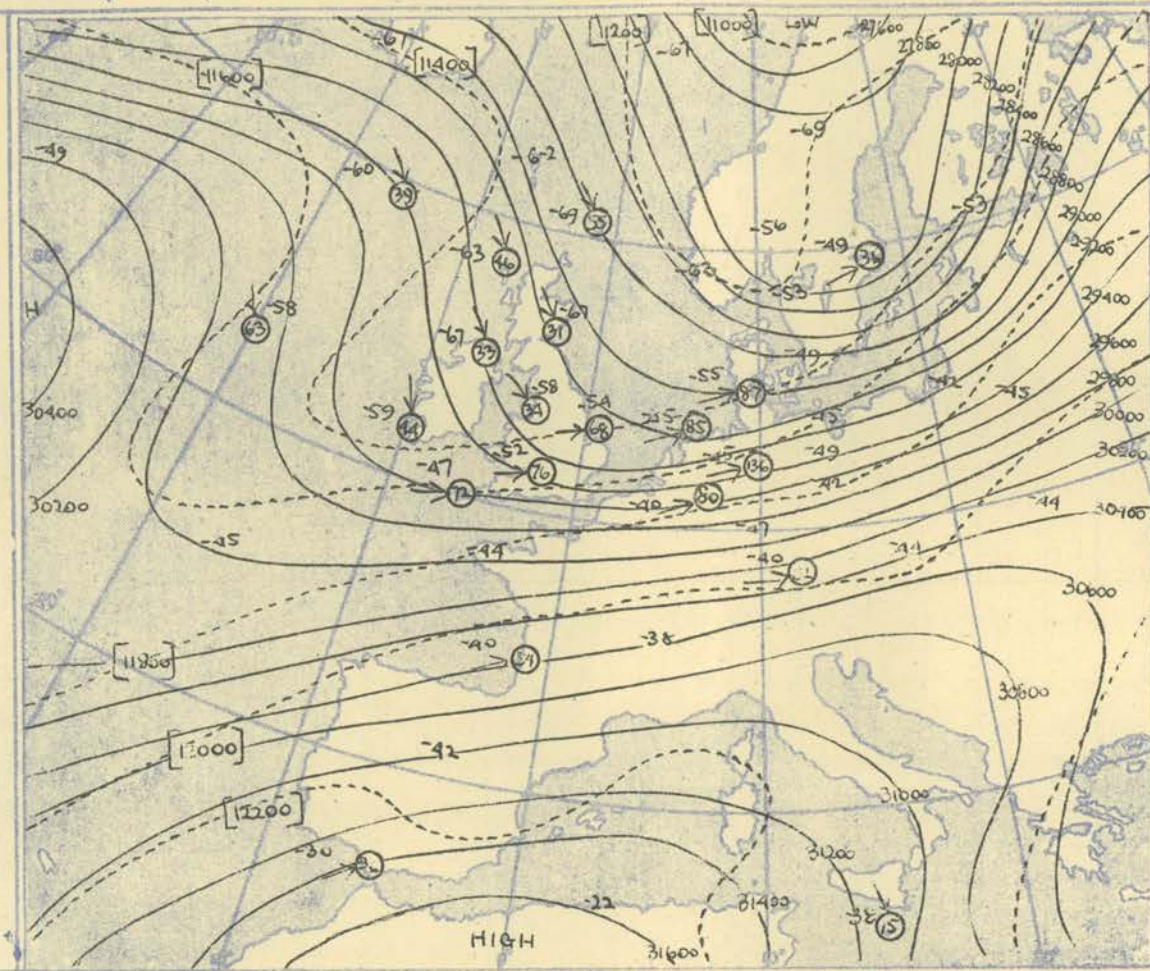
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

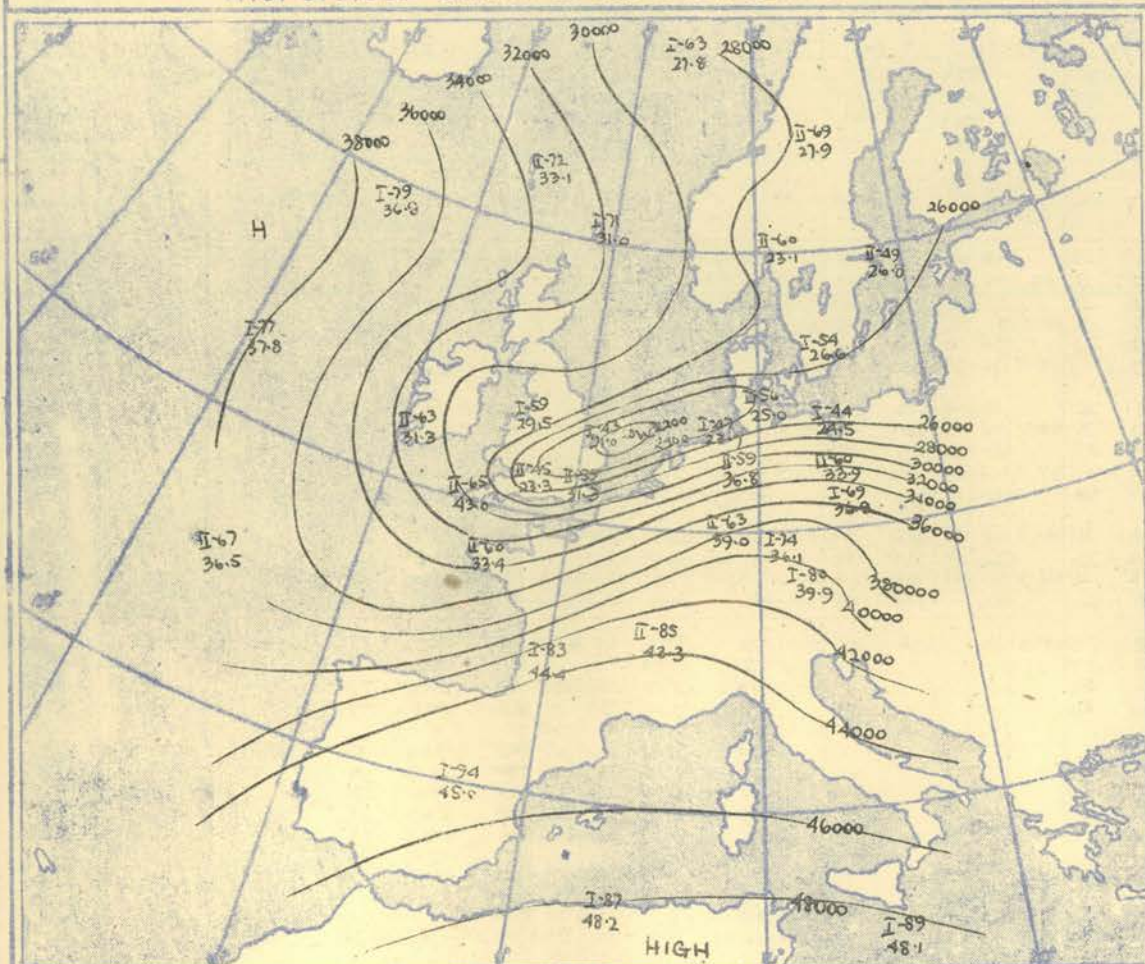
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

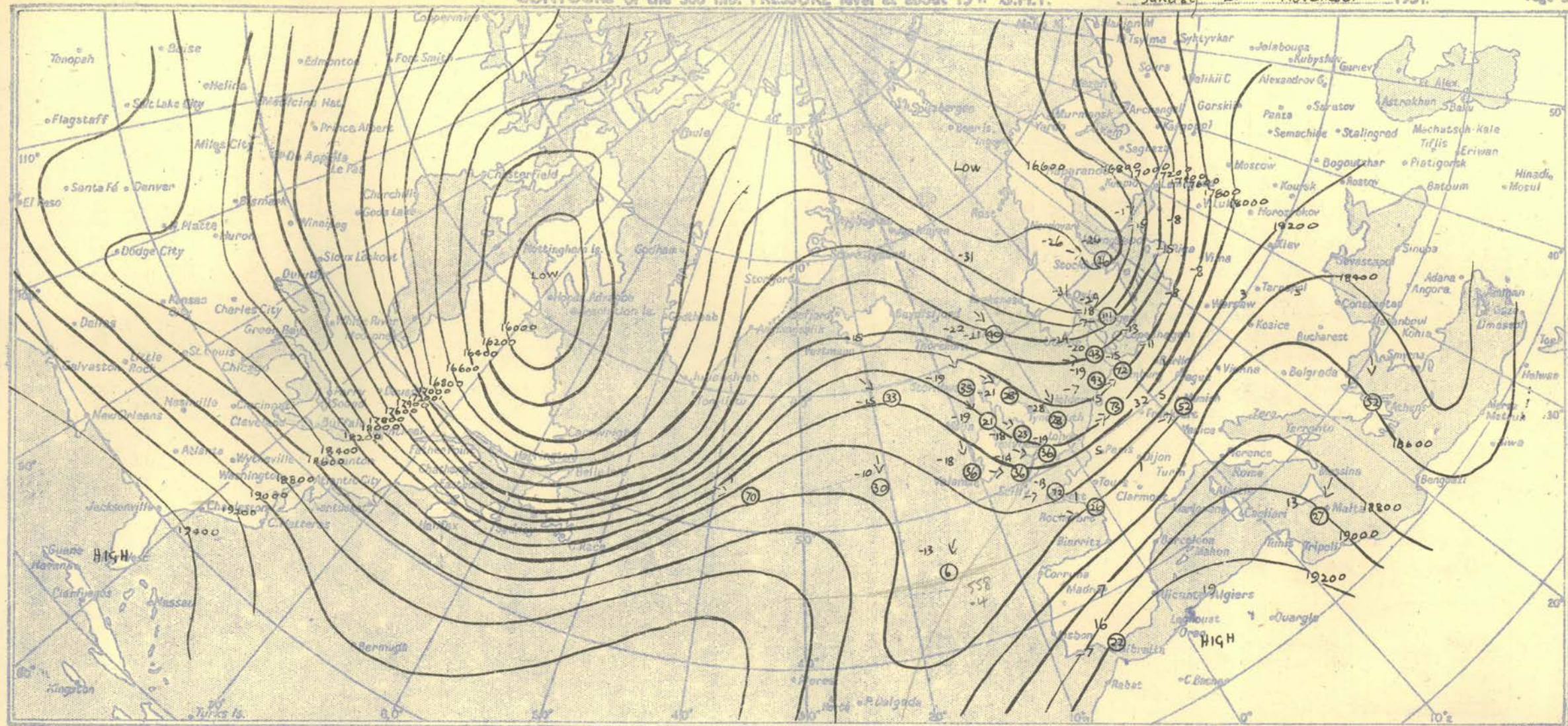
### NOTES ON THE AEROLOGICAL SITUATION.

Steady progression of all features occurred during the period. The cold trough crossing the Norwegian Sea weakened despite the strong southerly advection existing.

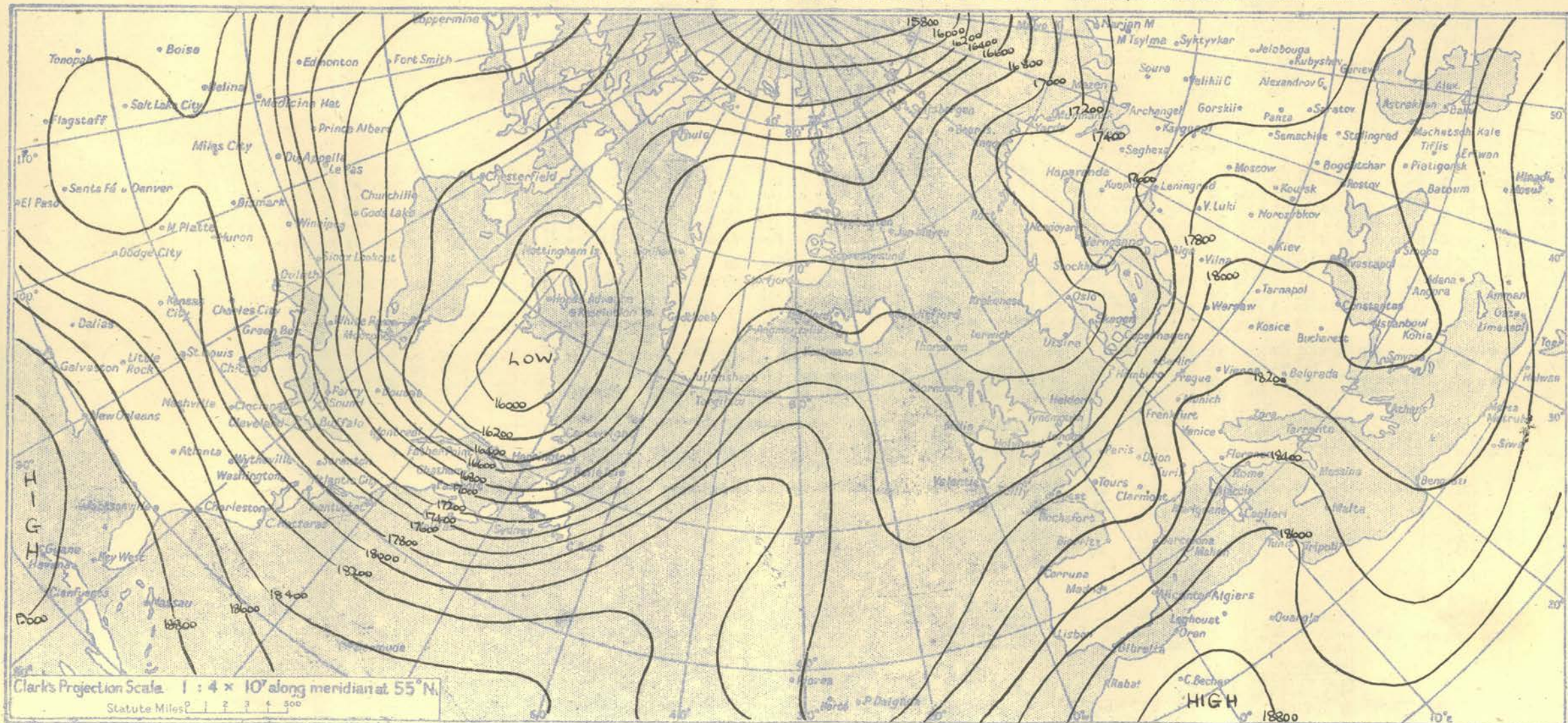
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Meteorological Office, Air Ministry, Kingway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.





ISOPLETHS OF THICKNESS 500-1000 mb. at about 15 h. G.M.T. Sunday 25th November, 1951.



Clark's Projection Scale. 1 : 4 × 10<sup>7</sup> along meridian at 55° N.

Statute Miles 1 2 3 4 5 6 7 8 9 10



## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	Valentia	STATION
Time M.S.L.	1500h	1500h	1500h	1500h	1500h	1500h	1500h	1500h	1500h	Time M.S.L.
Surf (Pressure)	1005.5 mb	1014.1 mb	1013.5 mb	1017.9 mb	1011.6 mb	1008.6 mb	1010.4 mb	1004.1 mb	1021.3 mb	Surf (Pressure)
Pressure mb	976	954	958	942	929	900	900	881	905	Pressure mb
Height ft./100	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Height ft./100
Surf	02.7 33 28 330 29	00.4 32 30 280 07	00.2 33 27 310 12	02.5 33 34	00.6 41 35 350 09	00.4 45 35 010 20	04.4 44 39 300 10	02.9 46 42 330 25	00.3 46 35 020 07	Surf
1000	01.4 33 28 330 29	03.7 37 30 280 07	03.5 37 24 232 19	04.8 33 28	03.6 40 33 350 12	02.3 44 34 010 20	04.8 44 39 300 10	04.0 46 42 330 25	06.1 44 32 006 09	1000
950	28.8 28 22 326 36	31.4 26 21 276 21	31.2 24 14 326 19	32.6 21	35.2 24 34 315	38.25 070 28	37 32 256 21	40 37 335 31	38 27 349 14	950
900	43.3 15 09 311 37	46.0 20 16 276 23	45.9 18 10 348 23	46.3 20 14	45.3 23 15 320 16	45.3 24 19 358 24	45.7 25 21 355 15	47.1 20 29 347 31	44.1 21 22 344 18	900
850	58.7 10 03 30 33	61.6 15 11 283 26	61.3 14 4 350 28	62.8 15 09	61.8 19 14 310 21	60.8 17 15 355 28	61.3 21 10 347 17	62.9 25 12 343 29	64.6 18 11 334 23	850
800				See						800
750	03 08 313 38	05 05 289 31	10 -3 343 24	10 01	12 06 303 21	16 08 355 31	19 -03 341 18	20 -25 321 24	12 2 332 25	750
700	01.7 01 14 316 38	05.0 04 -02 296 32	09.47 6 -14 320 25	06 4 03 -15	05.4 09 01 317 18	04.6 09 02 350 23	05.3 13 -13 323 19	07.1 19 -41 302 26	08.3 13 -2 332 29	700
650	-02 -18 315 37	01 -15 329 33	-1 -23 314 25	04 -24	03 -10 313 17	02 -03 323 16	06 -21 307 28	2 -46 285 29	7 -13 333 33	650
600	129.3 05 23 315 40	132.9 04 -25 329 33	132.4 -7 -29 312 25	134.5 02 29	133.5 00 -21 309 16	132.6 -06 -11 324 18	131.6 05 -24 304 31	135.9 03 -57 285 30	136.7 3 -18 334 33	600
550	-12 -30 317 41	-10 -32 321 33	-11 -32 313 28	-12 -38	-8 -34 301 18	-17 -22 323 20	-09 -43 301 34	-5 -59 276 33	-6 -27 333 32	550
500	72.8 -21 -38 315 40	176.6 -19 -41 320 35	175.9 -21 -42 315 28	178.1 -19 -44	177.4 -18 -45 301 23	175.7 -28 -33 321 24	177.3 -19 -55 288 36	180.1 -14 -55 276 36	180.9 -18 -59 332 36	500
450	-32 -48 310 45	-31 -53 332 39	-32 -52 304 27	-28 -55	-29 -56 298 25	-40 -45 316 19	-31 -60 280 39	-25 -58 276 35	-31 -53 337 34	450
400	223.6 -44 312 48	227.6 -42 327 35	226.8 -42 305 25	229.3 -41	228.6 -40 -60 296 24	225.9 -41 304 36	228.3 -43 274 48	232.0 -30 -57 274 39	231.9 -43 342 33	400
350	-58 315 54	-53 327 41	-54 305 26	-51	-51 296 27	-45 284 51	-48 272 70	-39 -59 264 56	-51 344 46	350
300	285.2 -63 318 55	289.9 -63 334 46	293.0 -67 302 31	291.6 -67	291.3 -58 282 34	289.2 -54 271 64	291.5 -53 263 76	296.6 -47 261 72	294.5 -59 338 44	300
250	-63 325 49	-70 330 41	-68 312 41	-62	-57 276 50	-57 268 72	-53 262 91	-52 257 92	-63 304 36	250
200	303.9 -64 302 42	374.4 -70 303 39	373.8 -63 292 36	377.3 -62	378.4 -57 273 55	375.9 -62 261 76	377.9 -64 259 88	384.6 -50 257 87	380.2 -63 281 44	200
170	-64 295 40	-68 292 36	-63 286 46	-62	-56 269 55	-68 262 80	-72 265 76	-63 255 78	-65 260 41	170
150	-63 286 45	434.5 -67 292 43	439.7 -61 277 44	438.2 -65	-60 269 54	436.2 -67 265 74	437.8 -71 259 73	-65 251 78	-66 272 49	150
130	-64 292 48	-65 290 42	-68 282 43	-69	-63 271 58	-69 264 68	-71 265 70	-66 253 73	-69 269 44	130
110	-67 296 46	-66 286 40	-69 272 42	-70	-66 275 54	-73 264 68	-75 265 65	-65 257 63	-71 269 43	110
100	(113 mbs)	513.7 -67 273 40	522.0 -72	-74	515.8 -64 275 42	520.4 -73	524.4 -77	550.7 -66 259 60	525.2 -72 266 38	100
90		-68	-75	-76	-67 265 55	-76	-74	-67	-73 263 38	90
80			-72		-68 263 49	-78	-75			80
70					-68		-81			70
60					-68					60
Inversion	672 mbs -3°F - 624 mbs -01°F Isothermal.	686-662 mbs 03°F	Inversion 735 mbs 00°F - 718 mbs 10°F		61 mbs Isothermal 723 mbs -60 mbs 00°F Inversion 800 mbs 17°F - 780 mbs 19°F		63 mbs Isothermal 380 mbs -365 mbs 25°F Inversion 768 mbs 19°F - 750 mbs 22°F	750 mbs 12°F - 700 mbs 13°F		
Tropopause	I 265 mbs -70°F 31,000 ft.	II 241 mbs -72°F 33,500 ft.	I 265 mbs -74°F 31,400 ft.	I 300 mbs -67°F 29,100 ft.	I 295 mbs -50°F 29,600 ft.	I 420 mbs -43°F 28,000 ft. II 390 mbs -51°F 28,200 ft.	II 390 mbs -51°F 28,200 ft.	II 162 mbs -65°F 43,000 ft.	II 275 mbs -61°F 31,300 ft.	Tropopause
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE		STATION
Time M.S.L.	2100h	2100h	2100h	2100h	2100h	2100h	2100h	2100h		Time M.S.L.
Surf (Pressure)	1000.4 mb	1016.7 mb	1017.9 mb	1014.3 mb	1015.9 mb	1016.8 mb	1004.6 mb	1023.5 mb		Surf (Pressure)
Pressure mb	927	950	925	930	941	914	920	892		Pressure mb
Height ft./100	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F		Height ft./100
Surf	02.7 32 31 310 15	00.4 36 30 Calm	00.2 32 26 290 12	02.5 36 25 310 05	00.6 31 30 Calm	00.4 40 36 340 08	04.4 39 26 330 08	07.9 43 38 030 18		Surf
1000	02.8 32 31 310 15	04.8 38 29	04.6 36 29 273 17	06.1 36 33 318 09	05.8 38 32 249 09	04.9 41 35 335 21	08.6 39 26 330 08	06.1 42 37 010 21		1000
950	28 24 327 23	32 23 323 18	35 24 289 25	35 28 317 13	33 27 331 25	27 32 342 20	35 31 360 15	38 24 004 24		950
900	30.2 21 19 325 28	32.4 24 17 325 19	32.5 23 20 305 34	33.8 28 19 318 17	33.4 27 19 336 24	32.9 30 25 344 20	33.5 30 25 009 12	34.2 33 31 356 26		900
850	44.7 16 15 315 31	47.1 18 12 328 24	47.4 25 18 317 32	48.5 21 14 326 24	48.2 20 13 335 23	47.6 23 19 339 25	48.4 24 19 004 10	49.1 27 25 355 23		850
800	60.1 10 08 305 30	62.4 11 06 329 25	63.0 19 12 327 30	64.0 15 10 338 28	63.6 14 07 341 24	63.3 16 14 333 24	68.9 19 16 335 09	64.9 23 22 003 20		800
750	06 01 300 33	07 -01 328 31	12 04 333 28	10 01 340 24	12 -2 336 24	10 08 307 18	12 10 309 11	18 08 344 22		750
700	08.3 04 -13 318 27	08.7 04 -05 323 33	06.6 05 -5 326 26	09.7 08 -04 332 25	07.1 07 -10 324 17	06.7 08 -01 300 19	07.6 08 00 284 14	08.9 13 -8 324 27		700
650	00 -17 325 40	00 -11 327 30	01 -14 320 28	03 -11 328 27	01 -17 320 17	04 -16 304 22	04 -21 292 16	05 -12 321 25		650
600	131.1 00 -16 324 42	133.4 00 -18 325 37	134.5 -3 -19 322 31	135.5 -03 320 32	135.0 -03 -21 325 21	134.9 -03 -29 303 24	135.7 -04 37 292 18	137.3 2 -19 315 29		600
550	-15 -25 320 36	-12 -26 320 37	-10 -27 322 33	-11 -29 330 32	-11 -29 317 20	-12 -42 298 25	-13 -44 294 24	-7 -29 311 29		550
500	174.3 -26 -34 319 39	176.8 -22 -34 321 38	178.2 -20 36 325 36	179.1 -20 -39 332 35	178.6 -21 -38 322 24	178.5 -22 -50 297 25	179.1 -22 -52 295 26	181.3 -16 -38 313 28		500
450	-33 -42 330 51	-33 -42 321 43	-30 45 328 41	-30 -48 328 39	-31 -48 323 25	-33 292 32	-33 -60 298 26	-26 -47 317 27		450
400	225.0 -43 330 51	227.5 -44 320 45	229.3 -42 336 45	230.2 -40 -57 332 40	229.5 -43 319 30	229.3 -43 296 26	229.9 -44 301 30	232.9 -37 -59 304 27		400
350	-55 331 54	-57 318 45	-54 342 52	-50 320 43	-53 334 31	-56 289 28	-48 277 38	-47 285 36		350
300	287.1 -66 -323 57	289.3 -70 317 51	291.5 -65 340 48	292.9 -63 329 51	291.9 -62 326 33	291.3 -62 281 38	292.9 -54 271 56	296.3 -54 269 53		300
250	-72 -325 51	-80 316 46	-71 322 36	-77 324 41	-63 284 35	-60 276 51	-60 271 60	-57 269 59		250
200	370.9 -74 -322 44	372.3 -74 310 46	375.7 -70 304 45	376.9 -69 298 42	377.3 -66 282 44	377.1 -65 277 67	379.5 -63 269 69	381.1 -63 265 60		200
170	-70 -309 37	-65 309 37	-65 299 44	-67	-64 287 49	-65 277 62	-65 268 58	-64 263 56		170
150	-70 -431.4 -75 301 46	436.1 -65 288 35	-68	-68	-65 278 43	437.7 -66 270 54	440.2 -68 267 55	-69 266 55		150
130	-68 -73 292 43	-74 293 56	-73 290 45	-72	-68 275 50	-70 271 60	-72 276 51	-72 270 52		130
110	-68 -74 293 56	-73 290 45	-73 290 45	-72	-71	-72 281 42	-73	-72 269 36		110
100	515.2 -70 -73	514.6 -72 290 60	520.3 -73 298 49	521.2 -74 295 47	(103 mbs)	521.9 -72	527.5 -75 263 39			100
90										90
80										80
70										70
60										60
Inversion	738-710 mbs 05°F	Inversion 1017 mbs 36°F - 1000 mbs 38°F Isothermal 797-772 mbs 09°F 732-717 mbs 05°F	Inversion 1017 mbs 32°F - 988 mbs 40°F	Inversion 726 mbs 07°F - 700 mbs 01°F	Inversion 1020 mbs 31°F - 1006 mbs 39°F 279 mbs -65°F 250 mbs -63°F Isothermal 780-750 mbs 12°F 742-728 mbs 00°F 279 mbs -65°F 270 mbs -67°F 36100 ft.	Inversion 1017 mbs 40°F - 1004 mbs 41°F Isothermal 754-725 mbs 10°F	1017 mbs 40°F - 1005-1000 mbs 39°F	710-700 mbs 08°F 675-650 mbs 03°F		
Tropopause	I 211 mbs -76°F 36,000 ft.	II 265 mbs -80°F 31,400 ft.	II 237 mbs -72°F 34,000 ft.	I 245 mbs -78°F 33,500 ft.	I 310 mbs -63°F 28,400 ft.	I 375 mbs -49°F 24,300 ft.	II 270 mbs -57°F 32,000 ft.			Tropopause



