

UPPER AIR SECTION.

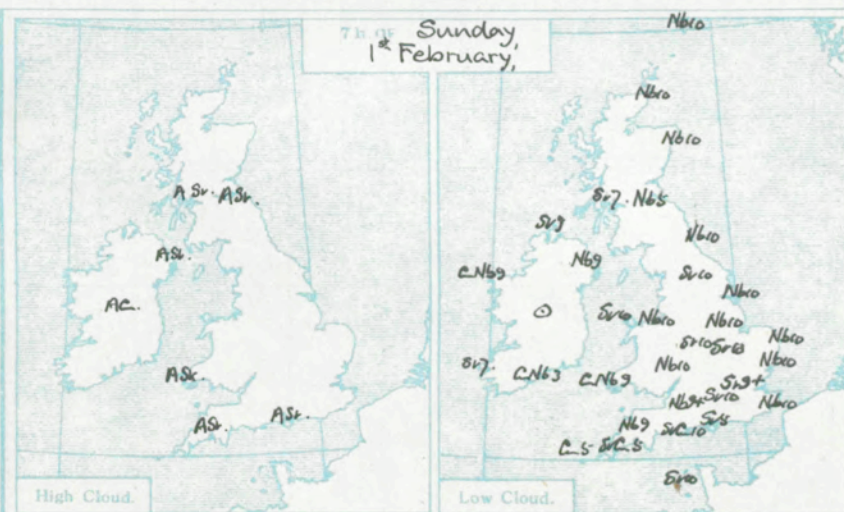
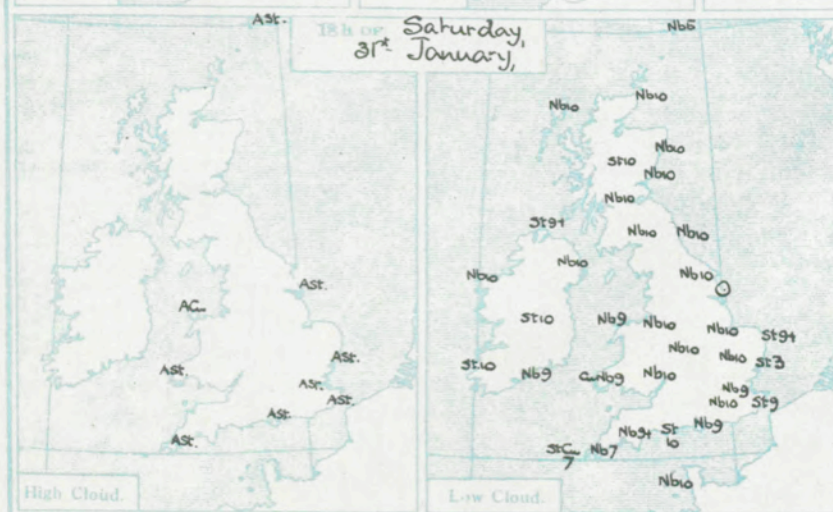
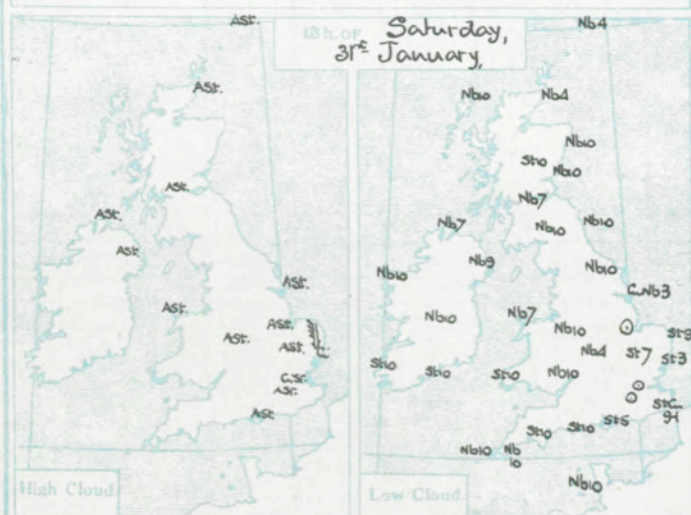
SUNDAY, 1ST FEBRUARY, 1931.

No. B. 25273.

U.A.S. 4325.

UPPER AIR TEMPERATURES.

Saturday, 31st January, 1931.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

[illegible]

UPPER AIR TEMPERATURES AND HUMIDITIES.

Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.	
	mb.	Feet. M.S.L.	°F.	°F.	°/o		mb.	Feet. M.S.L.	°F.	°F.	°/o		mb.	Feet. M.S.L.	°F.	°F.	°/o
		M.S.L.	—	—	—			M.S.L.	—	—	—			M.S.L.	—	—	—

UPPER WINDS ABROAD.

Place.	Maddelena		Warsaw		Messina		Calais		Strasbourg		Malta	
Time.	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st	13 ^h 31 st
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	-	-	140	16	100	8	150	30	-	0	3,000ft.	
3,280	270	19	140	16	-	-	210	31	150	3	240	23
4,920	-	-	150	17	170	16			130	13		
6,560	270	16	150	13	-	-			180	9	7,000ft.	
9,840	210	20			210	16					260	26
13,120												
16,400											10,000ft.	
19,680											250	33

Place.	Paris		Lisena		Rome		Maddelena		Barcelona		Maitra	
Time.	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st	18 ^h 31 st
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	180	2	360	26	-	-	360	6	280	22	(1000ft)	
3,280	-	-	10	35	80	10	-	-	280	20	300	23
4,920	190	3	360	14	40	4	160	3			(2000ft)	
6,560	210	6					120	3			300	32
9,840												
13,120												
16,400												
19,680												

Meteorological Office, Air Ministry.
Kingsway, London, W.C.2.

G. C. SIMPSON, C.B. D.Sc. F.R.S.
Director



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

MONDAY, 2nd FEBRUARY, 1931.

No. B. 25274.

U.A.S. 4326.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes by saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite and balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail.

d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings).

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 5-15 "

— 15-25 "

— 25-35 m.p.h.

— 35-45 "

— 45-55 "

— 55-65 "

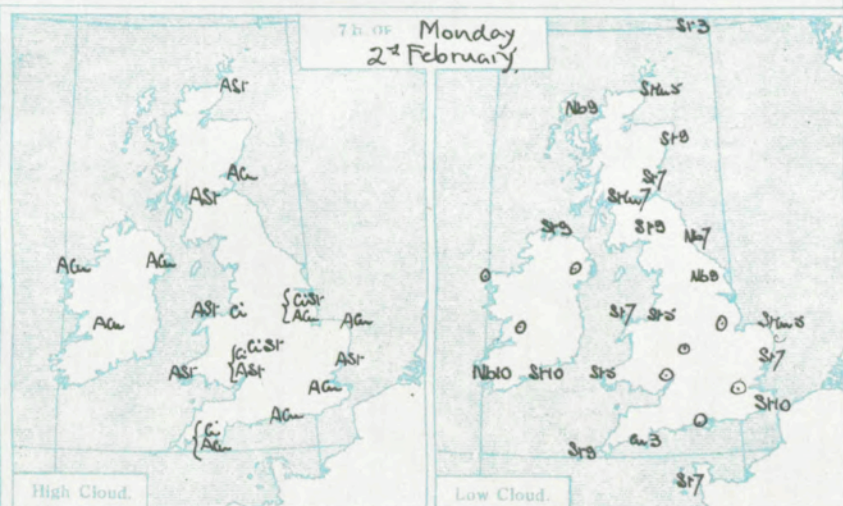
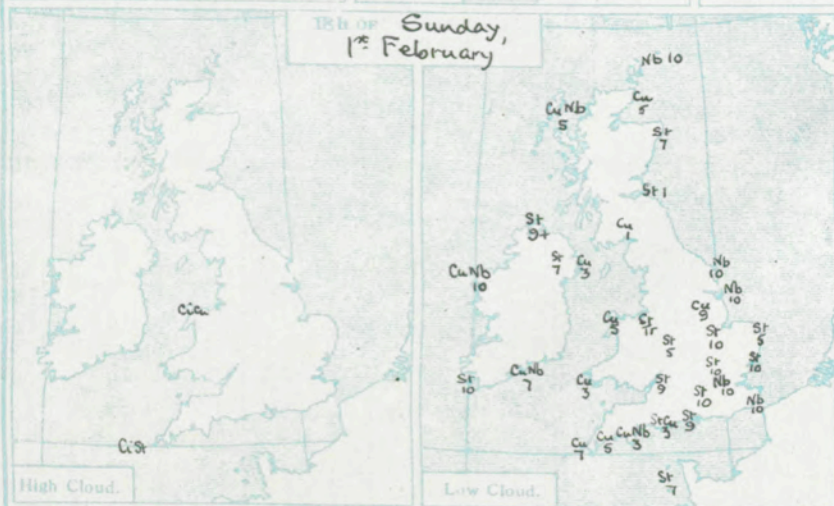
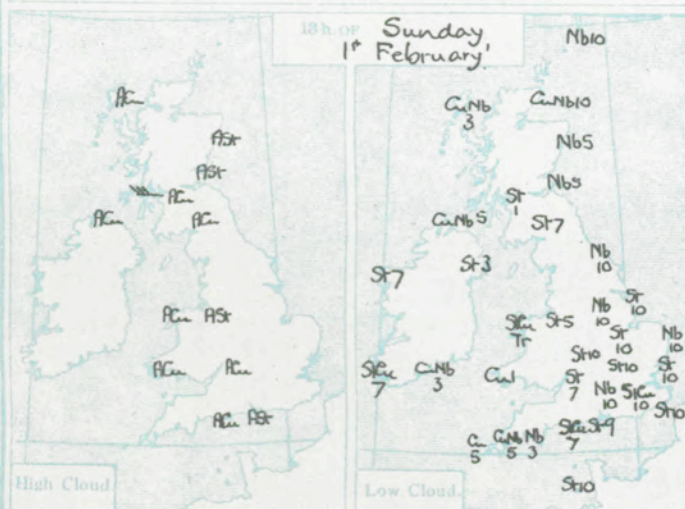
and so on.

In Tables.

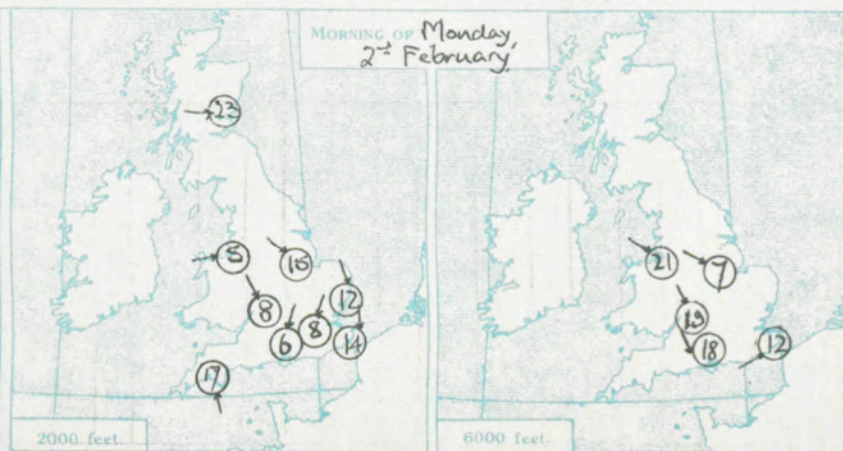
Directions are given in degrees, velocities in m.p.h.

Speeds of high cloud are computed for an average height of 5 miles for cumulo type clouds (double lines) and 3 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS:



DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



© Indicates absence of cloud.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																							
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.			
Time.	11h 18													13h 1st		12h 18				Time.			
Type														b						Type			
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet			
Surf.	145 3																			Surf.			
1000	165 5													320 44		310 31				1000			
2000	135 6													325 46		315 35				2000			
3000	75 6													330 52						3000			
4000																				4000			
5000																				5000			
6000																				6000			
8000																				8000			
10000																				10000			
12000																				12000			
Neph.																				Neph.			
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Valentia	Place.				
Time.																			Time.				
Type.																			Type				
Feet																			Feet				
Surf.																			Surf.				
1000																			1000				
2000																			2000				
3000																			3000				
4000																			4000				
5000																			5000				
6000																			6000				
8000																			8000				
10000																			10000				
12000																			12000				
Neph.																			Neph.				
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Valentia	Place.				
Time.	10h 2m	8h 2m	7h 2m	10h 2m		6h 2m		7h 2m	6h 2m	8h 2m	6h 2m		8h 2m	9h 2m	6h 2m			10h 2m	Time.				
Type.			b			b						b							Type.				
Feet																			Feet				
Surf.		270 1	- 0			340 12		320 6	215 6	240 7	240 3	55 14	190 11	145 3	235 10				Surf.				
1000		355 6	350 4			350 17		345 14	305 13	330 11	300 7	17											

UPPER AIR TEMPERATURES AND HUMIDITIES.																	
Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.	
	mb.	Feet. M.S.L.	°F.	°F.	%		mb.	Feet. M.S.L.	°F.	°F.	%		mb.	Feet. M.S.L.	°F.	°F.	%
		M.S.L.	—	—	—			M.S.L.	—	—	—			M.S.L.	—	—	—

UPPER WINDS ABROAD.													
Place.	Milan		Rome		Maddalena								
Time.	13h	1st	13h	1st	13h	1st							
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	
1,640	300	6	-	-	-	-							
3,280	230	2	320	3	320	8							
4,920	35	13	110	8	270	9							
6,560			-	-									
9,840			20	3									
13,120													
16,400													
19,680													
Place.			Bizerta		Zara		Leighorn		Rome		Malta		
Time.			6h 24		7h 24		7h 24		7h 24		6h 24		
1,640			330	25	-	-	70	9	80	10	1,000'		
3,280			320	21	70	8	40	9	-	-	310	22	
4,920			310	12	70	10	70	11	-	-	2,000'		
6,560					50	46			340	8	310	23	
9,840									310	25	3,000'		
13,120											310	19	
16,400													
19,680													

Meteorological Office, Air Ministry,
Kingsway, London, W.C.2

G. C. SIMPSON, C.B., D.Sc., F.R.S.,
Director.



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

TUESDAY, 3rd FEBRUARY, 1931.

No. B. 25275.

U.A.S. 4327.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite and balloon ascent, except where otherwise specified in the table on the reverse side.

h = balloon with tail.

d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings).

On Charts.

Movements are indicated thus:-

— No speed given.

— 0-5 m.p.h.

— 6-10 "

— 11-20 "

— 21-30 m.p.h.

— 31-40 "

— 41-50 "

— 51-60 "

— 61-70 "

— 71-80 "

— 81-90 "

— 91-100 "

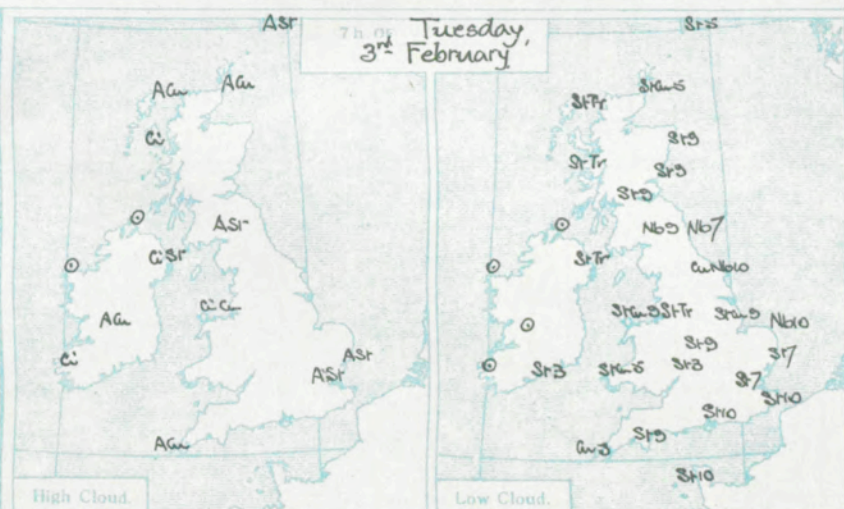
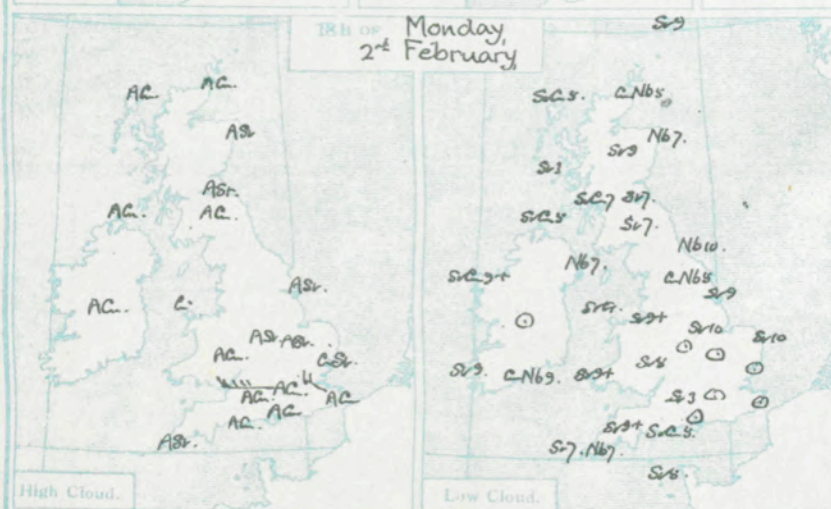
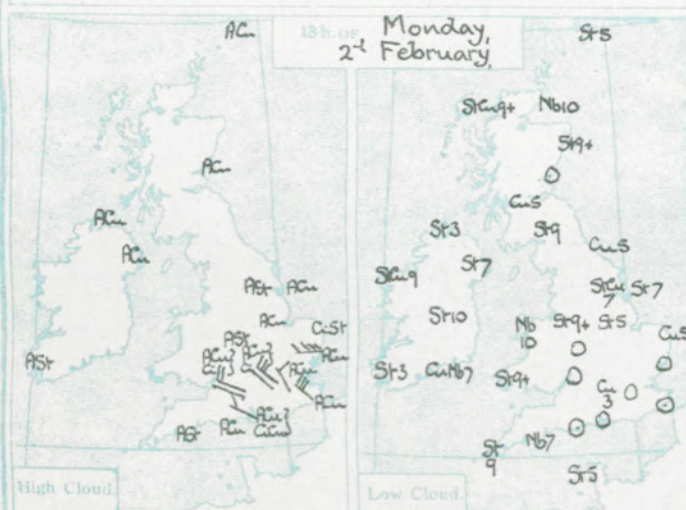
— and so on.

In Tables.

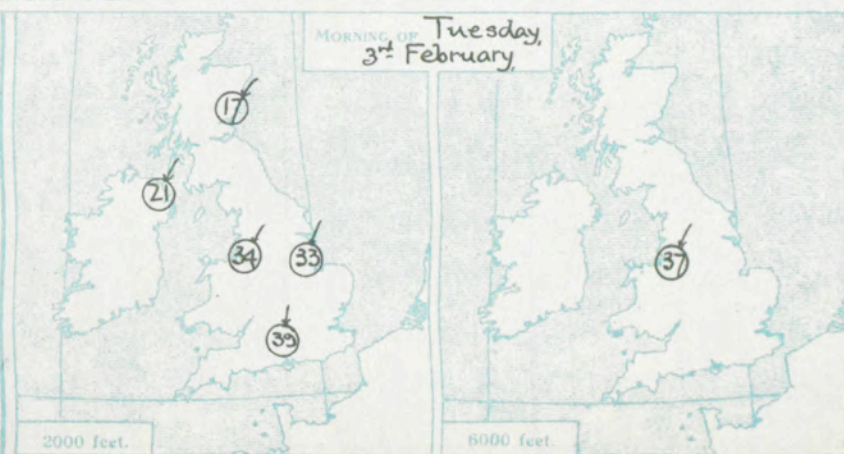
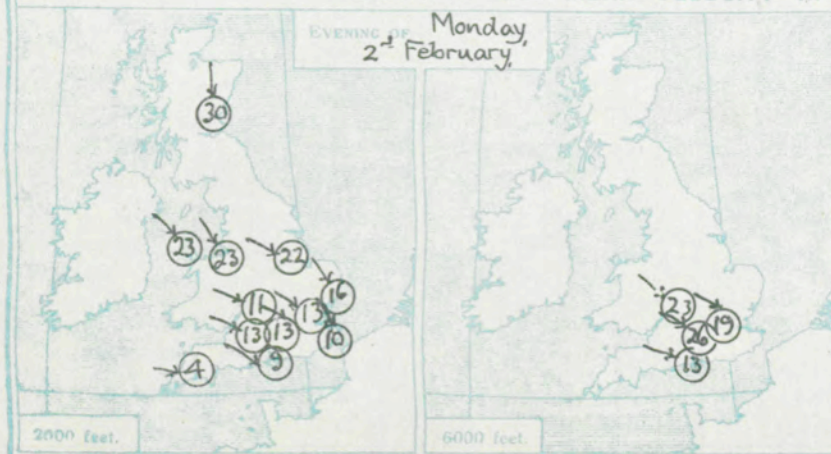
Directions are given in degrees, velocity in m.p.h.

Speeds of high cloud are computed for an average height of 5 miles for cumulo type clouds (double lines) and 3 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.



DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Croydon	Sealand	Leuchars	Renfrew	Lympne	Alder-grove	Boscombe Down	Place																				
Time.	10h 2 ^m	12h 2 ^m	12h 2 ^m	12h 2 ^m	13h 2 ^m	11h 2 ^m	12h 2 ^m	12h 2 ^m	11h 2 ^m	12h 2 ^m	12h 2 ^m	13h 2 ^m	12h 2 ^m	12h 2 ^m	13h 2 ^m	13h 2 ^m	12h 2 ^m	12h 2 ^m	14h 2 ^m	Time.																				
Type			b.			b.	a.	b.	b.	b.		b.					b.			Type																				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet																			
Surf.	240	3	300	2	-	0	205	5	325	3	350	7	310	8	290	4	230	11	275	2	245	3	160	12	280	6	150	2	225	8	265	5	340	7	200	4	360	5	Surf.	
1000	320	6	275	6	230	4	215	8	240	6	350	10	310	10	325	11	300	11	270	8	255	7	175	14	310	7	280	7	265	23	285	20	340	9	290	10	255	9	1000	
2000	340	8	275	5	245	5	230	8	255	6	5	9	335	12	330	13	305	14	315	11	285	9			335	10	295	13	275	31	290	28	335	5	310	18	275	10	2000	
3000	330	7	310	5	275	8	260	8	270	8	290	5	335	8	325	11	285	13	315	11	280	12			320	8	305	12	285	40			290	7			290	11	3000	
4000	350	11	310	10	305	10	305	8			255	9	285	8	315	9	280	15	295	15	280	13			340	7	310	14	305	29			290	10			305	15	4000	
5000	330	11	320	13	335	10	315	8			290	8	340	8	335	11	275	13	300	25	300	15			345	10	305	23					330	7			300	12	5000	
6000			330	12	335	13	330	11																									350	15			345	12	6000	
8000			330	9	(2000)	21	(2000)	17			Biggin Hill		330	8			335	17	305	17														350	11			345	17	8000
10000			315	13	(2000)	15	(2000)	3			13h AC		330	12	13h AC																			350	11			305	22	10000
12000			9h AC		(21000)	22	(21000)	24			13h AC																									330	28	12000		
Neph.		310	27	290	20			280	15	290	42			270	39											330	15							290	30					Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Valentia	South Farnboro	Place																				
Time.	7h 2 ^m	7h 2 ^m	7h 2 ^m	7h 2 ^m	7h 2 ^m	7h 2 ^m		7h 2 ^m	7h 2 ^m			7h 2 ^m	7h 2 ^m	7h 2 ^m	18h 2 ^m				15h 2 ^m	Time.																				
Type			b.			b.		b.	b.			b.	b.	b.	b.	b.	b.	b.	b.		Type																			
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet																			
Surf.	280	8	250	3	250	3	265	5	300	5	220	5			275	7	235	9			245	4	195	4	315	17	-	0	310	12					275	6	Surf.			
1000	295	11	265	13	265	10	265	11	305	7	220	8			300	15	280	18			260	9	225	6	310	19	295	20	335	31					275	11	1000			
2000	300	13	285	13	285	13	290	13	300	9	320	10			310	16	290	22			285	11	270	4	320	23	310	23	350	30					280	12	2000			
3000	305	14	300	13	310	19	315	15	315	12	325	17			315	11					310	13	320	4	320	23			360	27					295	10	3000			
4000	315	11	305	16			315	16	330	14	325	12			305	9					325	19			320	22										300	11	4000		
5000	310	23	310	24			305	13	315	14					290	6					330	29			300	22											5000			
6000	305	19	310	26			300	13	300	13	16h AC										315	23															6000			
8000							285	17	AC												285	24															8000			
10000			7h AC				285	23	18h AC												280	33															10000			
12000							150	24																													12000			
Neph.		280	54								150	45																							290	42			Neph.	
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place																				
Time.	7h 3 ^m	8h 3 ^m		8h 3 ^m		10h 3 ^m			6h 3 ^m	8h 3 ^m				9h 3 ^m	7h 3 ^m	6h 3 ^m		7h 3 ^m	10h 3 ^m	Time.																				
Type																				Type																				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet																			
Surf.	10	15	360	13			15	15			5	12									380	11	10	16			40	20	350	7	20	6			-	0	-	0	Surf.	
1000	20	21	15	18			15	23			30	20									30	27	25	26			40	20	35	20	60	10			60	17	-	0	1000	
2000							25	30			35	33	40	34							45	17	45	34	60	17	45	17	45	34	60	17			60	21	-	-	2000	
3000											35	37	45	31							50	19					50	19	50	24	55	20			-	-	-	-	3000	
4000																											40	34	50	19					55	10			4000	
5000																											35	41							350	8			5000	
6000																											35	37							5	24			6000	
8000																																			5	17			8000	
10000																																							10000	
12000																											10h AC	60	10h AC											12000
Neph.																											340	100	60	54									Neph.	

UPPER AIR TEMPERATURES AND HUMIDITIES.

STATION. Farnborough. 10h. 15h. 2/2/31.						STATION. Duxford. 10h. 30m. 2/2/31.						STATION. Duxford. 12h. 30m. 2/2/31.						STATION. Farnborough. 15h. 2/2/31.					
Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.					Dry.	Wet.	
mb.	Feet.		°F.	°F.	%	mb.	Feet.		°F.	°F.	%	mb.	Feet.		°F.	°F.	%	mb.	Feet.		°F.	°F.	%
607.5	M.S.L.		-	-	-	1013	M.S.L.		-	-	-	1016.8	M.S.L.		-	-	-	1016.1	M.S.L.		-	-	-
1008	230	36	36	-	-	976	100	34.5	34	95	-	976	100	43	33	-	-	978	230	46	-	-	-
978	1040	36	36	-	-	950	1070	35	33	81	-	950	1087	36	34	80	-	978	1100	39	-	-	-
944	2000	36	36	-	-	900	1700	33	30	73	-	900	1800	34.9	32	81	-	939	2400	34	-	-	-
909	3000	32	32	-	-	850	3200	29.5	29	55	-	850	3200	28	26	80	-	904	3100	27.8	-	-	-
877	3540	28	28	-	-	800	4700	25	24	89	-	800	4700	21.5	20	83	-	872	4000	25	-	-	-
844	4910	27	27	-	-	750	6280	28	26.5	88	-	750	6290	29	25	64	-	841	4950	32	-	-	-
814	5870	31	31	-	-	700	7960	25	22	70	-	700	7950	25	22	80	-	870	5980	30	-	-	-
783	6850	27	27	-	-	650	9740	20	16	56	-	650	9730	16.5	15	-	-	781	6900	28	-	-	-
754	7880	21	21	-	-	600	11610	13.5	11	-	-	600	11620	14	13	-	-	753	7830	22	-	-	-
726	8840	24	24	-	-	550	13650	9.5	8	-	-	550	13650	8	7	-	-	728	8600	21	-	-	-
698	9850	22	22	-	-	500	15800	0	0	-	-	500	15800	1	0.5	-	-	699	9730	18.5	-	-	-
672	10840	18	18	-	-	450	20820	-13	-13	-	-	450	20760	-11	-11	-	-						
646	11810	16	16	-	-																		
621	12840	14	14	-	-																		
597	13850	10	10	-	-																		
573	14790	7	7	-	-																		
Haze top about 978mb.						Haze top 700mb.						Inversion: 850mb. 2° P. 870mb. 29° P.											
M.S.L.						M.S.L.						M.S.L.						M.S.L.					
930	670	34	-	-	95	(1) 1013mb. 34° F. 976mb. 35° F.																	
952	1650	30	-	-	80	(2) 850mb. 25° F. 800mb. 28° F.																	
894	3280	30	-	-	85	A. at 940, 675mb - 570mb.																	
840	4920	25	-	-	75																		
788	6560	21	-	-	75																		
740	8200	21	-	-	45																		
693	9840	18	-	-	35																		
609	13120	9	-	-	5																		
Inversion: Base 795mb. 22° F. Amount 0° F. Thickness, 131ft.																							

UPPER WINDS ABROAD.

UPPER WINDS ABROAD.													
Place.	Kosice.		Horta.		Barcelona		Madrid		Strasbourg		Malta		
Time.	13h. 2 ^d .	11h. 2 ^d .	13h. 2 ^d .	13h. 2 ^d .	13h. 2 ^d .	18h. 2 ^d .	18h. 2 ^d .	18h. 2 ^d .	18h. 2 ^d .	16h. 2 ^d .	16h. 2 ^d .	16h. 2 ^d .	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	
1,040	360	9	-	-	150	6	-	-	-	0	2,000		
3,280	40	6	200	16	340	6	280	16	250	9	310	31	
4,920	350	4	-	-	320	18						3,000'	
6,560	10	3	160	9	320	23						310 33	
9,840	280	12	220	9	270	17						5,000'	
13,120	220	17			320	34						300 32	
16,400	230	18											
19,680	250	17											

Place	LePuy.		Paris		Helsingfors		Biserta		Mosul		Malta	
Time.	18h. 2 ^d .	7h. 3 ^d .	7h. 3 ^d .	7h. 3 ^d .	7h. 3 ^d .	6h. 3 ^d .	6h. 3 ^d .	6h. 3 ^d .	6h. 3 ^d .	6h. 3 ^d .	6h. 3 ^d .	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	-	-	340	11	130	20	270	18	130	24	1,000'	
3,280	20	14	20	7	140	22	300	18	130	16	310	26
4,920	10	10			140	27	290	13	160	22	2,000'	
6,560					150	25			190	25	210	25
9,840												3,000
13,120												310 32
16,400												
19,680												

Meteorological Office, Air Ministry
Kew Palace, London, W. 8.

G. C. SIMPSON, C.B., D.Sc., F.R.S.,



AIR MINISTRY. DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

WEDNESDAY, 4TH FEBRUARY, 1931.

No. B 25,276

U.A.S. 4,328.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 8th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail.

d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

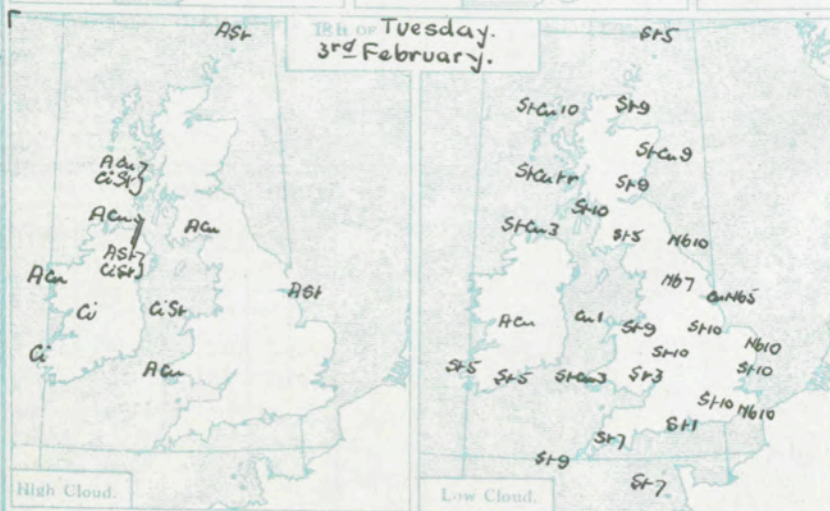
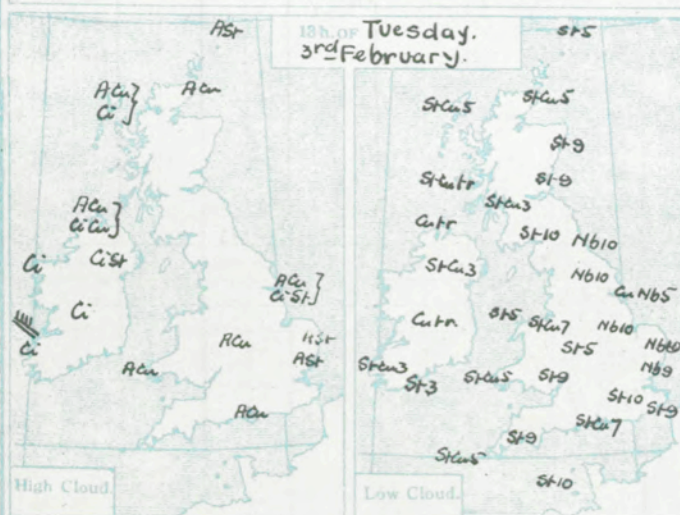
— and so on.

