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M.O. Form 2610.

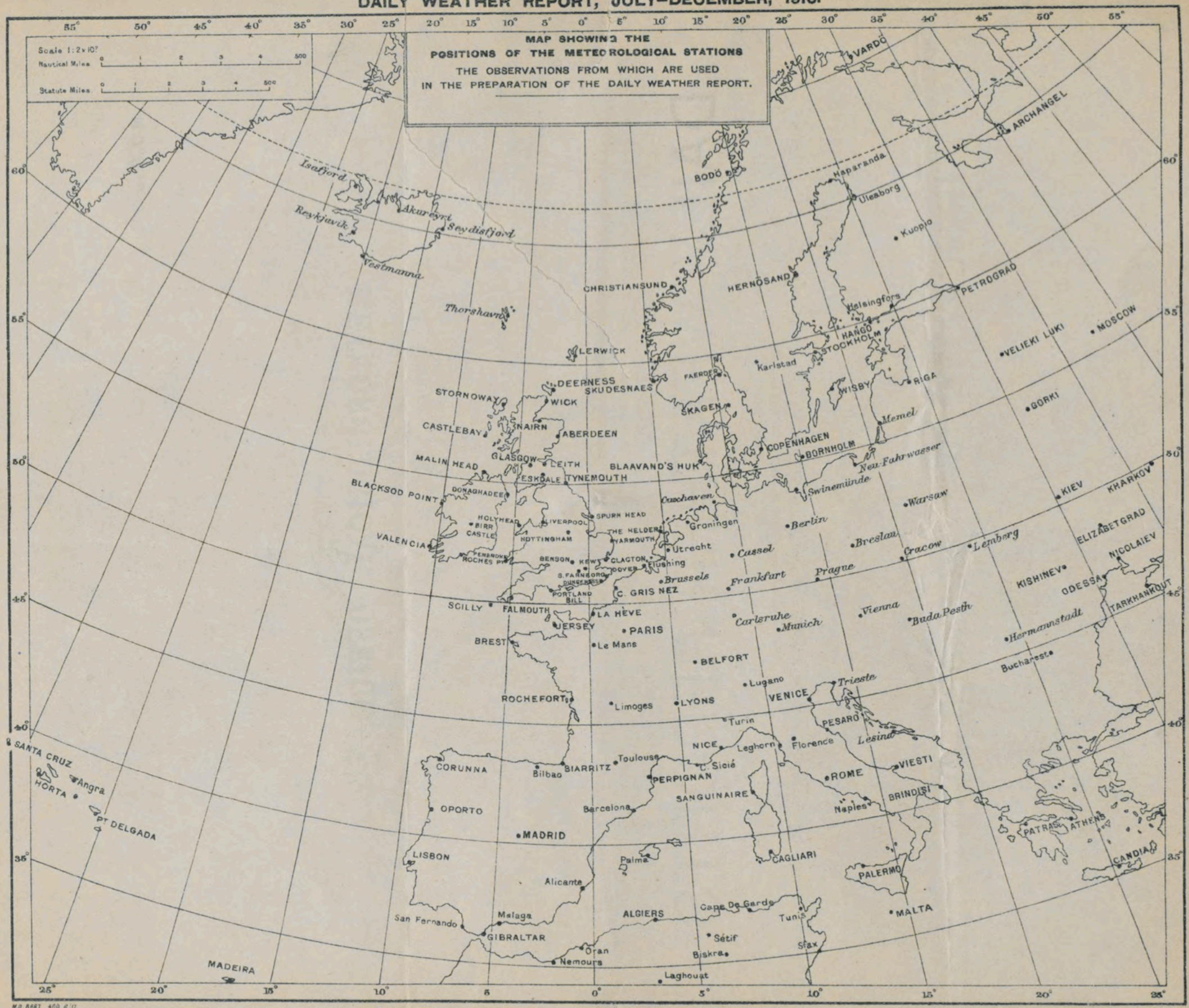
METEOROLOGICAL OFFICE.

LONDON

DAILY WEATHER REPORTS

1st JULY TO 31st DECEMBER, 1916.

DAILY WEATHER REPORT, JULY–DECEMBER, 1916.



Receipt of information from Stations shown in italics is temporarily suspended.

M.O. 866T 400 6/17.

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DAILY WEATHER REPORT. APPENDIX I.

NORMAL VALUES FOR PRESSURE, TEMPERATURE, RAINFALL, AND BRIGHT SUNSHINE.

FOURTH QUARTER, OCTOBER TO DECEMBER.

(Issued as a Supplement to the Daily Weather Report of October 1st.)

	STATIONS.	PRESSURE 1906–1915.	AIR TEMPERATURE. Means of		Absolute Extremes. 1881–1915.				RAINFALL 1881–1915.			BRIGHT SUNSHINE. 1881–1915.	
		7 a.m. Observations (reduced to M.S. Level).	1906–1915. Dry Bulb 7 a.m.	1881–1915. Daily Maximum.	1881–1915. Daily Minimum.	Maximum. Temp.	Maximum. Year.	Minimum. Temp.	Minimum. Year.	Days with Rain.	Total Fall.		Daily Mean.	Per Centage of Possible Duration.
		mb.	°F.	°F.	°F.	°F.		°F.			mm.	in.	hr.	%
OCTOBER.	Lerwick	1011·2	47·3	50·1	42·3	63	1908	28	1887	24	100	3·95	—	—
	Stornoway	1010·0	47·1	52·2	41·2	70	1898	27	1892	23	132	5·18	2·77	28
	Castlebay (Barra Isd.)	[1011·6]§	[50·5]§	[53·6]§	[47·7]§	[63]§	[1908]§	[34]§	[1909, 1913]§	[20]§	[86]§	[3·39]§	[2·55]§	[25]§
	Eskdalemuir	[1014·4]¶	[42·4]¶	[51·5]‖	[38·5]‖	[65]‖	[1910]‖	[19]‖	[1911]‖	[15]‖	[100]‖	[3·93]‖	[2·39]‖	[23]‖
	Malin Head	1009·3	49·3	[53·2]*	[45·6]*	[73]*	[1908]*	[32]*	[1892]*	[20]*	[75]*	[2·95]*	—	—
	Blacksod Point	1009·4	51·0	[54·7]*	[46·0]*	[71]*	[1908]*	[29]*	[1905]*	[23]*	[127]*	[4·99]*	—	—
	Valencia	1010·2	51·2	56·4	46·6	71	1908	28	1892	22	142	5·57	3·26	31
	Roche's Point	1011·2	51·0	56·2	46·4	65	1884, 86, 1914, 15	32	1881	19	104	4·09	—	—
	Birr Castle	1010·7	46·8	55·0	40·7	74	1908	22	1905	18	74	2·91	3·16	30
	Donaghadee	1011·3	49·2	54·3	44·3	66	1898	21	1892	18	73	2·88	—	—
	Liverpool (Observatory)	1012·5	47·9	54·1	44·8	73	1908	27	1895	18	83	3·27	[2·81]§	[27]§
	Holyhead	1011·5	51·3	55·1	46·9	75	1908	32	1892	19	101	3·99	[2·87]**	[28]**
	Pembroke (St.Ann's Hd.)	1011·4	51·6	55·6	48·1	67	1908	33	1895	19	106	4·19	3·29	31
	Scilly (St. Mary's)	1011·3	53·2	57·5	50·1	69	1895	38	1895, 1896	21	93	3·66	3·81	36
	Falmouth	1012·5	51·0	56·3	47·7	67	1895	33	1895	21	126	4·96	3·74	35
	Jersey (St. Aubin's)	1013·3	53·4	59·0	49·1	76	1908	33	1887	20	116	4·55	4·06	38
	Portland Bill	1012·2	53·8	56·9	48·8	[67]†	[1908]†	[35]†	[1905, 1908]†	17	94	3·68	—	—
	Dungeness	1013·2	52·1	57·4	46·0	70	1886, 1908	23	1890	17	89	3·52	—	—
	Dover	[1015·5]§	[50·7]§	[57·5]§	[46·6]§	[74]§	[1908]§	[30]§	[1909]§	[18]§	[106]§	[4·18]§	[3·81]§	[36]§
	Wick	1011·0	47·0	52·2	41·0	73	1898	22	1885	21	75	2·96	—	—
	Nairn	1010·9	44·2	53·1	39·0	76	1908	19	1896	19	60	2·35	[3·29]‡	[33]‡
	Aberdeen	1012·2	46·6	52·8	41·7	74	1883	25	1880	20	76	3·00	3·06	30
	Leith	1011·9	47·7	54·8	42·1	75	1908	25	1894	17	61	2·41	—	—
	Tynemouth	1012·6	47·9	54·1	42·4	77	1908	27	1890, 92, 95, 1909	17	76	3·01	—	—
	Spurn Head	1012·8	50·7	54·6	45·9	70	1900	33	1887, 1895	17	61	2·40	[2·68]**	[26]**
	Yarmouth	1013·6	50·6	55·2	45·3	74	1900, 1908	27	1895	18	74	2·93	[3·35]§	[32]§
	Clacton-on-Sea	1013·7	51·0	55·7	45·7	[71]‡	[1908]‡	[29]‡	[1905]‡	14	49	1·91	3·61	35
	Nottingham	1013·3	46·6	55·3	41·7	78	1908	20	1850	19	63	2·49	2·68	26
	LONDON (Kew Obsy.)	1013·9	48·5	56·2	43·5	77	1886	25	1881, 1895	17	69	2·70	2·97	28
NOVEMBER.	Lerwick	1005·3	42·3	46·2	38·9	58	1901	24	1912	25	108	4·25	—	—
	Stornoway	1007·2	42·1	47·6	38·0	58	1897, 1901, 02	21	1912	24	148	5·83	1·43	19
	Castlebay (Barra Isd.)	[1007·8]§	[45·4	[48·5]§	41·6]§	56]§	[1914]§	[28]§	[1912]§	[24]§	[101]§	[3·96]§	[1·57]§	[20]§
	Eskdalemuir	[1009·4]¶	[37·6]¶	[43·2]‖	32·1]‖	54]‖	[1914]‖	[6]‖	[1912]‖	[20]‖	154]‖	[6·05]‖	[2·03]‖	[25]‖
	Malin Head	1008·4	44·6	[48·6]*	41·7]*	59]*	[1894, 99, 1906]*	[30]*	[1909, 1912]*	[21]*	[83]*	[3·28]*	—	—
	Blacksod Point	1010·3	46·1	[50·2]*	42·0]*	60]*	[1897, 1899]*	[26]*	[1890]*	[24]*	[132]*	[5·21]*	—	—
	Valencia	1012·4	46·3	52·0	42·9	63	1881	27	1890, 96, 1901	23	139	5·46	2·17	25
	Roche's Point	1013·0	45·5	51·4	42·5	61	1908, 1909	27	1890	19	107	4·20	—	—
	Birr Castle	1011·8	40·6	49·3	36·8	64	1912	17	1909	19	79	3·10	2·13	25
	Donaghadee	1010·4	43·7	49·4	40·1	60	1894, 1909	27	1883	19	77	3·04	—	—
	Liverpool (Observatory)	1011·6	42·5	48·5	40·2	61	1894, 95, 99	25	1901, 05, 15	18	64	2·50	[2·27]§	[27]§
	Holyhead	1011·3	46·3	50·2	42·9	62	1881	29	1915	19	105	4·14	[2·50]**	[30]**
	Pembroke (St.Ann's Hd.)	1012·2	46·7	51·1	43·9	60	1911	28	1890	20	97	3·80	2·17	25
	Scilly (St. Mary's)	1013·2	48·7	53·2	46·3	61	1898	29	1890	20	83	3·27	2·50	28
	Falmouth	1013·9	46·1	51·6	43·9	60	1895, 1897	23	1890	20	122	4·80	2·53	29
	Jersey (St. Aubin's)	1014·2	47·9	53·0	44·3	66	1899	16	1890	21	104	4·08	2·53	28
	Portland Bill	1012·7	47·7	51·7	44·3	[61]†	[1900]†	[29]†	[1912]†	14	66	2·58	—	—
	Dungeness	1012·2	44·4	50·7	40·7	63	1899	17	1890	16	70	2·75	—	—
	Dover	[1012·9]§	[42·7 §	[48·9]	[38·6]§	[60]§	[1914]§	[25]§	[1911]§	[16]§	[78]§	[3·07]§	[2·90]§	[33]§
	Wick	1006·6	41·5	46·9	37·0	62	1900	12	1909	20	80	3·14	—	—
	Nairn	1007·5	39·8	46·9	35·4	62	1906	12	1904	19	60	2·36	[1·70]‡	[22]‡
	Aberdeen	1008·3	40·7	46·8	37·4	62	1889	14	1909	19	75	2·95	1·83	23
	Leith	1009·0	42·0	48·5	38·0	63	1885	18	1885	15	50	1·95	—	—
	Tynemouth	1009·9	41·8	48·4	38·1	62	1894	20	1912	16	54	2·13	—	—
	Spurn Head	1010·4	43·8	48·2	40·8	61	1894, 1895	28	1884	16	47	1·85	[1·90]**	[23]**
	Yarmouth	1011·6	43·3	48·5	39·6	60	1895, 98, 99, 1904	23	1890	18	61	2·41	[2·33]§	[27]§
	Clacton-on-Sea	1012·4	43·0	48·5	39·7	[60]‡	[1908]‡	[25]‡	[1904]‡	15	47	1·86	2·33	27
	Nottingham	1011·9	40·7	48·4	37·1	63	1895	13	1904	19	48	1·88	1·37	16
	LONDON (Kew Obsy.)	1013·2	41·9	49·1	38·8	62	1881, 94, 95	21	1901	16	56	2·22	1·73	20
DECEMBER.	Lerwick	1000·9	40·4	43·6	36·6	53	1890, 1905	19	1909	27	122	4·79	—	—
	Stornoway	1000·9	40·3	44·4	35·4	55	1898, 1913	16	1912	26	159	6·25	0·74	12
	Castlebay (Barra Isd.)	[1000·5]§	[44·1]§	[46·9]§	[40·1]§	[54]§	[1912]§	[26]§	[1912]§	[26]§	[146]§	[5·74]§	[0·77]§	[12]§
	Eskdalemuir	[1003·9]¶	[36·7]¶	[42·1]‖	[33·0]‖	[52]‖	[1910, 12]‖	[8]‖	[1912]‖	[26]‖	[204]‖	[8·04]‖	[0·74]‖	[11]‖
	Malin Head	1001·6	42·3	[45·7]*	[38·6]*	[55]*	[1900, 04, 13]*	[28]*	[1906, 1909]*	[24]*	[85]*	[3·35]*	—	—
	Blacksod Point	1003·0	44·4	[47·5]*	[39·9]*	[59]*	[1899]*	[25]*	[1906]*	[26]*	[155]*	[6·12]*	—	—
	Valencia	1005·8	45·4	49·8	41·1	57	1884, 88, 99, 1900	24	1886	26	169	6·64	1·32	17
	Roche's Point	1006·9	44·5	48·8	40·4	57	1906	25	1882	23	135	5·32	—	—
	Birr Castle	1005·2	40·5	46·1	35·0	58	1900	10	1882	21	84	3·29	1·39	19
	Donaghadee	1004·4	41·8	45·9	37·2	56	1885, 88, 94, 1909, 12, 13	21	1909	21	81	3·17	—	—
	Liverpool (Observatory)	1006·7	41·2	44·8	36·8	59	1891, 98, 1900	17	1882, 1890	19	67	2·65	[1·39]§	[19]§
	Holyhead	1005·8	44·5	46·9	39·9	56	1888	26	1890, 1902	20	106	4·16	[1·77]**	[24]**
	Pembroke (St.Ann's Hd.)	1006·9	45·5	48·1	41·3	57	1899, 1902	19	1890	22	115	4·52	1·35	18
	Scilly (St. Mary's)	1008·6	47·6	50·7	44·0	58	1899, 1900	30	1890	23	111	4·36	1·81	23
	Falmouth	1009·5	45·5	48·8	41·6	57	1899	25	1886, 1890	23	159	6·27	1·77	22
	Jersey (St. Aubin's)	1011·5	46·2	48·8	41·1	59	1898	22	1890	22	105	4·15	1·87	23
	Portland Bill	1009·1	46·5	48·1	41·2	[56]†	[1906, 07, 13]†	[24]†	[1908]†	19	75	2·94	—	—
	Dungeness	1009·5	43·2	46·2	37·1	56	1897, 98, 1900, 07	12	1890	17	70	2·77	—	—
	Dover	[1010·2]§	[42·4]§	[46·7]§	[38·4]§	[54]§	[1912, 14, 15]§	[18]§	[1908]§	[21]§	[105]§	[4·12]§	[1·45]§	[19]§
	Wick	1001·3	39·3	43·6	34·3	58	1906, 1907	10	1906	22	78	3·08	—	—
	Nairn	1001·9	37·4	43·0	32·1	58	1900	8	1912	19	56	2·22	[1·16]‡	[18]‡
	Aberdeen	1003·3	38·5	42·9	34·2	57	1885, 98, 1906, 10, 12	6	1882	19	82	3·22	1·16	18
	Leith	1003·8	40·5	44·8	35·0	60	1896	6	1882	17	51	2·00	—	—
	Tynemouth	1005·2	40·0	44·3	34·7	59	1898	19	1882, 86, 91, 92, 1908	16	55	2·18	—	—
	Spurn Head	1006·5	40·7	43·6	36·4	56	1898, 1912	19	1891	16	51	1·99	[1·32]**	[18]**
	Yarmouth	1008·6	40·6	43·6	35·2	60	1901	18	1899, 1906	18	62	2·44	[1·23]§	[16]§
	Clacton-on-Sea	1009·6	40·8	43·4	35·8	[55]‡	[1904]‡	[17]‡	[1908]‡	15	45	1·77	1·52	20
	Nottingham	1007·7	39·9	44·2	33·9	59	1912	9	1908	20	61	2·39	0·90	12
	LONDON (Kew Obsy.)	1009·8	41·4	44·7	35·9	57	1882, 88 1902, 05, 07	11	1890	17	58	2·29	1·19	16

* Results for 30 years, 1886–1915.
† " 16 " 1900–1915.
‡ " 15 " 1901–1915.

‡ Results for 9 years, 1907–1915.
§ " 8 " 1908–1915.
‖ " 6 " 1910–1915.

¶ Results for 5 years, 1911–1915.
** " 2 " 1914–1915.

METEOROLOGICAL OFFICE,
South Kensington, London, S.W.
March, 1916.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 336. Friday, 1st December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp. °F	Wind. Direc	Wind. Force 0–12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours. ‡	Temp. Dry Bulb. °F.	Temp. Change in 24 hours. °F.	Wind. Direc.	Wind. Force 0–12.	Direc of Upper Cloud.	Weather.	Sea 0–9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max. °F.	Temp. Min. °F	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	1006·0	45	SSW	4	o	1011·9	+1	43	−2	S	3	–	b	2	4	47	40	or	o	bc.b	*
	Deerness (Ockney)	1008·1	41	SW	4	b	1012·8	*	40	−3	SSW	2	–	bc	3	–	45	40	o	q.c.bc.b	b.bc	0·0
	Stornoway ...	1008·5	41	W	3	bp	1010·3	0	41	−4	SW	3	–	bc	3	7	46	38	orq c	c bp	b.bcpl	1·0
	Castlebay (Barra Isd.)	1011·1	46	WSW	4	b	1011·7	0	48	0	SSW	5	sw	op	5	4	49	44	or.o.c	chp.b	b.op	0·7
	Glasgow ...	1013·8	42	W	2	cm	1016·0	0	36	−5	ESE	1	–	on g	*	2	46	34	c bcz	c omd	bz.omx	2·8
	Eskdalemuir ...	1014·9	42	SSW	4	cd	1016·8	0	41	−1	SSE	2	–	orm	*	4	44	35	od	od bc o	od.bc.o	0·0
	Malin Head ...	1012·5	42	SW	3	bc	1011·6	−1	41	−1	SSE	3	s	bcm	3	1	45	38	omr	bcp	bcm	1·2
	Blacksod Point	1013·9	43	SW	3	bc	1008·7	−5	45	−2	S	5	S	bcp	4	4	48	41	bcp	bc	bc.bcp	*
	Valencia ...	1016·8	45	–	0	bc	1011·6	−2	46	+1	S	3	–	op	4	3	50	38	o.bcp	c opd	bc.bwcp	0·2
	Roche's Point	1017·8	50	WSW	3	o	1014·9	*	49	+1	SW	3	–	o	3	0·2	52	47	bc	c o	o	*
	Birr Castle ...	1016·5	45	S	1	o	1013·2	*	44	+2	S	2	–	o	*	–	49	33	o	o	o	0·0
	Donaghadee ...	1014·6	43	SW	3	bm	1014·4	0	41	−1	SW	3	–	bcm	2	0·1	49	38	bc	bcm	bmwf	*
	Liverpool (Bidston)	1015·5	46	SSE	2	o	1018·1	0	37	−12	ESE	3	SE	bc	2	7	49	37	o	o cp	bc	0·0
	Holyhead ...	1016·2	47	SW	4	bc	1016·3	−1	46	−3	SSW	5	–	bc	4	6	50	46	ofd	fd r.c	c.bbc	0·1
	Pembroke (St. Ann's)	1019·2	48	SSW	4	r	1017·3	−1	44	−5	E	3	E	c	3	0·3	49	43	o c o	o op	o.cpd.c	0·0
	Scilly (St. Mary's)																					
	Falmouth ...	1020·8	38	SSE	1	b	1017·7	−2	42	+4	SE	1	–	b	*	–	49	35	bz	bz.b	bx.b	6·9
	Jersey (St. Aubin)	1021·5	34	ESE	2	om	1017·8	*	37	+3	ENE	1	–	om	0	–	39	32	o.c om.o	o.c.om	bwx.om	0·3
	Portland Bill ...	1021·4	42	SE	3	c	1018·6	−2	43	0	ESE	4	SE	c	4	–	45	40	o.c	bc.c	bc.c	*
	Dungeness ...	1022·7	35	S	1	c	1020·1	−1	35	−2	ESE	2	–	o	2	–	38	37	bc	bc.o	c.o.c.o	*
	Dover	1023·7	34	S	1	o	1021·9	−1	34	−1	NE	1	–	m	2	–	35	32	o	o	o.cm	0·0
	Wick	1009·4	40	SW	3	bc	1013·1	+3	40	−3	SSW	2	–	bc	2	–	46	37	omq.c	c.bc	b	*
	Nairn	1010·0	40	–	0	cg	1013·1	*	40	+5	W	1	–	bc	1	1	46	32	c.bc	bc.cp	bcx	2·3
	Aberdeen	1011·6	45	SW	4	c	1016·0	+2	37	−1	SSW	2	–	bzx	2	–	45	35	cm.o	cm	c.bc.bx	2·1
	Leith	1013·0	45	SW	1	c	1016·0	0	42	0	S	1	–	o	2	0·2	47	38	bbc.c	c.bc.o.c	c.bc.d.o	*
	Tynemouth ...	1016·1	48	SW	3	bcmq	1017·8	0	40	−10	SSW	2	W	bm	3	–	50	39	omq	cmq	bm	*
	Spurn Head ...	1020·2	44	SW	4	bcm	1020·9	0	41	−1	SW	5	–	of	4	–	45	39	cm	bcm	bc.of	0·0
	Yarmouth ...	1023·3	38	SW	2	c	1021·9	0	38	−2	SW	2	–	om	2	–	40	34	om	c	om	0·0
	Clacton-on-Sea	1022·6	39	SSE	2	bc	1021·5	−1	37	−2	ESE	2	SE	c	2	–	39	35	qq.o	o.c.bc	bc.c	0·0
	Nottingham ...	1021·4	37	SW	2	b	1020·7	*	33	−11	S	2	S	d	*	Trace	45	32	o.c	c b	b.bc	2·4
	Benson (Oxon.) ...	1022·0	37	S	3	o	1020·8	+1	30	−9	SE	2	–	o	*	–	39	28	o	o	b.o	*
	Sth Farnborough	1022·2	38	SSE	2	c	1020·4	−1	32	−7	ENE	3	–	om	*	–	39	29	om	o.cm	c.om	0·0
	London (Kew Obsy.)	1023·0	37	–	0	bm	1021·4	−1	32	−7	ESE	2	–	om	*	–	41	31	om	om.bm	bm.om	0·0
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö	1006·3	30	E	2	s	1016·3	+8	30	−2	NW	3	–	o	3	*	32	28				
	Bodö	1013·3	39	SW	5	c	1016·3	0	32	−5	E	4	–	b	2	–	39	30				
	Christiansund ...	1012·0	41	SE	2	o	1015·5	0	45	+6	–	0	–	o	4	2	45	37				
	Skudesnaes ...	1014·7	46	S	2	o	1017·3	+1	46	+3	SSW	3	–	m	4	2	46	41				
	Færder (X'ianiaFjord)	1019·4	46	SW	5	f	1021·1	+1	41	−4	S	6	–	m	4	6	46	41				
	The Scaw (Skagen)	1022·3	43	SW	3	m	1023·3	+1	37	−9	S	3	–	o	3	–	46	36				
	Blaavands Huk	1025·1	39	SSW	1	o	1025·6	+2	37	−6	S	2	–	o	3	Trace	45	36				
	Copenhagen ...	1026·7	34	SW	2	o	1026·6	+1	30	−9	NW	2	–	o	*	–	39	30				
	Bornholm ...	1027·1	36	SE	1	m	1026·0	+1	36	+2	SSE	1	–	m	0	–	36	32				
FRANCE, &c.	The Helder ...	1024·7	27	SSE	2	b	1024·3	0	28	0	SSE	1	–	o	0	–	28	27				
	C. Gris Nez ...	1024·2	31	S	1	m	1021·3	−2	29	+1	S	1	*	f	1	–	31	28				
	La Hève	*	28	SE	3	m	*	*	32	+2	ESE	3	*	m	2	–	36	27				
	Brest (St. Mathieu)	1021·7	32	NE	1	m	1017·1	−2	39	+7	E	1	*	c	2	–	39	32				
	Rochefort (Ile d'Aix)	1017·9	43	E	4	o	1014·6	−3	45	+8	E	2	*	o	*	–	45	37				
	Biarritz	1016·3	45	ENE	2	b	1013·6	−1	41	0	ESE	2	*	m	2	2	52	39				
	Paris	1022·7	32	NE	1	b	1020·0	−2	28	−4	NE	1	–	b	*	–	39	28				
	Belfort	1025·5	28	E	3	f	1023·7	*	27	+2	ENE	6	*	f	*	–	32	25				
	Lyons	1024·2	32	N	1	o	1025·7	*	32	0	–	0	*	f	*	–	37	30				
	Nice	1020·6	57	E	4	c	1013·6	−2	58	0	E	4	*	o	6	–	61	55				
	Perpignan ...	1017·0	46	–	0	r	1012·8	−2	48	+2	–	0	E	r	*	88	55	46				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1022·3	*	SSW	7	o	1020·4	+4	56	−3	N	6	*	b	3	8	66	56				
	Madeira	1020·4	66	NE	3	o	1020·0	−1	61	0	NE	3	N	o	3	–	68	61				
	Gibraltar	1013·9	54	NW	4	b	1014·2	*	52	+1	NW	5	*	b	3	–	60	50				
	Malta	*	*	*	*	*	1015·4	−1?	64	0	SE	4	–	o	3	6	70	63				
	Limassol	*	*	*	*	*	1017·9	+2	64	0	ENE	3	–	b	6	–	75	48				
	Alexandria ...	1018·9	68	ENE	2	bc	1018·9	0	68	−2	ENE	2	NW	o	0	–	75	66				
	Cairo (Helwan) ...	1017·3	66	N	2	o	1016·6	+2	61	+4	N	1	–	o	*	–	75	57				

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday. %	Humidity. 9 h. To-day. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature. Max. °F.	Temperature. Min. °F.	Temperature. Min. on Grass °F.	Rainfall. mm.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
GREENWICH (Royal Observatory)	84	100	0·0	40	28	23	–	o	o	bx. o:
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	91	91	0·0	40	31	30	–	om	om	m
CAMDEN SQ. (British Rainfall) ...	91	97	0·0	41	31	30	–	0.om	m	*
HAMPSTEAD (Reservoir)	*	97	0·0	39	28	21	–	om	om	ox m
S. KENSINGTON (Museum Grounds)	*	89	0–0	46	38	29	–	o	o	bm oz
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

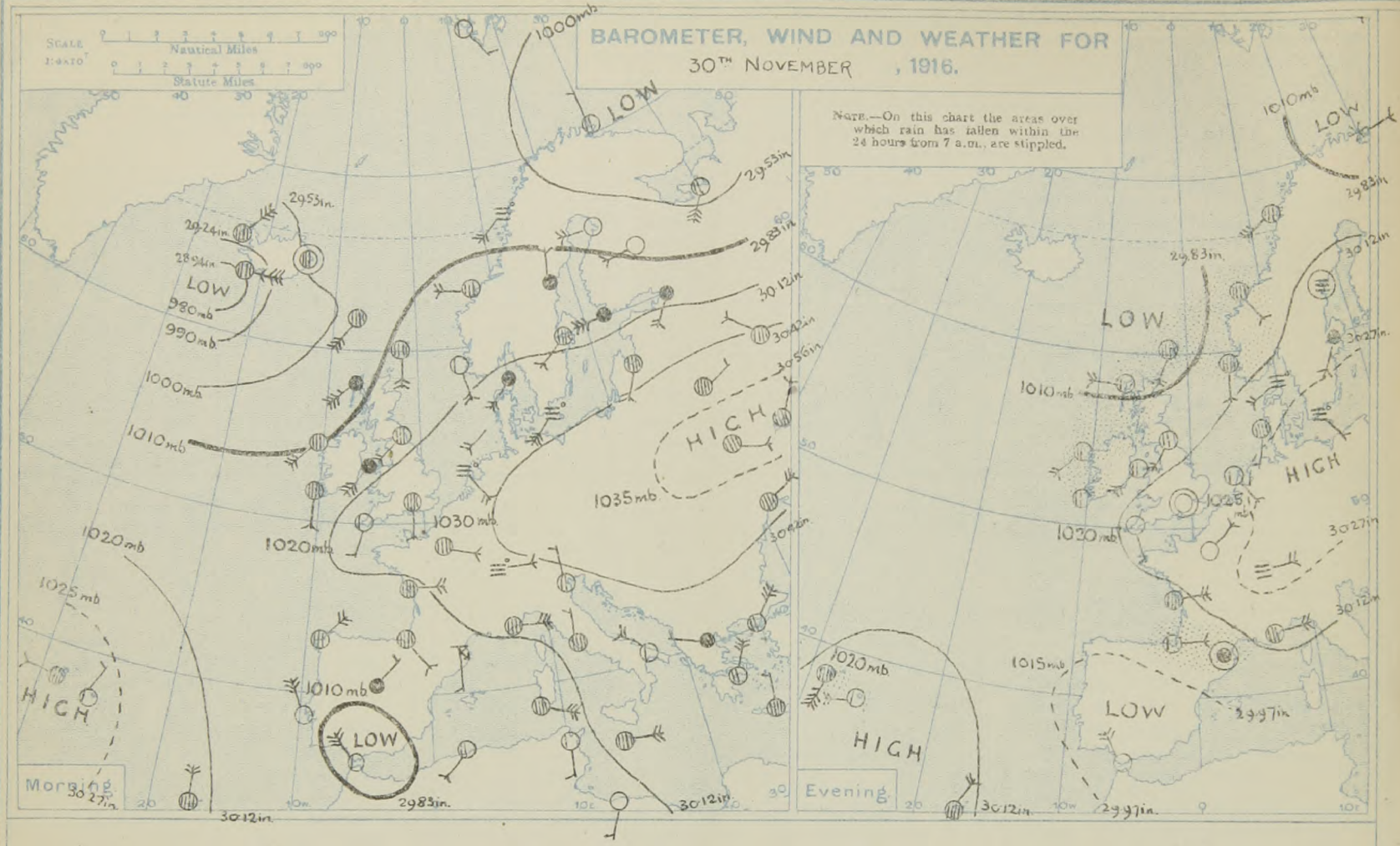
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
102	3·5	10·9

Temperatures at Greenwich and Camden Square are from Glaisher screens.

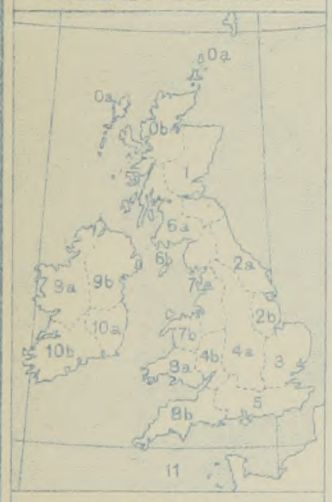
* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 30TH NOVEMBER, 1916.



FORECASTS FOR THE 24 HOURS NOON FRIDAY TO NOON SATURDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

0 {a b}, 1, 2 {a b} — Moderate Southerly winds; fair, some showers; normal temperature.

3, 4 {a b}, 5 — Moderate winds between South East and South; fair or dull, some mist; cold.

6 {a b}, 7 {a b} — Moderate or fresh Southerly winds; showery; normal temperature.

8 {a b} — Moderate South-Easterly winds; fair or dull; rather cold.

9 {a b}, 10 {a b} — Same as Nos. 6 - 7.

11 — Moderate Easterly or South-Easterly winds; moderate sea; fair, some showers later.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

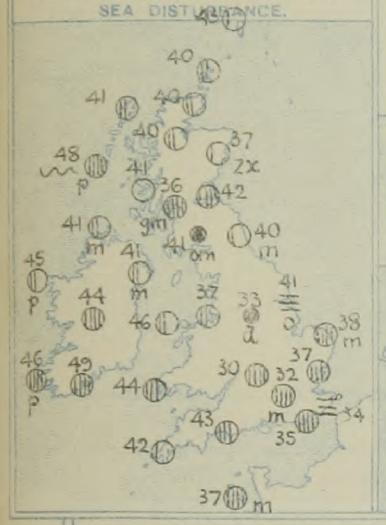
NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF FRIDAY, 1ST DECEMBER, 1916.

GENERAL INFERENCE.

There are indications of a depression in the West, but it is not likely to have much influence over the country generally for the present

TEMPERATURE, WEATHER AND SEA DISTURBANCE.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0-12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
○ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ⦿ rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~ High ~~

1015mb
1010mb
1005mb
1020mb
1025mb
29.97in.
29.68in.
29.83in.
30.27in.
30.12in.
LOW
Barometer rising HIGH
Barometer falling slowly
generally
HIGH
L O W
1015mb
1020mb
1015mb
29.97in.
30.12in.

Scale of Miles
Nautical Miles
Statute Miles

Normal Temperature of the Sea
Below 40° 40°-50° 50°-60° Above 60°

Scale of Tints for DECEMBER

Issue No. 20,098. **DAILY WEATHER REPORT.** Friday, 1st December, **1916.**

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	9987	34	SW	4	s	998·7	+3	36	-2	SW	6	bc	-	*	30
	Gorki	10326	30	-	0	r	1031·2	?	36	+2	NE	1	o	-	*	30
	Velieki Luki ...	10309	30	-	0	r	1031·0	*	36	-1	SW	3	o	-	*	30
	Hango	-	-	-	-	-	1018·0	0	43	+2	WSW	6	r	-	*	32
	Riga	10278	37	S SW	5	o	1027·8	?	36	0	SSW	3	o	-	*	34
	Petrograd ...	10180	41	WSW	3	r	1018·7	0	39	+2	SW	3	r	/	41	37
	Moscow	10315	36	W	3	o	1030·2	?	50	+13	W	3	o	-	*	30
	Kiev	10368	36	SSW	2	o	1037·0	0	34	-3	ESE	2	o	-	*	34
	Kharkov ...	10343	34	NNE	1	o	1035·8	+2	45	+13	NE	2	o	-	*	32
	Kishinev ...	10326	41	NE	2	o	1032·6	0	37	-4	NE	2	o	-	*	37
	Elisabetgrad ...	10343	34	NNE	2	f	1037·0	0	34	+2	ENE	2	f	-	*	32
	Nicolaiev ...	10328	34	NE	4	o	1033·6	*	34	0	ENE	2	o	-	*	34
	Odessa	10335	36	NE	4	o	1034·0	0	36	0.	ENE	3	o	-	*	34
	Tarkhankout...	-	-	-	-	-	-	*	-	-	-	-	-	-	*	-
	Soukhoum ...	10246	46	NNE	2	b	1025·3	?	46	+1	NNE	2	b	-	*	46
MEDITERRANEAN.	Venice	10280	48	-	0	b	1027·0	*	43	+3	N	1	bc	-	54	40
	Pesaro	10282	44	W	1	c	1027·9	*	45	-3	-	0	o	-	34	31
	Rome	10246	52	N	1	b	1024·6	*	60	+12	N	1	o	-	61	46
	Viesti	10267	54	VNW	1	b	1026·6	*	54	-3	WNW	1	b	-	59	53
	Brindisi	10252	59	NW	4	b	1025·3	*	59	-5	NW	3	b	-	64	59
	Cagliari	10187	59	ESE	4	b	1017·3	*	59	-2	ESE	5	o	-	70	51
	Palermo	10217	55	-	0	b	1021·9	*	55	+1	-	0	b	-	63	48
	Tripoli	10173	57	-	0	b	1017·0	*	59	+2	SSW	1	b	-	70	55
	Algiers	10090	63	S	5	bc	1011·9	+1	55	-6	SW	2	bc	?	68	54
SWEDEN.	Hernösand ...	10099	41	S	2	c	1015·1	*	45	+6	N	2	r	*	*	*
	Stockholm ...	10166	43	SW	2	o	1019·4	*	43	0	SW	2	o	*	*	*
	Wisby	10232	41	SW	2	o	1024·6	*	28	-11.	SW	4	b	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord ...	994·6	34		NE	6	o
Reykjavik	980·0	37		E	4	o
Vestmanna	982·6	52		-	o	o
Seydisfjord	1001·5	25		-	o	c
Thorshavn	1002·3	40		SSW	6	o.

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	1	4	46	37	c	bcp	0·2
	Banff	-	-	43	32	c	c.bc	0·4
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	-	-	46	43	o	o.c.	0·0
	Skegness	-	-	43	28	o	bc.b	1·3
Eng. N.W.	Morecambe	4	1	49	46			0·0
	Southport	-	-	49	47	c.o	o.	0·0
Midlands.	Leamington Spa							
	Malvern	-	-	41	35	b.bc	bc.b	3·0
	Ross-on-Wye	-	-	47	35	b.bc	c.bc	1·5
Wales.	Rhyl	-	-	50	45	c.bc.c.	c.bc	0·9
	Colwyn Bay...	*	*	48	45	bc	bc	2·4
	Llandudno	*	*	53	45	c.b	bc	3·3
	Aberystwyth	*	*	49	40	o.c	o.c.o	0·0
	Tenby	1	-	50	48	o	bc.c	0·5

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England, E.	Lowestoft	-	-	42	39	o	o	0·0
	Felixstowe	-	-	40	28	o	o	0·0
	Walton-on-Naze							
	Southend-on-Sea	-	-	40	37	o	o.c.bc.b	0·0
England, S.E.	Margate	-	-	39	33	c	bc.	0·8
	Ramsgate	-	-	38	33	c	c.	0·0
	Hastings							
	Eastbourne	-	-	37	37	o.bc	bc.o	0·7
	Seaford	*	*					
	Brighton	-	-	41	37	o.c	c.o.	1·3
	Worthing	-	-	42	38	bc	bc.	0·5
	Littlehampton	-	-	41	39	o.bc	o	0·8
	Bognor	*	*	42	39	bc	bc	0·7
	Bournemouth	-	-	43	37	o	o	0·1
England, S.W.	Weymouth...	*	*	45	41	c.bc	bc.c	1·3
	Torquay	-	-	49	39	o.bc	bc.b	3·8
	Paignton	*	*	45	29	bc.	b	4·5
	Penzance	-	-	49	41	bc	bc.	4·1
	Newquay	-	-	47	33	b	b	6·3
	Bude	-	-	51	34	bc.	bc	7·2
	Ilfracombe	-	-	45	38	b	b	6·9
	Weston-s-Mare	-	-	41	38	bc.b.	b.	6·0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

Dec. 1st & 2nd 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	7.42	11.42	3.43
	7.43	11.42	3.43
Greenwich	7.45	11.49	3.54
	7.46	11.49	3.53
Wick	8.38	12.1	3.25
	8.39	12.1	3.24
Valencia	8.29	12.30	4.32
	8.28	12.30	4.32

NOTES ON YESTERDAY'S WEATHER.

Good sunshine measurements were recorded in the South-West of the country, up to 7·2 hours at Bude. Night temperatures fell below the freezing point at a few inland stations.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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Printed at the Meteorological Office, South Kensington, London, S.W.

‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 337.

Saturday
2nd December

	STATIONS.	YESTERDAY EVENING					THIS MORNING.								PAST 24 HOURS						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	10139	47	SSW	4	o	10142	0	47	+4	SSE	4	—	om	4	1	48	42	bc	bc c	om	*
	Deerness (Orkney)	10132	45	S	4	c	10141	*	43	+3	S	4	—	o	4	—	45	40	bc.b	b bc c	c.o	0.0
	Stornoway ...	10102	49	S	6	oq	1016.1	+3	41	0	SW	2	—	or	2	11	49	40	cpq	c oq	or	0.0
	Castlebay (Barra Isd.)	10113	49	SSW	5	og	1017.7	+3	43	−5	—	0	—	d	2	1	49	43	ob c o	oq	og od	0.0
	Glasgow ...	10163	43	WSW	2	cm	1019.6	+1	38	+2	ENE	1	—	og	*	1	47	34	omp om	om cm	c.bc.bo	0.0
	Eskdalemuir ...	10178	38	—	0	bcm	1020.6	+1	34	+7	—	0	—	o	*	2	43	28	ome om	om cm	bcm.eo	0.0
	Malin Head ...	1011.5	46	S	4	cq	1017.2	+3	44	+3	S	3	S	cm	3	—	46	38	cq	cq	cm	0.0
	Blacksod Point	10103	48	S	6	cgm	10163	+3	45	0	SSE	2	S	cg	3	4	52	44	cm	cm	bcm cg	
	Valencia ...	1010.8	49	SSE	4	c	1015.8	+3	44	−2	—	0	SE	c	3	1	50	44	ob	o. cb	bc. c	* 0.0
	Roche's Point	10136	49	SSE	4	c	1015.5	*	48	−1	SE	3	—	o	4	1	51	47	bc. o	o.c	bc. odm	*
	Birr Castle ...	10136	46	SE	2	c	1017.3	*	42	−2	—	0	—	o	*	—	49	41	c	c	c.o	4.4
	Donaghadee ...	1014.1	46	SW	3	cgmp	1017.8	0	45	+4	SE	3	—	ofp	3	1	48	40	cgm	cgmp	omofp	*
	Liverpool (Bidston)	1017.4	32	ESE	4	b	1019.6	+2	36	−1	E	2	—	o	2	—	37	32	om	cm	bm o	0.0
	Holyhead ...	1016.4	42	S	2	b	1017.7	+1	45	−1	SE	1	—	og	0	—	49	39	bc c b	bv m	bx bcc	2.6
	Pembroke (St. Ann's)	1015.2	43	E	4	o	1016.7	0	44	0	E	3	—	c	2	—	45	43	o.c bc	c o	oz bcz	3.6
	Scilly (St. Mary's)																					
	Falmouth ...	10138	50	E	4	ozg	1015.2	+2	47	+5	ENE	2	—	o	*	—	50	41	b.bc.o	bc o	o c bq o	3.3
	Jersey (St. Aubin)	10142	47	E	2	b	1013.1	*	44	+7	E	3	—	b	2	—	49	36	om.bc.o	o.c.b	bw	0.2
	Portland Bill ...	1016.4	45	ENE	5	o	1015.4	0	41	−2	ENE	4	—	bc	4	—	49	40	c.o	og	o.c.bc	*
	Dungeness ...	10183	41	E	4	b	1016.2	0	40	+5	ENE	5	NE	c	5	—	52	37	c.o.c	o.c	b.bcg	*
	Dover	10202	38	NE	1	bc	10197	0	37	+3	NE	4	NE	o	4	—	39	39	m.o	o.bcm	c.o	0.0
	Wick	1013.2	46	S	4	m	1014.8	−1	47	+7	S	4	—	bc	3	—	47	39	bc	bcm	og bcm	*
	Nairn	1014.0	43	—	0	og	1016.0	*	46	+6	W	1	—	cg	1	—	46	37	bc.cg	cg.o	og	0.0
	Aberdeen	1016.8	46	SSW	2	o	1019.1	+1	41	+4	SW	1	—	o	2	—	47	36	bc.cz	oz.c	o.c.o	0.0
	Leith	1016.3	44	SE	1	b	10193	+1	38	−4	SE	1	—	om	1	0.2	48	37	o.c og.o	o c bc b	bm.o	*
	Tynemouth ...	1018.8	37	SSW	3	ogm	10208	+1	35	−5	SSW	2	—	om	3	—	39	30	f	ogm	om	*
	Spurn Head ...	1021.1	33	SSW	2	o	1021.2	0	42	+11	SE	2	—	om	4	—	42	31	f.om	om	om	0.0
	Yarmouth ...	10209	40	SE	3	bc	1019.9	0	40	+2	ESE	4	—	om	4	—	40	36	bcm	bcm	bcm om	0.0
	Clacton-on-Sea	1020.1	40	ENE	3	bc	1019.2	0	40	+3	ENE	3	—	o	2	—	42	37	c.bc	bc.c.bc	bc.c.o	0.0
	Nottingham ...	10206	29	SE	2	o	10208	*	34	+1	NE	2	—	o	*	0.1	35	28	dm o	o	o	0.0
	Benson (Oxon.) ...	10189	33	SE	1	m	10189	0	35	+5	NE	3	—	o	*	—	35	29	om	om	om.o	*
	Sth Farnborough	1018.8	34	ENE	2	f	1017.4	0	38	+6	NE	3	—	om	*	—	39	32	of	of	of.om	0.0
	London (Kew Obsy.)	10195	38	ENE	3	of	1018.5	0	39	+7	NE	4	—	om	*	—	40	32	om of	of	of.om	0.0
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö															*						
	Bodö																					
	Christiansund ...																					
	Skudesnaes ...																					
	Færder (X'tania Fjord)																					
	The Scaw (Skagen)	10264	37	SSW	2	r	10283	+1	39	+2	S	2	—	o	2	Trace	39	36				
	Blaavands Huk	1027.0	39	SE	2	f	10270	0	34	−3	ESE	1	—	o	3	—	37	25				
	Copenhagen ...	10264	32	—	0	o	1029.1	+1	34	+7	E	3	—	m	*	—	46	30				
	Bornholm ...	10277	36	—	0	m	10287	0	39	+3	NE	1	—	m	0	—	39	34				
FRANCE, &c.	The Helder ...	1023.1	32	E	2	o	1021.5	0	30	+2	E	3	—	o	1	—	34	28				
	C. Gris Nez ...	10187	30	E	3	f	1016.6	+8	28	−1	NE	4	*	m	1	—	37	25				
	La Hève	*	36	E	3	m	*	*	34	+2	E	2	*	m	1	—	43	32				
	Brest (St. Mathieu)	10128	45	E	2	o	1012.0	+1	42	+3	E	3	*	bc	3	—	48	39				
	Rochefort (Ile d'Aix)	1010.1	46	NNE	3	c	10099	+1	39	−6	E	3	*	b	*	—	50	37				
	Biarritz	10092	49	SW	1	f	10086	+2	50	+9	SSW	2	*	f	2	7	50	41				
	Paris	1015.5	32	NNE	2	b	1015.1	+2	28	0	NE	2	—	b	*	—	39	28				
	Belfort	1016.6	27	E	1	f	1018.9	*	27	0	E	4	*	f	*	—	28	27				
	Lyons	10144	31	—	0	f	1018.1	*	30	−2	—	0	*	f	*	—	32	28				
	Nice	10147	45	E	5	r	1016.3	+1	46	−12	E	2	*	o	6	24	61	41				
	Perpignan ...	10038	50	E	4	r	10107	+3	39	−9	SW	1	—	b	*	52	52	25				
	Sanguinaire ...	1011.9	54	ESE	4	r	10159	*	52	.	E	2	*	r	4	4	61	50				
SOUTHERN STATIONS.	Corunna	10099	55	N	1	c	10083	+1	48	−4	SSE	4	—	c	2	—	55	46				
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1021.7	*	N	6	bc							*									
	Madeira																					
	Gibraltar	1013.3	54	NW	4	b	1011.5	*	57	+5	E	2	*	o	2	—	62	51				
	Malta	*	*	*	*	*	1019.9	+2	57	−7	—	0	—	b	1	8	72	57				
	Limassol	*	*	*	*	*																
	Alexandria ...																					
	Cairo (Helwan) ...														*							

LONDON OBSERVATIONS.

	Humidity 15 h. Yesterday.	Humidity 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	91	88	0.0	40	30	33	—	o	o	c.o
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)			0.0							
CAMDEN SQ. (British Rainfall) ...	94	89	0.0	40	32	35	—	o	o	*
HAMPSTEAD (Reservoir)	*	91	0.0	38	35	27	—	om	of	ox
S. KENSINGTON (Museum Grounds)	*	85	0.0	41	32	37	—	oz	0.0m	oz
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
63	2.1	6.0

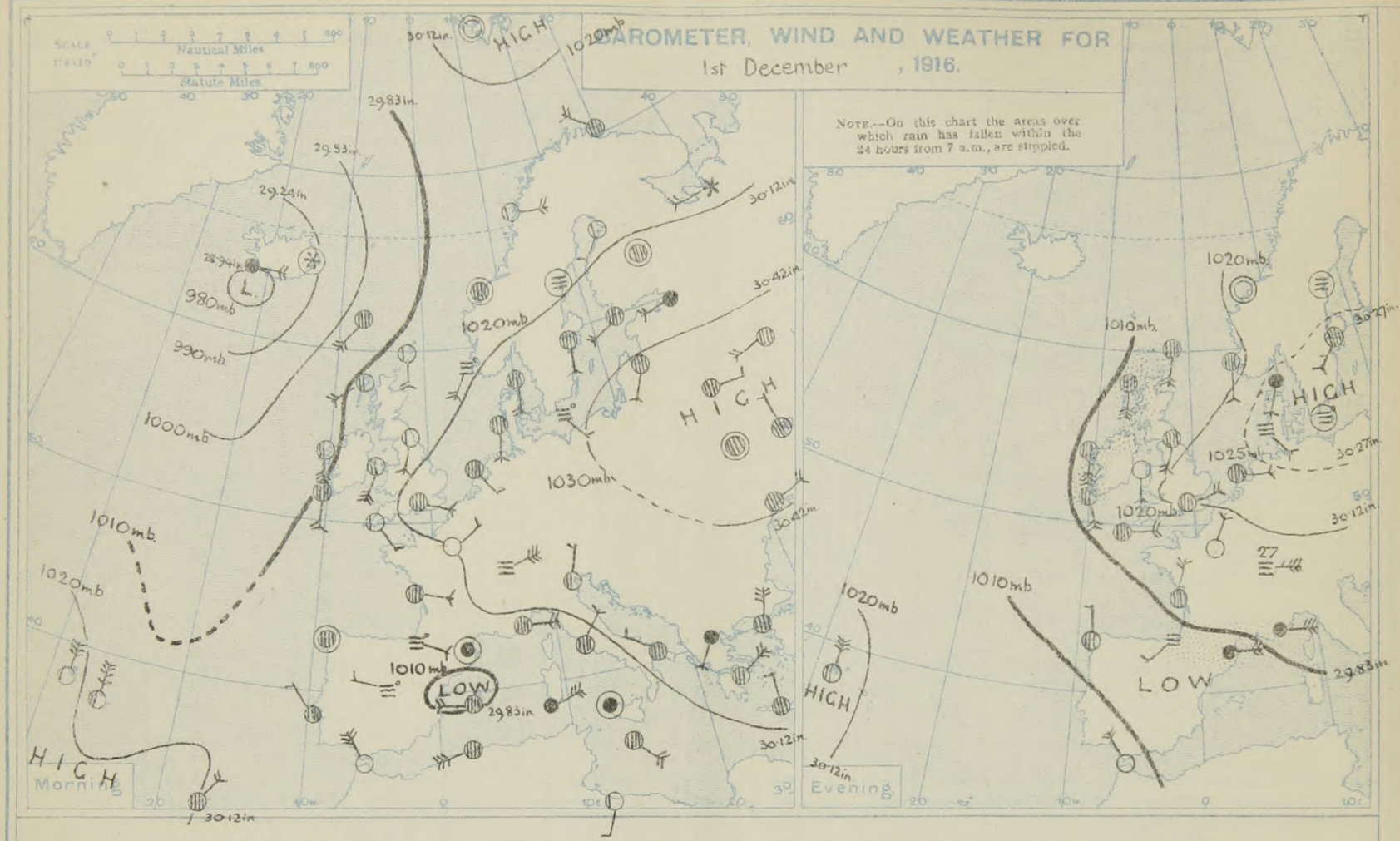
Temperatures at Greenwich and Camden Square are from Glaisher screens.

RAINFALL.

Equivalents of Millimetres in Inches.

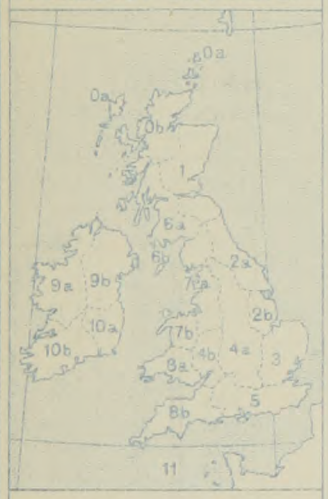
mm.	Inches.	mm.	Inches.
1	0.04	26	1.02
2	0.08	27	1.06
3	0.12	28	1.10
4	0.16	29	1.14
5	0.20	30	1.18
6	0.24	31	1.22
7	0.28	32	1.26
8	0.32	33	1.30
9	0.35	34	1.34
10	0.39	35	1.38
11	0.43	36	1.42
12	0.47	37	1.46
13	0.51	38	1.50
14	0.55	39	1.54
15	0.59	40	1.58
16	0.63	41	1.61
17	0.67	42	1.65
18	0.71	43	1.69
19	0.75	44	1.73
20	0.79	45	1.77
21	0.83	46	1.81
22	0.87	47	1.85
23	0.91	48	1.89
24	0.95	49	1.93
25	0.98	50	1.97

* Information for these stations not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars



FORECASTS FOR THE 24 HOURS NOON SATURDAY TO NOON SUNDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

0 {a b} 1 — Light or moderate Southerly or South-Westerly winds; fair or dull; normal temperature.

2 {a b} 3 / 4 {a b} 5 — Light or moderate Easterly or South-Easterly winds; dull, some mist; rather cold.

6 {a b} — Same as Nos. 0-1.

7 {a b} / 8 {a b} / 9 {a b} / 10 {a b} — Light or moderate Easterly or South-Easterly winds; mostly dull; normal temperature.

11 — Light or moderate Easterly or South-Easterly winds; slight sea; fair, some mist or fog.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF SATURDAY, 2nd DECEMBER, 1916.

GENERAL INFERENCE.

The anticyclone over Denmark is likely to spread further over the British Isles.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊤↯, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈.

LOW 29.83in. 1010mb. 29.97in. 30.12in. 30.27in.

Barometer 1025mb steady 30.27in. 32° HIGH

Barometer 1015mb 1020mb rising slowly 1010mb 29.83in. 29.97in.

LOW

Scale 1·52×10⁶
Nautical Miles
Statute Miles

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER

Issue No. 20,000

DAILY WEATHER REPORT.