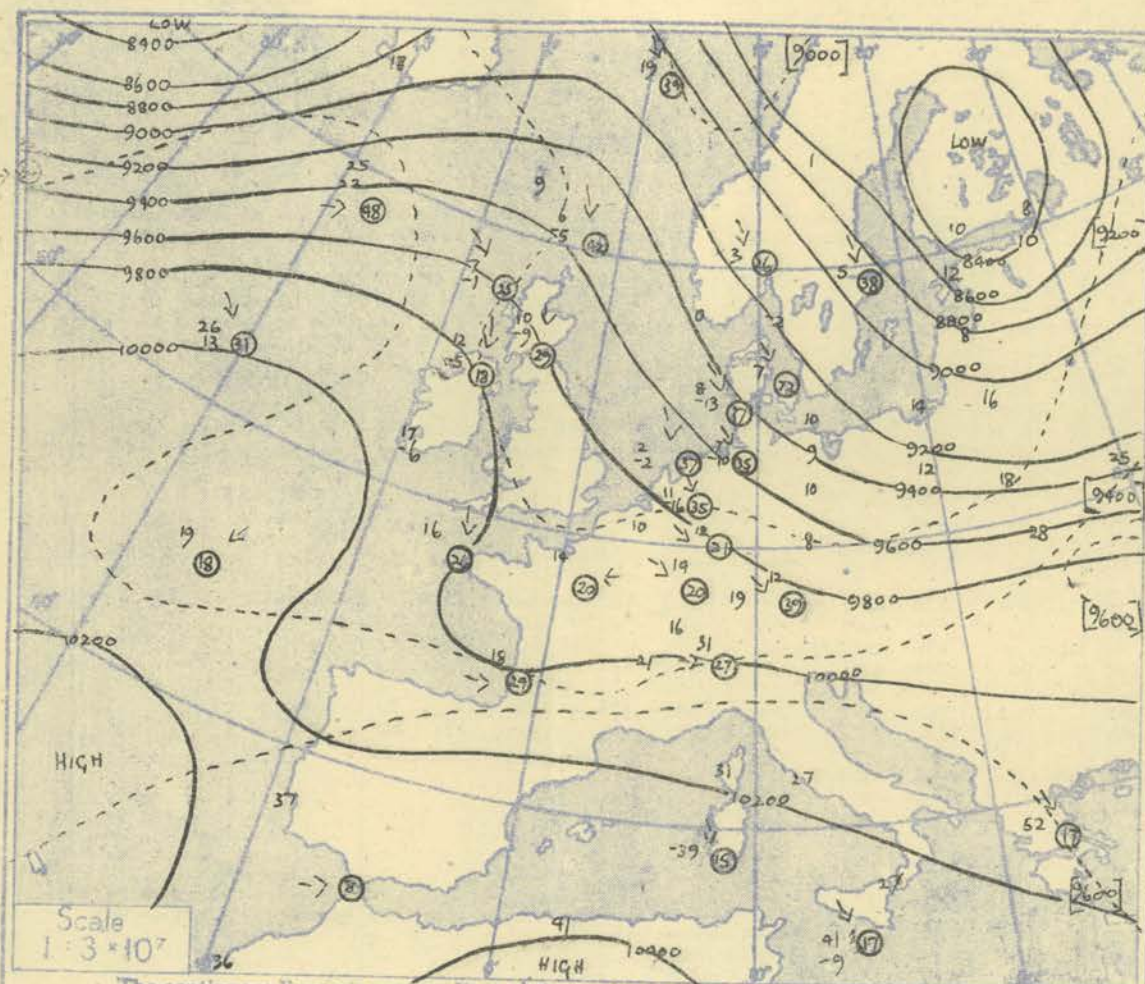
## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALLEY							
Pressure mb	Time M.S.L. Surf Forecast	03h.		G.M.T.		03h.		G.M.T.		03h.		G.M.T.		03h.		G.M.T.		03h.		G.M.T.		03h.		G.M.T.		03h.		G.M.T.		03h.		G.M.T.									
		Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.										
Surf	1000	02.7	03.0	300	13	00.4	00.5	250	05	00.2	00.3	290	06	02.5	02.6	270	10	00.6	00.7	280	09	04.4	04.5	320	07	02.9	03.0	040	07	00.3	00.4	340	05								
950		03.0	03.3	299	16	00.5	00.6	258	19	00.8	00.9	275	19	07.3	07.4	278	18	06.8	06.9	307	21	07.0	07.1	320	07	07.8	07.9	042	07	00.8	00.9	345	05								
900		03.1	03.4	295	21	00.6	00.7	262	22	00.9	01.0	282	23	07.6	07.7	284	18	07.1	07.2	317	21	07.3	07.4	322	07	08.1	08.2	043	07	00.9	01.0	346	05								
850		03.2	03.5	291	26	00.7	00.8	267	27	01.0	01.1	287	24	07.9	08.0	286	19	07.4	07.5	314	21	07.6	07.7	323	07	08.3	08.4	044	07	01.0	01.1	347	05								
800		03.3	03.6	287	31	00.8	00.9	272	32	01.1	01.2	292	25	08.1	08.2	288	20	07.6	07.7	309	21	07.8	07.9	324	07	08.5	08.6	045	07	01.1	01.2	348	05								
750		03.4	03.7	283	36	00.9	01.0	278	37	01.2	01.3	297	26	08.3	08.4	290	21	07.8	07.9	310	21	08.0	08.1	325	07	08.7	08.8	046	07	01.2	01.3	349	05								
700		03.5	03.8	279	41	01.0	01.1	283	42	01.3	01.4	303	27	08.5	08.6	292	22	08.0	08.1	312	21	08.2	08.3	326	07	08.9	09.0	047	07	01.3	01.4	350	05								
650		03.6	03.9	275	46	01.1	01.2	289	47	01.4	01.5	309	28	08.7	08.8	294	23	08.2	08.3	314	21	08.4	08.5	327	07	09.1	09.2	048	07	01.4	01.5	351	05								
600		03.7	04.0	271	51	01.2	01.3	295	52	01.5	01.6	315	29	08.9	09.0	300	24	08.4	08.5	316	21	08.6	08.7	328	07	09.3	09.4	049	07	01.5	01.6	352	05								
550		03.8	04.1	267	56	01.3	01.4	301	57	01.6	01.7	321	30	09.1	09.2	306	25	08.6	08.7	318	21	08.8	08.9	329	07	09.5	09.6	050	07	01.6	01.7	353	05								
500		03.9	04.2	263	61	01.4	01.5	307	62	01.7	01.8	327	31	09.3	09.4	312	26	08.8	08.9	320	21	09.0	09.1	330	07	09.7	09.8	051	07	01.7	01.8	354	05								
450		04.0	04.3	259	66	01.5	01.6	313	67	01.8	01.9	333	32	09.5	09.6	318	27	09.0	09.1	326	21	09.2	09.3	336	07	09.9	10.0	052	07	01.8	01.9	355	05								
400		04.1	04.4	255	71	01.6	01.7	319	72	01.9	02.0	339	33	09.7	09.8	324	28	09.2	09.3	332	21	09.4	09.5	340	07	10.1	10.2	053	07	01.9	02.0	356	05								
350		04.2	04.5	251	76	01.7	01.8	325	77	02.0	02.1	345	34	09.9	10.0	330	29	09.4	09.5	338	21	09.6	09.7	346	07	10.3	10.4	054	07	02.0	02.1	357	05								
300		04.3	04.6	247	81	01.8	01.9	331	78	02.1	02.2	351	35	10.1	10.2	336	30	09.6	09.7	344	21	09.8	09.9	352	07	10.5	10.6	055	07	02.1	02.2	358	05								
250		04.4	04.7	243	86	01.9	02.0	337	79	02.2	02.3	357	36	10.3	10.4	342	31	09.8	09.9	350	21	10.0	10.1	358	07	10.7	10.8	056	07	02.2	02.3	359	05								
200		04.5	04.8	239	91	02.0	02.1	343	80	02.3	02.4	363	37	10.5	10.6	348	32	10.0	10.1	356	21	10.2	10.3	364	07	10.9	11.0	057	07	02.3	02.4	360	05								
150		04.6	04.9	235	96	02.1	02.2	349	81	02.4	02.5	369	38	10.7	10.8	354	33	10.2	10.3	362	21	10.4	10.5	370	07	11.1	11.2	058	07	02.4	02.5	361	05								
100		04.7	05.0	231	101	02.2	02.3	355	82	02.5	02.6	375	39	10.9	11.0	360	34	10.4	10.5	368	21	10.6	10.7	376	07	11.3	11.4	059	07	02.5	02.6	362	05								
50		04.8	05.1	227	106	02.3	02.4	361	83	02.6	02.7	381	40	11.1	11.2	366	35	10.6	10.7	374	21	10.8	10.9	382	07	11.5	11.6	060	07	02.6	02.7	363	05								
0		04.9	05.2	223	111	02.4	02.5	367	84	02.7	02.8	387	41	11.3	11.4	372	36	10.8	10.9	380	21	11.0	11.1	388	07	11.7	11.8	061	07	02.7	02.8	364	05								
Tropopause		I 242mb -72° 33,500'		I 242mb -79° 33,800'		I 257mb -71° 32,400'		I 245mb -120° 36,400'		I 235mb -74° 34,500'		I 252mb -77° 33,000'		I 250mb -65° 33,500'		I 280mb -68° 31,300'		I 211mb -79° 37,400'		Tropopause		I 242mb -72° 33,500'		I 242mb -79° 33,800'		I 257mb -71° 32,400'		I 245mb -120° 36,400'		I 235mb -74° 34,500'		I 252mb -77° 33,000'		I 250mb -65° 33,500'		I 280mb -68° 31,300'		I 211mb -79° 37,400'		Tropopause	
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALLEY							
Pressure mb	Time M.S.L. Surf Forecast	09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.		09h.		G.M.T.									
		Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.	Obs.	Calc.								
Surf	1000	02.7	03.0	300	13	00.4	00.5	250	05	00.2	00.3	290	06	02.5	02.6	270	10	00.6	00.7	280	09	04.4	04.5	320	07	02.9	03.0	040	07	00.3	00.4	340	05								
950		03.0	03.3	299	16	00.5	00.6	258	19	00.8	00.9	275	19	07.3	07.4	278	18	06.8	06.9	307	21	07.0	07.1	320	07	07.8	07.9	042	07	00.8	00.9	345	05								
900		03.1	03.4	295	21	00.6	00.7	262	22	00.9	01.0	282	23	07.6	07.7	284	18	07.1	07.2	317	21	07.3	07.4	322	07	08.1	08.2	043	07	00.9	01.0	346	05								
850		03.2	03.5	291	26	00.7	00.8	267	27	01.0	01.1	287	24	07.9	08.0	286	19	07.4	07.5	314	21	07.6	07.7	323	07	08.3	08.4	044	07	01.0	01.1	347	05								
800		03.3	03.6	287	31	00.8	00.9	272	32	01.1	01.2	292	25	08.1	08.2	288	20	07.6	07.7	309	21	07.8	07.9	324	07	08.5	08.6	045	07	01.1	01.2	348	05								
750		03.4	03.7	283	36	00.9	01.0	278	37	01.2	01.3	297	26	08.3	08.4	290	21	07.8	07.9	310	21	08.0	08.1	325	07	08.7	08.8	046	07	01.2	01.3	349	05								
700		03.5	03.8	279	41	01.0	01.1	283	42	01.3	01.4	303	27	08.5	08.6	292	22	08.0	08.1	312	21	08.2	08.3	326	07	08.9	09.0	047	07	01.3	01.4	350	05								
650		03.6	03.9	275	46	01.1	01.2	289	47	01.4	01.5	309	28	08.7	08.8	294	23	08.2	08.3	314	21	08.4	08.5	327	07	09.1	09.2	048	07	01.4	01.5	351	05								
600		03.7	04.0	271	51	01.2	01.3	295	52	01.5	01.6	315	29	08.9	09.0	300	24	08.4	08.5	316	21	08.6	08.7	328	07	09.3	09.4	049	07	01.5	01.6	352	05								
550		03.8	04.1	267	56	01.3	01.4	301	57	01.6	01.7	321	30	09.1	09.2	306	25	08.6	08.7	318	21	08.8	08.9	329	07	09.5	09.6	050	07	01.6	01.7	353	05								
500		03.9	04.2	263	61	01.4	01.5	307	62	01.7	01.8	327	31	09.3	09.4	312	26	08.8	08.9	320	21	09.0	09.1	330	07	09.7	09.8	051	07	01.7	01.8	354	05								
450		04.0	04.3	259	66	01.5	01.6	313	67	01.8	01.9	333	32	09.5	09.6	318	27	09.0	09.1	326	21	09.2	09.3	336	07	09.9	10.0	052	07	01.8	01.9	355	05								
400		04.1	04.4	255	71	01.6	01.7	319	72	01.9	02.0	339	33	09.7	09.8	324	28	09.2	09.3	332	21	09.4	09.5	340	07	10.1	10.2	053	07	01.9	02.0	356	05								
350		04.2	04.5	251	76	01.7	01.8	325	77	02.0	02.1	345	34	09.9	10.0	330	29	09.4	09.5	338	21	09.6	09.7	346	07	10.3	10.4	054	07	02.0	02.1	357	05								
300		04.3	04.6	247	81	01.8	01.9	331	78	02.1	02.2	351	35	10.1	10.2	336	30	09.6	09.7	344	21	09.8	09.9	352	07	10.5	10.6	055	07	02.1	02.2	358	05								
250		04.4	04.7	243	86	01.9	02.0	337	79	02.2	02.3	357	36	10.3	10.4	342	31	09.8	09.9	350	21	10.0	10.1	358	07	10.7	10.8	056	07	02.2	02.3	359	05								
200		04.5	04.8	239	91	02.0	02.1	343	80	02.3	02.4	363	37	10.5	10.6	348	32	10.0	10.1	356	21	10.2	10.3	364	07	10.9	11.0	057	07	02.3	02.4	360	05								
150		04.6	04.9	235	96	02.1	02.2	349	81	02.4	02.5	369	38	10.7	10.8	354	33	10.2	10.3	362	21	10.4	10.5	370</																	



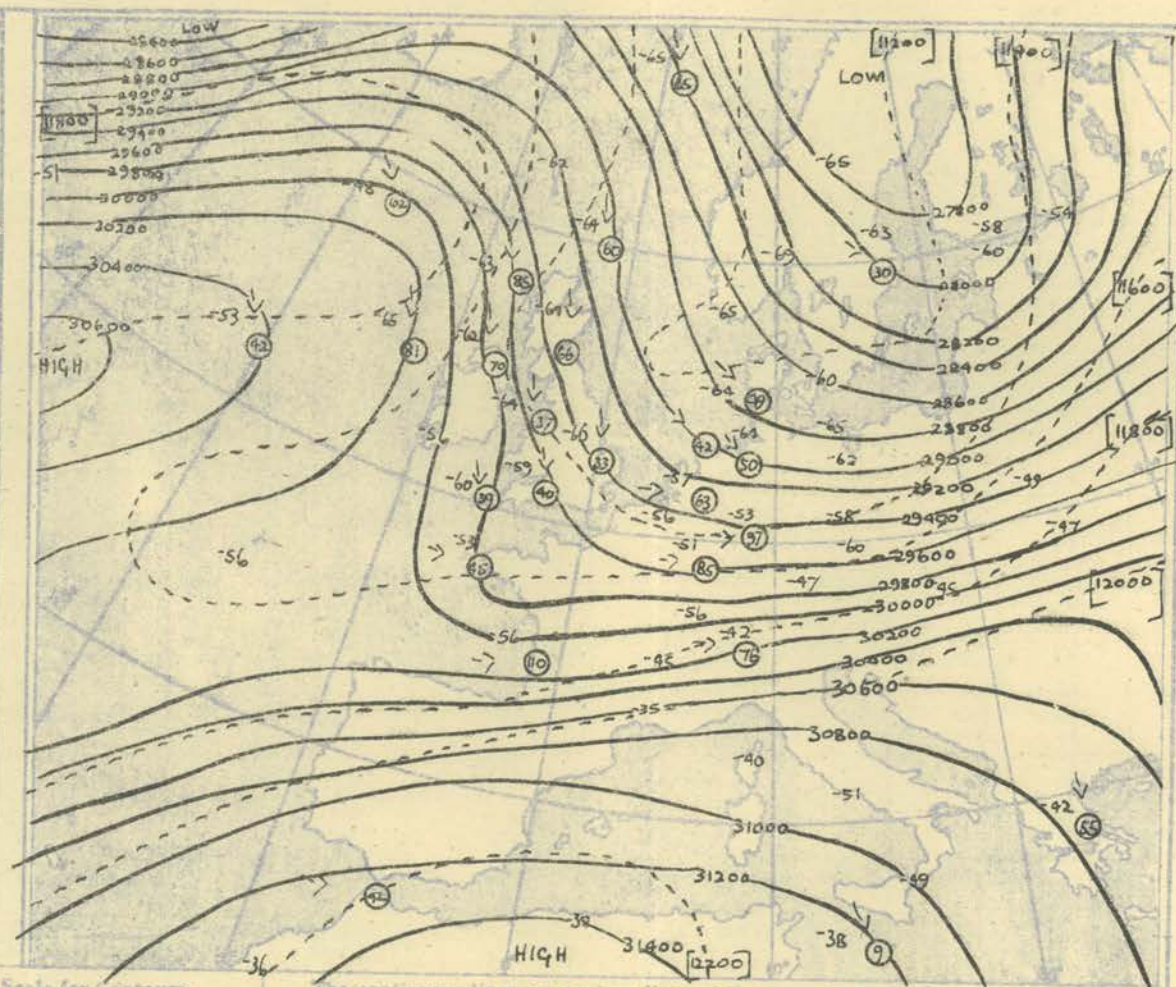
Monday 26<sup>th</sup> November 1951.

HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb. levels at about 03h G.M.T.

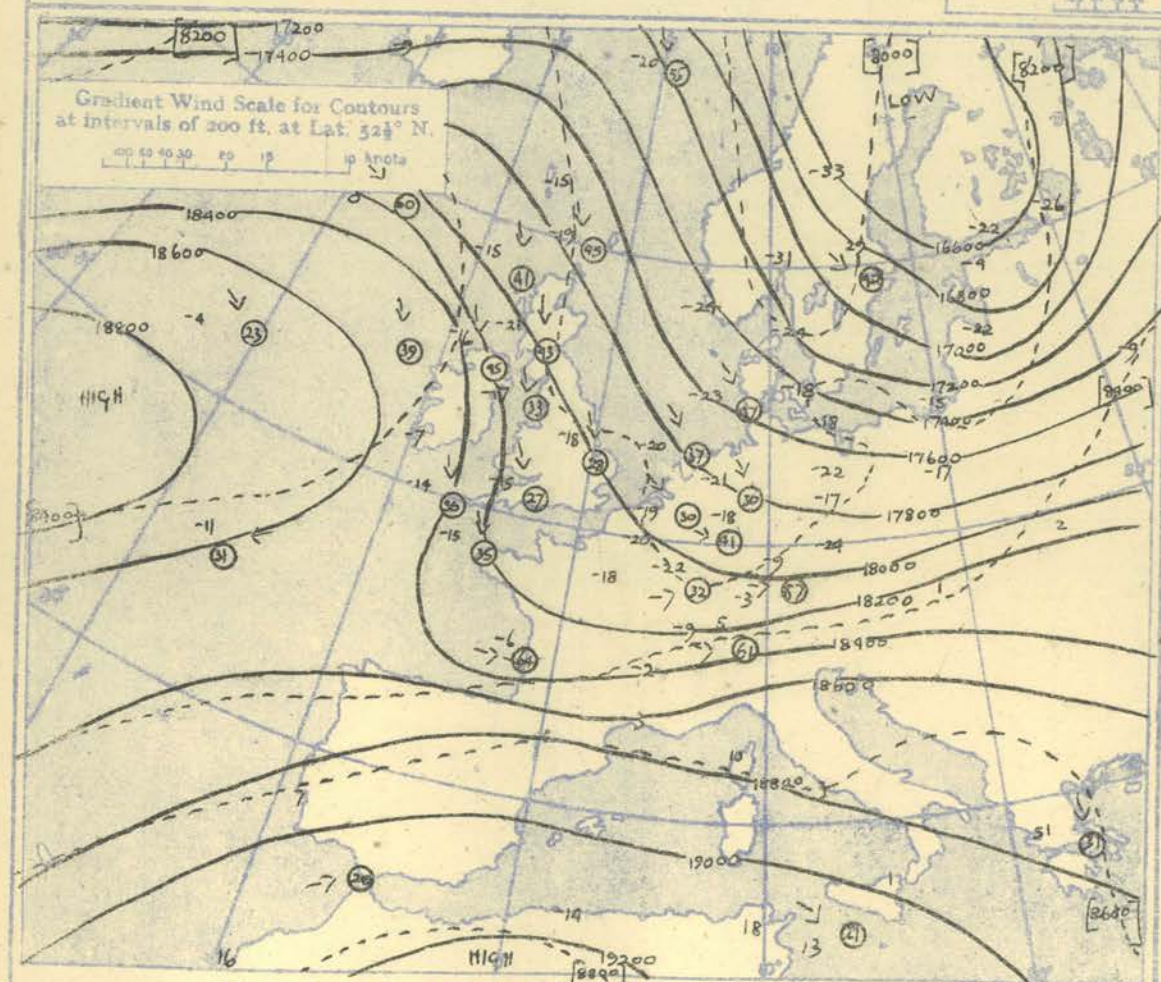


Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N

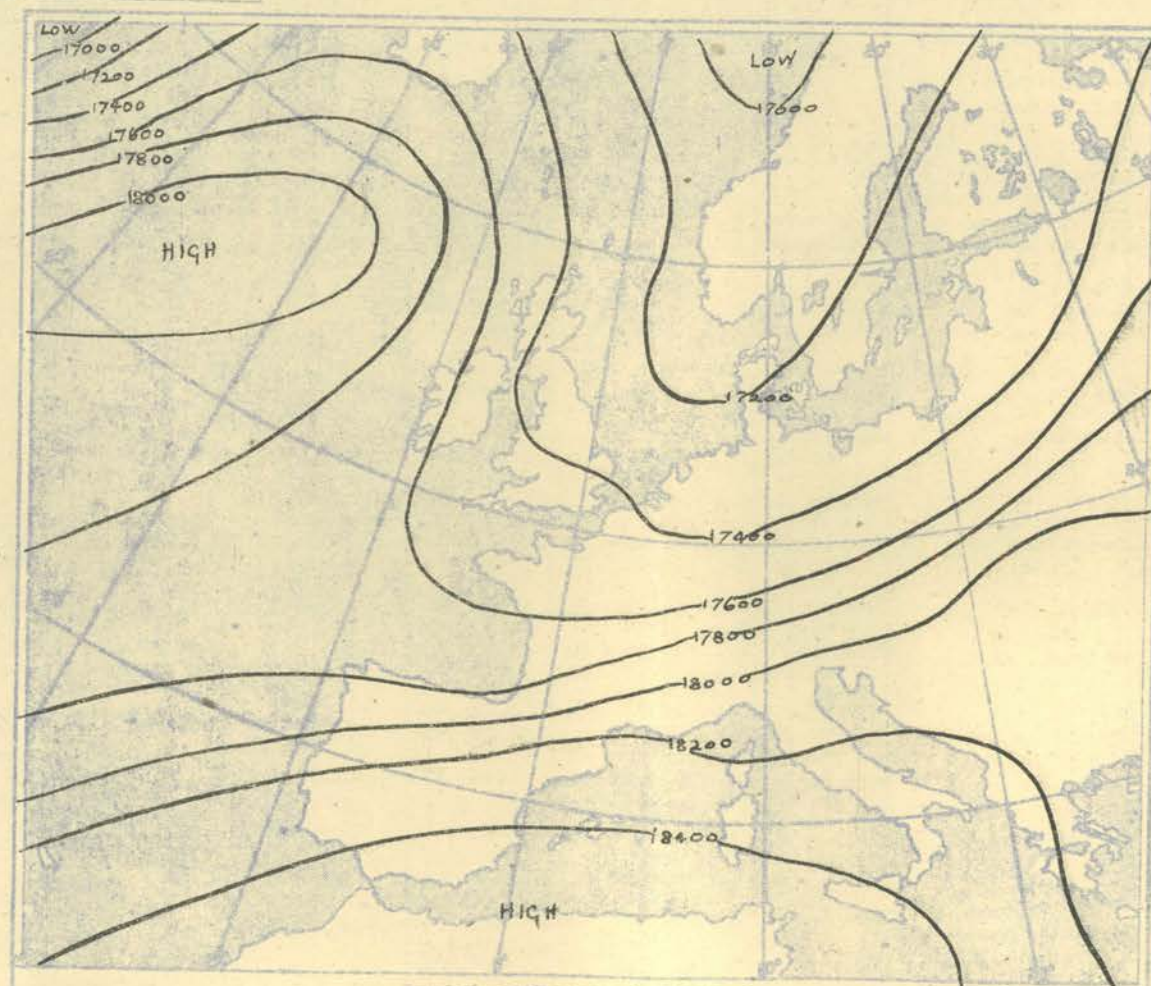
100	40	30	20	10	0	10	20	30	40
in knots									



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-300 mb.



Isopleths of Thickness 300-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

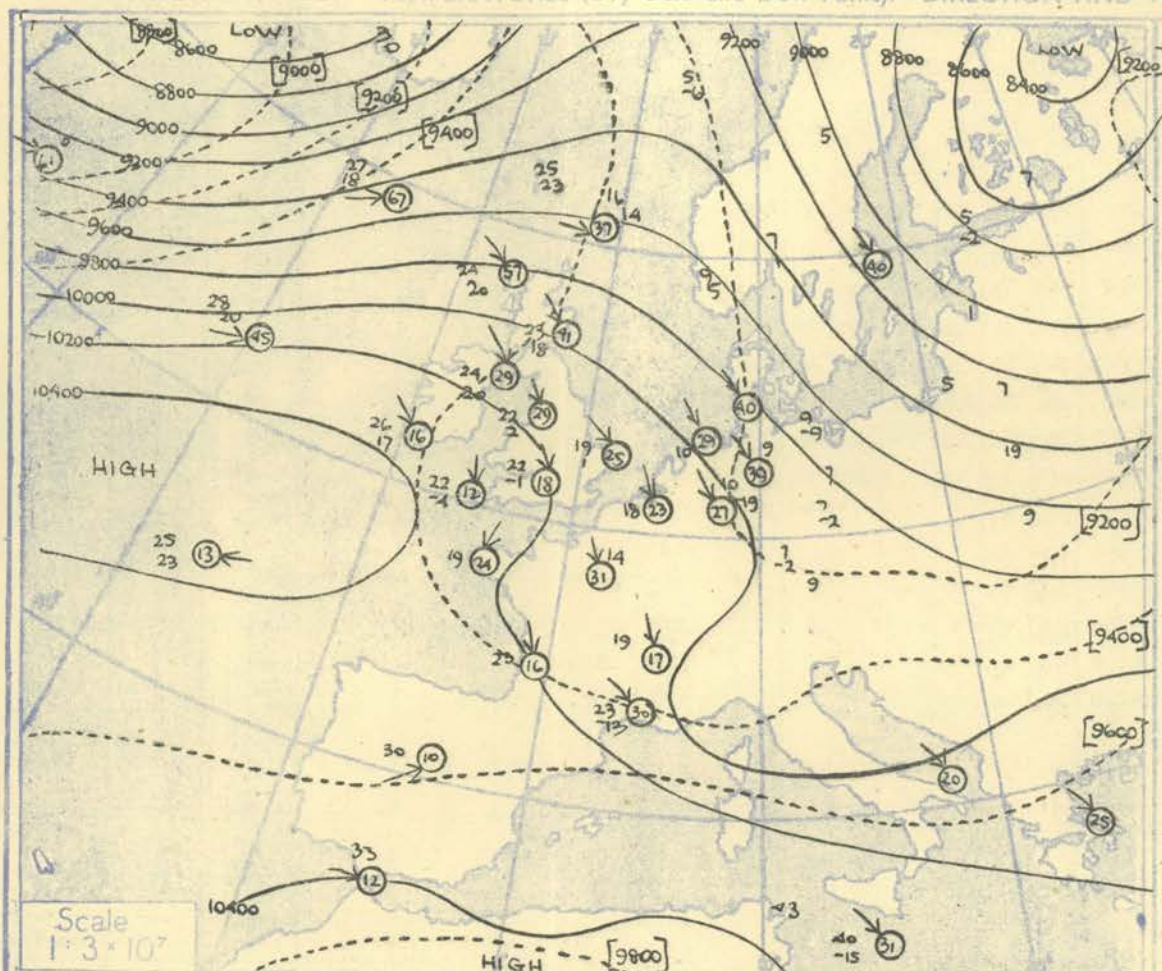
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[illegible]



HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Points). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb. levels at about 15 h G.M.T.

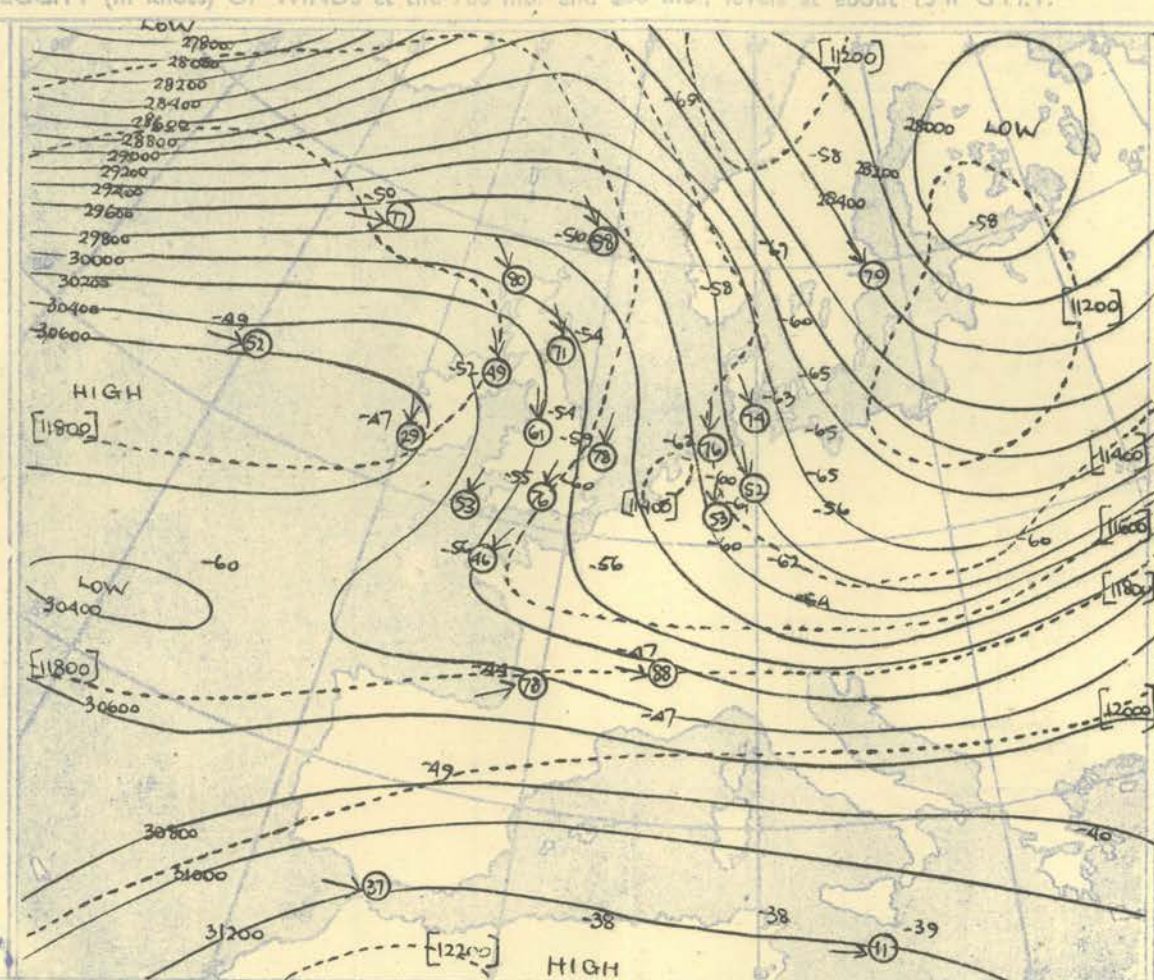


Scale  
 $1:3 \times 10^7$

The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

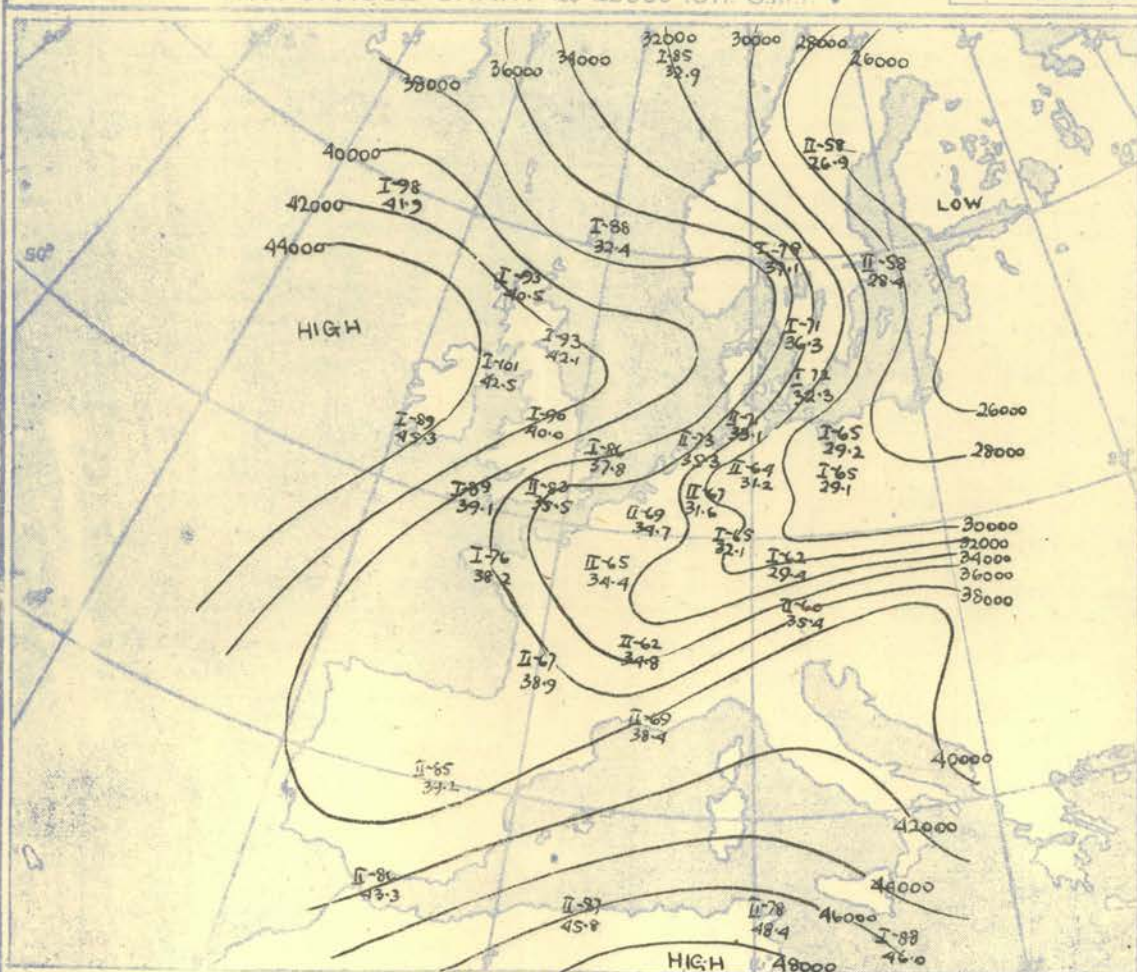
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52^\circ$  N.