In Tables

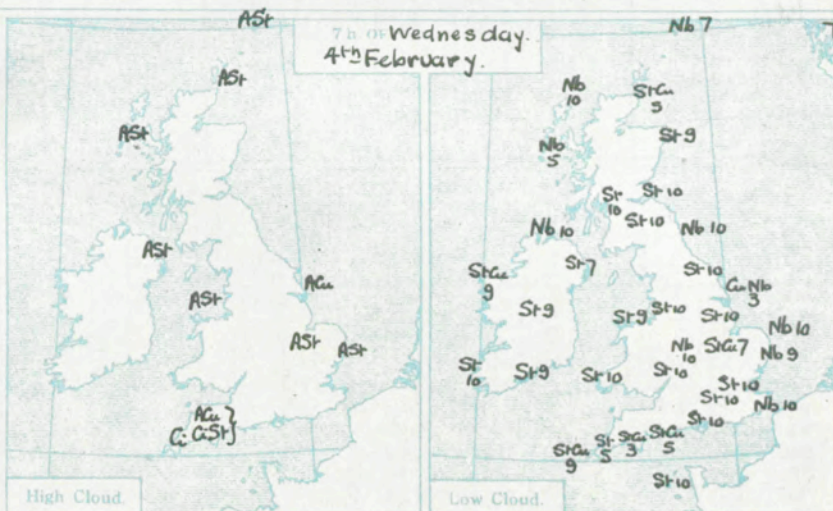
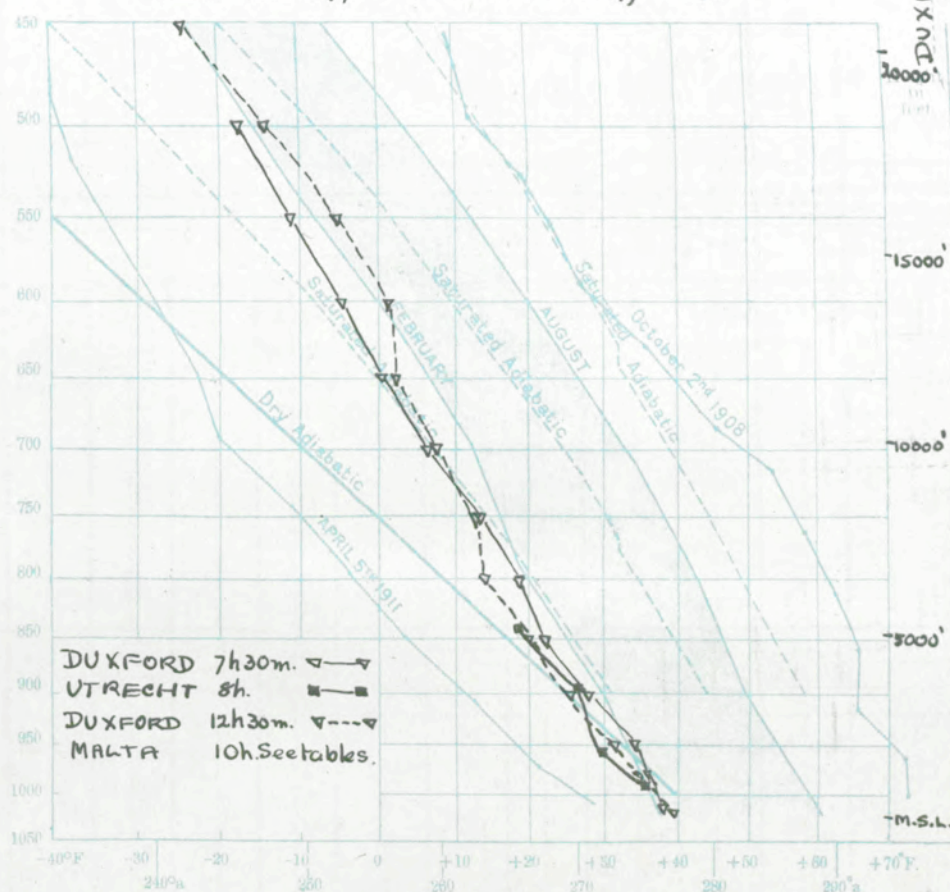
Directions are given in degrees, velocity in m.p.h.

Speeds of high cloud are computed for an average height of 5 miles for cirro type clouds (double lines) and 3 miles for alto type clouds (single line).

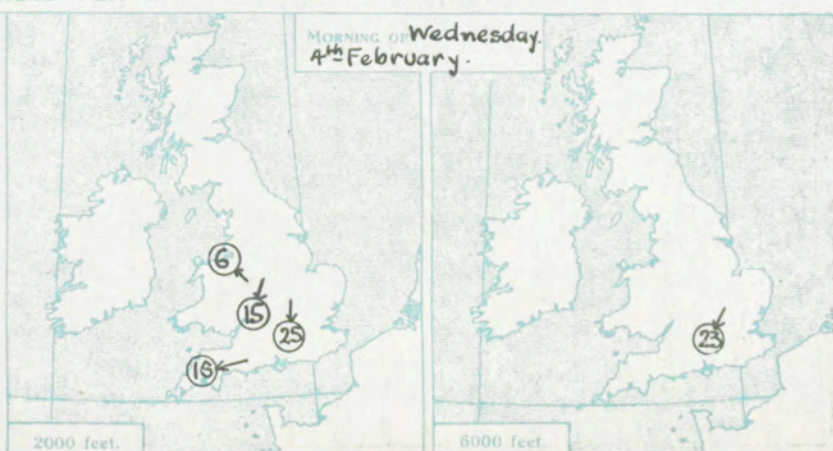
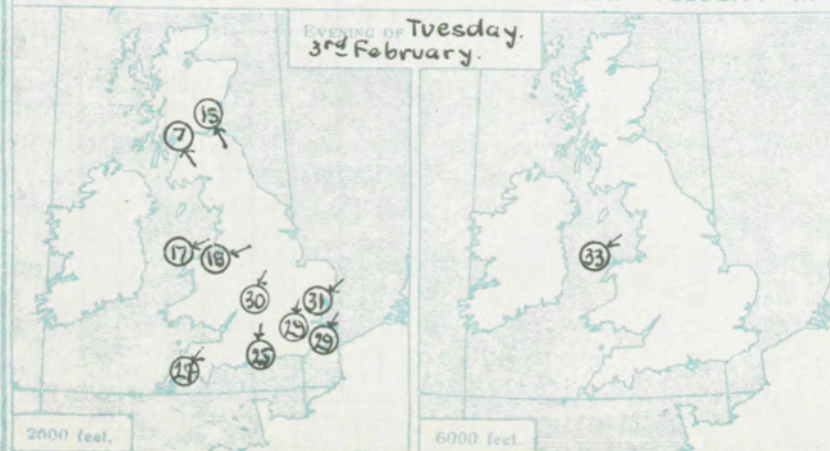
CLOUD FORMS, AMOUNTS AND MOVEMENTS.



UPPER AIR TEMPERATURES.

TUESDAY, 3RD FEBRUARY, 1931.

DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



© Indicates absence of cloud.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																											
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.							
Time	12h 3rd	12h 3rd	12h 3rd	12h 3rd						12h 3rd	12h 3rd		12h 3rd	12h 3rd		12h 3rd		12h 3rd		Time.							
Type		b											b	b						Type.							
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet						
Surf.		15 15	20 15	15 18	25 13								25 12	20 14			35 18	15 11			Surf.						
1000		25 34	30 26	30 23	35 12								30 21	25 20			40 17	25 16			1000						
2000				40 22	30 21								30 28	35 26			60 14	40 19			2000						
3000													30 29				65 21	45 20			3000						
4000													25 28				75 15	40 23			4000						
5000													30 20								5000						
6000																					6000						
8000																					8000						
10000																					10000						
12000																					12000						
Neph.																					Neph.						
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Valentia	Calshot	Place.							
Time.	17h 3rd		17h 3rd		16h 3rd	17h 3rd		17h 3rd			16h 3rd	17h 3rd	16h 3rd	17h 3rd	18h 3rd	16h 3rd			24h 3rd	Time.							
Type.			b									b								Type.							
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet						
Surf.	10 15		5 15		35 18	10 15		20 11			20 15	25 12	55 13	30 4	Cal	70 3				5 17	Surf.						
1000	15 17		20 24		15 17	15 17		35 27			20 23	40 19	60 16	55 17	210 9	115 7				35 25	1000						
2000	20 29				15 25	20 29		45 31			25 30	40 24	65 17	65 18	150 15	140 7				50 24	2000						
3000					25 31			45 29				45 24	60 15	70 13	130 11					55 17	3000						
4000												40 29	90 13	65 14	125 15					65 18	4000						
5000													15 25		120 11						5000						
6000													35 33								6000						
8000													30 32								8000						
10000													30 28								10000						
12000													20 45								12000						
Neph.																	16h Cal				Neph.						
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe		Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.							
Time.	8h 4th	7h 4th	8h 4th	7h 4th	7h 4th					6h 4th	6h 4th	8h 4th	9h 4th	6h 4th						Time.							
Type.		b																		Type.							
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet						
Surf.	360 4	360 7	25 10	5 13						340 3	345 10	40 12	185 7	calm							Surf.						
1000	15 16	20 18	30 20	30 21						60 11	5 15	70 19	190 13	100 6							1000						
2000		35 25	25 18								25 15	85 16	200 11	125 6							2000						
3000			35 22								50 12		250 4								3000						
4000			40 28								40 19										4000						
5000			35 31								45 23										5000						
6000			40 23																		6000						
8000																					8000						
10000																					10000						
12000																					12000						
Neph.																					Neph.						

UPPER AIR TEMPERATURES AND HUMIDITIES.																					
Station.	Pressure.	Height above M.S.L.	Temp.	Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.	Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.	Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.	Relative Humidity		
	mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	mb.	Feet.	°F.	°F.	%
DUXFORD 7h 30m. 3/2/31.	1017.5	M.S.L.	-	-	-	DUXFORD 12h 30m. 3/2/31.	1021	M.S.L.	-	-	-	MALTA 10h 3/2/31.	1040	M.S.L.	-	-					
	1014	100	38	37	92		1017	100	40	38	84		978	660	50	-					
	978	1080	36	35	91		980	1080	35.5	23	76		974	1640	46	-					
	950	1840	34	32	81		950	1910	32	30	80		884	3280	38	-					
	900	3270	28	25	70		900	3320	26.5	24	73		840	4920	33	-					
	850	4750	22	21	58		850	4810	20	19.5	94		790	6560	27	-					
	800	6300	19	18	-		800	6260	13.5	13	-		740	8200	15	-					
	750	7940	13	12	-		750	8000	12.5	10	-										
	700	9690	6	5	-		700	9740	7.5	5	-										
	650	11520	0	-0.5	-		650	11600	1.5	0	-										
	600	13500	-5	-6.5	-		600	13580	-0.5	-1	-										
	550	15620	-11	-11	-		550	15680	-6	-7	-										
	500	17910	-18.5	-18.5	-		500	18030	-16	-15	-										
	Low St. 10 936-980 mb.						450	20530	-24	-24	-										
	Fr. 10 978-974 mb.																				
	St. 10 910-970 mb.																				
	St. 10 860-920 mb.																				

UPPER WINDS ABROAD.																
Place.	Horta	Mosice	Barcelona	Nagasaki	Rome	Malta										
Time.	13h 3rd	13h 3rd	12h 3rd	13h 3rd	18h 3rd	17h 3rd										
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	250	23	230	4	240	3	350	3	220	6	300	17				
3,280	250	21	270	5	250	11	80	7	-	-	700	15				
4,920			340	7	240	14	100	7	140	9	1000	15				
6,560			250	17					180	3	300	15				
9,840			330	5							1200	15				
13,120			240	9							240	19				
16,400			260	19												
19,680			260	17												
Place.	Rabat	Zara	Tripoli	Compiagne	Abbeville	Malta										
Time.	15h 3rd	18h 3rd	18h 3rd	7h 4th	7h 4th	6h 4th										
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	270	45	-	-	300	14	40	3	40	21	1000					
3,280	270	29	20	9	280	23					220	3				
4,920	250	23	50													



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

THURSDAY, 5TH FEBRUARY, 1931.

No. B. 25,277.

U.A.S. 4,329.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 24, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:-

— No speed given.

— 0-5 m.p.h.

— 6-16 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

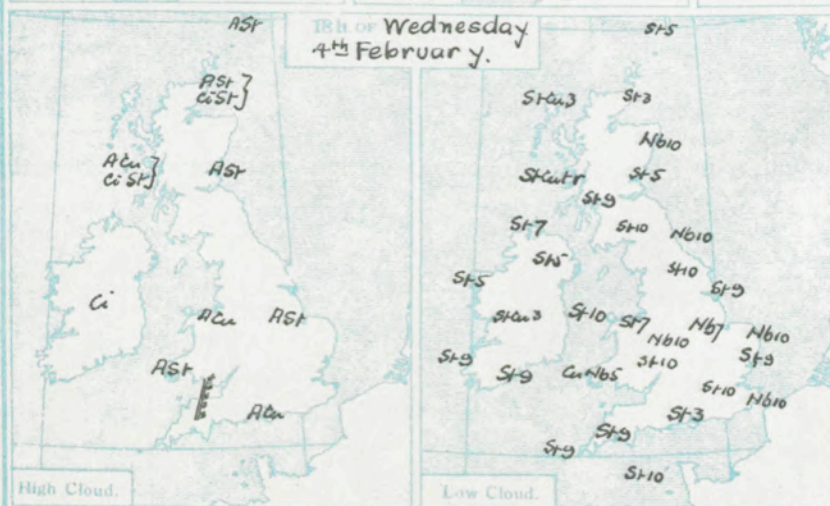
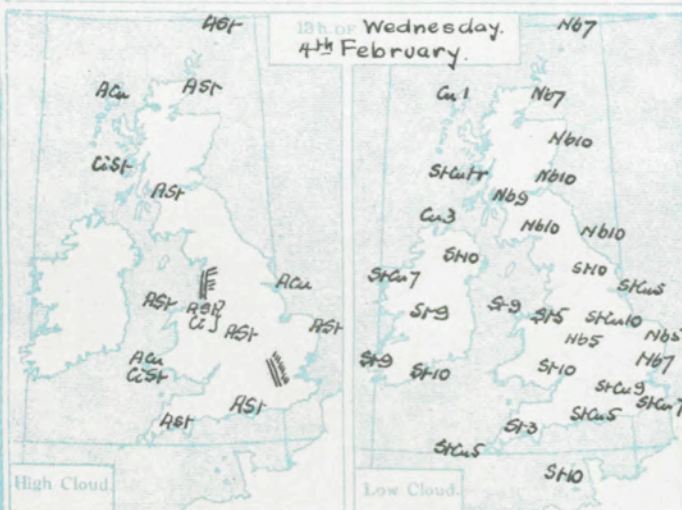
— and so on.

In Tables.

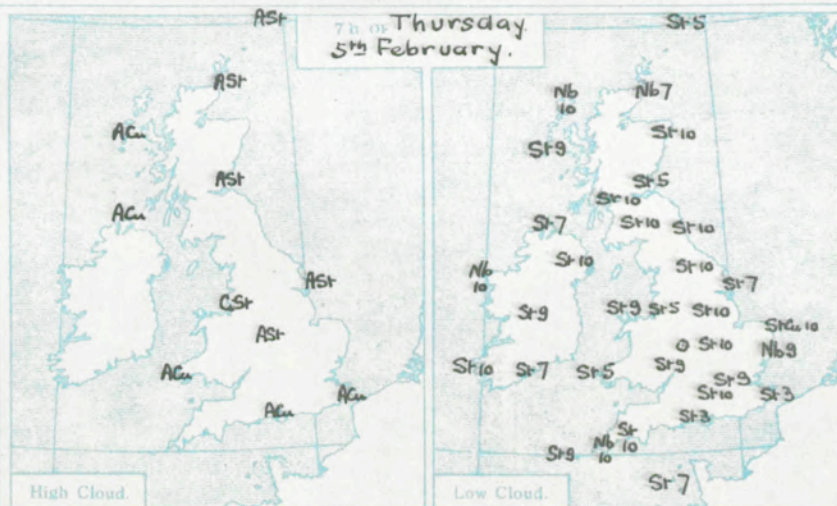
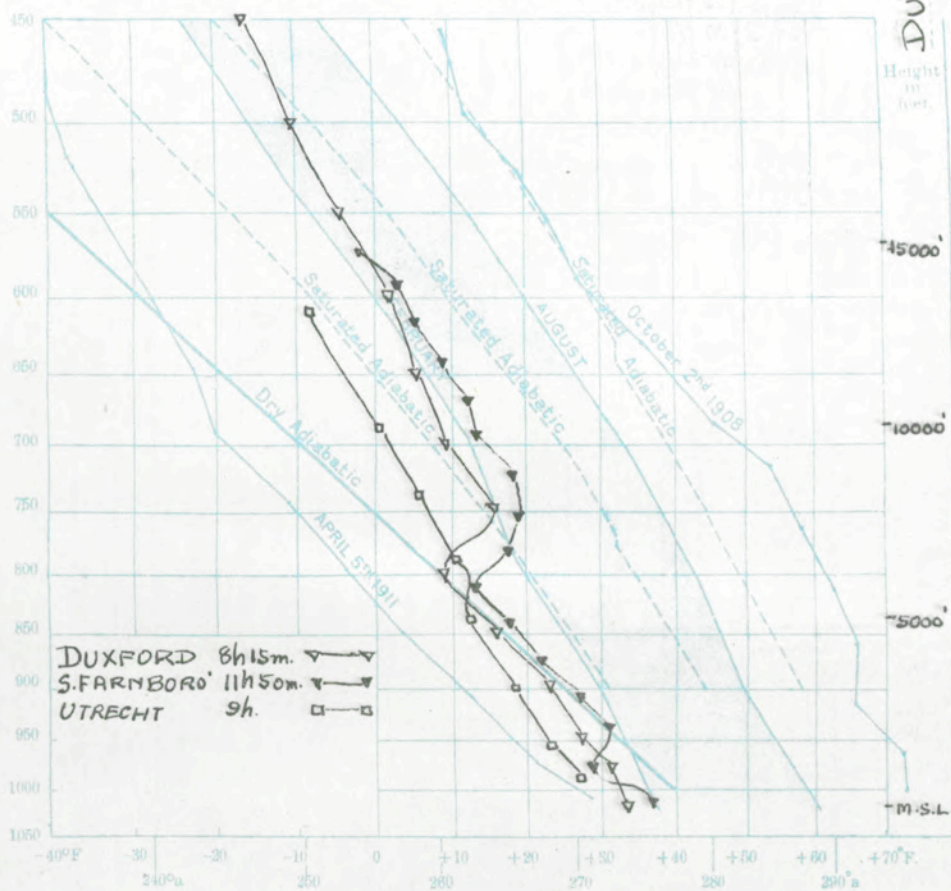
Directions are given in degrees, velocities in m.p.h.

Speeds of high cloud are computed for an average height of 4 miles for cirro type clouds (double lines) and 3 miles for alto type clouds (single line).

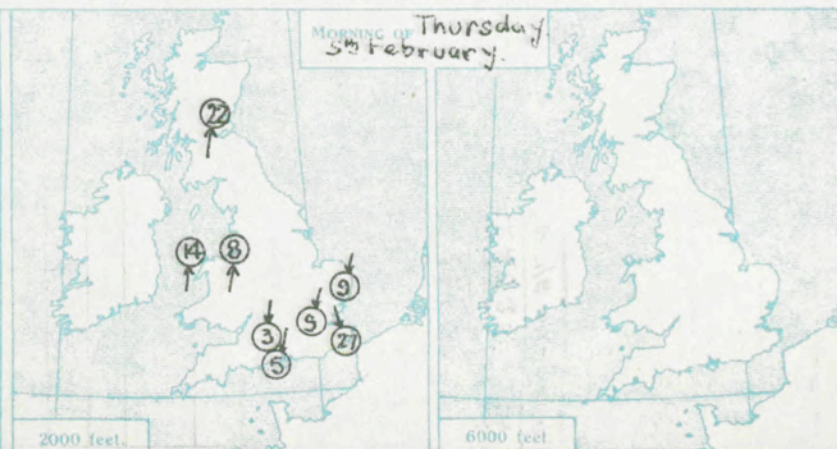
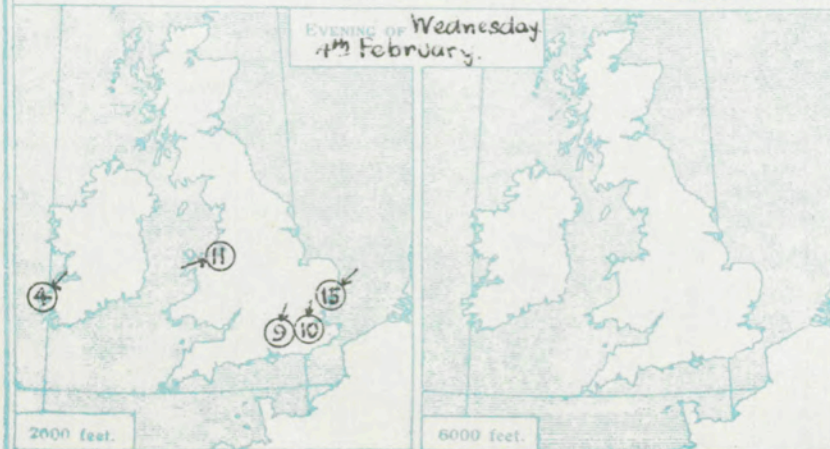
CLOUD FORMS, AMOUNTS AND MOVEMENTS.



UPPER AIR TEMPERATURES.

WEDNESDAY, 4TH FEBRUARY, 1931.

DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																									
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time		12h 4 ¹ / ₂	12h 4 ¹ / ₂	12h 4 ¹ / ₂	12h 4 ¹ / ₂					12h 4 ¹ / ₂	12h 4 ¹ / ₂	12h 4 ¹ / ₂		12h 4 ¹ / ₂	13h 4 ¹ / ₂						Time				
Type		b	b	b						b	b			b							Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.		60 5	25 10	30 10	70 12					Cal'm	55 10	30 10		205 12	150 2										Surf.
1000		45 18	35 11	40 12	70 13					45 5	55 10	30 5		200 17	190 6										1000
2000		45 19	30 11	60 17	45 11					65 7	60 12	5 9		210 13	225 5										2000
3000		35 17	35 15	40 20	40 15					40 12		5 12		220 12	240 7										3000
4000		40 15	35 16	30 13	55 21										260 9										4000
5000		45 19	30 16	25 13											315 10										5000
6000		5 21	25 16	45 14											320 23										6000
8000			10 33	5 38											325 41										8000
10000			(7000')	5 36																					10000
12000		13h Ci													13h Ci										12000
Neph.		350 90													360 50						Neph.				
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Calshot	Place				
Time	17h 4 ¹ / ₂	17h 4 ¹ / ₂	17h 4 ¹ / ₂					17h 4 ¹ / ₂					16h 4 ¹ / ₂	17h 4 ¹ / ₂	17h 4 ¹ / ₂	16h 4 ¹ / ₂			18h 4 ¹ / ₂	24h 4 ¹ / ₂	Time				
Type		b																			Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.	30 7	360 3	340 8					320 3					220 5	140 4	Cal'm	Cal'm			Cal'm	30 5	Surf.				
1000	20 11	5 9	345 11					45 13					215 11	Cal'm	145 7	230 5			350 5	15 9	1000				
2000	10 10	15 9						40 15						240 11					30 4	360 9	2000				
3000		5 11						30 15						275 11					350 8	360 17	3000				
4000		360 11						360 17						320 12					290 14	360 19	4000				
5000																			290 12	350 19	5000				
6000																					6000				
8000																					8000				
10000																					10000				
12000													16h Ci								12000				
Neph.												10 140									Neph.				
Place	Croydon	Croydon	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Larkhill	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time	7h 5 ¹ / ₂	10h 5 ¹ / ₂	7h 5 ¹ / ₂	8h 5 ¹ / ₂	7h 5 ¹ / ₂	6h 5 ¹ / ₂		7h 5 ¹ / ₂	9h 5 ¹ / ₂				9h 5 ¹ / ₂	6h 5 ¹ / ₂	6h 5 ¹ / ₂					Time					
Type									b												Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.	320 2	280 2	Cal'm	Cal'm	85 7	340 12		335 5	125 2				140 10	130 3	Cal'm					Surf.					
1000	15 5	335 3	110 3	200 5	80 3	340 20		10 11	150 10				185 17	165 11	180 8					1000					
2000	20 9	65 3	15 3	280 4	25 5	350 27		20 9	185 7				195 14	195 8	135 22					2000					
3000	25 11	40 6		295 5	10 6	360 13		20 7	225 3				195 9	245 10	210 15					3000					
4000		355 15			345 15	20 9							210 11	260 10						4000					
5000					335 14	25 9							215 16							5000					
6000													225 14							6000					
8000																				8000					
10000																				10000					
12000																				12000					
Neph.			10h ACu	10h ACu	10h ACu			7h ACu													Neph.				

UPPER AIR TEMPERATURES AND HUMIDITIES.															UPPER WINDS ABROAD.																			
Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	UPPER WINDS ABROAD.																
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.		Place.	De Bilt.		Madras.		Barcelona.		Calais.		Brest.		Malta.					
DUXFORD 8h. 15m. 4/2/31.	mb.	Feet.	°F.	°F.	%	S. FARNBOROUGH 50m. 4/2/31.	mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	%	Time.	13h 4th.		13h 4th.		13h 4th.		13h 4th.		18h 4th.		17h 4th.					
	1026	M.S.L.	—	—	—		1029.5	M.S.L.	—	—	—		—	mb.	Feet.	M.S.L.	—	—	—	Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.				
	1022	100	33.5	32.5	91		1016	230	37	—	—		—							1,640	70	18	—	—	30	14	40	24	—	—	3,000'			
	981	1070	31.5	30	85		979	1200	29	—	—		—							3,280	—	—	350	14	50	25	40	35	10	1	150	16		
	950	1900	27	27	100		945	2130	31	—	—		—							4,920	—	—	360	20	50	23	—	—	—	—	7,000'			
	900	3300	23	20	64		910	3110	27	—	—		—							6,560	—	—	10	38	—	—	—	—	—	—	200	8		
	850	4780	16	15	—		878	4050	22	—	—		—							9,840	—	—	—	—	—	—	—	—	—	—	—	10,000'		
	800	6310	9	8.5	—		845	5010	18	—	—		—							13,120	—	—	—	—	—	—	—	—	—	—	—	150	15	
	750	7960	15	10	—		815	5930	13	—	—		—							16,400	—	—	—	—	—	—	—	—	—	—	—	—	—	
	700	9700	9	7.5	—		784	6900	18	—	—		—							19,680	—	—	—	—	—	—	—	—	—	—	—	—	—	
	650	11520	5	3	—		755	7900	19	—	—		—																					
	600	13530	2	0	—		727	8850	18	—	—		—																					
550	15640	-4	-5	—	699	9830	13	—	—	—																								
500	18000	-10	-10	—	673	10800	12	—	—	—																								
450	20550	-16.5	-16.5	—	647	11790	9	—	—	—																								
Haze top 830 mb.						622	12750	5	—	—																								
Low St. 970-900 mb						598	13720	3	—	—																								
Stcu 1270 890-840 mb						574	14710	-2	—	—																								
Snow from ground 10840 mb						1023	M.S.L.	—	—	—																								
INVERSION-						998	660	27	—	95																								
800 mb 9°F						961	1640	23	—	95																								
750 mb. 15°F.						901	3260	18	—	95																								
						845	4920	12	—	95																								
						792	6560	10	—	85																								
						742	8200	5	—	85																								
						694	9840	0	—	55																								
						607	13120	-9	—	35																								
						INVERSION-																												
						ices at base - 825 mb																												
						Amount - 2°F																												
						Temp. at base - 12°F																												
						Depth - 460 ft.																												
															Place.	Brest.		Compiegne.		Barcelona.		Lyons.		Tunis.		Malta.								
															Time.	7h 5th.		7h 5th.		7h 5th.		6h 5th.		6h 5th.		6h 5th.								
															1,640	240	8	300	14	170	4	350	20	calm	3,000'									
															3,280	—	—	330	9	330	10	—	—	30	16	120	10							
															4,920	—	—	10	18	280	11	—	—	60	3	7,000'								
															6,560	—	—	—	—	—	—	—	—	—	—	210	24							
															9,840	—	—	—	—	—	—	—	—	—	—	10,000'								
															13,120	—	—	—	—	—	—	—	—	—	—	210	27							
															16,400	—	—	—	—	—	—	—	—	—	—	—	—							
															19,680	—	—	—	—	—	—	—	—	—	—	—	—							
															Meteorological Office, Air Ministry, Kingsway, London, W.						G. C. SIMPSON, C.B., D.Sc., F.R.S., Director													



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

FRIDAY, 6th FEBRUARY, 1931.

No. B 25278.

U.A.S. 4330.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by angle theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:-

— No speed given.

— 0-5 m.p.h.

— 6-16 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

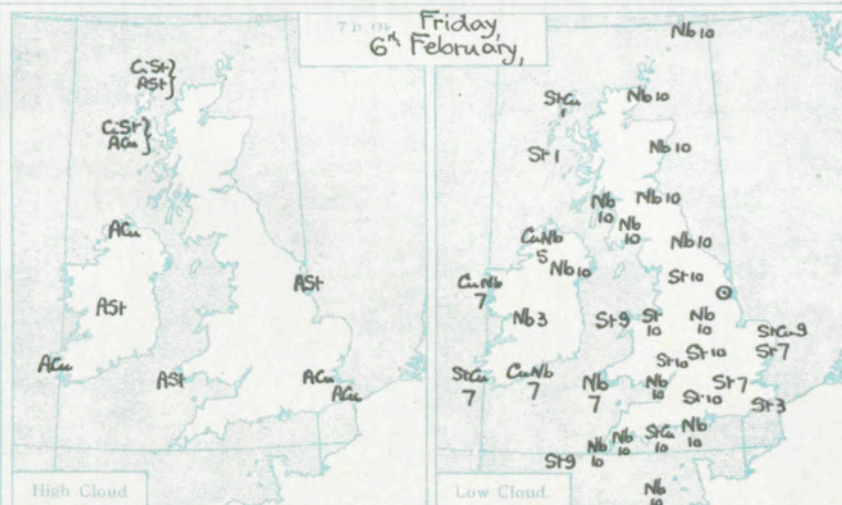
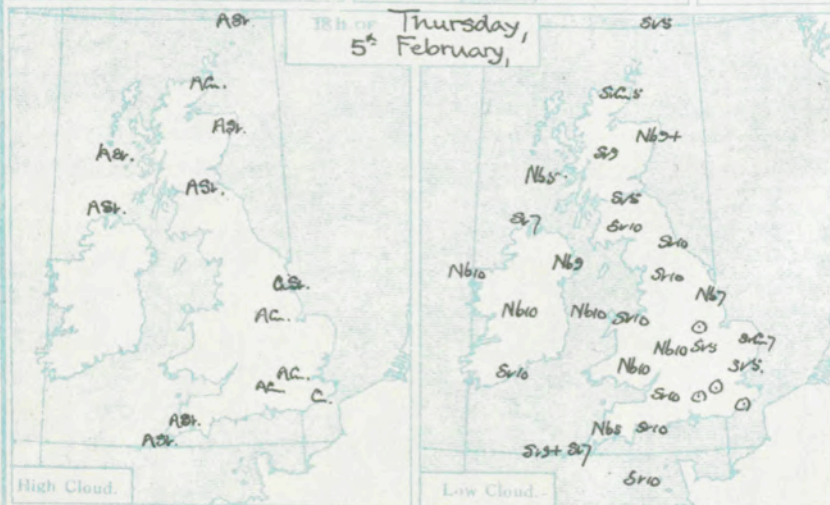
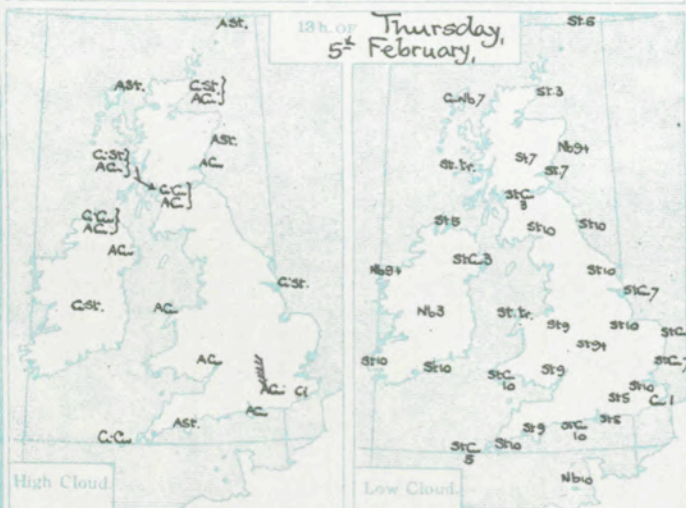
— 56-65 "

— and so on.

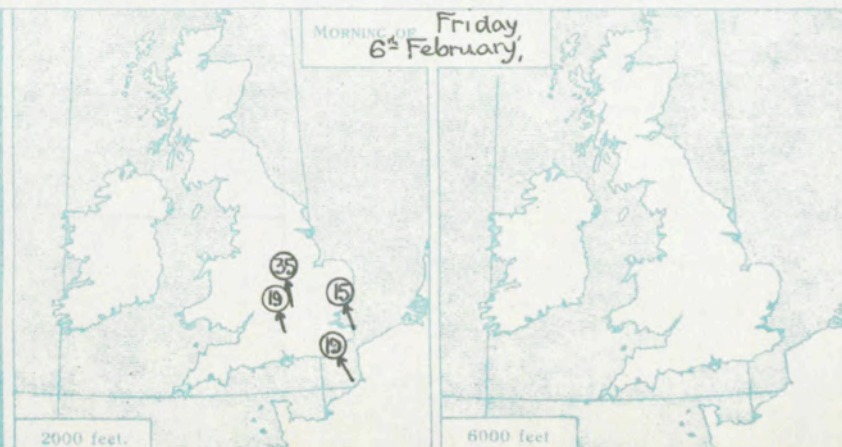
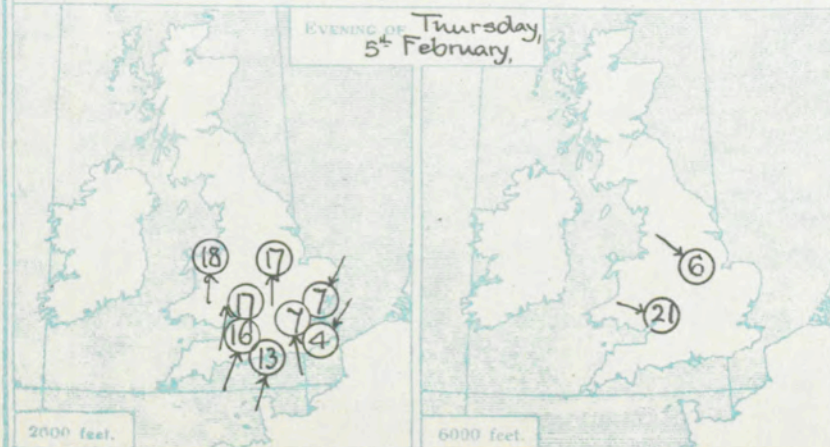
In Tables.

Directions are given in degrees, velocities in m.p.h. Speeds of high cloud are computed for an average height of 2 miles for cirro type clouds (double lines) and 3 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.

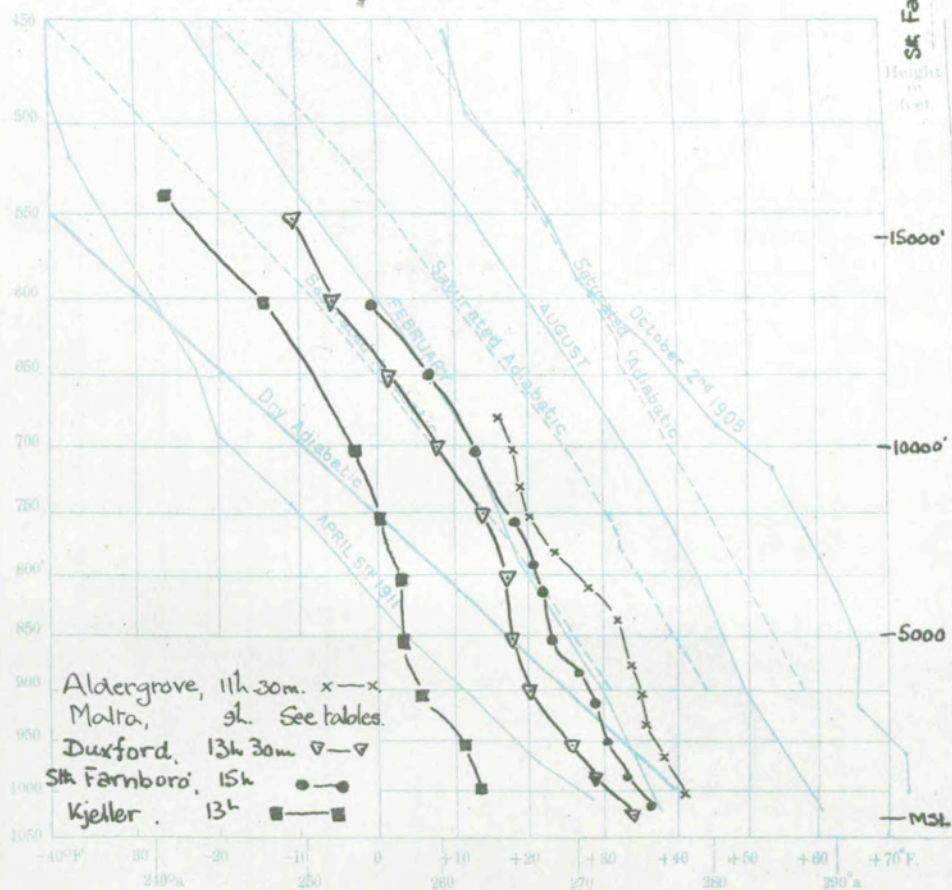


DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



© Indicates absence of cloud.