Saturday, 2nd December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1012·2	34	SW	5	0	1016·7	+3	32	-4	W	3	5	-	*	30
	Gorki	1030·7	28	NW	2	0	1030·3	?	28	-8	E	1	0	-	*	28
	Velieki Luki ...	1032·3	28	NW	2	0	1032·2	*	27	-9	E	1	0	-	*	27
	Hangö	-	-	-	-	-	1025·0	+1	41	-2	WSW	2	0	1	*	44
	Riga	1030·7	34	SSW	2	0	1030·3	0	27	-9	SSW	2	0	-	*	27
	Petrograd ...	1023·3	41	WSW	3	r	1026·3	+1	39	0	WSW	3	r	4	41	39
	Moscow	1031·5	30	WSW	3	0	1032·0	0	30	-20	WSW	3	0	-	*	30
	Kiev	1035·7	32	SSE	2	0	1034·4	+1	30	-4	-	0	0	-	*	30
	Kharkov ...	1036·0	30	N	1	0	1035·0	+1	28	-17	-	0	0	-	*	29
	Kishinev ...	1032·4	37	-	0	0	1031·3	0	36	-1	-	0	0	-	*	36
	Elisabetgrad ...	1035·3	34	ENE	4	0	1034·3	0	30	-4	NE	2	0	-	*	28
	Nicolaiev ...	-	-	-	-	-	1032·2	*	36	+2	NE	3	0	-	*	34
	Odessa	1033·2	37	E	3	0	1032·4	+1	36	0	ENE	3	0	1	*	36
	Tarkhankout ...	1030·9	37	NE	4	0	1029·9	*	36	-	NE	4	0	-	*	34
	Soukhoum ...	1021·8	48	-	0	b	1024·0	0	43	-3	NNE	2	b	-	*	41
Mediterranean.	Venice	1025·5	52	-	0	bc	1022·2	*	41	-2	NNE	1	bc	-	54	41
	Pesaro	1026·0	48	W	1	0	1022·7	*	46	+1	-	0	0	-	52	45
	Rome	1022·0	54	NE	1	0	1017·3	*	50	-10	NE	2	0	-	66	45
	Viesti	1021·4	55	-	0	b	1022·7	*	46	-8	-	0	0	-	62	45
	Brindisi	1023·0	59	NW	1	b	1021·4	*	55	-3	-	0	0	-	61	55
	Cagliari	1022·9	67	ENE	6	0	1019·6	*	57	-2	ENE	5	r	32	70	50
	Palermo	1020·2	59	-	0	b	1016·2	*	61	+6	-	0	r	-	72	52
	Tripoli	1017·1	57	-	0	b	1017·0	*	59	0	SSW	1	b	-	70	55
	Algiers	1012·7	55	N	2	b	1012·0	+1	54	-1	WSW	6	0	-	63	54
Sweden.	Hernösand ...	1021·1	30	-	0	f	1019·9	*	32	-13	-	0	0	*	*	*
	Stockholm ...	1023·1	43	SSW	2	r	1024·6	*	34	-4	S	2	f	*	*	*
	Wisby	1026·1	41	SW	2	0	1026·6	*	39	+11	W	2	0	*	*	*

Morning. Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F.	°F.			
Isafjord ...	985·0	30	-4	NNW	1	0
Reykjavik	980·0	36	-1	E	4	r
Vestmanna	982·1	37	+5	W	5	b
Seydisfjord	991·9	36	+11	-	0	5
Thorshavn	1004·3	32	-2	SW	4	0

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	1	-	49	40	b.bc	c.	0·0
	Banff	-	-	44	36	c	c.o.	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews	-	-	46	31	cm	om.	0·0
Eng. N.E.	Harrogate	-	-	35	30	of	of	0·0
	Skegness	-	-	37	31	o	c.	0·0
Eng. N.W.	Morecambe	-	-	43	34			0·4
	Southport	-	-	?	32	bc.o	o.c.	0·0
Midlands.	Leamington Spa							
	Malvern	-	-	32	30	m	m.	0·0
	Ross-on-Wye	-	-	35	31	o	om.	0·0
Wales.	Rhyl	-	-	42	33	bc	bc	4·8
	Colwyn Bay	*	*	51	37	bc	bc	5·8
	Llandudno	*	*	51	42	b	b.	4·7
	Aberystwyth	*	*	46	40			7·0
	Tenby	1	-	50	35	bc.o	bc.c.o	0·3

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England. E.	Lowestoft	-	-	40	34	o	o.c	0·0
	Felixstowe	-	-	40	34	o	o.bc.	0·4
	Walton-on-Naze							
	Southend-on-Sea	-	-	40	31	oz	o.	0·0
England, S.E.	Margate	-	-	40	32	o	o.	0·0
	Ramsgate	-	-	38	32	c	c.	0·0
	Hastings	-	-	40	35	o	bc.o.	0·8
	Eastbourne	-	-	41	34	o.c	c.o	0·0
	Seaford	*	*					
	Brighton	-	-	42	35	o.b	b	3·5
	Worthing	-	-	42	34	bc	b	2·9
	Littlehampton	-	-	41	33	o.bc	o.	2·3
	Bognor	*	*	42	33	bc.o	bc.o	1·5
	Bournemouth	-	-	44	31	o	o	0·0
England. S.W.	Weymouth	*	*	45	36	o	or	0·0
	Torquay							
	Paignton	*	*					
	Penzance	-	-	49	40	bc	bc.c.	4·8
	Newquay	-	-	49	34	b	bc.	3·6
	Bude	-	-	47	31	b	bc.	4·9
	Ilfracombe	-	Trace	47	37	bc	bcp.	3·0
	Weston-s-Mare	-	-	40	29	om	md.	0·0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

Dec. 2nd & 3rd 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.43	11.42	3.42
	7.45	11.42	3.41
Greenwich	7.46	11.49	3.53
	7.48	11.50	3.52
Wick	8.39	12.1	3.24
	8.41	12.2	3.23
Valencia	8.29	12.30	4.32
	8.31	12.31	4.31

NOTES ON YESTERDAY'S WEATHER.

11 mm. of rain fell at Stornoway, but elsewhere the amounts were slight. Moderate sunshine was recorded at some stations in the West. There were night frosts at several inland stations.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 338 — Sunday, 3rd December.

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp.	Wind: Direc.	Wind: Force 0–12.	Weather.	THIS MORNING: Barometer: Millibars at M.S.L.	Barometer: Change in 3 hours.	Temp.: Dry Bulb.	Temp.: Change in 24 hours.	Wind: Direc.	Wind: Force 0–12.	Direc. of Upper Cloud.	Weather.	Sea 0–9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp.: Max.	Temp.: Min.	Weather: Morning.	Weather: Afternoon.	Weather: Night.	Sunshine for Yesterday.
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	1015·8	43	WSW	2	omr	1007·9	-2	42	-5	SW	4	-	o	3	11	47	40	omd	omd	omp	*
	Deerness (Orkney)	1016·9	41	SW	?	od	1010·5	*	40	-3	SW	3	-	r	3	6	47	38	omd	od	or p	0·0
	Stornoway ...	1017·2	41	S	5	o	1013·9	+1	38	-3	NNW	5	-	bcq	4	4	43	36	o	odp	bcqp	0·0
	Castlebay (Barra Isd.)	1018·9	41	NW	3	r	1016·7	0	42	-1	NW	3	W	bc	3	7	45	40	d	d r	r cp bc	0·0
	Glasgow ...	1018·4	39	E	1	omr	1015·9	-2	36	-2	WSW	1	-	b	*	5	40	35	omp	omr	omp bz	0·0
	Eskdalemuir ...	1018·5	40	-	0	o	1016·2	0	35	+1	WNW	3	-	b	*	2	43	34	om	o	od b bq	0·0
	Malin Head ...	1017·6	42	NW	4	om	1016·5	-2	43	-1	NW	5	NW	bcq	4	2	46	40	om	om	bcp	0·0
	Blacksod Point	1020·3	41	NNE	3	omr	1021·3	0	43	-2	NW	4	NW	bc	3	3	45	38	om	omr	bc bcp	*
	Valencia ...	1019·4	45	NNE	1	bc	1023·4	+2	45	+1	NNE	2	-	c	3	-	50	41	c bc c	c bc e	c o c	1·8
	Roche's Point	1018·4	46	-	0	o	1022·1	*	38	-10	NNE	1	-	b	1	0·2	49	38	om	om	om b	*
	Birr Castle ...	1018·3	43	NW	1	o	1021·9	*	32	-10	W	1	W	c	*	0·2	46	31	o	o c o	oe cc	0·3
	Donaghadee ...	1017·3	45	WSW	1	ofp	1017·3	0	39	-6	W	2	-	bm	2	1	47	37	ofp	ofp	ofp bw	*
	Liverpool (Bidston)	1018·0	36	ESE	3	m	1017·3	0	35	-1	-	0	-	m	1	-	38	34	bm	bcm	m	2·1
	Holyhead ...	1017·0	46	-	0	cm	1017·9	+1	45	0	N	6	-	bcq	5	1	54	44	o ow cm	c bc bm	ocpcm	1·5
	Pembroke (St. Ann's)	1017·2	41	E	3	bc	1017·9	0	46	+2	N	3	-	o	2	-	46	38	c	bc	bcz oz	3·9
	Scilly (St. Mary's)																					
	Falmouth ...	1016·5	43	E	3	b	1018·3	+2	39	-8	NE	2	-	o	*	-	50	36	o b o cz	oz o cm	o c o	3·0
	Jersey (St. Aubin)	1015·0	44	NE	4	cm	1016·3	*	41	-3	E	2	-	om	1	-	46	38	b	b o cm	c om	6·7
	Portland Bill ...	1016·4	40	ENE	4	om	1016·7	0	35	-6	N	2	-	o	3	-	42	35	bc o	om	om c	*
	Dungeness ...	1016·2	38	ENE	5	o	1014·9	0	36	-4	N	2	-	o	1	-	40	36	bc o	c o	o c o	*
	Dover	1017·6	36	NE	4	o	1015·8	0	35	-2	W	1	W	o	0	-	?	?	o	o	o	0·0
	Wick	1016·7	41	WNW	1	r	1011·6	-2	36	-11	WSW	2	-	bc	2	5	48	34	bc om	ompd	od bcm	*
	Nairn	1017·0	41	-	0	oud	1012·6	*	34	-12	-	0	-	bc	1	4	47	33	og o	ogd	p o cc	0·0
	Aberdeen	1018·3	43	S	1	r	1013·5	-3	36	-5	-	0	-	b	2	13	45	36	o	od mr	or o b	0·0
	Leith	1018·2	41	-	0	r	1014·9	-1	37	-1	W	1	W	b	1	5	42	36	omd o	r	r mr o b	*
	Tynemouth ...	1019·2	39	SSW	2	bm	1014·8	-3	40	+5	W	1	-	omr	3	7	44	35	cm	f	omr	*
	Spurn Head ...	1019·8	41	ESE	3	cm	1015·6	-1	40	-2	WNW	3	-	om	4	-	42	32	o	om	om	0·0
	Yarmouth ...	1018·5	38	ESE	4	o	1014·2	0	38	-2	NNW	2	-	om	2	-	40	37	om	om	om	0·0
	Clacton-on-Sea	1018·2	39	NE	3	o	1015·6	-1	38	-2	NW	2	-	o	1	-	41	37	og	og	og	0·0
	Nottingham ...	1019·4	39	ENE	2	o	1016·5	*	36	+2	NNW	1	NW	o	*	-	40	34	o	o	o	0·0
	Benson (Oxon.) ...	1017·7	37	E	3	o	1016·7	0	33	-2	NNW	2	-	o	*	-	38	33	o	o	o	*
	Sth Farnborough	1017·5	38	NE	2	o	1016·3	0	33	-5	N	2	-	om	*	-	39	33	om	om	om	0·0
	London (Kew Obsy.)	1018·1	39	ENE	4	om	1016·7	0	35	-4	NW	2	-	om	*	-	40	35	om	om	om	0·0
NORTHERN EUROPE.	Spitsbergen ...	1017·7	1	NW	2	s	995·5	-7	23	+50	-	0	*	s	*	*	23	-33				
	Vardö	1033·6	30	SE	3	o	1025·7	-5	25	0	SE	3	-	o	3	*	27	23				
	Bodö	1018·7	37	E	4	c	1013·0	-4	37	+5	E	2	-	o	2	-	37	32				
	Christiansund ...	1018·0	45	-	0	o	1011·4	-4	43	0	-	0	-	o	3	-	45	41				
	Skudesnaes ...	1023·3	41	SE	7	o	1015·7	-5	41	-4	SE	6	-	o	4	-	45	39				
	Færder (X'tania Fjord)	1027·9	41	S	2	o	1022·0	?	39	-6	SSE	4	-	r	2	2	45	39				
	The Scaw (Skagen)	1028·3	41	SE	2	r	1020·8	-5	41	+2	SE	3	-	o	3	-	43	36				
	Blaavands Huk	1025·2	37	ESE	2	o	1017·7	-3	37	+3	SE	3	-	o	2	-	39	34				
	Copenhagen ...	1027·7	39	SE	2	o	1021·3	-3	41	+4	SE	3	-	o	*	-	41	36				
	Bornholm ...	1027·7	43	SE	4	m	1022·0	-3	39	0	ESE	6	E	m	1	-	43	37				
FRANCE, &c.	The Helder ...	1020·2	36	E	3	o	1013·3	-2	37	+7	E	1	-	o	1	-	37	36				
	C. Gris Nez ...	1017·3	30	NE	3	m	1016·0	0	32	+4	SE	2	*	m	1	-	32	28				
	La Hêve	*	36	ENE	2	m	*	*	34	0	SE	1	*	m	1	-	41	32				
	Brest (St. Mathieu)	1013·7	43	E	2	bc	1017·0	+2	41	-1	E	3	*	o	3	-	48	41				
	Rochefort (Ile d'Aix)	1012·8	48	S	2	o	1014·0	+2	43	+4	SE	2	*	c	*	Trace	54	37				
	Biarritz	1011·5	52	ESE	2	b	1013·1	0	48	-2	ESE	2	*	b	2	1	59	43				
	Paris	1016·2	32	NNE	2	b	1016·2	-1	30	+2	NE	1	-	o	*	-	37	28				
	Belfort	1019·8	30	E	2	f	1020·6	*	26	-1	W	2	*	f	*	-	36	25				
	Lyons	1018·7	31	-	0	b	1019·9	*	26	-4	-	0	*	f	*	-	36	26				
	Nice	1016·4	50	-	0	c	1017·7	+1	45	-1	E	2	*	bc	4	-	55	41				
	Perpignan ...	1013·9	46	-	0	b	1015·3	0	39	0	SW	1	SE	bc	*	-	55	37				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna	1009·9	57	NE	1	bc	1013·9	+2	41	-7	-	0	-	b	1	-	59	39				
	Madrid	1014·9	41	NNE	1	o	1015·9	+3	39	+3	NNE	2	-	c	*	-	43	37				
	Lisbon	1004·4	57	ESE	3	o	1006·9	+3	52	-2	ESE	4	-	o	7	4	67	52				
	Azores (Horta) ...	1017·9	*	NNE	9	bc	1017·9	+3	59	+6	NNE	9	*	bc	6	2	57	54				
	Madeira	1005·2	57	W	3	o	1005·2	-1	55	-4	W	3	-	r	3	1	61	55				
	Gibraltar							*					*									
	Malta	*	*	*	*	*	1017·0	+1	59	+2	NNE	3	-	b	2	-	70	57				
	Limassol	*	*	*	*	*	1018·1	+2	55	-2	-	0	-	b	4	-	73	46				
	Alexandria ...	1019·4	66	NE	2	c	1020·3	0	66	+3	ENE	2	NW	bc	1	-	84	64				
	Cairo (Helwan) ...	1017·7	64	NE	3	b	1019·3	+3	57	0	-	0	-	bc	*	-	78	64				

LONDON OBSERVATIONS.

	Humidity: 15 h. Yesterday.	Humidity: 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature: Max.	Temperature: Min.	Temperature: Min. on Grass	Rainfall.	Weather: Morning.	Weather: Afternoon.	Weather: Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	84	83	0·0	39	35	35	-	o	o	o
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	87	84	0·0	42	38	?	-	m	m	o bm
CAMDEN SQ. (British Rainfall) ..	85	87	0·0	40	34	34	-	o	o	*
HAMPSTEAD (Reservoir)	*	76	0·0	38	31	22	-	o	o	oc
S. KENSINGTON (Museum Grounds)	*	83	0·0	41	34	34	-	o	om	o bm
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
72	2·5	5·5

Temperatures at Greenwich and Camden Square are from Glaisher screens.

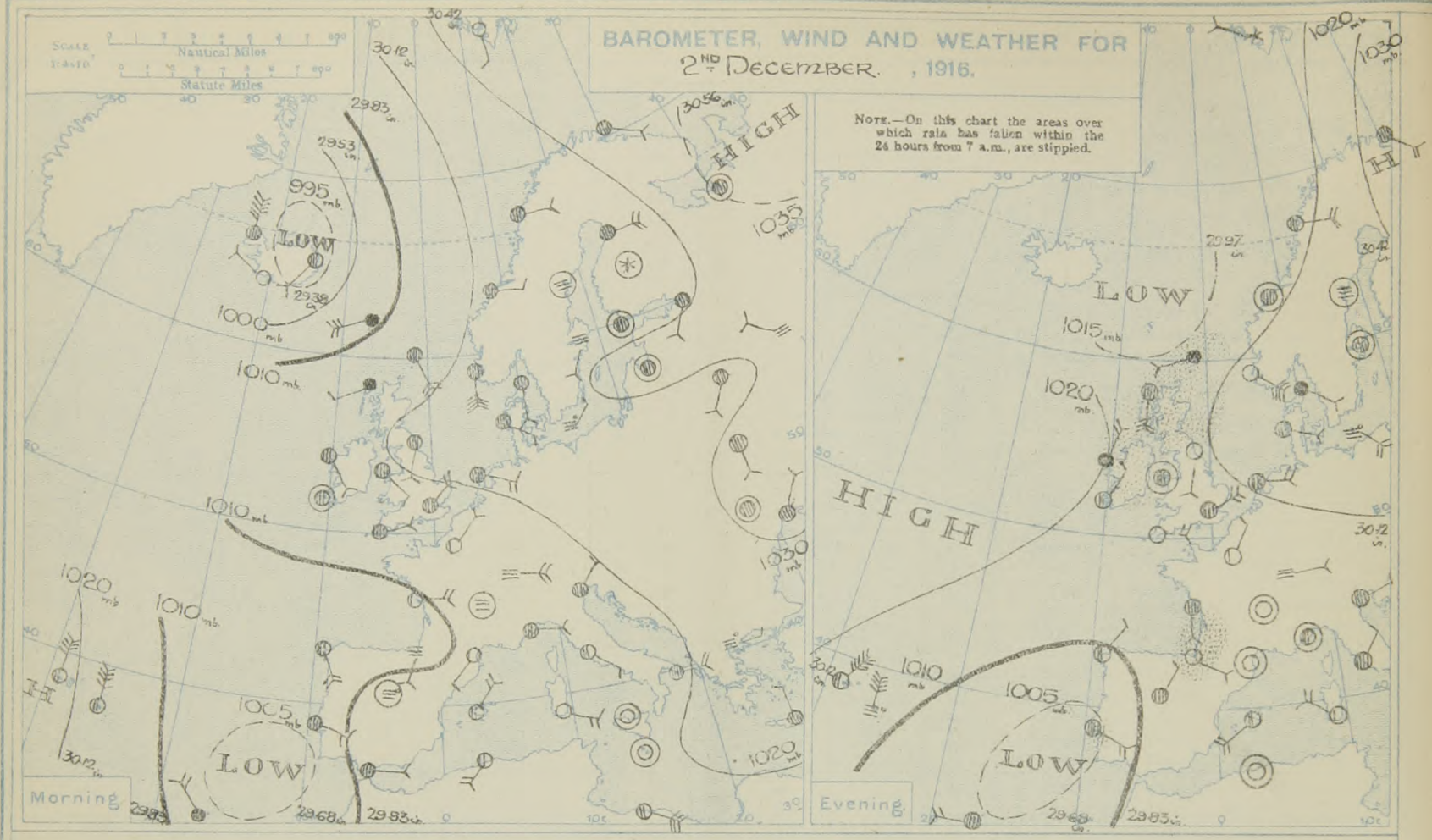
RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

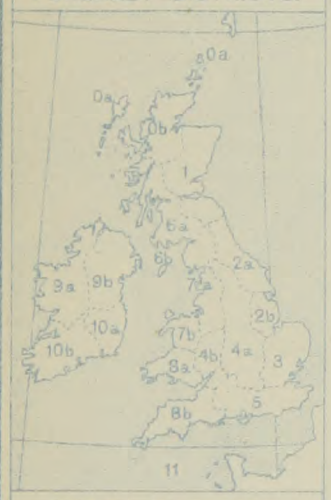
* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 2ND DECEMBER, 1916.



FORECASTS: FOR THE 24 HOURS NOON SUNDAY TO NOON MONDAY

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

Western Channel and Bay

0 {a b} Moderate or fresh North-Westerly winds; fair, some rain or sleet showers; rather cold.

1, 2 {a b}, 3, 4 {a b}, 5 Moderate North - Westerly winds; mostly dull, with some mist; cold.

6 {a b} Same as No. 0.

7 {a b}, 8 {a b} Moderate Northerly or North-Westerly winds; fair or dull; rather cold.

9 {a b}, 10 {a b} Moderate North-Westerly winds; fair; rather cold.

11 Light or moderate North-Easterly winds; slight sea; fair or dull.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

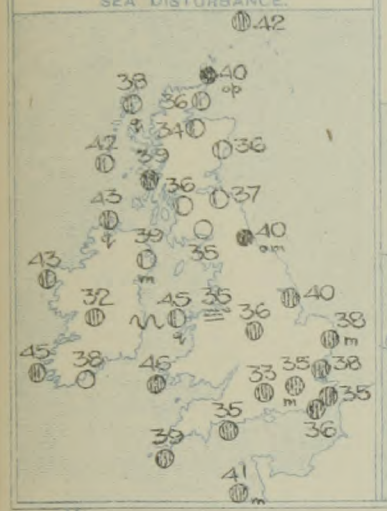
Millibs
1050
1040
1030
1020
1010
1000
990
980
970

SYNOPTIC CHART FOR THE MORNING OF Sunday, 3rd DECEMBER, 1916.

GENERAL INFERENCE.

The anticyclone in the west is likely to cause a North-Westerly type of conditions to prevail over the country generally.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.



EXPLANATION.

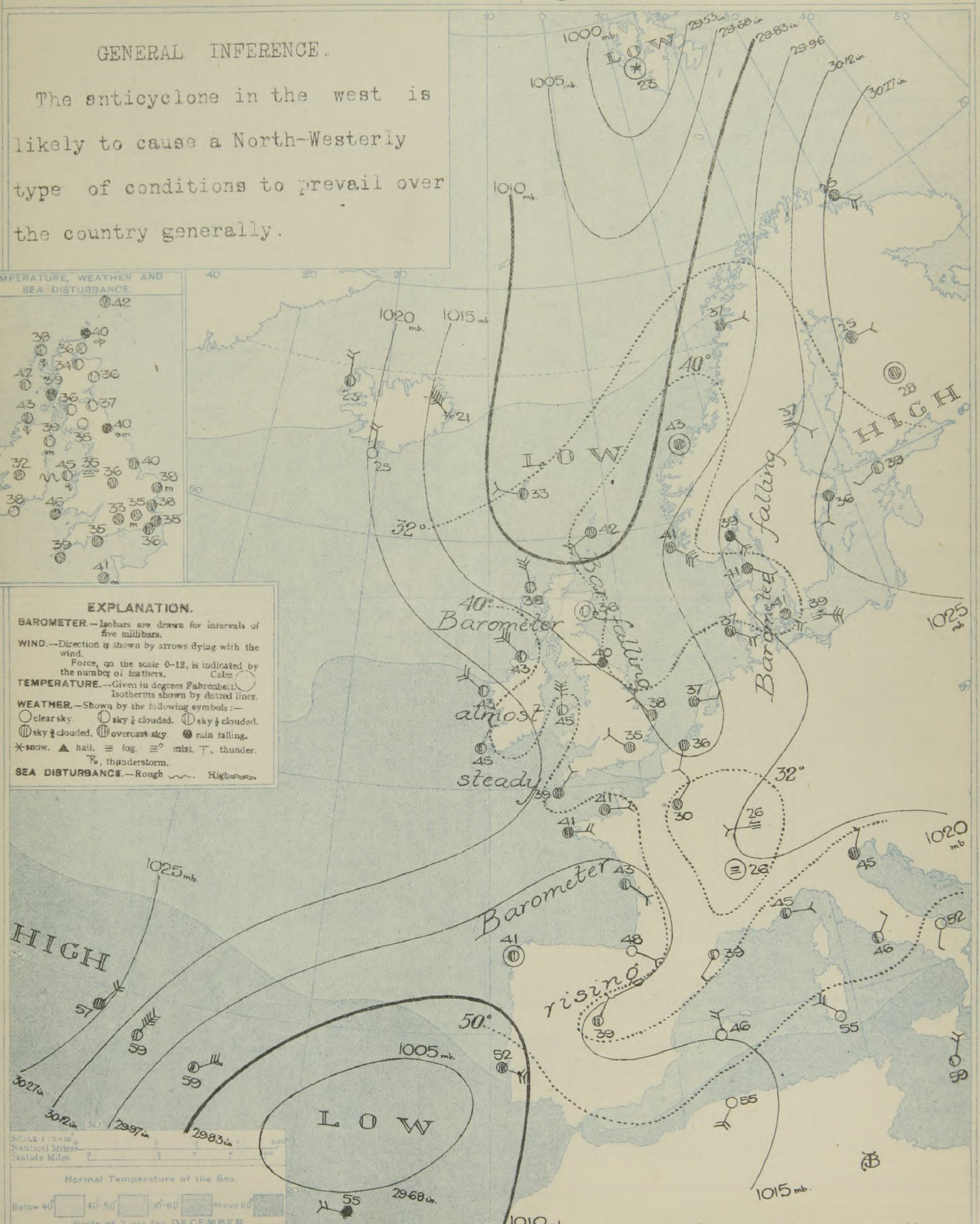
BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ¼ clouded. ◑ sky ½ clouded,
◑ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊤ᵣ, thunderstorm.

SEA DISTURBANCE.—Rough ∿∿. High ∿∿.



SCALE 1 : 2×10⁶
Nautical Miles
Statute Miles

Normal Temperature of the Sea.
Below 40° | 40°-50° | 50°-60° | Above 60°
Scale of Tints for DECEMBER.

Issue No. 20,190 — DAILY WEATHER REPORT. — Sunday, 3rd December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall, Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1025.1	30	W	3	r	1033.3	+4	21	-11	-	0	0	-	*	18
	Gorki	1031.4	?	NW	?	?	1028.8	?	34	+6	SW	1	0	-	*	25.
	Velieki Luki ...	1019.8	30	-	0	0	1031.5	*	30	+3	-	0	0	-	*	28.
	Hangö	-	-	-	-	-	1029.1	0	37	-4	-	0	c	2	*	36
	Riga	1030.7	32	-	0	0	1031.8	0	32	+5	-	0	0	-	*	30.
	Petrograd ...	1029.5	37	SW	2	0	1029.9	+1	34	-5	WSW	2	0	2	41	34
	Moscow	1031.8	34	W	1	0.	1031.4	0	34	+4	NNW	2	f	1	*	34
	Kiev	1033.2	27	SSE	2	0	1032.4	0	28	-2	S	2	0	-	*	30
	Kharkov ...	1032.8	28	-	0	b	1031.3	-1	28	0	-	0	0	-	*	28
	Kishinev ...	1030.7	34	-	0	0	1030.4	0	30	-6	-	0	0	-	*	30
	Elisabetgrad ...	1033.5	28	WSW	2	0	1032.6	0	27	-3	NE	2	0	-	*	27
	Nicolaiev ...	1031.7	34	ENE	3	0	1031.3	*	32	+2	NE	2	0	-	*	30
	Odessa	1031.9	34	ENE	3	0	1031.8	0	27	-9	ENE	3	0	-	*	27
	Tarkhankout...	1029.1	36	NE	4	0	1028.4	*	36	0	ENE	4	0	-	*	34
	Soukhoum ...	1022.6	46	NNE	2	b	1023.9	0	43	0	NNE	5	r	5	*	41
Mediterranean.	Venice	1021.7	46	NE	1	c	1018.0	*	46	+5	NE	1	0	3	50	43
	Pesaro	1019.6	46	-	0	r	1018.6	*	46	0	-	0	0	2	48	45
	Rome	1016.7	55	-	0	c	1017.3	*	50	0	-	0	bc	17	63	50.
	Viesti	1019.6	57	SW	2	0	1018.8	*	57	+11	SSE	1	b	18	59	50
	Brindisi	1020.0	59	W	2	bc	1019.1	*	61	+6	E	3	0	15	63	55
	Cagliari	1011.9	61	SE	3	b	1013.3	*	67	0	ESE	3	b	-	72	50
	Palermo	1016.9	55	-	0	b	1017.6	*	53	-8	-	0	b	9	70	39
	Tripoli	1018.7	55	-	0	b	1018.8	*	51	-8	SE	5	bc	-	68	50
	Algiers	1012.0	55	SW	5	c	1014.3	+2	55	+1	SW	3	bc	Trace	61	52
Sweden.	Hernösand ...	1023.4	34	-	0	f	1027.8	*	34	+2	-	0	f	*	*	*
	Stockholm ...	1027.3	36	SW	2	0	1029.7	*	32	-7	WSW	2	f	*	*	*
	Wisby	1027.9	39	W	2	0	1030.4	*	32	-7	WSW	2	0	*	*	*

Morning						
Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		F	F			
Isafjord ...	1003.7	25	-5	N	9	0
Reykjavik	999.5	30	-6	NNE	4	s
Vestmanna	997.1	30	-7	NW	2	b
Seydisfjord	992.0	32	-4	SW	2	c
Thorshavn	1007.7	39	+1.	WSW	5	r

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	-	1	46	40	or	or.o	00
	Banff	-	2	42	40	0	or	00
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	-	-	37	28	of	0	00
	Skegness	-	-	42	36	0	0	0.0
Eng. N.W.	Morecambe							
	Southport	-	-	37	32	o.c	c.o	00
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	-	-	37	30	f.	0.	00
Wales.	Rhyl							
	Colwyn Bay...	*	*					
	Llandudno	*	*	51	39	c	c	08.
	Aberystwyth	*	*	47	38	o.c	c.o	07
	Tenby	-	-	47	37	bc	bc	04

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft	-	-	41	37	0	0	00.
	Felixstowe							
	Walton-on-Naze							
	Southend-on-Sea	-	-	40	36	oz	oz	00.
England, S.E.	Margate	-	-	39	36	0	0	00
	Ramsgate	-	-	40	35	0	0	00
	Hastings	-	-	38	35	0	0	00
	Eastbourne	-	-	39	34	0	0	00
	Seaford	*	*	39	34	0	0	00
	Brighton	-	-	39	35	0	0	00
	Worthing	-	-	40	33	0	0	00
	Littlehampton							
	Bognor	*	*	42	34	om	0	00
	Bournemouth	-	-	40	31	0	0	00
England. S.W.	Weymouth...	*	*					
	Torquay	-	-	49	39	bc.c	c.o	2.8
	Paignton	*	*	46	35	bc	bc	1.7
	Penzance	-	-	52	43	bc	bc	3.8
	Newquay							
	Bude							
	Ilfracombe							
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

3rd & 4th Dec. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	7.45 / 7.46	11.43 / 11.43	3.41 / 3.40
Greenwich	7.48 / 7.49	11.50 / 11.50	3.52 / 3.52
Wick	8.41 / 8.43	12.2 / 12.2	3.23 / 3.22
Valencia	8.31 / 8.32	12.31 / 12.31	4.31 / 4.30

PILOT BALLOON ASCENTS for the PAST WEEK
Component Velocities to East and to North in metres per Second.

Station, Date and Hour.		Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.
		Benson. 27th. 1230h.		Eskdalemuir 27th. 1250h.		Benson. 28th. 1220h.									
Heights in Kilometres	4					0	-10								
	3					+3	-3								
	2			+4	-11	+5	0								
	1	-1	-8	+2	-5	+9	+4								
	0.5	-2	-11	+2	-2	+12	+8								
	0	-	-	+2	-1	-	-								

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 339

Monday, 4th December.

	STATIONS.	YESTERDAY EVENING					THIS MORNING.									PAST 24 HOURS.						Sunshine for Yesterday
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	10060	38	N	3	bc	10139	r2	39	-3	N	6	-	oq	5	3	42	35	opbc	bc	cqp	*
	Deerness (Orkney)	10101	38	NW	4	bc	10152	*	40	0	N	5	-	bc	4	2	40	37	opbc	bbc	bcopbc	17
	Stornoway ...	10161	36	WNW	6	bcphq	10216	+2	36	-2	NNW	5	-	bcq	4	8	39	34	bcphq	bcphq	bcphq	03
	Castlebay (Barra Isd.)	10186	39	NNW	4	bc	10233	+2	40	-2	NNE	3	N	bc	3	1	42	36	bcpbc	bchbc	bchbc	07
	Glasgow ...	10152	36	N	2	bz	10192	+2	33	-3	WNW	2	-	b	*	Trace	40	33	b	b	bzb	54
	Eskdalemuir ...	10146	33	NW	5	h	10172	+2	33	-2	NW	6	-	bx	*	-	40	33	cbcb	b	bbx	41
	Malin Head ...	10180	40	N	5	bcpq	10218	+1	42	-1	N	5	-	bcq	6	2	44	38	bcqp	bcqp	cq	25
	Blacksod Point	10217	44	NW	4	cgp	10247	+2	40	-3	N	3	N	bc	3	1	45	38	bcp	cgp	bcpbc	*
	Valencia ...	10236	45	N	3	bc	10244	+3	43	-2	ENE	3	-	o	?	1	48	43	c	c.o.	corr.	23
	Roche's Point	10227	44	NW	2	b	10236	*	38	0	N	1	-	b	2	Trace	47	37	b.bcc	ob	b.o.b	*
	Birr Castle ...	10210	37	W	1	o	10236	*	29	-3	W	1	-	m	*	-	43	29	c	c.o	cz.x	23
	Donaghadee ...	10169	39	WNW	4	bcqp	10189	+2	42	+3	N	5	-	bcq	4	2	43	36	bcp	bcqp	bcmpq	*
	Liverpool (Bidston)	10163	41	WNW	3	c	10170	+1	39	+4	NW	4	-	b	3	1	45	35	bcm	bcp	b	41
	Holyhead ...	10179	44	N	7	opgq	10190	+1	42	-3	NNE	6	-	bq	6	1	47	40	bc.c	bc	cpbcb	56
	Pembroke (St. Ann's)	10195	44	NNW	4	bcv	10194	-1	43	-3	NW	4	N	bcvq	3	-	47	40	o.c.bc	bc	bcvq	40
	Scilly (St. Mary's)																					
	Falmouth ...	10200	43	N	2	cz	10199	0	40	+1	NNW	1	-	bc	*	Trace	48	39	aco	cgocz	cpbc	12
	Jersey (St. Aubin)	10179	42	NW	2	om	10170	*	42	+1	NW	2	-	c	2	1	44	39	om	om	ompc	00
	Portland Bill ...	10178	43	NW	2	bc	10170	0	41	+6	NNW	4	NW	bc	3	-	43	35	o	o.c	bc	*
	Dungeness ...	10149	36	N	2	o	10141	0	37	+1	WNW	1	-	b	2	-	37	29	c.o.	c.o.	bbcx.	*
	Dover	10161	35	WNW	2	m	10160	0	32	-3	NW	4	-	b	2	-	37	31	o.c.	cm.	m.b	00
	Wick	10111	36	N	3	c	10160	+2	39	+3	NNW	4	-	bc	4	4	39	33	phmos	osh.cm	cqhsp	*
	Nairn	10158	36	W	1	c	10182	*	37	+3	W	2	-	cg	2	3	38	34	prs.bc	cg	gpo	24
	Aberdeen	10114	36	WNW	5	b	10148	+4	36	0	NNW	5	-	cpq	3	4	39	34	bc.b	b	bcrsp	14
	Leith	10140	37	WSW	2	b	10174	+1	38	+1	NW	2	NW	b	2	-	42	35	bbc.b	b	bcbc.b	*
	Tynemouth ...	10129	36	NNW	2	bm	10137	0	36	-4	NW	3	-	bcm	?	-	43	33	cmr	cmp.	?	?
	Spurn Head ...	10126	41	WNW	4	bcm	10122	0	36	-4	NW	6	-	bcq	5	-	42	33	of	fbcm	bc	00
	Yarmouth ...	10134	35	NW	2	b	10107	-1	31	-7	NW	2	-	bcs	2	-	39	31	om	bm	bcos	00
	Clacton-on-Sea	10149	36	WNW	2	c	10134	-1	30	-8	WNW	2	-	b	1	-	40	29	og	og.c	c.bc.bx	00
	Nottingham ...	10145	40	WNW	3	b	10154	*	29	-7	W	1	-	bm	*	-	41	28	oc.bm	cm.b	bm	00
	Benson (Oxon.) ...	10161	33	NW	1	bc	10158	0	26	-7	W	2	-	b	*	-	37	23	o.	bc	b.	*
	Sth Farnborough	10160	33	W	1	c	10152	0	29		WNW	2	-	bx	*	-	37	27	om	obcem	cbx	00
	London (Kew Obsy.)	10160	35	SW	2	bm	10153	+1	31	-4	W	1	-	bmx	*	-	37	31	om	bm.bmbmbmx		00
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö	10101	28	S	4	o	10002	-1	36	+11	S	1	-	o	3	*	36	25				
	Bodö	10056	36	E	4	o	10057	+1	39	+2	NW	2	-	c	2	4	37	34				
	Christiansund ...	10074	43	SSE	1	r	10101	+1	39	-4	.	0	-	r	?	1	?	?				
	Skudesnaes ...	10042	41	ESE	4	r	10030	+1	41	0	N	4	-	o	4	8	41	39				
	Færder (Christiania Fjord)	10087	39	SE	4	r	10055	0	37	-2	E	4	-	o	3	3	41	37				
	The Scaw (Skagen)	10119	41	SE	5	r	10036	-1	41	0	SSE	4	-	o	4	3	41	39				
	Blaavands Huk	10066	39	S	2	o	?10029	0	41	+4	WSW	2	-	c	3	2	43	36				
	Copenhagen ...	10003	39	SSE	4	r	10015	+1	37	-4	WSW	3	-	m	*	1	41	37				
	Bornholm ...	10147	37	SSE	5	m	10092	0	37	-2	SW	4	-	m	1	1	39	32				
FRANCE, &c.	The Helder ...	10119	43	W	2	o	10075	+1	41	+4	WNW	3	-	bc	3	3	43	37				
	C. Gris Nez ...	10157	37	W	4	m	10139	0	37	+5	WNW	4	*	b	3	-	39	36				
	La Hève	*	39	SSE	3	m	*	*	39	+5	N	4	*	bc	3	-	46	34				
	Brest (St. Mathieu)	10194	43	NE	3	o	10197	0	45	+4	N	3	*	c	2	-	45	43				
	Rochefort (Ile d'Aix)	10154	47	SSE	2	o	10162	0	41	-2	NNE	4	*	o	*	2	52	39				
	Biarritz	10153	50	E	1	b	10157	0	46	-2	S	2	*	c	2	-	57	43				
	Paris	10170	32	-	0	o	10143	-1	34	+4	-	o	-	o	*	-	34	30				
	Belfort	10172	41	WSW	2	c	10137	*	36	+10	-	o	*	o	*	-	45	26				
	Lyons	10187	37	-	0	b	10155	*	35	+9	-	o	*	o	*	-	39	26				
	Nice	10170	46	SW	1	b	10140	-1	45	o	-	o	*	c	3	-	55	41				
	Perpignan ...	10153	48	-	0	o	10147	-1	37	-2	-	o	-	b	*	-	55	37				
	Sanguinaire ...	10166	54	E	3	c	10144	*	54	-	ESE	3	*	r	3	-	61	46				
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	10217	*	NNE	8	o	10230	0	57	-2	NNE	4	*	bc	4	1	61	55				
	Madeira																					
	Gibraltar	10149	56	E	3	bc	10152	*	57	-	E	5	*	o	3	-	62	55				
	Malta	*	*	*	*	*	10170	-1	55	-4	NW	1	W	c	0	-	68	54				
	Limassol	*	*	*	*	*	10193	+2	54	-1	SSW	1	-	b	2	-	72	46				
	Alexandria ...	10187	64	NNE	2	b	10194	0	63	+7	-	0	N	o	0	-	73	59				
	Cairo (Helwan) ...	10176	64	N	2	o	10184	+2	59	+2	NE	2	SW	c	*	-	72	57				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at ... 7.30h

3,000	metres	NNW. 11 m.p.s.
2,700	"	NW. 10. "
2,400	"	NW. 12. "
2,100	"	NW. 11. "
1,800	"	NW. 12. "
1,500	"	NW. 13. "
1,200	"	NW. 12. "
900	"	NW. 11. "
600	"	NW. 13. "
300	"	NNW. 10. "
Surface.		NNW. 5. "

GALES
Duration and Extreme Force in British Islands.

LONDON OBSERVATIONS.	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours	°F	°F	°F	mm.			
GREENWICH (Royal Observatory)	84	83	0.0	37	30	22	-	o	c.bc	b.bcx
CITY (Bunhill Row)	*	*		*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	89	95	00	38	28	26	-	om	a.c.	c.bxm
CAMDEN SQ. (British Rainfall) ...	*	87	00	37	28	24	-	*	*	*
HAMPSTEAD (Reservoir)	*	84	0.0	35	28	14	-	o	o	bx
S. KENSINGTON (Museum Grounds)	*	90	00	38	31	22	-	o	o	bc.bx
RICHMOND PARK	*	*	-	*	*	*	*	*	*	*

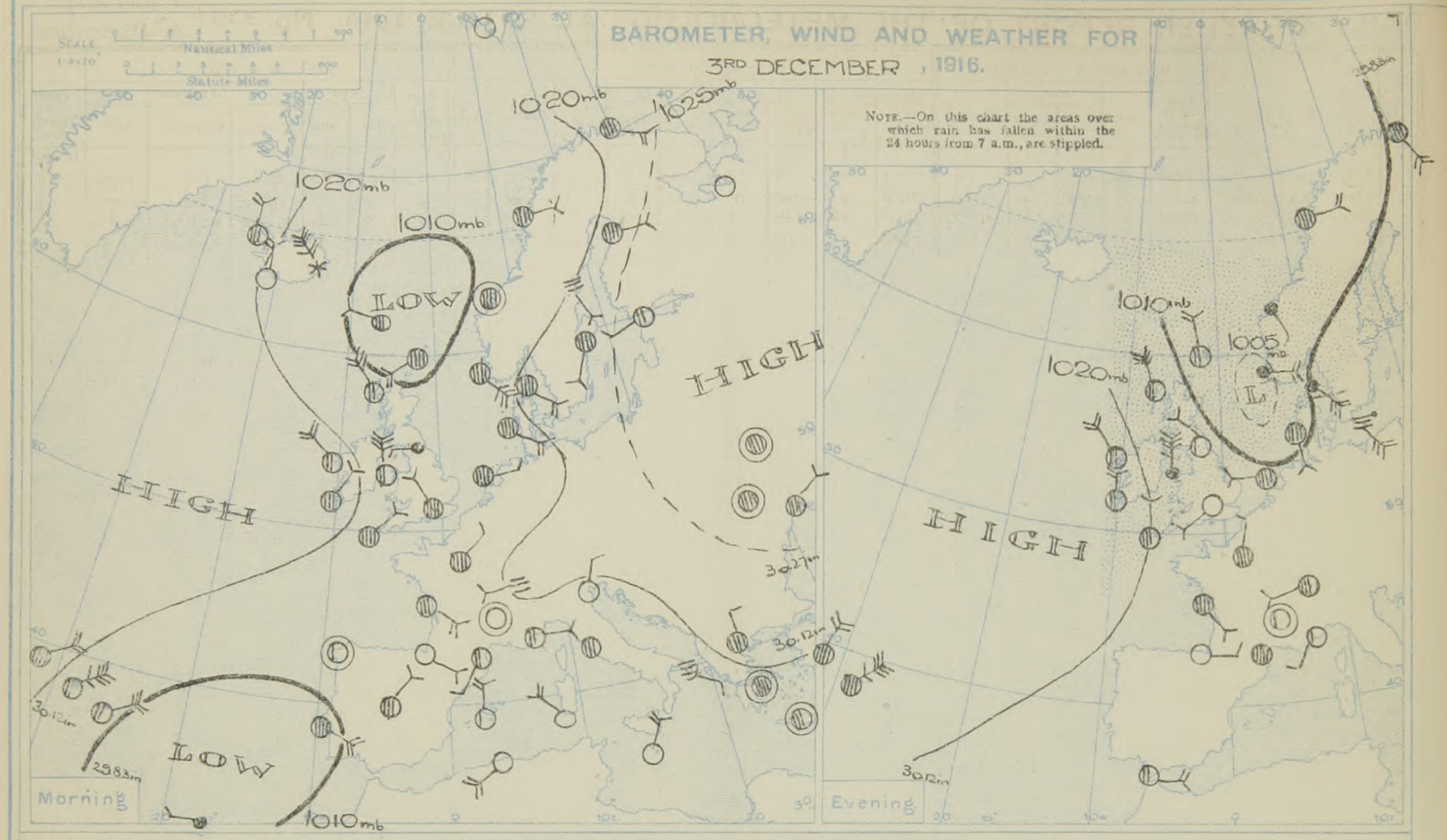
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
81.	2.8.	8.0.

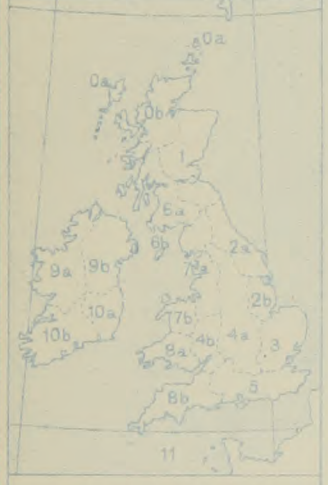
Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars



FORECASTS FOR THE 24 HOURS NOON MONDAY TO NOON TUESDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

0 a, b 1 2 a, b	Fresh or strong Northerly or North-Westerly winds; fair, but some snow or sleet showers; rather cold.
3 4 a, b 5	Moderate or fresh North-Westerly winds; fair generally, but some snow showers on east coast; cold.
6 a, b 7 a, b	Same as Nos. 0 to 2.
8 a, b 9 a, b 10 a, b	Moderate or fresh North-Westerly winds; fair generally, perhaps some snow or sleet showers; cold.
Western Channel and Bay 11	Moderate or fresh North-Easterly winds; moderate sea; fair generally.

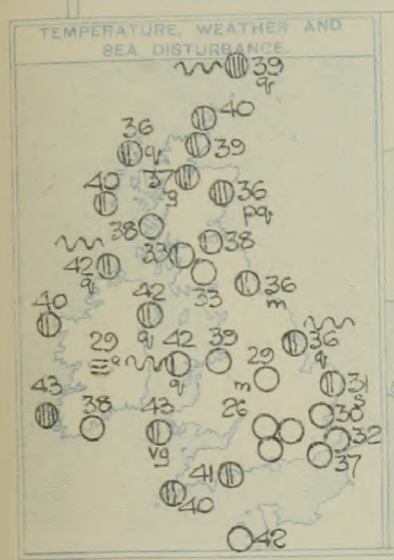
FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF MONDAY, 4TH DECEMBER, 1916.

GENERAL INFERENCE.

A cold Northerly type of conditions is likely to continue.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ◍ overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ϒ, thunder.
ϒ, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈

1000mb LOW 29.53in

1005mb

1010mb 29.63in

1015mb

1020mb

1005mb.

LOW 29.68in

1025mb Barometer rising HIGH 30.27in

Barometer 29.88in

Barometer scarcely changing

30.12in

29.97in

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER

Issue No. 20101 — DAILY WEATHER REPORT. — Monday, 4th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1037·3	18	E	1	o										
	Gorki	1030·0	32	NW	1	f										
	Velieki Luki ...	1030·6	32	–	0	o										
	Hangö	1031·3	34	ENE	2	o	1028·7	+1	39	+2	–	0	bc	–	×	36
	Riga	1031·7	34	–	0	o										
	Petrograd ...	1029·7	32	W	2	o										
	Moscow															
	Kiev	1031·4	28	SE	1	m	1029·6	+1	28	0	–	0	o	–	×	27
	Kharkov ...	1030·1	30	NNW	1	o	1028·3	+1	28	0	NW	1	o	–	×	28
	Kishinev ...	1029·7	30	–	0	b	1028·2	+2	27	−3	–	0	o	–	×	27
	Elisabetgrad ...	1030·9	28	NE	1	o	1019·8	+2	30	+3	NNW	3	o	–	×	27
	Nicolaiev ...	1030·0	30	NNE	3	o	1029·1	×	30	−2	NNE	2	o	–	×	28
	Odessa	1030·9	30	NE	2	o	1029·5	+1	30	+3	ENE	2	o	–	×	27
	Tarkhankout...	1028·3	32	NE	4	o	1027·1	×	30	−6	ENE	4	o	–	×	30
	Soukhoum ...	1023·1	46	–	o	c	1023·0	×	46	+3	–	o	o	..	×	?
Mediterranean.	Venice	1018·0	48	ENE	1	o	1016·7	×	45	−1	NNE	1	o	Trace	50	45
	Pesaro							×								
	Rome	1017·3	50	NE	1	o	1017·2	×	46	−4	NE	1	bc	20	61	46
	Viesti	1017·6	55	–	0	bc	1016·2	×	52	−5	SSW	1	b	–	57	50
	Brindisi	1018·4	55	ESE	3	b	1017·3	×	52	−9	SE	1	f	–	64	52
	Cagliari	1015·9	63	NW	3	b	1016·2	×	56	−2	NW	3	b	–	70	48
	Palermo							×								
	Tripoli							×								
	Algiers.	1013·7	55	–	0	b	1013·6	+1	56	0	SW	4	b	–	66	54
Sweden.	Hernösand ...	1029·3	34	–	0	f	1018·1	×	37	+3	SSE	2	f	×	×	×
	Stockholm ...	1029·9	37	–	0	o	1026·7	×	36	+4	SSW	2	o	×	×	×
	Wisby	1030·4	34	SW	2	b	1026·9	×	39	+7	SE	2	o	×	×	×

Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	1024·0	23	-2	N	3	c
Reykjavik						
Vestmanna	1019·7	25	-7	N	3	b
Seydisfjord	1013·9	21	-15	NW	9	s
Thorshavn	1007·7	33	-6	WNW	2	c

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland ...	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland	Oban	6	1	42	34	o	b.p	2·4
	Banff	3	1	40	34	c.bc	c.p.s.r.h.	2·7
	Montrose							
	Carnoustie	×	×					
	St. Andrews...							
Eng. N.E.	Harrogate	Trace	–	42	32	c.bc.b	b	4·9
	Skegness	–	–	38	33	o	bc.bf	0·0
Eng. N.W.	Morecambe							
	Southport	Trace	Trace	41	33	c.b.bc	c.o.p.c.b	2·8
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye							
Wales.	Rhyl	Trace	Trace	46	35	op	bc.p.c.	3·8
	Colwyn Bay...	×	×	45	40	cp	cp.h.	1·6
	Llandudno	×	×	49	40	bc	cp.	2·0
	Aberystwyth	×	×	44	35	o.c.b	c.o.	3·5
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England. E.	Lowestoft							
	Felixstowe	–	–	38	35	o	o	0·0
	Walton-on-Naze	–	–	38	34	o.c	o.c.bcm	0·0
	Southend-on-Sea	–	–	38	34	o3	o3.c.bc	0·0
England, S.E.	Margate							
	Ramsgate	–	–	38	34	o	o	0·0
	Hastings	–	–	37	34	o	o	0·0
	Eastbourne	–	–	37	34	o	o	0·0
	Seaford	×	×					
	Brighton	–	–	36	34	o	o	0·0
	Worthing	–	–	36	34	o	o	0·0
	Littlehampton	–	–	37	33	o	o	0·0
	Bognor	×	×	38	35	o	o	0·0
	Bournemouth	–	–	38	33	o.c	o.b	0·7
England. S.W.	Weymouth...	×	×					
	Torquay	–	–	45	34	o	o.c	0·0
	Paignton	×	×					
	Penzance							
	Newquay	–	–	48	35	o	o	0·8
	Bude							
	Ilfracombe							
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

Wednesday 6th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.46 / 7.47	11.42 / 11.44	3.40 / 3.40
Greenwich	7.49 / 7.50	11.50 / 11.51	3.52 / 3.52
Wick	8.43 / 8.45	12.2 / 12.3	3.22 / 3.21
Valencia	8.32 / 8.33	12.31 / 12.32	4.30 / 4.30

NOTES ON YESTERDAY'S WEATHER.