100 50 40 30 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h GMT.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

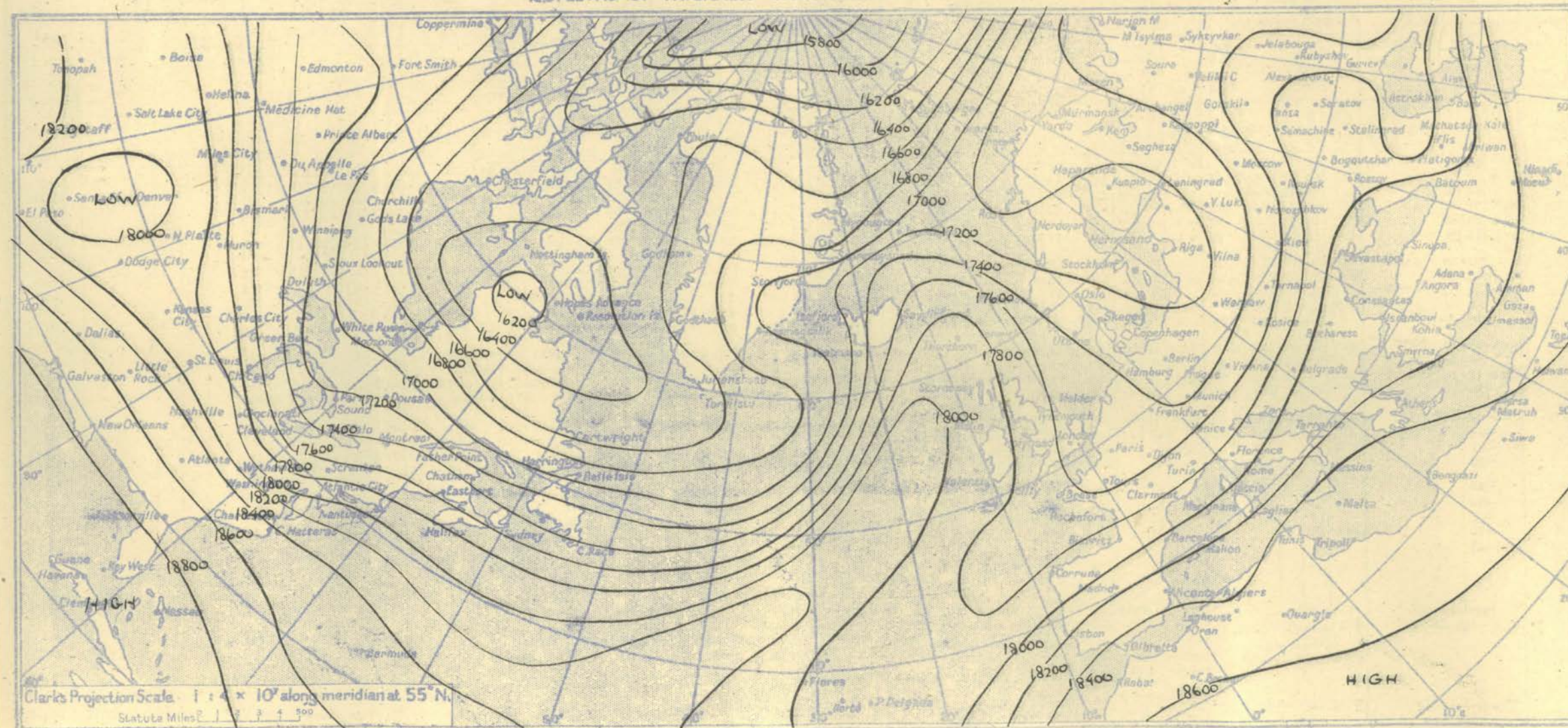
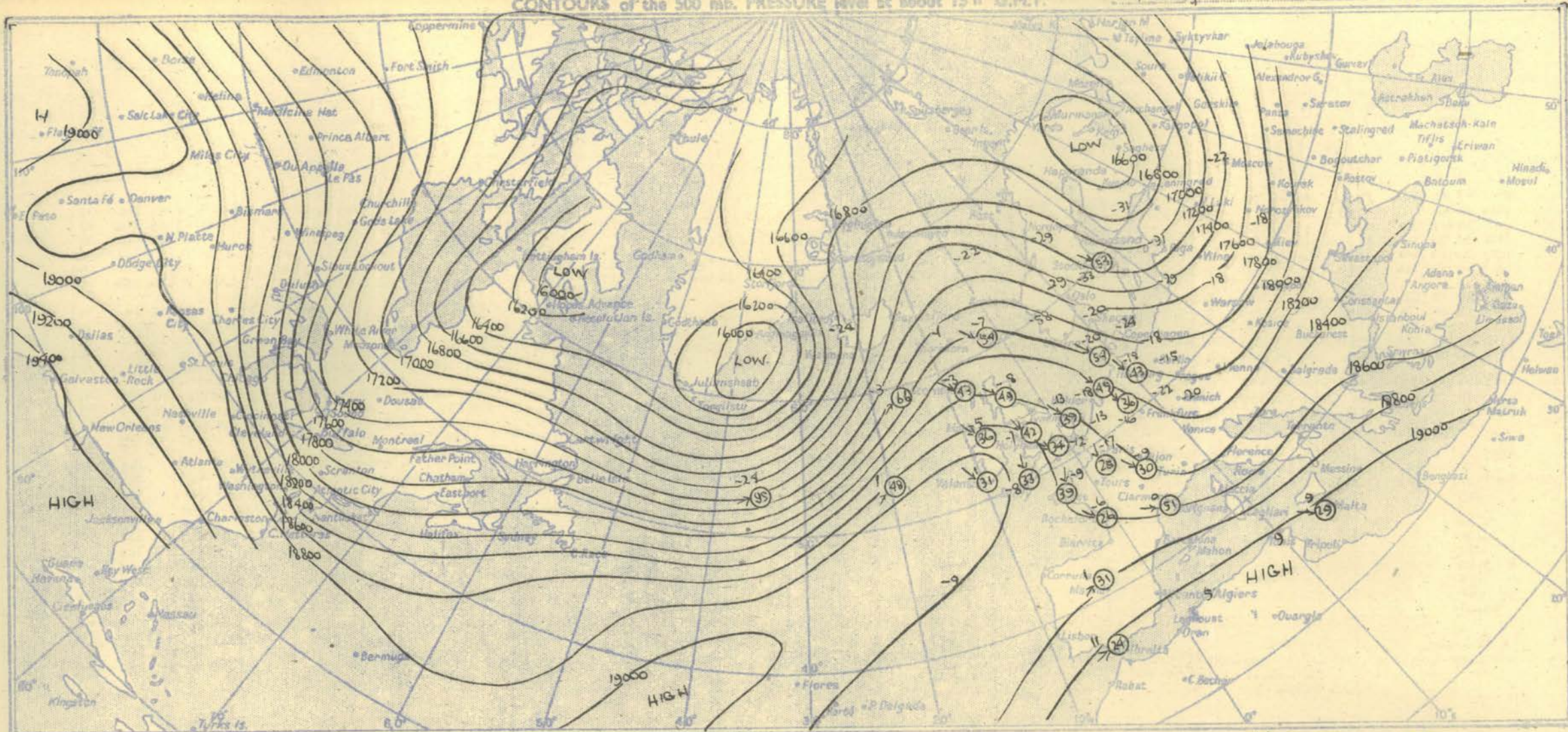
### NOTES ON THE AEROLOGICAL SITUATION.

Note the very rapid rate of cooling over the area south and east of Greenland. The upper air sounding made at 1500 GMT. in position  $61^\circ$  N  $34^\circ$  W. gives temperatures lower than any recorded in November between 1946 and 1950.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. JOHNSON, K.C.B., D.Sc., Director.







## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION										
Time M.S.L. Surf Pressure	Pressure mb	ISL		G.M.T.		ISL		G.M.T.		ISL		G.M.T.		ISL		G.M.T.		ISL		G.M.T.		ISL		G.M.T.		ISL		G.M.T.		ISL		G.M.T.		Time M.S.L. Surf Pressure														
		1011.0	mb	1014.3	mb	1021.9	mb	1028.0	mb	1031.5	mb	1031.3	mb	1034.5	mb	1036.3	mb	1033.6	mb																													
		1000.5	mb	1012.7	mb	1021.0	mb	1028.4	mb	1029.5	mb	1031.8	mb	1034.5	mb	1036.3	mb	1033.6	mb																													
889	mb	765	mb	782	mb	791	mb	920	mb	940	mb	924	mb	925.5	mb	780	mb																															
Pressure mb	Height ft./100	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Pressure mb																
Surf	02.7	43	42	230	25	0.4	49	47	180	18	0.2	44	36	280	19	0.2	44	36	280	10	0.4	44	34	260	10	0.4	44	34	280	04	02.9	49	40	300	08	00.3	51	42	230	11								
1000	02.9	43	42		03.9	50	49		05.8	42	35	24		33	07.5	42	38	220	30	08.4	43	31	259	21	08.2	38	33	302	17	09.1	44	32	295	09	09.7	44	36	286	10	09.0	47	39	236	17				
950	31.0	34	33	243	36	32.4	42	42	264	45	53.8	37	31	261	44	40	34	251	35	08.4	36	26	262	24	33	24	319	21	35	26	296	11	36	30	288	10	37	34	286	11								
900	45.9	29	28	248	39	47.6	39	38	279	49	48.8	34	25	283	46	50.6	34	31	283	32	51.1	26	09	286	21	50.8	28	14	316	20	50.0	29	19	284	14	37.6	28	24	290	08	37.2	33	27	248	21			
850	61.8	24	23	256	42	63.8	36	28	287	51	64.8	33	26	297	43	66.7	32	30	309	30	66.8	26	03	287	28	66.5	23	05	317	21	67.5	23	09	290	10	68.2	23	03	340	10	68.3	33	26	286	17			
800																																																
750	20	19	270	41	30	25	290	54	29	22	316	41	30	27	310	27	24	300	29	20	00	318	22	24	03	329	13	27	04	360	09	27	04	360	09	27	04	360	09	27	04	360	09					
700	96.1	16	14	278	37	98.8	24	20	292	57	99.7	23	18	319	41	101.6	24	20	313	29	101.2	19	02	310	29	100.7	19	01	315	25	101.9	22	01	336	18	102.8	22	04	349	12	103.2	26	17	299	16			
650	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37	11	08	276	37
600	134.9	08	05	292	49	38.3	12	07	292	46	38.8	09	04	310	41	40.8	10	05	317	36	40.2	09	01	323	30	39.3	05	13	328	27	40.9	08	47	335	30	42.0	10	25	328	21	42.6	15	05	305	14			
550	01.02	29.4	50	05	03	284	42	01.04	308	45	02.03	314	32	02.08	324	36	03.16	331	36	04.21	337	32	05.32	343	34	06.48	349	34	08.04	355	36	09.20	361	38	10.36	367	40	11.52	373	42	12.68	379	44					
500	079.6	07	11	299	54	83.5	03	06	290	43	83.6	08	14	311	49	85.6	05	10	309	36	85.0	07	18	335	41	83.7	13	25	343	39	85.5	12	26	344	34	86.8	08	26	355	33	88.1	01	10	304	31			
450	17	22	301	60	13	16	299	45	19	24	319	48	14	22	305	32	16	29	338	43	16	29	338	43	16	29	338	43	16	29	338	43	16	29	338	43	16	29	338	43	16	29	338	43				
400	232.2	29	34	301	63	236.5	25	29	310	49	236.1	28	35	331	51	238.6	25	35	315	36	238.8	27	40	346	48	235.6	34	43	355	46	237.5	33	47	008	47	239.4	28	43	015	39	241.9	20	33	321	25			
350	42	310	75	39	44	311	47	40	49	337	62	36	48	334	42	39	52	358	49	41	55	352	54	44	363	59	46	365	63	48	367	65	50	369	67	52	371	69	54	373	71							
300	296.2	56	313	91	300.9	54	312	80	300.3	54	338	71	303.4	52	332	49	302.2	54	365	61	298.9	59	011	78	300.9	60	022	76	303.6	55	037	53	307.3	47	349	29	300	30	312	28	316	26						
250	72	315	108	70	315	73	70	338	77	69	337	52	70	361	59	386.2	85	00.5	60	382.5	85	347	48	383.9	80	332	34	387.2	88	010	39	392.8	87	358	35	300	30	312	28	316	26							
200	379.7	87		85	312	73	384.3	85	338	66	387.6	87	315	59	386.2	85	00.5	60	382.5	85	347	48	383.9	80	332	34	387.2	88	010	39	392.8	87	358	35	300	30	312	28	316	26								
170	87			89	331	51	92	323	49	99	306	48	79	325	35	79	325	35	79	325	35	79	325	35	79	325	35	79	325	35	79	325	35	79	325	35	79	325	35	79	325	35						
150	80			82	311	08	82	315	47	93	298	41	76	313	36	75	316	37	74	316	37	74	316	37	74	316	37	74	316	37	74	316	37	74	316	37	74	316	37	74	316	37						
130	81			79	240	06	78	312	37	84	294	33	77	306	34	77	306	34	77	306	34	77	306	34	77	306	34	77	306	34	77	306	34	77	306	34	77	306	34	77	306	34						
110	83			80	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34	82	301	34						
100	518.3	85		84			82																																									
90	84			80			82																																									
80	84			80			82																																									
70	(89.6)			79			80																																									
60				79			80																																									
Inversion		640 mb 10° - 623 mb 12°		Inversion		1013 mb 49° - 1000 mb 50°		Isothermal		670 - 658 mb 20°		Inversion		882 mb 30° - 859 mb 35°		Isothermal		512 - 493 mb - 05°		Inversion		829 mb 28° - 801 mb 26°		Isothermal		801 - 772 mb 26°		685 - 650° 17°		Inversion		809 mb 22° - 750 mb 24°		Inversion		850 mb 23° - 820 mb 29°		Isothermal		703 - 688 mb 22°		Inversion		875 mb 31° - 850 mb 36°				
Tropopause		I 205 mb - 88° 37.400		I 180 mb - 93° 40.500		I 166 mb - 93° 42.100		I 165 mb - 101° 42.500		I 186 mb - 90° 40.000		I 205 mb - 86° 37.800		I 230 mb - 83° 35.500		I 197 mb - 89° 39.100		I 146 mb - 89° 45.300		Tropopause																												
STATION		LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				STATION														
Time M.S.L. Surf Pressure	Pressure mb	21L		G.M.T.		21L		G.M.T.		21L		G.M.T.		21L		G.M.T.		21L		G.M.T.		21L		G.M.T.		21L		G.M.T.		21L		G.M.T.		Time M.S.L. Surf Pressure														
		1006.7	mb	1013.7	mb	1020.6	mb	1027.6	mb	1031.3	mb	1031.3	mb	1032.7	mb	1034.1	mb	1036.0	mb	1037.7	mb	1039.0	mb	1040.8	mb	1042.7	mb	1044.0	mb	1045.3	mb																	
		996.8	mb	1012.0	mb	1019.7	mb	1027.1	mb	1031.2	mb	1031.1	mb	1032.7	mb	1034.1	mb	1036.0	mb	1037.7	mb	1039.0	mb	1040.8	mb	1042.7	mb	1044.0	mb	1045.3	mb																	
773	mb	750	mb	741	mb	760	mb	770	mb	790	mb	800	mb	810	mb	820	mb	830	mb	840	mb	850	mb	860	mb	870	mb	880	mb	890	mb	900	mb															
Pressure mb	Height ft./100	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Temp. °F.	Dir.	Vel. knots	Pressure mb																
Surf	02.7	49	49		00.4	52	48	230	30	00.2	47	42	290	25	02.5	47	43	210	15	00.6	44	37	260	10	04.4	34	31	240	06	02.9	41	36	200	04														
1000	01.8				03.7	50	47	242	41	03.5	45	41	251	39	07.4	46	42	240	30	08.4	44	35	261	22	08.5	39	34	273	25	09.3	45	37	237	15														
950	45	45			45	43	244	48	43	33	271	50	43	38	255	34	39	32	218	31	36	28	274	25	35	31	289	19	39	33	264	12																
900	30.3	41	41		32.1	40	38	248	63	33.9	44	36	277	53	35.8	42	35	265	36	36.5	35	20	288	31	36																							

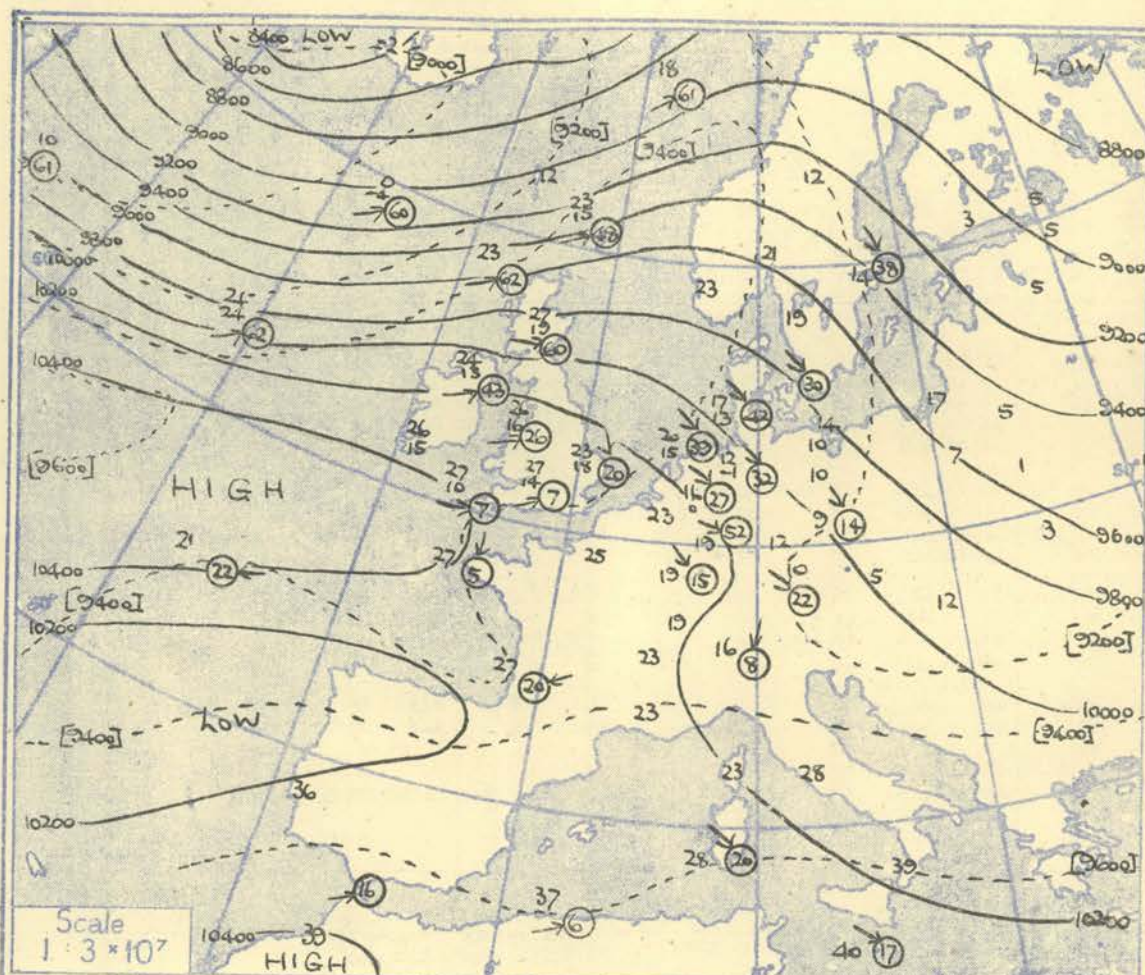


### RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA				STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Pressure Time M.S.L. Surf Freezing	03h		G.M.T.		03h		G.M.T.		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		Time M.S.L. Surf Freezing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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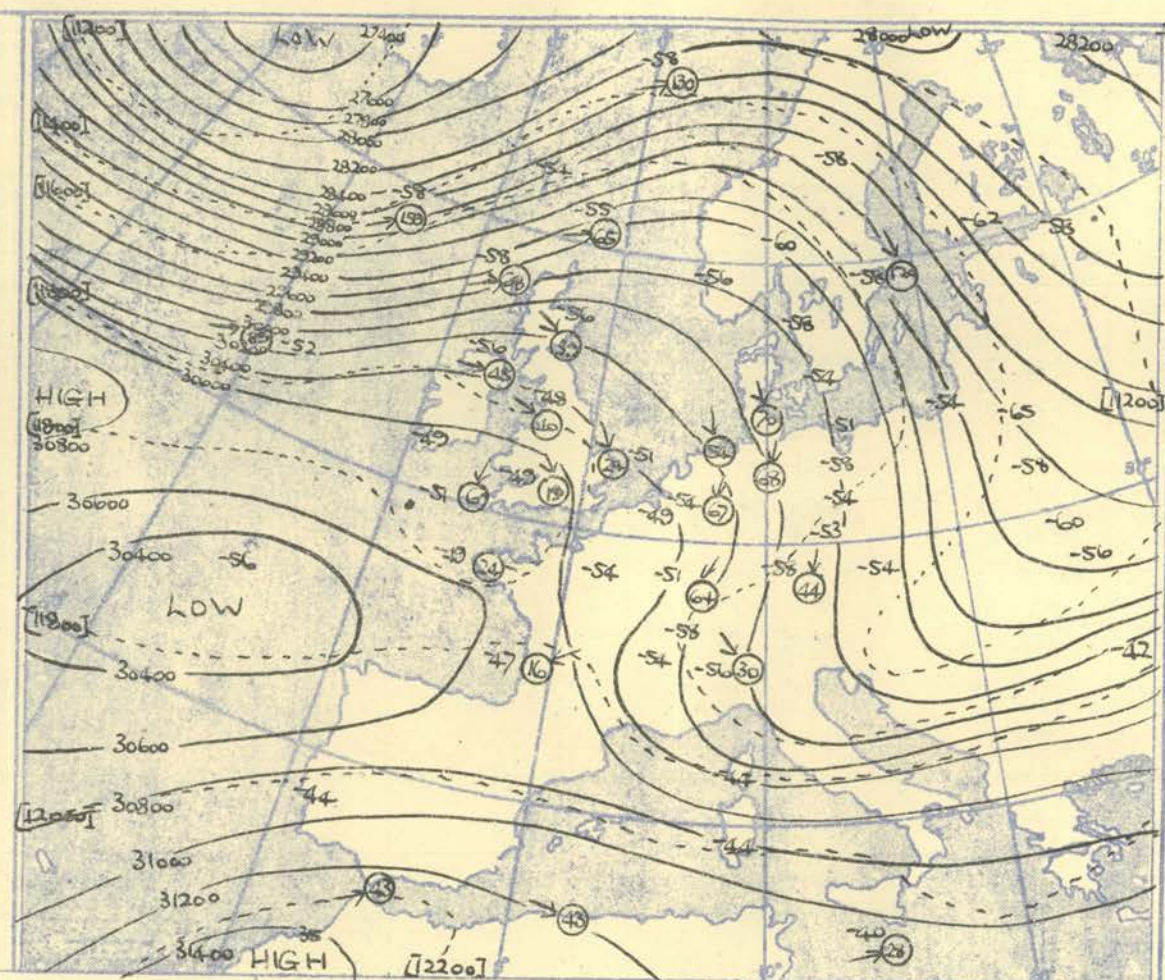
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb and 300 mb, levels at about 03h G.M.T.



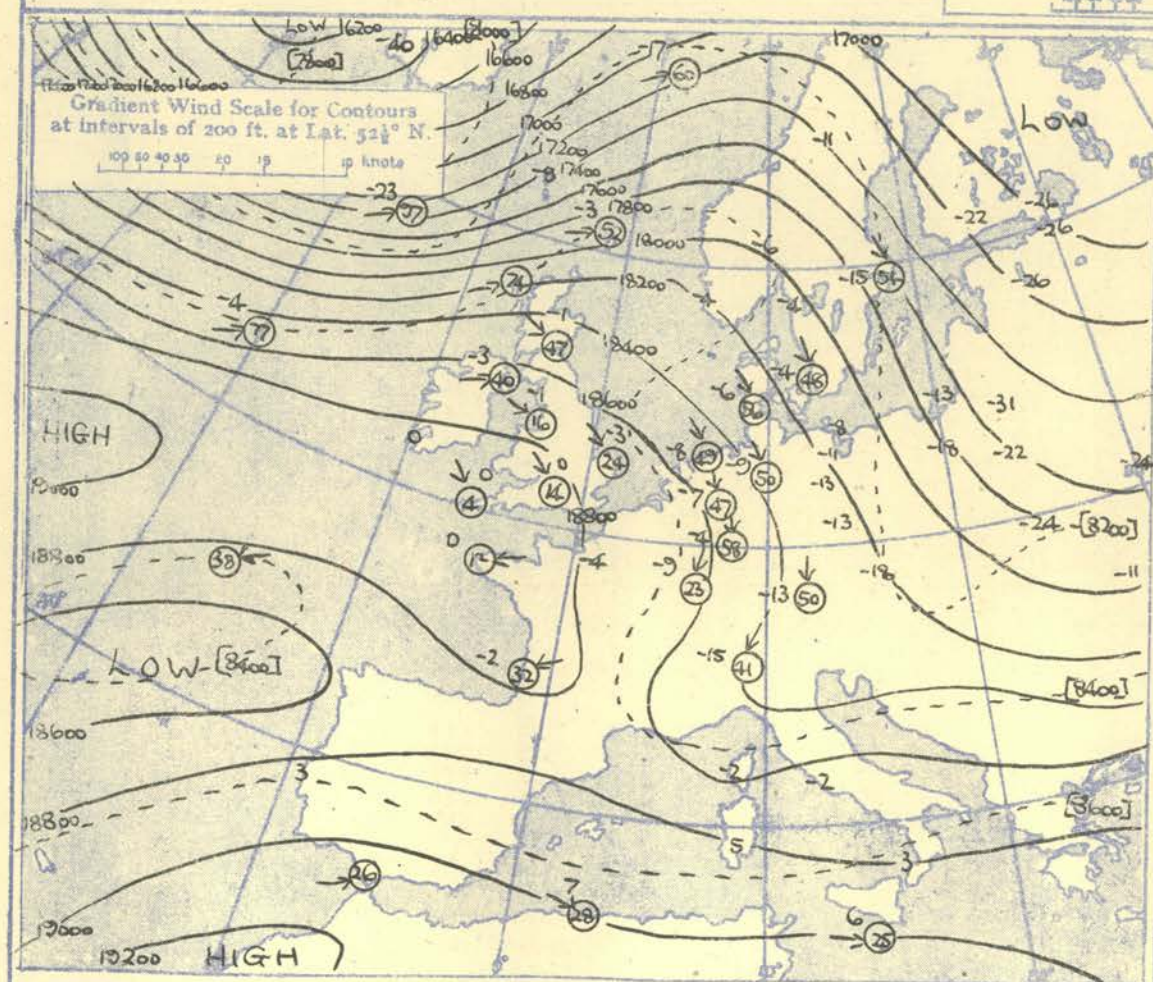
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

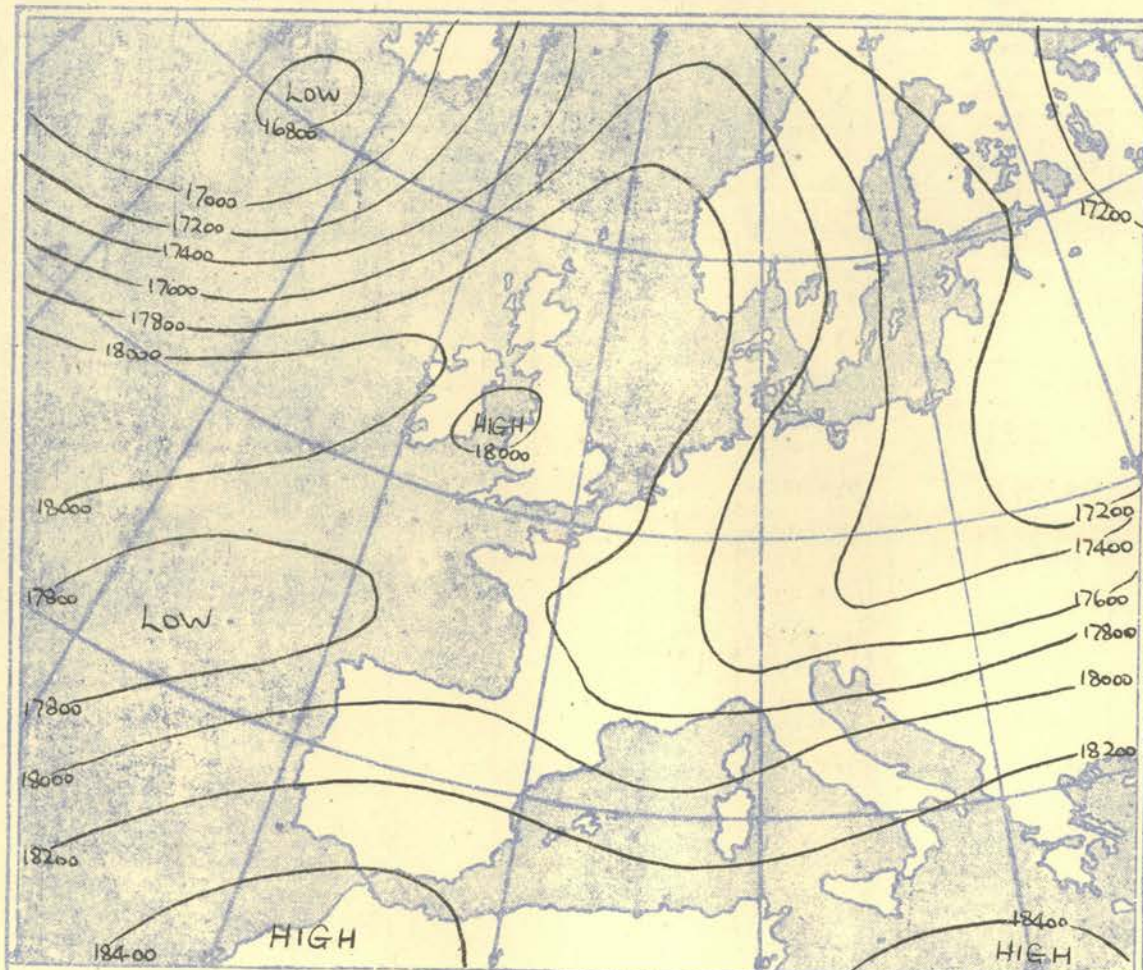
100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 800-1000mb.