UPPER AIR TEMPERATURES.

Thursday, 5th February, 1931.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH

Specimen Heights Above M.S.L.—BRITISH.																				
Place	Croydon	South Farnboro	Worthy Down	Katkhill	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.	12h. 5'	12h. 5'	12h. 5'	12h. 5'	12h. 5'	12h. 5'		12h. 5'	12h. 5'	12h. 5'	12h. 5'		12h. 5'	12h. 5'	12h. 5'	12h. 5'		12h. 5'		Time.
Type			b.			b.		b.	b.				b.	b.	b.			b.		Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	240 2	155 2	180 5	150 8	120 9	320 5		355 5	160 5	105 2	155 8		160 19	140 12	— 0	170 13		135 16		Surf.
1000	35 2	175 5	175 7	190 14	175 7	350 7		355 15	170 11	190 7	175 11		195 25	175 18	215 11	190 19		155 23		1000
2000	205 5	190 6	220 9	195 12	230 6	360 8		5 7	190 9	190 7	190 14		185 25	190 17	215 17	195 22		165 32		2000
3000	5 4	280 4	265 7	200 7	310 3	355 5		25 9	215 6	215 8	220 9		190 18	195 9	220 19	200 10		175 27		3000
4000			300 9	275 8	320 11	5 16		100 9	290 5	5 7	280 7		(500 ft) 185 25	205 9				200 29		4000
5000			310 13		320 13	10 29			285 11	350 14	295 9		195 10					200 41		5000
6000						355 20							220 7							6000
8000						350 23							260 11							8000
10000		13h. AC				350 29														10000
12000		AC												14h. AC		13h. AC				12000
Neph.		350 54												290 27		310 12				Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.	17h. 5'	17h. 5'	17h. 5'		16h. 5'	17h. 5'		17h. 5'	17h. 5'		17h. 5'			17h. 5'	17h. 5'	16h. 5'				Time.
Type			b																	Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	150 5	140 6	150 11		310 14	30 2		40 7	135 10		135 5			190 14	140 10	140 11				Surf.
1000	145 10	160 15	160 16		165 13	25 5		35 9	160 20		150 15			160 24	160 22	160 16				1000
2000	160 7	200 10	200 16		200 13	30 4		30 7	170 17		185 17			180 18						2000
3000	285 5	225 11	160 11		170 9	70 5		45 2	160 8		180 15									3000
4000	245 10	(2500') 225 11			355 4	40 5		45 1	200 5		170 8									4000
5000					265 14	20 13			290 4		220 9									5000
6000									315 6		290 21									6000
8000		16h. AC																		8000
10000		330 54																		10000
12000		15h. AC	15h. AC							16h. AC										12000
Neph.		350 54	330 45							300 24										Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Lymington	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.					10h. 6h.	6h. 5h.		8h. 6h.	8h. 6h.	8h. 6h.			9h. 6h.							Time.
Type					b															Type
Feet					125 18	125 13		160 15	120 15	140 13			150 12							Feet
1000					135 25	145 25		155 19	150 33	155 27			165 25							1000
2000					145 19	145 19		155 15	160 35	165 19			190 27							2000
3000						145 17		150 17					200 15							3000
4000						235 56		145 18					215 7							4000
5000													245 5							5000
6000													230 2							6000
8000																				8000
10000																				10000
12000																				12000
Neph.																				Neph.

UPPER AIR TEMPERATURES AND HUMIDITIES.

TEMPERATURES AND HUMIDITIES.										
Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.	Station.	Pressure.	Height above M.S.L.	Temp.	
			Dry.	Wet.						
			°F.	°F.	%					
Aldergrove. 11h. 30m. 5/2/31.	mb.	Feet.	°F.	°F.	%	Duxford. 13h. 30m. 5-2-31.	mb.	Feet.	°F.	
	1017	M.S.L.	—	—	—		10261	M.S.L.	—	
	1007	238	41	—	—		10228	100	35	
	970	975	38	—	—		986	1080	30	
	945	1950	36	—	—		950	2010	27	
	910	2930	35	—	—		900	2400	26.5	
	878	3700	34	—	—		850	4800	19	
	846	4870	32	—	—		800	6430	15	
	816	5810	27.5	—	—		750	8090	14	
	786	6770	23	—	—		700	9840	9	
	758	7710	20	—	—		650	11660	2.5	
	730	8660	19	—	—		600	13650	—5	
	704	9590	18	—	—		550	15800	—10.5	
	678	10530	16	—	—					
	St. C. & A. C. Cloud layers at 2230 ft. 10.530 ft.									
Malta. 9h. 5/2/31.	M.S.L.	—	—	—	—	S. Farnboro'. 15h. 5-2-31.	mb.	Feet.	°F.	
	978	660	55	—	85		10248	M.S.L.	—	
	942	1640	52	—	55		1016	230	37	
	895	3280	44	—	65		979	1200	33	
	841	4920	41	—	35		947	2110	32	
	791	6560	33	—	85		910	3100	30	
	742	8200	25	—	95		878	4050	28	
	697	9840	19	—	—		846	5020	24	
	661	13120	6	—	—		815	5980	23	
							784	6860	22	
							755	7930	19	
							727	8900	16	
							699	9870	13	
							673	10840	9	
							647	11800	7	
					622	12800	5			
					598	13730	0			
					574	14770	—4			
					A.C.: 588mb. Clouds forming at 647mb. Base extends up to 609mb.					
Sjæller 13h. 5-2-34.	M.S.L.	—	—	—	—	Lower version 880mb. 7° F.				
	992	1330	14	—	65					
	953	2330	12	—	65					
	907	3280	7	—	65					
	849	4920	5	—	65					
	795	6560	5	—	65					
	745	8200	1	—	65					
	696	9840	—2	—	65					
	607	13120	—13	—	55					
	538	16400	—26	—	55					

UPPER WINDS ABROAD.

UPPER WINDS ABROAD.

Place.	Barcelona.		Oran.		Prague.		Kosice.		Brest		Dijon	
Time.	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th	13h. 5 th
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	230	3	360	11	360	7	200	5	220	16	30	9
3,280	340	6	350	18	200	9	200	7			360	13
4,920	340	6	280	9	230	7	220	11			350	19
6,560	350	6	290	14	230	6	190	14				
9,840	20	21	320	18								
13,120												
16,400												
19,680												

Place.	Cagliari.		Palermo		Barcelona		Toulouse		Bizerta		Malta	
Time.	18h. 5 th	18h. 5 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th	7h. 6 th
1,640	340	12	60	3	200	1	130	7	320	34	1000'	
3,280	10	11	170	11	125	6	-	-			10 33	
4,920	60	11	190	11			310	7			3000'	
6,560							310	16			360 28	
9,840											5000'	
13,120											350 23	
16,400												
19,680												

Meteorological Office, Air Ministry, Kingsway, London, W.C.2.						G. C. SIMPSON, C.B., D.Sc., F.R.S., Director.					
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AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION, SATURDAY, 7th FEBRUARY, 1931.

No. B. 25,279.

U.A.S. 4331.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:—

— No speed given.

— 0—5 m.p.h.

— 6—15 "

— 16—25 "

— 26—35 m.p.h.

— 36—45 "

— 46—55 "

— 56—65 "

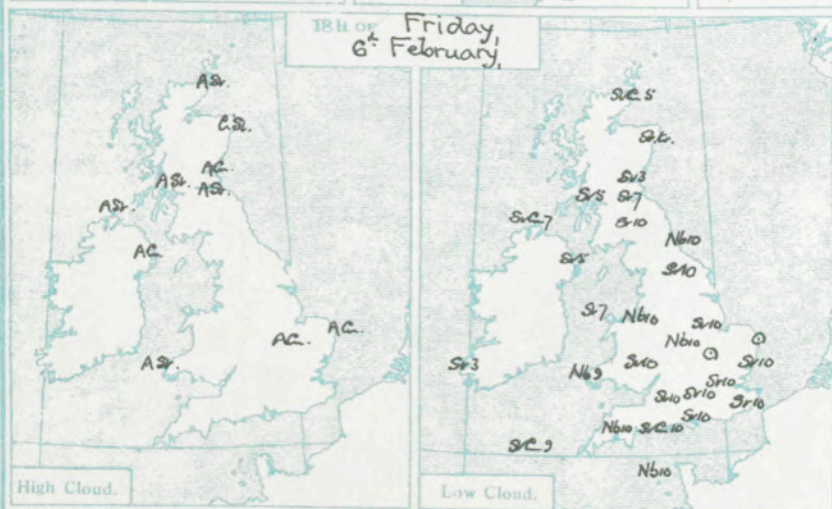
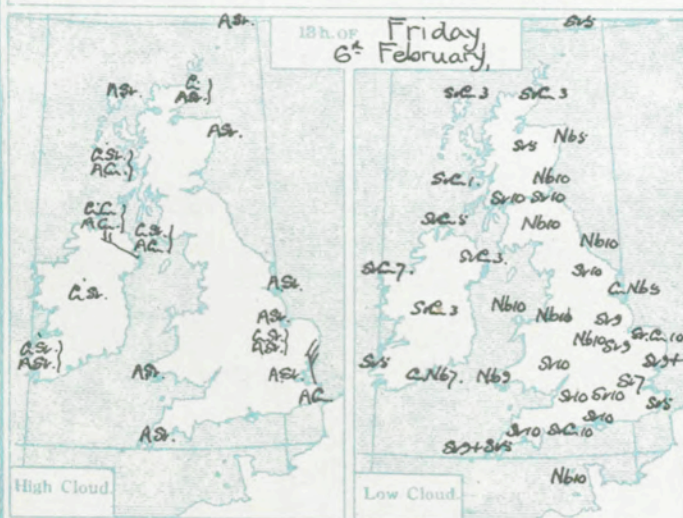
and so on.

In Tables.

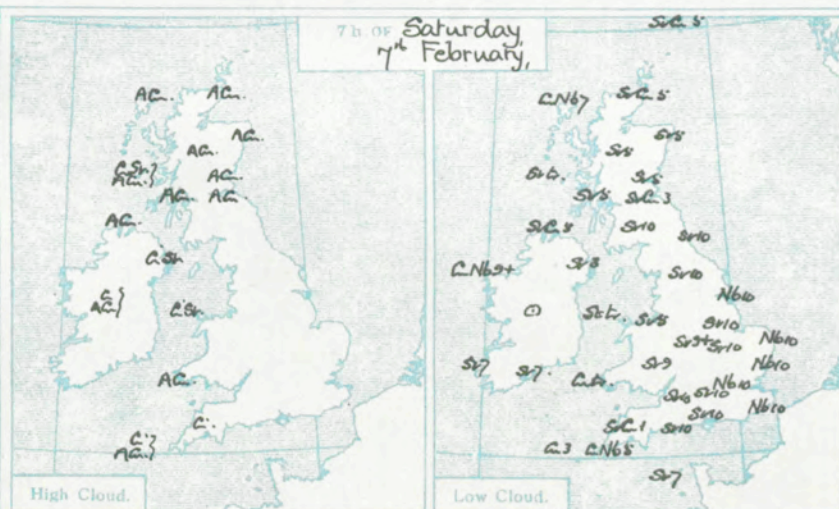
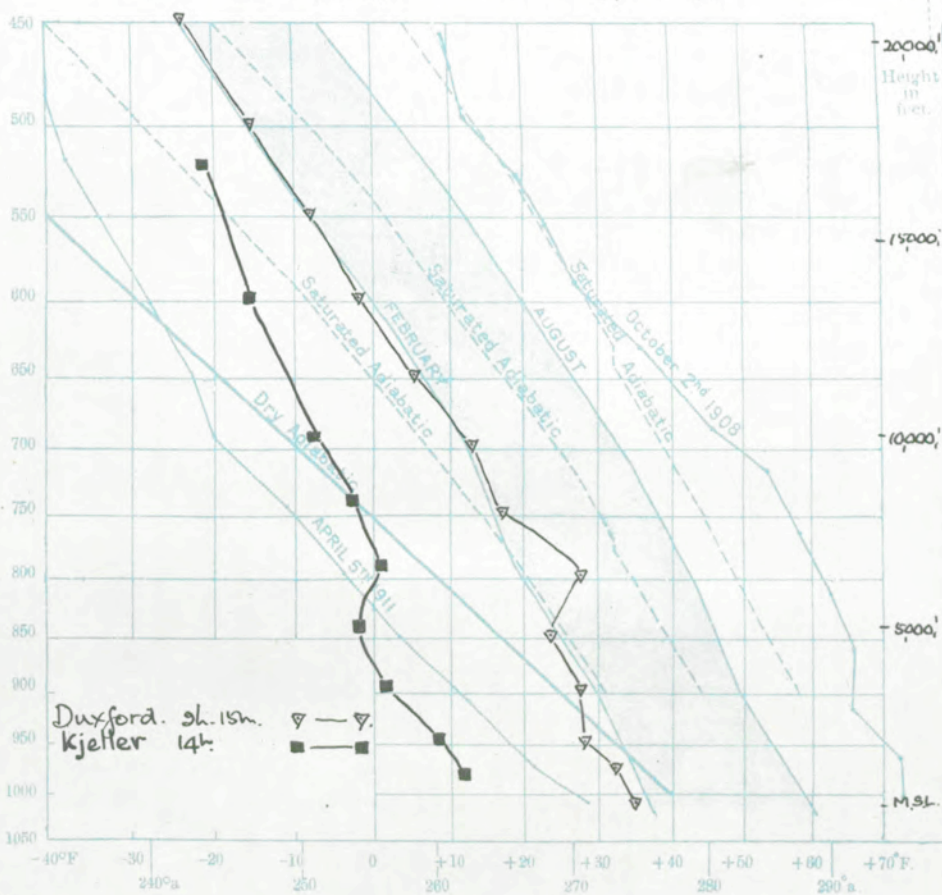
Directions are given in degrees, velocities in m.p.h.

Speeds of high cloud are computed for an average height of 3 miles for alto type clouds (double lines) and 3 miles for alto type clouds (single line).

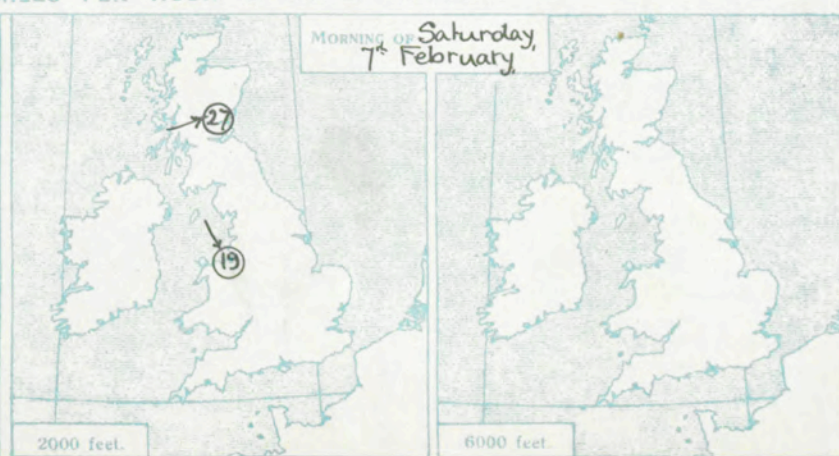
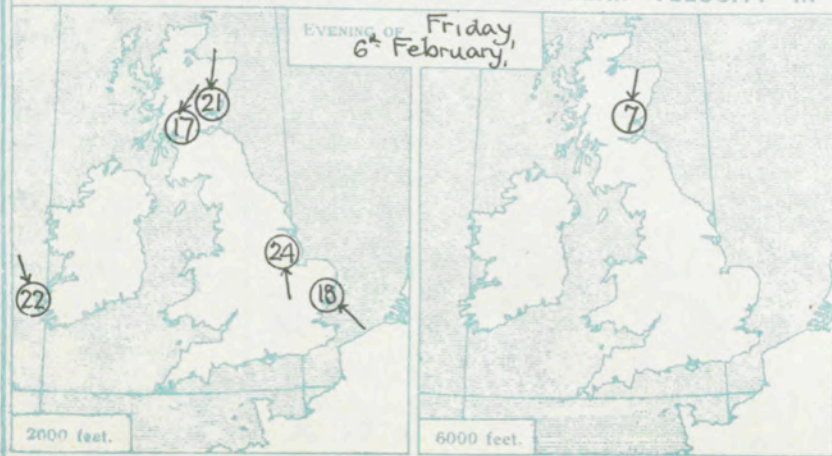
CLOUD FORMS, AMOUNTS AND MOVEMENTS.



UPPER AIR TEMPERATURES.

Friday, 6th February, 1931.

DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.

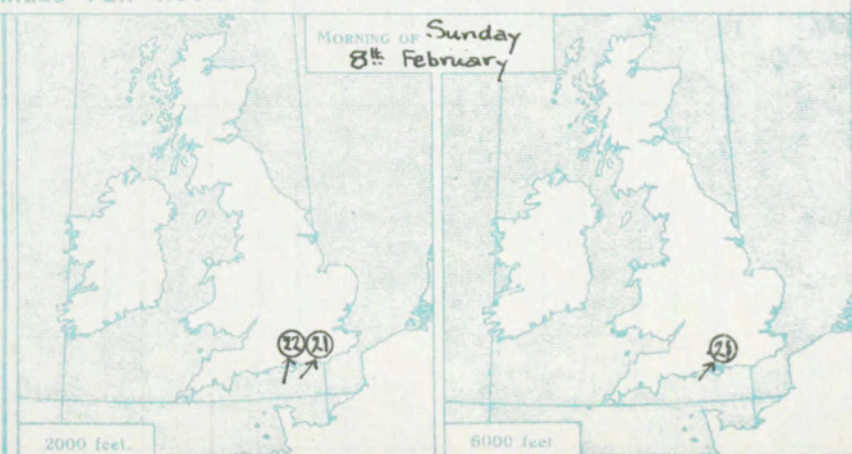


DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																									
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time	12h. 6'					12h. 6'		12h. 6'	12h. 6'												Time				
Type						6			6												Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.	120	13																							Surf.
1000	130	7																							1000
2000																									2000
3000																									3000
4000																									4000
5000																									5000
6000																									6000
8000																									8000
10000																									10000
12000																									12000
Neph.																									Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time	7h. 6'							7h. 6'	7h. 6'						7h. 6'	16h. 6'			18h. 6'		Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.	25	10																							Surf.
1000	110	11																							1000
2000																									2000
3000																									3000
4000																									4000
5000																									5000
6000																									6000
8000																									8000
10000																									10000
12000																									12000
Neph.																									Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.																									Surf.
1000																									1000
2000																									2000
3000																									3000
4000																									4000
5000																									5000
6000																									6000
8000																									8000
10000																									10000
12000																									12000
Neph.																									Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.																									Surf.
1000																									1000
2000																									2000
3000																									3000
4000																									4000
5000																									5000
6000																									6000
8000																									8000
10000																									10000
12000																									12000
Neph.																									Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.																									Surf.
1000																									1000
2000																									2000
3000																									3000
4000																									4000
5000																									5000
6000																									6000
8000																									8000
10000																									10000
12000																									12000
Neph.																									Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place					
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet
Surf.																									Surf.
1000																									1000
2000																									2000
3000																									

UPPER AIR SECTION.

No. B. 25280

U.A.S. 4332



© Indicates absence of cloud.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																																							
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place																			
Time	12h. 7 th		13h. 7 th		12h. 7 th				12h. 7 th		12h. 7 th		12h. 7 th		13h. 7 th						Time																		
Type			b.						12h. 7 th		12h. 7 th		b.		b.						Type																		
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet																		
Surf.			305	2	320	10	335	10													Surf.																		
1000			325	9	330	14	340	14			315	5	10	5	215	16	220	5	235	15	1000																		
2000			330	13	335	11	340	14			315	7	40	9	235	17	245	8	235	37	2000																		
3000			330	16	335	11	340	13							250	16	275	15			3000																		
4000			320	11											265	17	285	19			4000																		
5000															265	15	295	20			5000																		
6000															265	17	280	25			6000																		
8000															285	21	280	23			8000																		
10000															285	18	265	20			10000																		
12000															290	22	290	16			12000																		
Neph.			13h. C.		330 65										13h. C.						Neph.																		
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place																			
Time	17h. 7 th								17h. 7 th				17h. 7 th		17h. 7 th						Time																		
Type																					Type																		
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet																		
Surf.	150	2																			Surf.																		
1000	325	6									225	5					225	9	240	10	1000																		
2000	330	9									280	16					240	19	255	30	2000																		
3000											300	14					255	11	255	26	3000																		
4000											290	10					270	21	255	35	4000																		
5000											295	10					270	13	260	34	5000																		
6000											300	12					265	17			6000																		
8000																	270	15			8000																		
10000																	260	13			10000																		
12000																	270	11			12000																		
Neph.											16h. AC.		16h. C.		330 75						Neph.																		
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place																			
Time	6h 5 th		8h 8 th																		Time																		
Type																					Type																		
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet																		
Surf.	165	12	150	10																	Surf.																		
1000	175	25	185	23																	1000																		
2000	210	21	185	22																	2000																		
3000	220	19	205	19																	3000																		
4000			230	17																	4000																		
5000			240	20	South																5000																		
6000			215	21	Farnboro																6000																		
8000			215	20	8h ACu																8000																		
10000			225	19	280 33																10000																		
12000			225	20	10h ACu																12000																		
Neph.			300 54																		Neph.																		

UPPER AIR TEMPERATURES AND HUMIDITIES.																	
Station	Pressure	Height above M.S.L.	Temp.		Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.		Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.		Relative Humidity
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.	
	mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	%
	M.S.L.		—	—	—		M.S.L.		—	—	—		M.S.L.		—	—	—

UPPER WINDS ABROAD.											
Place	Barcelona	Danzig	Lublin	Kosice	Romilly	Malta					
Time	12h. 7 th		13h. 7 th		17h. 7 th						
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.					
1,640	270	11	190	31	130	16					
3,280	220	17	200	26	130	15					
4,920	320	20	210	24	150	9					
6,560	330	26			160	18					
8,200	330	18			160	18					
13,120					180	20					
16,400											
19,680											
Place	Strasbourg	Paraloume	Padua	Ancona	Tripoli	Malta					
Time	18h 7 th		7h 8 th		7h 8 th						
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.					
1,640	—	—	180	4	—	—					
3,280	20	6	330	9	—	—					
4,920	40	16	320	8	290	14					
6,560	40	26			320	9					
8,200					340	21					
13,120											
16,400											
19,680											

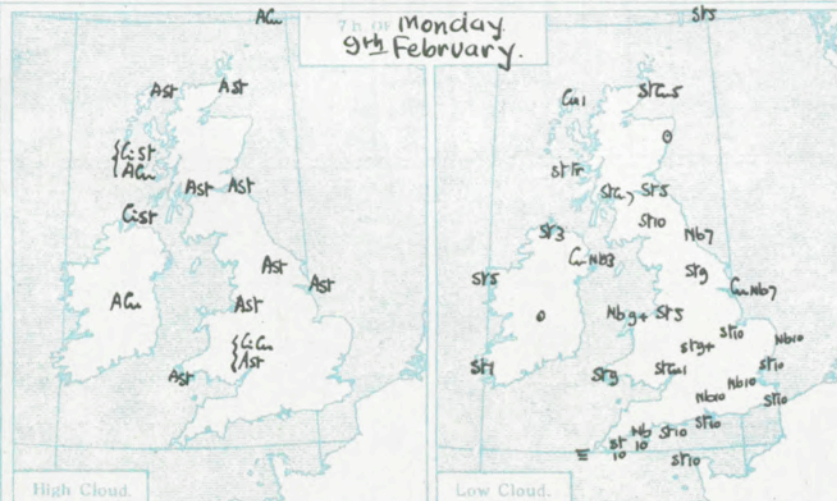
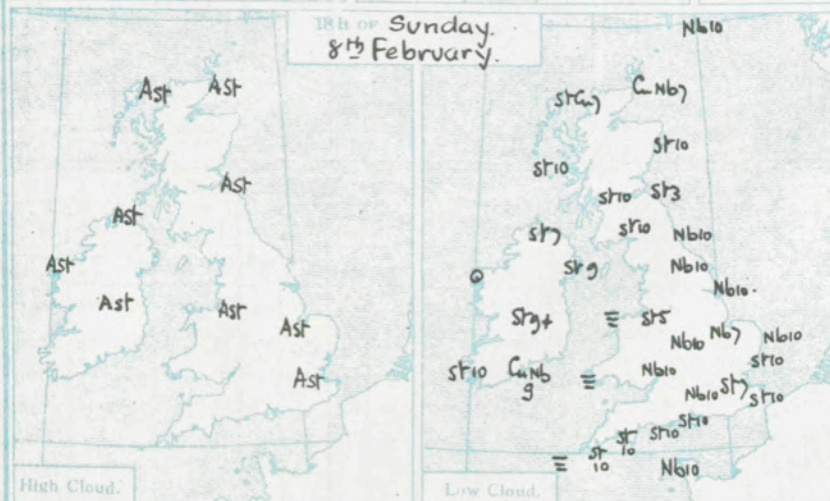
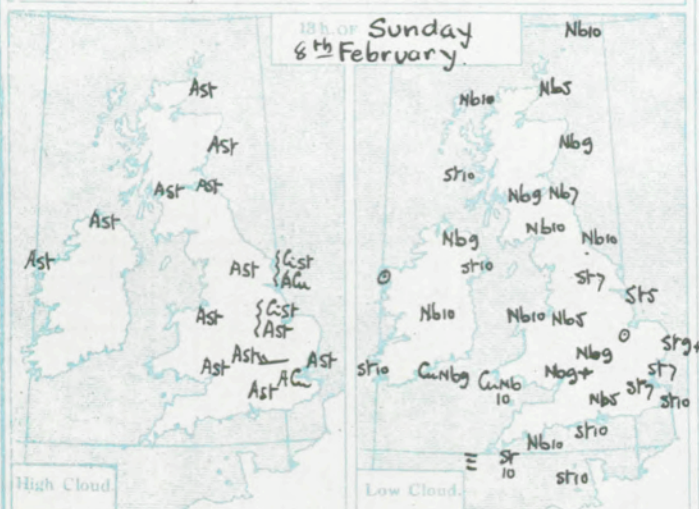
Meteorological Office, Air Ministry.
Kingsway, London, W.C.2.

G. C. SIMPSON, C.B., D.Sc., F.R.S.
Director

MONDAY, 9TH FEBRUARY, 1931.

U.A.S. 4,333.

CLOUD MOVEMENTS (Nephoscope readings)



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

[illegible]

UPPER AIR TEMPERATURES AND HUMIDITIES.

Station.	Pressure.	Height above M.S.L.	Temp.			Station.	Pressure.	Height above M.S.L.	Temp.			Station.	Pressure.	Height above M.S.L.	Temp.			Station.	Pressure.	Height above M.S.L.	Temp.		
			Dry.	Wet.	Relative Humidity				Dry.	Wet.	Relative Humidity												
	mb.	Feet. M.S.L.	°F.	°F.	°/o		mb.	Feet. M.S.L.	°F.	°F.	°/o		mb.	Feet. M.S.L.	°F.	°F.	°/o		mb.	Feet. M.S.L.	°F.	°F.	°/o
		M.S.L.	—	—	—			M.S.L.	—	—	—			M.S.L.	—	—	—			M.S.L.	—	—	—

UPPER WINDS ABROAD.

UPPER WINDS ABROAD.

Place.	Milan	Florence	Messina	Tripoli	Padua	Malta.						
Time.	12h. 30 ^m .	12h. 30 ^m .	12h. 30 ^m .	12h. 30 ^m .	12h. 30 ^m .	17h. 30 ^m .						
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.						
1,640	140	9	50	16	120	17	280	9	50	16	(1000')	
3,280	80	5	70	23	190	11			50	16	290	17
4,920	30	11	70	16					60	14	(2000')	
6,560											280	30
9,840											(3000')	
13,120											270	42
16,400												
19,680												

Place.	Strasbourg	Vajmory	Lyons	Barcelona	Palermo	Malta						
Time.	18h. 30 ^m .	7h. 30 ^m .	7h. 30 ^m .	7h. 30 ^m .	7h. 30 ^m .	6h. 30 ^m .						
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.						
1,640	60	25	350	2	140	6	40	7	320	21	(1000')	
3,280	160	16	60	5	10	4	200	9	330	14	290	21
4,920			80	2	360	6	360	8	340	14	(3000')	
6,560					60	8	350	34			300	19
9,840											(5000')	
13,120											320	21
16,400												
19,680												

Meteorological Office, Air Ministry. Kingsway, London, W.C.2	G. C. SIMPSON, C.B., D.Sc., F.R.S. Director
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AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

Tuesday, 10th February 1931.

No. B. 25282

U.A.S. 4334

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 24, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Table Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite plus balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:-

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

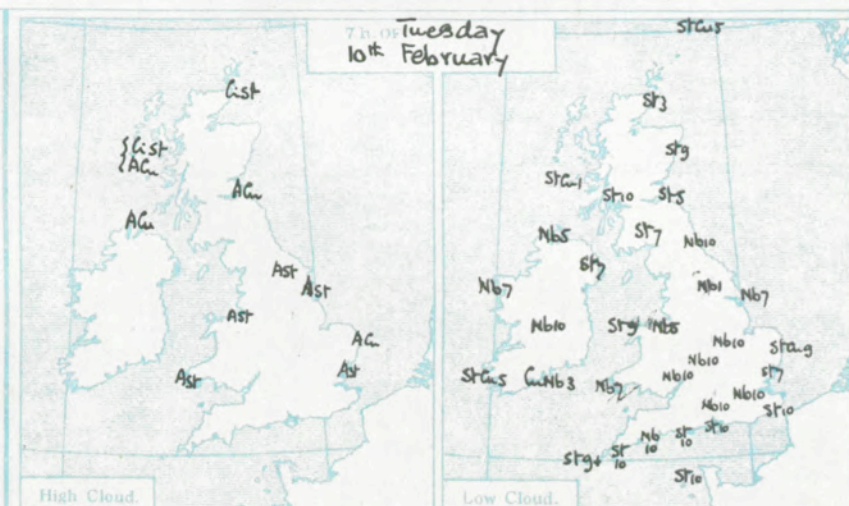
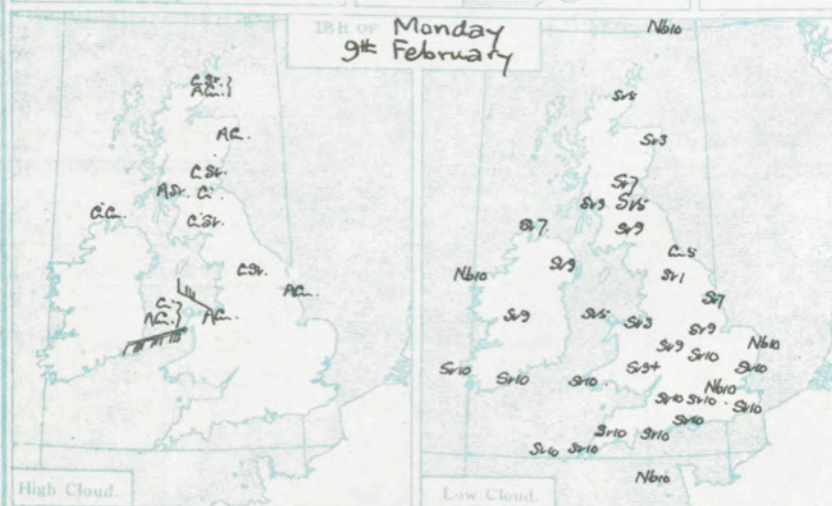
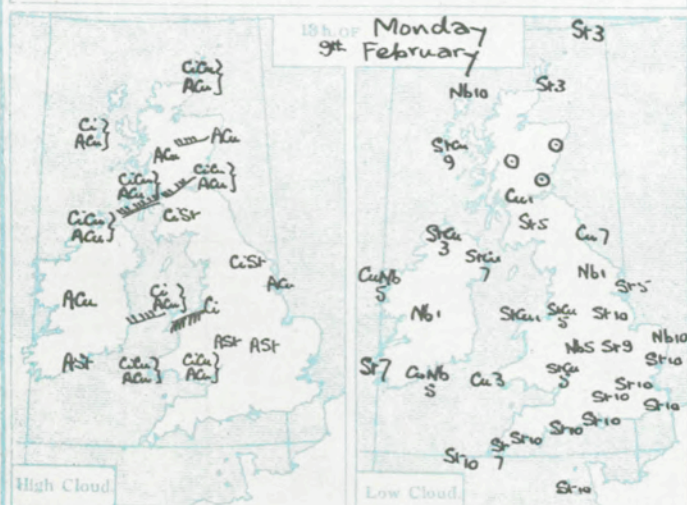
and so on.

In Tables.