Little precipitation was measured. Sunshine measurements were fair in many parts, but very poor in the south and south-east. Temperature was low.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 340

Tuesday 5th December

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp.	Wind: Direc.	Wind: Force 0-12.	Weather	THIS MORNING: Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Afternoon.	Night.	Sunshine for Yesterday.
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	1017·0	39	N	4	0	1016·7	0	36	-3	NW	1	-	bc	1	1	41	33	oqp	o.	bc.	*
	Deerness (Orkney)	1018·6	39	N	5	o	1016·9	*	38	-2	S	2	-	b	2	1	41	35	bc.cp	c.o	oc.bc.b	0·6.
	Stornoway ...	1020·9	36	NNW	2	bc	1014·7	-2	44	+8	S	5	-	od.	4	1	44	33	bcz	bc	bc.od.	0·6
	Castlebay (Barra Isd.)	1022·3	42	W	3	op	1016·2	-2	48	+8	W	1	-	r	2	2	48	40	bc.op.	op	odp.r	1·4
	Glasgow ...	1021·0	38	WNW	2	cz	1020·4	0	26	-7	ENE	1	-	b	*	-	41	25	x.b.	b.bc.cz	bc.bzx	4·2
	Eskdalemuir ...	1019·7	34	NNW	5	b	1021·4	0	20	-13	-	0	-	bx	*	.	38	18	bxb	b	bbx	5·6
	Malin Head ...	1022·3	42	N	3	bc	1017·2	-5	40	-2	SW	4	-	omr	4	1	44	39	bbv.	bbv.	omr	0·9.
	Blacksod Point	1024·9	42	NW	2	bc	1018·5	-2	47	+7	SW	4	-	om	3	2	47	38	bv.	bc	omd	*
	Valencia ...	1026·1	36	E	1	b	1021·5	-3	42	-1	ENE	1	-	od.	3	1	45	33	o.c	bv.	bc.o.od	6·5.
	Roche's Point	1025·4	40	N	2	b	1022·8	*	41	+3	WSW	1	-	r	2	0·2	44	38	b	b.	b.od.	*
	Birr Castle ...	1024·8	36	W	1	m	1020·0	*	39	+10	S	1	-	r	*	1	41	28	c	cz	cx.od.	4·7.
	Donaghadee ...	1026·8	43	N	5	oq	1019·3	0	38	-4	SW	2	-	cm	2	-	45	38	bcq	bcq	omcgm	*
	Liverpool (Bidston)	1020·2	41	NW	3	bc	1020·2	0	36	-3	NNW	1	-	b	2	-	41	34	b	b	bmx	6·5.
	Holyhead ...	1021·2	44	NE	5	cg	1019·9	-1	46	+3	N	5	-	og	5	-	46	41	bbc.b.	bbc.c.	c.o	6·3
	Pembroke (St. Ann's)	1021·8	41	N	3	cp	1021·0	0	43	0	NW	2	NW	cp	2	4	44	38	bcp.	bcpv	cp	1·0.
	Scilly (St Mary's)																					
	Falmouth ...	1021·7	40	NNW	2	bz	1021·3	-1	41	+1	NNW	2	-	o	*	1	45	36	bzp.bc	b.bcz.	bcp.cp	4·2
	Jersey (St. Aubin)	1018·5	43	NW	3	bc	1018·9	*	42	0	NW	3	NW	bc	2	Trace	46	39	c.bc	bc.b.	b.bc	3·5.
	Portland Bill ...	1017·6	40	NNW	1	o	1018·9	+1	39	-2	N	3	-	b	2	-	43	36	bc.b	b.	bc.b.	*
	Dungeness ...	1013·1	34	WNW	2	b	1013·0	-1	34	-3	NNW	4	-	b	3	-	38	28	bz	bz	bc.bcx.	*
	Dover	1013·8	35	NW	4	b	1012·9	+1	35	+3.	NW	6	NW	c	4	-	38	32	b	b.	bmc.	6·6.
	Wick	1019·1	39	N	3	c	1017·0	-2	37	-2	WSW	1	-	bc	2	0·2	41	30	bcmq	cm.	m.bcx.	*
	Nairn	1020·1	37	NNW	1	cg.	1017·3	*	27	-10	.	0	-	bc	1	0·3	40	26	c.bc	bcc.	cp bcx	0·8.
	Aberdeen ...	1018·5	37	NW	4	b.	1019·6	0	31	-5	WNW	1	-	b	2	2	41	31	bcpq	bcqp.b.	bcbx	3·1.
	Leith	1020·1	40	NW	2	b	1019·6	0	29	-9	N	1	-	b	2	-	42	28	b.bc.c	b.	bbxmb	*
	Tynemouth ...	1016·5	38	NNW	3	bm	1018·6	0	35	-1	NW	2	N	bcm	4	-	40	33	bcm	bcm.	bcm.	*
	Spurn Head ...	1013·0	39	NNW	7	bcq.p	1014·6	0	39	+3	N	6	-	oq	6	4	40	33	bcq	bcq.ps.	c.oq	0·1.
	Yarmouth ...	1010·6	39	NW	4	bc	1011·4	+1	42	+11	NNE	5	-	bcq.p	4	5	39	30	bc.o	bc.op.	bcq.p	0·0
	Clacton-on-Sea	1013·3	36	NW	3	bc	1012·9	-1	36	+6	NW	4	N	o	2	-	37	29	b.bc	bc	bc	4·8.
	Nottingham ...	1016·9	37	NW	3	b.	1017·7	*	36	+7	NW	3	-	b	*	-	40	28	bm	bm	b	1·1.
	Benson (Oxon.) ...	1017·5	37	NW	2	b	1018·1	0	24	-2	.	0	-	b	*	-	37	23	bz	b	b.	*
	Sth Farnborough	1016·6	35	NW	2	b	1017·1	-1	31	+2	NW	4	-	bx	*	-	39	27	bm.	bom.	bx	6·2
	London (Kew Obsy.)	1016·6	36	WNW	3	bm.	1016·4	-1	34	+3.	NNW	3	N	bmx	*	0·2	39	31	bmxbm	bm.	bmbmx	4·3.
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö															*						
	Bodö																					
	Christiansund ...																					
	Skudesnaes ...																					
	Færder (X'iania Fjord)																					
	The Scaw (Skagen)	1009·1	41	S	2	c	1017·0	+4	39	-2	E	2	-	bc	2	-	45	39				
	Blaavands Huk	1006·9	39	S	2	c	1015·0	+3	36	-5	NE	1	-	o	2	2	43	30				
	Copenhagen ...	1011·1	39	SW	2	o	1015·4	+4	41	+4	SE	3	-	r	*	8	41	37				
	Bornholm ...	1011·8	39	SSE	2	m.	1015·0	+3	37	0	ESE	4	-	m	1	1	39	36				
FRANCE, &c.	The Helder ...	1005·2	41	SW	2	r	1011·0	+9	37	-4	ENE	5	-	o	3	10	43	37				
	C. Gris Nez ...	1013·6	37	NW	6	bc	1012·0	+2	41	+4	NW	5	*	bc	5	-	41	37				
	La Hève	*	37	N	5	c	*	*	39	0	N	5	*	c	5	-	45	36				
	Brest (St. Mathieu)	1021·0	45	N	3	c	1021·2	-1	41	-4	NE	2	*	c	1	-	48	39				
	Rochefort (Ile d'Aix)	1016·6	45	N	4	c	1019·4	+1	41	0	NNW	5	*	bc	*	-	45	37				
	Biarritz	1016·7	48	NE	4	o	1019·4	0	36	-10	E	2	*	b	2	7	52	34				
	Paris	1014·3	36	NW	2	c	1013·2	-1	39	+5	SSW	3	-	o	*	Trace	41	34				
	Belfort	1011·1	32	-	0	s	1013·5	*	24	-9	-	0	*	m.	*	8	41	27				
	Lyons	1012·7	32	NW	2	s	1011·7	*	32	-3	NNW	2	*	o	*	5	43	33				
	Nice	1008·4	45	-	0	r	9999	-2	36	-9	SW	1	-	c	2	3	55	36				
	Perpignan ...	1011·0	52	W	3	o	1012·2	-4	37	0	NW	5	-	b	*	-	57	37				
	Sanguinaire ...	1009·1	53	SE	3	r	1006·1	*	48	-6.	W	6	*	r	6	12	57	45				
SOUTHERN STATIONS.	Corunna																					
	Madrid	1018·1	43	-	0	b	1018·0	+1	39	+2	NNE	2	NW	c	*	-	45	32				
	Lisbon																					
	Azores (Horta) ...	1021·1	*	NE	7	b.							*									
	Madeira																					
	Gibraltar	1015·2	58	E	2	o	1012·2	*	55	-2	E	2	*	m	2	-	59	53				
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1018·9	+1	61	+7	S	2	-	b	5	-	70	54				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at ...7.35h

1,800 metres.	N.E.	16. mps.
1,500 "	N.	14. "
1,200 "	N.	14. "
900 "	N.	13 "
600 "	N.	13 "
300 "	NNW.	12 "
Surface	NW.	5. "

GALES
Duration and Extreme Force in British Islands.

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning	Afternoon	Night
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	69	78	2·7	38	33	26	-	b	bc.b	bzx
CITY (Bunhill Row)	*	*	1·8	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	73	84	2·5	40	30	27	-	b	b	b.bc
CAMDEN SQ. (British Rainfall) ...	77	92	3·6	39	32	28	Trace	bbc	b.	*
HAMPSTEAD (Reservoir)	*	82	3·8	38	29	18	. -	bcxb	bc	bcx.
S. KENSINGTON (Museum Grounds)	*	84	3·0	39	32	29	-	bvxb	bmbz	bz. x.
RICHMOND PARK	*	*	-	*	*	*	*	*	*	*

SOUTH KENSINGTON.

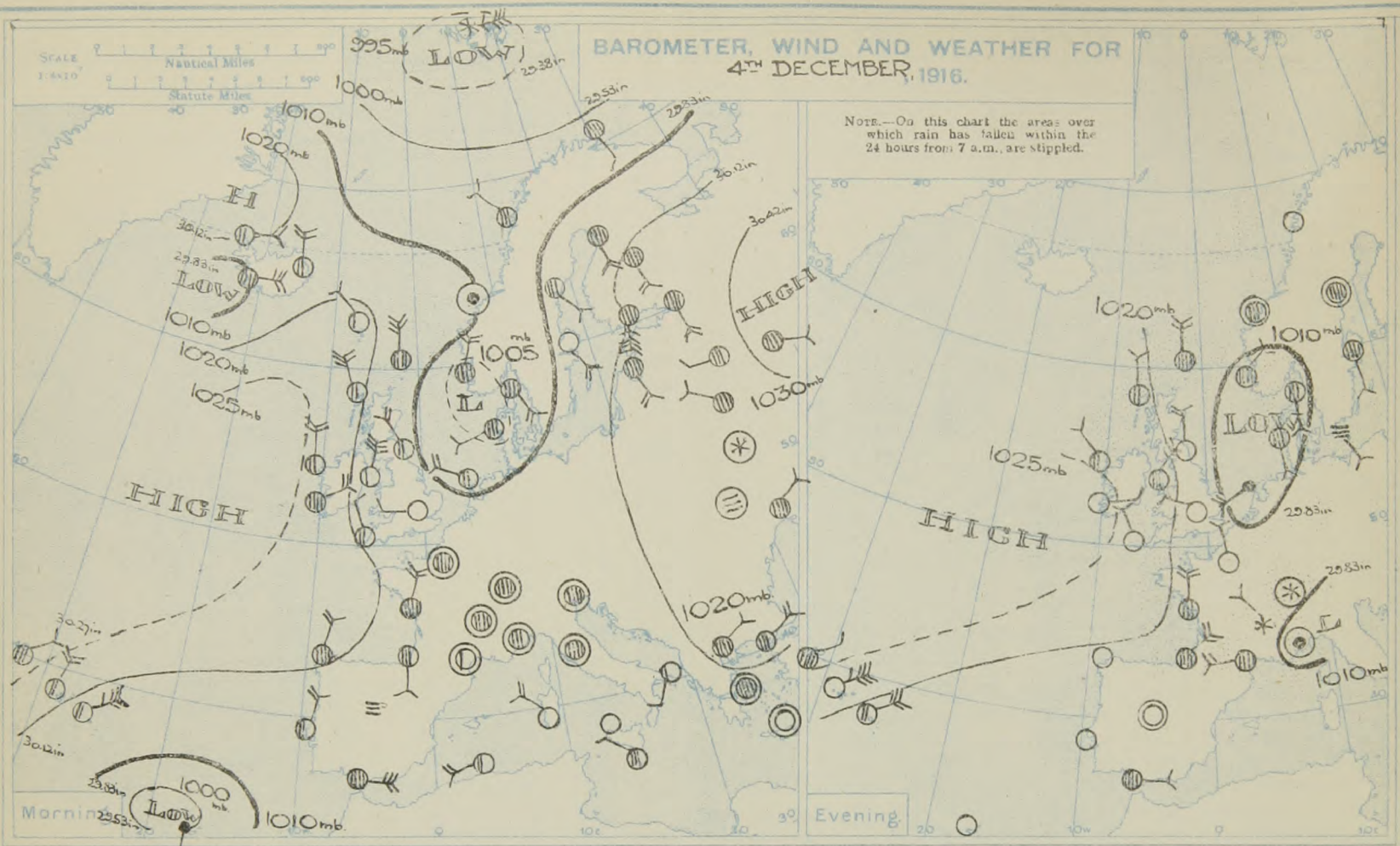
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
237	8·2	21·5

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

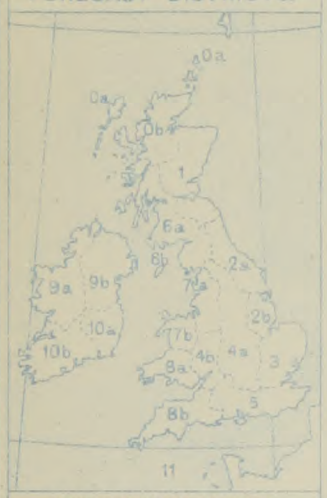
BAROMETER, WIND AND WEATHER FOR 4TH DECEMBER, 1916.



Note.—On this chart the areas over which rain has fallen within the 24 hours from 7 a.m., are stippled.

FORECASTS FOR THE 24 HOURS NOON TUESDAY TO NOON WEDNESDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

0a, 0b, 1 — Southerly and South-Westerly winds, light to fresh, strong locally; rain spreading over from westward; temperature rising.

2a, 2b, 3, 4a, 4b, 5 — Wind Northerly, backing North-West or West, light or moderate generally; mostly fair, then unsettled and milder.

6a, 6b — Same as Nos. 0 and 1.

7a, 7b, 8a, 8b — Wind backing to South-West or South, light to moderate or fresh; rain spreading over from westward; milder.

9a, 9b, 10a, 10b — Southerly and South-Westerly winds, moderate or fresh; changeable, rain at times; milder.

Western Channel and Bay 11 — North-Westerly to South-Westerly winds, light to moderate; sea smooth to moderate; fair to some rain.

Millibars: 1050, 1040, 1030, 1020, 1010, 1000, 990, 980, 970

FURTHER OUTLOOK.

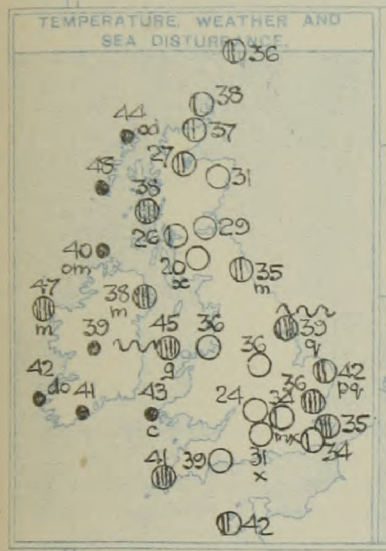
R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF TUESDAY, 5TH DECEMBER, 1916.

GENERAL INFERENCE.

The depression on the Atlantic will move east or north-east, while that over Holland seems likely to move south or south-east.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ¼ clouded. ◑ sky ½ clouded.
◍ sky ¾ clouded. ◍ overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈

HIGH

LOW 45 — 29.68in 29.83in 29.97in — 1005mb — 1010mb — Barometer — 1015mb — 1020mb

Barometer — 1015mb — 1010mb — 1005mb — 1000mb — 29.68in — 29.83in

Barometer — 1010mb — LOW — 1010mb

Barometer — falling — Bar. steady. — 30.12in — 29.97in

Scarcely changing — rising

Scale 1 : 12 x 10^6
Nautical Miles 0 1 2 3 4 500
Statute Miles 0 1 2 3 4 500

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER.

AGW

Issue No. 20,102.

DAILY WEATHER REPORT.

Tuesday, 5th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					±	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1035·3	7	E	3	b	.	.	.	.	.	.	.	.	*	.
	Gorki	1026·3	30	NW	2	o	1024·0	*	30		NW	2	p	–	*	28.
	Velieki Luki ...	1029·3	30	–	0	o	1027·9	*	21		W	1	c	–	*	30
	Hangö	.	.	.	.	.	1026·0	0	36	–3	SSW	8	o	–	*	34
	Riga	1025·7	30	SSE	2	o	1022·0	–1	32.		S	3	o	–	*	30.
	Petrograd ...	1029·3	34	–	0	o	1027·7	0	36		S	4	o	9	36	30
	Moscow	1029·2	51	ESE	1	o	1030·7	+1	28.		ESE	2	o	2.	*	27.
	Kiev	1025·9	28.	WNW	2	s	1023·1	0	30	+2	NNE	2	o	–	*	28.
	Kharkov ...	?	30.	E	1	o	1023·9	–1	28.	0	NE	2	r	–	*	28.
	Kishinev ...	1026·3	27.	–	0	o	1022·7	–1	37.	+10	–	0	f	–	*	27.
	Elisabetgrad ...	1025·7	30	NNW	2	o	1023·5	–2	27.	–3	NNW	2	o	2.	*	27.
	Nicolaiev ...	1025·9	34	NW	2	o	1023·8	*	32.	+2	NW	2	s	–	*	28.
	Odessa	1027·0	28.	ENE	2	o	1024·4	–1	30	0	ENE	2	o	9	*	28.
	Tarkhankout...	1024·7	32.	NE	1	o	1023·4	*	32.	+2	NE	1	o	–	*	32.
	Soukhoum ...	1019·5	50	ENE	2	o	1019·3	+2.	46.	0	ENE	1	o	–	*	46.
MEDITERRANEAN.	Venice	1016·1	48	–	0	o	1013·9	*	46.	+1	–	0	o	2.	52	45.
	Pesaro	1017·4	48.	–	0	m	1015·1	*	46.		–	0	c	–	52.	45.
	Rome	1017·5	50	–	0	bc	1014·4	*	50.	+4	–	0	o	2.	55	46.
	Viesti	1016·7	54	SE	1	bc	1015·4	*	50.	–2.	S	3	bc.	–	59	50.
	Brindisi	1016·1	54	SE	1	b	1015·4	*	52.	0	SW	1	b	–	63	52.
	Cagliari	1015·3	61	ENE	3	b	1013·5	*	54	–1	NW	3	b	–	68	49
	Palermo	1017·7	55.	–	0	b	1015·7	*	52.		–	0	b	–	68	41
	Tripoli							*								
	Algiers	1014·3	59.	SW	3	b	1016·3	+2.	54.	–1	WSW	3	bc.	–	66	54.
SWEDEN.	Hernösand ...	1017·3	37	SSE	4	o	1012·7	*	37	0	SSE	4	c	*	*	*
	Stockholm ...	1019·5	37	SSE	2	r	1012·7	*	37	+1	SSE	4	b	*	*	*
	Wisby	1019·1	36.	SE	2.	o	1012·8	*	37.	–2.	SSW	2.	o	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord ...	1022·3	37	+14	E	3	bc.
Reykjavik	1009·6	34		E	5	o
Vestmanna	1014·1	34	+9	E	8	r
Seydisfjord	1015·9	27	+6	N	4	bc
Thorshavn	1020·2	30	–3	NW	2	b.

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17.
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	–	–	44	37	b	bc o	4.2
	Banff	2	Trace	43	36	cr. bc	bc ep r	1.2
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	–	–	42	32	bc	c	5.8
Eng. N.E.	Harrogate	–	–	39	31	b	b.bc	6.3
	Skegness	–	1	39	30	os.bc	bcp	2.4
Eng. N.W.	Morecambe	–	–	41	33	–	–	6.5
	Southport	–	–	41	35	b	bc	6.5
Midlands.	Leamington Spa							
	Malvern	–	–	40	35	b	b	7.0
	Ross-on-Wye	–	–	43	31	b	b	6.2
Wales.	Rhyl	Trace	–	43	37	cp. c	bc.c.bc	4.3
	Colwyn Bay...	*	*	43	36	bc	bc	1.0
	Llandudno	*	*	45	38	c	b.bc	2.7
	Aberystwyth	*	*	44	37	r.c	bc.o	7.3
	Tenby	1	–	48	35	b	bc	6.0

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England, E.	Lowestoft	1	Trace	39	30	ops c	c op c	0.8
	Felixstowe	–	–	38	31	bc	bc	5.6
	Walton-on-Naze	–	–	37	30	b.bz.b.	b.bz	5.6
	Southend-on-Sea	–	–	39	29	bc.c	c bc b	5.2
England, S.E.	Margate	–	–	40	34	b	b.bc	4.2
	Ramsgate	–	–	37	30	bc	bc	6.0
	Hastings							
	Eastbourne	–	–	39	32	b	b	6.0
	Seaford	*	*	39	31	b	b	5.6
	Brighton	–	–	39	31	b	b	4.5
	Worthing	–	–	39	30	b	b	6.4
	Littlehampton	–	–	40	32	b	b	6.8
	Bognor	*	*	40	30	b	b	6.6
	Bournemouth	–	–	41	32	b	b	7.2
England, S.W.	Weymouth...	*	*	42	34	b	bz	6.6
	Torquay							
	Paignton	*	*	45	32	bc	bc	6.1
	Penzance	–	1	48	42	c.bc	bcpr	3.2
	Newquay	1	1	45	40	bcp	b	2.5
	Bude	–	–	48	33	b	b	4.7
	Ilfracombe	Trace	–	45	34	b	b	6.4
	Weston-s-Mare	–	–	44	36	b	b	6.5

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

5th & 6th December, 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	7.47 7.49	11.44 11.44	3.40 3.39
Greenwich	7.50 7.51	11.51 11.51	3.52 3.51
Wick	8.45 8.49	12.3 12.3	3.21 3.20
Valencia	8.33 8.35	12.32 12.32	4.30 4.29.

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° over a large portion of the Kingdom, and fell to a low minimum at some Scottish stations in the night. Generally the day was very bright, but at some places on the east coast of England there was much cloud, with occasional showers.

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; z. hoar frost; z. dust-haze, or smoke.

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Printed at the Meteorological Office, South Kensington, London, S.W.

± The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 341.

Wednesday, 6th December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp. °F	Wind. Direc.	Wind. Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb. °F.	Temp. Change in 24 hours. °F.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max. °F.	Temp. Min. °F	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	1013.1	42	SSW	4	dp	1010.4	0	47	+ 11	SSW	4	–	om	4	6	47	34	bc c	dp	omp	*
	Deerness (Orkney)	1014.9	43	S	5	r	1013.2	*	46	+ 8	SW	2	–	o	3	3	46	39	b.bc.c.o	dqr	r.o	0.0
	Stornoway ...	1014.4	48	S	5	o	1013.2	0	48	+ 4	SW	5	–	odp	4	2	48	43	odp	o	odp	0.0
	Castlebay (Barra Isd.)	1016.8	49	SW	3	o	1016.6	0	49	+ 1	SW	4	–	d	4	1	49	47	r d	d o	dp r d	0.0
	Glasgow ...	1021.1	35	SSE	1	omd	1020.0	– 1	41	+ 15	SSW	2	–	om	*	0.4	41	26	bc c om	omd	d.of.om	0.1
	Eskdalemuir ...	1023.0	33	–	0	bcx	1022.4	0	31	+ 11	S	1	–	o	*	–	33	18	bcx	bcx	cx.bc.o	3.5
	Malin Head ...	1018.3	45	SW	3	om	1017.8	0	44	+ 4	SW	3	–	om	3	3	47	40	omp	omd	om	0.0
	Blacksod Point	1019.5	47	W	2	cm	1018.6	– 2	47	0	SSW	2	–	ofe	2	1	48	47	cmd	cm	cm.ofe	*
	Valencia ...	1020.6	48	N	2	o	1021.0	0	46	+ 4	–	0	–	o	2	1	49	42	odm	o.c	c.o	0.0
	Roche's Point	1020.2	47	NNE	1	o	1022.2	0	45	+ 4	NW	1	–	o	1	2	49	40	d om	om o	od.ome	*
	Birr Castle ...	1020.0	45	E	1	m	1020.8	*	42	+ 3	SSE	1	–	o	*	1	46	38	od fe	fe	fe.c.o	0.0
	Donaghadee ...	1019.5	41	SW	2	omd	1019.8	– 1	42	+ 4	SSW	2	–	ogm	1	0.3	43	38	omr	omd	omfod	*
	Liverpool (Bidston)	1021.5	36	N	1	c	1022.9	0	30	– 6	SE	2	–	m	1	–	40	30	b	b	bxm	6.5
	Holyhead ...	1020.8	40	E	4	b	1022.1	0	32	–13	S	2	–	bcxm	1	1	45	32	ofod o	o c bc b	bx.bcm	0.0
	Pembroke (St. Ann's)	1020.1	43	E	2	cv	1022.7	+ 1	34	– 9	ENE	2	–	bx	1	0.3	44	34	cv	cv	bx	0.1
	Scilly (St. Mary's)																					
	Falmouth ...	1018.8	42	NNE	2	c	1021.8	+ 1	33	– 8	N	2	–	b	*	2	44	31	op od	od c	c.b.bx	0.0
	Jersey (St. Aubin)	1016.3	44	NNW	3	o	1018.4	*	44	+ 2	NNE	3	–	o	2	–	46	41	bc.b	bc.o	b.o	7.0
	Portland Bill ...	1017.5	39	N	4	bc	1020.0	0	36	– 3	NE	3	–	b	3	–	42	34	b	b	bc.b	*
	Dungeness ...	1014.2	43	ENE	5	r	1017.2	0	44	+ 10	NE	4	NE	c	3	–	43	34	c.bc	cp cr	bc	*
	Dover	1015.9	42	NE	5	c	1018.4	0	43	+ 8	N	4	N	o	4	–	43	36	c.bc	bc c	c.o	3.3
	Wick	1015.1	42	SSW	3	r	1014.1	0	45	+ 8	SW	3	–	o	3	3	45	36	omp	omr	omq	*
	Nairn	1016.5	40	W	1	oq	1014.7	*	47	+ 20	W	1	–	oq	1	2	47	26	bc cd	cd	oq.c	0.0
	Aberdeen	1019.2	38	SSW	3	c	1017.7	0	38	+ 7	SSW	1	–	cz	2	–	41	30	bc cz	cz	c bc cz	0.0
	Leith	1020.4	36	SE	1	m	1019.6	0	41	+ 12	W	1	–	o	2	0.1	42	28	bm.fe	cm	n.c me.o	*
	Tynemouth ...	1020.7	38	NW	2	cm	1021.9	0	32	– 2	WSW	2	–	bm	4	Trace	40	30	bcm	cmp	bm	*
	Spurn Head ...	1020.5	42	E	4	bc	1022.9	0	37	– 2	NW	3	–	c	4	2	44	35	o.cq	bc	bcf	0.6
	Yarmouth ...	1018.9	41	E	5	c	1019.7	0	43	+ 1	NE	4	–	cm	2	–	44	41	bcqp	bqp.c	cm	2.0
	Clacton-on-Sea	1017.6	42	NE	4	o	1020.7	0	39	+ 3	NW	3	N	bc	2	–	42	35	o.c.bc	bc c o	o c bc	3.7
	Nottingham ...	1020.8	38	NNE	2	b	1023.5	*	25	– 11	–	0	–	fx	*	–	41	23	bm	bcm	bm.f	0.6
	Benson (Oxon.) ...	1018.8	37	N	2	o	1021.9	0	22	– 2	NNE	1	–	b	*	–	38	21	c.bc	o	bc.bx	*
	Sth Farnborough	1017.4	36	N	3	b	1020.0	0	30	– 1	NNW	2	–	bm	*	–	39	30	b.om	o.bm	bm	0.1
	London (Kew Obsy.)	1018.5	37	N	3	om	1020.4	0	34	0	N	2	–	bmx	*	0.2	40	33	bmx.b.om	om.bcm.om	om.bmx	0.2
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö	1017.2	23	–	0	b	9984	–20	25	– 2	S	4	–	S	4	*	24	23				
	Bodö	1008.3	34	SW	4	c	1000.3	– 1	43	+13	SW	7	–	o	5	4	43	30				
	Christiansund ...	1014.1	39	–	0	o	1009.1	– 3	46	-	SW	2	–	o	3	1	46	34				
	Skudesnaes ...	1022.0	39	–	0	b	1020.4	– 1	43	+ 4	SSW	2	–	m	2	1	43	34				
	Færder (X'tania fjord)	1023.8	37	E	1	o	1022.7	– 1	39	+ 2	SSW	1	–	o	1	–	39	37				
	The Scaw (Skagen)	1022.1	41	SE	2	o	1023.5	0	43	+ 4	SSE	2	–	c	2	–	43	39				
	Blaavands Huk	1021.1	39	E	1	o	1022.4	+ 1	39	+ 3	ESE	1	–	o	1	–	41	34				
	Copenhagen ...	1021.7	41	ESE	3	o	1023.8	+ 1	39	– 2	E	3	–	o	*	2	41	37				
	Bornholm ...	1020.7	39	ESE	5	m	1023.3	+ 1	37	0	E	4	–	m	1	–	39	36				
FRANCE, &c.	The Helder ...	1019.4	37	NE	3	c	1019.5	0	41	+ 4	NE	3	–	o	2	–	48	37				
	C. Gris Nez ...	1015.0	39	NE	5	c	?	– 1	45	+ 4	NE	6	*	o	5	6	45	36				
	La Hève	?	41	N	6	r	?	*	38	– 1	NE	2	*	r	2	2	45	36				
	Brest (St. Mathieu)	1018.3	43	NE	3	c	1019.1	0	43	+ 2	NE	3	*	o	2	2	48	41				
	Rochefort (Ile d Aix)	1015.0	43	N	4	c	1012.3	– 1	37	– 4	NE	5	*	o	*	–	45	37				
	Biarritz	1015.0	41	S	1	o	1011.1	– 1	43	+ 7	SW	2	*	o	2	4	46	39				
	Paris	1011.3	39	N	2	o	1012.8	0	36	– 3	NNE	3	–	o	*	Trace	41	34				
	Belfort	1010.6	30	ENE	2	o	1005.7	*	32	+ 5	—	0	*	f	*	2	33	27				
	Lyons	1008.3	32	N	2	s	1007.3	*	32	0	NNW	1	*	o	*	10	32	32				
	Nice	997.2	34	E	5	tlrs	1003.8	+ 5	34	– 2	E	1	*	c	4	11	45	30				
	Perpignan ...	1009.5	41	NW	5	bc	1007.5	0	39	+ 2	NW	4	N	o	*	3	?	?				
	Sanguinaire ...	992.7	47	NW	6	f	998.6	*	45	– 3	NW	5	*	m	6	3	54	43				
SOUTHERN STATIONS.	Corunna	1019.4	52	NE	6	b	1015.5	– 1	45	+ 2	SE	3	–	c	3	2	52	41				
	Madrid														*							
	Lisbon	1013.5	54	NNE	3	b	1013.1	– 1	45	– 3	NNE	3	–	b	5	–	57	43				
	Azores (Horta) ...	1017.1	*	NE	5	c	1016.7	0	57	0	ENE	4	*	bc	2	3	61	55				
	Madeira	998.6	63	W	4	c	999.4	+ 1	61	+ 2	S	3	–	r	3	19	66	59				
	Gibraltar	1011.8	57	E	2	m	1009.5	*	50	– 5	NW	8	*	m	1	–	62	49				
	Malta	*	*	*	*	*	1013.1	0	61	+ 2	SSW	2	SW	o	1	–	72	59				
	Limassol	*	*	*	*	*	1018.1	+ 1	57	– 4	E	1	–	b	4	–	70	46				
	Alexandria ...	1018.6	66	NE	2	b	1018.9	0	66	+ 2	NE	2	N	b	0	–	75	63				
	Cairo (Helwan) ...	1016.8	64	NE	4	b	1017.3	+ 2	59	– 2	NW	7	NE	b	*	–	73	55				

UPPER AIR.

South Farnborough.

Pilot Balloon Ascent at 7h.37m.

Wind at

3000 metres	NE. 12 m/s.
2700 ..	NE. 11 ..
2400 ..	NE'E. 10 ..
2100 ..	NE'E. 8 ..
1800 ..	NE'E. 8 ..
1500 ..	NE'E. 8 ..
1200 ..	NE'E. 8 ..
900 ..	NE. 11 ..
600 ..	ENE. 13 ..
300 ..	N'E. 11 ..
Surface	NNW. 3 ..

Lyons.

16 cm snow lying at 7h. 6m.

LONDON OBSERVATIONS.

	Humidity 15 h. Yesterday. %	Humidity 9 h. To-day. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature. Max. °F.	Min. °F.	Min. on Grass °F.	Rainfall. mm.	Weather. Morning.	Afternoon.	Night.
GREENWICH (Royal Observatory)	88	81	0.0	39	34	28	–	c	c	c
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	92	86	0.0	41	36	31	–	bc	b oe	0. m
CAMDEN SQ. (British Rainfall)	90	85	0.2	40	32	27	–	c	c	*
HAMPSTEAD (Reservoir)	*	78	0.6	37	31	19	Trace	bc	bc osd	cx
S. KENSINGTON (Museum Grounds)	*	77	0.0	39	36	28	Trace	c o	c. b	o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

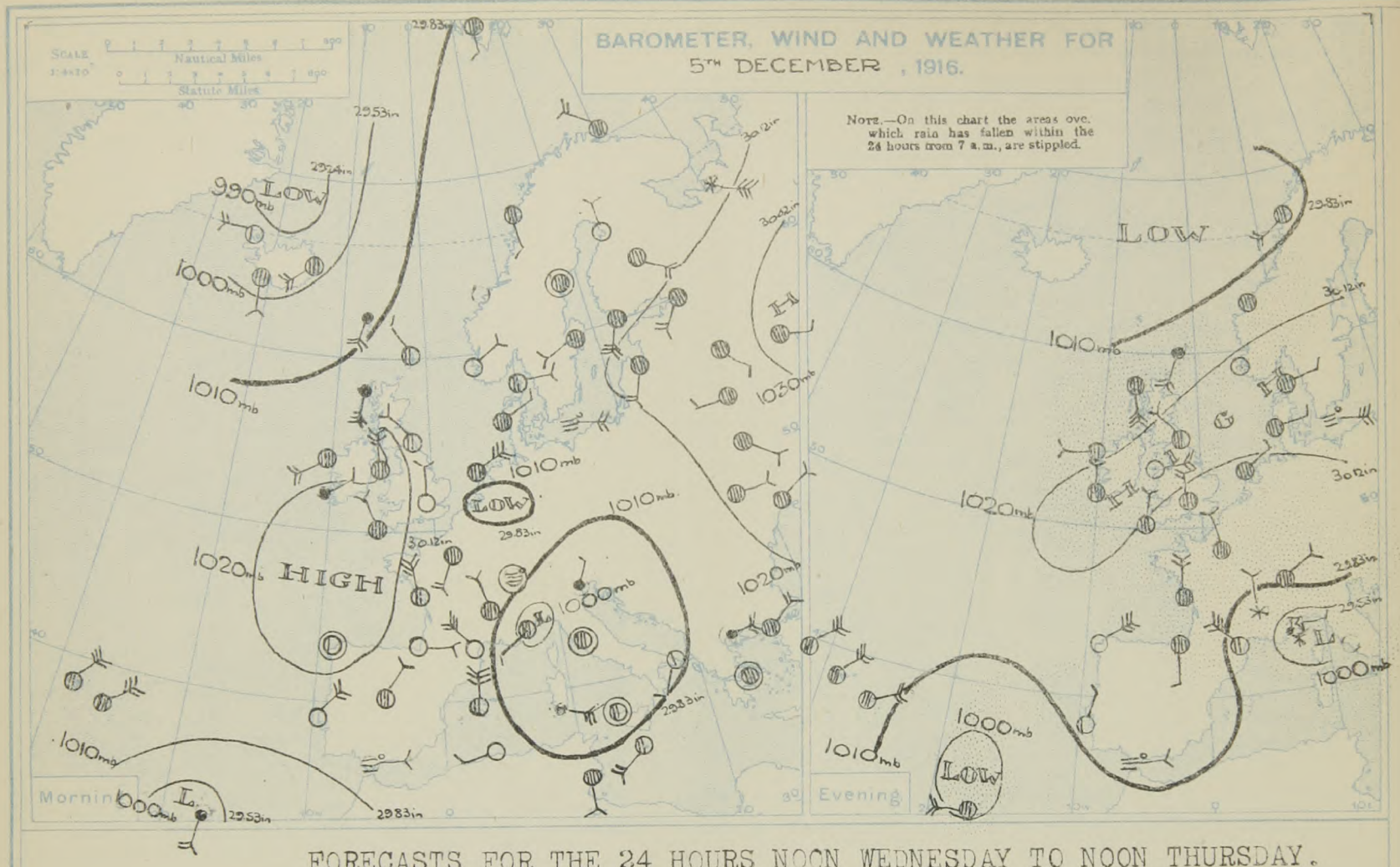
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
100	3.5	8.0

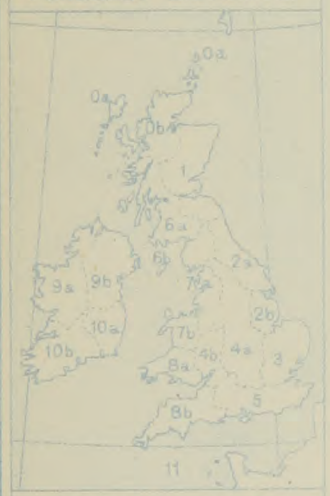
Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON WEDNESDAY TO NOON THURSDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Coast.	South Coast.
North Coast.	North Coast.

No Warnings Issued.

Western Channel and Bay

0a, 0b, 1 — South-Westerly winds, light or moderate; a good deal of cloud, some showers; moderately mild.

2a, 2b — Light variable winds; fair, some mist or fog; cold.

3 — Same as No. 5.

4a, 4b — Same as No. 2.

5 — North-Easterly winds, light; fair, mist locally. cold.

6a, 6b — South-Westerly winds, light or moderate; some local showers; rather mild, then colder.

7a, 7b — Same as No. 2.

8a, 8b — Same as No. 5.

9a, 9b, 10a, 10b — Wind variable or Southerly, light; mostly fair, some mist or fog; rather cold.

11 — North-Easterly winds, light or moderate; ,sea slight fair.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

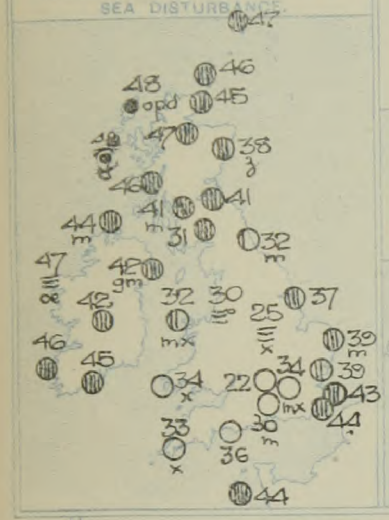
NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF WEDNESDAY, 6TH DECEMBER, 1916.

GENERAL INFERENCE.

The belt of high pressure extending from beyond our south-west coasts to the Baltic is likely to undergo little modification at present.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.



EXPLANATION.

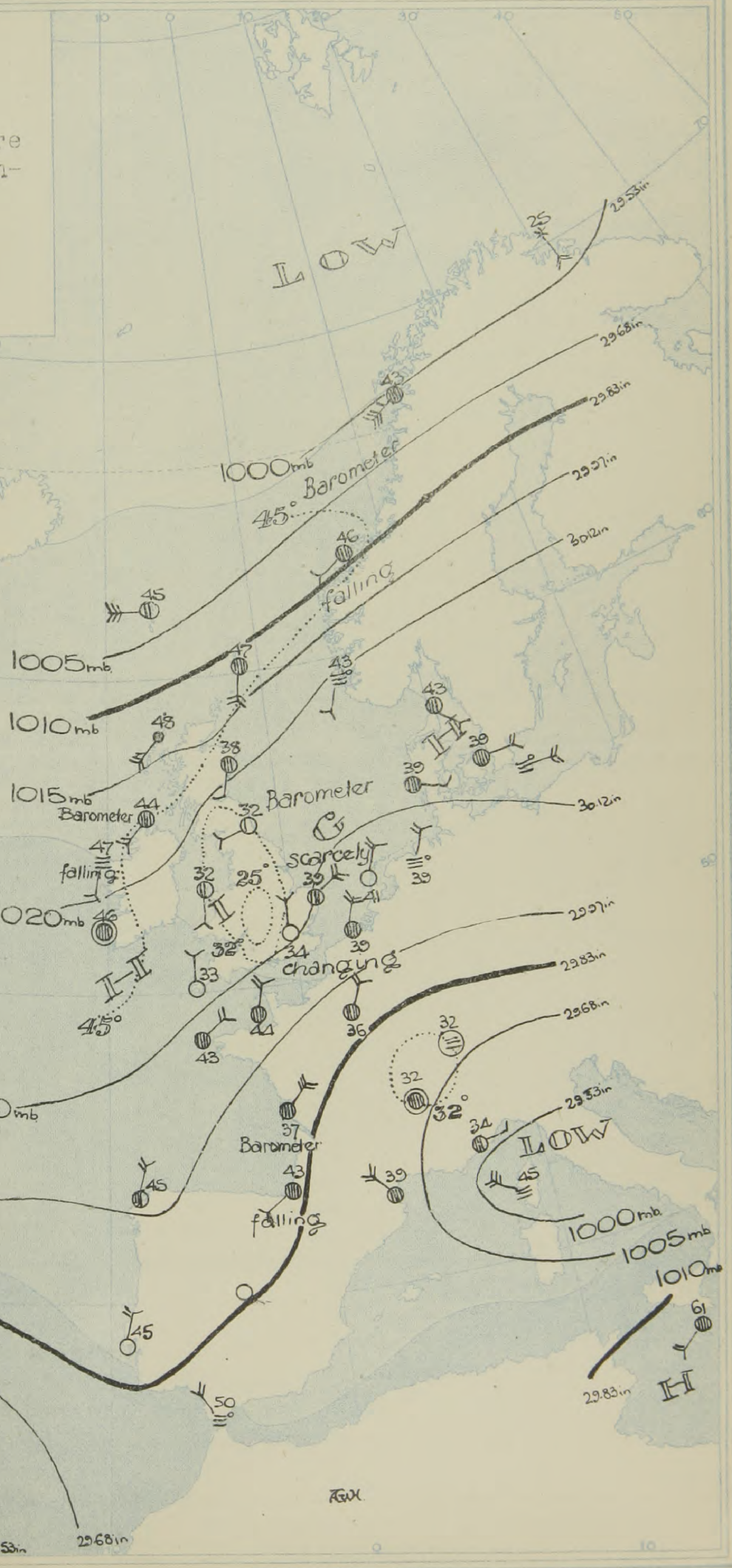
BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
○ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.



Normal Temperature of the Sea
Below 40° | 40°-50° | 50°-60° | Above 60°
Scale of Tints for DECEMBER

AGW

Issue No. 20.103

DAILY WEATHER REPORT.

Wednesday, 6th December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					†	°F.	°F.					°F.	°F.
Russia 7 a.m. and 9 p.m. Local Time.	Archangel	1025·9	28.	SE	6	s	1015·8	-6	28.	-	SSE	6	s	—	×	21.
	Gorki	1024·2	23	NE	2	f	1024·7	×	27	-3	W	1	o	—	×	25.
	Velieki Luki	1026·3	30	SE	2	o	1026·9	×	27	+6	SSE	1	o	—	×	27
	Hangö	·	·	·	·	·	1019·7	+1	36	o	SSW	6	o	1	×	3rc
	Riga	1021·1	36	S	4	o	1022·7	+1	32	o	SSW	3	o	—	×	32.
	Petrograd	1022·7	32.	ESE	4	o	1023·3	-1	32.	+2	SW	3	o	—	34	32.
	Moscow	1031·3	16.	E	1	o	1030·6	o	14	-14	ESE	1	c	—	×	14.
	Kiev	1025·1	27	ESE	2	o	1025·6	o	28.	-2	SE	2	o	—	×	27.
	Kharkov	1022·4	28.	NNE	2	s	1024·7	+1	21	-7	NNW	2	o	?	×	19.
	Kishinev	1024·3	28.	E	2	o	1025·2	+1	27	-10	NE	2	o	—	×	25.
	Elisabetgrad	1021·7	30	—	o	o	1019·3	+1	30	+3	E	2	o	1	×	27.
	Nicolaiev	1024·0	32,	—	o	r	1024·6	×	30	-2	ENE	2	o	—	×	30.
	Odessa	1023·8	34.	ESE	3	s	1023·7	o	36.	+6	SE	4	o	—	×	32.
	Tarkhankout	1023·7	34.	NE	3	o	1023·1	×	30	-2	E	5	bc	—	×	30.
	Soukhoum	1020·6	45.	W	3	r	1022·3	o	45	-1	—	o	o	18	×	43
Mediterranean.	Venice						1004·6	×	46	o	NE	2	r	11	48	45
	Pesaro						1001·3	×	46	o	—	o	c	2	52.	45
	Rome						1005·4	×	54.	+4	—	o	c	13	54	48
	Viesti						1007·0	×	55.	+3	ESE	1	c	—	57	50.
	Brindisi						1009·6	×	50	-2	SW	1	b	—	54	50.
	Cagliari						1005·5	×	59	+5	ESE	3	r	20	68	48.
	Palermo						1005·4	×	54.	+2	—	o	bc	1	66	50
	Tripoli	1016·1	50.	—	o	b	1014·6	×	50.	.	SW	4	b	—	66	46
	Algiers	1014·6	55.	—	o	c	1011·8	+1	54	o	WSW	1	c	—	64	52.
Sweden	Hernösand	1012·0	34	—	o	o	1018·7	×	32.	-5	—	o	o	×	×	×
	Stockholm	1013·5	41	S	2	o	1019·5	×	36	-1	SW	2	o	×	×	×
	Wisby	1013·7	39.	SSW	2	m	1019·8	×	39.	+2	SSW	2	o	×	×	×

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F.	°F.			
Isafjord	994·6	32.	-5	W	3	b.
Reykjavik	997·3	37.	+3	S	2	c.
Vestmannaö	999·7	41.	+7	S	2	c
Seydisfjord	991·7	48.	+21	SW	4	c.
Thorshavn	1004·6	46.	+15.	SSW	4	r

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY. UP TO 18h.

	STATIONS.	Rainfall. Night 18h-9h.	Rainfall. Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban							
	Banff	—	—	36	30	c	c	0.0
	Montrose							
	Carnoustie	×	×					
	St. Andrews							
Eng. N.E.	Harrogate	—	—	40	33	b	b.bc.c	5.5
	Skegness	3	1	42	35	bcp	p bc o	0.2
Eng. N.W.	Morecambe	—	—	38	25	—	—	5.6
	Southport	—	—	38	29	b	bc.b	6.1
Midlands.	Leamington Spa							
	Malvern	—	—	40	34	b	bc c o	5.6
	Ross-on-Wye	—	—	42	23	m bx	b.bc	5.8
Wales.	Rhyl							
	Colwyn Bay	×	×					
	Llandudno	×	×	45	37	c	c.b	1.4
	Aberystwyth	×	×	42	32	o. c	bc. o	2.5
	Tenby							

	STATIONS.	Rainfall. Night 18h-9h.	Rainfall. Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft	3	—	44	37	c.o.p.c	c.o	1.6
	Felixstowe	1	Trace	44	31	bcp	bc o	2.4
	Walton-on-Naze	Trace	—	44	34	b.bc.bc	bc.c	3.4
	Southend-on-Sea	—	—	40	33	o.c.bc	bc.c o.c	1.7
England. S.E.	Margate	—	—	44	36	c	c	0.0
	Ramsgate							
	Hastings	—	—	40	32	b	b.bc.o	5.0
	Eastbourne	—	—	40	33	bc o	o.bc	3.2
	Seaford	×	×	39	31	c	c.o	3.2
	Brighton	—	—	39	32	c.bc	bc.	1.4
	Worthing	—	—	39	33	bc	b.c	2.5
	Littlehampton	—	—	40	32	o.bc	bc o	2.4
	Bognor	×	×	41	34	bc	bc	2.8
	Bournemouth	—	—	43	31	b	b	6.3
England. S.W.	Weymouth	×	×					
	Torquay	—	—	46	31	b	b	6.3
	Paignton	×	×					
	Penzance	2	1	46	41	or	orm	0.0
	Newquay	Trace	1	46	41	o	o	0.0
	Bude	—	1	47	34	bc	bc	1.1
	Ilfracombe	—	—	45	41	o	o	0.0
	Weston-s-Mare	—	—	48	32	b.bc.b	b	?

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

6th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.49 / 7.51	11.44 / 11.45	3.39 / 3.39
Greenwich	7.51 / 7.53	11.51 / 11.52	3.51 / 3.52
Wick	8.47 / 8.49	12.3 / 12.4	3.20 / 3.19
Valencia	8.25 / 8.27	12.32 / 12.33	4.29 / 4.28

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° in several parts of England and very sharp frost occurred at night over a considerable area in the Midlands. The duration of bright sunshine varied greatly.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; z. hoar frost; z. dust-haze, or smoke.

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Printed at the Meteorological Office, South Kensington, London, S.W.

† The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 342. Thursday, 7th December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Direc. of Upper Cloud	Weather.	Sea 0–9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max.	Min.	Weather. Morning.	Afternoon.	Night.	Sunshine for Yesterday.
			°F					‡	°F	°F.							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	1011·1	44	–	0	omd	1007·8	0	45	– 2	W	2	W	bc	2	13	48	42	omr	omd	o bc	*
	Deerness (Orkney)	1012·2	49	SSW	2	or	1010·1	*	43	– 3	SW	1	–	ofp	2	8	49	43	or	or	r ofp	0·0
	Stornoway ...	1012·6	46	SSW	2	or	1011·3	0	40	– 8	W	2	–	bc	2	8	50	40	odp	or	zdp. bc	0·0
	Castlebay (Barra Isd.)	1014·3	49	SW	4	r	1013·3	0	46	– 3	W	2	W	bc	3	7	49	45	d	dr	r c o bc	0·0
	Glasgow ...	1017·6	44	SSW	2	om g	1013·5	– 2	45	+ 4	SW	2	–	omd	*	1	46	40	om g	omgpd	omdp	0·0
	Eskdalemuir ...	1019·9	34	–	0	ofd	1015·3	– 2	38	+ 7	S	1	–	ofe	*	3	39	30	ome	ofd	ofd	0·0
	Malin Head ...	1016·0	47	SW	3	om	1014·0	– 1	46	+ 2	SW	2	–	ofg	3	1	49	43	om	om	og	0·1
	Blacksod Point	1017·1	48	SSW	3	eg	1015·2	– 2	45	– 2	SSW	1	SW	cm	2	2	48	44	cgp	cgp	cmd m	*
	Valencia ...	1020·1	47	S	2	o	1016·8	– 2	48	+ 2	S	1	–	op	3	2	48	46	o	o	c o r o	0·0
	Roche's Point	1021·4	46	SW	1	o	1018·0	*	46	+ 1	WNW	1	–	o	2	1	48	44	od om	omd o	om	*
	Birr Castle ...	1019·9	45	S	1	o	1015·8	*	45	+ 3	S	1	–	r	*	2	46	42	o	o	or	0·0
	Donaghadee ...	1018·3	44	SW	2	ogm	1014·2	– 3	45	+ 3	SW	2	–	ogmp	2	1	46	41	ogm	ogm	ogmp	*
	Liverpool (Bidston)	1021·1	34	SE	1	bc	1016·8	– 1	34	+ 4	SE	2	SE	od	1	1	36	30	f	bm	c.od	0·5
	Holyhead ...	1020·1	44	S	4	ogm	1016·0	– 2	46	+ ?	SW	4	–	ome	3	0·1	46	36	bc cm	c.om	ome	0·0
	Pembroke (St. Ann's)	1021·1	40	SE	2	c	1017·4	– 3	47	+13	WSW	2	–	or	2	0·3	47	33	bcz	bc	cr or	4·9
	Scilly (St. Mary's)																					
	Falmouth ...	1021·2	33	N	1	bzx	1019·0	– 1	36	+ 3	N	1	–	c	*	–	42	31	bx bz	bz	bcx	7·1
	Jersey (St. Aubin)	1017·4	46	N	3	o	1016·5	*	45	+ 1	NNE	2	–	o	2	–	47	43	o.c.b	bc.o	om.o	1·8
	Portland Bill ...	1019·3	39	NNE	4	bc	1017·7	– 1	37	+ 1	NNE	3	–	b	3	–	42	35	b	b.bc	bc.b	*
	Dungeness ...	1015·5	43	NE	4	bc	1014·9	0	41	– 3	NE	3	–	o	2	–	45	43	bc	bc	c bc o	*
	Dover	1017·2	44	NNW	3	c	1015·8	0	41	– 2	N	3	N	o	3	–	48	40	o c bc	bc e.c	c or	3·1
	Wick	1012·9	46	SSW	2	r	1011·0	0	39	– 6	W	2	–	bc	2	9	46	38	mg.or	omr	omr.bc	*
	Nairn	1013·1	47	W	1	odg	1011·7	*	41	– 6	–	0	–	bc	1	3	49	40	ou	odg	pd.og	0·0
	Aberdeen	1015·5	42	SW	1	oz	1012·1	0	42	+ 4	–	0	–	ome	2	2	45	37	cz.oz	oz	oz.rm	0·4
	Leith	1017·3	45	SW	1	o	1012·7	– 1	46	+ 5	WSW	2	W	c	2	–	47	36	o.cg.o	o	oc.o.c	*
	Tynemouth ...	1019·1	39	SW	1	f	1014·6	– 3	40	+ 8	WSW	2	–	ogf	3	–	40	32	f	f	ogf	*
	Spurn Head ...	1020·3	39	N	2	bcm	1017·9	– 1	34	– 3	NNW	2	–	om	4	–	40	33	bc	bc	bcm	2·6
	Yarmouth ...	1018·6	44	NE	2	c	?1016·6	– 1	42	– 1	ENE	2	–	cm	2	–	44	42	cm	cm	cm	0·0
	Clacton-on Sea	1017·9	43	N	3	o	?1016·2	o	41	+ 2	NNW	3	–	o	2	–	43	38	bc.cog	og	og.cog	0·0
	Nottingham ...	1021·2	27	–	0	fx	1017·5	*	27	+ 2	SW	1	–	omx	*	–	29	22	fx	fx	fx	0·0
	Benson (Oxon.) ...	1019·9	31	NNE	1	bc	1018·3	0	23	+ 1	–	0	–	c	*	–	36	21	bzx	bc	o.cx	*
	Sth Farnborough	1018·5	38	NNW	3	o	1016·9	– 1	34	+ 4	NW	2	–	om	*	–	41	30	bcm	o.e.om	om	3·5
	London (Kew Obsy.)	1018·7	39	N	4	om	1017·3	o	38	+ 4	–	0	–	om	*	–	40	34	bmx bc om	om	om	1·0
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö	992·0	32	SW	3	c	993·0	+ 8	36	+ 11	W	2	–	c	2	*	36	25				
	Bodö	995·4	43	SW	9	c	1005·5	0	37	– 6	SW	8	–	c	5	?	45	36				
	Christiansund ...	1010·4	48	W	4	o	1008·8	– 1	43	– 3	–	0	–	r	3	9	50	34				
	Skudesnaes ...	1018·1	43	SSW	6	c	1015·0	– 1	45	+ 2	SSE	5	–	o	4	–	45	43				
	Færder (X'tania Fjord)	1020·4	43	SSW	4	o	1018·1	– 1	41	+ 2	SSW	4	–	o	2	–	43	39				
	The Scaw (Skagen)	1022·9	39	S	2	o	1019·9	– 2	39	– 4	E	2	–	o	3	–	45	37				
	Blaavands Huk	1021·5	37	E	1	o	1018·1	– 1	36	– 3	ESE	1	–	o	1	Trace	41	34				
	Copenhagen ...	1023·1	37	E	3	o	1020·0	– 1	37	– 2	SE	3	–	o	*	–	39	36				
	Bornholm ...	1022·1	39	ESE	4	o	1020·0	– 1	34	– 3	SSE	2	–	f	0	–	39	34				
FRANCE, &c.	The Helder ...	1018·7	36	NE	5	o	1015·3	– 2	37	– 4	NE	3	–	o	1	–	43	34				
	C. Gris Nez ...	1015·4	44	NE	6	c	1014·7	o	42	– 3	ENE	3	*	o	3	–	46	39				
	Le Hève	*	41	NNE	4	o	*	*	39	+ 1	–	0	*	c	3	–	45	37				
	Brest (St. Mathieu)	1019·7	44	NNE	3	o	1019·0	o	42	– 1	NE	3	*	c	2	–	48	39				
	Rochefort (Ile d'Aix)	1012·8	43	NNE	5	r	1014·6	o	43	+16	NNE	5	*	o	*	2	45	37				
	Biarritz	1012·7	39	E	2	f	1013·3	o	42	– 1	E	1	*	f	2	2	43	37				
	Paris	1011·7	41	NNE	3	o	1014·0	+ 2	36	0	NNE	2	–	o	*	1	41	36				
	Belfort	1009·6	34	WSW	2	f	1013·9	*	30	– 2	–	0	*	f	*	2	35	30				
	Lyons							*					*		*							
	Nice	1009·3	39	E	3	r	1006·7	o	35	+ 1	E	1	*	r	3	15	43	34				
	Perpignan ...	1010·1	37	NW	2	b	1011·3	o	36	– 3	SW	1	NW	bc	*	–	45	34				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1016·4	*	NNE	4	b	1017·7	+ 1	55	– 2	NNE	4	*	b	1	–	61	54				
	Madeira	1001·7	63	SE	3	o	1005·5	+ 2	61	o	SE	4	–	r	4	48	64	57				
	Gibraltar	1011·2	54	E	4	b	1012·5	*	48	– 2	NE	2	*	b	3	–	60	47				
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1017·6	+ 1	70	+13	E	2	–	c	6	–	73	50				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass.	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	81	81	0·0	41	37	34	–	o	o	o
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	87	84	0·0	43	37	35	–	om	o m	o m
CAMDEN SQ. (British Rainfall) ..	82	81	0·0	41	36	36	–	c. o	o	*
HAMPSTEAD (Reservoir)	*	82	0·7	39	32	23	–	c	o	c ox
S. KENSINGTON (Museum Grounds)	*		0·0				–	o.bc	c.o	o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
188	6·5	12·5

Temperatures at Greenwich and Camden Square are from Glaisher screens.

UPPER AIR.

South Farnborough.
Pilot Balloon Ascent at 7h.43m.