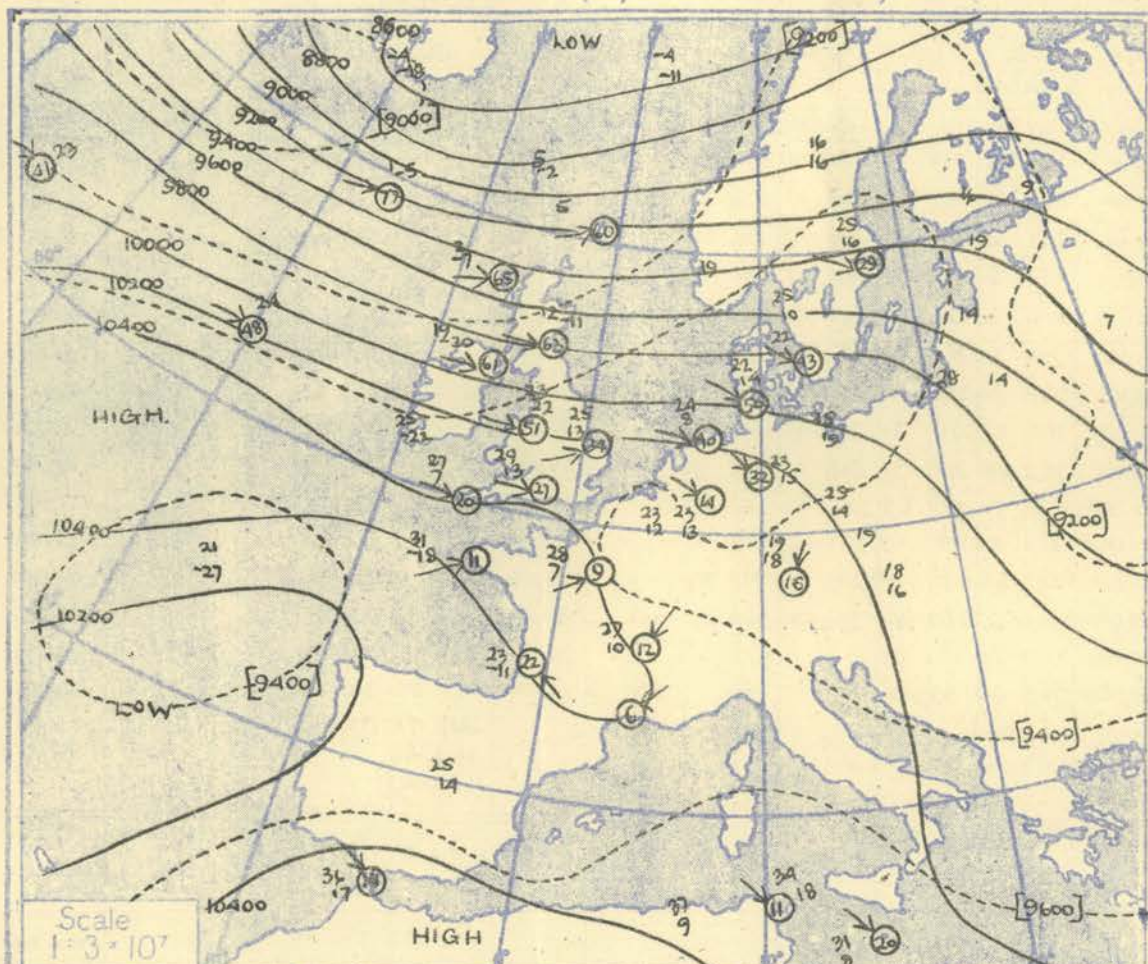
AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY																				DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	Weather Recorder				Weather Recorder				Weather Recorder				Weather Recorder				Weather Watcher				Weather Watcher				Weather Watcher				Weather Watcher				Ship						
Lat/Long	52.3N 19.9W				52.3N 19.8W				52.3N 20.3W				52.3N 20.1W				59.1N 15.6W				59.2N 15.8W				59.2N 15.8W								Lat/Long						
Pressure { Time M.S.L. Surf Freezing	03h G.M.T. 1025 mb 1025 mb 790 mb				09h G.M.T. 1031 mb 1031 mb 810 mb				15h G.M.T. 1034 mb 1034 mb 910 and 760mb				21h G.M.T. 1036 mb 1036 mb 900 mb				03h G.M.T. 1002 mb 1002 mb 930 mb				09h G.M.T. 1001 mb 1001 mb 960 mb				15h G.M.T. 1003 mb 1003 mb 930 mb				21h G.M.T. 1006 mb 1006 mb 940 mb				G.M.T. mb mb mb						
Pressure mb	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Height ft./100	Temp. °F	Dew °F	Wind Dir. Vel. knots	Pressure mb										
Surf		49	48	290 20		48	38	380 21		48	34	280 20		49	37	260 20		43	33	250 42		42	30	260 50		39	35	270 50		42	38	265 40	Surf						
1000	67				82	49	37	290 20	90	43	35	278 21	93	45	35	278 18	6				2	42	30	260 50	7	39	35	270 50	16			1000							
950		43	43	285 22		37	32	290 23		39	33	278 21		38	28	278 18		35	28	255 44		31	20	258 67		34	27	269 67	34	34	272 52	950							
900	35.1	38	38	274 36	2	31	28	290 27	37.1	31	29	278 22	37.3	31	21	277 21	28.4				25	13	259 62	28.4	28	22	268 68	29.5	27	23	279 52	900							
850		37	37	261 48		28	16	286 33		34	20	270 37		34	15	275 25		19	16	258 34		19	06	260 64		22	12	269 69	20	15	283 59	850							
800	66.3	33	33	246 51	66.9	30	-02	293 59	68.1	34	15	268 42	68.2	31	81	279 30	58.5	13	10	253 54	58.0	13	-02	261 63	58.6	15	09	268 70	59.8	14	10	286 66	800						
750		28	28	244 57		24	-10	283 43		31	08	272 45		29	-16	279 36		04	04	250 53		06	-13	260 60		09	04	266 75	09	-04	265 72	750							
700	101.2	24	24	243 62	101.4	20	-19	286 45	103.0	24	02	274 48	103.0	26	-20	286 39	91.7	00	-04	247 60	91.2	-01	-16	260 57	92.0	01	-09	256 77	93.1	02	-18	283 71	700						
650		20	19	251 70		17	-20	277 50		18	-02	276 51		18	-22	287 37		-04	-20	244 74		-09	-24	260 54		-07	-13	252 75		-06	-22	283 71	650						
600	140.7	13	12	248 70	140.6	12	-23	268 51	142.3	12	-07	277 53	142.3	11	-16	286 44	129.1	-06	-37	244 83	128.2	-17	-31	260 60	129.2	-15	-17	263 73	130.4	-12	-24	281 75	600						
550		05	03	249 72		04	-30	265 52		04	-14	277 58		02	-24	283 45		-13	-47	244 90		-26	-39	259 69		-25	-29	267 75		-17	-33	278 88	550						
500	185.8	-04	-06	249 77	185.7	-05	-37	268 54	187.4	-04	-20	274 63	187.2	-06	-28	297 47	172.4	-23	-53	246 97	170.3	-37	-48	261 60	171.5	-32	-38	273 81	173.4	-24	-40	278 98	500						
450		-14	-17	244 81		-16	-47	270 63		-12	-26	266 61		-12	-35	294 39		-27	-58	240 117		-47		265 58		-39	-49	269 100		-32	-46	279 109	450						
400	238.8	-25	-31	245 84	238.5	-28		272 65	240.6	-21	-34	261 64	240.4	-22	-65	298 44	223.8	-34	-57	237 198	219.6	-50		257 70	221.6	-45		265 114	224.4	-39	-50	281 127	400						
350		-38	-44	245 82				274 71		-31	-41	271 69		-36	-59	319 56		-42		237 151		-53		259 80		-52		264 129		-49		282 135	350						
300	303.4	-52		249 89	302.5	-57		268 77	306.2	-47		271 57	305.2	-54		309 59	257.6	-58		229 159	282.1	-53		252 79	284.1	-59		271 120	287.3	-61		287 137	300						
250		-70		246 98		-64		256 90		-65				-70		314 59		-67		229 148		-52		240 89		-61				-68		288 109	250						
200	387.5	-84		243 92	385.9	-88		266 97				389.0	-89			335 65	372.7	-70		223 100	370.5	-58		244 89	369.9	-62		372.3		-68		288 88	200						
170						-84		256 8					-98			314 73		-70		223 77		-62		240 84		-65				-70		295 85	170						
150						-83		260 66					-92			306 54		-72				-66		236 74		-67				-72			150						
130						-85		263 57					-84			314 46		-76				-71		230 75		-70				-75			130						
110						-84		253 48					-88			294 48		-79				-71		225 74		-73				-74			110						
100					534.1	-83		250 54				526.7	-85			282 46	515.2	-78				515.2	-75						515.6		-78		100						
90						-84		247 54					-86			290 40		-81				-78								-79			90						
80						-82		258 38					-86			286 47		-82													-80			80					
70						-81		265 48					-84			288 44																	70						
60												1067																					60						
Isothermal 890-850mb 37°				Inversion 705mb 19°-678mb 22°				Isothermal 875-834mb 28°				Inversion 890mb 29°-840mb 35°				Inversion 875mb 28°-845mb 35°				Isothermal 495-475mb -8°				Inversion 668mb -5°-644mb -3°															
				818-800 .. 30°																																			
Tropopause				N.R.				II 185mb-94° 40,100				N.R.				I 160mb-101° 43,700				I 250mb-67° 32,600				I 345mb-54° 25,200				I 269mb-64° 50,700				II 286mb-65° 29,600				Tropopause			



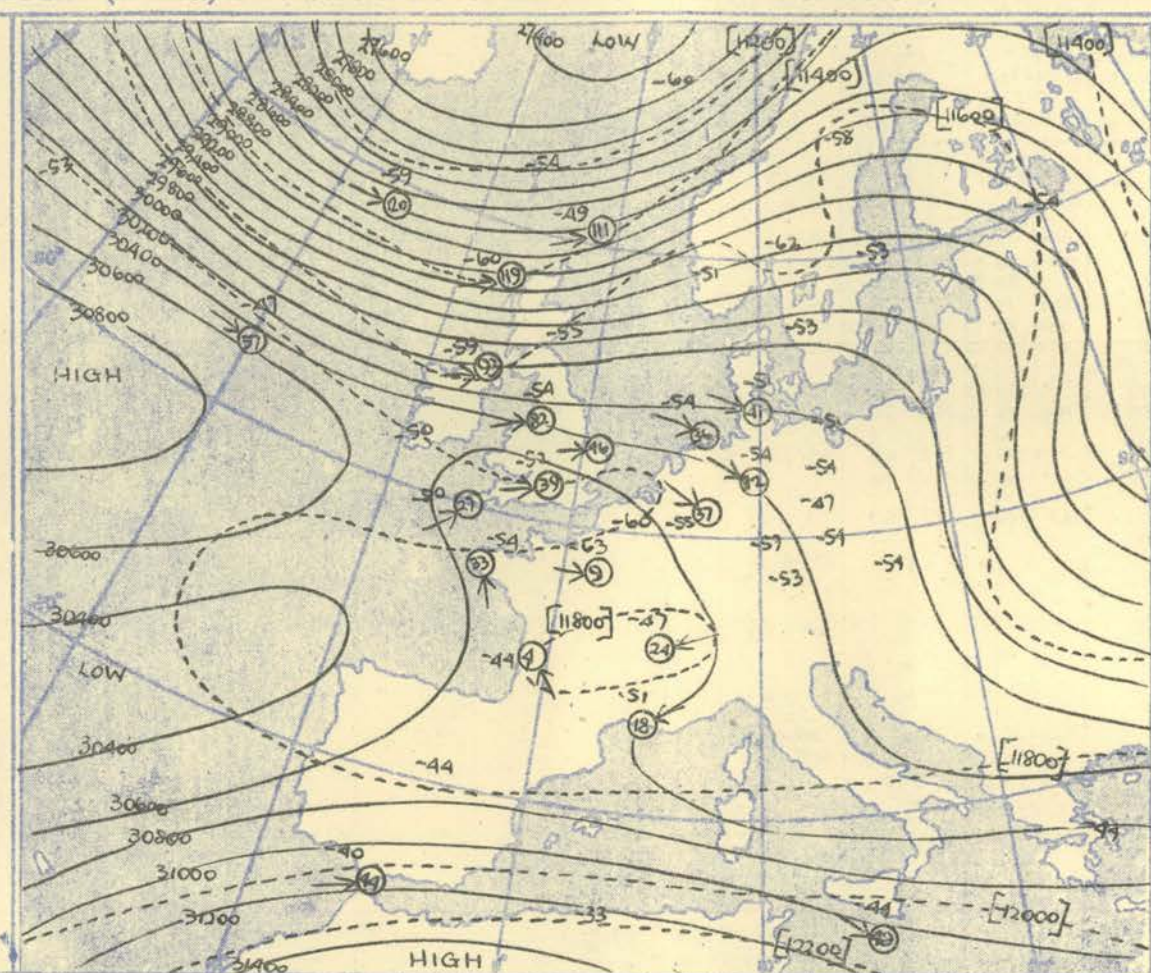
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000—700 mb.

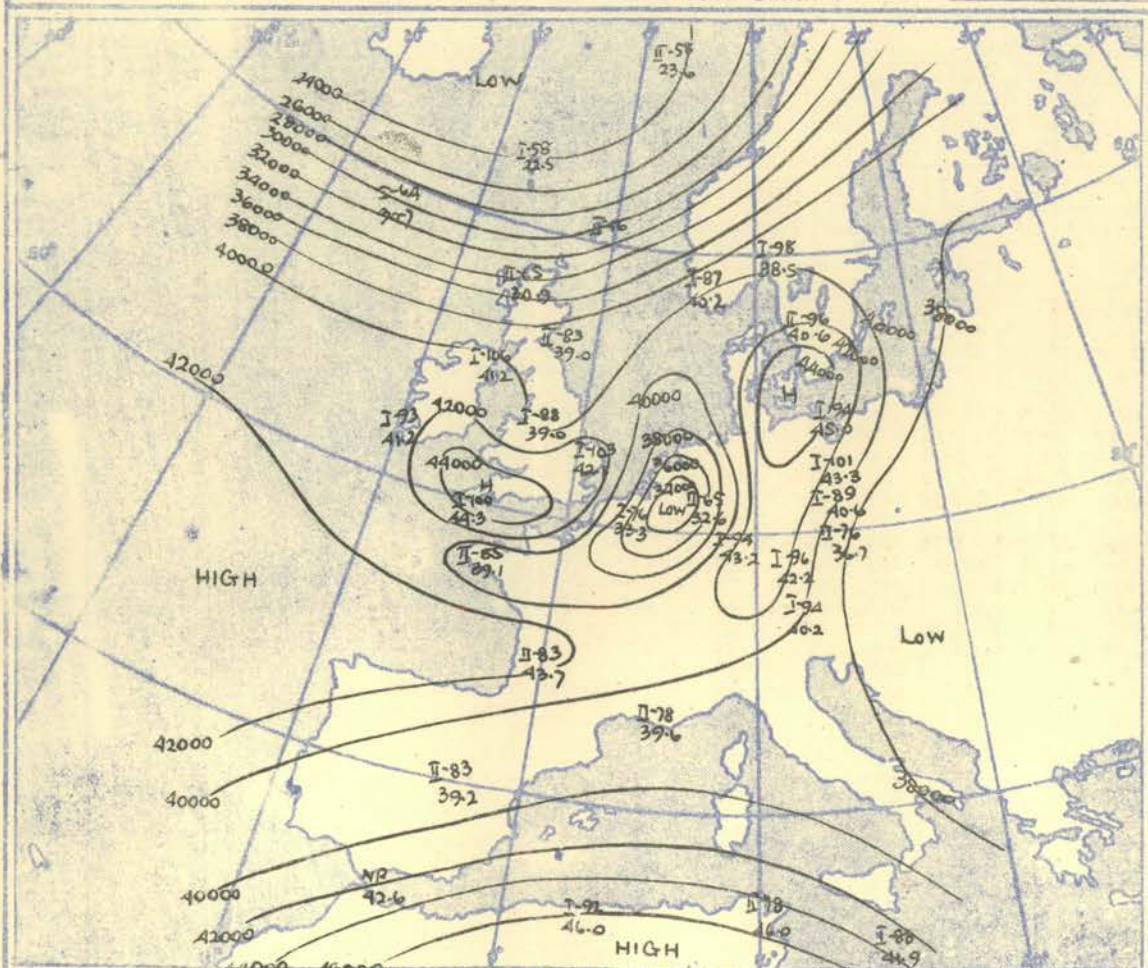
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500—300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

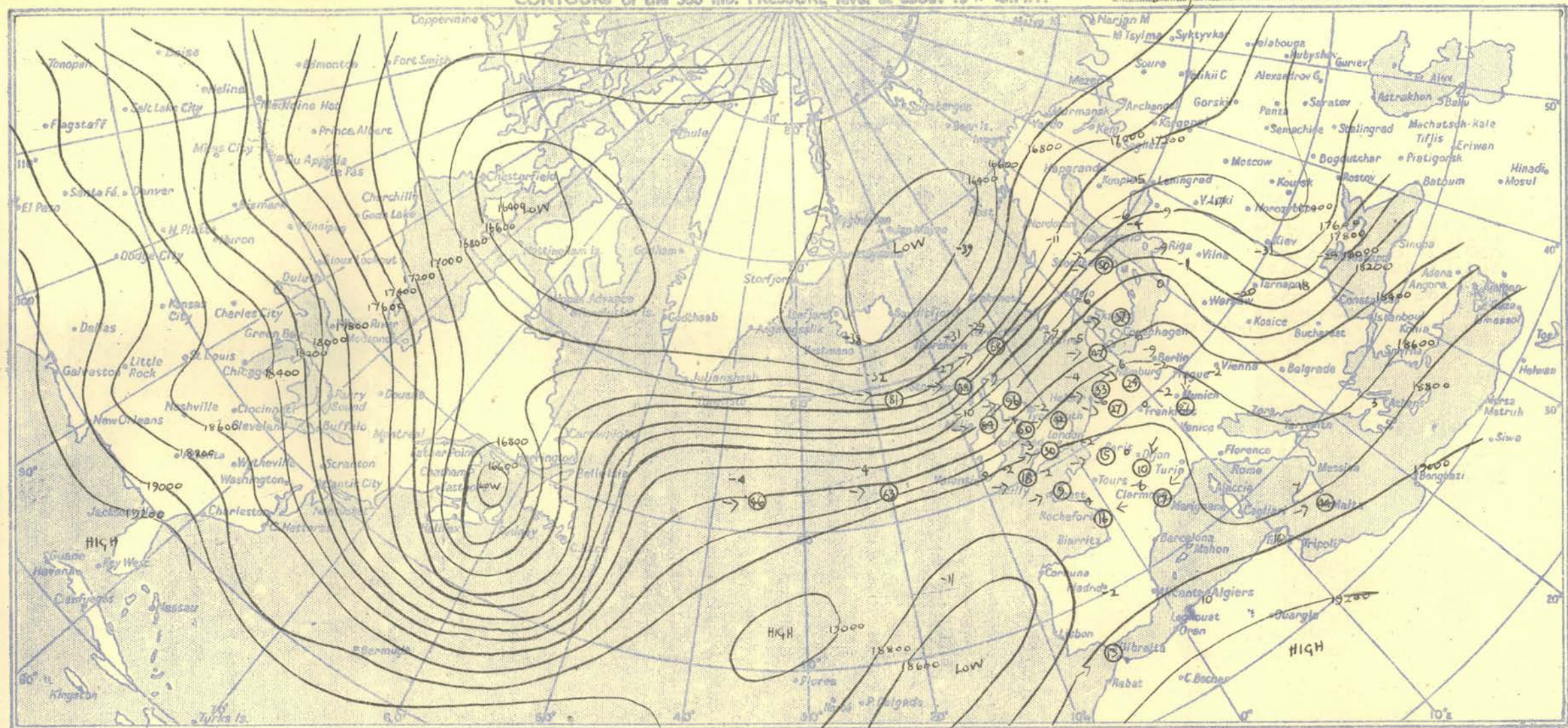
### NOTES ON THE AEROLOGICAL SITUATION.

Comparison of the 0300 and 1500 G.M.T. 1000-500 mb. thickness patterns shows the steady occlusion of the frontal system affecting the British Isles and Scandinavia.

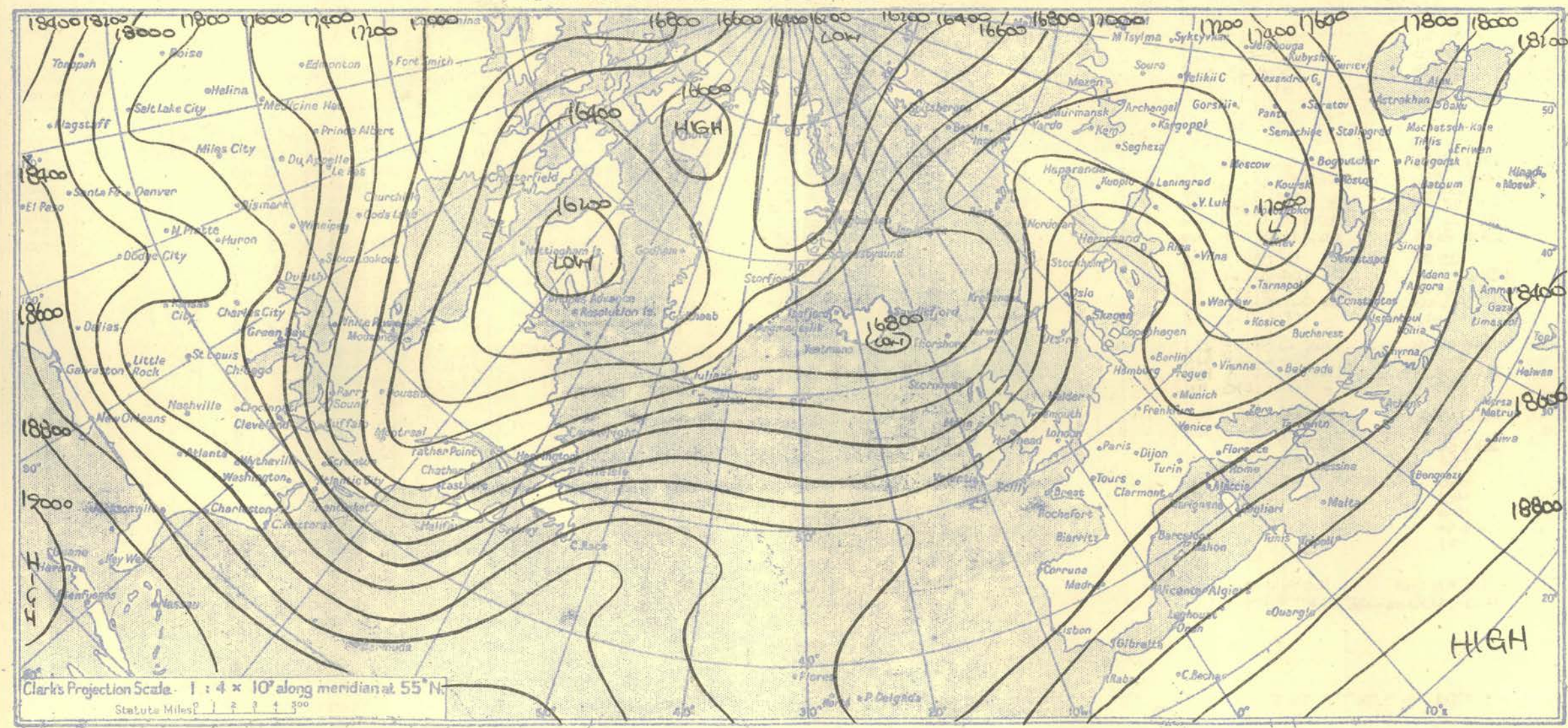
RATES of SUBSCRIPTION: Single copy 2d. or post free 3d. One calendar month 7/- One quarter 18/- One year 70/-  
For special arrangements for supply to schools and colleges, see Form 2452.

Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. Johnson, K.C.B., D.Sc., Director.





ISOPLETHS OF THICKNESS 500-1000 mb. at about 15 h G.M.T. Tuesday 27<sup>th</sup> November 1951.





## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

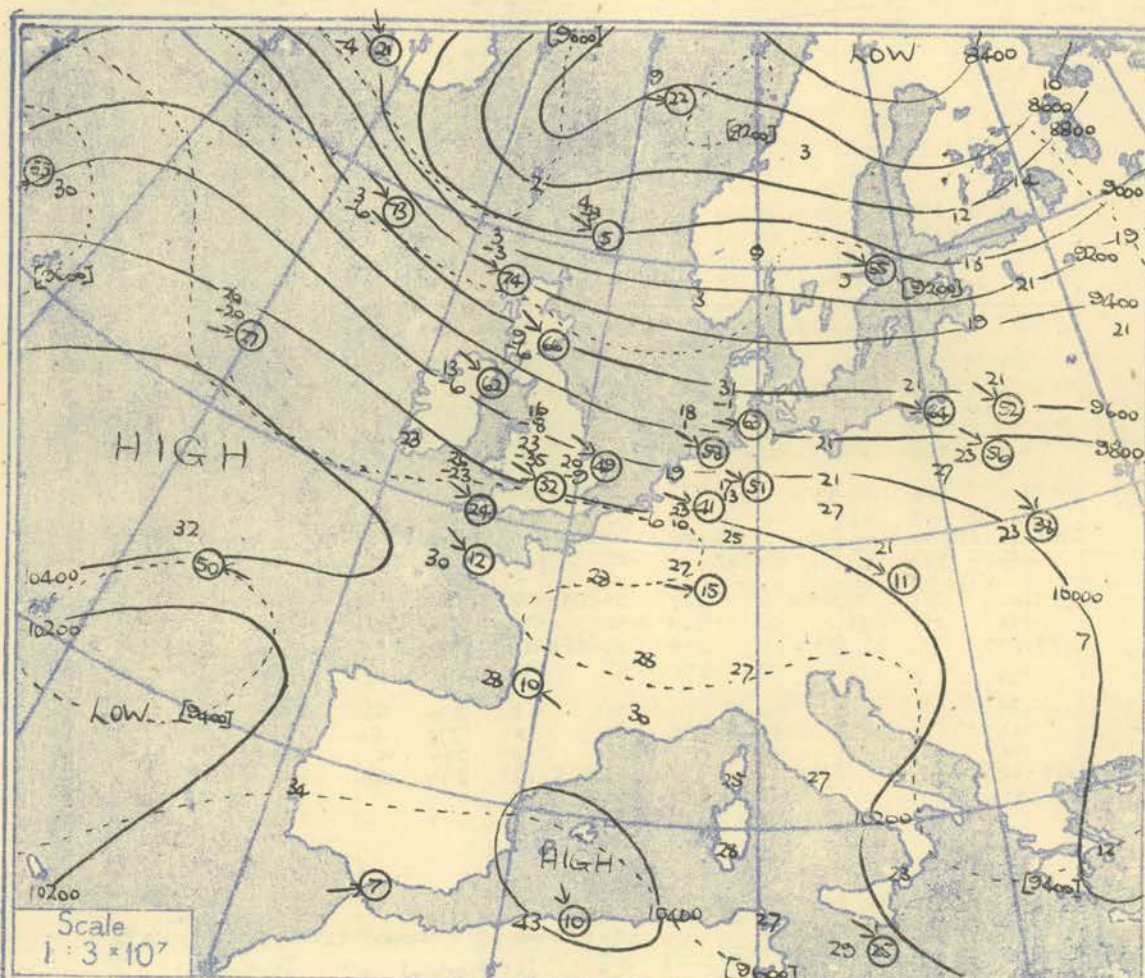
[illegible]





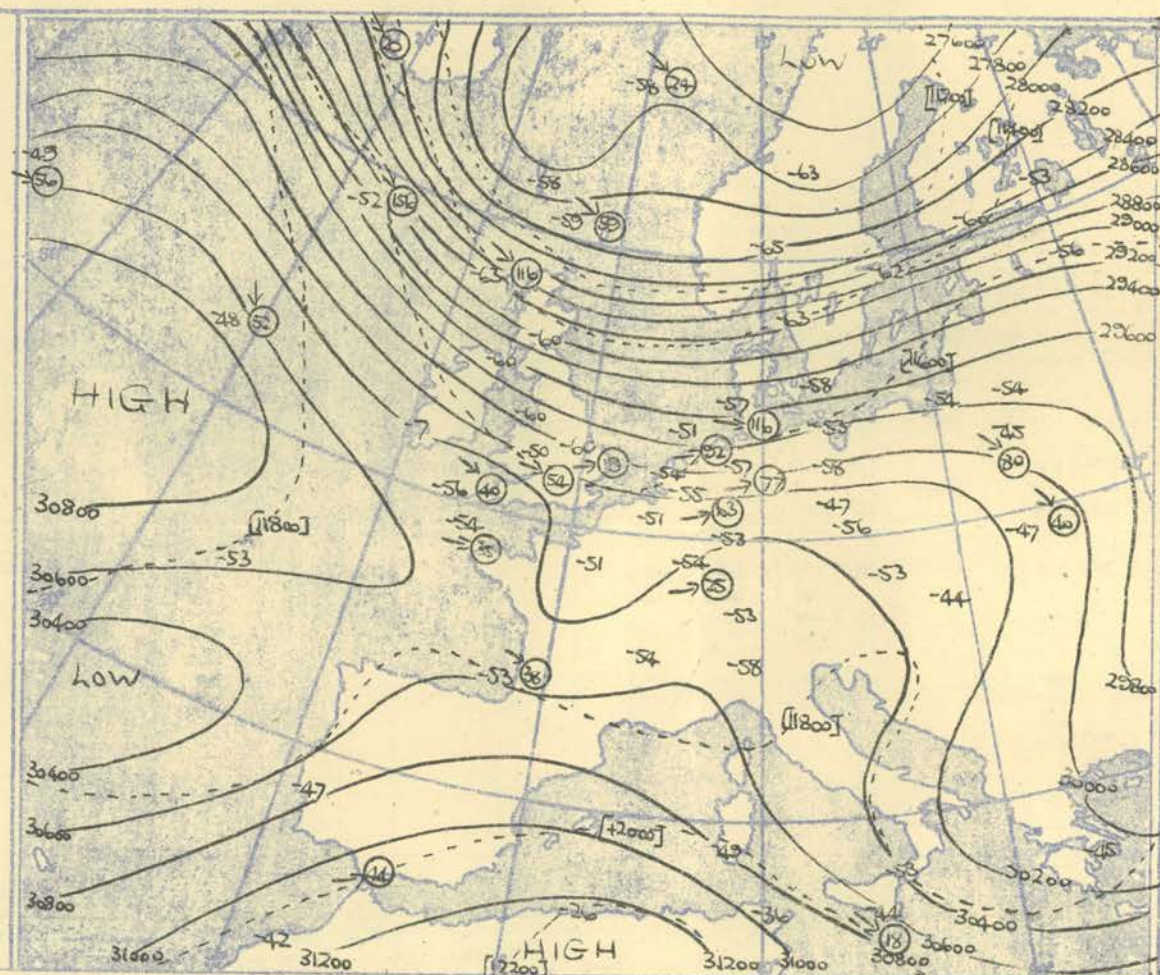


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.