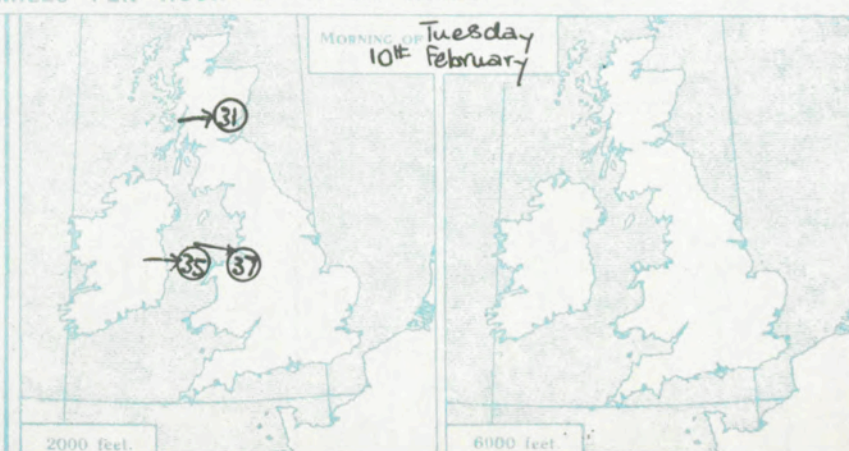
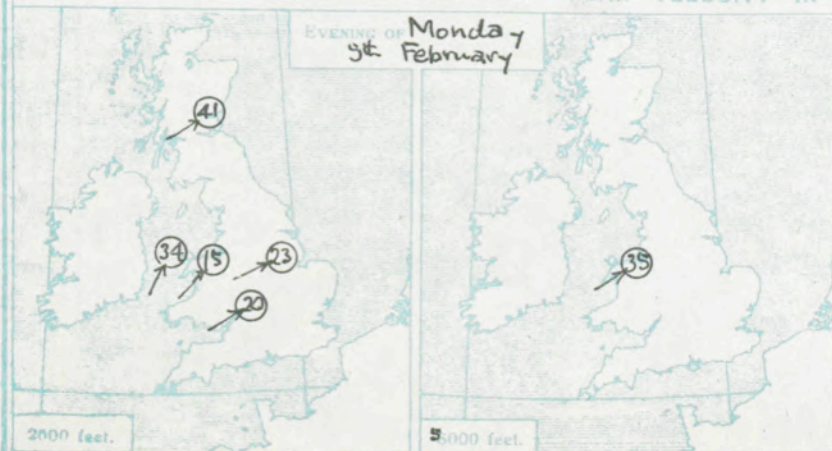
Directions are given in degrees, clockwise to north.

Speeds of high cloud are computed for an average height of 1 mile for cumulo type clouds (double lines) and 2 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.



DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																				
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Aldergrove	Valentia	Place
Time									12h. 9'		12h. 9'		12h. 9'	12h. 9'	12h. 9'	12h. 9'	15h. 9'			Time
Type									6.				6.	6.	6.					Type
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
Surf.									240	12	235	12	210	8	285	3	240	10	230	17
1000									245	24	240	21	245	16	265	11	255	32	240	18
2000													245	18	245	9	260	38	155	24
3000													265	17	255	20	265	38		
4000													275	19	265	25			13h.	260
5000													260	28	265	29			Calm	255
6000													240	31	260	35				250
8000													255	41	250	29			AC	245
10000													245	33	265	26			290	36
12000													265	49	13h.	AC			245	22
Neph.													250	51	260	75	220	60	240	30
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Aldergrove	Valentia	Place
Time									7h. 3'		7h. 3'		16h. 9'	7h. 9'	7h. 9'	16h. 9'				Time
Type																				Type
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
Surf.									200	7	235	15	190	15	205	7	215	6	225	15
1000									220	16	235	23	205	35	225	7	230	24	235	24
2000									240	23	230	20	215	34	225	15	230	41		
3000													215	23	230	23	230	47		
4000													230	31	230	33				
5000															235	35				
6000															16h.	30				
8000									16h.	30			16h.	30	7h.	on.				
10000									270	155			16h.	30	7h.	on.				
12000									AC				C.		AC					
Neph.									270	72			250	100	300	42				
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Aldergrove	Valentia	Place
Time													7h. 10 th	8h. 10 th	7h. 10 th					Time
Type																				Type
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
Surf.													275	26	280	16	245	15		
1000													275	37	280	29	265	27		
2000													275	35	285	37	270	31		
3000																	270	38		
4000																				
5000																				
6000																				
8000																				
10000																				
12000																				
Neph.																				

UPPER AIR TEMPERATURES AND HUMIDITIES.											
Station	Pressure	Height above M.S.L.	Temp.			Relative Humidity			Station	Pressure	Height above M.S.L.
	mb.	Feet.	°F.	°F.	°F.	%	%	%		mb.	Feet.
Duxford. 21.4.51.	1012	M.S.L.	—	—	—	—	—	—			M.S.L.
	1008	100	49	48	93						
	972	1100	48	47	93						
	950	1730	46	45	93						
	900	3180	40	38	85						
	850	4710	37	36	92						
	800	6300	30	30	100						
	750	7990	26	25	90						
	700	9740	20	19	88						
	650	11660	15	13.5							
	600	13710	10	9.5							
	550	15900	2	2							
	500	18280	—	—							
	Haze top not defined. Str 10, 1980-9500mb. Asv 10, 680-640mb.										
Malta. 8h. 2/2/51.	1008	M.S.L.	—	—	—	—	—	—			M.S.L.
	984	600	47	—	85						
	948	1640	42	—	85						
	892	3280	38	—	—						
	838	4920	33	—	—						
	788	6560	23	—	—						
	738	8200	17	—	—						

UPPER WINDS ABROAD.											
Place	Kosice	Barcelona	Tunis	Marrakech	Lyons	Malta					
Time	12h. 9'	12h. 9'	12h. 9'	17h. 9'	17h. 9'	17h. 9'					
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.
1,840	130	6	300	8	340	25	320	13	Calm		(3000')
3,280	20	2	330	4	360	25	290	16	Calm		60 11
4,920	140	4	350	8	—	—	320	10	350	9	(7000')
6,560	160	6	20	23	10	23					50 12
9,840	30	8	20	35							(10,000')
13,120	40	16	20	47							60 12
16,400	40	13									
19,680	30	17									
Place	Le Havre	Nancy	Clermont	Lyons	Mantelmin	Malta					
Time	18h. 5'	17h. 9'	7h. 10 th	7h. 10 th	6h. 10 th	7h. 10 th					
1,840	—	—	—	180	16	180	11	10	20		(3000')
3,280	—	—	240	16	190	18	240	3	10	9	50 25
4,920	160	3	280	2			300	9	280	7	(5000')
6,560	350	14	280	16					180	4	50 22
9,840	330	16									(7000')
13,120											50 20
16,400											
19,680											

Meteorological Office, Air Ministry.
Kingway, London, W.C.2.

G. C. SIMPSON, G.B. D.Sc., F.R.S.,
Director



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

WEDNESDAY, 11th FEBRUARY, 1931.

No. B. 25,283.

U.A.S. 4,335.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 25th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions, see Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings).

On Charts.

Movements are indicated thus—

— No speed given.

— 5 m.p.h.

— 10 " "

— 15 " "

— 25-35 m.p.h.

— 35-45 " "

— 45-55 " "

— 55-65 " "

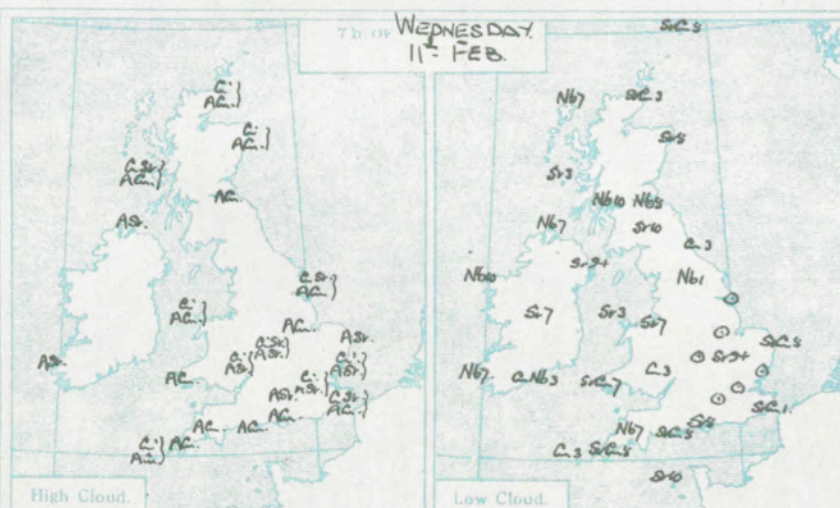
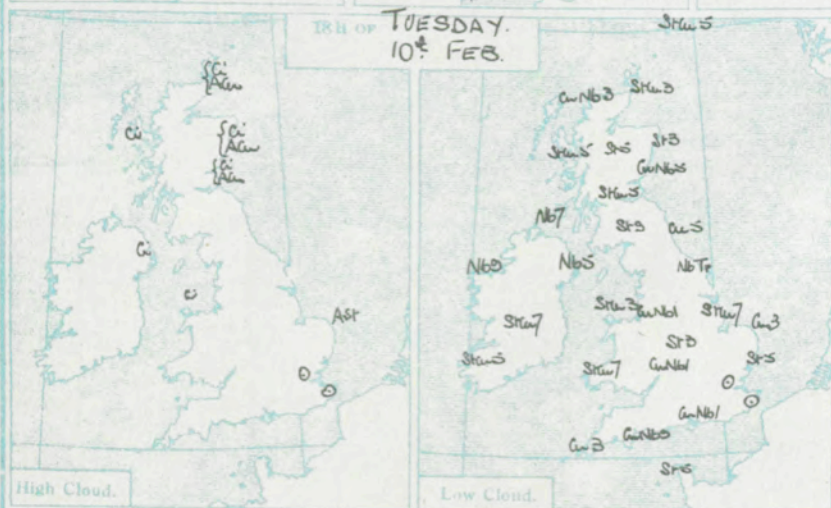
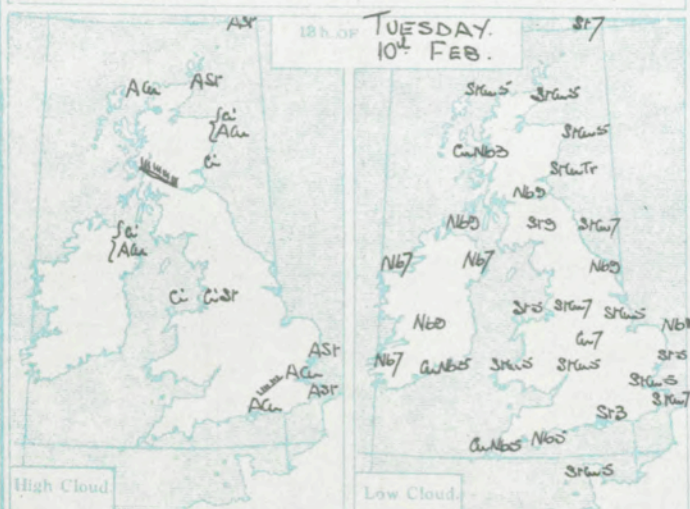
— and so on.

In Tables.

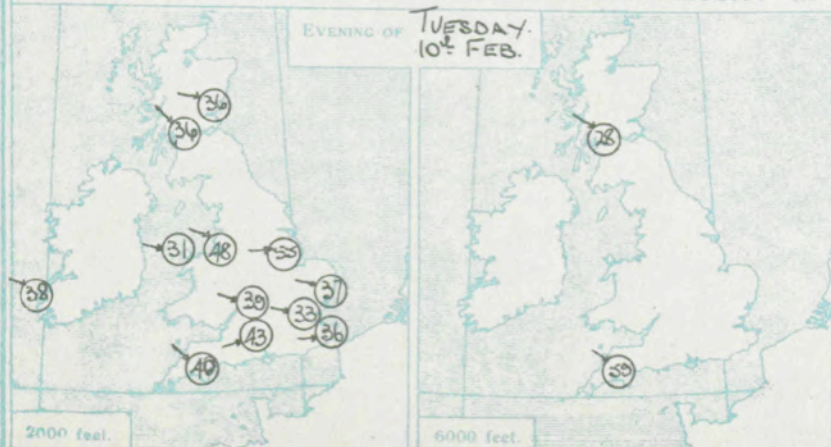
Directions are given in degrees, velocities in m.p.h.

Speeds of high cloud are computed for an average height of 5 miles for cirro type clouds (double lines) and 3 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.



DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place
Time.	12 ^h 10 ^m	10 ^m	12 ^h 10 ^m	12 ^h 10 ^m	12 ^h 10 ^m			13 ^h 10 ^m	12 ^h 10 ^m	12 ^h 10 ^m	12 ^h 10 ^m		12 ^h 10 ^m	13 ^h 10 ^m	12 ^h 10 ^m	10 ^m	15 ^h 10 ^m			Time
Type		b						b					b		b					Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	250 23		275 23	280 20	290 26			270 20	280 22	270 23	270 26		285 37	280 28	260 18		280 12			Surf.
1000	265 24		270 36	275 40	285 33			270 38	275 36	270 32	265 29		290 39	280 53	260 28		300 27			1000
2000				290 61	285 41			280 38	270 38	275 42	280 35			285 76	275 39		315 30			2000
3000				290 48	290 38			270 47	270 37	275 64					275 36		320 35			3000
4000								270 47	275 71	275 64					280 45		315 39			4000
5000								270 52		275 51							315 35			5000
6000								265 47									320 35			6000
8000								7,000'												8000
10000								255 47												10000
12000		13 ^h A.C.													16 ^h A.G.	13 ^h C.				12000
Neph.		230 69													270 48	290 120				Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.	17 ^h 10 ^m	17 ^h 10 ^m	17 ^h 10 ^m	17 ^h 10 ^m		17 ^h 10 ^m		17 ^h 10 ^m	16 ^h 10 ^m		17 ^h 10 ^m	21 ^h 10 ^m	16 ^h 10 ^m	17 ^h 10 ^m	17 ^h 10 ^m	16 ^h 10 ^m			18 ^h 10 ^m	Time.
Type		b				b						b								Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	265 26	265 20	275 20	260 32		265 27		270 25	265 23		270 20	290 27	275 29	270 20	240 15	220 11			285 17	Surf.
1000	265 18	275 41	280 38	255 42		270 33		275 25	270 35		280 23	295 35	275 31	280 39	265 36	280 22			285 22	1000
2000	280 33	280 38	285 42	245 43		275 36		285 37	275 55		285 39	305 40	275 31	280 48	275 36	290 36			285 38	2000
3000	285 38		290 48			275 43		285 45	285 54		285 48	310 39		285 51	285 42	290 33			290 40	3000
4000			295 50					290 60			285 47	310 43		290 53	285 44	300 27				4000
5000											310 52			285 47		300 26				50

UPPER AIR TEMPERATURES AND HUMIDITIES

Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.	
DUXFORD. 9:30". 10/23/31.	mb.	Feet.	°F.	°F.	%	DUXFORD. 13:30". 10/23/31.	mb.	Feet.	°F.	°F.	%	3 Farnboro'. 14. 144. 10/23/31.	mb.	Feet.	°F.	°F.	%
	M.S.L.	—	—	—	—		M.S.L.	—	—	—	—		M.S.L.	—	—	—	—
	1004.3	100	52	51	—		1006	100	44	41	65		1010	230	47	—	—
	964	1100	45	44	32		969	1100	42	39	77		978	300	45	—	—
	930	1500	40	39	32		930	1610	39	36	77		944	1810	41	—	—
	900	2030	36	35	32		800	2040	30	28	81		909	2880	36	—	—
	846	4450	32	31	32		880	4250	25	23	78		877	3800	32	—	—
	800	6070	28	27	30		800	6100	20	18	76		844	4750	27	—	—
	750	7750	26	25	30		750	7780	12	11	—		814	5710	24	—	—
	700	9550	20	20	30		700	9450	6	3	—		783	6710	19	—	—
	650	11430	14.5	14	30		650	11240	-3	-4	—		754	7650	16	—	—
	600	13480	7	6	30		600	13300	-11	-11.5	—		726	8640	12	—	—
	550	15650	1	0	30		550	15410	-13	-13.5	—		638	9620	9	—	—
500	18050	-5.5	-5.5	30	500	17700	-26	-26	—	672	10580	4	—	—			
450	19900	-9.5	-9.5	30	450	21800	-34.5	-34.5	—	646	11530	2	—	—			
400	21400	-13	-13	30	400	21800	-34.5	-34.5	—	621	12530	-4	—	—			
350	23000	-17	-17	30	350	23000	-34.5	-34.5	—	597	13480	-9	—	—			
300	24600	-21	-21	30	300	24600	-34.5	-34.5	—	573	14480	-13	—	—			
250	26200	-25	-25	30	250	26200	-34.5	-34.5	—	547	15480	-17	—	—			
200	27800	-29	-29	30	200	27800	-34.5	-34.5	—	521	16480	-21	—	—			
150	29400	-33	-33	30	150	29400	-34.5	-34.5	—	495	17480	-25	—	—			
100	31000	-37	-37	30	100	31000	-34.5	-34.5	—	469	18480	-29	—	—			
50	32600	-41	-41	30	50	32600	-34.5	-34.5	—	443	19480	-33	—	—			
0	34200	-45	-45	30	0	34200	-34.5	-34.5	—	417	20480	-37	—	—			
	35800	-49	-49	30		35800	-34.5	-34.5	—	391	21480	-41	—	—			
	37400	-53	-53	30		37400	-34.5	-34.5	—	365	22480	-45	—	—			
	39000	-57	-57	30		39000	-34.5	-34.5	—	339	23480	-49	—	—			
	40600	-61	-61	30		40600	-34.5	-34.5	—	313	24480	-53	—	—			
	42200	-65	-65	30		42200	-34.5	-34.5	—	287	25480	-57	—	—			
	43800	-69	-69	30		43800	-34.5	-34.5	—	261	26480	-61	—	—			
	45400	-73	-73	30		45400	-34.5	-34.5	—	235	27480	-65	—	—			
	47000	-77	-77	30		47000	-34.5	-34.5	—	209	28480	-69	—	—			
	48600	-81	-81	30		48600	-34.5	-34.5	—	183	29480	-73	—	—			
	50200	-85	-85	30		50200	-34.5	-34.5	—	157	30480	-77	—	—			
	51800	-89	-89	30		51800	-34.5	-34.5	—	131	31480	-81	—	—			
	53400	-93	-93	30		53400	-34.5	-34.5	—	105	32480	-85	—	—			
	55000	-97	-97	30		55000	-34.5	-34.5	—	79	33480	-89	—	—			
	56600	-101	-101	30		56600	-34.5	-34.5	—	53	34480	-93	—	—			
	58200	-105	-105	30		58200	-34.5	-34.5	—	27	35480	-97	—	—			
	59800	-109	-109	30		59800	-34.5	-34.5	—	1	36480	-101	—	—			
	61400	-113	-113	30		61400	-34.5	-34.5	—		37480	-105	—	—			
	63000	-117	-117	30		63000	-34.5	-34.5	—		38480	-109	—	—			
	64600	-121	-121	30		64600	-34.5	-34.5	—		39480	-113	—	—			
	66200	-125	-125	30		66200	-34.5	-34.5	—		40480	-117	—	—			
	67800	-129	-129	30		67800	-34.5	-34.5	—		41480	-121	—	—			
	69400	-133	-133	30		69400	-34.5	-34.5	—		42480	-125	—	—			
	71000	-137	-137	30		71000	-34.5	-34.5	—		43480	-129	—	—			
	72600	-141	-141	30		72600	-34.5	-34.5	—		44480	-133	—	—			
	74200	-145	-145	30		74200	-34.5	-34.5	—		45480	-137	—	—			
	75800	-149	-149	30		75800	-34.5	-34.5	—		46480	-141	—	—			
	77400	-153	-153	30		77400	-34.5	-34.5	—		47480	-145	—	—			
	79000	-157	-157	30		79000	-34.5	-34.5	—		48480	-149	—	—			
	80600	-161	-161	30		80600	-34.5	-34.5	—		49480	-153	—	—			
	82200	-165	-165	30		82200	-34.5	-34.5	—		50480	-157	—	—			
	83800	-169	-169	30		83800	-34.5	-34.5	—		51480	-161	—	—			
	85400	-173	-173	30		85400	-34.5	-34.5	—		52480	-165	—	—			
	87000	-177	-177	30		87000	-34.5	-34.5	—		53480	-169	—	—			
	88600	-181	-181	30		88600	-34.5	-34.5	—		54480	-173	—	—			
	90200	-185	-185	30		90200	-34.5	-34.5	—		55480	-177	—	—			
	91800	-189	-189	30		91800	-34.5	-34.5	—		56480	-181	—	—			
	93400	-193	-193	30		93400	-34.5	-34.5	—		57480	-185	—	—			
	95000	-197	-197	30		95000	-34.5	-34.5	—		58480	-189	—	—			
	96600	-201	-201	30		96600	-34.5	-34.5	—		59480	-193	—	—			
	98200	-205	-205	30		98200	-34.5	-34.5	—		60480	-197	—	—			
	99800	-209	-209	30		99800	-34.5	-34.5	—		61480	-201	—	—			
	101400	-213	-213	30		101400	-34.5	-34.5	—		62480	-205	—	—			
	103000	-217	-217	30		103000	-34.5	-34.5	—		63480	-209	—	—			
	104600	-221	-221	30		104600	-34.5	-34.5	—		64480	-213	—	—			
	106200	-225	-225	30		106200	-34.5	-34.5	—		65480	-217	—	—			
	107800	-229	-229	30		107800	-34.5	-34.5	—		66480	-221	—	—			
	109400	-233	-233	30		109400	-34.5	-34.5	—		67480	-225	—	—			
	111000	-237	-237	30		111000	-34.5	-34.5	—		68480	-229	—	—			
	112600	-241	-241	30		112600	-34.5	-34.5	—		69480	-233	—	—			
	114200	-245	-245	30		114200	-34.5	-34.5	—		70480	-237	—	—			
	115800	-249	-249	30		115800	-34.5	-34.5	—		71480	-241	—	—			
	117400	-253	-253	30		117400	-34.5	-34.5	—		72480	-245	—	—			
	119000	-257	-257	30		119000	-34.5	-34.5	—		73480	-249	—	—			
	120600	-261	-261	30		120600	-34.5	-34.5	—		74480	-253	—	—			
	122200	-265	-265	30		122200	-34.5	-34.5	—		75480	-257	—	—			
	123800	-269	-269	30		123800	-34.5	-34.5	—		76480	-261	—	—			
	125400	-273	-273	30		125400	-34.5	-34.5	—		77480	-265	—	—			
	127000	-277	-277	30		127000	-34.5	-34.5	—		78480	-269	—	—			
	128600	-281	-281	30		128600	-34.5	-34.5	—		79480	-273	—	—			
	130200	-285	-285	30		130200	-34.5	-34.5	—		80480	-277	—	—			
	131800	-289	-289	30		131800	-34.5	-34.5	—		81480	-281	—	—			
	133400	-293	-293	30		133400	-34.5	-34.5	—		82480	-285	—	—			
	135000	-297	-297	30		135000	-34.5	-34.5	—		83480	-289	—	—			
	136600	-301	-301	30		136600	-34.5	-34.5	—		84480	-293	—	—			
	138200	-305	-305	30		138200	-34.5	-34.5	—		85480	-297	—	—			
	139800	-309	-309	30		139800	-34.5	-34.5	—		86480	-301	—	—			
	141400	-313	-313	30		141400	-34.5	-34.5	—		87480	-305	—	—			
	143000	-317	-317	30		143000	-34.5	-34.5	—		88480	-309	—	—			
	144600	-321	-321	30		144600	-34.5	-34.5	—		89480	-313	—	—			
	146200	-325	-325	30		146200	-34.5	-34.5	—		90480	-317	—	—			
	147800	-329	-329	30		147800	-34.5	-34.5	—		91480	-321	—	—			
	149400	-333	-333	30		149400	-34.5	-34.5	—		92480	-325	—	—			
	151000	-337	-337	30		151000	-34.5	-34.5	—		93480	-329	—	—			
	152600	-341	-341	30		152600	-34.5	-34.5	—		94480	-333	—	—			
	154200	-345	-345	30		154200	-34.5	-34.5	—		95480	-337	—	—			
	155800	-349	-349	30		155800	-34.5	-34.5	—		96480	-341	—	—			
	157400	-353	-353	30		157400	-34.5	-34.5	—		97480	-345	—	—			
	159000	-357	-357	30		159000	-34.5	-34.5	—		98480	-349	—	—			
	160600	-361	-361	30		160600	-34.5	-34.5	—		99480	-353	—	—			
	162200	-365	-365	30		162200	-34.5	-34.5	—		100480	-357	—	—			
	163800	-369	-369	30		163800	-34.5	-34.5	—		101480	-361	—	—			
	165400																

UPPER WINDS ABROAD

Place.	Genoa	Turin	Warsaw	Bizorta	Rome.	Malta.
Time.	12h. 10 ^s	13h. 10 ^s	12h. 10 ^s	12h. 10 ^s	18h. 10 ^s	12h. 10 ^s
Feet.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.
1,040	- -	- -	200 26	350 20	- -	(7000ft)
3,280	- -	70 2	220 23	350 23	20 8	50 25
4,920	230 8	- -	200 36	10 23	- -	(2000ft)
6,560	- -	210 8	200 20	10 17	360 19	40 28
9,840	240 9	- -	300 10		20 9	(3000ft)
13,120	- -	- -				40 29
16,400	360 25	360 24				
19,680						

AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

THURSDAY, 12th FEBRUARY, 1931.No. B 25284.
U.A.S. 4.336.

DIAGRAM OF UPPER AIR TEMPERATURE

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 8th, 1811, and October 2nd, 1808, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Table Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

— 66-75 "

— 76-85 "

— 86-95 "

— 96-105 "

— 106-115 "

— 116-125 "

— 126-135 "

— 136-145 "

— 146-155 "

— 156-165 "

— 166-175 "

— 176-185 "

— 186-195 "

— 196-205 "

— 206-215 "

— 216-225 "

— 226-235 "

— 236-245 "

— 246-255 "

— 256-265 "

— 266-275 "

— 276-285 "

— 286-295 "

— 296-305 "

— 306-315 "

— 316-325 "

— 326-335 "

— 336-345 "

— 346-355 "

— 356-365 "

— 366-375 "

— 376-385 "

— 386-395 "

— 396-405 "

— 406-415 "

— 416-425 "

— 426-435 "

— 436-445 "

— 446-455 "

— 456-465 "

— 466-475 "

— 476-485 "

— 486-495 "

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— 616-625 "

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— 656-665 "

— 666-675 "

— 676-685 "

— 686-695 "

— 696-705 "

— 706-715 "

— 716-725 "

— 726-735 "

— 736-745 "

— 746-755 "

— 756-765 "

— 766-775 "

— 776-785 "

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— 796-805 "

— 806-815 "

— 816-825 "

— 826-835 "

— 836-845 "

— 846-855 "

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— 866-875 "

— 876-885 "

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— 896-905 "

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— 936-945 "

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— 956-965 "

— 966-975 "

— 976-985 "

— 986-995 "

— 996-1005 "

— 1006-1015 "

— 1016-1025 "

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— 1116-1125 "

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— 1866-1875 "

— 1876-1885 "

— 1886-1895 "

— 1896-1905 "

— 1906-1915 "

— 1916-1925 "

— 1926-1935 "

— 1936-1945 "

— 1946-1955 "

— 1956-1965 "

— 1966-1975 "

— 1976-1985 "

— 1986-1995 "

— 1996-2005 "

— 2006-2015 "

— 2016-2025 "

— 2026-2035 "

— 2036-2045 "

— 2046-2055 "

— 2056-2065 "

— 2066-2075 "

— 2076-2085 "

— 2086-2095 "

— 2096-2105 "

— 2106-2115 "

— 2116-2125 "

— 2126-2135 "

— 2136-2145 "

— 2146-2155 "

— 2156-2165 "

— 2166-2175 "

— 2176-2185 "

— 2186-2195 "

— 2196-2205 "

— 2206-2215 "

— 2216-2225 "

— 2226-2235 "

— 2236-2245 "

— 2246-2255 "

— 2256-2265 "

— 2266-2275 "

— 2276-2285 "

— 2286-2295 "

— 2296-2305 "

— 2306-2315 "

— 2316-2325 "

— 2326-2335 "

— 2336-2345 "

— 2346-2355 "

— 2356-2365 "

— 2366-2375 "

— 2376-2385 "

— 2386-2395 "

— 2396-2405 "

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																											
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentin	Place							
Time.	12 ^h 11 ^h	12 ^h 11 ^h	12 ^h 11 ^h	12 ^h 11 ^h	12 ^h 11 ^h	12 ^h 11 ^h		12 ^h 11 ^h	12 ^h 11 ^h	12 ^h 11 ^h	12 ^h 11 ^h			12 ^h 11 ^h						Time							
Type	b	b	b			b		b	b					b							Type						
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet							
Surf.	210 21	215 20	225 20	210 20	225 21	230 21		215 18	210 20	200 31	145 18			195 15						Surf.							
1000	225 25	225 23	225 31	225 16	235 33	230 33		215 31	215 33	215 31	205 27			210 31						1000							
2000	240 26	230 37	230 41	230 36	245 35	240 34		230 38	220 42	225 34				210 41						2000							
3000		245 35			245 44	245 34								(2060').						3000							
4000		250 50			245 43															4000							
5000																				5000							
6000																				6000							
8000																				8000							
10000																				10000							
12000								13 ^h 06 ^m												12000							
Neph.								290 85												Neph.							
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentin	Place.							
Time.													16 ^h 11 ^h	16 ^h 11 ^h	17 ^h 11 ^h					Time.							
Type.																				Type.							
Feet																				Feet							
Surf.													260 37	240 14	245 18					Surf.							
1000													275 45	250 38	245 33					1000							
2000													230 56	260 47	250 48					2000							
3000														265 50	255 56					3000							
4000															260 60					4000							
5000																				5000							
6000																				6000							
8000																				8000							
10000																				10000							
12000														16 ^h 06 ^m						12000							
Neph.														280 100						Neph.							
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew</											

[illegible]

UPPER WINDS ABROAD.													
Place.	Calais		Paris		Nanay		Strasbourg		Toulouse		Dijon		
Time.	13 ^h	11 ^h	12 ^h	11 ^h	17 ^h	11 ^h	18 ^h	11 ^h	17 ^h	11 ^h	18 ^h	11 ^h	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	
1,640	360	8	270	21	220	34					210	20	
3,280	220	16			240	31	240	19	290	19	250	19	
4,920					250	31	260	25	300	27	270	24	
6,560							270	24	180	31			
9,840									310	43			
13,120									310	47			
16,400													
19,680													

Place	Malta		Madrid		Nîmes		Florence		Tours		Malta	
Time.	17 ^h	12 ^h	7 ^h	12 ^h	7 ^h	12 ^h	7 ^h	12 ^h	7 ^h	12 ^h	6 ^h	12 ^h
1,640	1000'				270	20	290	4	270	43	1000'	
3,280	290	23	20	3	290	31	290	14	290	53	310	33
4,920			290	14	310	44	320	12				
6,560	2000'	320	11								2000'	
9,840	290	30	310	38							310	47
13,120			300	31								
16,400	3000'											
19,680	290	34										

Meteorological Office, Air Ministry,
Kingsway, London, W.C.2.

G. C. SIMPSON, C.B. D.Sc. F.R.S.,
Director.



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

FRIDAY, 13TH FEBRUARY, 1931.

No. 25,286.