Wind at
900 m. NE'N 7 m/s.
600 m. NE 5
300 m. N 5
Surface WNW 2

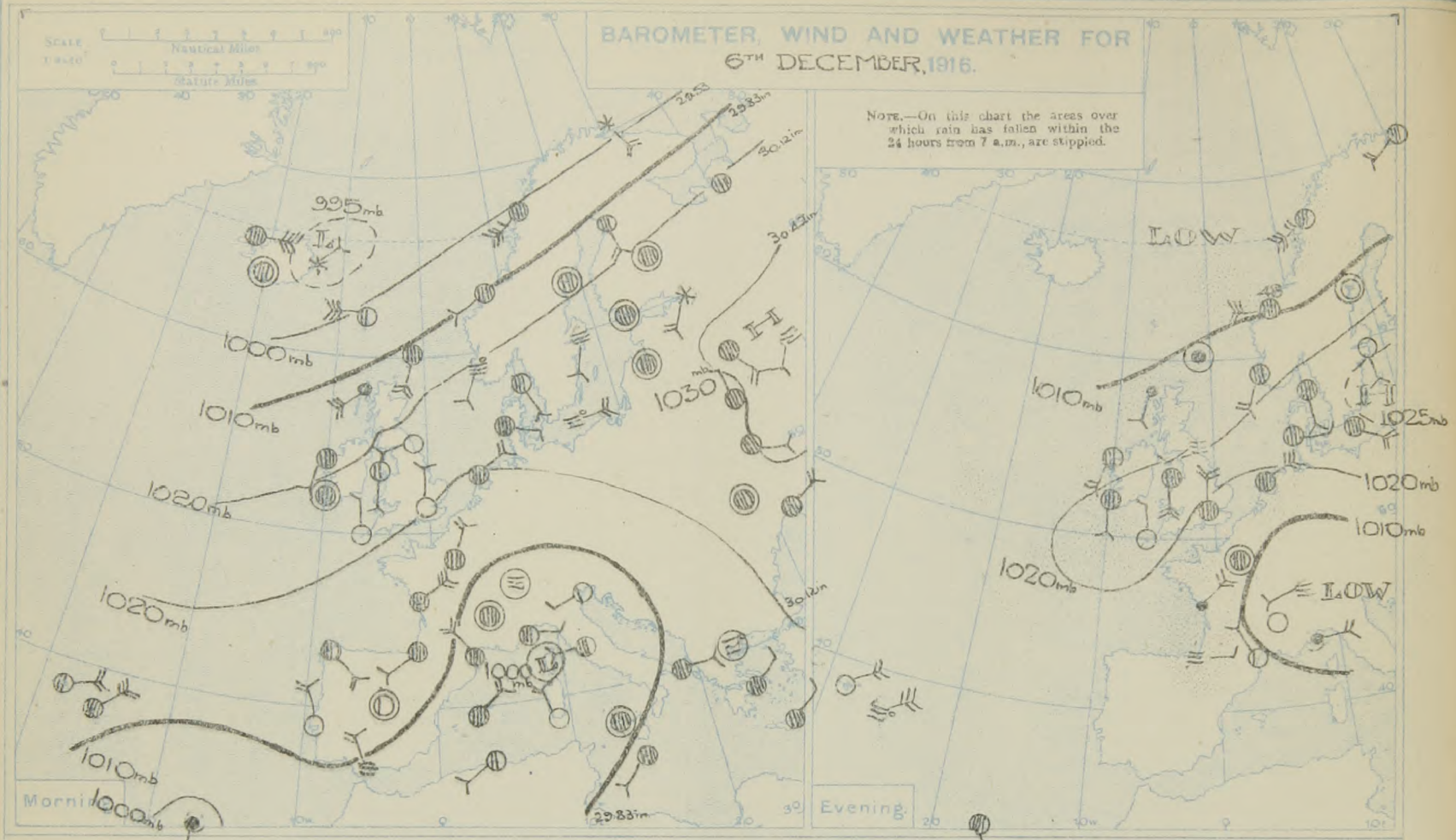
RAINFALL

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

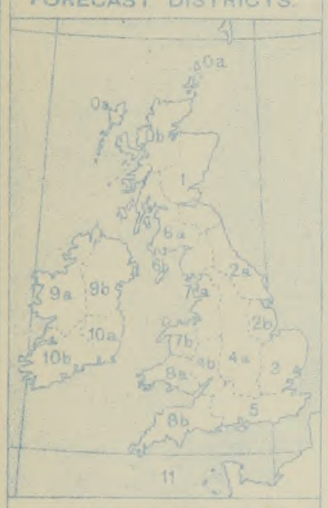
* Received too late for insertion in Charts. † The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 6TH DECEMBER, 1916.



FORECASTS FOR THE 24 HOURS NOON THURSDAY TO NOON FRIDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

0	a, b	Wind light between West and South-West; much cloud generally; some mist and slight rain; moderate temperature.
1		
2	a, b	Variable to South-Westerly winds, light; cloudy or dull; some rain; moderately low temperature.
3		Same as No. 5.
4	a, b	Same as No. 2.
5		Wind between North-East and North; much cloud; some mist; moderate temperature.
6	a, b	Same as Nos. 0 and 1.
7	a, b	
8	a, b	Variable to South-Westerly winds, light; much cloud, rain locally; moderate temperature.
9	a, b	Wind between South and West, light to moderate; variable sky, some rain; rather mild.
10	a, b	
11		North-Easterly to variable winds, light; sea slight; cloudy or overcast, some mist.

Western Channel and Bay

Millibars
1050
1040
1030
1020
1010
1000
990
980
970

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF THURSDAY, 7TH DECEMBER, 1916.

GENERAL INFERENCE.

The barometrical changes are rather indefinite, but they seem to point to the gradual break up of the high pressure belt.

TEMPERATURE WEATHER AND SEA DISTURBANCE

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
○ clear sky. ◑ sky ¼ clouded. ◑ sky ½ clouded.
◑ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊤, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER

Nautical Miles
Statute Miles

995mb LOW 29.88in 1000mb 29.53in 29.08in 29.83in 29.97in 30.12in HIGH 1020mb 30.12in 29.97in 1005mb 1010mb Barometer falling 1015mb slightly Barometer steady 29.83in LOW 1010mb 1015mb 1010mb LOW 29.83in AGW

Issue No. 20,104

DAILY WEATHER REPORT.

Thursday, 7th December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1019·0	28	S	2	o	1023·7	0	23	-2	–	0	o	–	*	14
	Gorki	1029·0	25	–	0	o	1029·0	*	21	-6	N	1	o	–	*	25
	Velieki Luki ...	1029·8	30	S	1	o	1032·0	*	23	-4	SSE	1	o	–	*	23
	Hangö	.	.	.	.	.	1025·3	+1	39	+3	–	0	o	3	*	34
	Riga	1027·0	32	SSW	1	o	1029·1	0	30	-2	–	0	o	–	*	30
	Petrograd ...	1025·6	34	SW	4	o	1026·6	0	32	0	SW	3	s	–	34	32
	Moscow	1032·8	28	ESE	1	o	1034·9	0	12	-2	SW	2	f	–	*	10
	Kiev	1028·8	27	S	2	o	1030·0	+1	27	-1	ESE	2	o	–	*	25
	Kharkov ...	1030·3	21	NE	2	o	1029·7	+2	21	0	NNE	2	o	–	*	21
	Kishinev ...	1025·0	30	ENE	2	o	1027·6	+3	25	-2	–	o	o	–	*	25
	Elisabetgrad ...	1028·4	25	NE	2	o	1029·6	+1	28	-5	ENE	2	o	–	*	19
	Nicolaiev ...	1026·7	27	ENE	3	bc	1028·6	.	25	-5	NE	2	o	–	*	23
	Odessa	1026·1	34	ESE	3	o	1027·9	+2	27	-9	ENE	3	o	–	*	25
	Tarkhankout...	1023·1	30	NE	7	bc	1026·0	*	28	-2	NE	4	b	–	*	27
	Soukhoum ...	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.
MEDITERRANEAN.	Venice	1002·9	46	NNE	2	o	1007·9	*	45	-1	WSW	1	b	29	58	46
	Pesaro	1002·9	48	–	0	r	1007·1	*	45	-1	ESE	2	r	2	55	43
	Rome	1005·7	50	SE	1	o	1005·0	*	45	-9	–	o	bc	10	57	45
	Viesti	1006·3	57	N	2	bc	1008·4	*	54	-1	–	o	bc	–	59	52
	Brindisi	1010·4	55	SE	2	b	1010·4	*	57	+7	E	2	o	5	64	50
	Cagliari	1006·9	57	NW	3	b	1007·1	*	50	-9	NNW	3	b	14	68	45
	Palermo	1007·6	57	–	0	bc	1008·4	*	50	-4	–	o	o	10	66	48
	Tripoli	1011·9	52	NNW	1	b	1010·6	*	52	+2	SSW	4	b	5	62	43
	Algiers	1011·4	50	–	0	3	1008·7	o	48	-6	SW	2	bc	14	57	46
SWEDEN.	Hernösand ...	1022·4	28	–	o	fx	1017·1	*	30	-2	–	o	c	*	*	*
	Stockholm ...	1023·9	34	W	2	f	1025·0	*	34	-2	SSW	2	f	*	*	*
	Wisby	1024·0	37	S	2	o	1026·7	*	36	-3	S	2	o	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord ...	999·1	28	-4	E	6	o
Reykjavik	995·9	32	-5	–	o	c
Vestmanna	997·2	32	-9	–	o	o
Seydisfjord	996·3	28	-20	NE	2	s
Thorshavn	1001·3	45	o	W	6	bc

Hours of Observation G.M.T.

	Morning h.	Evening h.
British Isles ...	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	18
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F	F			Hr.
Scotland.	Oban	1	1	48	37	cd	o	0·0
	Banff	–	1	45	36	bcr c	c	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	–	–	44	33	o	c.o.	0·0
Eng. N.E.	Harrogate	–	–	41	28	bcc	bc.c	3·2
	Skegness	–	–	41	31	b.	b.o.f.	5·1
Eng. N.W.	Morecambe	–	–	36	25		-	0·0
	Southport	–	–	35	27	o.f.o	oz.bc	0·0
Midlands.	Leamington Spa							
	Malvern	–	–	31	22	m	m.	5·2
	Ross-on-Wye	–	–	33	21	fx	xf.	0·0
Wales.	Rhyl	–	–	38	25	x.	o.	0·0
	Colwyn Bay...	*	*	40	27	bc	bc	1·8
	Llandudno	*	*	42	28	c	bcc	1·8
	Aberystwyth			40	26	c.o.	c.o	2·5
	Tenby	*	*					

	STATIONS	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft	–	–	45	39	o	o	0·0
	Felixstowe	–	–	44	35	o	o	0·0
	Walton-on-Naze ...	–	–	42	37	c.cj.c	c.	0·0
	Southend-on-Sea ...	–	–	43	35	o	oz	0·0
England, S.E.	Margate	–	–	47	39	c	bcc	0·9
	Ramsgate	–	–	46	40	ov.c	c.bc	1·3
	Hastings	Trace	–	44	36	o	bc	2·2
	Eastbourne	–	–	44	35	o.bc	bc.o.	1·5
	Seaford	*	*	43	33	o	o.c	1·1
	Brighton	–	–	43	34	c.o	o	0·0
	Worthing	–	–	42	34	bc	bc	0·0
	Littlehampton ...							
	Bognor	*	*	42	35	bc	ba	2·3
	Bournemouth ...	–	–	42	29	b.	bo.	6·5
England, S.W.	Weymouth... ...	*	*	41	31	j.b	bj.	6·1
	Torquay	–	–	104	30	b	b	6·5
	Paignton	*	*					
	Penzance	Trace	–	43	32	b	b	7·2
	Newquay	–	–	43	28	b	b	6·6
	Bude	–	–	47	26	b	b	7·0
	Ilfracombe	–	–	42	35	b	b	5·3
	Weston-s-Mare ...	–	–	40	28	fm.	bm.	2·0

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

7th & 8th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.9 7.52	11.45 11.45	3.39 3.38
Greenwich	7.53 7.54	11.52 11.52	3.51 3.50
Wick	8.49 8.50	12.4 12.4	3.19 3.18
Valencia	8.37 8.38	12.33 12.33	4.29 4.28

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 32° throughout at some Midland stations. Bright sunshine varied greatly; in some south-western localities the record was about seven hours. Some rain was experienced over a large area in the west and north.

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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By WYMAN & SONS LTD., Fetter Lane, London, E.C. and Reading.

‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 343 { Friday 8th December

	STATIONS	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp	Wind. Direc	Wind. Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc of Upper Cloud	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday.
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	1007·5	42	WSW	2	c	1004·0	-1	39	-6	-	0	-	c	0	1	45	37	bc.c	c.	cp.	*
	Deerness (Orkney)	1008·8	39	SW	1	bc	1005·1	*	36	-7	W	2	-	c.c	1	1	45	36	o.p.o.	oc.bc	bc.c	00.
	Stornoway ...	1009·3	39	WSW	2	oz	1005·5	-2	34	-6	W	2	-	c	2	1	41	31	bc.oz	oz	bc.c	01.
	Castlebay (Barra Isd.)	1010·4	44	W	3	o	1006·9	-1	40	-6	NW	2	-	b	2	2	46	39	bc.o	o.	o.bc.p.b.	00.
	Glasgow ...	1011·0	41	W	1	cm	1007·4	-2	37	-8	W	1	-	bcm	*	2	45	37	d.p.o.m.g.	o.m.c.m.	c.m.p.bc	0·0
	Eskdalemuir ...	1011·5	39	-	0	o.m.r.	1007·6	-2	35	-3	SW	1	-	o	*	8	40	31	o.f.d.f.e.	o.r.m	o.r.m.bc	0·0
	Malin Head ...	1010·8	43	SW	2	c.g	1007·2	-2	42	-4	W	5	W	c.q	5	2	47	40	c.p.	c.g	c.q.p.	00
	Blacksod Point	1012·9	43	W	3	c.p	1009·3	-3	41	-4	W.N.W	1	-	bc	2	2	46	39	c.g	c.p.	bc.p.bc	*
	Valencia ...	1013·1	46	NW	3	c	1011·6	-3	38	-10	NE	2	-	b	3	4	50	38	o.d.	o.c.p.	c.b.c.h	00
	Roche's Point	1014·3	48	W.N.W	3	o	1012·7	*	38	-8	N	1	-	b	1	0.4	49	38	o.m	o.p.o.	o.c.b	*
	Birr Castle ...	1013·1	43	S.W	1	bc	1010·9	*	33	-12	SW	1	-	bc	*	5	46	33	o.r	o.r.c	c.b.c.x	00
	Donaghadee ...	1011·2	43	SW	1	o.g.m.p.	1008·0	-1	38	-7	W.N.W	3	-	b	2	8	46	37	o.f.r	o.m.r	o.m.	*
	Liverpool (Bidston)	1012·3	41	SE	1	r	1009·0	-1	41	+7.	W.S.W	2	W	bc	2	8	45	34	o.m	o.r	o.r.c.	00.
	Holyhead ...	1011·8	47	WSW	4	c.p.d.m.	1008·2	-1	44	-2	N.W	5	N.W	c	4	7	48	44	o.p.o.r.m.	o.r.o.p.d.	o.r.o.d.	0·0
	Pembroke (St. Ann's)	1013·6	48	S.W	3	o.r.	1011·4	0	45	-2	N.W	2	N.W	bc	2	4	48	43	o.p.o	o.p.o.r	o.r.o.p.c	0·0
	Scilly (St. Mary's)																					
	Falmouth ...	1015·9	44	W.S.W	2	o.e	1012·3	0	48	+7	W.N.W	2	-	b	*	1	47	35	c.z.o.	o.o.m.	o.d.c.p.d.	0·3
	Jersey (St. Aubin)	1016·5	39	NW	2	o.	1012·6	*	47	+2	S.W	2	-	c	2	1	47	38	o	a.c.o.	o.d.c	00
	Portland Bill ...	1015·4	45	W	2	o.r	1010·3	-3	48	+11	W.N.W	4	N.W	o	3	2	49	37	b.b.c.o.o	o.d.	o.r	*
	Dungeness ...	1014·0	40	N.E	3	c	1009·6	-2	45	+4	S.W	2	-	o	3	1	45	37	o.c	c.o.c.	b.c.p.o.	*
	Dover	1015·0	38	NW	3	c	1009·9	-2	42	+1	S.W	2	-	r	3	1	42	36	o.c.	c.	c.o.d.m.	0·0
	Wick	1009·5	39	W	1	c	1005·6	-3	32	-7	W	1	-	bc	1	-	42	30	bc.o.g	o.g.c	o.g.bc	*
	Nairn	1009·5	39	-	0	o.g	1006·6	*	33	-8	-	0	-	bc	0	0·2	41	33	bc.c.m	c.o.	o.c.x	00
	Aberdeen	1010·3	42	W	1	o.m.d.	1006·0	-2	34	-8	W.N.W	2	-	o.m	1	1	45	34	c.m.o.m	c.m.o.m.	o.m.o.c	0·0
	Leith	1010·4	44	S.W	1	o	1006·7	-1	39	-7	S.W	1	S.W	c	2	0·3	47	38	c.o.c.m.o	o.g.o.m.o	o.m.c.d.c	*
	Tynemouth ...	1011·1	42	W.S.W	1	f.d.	1006·5	-1	39	-1	N.W	2	-	c.m	3	7	45	38	c.p.	f.	o.m.r	*
	Spurn Head ...	1013·5	38	W.S.W	2	o.m.	1007·3	-1	40	+6	W.S.W	2	-	o.r	4	7	40	34	o.m	o.m.	f.e	00.
	Yarmouth ...	1014·4	39	N	2	o.f.	1008·6	-3	37	-5	W.S.W	2	-	f.d.	2	-	43	35	c.m	c.m.o.f.	o.f.b.c.f.	0·0
	Clacton-on-Sea	1014·7	38	N.W	2	o	1009·3	-1	41	0	S.W	2	-	o	1	0·3	41	36	o.g.m	o.g.m	o.g.m.p.d.	0·0
	Nottingham ...	1013·2	34	W	1	r	1008·4	*	37	+10	W	1	W	d.m	*	5	37	26	o.d.m	d.m.o	d.m.	00.
	Benson (Oxon.) ...	1014·5	34	-	0	r	1008·6	-1	39	+16	N.W	2	-	o	*	2	40	22	c.	o.m.	o.r.	*
	Sth Farnborough	1015·4	38	S.W	2	o	1008·9	-2	43	+9	W	3	-	o	*	1	44	33	a.b.c.m	c.o.d.m.	o.r.o	o.q.
	London (Kew Obsy.)	1015·1	39	S.S.W	1	o.f.	1009·3	-3	42	+4	W.S.W	1	-	o.f	*	2	42	37	o.m.	o.m.c.m.o.f.	o.m.r.o.f.	0·5
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö	1008·5	30	S	3	b	1008·7	+3	30	-6	S.W	1	-	b	3	*	36	23.				
	Bodö	1003·5	37	S.W	2	o	1006·6	+1	36	-1	E	2	-	b	2	9	39	26.				
	Christiansund ...	1008·2	43	-	0	r.	1007·4	0	41	-2	-	0	-	r	3	5	49	39				
	Shudesnaes ...	1011·8	39	S	1	r	1007·4	-2	41	-4	S	5	-	o	4	11	45	36.				
	Færder (Christiania Fjord)	1015·8	37	S.W	2	o	1011·1	-2	36	-5	S.E	4	-	r	2	2	41	36.				
	The Scaw (Skagen)	1017·3	39	S.S.E	1	o	1010·9	-3	39	0	S	2	-	r	2	3	39	37.				
	Blaavands Huk	1014·7	37	S.E	1	o	1009·6	-2	37	-1	S.S.E	1	-	f	1	-	41	34.				
	Copenhagen ...	1014·1	39	S.S.E	3	o	1011·1	-2	39	-2	S.E	2	-	m	*	3	39	37.				
	Bornholm ...	1017·5	36	S.S.E	2	f	1011·9	-2	36	+2	S.E	5	S.E	m	2	-	37	34.				
FRANCE, &c.	The Helder ...	1012·8	36	N	1	o.	1010·1	-1	36	-1	S.E	1	-	f	0	-	37	34.				
	C. Gris Nez ...	1014·4	41	N	3	o.	1011·4	-3	43	+1.	S.S.W.	2	*	r	2	2	43	41.				
	La Hêve	*	43	N	3	c	*	*	41	+2	S.W	4	*	r	2	7	45	37.				
	Brest (St. Mathieu)	1017·6	46	N.W	3	o	1014·4	?	50	+8	N.W	3	*	c	2	?	50	42				
	Rochefort (Ile d'Aix)	1015·4	45	N	4	o	1017·0	0	43	0	E	2	*	o	1	-	45	41.				
	Biarritz												*									
	Paris	1014·4	36	N	2	o	1014·3	0.	36	0	S	1	-	o	*	1	37	36.				
	Belfort	1012·6	33	-	0	m.	1015·8	*	31	+1	W	3	*	s	*	2	34	30				
	Lyons	1014·3	32	N	2	r	1016·6	*	33	-	-	0.	*	r	*	-	33	32				
	Nice	1008·7	38	E	2	c	1011·5	+2	36	+1	E	4	*	b	4	3	44	32				
	Perpignan ...	1011·8	41	NW	3	bc	1015·8	+2	43	+7.	NW	3	N.W.	o	*	-	45	36.				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1017·3	*	N.N.E	4	o.							*									
	Madeira	1005·3	63	S	3	r	1007·0	0	59	-2	N.E	3	-	r	3	4.0.	64	59.				
	Gibraltar	1015·6	53	E	3	b	1016·2	*	53	+5	E	4	*	b	3	-	58	47.				
	Malta	*	*	*	*	*	1007·7	+2	54	-7	N.W	3	-	r	2	10	65	54.				
	Limassol	*	*	*	*	*	1014·9	0	54	-16.	E	1	-	o.	6	-	70	52				
	Alexandria ...	1014·6	66	-	0	b	1014·6	+1	63	-3	-	0	N.W	bc	0	-	75	55.				
	Cairo (Helwan) ...	1013·2	63	N.E	2	b	1014·9	+4	57	-2	-	0	-	b	*	-	77	52				

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	84	95	0·0.	42	37	32	1	o	o	o.d.o.
CITY (Bunhill Row)	*	*	0·0.	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)			0·0							
CAMDEN SQ. (British Rainfall) ..	81	97	0·0	42	38	35	2	o	o	*
HAMPSTEAD (Reservoir)	*	96	?	40	35	26	2	o.	c.o.f.r.	o.f.
S. KENSINGTON (Museum Grounds)	*	93	0·0	44	39	39	2	o	o.	o.m.r
RICHMOND PARK	*	*	-	*	*	*	*	*	*	*

SOUTH KENSINGTON.

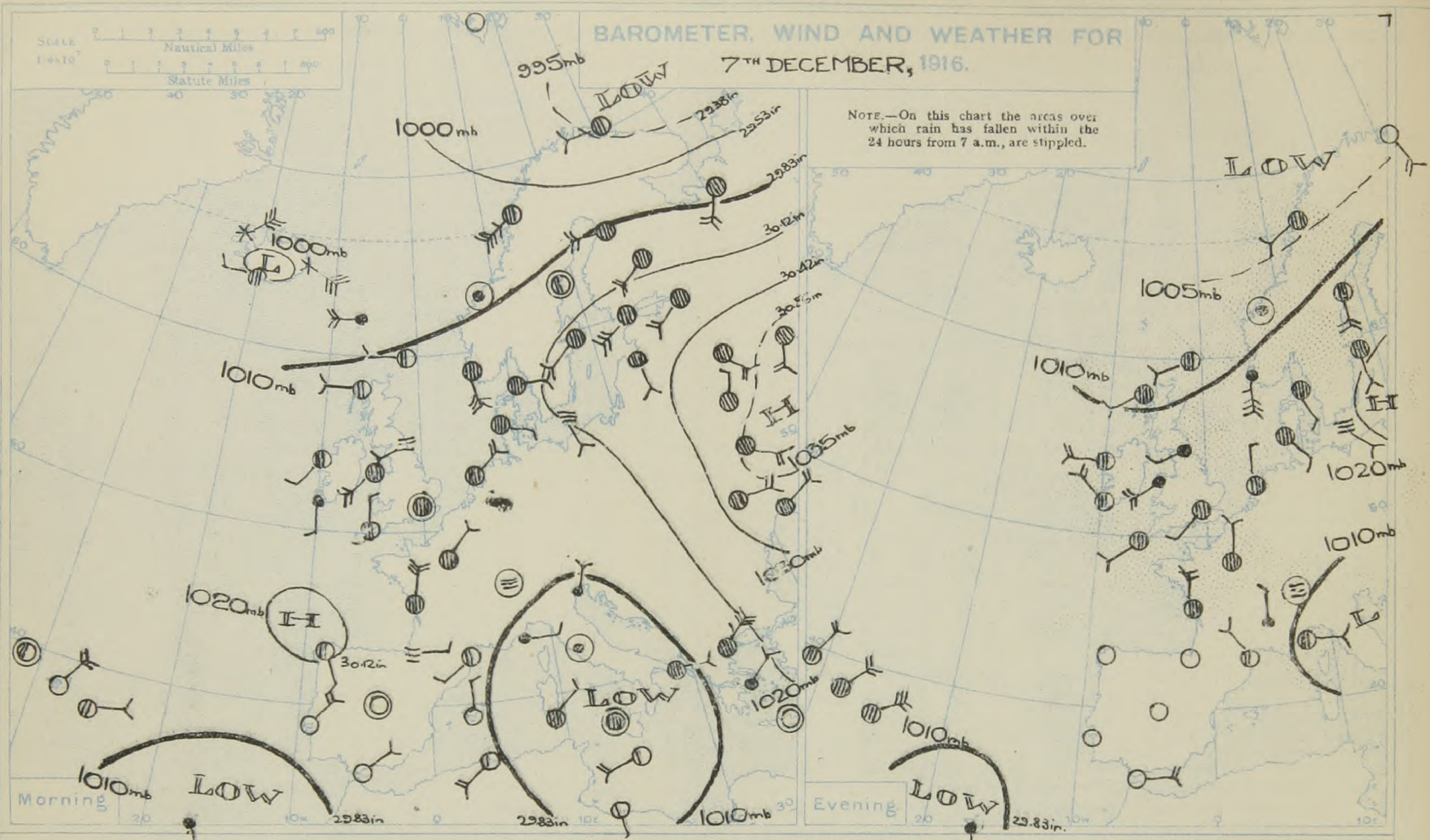
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
118	4·1	13·8.

Temperatures at Greenwich and Camden Square are from Glaisher screens.

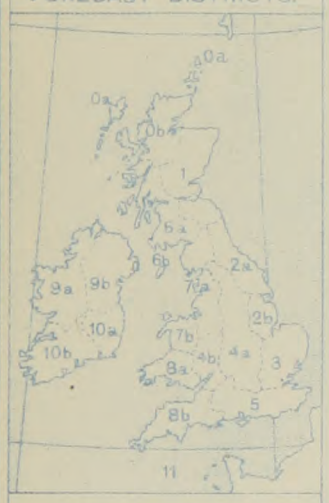
* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 7TH DECEMBER, 1916.



FORECASTS FOR THE 24 HOURS NOON FRIDAY TO NOON SATURDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay 11

0 {a b} 1 — Wind mainly Westerly, light; variable sky, some rain, sleet or snow in places; temperature rather low.

2 {a b} 3 4 {a b} 5 — Wind between North-West and South-West, light; mostly cloudy, some rain, sleet locally; temperature rather low.

6 {a b} — Same as Nos. 0 and 1.

7 {a b} 8 {a b} — Wind between North-West and South-West, then variable; light; changeable, some rain; moderate temperature.

9 {a b} — Westerly to variable winds, light; changeable, some rain, sleet locally; temperature rather low.

10 {a b} — Wind light or moderate between North-West and North-East; some rain or sleet; cold.

11 — Wind Westerly to variable, light or moderate; sea slight; changeable, some rain.

Millibars
1050
1040
1030
1020
1010
1000
990
980
970

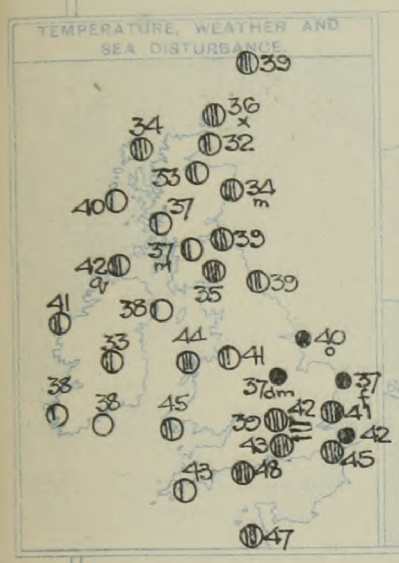
FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF FRIDAY, 8TH DECEMBER, 1916.

GENERAL INFERENCE.

The present unsettled conditions are likely to continue. There are some indications of the existence or the development of a depression off the south coast of Ireland.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded, ◕ sky ¾ clouded. ◍ overcast sky. ● rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.

LOW

1005mb

Barometer

falling

1010mb

slightly

1015mb

generally

HIGH

29.68in

29.83in

40°

32°

Scale 1 : 2·10
Nautical Miles
Statute Miles

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER.

PGW.

Issue No. 26,195 — DAILY WEATHER REPORT. — Friday, 8th December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					±	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1021·3	30	WSW	2	S	1008·3	−14	36	+13	SW	4	b	–	*	30
	Gorki	1031·8	18	NNE	1	o	1031·9	*	19	−2	NNE	1	c	–	*	25
	Velieki Luki ...	1033·2	27	SE	2	o	1032·6	*	25	+2	SSE	3	o	–	*	23
	Hangö						1024·0	−2	37	−2	WSW	5	o	–	*	32
	Riga	1028·6	32	S	2	o	1027·7	o	30	o	SSE	2	o	–	*	30
	Petrograd ...	1028·3	32	SW	4	o	1027·7	−1	18	−14	SW	3	o	–	39	28
	Moscow	1035·8	23	WSW	2	o	1036·2	o	19	+7	SSW	3	o	–	*	12
	Kiev	1034·0	19	SE	2	c	1035·7	o	21	−6	SE	3	o	–	*	19
	Kharkov ...	1035·0	25	E	2	o									*	
	Kishinev ...	1030·9	27	E	3	o	1032·8	o	25	o	E	3	o	–	*	23
	Elisabetgrad ...	1034·0	21	NE	3	o	1036·0	+1	23	−2	ESE	3	o	–	*	21
	Nicolaiev ...	1032·4	27	ENE	4	o	1031·1	*	25	o	ENE	3	o	–	*	23
	Odessa	1031·9	28	ENE	3	o	1034·1	+1	27	o	ESE	3	o	–	*	25
	Tarkhankout...						1032·8	*	27	−1	NE	4	o	–	*	27
	Soukhoum ...														*	
MEDITERRANEAN.	Venice	1012·6	45	NE	1	b	1007·7	*	46	+1	NNE	2	b	1	52	45
	Pesaro	1011·4	45	SE	1	o	1005·9	*	46	+1	S	1	r	8	54	43
	Rome	1008·2	50	–	o	c	1006·9	*	50	+5	–	o	r	21	52	45
	Viesti	1010·2	55	–	o	o	1008·3	*	57	+3	–	o	o	5	57	50
	Brindisi	1011·4	57	SE	2	o	1009·9	*	57	o	ESE	2	o	5	59	55
	Cagliari	1001·0	55	SW	4	r	1008·1	*	48	−2	NE	1	o	5	66	48
	Palermo	1008·4	52	SW	1	b	1007·9	*	50	o	–	o	o	3	57	45
	Tripoli	1009·0	55	–	o	b	1009·4	*	55	+3	S	1	b	–	72	52
	Algiers	1009·9	46	SW	1	c	1010·4	+1	48	+3	SW	3	b	14	55	45
SWEDEN.	Hernösand ...	1013·6	34	–	o	b	1013·9	*	36	+6	–	o	bc	*	*	*
	Stockholm ...	1023·9	36	S	2	o	1022·4	*	32	−2	SW	2	o	*	*	*
	Wisby	1025·6	37	S	2	o	1024·6	*	37	+1	S	2	o	*	*	*

ICELAND.	Morning Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	1008·2	27	−1	NE	6	S
Reykjavik	1000·0	27	−5	–	o	b
Vestmanna	1000·6	34	+2	W	1	c
Seydisfjord	1003·1	27	−1	SE	6	S
Thorshavn	1003·3	37	−8	W	4	r

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night 18h–9h.	Rainfall Day 9h–18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F	F			Hr.
Scotland.	Oban	1	–	46	38	c.	bc.	0·4
	Banff	1	–	42	34	bc.c	c.	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews							
Eng. N.E.	Harrogate	1	Trace	41	33	o	mr	0·0
	Skegness	–	–	38	30	of	of	0·0
Eng. N.W.	Morecambe	1	6	39	35	–	–	0·0
	Southport	1	4	39	34	oe	or	0·0
Midlands.	Leamington Spa							
	Malvern	–	–	33	20	m	m	0·0
	Ross-on-Wye	–	2	33	20	fx	fx.or	0·0
Wales.	Rhyl							
	Colwyn Bay...	*	*	47	35	c	cr	0·0
	Llandudno	*	*	46	38	bcr	r	0·0
	Aberystwyth	*	*	44	34	r.o.	c.or	0·0
	Tenby	1	1	46	28	or.f.	rf.	0·0

	STATIONS.	Rainfall Night 18h–9h.	Rainfall Day 9h–18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England. E.	Lowestoft	–	–	44	40	o	om.	0·0
	Felixstowe	–	–	41	37	om	om	0·0
	Walton-on-Naze							
	Southend-on-Sea	–	–	42	37	oz	oz	0·0
England. S.E.	Margate	–	–	44	42	c	c	0·0
	Ramsgate	–	–	43	38	oe	oe	0·0
	Hastings	–	–	42	39	o	o	0·0
	Eastbourne	–	–	42	35	o.c	o.c.	0·0
	Seaford	*	*					
	Brighton	–	–	40	37	o	o.c.	0·0
	Worthing	–	–	41	38	o	o	0·0
	Littlehampton	–	–	41	37	o	o	0·0
	Bognor	*	*	43	36	bc	bc	0·0
	Bournemouth	–	Trace	40	28	o	o.r	0·0
England. S.W.	Weymouth...	*	*	41	30	z.bc.c.o	o.f.e.d.	0·0
	Torquay	–	–	42	31	om	om	0·0
	Paignton	*	*	42	?	cm	c.	0·0
	Penzance	–	–	48	38	oz	oz	0·0
	Newquay	–	–	45	28	o	o	0·0
	Bude	–	Trace	47	28	o	o	0·0
	Ilfracombe	Trace	2	47	32	mr	r	0·0
	Weston-s-Mare							

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

8th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.52	11.45	3.28
	7.53	11.45	3.38
Greenwich	7.54	11.52	3.50
	7.55	11.52	3.50
Wick	8.50	12.4	3.18
	8.52	12.4	3.17
Valencia	8.38	12.33	4.28
	8.39	12.33	4.28

NOTES ON YESTERDAY'S WEATHER.

Temperature rose in most places during the day, and rain set in over a large area by the evening or night. Scarcely any bright sunshine was recorded; at almost all stations there was none.

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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± The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 344 { Saturday 9th December

	STATIONS.	YESTERDAY EVENING					THIS MORNING.								PAST 24 HOURS					Sunshine for Yesterday	
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours. ‡	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F						°F	°F							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	10006	34	-	0	bc	10007	0	33	-6	-	0	-	b	0	0·3	44	32	c	bcp.	"ox	*
	Deerness (Orkney)	10021·4	37	W	3	b.	10007	*	38	+2	E	2	-	bx	1	-	40	35	c.bc	bc.b.	b.bcx	3·5.
	Stornoway ...	10018	34	W	1	bz	9974	-1	37	+3	SE	3	-	c	3	-	41	33	c.b	bz	bc.c.	3·1.
	Castlebay (Barra Isd.)	10013	45	SSE	3	c	9949	-1	42	+2	ESE	5	-	cg	5	0·3	46	38	bc	bc	cc.pcg	27.
	Glasgow ...	10044	36	W	1	bm.	9965	-4	31	-6	ENE	3	-	cg	*	Trace	39	26	x.bcm.	bc.bm	bmx	2·0.
	Eskdalemuir ...	10052	32	-	0	c	9968	-5	29	-6	NE	4	-	o	*	-	40	26	o.	c.bc.c.o.	cc.fe.o	1·2
	Malin Head ...	10010	36	W	4	bc	9907	-5	42	0	E	5	-	om	5	2	43	35	bc.p.	bc	om	1·5.
	Blacksod Point	9979	40	SE	4	cg	9915	-4	41	0	NW	5	NW	cmg	5	11	44	35	bc	bc	omr	*
	Valencia ...	9957	44	SE	6	r	9950	-3	41	+3	NW	6	-	cph	*	10	49	36	b.op	opr	r.bcc	0·9
	Roche's Point	10015	46	SE	4	o	9914	*	40	+2	NW	5	-	b	4	8	47	36	b.om	o.p.o	or.o.b	*
	Birr Castle ...	10013	37	SE	1	o	9893	*	36	+3	NW	3	-	r	*	8	42	30	f.c.a	o.	or	0·0.
	Donaghadee ...	10038	37	SW	2	bm	9914	-5	43	+5	SE	5	SE	cgm.	4	-	43	36	bf.	bf.	c.g.m.	*
	Liverpool (Bidston)	10055	39	SSW	2	b	9916	-10	36	-5	ENE	4	SE	r	3	1	43	34	bc.	c.	b.or	1·8.
	Holyhead ...	10041	39	S	2	bc	9891	-8	40	-4	E	7	-	orm	6	2	47	37	bm.bcm	b.bc.cm	b.bc.or	4·3
	Pembroke (St. Ann's)	10047	45	SE	3	c	9866	-8	46	+1	S	3	S	cp	3	5	48	43	bc.v.	bc.c.v.	cp.o.r	4·0
	Scilly (St. Mary's)																					
	Falmouth ...	10046	45	SE	2	r	9914	-2	42	-1	WNW	4	-	c	*	7	47	42	ac.o.	cod.r	r.d.c.p.q	0·0.
	Jersey (St. Aubin)	10082	46	W	2	ogr	9946	*	48	+1	W	3	-	op	3	13	51	45	ac.od.p.	od.p.gr	og.r.o.p.	0·0.
	Portland Bill ...	10066	47	W	3	bc	9915	-5	48	0	WBW	5	SW	bc	4	7	49	44	bc.c.	bc.c	cr.bc	*
	Dungeness ...	10076	41	-	0	b	9953	-6	46	+1	S	6	-	r	5	3	47	36	op.bc	bc.bm	cm.bx.r.	*
	Dover	10082	37	-	0	b.	9956	-8	44	+2	SSE	6	S	o	6	2	44	29	oe.c.	c.bm.	b.f.od.	c·0
	Wick	10027	33	WNW	2	bc	10004	0	41	+9	ESE	1	-	bc	2	-	41	25	bc.x.cz	bcx	bz.x.bc	*
	Nairn	10029	31	-	0	bx	9989	*	23	-10	-	0	-	bcx	0	-	37	22	bcx	bcx.	b.bcx	4·6.
	Aberdeen	10034	32	W	1	bcx	9947	-2	33	-1	WNW	1	-	orsm	1	1	38	29	cz.bc	bc.bx.	bxzrs	1·6.
	Leith	10040	35	W	1	b	9974	-3	32	-7	SE	1	-	om	2	-	39	30	ceome.	ce.m.c.b	b.bxmc	*
	Tynemouth ...	10046	40	WNW	1	om	9973	-5	41	+2	SE	3	-	om	3	Trace	41	33	cm.	cm.	om.p.	*
	Spurn Head ...	10070	39	WNW	2	f.	9959	-1	39	-1	SSE	4	-	om	4	0·2	40	36	or.f.	c.f.	c.om	0·0.
	Yarmouth ...	10061	37	-	0	bf	9973	-8	43	+6	SSE	5	-	or	4	1	43	29	of.	of.bf.	of.bor	0·0.
	Clacton-on-Sea	10073	38	WNW	1	b	9957	-6	43	+2	SSE	4	-	r	4	3	43	35	ogm.pd	cgc.bm	bmx.or	0·0
	Nottingham ...	10061	35	W	1	bm.	9930	*	34	-3	E	4	-	r	*	3	42	24	o.c.m.	bm.	bm.f.x	0·3.
	Benson (Oxon.) ...	10074	30	-	0	m.	9905	-7	41	+2	SE	4	-	or	*	2	41	30	bcm	bcm.	bor	*
	Sth Farnborough	10072	35	-	0	f	9917	-5	45	+2	SSE	3	-	or	*	6	45	30	o.c	c.bf.	bf.or	2·0
	London (Kew Obsy.)	10074	36	-	0	bf	9824	-6	45	+3	S	3	-	orm	*	3	45	29	of.om.cm	c.m.bf.	bf.x.or	1·0.
NORTHERN EUROPE.	Spitsbergen ...	1022·9	-24	-	0	b.	10264	0	-20	+2	S	1	*	bc	*	*	-20	-29				
	Vardö	1013·1	30	-	0	o	1010·7	-3	27	-3	SW	1	-	o	2	*	30	27.				
	Bodö	1007·3	36	E	2	b	1001·5	-1	36	0	E	2	-	b	2	-	36	34				
	Christiansund ...	1003·7	39	-	0	b	1002·4	-1	39	-2	-	0	-	f	3	1	41	39.				
	Skudesnaes ...	1002·9	41	S	3	r	1000·7	+1	43	+2	SSW	4	-	o	4	22	?	?				
	Færdet (X'lania Fjord)	1007·8	37	SE	2	o	1006·4	0.	41	+5	S	4	-	o.	2	7·	41	36.				
	The Scaw (Skagen)	1009·0	39	SE	1	r	1007·3	0	39	0	SSW	3	S	c	3	2	41	37.				
	Blaavands Huk	1007·7	39	SSW	2	o	1005·5	-1	39	+2	S	2	-	o	3	Trace	41	37.				
	Copenhagen ...	1010·3	39	SW	3	r	1009·7	-1	39	0.	SW	1	-	m.	*	1	39	37.				
	Bornholm ...	1011·0	39	SSW	5	r	1010·4	-2	37	+1	SSE	1	-	f	0	Trace	39	34·				
FRANCE, &c.	The Helder ...	1006·3	39	S	4	m.	10020	-5	37	+1	SSE	2	-	f	1	1	41	36				
	C. Gris Nez ...	1007·4	39	N	1	bc	9970	-6	41	-2	SSE	4	*	r	2	6	46	36				
	La Hève	*	43	SW	5	o	*	*	45	+4	SW	5	*	o	4	6	45	41.				
	Brest (St. Mathieu)	1007·0	37	WSW	4	r	997·7	-1	46	-4	WNW	5	*	bc	4	4	50	37.				
	Rochefort (Ile d'Aix)	1011·9	48	SW	3	o	1000·3	-4	50	+7	WSW	5	*	o.	3	16	50	43.				
	Biarritz	1014·7	50	WSW	3	o.	1006·0	-3	46	-	S	3	*	o	2	2	52	45.				
	Paris	1010·7	39	SSW	2	o.	1001·3	-5	41	+5	SSE	3	-	o	*	5	41	36				
	Belfort	1014·7	32	-	0	f	1008·4	*	30	-1	-	0	*	o	*	?	33	30				
	Lyons	1015·8	33	-	0	f.	1007·9	*	32	-1	-	0	*	f.	*	-	37	32				
	Nice	1006·3	37	E	4	b	1002·8	0	39	+3.	E	3	*	b	2	-	50	34.				
	Perpignan ...	1014·4	43	NE	1	b.	1007·9	-3	36	-7	SW	1	SW	c	*	-	50	36				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1020·6	*	NE	4	c.	1025·1	+1	59	+4	ENE	3	*	o	1	-	64	55				
	Madeira	1010·4	61	NE	3	r	1014·7	+1	55	-4	NE	4	N	b	4	4.	64	55				
	Gibraltar	1016·2	54	SE	3	b	997·3	*	44	-9	E	3	*	o	3	-	60	43				
	Malta	*	*	*	*	*	1012·8	+1	54	0	W	3	-	c.	2	5	68	50				
	Limassol	*	*	*	*	*	1015·5	+1	57	+3	-	0	-	b	3	-	73	50				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

RAINFALL

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	85	94	0·0	45	28	25	6	o	o	o.b.f.x
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	90	96	0·1	47	32	30	5	b	b	r
CAMDEN SQ. (British Rainfall) ..	87	100	0·0	45	33	29	7	o.c	c	*
HAMPSTEAD (Reservoir)	*	94	1·1	44	32	?	7	*	*	om.b.f.fe.
S. KENSINGTON (Museum Grounds)	*	95	0·0	46	37	28	5	o.om.r	om.bz	b.m.om.r
RICHMOND PARK	*	*	-	*	*	*	*	*	*	*

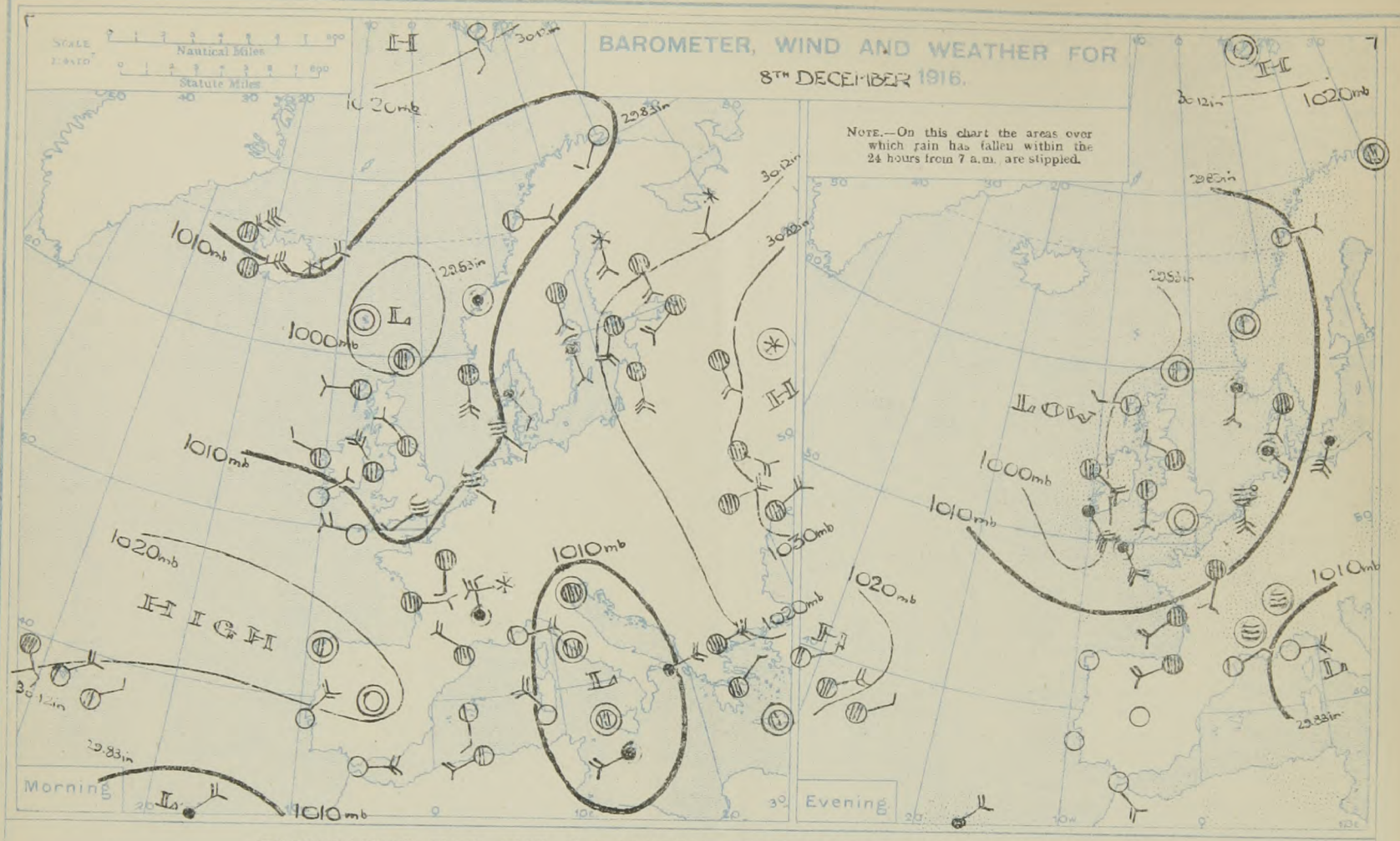
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total. *	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
197	6·9	15·0.

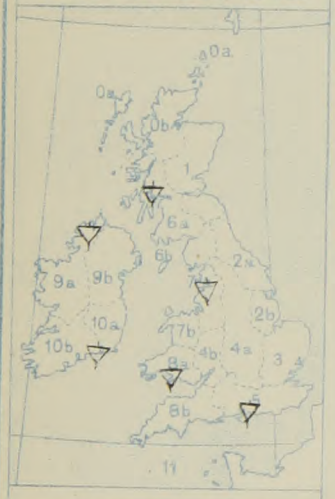
Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON SATURDAY TO NOON SUNDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are both as thus:—

Signals hoisted yesterday	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

South Cone hoisted yesterday

at 7pm Nov 6th & 10th

part of 5

Western Channel and Bay

0 (a, b), 1 — Wind between South-East and North-East, light to moderate or fresh; much cloud generally, some rain, sleet or snow; temperature continuing low.

2 (a, b), 3 — Wind fresh or strong, South-Easterly, then variable to Northerly or North-Westerly; rain at times; rather cold.

4 (a, b) — Wind moderate or fresh, strong locally, mainly between North-East and North-West; rain at times, sleet in places; cold.

5 — South-Easterly to variable or Northerly winds, fresh or strong in places; rain at times; moderate temperature.

6 (a, b) — North-Westerly and Northerly winds, moderate to fresh; rain or sleet showers; cold.

7 (a, b), 8 (a, b) — Wind mainly between North-East and North-West, fresh or strong; rain at times, sleet in places; rather cold.

9 (a, b), 10 (a, b) — Wind from some Northerly point, fresh or strong; rain at times, sleet and hail locally; rather cold.

11 — North-Westerly winds, fresh or strong; sea rough; changeable, showery.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF SATURDAY, 9TH DECEMBER, 1916.

GENERAL INFERENCE.

The depression centred over St. George's Channel is likely to move in an easterly or east-south-easterly direction.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
○ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ● rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. T, thunder. ⱦ, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈≈.

HIGH
1025mb
1020mb
1015mb
1010mb
1005mb
30.27in
30.12in
29.97in
29.83in
1000mb
990mb
995mb
Barometer falling generally
LOW
HIGH
1010mb
1005mb
LOW
1000mb
29.53in
29.68in
29.53in
29.37in
29.83in
HIGH
1010mb
1005mb
LOW
1000mb
HIGH

SCALE 1 : 2410000
Nautical Miles
Statute Miles

Normal Temperature of the Sea
Below 40° | 40°-50° | 50°-60° | Above 60°
Scale of Tints for DECEMBER.