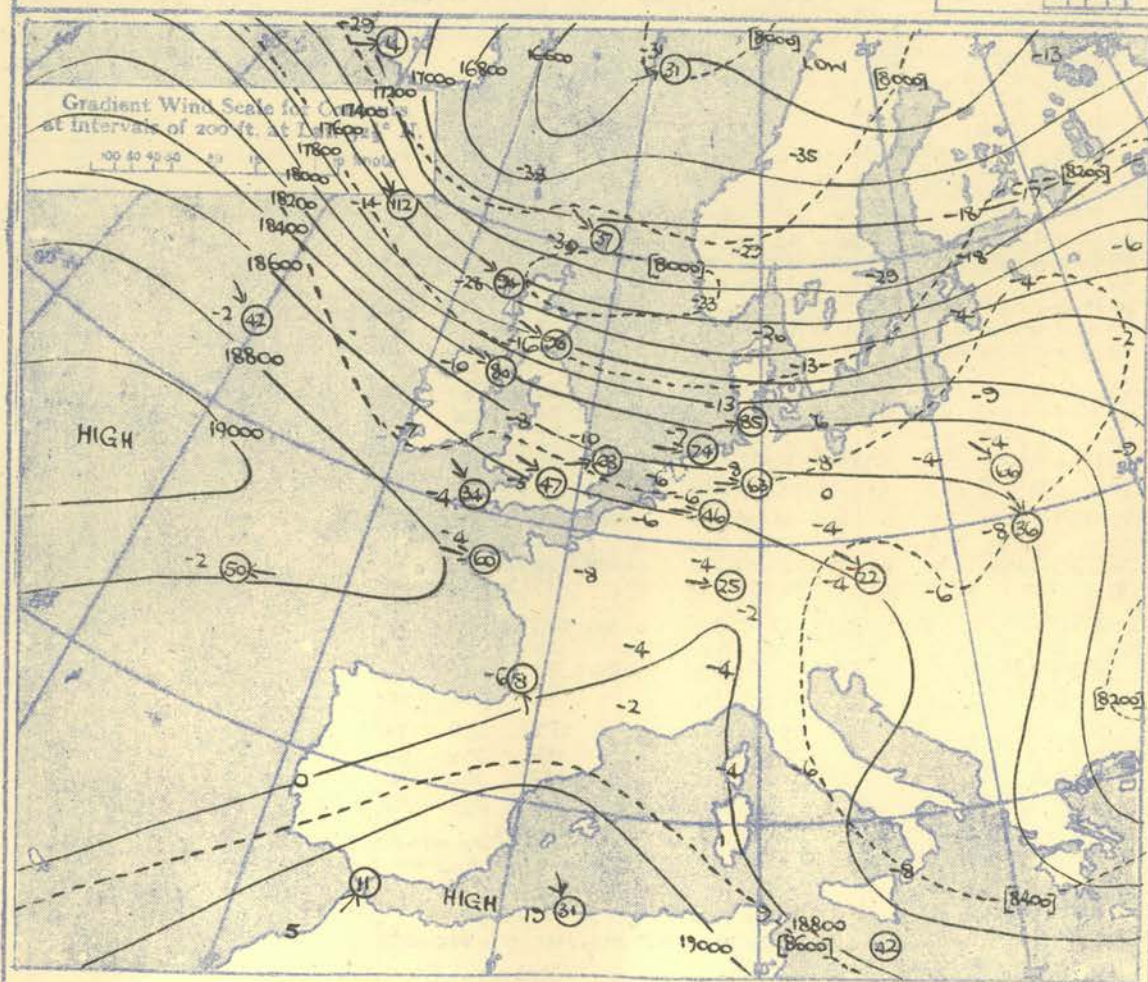


Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

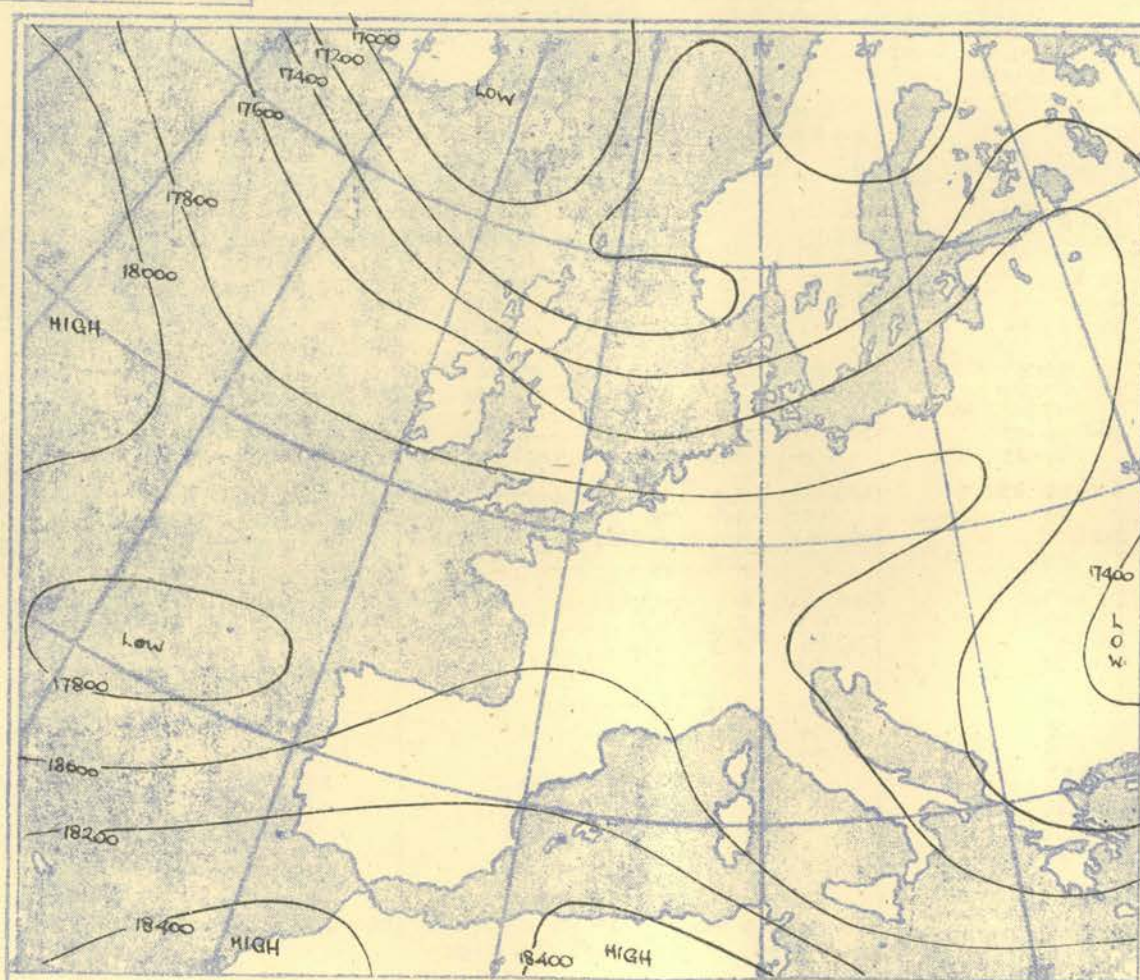
100 80 60 40 20 10 0 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.





AIRCRAFT OBSERVATIONS OF TEMPERATURE AND HUMIDITY															DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.												
Time	48.2N	47.7N	52.12N												Place	Lewards	Lerwick	Lerwick	Aldegrave	Stornoway	Stornoway						Place
M.S.L.	13L	14L	1420L												Time	03L	03L	09L	15L	15L	21L						Time
Surf	1032 mb	1030 mb	1025.0 mb												Type	PILAR	RADAR		PILAR								Type
Freezing	750 mb	740 mb	875 mb												Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
Pressure	Height	Height	Height												Surf.												Surf.
mb	ft./100	ft./100	ft./100												1,000												1,000
Surf	52.48	52.47	00.4												2,000												2,000
1000	07.5	09.1	48.46												3,000												3,000
950	43.43	41.71	06.7												4,000												4,000
900	47	40	35.0	35											5,000												5,000
850	45.45	43	50.0	30											6,000												6,000
800	39	38	65.7	24											8,000												8,000
750	32	38													10,000												10,000
700	104.7	104.0	100.2	22	08										14,000												14,000
650	21	20													18,000												18,000
600	12	13	139.3	07											24,000												24,000
550	05	07													30,000												30,000
500	194.0-01	188.8-03	184.1-07												40,000												40,000
450															50,000												50,000
400																											
350																											
300																											
250																											
200																											
170																											

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## NEPHOSCOPE OBSERVATIONS

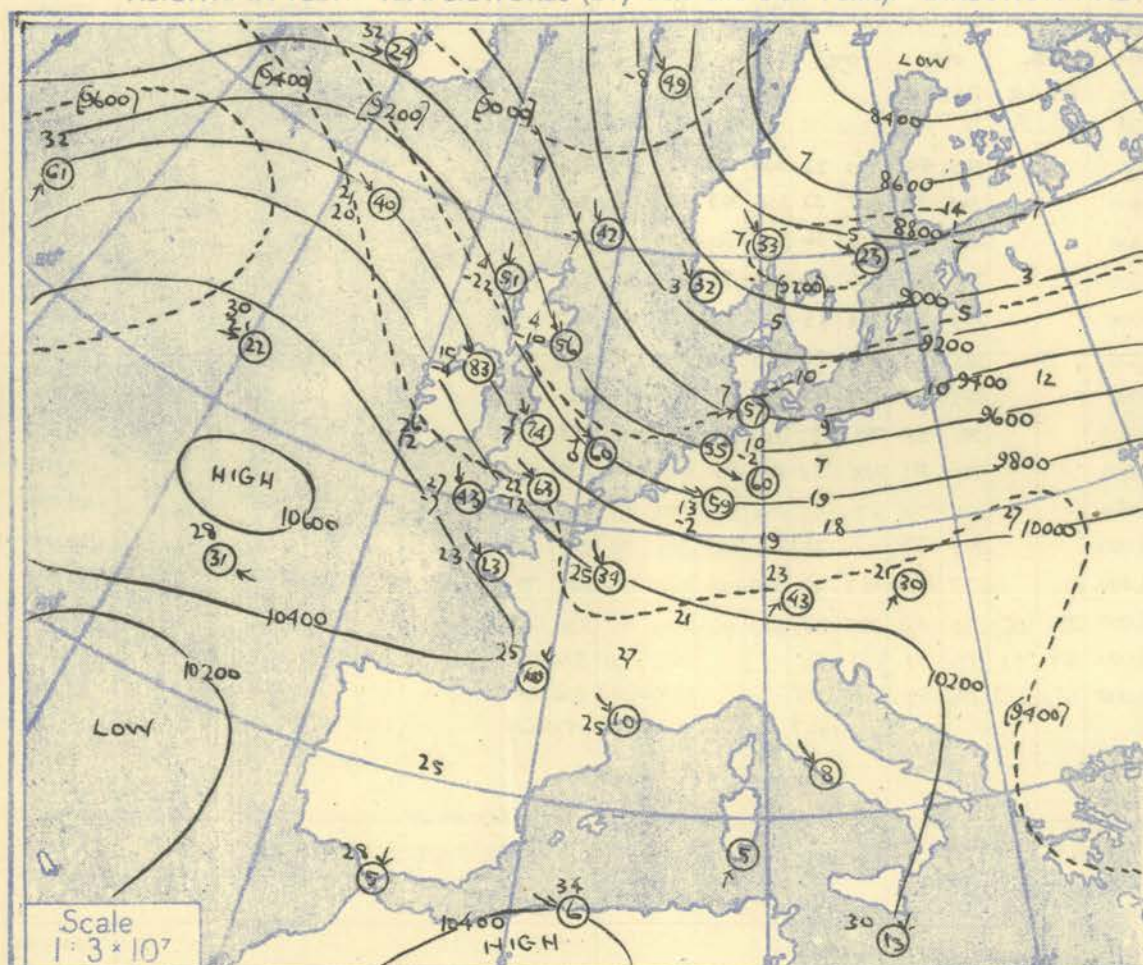
Place															Place
Time Type	NONE	REPORTED													Time Type
Dir. Vel.															Dir. Vel.

## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.) FROM SHIPS.

Ship	Weather Watcher	Weather Watcher	Weather Watcher	Weather Watcher	Weather Recorder	Weather Recorder	Weather Recorder	Weather Recorder	Ship
Lat/Long	59°1'N 16°3'W	59°1'N 16°7'W	59°2'N 16°7'W	59°2'N 16°7'W	52°3'N 20°0'W	52°3'N 19°8'W	52°2'N 19°8'W	52°2'N 19°8'W	Lat/Long
Time	03h	09h	15h	21h	03h	09h	15h	21h	Time
M.S.L.	1011.0	1019.0	1024	1017	1036	1035.0	1036	1037	M.S.L.
Surf	1011.0	1019.0	1024	1017	1036	1035.0	1036	1037	Surf
Freezing	720	950	940	720	920	750	715	690	Freezing
Pressure	Height	Height	Height	Height	Height	Height	Height	Height	Pressure
mb	ft./100	ft./100	ft./100	ft./100	ft./100	ft./100	ft./100	ft./100	mb
Surf	31	34	34	34	34	34	34	34	Surf
1000	41	43	43	43	43	43	43	43	1000
950	36	39	39	39	39	39	39	39	950
900	29	32	32	32	32	32	32	32	900
850	22	25	25	25	25	25	25	25	850
800	15	18	18	18	18	18	18	18	800
750	09	12	12	12	12	12	12	12	750
700	03	06	06	06	06	06	06	06	700
650	01	04	04	04	04	04	04	04	650
600	00	03	03	03	03	03	03	03	600
550	00	03	03	03	03	03	03	03	550
500	00	03	03	03	03	03	03	03	500
450	00	03	03	03	03	03	03	03	450
400	00	03	03	03	03	03	03	03	400
350	00	03	03	03	03	03	03	03	350
300	00	03	03	03	03	03	03	03	300
250	00	03	03	03	03	03	03	03	250
200	00	03	03	03	03	03	03	03	200
170	00	03	03	03	03	03	03	03	170
150	00	03	03	03	03	03	03	03	150
130	00	03	03	03	03	03	03	03	130
110	00	03	03	03	03	03	03	03	110
100	00	03	03	03	03	03	03	03	100
90	00	03	03	03	03	03	03	03	90
80	00	03	03	03	03	03	03	03	80
70	00	03	03	03	03	03	03	03	70
60	00	03	03	03	03	03	03	03	60
Inversion	622 mb 02° - 667 mb 03°	808 mb 14° - 759 mb 17°	850 mb 23° - 782 mb 27°	854 mb 38° - 823 mb 40°	890 mb 29° - 850 mb 30°	809 - 778 mb 35°	888 mb 48° - 967 mb 50°	929 - 44° - 900 - 48°	Inversion
isothermal	459 - 441 mb -33°	585 - 573 mb 02°	655 - 650 mb 19°						isothermal
Tropopause	I 200 mb -83° 37,700'	I 166 mb -95° 41,900'	I 150 mb -96° 44,500'	N.R.	N.R.	I 143 mb -104° 46,200'	I 123 mb -112° 49,000'	I 139 mb -115° 46,600'	Tropopause



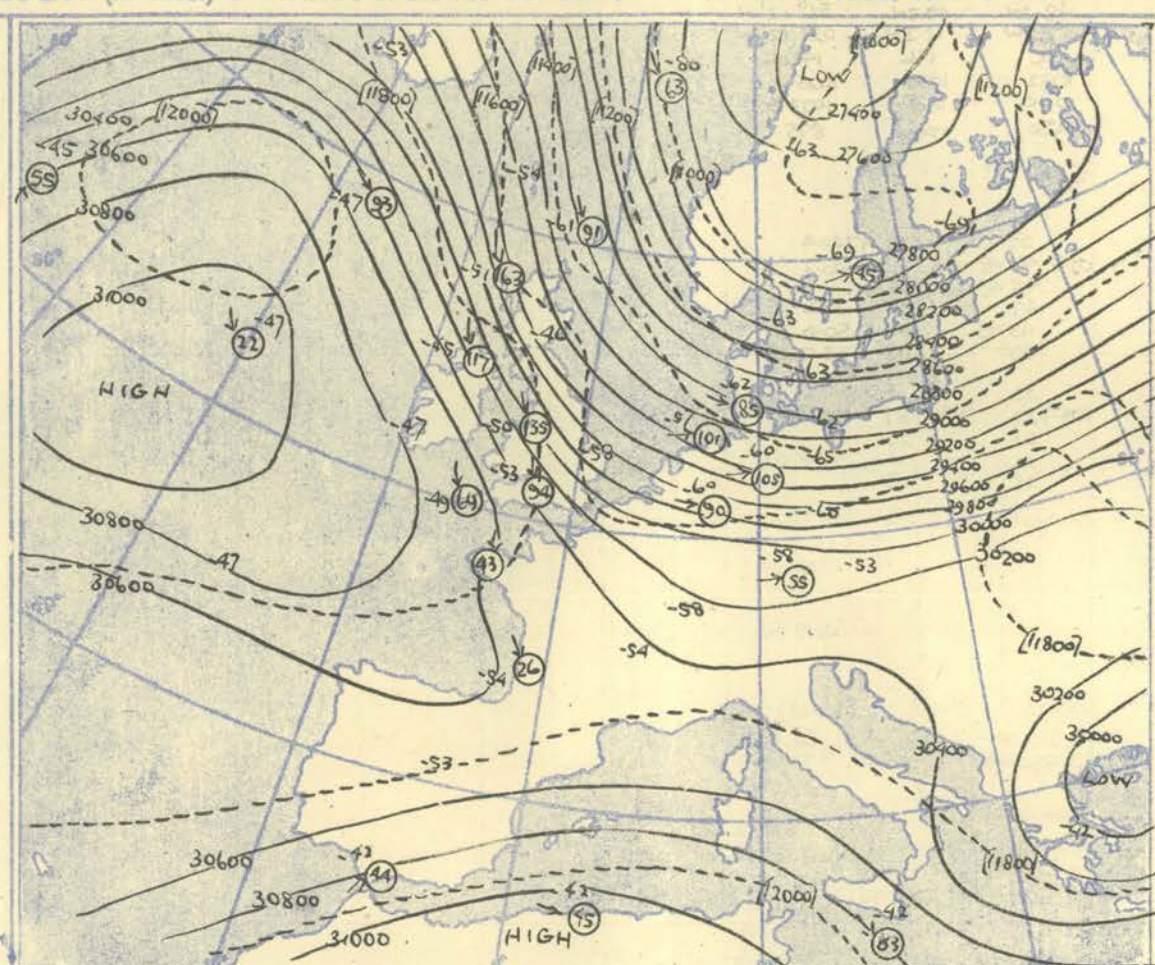
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

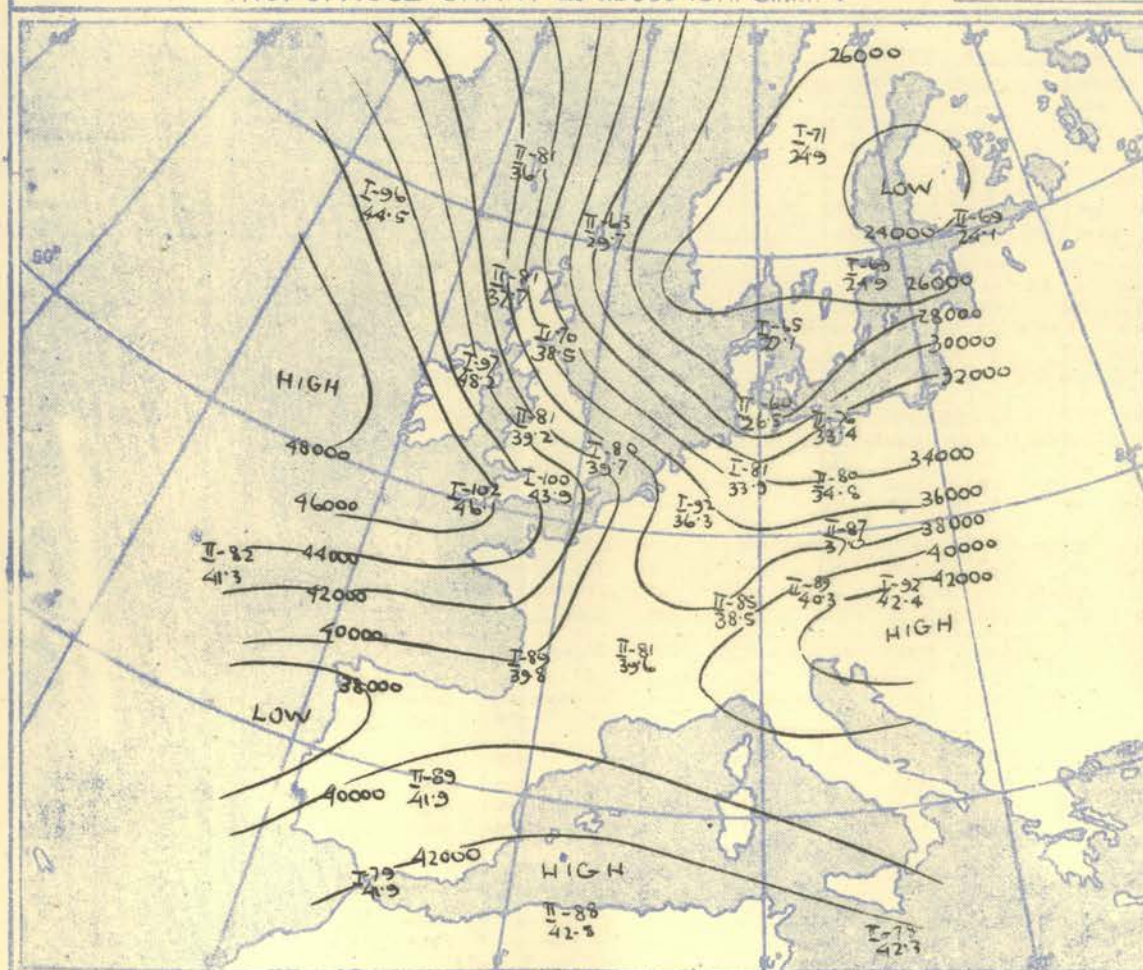
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

100 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

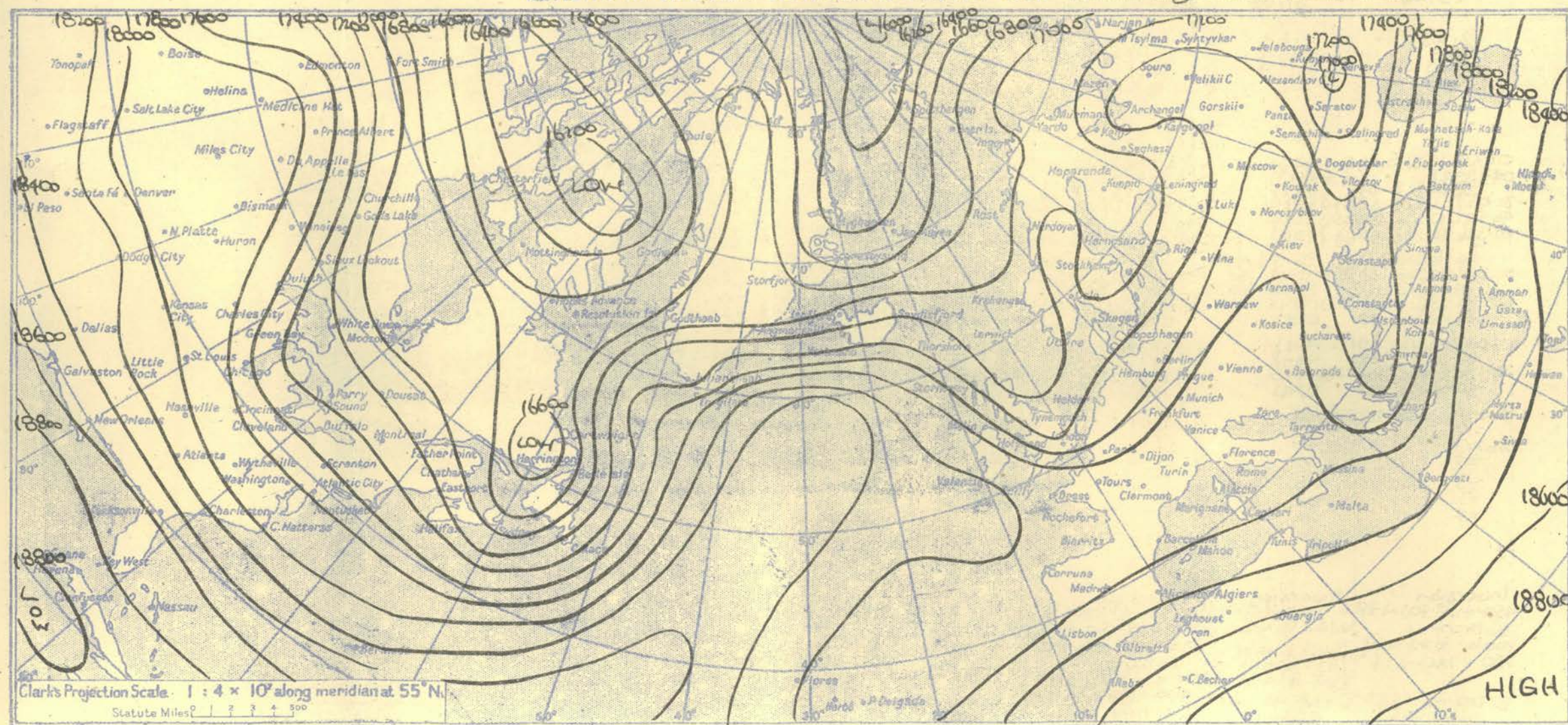
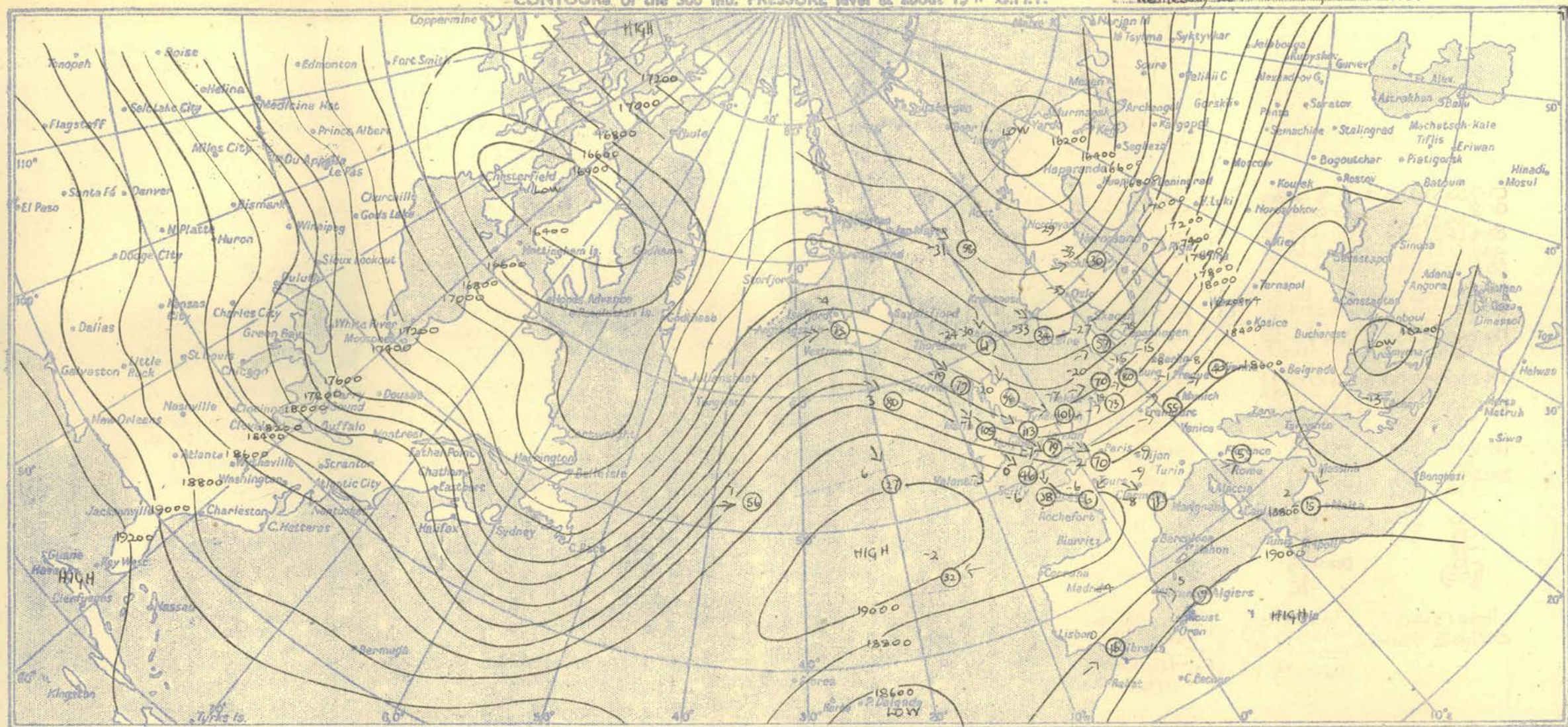
### NOTES ON THE AEROLOGICAL SITUATION.

Warm air advanced rapidly across the Atlantic whilst cold air was advected over Scandinavia. A very strong northwesterly thermal gradient formed over the British Isles.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
NELSON K. JOHNSON, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				Valentic				STATION
Time M.S.L. Surf Pressure	15 hrs				15 hrs				15 hrs				15 hrs				15 hrs				15 hrs				15 hrs				15 hrs				15 hrs				Time M.S.L. Surf Pressure
	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb	G.M.T.	mb	mb	mb					
1006.7	1019.1	1013.7	1025.7	1021.6	1016.7	1026.9	1023.8	1035.2	996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0					
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
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996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
996.5	993.5	993.5	993.5	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0	992.6	990.0				
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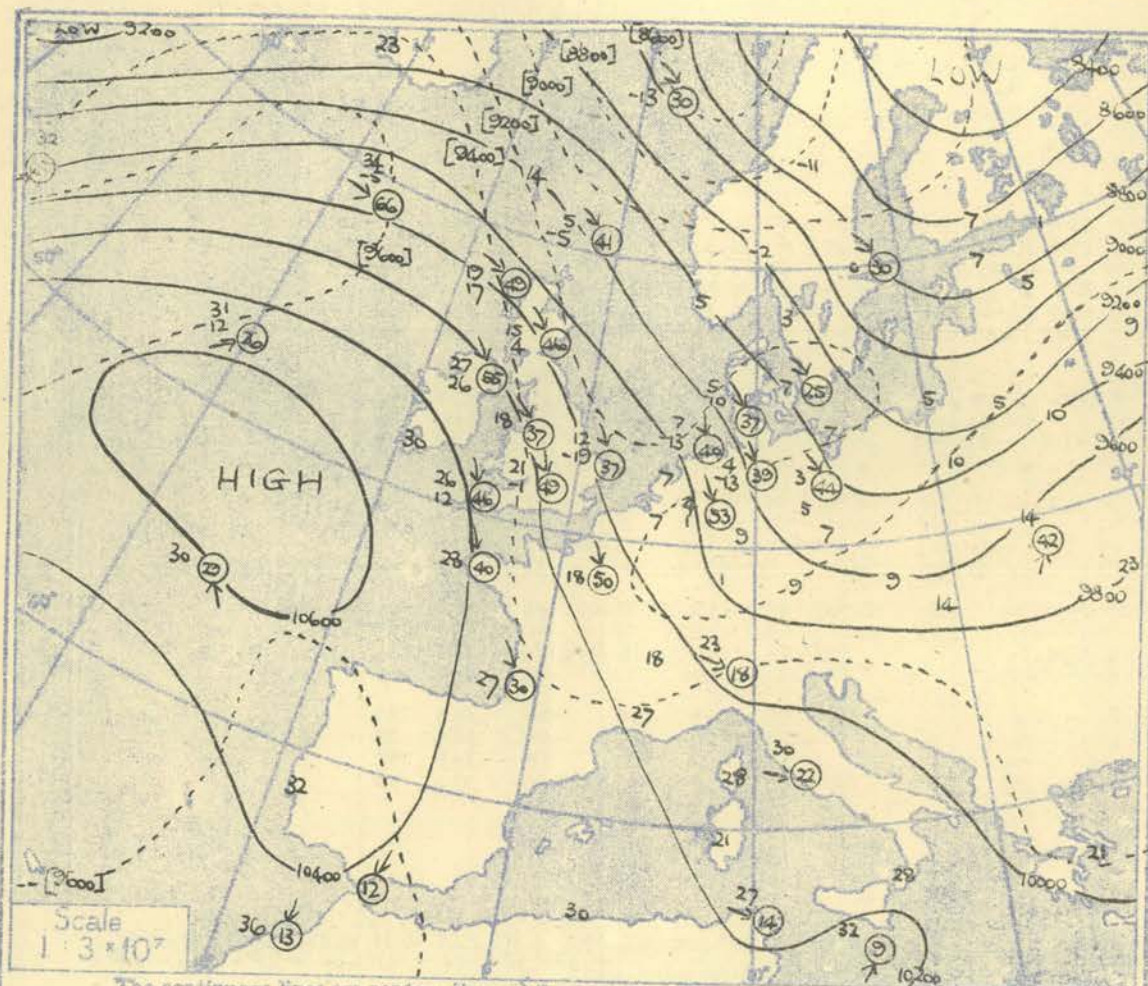


## RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	VALENTIA.	STATION
Time M.S.L.	03L	03L	03L	03L	03L	03L	03L	03L	03L	Time M.S.L.
Surf	1018.3	1023.1	1026.1	1030.0	1031.1	1028.9	1033.3	1036.3	1051.5	Surf
Pressure	330	352	329	358	305	330	312	865.823.785	1036	Pressure
Height ft./100	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Height ft./100
Surf	02.7 38 29 315	13 00.4 39 37 CALM	00.2 39 31 260	11 02.5 43 41 210	10 00.6 37 34 CALM	00.4 38 33 315	10 04.4 37 32 330	07 02.9 50 41 340	10 00.3 51 47	Surf
1000	04.9 37 28	06.1 37 36 218	16 05.2 39 31 267	24 08.0 43 42 218	15 08.2 37 36 297	06 07.4 39 35 318	29 08.7 41 33 334	19 09.7 47 39 336	15 10.0 48 44	1000
950	32.2 33 313	26 32 31 225	18 35 27 278	21 41 40 243	25 37 32 306	18 34 32 330	22 40 37 339	22 40 37 335	16 43 40	950
900	32.5 26 18 308	28 33.9 30 29 235	18 34.8 27 21 292	22 36.2 39 38 262	35 36.2 31 26 315	25 35.3 29 22 340	28 36.7 31 25 344	24 37.9 34 31 325	16 38 35	900
850	47.1 18 12 301	32 48.7 30 27 259	26 49.5 23 16 287	24 51.3 35 33 285	55 51.1 26 18 316	30 50.0 23 14 354	25 51.6 27 10 340	24 52.9 31 27 325	26 37 29	850
800	62.5 14 03 300	36 64.6 25 23 273	37 65.2 23 04 284	27 67.5 35 33 304	60 66.7 23 01 317	33 65.7 23 01 352	25 67.3 27 04 334	30 68.9 31 27 335	40 38 19	800
750	1 09 301	41 22 20 286	30 18 16 294	31 31 30 310	55 23 15 323	36 17 11 347	30 24 11 338	34 30 25 336	43 33 10	750
700	96.0 05 15 301	41 29.0 19 17 295	49 29.2 15 04 309	46 102.6 27 26 311	55 101.0 18 13 326	37 99.6 12 19 345	37 01.7 21 01 340	49 03.8 26 12 334	46 30 03	700
650	01 25 307	42 19 17 306	74 07 43 314	59 24 23 324	64 17 12 329	51 05 20 344	36 16 14 336	56 23 09 336	44 25 09	650
600	133.9 01 10 317	55 188.3 15 13 313	62 137.8 09 05 314	03 142.3 17 15 328	61 140.2 13 08 331	60 137.8 01 38 345	47 140.8 13 07 338	60 142.6 17 07 335	44 24 08	600
550	02 07 317	70 09 07 313	72 05 01 318	66 10 06 323	59 03 02 332	74 01 43 344	76 01 01 342	67 10 00 335	47 17 23	550
500	178.4 09 13 318	81 183.9 01 02 310	74 183.0 02 06 319	75 188.0 03 01 316	67 185.6 01 07 335	70 182.4 06 32 343	88 186.4 04 08 343	70 189.2 01 07 339	47 05 23	500
450	18 22 323	90 09 11 309	83 11 16 321	88 06 13 316	67 08 18 335	70 15 26 343	90 05 21 342	71 07 21 346	49 06 19	450
400	230.9 29 24 327	102 237.5 18 21 313	91 236.3 23 28 327	87 241.9 18 26 322	62 239.3 20 29 338	84 235.2 26 37 353	99 240.4 19 33 343	76 243.0 14 34 350	52 19 30	400
350	38 43 328	120 33 39 317	90 38 41 328	98 30 41 326	61 33 43 345	85 38 45 354	114 33 44 346	86 33 47 350	54 33 44	350
300	205.3 54 320	140 302.7 50 316	91 301.2 52 336	102 307.7 45	304.5 49 349	96 299.5 54 350	123 305.7 49 350	89 308.2 48 355	61 47	300
250	72	107 323	102 323	107 323	102 323	102 323	130 323	96 323	59	250
200	278.8 91	387.1 88	111 385.0 91	347.1 80	399.5 85 350	98 383.4 87 352	390.3 87 352	96 383.2 84 352	52	200
170	96	101 322	79 99	92	93 352	75 93	93 352	73 95	49	170
150	98	100 318	85 101	101	100 348	81 96	99 347	64 101 345	45	150
130	97	98 327	74 104	104	106 344	81 96	104 342	83 103 344	58	130
110	96	98 327	74 104	104	106 344	81 96	104 342	83 103 344	58	110
100	513.3 95	520.9 98	517.4 102	523.0 99	523.0 99	523.0 99	524.2 97	526.8 94	40	100
90	(91) 94									90
80										80
70										70
60										60
Inversion	804 mb 13° - 788 mb 16°	882 mb 28° - 854 mb 30°	850 mb 07° - 828 mb 09°	827 mb 34° - 808 mb 36°	829 mb 37° - 810 mb 39°	827 mb 38° - 800 mb 39°	817 mb 37° - 800 mb 39°	850 mb 31° - 823 mb 32°	863 mb 35° - 827 mb 41°	Inversion
	638 - 08° - 585 - 02°	700 - 19° - 664 - 21°	683 - 25° - 665 - 26°	700 - 18° - 680 - 19°	700 - 18° - 680 - 19°	700 - 18° - 680 - 19°	700 - 18° - 680 - 19°	800 - 31° - 785 - 32°	800 - 31° - 785 - 32°	
	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	197 - 92° - 186 - 91°	
	940 - 217 mb 31°	825 - 1000 mb 39°	825 - 1000 mb 39°	825 - 1000 mb 39°	825 - 1000 mb 39°	825 - 1000 mb 39°	825 - 1000 mb 39°	825 - 1000 mb 39°	825 - 1000 mb 39°	
	800 - 781 - 25°	850 - 800 - 23°	850 - 800 - 23°	850 - 800 - 23°	850 - 800 - 23°	850 - 800 - 23°	850 - 800 - 23°	850 - 800 - 23°	850 - 800 - 23°	
	722 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	723 - 700 - 15°	
Tropopause	160 mb - 99°	170 mb - 101°	178 mb - 101°	143 mb - 106°	143 mb - 106°	176 mb - 94°	130 mb - 104°	132 mb - 105°	NR	Tropopause
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	VALENTIA.	STATION
Time M.S.L.	09L	09L	09L	09L	09L	09L	09L	09L	09L	Time M.S.L.
Surf	1014.0	1014.9	1019.8	1027.3	1027.5	1029.9	1033.8	1037.2	1051.5	Surf
Pressure	353	723	750	668	780	892	819	735	735	Pressure
Height ft./100	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Temp.	Height ft./100
Surf	02.7 36 35 195	02 00.4 50 49 260	20 00.2 40 38 250	05 02.5 49 46 270	18 00.6 49 48 270	17 00.4 34 30 250	10 04.4 40 39 265	06 01.9 49 44 290	12	Surf
1000	03.7 35 33	04.0 49 48	05.2 39 37 246	21 07.4 49 45 275	30 07.4 48 47 267	33 07.7 39 31 277	25 08.7 42 41 265	20 10.0 46 42 276	27	1000
950	31 28 232	13 44 43 278	44 32 23 264	27 46 41 287	39 46 41 287	46 38 33 277	25 08.7 42 41 265	20 10.0 46 42 276	18	950
900	31.3 26 23 237	16 32.4 41 40 286	51 33.2 36 33 279	36 35.9 40 38 299	48 35.8 40 37 313	45 35.7 33 22 278	25 37.0 36 35 304	35 38.2 36 33 315	19	900
850	46.0 22 20 247	26 47.7 37 36 292	57 48.4 37 34 299	42 51.0 34 28 303	48 51.1 37 34 316	43 50.6 28 09 291	27 52.2 34 33 315	33 53.3 38 33 317	26	850
800	61.5 19 16 261	22 63.8 38 36 293	57 64.5 36 27 308	48 67.2 37 26 308	49 67.1 34 31 316	44 66.3 26 16 315	33 68.1 31 30 325	33 69.5 37 26 324	30	800
750	16 12 280	37 36 34 295	56 32 26 315	56 42 11 312	49 34 28 314	49 22 19 339	41 28 17 330	39 34 25 337	32	750
700	25.4 14 10 292	45 39.1 29 27 299	58 39.6 29 26 318	66 102.8 38 13 314	42 102.0 26 21 323	54 100.6 18 15 342	40 102.9 25 24 337	50 104.7 27 22 348	18	700
650	10 11 305	50 24 22 301	64 23 21 320	70 29 10 314	39 31 13 328	62 13 11 330	42 21 19 338	59 21 17 351	29	650
600	134.5 15 09 316	57 138.9 15 12 301	60 139.4 17 14 322	74 143.0 19 15 315	39 141.6 17 10 335	57 139.5 10 08 340	57 142.4 16 14 345	59 144.3 15 12 356	34	600
550	06 01 313	60 05 02 303	67 07 09 318	63 09 24 321	42 11 06 331	59 06 04 347	60 12 08 348	60 12 08 348	39	550
500	179.9 01 06 310	65 184.2 02 16 304	68 185.0 02 03 316	64 188.7 00 33 312	44 187.3 02 02 327	52 184.8 00 03 345	61 188.1 03 02 343	58 190.1 03 12 344	40	500
450	10 16 311	78 11 31 304	73 09 15 317	68 09 15 317	58 08 14 326	52 11 14 349	69 06 14 346	56 07 14 351	39	450
400	233.3 21 28 311	90 237.5 23 35 305	64 238.6 21 26 317	62 242.5 16 57 312	72 241.0 19 27 327	57 238.2 21 26 354	89 242.0 17 27 344	59 244.0 18 27 345	34	400
350	32 40 311	102 35 44 301	57 36 42 313	63 37 56 320	70 32 41 332	56 35 41 354	88 31 42 345	60 31 40 349	39	350
300	298.6 50 313	111 302.5 49 301	69 303.5 51 313	66 308.5 45 312	75 306.4 48 304	66 303.0 52 354	89 307.7 47 356	63 309.6 48 354	39	300
250	66 317	120 38 308	78 32 321	81 32 321	75 306.4 48 304	66 303.0 52 354	89 307.7 47 356	63 309.6 48 354	39	250
200	(224) 75	386.9 87 308	74 388.0 88 320	90 32 321	39 11 86 337	81 387.2 87 352	39 11 86 337	70 387.2 87 352	51	200
170	mb	97	100 318	86 97	96 336	71 97	95 336	71 97	51	170
150		91	101 320	78 97	97 340	52 104	101 340	101 340	45	150
130		92	102 326	72 97	97 341	57 105	107 342	107 342	39	130
110		89	103 327	72 97	97 341	57 105	107 342	107 342	39	110
100										100
90	Max wind:-									90
80	263 mb									80
70	318°									70
60	131 Kts									60
Inversion	674 mb 14° - 615 mb 17°	845 mb 36° - 813 mb 38°	884 mb 36° - 842 mb 38°	840 mb 33° - 776 mb 42°	840 mb 33° - 776 mb 42°	840 mb 33° - 776 mb 42°	840 mb 33° - 776 mb 42°	840 mb 33° - 776 mb 42°	840 mb 33° - 776 mb 42°	Inversion
	718 - 28° - 697 - 29°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	717 - 36° - 700 - 38°	
	763 - 735 mb 16°	813 - 783 mb 38°	859 - 884 mb 36°	1018 - 986 mb 49°	1018 - 986 mb 49°	1018 - 986 mb 49°	1018 - 986 mb 49°	1018 - 986 mb 49°	1018 - 986 mb 49°	
	704 - 674 - 14°									
Tropopause	NR	160 mb - 98°	156 mb - 104°	170 mb - 96°	170 mb - 96°	153 mb - 105°	130 mb - 107°	136 mb - 110°	NR	Tropopause



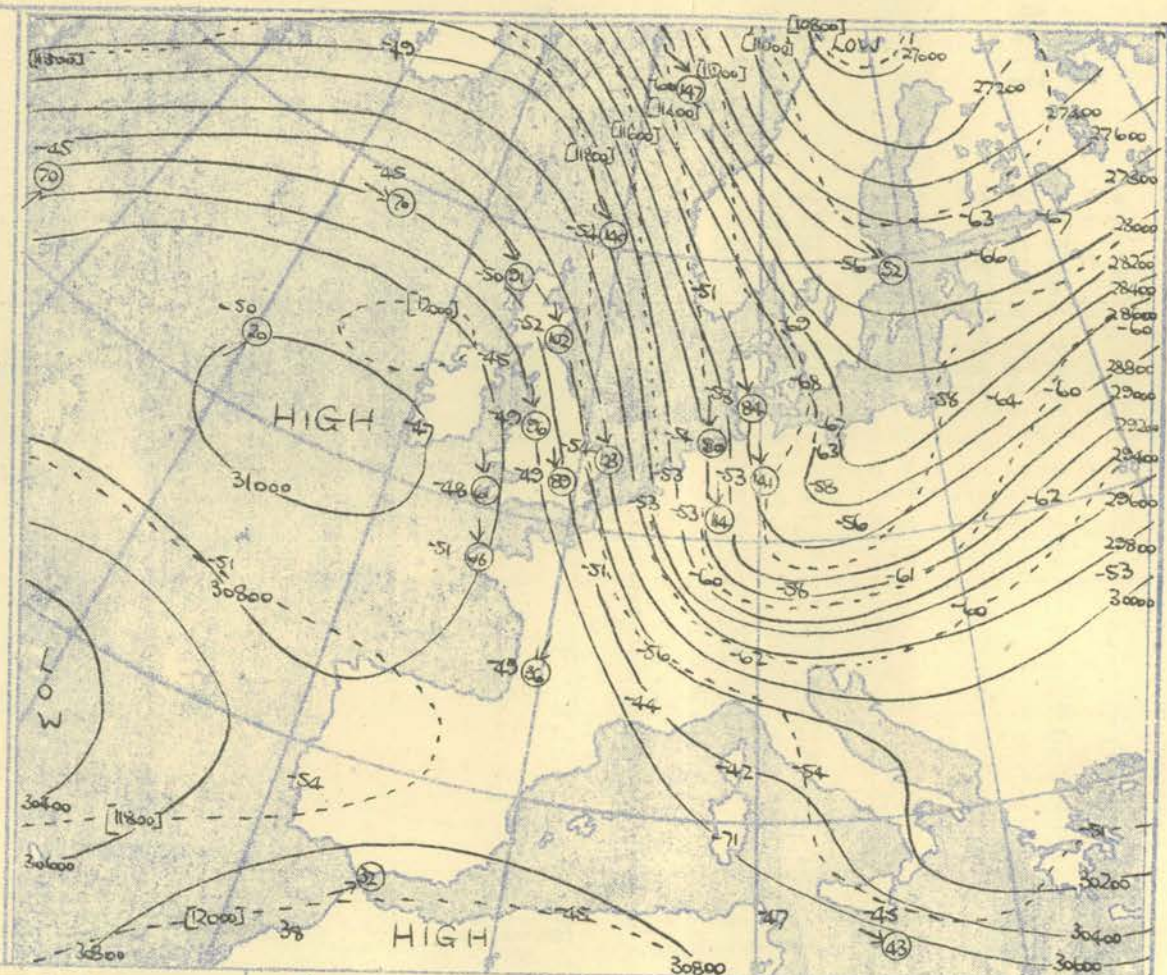
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



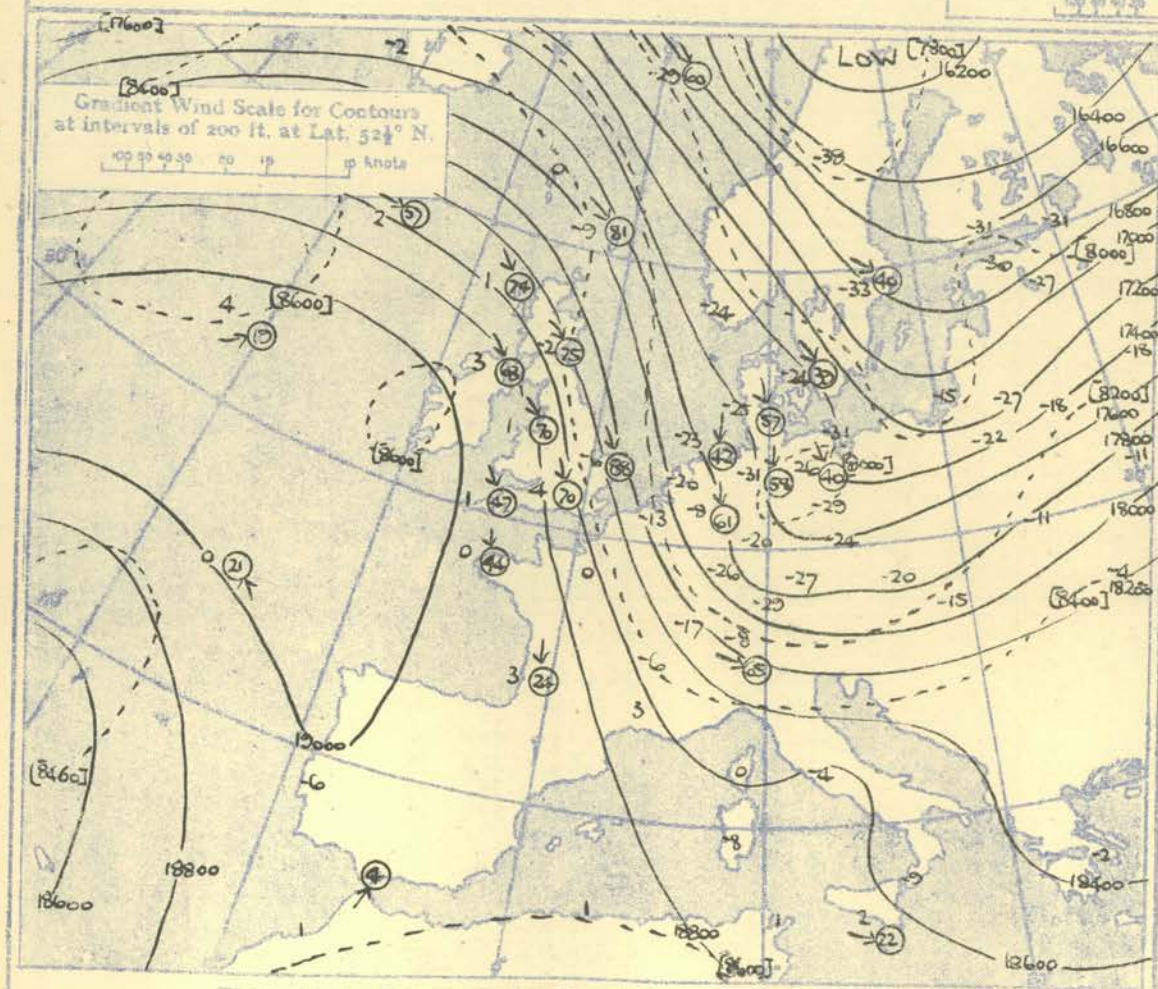
The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 1000-700 mb.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N

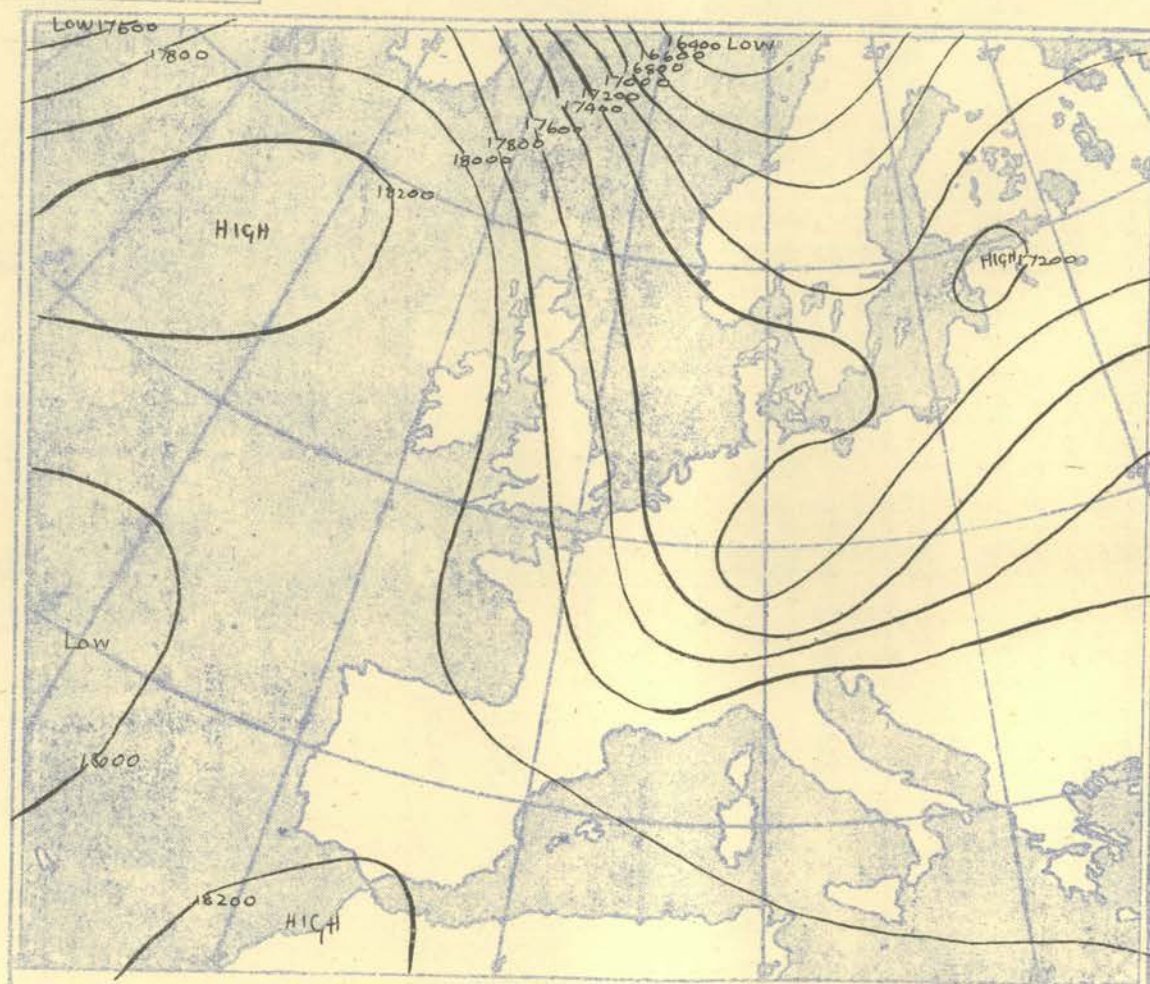
100 90 80 70 60 50 40 30 20 10 0



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 300-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

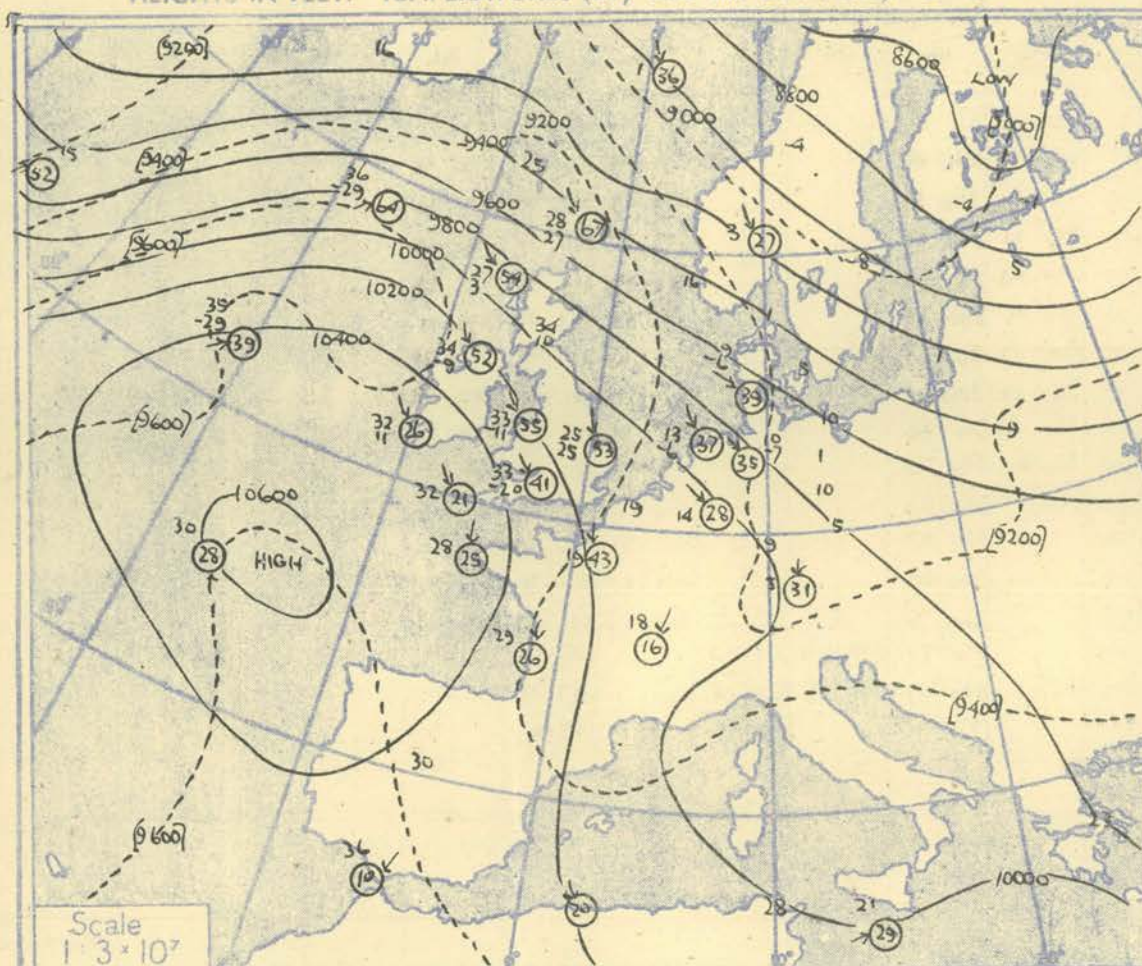
METEOROLOGICAL			Place
LIBRARY			Time
7-DEC-1951			Type
Vol.	Dir.	Vol.	Feet
			Surf.
OFFICE			1,000
			2,000

## NEPHOSCOPE OBSERVATIONS

Ship	Weather Recorder				Weather Recorder				Weather Recorder				Weather Recorder				Weather Watcher				Weather Watcher				Weather Watcher				Weather Watcher				Ship																			
Lat/Long	52° 3' N		19° 9' W		52° 9' N		20° 1' W		52° 2' N		20° 2' W		52° 3' N		20° 1' W		59° 2' N		16° 5' W		59° 9' N		16° 3' W		59° 2' N		16° 2' W		59° 2' N		15° 4' N		Lat/Long																			
Pressure	Time	03h		G.M.T.	09h		G.M.T.	15h		G.M.T.	21h		G.M.T.	03h		G.M.T.	09h		G.M.T.	15h		G.M.T.	21h		G.M.T.	03h		G.M.T.	09h		G.M.T.	15h		G.M.T.																		
	M.S.L.	1037		mb	1037		mb	1034		mb	1029		mb	1013		mb	1011		mb	1011		mb	1009		mb	1011		mb	1009		mb	1009		mb																		
	Surf	1037		mb	1037		mb	1034		mb	1029		mb	1013		mb	1011		mb	1011		mb	1009		mb	1011		mb	1009		mb	1009		mb																		
	(Freezing)	710		mb	725		mb	680		mb	720		mb	685		mb	675		mb	670		mb	670		mb	670		mb	820 and 680		mb	820 and 680		mb																		
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Pressure															
Surf	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	Surf															
1000	99	49	46	245	28	96	48	48	234	21	90	47	44	211	24	77	47	46	218	31	36	49	48	31	50	49	246	46	31	50	49	247	59	23	51	48	1000															
950	43	41	238	30	42	42	234	24	41	40	213	30	42	41	215	40	47	45	255	45	46	45	252	48	46	46	251	56	45	42	237	50	950																			
900	38.3	44	38	237	27	37.9	40	34	236	33	37.4	49	31	219	36	36.2	38	38	214	46	32.3	49	46	271	54	31.6	46	45	256	60	30.8	43	39	248	53	900																
850	46	20	247	29	42	15	235	34	47	22	225	37	41	24	212	48	45	42	274	59	45	44	270	61	41	40	258	59	37	30	255	53	850																			
800	70.0	41	19	248	27	69.4	40	02	233	31	69.3	44	23	226	37	67.5	39	03	212	45	64.2	43	40	278	48	63.4	42	37	272	62	63.2	39	38	259	53	62.1	29	24	259	56	800											
750	36	17	243	27	35	02	234	23	39	26	225	38	34	11	212	44	38	30	277	59	39	27	269	63	35	34	259	58	43	05	262	66	750																			
700	105.3	31	12	244	26	104.6	31	07	229	23	104.8	35	29	223	39	102.7	30	18	212	45	99.7	34	05	279	66	99.0	36	00	266	63	98.7	36	29	260	64	97.6	35	16	263	76	700											
650	42	02	244	23	36	10	222	25	29	21	218	32	24	25	209	12	26	11	269	62	29	18	265	20	30	33	263	73	28	32	253	72	650																			
600	145.2	20	08	255	19	144.5	20	18	221	21	145.0	22	39	219	28	142.5	18	30	213	39	139.2	21	30	270	72	138.9	22	39	266	76	137.7	19	37	249	70	600																
550	11	16	246	19	3	37	236	25	15	44	221	39	10	25	213	45	11	09	273	61	13	38	273	71	11	47	266	76	13	40	253	77	550																			
500	91.1	04	28	250	19	90.4	05	51	244	27	191.1	04	33	218	92	188.2	03	23	209	45	185.2	05	21	262	60	184.7	02	59	261	77	183.6	04	46	253	77	500																
450	07	38	251	15	05	59	233	28	04	37	205	44	08	19	197	61	09	27	278	60	05	14	260	65	07	34	261	69	05	54	251	80	450																			
400	244.9	20	50	232	15	244.5	15	57	228	34	245.3	15	53	190	46	241.9	23	33	201	60	239.0	20	39	276	56	239.1	18	25	261	69	238.5	18	29	262	15	237.5	19	59	249	79	400											
350	35	58	219	17	27	59	213	36	30	57	210	40	30	53	273	63	30	53	273	63	29	41	259	59	33	43	260	13	32	59	247	76	350																			
300	309.9	51	222	203	10.8	42	216	39	11.1	46	215	38	304	6	45	273	70	305	0	44	260	57	304	0	46	260	72	303	0	46	251	77	300																			
250	70	197	21	58	222	35	64	216	46	389	8	85	273	71	390	5	84	259	71	389	2	85	258	73	98	266	71	91	239	66	250	70	250																			
200	393.9	92	196	16	397	4	75	210	34	396	3	85	217	36	389	8	85	273	71	390	5	84	259	71	389	2	85	258	73	98	266	71	91	239	66	200																
170	102	216	18	84	215	29	97	233	34	104	274	66	100	262	72	89	265	52	91	241	65	130	235	18	98	235	28	106	265	30	150	130	110	100	90	80	70	60														
150	706	235	16	92	221	29	104	242	33	875	mb	32°	850	mb	41°	850	mb	32°	850	mb	41°	850	mb	32°	850	mb	41°	850	mb	32°	850	mb	41°	850	mb	32°	850	mb	41°	150												
130	702	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	130												
110	106	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	110												
100	107	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	100												
90	107	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	90												
80	107	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	80												
70	107	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	70												
60	107	235	18	98	235	28	106	265	30	970	mb	39°	867	mb	47°	915	mb	38°	874	mb	43°	933	mb	39°	882	mb	50°	970	mb	46°	921	mb	50°	980	mb	45°	998	mb	83°	60												
Inversion	917 mb 39° - 867 mb 47°				915 mb 38° - 874 mb 43°				933 mb 39° - 882 mb 50°				875 mb 32° - 850 mb 41°				970 mb 46° - 921 mb 50°				913 mb 44° - 890 mb 47°				934 mb 45° - 900 mb 46°				908 mb 45° - 883 mb 46°				900 mb 29° - 760 mb 49°				Inversion															
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°							
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°			
isothermal	650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°				650 - 633 mb 24°</																																			



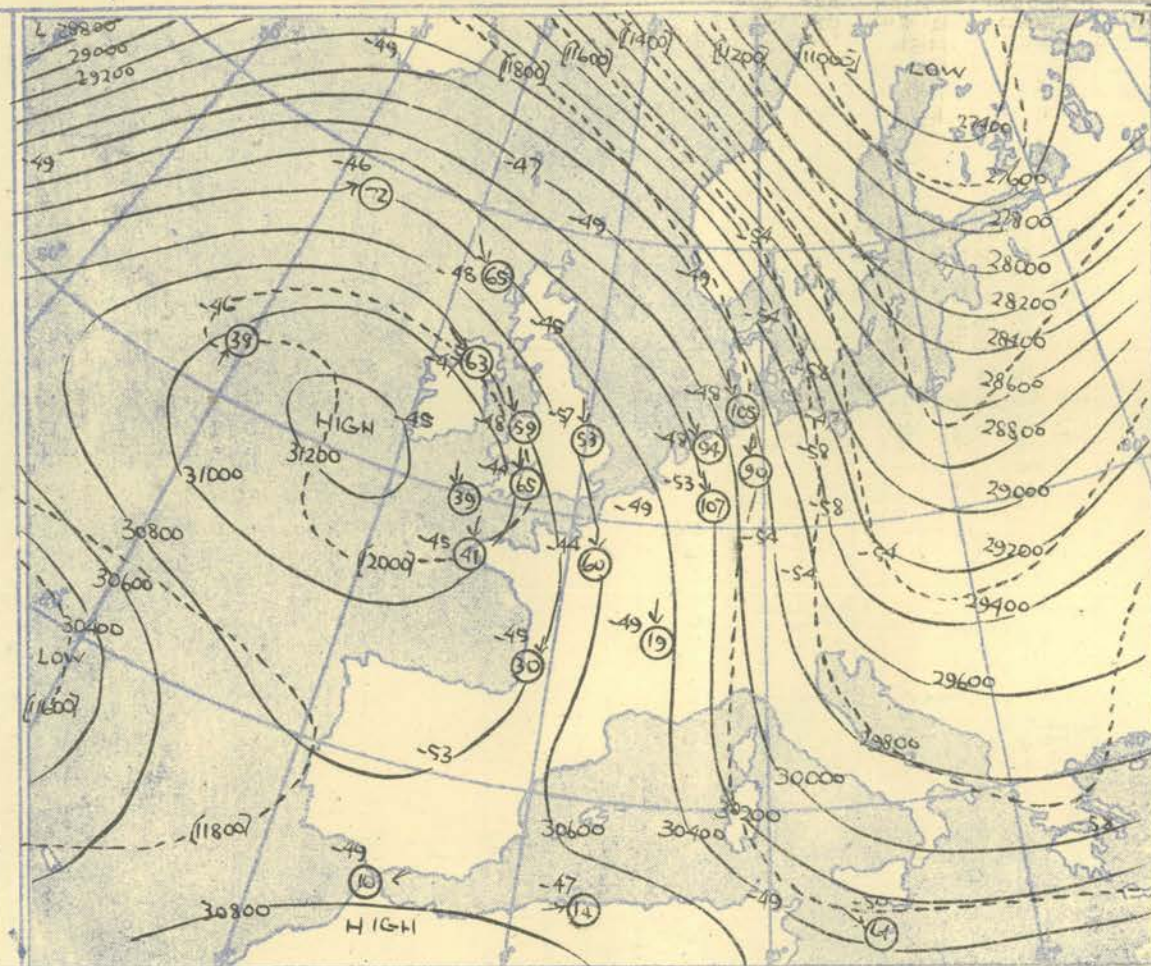
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (In knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 2000-700 mb.