U.A.S. 4,337.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite plus balloon ascent, except where otherwise specified in the notes on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.
Movements are indicated thus: — No speed given. — 0-5 m.p.h. — 6-15 " — 16-26 " — 26-35 m.p.h. — 36-45 " — 46-55 " — 56-65 " — 66-75 " — 76-85 " — 86-95 " — 96-105 " — 106-115 " — 116-125 " — 126-135 " — 136-145 " — 146-155 " — 156-165 " — 166-175 " — 176-185 " — 186-195 " — 196-205 " — 206-215 " — 216-225 " — 226-235 " — 236-245 " — 246-255 " — 256-265 " — 266-275 " — 276-285 " — 286-295 " — 296-305 " — 306-315 " — 316-325 " — 326-335 " — 336-345 " — 346-355 " — 356-365 " — 366-375 " — 376-385 " — 386-395 " — 396-405 " — 406-415 " — 416-425 " — 426-435 " — 436-445 " — 446-455 " — 456-465 " — 466-475 " — 476-485 " — 486-495 " — 496-505 " — 506-515 " — 516-525 " — 526-535 " — 536-545 " — 546-555 " — 556-565 " — 566-575 " — 576-585 " — 586-595 " — 596-605 " — 606-615 " — 616-625 " — 626-635 " — 636-645 " — 646-655 " — 656-665 " — 666-675 " — 676-685 " — 686-695 " — 696-705 " — 706-715 " — 716-725 " — 726-735 " — 736-745 " — 746-755 " — 756-765 " — 766-775 " — 776-785 " — 786-795 " — 796-805 " — 806-815 " — 816-825 " — 826-835 " — 836-845 " — 846-855 " — 856-865 " — 866-875 " — 876-885 " — 886-895 " — 896-905 " — 906-915 " — 916-925 " — 926-935 " — 936-945 " — 946-955 " — 956-965 " — 966-975 " — 976-985 " — 986-995 " — 996-1005 " — 1006-1015 " — 1016-1025 " — 1026-1035 " — 1036-1045 " — 1046-1055 " — 1056-1065 " — 1066-1075 " — 1076-1085 " — 1086-1095 " — 1096-1105 " — 1106-1115 " — 1116-1125 " — 1126-1135 " — 1136-1145 " — 1146-1155 " — 1156-1165 " — 1166-1175 " — 1176-1185 " — 1186-1195 " — 1196-1205 " — 1206-1215 " — 1216-1225 " — 1226-1235 " — 1236-1245 " — 1246-1255 " — 1256-1265 " — 1266-1275 " — 1276-1285 " — 1286-1295 " — 1296-1305 " — 1306-1315 " — 1316-1325 " — 1326-1335 " — 1336-1345 " — 1346-1355 " — 1356-1365 " — 1366-1375 " — 1376-1385 " — 1386-1395 " — 1396-1405 " — 1406-1415 " — 1416-1425 " — 1426-1435 " — 1436-1445 " — 1446-1455 " — 1456-1465 " — 1466-1475 " — 1476-1485 " — 1486-1495 " — 1496-1505 " — 1506-1515 " — 1516-1525 " — 1526-1535 " — 1536-1545 " — 1546-1555 " — 1556-1565 " — 1566-1575 " — 1576-1585 " — 1586-1595 " — 1596-1605 " — 1606-1615 " — 1616-1625 " — 1626-1635 " — 1636-1645 " — 1646-1655 " — 1656-1665 " — 1666-1675 " — 1676-1685 " — 1686-1695 " — 1696-1705 " — 1706-1715 " — 1716-1725 " — 1726-1735 " — 1736-1745 " — 1746-1755 " — 1756-1765 " — 1766-1775 " — 1776-1785 " — 1786-1795 " — 1796-1805 " — 1806-1815 " — 1816-1825 " — 1826-1835 " — 1836-1845 " — 1846-1855 " — 1856-1865 " — 1866-1875 " — 1876-1885 " — 1886-1895 " — 1896-1905 " — 1906-1915 " — 1916-1925 " — 1926-1935 " — 1936-1945 " — 1946-1955 " — 1956-1965 " — 1966-1975 " — 1976-1985 " — 1986-1995 " — 1996-2005 " — 2006-2015 " — 2016-2025 " — 2026-2035 " — 2036-2045 " — 2046-2055 " — 2056-2065 " — 2066-2075 " — 2076-2085 " — 2086-2095 " — 2096-2105 " — 2106-2115 " — 2116-2125 " — 2126-2135 " — 2136-2145 " — 2146-2155 " — 2156-2165 " — 2166-2175 " — 2176-2185 " — 2186-2195 " — 2196-2205 " — 2206-2215 " — 2216-2225 " — 2226-2235 " — 2236-2245 " — 2246-2255 " — 2256-2265 " — 2266-2275 " — 2276-2285 " — 2286-2295 " — 2296-2305 " — 2306-2315 " — 2316-2325 " — 2326-2335 " — 2336-2345 " — 2346-2355 " — 2356-2365 " — 2366-2375 " — 2376-2385 " — 2386-2395 " — 2396-2405 " — 2406-2415 " — 2416-2425 " — 2426-2435 " — 2436-2445 " — 2446-2455 " — 2456-2465 " — 2466-2475 " — 2476-2485 " — 2486-2495 " — 2496-2505 " — 2506-2515 " — 2516-2525 " — 2526-2535 " — 2536-2545 " — 2546-2555 " — 2556-2565 " — 2566-2575 " — 2576-2585 " — 2586-2595 " — 2596-2605 " — 2606-2615 " — 2616-2625 " — 2626-2635 " — 2636-2645 " — 2646-2655 " — 2656-2665 " — 2666-2675 " — 2676-2685 " — 2686-2695 " — 2696-2705 " — 2706-2715 " — 2716-2725 " — 2726-2735 " — 2736-2745 " — 2746-2755 " — 2756-2765 " — 2766-2775 " — 2776-2785 " — 2786-2795 " — 2796-2805 " — 2806-2815 " — 2816-2825 " — 2826-2835 " — 2836-2845 " — 2846-2855 " — 2856-2865 " — 2866-2875 " — 2876-2885 " — 2886-2895 " — 2896-2905 " — 2906-2915 " — 2916-2925 " — 2926-2935 " — 2936-2945 " — 2946-2955 " — 2956-2965 " — 2966-2975 " — 2976-2985 " — 2986-2995 " — 2996-3005 " — 3006-3015 " — 3016-3025 " — 3026-3035 " — 3036-3045 " — 3046-3055 " — 3056-3065 " — 3066-3075 " — 3076-3085 " — 3086-3095 " — 3096-3105 " — 3106-3115 " — 3116-3125 " — 3126-3135 " — 3136-3145 " — 3146-3155 " — 3156-3165 " — 3166-3175 " — 3176-3185 " — 3186-3195 " — 3196-3205 " — 3206-3215 " — 3216-3225 " — 3226-3235 " — 3236-3245 " — 3246-3255 " — 3256-3265 " — 3266-3275 " — 3276-3285 " — 3286-3295 " — 3296-3305 " — 3306-3315 " — 3316-3325 " — 3326-3335 " — 3336-3345 " — 3346-3355 " — 3356-3365 " — 3366-3375 " — 3376-3385 " — 3386-3395 " — 3396-3405 " — 3406-3415 " — 3416-3425 " — 3426-3435 " — 3436-3445 " — 3446-3455 " — 3456-3465 " — 3466-3475 " — 3476-3485 " — 3486-3495 " — 3496-3505 " — 3506-3515 " — 3516-3525 " — 3526-3535 " — 3536-3545 " — 3546-3555 " — 3556-3565 " — 3566-3575 " — 3576-3585 " — 3586-3595 " — 3596-3605 " — 3606-3615 " — 3616-3625 " — 3626-3635 " — 3636-3645 " — 3646-3655 " — 3656-3665 " — 3666-3675 " — 3676-3685 " — 3686-3695 " — 3696-3705 " — 3706-3715 " — 3716-3725 " — 3726-3735 " — 3736-3745 " — 3746-3755 " — 3756-3765 " — 3766-3775 " — 3776-3785 " — 3786-3795 " — 3796-3805 " — 3806-3815 " — 3816-3825 " — 3826-3835 " — 3836-3845 " — 3846-3855 " — 3856-3865 " — 3866-3875 " — 3876-3885 " — 3886-3895 " — 3896-3905 " — 3906-3915 " — 3916-3925 " — 3926-3935 " — 3936-3945 " — 3946-3955 " — 3956-3965 " — 3966-3975 " — 3976-3985 " — 3986-3995 " — 3996-4005 " — 4006-4015 " — 4016-4025 " — 4026-4035 " — 4036-4045 " — 4046-4055 " — 4056-4065 " — 4066-4075 " — 4076-4085 " — 4086-4095 " — 4096-4105 " — 4106-4115 " — 4116-4125 " — 4126-4135 " — 4136-4145 " — 4146-4155 " — 4156-4165 " — 4166-4175 " — 4176-4185 " — 4186-4195 " — 4196-4205 " — 4206-4215 " — 4216-4225 " — 4226-4235 " — 4236-4245 " — 4246-4255 " — 4256-4265 " — 4266-4275 " — 4276-4285 " — 4286-4295 " — 4296-4305 " — 4306-4315 " — 4316-4325 " — 4326-4335 " — 4336-4345 " — 4346-4355 " — 4356-4365 " — 4366-4375 " — 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9346-9355 " — 9356-9365 " — 9366-9375 " — 9376-9385 " — 9386-9395 " — 9396-9405 " — 9406-9415 " — 9416-9425 " — 9426-9435 " — 9436-9445 " — 9446-9455 " — 9456-9465 " — 9466-9475 " — 9476-9485 " — 9486-9495 " — 9496-9505 " — 9506-9515 " — 9516-9525 " — 9526-9535 " — 9536-9545 " — 9546-9555 " — 9556-9565 " — 9566-9575 " — 9576-9585 " — 9586-9595 " — 9596-9605 " — 9606-9615 " — 9616-9625 " — 9626-9635 " — 9636-9645 " — 9646-9655 " — 9656-9665 " — 9666-9675 " — 9676-9685 " — 9686-9695 " — 9696-9705 " — 9706-9715 " — 9716-9725 " — 9726-9735 " — 9736-9745 " — 9746-9755 " — 9756-9765 " — 97



DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION, SATURDAY, 14TH FEBRUARY, 1931.

No. B. 25,286

U.A.S. 4,338.

DIAGRAM OF UPPER AIR TEMPERATURE.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page

UPPER WINDS.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

—• No speed given.

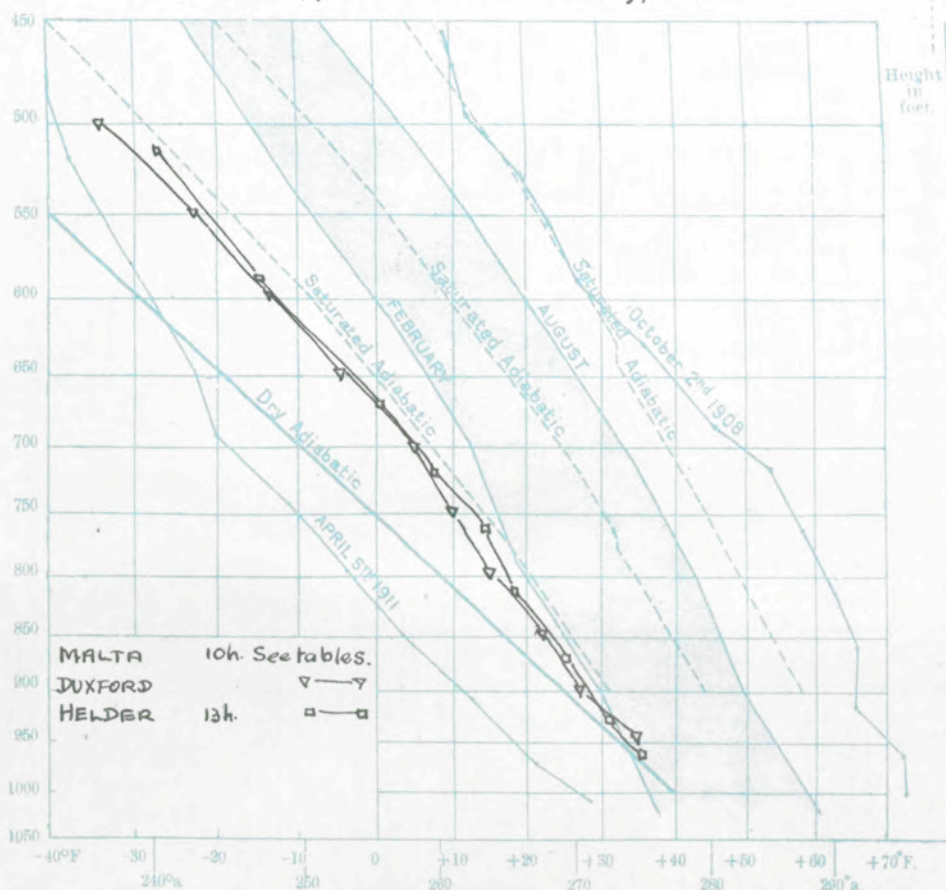
— *u* 26–35 m.p.h.

— 1.44	36—45	"
— 1.44	46—55	"

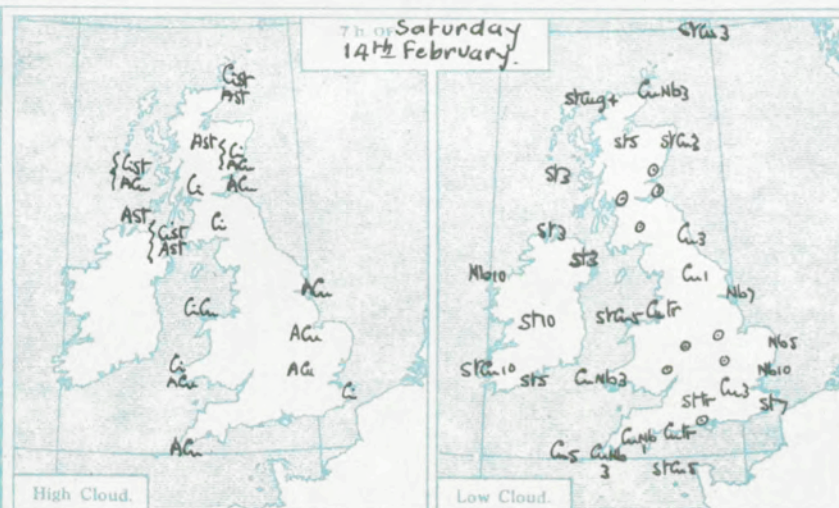
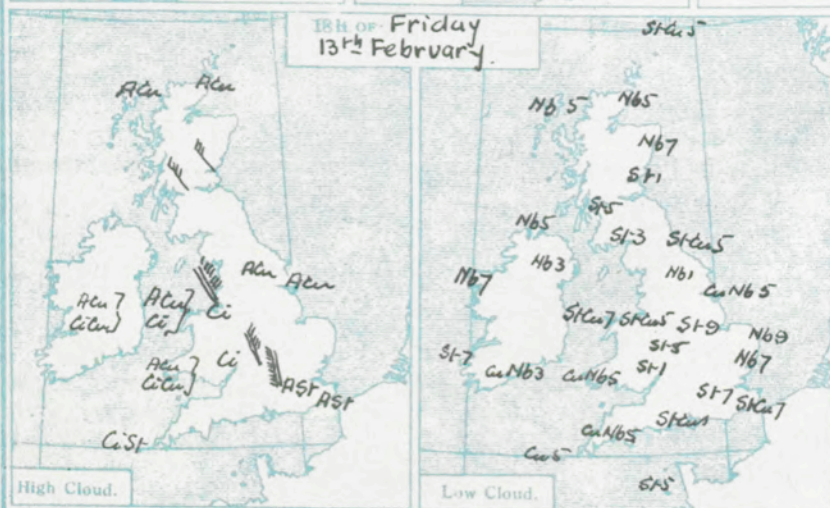
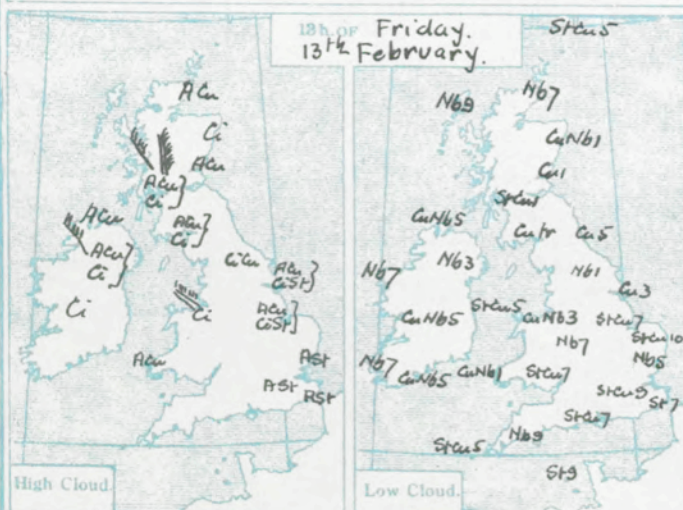
In Tables,

UPPER AIR TEMPERATURES.

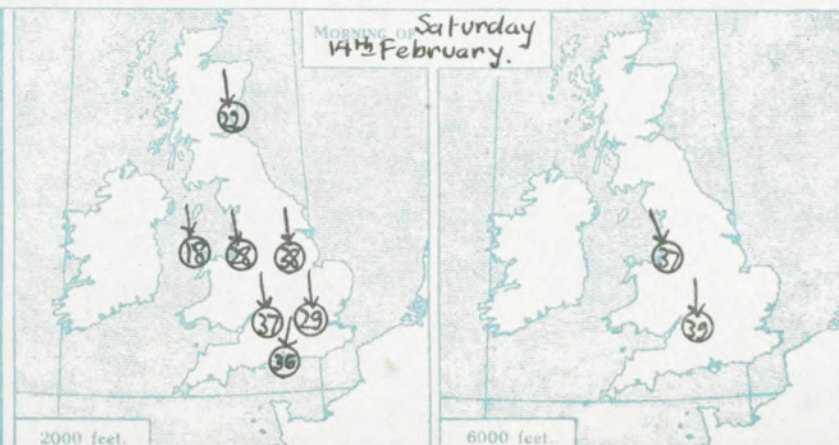
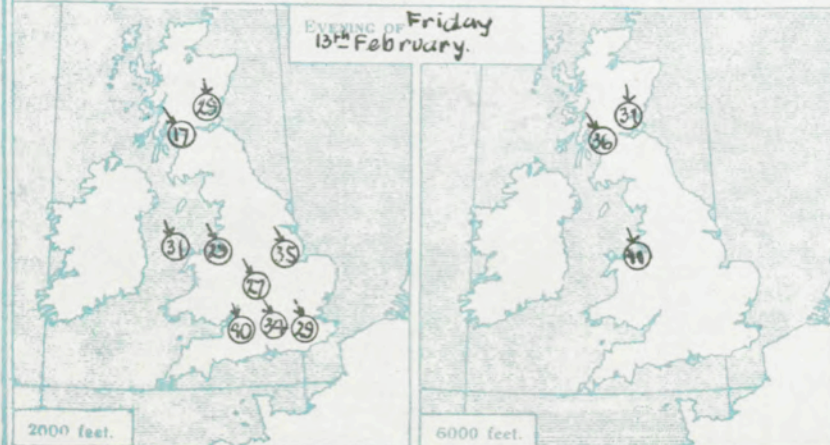
FRIDAY, 13TH FEBRUARY, 1931.



CLOUD FORMS, AMOUNTS AND MOVEMENTS.



DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																											
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Place							
Time	12h 13 ¹²	12h 13 ¹²	12h 13 ¹²	12h 13 ¹²	12h 13 ¹²			12h 13 ¹²	12h 13 ¹²	12h 13 ¹²	12h 13 ¹²		12h 13 ¹²	12h 13 ¹²	12h 13 ¹²	12h 13 ¹²		12h 13 ¹²									
Type	b	b	b	b	b				b				b	b	b												
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Type							
Surf.	305 21	310 18	320 26	305 24	310 26			305 16	310 24	325 17	310 20		325 29	330 18	325 12	310 11		325 14		Surf.							
1000	315 17	325 25	325 23	310 32	320 17			315 45	320 36	330 33	325 28		340 39	335 23	355 21	340 22		340 25		1000							
2000		325 22	325 37	315 30	330 27				330 37	330 27			345 35	345 27		340 31		345 33		2000							
3000			325 36	325 28					350 44				350 29	345 25		350 27		350 38		3000							
4000				335 29									350 27	345 31		355 26		350 37		4000							
5000				330 32									350 29			360 27		345 32		5000							
6000													(4800')					340 41		6000							
8000																		335 41		8000							
10000																		330 38		10000							
12000																		330 38		12000							
Neph.																											
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Sealand	Holyhead	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Place							
Time	17h 13 ¹²	17h 13 ¹²	17h 13 ¹²	17h 13 ¹²					17h 13 ¹²		17h 13 ¹²		17h 13 ¹²	17h 13 ¹²	17h 13 ¹²	17h 13 ¹²											
Type																											
Feet																				Type							
Surf.	330 20	290 8	330 16	340 18					340 21		335 14		325 12	345 24	315 12	300 5				Surf.							
1000	330 19	330 24	340 31	345 33					335 20		325 19		330 29	340 31	325 19	330 15				1000							
2000	345 29	340 34	345 40	350 36					345 35		335 27		325 29	335 31	355 29	325 17				2000							
3000	345 27	345 35	355 37	350 44							345 36		345 27	340 37	360 23	355 25				3000							
4000			355 39	345 50									345 30		5 25	355 23				4000							
5000				350 56									340 37		360 27	340 34				5000							
6000													345 41		360 31	340 36				6000							
8000													345 38			335 25				8000							

PPER AIR TEMPERATURES AND HUMIDITIES.											
Station.	Pressure	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure	Height above M.S.L.	Temp.		Relative Humidity
			Dry.	Wet.					Dry.	Wet.	
DUXFORD Hk. 15m. 13/2/1931.	mb.	Feet.	°F.	°F.	%						
938	M.S.L.	—	—	—	—						
934	100	41	36	61							
959	1080	37.5	34	71							
950	1310	35	31	65							
900	2730	27	24	67							
850	4230	22.5	20	70							
800	5780	15	13								
750	7420	10	8								
700	9170	5	3								
650	11000	-5	-6								
600	12930	-13.5	-14								
550	18500	-23	-23								
500	17320	-34	-34								
450	19710	-47	-47								
Haze top 940 mb.											
Clouds											
scw 410 870-850 mb											
Rst 410 760-755 mb											
Ci 410 550-510 mb.											
Rimz formed in layer 870-850 mb.											
HELDER 13h 13/2/31.	mb.	Feet.	°F.	°F.	%						
989	M.S.L.	—	—	—	—						
964	680	36	—	75							
929	1660	32	—	75							
872	3280	25	—	75							
818	4920	19	—	65							
768	6560	14	—	35							
719	8200	7	—	45							
673	9840	0	—	35							
589	13120	-7.5	—	35							
513	16400	-27	—	55							
MALTA Iok. 13/2/1931.	mb.	Feet.	°F.	°F.	%						
1011	M.S.L.	—	—	—	—						
980	660	52	—	85							
883	1640	48	—	95							
898	3280	42	—	95							
843	4920	37	—	85							
704	6560	32	—	85							
754	8200	29	—	95							
700	9840	25	—	75							

UPPER WINDS ABROAD.												
Place.	Lyons		Barcelona		Bodajoz		Marrakech		Havre		Malta	
Time.	13h.13 ^h	13h.13 ^h	13h.13 ^h	13h.13 ^h	17h.13 ^h	18h.13 ^h	18h.13 ^h	18h.13 ^h	18h.13 ^h	18h.13 ^h	18h.13 ^h	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,840	200	4	320	18	300	27	-	-	340	34	(3000')	
3,280	290	13	340	17	310	34	310	27	340	34	250	36
4,920			330	22			290	34	340	24	(5000')	
6,560			310	36			320	45			280	25
9,840			300	55							(7000')	
13,120			300	58							300	33
16,400												
19,680												

Place.	Strasbourg		Tours		Lublin		Cracow		Rome		Naples	
Time.	18h.13 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	7h.14 ^h	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,840	190	19	350	29	130	16	120	26	240	16	200	7
3,280	260	20	10	45	130	13	120	32	220	9		
4,920					150	16	120	21	-	-		
6,560					160	18			240	13		
9,840					160	18						
13,120												
16,400												
19,680												

Meteorological Office, Air Ministry.
Kingsway, London, W.C.2.

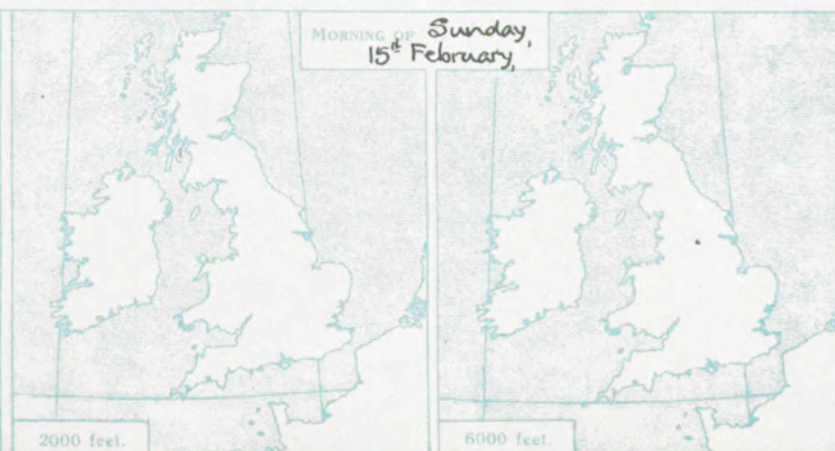
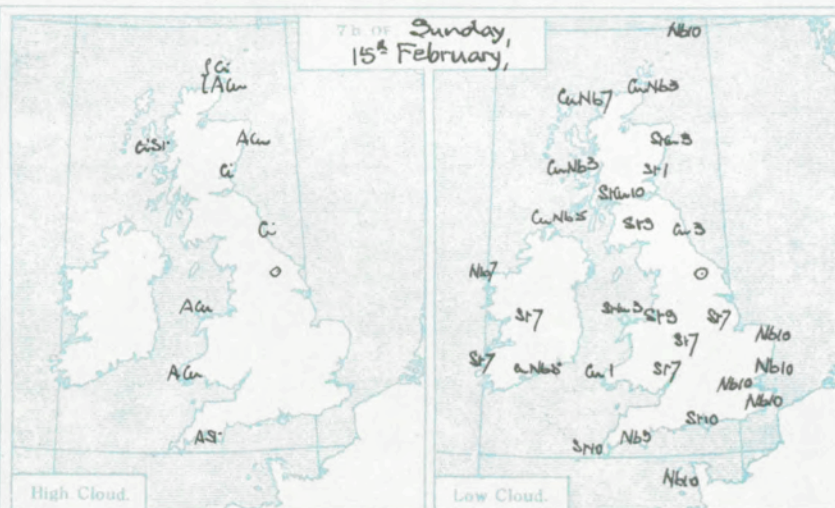
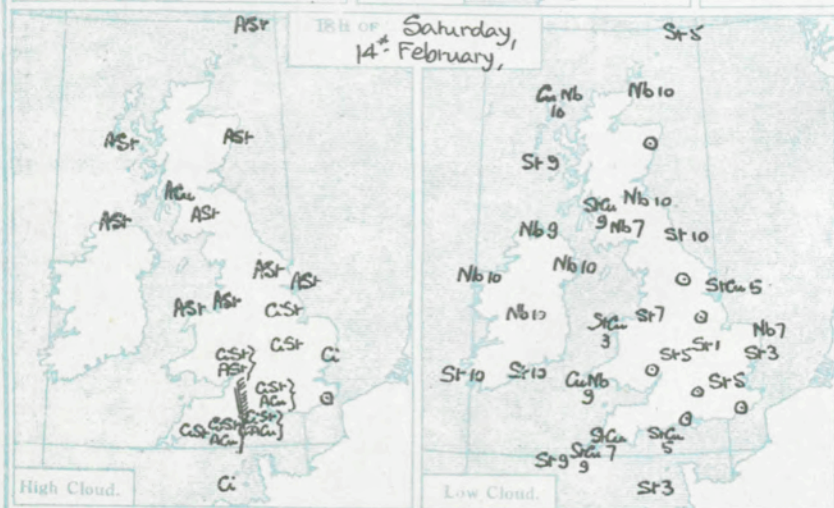
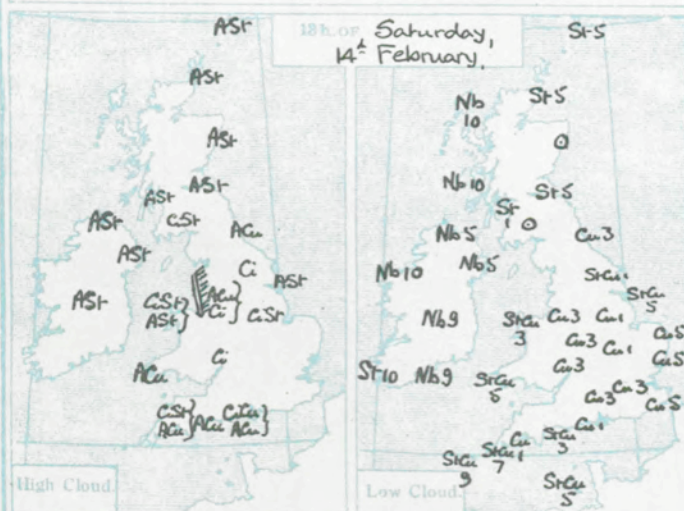
G. C. SIMPSON, C.B. D.Sc., F.R.S.,
Director.

SUNDAY, 15TH FEBRUARY, 1931.

U.A.S. 4339.

UPPER WINDS.

In Tables.



③ Indicates absence of cloud.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																									
Place	Croydon	South Farnboro	Worthing	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Ocranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Place					
Time	12-14	12-14		12-14		13-14		12-14	12-14		12-14	12-14	12-14	12-14	12-14	12-14				Time					
Type	b																				Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.	335	14	300	10		340	20					350	20	345	15	325	12	325	7	270	10	250	5		
1000	330	17	330	19		345	27					340	35	5	20	315	9	330	13	265	13	265	9		
2000	345	24				355	23					340	24	5	16	310	12	330	12	280	15	275	11		
3000						355	30							5	25	315	5	320	17	285	9	260	10		
4000						360	38							10	24	315	10	315	16	290	11	275	11		
5000						5	38							10	26	335	11	315	18	285	15	290	14		
6000						15	25							5	25	325	12					295	15		
8000						10	21															320	17		
10000						Boscombe Down	360	46						355	21			13-14	Acu						
12000						Down	5	47						5	29			340	72						
Neph.						13-14	350	20										13-14	Ci						
Place	Croydon	South Farnboro	Worthing	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Ocranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Calshot	Place				
Time	17-14	17-14	17-14		17-14	17-14		17-14	17-14					17-14	17-14					24-14	Time				
Type	b																				Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.	365	10	295	9	320	12		325	16	345	25			310	5	215	10				255	6			
1000	335	15	325	17	330	26		330	25	345	31			290	11	230	17				285	7			
2000	335	15	335	25	335	29		335	29	345	27			295	15						280	7			
3000			345	25	340	26		345	23					300	16						278	13			
4000					345	22		355	20												300	18			
5000								360	18												255	23			
6000								5	27	350	15										300	20			
8000								10	23	350	15										7000	8000			
10000																					335	24			
12000								18-14	Ci					16-14	Ci										
Neph.						280	65					350	150												
Place	Croydon	South Farnboro	Worthing	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Ocranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Calshot	Place				
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.																					Surf.				
1000																					1000				
2000																					2000				
3000																					3000				
4000																					4000				
5000																					5000				
6000																					6000				
8000																					8000				
10000																					10000				
12000																					12000				
Neph.																					Neph.				
Place	Croydon	South Farnboro	Worthing	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Ocranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Calshot	Place				
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.																					Surf.				
1000																					1000				
2000																					2000				
3000																					3000				
4000																					4000				
5000																					5000				
6000																					6000				
8000																					8000				
10000																					10000				
12000																					12000				
Neph.																					Neph.				
Place	Croydon	South Farnboro	Worthing	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Ocranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Calshot	Place				
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.																					Surf.				
1000																					1000				
2000																					2000				
3000																					3000				
4000																					4000				
5000																					5000				
6000																					6000				
8000																					8000				
10000																					10000				
12000																					12000				
Neph.																					Neph.				
Place	Croydon	South Farnboro	Worthing	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Ocranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Calshot	Place				
Time																					Time				
Type																					Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet				
Surf.															</										



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

MONDAY, 16th FEBRUARY, 1931.

No. B. 25,288.

U.A.S. 4,340.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 25th, 1911, and October 24th, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the table on the reverse side.

h = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-10 "

— 11-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

— 66-75 "

— 76-85 "

— 86-95 "

— 96-105 "

— 106-115 "

— 116-125 "

— 126-135 "

— 136-145 "

— 146-155 "

— 156-165 "

— 166-175 "

— 176-185 "

— 186-195 "

— 196-205 "

— 206-215 "

— 216-225 "

— 226-235 "

— 236-245 "

— 246-255 "

— 256-265 "

— 266-275 "

— 276-285 "

— 286-295 "

— 296-305 "

— 306-315 "

— 316-325 "

— 326-335 "

— 336-345 "

— 346-355 "

— 356-365 "

— 366-375 "

— 376-385 "

— 386-395 "

— 396-405 "

— 406-415 "

— 416-425 "

— 426-435 "

— 436-445 "

— 446-455 "

— 456-465 "

— 466-475 "

— 476-485 "

— 486-495 "

— 496-505 "

— 506-515 "

— 516-525 "

— 526-535 "

— 536-545 "

— 546-555 "

— 556-565 "

— 566-575 "

— 576-585 "

— 586-595 "

— 596-605 "

— 606-615 "

— 616-625 "

— 626-635 "

— 636-645 "

— 646-655 "

— 656-665 "

— 666-675 "

— 676-685 "

— 686-695 "

— 696-705 "

— 706-715 "

— 716-725 "

— 726-735 "

— 736-745 "

— 746-755 "

— 756-765 "

— 766-775 "

— 776-785 "

— 786-795 "

— 796-805 "

— 806-815 "

— 816-825 "

— 826-835 "

— 836-845 "

— 846-855 "

— 856-865 "

— 866-875 "

— 876-885 "

— 886-895 "

— 896-905 "

— 906-915 "

— 916-925 "

— 926-935 "

— 936-945 "

— 946-955 "

— 956-965 "

— 966-975 "

— 976-985 "

— 986-995 "

— 996-1005 "

— 1006-1015 "

— 1016-1025 "

— 1026-1035 "

— 1036-1045 "

— 1046-1055 "

— 1056-1065 "

— 1066-1075 "

— 1076-1085 "

— 1086-1095 "

— 1096-1105 "

— 1106-1115 "

— 1116-1125 "

— 1126-1135 "

— 1136-1145 "

— 1146-1155 "

— 1156-1165 "

— 1166-1175 "

— 1176-1185 "

— 1186-1195 "

— 1196-1205 "

— 1206-1215 "

— 1216-1225 "

— 1226-1235 "

— 1236-1245 "

— 1246-1255 "

— 1256-1265 "

— 1266-1275 "

— 1276-1285 "

— 1286-1295 "

— 1296-1305 "

— 1306-1315 "

— 1316-1325 "

— 1326-1335 "

— 1336-1345 "

— 1346-1355 "

— 1356-1365 "

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— 1376-1385 "

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— 1396-1405 "

— 1406-1415 "

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— 1846-1855 "

— 1856-1865 "

— 1866-1875 "

— 1876-1885 "

— 1886-1895 "

— 1896-1905 "

— 1906-1915 "

— 1916-1925 "

— 1926-1935 "

— 1936-1945 "

— 1946-1955 "

— 1956-1965 "

— 1966-1975 "

— 1976-1985 "

— 1986-1995 "

— 1996-2005 "

— 2006-2015 "

— 2016-2025 "

— 2026-2035 "

— 2036-2045 "

— 2046-2055 "

— 2056-2065 "

— 2066-2075 "

— 2076-2085 "

— 2086-2095 "

— 2096-2105 "

— 2106-2115 "

— 2116-2125 "

— 2126-2135 "

— 2136-2145 "

— 2146-2155 "

— 2156-2165 "

— 2166-2175 "

— 2176-2185 "

— 2186-2195 "

— 2196-2205 "

— 2206-2215 "

— 2216-2225 "

— 2226-2235 "

— 2236-2245 "

— 2246-2255 "

— 2256-2265 "

— 2266-2275 "

— 2276-2285 "

— 2286-2295 "

— 2296-2305 "

— 2306-2315 "

— 2316-2325 "

— 2326-2335 "

— 2336-2345 "

— 2346-2355 "

— 2356-2365 "

— 2366-2375 "

— 2376-2385 "

— 2386-2395 "

— 2396-2405 "

— 2406-2415 "

— 2416-2425 "

— 2426-2435 "

— 2436-2445 "

— 2446-2455 "

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— 2516-2525 "

— 2526-2535 "

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— 2546-2555 "

— 2556-2565 "

— 2566-2575 "

— 2576-2585 "

— 2586-2595 "

— 2596-2605 "

— 2606-2615 "

— 2616-2625 "

— 2626-2635 "

— 2636-2645 "

— 2646-2655 "

— 2656-2665 "

— 2666-2675 "

— 2676-2685 "

— 2686-2695 "

— 2696-2705 "

— 2706-2715 "

— 2716-2725 "

— 2726-2735 "

— 2736-2745 "