Issue No. 20,106. **DAILY WEATHER REPORT.** Saturday, 9th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather	Past 24 Hours. Rain fall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time	Archangel ...	1013·5	34	SW	6	o	1016·7	+1	34	-2	SW	2	s	–	*	32
	Gorki	1030·3	23	N	1	o	1027·3	*	21	+2	N	2	o	-	*	18
	Velieki Luki ...	1031·1	23	SSE	4	o	1029·5	*	22	-2	S	3	o	-	*	23
	Hangö	.	.	.	.	.	1021·1	o	34	-3	SSW	4	o	2	*	30
	Riga	1025·5		SSW	4	o	1023·8	+2	27	-3	ENE	5	o	–	*	27
	Petrograd ...	1027·0	32	SW	3	o	1025·7	+1	27	+9	SW	3	o	-	32	18
	Moscow	1034·7	19	SW	2	o	1034·0	o	19	o	SW	2	s	–	*	18
	Kiev	1034·3	21	SSE	3	o	1031·8	+1	23	+2	SSE	3	o	–	*	21
	Kharkov ...	1036·3	27	-	o	o	1035·3	o	21		ESE	1	f	–	*	21
	Kishinev ...	1030·3	27	E	2	o	1028·6	+2	27	+2	E	4	o	-	*	23
	Elisabetgrad ...	1035·1	25	SE	2	o	1032·6	+2	19	-4	E	3	o	–	*	18
	Nicolaiev ...	1032·9	28	ENE	3	o	1029·7	*	25	o	ESE	3	o	–	*	23
	Odessa	1032·6	30	ESE	4	o	1030·6	+1	27	o	ENE	3	o	–	*	25
	Tarkhankout...	1030·0	32	ENE	5	o	1027·3	*	27	o	NE	4	bc	–	*	25
	Soukhoum ...	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mediterranean.	Venice	1009·9	45	–	o	o	1009·2	*	43	-3	–	o	o	20	48	41
	Pesaro	1008·6	43	SW	1	b	1009·6	*	43	-3	WSW	1	o	-	52	39
	Rome	1009·4	46	–	o	o	1007·1	*	48	-7	–	o	o	1	54	43
	Viesti	1008·7	55	S	1	o	1005·4	*	52	-5	SE	1	r	5	59	50
	Brindisi	1009·6	59	SE	3	o	1006·6	*	56	-2	SE	4	r	12	60	55
	Cagliari	1009·4	52	NNW	4	b	1009·4	*	46	-2	NNW	4	b	–	64	43
	Palermo	1009·7	28	–	o	o	1007·4	*	50	o	–	o	c	8	68	46
	Tripoli	1008·1	57	WNW	2	bc	1010·6	*	52	-3	W	3	c	10	73	52
	Algiers	1013·1	46	SW	1	o	1016·2	+2	46	+1	WSW	3	bc	16	64	45
Sweden.	Hernösand ...	1012·3	37	S	4	c	1012·4	*	36	o	S	2	o	*	*	*
	Stockholm ...	1019·3	37	S	2	o	1015·9	*	37	+5	S	2	r	*	*	*
	Wisby	1020·6	37	S	2	o	1016·4	*	37	o	S	4	o	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	1014·4	27	o	NE	9	o
Reykjavik	1006·3	27	o	ENE	7	o
Vestmanna	1006·1	32	-2	NE	6	o
Seydisfjord	1011·3	27	o	NE	3	s
Thorshavn	1001·3	31	-6	–	o	b

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	2	1	44	36	b. bcp	b	3.0
	Banff	–	–	41	27	bc b	b	4.8
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	–	–	41	32	x . b	b . x	4.6
Eng. N.E.	Harrogate	6	–	41	34	c.bc.b	b.bc	5.0
	Skegness	2	1	41	33	of.c	bf	1.8
Eng. N.W.	Morecambe	7	Trace	44	38	...	...	3.2
	Southport	7	1	44	39	c.b.bc	bc c or	5.0
Midlands.	Leamington Spa							
	Malvern	4	–	44	32	bz	z.b	4.0
	Ross-on-Wye	4	–	45	28	x bc	bc.b	5.0
Wales.	Rhyl	2	5	?	32?	ob	ob.bc	4.1
	Colwyn Bay...	*	*	44	36	bc	bc	3.5
	Llandudno	*	*	47	38	c.b	b	4.0
	Aberystwyth	*	*	45	40	r.o.c	c c.o	1.0
	Tenby	3	–	46	34	bc	bc c	4.3

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperatures Max.	Temperatures Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft	Trace	Trace	42	35	odm	o c bm	0.0
	Felixstowe	–	–	42	36	om	om bcm	0.0
	Walton-on-Naze							
	Southend-on-Sea	1	–	45	36	o.c	c.bc.b	0.5
England, S.E.	Margate	Trace	–	44	37	odq.c	bc.b	0.0
	Ramsgate	Trace	Trace	42	35	or	o.bc	0.5
	Hastings	1	–	47	37	op.o	bc	1.2
	Eastbourne	–	–	47	36	o.c.bc	abc.o	0.5
	Seaford	*	*	43	35	c	cm.	0.0
	Brighton	1	–	46	37	o.c	o.b	0.2
	Worthing	1	–	46	37	bc	c	1.2
	Littlehampton	1	–	45	37	o bc	c.o	2.3
	Bognor	*	*	47	38	bc	bc.b	2.9
	Bournemouth	3	–	46	31	o c	og	1.6
England, S.W.	Weymouth...	*	*					
	Torquay	1	–	46	36	o.cm	c.om	1.1
	Paignton	*	*	43	35	o.bc	bc.c.	1.0
	Penzance	2	2	48	41	o cz	ozr	0.0
	Newquay	4	1	49	38	b c	b or	1.2
	Bude	6	Trace	51	35	o	c bc	2.5
	Ilfracombe	5	Trace	47	40	o	p bc	1.6
	Weston-s-Mare	3	–	47	30	c.bc b	b.bc	4.0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

9th & 10th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	7.53 7.54	11.45 11.46	3.38 3.37
Greenwich	7.55 7.56	11.52 11.53	3.50 3.50
Wick	8.52 8.53	12.4 12.5	3.17 3.17
Valencia	8.39 8.40	12.33 12.34	4.28 4.28

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° at some Scottish stations, but exceeded 45° at several places in England and Ireland. Rain fell generally, but many localities recorded a few hours of bright sunshine.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No.345. Sunday, 10th December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp. °F	Wind. Direc.	Wind. Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb. °F	Temp. Change in 24 hours. °F	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS. Rain-fall. Millimetres.	Temp. Max. °F	Temp. Min. °F	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	1004.1	40	ENE	4	bc	1002.1	-2	42	+9	NE	5	–	oq	4	5	42	33	b.bc	bc	opq	*
	Deerness (Orkney)	1002.4	41	NE	4	cp	1000.0	*	42	+4	E	4	–	r	3	3	42	37	bc	bc.cp	cp. or	2.0
	Stornoway ...	1009.0	43	E	6	cq	999.7	-2	41	+4	NE	7	–	oprhq	6	8	44	36	c	cq	ophq	0.0
	Castlebay (Barra Isd.)	996.6	43	NNE	5	o	997.6	0	42	0	N	5	–	rhq	6	7	44	39	oq.c	c.o	oprmh	0.0
	Glasgow ...	989.7	40	ENE	7	oqr	993.0	+1	38	+7	ENE	1	–	omr	*	14	41	31	omq	omqr	oqr.or	0.0
	Eskdalemuir ...	988.4	38	NE	6	od	992.3	0	35	+6	N	3	–	o	*	6	40	28	ox.osr	or.od	or.o	0.0
	Malin Head ...	985.7	40	ENE	8	omqr	992.0	+2	42	0	NE	4	E	cqq	6	14	43	38	omqr	omqr	cqq	0.0
	Blacksod Point	988.2	38	N	7	omr	992.2	+3	42	+1	N	8	–	omr	7	19	42	36	omqph	omr	omqr	*
	Valencia ...	987.4	42	NW	6	oq	989.2	+5	43	+2	NNE	5	–	c	*	5	44	38	cp. ph	ophq	opq.ob.o	0.7
	Roche's Point	982.4	38	NW	6	r	984.2	*	39	-1	NW	4	N	bc	3	2	41	37	opq.u	op.or	r.c.bc	*
	Birr Castle ...	981.2	33	N	3	s	988.9	*	35	-1	N	2	–	bc	*	11	37	33	ors	os	os.b.ox	0.0
	Donaghadee ...	984.0	41	E	6	cmq	991.4	+4	39	-4	E	3	–	bz	2	9	44	39	omrq	ompqr	orq lh	*
	Liverpool (Bidston)	985.1	36	E	2	b	985.9	+2	35	-1	E	3	E	o	2	4	42	35	or	or	b.ox	0.0
	Holyhead ...	981.5	40	SSE	6	bqq	987.6	+1	38	-2	ENE	6	–	bx	5	4	43	36	orm.o.c	o.c.op.c	b.bc.ox	0.2
	Pembroke (St. Ann's)	981.2	42	SW	6	cqp	982.0	+3	41	-5	E	6	–	oqr	5	11	46	38	cqp	cqp	eq oqp	1.0
	Scilly (St. Mary's)																					
	Falmouth ...	987.4	38	WSW	4	bc	980.1	-1	38	-4	SW	2	–	r	*	30	45	35	qcp.hp	bcqph	rrlh.r	2.4
	Jersey (St. Aubin)	991.7	45	SW	4	b	986.5	*	42	-6	S	4	S	b	3	1	49	40	opbc.b	b.op.b	c.b	4.1
	Portland Bill ...	989.0	43	WSW	5	bc	985.2	-1	42	-6	ESE	2	S	ou	4	3	49	40	bc.cp	bc.c	bc.cph	*
	Dungeness ...	990.6	42	WSW	3	o	989.2	-1	43	-3	SSE	3	S	bc	3	7	47	43	r.c	r.c.o	bc.bc	*
	Dover	991.3	42	SW	2	o	990.4	o	41	-3	S	4	S	c	4	3	44	37	op	op	op.r.c	0.0
	Wick	1001.1	44	ESE	4	c	999.0	-2	43	+2	ENE	5	–	r	4	3	45	40	zcph	cp cmq	c.omqp	*
	Nairn	998.5	38	ESE	3	orq	996.7	*	41	+18	E	2	–	ou	2	8	41	22	ch	cpq	rqq.o	0.0
	Aberdeen	997.6	44	E	6	oq	996.2	-1	42	+9	E	5	–	r	5	16	45	32	c.ophq	cqp	oq r	0.0
	Leith	991.6	41	E	6	r	992.7	o	39	+7	E	1	–	r	4	11	44	31	o	r	r	*
	Tynemouth ...	988.5	45	SE	6	omqr	991.6	o	39	-2	NNE	1	–	omr	4	8	45	39	omqr	omqr	omr	*
	Spurn Head ...	988.4	42	SSE	6	oq	990.7	o	42	+3	S	3	–	c	5	7	43	39	or	orq	om	0.0
	Yarmouth ...	990.7	43	S	5	omr	990.1	o	41	-2	SE	2	–	bc	2	10	44	40	omr	omr	omr.bc	0.0
	Clacton-on-Sea	990.8	43	SSE	3	o	990.0	-1	42	-1	S	2	S	bc	2	4	44	40	oqr	oqr.o	o.c.bo	0.0
	Nottingham ...	988.3	38	S	2	c	989.5	*	30	-4	E	2	E	bcx	*	2	46	30	r.o.c	o.c.b	b	0.3
	Benson (Oxon.) ...	989.4	33	SSW	2	b	988.2	o	33	-8	ESE	2	–	b	*	4	47	33	or.bc	or.b	b	*
	Sth Farnborough	989.9	36	SSE	3	m	987.5	-1	35	-10	E	3	–	c	*	7	48	33	r.o.bc.v	bm	b or o	2.8
	London (Kew Obsy.)	990.5	38	SSW	2	bm	988.5	o	36	-9	ENE	1	SE	bm	*	2	48	34	orm.bc.c	c.o.bm	bm.f.x.mr	1.8
NORTHERN EUROPE.	Spitsbergen ...	1018.7	-17	SSE	1	b	1016.7	o	-6	+14	–	o	*	o	*	*	-6	-26				
	Vardö	1007.8	28	–	o	o	1006.3	+3	32	+5	NE	3	–	s	3	*	32	25				
	Bodö	1002.6	34	E	4	m	1006.7	+2	36	o	E	2	–	b	2	3	36	32				
	Christiansund ...	1006.7	39	–	o	c	1006.9	-1	36	-3	–	o	–	b	3	–	39	36				
	Skudesnaes ...	1004.7	39	SE	4	b	1001.6	-5	41	-2	E	3	–	o	3	–	43	37				
	Færder (Xiania Fjord)	1008.2	37	ESE	2	o	1003.4	-3	34	-7	NE	4	–	r	2	10	41	34				
	The Scaw (Skagen)	1006.7	39	S	2	r	1001.2	-3	39	o	SE	4	–	r	4	74	43	36				
	Blaavands Huk	1003.1	36	ESE	2	o	996.6	-1	37	-2	ESE	2	–	o	3	2	41	32				
	Copenhagen ...	1005.9	39	SE	3	r	1000.8	-1	37	-2	SE	4	–	r	*	6	41	36				
	Bornholm ...	1006.6	36	ESE	4	m	1002.4	-1	34	-3	SE	4	–	r	1	–	39	32				
FRANCE, &c.	The Helder ...	996.6	39	SE	4	o	992.3	-1	36	-1	SSE	2	–	r	1	1	39	36				
	C. Gris Nez ...	991.9	45	SW	4	o	983.9	-2	36	-5	SE	3	*	bc	3	8	45	36				
	La Hève	*	41	WSW	4	b	*	*	39	-6	S	5	*	o	3	2	48	37				
	Brest (St. Mathieu)	992.6	43	WNW	5	c	985.0	-5	45	-1	WSW	4	*	c	4	3	50	41				
	Rochefort (Ile d'Aix)	998.3	47	NW	4	c	989.3	-2	44	-6	SW	5	*	o	*	6	50	43				
	Biarritz	1003.0	47	W	5	r	994.3	-1	47	+1	SSW	5	*	o	5	16	50	45				
	Paris														*							
	Belfort	1001.0	32	W	4	m	999.0	*	33	+3	–	o	*	o	*	1	36	30				
	Lyons	1001.5	35	SSE	2	r	999.0	*	35	+3	S	2	*	f	*	10	39	?				
	Nice	1004.2	40	E	1	b	1006.4	-2	39	o	E	3	*	fr	3	9	48	36				
	Perpignan ...	1002.0	43	–	o	o	998.1	-3	43	+7	–	o	S	o	*	1	52	36				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna	1009.1	50	NW	6	c	997.0	-5	48	-6	W	7	–	tlr	5	6	54	45				
	Madrid	1009.7	37	SW	1	o	1004.2	-1	32	+4	–	o	–	f	*	2	37	28				
	Lisbon	1011.7	54	NNW	3	c	1008.2	-2	48	+2	WSW	3	–	b	5	1	57	46				
	Azores (Horta) ...	1026.3	*	SSE	3	c	1027.3	o	54	-5	N	4	*	b	1	–	68	54				
	Madeira	1017.1	61	NE	3	c	1017.9	o	55	o	N	3	N	o	3	–	66	55				
	Gibraltar							*					*									
	Malta	*	*	*	*	*	1012.3	o	57	+3	SSW	1	–	o	o	–	72	54				
	Limassol	*	*	*	*	*	1015.9	o	55	-2	WNW	1	–	c	5	3	70	52				
	Alexandria ...	1016.7	66	–	o	b	1016.0	+1	64	+3	–	o	W	b	o	–	75	57				
	Cairo (Helwan) ...	1016.8	66	NE	2	b	1016.6	+2	59	o	–	o	–	b	*	–	75	54				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

LONDON OBSERVATIONS.

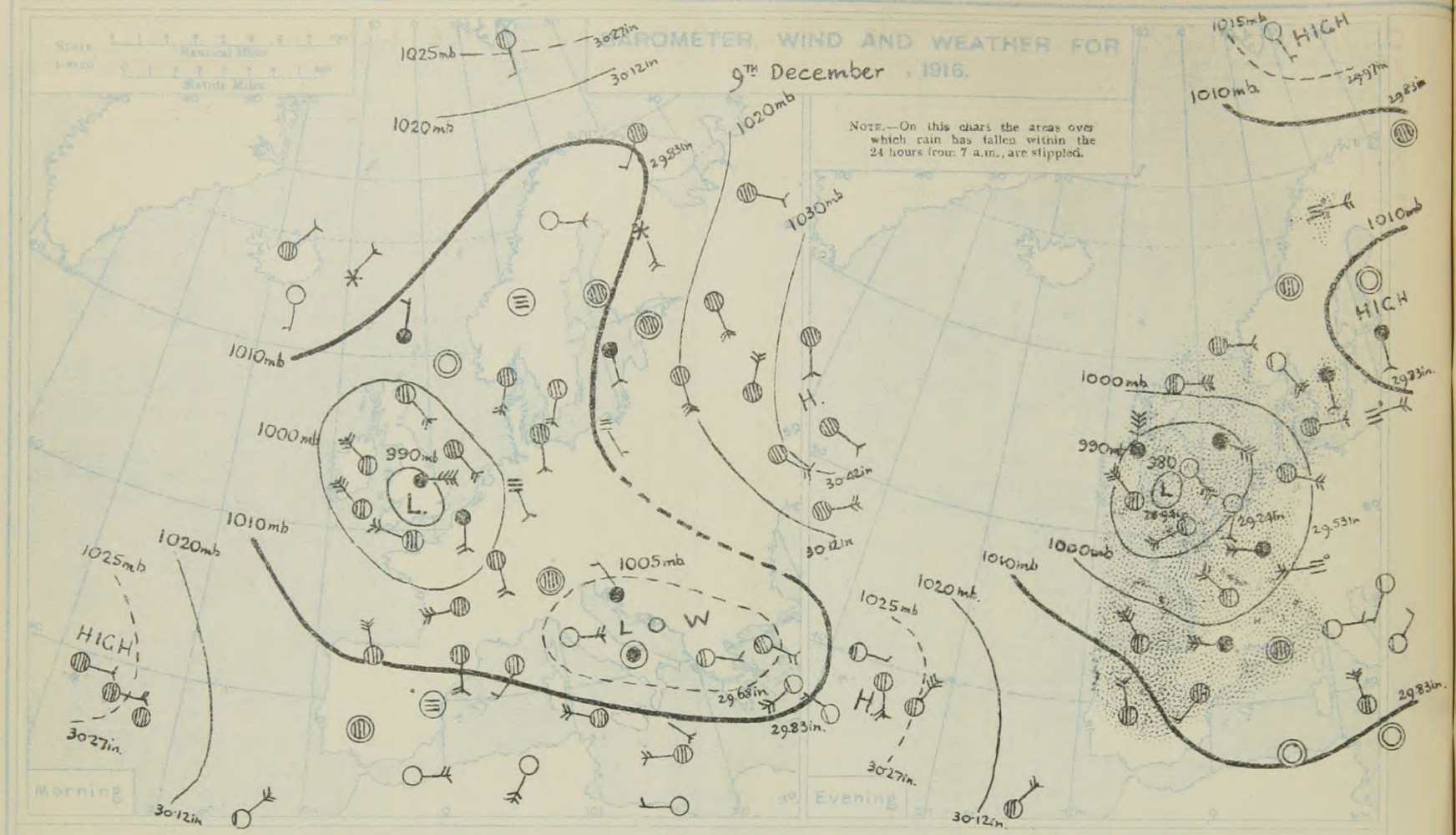
	Humidity. 15 h. Yesterday. %	Humidity. 9 h. Today. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature. Max. °F.	Min. °F.	Min. on Grass. °F.	Rainfall. mm.	Weather. Morning.	Afternoon.	Night.
GREENWICH (Royal Observatory)	74	97	1.4	48	32	24		or	c	c.bc
CITY (Bunhill Row)	*	*	0.5	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	81	95	1.0	50	37	30	1	or.bc	o	bc.m.o
CAMDEN SQ. (British Rainfall) ..	84	100	0.6	48	32	27	2	or.c	c	*
HAMPSTEAD (Reservoir)	*	99	0.3	46	32	19	2	ofq	or fo	c.or fs
S. KENSINGTON (Museum Grounds)	*	92	1.2	47	37	30	Trace	omd	o bc q	cu.bm
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
203	7.1	22.0

Temperatures at Greenwich and Camden Square are from Glaisher screens.



.FORECASTS FOR THE 24 HOURS NOON SUNDAY TO NOON MONDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

Wind between East and North, moderate or fresh, strong at times; rainy; moderate temperature.

Wind light or moderate from some Easterly point; rain at times; moderately cold.

Wind light or moderate, mainly between East and South-East; changeable, some rain; temperature rather low.

Wind between North and North-East, fresh or strong to moderate; much cloud; rain at times; rather cold.

Wind variable in direction and force; sea rather rough; rain at times.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF SUNDAY, 10TH DECEMBER, 1916.

GENERAL INFERENCE.

The depression over the Bristol Channel will probably move slowly Southward. There are some slight indications of the developement of a depression over the Northern part of the North Sea.

TEMPERATURE, WEATHER AND SEA DISTURBANCE

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
clear sky. sky ¼ clouded. sky ½ clouded.
sky ¾ clouded. overcast sky. rain falling.
snow. hail. fog. mist. thunder.
thunderstorm.

SEA DISTURBANCE.—Rough High

Scale 1/2 = 10°
Nautical Miles
Statute Miles

Normal Temperature of the Sea
Below 40° 40°-50° 50°-60° Above 60°
Scale of Tints for DECEMBER

HIGH
1025mb
1020mb
1015mb
1010mb
1005mb
1000mb
995mb
990
985mb
980
30·12in.
30·27in.
29·97in.
29·83in.
29·09in.
28·94in.
29·24in.
29·38in.
29·53in.
Barometer rising
Barometer falling
Barometer changing
Barometer Stationary
H.
L

Issue No. 20,107

DAILY WEATHER REPORT.

Sunday, 10th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.						°F.	°F.					°F.	°F.
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1018.4	32.	SW	2.	0	1021.0	+1	32.	-2	SE	2.	0.	–	*	30
	Gorki	1028.8	23	SE	2.	0	1028.3	*	21	0	NE	4.	0.	–	*	19
	Velieki Luki ...	1027.3	19.	NE	2.	0.	1027.7	*	23	0	SSE	3	0	–	*	21
	Hangö	.		.		.	1017.0	0	34	0	–	0	0	–	*	30
	Riga	1021.6	28.	S	5	0	1020.0	-1	30.	+3	S	5	0	–	*	28.
	Petrograd ...	1025.6	27	S	3	0	1023.9	-1	23	-4	S	4.	0.	–	27	23
	Moscow	1032.2	19	SSW	2.	0	1031.3	-1	19	0	SSW	2.	0	–	*	18.
	Kiev	1030.4	18.	SE	3	0	1030.0	0	18.	-5	SE	3	0.	–	*	16.
	Kharkov ...	1034.4	21	SE	2.	0	1033.9	0	23	+2	SE	2.	0.	–	*	19
	Kishinev ...	1022.3	27	E	1	0	1022.3	0	27	0	E	1	0	–	*	25
	Elisabetgrad ...	1030.9	14.	ESE	2.	b	1030.0	0	19	0	SE	4.	0	–	*	12.
	Nicolaiev ...	1028.0	21	E	2	c	1027.7	*	23	-2	ESE	4.	0	–	*	19
	Odessa	1027.9	27	E	3	0	1025.5	+2	30	+3	ESE	3	0	–	*	23
	Tarkhankout...	1023.8	36.	E	4.	bc		*							*	
	Soukhoum ...	1020.3	43	NNE	1	b	1018.1	0	37	-	NNE	2	b.	-	*	36.
MEDITERRANEAN.	Venice	1004.4	45	SW	2	f.	1001.9	*	43	0	NW	1	r	27	45	41
	Pesaro	1002.8	45	WNW	4.	0	1003.8	*	39	-4	SW	1	c	–	46	37
	Rome	1004.5	45	SE	1	bc.	1004.4	*	41	-2	–	0	r	1	50	39
	Viesti	1005.2	48	SW	2	0	1004.8	*	48	-9	W	1	b.	–	52	46
	Brindisi	1004.2	50	SE	2.	r	1004.6	*	48	-7	SE	1	bc.	4	57	48
	Cagliari	1008.9	52	NNW	5	b	1008.9	*	48	+2	WNW	4.	0	4	64	45
	Palermo	1007.6	50	SE	2	bc	1010.0	*	48	-2	SSE	2	r	18	59	45
	Tripoli	1014.4	54	ENE	1	bc	1015.9	*	42	-10	W	1	b	5	59	45
	Algiers	1016.3	50	-	0	0	1015.3	0	48	+2	SW	4.	b	2.	52	46
SWEDEN	Hernösand ...	1010.4	34	S	4.	c	1009.1	*	36	0	–	0	0	*	*	*
	Stockholm ...	1012.2	37	S	4.	r	1011.7	*	39	+2	S	2.	r	*	*	*
	Wisby	1013.6	37	S	2.	0.	1012.8	*	39	+2	S	2.	0	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F.	°F.			
Isafjord ...	1017.6	27.	0	NE.	3	0
Reykjavik	1015.0	25.	-2.	–	0	bc.
Vestmanna	1017.3	28.	-4.	S	1	0
Seydisfjord	1018.0	25.	-2.	NE.	2.	3
Thorshavn	1003.6	34.	+3	NNE	1	r

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night 18h-9h.	Rainfall Day 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	–	–	43	34	c	c	0.0
	Banff	–	2.	43	29.	ber.c.	op.r	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	2.	7.	41	28.	r	r.c	0.0.
	Skegness	4	4	43	30	or	r.c	0.0
Eng. N.W.	Morecambe							
	Southport	1	1	42	33.	r.c	or.c.	0.0.
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	4.	–	43	28.	c.bc.	bc.c.	1.2.
Wales.	Rhyl							
	Colwyn Bay...	*	*					
	Llandudno	*	*	42	33	r.c	c	1.4
	Aberystwyth	*	*	42	36.	r.c.c	or.c.	0.5
	Tenby	1	2.	44	34.	bc.cp.	bc.orh	2.1

	STATIONS.	Rainfall Night 18h-9h.	Rainfall Day 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft							
	Felixstowe	3.	3.	44.	29.	op	op.	0.0
	Walton-on-Naze	2.	1	44.	35	o.cr	ocr.bc.c.	0.0.
	Southend-on-Sea	3.	1	45	35	or	o.c.bc.	0.0
England, S.E.	Margate	2.	2.	44.	36.	ogd.	ogd.r	0.0
	Ramsgate	2.	1	44.	34.	or	o.	0.0.
	Hastings	5	4.	47	38.	or	or.bc.	0.4
	Eastbourne	6	5	47	35.			0.6
	Seaford	*	*	48	34	r	o.c.	1.3
	Brighton	12.	1	47	33	or	c	2.6
	Worthing	13	Trace	47	32.	r.c	bc.	3.4
	Littlehampton	1	1	47	36.	r.o	b.	3.8
	Bognor	*	*	47	37	bc	bc.	4.0
	Bournemouth	8	-	46	32.	bc	bc.	4.7
England, S.W.	Weymouth...	*	*					
	Torquay	3	–	47	41	bc	bc.c.	5.3.
	Paignton	*	*	46	35	bcp.	bc.c.	5.0
	Penzance	3	1	46	39.	c.bcprh.	cprh.	2.3.
	Newquay							
	Bude							
	Ilfracombe							
	Weston-s-Mare							

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

10th & 11th December, 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.54 7.56	11.46 11.46	3.37 3.37
Greenwich	7.56 7.57	11.53 11.53	3.50 3.49
Wick	8.53 8.54	12.5 12.5	3.17 3.16
Valencia	8.40 8.41	12.34 12.34	4.28 4.27

PILOT BALLOON ASCENTS for the PAST WEEK.

Component Velocities to East and to North in metres per Second.

STATION. Date and Hour.		Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.
		Eskdalemuir		Benson											
		5h.	12h 39	8h.	12h 2m.										
Heights in Kilometres	4	-4	-12												
	3	-5	-10												
	2	-3	-6	+8	-4										
	1	-1	-1	+4	-4										
	0.5	+1	+2	+4	-4										
	0	0	0	+1	0										

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 346. Monday, 11th December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp. °F.	Wind. Direc.	Wind. Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours. ‡	Temp. Dry Bulb. °F.	Temp. Change in 24 hours. °F.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max. °F.	Temp. Min. °F.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	995·9	42.	NE	5	cg	990·7	-2.	42.	0	E	5	–	cp	5	7.	48	40.	cgp	cgp.	cgp	*
	Deerness (Orkney)	994·9	40	NNE	2	cge.	985·8	*	44.	+2.	SE	3.	SE	c	3.	8.	44	39.	r.cp	cr-c.	cp.c.	0·0.
	Stornoway ...	995·2	42.	E	4	cp	986·9	-4.	38.	-3.	NNW	2	–	c	2.	8.	42	35.	crg	cgp	c.bc.	0·0
	Castlebay (Barra Isd.)	993·8	43	NE	4	bc	986·1	-3.	42.	0.	NNE	4	N	c	4	8.	43	40.	rhg	rg.bc.	bc.cp.c	0·0
	Glasgow ...	991·2	39	NE	1	r	986·0	-2.	37	-1	ENE	1	–	cd.	*	6	40	36.	cmr	cd.	cd.c	0·0
	Eskdalemuir ...	990·1	37	N	1	c	986·1	-1	34.	-1	–	0	–	c	*	3	37	33.	crs.c	cr.c.	c.cd.c	0·0
	Malin Head ...	991·1	42.	E	4	cmd	983·6	-5	40	-2.	NW	2	NW	cmd	4	2.	45	39.	cg	cmd.	cm	0·1
	Blacksod Point	992·1	40	N	9	cmr	986·3	-5	40.	-2.	N	7	–	cmqp.	7	16.	42.	38	cmqr.	cmr	cmr	*
	Valencia ...	992·8	40.	NNE	4	cr	987·7	-3	42.	-1	NNW	6	–	cp	4	12.	44	40.	c	c.cp.cr	r.c.cp	2·4
	Roche's Point	990·4	39	N	3	b.	985·7	*	35	-4	NNW	5	–	r	4	1	42	?	bc	bc.b	b.cr	*
	Birr Castle ...	991·5	30.	NNW	1	m.	985·0	*	34.	-1	–	0	–	m	*	1	38	28	c	cf	fc	3·6.
	Donaghadee ...	990·2	40	W	1	cgmr.	984·2	-3	41	+2.	SSE	3	–	cmp	3	3	42	38.	cm	bcm	cmpd.	*
	Liverpool (Bidston)	989·7	37.	ENE	1	c	986·1	-2.	30.	-5.	ESE	1	–	f	0	0·2	40	29	cg	cgm	cf.c.	0·0
	Holyhead ...	989·2	38	ENE	4	bm	984·0	-2.	33.	-5	S	2.	–	bc.	1	Trace.	42	32.	bc.cm	bc.bm	bc.c.bc	2·6
	Pembroke (St. Ann's)	988·4	38.	NNE	2	c	985·2	-4	37	-4	E	2	W	c.	2.	6.	41	35	cgr.	cr.cp.c	c.	0·0
	Scilly (St. Mary's)																					
	Falmouth ...	984·6	43	E	3	bc.	986·0	-2.	33.	-5	NNW	1	–	bc	*	6	44	32.	r.cr.c	r.c.cph	bc.c.bc	0·0
	Jersey (St. Aubin)	983·7	42	E	5	b	982·0	*	42.	0	NW	2	–	cp	2.	1	44	39	bc	c.b	bc.cp.	6·2.
	Portland Bill ...	985·4	43.	E	4	bc.	984·0	-1	35	-7	NE	2	–	c	3	0·2	46	34.	bcp	bc	bc.cm	*
	Dungeness ...	988·3	41	S	4	r	985·1	-2.	42.	-1	S	3	S	bc.	3	6.	44	42.	cp.c.	cp.cr	cr.cp.c	*
	Dover	988·1	40.	S	3	r	985·1	-1	40.	-1	SE	2.	–	b.	2.	7	41	38	c.c	c.cr	r.c.c.b	0·0
	Wick	995·2	41.	ENE	4	r	986·4	-4	37.	-6	WNW	1	–	bc	3	13.	44	36	cmpr.	cmh.r.p	d.r.p.bc	*
	Nairn	993·0	39	E	1	r	986·2	*	36.	-5.	–	0	–	cg	1	13.	41	35.	cmgd.	cdp	cdq.	0·0
	Aberdeen	992·0	41	NE	4	r	986·4	-1	38.	-4.	WNW	2	–	c.	4.	8	43	38.	cgp.	cgr.	crg.c.c	0·0
	Leith	990·0	41	NNE	2	c.	985·5	-2	41	+2	ENE	2	–	c	3	8	43	38	r	r.cu	cr.cu	*
	Tynemouth ...	988·9	42.	E	2	cmr.	986·2	-3.	34	-5	SW	1	–	cf	4	13	42	33.	cmr	cm.	cf	*
	Spurn Head ...	990·2	41	SE	2	c.	986·2	-1	42	0	S	3	–	cqp	4	0·2	44	39.	bc	c.	m.cgp.	0·0
	Yarmouth ...	990·2	40.	–	0	cmd	985·4	-2.	42.	+1	S	5	–	cp	5	10.	44	40	bcp.	bc.cmd	cmp.cp	1·2
	Clacton-on-Sea	989·3	41	SSE	1	c	985·4	-1	41	-1	S	3	S	r	2.	6	42	38.	bc.c.	c.cg.	cgr.cp	0·3.
	Nottingham ...	989·6	35.	ENE	1	cm.	985·0	*	35.	+5	NNW	1	–	mr	*	2.	35	29.	c.cm.	cm	cmd	0·0
	Benson (Oxon.) ...	988·3	34.	E	1	c	984·5	-1	34	+1	NE	1	–	fw.	*	0·1	41	31	bc	bc.	cfw.	*
	Sth Farnborough	987·6	34.	E	2	bc	984·0	-2.	36.	+1	NE	2	–	cm.	*	0·4	43	32.	c.bm.	b.c.bcm	bc.cr.cm.	4·0
	London (Kew Obsy.)	988·3	39	E	3	cm	984·5	-2.	37	+1	NNE	2	–	cm.	*	1	43	36	bm.cmpcm	cm.cm.	cm.cf.cm	0·8
NORTHERN EUROPE.	Spitsbergen ...	1020·3	-7	N	2	b	1023·8	+2.	-33	-16.	–	0	*	b	*	*	-6	-19				
	Vardö	1012·6	28.	E	1	c.	1010·1	-4	25.	-7.	SW	3	–	c.	3	*	32.	25				
	Bodö	1006·4	36	E	2	b.	1000·3	-1	36.	0	SE	3	–	c.	2	–	36	32.				
	Christiansund ...	998·1	37	–	0	b.	995·5	-1	36.	0	–	0	–	b	3	–	37	34.				
	Skudesnaes ...	995·9	37.	E	4	o.	993·2	-1	39.	-2.	SE	4	–	o.	2	8	39	36				
	Færder (Xiania Fjord)	1000·2	36	SE	2	r.	997·9	0	39.	+5	SE	4	–	o	2	12	39	34.				
	The Scaw (Skagen)	999·4	39.	SE	3	r.	995·8	-1	41	+2	SSE	3	–	o	4	3	41	37				
	Blaavands Huk	995·3	37.	SE	3	o.	993·9	-1	37	0	SE	2.	–	o.	2	Trace	39	34.				
	Copenhagen ...	999·3	39	S	3	o	997·7	0	39.	+2.	SSE	3	–	o	*	–	39	36				
	Bornholm ...	1001·0	36.	SSE	4	m.	999·3	-1	36.	+2.	SE	3	–	m.	1	–	37	34				
FRANCE, &c.	The Helder ...	993·3	37	S	2	o	989·2	-2.	34.	-2.	SE	2	–	b	1	1	43	34.				
	C. Gris Nez ...	988·6	39.	SE	2	r	986·0	-4.	37.	+1	ESE	3	*	bc.	2	4.	41	36				
	La Hève	?	39	SW	3	c.	?	*	37	-2.	ESE	4	*	s	3	2.	45	36				
	Brest (St. Mathieu)	980·3	42.	SE	4	o	985·0	+1	45.	0	NNW.	4	*	c.	4	6	46	37.				
	Rochefort (Ile d'Aix)	983·7	41	SSE	6	r	980·2	0	45.	+1.	NW	6	*	o.	*	20	48	41				
	Biarritz	988·7	46	SW	4	r.	988·7	+3.	45.	-2.	SW	7	*	r	7	4.	50	45				
	Paris	989·2	39	SSE	2	o.	984·6	-2.	36		SE	2	–	o	*	3	41	36				
	Belfort	995·5	34.	ENE	3	o.	991·9	*	30.	-3.	E	3	*	bc.	*	–	36	28				
	Lyons	994·3	37	S	1	o.	990·4	*	38.	+3	S	2	*	bc.	*	3.	40.	34				
	Nice	996	40	E	4	c	996·0	+2.	38	-1	E	4	*	c.	4	31	41	36				
	Perpignan ...	992·0	39	–	0	bc.	991·9	0	34	-9.	W	1	E	o.	*	–	50	34.				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon	1008·3	48.	NW.	4	o.	1009·0	+1	46	-2.	WNW	3	–	bc.	?	1	55	46				
	Azores (Horta) ...	1025·2	*	NE	4	b.	1020·4	-2.	55.	+1.	W	4	*	b.	1	–	61	52				
	Madeira	1016·8	63	N	3	c.	1017·3	0	55	0	N	3	N	o	3	–	64	55				
	Gibraltar	1008·1	54.	NW	4	bc	1009·5	*	50		NW	4	*	bc.	3.	4.	58	48.				
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1018·9	+1	55.	0	–	0	–	b.	4	–	70	46				
	Alexandria ...														*							
	Cairo (Helwan) ...																					

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands.

Blacksod Point
10th 7 a.m. – 11th 6 a.m. N 8
Ex. N 9 @ 5 p.m. & 6 p.m.

LONDON OBSERVATIONS.	Humidity. 15 h. Yesterday. %	Humidity. 9 h. To-day. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature. Max. °F.	Temp. Min. °F.	Temp. Min. on Grass °F.	Rainfall. mm.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
GREENWICH (Royal Observatory)	86	94	2·5	43	35	31	2	o	o.bc	bc.o.cp
CITY (Bunhill Row)	*	*		*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	92	98.	0·3	45	37.	35.	2.	bc.o.	o	omr.fc
CAMDEN SQ. (British Rainfall) ..	–	99.	0·0	42	35	32.	3	–	–	*
HAMPSTEAD (Reservoir)	*	99.	0·0	40	32	25.	3.	bc.fc.	c.o	ofd
S. KENSINGTON (Museum Grounds)	*	95	0·4	43	37	36	3	of.cg	bcm.cgm	cm.cmd
RICHMOND PARK	*	*		*	*	*	*	*	*	*

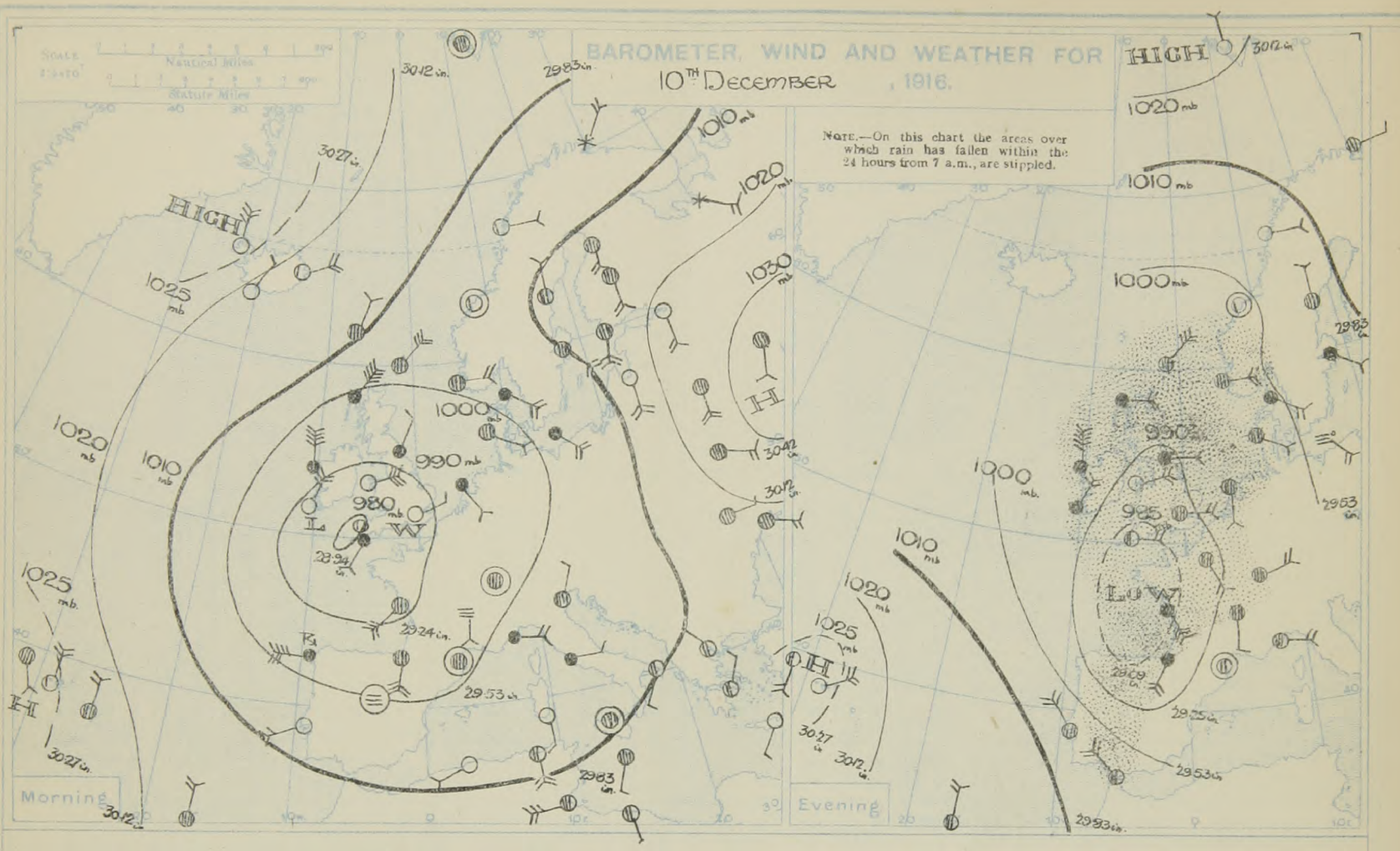
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
158.	5·6	22·0

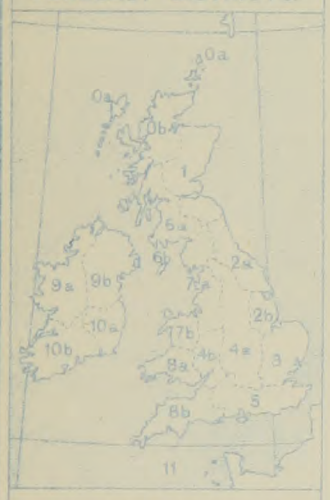
Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON MONDAY TO NOON TUESDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

0 a, b, 1 — Wind mainly between South-East and North-East, light or moderate; some rain, sleet or snow, mist locally; cold.

2 a, b, 3, 4 a, b, 5 — Wind mainly between South and South-East, light; much cloud, some mist and fog; rain occasionally, perhaps sleet or snow locally; temperature low.

6 a, b — Wind between East and North, light to fresh; some rain or snow; cold.

7 a, b, 8 a, b — Wind variable, light, then from some Northerly point freshening; changeable, rain or hail; cold.

9 a, b, 10 a, b — Wind mainly Northerly, moderate or fresh, strong in places; rain at times, hail locally; cold.

11 — Northerly and North-Westerly winds, light or moderate; sea moderate; changeable, some rain.

Millibars: 1050, 1040, 1030, 1020, 1010, 1000, 990, 980, 970

FURTHER OUTLOOK.

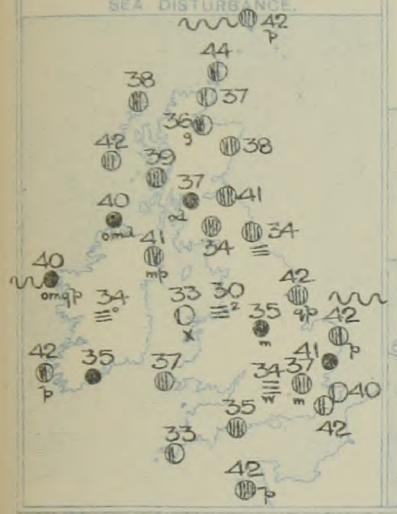
R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF Monday, 11th DECEMBER, 1916.

GENERAL INFERENCE.

The general distribution of pressure will undergo little change in the immediate future.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ⦿ rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊤ᵣ, thunderstorm.

SEA DISTURBANCE.—Rough ∿∿ High ≈≈.

HIGH 30·12 in. 1020 mb 1015 mb 1010 mb 1005 mb 1000 mb 995 mb 990 mb 985 mb 980 mb 2997 in 2983 in 2965 in 2953 in 2938 in 2924 in 2909 in 2968 in

LOW

Barometer falling generally

Barometer rising

SCALE 1 : 12·10°
Nautical Miles 0 1 2 3 4 5
Statute Miles 0 1 2 3 4 500

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER

Issue No. 20,108. **DAILY WEATHER REPORT.** Monday, 11th December **1916.**

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.					°F	°F
RUSSIA, 7 a.m. and 9 p.m. Local Time.	Archangel ...	1015·8	28	SW	3	0	10153	+2	25	-7.	SE	3	S	-	*	23
	Gorki	1028·0	19	S	3	0	10266	?	19	-2	S	5	0	-	*	19
	Velieki Luki ...	1027·0	19	SE	3	b	10269	*	21	-2	SE	3	0	-	*	19
	Hangö	-	-	-	-	-	10144	+1	36	+2	SSW	4	0	-	*	30
	Riga	1018·3	28	S	2	0	10166	0	21	-9	S	4	b	-	*	21.
	Petrograd ...	1022·4	25	S	3	0	10217	-1	19	-4	S	3	b	-	25	19
	Moscow	1030·7	18	SW	2	0	10317	0	19	0	SSW	2	0	-	*	18.
	Kiev	1027·8	19	SE	4	S	10266	0	14	-4	ESE	4	0	-	*	14
	Kharkov ...	1032·9	18	SE	3	0	10323	0	10	-13	E	3	b	-	*	10
	Kishinev ...	1021·0	23	E	1	0	10180	-3	21	-16	E	1	0	-	*	19
	Elisabetgrad ...	1027·7	18	ESE	4	bc	10239	-3	12	-7	E	4	b	-	*	10.
	Nicolaiev ...	1028·4	21	ESE	4	b	10213	*	21	-2	ESE	3	0	-	*	18
	Odessa	1022·0	28	ESE	5	bc	10184	0	28	-2	ESE	6	0	-	*	27
	Tarkhankout...	1017·6	18	SE	3	0	10323	0	28	-	ENE	8	0	-	*	18.
	Soukhoum ...	1015·7	48	NNE	2	0	10147	0	46	+9	-	0	0	-	*	37.
MEDITERRANEAN.	Venice	1001·6	41	-	0	0	10049	*	41	-2	NNE	1	0	Trace	45	39
	Pesaro	1005·3	41	-	0	c	10050	*	41	+2	SSW	1	b	-	50	36
	Rome	1007·0	43	NE	1	b	?	*	46	+4	-	0	r	9	48	41
	Viesti	1006·6	45	WSW	1	bc	10079	*	48	0	SE	1	0	-	52	45
	Brindisi	1008·2	52	S	1	c	10100	*	48	0	SW	1	bc	-	57	48
	Cagliari	1007·3	55	NNW	4	c	10089	*	46	-2	S	1	b	1	64	43
	Palermo	1010·8	52	ESE	2	0	10073	*	50	+2	-	0	0	-	59	39
	Tripoli	1014·8	50	.	0	b	1013·3	*	43	+1.	-	0	bc	-	59	39
	Algiers	1009·1	50	.	0	b	10051	+1	50		WSW	2	b	.	57	46
SWEDEN.	Hernösand ...	1010·1	34	-	0	b	1011·7	*	28	-8	N	2	c	*	*	*
	Stockholm ...	1011·8	39	S	2	r	10095	*	34	-5	SE	4	0	*	*	*
	Wisby	1011·9	36	S	2	0	10084	*	34	-5	SSE	2	0	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.
		°F	F			
Isafjord ...	1026·6	21	-6	N	5	bc
Reykjavik	1021·3	21	-4	N	2	0
Vestmanna	1019·3	21	-17	NNE	1	b.
Seydisfjord	1017·9	18	-7.	NE	4	b
Thorshavn	1010·1	30	-4.	NNE	2	0.

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F°	F			Hr.
Scotland.	Oban	-	-	43	35	cd	0	0 0
	Banff	8	6	41	40	or d	or	0 0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Engd. N.E.	Harrogate	-	-	37	30	bc.c	c.bc	0 8
	Skegness	-	TRACE	44	33	b.bc.o	o	3.2
Engd. N.W.	Morecambe							
	Southport	TRACE	-	40	31	bc	bc.c.o.c	3.6
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye							
Wales.	Rhyl	-	-	39	32	c.o	om	0.0
	Colwyn Bay...	*	*	39	33	c	c o	0.0
	Llandudno	*	*	39	34	m	m	0.6
	Aberystwyth	*	*	39	30	r.o.c	bc .o	2.5
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft							
	Felixstowe	-	-	43	38	bc .o	o	0.1
	Walton-on-Naze							
	Southend-on-Sea	-	-	45	37	c.o	o	0.0
England, S.E.	Margate							
	Ramsgate	1	-	43	38	o	or	0.0
	Hastings	1	3	45	39	c or c	or	0.0
	Eastbourne	1	1	44	38	o	c	0.8
	Seaford	*	*					
	Brighton							
	Worthing	2	1	48	34	bc	bc.c	2.9
	Littlehampton	1	TRACE	45	37	bc	b	4.8
	Bognor	*	*					
	Bournemouth	7	-	43	36	o	o	0.0
England. S.W.	Weymouth...	*	*					
	Torquay							
	Paignton	*	*					
	Penzance							
	Newquay	16	2	44	35	op	op	0.0
	Bude							
	Ilfracombe							
	Weston-s-Mare							

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

11th & 12th Dec. 1916.	Sunrise.	Noon.	Sunset.
	G.M.T.	G.M.T.	G.M.T
Yarmouth	7.56 7.57.	11.46 11.47.	3.37 3.36
Greenwich	7.57 7.58	11.52 11.54	3.49 3.49.
Wick	8.52. 8.55.	12.5 12.6.	3.16 3.16.
Valencia	8.41 8.42	12.34 12.35	4.27 4.27.

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° in some parts of these Islands. Rain fell very generally, but in most places the measurement was not large. Little bright sunshine was recorded.

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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Printed at the Meteorological Office, South Kensington, London, S.W.

‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 347. Tuesday, 12th December

	STATIONS.	YESTERDAY EVENING					THIS MORNING								PAST 24 HOURS						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0–12	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12	Direc. of Upper Cloud.	Weather.	Sea 0–9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
		-	°F				;	°F.	°F.								°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	990·2	43	SE	3	bc	991·0	-1	39.	-3	-	0	N	b.	0	3.	44	38.	ep	o.bc	bc.	5
	Deerness (Orkney)	988·5	43.	SE	4	ep	989·8	*	40.	-4	NE	3	E	c	3	5	41	39.	ep	ep	ep.c.	0·2
	Stornoway ...	986·1	39	E	4	c	989·0	+1	34	-4	NE	1	-	bc.	1	-	42	34	bc.c	c	bc.	1·0
	Castlebay (Barra Isd.)	984·8	43.	E	3	o	987·8	+1	42	o	NE	3	-	b	3	0.1	45	40.	c.o.c	c.o	o.bep b	0·0
	Glasgow ...	984·8	36.	ENE	2	omr	985·6	o	36	-1	ENE	2	-	cm.	*	3	39	33.	odp.cm	omr.	omr.oc	0·0
	Eskdalemuir ...	984·5	33.	NE	3	o	984·4	-1	34	o	NNE	3	E	bc	*	1	36	33	o	ors.o	o.c.bc	0·4
	Malin Head ...	982·4	37.	SE	2	cm.	983·9	o	42	+2	E	4	E	cm.	3	2.	42	36.	cm	cm.	cm.	1·0
	Blacksod Point	981·0	40.	N	2	omp	985·4	+1	37	-3	E	1	NE	bcm	2	6	41	33	cgp	omr.	bc.bm	*
	Valencia ...	982·3	39	NNW	4	c	983·5	+2	34	-8	E	3	NE	c	3	9	43	34.	c.sh	c.sh	r.o.c.bc	0·4
	Roche's Point	982·2	38.	NNE	1	d	982·9	*	34	-1	N	3	-	o.	3	2.	42	33.	r	r.	r.o	*
	Birr Castle ...	981·5	35.	N	1	o	983·4	*	33	-1	NW	1	-	s	*	1	37	29.	m.f.	oc	oc.os	0·0
	Donaghadee ...	982·6	40.	SE	4	omq	983·6	o	39	-2	E	3	E	cm.	2	1	43	38.	cmdp	omqp	om.cm	*
	Liverpool (Bidston)	983·1	33.	SE	2	o	981·8	-1	34	+4	ENE	1	SE	o	1	2.	36	30.	of	om.	or.o.	0·0
	Holyhead ...	982·1	35.	E	1	bcm	980·5	o.	37	+4	E	1	-	bcm.	0	0·1	43.	31	bcm	bcm	bcmw	3·7
	Pembroke (St. Ann's)	982·2	36	E	3	.m	980·7	-3	31	-6	N	1	-	bz.	1.	0·3	40	30	cz	bcm	bcm bz	2·3
	Scilly (St. Mary's)																					
	Falmouth ...	980·8	37.	NNW	2.	o	978·9	o	33.	o	N	1	-	b	*	9.	41	32.	od.o.c	c.o.	c.oth b	0·3
	Jersey (St. Aubin)	982·2	39	W	2	ep	976·7	*	39	-3	W	3	-	ep	3	3.	46	37	ep.bc.	bc.ep	c.ep.	2·0
	Portland Bill ...	982·4	37	ENE	1	c	977·3	-2.	36	+1	NNE	3	NE	o.	3	7	42.	34.	o	o.c.	c.or.	*
	Dungeness ...	981·8	41	ESE	3	o	977·2	-3	41	-1	ESE	3	SE	c.	4	4	44	40.	o c	c.o	cp.or.c	*
	Dover	982·4	40.	SE	2	o	978·1	-4	39	-1	ESE	3	E	o	4	2	41	36.	b.bc.	bc.c.o.	ep.mr	3·3
	Wick	987·2	43	S	2	r	989·0	-1	43	+6	E	2	-	c.	3	1	44	34.	bc.c.	b.omd	omqbp	*
	Nairn	986·2	35	-	o	cg	987·7	*	32.	-4	-	o	-	o	1	-	38	28.	cg.om	cg	cmz	0·0
	Aberdeen	987·0	42.	SE	4	c	986·5	-1	40.	+2	WNW	3	-	o	3	5.	43	36.	c.omp	ogm tsh	bc.ep	0·0
	Leith	984·4	37.	E	1	b.	984·4	o	40.	-1	NE	3	-	r	3.	3.	41	35.	o.cg.o	od.o.b	bep cr	*
	Tynemouth ...	984·5	42	ESE	3	ogm.	983·4	-1.	40.	+6	E	3	-	omr	4.	8.	42	33	omr	ogm.	omr	*
	Spurn Head ...	984·0	40.	SSE	2	om.	981·6.	o.	40	-2	SE	1	-	cp	4	3	43	38.	om	om.	chp	0·0
	Yarmouth ...	983·8	42.	SSE	4	c	979·5	-3	40.	-2	ESE	1	-	cp.	1	6.	44	38.	cp.bc.	bc.o.	bcmp	3·9
	Clacton-on-Sea	982·9	42.	SE	3	o.	978·9	-2.	41	o	SE	3	SE	c.	2.	1	44	29.	or.c.bc	b.g.c.og	og.c	4·5
	Nottingham ...	983·5	36.	E	1	o	980·5	*	36.	+1	NE	2.	-	o	*	1	37	34.	dm.f	f.m.o	om.	0·0
	Benson (Oxon.) ...	982·0	34.	N	1	b	978·1	-1	36.	+2	NNE.	2.	-	o	*	2	36.	33	orsh m.	bc	b.o.	*
	Sth Farnborough	981·5	37.	NE	2.	o	977·7	-2.	36	o	ENE	3	-	of	*	4	38	34.	r.om.	om.	om.of	o·o
	London (Kew Obsy.)	981·9	40.	ESE	2	om	978·2	-2.	37	o	NE	2	-	om	*	4	40	36	om of gra	of g. and om	om of om	0·0
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö	1010·0	19	-	0	S	1010·9	0	30.	+5	-	0	-	o	3	*	34	19				
	Bodö	999·4	37.	E	2	o	999·3	0	37	+1	E	1	-	b	1	-	37	34.				
	Christiansund ...	997·0	37	-	0	b	994·4	-2.	36.	0	-	0.	-	b	3	-	37	34.				
	Skudesnaes ...	993·3	36.	ESE	2	b	985·3	-5	36	-3	E	2	-	o	2	-	41	34				
	Farder (Yttenta Fjord)	997·3	39	ENE	3	c.	985·5	-5	34	-5	NE	5	-	r	2	12.	39	34				
	The Scaw (Skagen)	995·9	39.	SE	4	o.	981·3.	-4	39	-2	E	6	-	r	6	12.	41	34.				
	Blaavands Huk	991·5.	37	ESE	2	o	981·5	-2.	36	-1	SW	1	-	r	o	5	39	34.				
	Copenhagen ...	991·4	39	ESE	3	o	986·9	+6.	37	-2	SW	4	-	o	*	5	41	36				
	Bornholm ...	991·8.	41	SE	6	m	990·0	+5	37	+1	S	6	S	m	2	1	44	34.				
FRANCE, &c.	The Helder ...	985·9	36.	ESE	2	o	983·0	-1	34	o	SSE	1	-	f	o	-	37	34				
	C. Gris Nez ...	1008·8	39.	SE	1	c.	977·7	-5	37	o	ESE	3	*	r	2	2	41	34				
	La Hève	?	37	SW	5	o	?	*	36.	-1	ENE	3	*	s	2	8	43	34.				
	Brest (St. Mathieu)	982·9	42	WNW	2	o.	979·1	o	44.	-1	WNW	4	*	c.	3.	4	46	41				
	Rochefort (Ile d'Aix)	987·7	45	WSW	5	r	981·1	+4	45	o	W	3	*	o	*	13.	45	43				
	Biarritz	993·1	47	SW	3	o	987·0	+3.	50.	+5	W	7	*	r	?	10	?	?				
	Paris	984·4	37	S	2.	o	978·1	-10.	39	+3	S	4	-	r	*	6	41	36				
	Belfort	990·1	41	WSW	4	o.	989·7	*	34	+4	E	4	*	o	*	?	41	30				
	Lyons	993·5	43	SSW	3	bc	988·3	*	34	-4	S	6	*	o.	*	-	48	34				
	Nice												*									
	Perpignan ...														*							
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1015·3	*	SSW	5	b	1008·2	-2	59	+4	SW	4	*	o.	2	3	64	55				
	Madeira	1015·8	61	NW	2	o	1014·4	o	55	o	N	3	N	bc	3	-	64	54				
	Gibraltar	1011·8	53	NW	5	b	1010·1	*	55	+5	W	6	*	c	4	1	58	49				
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1019·5	o	57	+2	W	1	-	o	5	-	70	54				
	Alexandria ...	1020·7	63	-	o	b	1018·7	o	59	-5	ESE	2	W	b	o	-	77	55				
	Cairo (Helwan) ...	1019·9	63	NE	3	b	1018·0	+1	59	+5	-	o	-	b	*	-	75	54				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at 3 p.m. 11th

1,800 feet.	SE.	10	metres per sec.
1,500 "	SE'E	10	" "
1,200 "	SE'E	10	" "
900 "	SE	6	" "
600 "	SE'E	4	" "
300 "	E'N	5	" "
Surface	ENE	3	" "

GALES
Duration and Extreme Force in British Islands.