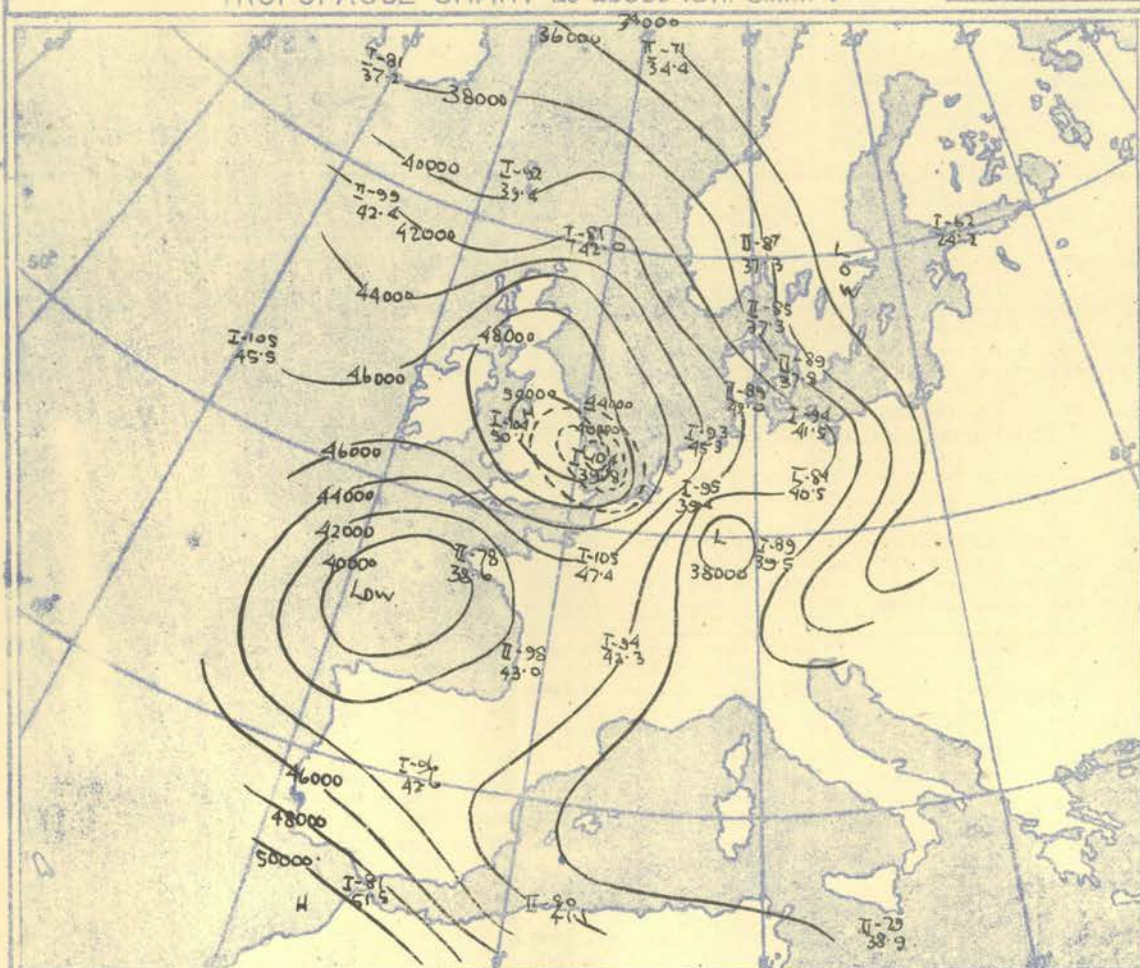
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat.  $52\frac{1}{2}^\circ$  N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

### TROPOPAUSE CHART at about 15h. GMT.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

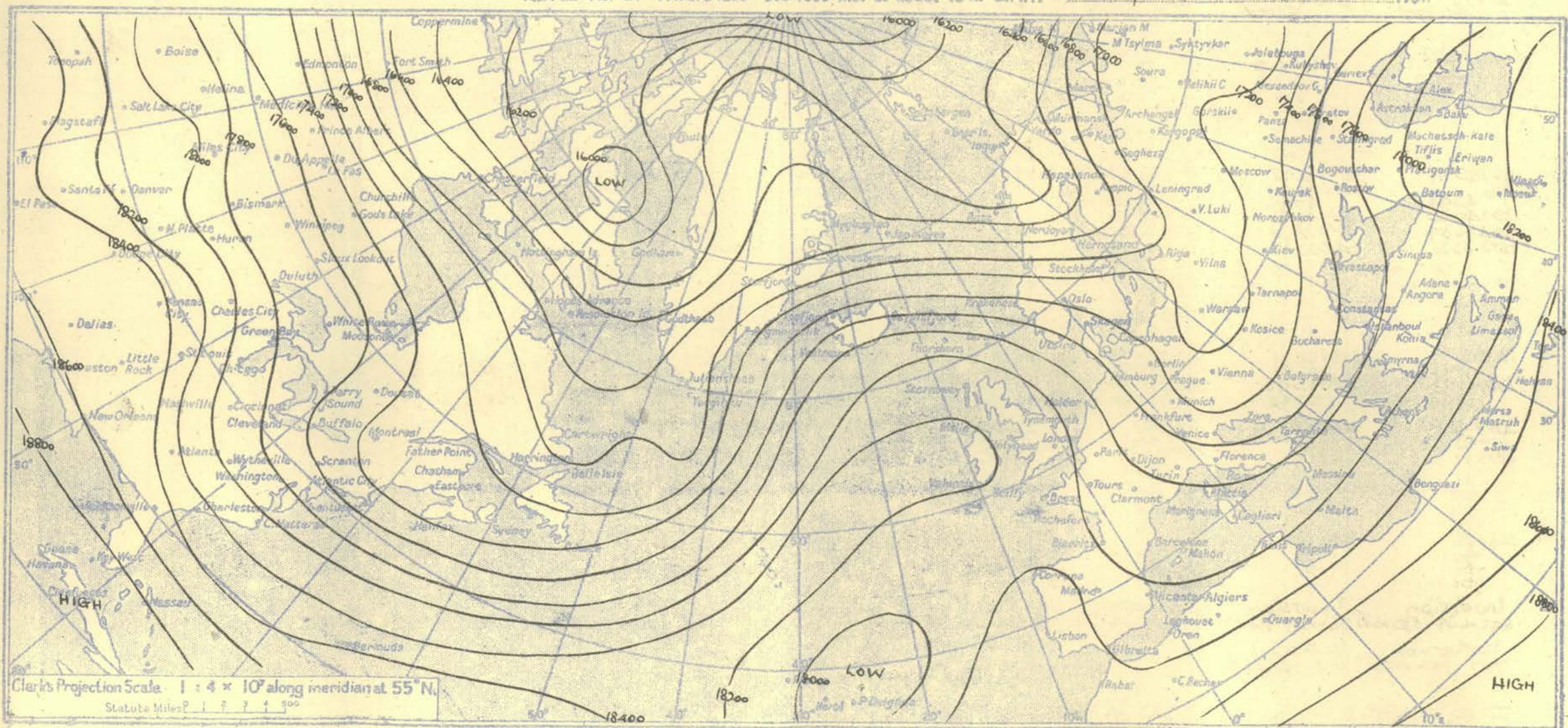
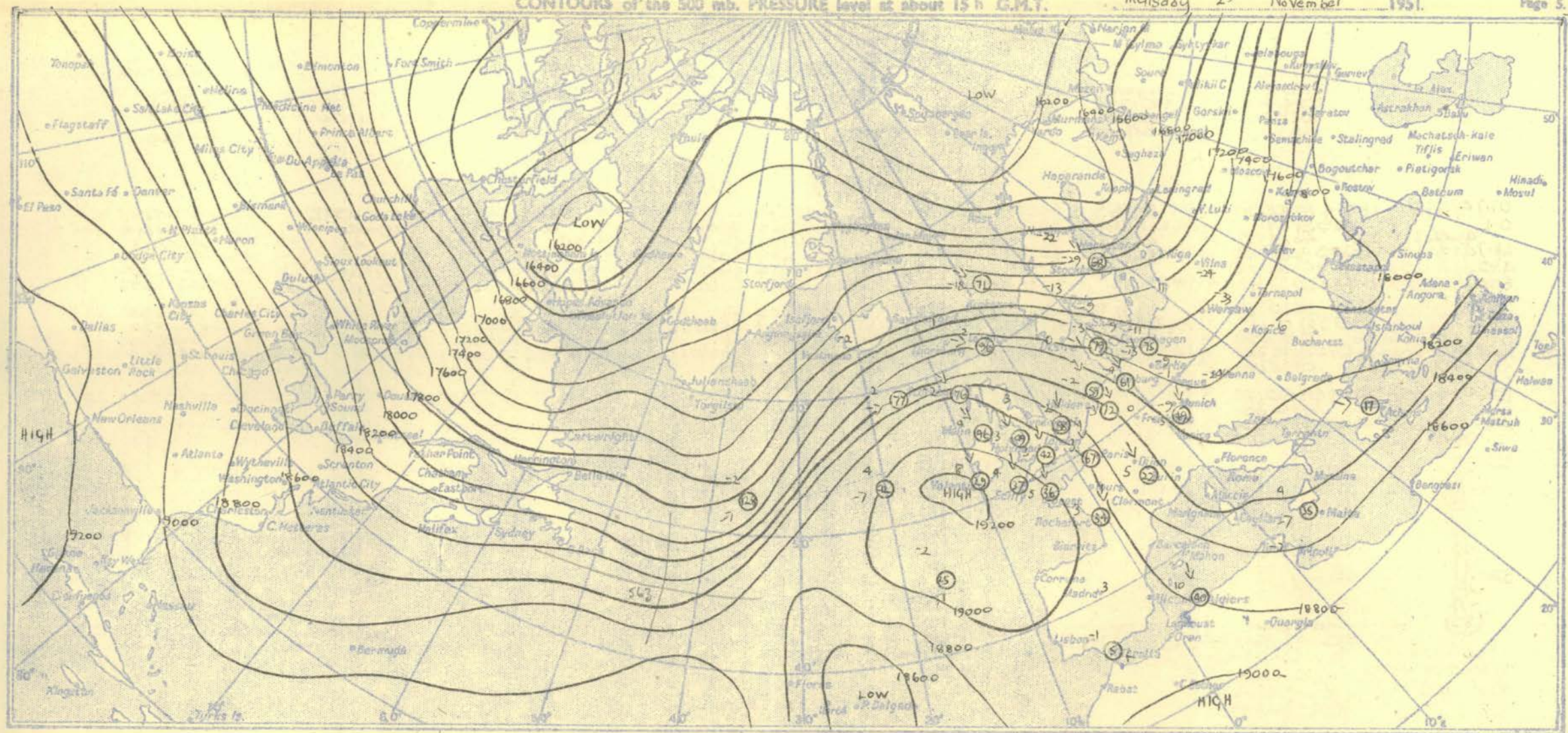
### NOTES ON THE AEROLOGICAL SITUATION.

The Atlantic warm ridge continued its rapid westerly progress and enveloped the British Isles, the strong northerly thermal gradient being transferred to about  $10^\circ$  E in advance of the ridge. A cold pool in the region of the Azores showed little systematic change.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.1  
Nelson K. Johnson, K.C.B., D.Sc., Director.







RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	Valentia	STATION
Time M.S.L.	15h30	15h30	15h30	15h30	15h30	15h30	15h30	15h30	15h30	Time M.S.L.
Surf	991.0	1014.9	1014.8	1016.3	1024.0	1021.9	1020.7	1024.8	1035.3	Surf
Pressure	750	752	681	686	691	743	655	700	700.650	Pressure
Pressure mb	Height ft/100	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Pressure mb
Surf	02.74847	280	280	280	280	280	280	280	280	Surf
1000	0.2	4646	278	45	277	280	280	280	280	1000
950	4646	278	45	277	280	280	280	280	280	950
900	4646	278	45	277	280	280	280	280	280	900
850	4646	278	45	277	280	280	280	280	280	850
800	4646	278	45	277	280	280	280	280	280	800
750	4646	278	45	277	280	280	280	280	280	750
700	4646	278	45	277	280	280	280	280	280	700
650	4646	278	45	277	280	280	280	280	280	650
600	4646	278	45	277	280	280	280	280	280	600
550	4646	278	45	277	280	280	280	280	280	550
500	4646	278	45	277	280	280	280	280	280	500
450	4646	278	45	277	280	280	280	280	280	450
400	4646	278	45	277	280	280	280	280	280	400
350	4646	278	45	277	280	280	280	280	280	350
300	4646	278	45	277	280	280	280	280	280	300
250	4646	278	45	277	280	280	280	280	280	250
200	4646	278	45	277	280	280	280	280	280	200
170	4646	278	45	277	280	280	280	280	280	170
150	4646	278	45	277	280	280	280	280	280	150
130	4646	278	45	277	280	280	280	280	280	130
110	4646	278	45	277	280	280	280	280	280	110
100	4646	278	45	277	280	280	280	280	280	100
90	4646	278	45	277	280	280	280	280	280	90
80	4646	278	45	277	280	280	280	280	280	80
70	4646	278	45	277	280	280	280	280	280	70
60	4646	278	45	277	280	280	280	280	280	60
Isothermal 991-974 mb 48° 810-793 mb 35°										
Inversion 920mb 44-920mb 46° Isothermal 708-687 mb 27° 474-464 mb 6°										
Tropopause 1178 mb -81° 40800'										
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	Valentia	STATION
Time M.S.L.	21h30	21h30	21h30	21h30	21h30	21h30	21h30	21h30	21h30	Time M.S.L.
Surf	992.2	1014.9	1016.3	1016.3	1024.1	1021.8	1020.0	1024.9	1035.3	Surf
Pressure	782	700	712	678	655.671	684	683	700	700.650	Pressure
Pressure mb	Height ft/100	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Temp. °F	Pressure mb
Surf	02.74947	0.45248	0.25144	280	2502.54944	0.63147	220.44442	1504.44442	1001.95145	Surf
1000	0.64544	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	1000
950	29.14039	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	950
900	44.33834	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	900
850	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	850
800	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	800
750	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	750
700	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	700
650	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	650
600	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	600
550	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	550
500	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	500
450	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	450
400	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	400
350	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	350
300	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	300
250	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	250
200	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	200
170	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	170
150	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	150
130	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	130
110	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	110
100	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	100
90	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	90
80	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	80
70	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	70
60	60.33331	24.13047	30.42	2502.54944	0.15044	220.44442	1504.44442	1001.95145	1001.95145	60
Inversion 842mb 34-800mb 35° Isothermal 710-742 mb 31° 808-794 mb 33°										
Inversion 763mb 29-728mb 30° Isothermal 808-794 mb 33°										
Tropopause 1139 mb -98° 46100'										

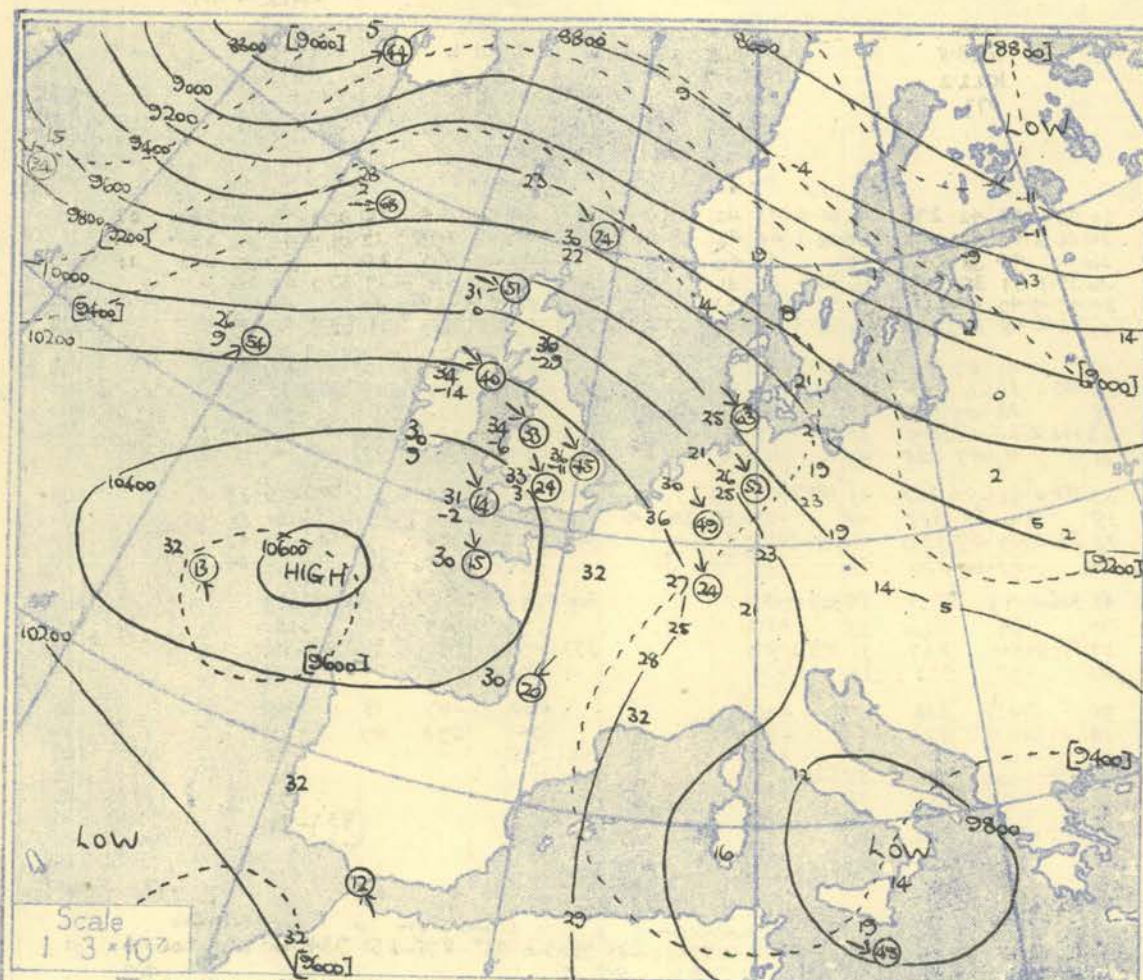


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STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA.				STATION																																						
Time M.S.L. Surf Freezing	03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		03h		G.M.T.		Time M.S.L. Surf Freezing																																										
	1001.6		mb		1015.1		mb		1016.7		mb		1026.9		mb		1027.1		mb		1023.8		mb		1030.5		mb		1034.6		mb																																												
	991.7		mb		103.4		mb		1015.9		mb		1017.5		mb		1025.1		mb		1022.2		mb		1013.9		mb		1023.8		mb																																												
	725		mb		711		mb		666		mb		870, 848, 7634		mb		687		mb		677		mb		690		mb		725		mb																																												
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Pressure																																											
mb	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	mb																																											
Surf	02.7	49	48	280	38	00.4	51	45	260	20	00.2	51	41				02.5	49	47	270	15	00.6	50	45	280	20	00.4	48	42	270	12	04.4	43	42	Surf																																								
1000	00.4					04.1	50	45			04.5	51	39				07.2	47	47	275	24	07.3	48	42	285	36	06.3	46	42	291	36	08.1	44	42	1000																																								
950		45	44				45	39	258	41		44	34					42	42	273	28		42	36	287	36		44	38	309	33		43	40	950																																								
900	28.9	42	41			32.4	38	32	260	44	32.9	37	29				35.5	36	33	278	37	35.6	35	29	301	36	34.7	41	35	324	30	36	4	43	31	900																																							
850	44.2	37	36			47.4	32	25	266	46	48.2	47	37				50.6	31	10	277	45	50.8	47	27	308	39	47.9	42	35	313	25	51.9	49	23	850																																								
800	60.2	34	33			63.6	40	11	275	58	64.7	46	21				66.7	42	10	283	45	67.3	43	17	308	42	66.4	48	08	317	34	68.4	45	20	800																																								
750		32	30	For			36	06	278	61		40	26				35	13	282	40		40	15	304	37		41	09	320	42		39	10	For	750																																								
700	95.3	30	22	winds		98.9	31	00	273	57	100.3	36	29				102.0	34	14	276	40	102.8	34	06	300	33	102.1	36	11	322	45	104.0	33	03	700																																								
650		24	04				26	13	273	59		29	34					26	19	276	39		26	12	304	28		28	09	322	41		28	01	winds	650																																							
600	135.0	16	12	see		138.8	19	21	274	67	140.5	21	40				142.0	21	26	265	36	142.7	18	18	307	29	142.2	20	28	319	39	144.0	19	06	600																																								
550		10	19				10	28	270	74		10	48					12	38	267	36		09	22	306	31		11	47	325	40		11	16	see	550																																							
500	180.6	00	28			184.4	00	38	271	76	186.2	01	43				187.9	09	41	275	40	188.3	01	26	305	33	188.0	01	54	323	43	189.8	04	23	500																																								
450		09	34	page			11	41	272	80		10	38					09	43	274	42		13	35	305	38		10	52	325	45	105	03	34	page	450																																							
400	234.2	20	45			237.8	20	53	275	77	239.0	21	52				241.6	22	50	286	44	241.3	27	50	303	38	241.5	19	59	330	46	243.7	19	45		244.8	17	48	400																																				
350		33	58	3.			34	57	278	79		35	58					35	58	277	45		39	59	311	40		33	60	330	43		33	56	3.	350																																							
300	299.6	47				302.9	50		275	92	304.6	52					306.6	52		275	60	305.7	53		312	48	306.8	47		327	34	308.9	51		309.9	52		300																																					
250		63					67		277	80		71						69		276	54		68		311	49		64		320	33		69		250																																								
200	384.9	82				387.6	83		276	77	388.5	88					391.0	82		276	50	390.1	85		304	54	391.8	86		327	31	393.2	85		393.6	93		200																																					
170		93					91		269	81		100						95		275	51		95		302	61		95		322	38		95		170																																								
150		96					97					105						101		274	45		102		306	60		103		326	42		105		150																																								
130		97					93					108						108		275	33		99		304	35		105		321	45		108		130																																								
110		92					93					96						111		277	35		99		291	23		103		324	41		90		110																																								
100	520.4	91				522.5	95				521.5	98					523.0	112		277	35		97		297	29	524.7	100		325	35	526.6	96		100		100																																						
90		92					98					99											96		300	28		98		325	35		97		90																																								
80		90																					96		302	24		98		325	35		97		80																																								
70																							96		305	19		97		326	27				70																																								
60																							96													60																																							
Inversion				765 mb 31°-731 mb 33°				Inversion				844 mb 31°-815 mb 42°				Inversion				870 mb 38°-842 mb 51°				Inversion				852 mb 29°-825 mb 42°				Inversion				900 mb 35°-850 mb 47°				Inversion				1022 mb 45°-985 mb 46°				Inversion				1014 mb 43°-980 mb 45°				Inversion				950 mb 43°-875 mb 52°				Inversion				934 mb 37°-906 mb 48°							
Isothermal				950 - 928 mb 45°				Isothermal				825 - 800 mb 42°				Isothermal				745 - 700 mb 34°				Isothermal				825 - 800 mb 42°				Isothermal				889 - 859 mb 40°				Isothermal				931 - 41°-876 - 51°				Isothermal				950 - 928 mb 45°				Isothermal				934 mb 37°-906 mb 48°															
Tropopause				I 155 mb - 98°-43.400'				Tropopause				I 152 mb - 97°-44.100'				Tropopause				I 130 mb - 92°-47.200'				Tropopause				I 118 mb - 113°-49.200'				Tropopause				I 140 mb - 106°-46.000'				Tropopause				I 125 mb - 106°-46.200'				Tropopause				I 140 mb - 109°-46.300'				Tropopause				I 165 mb - 105°-43.000'				Tropopause				I 145 mb - 108°-46.100'				Tropopause			
STATION	LERWICK				STORNOWAY				LEUCHARS				ALDERGROVE				LIVERPOOL				HEMSBY				LARKHILL				CAMBORNE				VALENTIA.				STATION																																						
Time M.S.L. Surf Freezing	09h		G.M.T.		09h		G.M.T.		09h		G.M.T.		09h		G.M.T.		09h		G.M.T.		09h		G.M.T.		09h		G.M.T.		09h		G.M.T.		Time M.S.L. Surf Freezing																																										
	999.8		mb		1009.2		mb		1015.6		mb		1023.9		mb		1025.6		mb		1025.2		mb		1029.5		mb		1032.7		mb																																												
	989.9		mb		1007.5		mb		1014.8		mb		1014.6		mb		1023.6		mb		1023.7		mb		1013.0		mb		1021.9		mb																																												
	762		mb		826		mb		700		mb		700		mb		736		mb		682		mb		720		mb		709		mb																																												
Pressure	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Wind	Height	Temp.	Dew	Pressure																																											
mb	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	Dir. Vel. knots	ft./100	°F.	°F.	mb																																											
Surf	02.7	48	46			00.4	49	47	220	20	00.2	49	45				02.5	44	40	220	12	00.6	48	45	265	14	00.4	45	42	250	11	04.4	46	43	Surf																																								
1000	00.1					02.3	49	45			04.2	47	41				06.4	42	38	232	22	06.9	45	41	268	21	06.7	45	42		07.9	47	42		08.8	45	45	260	21																																				
950		44	43				44	41	235	50		41	37					37	34	250	38		37	32	278	31		42	39	305	17		41	40	273	17																																							
900	28.3	38	35			30.8	37	33	240	55	32.4	35	31				34.5	40	31	260	48	35.3	49	24	287	36	35.0	46	35	328	25	36.5	51	23		37.2	48	37	274	16																																			
850	43.4	34	31			46.0	35	32	248	63	47.4	36	25				49.9	46	20	260	50	50.7	46	01	289	39	50.4	46	26	320	38	52.0	46	20		52.6	47	27	262	17																																			
800	59.5	36	26			62.0	36	23	254	64	63.7	40	14				66.2	42	24	258	50	67.0	41	06	284	40	66.8	43	20	305	33	68.3	42	19		68.9	43	21	256	11																																			
750		31	02	For			24	17	254	66		36	02					36	29	258	50		33	10	278	40		39	15	297	37		37	13	For	750																																							
700	94.4	26	05	winds		97.2	26	13	254	69	99.0	32	12				101.6	32	32	258	50	102.2	29	16	274	36	102.4	34	07	297	34	103.7	30	07		104.3	31	07	265	17																																			
650		21	12				17	07	255	72		25	19					25	37	256	48		23	20	275	37		24	01	301	83		26	01	2																																								



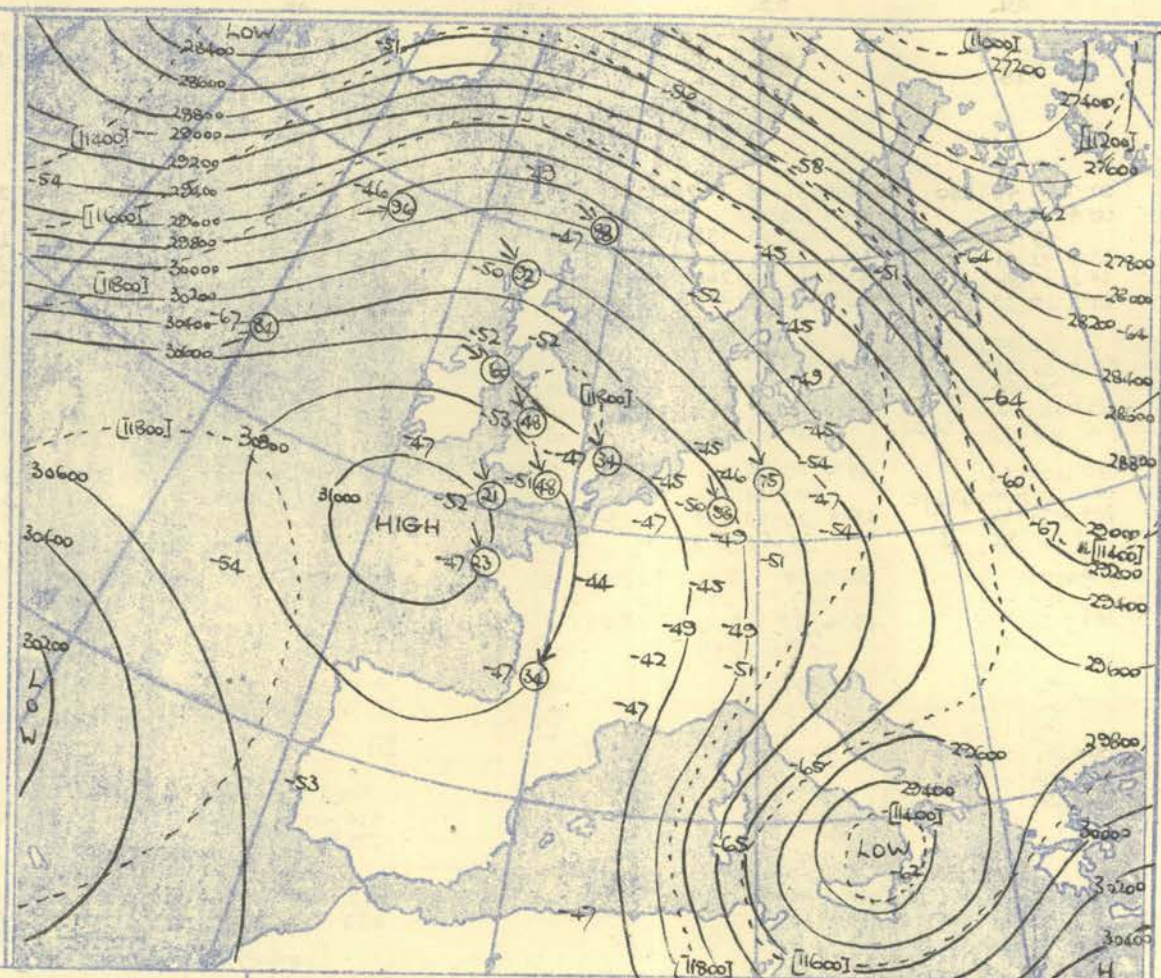
HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb, 500 mb, and 300 mb, levels at about 03h G.M.T.