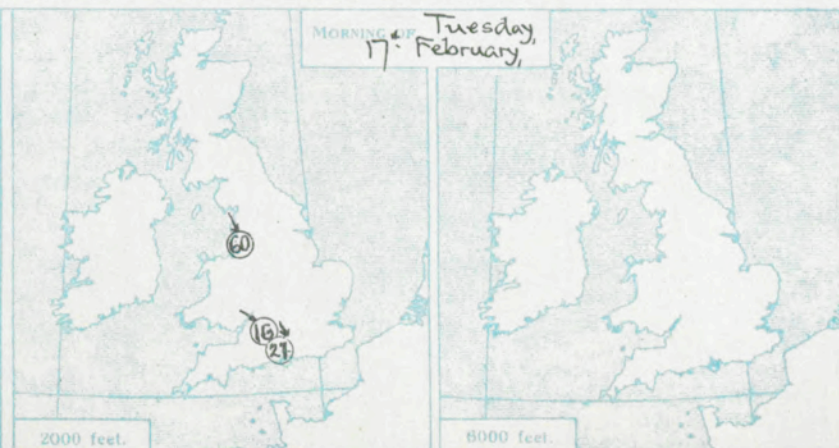
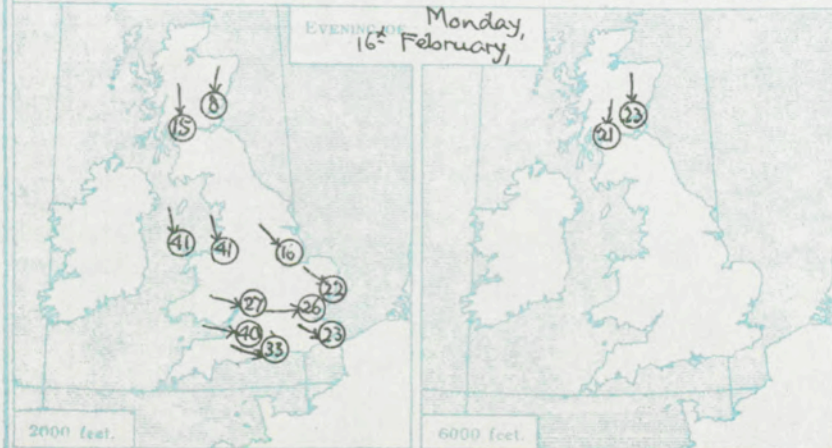
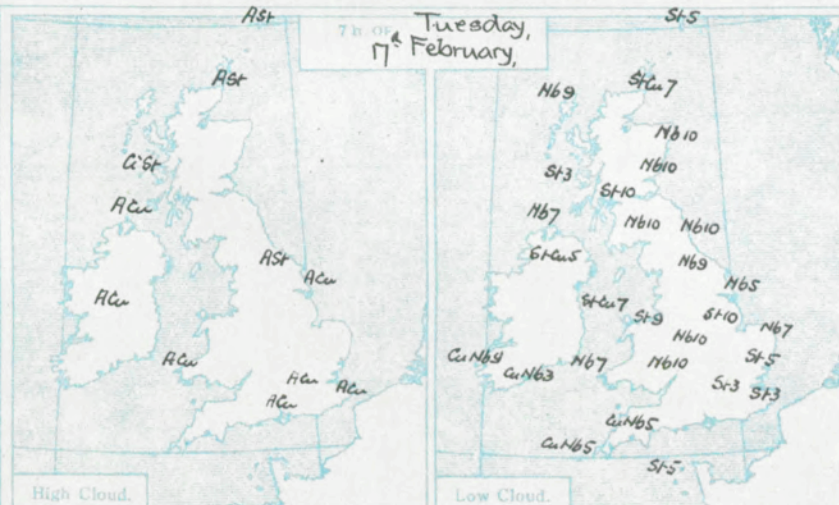
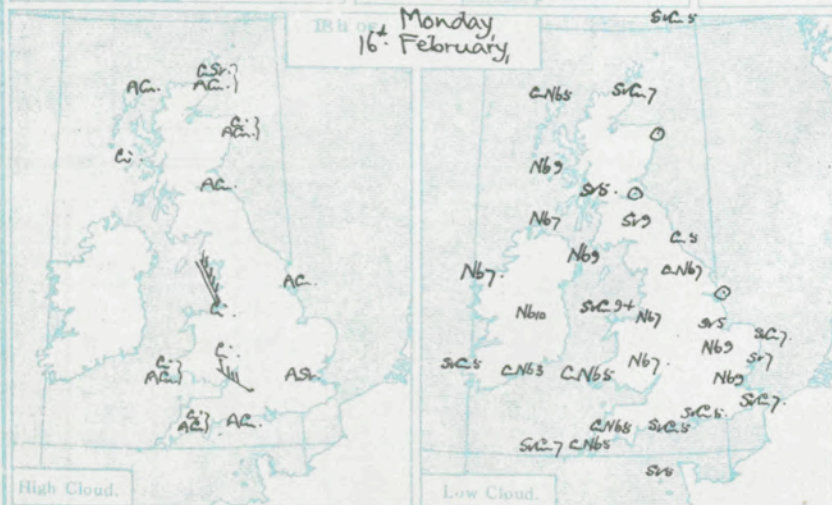
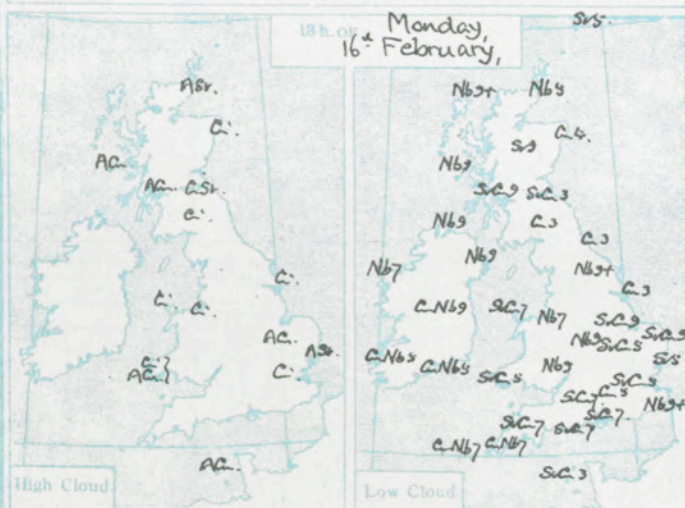
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DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																						
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place		
Time.		13 ^h 15 ^m		12 ^h 15 ^m	12 ^h 15 ^m									13 ^h 15 ^m	12 ^h 15 ^m	12 ^h 15 ^m					Time.	
Type														b							Type	
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet	
Surf.		320 10			310 18	315 12								280 22	250 15	250 12					Surf.	
1000		325 11			320 21	330 17								290 29	255 19	265 25					1000	
2000		325 26			320 15	335 21								295 34	265 24	285 29					2000	
3000		325 24			315 14	340 19								290 43	270 27						3000	
4000		320 27			320 21									305 43							4000	
5000																					5000	
6000		13 ^h C												13 ^h C							6000	
8000		310 30												310 90							8000	
10000														13 ^h AC							10000	
12000		13 ^h AC																			12000	
Neph.		310 45												330 54							Neph.	
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Calshot	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.		
Time.		17 ^h 15 ^m			17 ^h 15 ^m	24 ^h 15 ^m															Time.	
Type																					Type	
Feet		285 10			275 9	240 16															Feet	
Surf.					300 15	250 31															Surf.	
1000		290 21			305 19	265 29															1000	
2000		300 31			310 21	270 25															2000	
3000		300 26			325 23	270 35															3000	
4000		305 23			330 24																4000	
5000		320 23																			5000	
6000		325 24																			6000	
8000																					8000	
10000																					10000	
12000					16 ^h C										16 ^h C						12000	
Neph.					330 100										290 75						Neph.	
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympe	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.		
Time.					7 ^h 15 ^m	11 ^h 16 ^m		8 ^h 16 ^m					9 ^h 16 ^m	6 ^h 16 ^m	6 ^h 16 ^m					Time.		
Type																				Type		
Feet					230 11	270 15		225 11					285 36	300 20	235 12					Feet		
Surf.					255 29	260 26		245 30					285 46	305 42	265 22					Surf.		
1000					275 35	290 33		255 33						305 43	275 25					1000		
2000						295 39								310 37	270 33					2000		
3000																				3000		
4000																				4000		
5000																				5000		
6000																				6000		
8000																				8000		
10000																				10000		
12000									10 ^h C					10 ^h C						12000		
Neph.									280 25					340 85						Neph.		

UPPER AIR TEMPERATURES AND HUMIDITIES.														UPPER WINDS ABROAD.									
Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity
	mb.	Feet. M.S.L.	Dry.	Wet.	%		mb.	Feet. M.S.L.	Dry.	Wet.	%		mb.	Feet. M.S.L.	Dry.	Wet.	%		mb.	Feet. M.S.L.	Dry.	Wet.	%
			°F.	°F.					°F.	°F.					°F.	°F.					°F.	°F.	

TUESDAY, 17TH FEBRUARY, 1931.

25,289.
4,341.

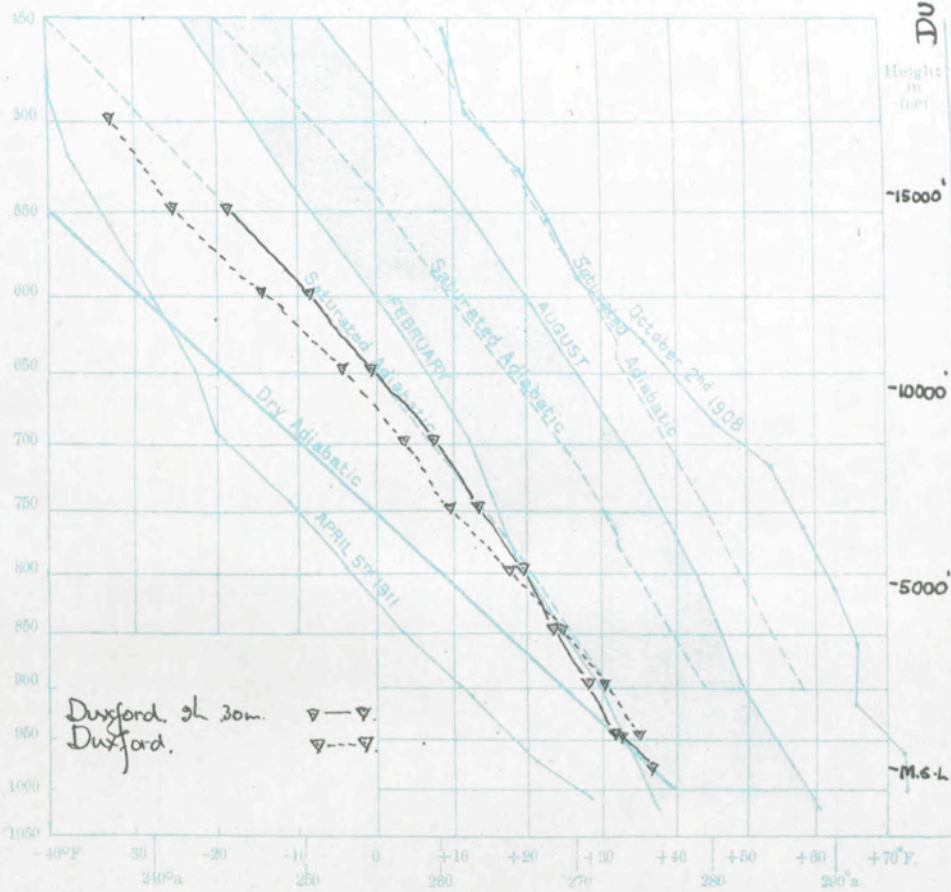


75.3511/2100 NI,HE 55000 30.906 10640 234

© Indicates absence of cloud

UPPER AIR TEMPERATURES.

Monday, 16th February, 1931.



DUXFORD.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

[illegible]

UPPER AIR TEMPERATURES AND HUMIDITIES

Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.	Station.	Pressure.	Height above M.S.L.	Temp.		Relative Humidity.
			Dry.	Wet.					Dry.	Wet.					Dry.	Wet.	
Duxford. 9h. 30m. 16/2/31.	mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	%		mb.	Feet.	°F.	°F.	%
	982.8	M.S.L.	—	—	—		988	M.S.L.	—	—	—		mb.	Feet.	°F.	°F.	%
	886	100	37	36	91		884	100	40	37.5	80		mb.	Feet.	°F.	°F.	%
	957	1080	33	30	72		945	1080	35	33	82		mb.	Feet.	°F.	°F.	%
	950	1100	32	30	87		950	1040	34	32	82		mb.	Feet.	°F.	°F.	%
	906	2400	28.5	22	37		900	2460	20	28	81		mb.	Feet.	°F.	°F.	%
	850	4000	23.5	22	83		850	3580	24	20	65		mb.	Feet.	°F.	°F.	%
	800	5570	19	18.5	—		800	5520	17	16	—		mb.	Feet.	°F.	°F.	%
	760	7200	13.5	13	—		750	7180	9	7.5	—		mb.	Feet.	°F.	°F.	%
	700	8960	7	5	—		700	8920	2.5	2.5	—		mb.	Feet.	°F.	°F.	%
	650	10800	—1	—2	—		650	11740	—5	—6	—		mb.	Feet.	°F.	°F.	%
	600	12780	—3	—10	—		600	12700	—18	—15	—		mb.	Feet.	°F.	°F.	%
	550	14900	—19	—13	—		550	14780	—26	—26	—		mb.	Feet.	°F.	°F.	%
							500	17080	—33	—23	—		mb.	Feet.	°F.	°F.	%
	Haze top not defined.						Rime formed 850mb-810mb										
	Rime formed in layer between 650 and 560mb.						Snow 6710, 870 to 770mb.										
	Dense G. No gathering in West.																
	M.S.L.	—	—	—	—		M.S.L.	—	—	—	—		M.S.L.	—	—	—	—

UPPER WINDS ABROAD.

Place.	Lyons.		Tunis.		Strasbourg		Le Havre		Rome		Malta	
Time.	12h 16'		12L. 16'		12h 16½		12h 16½		12h 16½		12h 16½	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	190	6	260	38	190	25	300	25	300	15	1000'	270 2'
3,280	260	5	280	41	210	20	310	36	260	4	2000'	270 32
4,920			290	38	230	39	310	36	-	-	270	32
6,560			290	41							3000'	270 40
9,840									250	7		
13,120												
16,400												
19,680												

Place	Taranto		Toulouse		Nancy		Prague		Alicante		Malta	
Time.	12h 16½		7h 17½		6h 17½		7h 17½		7h 17½		6h 17½	
1,640	370	8	260	27	220	31	140	8	-	-	1000'	250 22
3,280	-	-	300	18	200	27	150	16	300	25	3000'	270 23
4,920	220	23							310	27	5000'	270 18
6,560	280	20							310	34		
9,840									310	44		
13,120												
16,400												
19,680												

Meteorological Office, Air Ministry.
 Kingsway, London, W.C.2.

G. C. SIMPSON, C.B., D.Sc., P.R.S.,
 Director



AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

WEDNESDAY, 18th FEBRUARY, 1931.

No. B. 25,290.

U.A.S. 4,342

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

h = balloon with tail.

d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

— 66-75 "

— 76-85 "

— 86-95 "

— 96-105 "

— 106-115 "

— 116-125 "

— 126-135 "

— 136-145 "

— 146-155 "

— 156-165 "

— 166-175 "

— 176-185 "

— 186-195 "

— 196-205 "

— 206-215 "

— 216-225 "

— 226-235 "

— 236-245 "

— 246-255 "

— 256-265 "

— 266-275 "

— 276-285 "

— 286-295 "

— 296-305 "

— 306-315 "

— 316-325 "

— 326-335 "

— 336-345 "

— 346-355 "

— 356-365 "

— 366-375 "

— 376-385 "

— 386-395 "

— 396-405 "

— 406-415 "

— 416-425 "

— 426-435 "

— 436-445 "

— 446-455 "

— 456-465 "

— 466-475 "

— 476-485 "

— 486-495 "

— 496-505 "

— 506-515 "

— 516-525 "

— 526-535 "

— 536-545 "

— 546-555 "

— 556-565 "

— 566-575 "

— 576-585 "

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— 606-615 "

— 616-625 "

— 626-635 "

— 636-645 "

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— 666-675 "

— 676-685 "

— 686-695 "

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— 716-725 "

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— 1866-1875 "

— 1876-1885 "

— 1886-1895 "

— 1896-1905 "

— 1906-1915 "

— 1916-1925 "

— 1926-1935 "

— 1936-1945 "

— 1946-1955 "

— 1956-1965 "

— 1966-1975 "

— 1976-1985 "

— 1986-1995 "

— 1996-2005 "

— 2006-2015 "

— 2016-2025 "

— 2026-2035 "

— 2036-2045 "

— 2046-2055 "

— 2056-2065 "

— 2066-2075 "

— 2076-2085 "

— 2086-2095 "

— 2096-2105 "

— 2106-2115 "

— 2116-2125 "

— 2126-2135 "

— 2136-2145 "

— 2146-2155 "

— 2156-2165 "

— 2166-2175 "

— 2176-2185 "

— 2186-2195 "

— 2196-2205 "

— 2206-2215 "

— 2216-2225 "

— 2226-2235 "

— 2236-2245 "

— 2246-2255 "

— 2256-2265 "

— 2266-2275 "

— 2276-2285 "

— 2286-2295 "

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— 2306-2315 "

— 2316-2325 "

— 2326-2335 "

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— 2676-2685 "

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— 2706-2715 "

— 2716-2725 "

— 2726-2735 "

— 2736-2745 "

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																																	
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Alder Grove	Valentia	Place													
Time	13h 17'					13h 17'		12h 17'		12h 17'			12h 17'	12h 17'		12h 17'	16h 17'	13h 17'		Time													
Type																				Type													
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet		
Surf.	355	5						105	7				10	39	10	22															Surf.		
1000	110	5						135	7				15	52	25	35															1000		
2000								120	5				15	71	30	54															2000		
3000								145	5																						3000		
4000								210	5																						4000		
5000								195	6																						5000		
6000								135	4																						6000		
8000								130	12																						8000		
10000																																10000	
12000																																12000	
Neph.								40	35																						Neph.		
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Alder Grove	Valentia	Place													
Time	17h 17'	17h 17'	17h 17'		17h 17'	17h 17'		17h 17'					17h 17'	17h 17'	17h 17'	17h 17'	17h 17'	17h 17'		Time													
Type																				Type													
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet		
Surf.	55	9	5	5	5	11		20	13	25	17		45	7			40	33	15	21	20	10	50	10	20	14				Surf.			
1000	50	18	30	21	30	26		50	22	35	28		30	12			40	57	20	31	45	26	50	23	45	21				1000			
2000	45	19			50	23		75	23	50	25		70	7			50	44			40	24	55	26	40	28				2000			
3000	45	19						75	24	65	17		75	7			50	43			40	25			40	35				3000			
4000	45	20						60	31	80	7		85	9			50	62			50	31								4000			
5000	40	20						55	35	85	18		75	16																	5000		
6000								60	35	75	17		50	11																	6000		
8000													85	13																	8000		
10000													70	11																	10000		
12000																																12000	
Neph.								20	65																						Neph.		
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Alder Grove	Valentia	Place													
Time			6h 18h 42'		7h 18h 42'							7h 18h 42'	9h 18h 42'	7h 18h 42'	6h 18h 42'				7h 18h 42'	Time													
Type																				Type													
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet		
Surf.					5	20		5	20				45	25	45	25	10	6	45	8						360	7			Surf.			
1000					25	30		25	32				40	43	40	35	25	25	60	13						20	18			1000			
2000					30	35		35	41				45	46	40	39	35	27	65	14						40	19			2000			
3000					35	42																				40	33				3000		
4000																										30	29				4000		
5000																										40	32				5000		
6000																																6000	
8000																																8000	
10000																																10000	
12000																																12000	
Neph.																																Neph.	

UPPER AIR TEMPERATURES AND HUMIDITIES.

Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity
	mb.	Feet.	°F.	%		mb.	Feet.	°F.	%		mb.	Feet.	°F.	%		mb.	Feet.	°F.	%
Duxford. 9h 45m. 17/2/31.	991	M.S.L.	—	—	Duxford. 13h 30m. 17/2/31.	994	M.S.L.	—	—										
	986	100	33	32		992	100	36	36										
	982	1160	30	29		987	1080	32.5	30										
	950	1200	29.5	29		950	1250	30	29										
	900	2510	23	22		900	2650	26	24.5										
	850	3920	20	18		850	4140	20.5	19										
	800	5540	17.5	15.5		800	5700	15.5	14										
	750	7180	10	8		750	7320	10	7.5										
	700	8920	4	2		700	9070	5	3.5										
	650	10730	-2	-2.5		650	10900	-2	-3										
	600	12720	-10	-10		600	12870	-11	-12										
	550	14850	-20	-20		550	14960	-21	-21										
	500	17110	-34.5	-31.5		500	17210	-31	-31										
	450	19670	-44	-44		450	19610	-43	-43										
	Haze top not defined. 5h 10m. 2.5-9.5 Kb.					5h 10m. 2.5-9.5 Kb.					M.S.L.					M.S.L.			

UPPER WINDS ABROAD.

Place	Chico	Tromso	Valencienne	Strasbourg	LePuy	Malta
Time	12h 17'	11h 17'	13h 17h 42'	13h 17h 42'	17h 17h 42'	17h 17h 42'
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640			100	18		
3,280	70	10	320	6	140	8
4,920	150	11			120	11
6,560			360	7	100	13
8,200			300	7	180	16
13,120						
16,400			270	4		
19,680			220	14		
Place	LeHavre	Abbeville	Lyons	Madrid	Barcelona	Malta
Time	18h 17h 42'	7h 18h 42'	5h 18h 42'	7h 18h 42'	7h 18h 42'	6h 18h 42'
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	70	27	30	11	80	4
3,280	30	16	40	25	160	9
4,920	70	9			300	20
6,560					190	9
8,200					300	14
13,120					320	11
16,400					270	13
19,680					300	16



AIR MINISTRY. DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

THURSDAY, 19th FEBRUARY, 1931.

No. B. 25,291.

U.A.S. 4,343.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Table Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail, d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings):**On Charts.**

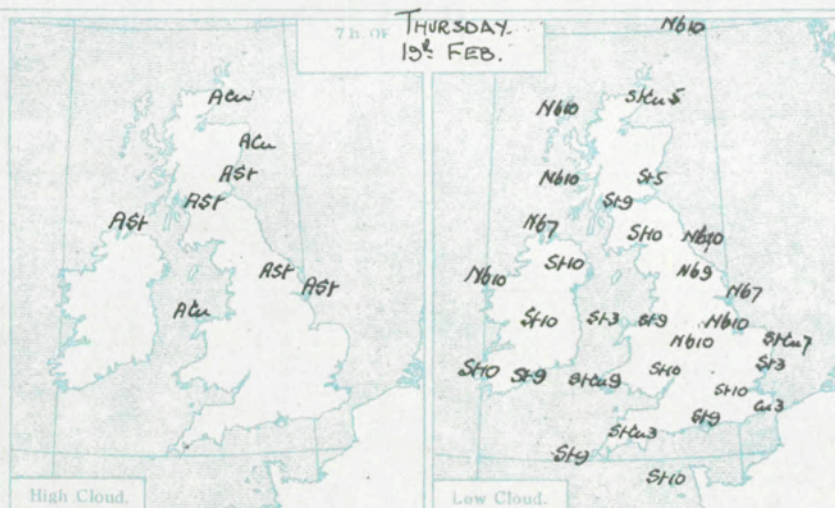
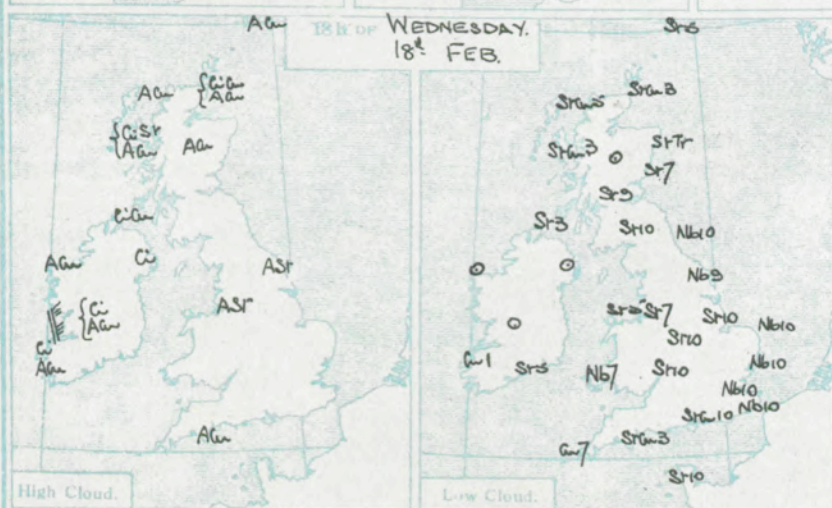
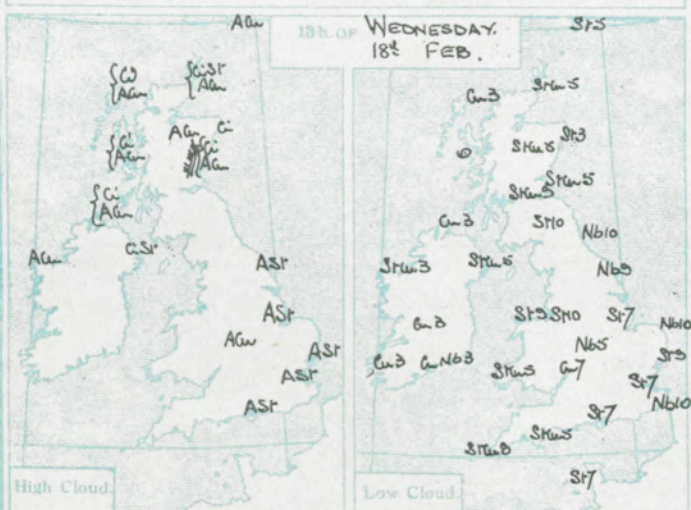
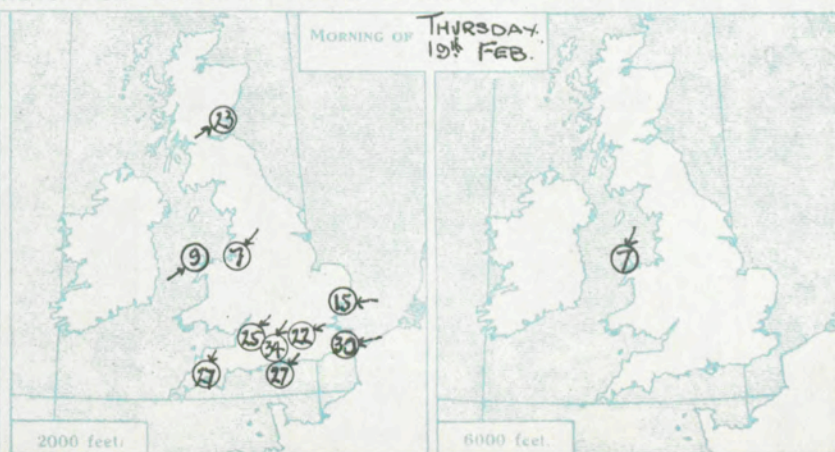
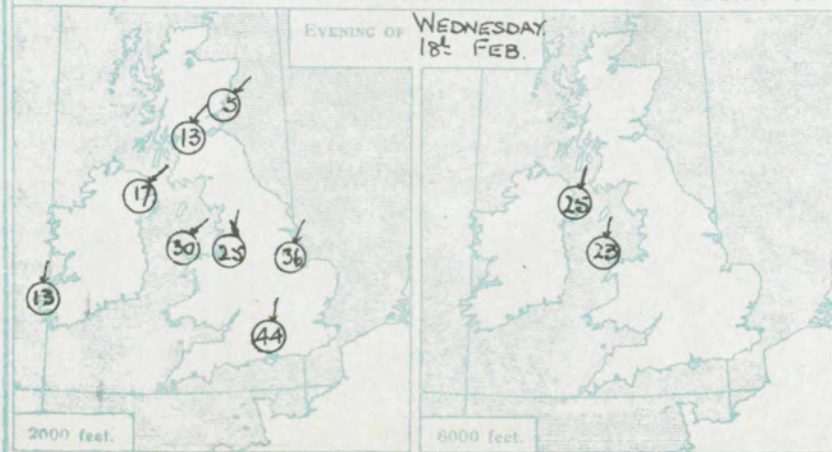
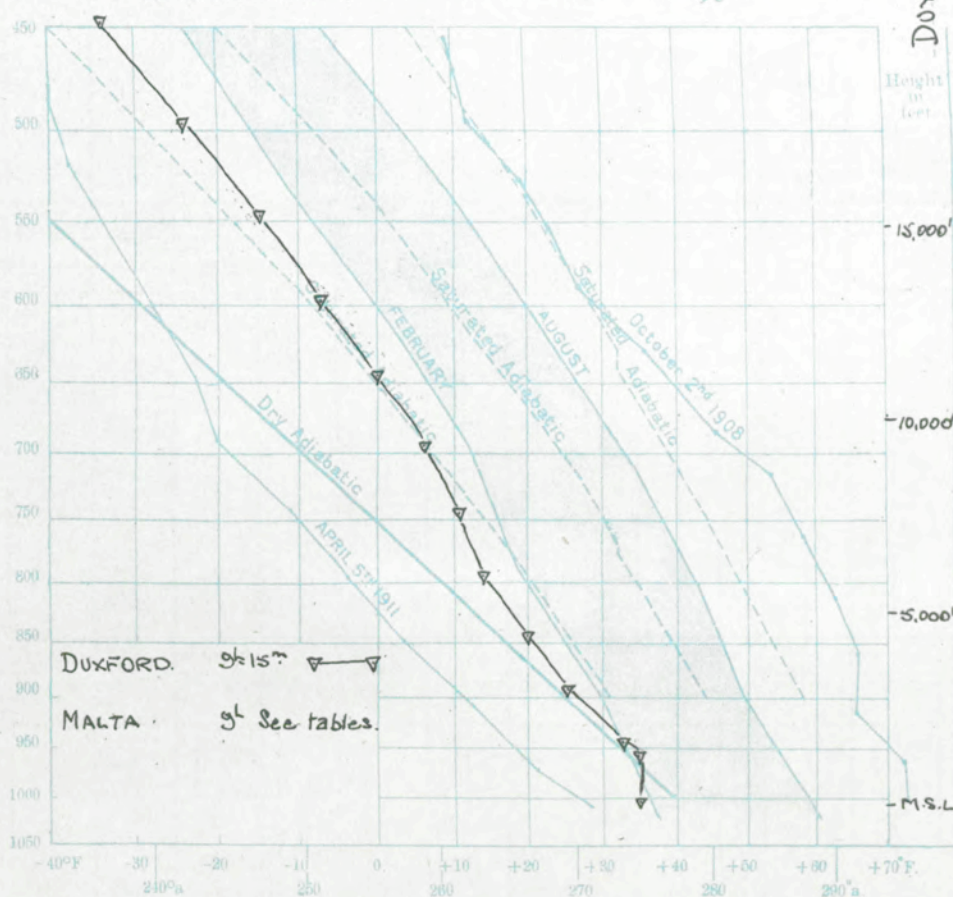
Movements are indicated thus:-

— No speed given.
— 0-5 m.p.h.
— 6-15 " " " " " "
— 16-25 " " " " " "

— 26-35 m.p.h.
— 36-45 " " " " " "
— 46-55 " " " " " "
— 56-65 " " " " " "
— 66-75 " " " " " "
— and so on.

In Tables.

Directions are given in deg. or velocities in m.p.h.
Speeds of high cloud are computed for an average height of 2 miles for cirro type clouds (double lines) and 3 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.**DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.****UPPER AIR TEMPERATURES.**WEDNESDAY, 18th FEBRUARY, 1931.

DUXFORD.

Height in feet.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place
Time.	12 ¹ / ₂ 18 ¹ / ₂	13 ¹ / ₂ 18 ¹ / ₂		12 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂				12 ¹ / ₂ 18 ¹ / ₂		12 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂	13 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂	12 ¹ / ₂ 18 ¹ / ₂	13 ¹ / ₂ 18 ¹ / ₂	Time
Type	b			b					b			b	b	b	b	b				Type
Feet Surf.	10 18	360 13		5 18	360 23				10 22		5 15	45 25	25 29	10 14	60 10	40 7	100 8	55 14	70 6	Feet Surf.
1000	20 26	15 16		15 33	15 10				20 28		15 27	40 21	30 32	10 23	55 14	50 9	115 5	65 24	35 15	1000
2000	25 32	10 22			30 35				30 30			50 28	35 33	15 35	55 17	55 14	90 9	55 19	30 29	2000
3000		15 43			45 43				35 32			55 26	40 26			60 18	40 15	45 18		3000
4000					40 32											45 13	35 17			4000
5000																				5000
6000																				6000
8000																				8000
10000																				10000
12000															13 ¹ / ₂ c					12000
Neph.															20 90					Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Valentia		Place.
Time.		17 ¹ / ₂ 18 ¹ / ₂	17 ¹ / ₂ 18 ¹ / ₂						17 ¹ / ₂ 18 ¹ / ₂				17 ¹ / ₂ 18 ¹ / ₂	17 ¹ / ₂ 18 ¹ / ₂	17 ¹ / ₂ 18 ¹ / ₂	17 ¹ / ₂ 18 ¹ / ₂	17 ¹ / ₂ 18 ¹ / ₂	17 ¹ / ₂ 18 ¹ / ₂		Time.
Type.			b																	Type
Feet Surf.		5 13	5 20						10 20				40 24	35 10	- 0	70 5	40 3	15 12		Feet Surf.
1000		15 23	5 35						25 28				45 22	15 18	50 6	65 13	55 15	10 16		1000
2000			10 44						30 36				50 30	20 25	55 5	50 13	55 17	15 13		2000
3000													50 21	30 27	40 5	30 13	30 15	25 13		3000
4000													45 17				35 21	30 15		4000
5000													35 19				25 16	15 17		5000
6000													20 23				25 25			6000
8000																				8000
10000																				10000
12000															15h Ci			18 ¹ / ₂ Ci		12000
Neph.															20 60			350 60		Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.	10h 19 ¹ / ₂	8h 19 ¹ / ₂	8h 19 ¹ / ₂	8h 19 ¹ / ₂	7h 19 ¹ / ₂	7h 19 ¹ / ₂		7h 19 ¹ / ₂	8h 19 ¹ / ₂			8h 19 ¹ / ₂	8h 19 ¹ / ₂	6h 19 ¹ / ₂	6h 19 ¹ / ₂					Time.
Type.												b								Type.
Feet Surf.	55 10	15 5	355 15	20 15	345 16	40 14		70 5	325 7			20 22	175 3	360 2	215 12					Feet Surf.
1000	50 11	35 17	20 21	25 27	15 22	70 18		80 15	260 3			20 27	195 11	350 11	225 29					1000
2000		60 22	45 25	30 34	40 27	85 30		90 15				30 27	230 9	35 7	235 23					2000
3000					50 33			95 16				35 23	295 13	75 5						3000
4000												35 19	305 17							4000
5000													320 7							5000
6000													25 7							6000
8000													355 25							8000
10000													355 27							10000
12000													(9000)							12000
Neph																				Neph

UPPER AIR TEMPERATURES AND HUMIDITIES.

[illegible]

UPPER WINDS ABROAD.

[illegible]

AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

FRIDAY, 20th FEBRUARY, 1931.

No. B. 25,292.