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	92	96.	0·0.	41	35	30	~	o	o	om.
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	87	98.	0·0	43	37.	36.	0·3	o	o	of.f.
CAMDEN SQ. (British Rainfall) ..	90	99.	0·1	41	36.	34.	Trace	om.o	o.	
HAMPSTEAD (Reservoir)	*	98	0·0	39	33.	29.	Trace	or.f.	c.o	of.
S. KENSINGTON (Museum Grounds)	*	95	0·0.	43.	37	35	1	odmom	ogm	ogm
RICHMOND PARK	*	*		*	*	*	*	*	*	*

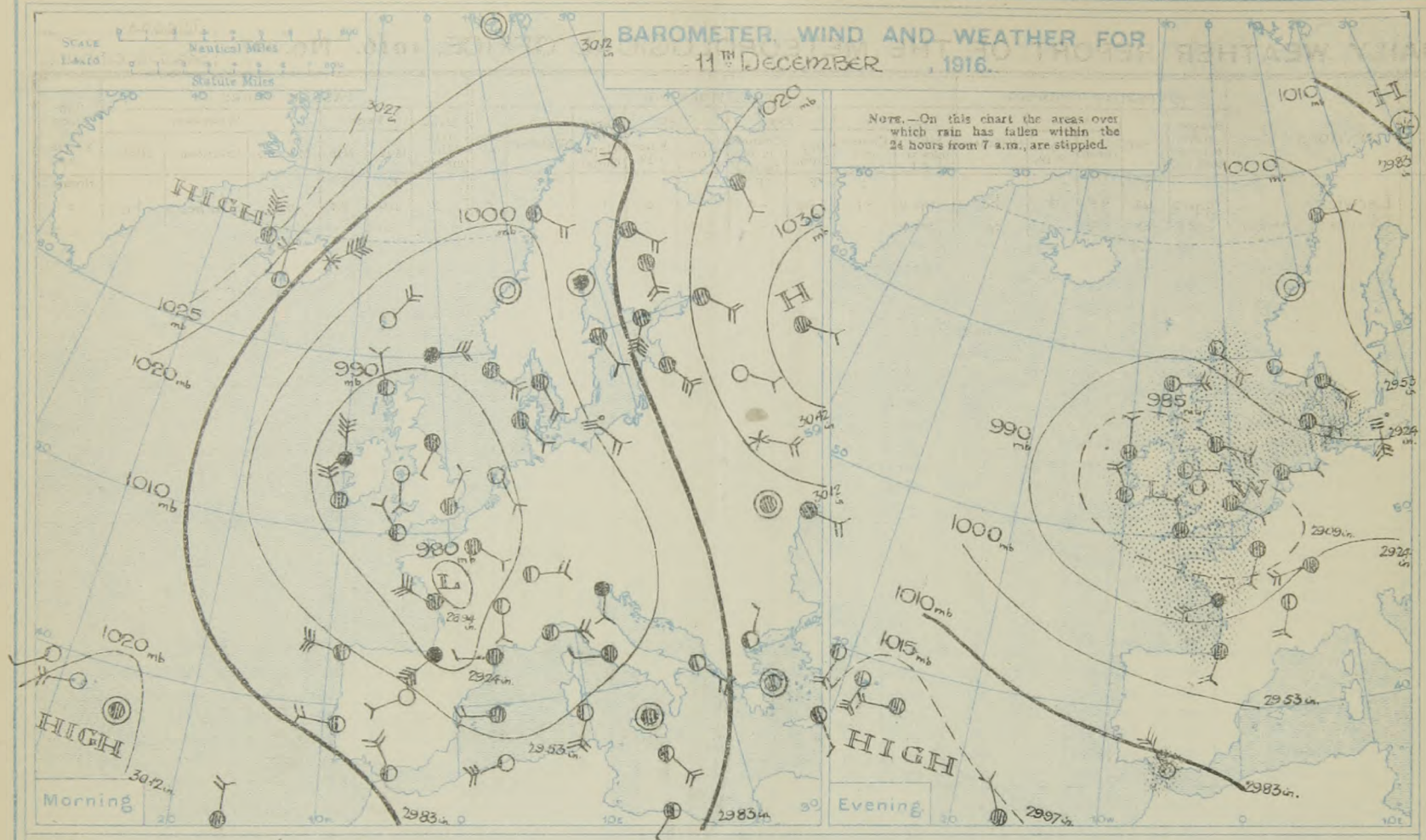
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
72.	2·5	7·5.

Temperatures at Greenwich and Camden Square are from Glaisher screens.

BAROMETER, WIND AND WEATHER FOR 11TH DECEMBER, 1916.



FORECASTS FOR THE 24 HOURS NOON TUESDAY TO NOON WEDNESDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

0	a, b	Wind between East and North, freshening somewhat; dull, damp, some rain, local sleet or snow; temperature rather below normal.
1		
2	a, b	
3		
4	a, b	
5		
6	a, b	
7	a, b	
8	a, b	
9	a, b	
10	a, b	
Western Channel and Bay 11		Westerly wind, fresh to strong at times; sea rough; cloudy to dull, some rain, local mist or fog.

Millibars
1050
1040
1030
1020
1010
1000
990
980
970

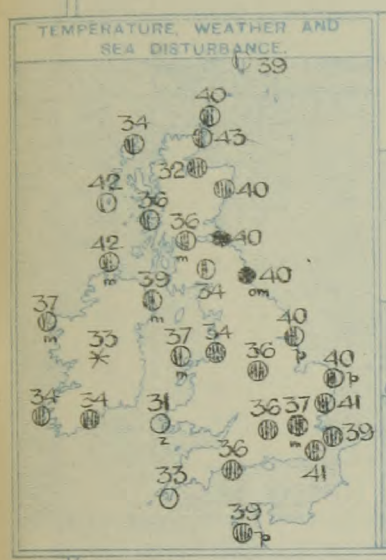
FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director

SYNOPTIC CHART FOR THE MORNING OF Tuesday, 12th DECEMBER, 1916.

GENERAL INFERENCE.

The damp, dull conditions are likely to hold.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines

WEATHER.—Shown by the following symbols :—
○ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊤, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈≈.

Normal Temperature of the Sea

Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER.

HIGH

1010 mb

1005 mb

1000 mb

995 mb

990 mb

985 mb

980 mb

2983 in.

2953 in.

2938 in.

2924 in.

2909 in.

2894 in.

Barometer falling slowly

Bar. rising

Bar.

LOW

HIGH

Issue No. 20109. **DAILY WEATHER REPORT.** Tuesday, 12th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12	Weather.	Past 24 Hours. Rainfall Millimetres.	Temp. Max.	Min.
			°F.						°F.	°F.					°F.	°F.
Russia 7 a.m. and 9 p.m. Local Time.	Archangel	1016.7	28	SW	4	o	1021.0	+1	28	+3	S	2	o	—	×	25
	Gorki	1024.0	16	SE	3	b	1024.4	?	14	−5	SE	3	b	—	×	16
	Velieki Luki	1026.0	19	SE	3	b	1023.8	×	19	−2	SE	3	b	—	×	18
	Hangö						1011.7	−1	27	−9	SSW	8	o	—	×	27
	Riga						1012.8	−1	27	+6	SSE	5	o	—	×	24
	Petrograd	1022.9	23	S	4	o	1021.5	−2	19	0	SE	4	b	—	23	18
	Moscow	1031.7	18	SSW	2	o	1032.2	0	16	−3	SE	2	o	—	×	14
	Kiev	1029.5	18	SE	4	o	1022.6	0	18	+4	SE	4	8	1	×	12
	Kharkov	1031.3	10	—	0	b	1030.0	0	10	0	SE	3	o	—	×	9
	Kishinev	1015.8	30	—	0	o	1016.3	0	32	+11	—	0	o	?	×	19
	Elisabetgrad	1022.4	19	ESE	4	o	1022.4	0	19	+7	ESE	4	8	6	×	12
	Nicolaiev	1020.4	28	SE	4	o	1020.4	×	30	+9	SE	3	o	1	×	18
	Odessa	1017.2	34	ESE	5	r	1018.4	+1	37	+9	ESE	4	o	2	×	28
	Tarkhankout	1017.1	28	SE	5	8	1016.8	×	41	+13	ESE	6	r	2	×	28
	Soukhoum	1018.7	46	—	0	o	1021.9	?	50	+4	—	o	r	12	×	7
Mediterranean.	Venice	999.0	43	NE	1	r	994.2	×	46	+5	SSW	2	r	22	52	39
	Pesaro	1001.3	50	SE	1	c	997.2	×	46	+5	S	1	bc	2	54	41
	Rome	1002.0	52	SE	1	b	998.9	×	52	+7	W	1	o	15	54	45
	Viesti	1007.9	50	SE	1	o	1001.9	×	54	+6	SE	1	r	5	65	48
	Brindisi	1008.2	57	SE	3	bc	1006.7	×	57	+9	SSE	3	bc	—	61	48
	Cagliari	1002.7	59	SSW	4	c	1000.7	×	48	+2	SSW	4	bc	3	66	45
	Palermo	1006.4	57	ENE	4	b	1004.1	×	52	+3	—	0	o	10	62	48
	Tripoli	1007.9	66	W	1	b	1007.4	×	59	+16	SW	1	c	—	79	43
	Algiers	1003.4	54	WSW	5	bc	1003.4	+1	52	+2	WSW	5	b	3	61	50
Sweden.	Hernösand	1003.3	34	N	2	o	1005.7	×	30	+2	—	0	r	×	×	×
	Stockholm	1007.1	34	SE	2	r	1004.6	×	36	+2	SSE	2	o	×	×	×
	Wisby	1005.9	34	S	2	r	1004.3	×	37	+3	SSE	2	o	×	×	×

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord	1025.2	21	0	N	9	c
Reykjavik	1016.8	23	+2	N	3	o
Vestmanna	1012.8	25	+4	N	4	b
Seydisfjord	1005.2	28	+5	NE	9	c
Thorshavn	998.5	31	+1	NE	4	b

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
Scotland.	Oban	—	—	41	35	o bc	b	0.0
	Banff	4	2	39	34	or	or c	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews	11	3	42	37	cp	cp	1.8
Eng. N.E.	Harrogate	1	trace	34	30	os f	f	0.0
	Skegness	2	trace	40	36	o	o	0.0
Eng. N.W.	Morecambe	—	1	35	27	—	—	0.0
	Southport	—	—	34	29	of o	of e m	0.0
Midlands.	Leamington Spa							
	Malvern	—	—	34	31	m	m	0.0
	Ross-on-Wye	—	—	35	32	f o	cm	0.0
Wales.	Rhyl	—	—	33	28	of	of	0.4
	Colwyn Bay	*	*	34	29	d c	bc	2.1
	Llandudno	*	*	37	29	c	c bc	1.6
	Aberystwyth	*	*	37	29	o c	c o	3.3
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft	8	Trace	46	40	c o c	c o c o	2.8
	Felixstowe	5	—	44	39	bcv	bcv	4.5
	Walton-on-Naze							
	Southend-on-Sea	11	—	44	37	bc	bc c o	3.3
England, S.E.	Margate	6	—	43	39	b	b bc c	4.3
	Ramsgate	6	—	43	38	o bc	bc o	4.6
	Hastings	6	Trace	43	38	or o	o	0.0
	Eastbourne	5	2	44	39	o bc	o m d	0.2
	Seaford	*	*	44	35	bc	r	1.1
	Brighton	12	1	43	38	o g	or	0.0
	Worthing	7	3	43	37	o	r	0.0
	Littlehampton	5	1	43	37	o	o d r	0.2
	Bognor	*	*	42	36	bc	or	0.0
	Bournemouth	Trace	3	36	30	o	o	0.0
England. S.W.	Weymouth	*	*	37	32	c o	o	0.0
	Torquay	—	—	44	34	o m	o m	0.0
	Paignton	*	*					
	Penzance	3	2	45	36	o bc	c or	1.0
	Newquay	—	5	38	32	r	r bc	0.0
	Bude	1	—	41	32	o	o	0.0
	Ilfracombe	—	—	40	33	z bc	z bc	2.1
	Weston-s-Mare	—	—	36	33	o c	c m	0.0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

12th & 13th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.57	11.47	3.36
	7.58	11.47	3.36
Greenwich	7.58	11.54	3.49
	7.59	11.54	3.49
Wick	8.55	12.6	3.16
	8.56	12.6	3.16
Valencia	8.42	12.35	4.27
	8.43	12.35	4.27

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° in many places.

Rain fell generally, but not heavily. As a rule there was little or no sunshine.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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Printed at the Meteorological Office, South Kensington, London, S.W.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 348

Wednesday, 13th December,

	STATIONS.	YESTERDAY EVENING					THIS MORNING.									PAST 24 HOURS.						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F					÷	°F	°F.							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	986·3	41	NNE	4	bc.	984·1	0	41	+2	NNE	5	NE	bc.	5.	2	43	38	bc	bcp.	bcp.	*
	Deerness (Orkney)	986·8	39	N	3	b.	985·1	*	40.	0	N	4	-	c	3	1	43	39	c.bc	bc	bc.c	1·1
	Stornoway ...	988·6	37	NE	2	bc	988·7	0	36.	+2.	NNE	3	-	bc	3	3	38	34.	bc	bc.	bcp.ch	0·9
	Castlebay (Barra Isd.)	988·3	42	NNW	2	bc													bc	c.bc.		
	Glasgow ...	986·1	36.	ENE	2	od.	986·9	+1	32.	-4	WSW	1	-	bz.	*	3	39	32.	c.op	od.	op.c.bx	0·0
	Eskdalemuir ...	984·7	34.	NNE	4	ors	986·2	0	31	-3	-	0	-	oc	*	5	37	31.	bc.ors	c.o.ors	ors.c.o	0·2.
	Malin Head ...	985·7	42	ENE	3	bc	986·6	0	40	-2.	N	1	N	cg	2	4	43	38.	cmg	bm.	cr	0·2.
	Blacksod Point	989·1	49	NE	1	bcp	987·4	-2.	38.	+1	WNW	2.	NW	cgm	2.	3	42	35.	bc	bcp	bcp.cm	*
	Valencia ...	987·8	35	ENE	1	b	988·5	-1	34	0	-	0	NW	c	3	2.	40	30.	c.bcz	b.bcz	bc.cp.c	3·8
	Roche's Point	986·2	39	NNW	3	b	988·1	*	36.	+2.	NW	3	-	b.	2	0·2	39	34	cg.c	cg.b.	bc.	*
	Birr Castle ...	986·1	30	NNW	1	c	987·5	*	30.	-3	N	1	-	o	*	1	36	26	os.oe.	oe cx.	cx ox	0·0
	Donaghadee ...	984·7	39	ENE	4	omp	986·8	+1.	40.	+1	ENE	2	-	m.	2.	Trace	42	39	cm	bcm.om	cgm.bc	*
	Liverpool (Bidston)	983·5	36.	NNE	1	o	985·9	+1.	36.	+2	NNW	1	-	o	1	-	38	34	c.c	o	o.	0·0.
	Holyhead ...	983·4	37.	-	0	omg	985·7	+1	34.	-3	S	2	-	cmx	1	1	40	33	odp.cm	c.omp.	c.bcx	0·8.
	Pembroke (St. Ann's)	983·1	36.	N	1	bc.	986·2	+1	39.	+8	NNE	1	-	cr	1	3	39	31	czg	bcz.	cp.cr	1·2
	Scilly (St. Mary's)																					
	Falmouth ...	984·0	33.	NNW	1	bz.	986·6	0	32.	-1	W	1	-	bx	*	1	40	31.	bz	bz. bcz	bc.o.bz	5·2
	Jersey (St. Aubin)	981·7	38	W	3	bp	986·2	*	36.	-3	W	4	-	ogp	3	3	46	32.	op.bc.	op.bc.b	op.c.og	1·2.
	Portland Bill ...	982·0	38.	NNW	2	c	986·2	+2.	35.	-1	N	1	-	b.	2	-	40	34	o.c	c.	o.c.b	*
	Dungeness ...	980·1	39	WSW	3	or	986·0	+1	31.	-10	WNW	3	-	b.	2	7	43	32	or	or.	orf.bx	*
	Dover	981·5	38	W	3	c	987·1	0.	36.	-3	NW.	2.	-	bc	2	8	39	34	or	op.r.c.	c.bc	0·0
	Wick	987·2	39	NNW	2	bc.	985·5	-1	40.	-3	NNW	5	-	bc	4	4	44	37.	rng.chp	cp.bcm.	bcqp.	*
	Nairn	987·1	37.	-	0	cg	987·2	*	37	+5	W	2	-	cgp.	2	11	37	31	kprs.o	prs.	cgz.	0·0
	Aberdeen ...	985·6	36	WNW	3	bc	983·9	0	39.	-1	NW	4	-	c	3	11	40	36.	or	op.bc.	bc.cp	0·0.
	Leith	984·4	39	ENE	3	r	985·7	0	34	-6	WSW	2.	N	c	3	10	41	34.	r	r	r.o.c.o.c	*
	Tynemouth ...	982·8	40.	E	3	omr.	983·8	0	37.	-3	NW	3	N	cm.	3	9	43	36	cmp.	cmp.	omr	*
	Spurn Head ...	980·6	39	NE	2	cp.	983·4	+1	36	-4	NW	4	-	bcq	4	3	43	34.	cp	cp.	bc.	0·0
	Yarmouth ...	978·6	40.	NW	2	b.	985·7	+3.	34.	-6	WNW	2	-	of.	1	-	44	34.	c	b.	bcm.af	0·0.
	Clacton-on-Sea	979·7	39.	NW	3	o.	986·0	+2	38.	-3	NW	2	NW.	o	1	-	41	37	c.og.	og.	og.	0·0
	Nottingham ...	981·9	38.	NW	2	o	985·5	*	32.	-4	W	1	-	f	*	-	39	31	om.c	e.o	om	0·0
	Benson (Oxon.) ...	982·2	37	NW	2	o	986·2	+1	31.	-5	-	0	-	bmx	*	-	39	31.	o	o	o.c	*
	Sth Farnborough	981·3	38	NW	2	o	986·2	+1	36	-1	W	1	-	om	*	Trace	40	35	om.	omd.	od.om	0·0.
	London (Kew Obsy.)	981·9	40	W	2	om	986·5	0	37.	0.	WSW	2	-	b	*	-	40	36.	om	om.	om.bm.	0·0
NORTHERN EUROPE.	Spitsbergen ...	1031·9	-34	-	0	b.	1034·6	+2	-29.		S	2.	*	b.	*	*	-27	-36				
	Vardö	1014·0	28.	SE	3	o.	1015·9	+3	30	0	SE	3	-	o	3	*	30	21				
	Bodö	998·1	39.	E	2	c.	998·1	0	36.	-1	E	4	-	c.	2	-	39	36.				
	Christiansund ...	985·2	41	E	2	b	986·9	+1	43.	+7	SE	1	-	o	3	-	41	34				
	Skudesnaes ...	979·4	36.	NE	3	c	980·4	0	41	+5	E	3	-	p.	2	4	41	36				
	Færder (X'tianiaFjord)	987·0	39	SSE	8	r.	985·0	-3.	39	+5	E	6	-	r	3	16.	39	34				
	The Scaw (Skagen)	985·5	41	S	6	o	983·3	-1	41	+2	SE	6	-	o	6	7	43	36				
	Blaavands Huk	983·4	37	SSE	3	bc.	977·9	-3.	41	+5	S	2	-	r	1	14	41	34				
	Copenhagen ...	989·2	39.	SSE	3	o.	986·0	0	41	+4	S	4	-	o	*	Trace	41	37				
	Bornholm ...	992·2	37	SE	3	bc.	989·1	0	39.	+2.	SSW	5	-	m	1	-	39	36				
FRANCE, &c.	The Helder ...	975·4	37	E	2	r	983·5	+3.	41	+7	SW	4	-	r	3.	9	43	34				
	C. Gris Nez ...	980·7	41	NW	5	r	987·0	+3	39	+2	W	2	*	c	2	11	43	36				
	La Hêve							*					*									
	Brest (St. Mathieu)	984·8	41	SE	1	bc.	988·8	0	41	-3	NE	1	*	r	3	9	46	39				
	Rochefort (Ile d'Aix)	987·7	46	W	6	r	988·4	0	42	-3	SSW	4	*	o	*	5	50	41				
	Biarritz	993·0	48	WSW	4	r	989·6	+3	45	-5	N	7	*	r	5	8	50	43				
	Paris	985·5	39	SSW	3	b	988·3	-1	37	-2	SSW	2	-	o	*	Trace	43	36				
	Belfort	989·5	37	WSW	7	r	990·9	*	36.	+2	E	2	*	o	*	6	46	34				
	Lyons							*					*		*							
	Nice	998·6	47	E	3	r	992·8	-6	50	+9	WSW	9	*	r	8	62	50	41				
	Perpignan ...	995·4	43	-	0	b	986·6	-4	41	+7	W	1	SW	bc	*	-	55	34				
	Sanguinaire ...	*	54	SW	5	o	*	*	57	+7	SW	5	*	o	6	1	57	48				
SOUTHERN STATIONS.	Corunna	991·3	48.	3	3	o	1000·4	+3	43		?	5	—	o	4	26	50	43				
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1006·6	*	WSW	4	o.	1010·7	+1	60	+1	SSE	4	*	bc	3	3	68	59				
	Madeira	1013·1	61	W	3	o.	1013·0	0	61	+6	W	2	SW	r	3	-	64	55				
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1015·7	-1	57	0	ENE	1	—	o.	5	-	66	50				
	Alexandria ...	1015·0	64	ESE	2	c.	1015·3	+2	64	+5	-	0	-	m.	0	-	73	57				
	Cairo (Helwan) ...	1016·4	64	—	0	bc.	1015·9	+2.	61	+2	SE	1	NW	bc	*	-	75	57				

LONDON OBSERVATIONS.

	Humidity. 9 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	90	88.	0·0	39	35	32	-	o3	o3	om
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	84	89.	0·0	42	36	31	-	0	0	oe
CAMDEN SQ. (British Rainfall) ..	90	92.	0·0	40	34	31	-	0	0.	*
HAMPSTEAD (Reservoir)	*	96.	0·0	38	32.	24	-	om	c.om	om
S. KENSINGTON (Museum Grounds)	*	87.	0·0	41	37	32	Trace	om	om.o	o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
93	3·3	10·0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

UPPER AIR.

South Farnborough.
Pilot Balloon Ascent at 7.35.h.

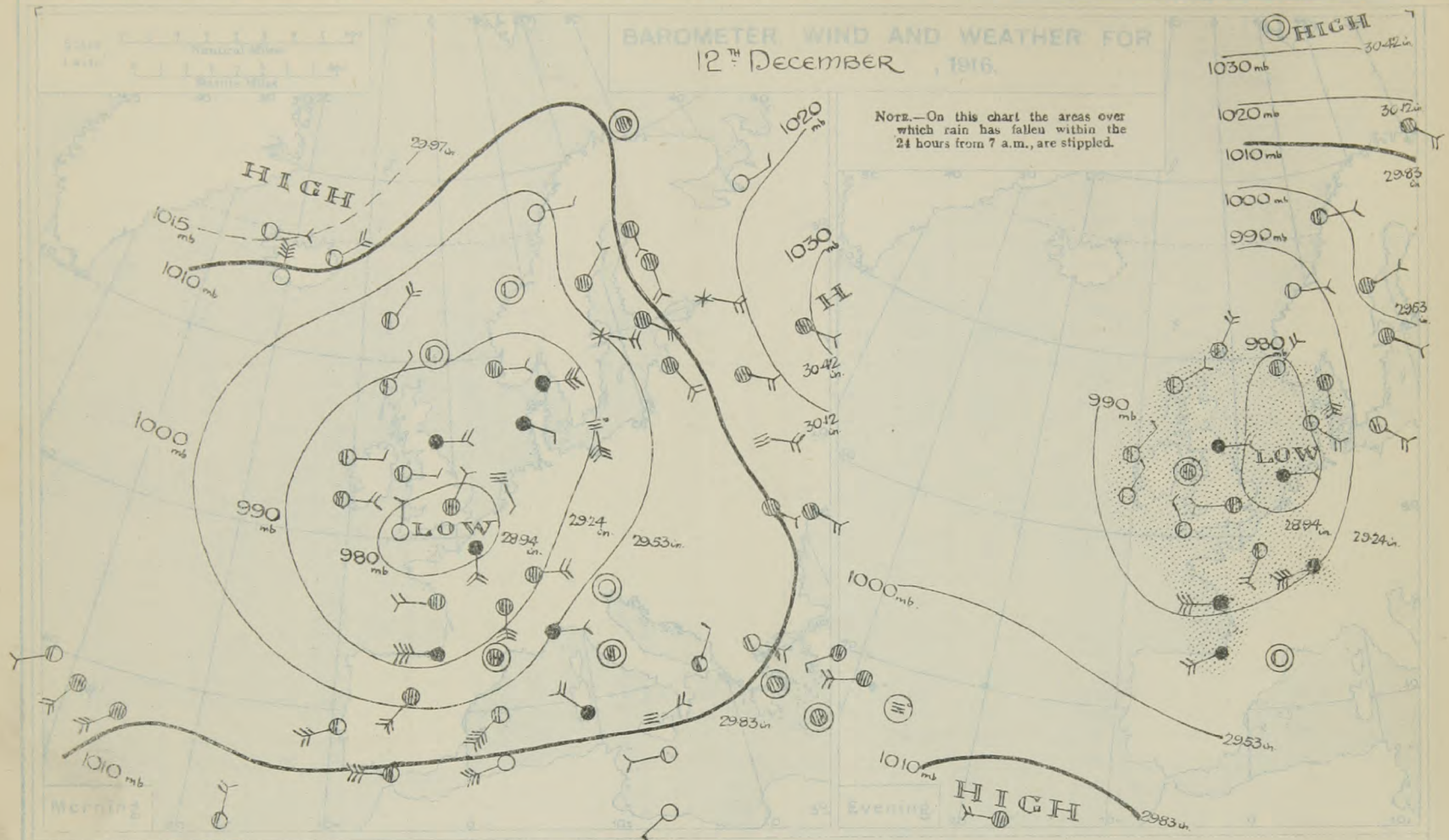
450 metres W'N 3 metres per sec.
300 " W'S 2 " "
Surface SW'W 2 "

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

BAROMETER, WIND AND WEATHER FOR 12TH DECEMBER, 1916.



NOTE.—On this chart the areas over which rain has fallen within the 24 hours from 7 a.m., are stippled.

FORECASTS FOR THE 24 HOURS NOON WEDNESDAY TO NOON THURSDAY.

Wind between North and West, mostly light; dull to fair, local showers and mist; temperature rather below the normal, some night frost.

Moderate to fresh North-Westerly wind; sea moderate to rather rough; cloudy, some showers; rather cold.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

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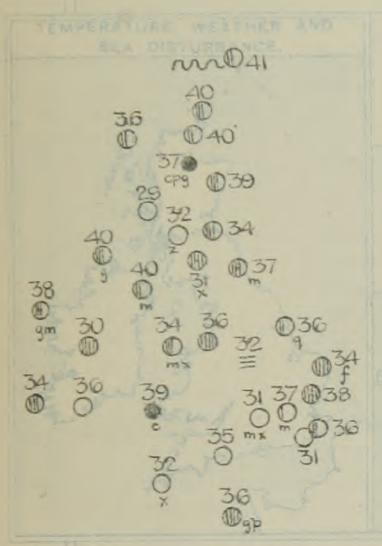
SYNOPTIC CHART FOR THE MORNING OF Wednesday, 13th DECEMBER, 1916.

GENERAL INFERENCE.

No important change in the general situation is indicated.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊤s, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.

HIGH 1030 mb 30·42 in
1025 mb 30·27 in
1020 mb 30·12 in
1015 mb 29·97 in
1010 mb 29·83 in
1005 mb 29·68 in
1000 mb 29·53 in
995 mb 29·38 in
990 mb
985 mb
980 mb
LOW
Barometer rising slowly in most places
Bar. falling
1010 mb HIGH

Issue No. 20110. **DAILY WEATHER REPORT.** Wednesday, 13 December **1916.**

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.						°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...						1019.4	− 2	9	−21	E	1	b	—	*	7
	Gorki	1020.7	?	SE	4	o	1015.3	− 1	23	+ 9	SSW	3	o	—	*	14
	Velieki Luki ...	1021.2	21	SE	3	o	1017.3	*	25	+ 6	SE	3	o	—	*	23
	Hangö						1006.3	−4	30	+ 3	SSE	3	o	2	*	27
	Riga	1010.6	27	SSE	5	o	1005.7	− 2	28	+ 1	SSE	4	o	—	*	27
	Petrograd ...	1018.7	21	S	3	c	1016.6	− 1	23	+ 4	SE	4	5	—	25	18
	Moscow	1031.7	12	SSE	2	o	1029.5	− 2	10	− 6	SE	2	o	—	*	7
	Kiev	1020.4	21	SE	4	o	1014.7	−5	25	+ 7	SE	4	f	1	*	18
	Kharkov ...	1028.6	18	SE	3	o	1026.9	− 1	16	+ 6	SE	3	o	?	*	16
	Kishinev ...	1014.0	36	SE	1	o	1008.6	−4	43	+11	SE	2	o	7	*	32
	Elisabetgrad ...	1022.1	27	ESE	3	c	1017.6	−3	28	+ 8	SE	4	o	1	*	23
	Nicolaiev ...	1019.0	34	ESE	7	o	1016.6	*	36	+ 6	SSE	3	o	—	*	27
	Odessa	1017.6	39	ESE	3	f	1013.5	−2	46	+ 9	S	5	o	—	*	39
	Tarkhankout...							*							*	
	Soukhoum ...	1022.3	48	—	o	c	1021.6	o	41	− 9	—	o	b	2	*	41
Mediterranean.	Venice	998.6	50	—	o	o	1000.4	*	43	−8	—	o	b	3	50	41
	Pesaro	999.1	46	—	o	o	1001.9	*	46	o	SSW	1	b	—	55	43
	Rome	1000.9	48	SE	1	o	1004.3	*	46	− 6	—	o	c	6	57	46
	Viesti	1001.7	55	S	1	b	1003.0	*	54	o	SW	2	o	—	59	45
	Brindisi	1003.3	52	SW	1	bc	1006.6	*	55	− 2	NE	1	bc	10	61	48
	Cagliari	1001.4	61	NW	4	o	1006.7	*	50	+ 2	NW	3	r	9	63	46
	Palermo	1005.7	54	—	o	b	1009.3	*	52	− 1	ENE	3	f	2	59	48
	Tripoli	1010.4	55	WSW	1	b	1012.6	*	54	− 5	WSW	1	b	—	70	52
	Algiers	1007.7	52	WSW	6	r	1010.0	+ 1	52	o	WSW	6	b	1	57	48
Sweden.	Hernösand ...	1005.3	36	—	o	o	1003.8	*	34	+ 4	NE	2	o	*	*	*
	Stockholm ...	1004.0	37	SSE	4	o	996.6	*	34	− 2	ESE	4	5	*	*	*
	Wisby	1001.5	37	SE	2	o	995.1	*	32	− 5	S	2	o	*	*	*

Iceland.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.
		°F	°F			
Isafjord ...	1019.1	18	−3	E	2	b
Reykjavik	1009.2	21	−2	N	5	b
Vestmanna	1003.3	19	−6	N	8	b
Seydisfjord	1010.6	21	−2	NE	4	b
Thorshavn	996.2	33	+2	NE	4	bc

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY. UP TO 18h.

	STATIONS.	Rainfall Night 18h-9h.	Rainfall Day 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	—	—	41	35	bc	b	0.0
	Banff	3	2	43	27	or.hr.c	or.bc.c	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Engd. N.E.	Harrogate	2	—	36	32	o.p.	ac.bc	0.0
	Skegness	—	—	41	33	bc.f.o	o.bc.b	0.0
Engd. N.W.	Morecambe							
	Southport	3	—	37	32	o.c	c.o.bc.b	0.0
Midlands.	Leamington Spa							
	Malvern	7	—	36	32	o	o	0.0
	Ross-on-Wye	Trace	—	37	33	om. c	cm	0.0
Wales.	Rhyl	Trace	—	40	28	op		0.0
	Colwyn Bay...	*	*	39	29	oc	c.o.	0.0
	Llandudno	*	*	40	34	m	m	0.0
	Aberystwyth	*	*	40	39	ac.	c.o.	1.5
	Tenby	—	—	40	30	c	bc.c	0.8

	STATIONS.	Rainfall Night 18h-9h.	Rainfall Day 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England. E.	Lowestoft	4	—	42	38	o	o	0.0
	Felixstowe	—	—	41	38	o	o.bc	0.0
	Walton-on-Naze							
	Southend-on-Sea	Trace	—	44	35	of	o	0.0
England. S.E.	Margate	Trace	7	42	38	o	or	0.0
	Ramsgate	Trace	10	42	36	r	r	0.0
	Hastings	4	1	43	37	or.o	o.bc	0.0
	Eastbourne	3	Trace	40	35	o.bc.o	o8	0.0
	Seaford	*	*	46	35	r	o	0.0
	Brighton	3	—	39	35	of	of bc.b	0.0
	Worthing	1	—	40	33	o.c		0.2
	Littlehampton	3	—	42	36	o bc	o	0.8
	Bognor	*	*	40	35	o	bc	0.8
	Bournemouth	—	—	39	33	o	o	0.2
England. S.W.	Weymouth...	*	*	39	33	c.b	b.bc.c	1.4
	Torquay	—	—	40	34	c	c.o	0.2
	Paignton	*	*	40	30	bc	c	1.7
	Penzance	Trace	—	44	34	bc	c.bc	5.0
	Newquay	—	—	40	32	bc	bc	2.1
	Bude	—	—	41	33	o	bc	0.4
	Ilfracombe	—	—	41	31	z.bc	z.bc	0.0
	Weston-s-Mare	—	—	40	34	c bc	bc	0.1

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

13th & 14th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7.58 / 7.59	11.47 / 11.48	3.36 / 3.36
Greenwich	7.59 / 8.0	11.54 / 11.55	3.49 / 3.49
Wick	8.56 / 8.57	12.6 / 12.7	3.16 / 3.16
Valencia	8.43 / 8.44	12.35 / 12.36	4.27 / 4.27

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° in many localities. Rain fell in most districts, hail or sleet in the north. Sunshine was limited to a few south-western stations.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 349.

Thursday 14th. December

	STATIONS.	YESTERDAY EVENING					THIS MORNING								PAST 24 HOURS						Sunshine for Yesterday
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F.					‡	F	°F.							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	985·3	42.	NNE	4	bc	990·6	+1	39	-2	NNE	3	NE	c	3.	6.	42	38.	bcp	bcp	bcp*	*
	Deerness (Orkney)	986·4	42.	N	5	cqp.	991·2	*	41	+1	N	3	-	b	3	6	42	40	cp.	c.op.	c.cp.bc	0·0
	Stornoway ...	993·2	38.	NE	5	c	996·7	+1	39	+3	N	3	N	bc	3	0·1	39	35	bc.c	c.o.c.	bcqt	1·2.
	Castlebay (Barra Isd.)	993·8	40	NNE	3	b	998·0	+2	41		N	4	N	bc	4	-	43	39	b	b.	bc	2·7
	Glasgow ...	989·0	33	NW	1	bz	993·0	+3	37	+5	N	2	NE	c	*	0·1	38	31	bf.cz.	c.bc.bz	cm cx	0·1.
	Eskdalemuir ...	988·0	35	-	0	cx	990·4	+2	36	+5	N	4	-	bc	*	-	36	29	bcx.c.	c	c.o.cx.c	0·0
	Malin Head ..	989·8	41	NE	4	bcqv	995·4	+5	41	+1	NNE	6	NE	bcq	6.	-	42	38.	bcp	bcqv	bcq	2·7
	Blacksod Point	988·8	36.	E	4	bc	997·6	+3	39	+1	ESE	3	E	cmp.	3	0·3	40	34	bc	bc	bck.cm	*
	Valencia ...	987·5	38.	E	1	b	995·9	+4	36	+2	NE	3	NE	c.	3	4	41	33	c.op.	op.b.	bc	0·0
	Roche's Point	988·5	35	NNW	1	b	994·0	*	35	-1	NNW	4	-	b	2	0·4	41	32.	b	b.	bx.	*
	Birr Castle ...	989·0	33	N	1	m	995·1	*	27	-3	N	1	-	o	*	-	34	25.	o	f	cx	0·0
	Donaghadee ...	988·7	41.	NNE	4	cgm	991·2	+1	43	+5	NNE	5	NE	cmqp.	4	3	44	38.	bcm	bcm.	bcm.cq	*
	Liverpool (Bidston)	988·4	32.	SW	1	m	990·5	0	39	+3	WNW	2	W	o	1	0·2.	40	31.	bm	bf	b.cx.	3·9
	Holyhead ...	988·3	37	S	2	bx	991·2	+1	43.	+9	NE	5	-	om.	4	0·3.	43	33.	c.bc.bm	b.bcm	bx.c.om.	8·5.
	Pembroke (St. Ann's)	988·5	36.	NE	1	m	991·4	+2	33	-6	NE	1	-	bx	1	0·4	39	32.	bc.b	b	bz.bx.	2·1
	Scilly (St. Mary's)																					
	Falmouth ...	987·2	36.	NW	1	b	988·8	+1	35	+3	NE	3	-	b	*	4	39	31.	bcz.od.	d.r.d.c.b	bcx.cp	0·2.
	Jersey (St. Aubin)	988·2	36.	NNW	3	cgm.	986·8	*	40	+4	E	5	-	o	3	6.	45	35.	cgp.bc.	thfp.	bm op.o	2·1.
	Portland Bill ...	987·9	41	E	1	o	988·9	0	34.	-1	NE	3	NE	c.	3	-	42	33	b.bc.	bc.c.	o.c.bc	*
	Dungeness ...	987·7	33.	WNW	2	o	989·3	0.	42.	+11	SSW	4	SW	c	4	3.	42	31	c.o	c.ox		*
	Dover	989·0	34.	-	0	bc	990·2	0	40.	+4	SSE	4	S	o	4	7	40	30.	o.c.	c.bcm	c.op.r	0·0.
	Wick	987·4	40.	N	5	bc.	991·6	+2.	41	+1	N	5	-	c	4	8	42	39	bcq.cm.	bcmqp.	cqp	*
	Nairn	989·4	38.	NW	2.	ou.	993·2	*	39	+2	NW	3	-	bc	2.	3.	39	36.	c	cg.	cqp.	0·0
	Aberdeen	986·9	39.	NW	4	r	991·5	+4	39	0	WNW	1	-	c	3	15.	41	37.	or	op.r	or.c.	0·0.
	Leith	988·0	40	N	2	bc.	991·3	+1	40	+6	N	3	E	c	3	-	41	34	c.o.bc.c	c.o.bx.	bc.cu.c	*
	Tynemouth ...	986·4	39.	NNW	3	omp.	987·5	0.	38.	+1	NNW	2	-	omr	3	8	40	35.	cm	omp.	omr.	*
	Spurn Head ...	986·9	39.	NW	5	om.	989·3	0	36	0	W	4	-	or	4	0·3	41	35	bcm	bc.om	bcm	0·6
	Yarmouth ...	988·5	35.	WSW	2	of	989·9	+1	39	-5	WNW	2.	-	f	2	-	44	39.	af.bcm.	of.	of.bcf.	0·0
	Clacton-on-Sea	986·6	37.	W	2	o	990·7	0	31	-7	NNW	1	-	f	1	-	39	29	ogm.bc	bc.c.og	ogmx.f	0·0.
	Nottingham ...	988·2	34	SW	1	b	990·1	*	33	+1	W	1	-	md.	*	2.	35	28.	f	f	fs	0·0.
	Benson (Oxon.) ...	990·6	25.	-	0	f	990·4	0	36.	+5	-	0	-	fx	*	-	39	24.	bcm	b.	f	*
	Sth Farnborough	988·6	30	-	0	f	990·3	0	25	-10	WNW	2.	-	ofx	*	-	38	23	o.bcm.	b.bc.of	fx.	0·6
	London (Kew Obsy.)	989·0	34.	-	0	cm.	990·8	+1	28	-9	-	0	-	fx	*	-	38	25	bm.om.cm	cm.bcm.cm	cm.f.fx	0·1.
NORTHERN EUROPE.	Spitsbergen ...	1035·0.	-22.	-	0	b	1033·6	0	-20	+9	S	1	*	b.	*	*	-20	-33				
	Vardo	1014·9	32.	SE	4	o	1016·2	+2.	30	0	SE	3	-	o	3	*	32	28.				
	Bodö	1001·2.	32.	E	4	b.	1001·5	0	32.	-4	E	5	-	b	2	-	36	28				
	Christiansund ...	989·0	41	ESE	2	o	992·0	+3	39	-4	-	0	-	b	3	-	?	36.				
	Skudesnaes ...	988·5	37.	E	2	b.	987·8	+2.	36.	-5	ENE	2	-	b.	1	-	41	34.				
	Færdet (X'iania Fjord)	987·1	39.	ESE	6	r	992·2	+2.	41	+2	SSE	4	-	o	3	5	41	39.				
	The Scaw (Skagen)	985·0	41	SE	5	o	991·5	+2.	41	0	SSE	3	-	o	4	2	43	39				
	Blaavands Huk	985·6	39.	S	4	r	990·6	+1	39	-2.	S	3	-	o	4	3	41	37.				
	Copenhagen ...	990·6	41	WSW	4	o	991·7	0	37	-4	SE	1	-	m	*	-	41	36.				
	Bornholm ...	992·7	37	SSW	4	m	988·2	+4	36	-3	N	8	-	r	2.	12.	41	36				
FRANCE, &c.	The Helder ...	987·3	41	SW	3	b.	991·3	+2.	34.	-7.	S	3	-	m	1	1	43	36				
	C. Gris Nez ...	988·7	36	NW	1	m	992·4	0	35	-4	SE	3	*	b	2	1	39	34				
	La Hève	988·6.	36.	WSW	4	o	988·5	*	36.		SE	3	*	m	2	-	41	34.				
	Brest (St. Mathieu)	988·4	42	ESE	2	c	984·4	-2	37	-4	E	3	*	o	3	1	45	37				
	Rochefort (Ile d'Aix)	992·4	43.	WSW	4	o	989·1	-2.	44	+2	W	6	*	r	*	17	46	39				
	Biarritz	997·1	47	SW	3	o	994·6	-4	46	+1	SSW	4	*	o	4	7	48	45.				
	Paris	991·0.	37.	S	2	o	992·3	-1	37	0	SE	2	-	r	*	Trace	39	36.				
	Belfort	993·6	32.	E	2	s	1000·2	*	30	-6	E	2	*	c	*	7	39	30				
	Lyons	995·1	34	-	0	b	1000·4	*	30		SSW	1	*	b	*	20	24	29				
	Nice	995·8	41	SW	6	b	1001·2	+4	39	-11	WSW	2	*	b	6	4	54	32				
	Perpignan ...	998·3	43	NW	3	b.	1000·7	+1	46	+5	WSW	1	E	bc.	*	-	55	41				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	1011·4	*	NE	7	o.							*									
	Madeira	1014·0	63.	W	2	r	1012·7	-2.	61	0	?	?	-	r	?	16.	66	59				
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1018·6.	+1	54	-3	-	0	-	bc	5	-	64	46.				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	89	93	0·0	37	27	23	-	0z	0z.c	c.om
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	89	93.	0·0	39	30	25	-	m	m	f.
CAMDEN SQ. (British Rainfall) ..	90	100	0·0	38	27	27	-	o.om	om.	*
HAMPSTEAD (Reservoir)	*	100	0·2.	36	25	16	-	om	omx	ofx
S. KENSINGTON (Museum Grounds)	*	98	0·0.	39	29	?	Trace	om	om.oz	om.
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
117	4·1	12·0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

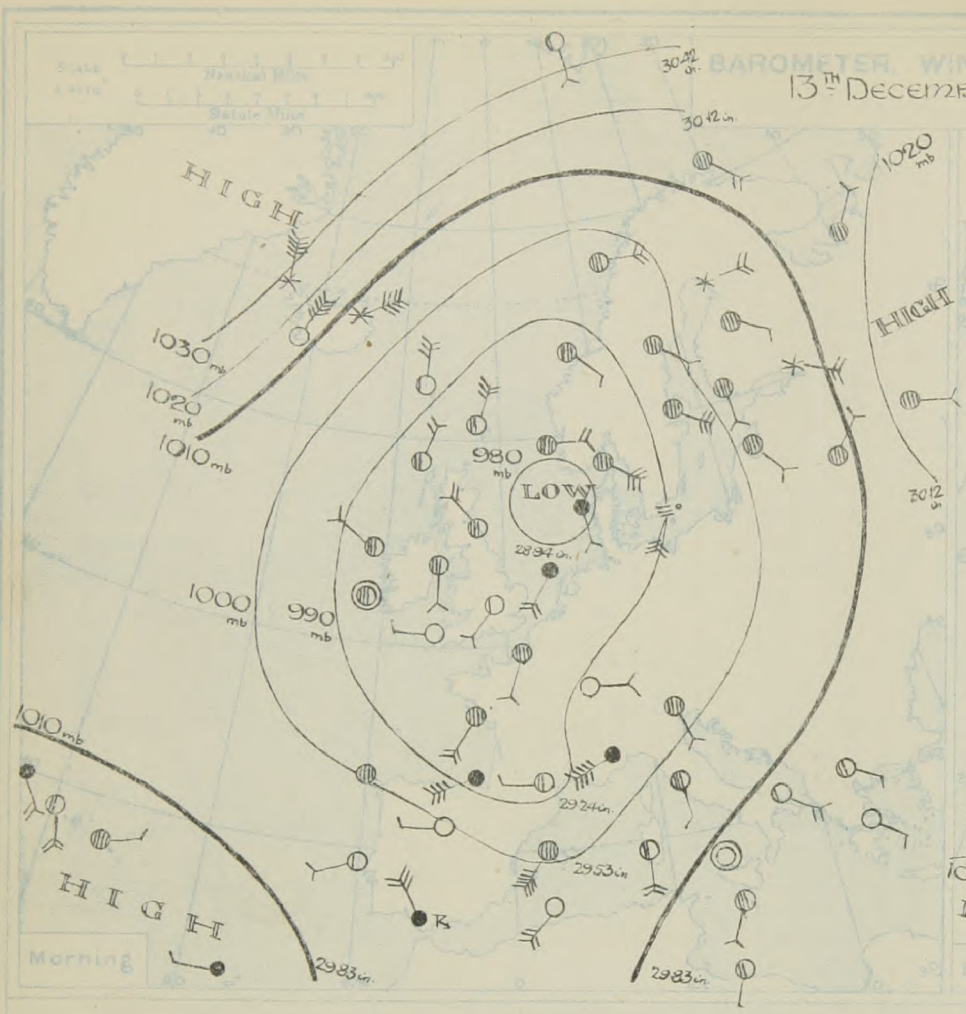
RAINFALL.

Equivalents of Millimetres in Inches.

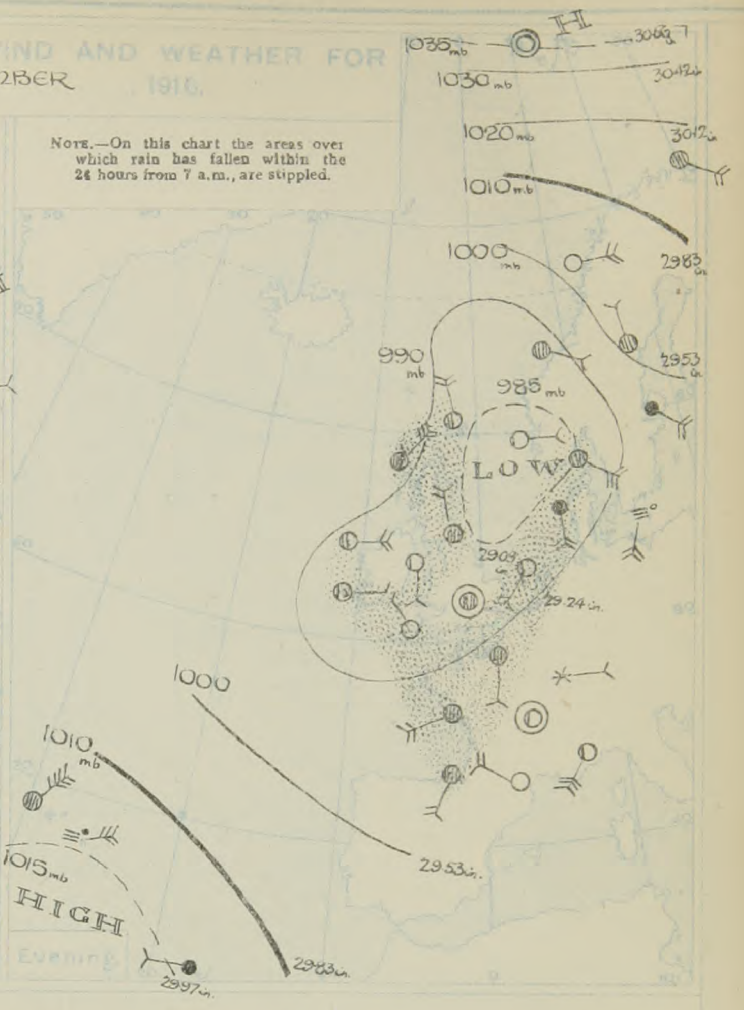
mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 13TH DECEMBER 1916.



Note.—On this chart the areas over which rain has fallen within the 24 hours from 7 a.m., are stippled.



FORECASTS FOR THE 24 HOURS NOON THURSDAY TO NOON FRIDAY.

FORECAST DISTRICTS.

0 a, b — Moderate to fresh Northerly breeze; fair to cloudy, some cold showers; night frost.

1 a, b, 2 a, b, 3 a, b, 4 a, b — Light Westerly breeze, veering Northerly and freshening somewhat; local showers, mist or fog at first, fairer later; cold, night frost.

5 — Calm and variable breezes, becoming Northerly later; much fog at first, then fairer, cold, night frost.

6 a, b, 7 a, b, 8 a, b, 9 a, b — Same as Nos. 0 and 1.

10 — Moderate to fresh Northerly to Westerly breezes; sea moderate to rather rough; changeable, some rain, local mist or fog; cold.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

Western Channel and Bay

FURTHER OUTLOOK.

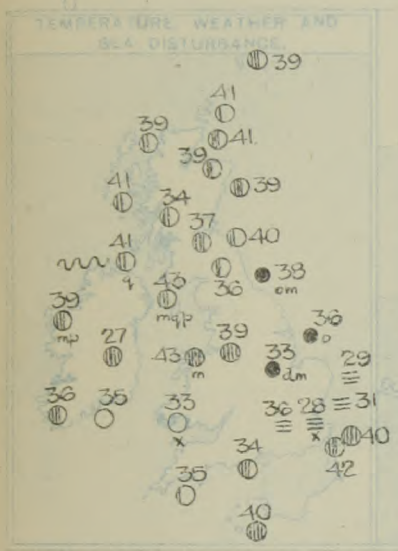
R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF THURSDAY, 14TH DECEMBER, 1916.

GENERAL INFERENCE

A colder Northerly type spreading in from the west.



EXPLANATION.

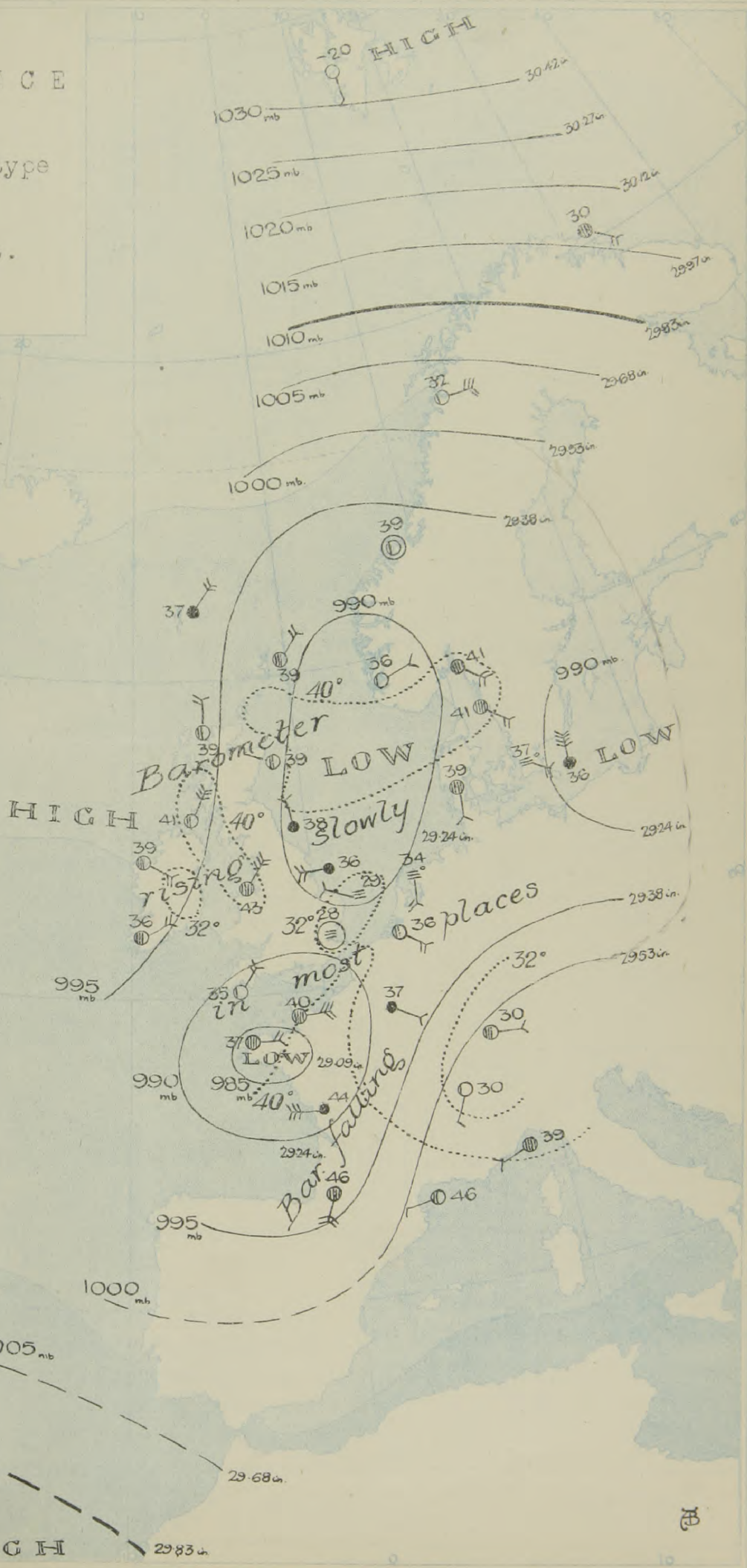
BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ½ clouded. ◐ sky ½ clouded.
◍ sky ¾ clouded. ◍ overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.