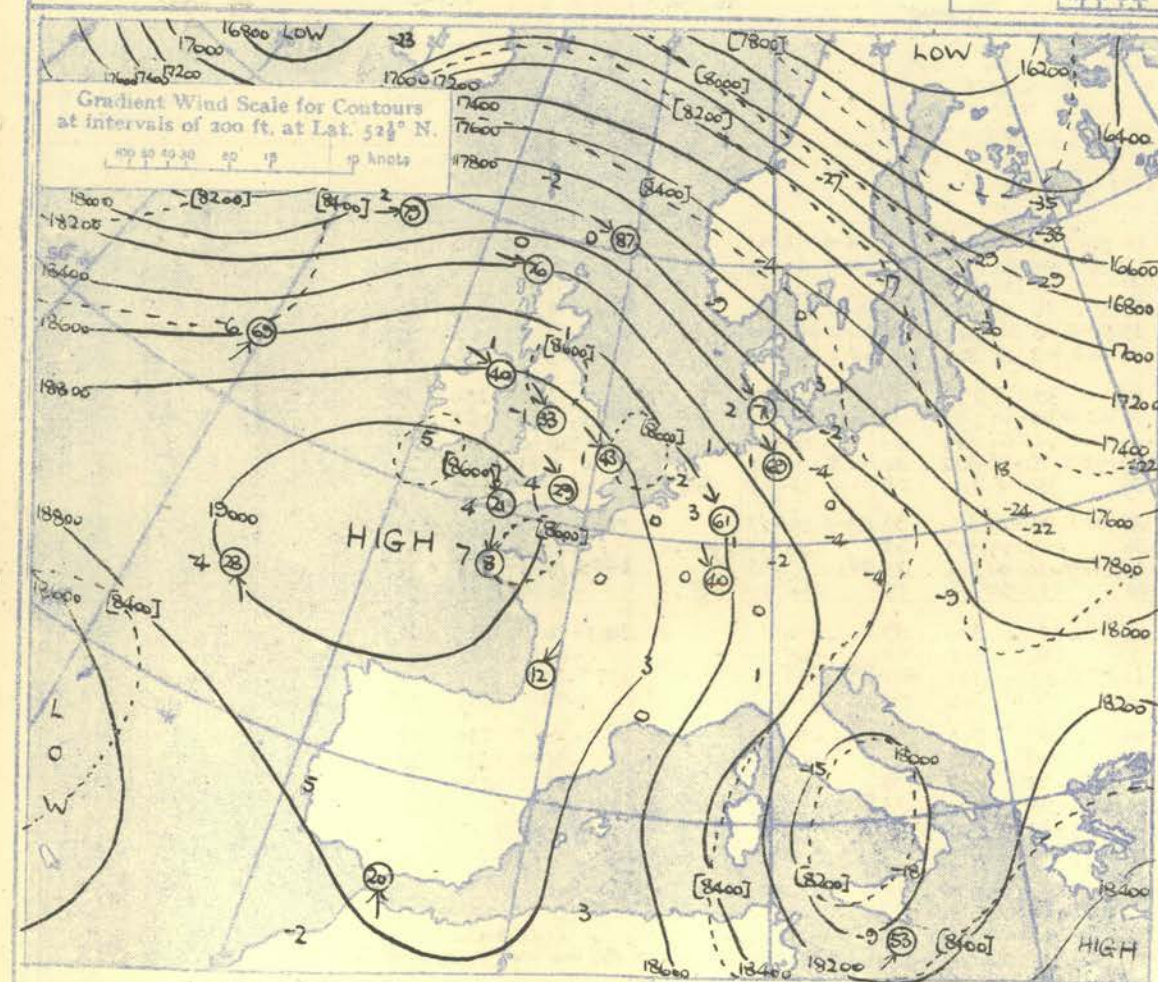
Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52½° N

100	80	60	40	20	10	5	2
10	8	6	4	2	1	0.5	0.2

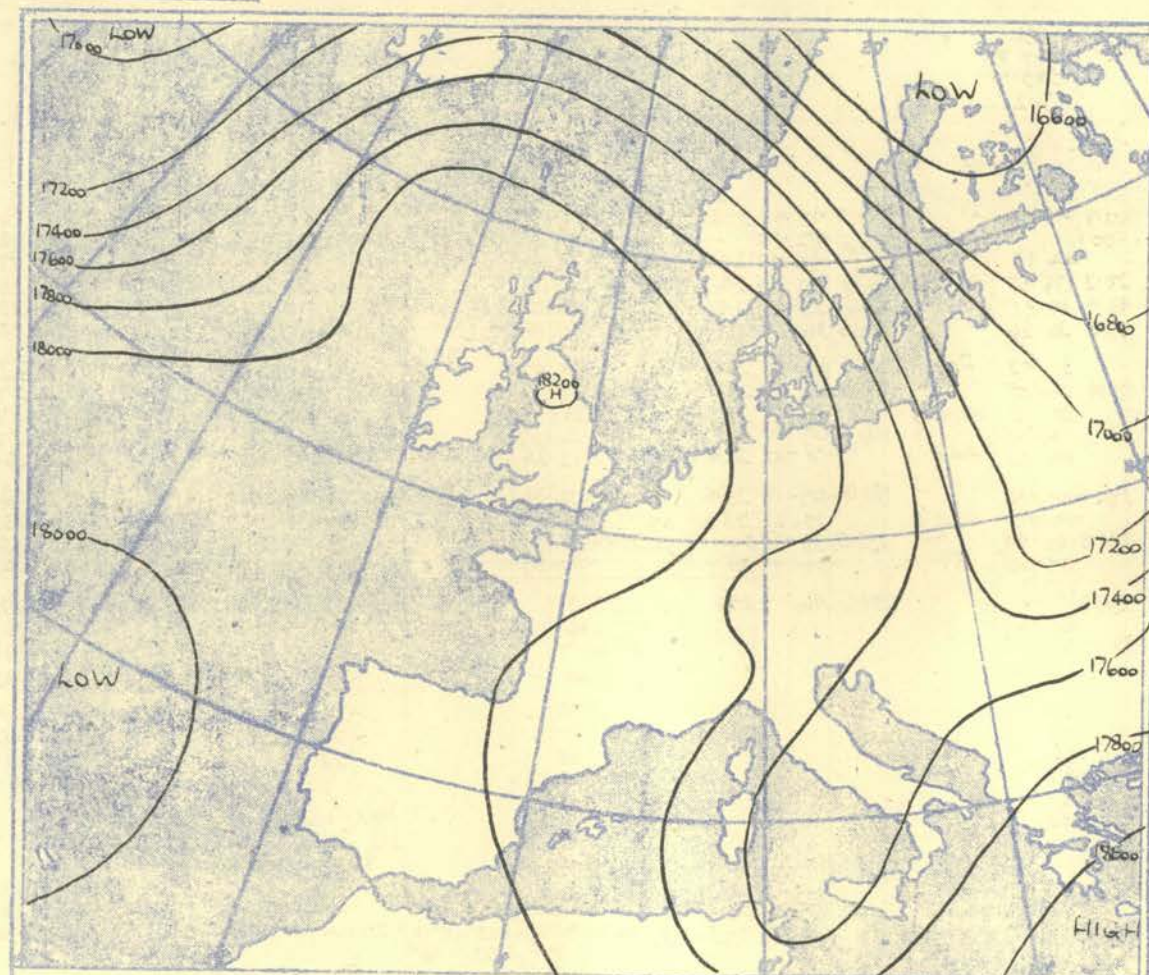
10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.



The continuous lines are contour lines of the 500 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 700-500 mb.



Isopleths of Thickness 300-1000mb.



## DIRECTION (degrees from N) and VELOCITY (knots) of UPPER WINDS at heights above M.S.L.

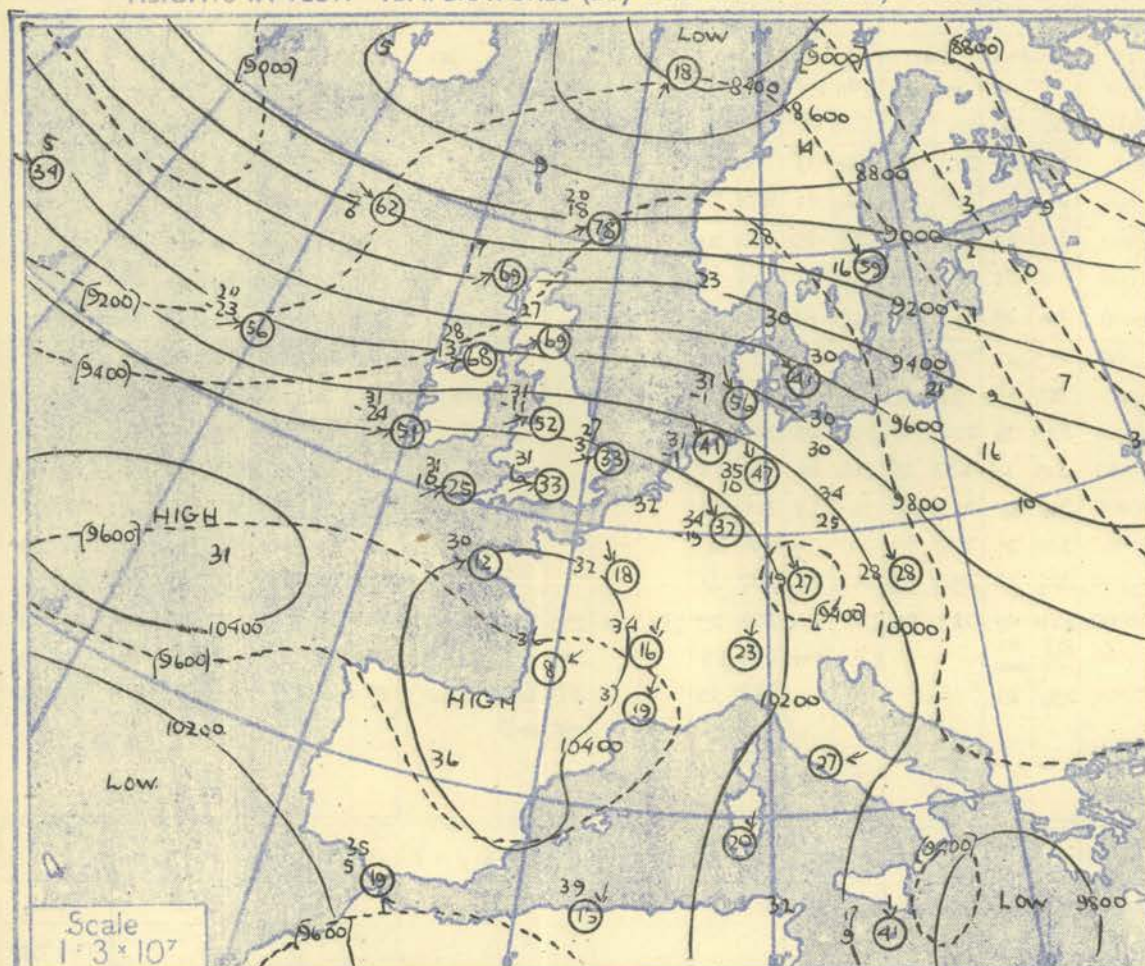
NEPHOSCOPE OBSERVATIONS

Place	Honiley	Shawbury Wick								Place
Time Type	12L Ac	12L Ce	15h Ac							Time Type
Dir. Vel.	260 24	310 25	270 120							Dir. Vel.

Ship	WEATHER WATCHER				WEATHER WATCHER				WEATHER WATCHER				WEATHER WATCHER				WEATHER RECORDER				WEATHER RECORDER				WEATHER RECORDER				WEATHER RECORDER				Ship																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Pressure { Time M.S.L. Surf Freezing	03h.		G.M.T.		09h.		G.M.T.		15h.		G.M.T.		21h.		G.M.T.		03h.		G.M.T.		09h.		G.M.T.		15h.		G.M.T.		21h.		G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Pressure Surf	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Surf		51	47	225	38		45	34	260	40		45	36	260	45		44	38	285	45		53	47	205	35		43	44	300	25		47	35	280	28		45	36	290	19	Surf																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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950		45	40	228	53		37	26	260	48		38	28	260	51		36	29	395	43		45	39	220	49		40	36	290	33		38	29	282	26		37	29	275	20	950																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
900	29.2	12	36	237	60	27.0	32	29	260	46	26.8	31	22	268	60	28.1	30	25	285	59		39	33	235	51		35	29	285	30	35.2	29	21	293	30	35.6	30	21	274	22	900																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
850		39	32	238	60		32	18	255	42	41.7	25	13	270	60		25	19	287	60		37	28	236	53		33	29	248	34		25	17	291	30		25	18	279	22	850																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
800	00.6	34	25	237	60		20	14	254	42	57.3	18	08	270	61	58.5	19	14	287	59		39	20	230	52		31	28	241	33	65.6	16	75	278	37	66.2	26	05	282	22	800																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
750		28	19	242	68		12	06	252	48		13	04	273	58		13	08	290	55		33	15	215	49		27	21	241	58		24	25	272	46		23	20	278	29	750																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
700	95.5	28	02	240	68	91.2	08	70	254	57	91.0	07	00	274	62	92.2	07	06	291	63	101.4	26	09	213	54	100.4	24	08	237	62	100.0	20	23	263	56	100.6	19	07	277	35	700																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
650		23	10	240	68		03	26	265	69		03	26	265	69		00	11	288	64		19	01	218	53		18	05	238	62		14	20	263	52		14	09	273	37	650																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
600	135.2	17	20	238	74	129.3	01	36	249	78	128.7	08	17	271	60	130.0	07	21	282	61	140.7	10	06	213	54	139.7	13	07	240	69	138.9	09	28	247	60	139.5	08	11	266	47	600																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
550		09	27	241	81		06	41	240	94		15	25	271	56		17	26	282	54		05	13	215	60		06	08	243	72		01	34	277	60		02	17	265	51	550																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
500	180.8	02	35	241	79	173.4	15	48	223	110	171.9	23	35	271	55	173.1	26	37	282	46	185.7	06	24	213	69	185.0	04	14	234	61	183.7	06	35					184.4	05	21	261	35	500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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400	234.3	20	56	232	99	225.7	30	57	215	126	222.8	42		274	60	223.8	44		278	65	238.3	31	52	203	67	238.1	24	33	229	81	236.5	23	44					237.1	27	38	262	70	400																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
350		30	57	231	108		40	60	224	116		49		273	65		49		275	73		47		206	79		35	47	227	60							37	46	253	70	350																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
300	299.9	46		229	96	289.9	54		227	124	285.9	51		257	76	286.7	52		275	61	301.4	67		206	84	303.1	50		220	81									301.6	54	250	84	300																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
250		60		229	93		63		225	105		52		235	81		54		276	66	(295.8)	69						13	21	224	82							17	30	260	68	250																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
200	386.0	78		227	76	375.9	63		232	69	373.9	55		234	72	374.4	56		274	65																				76	257	83	200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
170		83		228	59		64		232	60		57		239	60		53		274	65																				75	248	71	170																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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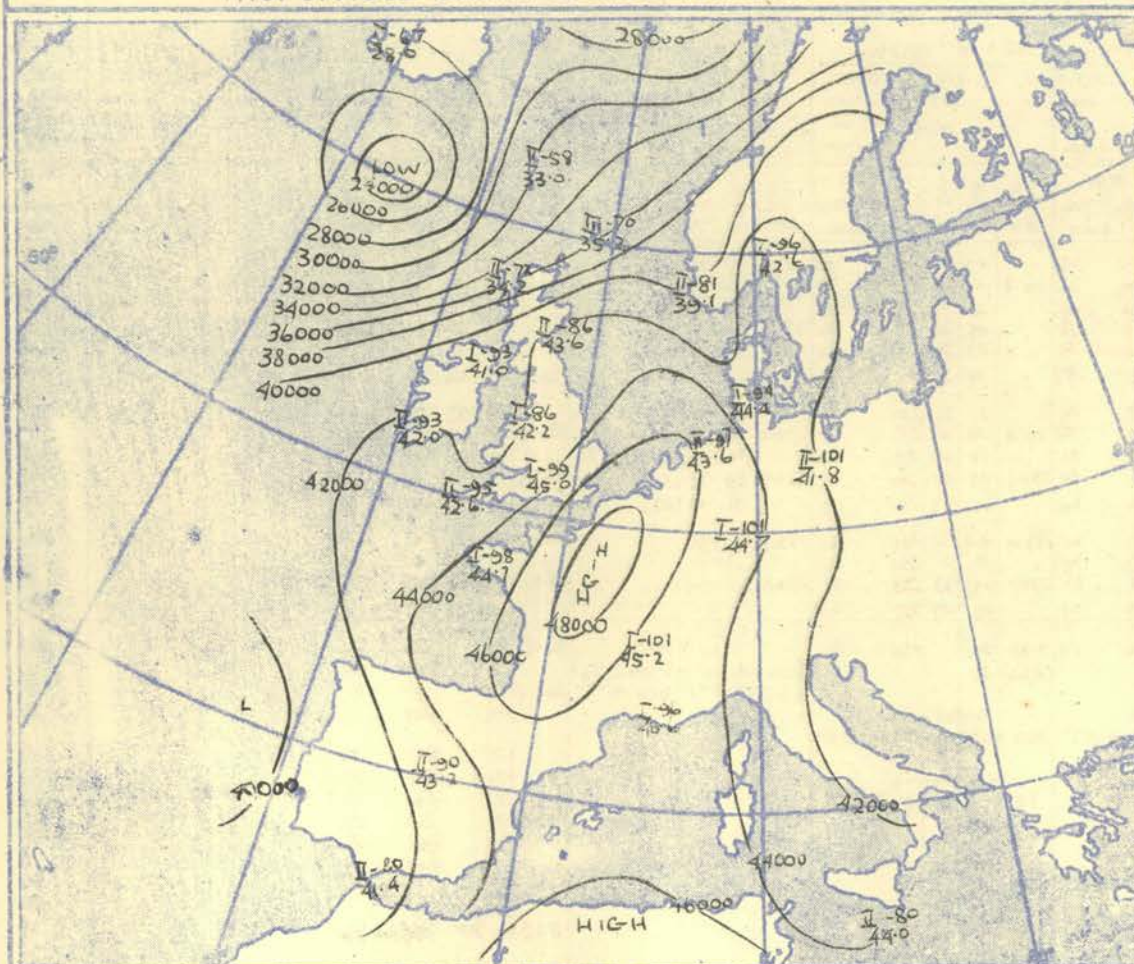


HEIGHTS IN FEET. TEMPERATURES (Dry bulb and Dew Point). DIRECTION AND VELOCITY (in knots) OF WINDS at the 700 mb. and 300 mb., levels at about 15 h G.M.T.



The continuous lines are contour lines of the 700 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 2000-700 mb.

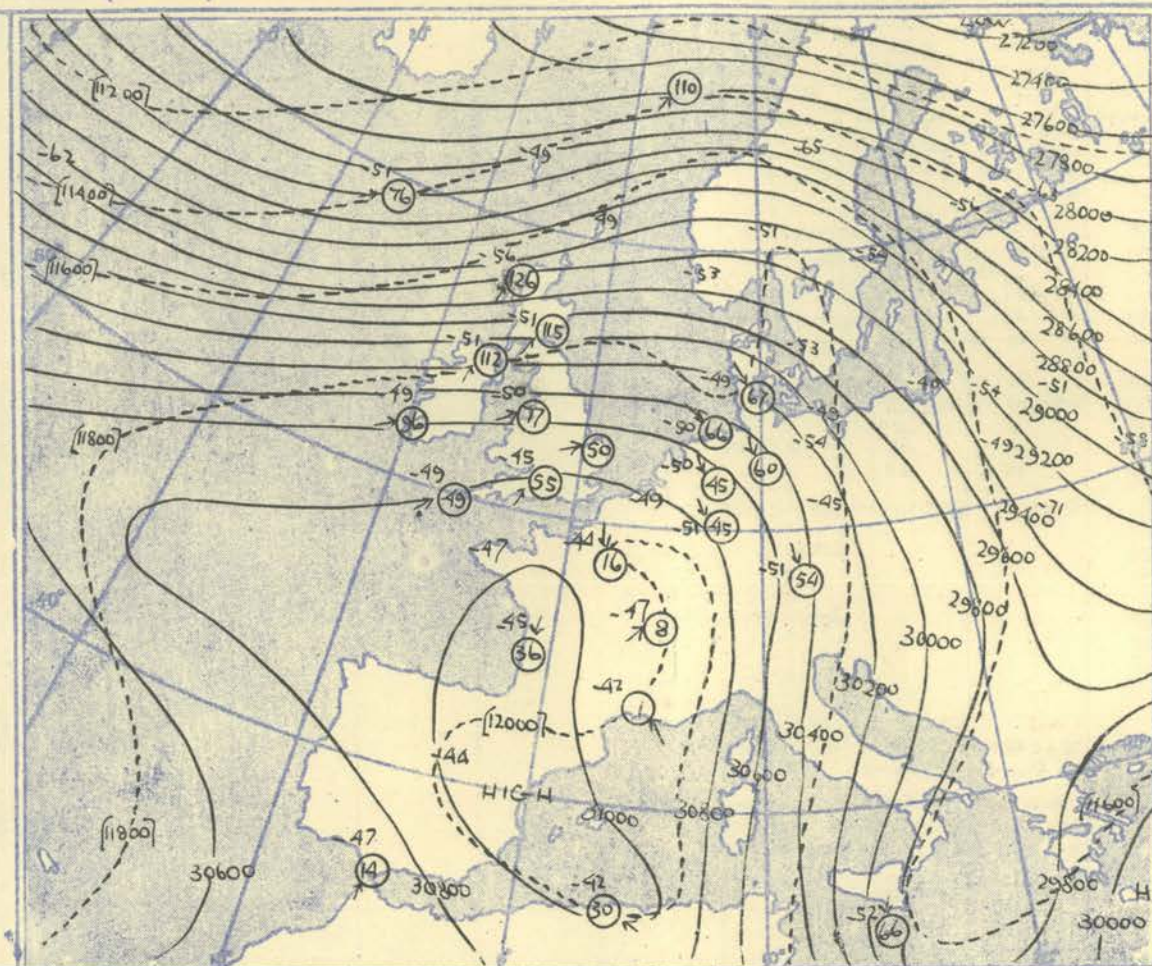
### TROPOPAUSE CHART at about 15h G.M.T.



Contour lines of Height of Tropopause.  
Temperature of Tropopause.

Gradient Wind Scale for Contours  
at intervals of 200 ft. at Lat. 52° N.

100 80 60 40 20 10 knots



The continuous lines are contour lines of the 300 mb. surface.  
The dotted lines are isopleths of the thickness of the layer 500-300 mb.

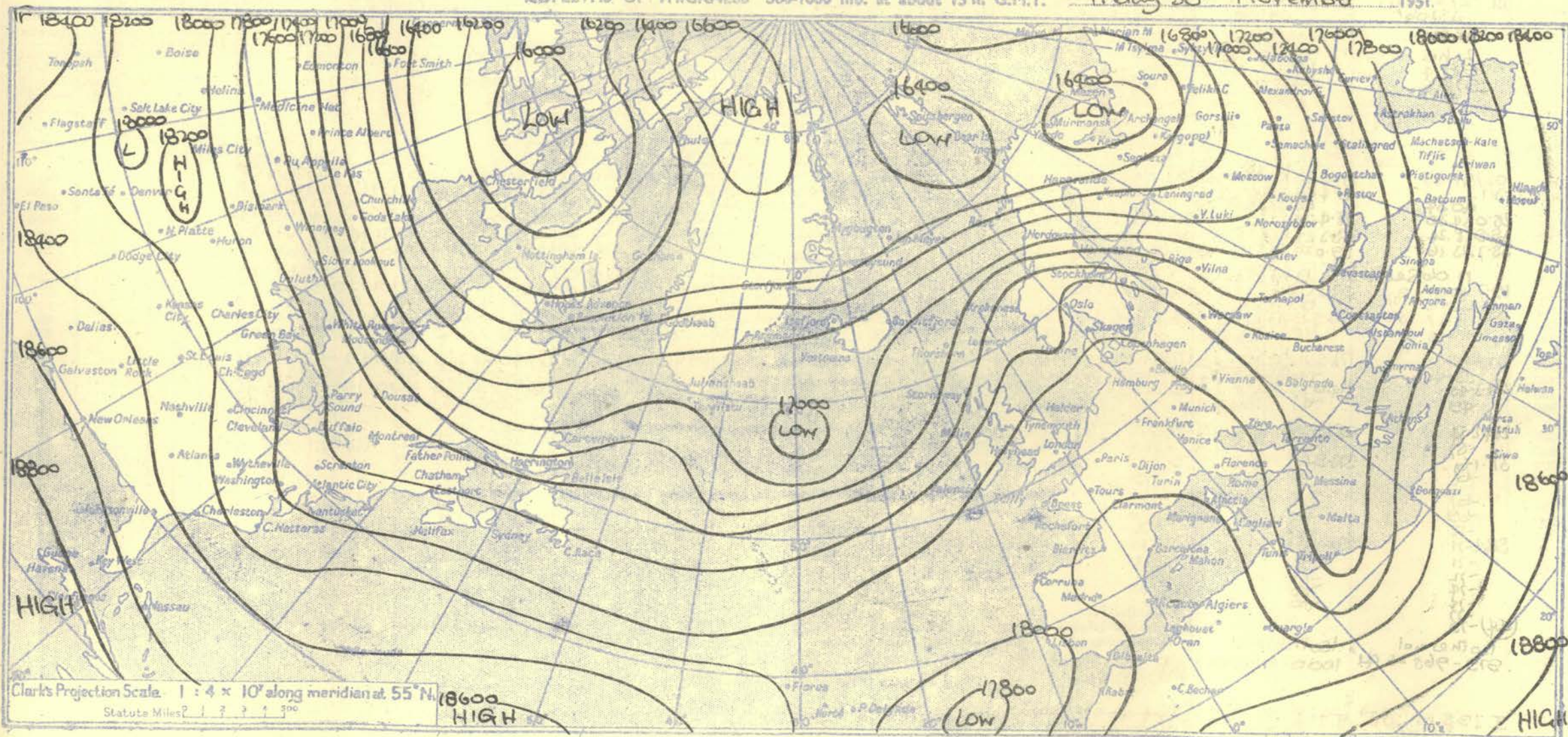
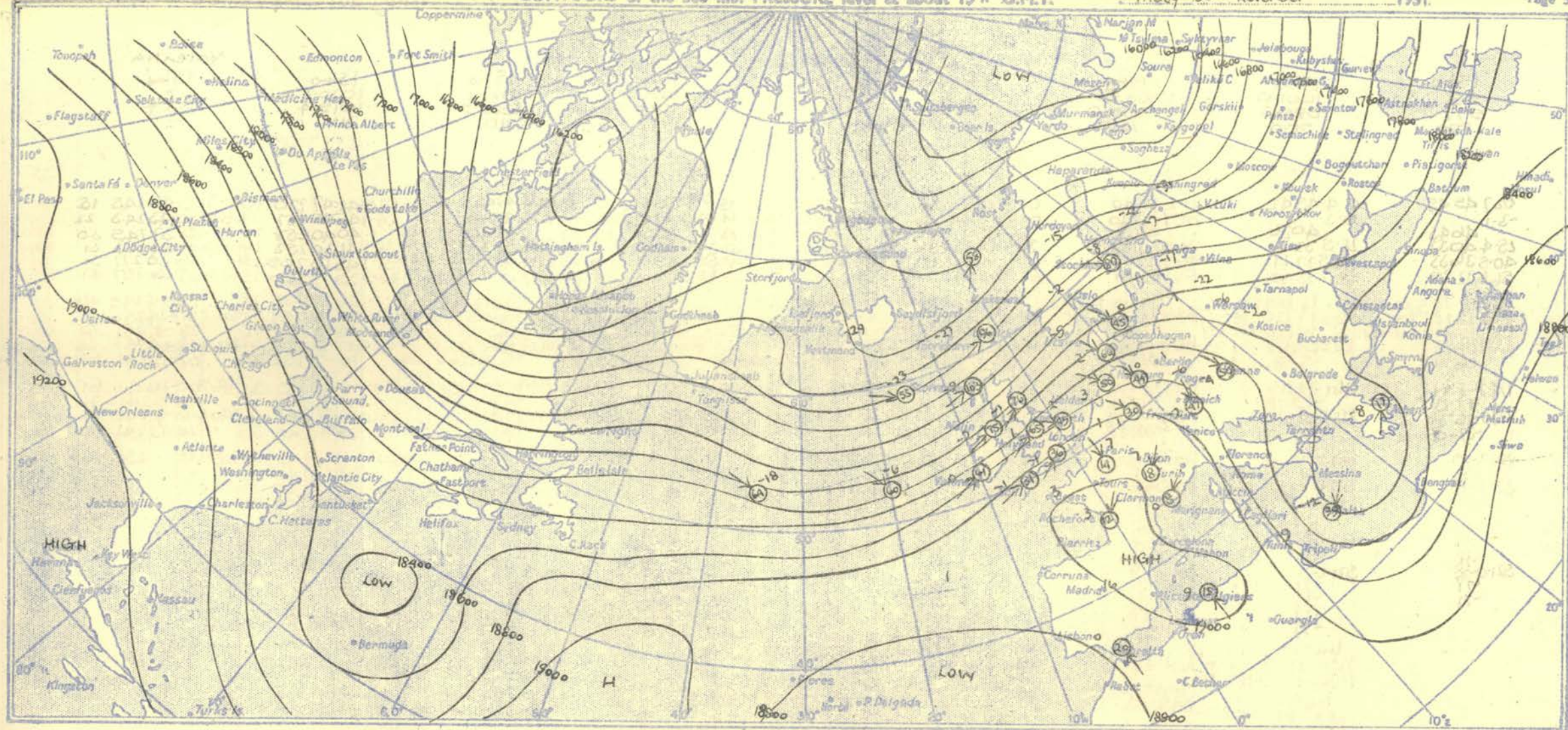
### NOTES ON THE AEROLOGICAL SITUATION.

The rapid development of the depression moving into Scandinavia produced a strong northerly advection; as a result the warm ridge over the British Isles was quickly displaced to Central Europe and a very strong westerly thermal gradient over the Central Atlantic extended across the British Isles. The Azores cold pool warmed out a little.

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Meteorological Office, Air Ministry, Kingsway, London, W.C.2  
Nelson K. JOHNSON, K.C.B., D.Sc., Director.







### RADIO-SOUNDINGS OF TEMPERATURE, HUMIDITY AND WIND (Heights above M.S.L.)

STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	Valencia	STATION																																																																																																																																								
Time M.S.L. Surf Freezing	15 hrs 988.7 978.9 800	G.M.T. mb mb mb	15 hrs 1001.0 999.3 900	G.M.T. mb mb mb	15 hrs 1005.8 1003.0 722	G.M.T. mb mb mb	15 hrs 1017.9 1012.0 1010.0 705	G.M.T. mb mb mb	15 hrs 1021.9 1021.0 1020.4 728	G.M.T. mb mb mb	15 hrs 1021.2 1010.9 710	G.M.T. mb mb mb	15 hrs 1030.2 1019.4 712	G.M.T. mb mb mb	15 hrs 1019.4 mb mb mb	G.M.T. mb mb mb	Time M.S.L. Surf Freezing																																																																																																																																	
Pressure mb	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Height ft./100	Temp. °F.	Dew °F.	Wind Dir. Vel. knots	Pressure mb																																																																																																																													
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Tropopause 1127ms -10° 35200'																					Tropopause 1126ms -7.2° 34200'																					Tropopause 1115ms -9.6° 42600'																					Tropopause 1117ms -9.5° 41000'																					Tropopause 1110ms -9.5ms 42300'																					Tropopause 1114ms -9.3° 41000'																																									
STATION	LERWICK	STORNOWAY	LEUCHARS	ALDERGROVE	LIVERPOOL	HEMSBY	LARKHILL	CAMBORNE	Valencia	STATION																																																																																																																																								
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Tropopause 1129ms -5.5° 38100'																					Tropopause 1125ms -6.5° 34500'																					Tropopause 1119ms -7.8° 38000'																					Tropopause 1119ms -8.8° 38700'																					Tropopause 1118ms -9.5° 43200'																					Tropopause 1114ms -10.2° 45100'																					Tropopause																				