U.A.S. 4,344.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1905, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Table Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables, on the reverse side.

b = balloon with tail.

d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:-

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-30 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

— 66-75 "

— 76-85 "

— 86-95 "

— 96-105 "

— 106-115 "

— 116-125 "

— 126-135 "

— 136-145 "

— 146-155 "

— 156-165 "

— 166-175 "

— 176-185 "

— 186-195 "

— 196-205 "

— 206-215 "

— 216-225 "

— 226-235 "

— 236-245 "

— 246-255 "

— 256-265 "

— 266-275 "

— 276-285 "

— 286-295 "

— 296-305 "

— 306-315 "

— 316-325 "

— 326-335 "

— 336-345 "

— 346-355 "

— 356-365 "

— 366-375 "

— 376-385 "

— 386-395 "

— 396-405 "

— 406-415 "

— 416-425 "

— 426-435 "

— 436-445 "

— 446-455 "

— 456-465 "

— 466-475 "

— 476-485 "

— 486-495 "

— 496-505 "

— 506-515 "

— 516-525 "

— 526-535 "

— 536-545 "

— 546-555 "

— 556-565 "

— 566-575 "

— 576-585 "

— 586-595 "

— 596-605 "

— 606-615 "

— 616-625 "

— 626-635 "

— 636-645 "

— 646-655 "

— 656-665 "

— 666-675 "

— 676-685 "

— 686-695 "

— 696-705 "

— 706-715 "

— 716-725 "

— 726-735 "

— 736-745 "

— 746-755 "

— 756-765 "

— 766-775 "

— 776-785 "

— 786-795 "

— 796-805 "

— 806-815 "

— 816-825 "

— 826-835 "

— 836-845 "

— 846-855 "

— 856-865 "

— 866-875 "

— 876-885 "

— 886-895 "

— 896-905 "

— 906-915 "

— 916-925 "

— 926-935 "

— 936-945 "

— 946-955 "

— 956-965 "

— 966-975 "

— 976-985 "

— 986-995 "

— 996-1005 "

— 1006-1015 "

— 1016-1025 "

— 1026-1035 "

— 1036-1045 "

— 1046-1055 "

— 1056-1065 "

— 1066-1075 "

— 1076-1085 "

— 1086-1095 "

— 1096-1105 "

— 1106-1115 "

— 1116-1125 "

— 1126-1135 "

— 1136-1145 "

— 1146-1155 "

— 1156-1165 "

— 1166-1175 "

— 1176-1185 "

— 1186-1195 "

— 1196-1205 "

— 1206-1215 "

— 1216-1225 "

— 1226-1235 "

— 1236-1245 "

— 1246-1255 "

— 1256-1265 "

— 1266-1275 "

— 1276-1285 "

— 1286-1295 "

— 1296-1305 "

— 1306-1315 "

— 1316-1325 "

— 1326-1335 "

— 1336-1345 "

— 1346-1355 "

— 1356-1365 "

— 1366-1375 "

— 1376-1385 "

— 1386-1395 "

— 1396-1405 "

— 1406-1415 "

— 1416-1425 "

— 1426-1435 "

— 1436-1445 "

— 1446-1455 "

— 1456-1465 "

— 1466-1475 "

— 1476-1485 "

— 1486-1495 "

— 1496-1505 "

— 1506-1515 "

— 1516-1525 "

— 1526-1535 "

— 1536-1545 "

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— 1576-1585 "

— 1586-1595 "

— 1596-1605 "

— 1606-1615 "

— 1616-1625 "

— 1626-1635 "

— 1636-1645 "

— 1646-1655 "

— 1656-1665 "

— 1666-1675 "

— 1676-1685 "

— 1686-1695 "

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— 1706-1715 "

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— 1766-1775 "

— 1776-1785 "

— 1786-1795 "

— 1796-1805 "

— 1806-1815 "

— 1816-1825 "

— 1826-1835 "

— 1836-1845 "

— 1846-1855 "

— 1856-1865 "

— 1866-1875 "

— 1876-1885 "

— 1886-1895 "

— 1896-1905 "

— 1906-1915 "

— 1916-1925 "

— 1926-1935 "

— 1936-1945 "

— 1946-1955 "

— 1956-1965 "

— 1966-1975 "

— 1976-1985 "

— 1986-1995 "

— 1996-2005 "

— 2006-2015 "

— 2016-2025 "

— 2026-2035 "

— 2036-2045 "

— 2046-2055 "

— 2056-2065 "

— 2066-2075 "

— 2076-2085 "

— 2086-2095 "

— 2096-2105 "

— 2106-2115 "

— 2116-2125 "

— 2126-2135 "

— 2136-2145 "

— 2146-2155 "

— 2156-2165 "

— 2166-2175 "

— 2176-2185 "

— 2186-2195 "

— 2196-2205 "

— 2206-2215 "

— 2216-2225 "

— 2226-2235 "

— 2236-2245 "

— 2246-2255 "

— 2256-2265 "

— 2266-2275 "

— 2276-2285 "

— 2286-2295 "

— 2296-2305 "

— 2306-2315 "

— 2316-2325 "

— 2326-2335 "

— 2336-2345 "

— 2346-2355 "

— 2356-2365 "

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place
Time.	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m		12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	12 ^h 19 ^m	13 ^h 18 ^m	12 ^h 19 ^m		16 ^h 19 ^m			Time.
Type	b	b	b	b	b	b		b	b	b	b	b	b	b	b		b			Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	60 12	50 7	25 7	350 10	55 12	50 10		70 6	260 4	- 0	340 8	55 12	190 16	170 4	240 13		230 14			Surf.
1000	55 14	60 12	40 7	350 12	55 13	50 14		105 9	230 7	- 0	345 6	50 7	205 25	200 7	235 24		260 25			1000
2000		75 13	65 10	50 10	65 14	50 17		125 9	195 9	- 0	105 6	40 11	225 17	205 25	225 21		285 26			2000
3000				95 11	80 14	110 14		145 11			140 13	50 13	230 23	240 5			280 21			3000
4000				105 19	80 14	110 25		150 9			150 17	40 15	245 15	230 7			270 21			4000
5000				100 17		125 21		155 9			125 9		220 10	270 3			260 27			5000
6000				65 17		110 15		160 10			115 11			120 3						6000
8000				75 17		110 17					90 9									8000
10000				70 26		110 16								345 9						10000
12000				(2,000)		(2,000)			13 ^h C											12000
Neph.									310 75											Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Calshot	Cranwell	Place.
Time.	17 ^h 19 ^m	17 ^h 19 ^m	17 ^h 19 ^m	17 ^h 19 ^m	16 ^h 18 ^m	17 ^h 19 ^m		17 ^h 19 ^m	17 ^h 19 ^m		17 ^h 19 ^m	15 ^h 19 ^m	16 ^h 19 ^m	17 ^h 19 ^m				24 ^h 19 ^m	24 ^h 19 ^m	Time.
Type.			b																	Type.
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	- 0	115 2	- 0	330 3	275 3	30 4		- 0	150 8		225 8	5 2	125 19	205 4				165 4	200 13	Surf.
1000	110 4	160 4	205 7	315 4	125 4	55 7		- 0	205 14		265 5		200 33	225 17				195 12	205 32	1000
2000	175 5	165 3	190 6	200 5	85 7	20 8		170 7	215 19		195 7	65 2	215 29	230 15				180 13	215 37	2000
3000	175 9	165 5	175 5	155 9	95 7	20 7		155 6	215 27		180 15		245 15	245 15				180 17	220 33	3000
4000	180 7		175 7		105 15	100 5		185 7	215 21		180 17		245 21	245 21				200 15		4000

UPPER AIR TEMPERATURES AND HUMIDITIES

[illegible]

UPPER WINDS ABROAD.

Place.	Abbeville		Lyons		Barcelona		Bizerta				Malta	
Time.	13 ^h 15 ^m		13 ^h 15 ^m		13 ^h 15 ^m		12 ^h 19 ^m				16 ^h 15 ^m	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,840	50	7	10	20	110	6	-	0				1,000'
3,280	100	14	40	18	90	3	180	38				180 21
4,920	110	16	10	27	40	4	200	36				2,000'
6,560					260	4	200	41				170 31
9,840					230	6	230	45				3,000
13,120												170 35
16,400												
19,680												
Place.	Gozabes		Bizerta		Florence		Nancy		Abbeville		Malta	
Time.	6 ^h 20 ^m		6 ^h 20 ^m		7 ^h 20 ^m		6 ^h 20 ^m		7 ^h 20 ^m		6 ^h 20 ^m	
1,840	280	26	330	20	-	-	60	11	310	16		1,000'
3,280	240	16	340	18	250	13	50	11	210	4	160	40
4,920	220	25							180	3		2,000'
6,560	330	38							130	3	170	54
9,840												
13,120												
16,400												
19,680												

Meteorological Office, Air Ministry.
 KINGSMAY, London W. G. C. SIMPSON, C.B., D.Sc., F.R.S.



AIR MINISTRY. DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

SATURDAY, 21ST FEBRUARY, 1931.

No. B. 25,293.

U.A.S. 4,345.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for those months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Table Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

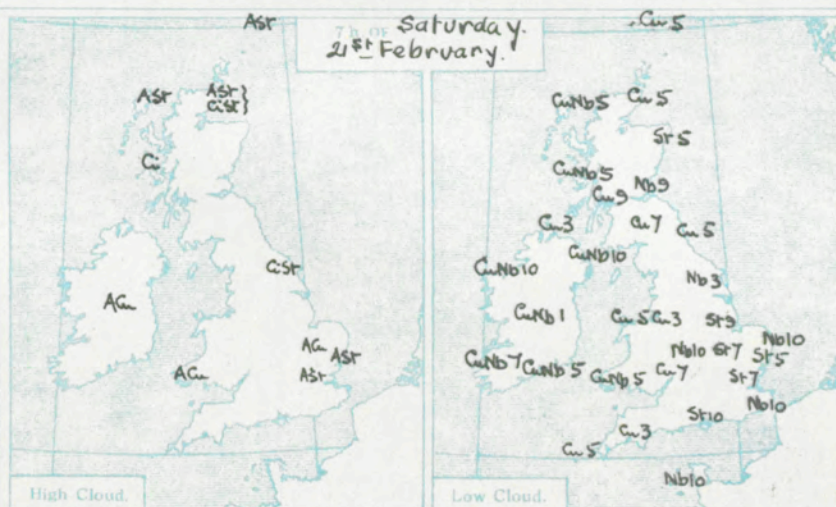
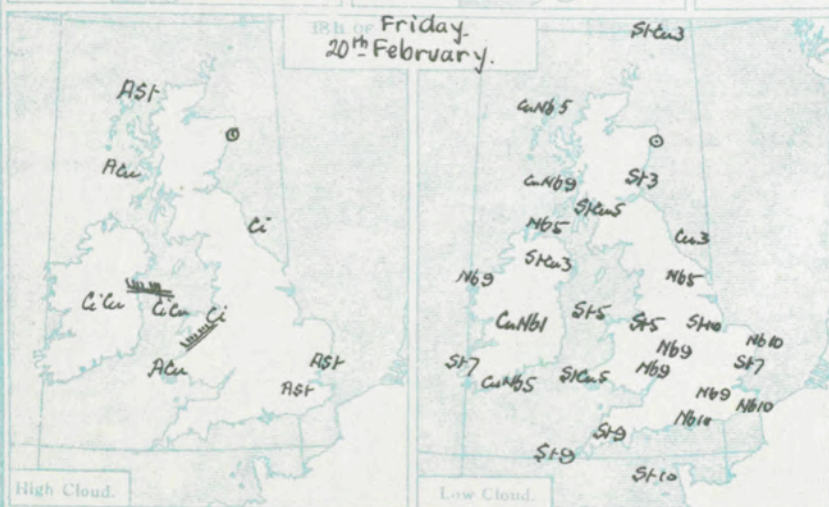
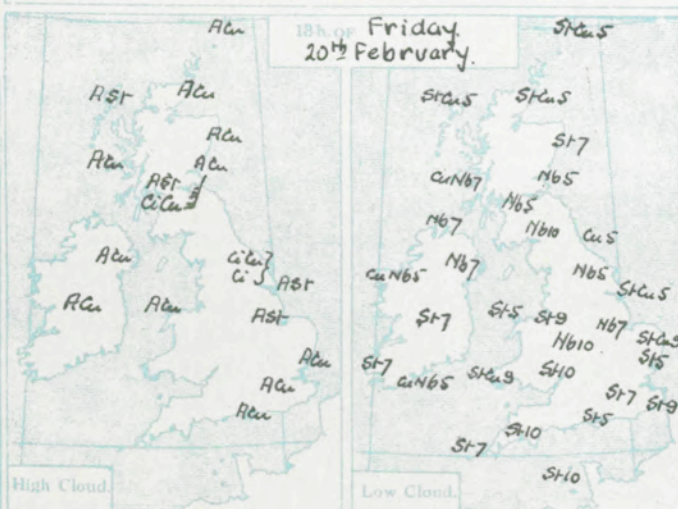
— and so on.

In Tables.

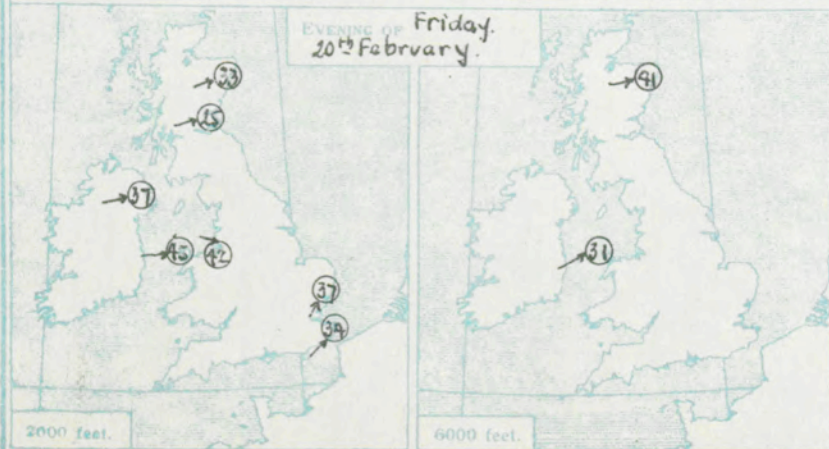
Directions are given in degrees, velocities in m.p.h.

Speeds of high cloud are computed for an average height of 3 miles for cirro type clouds (double lines) and 5 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.

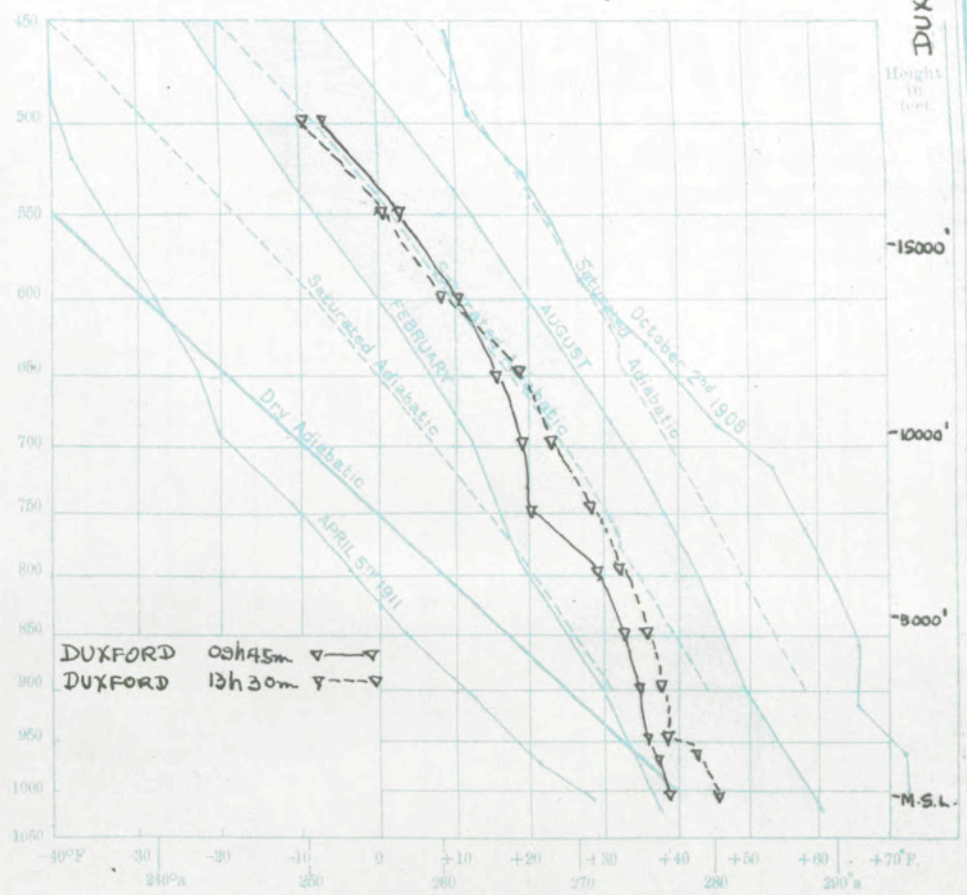


DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



UPPER AIR TEMPERATURES.

FRIDAY, 20TH FEBRUARY, 1931.



DUXFORD.

Height in feet.

15000'

10000'

5000'

M.S.L.

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Croydon	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.	12h 21"	12h 21"	12h 21"		10h 21"	13h 21"		12h 21"	13h 21"	12h 21"	12h 21"		12h 21"	12h 21"	13h 21"	12h 21"				Time.
Type																				Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	275 18	275 15	275 21		265 18	265 10		270 11	270 13	280 18	300 19		290 30	285 20	265 23	245 10				Surf.
1000	300 28	275 32	275 28		270 19	275 14		270 25	275 23	270 19	275 27		285 31	280 27	285 21	265 13				1000
2000	300 27	275 33	275 28			280 24		275 19	275 27	290 21	275 33		285 30	285 27	270 22					2000
3000		270 29	275 30							275 30	270 19									3000
4000		275 41	275 36							285 25	275 27									4000
5000			275 43							280 30										5000
6000										275 30										6000
8000																				8000
10000															13h					10000
12000															C.					12000
Neph.															270 60					Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Alder-grove	Valentia		Place.
Time.	17h 21"	18h 21"	17h 21"	17h 21"	17h 21"	17h 21"		16h 21"	17h 21"					17h 21"	17h 21"					Time.
Type																				Type
Feet	275 15	270 8	285 16	270 13	270 15	315 13		315 8	285 12					270 12	230 10					Feet
1000	305 16	275 22	270 26	270 22	300 28	320 25		310 21	295 24					280 20	265 15					1000
2000	270 22	300 26	275 27	270 27	305 29	315 28		310 23	295 25					270 25	275 20					2000
3000	275 29	305 24	300 28		305 30	310 30		315 27	295 23					275 31	280 21					3000
4000	305 31	305 28	305 30		310 31	305 21		310 25						270 35	285 21					4000
5000		300 36	305 38			315 23		305 25						275 33						5000
6000		305 35	310 44					310 26						275 40						6000
8000			305 45					310 31						300 36						8000
10000								305 17						305 47			16h			10000
12000								305 20						AC			AC			12000
Neph.														280 54			200 33			Neph.
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Card-ington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place.
Time.	7h 22"					7h 22"														Time.
Type																				Type
Feet	250 4					325 7														Feet
1000	270 16					330 12														1000
2000	275 15					310 10														2000
3000	270 7					305 11														3000
4000						275 15														4000
5000						275 16				10h										5000
6000										AC										6000
8000										300 24										8000
10000	10h		7h		10h					7h				10h	7h	10h				10000
12000	AC		C		AC					C				C.	C.	C.				12000
Neph	300 54		300 75	310 24						270 40				310 30	270 50	260 146				Neph

UPPER AIR TEMPERATURES AND HUMIDITIES

Station.	Pressure.	Height above M.S.L.	Temp.			Station.	Pressure.	Height above M.S.L.	Temp.			Station.	Pressure.	Height above M.S.L.	Temp.			Station.	Pressure.	Height above M.S.L.	Temp.		
			Dry.	Wet.	Relative Humidity.				Dry.	Wet.	Relative Humidity.				Dry.	Wet.	Relative Humidity.				Dry.	Wet.	Relative Humidity.
	mb.	Feet. M.S.L.	°F.	°F.	%		mb.	Feet. M.S.L.	°F.	°F.	%		mb.	Feet. M.S.L.	°F.	°F.	%		mb.	Feet. M.S.L.	°F.	°F.	%
			—	—	—				—	—	—				—	—	—				—	—	—
		M.S.L.	—	—	—			M.S.L.	—	—	—			M.S.L.	—	—	—			M.S.L.	—	—	—

UPPER WINDS ABROAD.

UPPER WINDS ABROAD.

Flaco.	Posen.		Cracow.		Prague.		Cheb.		Strasburg.			
Time.	12h	21 st	12h	21 st	12h	21 st	12h	21 st	12h	21 st		
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	180	35	150	11	130	9	-	-	-	-		
3,280	180	31	130	9	180	29	170	22	230	10		
4,920	200	28	130	14	180	21	160	36	-	-		
6,560	200	26	130	19	170	24			270	13		
9,840	200	23	140	16	200	33						
13,120			140	11								
16,400												
19,680												

Place.	Brest.		Lyons		Bijerta.		Madrid		Barcelona		Malta.	
Time.	12h	21 st	12h	21 st	6h	22 nd	7h	22 nd	7h	22 nd	7h	22 nd
1,640	340	23	140	4	340	43	-	-	320	15	(1000 ft)	
3,280	310	24	310	4			310	25	330	19	280	72
4,920							360	9	330	23		
6,560							330	18	330	15		
9,840							300	43	340	13		
13,120												
16,400												
19,680												

Meteorological Office, Air Ministry. Kingway, London, W.C.2.	G. C. SIMPSON, C.B., D.Sc., F.R.S., Director
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AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

MONDAY, 23RD FEBRUARY, 1931.

No. B 25295.

U.A.S. 4347.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See File Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail.

d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

— 66-75 "

— 76-85 "

— 86-95 "

— 96-105 "

— 106-115 "

— 116-125 "

— 126-135 "

— 136-145 "

— 146-155 "

— 156-165 "

— 166-175 "

— 176-185 "

— 186-195 "

— 196-205 "

— 206-215 "

— 216-225 "

— 226-235 "

— 236-245 "

— 246-255 "

— 256-265 "

— 266-275 "

— 276-285 "

— 286-295 "

— 296-305 "

— 306-315 "

— 316-325 "

— 326-335 "

— 336-345 "

— 346-355 "

— 356-365 "

— 366-375 "

— 376-385 "

— 386-395 "

— 396-405 "

— 406-415 "

— 416-425 "

— 426-435 "

— 436-445 "

— 446-455 "

— 456-465 "

— 466-475 "

— 476-485 "

— 486-495 "

— 496-505 "

— 506-515 "

— 516-525 "

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— 566-575 "

— 576-585 "

— 586-595 "

— 596-605 "

— 606-615 "

— 616-625 "

— 626-635 "

— 636-645 "

— 646-655 "

— 656-665 "

— 666-675 "

— 676-685 "

— 686-695 "

— 696-705 "

— 706-715 "

— 716-725 "

— 726-735 "

— 736-745 "

— 746-755 "

— 756-765 "

— 766-775 "

— 776-785 "

— 786-795 "

— 796-805 "

— 806-815 "

— 816-825 "

— 826-835 "

— 836-845 "

— 846-855 "

— 856-865 "

— 866-875 "

— 876-885 "

— 886-895 "

— 896-905 "

— 906-915 "

— 916-925 "

— 926-935 "

— 936-945 "

— 946-955 "

— 956-965 "

— 966-975 "

— 976-985 "

— 986-995 "

— 996-1005 "

— 1006-1015 "

— 1016-1025 "

— 1026-1035 "

— 1036-1045 "

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— 1066-1075 "

— 1076-1085 "

— 1086-1095 "

— 1096-1105 "

— 1106-1115 "

— 1116-1125 "

— 1126-1135 "

— 1136-1145 "

— 1146-1155 "

— 1156-1165 "

— 1166-1175 "

— 1176-1185 "

— 1186-1195 "

— 1196-1205 "

— 1206-1215 "

— 1216-1225 "

— 1226-1235 "

— 1236-1245 "

— 1246-1255 "

— 1256-1265 "

— 1266-1275 "

— 1276-1285 "

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— 1296-1305 "

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— 1336-1345 "

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— 1406-1415 "

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— 1486-1495 "

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— 1686-1695 "

— 1696-1705 "

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— 1786-1795 "

— 1796-1805 "

— 1806-1815 "

— 1816-1825 "

— 1826-1835 "

— 1836-1845 "

— 1846-1855 "

— 1856-1865 "

— 1866-1875 "

— 1876-1885 "

— 1886-1895 "

— 1896-1905 "

— 1906-1915 "

— 1916-1925 "

— 1926-1935 "

— 1936-1945 "

— 1946-1955 "

— 1956-1965 "

— 1966-1975 "

— 1976-1985 "

— 1986-1995 "

— 1996-2005 "

— 2006-2015 "

— 2016-2025 "

— 2026-2035 "

— 2036-2045 "

— 2046-2055 "

— 2056-2065 "

— 2066-2075 "

— 2076-2085 "

— 2086-2095 "

— 2096-2105 "

— 2106-2115 "

— 2116-2125 "

— 2126-2135 "

— 2136-2145 "

— 2146-2155 "

— 2156-2165 "

— 2166-2175 "

— 2176-2185 "

— 2186-2195 "

— 2196-2205 "

— 2206-2215 "

— 2216-2225 "

— 2226-2235 "

— 2236-2245 "

— 2246-2255 "

— 2256-2265 "

— 2266-2275 "

— 2276-2285 "

— 2286-2295 "

— 2296-2305 "

— 2306-2315 "

— 2316-2325 "

— 2326-2335 "

— 2336-2345 "

— 2346-2355 "

— 2356-2365 "

— 2366-2375 "

— 2376-2385 "

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

[illegible]

UPPER AIR TEMPERATURES AND HUMIDITIES

[illegible]

UPPER WINDS ABROAD.

Place.	Lyons	Havre	Nancy	Lyons	Toulouse	Malta					
Time.	8h 22 nd	10h 22 nd	17h 22 nd	17h 22 nd	17h 22 nd	17h 22 nd					
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	
1,640	360	17	300	7	-	-	10	7	-	-	1000'
3,280	10	20	300	14	350	15	360	22	320	23	290
4,920					350	15	350	22	320	23	
6,560					350	18			310	25	
8,200											
9,840											
11,480											
13,120											
14,760											
16,400											
18,040											
19,680											
Place.	Dijon	Paris	Abbeville	St. Ingbert	Turin	Malta					
Time.	16h 22 nd	7h 23 rd	7h 25 th	7h 25 th	7h 23 rd	6h 23 rd					
1,640	-	-	250	7	270	17	220	17	70	3	1000'
3,280	350	21	300	14	280	14	260	19	210	8	270
4,920	360	28					270	23	360	24	
6,560	-	-					290	20			
8,200	10	27									
9,840											
11,480											
13,120											
14,760											
16,400											
18,040											
19,680											

Meteorological Office, Air Ministry.
Kingsway, London, W.C.2.

G. C. SIMPSON, C.B., D.Sc., F.R.S.



AIR MINISTRY. DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

TUESDAY, 24th FEBRUARY, 1931.

No. B. 25,296.

U.A.S. 4,348.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

b = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings).

On Charts.

Movements are indicated thus—

—	No speed given.	—	20-25 m.p.h.
—	0-5 m.p.h.	—	30-35 "
—	6-15 "	—	40-45 "
—	16-25 "	—	50-55 "
—		—	60-65 "
—		—	70-75 "
—		—	80-85 "
—		—	90-95 "
—		—	100-105 "
—		—	110-115 "
—		—	120-125 "
—		—	130-135 "
—		—	140-145 "
—		—	150-155 "
—		—	160-165 "
—		—	170-175 "
—		—	180-185 "
—		—	190-195 "
—		—	200-205 "
—		—	210-215 "
—		—	220-225 "
—		—	230-235 "
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—		—	990-995 "
—		—	1000-1005 "
—		—	1010-1015 "
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—		—	1050-1055 "
—		—	1060-1065 "
—		—	1070-1075 "
—		—	1080-1085 "
—		—	1090-1095 "
—		—	1100-1105 "
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—		—	1120-1125 "
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—		—	1180-1185 "
—		—	1190-1195 "
—		—	1200-1205 "
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—		—	1690-1695 "
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—		—	1780-1785 "
—		—	1790-1795 "
—		—	1800-1805 "
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—		—	1860-1865 "
—		—	1870-1875 "
—		—	1880-1885 "
—		—	1890-1895 "
—		—	1900-1905 "
—		—	1910-1915 "
—		—	1920-1925 "
—		—	1930-1935 "
—		—	1940-1945 "
—		—	1950-1955 "
—		—	1960-1965 "
—		—	1970-1975 "
—		—	1980-1985 "
—		—	1990-1995 "
—		—	2000-2005 "
—		—	2010-2015 "
—		—	2020-2025 "
—		—	2030-2035 "
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—		—	2060-2065 "
—		—	2070-2075 "
—		—	2080-2085 "
—		—	2090-2095 "
—		—	2100-2105 "
—		—	2110-2115 "
—		—	2120-2125 "
—		—	2130-2135 "
—		—	2140-2145 "
—		—	2150-2155 "
—		—	2160-2165 "
—		—	2170-2175 "
—		—	2180-2185 "
—		—	2190-2195 "
—		—	2200-2205 "
—		—	2210-2215 "
—		—	2220-2225 "
—		—	2230-2235 "
—		—	2240-2245 "
—		—	2250-2255 "
—		—	2260-2265 "
—		—	2270-2275 "
—		—	2280-2285 "
—		—	2290-2295 "
—		—	2300-2305 "
—		—	2310-2315 "
—		—	2320-2325 "
—		—	2330-2335 "
—		—	2340-2345 "
—		—	2350-2355 "
—		—	2360-2365 "
—		—	2370-2375 "
—		—	2380-2385 "
—		—	2390-2395 "
—		—	2400-2405 "
—		—	2410-2415 "
—		—	2420-2425 "
—		—	2430-2435 "
—		—	2440-2445 "
—		—	2450-2455 "
—		—	2460-2465 "
—		—	2470-2475 "
—		—	2480-2485 "
—		—	2490-2495 "
—		—	2500-2505 "
—		—	2510-2515 "
—		—	2520-2525 "
—		—	2530-2535 "
—		—	2540-2545 "
—		—	2550-2555 "
—		—	2560-2565 "
—		—	2570-2575 "
—		—	2580-2585 "
—		—	2590-2595 "
—		—	2600-2605 "
—		—	2610-2615 "
—		—	2620-2625 "
—		—	2630-2635 "
—		—	2640-2645 "
—		—	2650-2655 "
—		—	2660-2665 "
—		—	2670-2675 "
—		—	2680-2685 "
—		—	2690-2695 "
—		—	2700-2705 "
—		—	2710-2715 "
—		—	2720-2725 "
—		—	2730-2735 "
—		—	2740-2745 "
—		—	2750-2755 "
—		—	2760-2765 "
—		—	2770-2775 "
—		—	2780-2785 "
—		—	2790-2795 "
—		—	2800-2805 "
—		—	2810-2815 "
—		—	2820-2825 "
—		—	2830-2835 "
—		—	2840-2845 "
—		—	2850-2855 "
—</			

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Markhill	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove		Place
Time	12h 23m	12h 23m	12h 23m	12h 23m	12h 23m	12h 23m		12h 23m	12h 23m	12h 23m	12h 23m	12h 23m	12h 23m	12h 23m	12h 23m	13h 23m	12h 23m			Time
Type	b	b	b	b	b	b		b	b	b	b	d	b	b	b	b	b			Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	265 9	270 8	300 12	300 15	250 15	285 10		265 6	265 11	285 15	250 13	250 12	280 18	285 19	305 10	270 7	310 12			Surf.
1000	285 13	285 15	295 14	300 15	300 12	285 13		305 14	275 15	250 18	250 17	250 14	250 23	285 24	325 6	285 10	340 9			1000
2000	300 15	295 10	300 14	300 15	305 15	295 15		305 15	290 20	300 19	300 13	285 22	305 27	290 28	305 4	300 13	325 3			2000
3000			310 16	310 22	310 18	285 15		300 16	300 25	295 20	305 13	305 24	305 23	290 32	295 7		315 7			3000
4000			310 25	310 23	310 17	280 14		285 17			310 16	305 23	300 24	290 34	275 13		315 12			4000
5000			310 21	305 25	305 15	290 19					315 15	310 24	305 28	300 29	310 14		325 10			5000
6000			310 23	315 25	305 19	280 23				13h		315 24	(5,100)	300 30	310 21		325 9			6000
8000			310 25		300 20	285 24				AGW		305 23		305 38	320 23		305 15			8000
10000			310 32		(7,000)	(7,000)				290 30		310 28	Sealand	320 42	320 30		310 25			10000
12000		13h AGW	13h C					13h C		CW		315 33	13h AGW	13h C	315 35					12000
Neph.		320 78	320 130					290 60		320 65			290 54	320 105						Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Valentia	Calshot	Place
Time	17h 23m	17h 23m	17h 23m	17h 23m	17h 23m	17h 23m		17h 23m	17h 23m		17h 23m		17h 23m	17h 23m	17h 23m	17h 23m	17h 23m	18h 23m	24h 23m	Time
Type		b	b	b	b	b		b	b		b									Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	280 14	285 5	290 8	285 10	285 8	280 6		320 3	280 5		280 12		305 18	290 9	300 10	275 6	245 5	280 7	300 10	Surf.
1000	295 20	305 20	300 17	285 20	310 17	305 17		300 17	285 22		295 15		290 21	300 27	315 13	310 18	330 15	250 11	330 19	1000
2000	305 22	315 21	305 23	310 23	310 21	320 23		300 17	300 30		310 27		295 19	305 30	335 16	320 17		255 14	330 21	2000
3000	315 23	330 24	310 23	315 24	315 23	325 22		310 23	310 31		315 34				325 20	320 19		305 18	335 25	3000
4000		325 34	325 28	325 27	325 24	315 25		310 19	310 33		320 32				320 23	320 27		315 14	345 23	4000
5000			325 27	325 33	325 28			310 21	310 34						320 31	315 25		310 26		5000
6000								310 19	315 30							325 18		305 20		6000
8000	Kew												17h C			325 30				8000
10000													310 80							10000
12000	18h AGW				16h AGW								16h AGW							12000
Neph.	320 66				300 36								10 120	310 185						Neph.
Place	Lymington	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Boscombe Down	Worthy Down	Cranwell	Sealand	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place
Time	10h 24h	8h 24h	7h 24h	8h 24h		6h 24h			6h 24h		8h 24h	7h 24h	8h 24h	6h 24h	6h 24h					Time
Type		b	b	b		b			b		b									Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	340 4	260 4	Calh	Calh		350 9			245 9		290 4	Calh	240 9	Calh	250 8					Surf.
1000	320 7	345 9	335 10	325 8		360 17			Calh		320 7	330 15	240 19	280 13	215 19					1000
2000	310 9	335 13	330 14	325 10		360 13			280 3		320 10	330 15	240 17	290 15	235 22					2000
3000		330 16	330 15	330 15		340 12			310 8		335 13	320 17	200 17	305 17	240 27					3000
4000			340 19	330 16		340 19			310 10			325 10	230 19	305 17	240 26					4000
5000		10h	325 16	320 20		345 20			310 14					305 16						5000
6000		C	335 19	325 21		345 16	10h			10h				300 16						6000
8000		360 75	330 25	325 23		335 15	C			C				330 26						8000
10000		8h	340 33	7h	10h	7,000 ft	320 50	10h	10h	330 60				7h						10000
12000		AGW	7h C	C	C		AGW	C	C	AGW				C						12000
Neph.		330 60	320 75	350 65	330 55		320 72	340 65	340 65	310 42				330 90						Neph.

UPPER AIR TEMPERATURES AND HUMIDITIES.

Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity
	mb.	Feet.	°F.	%		mb.	Feet.	°F.	%		mb.	Feet.	°F.	%
DUXFORD. 23/2/31.	1020.4	M.S.L.	—	—	S. FARNBORO. 23/2/31.	1020.5	M.S.L.	—	—	DUXFORD. 15/30/31.	1020.5	M.S.L.	—	—
1020.1	100	38	37	92	1020.3	230	44	—	—	1020.5	100	45	41	71
983	1050	38	36	83	978	1270	37	—	—	981	1050	39	38	88
950	2000	36	32	73	943	2200	32	—	—	950	1910	36	38	92
900	3420	29	27	88	908	3210	28	—	—	900	3350	30	29	90
850	4800	22	21	88	875	4130	25	—	—	850	4850	24	23	83
800	6480	17	18	—	844	5100	23	—	—	800	6400	18	17	—
750	8100	11	10	—	813	6050	19	—	—	750	8030	12	10	—
700	9840	4	3	—	784	7000	16	—	—	700	9780	5	4	—
650	11700	—	—	—	756	7930	12	—	—	650	11630	—	—	—
600	13700	—	—	—						600	13610	—	—	—
550	15760	—	—	—						550	15710	—	—	—
500	18090	—	—	—						500	18020	—	—	—
450	20560	—	—	—										
400	23330	—	—	—										
Haze top 1000ft to 3000mb														
F.W. 3/10, 5200 to 6400mb														
ASr 4/10, 5000 to 4200mb														

UPPER WINDS ABROAD.