Issue No. 2011. **DAILY WEATHER REPORT.** Thursday, 14th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0–12.	Weather.	Morning. Barometer. Millibar at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F.	°F.
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1020·3	16	SE	2	o	1019·3	−1	18	+9	NE	2	o	—	×	19
	Gorki	1007·0	30	NE	3	s	1007·7	o	34	+11	NE	2	o	2	×	23
	Velieki Luki ...	1009·0	10	SE	3	m	1007·5	×	32	+7	SE	2	o	?4	×	10
	Hangö						1001·7	−1	34	+4	SSE	2	o	?	×	28
	Riga	1002·9	30	SSE	3	o	1001·6	o	32	+4	SSE	2	o	2	×	28
	Petrograd ...	1010·4	27	SE	8	o	1007·4	−1	28	+5	SE	4	s	1	28	23
	Moscow	1027·4	7	SE	2	b	1023·0	−3	12	+2	ESE	3	o	—	×	5
	Kiev														×	
	Kharkov ...														×	
	Kishinev ...														×	
	Elisabetgrad ...														×	
	Nicolaiev ...							×							×	
	Odessa														×	
	Tarkhankout...														×	
	Soukhoum ...							×							×	
MEDITERRANEAN.	Venice	9999	50	SE	1	o	998·2	×	52	+9	SSE	2	o	9	?	41
	Pesaro							×								
	Rome	1008·1	52	S	1	o	1007·9	×	54	+8	S	1	c	Trace	55	46
	Viesti	1010·0	54	SE	3	o	1009·2	×	54	0	S	2	c	—	57	50
	Brindisi	1012·2	48	NW	3	o	1010·0	×	54	−1	SE	3	b	—	59	50
	Cagliari	1008·0	59	SW	5	o	1007·1	×	55	+5	S	4	bc	—	61	45
	Palermo	1013·4	52	—	o	b	1012·2	×	48	−4	—	o	b	—	61	37
	Tripoli	1016·0	55	WSW	1	bc	1013·2	×	55	+1	S	1	bc	—	64	54
	Algiers	1009·1	55	WSW	3	b	1005·5	+1	57	+5	SW	5	b	—	63	52
SWEDEN	Hernösand ...	1000·6	32	ENE	2	o	1000·3	×	36	+2	SE	2	o	×	×	×
	Stockholm ...	995·8	39	SE	2	o	996·0	×	37	+3	ESE	6	o	×	×	×
	Wisby	996·2	39	S	2	b	993·1	×	39	+7	SE	2	o	×	×	×

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F.	°F.			
Isafjord ...	1029·0	18	0	N	9	s
Reykjavik	1020·3	23	+2	NNE	3	bc
Vestmanna	?	19	0	NNE	9	b
Seydisfjord	1005·0	30	+9	NE	8	s
Thorshavn	992·1	33	0	N	5	b

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
Scotland.	Oban	—	—	40	28	b	b	2·6
	Banff	2	Trace	43	40	oprq	c.or	0·0
	Montrose							
	Carnoustie	×	×					
	St. Andrews...	—	—	41	38	b	bx	0·0
Eng. N.E.	Harrogate	Trace	—	39	32	b.bc	bc.c	3·2
	Skegness	—	—	34	30	b.fo.	fo.	0·0
Eng. N.W.	Morecambe	—	—	39	30	—	—	2·5
	Southport	—	—	39	30	c. of	bc.b.of	3·3
Midlands.	Leamington Spa							
	Malvern	—	—	33	26	m	m.	4·4
	Ross-on-Wye	—	—	36	23	of	of	0·0
Wales.	Rhyl	2	—	41	30	qp	bc.c	3·1
	Colwyn Bay...	×	×	41	32	c	bc	3·2
	Llandudno	×	×	41	31	b.bc.b	b	3·3
	Aberystwyth	×	×	40	32	o.c	c.bc	4·0
	Tenby							

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft	—	—	47	33	of	of.	0·0
	Felixstowe	—	—	38	36	om	om.	0·0
	Walton-on-Naze							
	Southend-on-Sea	—	—	38	35	o	o	0·0
England, S.E.	Margate	—	—	39	36	o	o	0·0
	Ramsgate	1	—	45	35	o	o	0·0
	Hastings	Trace	—	36	30	op.bc.o	bc.c.	0·8
	Eastbourne	Trace	—	38	32	ob.bc	bc.o	3·1
	Seaford	×	×	43	32	o	bc . o	1·6
	Brighton	—	—	37	34	o	od	0·2
	Worthing	—	—	37	33	bc.	c	1·0
	Littlehampton							
	Bognor	×	×	36	35	bc	bc	1·4
	Bournemouth	—	—	35	29	o	o	0·0
England. S.W.	Weymouth...	×	×	39	30	z.bc	bc.z	1·0
	Torquay	—	1	39	29	b.bc.c	c.or	0·6
	Paignton	×	×					
	Penzance	4	5	44	35	or	c.bcpr	1·6
	Newquay	—	1	42	29	op.o	o.	0·0
	Bude	10	2	41	30	ep.	bc	0·0
	Ilfracombe	—	—	40	32	z.bc.	z bc	1·3
	Weston-s-Mare	—	—	35	29	cm.f.	bm.f.	1·0

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

14th & 15th December, 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	7·59 / 8·0	11·48 / 11·48	3·36 / 3·36
Greenwich	8·0 / 8·1	11·55 / 11·55	3·49 / 3·49
Wick	8.57 / 8·58	12.7 / 12·7	3.16 / 3.16
Valencia	8.44 / 8·45	12.36 / 12·36	4.27 / 4.27

NOTES ON YESTERDAY'S WEATHER.

The temperature was below the normal in most districts. Rain fell except in the south-east, a thunderstorm, with hail, passing over Jersey. Leamington registered 4½ hours of sunshine, but many places had none. There was much mist or fog in several localities.

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 350.

Friday, 15th. December.

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp. °F.	Wind: Direc.	Wind: Force 0-12.	Weather.	THIS MORNING: Barometer: Millibars at M.S.L.	Barometer: Change in 3 hours.	Temp.: Dry Bulb. °F.	Temp.: Change in 24 hours. °F.	Wind: Direc.	Wind: Force 0-12.	Direc. of Upper Cloud	Weather.	Sea 0-9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp.: Max. °F.	Temp.: Min. °F.	Weather: Morning.	Weather: Afternoon.	Weather: Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	990·1	40	N	2	bc	991·9	+2	41	+2	E	2	E	bc	2	3	41	37	bcp	bcp	bcp	*
	Deerness (Orkney)	?991·5	40	NW	3	cp	991·2	*	38	-3	W	1	-	c	2	3	43	37	bcp	bc.cp	cp.c	1·2
	Stornoway ...	995·5	39	N	3	bcp	994·0	-1	38	-1	NW	3	-	bc	3	2	40	36	bc	bcp	bcp	2·0
	Castlebay (Barra Isd.)	997·2	41	NNE	2	b	996·2	0	41	0	NW	3	-	cp	3	4	43	37	bc	bc.b	bc.bp	2·6
	Glasgow ...	995·2	37	NNW	2	b	996·1	0	28	-9	SSE	1	-	bm	*	~	41	28	c.bc.c	c	bmx	4·1
	Eskdalemuir ...	994·2	32	-	0	b	997·0	+2	21	-15	-	0	-	bx	*	-	38	20	bc.cp.c	bc.c.bc	b.bx	0·7
	Malin Head ...	996·3	41	N	2	bc	996·0	0	42	+1	NNW	2	NW	bc	3	-	43	38	bcq	bc	bc	0·8
	Blacksod Point	?993·5	40	SW	3	bc	998·5	+2	37	-2	SE	1	-	c	2	3	43	35	bc	bc	bcp.cp	*
	Valencia ...	998·9	44	N	4	b	994·7	-2	42	+6	WNW	3	N	c	3	1	44	36	c	c.b	b.bcp.c	0·3
	Roche's Point	996·9	40	N	3	b	997·0	*	35	0	E	1	S	bc	1	0·2	41	33	b.bc	bc.b	b.bcl	*
	Birr Castle ...	997·1	38	NW	1	bc	997·1	*	24	-3	NNW	1	-	b	*	~	39	24	c	c.bc	bx	3·3
	Donaghadee ...	995·1	43	NNE	4	bcq	996·4	+1	36	-7	W	2	W	bcm	1	-	44	35	cq	bcq	bcl.by	*
	Liverpool (Bidston)	992·8	39	N	3	o	995·2	+1	35	-4	NNW	1	N	cm	2	~	40	34	om	o	om	0·2
	Holyhead ...	993·0	43	NE	6	cfqp	995·4	+1	42	-1	ENE	5	NE	b	4	1	45	35	cp.c.o	o.chp.o	op.c.b	0·0
	Pembroke (St. Ann's)	991·9	39	NNE	2	bc	995·4	+2	39	+6	-	0	-	bc	1	0·3	43	33	bcprs	bcp.bc	bc	2·8
	Scilly (St. Mary's)																					
	Falmouth ...	990·9	35	N	1	bq	995·6	+2	37	+2	N	1	-	b	*	-	39	31	bq	bq	b.o.bc.c	4·6
	Jersey (St. Aubin)	985·4	39	E	3	ofc	992·3	*	42	+2	NW	2	-	cg	2	4	42	37	ofc	ofg.oc	b.cgp	0·0
	Portland Bill ...	988·9	32	NNE	4	bc	992·2	+3	30	-4	N	4	-	bc	3	-	36	30	bc	bc	bc.c	*
	Dungeness ...	988·8	41	ENE	3	c	990·4	+1	40	-2	E	3	E	c	2	4	43	40	bc	bcp	c.cp.rc	*
	Dover	990·9	40	SSE	4	o	991·8	0	39	-1	SE	1	E	c	1	3	41	37	o.c	c.o	or.d.c	0·2
	Wick	992·1	37	NW	2	c	992·0	0	35	-6	NW	1	-	o	3	4	42	34	cgp.bc	bc.cp	c.cmp	*
	Nairn	994·1	38	-	0	bc	992·8	*	36	-3	W	1	-	cg	1	1	40	32	bc.cg	cg	bc.cgp	0·6
	Aberdeen	992·6	37	WNW	4	b	993·5	+1	33	-6	WSW	1	-	b	2	3	41	33	c.cp	bc.bp	b.x.a	0·9
	Leith	993·5	40	N	3	b	994·7	0	32	-8	W	1	-	b	3	0·2	42	31	cpw.bc	c.bc.b	b	*
	Tynemouth ...	992·0	39	NNW	2	cm	994·5	+1	34	-4	NNW	2	-	b	3	6	43	35	cp	cmg.r	bm	*
	Spurn Head ...	991·9	39	W	2	cm	993·3	0	36	0	W	1	-	cm	3	-	39	34	dm	cm	cm.bc	0·0
	Yarmouth ...	991·4	31	-	0	f	991·4	0	30	+10	NE	4	-	cmr	3	5	41	29	f	f	or	0·0
	Clacton-on-Sea	990·8	34	NW	2	f	991·3	0	37	+6	NNW	2	N	c	2	4	39	31	f.cm	cm.bcf	f.c.or.c	0·0
	Nottingham ...	991·5	36	SW	1	o	994·1	*	36	+3	NNW	2	N	o	*	0·3	37	32	md.o	cme	cm	0·0
	Benson (Oxon.) ...	991·0	29	N	1	f	993·4	+2	29	?	-	0	-	cmx	*	-	?	26	fx	f	fx	*
	Sth Farnborough	990·3	31	NE	2	f	992·3	+2	32	+7	NNW	2	-	cs	*	3	33	25	ofc	ofx	afx.cs	0·0
	London (Kew Obsy.)	991·2	33	NNE	2	ofc	992·4	+1	33	+5	N	2	-	cm	*	2	34	27	ofc.ofqg	afqg.ofc	afc.cm.cs.o	0·0
NORTHERN EUROPE.	Spitsbergen ...	1029·9	-2	S	1	bc	1027·5	0	-11	+9	SSE	2	*	c	*	*	-11	-31				
	Vardö															*						
	Bodö	1002·0	30	E	4	b	997·3	0	28	-4	-	0	-	b	0	-	32	28				
	Christiansund ...	993·1	37	ESE	1	b	996·8	+2	37	-2	-	0	-	b	3	-	41	37				
	Skudesnaes ...	989·5	39	SE	3	r	990·9	0	39	+3	ESE	4	-	o	4	13	39	34				
	Farder (Christiania Fjord)	995·0	39	S	1	o	1001·0	+2	39	-2	S	5	-	c	3	-	41	37				
	The Scaw (Skagen)	994·6	39	S	2	c	1001·7	+3	39	-2	S	3	-	o	4	-	43	37				
	Blaavands Huk	994·4	39	SSW	3	o	999·0	+1	36	-3	S	2	-	o	2	-	41	28				
	Copenhagen ...	998·7	39	SW	4	o	1002·3	0	37	0	SE	3	-	o	*	-	39	26				
	Bornholm ...	1000·2	39	SW	6	m	1003·1	-1	37	+1	SE	4	-	m	1	1	43	36				
FRANCE, &c.	The Helder ...	994·0	36	SE	1	bc	993·5	0	37	+3	ESE	1	-	o	1	-	39	34				
	C. Gris Nez ...	989·2	37	E	3	c	991·1	+1	37	+2	SE	2	*	o	2	4	41	35				
	La Hève	*	37	SE	3	r	*	*	38	+2	ENE	2	*	c	2	4	41	36				
	Brest (St. Mathieu)	987·8	42	N	5	bc	995·9	+3	44	+7	N	5	*	c	3	~	45	37				
	Rochefort (Ile d'Aix)	985·2	47	WSW	6	r	993·9	+6	45	+1	NW	5	*	o	*	16	48	39				
	Biarritz	990·9	44	SSE	3	c	998·4	+4	45	-1	WSW	7	*	c	5	15	48	45				
	Paris	990·3	39	S	3	r	990·0	+2	39	+2	SSE	2	-	o	*	3	43	36				
	Belfort	998·6	32	ENE	5	b	996·4	*	32	+2	-	0	*	s	*	2	39	30				
	Lyons	995·7	40	S	2	o	996·0	*	38	+8	SSW	2	*	c	*	-	42	30				
	Nice	1004·3	41	E	4	r	995·7	-4	44	+5	-	0	*	bc	4	31	48	36				
	Perpignan ...	995·4	39	-	0	o	999·1	+6	46	0	SW	1	-	b	*	-	48	32				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1005·3	*	NE	9	m							*									
	Madeira																					
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1019·5	0	63	+9	ESE	3	-	bc	4	~	70	46				
	Alexandria ...	1019·5	64	-	0	0	1020·3	0	59	-5	-	0	-	b	0	~	75	57				
	Cairo (Helwan) ...	1018·1	63	N	2	b	1019·4	+2	57	0	-	0	-	b	*	-	70	55				

RAINFALL

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

LONDON OBSERVATIONS.

	Humidity: 15 h. Yesterday. %	Humidity: 9 h. To-day. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature: Max. °F.	Min. °F.	Min. on Grass °F.	Rainfall. mm.	Weather: Morning.	Afternoon.	Night.
GREENWICH (Royal Observatory)	93	92	0·0	35	30	31	3	om	om	0.0S.om
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	88	92	0·0	36	31	32	3	f	f	fr.om
CAMDEN SQ. (British Rainfall) ..	87	93	0·0	34	29	30	3	f.om	om	*
HAMPSTEAD (Reservoir)	*	100	0·0	32	29	26	4	ofx	ofx	ox.os
S. KENSINGTON (Museum Grounds)	*	93	0·0	36	30	?	2	ogm	ogm	om.
RICHMOND PARK	*	*		*	*	*	*	*	*	*

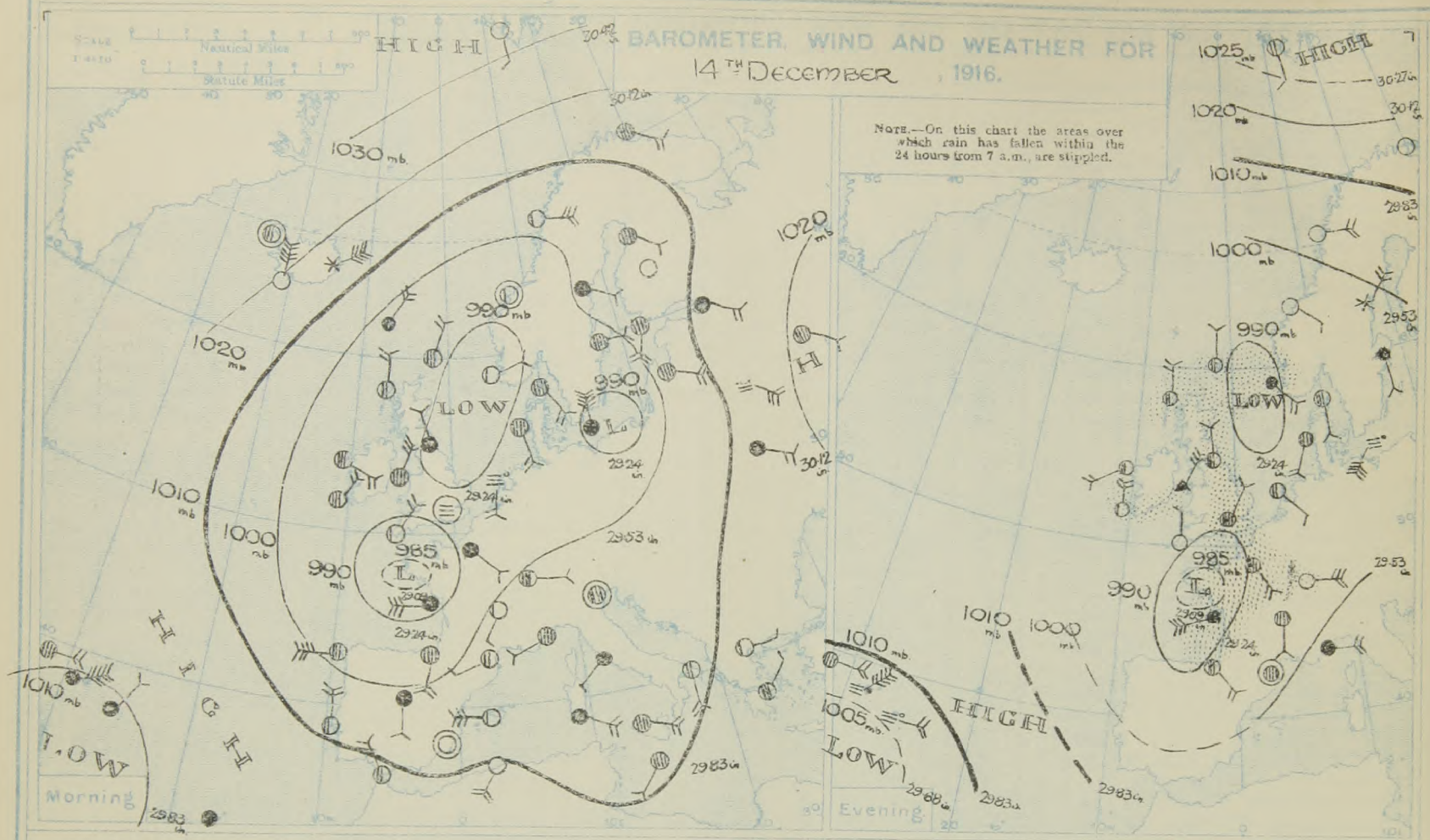
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

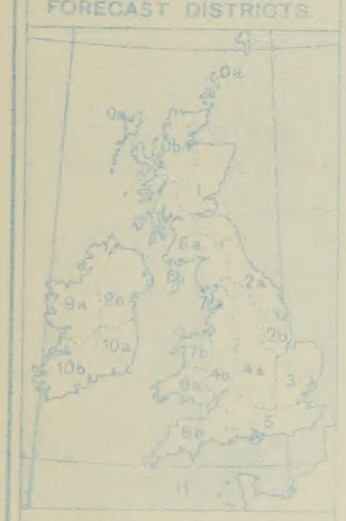
Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
38	13	4·0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for those columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON FRIDAY TO NOON SATURDAY.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

Western Channel and Bay (1)

Calms and light variable breezes, mainly Northerly; changeable, fine to dull, local cold precipitation, mist or fog; cold, night frost.

Fresh Northerly wind; sea rough; cloudy, some cold precipitation, local mist or fog; cold.

FURTHER OUTLOOK

R. G. K. LEMPFERT, Superintendent, Forecast Division

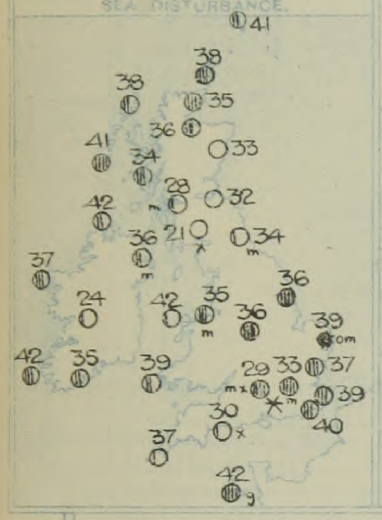
NAPIER SHAW, Director

SYNOPTIC CHART FOR THE MORNING OF FRIDAY, 15TH DECEMBER, 1916.

GENERAL INFERENCE.

No great change in the conditions is indicated.

TEMPERATURE WEATHER AND SEA DISTURBANCE.



EXPLANATION.

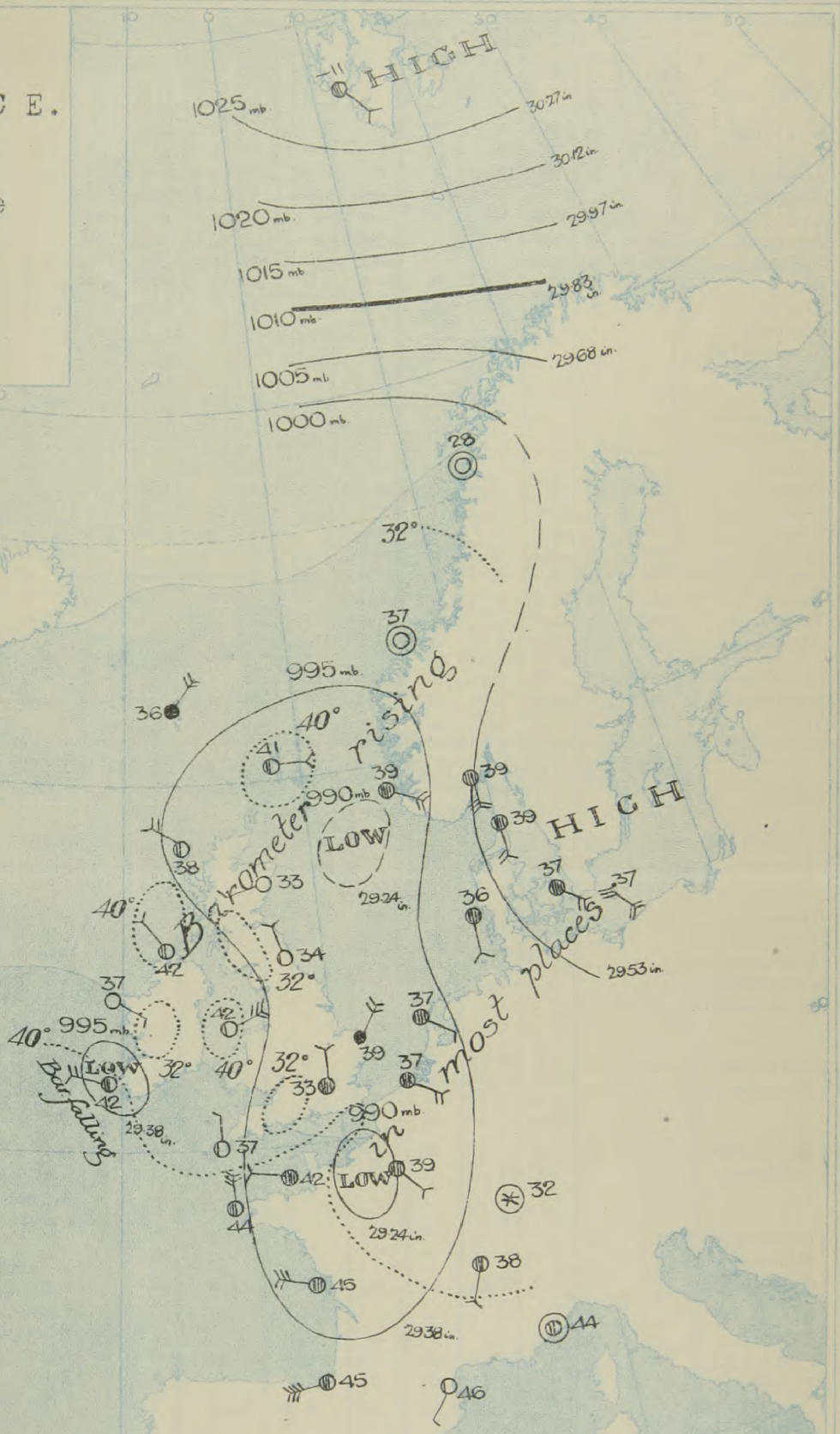
BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ● rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊼, thunderstorm.

SEA DISTURBANCE.—Rough ∿∿ High ≈≈.



Issue No. 2012. **DAILY WEATHER REPORT.** Friday, 15th December, **1916.**

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1016.2	12	SE	3	s									×	
	Gorki	1012.0	34	SE	4	f	1012.8	0	34	0	SE	5	f	–	×	30
	Velieki Luki ...	1009.7	36	SE	2	o	1013.1	½	34	+2	SE	3	o	2	×	32
	Hangö						1002.0	0	37	+3	SSW	4	o	–	×	30
	Riga	1001.5	36	ESE	2	o	1001.1	−2	36	+4	ESE	4	o	–	×	32
	Petrograd ...	1008.8	28	SE	4	o	1010.7	+3	34	+6	SSE	3	r	–	34	28
	Moscow	1020.6	22	SSE	3	o	1022.7	+1	25	+13	SE	2	o	11	×	12
	Kiev	1013.2	37	S	2	r	1015.7	0	36		SE	4	r	1	×	34
	Kharkov ...	1019.1	30	SE	2	r	1021.6	+2	32		SE	2	f	–	×	30
	Kishinev ...														×	
	Elisabetgrad ...														×	
	Nicolaiev ...														×	
	Odessa														×	
	Tarkhankout...														×	
	Soukhoum ...														×	
MEDITERRANEAN.	Venice						1000.7		48	−4	–	0	0	2	57	48
	Pesaro	992.0	55	S	2	o	1001.4	×	48		SE	1	o	Trace	61	46
	Rome	1003.6	55	SE	2	o	1003.4	×	52	−2	SW	1	r	3	61	50
	Viesti	1008.1	54	SW	2	r	1005.7	×	57	+3	SE	2	o	–	59	50
	Brindisi	1006.4	59	WSW	3	b	1008.2	×	54	0	S	3	bc	–	61	54
	Cagliari	1004.2	59	E	4	c	1004.4	×	52	−1	ENE	4	r	7	63	46
	Palermo	1010.2	55	NNE	1	b	1005.6	×	57	+9	ENE	4	o	–	66	34
	Tripoli	1009.3	55	W	1	b	1010.6	×	54	−1	W	1	b	3	68	54
	Algiers	1006.7	57	SW	6	o	1010.1	+2	48	−9	SW	4	b	23	66	46
SWEDEN.	Hernösand ...	1001.1	34	N	2	o	1000.6	×	36	0	ESE	2	r	×	×	×
	Stockholm ...	993.3	37	SSE	4	r	996.8	×	37	0	E	2	o	×	×	×
	Wisby	994.9	39	S	2	b	992.3	×	39	0	ESE	2	r	×	×	×

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.
		F	F			
Isafjord ...	1026.3	21	+3	–	0	c
Reykjavik	1022.6	25	+2	N	6	bc
Vestmanna	1017.5	25	+6	N	9	b
Seydisfjord	1018.6	19	+11	NE	8	s
Thorshavn	996.5	37	+4	NE	4	r

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	–	–	44	28	bc	b	3.8
	Banff	5	1	44	39	c bc	bc r c	0.5
	Montrose							
	Carnoustie	×	×					
	St. Andrews							
Eng. N.E.	Harrogate	2	Trace	38	33	p o	o	0.0
	Skegness	–	–	34	29	x. of	of	0.0
Eng. N.W.	Morecambe	2	–	39	33	×	×	2.5
	Southport	1	–	?	?	o c. bc	bc. b c. o	0.3
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	–	Trace	33	23	c mx	f. c	0.0
Wales.	Rhyl	2	–	42	30	c. ф	g . o	0.0
	Colwyn Bay...	×	×	42	32	p c	c	0.0
	Llandudno	×	×	43	31	r. c	c	0.0
	Aberystwyth	×	×	40	29	o c	bc. o	2.0
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft	–	–	31	27	of	of	0.0
	Felixstowe	–	–	34	29	f.	f bc m	0.0
	Walton-on-Naze							
	Southend-on-Sea	–	–	35	29	of.	of e	0.0
England, S.E.	Margate	–	–	42	32	o	bc c	0.9
	Ramsgate	3	–	45	30	o c	c. o.	1.6
	Hastings	11	–	44	34	or bc b	bc. o.	2.3
	Eastbourne	3	1	42	32	o bc	o m d.	1.0
	Seaford	×	×					
	Brighton							
	Worthing	1	1	37	33	o	o	0.0
	Littlehampton	–	–	35	30	o	o	0.0
	Bognor	×	×					
	Bournemouth	–	–	31	24	o	o	0.0
England, S.W.	Weymouth...	×	×	34	27	2 . b	b z	2.3
	Torquay	–	–	39	26	o bc b	b	4.4
	Paignton	×	×					
	Penzance	Trace	3	44	33	b bc	c r	5.0
	Newquay	–	–	40	30	b	b	4.0
	Bude	–	–	41	29	b	b	5.7
	Ilfracombe	–	–	42	28	bc	bc	4.0
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

15th & 16th Dec., 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	8 0 / 8 1	11 48 / 11 49	3 36 / 3 36
Greenwich	8 1 / 8 2	11 55 / 11 56	3 49 / 3 49
Wick	8 58 / 9 0	12 7 / 12 8	3 16 / 3 15
Valencia	8 45 / 8 46	12 36 / 12 37	4 27 / 4 27

NOTES ON YESTERDAY'S WEATHER.

Afternoon temperatures ranged from 29° at Benson to 45° at Holyhead. There was considerable mist or fog in various districts and small amounts of rain or sleet fell in many localities. Several stations had no sunshine, but Penzance registered 5 hours.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 351. Saturday, 16th December,

	STATIONS.	YESTERDAY EVENING					THIS MORNING								PAST 24 HOURS.				Sunshine for Yesterday
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0–12	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12	Direc. of Upper Cloud	Weather.	Sea 0–9.	Rainfall Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F.					‡	F	F.							°F.	F				Hours.
BRITISH ISLANDS.	Lerwick ...	996·1	41	E	3	c	1006·4	+3	41	0	E	3	E	c	3	2	42	39	bc	bcp	bc c	*
	Deerness (Orkney)	994·9	40	E	1	c	1004·7	*	40	+2	SE	1	–	og	1	3	41	38	cp	cp	cp o	0·0
	Stornoway ...	994·6	39	N	4	or	1003·6	+7	38	0	N	2	–	b	2	7	41	36	c or	or	o b	0·0
	Castlebay (Barra Isd.)	995·7	48	NNE	2	bc	1002·2	+3	42	+1	ENE	4	–	om	4	1	43	39	op cp	cp bc	b op om	0·5
	Glasgow ...	995·4	35	SE	1	m	1002·3	+5	32	+4	E	1	–	s	*	12	37	25	bf dp	cmd	m ryp s	0·0
	Eskdalemuir ...	997·7	24	–	0	bc	1002·8	+4	31	+10	N	2	–	oc	*	–	34	18	bc b	b bc	bc oc	6·3
	Malin Head ...	994·7	43	NNE	4	cm	998·9	+2	41	–1	SW	3	SW	cp	3	4	45	39	om hp	omp	cp	0·3
	Blacksod Point	998·9	39	N	2	cp	1000·9	+2	38	+1	N	2	N	bc	2	4	43	36	bc	cp	bcp bc	*
	Valencia ...	999·9	36	NE	1	b	1002·9	+1	30	–12	ENE	2	–	bc	3	0·2	42	28	c bc	bc b	b bc	3·4
	Roche's Point	999·3	34	N	2	b	1002·5	*	32	–3	N	2	–	b	1	0·2	39	30	bc c o	c b	bc	*
	Birr Castle ...	999·2	29	SE	1	c	1002·4	*	29	+5	E	1	–	bc	*	0·4	34	23	fc c	c	bc opx	3·0
	Donaghadee ...	996·5	37	SW	3	omr	1000·3	+4	35	–1	WSW	2	–	ogm	2	1	41	34	bf	bm cm	ogm	*
	Liverpool (Bidston)	997·6	37	NW	1	b	1002·7	+2	26	–9	SE	2	–	g	1	–	39	26	bm	bcm	bfc	4·5
	Holyhead ...	997·4	39	S	2	b	1001·6	+3	40	–2	W	3	W	c	2	–	47	32	b bc b	b bc c b	bc bc c	4·1
	Pembroke (St. Ann's)	997·8	39	NNW	1	bc	1002·1	+3	34	–5	ENE	2	–	bzp	1	0·1	44	32	bc	bc	bcg	2·5
	Scilly (St. Mary's)																					
	Falmouth ...	997·9	38	WSW	2	b	1000·5	+2	38	+1	N	1	–	r	*	4	47	34	b o c bc	b bc b	bx c or	4·1
	Jersey (St. Aubin)	998·4	39	WNW	2	b	1000·9	*	42	0	S	3	–	op	3	3	44	38	od bc b	c b	op r op	1·7
	Portland Bill ...	997·9	39	N	1	c	1000·8	0	41	+11	ESE	4	E	or	3	2	41	30	bc c	cg	c bc bc	*
	Dungeness ...	995·5	36	NW	3	o	1001·7	+3	29	–11	NW	3	–	g	2	4	42	29	or	c o	g or zf	*
	Dover	995·6	35	WNW	4	o	1003·5	+3	32	–7	NW	1	–	b	2	2	39	30	op r	omdp	bme bc	0·0
	Wick	995·3	34	–	0	m	1006·5	+4	44	+9	E	2	–	bc	2	0·1	44	32	omp c	c omg	bcm	*
	Nairn	994·2	35	–	0	c	1003·3	*	32	–4	–	0	–	bc	1	1	39	28	bc cg	cgd	c bcz	0·5
	Aberdeen	995·8	36	SSW	2	b	1004·1	+5	32	–1	WNW	3	–	b	2	–	38	29	bc cg	c bz	b o b	0·4
	Leith	994·7	38	WSW	1	c	1002·1	+2	34	+2	SE	1	SE	c	2	0·3	38	30	b bc	bc c	c omp c	*
	Tynemouth ...	996·0	34	WNW	2	bm	1002·5	+3	29	–5	WNW	1	–	bm	2	–	38	28	bm	bm	bm	*
	Spurn Head ...	995·7	37	N	2	o	1001·8	+2	34	–2	NNW	4	–	bcm	4	3	39	32	bcm	c om	cp	0·0
	Yarmouth ...	993·9	38	NNW	1	o	1000·8	+3	34	–5	WNW	2	–	of	1	3	41	34	or cm	c om	b of	0·0
	Clacton on-Sea	995·2	37	NW	2	o	1002·2	+3	32	–5	WNW	2	–	bc	2	–	39	32	c cg	ogm c	o bcmz	0·0
	Nottingham ...	996·8	36	N	2	bm	1003·2	*	24	–12	–	0	–	fx	*	–	40	23	o cm	c bm	bm	0·0
	Benson (Oxon.) ...	996·9	31	W	1	m	1003·4	+3	20	–9	–	0	–	m	*	–	38	20	omz	b	bmz	*
	Sth Farnborough	996·8	33	NW	2	o	1002·9	+2	19	–13	–	0	–	bfz	*	1	34	18	s os	s om	o b o bz	0·0
	London (Kew Obsy.)	996·8	35	W	3	bm	1003·5	+2	29	–4	–	0	–	fc	*	1	35	28	om oms om	om	om bm fz	0·0
NORTHERN EUROPE.	Spitsbergen ...	1026·3	–11	–	0	c	1028·2	+2	–11	0	–	0	*	bc	*	*	–9	–13				
	Vardö															*						
	Bodö	1005·6	28	E	4	o	1006·1	0	28	0	E	2	–	c	2	–	28	23				
	Christiansund ...	1005·3	36	–	0	b	1008·8	+1	39	+2	WNW	4	–	r	4	–	39	34				
	Skudesnaes ...	1002·0	39	SE	4	c	1007·8	+4	36	–3	E	2	–	b	2	–	39	36				
	Færder (X'tania Fjord)	1007·0	32	ENE	2	m	1009·6	+2	34	–5	N	1	–	m	1	–	39	32				
	The Scaw (Skagen)	1004·3	37	ESE	2	c	1008·0	+1	36	–3	NE	2	–	c	2	–	41	34				
	Blaavands Huk	1000·2	34	SE	2	c	1004·7	+2	36	0	ESE	2	–	o	3	–	37	32				
	Copenhagen ...	1003·5	36	E	2	f	1005·0	0	37	0	NE	4	–	o	*	–	39	34				
	Bornholm ...	1003·0	39	ESE	1	m	1002·9	–2	39	+2	E	8	–	m	3	–	39	36				
FRANCE, &c.	The Helder ...	995·0	36	SE	1	c	1000·6	+14	32	–5	SSE	1	–	f	0	2	37	32				
	C. Gris Nez ...	995·7	37	NE	1	r	1003·1	+14	39	+2	W	3	*	bc	2	13	41	36				
	La Hève	*	41	W	3	c	*	*	38		SSE	3	*	o	2	2	43	37				
	Brest (St. Mathieu)	1000·7	42	W	2	s	1000·0	0	44	0	WNW	3	*	o	4	6	48	39				
	Rochefort (Ile d'Aix)	1003·4	45	NNW	3	b	1005·1	–1	46	+1	W	3	*	c	*	2	46	41				
	Biarritz	1005·7	48	WSW	5	b	1007·8	0	45	0	SSW	3	*	b	3	7	48	41				
	Paris	997·1	39	WSW	2	o	1006·1	+2	34	–5	S	2	–	o	*	Trace	41	30				
	Belfort	1000·3	34	WSW	4	o	1011·3	*	34	+2	WSW	6	*	c	*	2	39	32				
	Lyons	1003·8	38	–	0	b	1003·7	*	30	0	–	0	*	b	*	–	45	30				
	Nice												*									
	Perpignan ...														*							
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid †... ...	1009·5	41	W	1	bc	1014·3	0	34	–2	–	0	–	o	*	–	45	30				
	Lisbon †	1009·7	52	ESE	1	o	1003·4	–5	50	p	E	3	–	r	5	2	55	48				
	Azores (Horta) ...	996·0	*	ENE	8	r	989·9	+1	57	0	NE	7	*	o	5	21	59	57				
	Madeira	1001·0	63	S	5	r	993·6	0	64	+3	SW	6	SW	r	8	14	64	61				
	Gibraltar	1011·2	53	–	0	r	1009·8	*	56	+1	SE	4	*	r	2	4	57	53				
	Malta	*	*	*	*	*	1016·0	+1	59	+5	WSW	3	–	o	1	Trace	72	54				
	Limassol	*	*	*	*	*	1018·4	0	57	–6	–	0	–	o	5	9	70	54				
	Alexandria ...														*							
	Cairo (Helwan) ...																					

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	93	97	0·0	37	29	28	0·3	o	o	o of
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	88	99	0·0	37	29	28	–	m	m	of
CAMDEN SQ. (British Rainfall) ..	92	100	0·0	36	29	28	–	o	o	
HAMPSTEAD (Reservoir)	*	100	0·0	34	26	19	–	os	c o	bc ofx
S. KENSINGTON (Museum Grounds)	*	98	0·0	37	29	?	0·2	o or s o	o	o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
36	1·3	4·5

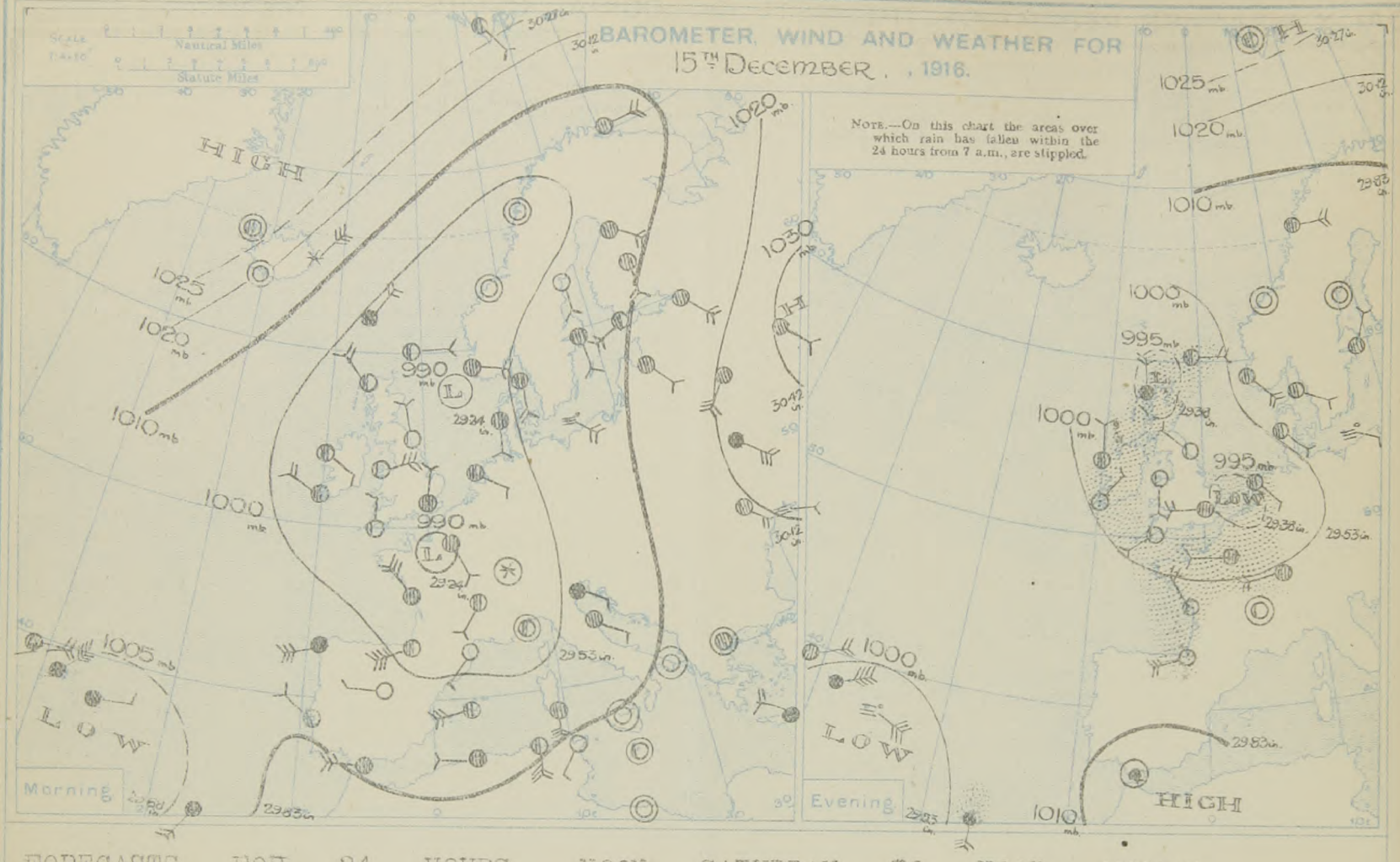
Temperatures at Greenwich and Camden Square are from Glaisher screens.

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR 24 HOURS NOON SATURDAY TO NOON SUNDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

0 a b — Calm and light variable breezes,
1 — changeable sky, some mist or fog, local cold
2 a b — showers; night frost.
3
4 a b
5
6 a b
7 a b
8 a b
9 a b
10 a b

Western Channel and Bay — Moderate Northerly to Westerly breezes; sea moderate; fair to dull, some cold showers, local mist or fog.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF SATURDAY, 16TH DECEMBER, 1916.

GENERAL INFERENCE.

A general increase of pressure is in progress, and the quiet conditions are likely to be maintained.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ⊛ rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder. ⊼, thunderstorm.

SEA DISTURBANCE.—Rough ∿∿. High ≈≈.

HIGH
30·27 in.
30·12 in.
29·97 in.
1025 mb.
1020 mb.
1015 mb.
29·82 in.
1010 mb.
1005 mb.
1000 mb
Barometer generally rising
1000 mb
Low
29·53 in.
1000 mb
Low
29·53 in.
995 mb
1000 mb
990 mb
LOW
29·74 in.
29·38 in.
29·53 in.
29·68 in.
29·68 in.
1010 mb
1005 mb
1015 mb
29·83 in.
29·97 in.
HIGH

Normal Temperature of the Sea
Below 40 | 40–50 | 50–60 | Above 60
Scale of Tints for DECEMBER

Issue No. 20,113. **DAILY WEATHER REPORT.** Saturday, 16th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours. ‡	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12	Weather.	Past 24 Hours. Rain fall. Millimetres.	Temp. Max.	Temp. Min.
			°F.						°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1020·2	19	E	2	o									*	
	Gorki	1018·1	34	SW	4	o	1020·4	+5	34	0	SW	5	o	2	*	32
	Velieki Luki ...	1016·1	34	SE	3	o	1019·7	*	34	0	SE	4	o	–	*	34
	Hango						1009·3	+5	39	+2	WSW	4	c	2	*	34
	Riga	1007·8	39	SSW	3	o	1011·8	–3	36	0	SSE	2	o	–	*	34
	Petrograd ...	1010·7	36	SSE	4	o	1016·0	+2	36	+2	SSE	4	o	–	37	34
	Moscow	1027·4	27	SSE	1	o	1030·3	+1	25	0	SSE	2	o	1	*	25
	Kiev	1019·9	37	SE	4	f	1020·6	+1	32	–4	SE	5	r	–	*	32
	Kharkov ...	1026·9	27	SE	2	o	1028·0	+1	28	–4	E	2	f	–	*	27
	Kishinev ...	1014·9	45	SE	1	o	1014·3	0	48		ESE	3	o	1	*	32
	Elisabetgrad ...	1022·0	34	SE	3	f	1023·5	+1	32		ESE	4	o	–	*	32
	Nicolaiev ...	1020·6	37	ESE	3	f	1022·1	*	34		SE	2	f	–	*	34
	Odessa	1019·1	46	SE	3	f	1020·8	0	45		S	4	f	–	*	43
	Tarkhankout...	1018·9	48	SSE	4	c		*							*	
	Soukhoum ...	1020·2	57	ENE	2	b	1021·2	+1	52		ENE	2	o	–	*	48
MEDITERRANEAN.	Venice	1003·4	43	–	0	b	1003·0	*	50	+2	SE	1	r	Trace	50	43
	Pesaro	1005·5	45	SE	1	b	1004·6	*	46	–2	SE	1	o	1	54	37
	Rome	1007·9	43	NE	1	b	1006·7	*	48	–4	SE	2	s	18	57	41
	Viesti	1006·9	57	S	5	b	1011·7	*	50	–7	SE	1	b	–	59	46
	Brindisi	1008·6	55	E	2	o	1012·7	*	48	–6	–	0	b	?8	63	48
	Cagliari	1007·1	57	NW	4	c	1007·1	*	52	–2	S	5	o	6	64	46
	Palermo	1010·2	52	ESE	2	bc	1013·0	*	48	–9	–	0	b	2	64	41
	Tripoli	1013·0	52	W	1	b	1016·4	*	50	–4	–	0	b	–	68	48
	Algiers	1009·6	52	SW	3	b	1009·5	+1	54	+6	W	2	o	?	59	50
SWEDEN.	Hernösand ...	992·4	32	NE	4	s	1001·2	*	36	0	S	2	b	*	*	*
	Stockholm ...	984·3	39	S	2	r	1007·3	*	34	–3	S	2	o	*	*	*
	Wisby	996·3	39	WSW	6	bc	1007·5	*	36	–3	SSE	2	m	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord ...	1026·3	19	– 2	–	0	bc
Reykjavik	1018·6	21	– 4	–	0	c
Vestmanna	1015·9	27	+ 2	–	0	b
Seydisfjord	1015·9	21	+ 2	NE	6	s
Thorshavn	998·5	36	– 1	NE	4	r

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	–	6	42	29	c.	bc. o	0.7
	Banff	1	–	39	28	obc	bc b	0.8
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	–	–	42	30	bc	bcx	3.4
Eng. N.E.	Harrogate	1	–	38	31	c bc	c bc b	2.3
	Skegness	–	2	38	28	x. o. bf	g. o. h	0.0
Eng. N.W.	Morecambe							
	Southport	–	–	? 38	30	bx	bx. c	4.7
Midlands.	Leamington Spa							
	Malvern	–	–	37	33	o	c bc b	0.0
	Ross-on-Wye	–	–	37	32	csx	m bc	0.0
Wales.	Rhyl	–	–	?	?	c. bc	c. bc	3.6
	Colwyn Bay...	*	*	40	35	bc	bc	3.0
	Llandudno	*	*	44	33	c	c	1.8.
	Aberystwyth	*	*	38	32	o. c	c . o	0.3
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft	8	Trace	42	34	or. cm.	c. or	0.0.
	Felixstowe	5	1	40	30	cp.	om	0.0.
	Walton-on-Naze	3	Trace	39	35	o. cm. od	o c og	0.0
	Southend-on-Sea	3	Trace	37	33	oz	ozr	0.0
England, S.E.	Margate	2	Trace	41	38	od.	o. c	0.0.
	Ramsgate	2	1	41	37	gm	gm.	0.0
	Hastings	11	Trace	39	35	or. o	o	0.0
	Eastbourne	9	–	38	34	od.	o. c	0.0
	Seaford	*	*	38	34	o	o	0.0
	Brighton	2	–	36	34	o	o	0.0
	Worthing	1	–	36	34	o	o	0.9
	Littlehampton	2	–	36	30	o	o	0.0
	Bognor	*	*	37	33	bc	bc	0.0
	Bournemouth	–	–	36	25	c	c	2.2
England, S.W.	Weymouth...	*	*	37	29	z b	bz	1.3.
	Torquay	–	–	41	31	b. bc. c	bc. b	2.5
	Paignton	*	*					
	Penzance	1	–	49	37	bc c	bc	3.0
	Newquay	–	–	46	33	b	b p c	4.0
	Bude	–	–	45	29	b	b	4.4
	Ilfracombe	–	–	43	37	c. bc	bc	0.5
	Weston-s-Mare	–	–	41	31	m. c. bc	b bcm	1.0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

16th & 17th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	8. 1 / 8. 2	11. 49 / 11. 49	3. 36 / 3. 36
Greenwich	8. 2 / 8. 3	11. 56 / 11. 56	3. 49 / 3. 49
Wick	9. 0 / 9. 1	12. 8 / 12. 8	3. 15 / 3. 15
Valencia	8. 46 / 8. 47	12. 37 / 12. 37	4. 27 / 4. 27

NOTES ON YESTERDAY'S WEATHER.