Place	Atterville	Compiègne	Kosice	Barcelona	Rochefort	Malta
Time	12h 23m	12h 23m	12h 23m	12h 23m	16h 23m	17h 23m
Type						
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.
1,640	130 11	300 9	350 39	130 4	280 20	1,000'
3,280		280 11	330 21	60 5	290 19	300 60
4,920			360 20	10 6	300 16	
6,560				310 9	310 16	
8,200				320 25		
9,840				320 23		
11,480				310 48		
13,120				310 57		
14,760						
16,400						
18,040						
19,680						
Place	Nancy	Rome	Abbeville	Mulhouse	Bzerta	Malta
Time	17h 23m	18h 23m	7h 24h	8h 24h	6h 24h	6h 24h
Type						
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.
1,640	220 9	30 24	30 11	30 3	310 38	3000ft
3,280	260 9	50 4	350 13	130 14	310 49	290 29
4,920			330 18		310 49	5,000ft
6,560						300 29
8,200						7,000ft
9,840						300 33
11,480						
13,120						
14,760						
16,400						
18,040						
19,680						

DIRECTION (degrees from N.) and **MEAN VELOCITY** (m.p.h.) of **SURFACE** and **UPPER WINDS** at specified heights above M.S.L.—**BRITISH**

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place	
Time.	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}		12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}	12h 24 ^{1/2}					Time.	
Type	b	b	b	b	b	b		b	b	b	b	b	b	b	b					Type	
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet	
Surf.	256 4	255 5	265 9	255 12	210 10	280 5		270 2	220 11	260 7	255 8	280 12	230 17	230 11	260 3					Surf.	
1000	265 5	265 5	270 13	270 15	215 14	280 5		250 7	240 15	275 9	255 9	310 11	220 25	235 16	305 10					1000	
2000	305 15	260 12	265 11	255 18	275 11	280 9		275 11	270 16	280 16		310 11	225 29	240 21	315 10					2000	
3000	310 17		265 11	285 13	320 9	300 9		295 8	275 11	285 15			235 28	245 20	340 14					3000	
4000	315 15			255 13	320 10	310 11		295 11	275 16	290 20			280 25	280 24	330 18					4000	
5000	315 15					315 10		290 13	265 14				265 38		320 18					5000	
6000	325 19					310 13		295 14	280 20						320 16					6000	
8000	325 28					325 14			310 24					13h AC	335 21					8000	
10000	(7000')					(7000')			320 41					310 42	345 31					10000	
12000		13h Ci	13h AC			13h Ci		13h AC	13h AC	13h Ci				13h Ci	335 41					12000	
Neph.		360 76	270 57			350 75		320 65	330 60	310 50				330 70						Neph.	
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Calshot	Place.
Time.	17h 24 ^{1/2}	17h 24 ^{1/2}	17h 24 ^{1/2}	17h 24 ^{1/2}	17h 24 ^{1/2}	17h 24 ^{1/2}		16h 24 ^{1/2}	17h 24 ^{1/2}		17h 24 ^{1/2}	17h 24 ^{1/2}	17h 24 ^{1/2}	17h 24 ^{1/2}						24h 24 ^{1/2}	Time.
Type.			b			b						b									Type.
Feet																					Feet
Surf.	235 10	245 4	265 7	265 10	240 9	225 9		210 3	220 12		245 10	280 10	215 21	215 16						235 15	Surf.
1000	240 19	265 16	265 17	270 22	255 17	235 20		265 11	240 25		240 13	290 15	225 34	245 27						255 32	1000
2000	255 21	260 20	265 17	265 26	260 16	250 15		275 19	240 27		245 18	290 16	255 29	265 35						280 29	2000
3000	260 20	260 23	260 25	215 26	275 21	270 18		275 17	240 31					280 43						295 28	3000
4000	270 17	255 23		270 22	220 15	280 17		275 17						280 50						290 26	4000
5000				310 25		275 10		280 11												295 25	5000
6000				325 20																305 27	6000
8000																				310 18	8000
10000																					10000
12000	16h AC		16h Ci					16h AC		16h Ci											12000
Neph	270 30		340 60					310 60		310 45											Neph
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness.	Cranwell		Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia		Place.
Time.						7h 25 ^{1/2}		7h 25 ^{1/2}		8h 25 ^{1/2}			9h 25 ^{1/2}	7h 26 ^{1/2}							Time.
Type.																					Type.
Feet						235 12		240 14		280 16			230 17	185 3							Feet
1000						265 22		265 32		280 26			255 27	255 16							1000
2000								285 30		280 29			275 28	175 22							2000
3000								290 22		295 29			265 24								3000
4000								290 18		295 30			265 28								4000
5000										280 29			270 31								5000
6000										290 37											6000
8000										290 30											8000
10000																					10000
12000																					12000
Neph																					Neph

UPPER AIR TEMPERATURES AND HUMIDITIES

[illegible]

UPPER WINDS ABROAD.

Place.	Cheb				Barcelona			Nancy		Haare		Malta
Time.	1h 29 ⁴				1h 29 ⁴			18 ⁴ 24 ⁴		18 ⁴ 24 ⁴		17h 24 ⁴
Feet.	Dir	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	-	-	340	7			30	7	300	9	^{1000'} 250' 33	
3,280	360	9	340	7			20	14	300	16	^{2000'} 250' 46	
4,920	30	9	340	18			60	8	310	18		
6,560	20	14	340	26			10	13	350	11		
9,840												
13,120												
16,400												
19,680												
Place.	Turin		Rome		Barcelona		Padua		Rome		Malta	
Time.	18 ⁴ 24 ⁴		18 ⁴ 24 ⁴		7 ⁴ 25 ⁴		7 ⁴ 25 ⁴		7 ⁴ 25 ⁴		6 ⁴ 25	
1,640	10	1	40	14	220	9	140	16	-	-	1,000	
3,280	-	-	50	12	240	4	-	-	-	-	300	32
4,920	50	3			350	4	-	-	130	5	2,000	
6,560	8	5			340	26	60	14	-	-	300	31
9,840							40	17	60	13	5,000	
13,120											300	31
16,400												
19,680												

Meteorological Office, Air Ministry.
Kingsway, London, W.C.2.

G. C. SIMPSON, G.R., D.Sc. F.R.S.
Director

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.																								
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoebury-ness	Felix-stowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Alder-grove	Valentia	Place				
Time.			12h 25 ¹ / ₂					12h 25 ¹ / ₂	12h 25 ¹ / ₂	12h 25 ¹ / ₂			12h 25 ¹ / ₂	12h 25 ¹ / ₂			12h 25 ¹ / ₂			Time.				
Type			b						b				b	b						Type				
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet			
Surf.				245	12				240	13	240	22	250	18	230	18	245	13	220	16	Surf.			
1000				255	17				255	17	245	32	260	32	265	31	255	21	240	33	1000			
2000																			260	46	2000			
3000																			275	56	3000			
4000																			285	53	4000			
5000																			285	59	5000			
6000																					6000			
8000																					8000			
10000																					10000			
12000																					12000			
Neph.									12h 17 ¹ / ₂												Neph.			
Time.	17h 25 ¹ / ₂	17h 25 ¹ / ₂						17h 25 ¹ / ₂	17h 25 ¹ / ₂				17h 25 ¹ / ₂	17h 25 ¹ / ₂	17h 25 ¹ / ₂					Time.				
Type																					Type			
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet			
Surf.	245	18	250	15					245	11	260	20			230	20	230	6	265	25	Surf.			
1000	255	24	270	23					265	43	260	30			260	36	255	25	265	33	1000			
2000																	225	46	275	41	2000			
3000																					3000			
4000																					4000			
5000																					5000			
6000																					6000			
8000																					8000			
10000																					10000			
12000																					12000			
Neph.																					Neph.			
Time.																					Time.			
Type																					Type			
Feet																					Feet			
Surf.									2															

[illegible]

UPPER WINDS ABOARD.												
Place.	Cheb		Tours		Marignane		Rome		Messina		Malta	
Time.	13h 25 th		18h 25 th		16h 25 th		18h 25 th		18h 25 th		17h 25 th	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,840	-	-	270	18	-	-	-	-	320	10	(1,000ft)	
3,280	260	24	280	16	240	16	50	6	360	13	300	13
4,920	270	26			-	-	130	1	10	14		
6,560	260	43			290	7	-	-				
9,840	340	24					30	11				
13,120												
16,400												
19,680												

Place.	Tripoli		Rochefort		Lyons		Barcelona		Bizerta		Malta
Time.	18h 25 th		7h 26 th		7h 26 th		7h 26 th		5h 26 th		6h 26 th
1,840	340	9	260	16	310	6	250	11	310	14	(1,000ft)
3,280	300	14			10	7	-	-	30	23	200 5
4,920							-	-	360	18	(3,000ft)
6,560							30	31	340	25	100 9
9,840											(5,000ft)
13,120											110 11
16,400											(7,000ft)
19,680											100 7

Meteorological Office, Air Ministry. Kingway, London, W.C.2.	G. C. SIMPSON, C.R., F.Sc., F.R.S., Director
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AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

FRIDAY, 27th FEBRUARY, 1931.

No. B. 25,299.

U.A.S. 4,351.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the tables on the reverse side.

h = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings)

On Charts.

Movements are indicated thus:-

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

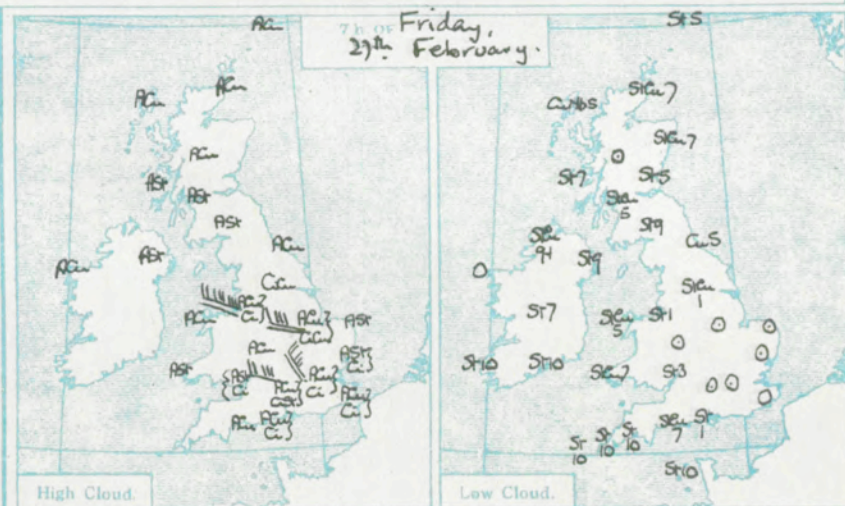
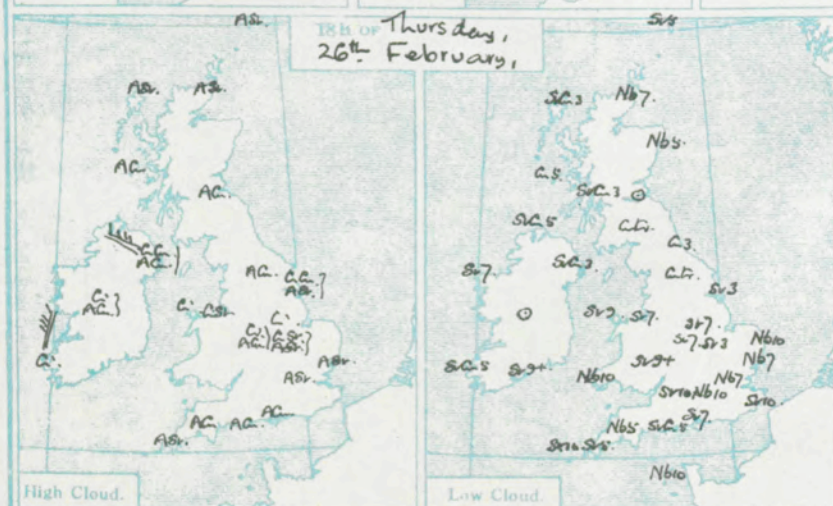
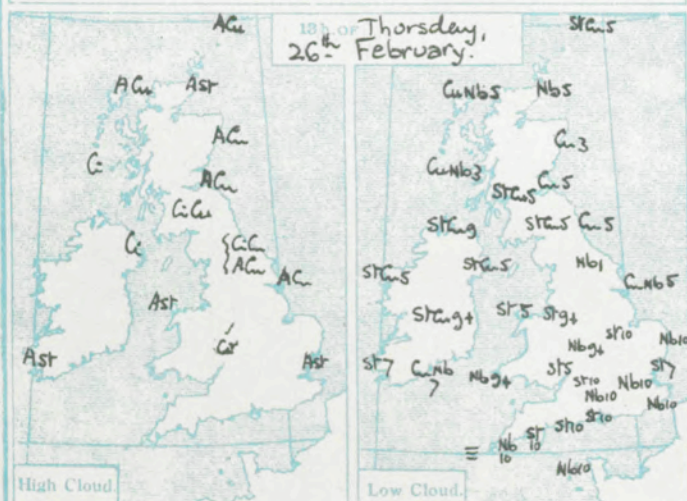
— and so on.

In Tables.

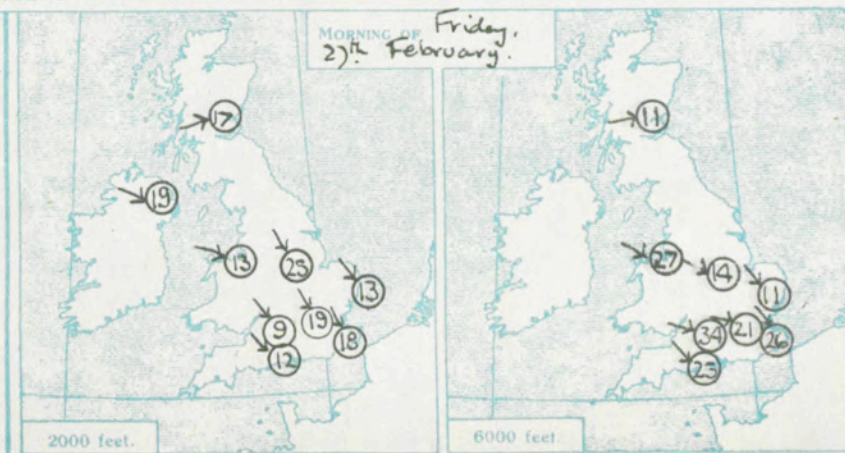
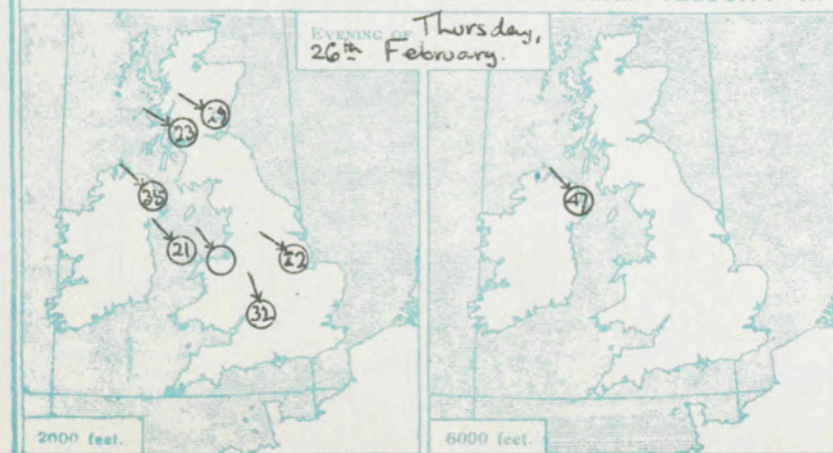
Directions are given in degrees, velocities in m.p.h.

Speeds of high cloud are computed for an average height of 4 miles for cumulo type clouds (double lines) and 3 miles for alto type clouds (single line).

CLOUD FORMS, AMOUNTS AND MOVEMENTS.



DIRECTION AND MEAN VELOCITY IN MILES PER HOUR OF UPPER WINDS.



DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Place													
Time.									13h 26'				12h 26'	13h 26'	12h 26'	12h 26'		12h 26'		Time.													
Type													6			6				Type													
Feet	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Feet												
Surf.									295	19			330	20	320	22	285	25	275	12	290	20	Surf.										
1000									295	34			340	23	320	24	285	59	295	27	310	21	1000										
2000									295	34			340	25	320	37	290	72	295	33	320	26	2000										
3000													335	24	315	37	290	44	300	35	315	26	3000										
4000																							4000										
5000																							5000										
6000																							6000										
8000																							8000										
10000																							10000										
12000																							12000										
Neph.																							Neph.										
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lympne	Shoeburyness	Cranwell	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	Renfrew	Aldergrove	Valentia		Place.													
Time.	17h 26'				24h 21'			24h 21'	17h 26'		17h 26'		17h 26'	17h 26'	17h 26'	17h 26'	17h 26'			Time.													
Type																				Type													
Feet	260	15			345	7		260	9	305	19		325	20	315	19	300	21	270	9	285	12	Feet										
Surf.	275	25			330	15		310	26	315	26		325	21	320	28	295	33	300	23	305	29	Surf.										
1000								330	33	210	22		315	21	315		295	29	300	23	310	35	1000										
2000								335	25				315	27	310	42			305	35	310	32	2000										
3000								320	17				310	33	310	32			305	55	315	33	3000										
4000								315	19				310	38							310	41	4000										
5000																					310	47	5000										
6000																					310	45	6000										
8000																					310	35	8000										
10000																					310	35	10000										
12000																					310	35	12000										
Neph.																							Neph.										
Place.	Croydon	South Farnboro	Worthy Down	Boscombe Down	Croydon	Lympne	Calshot	Felixstowe	Cranwell	Cardington	Upper Heyford	Larkhill	Holyhead	Sealand	Leuchars	Renfrew	Aberdeen	Aldergrove	Valentia	Place.													
Time.	10h 27m	7h 27m	7h 27m	8h 27m	7h 27m	6h 27m	7h 27m	7h 27m	6h 27m	8h 27m	6h 27m	9h 27m	8h 27m	6h 27m	6h 27m				7h 27m	Time.													
Type																				Type													
Feet	255	6	Calu	Calu	185	4	240	5	310	10	Calu	285	6	255	11	260	7	270	10	220	2	245	10	235	5	260	7	Feet					
1000	265	7	345	7	290	10	265	11	305	15	315	17	290	9	330	13	300	22	310	14	290	13	260	5	255	11	255	18	1000				
2000	260	13	310	9	285	10	260	12	325	19	325	18	300	12	310	13	320	25	305	12	315	15	240	16	255	11	290	13	255	17	2000		
3000	255	13	260	16	290	13	285	13	315	20	315	17	310	15	315	15	315	11	300	12	305	15	265	20	265	11	295	12	235	8	3000		
4000	270	19	300	15	300	20	300	20	315	21	300	18	310	23	330	11	280	13	295	11	290	15	290	16	270	10	295	11	245	11	4000		
5000	285	21	310	25	300	26	290	21	300	18	300	26	300	25	335	6	270	15	265	16	295	13	295	15	275	17	285	13	255	10	5000		
6000	290	27	295	34	295	27	290	19	285	21	320	26	300	25	305	11	285	14	305	18	295	19	280	22	285	27	290	27	250	11	6000		
8000	Key		290	34			290	34			295	37	295	29	-	-	330	6	300	29			295	34			300	35			8000		
10000	7h		300	41	7h		295	42			290	33	(7,000ft)				305	41	7h				295	37			290	45	10h	9h	290	54	10000
12000	6h		295	45	6h		295	45			290	31	(9,000ft)				290	31	7h				295	37			290	45	10h	9h	290	54	12000
Neph	320	54	350	90	300	90	350	95	310	60			290	36	310	60	290	45	290	65					330	80	270	70	270	70	290	60	Neph.

UPPER AIR TEMPERATURES AND HUMIDITIES

Station.	Pressure.	Height above M.S.L.	TEMPERATURE.				Relative Humidity	Station.	Pressure.	Height above M.S.L.	TEMPERATURE.				Relative Humidity	Station.	Pressure.	Height above M.S.L.	TEMPERATURE.				Relative Humidity
			Temp.		Relative Humidity	Temp.					Relative Humidity	Temp.		Relative Humidity									
			Dry.	Wet.		Dry.						Wet.	Dry.						Wet.	Dry.	Wet.		
	mb.	Feet. M.S.L.	°F.	°F.	°	%			mb.	Feet. M.S.L.	°F.	°F.	°	%			mb.	Feet. M.S.L.	°F.	°F.	°	%	
		M.S.L.	—	—	—					M.S.L.	—	—	—					M.S.L.	—	—	—		

UPPER WINDS ABROAD.

SUPER WINDS ABOARD												
Place.	Kantakius		Malmo.		Toulouse		Turin		Rome		Malta.	
Time.	1h. 26"		11h. 26"		17h. 26h		18h. 26h		18h. 26h		17h. 26"	
Feet.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.	Dir.	Vel.
1,640	110	11	290	6	-	-	110	3	260	13		(3,000 ft)
3,280	110	6	290	6	290	11	-	-	-	-		80 11
4,920	-	-	310	11	300	14	230	9	-	-		(3,000 ft)
6,560	130	12			320	16	180	9	320	7		80 8
9,840									20	11		(7,000 ft)
13,120												70 7
16,400												
19,680												

Place	Maddalena		Abbeville		Genoa		Barcelona		Prague		Malta	
Time.	18h. 26h		7h. 27h		7h. 27h		7h. 27h		7h. 27h		6h. 27h	
1,640	-	-	330	11	140	20	30	5	310	23		(1,000 ft)
3,280	240	11	330	11	180	21	270	7	310	31	300	12
4,920	-	-					280	6	270	34		(2,000 ft)
6,560	360	9					-	-				320 18
9,840	360	13					340	13				(3,000 ft)
13,120												320 16
16,400												
19,680												

Meteorological Office, Air Ministry, Kingsway, London, W.C.2.	G. C. SIMPSON, C.B., D.Sc., F.R.S., Director
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AIR MINISTRY.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, LONDON.

UPPER AIR SECTION,

SATURDAY, 28TH FEBRUARY, 1931.

No. B 25,300.

U.A.S. 4352.

DIAGRAM OF UPPER AIR TEMPERATURE.

Pressure and temperature are plotted on logarithmic scales so that all changes of temperature according to the dry adiabatic law are represented by parallel straight lines.

The curves for April 5th, 1911, and October 2nd, 1908, show extremes of temperature in the South of England.

The curves marked February and August show normal values for these months.

The broken lines show adiabatic changes for saturated air rising under specified conditions. See Title Page.

The sloping straight line shows the adiabatic change for dry air.

UPPER WINDS.

All observations of upper winds from British Stations are obtained by single theodolite pilot balloon ascent, except where otherwise specified in the table on the reverse side.

h = balloon with tail. d = double theodolite ascent.

CLOUD MOVEMENTS (Nephoscope readings):

On Charts.

Movements are indicated thus:—

— No speed given.

— 0-5 m.p.h.

— 6-15 "

— 16-25 "

— 26-35 m.p.h.

— 36-45 "

— 46-55 "

— 56-65 "

— 66-75 "

— 76-85 "

— 86-95 "

— 96-105 "

— 106-115 "

— 116-125 "

— 126-135 "

— 136-145 "

— 146-155 "

— 156-165 "

— 166-175 "

— 176-185 "

— 186-195 "

— 196-205 "

— 206-215 "

— 216-225 "

— 226-235 "

— 236-245 "

— 246-255 "

— 256-265 "

— 266-275 "

— 276-285 "

— 286-295 "

— 296-305 "

— 306-315 "

— 316-325 "

— 326-335 "

— 336-345 "

— 346-355 "

— 356-365 "

— 366-375 "

— 376-385 "

— 386-395 "

— 396-405 "

— 406-415 "

— 416-425 "

— 426-435 "

— 436-445 "

— 446-455 "

— 456-465 "

— 466-475 "

— 476-485 "

— 486-495 "

— 496-505 "

— 506-515 "

— 516-525 "

— 526-535 "

— 536-545 "

— 546-555 "

— 556-565 "

— 566-575 "

— 576-585 "

— 586-595 "

— 596-605 "

— 606-615 "

— 616-625 "

— 626-635 "

— 636-645 "

— 646-655 "

— 656-665 "

— 666-675 "

— 676-685 "

— 686-695 "

— 696-705 "

— 706-715 "

— 716-725 "

— 726-735 "

— 736-745 "

— 746-755 "

— 756-765 "

— 766-775 "

— 776-785 "

— 786-795 "

— 796-805 "

— 806-815 "

— 816-825 "

— 826-835 "

— 836-845 "

— 846-855 "

— 856-865 "

— 866-875 "

— 876-885 "

— 886-895 "

— 896-905 "

— 906-915 "

— 916-925 "

— 926-935 "

— 936-945 "

— 946-955 "

— 956-965 "

— 966-975 "

— 976-985 "

— 986-995 "

— 996-1005 "

— 1006-1015 "

— 1016-1025 "

— 1026-1035 "

— 1036-1045 "

— 1046-1055 "

— 1056-1065 "

— 1066-1075 "

— 1076-1085 "

— 1086-1095 "

— 1096-1105 "

— 1106-1115 "

— 1116-1125 "

— 1126-1135 "

— 1136-1145 "

— 1146-1155 "

— 1156-1165 "

— 1166-1175 "

— 1176-1185 "

— 1186-1195 "

— 1196-1205 "

— 1206-1215 "

— 1216-1225 "

— 1226-1235 "

— 1236-1245 "

— 1246-1255 "

— 1256-1265 "

— 1266-1275 "

— 1276-1285 "

— 1286-1295 "

— 1296-1305 "

— 1306-1315 "

— 1316-1325 "

— 1326-1335 "

— 1336-1345 "

— 1346-1355 "

— 1356-1365 "

— 1366-1375 "

— 1376-1385 "

— 1386-1395 "

— 1396-1405 "

— 1406-1415 "

— 1416-1425 "

— 1426-1435 "

— 1436-1445 "

— 1446-1455 "

— 1456-1465 "

— 1466-1475 "

— 1476-1485 "

— 1486-1495 "

— 1496-1505 "

— 1506-1515 "

— 1516-1525 "

— 1526-1535 "

— 1536-1545 "

— 1546-1555 "

— 1556-1565 "

— 1566-1575 "

— 1576-1585 "

— 1586-1595 "

— 1596-1605 "

— 1606-1615 "

— 1616-1625 "

— 1626-1635 "

— 1636-1645 "

— 1646-1655 "

— 1656-1665 "

— 1666-1675 "

— 1676-1685 "

— 1686-1695 "

— 1696-1705 "

— 1706-1715 "

— 1716-1725 "

— 1726-1735 "

— 1736-1745 "

— 1746-1755 "

— 1756-1765 "

— 1766-1775 "

— 1776-1785 "

— 1786-1795 "

— 1796-1805 "

— 1806-1815 "

— 1816-1825 "

— 1826-1835 "

— 1836-1845 "

— 1846-1855 "

— 1856-1865 "

— 1866-1875 "

— 1876-1885 "

— 1886-1895 "

— 1896-1905 "

— 1906-1915 "

— 1916-1925 "

— 1926-1935 "

— 1936-1945 "

— 1946-1955 "

— 1956-1965 "

— 1966-1975 "

— 1976-1985 "

— 1986-1995 "

— 1996-2005 "

— 2006-2015 "

— 2016-2025 "

— 2026-2035 "

— 2036-2045 "

— 2046-2055 "

— 2056-2065 "

— 2066-2075 "

— 2076-2085 "

— 2086-2095 "

— 2096-2105 "

— 2106-2115 "

— 2116-2125 "

— 2126-2135 "

— 2136-2145 "

— 2146-2155 "

— 2156-2165 "

— 2166-2175 "

— 2176-2185 "

— 2186-2195 "

— 2196-2205 "

— 2206-2215 "

— 2216-2225 "

— 2226-2235 "

— 2236-2245 "

— 2246-2255 "

— 2256-2265 "

— 2266-2275 "

— 2276-2285 "

— 2286-2295 "

— 2296-2305 "

— 2306-2315 "

— 2316-2325 "

— 2326-2335 "

— 2336-2345 "

— 2346-2355 "

— 2356-2365 "

DIRECTION (degrees from N.) and MEAN VELOCITY (m.p.h.) of SURFACE and UPPER WINDS at specified heights above M.S.L.—BRITISH.

Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Alder Grove	Valentia	Place
Time	12h. 27'	12h. 27'	12h. 27'	12h. 27'	12h. 27'	12h. 27'		12h. 27'	12h. 27'	12h. 27'	12h. 27'		12h. 27'	12h. 27'	12h. 27'		15h. 27'			Time
Type	6	6	6	6	6	6		6	6	6	6		6	6	6					Type
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.	230 12	240 12	205 10	200 12	210 12	240 26		230 5	230 10	220 7	225 10		225 11	230 7	245 15		220 8			Surf.
1000	235 16	220 12	205 12	195 17	205 15	245 13		240 13	260 15	225 9	230 9		230 10	240 13	245 31		225 14			1000
2000	235 16	220 15	210 15	205 15	220 14	250 9		255 15	260 17	245 10	230 11		215 10	250 16	255 28		250 24			2000
3000	240 12	250 11	230 18		250 19	250 12		265 10	250 13	245 16	235 15		225 17	265 6	265 29		255 25			3000
4000	265 21				270 17	250 11		255 13	240 14	250 14	265 19			260 13	270 32		260 29			4000
5000	275 22				270 27			215 15	245 17	260 22	270 27			265 27			255 24			5000
6000	275 24				275 25			230 15	275 20		265 23			270 24			260 21			6000
8000	275 25							230 28	280 26		275 24			265 25						8000
10000						13h. AC		230 28	275 32		11h. 30m. C.				13h. AC					10000
12000								250 32												12000
Neph.						220 57		220 75			280 55				270 20					Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Alder Grove	Valentia	Place
Time						17h. 27'		17h. 27'	17h. 27'						17h. 27'	17h. 27'	18h. 27'			Time
Type						6														Type
Feet						Dir. Vel.		Dir. Vel.	Dir. Vel.						Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Feet
Surf.						190 15		190 8	210 7						225 10	250 15				Surf.
1000						195 20		215 15	215 10						235 21	265 28	260 19			1000
2000						205 19		220 20	215 11						255 25	270 31	285 23			2000
3000						225 15		235 21	240 11						260 31	270 27				3000
4000						255 22		225 27	255 18						285 42	270 32				4000
5000						265 26														5000
6000																				6000
8000																				8000
10000																				10000
12000																				12000
Neph.																	280 30			Neph.
Place	Croydon	South Farnboro	Worthy Down	Boscombe Down	Calshot	Lymington	Shoeburyness	Felixstowe	Cranwell	Cardington	Upper Heyford	Plymouth	Holyhead	Sealand	Leuchars	RAF Cranwell	Aberdeen	Alder Grove	Valentia	Place
Time	18h. 28'	10h. 28'		8h. 28'										9h. 28'	6h. 28'					Time
Type																				Type
Feet																				Feet
Surf.	285 6	270 6		230 5										285 40	270 12					Surf.
1000	295 7	290 16		295 16										285 30	275 10					1000
2000				320 27										285 25	275 15					2000
3000				330 29											215 19					3000
4000				320 20																4000
5000				315 18																5000
6000																				6000
8000																				8000
10000											8h. 30m. C.				10h. C.					10000
12000																				12000
Neph.											260 95				290 60					Neph.

UPPER AIR TEMPERATURES AND HUMIDITIES.

Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity	Station	Pressure	Height above M.S.L.	Temp.	Relative Humidity
	mb.	Feet.	°F.	%		mb.	Feet.	°F.	%		mb.	Feet.	°F.	%		mb.	Feet.	°F.	%
Duxford. 27/2/31.	1017	M.S.L.	—	—	Aldergrove. 27/2/31.	1013	M.S.L.	—	—	Malta. 27/2/31.	994	660	53	88	Duxford. 27/2/31.	1014	M.S.L.	—	—
	1013	100	34	32.5		1002	238	38	—		994	660	53	88		1010	100	44	37.5
	977	1070	35	32.5		950	1700	33	—		958	1640	48	75		974	1080	38	34
	950	1850	32.5	31.5		900	3120	27	—		902	3280	40	85		950	1750	38	32.5
	900	3200	26	30		850	4600	21	—		847	4920	24	75		900	3150	26	—
	850	4800	21	27		800	6150	14	—		797	6560	28	95		850	4650	19.5	19.5
	800	6280	24	20		750	7770	13	—		748	8200	24	85		800	6210	23	18.5
	750	7910	20	17		700	9570	6	—		702	9840	19	—		750	7870	18	17
	700	9630	13.5	12												700	9630	14.5	13.5
	650	11530	3	2.5												650	11500	8.5	8
	600	13520	1.5	1.5												600	13570	2	2
	550	15680	—	—												550	15650	—	—
																500	17920	—	—
Inversion: 850mb - 780mb. Amount 1°F.					Inversion: 850mb - 780mb. Amount 1°F.					Inversion: 850mb - 780mb. Amount 1°F.					Inversion: 850mb - 780mb. Amount 1°F.				
Ground 34°F. 1000', 35°F.					Ground 34°F. 1000', 35°F.					Ground 34°F. 1000', 35°F.					Ground 34°F. 1000', 35°F.				
850mb 22°F. 800mb 24°F.					850mb 22°F. 800mb 24°F.					850mb 22°F. 800mb 24°F.					850mb 22°F. 800mb 24°F.				
M.S.L.					M.S.L.					M.S.L.					M.S.L.				

UPPER WINDS ABROAD.

Place	Calais	Abbeville	Mulhouse	Naples	Palermo	Malta
Time	13h. 27'	13h. 27'	17h. 27'	18h. 27'	18h. 27'	17h. 27'
Type						
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.
1,640	260 21	270 16	320 20	—	250 10	(3000ft)
3,280	350 7	190 9	330 34	320 9	—	300 25
4,920	270 13	280 14	340 43	—	300 14	310 42
6,560					300 6	(2000ft)
9,840					320 7	340 23
13,120						310 28
16,400						
19,680						
Place	Rome	Turin	Lyons	Madrid	Bordeaux	Malta
Time	18h. 27'	18h. 27'	7h. 28'	7h. 28'	7h. 28'	7h. 28'
Type						
Feet	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.	Dir. Vel.
1,640	230 11	140 3	200 14	—	260 11	(1020ft)
3,280	230 5	270 5	230 16	300 18	290 20	280 23
4,920	220 4	300 13		300 28	280 27	(2000ft)
6,560						290 25
9,840						
13,120						
16,400						
19,680						