Afternoon temperatures below 40° prevailed, and there was sharp night frost inland. Cold showers occurred very generally. As a rule there was little or no sunshine, but Eskdalemuir registered 3·3 hours.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 352

Sunday, 17th December

	STATIONS	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp. °F	Wind: Direc.	Wind: Force 0-12	Weather.	THIS MORNING: Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb. °F	Temp. Change in 24 hours. °F	Wind. Direc.	Wind. Force 0-12	Direc. of Upper Cloud	Weather.	Sea 0-9.	PAST 24 HOURS: Rainfall Millimetres.	Temp. Max. °F.	Temp. Min. °F.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS	Lerwick	1011·6	39	-	0	bc	1007·2	·2	36	-3	N	1	-	bc	1	·4	43	34	cp	cpbc	bc	*
	Deerness (Orkney)	1012·2	40	ESE	1	c	1006·4	*	39	-1	N	3	-	op	2	5	43	38	op	ocp	csp	0·0
	Stornoway	1011·9	39	ENE	3	cp	1011·6	·2	37	-1	NE	1	-	bc	1	1	42	38	b	bcp	bbcp	3·1
	Castlebay (Barra Isd.)	1011·5	41	NE	3	b	1012·7	0	41	-1	ENE	2	-	c	2	-	43	39	ompo	ocb	bac	0·0
	Glasgow	1010·0	37	ENE	1	cm	1012·1	0	32	0	SSW	1	NE	cm	*	3	37	31	oscbco	cm	cbcm	1·0
	Eskdalemuir	1009·4	34	-	0	0	1012·1	0	29	-2	N	1	-	b	*	-	34	27	cbcb	bbcco	obc.cb	5·5
	Malin Head	1008·1	38	SE	3	bcm	1011·8	0	40	-1	SE	1	NE	cm	1	1	45	36	bcp	bcm	cm.	4·0
	Blacksod Point	1007·1	41	-	0	bc	1012·3	+1	36	-2	ESE	1	-	bc	2	-	44	34	bc	bc	bc.	*
	Valencia	1008·1	34	-	0	bx	1011·4	0	30	0	ENE	2	-	bx	3	-	44	27	bxbcb	b	bx	6·2
	Roche's Point	1008·9	35	N	1	b	1011·2	*	32	0	N	2	-	b	1	0·3	42	31	b	bm	bxmbx	*
	Birr Castle	1008·2	31	SE	1	c	1011·7	*	31	+2	-	0	-	m	*	-	40	27	c	c	coxf	5·3.
	Donaghadee	1007·8	41	SE	2	cgmr	1010·8	0	36	+1	WNW	2	-	cgm	1	3	41	34	bcf	fomp.	cm·bz	*
	Liverpool (Bidston)	1008·3	35	-	0	f	1010·1	0	33	+7	NNW	1	-	c	0	-	38	26	bm	bf	omx	4·1
	Holyhead	1007·8	37	-	0	bc	1008·9	0	37	-3	ENE	3	N	bc	2	0·3	47	33	cbc	cbcb	bxcpb	6·0
	Fembroke (St. Ann's)	1007·6	35	-	0	b	1010·0	0	32	-2	NNE	1	-	bx	1	0·4	39	31	bz	bz.	bx	5·7
	Scilly (St. Mary's)																					
	Falmouth	1006·5	32	NNE	1	bz	1009·2	0	32	-6	N	1	-	bx	*	3	41	30	rpbc·c	cbz	bx	2·0.
	Jersey (St. Aubin)	1004·1	42	W	3	og	1006·4	*	39	-3	E	2	-	b	2	1	49	34	ac.	c·bc·og	pbrbx	1·3.
	Portland Bill	1005·2	35	NE	4	cr	1007·3	0	35	-6	NE	3	-	bx	3	13	41	32	or	or	crbcb	*
	Dungeness	1006·0	31	N	3	bm	1006·7	0	31	+2	N	3	-	f	2	-	33	28	f.	fbcbm	fcmx.	*
	Dover	1005·8	28	NW	1	?	1007·3	0	33	+1	NW	4	-	o	3	0·2	40	25	bcb	bf	bfo	3·6.
	Wick	1011·8	37	WNW	2	bc	1009·4	-2	35	+9	WNW	1	-	r	3	2	44	26	bcpcm	cbcm	bcmr	*
	Nairn	1011·7	34	-	0	ogm.	1010·0	*	32	0	W	1	-	bc	1	0·4	34	28	bcm.	bc·cm	cd·cx	1·9.
	Aberdeen	1011·1	35	WNW	3	bc	1010·4	-1	31	-1	WSW	1	-	b	2	4	36	30	bcsh	ogm·c	bc·bx	0·0
	Leith	1009·3	39	E	2	r	1011·3	0	35	+1	SW	1	NE	c	3	3	40	32	cm·cbc	cod·o	nodoc	*
	Tynemouth	1009·1	37	NW	1	om	1009·6	0	37	+2	NNW	2	N	bcm	3	6	40	28	bm	omo	cmp	*
	Spurn Head	1005·9	37	NNW	2	cpm.	1008·4	+1	37	+3	NE	4	-	bcp	4	5	39	34	cm	cm.	bcp	0·0.
	Yarmouth	1005·2	33	NNW	3	bc	1007·1	+2	37	+3	NNE	1	-	bcm	3	3	38	32	of·bcf	bcf	bcf·cp	0·0
	Clacton-on Sea	1006·1	28	WNW	2	bc	1007·3	0	35	+3	WNW	2	NW	c	1	-	35	27	bcmf	bcf	bcf·xc	0·0
	Nottingham	1007·3	27	SW	1	fx.	1006·5	*	33	+9	W	1	NW	o	*	-	33	22	fx	fx	fbx	0·0.
	Benson (Oxon.)	1007·5	23	-	0	m.	1009·1	·1	27	+7	-	0	-	f	*	-	27	19	fx	om.	fx.	*
	Sth Farnborough	1006·8	21	-	0	b	1008·2	+1	28	+9	NW	1	-	ox	*	-	29	17	bcfx	cbfx	bobox	0·0.
	London (Kew Obsy.)	1007·5	29	-	0	fx	1008·4	0	29	+6	WSW	1	-	ofx	*	-	30	24	fx	fx.	fxofx	0·0.
NORTHERN EUROPE	Spitsbergen	1031·4	-19	SE	2	b	1031·3	+1	-24	-18	S	1	*	b	*	*	-11	-24				
	Vardö	1018·0	23	E	4	0	1017·9	0	21	.	E	4	-	o	3	*	28	19				
	Bodö	1005·1	28	E	2	0	1004·0	0	30	+2	E	4	-	c	2	-	30	25				
	Christiansund	1003·1	36	WNW	3	r	1004·3	0	36	-5	NW	3	-	c	4	9	41	32				
	Skudesnaes	1002·9	30	E	3	b	1006·9	0	28	-8	E	4	-	o	3	?	36	21				
	Færder (X'Tania Fjord)	1004·6	32	NNE	4	c	1006·7	-1	28	-6	NNE	2	-	b	1	-	34	28				
	The Scaw (Skagen)	1008·0	36	NE	3	0	1005·2	0	32	-4	NE	3	-	o	3	-	36	32				
	Blaavands Huk	1006·1	34	NE	3	s	1004·2	-1	34	-2	NE	1	-	o	2	Trace	37	30				
	Copenhagen	1002·3	37	ENE	5	0	1000·2	0	37	0	NE	3	-	o	*	1	37	36				
	Bornholm	9999	39	E	9	r	9998·7	0	36	-3	WSW	1	-	r	1	7	39	34				
FRANCE, &c.	The Helder	1004·0	37	E	2	0	1005·3	0	37	+5	WNW	1	-	o	1	1	39	34				
	C. Gris Nez	1006·6	36	SSE	1	0	1006·7	0	36	-3	NE	1	*	o	2	-	43	33				
	La Hève	*	39	S	3	r	*	*	34	-4	ESE	2	*	m	1	-	41	34				
	Brest (St. Mathieu)	1005·1	43	ENE	2	bc	1005·2	0	37	-7	E	3	*	b	2	-	46	36				
	Rochefort (Ile d'Aix)	1006·4	45	SSW	3	c	1002·6	-3	39	-7	ESE	3	*	o	*	1	54	39				
	Biarritz	1006·4	48	S	2	0	9997·3	-3	41	-4	E	3	*	r	2	22	52	39				
	Paris	1006·6	39	S	2	0	1006·9	-1	37	+3	NE	2	-	f	*	4	39	34				
	Belfort	1011·0	36	W	2	0	1008·2	*	32	+2	-	0	*	o	*	1	41	32				
	Lyons	1012·0	36	-	0	b	1004·3	*	32	+2	-	0	*	r	*	2	41	30				
	Nice	1013·1	43	-	0	c	1008·6	-4	37	+1	E	4	*	r	4	2	50	36				
	Perpignan	1010·0	41	-	0	0	9997·0	-7	39	+9	SW	1	-	o	*	-	50	30				
	Sanguinaire	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid	1010·3	34	NE	3	r	1002·7	+6	48	+16	SW	1	-	r	*	4·2	†57	32				
	Lisbon	9993·7	61	SW	6	r	1002·4	+4	61	+11	SW	6	-	o	8	18	63	50				
	Azores (Horta)	9990·3	*	NE	8	r	9994·0	0	54	-3	NNE	6	*	bc	4	2	61	54				
	Madeira	9995	66	WSW	6	r	1002·6	0	64	0	?	?	SW	r	7	23	66	64				
	Gibraltar							*					*									
	Malta	*	*	*	*	*	1014·1	-3	59	0	S	1	-	b	0	-	72	55				
	Limassol	*	*	*	*	*	1010·0	0	57	0	-	0	-	b	2	-	70	52				
	Alexandria	1021·5	64	ENE	2	b	1021·2	·0	61	0	-	0	-	b	0	-	75	57				
	Cairo (Helwan)	1019·9	66	NE	4	b	1020·6	+3	57	-6	-	0	-	b	*	-	77	57				

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday. %	Humidity. 9 h. Today. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature. Max. °F.	Min. °F.	Min. on Grass. °F.	Rainfall. mm.	Weather. Morning.	Afternoon.	Night.
GREENWICH (Royal Observatory)	93	97	0·0	37	29	28	Trace	o	o	cd, mf
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	99	100	0·0	32	27	30	-	f	f	f.
CAMDEN SQ. (British Rainfall)	100	91	0·0	34	26	25	Trace	fm	f	*
HAMPSTEAD (Reservoir)	*	89	1·6	33	21	13	1	of.	bc·ofx	bx
S. KENSINGTON (Museum Grounds)	*	89	0·0	36	25	25	Trace	omx. of.	ofge.	ofge. om
RICHMOND PARK	*	*	-	*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
,50	1·8	4·0

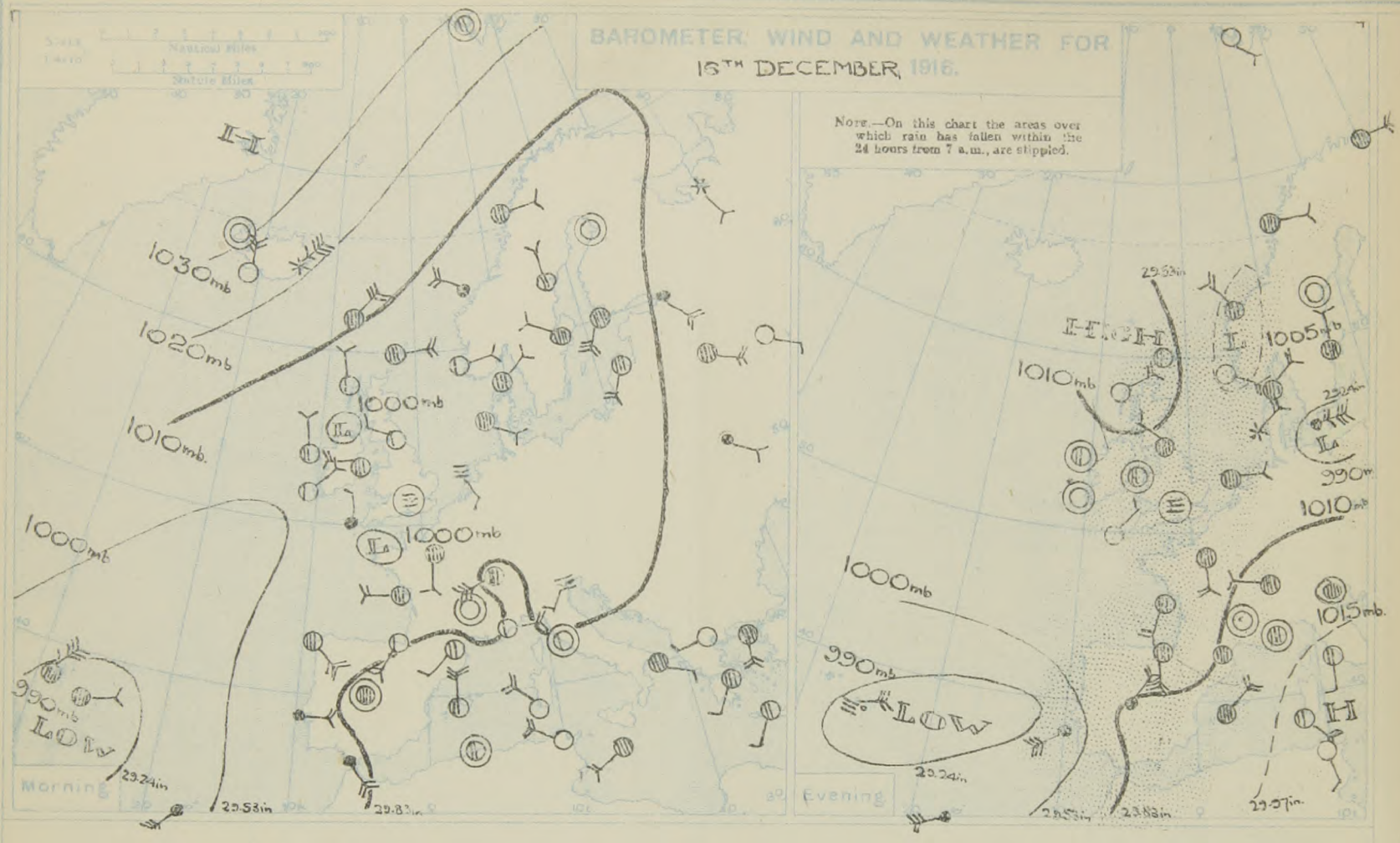
Temperatures at Greenwich and Camden Square are from Glaisher screens.

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON SUNDAY TO NOON MONDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

Light variable breezes, mainly

Northerly, variable cloud, some mist

or fog, local cold showers; frost.

Moderate to fresh Easterly to North-Easterly breezes; sea rather rough; variable cloud, some cold precipitation.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF SUNDAY, 17TH DECEMBER, 1916.

GENERAL INFERENCE.

An extensive anticyclone spreading in from the north-west will maintain a quiet, cold type of conditions.

HIGH

1030mb

1025mb

1020mb

1015mb

1010mb

1005mb

1000mb

995mb

990mb

LOW

Barometer falling slightly

Barometer steady

Barometer falling slightly

30.42in

30.27in

30.12in

29.97in

29.83in

29.68in

29.53in

29.38in

29.24in

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
○ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ⦻ rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈

Scale of Miles
Nautical Miles
Statute Miles

Normal Temperature of the Sea
Below 40° | 40°-50° | 50°-60° | Above 60°

Scale of Tints for DECEMBER

Issue No. 20.114

DAILY WEATHER REPORT.

Sunday, 17th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 0 p.m. Local Time.	Archangel ...	1016.0	32	S	9	o	1015.1	−1	32	...	S	2	S	−	*	30
	Gorki	1018.9	30	S	5	o	1015.0	o	34	o	S	6	o	−	*	?
	Velieki Luki ...	1017.3	34	SE	4	o	1016.8	*	32	−2	SE	4	o	−	*	32
	Hangö						1011.5	+2	37	−2	SSW	5	o	19	*	30
	Riga	1003.8	41	S	4	o	1006.7	+2	34	−2	SSW	3	o	2	*	34
	Petrograd ...	1014.4	36	SE	4	o	1011.4	−1	36	o	SSE	4	r	−	37	34
	Moscow	1031.1	25	NNE	3	s	1030.6	−2	12	−13	SE	1	b	−	*	10
	Kiev						1015.9	−5	32	o	SE	2	r	2	*	30
	Kharkov ...	1029.3	25	ESE	3	o									*	
	Kishinev ...														*	
	Elisabetgrad ...	1021.9	32	SE	4	f	1019.3	−2	32	o	SSE	5	r	−	*	30
	Nicolaiev ...							*							*	
	Odessa	1018.1	39	SE	4	f									*	
	Tarkhankout...							*							*	
	Soukhoum ...	1018.9	50	NNE	1	b	1018.3	+1	AS	−7	NNE	1	b	−	*	AS
MEDITERRANEAN.	Venice	1000.1	46	−	o	b	1003.4	*	36	−14	SW	1	f	2	54	36
	Pesaro	1007.4	48	SE	1	b	1007.7	*	AS	−1	S	1	b	10	52	41
	Rome	1006.2	50	SW	1	o	1012.4	*	41	−7	−	o	b	11	57	41
	Viesti	1008.0	52	SE	1	bc	1010.6	*	57	+7	W	1	b	−	57	48
	Brindisi	1010.8	55	S	4	b	1010.8	*	57	+9	SE	1	o	−	61	48
	Cagliari	1007.1	61	ESE	4	c	1013.7	*	53	+1	NW	4	b	7	64	48
	Palermo							*								
	Tripoli							*								
	Algiers	1011.7	55	WSW	4	c	1013.0	o	54	o	−	o	bc	−	61	52
SWEDEN.	Hernösand ...	1006.1	30	−	o	b	1008.2	*	24	−9	N	2	c	×	×	×
	Stockholm ...	1005.0	34	NNE	2	o	1008.6	*	30	−4	NW	1	o	×	×	×
	Wisby	9999	34	NE	4	s	1008.2	*	24	−9	NNE	1	o	×	×	×

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord ...	1030.6	18	−1	−	o	b
Reykjavik	1027.1	18	−3	−	o	b
Vestmanna	1025.1	25	−2	N	5	b
Seydisfjord	1023.9	19	−1	NE	8	s
Thorshavn	1011.8	39	+3	NE	5	o

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night 18h-9h.	Rainfall Day 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon	Weather Afternoon	Sunshine
		Mm.	Mm.	F	F			Hr.
Scotland.	Oban	Trace	−	41	32	c.b	c.b	0.0
	Banff	1	2	34	24	c.bc	bcprs	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	−	−	38	27	b	b	6.2
	Skegness	*	*	40	28	x.bc	o	3.1
Eng. N.W.	Morecambe							
	Southport	−	−	30	25	f.oc	fcobc	0.0
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	−	−	30	21	x	m	0.0
Wales.	Rhyl							
	Colwyn Bay...	*	*					
	Llandudno	*	*	42	29	b	b	6.4
	Aberystwyth	*	*	40	28	o.cb	bc.c	7.7
	Tenby							

	STATIONS.	Rainfall Night 18h-9h.	Rainfall Day 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft							
	Felixstowe	−	−	35	31	bcmf	bcm	2.2
	Walton-on-Naze	−	−	32	30	acmoc	bc.b.cb	1.3
	Southend-on-Sea	3	−	34	30	ofc	ocbcb	0.0
England, S.E.	Margate	−	−	36	32	of	of	0.0
	Ramsgate	−	−	43	30	f	f	0.0
	Hastings	3	−	36	30	o.s.o	bc	0.2
	Eastbourne	−	−	36	26	f	f	0.0
	Seaford	*	*	36	26	m	m	0.0
	Brighton							
	Worthing	−	−	36	25	o	o	0.0
	Littlehampton	−	−	35	?25	o	o ox	0.0
	Bognor	*	*					
	Bournemouth	−	1	38	25	o	o	0.0
England, S.W.	Weymouth...	*	*					
	Torquay							
	Paignton	*	*	42	25	o	o	0.0
	Penzance	4	−	44	37	bc	bc b	5.8
	Newquay							
	Bude							
	Ilfracombe							
	Weston-s-Mare							

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

17th & 18th December, 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	8.2 8.3	11.49 11.50	3.36 3.37
Greenwich	8.3 8.4	11.56 11.57	3.49 3.50
Wick	9.1 9.2	12.8 12.9	3.15 3.16
Valencia	8.47 8.48	12.37 12.38	4.27 4.28

PILOT BALLOON ASCENTS for the PAST WEEK.

Component Velocities to East and to North in metres per Second.

STATION, Date and Hour.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.
Heights in Kilometres														

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 353

Monday. 18th December.

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp. °F	Wind: Direc.	Wind: Force 0-12.	Weather	THIS MORNING: Barometer Millibars at M.S.L.	Barometer Change in 3 hours. ‡	Temp. Dry Bulb. °F	Temp. Change in 24 hours. °F	Wind: Direc.	Wind: Force 0-12.	Direc of Upper Cloud	Weather.	Sea 0-9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp. Max. °F	Temp. Min. °F	Weather. Morning.	Afternoon.	Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	1001.6	34	–	0	b	998.0	– 1	31	– 5	–	0	–	b	0	0.4	36	31	bc	bc . c	bx	*
	Deerness (Orkney)	1002.4	34	SW	2	bc	996.9	*	35	– 4	–	0	–	c	0	–	39	32	o c bc	bc c bc	bc c	0.1
	Stornoway ...	1003.3	34	NW	2	ops	995.8	– 3	33	– 4	N	2	–	bc	2	9	38	31	bc.op	ops	c. bc	0.6
	Castlebay (Barra Isd.)	1005.1	37	NNE	3	bcp	996.1	– 1	36	– 5	NNE	2	–	c	2	4	41	33	c op c	cp bcp	bcp bc	0.1
	Glasgow ...	1005.0	32	–	0	fe	996.3	– 3	32	0	SSE	1	–	os	*	9	34	30	x . fe	fe	fe ors	0.0
	Eskdalemuir ...	1006.9	36	–	0	bcfx	997.5	– 4	31	+ 2	SSE	2	–	o	*	3	31	25	b bc b	bm bcf	fx os,o	1.5
	Malin Head ...	1006.0	40	SW	3	omr	995.5	– 5	35	– 5	SW	3	NW	bc	3	13	42	33	bcm	omr	omps	1.2
	Blacksod Point	1007.8	38	NW	2	omr	996.9	– 5	35	– 1	NW	1	NW	bc	3	7	43	35	bc	cmq	omr. bc	*
	Valencia ...	1009.3	35	NE	1	cx	997.4	– 6	36	+ 6	–	0	–	op	2	2	42	29	bx	b.bcx	cd.bcpc	5.7
	Roche's Point	1009.6	35	NNW	2	b	998.5	*	31	– 1	N	1	NW	c	1	0.4	41	29	b	bm.b	b bc cx	*
	Birr Castle ...	1009.1	29	S	1	f	996.3	*	32	+ 1	SSE	1	–	s	*	4	32	25	f	f	f.s	
	Donaghadee ...	1006.0	37	WNW	2	of	996.4	– 4	33	– 3	NW	2	–	om	1	–	40	32	cf	of	of	*
	Liverpool (Bidston)	1007.0	35	S	1	b	998.4	– 3	33	0	SE	2	s	bc	1	–	37	32	bcm	o	bc fx	0.4
	Holyhead ...	1006.9	39	SE	3	orm	997.4	– 3	39	+ 2	WSW	4	w	c	3	2	44	34	b bc c	c bc.op	op dh.c	3.7
	Pembroke (St. Ann's)	1008.1	37	E	1	bc	999.6	– 4	38	+ 6	NE	1	NE	c	1	0.4	42	32	b	bc	bc.bcp	6.2
	Scilly (St. Mary's)																					
	Falmouth ...	1008.0	30	N	1	bzx	1000.6	– 4	30	– 2	N	2	–	bx	*	–	41	29	bx . b	b . bx	bx	7.0
	Jersey (St. Aubin)	1006.7	41	E	1	cm	1001.1	*	39	0	ESE	3	–	cm	2	Trace	45	30	b	b.o. cm	omx.cm	5.0
	Portland Bill ...	1007.3	36	NNE	3	b	1001.2	– 4	35	0	NE	2	SW	bc	2	–	38	33	bc c o	o c bc	bc	*
	Dungeness ...	1006.7	33	N	3	f	1001.0	– 3	31	0	NW	3	–	f	2	0.3	37	33	m . c	m . c f	cm fe	*
	Dover	1006.8	34	NW	3	f	1001.5	?	32	– 1	NW	1	–	m	2	0.1	39	31	f.o c bc	bc f	bc f c	2.6
	Wick	1002.6	32	WNW	1	c	996.7	– 3	36	+ 1	ENE	2	–	r	3	2	36	27	p.cm	cm	bc omr	*
	Nairn	1002.9	34	–	0	c	996.4	*	28	– 4	–	0	–	og	1	2	34	25	ps.c	cx.g	c bcx	0.0
	Aberdeen	1003.6	33	–	0	c	997.0	– 3	34	+ 3	SW	1	–	oz	2	–	35	29	b	b.bc cz	bc.oz	4.4
	Leith	1004.8	32	SW	1	m	999.8	– 2	35	0	S	1	–	o	2	1	36	30	o.bc.b	b.bcxm	me bcf	*
	Tynemouth ...	1006.2	35	NW	1	bm	998.1	– 3	33	– 4	SSW	1	–	cf	3	–	38	31	cm	bm	bc f	*
	Spurn Head ...	1006.9	38	N	2	cp	1000.5	– 2	35	– 2	SW	2	–	om	4	2	39	32	p.bc	cp	bc	2.2
	Yarmouth ...	1005.1	37	NW	2	bc	1000.0	– 4	29	– 8	NW	2	–	f	2	4	42	29	bcm	bcm	bcm of	5.2
	Clacton-on-Sea	1006.7	35	NW	3	m	1001.7	– 2	32	– 3	–	0	–	f	0	–	40	32	c.bc.b	bc. om	om f	5.0
	Nottingham ...	1007.2	34	–	0	o	1000.5	*	31	– 2	SSW	1	–	om	*	0.2	38	30	o cm	om	o	0.0
	Benson (Oxon.) ..	1007.5	32	NW	1	o	1000.7	– 3	30	+ 3	–	0	–	o	*	0.2	32	27	fx	f	o	*
	Sth Farnborough	1007.2	32	–	0	f	1000.9	– 3	30	+ 2	SSW	1	–	om	*	Trace	34	28	os om	of	o f. m	0.0
	London (Kew Obsy.)	1007.7	34	NW	1	ome	1001.5	– 2	32	+ 3	–	0	–	of	*	0.2	35	29	ofx om	om . ome	ome mof	0.0
NORTHERN EUROPE.	Spitsbergen ...	1028.7	–24	SSE	1	b	1024.0	– 2	–13	+ 11	S	1	*	o	*	*	–13	–33				
	Vardö	1018.6	21	E	4	bc	1016.7	0	19	– 2	NE	3	–	o	3	*	21	18				
	Bodö	1004.4	29	E	4	c	1003.7	0	23	– 7	E	4	–	c	2	–	30	19				
	Christiansund ...	1002.3	37	–	0	c	999.3	– 1	36	0	NE	1	–	b	4	2	37	32				
	Skudesnaes ...	1002.7	37	S	3	o	1000.4	0	36	+ 8	SE	7	–	o	4	8	37	28				
	Færder (Christiania Fjord)	1005.7	27	NNE	1	o	1004.2	– 1	25	– 3	NNW	2	–	o	1	–	28	25				
	The Scaw (Skagen)	1004.7	32	NE	2	o	1002.7	? – 1	32	o	E	3	–	o	3	–	34	30				
	Blaavands Huk	1003.7	30	NNE	1	o	1001.7	– 1	28	– 6	NE	1	–	o	1	–	34	25				
	Copenhagen ...	1000.3	36	NNE	3	o	1000.2	0	34	– 3	NNE	3	–	o	*	–	37	32				
	Bornholm ...	997.6	37	ENE	6	r	997.7	0	36	0	NNE	7	–	o	2	4	39	34				
FRANCE, &c.	The Helder ...	1003.7	37	SW	1	o	1000.2	– 1	36	– 1	SSE	1	–	m	1	4	39	36				
	C. Gris Nez ..	1005.3	40	N	3	b	1001.7	– 2	35	– 1	ESE	2	*	o	2	3	43	34				
	La Hève							*					*									
	Brest (St. Mathieu)	1006.4	40	E	2	b	1000.8	– 4	34	– 3	ESE	2	*	b	1	–	46	32				
	Rochefort (Ile d'Aix)	1003.7	39	NE	4	b	997.0	– 3	36	– 3	E	5	*	b	*	–	45	34				
	Biarritz	1000.7	41	E	1	f	999.7	– 3	45	+ 4	ESE	1	*	o	2	14	46	41				
	Paris	1006.7	32	NE	1	o	1002.3	– 5	30	– 7	E	1	–	o	*	–	37	30				
	Belfort	1004.2	33	E	2	o	1003.0	*	27	– 5	E	4	*	b	*	–	37	26				
	Lyons	1004.6	38	NW	5	r	1002.0	*	32	o	–	0	*	o	*	10	34	32				
	Nice	1000.6	41	–	0	o	997.6	– 2	44	+ 7	E	2	*	o	4	15	45	37				
	Perpignan ...	1001.3	46	–	0	bc	998.0	– 2	45	+ 6	NE	2	–	r	*	Trace	54	39				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	997.7	*	N	4	bc	1007.1	0	53	– 1	NW	3	*	c	1	–	59	53				
	Madeira	1002.1	64	...	...	o	1007.1	+ 2	64	0	...	...	Sw	r	6	3	66	63				
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1019.0	+ 1	52	– 5	SW	1	–	b	2	–	70	48				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

Eskdalemuir 18th.

Depth of snow lying .... 1 cm.

LONDON OBSERVATIONS.

	Humidity: 15 h. Yesterday. %	Humidity: 9 h. To-day. %	Sunshine for Yesterday. Hours	24 Hours ended 9 h. To-Day. Temperature. Max. °F	Min. °F	Min. on Grass. °F.	Rainfall. mm.	Weather. Morning.	Afternoon.	Night.
GREENWICH (Royal Observatory)	100	32	0.0	34	27	29	–	of	of	of a.o f
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	92	86	0.0	36	30	32	–	of	of	of
CAMDEN SQ. (British Rainfall) ..	...	100	0.0	36	30	32	–	...	...	
HAMPSTEAD (Reservoir) ..	*	100	0.0	34	27	20	–	of	of x	ofx
S. KENSINGTON (Museum Grounds)	*	95	0.0	36	30	30	Trace	on o	or	o.om
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
83	2.9	9.0

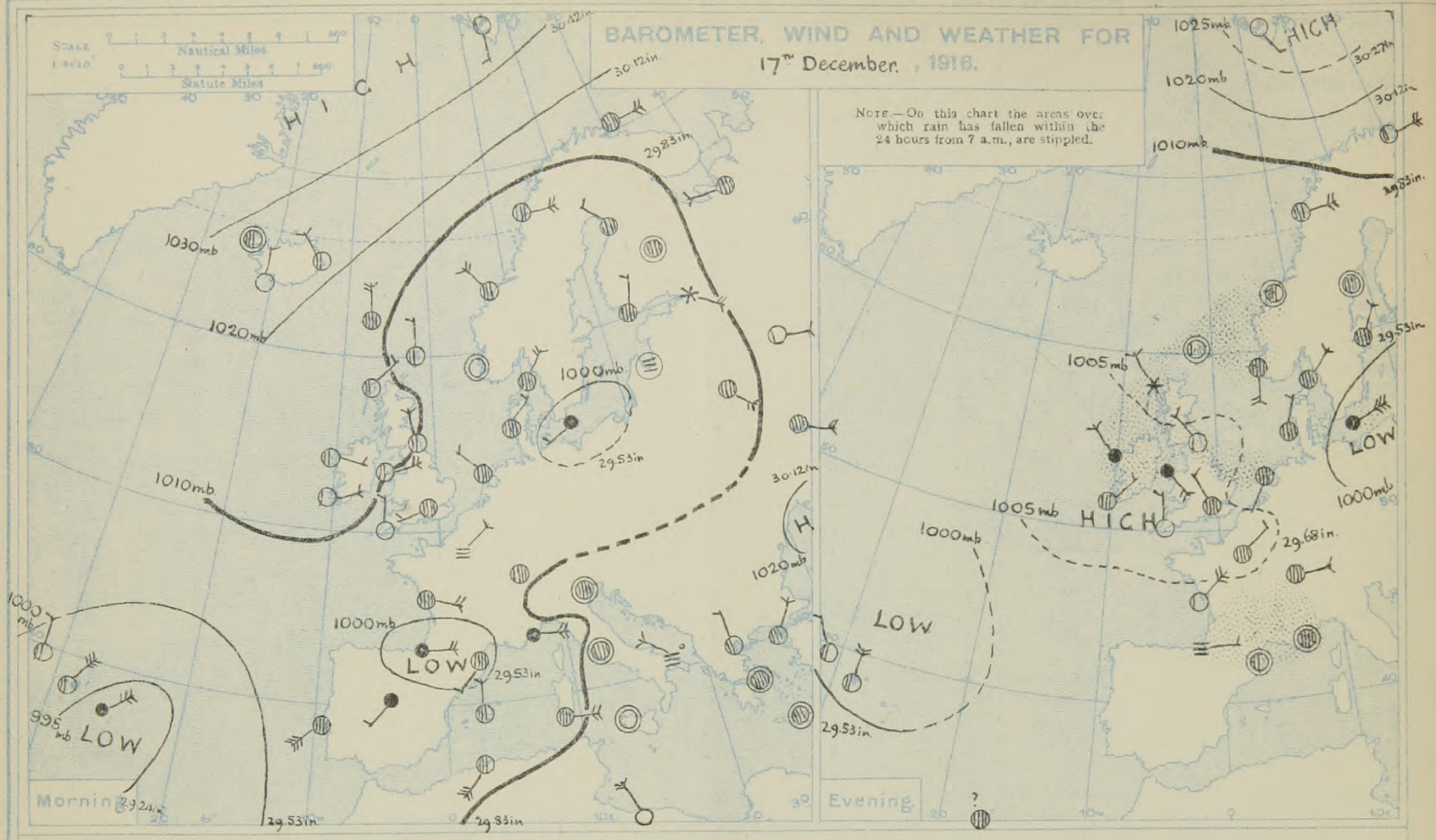
Temperatures at Greenwich and Camden Square are from Glaisher screens.

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0.04	26	1.02
2	0.08	27	1.06
3	0.12	28	1.10
4	0.16	29	1.14
5	0.20	30	1.18
6	0.24	31	1.22
7	0.28	32	1.26
8	0.32	33	1.30
9	0.35	34	1.34
10	0.39	35	1.38
11	0.43	36	1.42
12	0.47	37	1.46
13	0.51	38	1.50
14	0.55	39	1.54
15	0.59	40	1.58
16	0.63	41	1.61
17	0.67	42	1.65
18	0.71	43	1.69
19	0.75	44	1.73
20	0.79	45	1.77
21	0.83	46	1.81
22	0.87	47	1.85
23	0.91	48	1.89
24	0.95	49	1.93
25	0.98	50	1.97

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON MONDAY TO NOON TUESDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

0 a, b 1 2 a, b 3 4 a, b 5 6 a, b 7 a, b 8 a, b 9 a, b 10 a, b	Calms and light variable breezes; cloudy to dull, mist or fog in many places, some cold precipitation locally; night frost.
Western Channel and Bay (1)	Moderate to fresh Easterly breezes; sea moderate to rather rough; fine to dull, some cold precipitation.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

Millibars
1050
1040
1030
1020
1010
1000
990
980
970

SYNOPTIC CHART FOR THE MORNING OF MONDAY, 18TH DECEMBER, 1916.

GENERAL INFERENCE.

Though pressure is giving way all round, there are no indications of any material change in the type of conditions.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ● rain falling. ✳ snow. ▲ hail. ≡ fog. ≡ᶜ mist. ⊤, thunder. ⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.

HIGH
1025mb
30·12in.
29·97in.
29·83in.
29·68in.
1020
1010mb
1005mb
32°
1000mb.
Barometer
LOW
falling
generally
995 mb
40°
LOW
29·53in.
29·38in.
1000mb
1005mb
29·53in
29·68in.
HIGH
64
?
52

Normal Temperature of
Below 40° 40-50° 50-60° Above 60°
Scale of Tints for DECEMBER

Issue No. 20115.

DAILY WEATHER REPORT.

Monday, 18th December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1013·9	26	S	2	S	1010·6	0	30	-2	W	2	0	-	*	27.
	Gorki	1008·3	27	SE	3	0	1004·3	+5	23	-11	SE	2	0	3	*	23
	Velieki Luki ...	-	-	-	-	-	1004·8	*	25	-7	ESE	3	0	2	*	25
	Hangö	-	-	-	-	-	1004·2	+3	32	-5	-	0	0	-	*	30.
	Riga	1005·0	24	ESE	1	S	1001·0	+1	34	0.	-	0	f	4	*	32
	Petrograd ...	1010·9	34	SSE	3	S	1006·4	-3	30	-6.	SE	3	S	2	36	30.
	Moscow	1025·5	7	SE	3	b	1018·0	+4	5	-7.	ESE	2	b	-	*	3
	Kiev	1008·4	30	SE	3	r									*	
	Kharkov ...	1020·6	12	ESE	4	0	1010·4	+5	16	.	ESE	3	0	r	*	12.
	Kishinev ...														*	
	Elisabetgrad ...														*	
	Nicolaiev ...							*							*	
	Odessa	1007·4	48	SSW	3	f.									*	
	Tarkhankout...	1009·2	54	SE	4	0	1021·0	*	43	.	SE	5	b	-	*	32
	Soukhoum ...	1018·9	54	-	0	0	1017·9	4	54	-	NE	1	0	-	*	?
Mediterranean.	Venice	1013·9	41	-	0	0	1010·6	*	30	-6.	-	0	0	46	?	?
	Pesaro	1014·6	43	WSW	1	b	1010·7	*	41	-14.	SE	1	0	-	54	37
	Rome	1016·2	48	-	0	bc.	1011·9	*	48	+7.	-	0	0	-	55	41
	Viesti	1017·0	50	S	1	b	1013·0	*	55	-2	SW	1	0	-	57	48
	Brindisi	1016·2	50	WNW	1	b	1014·4	*	48	-9	NW	2	m.	-	61	48
	Cagliari	1015·1	61	SE	4	bc	1009·6	*	55	+2	E	4	0	-	66	46
	Palermo	1016·6	52	SSE	1	b	1011·9	*	54	.	-	0	b	-	66	43
	Tripoli	1018·2	53	WSW	2	b	1016·9	*	57	.	WSW	3	b	-	68	54
	Algiers	1011·1	57	-	0	b	1014·7	+2	68	+14	SW	5	c	-	?	37.
Sweden.	Hernösand ...	1009·2	18	-	0	b		*						*	*	*
	Stockholm ...	1008·4	30	N	2	0		*						*	*	*
	Wisby	1005·6	37	NNE	2	0		*						*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	1029·1	27	+9	-	0	c
Reykjavik	1025·1	21	+3	-	0	b.
Vestmanna	1022·4	28	+3	N	1	b
Seydisfjord	1023·9	28	+9	NW	2	c
Thorshavn	1010·1	32	-7.	N	3	0

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	-	1	37	29	c.bc.p	o.	1·0
	Banff	1	-	36	27	bc	bc.c	0·8
	Montrose							
	Carnoustie	*	*					
	St. Andrews							
England N.E.	Harrogate	0.2	2	38	32	c.or	c.o.	0·3.
	Skegness	2	1	40	29	or.bc	b	2·9.
England N.W.	Morecambe							
	Southport	-	-	36	23	c.z.o	o.c.bc.z	0·0
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye							
Wales.	Rhyl	-	-	36	25	f.	cf.	0·3.
	Colwyn Bay...	*	*	37	27	c	bc	0·5
	Llandudno	*	*	39	25	c	c	0·2
	Aberystwyth	*	*	38	25	o.c.b	b.bc	5·8
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England E.	Lowestoft							
	Felixstowe	-	-	40	29	bc	bcm.	5·9
	Walton-on-Naze							
	Southend-on-Sea							
England, S.E.	Margate							
	Ramsgate	1	-	40	29	h.o	bc	2·8.
	Hastings	-	-	37	31	o	o.bc	0·0
	Eastbourne	-	-	37	30	f	f	0·0
	Seaford	*	*					
	Brighton							
	Worthing	-	-	37	28	o	o	0·0
	Littlehampton	-	-	35	21	o	o	0·1.
	Bognor	*	*					
	Bournemouth	2	-	36	24	o	c.o.	0·6
England, S.W.	Weymouth	*	*					
	Torquay	-	-	42	29	b	b	6·8
	Paignton	*	*					
	Penzance							
	Newquay	-	-	42	28	b	b	6·7
	Bude							
	Ilfracombe							
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

18th & 19th December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	8.2 / 8.3	11.50 / 11.50	3.37 / 3.37
Greenwich	8.4. / 9.4	11.57 / 11.57	3.50 / 3.50
Wick	9.2 / 9.2	12.9 / 12.9.	3.16 / 3.16
Valencia	8.48 / 8.48	12.38 / 12.38	4.28 / 4.28

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° in most districts, and night frost occurred in many places. Cold showers fell generally, and mist or fog covered a wide area. Sunshine was very variable, up to 7 hours at Falmouth.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 354

Tuesday 19th December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall. Milli metres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday.
			°F					‡	°F	°F.							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	995.0	37	SSE	1	bc	995.1	0	40	+9	SSE	3	SE	bc	3	2	40	31	b.bc	bcp	bc	*
	Deerness (Orkney)	993.5	39	SE	3	bc	992.5	*	36	+1	E	1	–	dp	1	6	40	34	c	c.bc	bc dp.o	0.0
	Stornoway ...	992.1	33	NE	2	bc	990.3	−1	34	+1	E	2	–	bc	2	2	34	29	c bcv	bcps	bc	0.0
	Castlebay (Barra Isd.)	991.9	36	NE	2	b	989.5	−1	35	−1	N	3	–	b	3	1	39	33	cxs.bc	bcsp b	bspsb	1.7
	Glasgow ...	992.1	33	ESE	1	ome	989.2	−2	31	−1	E	2	–	s	*	25	34	30	osm.rs	omrs	oms	0.0
	Eskdalemuir ...	993.0	32	SSE	2	osm	989.5	−2	29	−2	ESE	1	–	os	*	9	32	28	osm	osm	osm.os	0.0
	Malin Head ...	990.9	35	SW	3	bcx	988.3	−1	31	−4	SSW	3	SW	bcx	3	2	36	29	b o cx	e cph	bcx	1.2
	Blacksod Point	992.4	35	N	2	bcp	989.7	−2	37	+2	N	3	N	bc	3	4	38	34	bcps	bcp	bps.bc	
	Valencia ...	993.6	33	–	0	b	992.2	−2	31	−5	–	0	NW	c	3	7	39	28	or.p	o.b	b.bcp dp	1.4
	Roche's Point	992.8	35	NNW	3	c	993.5	*	32	+1	NW	2	–	b	2	0.2	37	30	c.om	dpm.c	bmf bx	
	Birr Castle ...	992.9	29	NW	1	m	991.1	*	26	−6	NW	1	–	m	*	3	34	23	s	s o f	fx	0.0
	Donaghadee ...	991.4	33	WNW	2	of	989.0	+1	30	−3	WNW	3	–	ofx	2	–	35	28	of	of	bf ofx	
	Liverpool (Bidston)	993.3	32	SE	2	m	989.2	+1	30	−3	SSE	3	–	o	2	4	36	28	bm	bc	os	2.1
	Holyhead ...	991.5	33	S	3	o8	989.9	+1	35	−4	W	3	NW	c	3	33	42	33	dpr.o	dps or	os oe c	0.0
	Pembroke (St. Ann's)	991.9	43	S	4	cq p	991.6	+2	38	0	WNW	3	W	bc	3	10	42	36	cv	c.cq ph	cp.bc	1.7
	Scilly (St. Mary's)																					
	Falmouth ...	994.8	31	WSW	2	bcz	993.7	+2	34	+4	WSW	2	–	b	*	6	43	29	bx.b-z	bcz	bxr.bc	2.4
	Jersey (St. Aubin)	995.8	33	SE	1	fc	994.3	*	38	−1	SSW	3	–	omr	3	2	39	31	c ome	ofc	fp.omr	0.0
	Portland Bill ...	995.5	35	NE	3	bm	993.7	−3	39	+4	WNW	4	–	c	3	0.3	39	35	bcm	bcm	bcmr	
	Dungeness ...	995.6	37	SE	3	c	994.2	−1	37	+6	SSE	3	SE	bc	3	2	38	31	f.c.o	bc	f cr.o c	
	Dover	996.4	36	S	2	bc	995.4	0	36	+4	S	4	S	bc	4	–	37	30	f o.c	c.bc	bc	0.0
	Wick	994.0	39	SSE	2	o	992.6	−1	37	+1	SE	3	–	r	3	6	41	27	r.c.m	c.omy	hsp.or	*
	Nairn	992.5	31	–	0	cmx	991.1	*	27	−1	–	0	–	bc	1	–	31	25	oym	o g	o.cx	0.0
	Aberdeen	993.2	34	W	2	bc	991.6	−1	31	−3	WNW	1	–	m	2	3	36	29	opm	cm.bcm	bcm os	0.3
	Leith	991.9	36	SSE	1	c	989.2	−1	33	−2	SSE	1	–	o	2	1	37	32	omd.o	od.oe.c	cm.os.o	*
	Tynemouth ...	994.1	30	SW	2	f	991.5	−2	31	−2	WSW	2	–	ogm	3	–	35	29	cm	cm	ogm	*
	Spurn Head ...	993.0	35	SW	2	om	994.1	0	33	−2	SW	4	–	om	4	–	36	30	om	om	om	0.0
	Yarmouth ...	993.5	29	–	0	f	994.9	0	29	0	–	0	–	f	1	–	30	28	f	f	f	0.0
	Clacton-on-Sea	993.5	34	WNW	1	m	995.1	−1	36	+4	S	4	S	bc	3	–	36	31	f ome	ogme	ome bc	0.0
	Nottingham ...	995.5	30	S	1	b	992.1	*	32	+1	SE	1	SE	s	*	Trace	37	25	o.c.bm	bm	bc.omx	0.5
	Benson (Oxon.) ...	995.9	29	SE	1	o	991.3	−2	32	+2	S	4	–	os	*	0.1	32	27	om	o	o os	*
	Sth Farnborough	993.0	31	–	0	f	993.0	−2	31	+1	ESE	3	–	o	*	Trace	32	28	om	of	o c.o	0.0
	London (Kew Obsy.)	993.1	33	–	0	om	993.2	−2	32	0	S	2	W	cmx	*	Trace	34	27	of om	om	om of cmx	0.0
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö															*						
	Bodö																					
	Christiansund ...																					
	Sudesnaes ...																					
	Fa der (Christiania Fjord)																					
	The Scaw (Skagen)	1001.5	30	NE	2	0	1001.6	0	32	0	ENE	3	–	0	3	–	34	30				
	Blaavands Huk	998.4	30	ENE	2	0	996.8	−1	32	+4	E	2	–	S	2	1	32	27				
	Copenhagen ...	999.9	32	ENE	3	c	998.4	0	32	−2	E	3	–	c	*	–	34	28				
	Bornholm ...	999.1	36	NE	5	0	997.9	0	36	0	ENE	4	–	0	1	–	37	32				
FRANCE, &c.	The Helder ...	996.0	34	SE	2	m	995.4	+1	34	−2	S	3	–	c	1	Trace	36	32				
	C. Gris Nez ...	996.2	32	NE	1	b	996.0	−1	28	−7	SE	3	*	b	2	–	37	27				
	La Hève	*	37	SE	2	m	*	*	30	...	SSE	4	*	m	2	–	45	28				
	Brest (St. Mathieu)	996.6	40	NW	2	b	994.9	−1	45	+11	W	3	*	c	3	4	?	?				
	Rochefort (Ile d'Aix)	991.9	37	ENE	4	o	999.1	0	34	−2	SE	4	*	c	*	2	41	32				
	Biarritz	991.3	50	SW	3	o	997.5	−3	46	+1	ESE	2	*	o	2	1	61	45				
	Paris	994.7	32	NE	2	b	998.0	+2	30	0	WSW	2	–	o	*	–	36	27				
	Belfort	994.0	32	E	6	s	997.6	*	28	+1	W	4	*	S	*	11	36	27				
	Lyons	992.0	32	N	2	r	1000.6	*	34	+2	–	0	*	b	*	4	37	27				
	Nice	994.7	44	–	0	r	993.3	−1	45	+1	E	4	*	bc	3	1	50	41				
	Perpignan ...	993.3	46	E	3	o	998.6	+3	46	+1	NNW	3	SW	bc	*	2	54	45				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid	995.5	54	WSW	4	b	1004.2	+2	46	−4	WSW	2	–	r	*	6	55	46				
	Lisbon																					
	Azores (Horta) ...	998.6	*	WSW	6	c							*									
	Madeira	1010.1	64	W	2	o	1009.7	−2	63	−1	W	6	W	o	5	6	66	63				
	Gibraltar	1009.5	62	W	6	c	1007.1	*	59	−4	NW	4	*	r	3	24	65	58				
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1016.2	+2	55	+3	SW	1	–	b	2	–	70	52				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough
Pilot Balloon Ascent at 9h 6m
Wind at
450 metres S by E ... 13 m/s
300 .. S by E ... 12
Surface SSE ... 9

Depth of Snow Lying:
Glasgow ... ... 18 cm.
Eskdalemuir ... ... 12 cm.

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	89	81	0.2	33	23	22	0.3	o	o	os cx
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	93	84	0.0	37	29	28	–	fc f	f.fx	fx fx
CAMDEN SQ. (British Rainfall) ...	89	87	0.0	35	28	26	–	f	f	*
HAMPSTEAD (Reservoir)	*	79	0.0	34	27	19	–	of	of.x	ofx
S. KENSINGTON (Museum Grounds)	*	84	0.0	37	30	30	–	f	of	om.o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

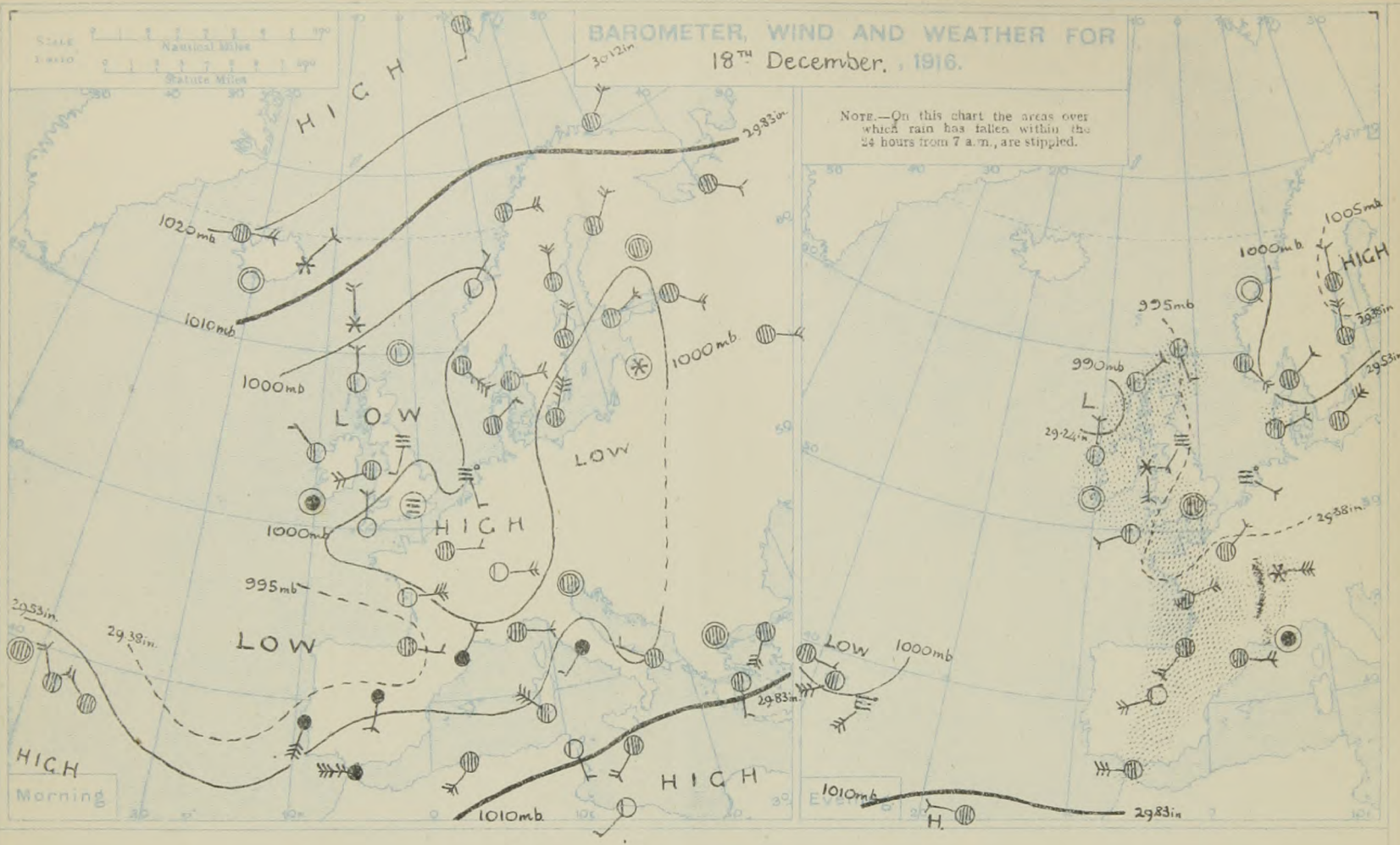
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
68	2.4	6.5

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 18TH December, 1916.



FORECASTS FOR THE 24 HOURS NOON TUESDAY TO NOON WEDNESDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

0 a, b 1	Light or moderate winds between South and East; unsettled weather, some snow or sleet; cold.
2 a, b 3 4 a, b 5	Moderate Southerly winds; some sleet or snow; cold.
6 a, b	Moderate Easterly or North-Easterly winds; some snow or sleet; cold.
7 a, b 8 a, b 9 a, b 10 a, b	Light winds, indefinite in direction; unsettled, some sleet or snow some mist; cold.
Western Channel and Bay 11	Light or moderate winds between South-East and South-West; slight sea; some showers, fair intervals.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division

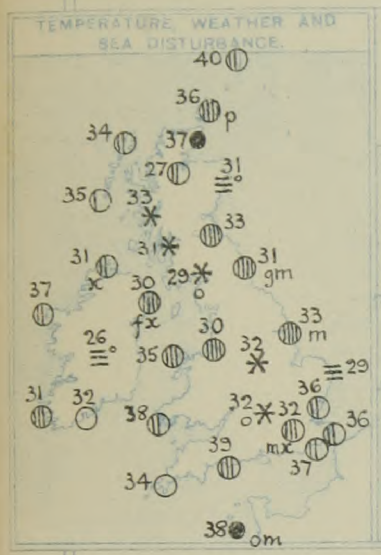
NAPIER SHAW, Director

Millibs
1050
1040
1030
1020
1010
1000
990
980
970

SYNOPTIC CHART FOR THE MORNING OF TUESDAY, 19TH DECEMBER, 1916.

GENERAL INFERENCE.

No important change from the present conditions is probable.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

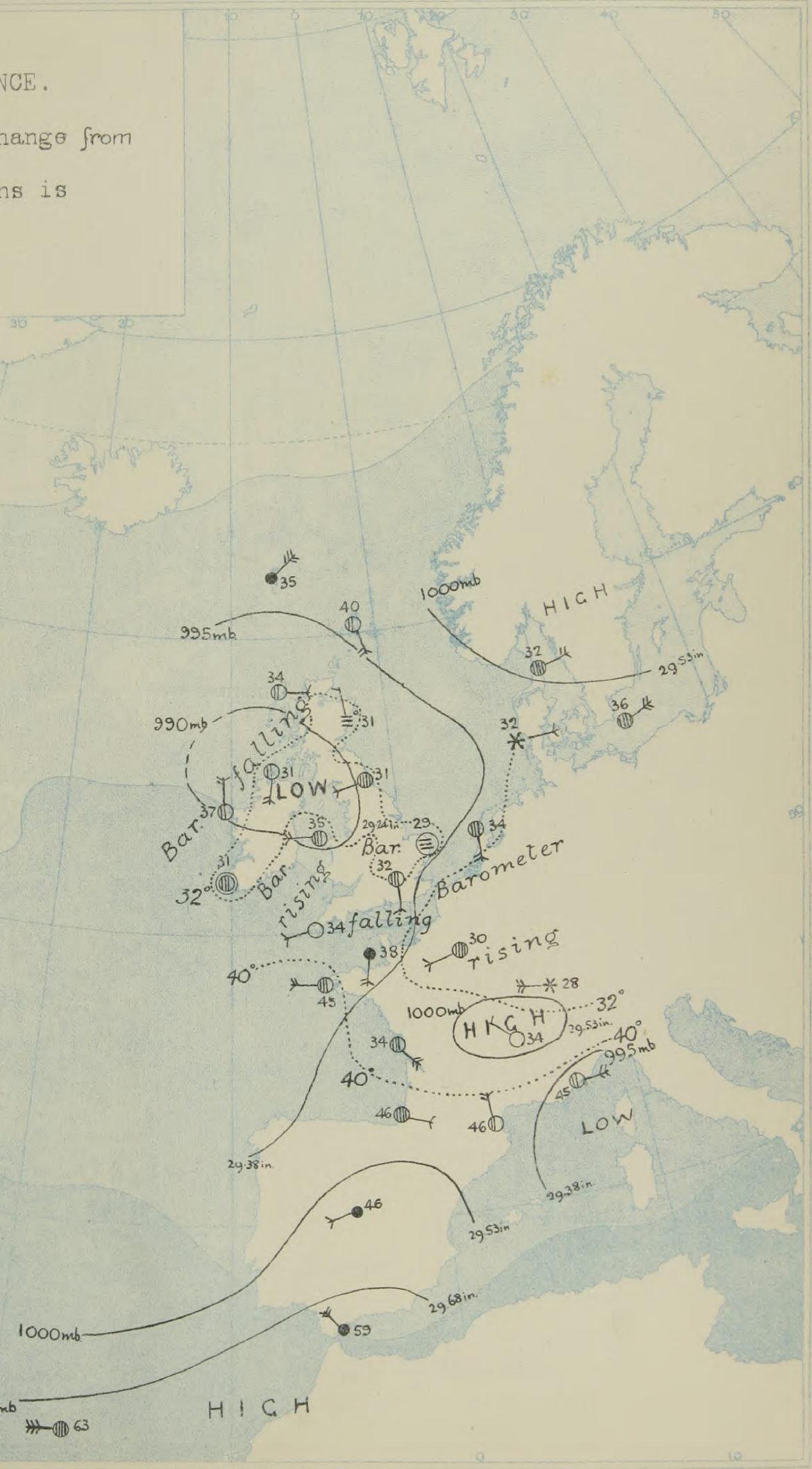
TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ∽∽ High ≈≈.

Scale 1/2 0 1 2 3 4 5 6 7 8 9 10 Degrees
Nautical Miles
Statute Miles 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69

Normal Temperature of the Sea
Below 40° 40° 50° 50° 60° Above 60°
Scale of Tints for DECEMBER



Issue No. 30,416 — DAILY WEATHER REPORT. — Tuesday, 19th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1009.3	19	SE	2	S	1007.3	0	14	-16	SE	2	0	-	*	?
	Gorki	999.7	19	SE	2	S	997.6	?	28	+5	SE	1	0	H	*	19
	Velieki Luki ...	1001.0	21	SE	2	0	999.1	*	23	-2	SE	1	0	1	*	21
	Hangö	-	-	-	-	-	999.1	+2	32	0	ENE	2	0	1	*	30
	Riga	998.1	34	-	0	0	995.7	+1	30	-4	-	0	S	2	*	30
	Petrograd ...	1002.7	21	SE	3	S	1006.8	-1	27	-3	SE	3	0	6	30	19
	Moscow	1009.9	9	ESE	3	0	1009.6	0	4	+1	ESE	3	0	-	*	2.
	Kiev														*	
	Kharkov ...	1004.4	25	SW	1	f	1008.8	+1	28	+12	W	1	b	3	*	16.
	Kishinev ...														*	
	Elisabetgrad ...														*	
	Nicolaiev ...							*							*	
	Odessa														*	
	Tarkhankout...							*							*	
	Soukhoum ...														*	
Mediterranean.	Venice	1002.4	39	NNW	1	r	999.1	*	59	+19	W	1	0	8	41	30.
	Pesaro	1005.9	45	E	1	r	1000.0	*	41	0	W	2	r	8	52	32
	Rome	1001.3	55	WNW	2	r	1006.2	*	57	19	SW	1	r	15	57	48
	Viesti	998.3	52	WNW	4	0	997.0	*	64	+9	SW	2	0	.	64	46
	Brindisi	1005.9	61	S	4	r	1000.3	*	61	+13	NW	1	0	10	63	48
	Cagliari	1005.6	59	W	5	0	1001.7	*	57	+2	NW	6	c	3	66	50
	Palermo	1007.9	63	ENE	4	bc	1005.7	*	68	+14	SSE	4	0	-	70	52
	Tripoli	1013.5	61	-	0	b	1011.4	*	59	+2	WSW	1	b	-	82	55
	Algiers	1010.7	68	WSW	5	b	1005.9	+5	66	-2	SW	4	0	-	73	66
Sweden.	Hernösand ...	1007.5	23	-	0	0	1006.0	*	32	.	N	4	0	*	*	*
	Stockholm ...	1003.1	32	NNE	2	0	1001.7	*	32	.	NNE	4	0	*	*	*
	Wisby	999.4	36	NNE	2	0.	998.6	*	36	.	NE	4	f.	*	*	*

Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	1020.6	30	+3	E	3	0
Reykjavik	1013.9	27	+6	E	2	0
Vestmanna	1012.2	34	+6	-	0	b
Seydisfjord	1015.7	25	-3	NE	2	S.
Thorshavn	1000.9	30	-2.	N	3	S.

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna... ...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F	F			Hr.
Scotland.	Oban	1	-	35	29.	b.op	b	0.0
	Banff	Trace	Trace	32	26.	opr.bc	bc	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	2.	-	36	30.	oc	oc	0.0
Eng. N.E.	Harrogate	-	-	32	29	c.o	om	0.0
	Skegness	-	Trace	33	25	x.of	f.o	0.0
Eng. N.W.	Morecambe	Trace	-	37	32			0.5
	Southport	-	-	35	29	c.o.c	o.c.bc	0.5
Midlands.	Leamington Spa							
	Malvern	-	-	30	24	m	m	0.0
	Ross-on-Wye	-	-	32	25.	o	f	0.0
Wales.	Rhyl	-	-	38	29	fc	c.bcf.o	1.0
	Colwyn Bay...	*	*	38	30.	o.c	c.	0.5
	Llandudno	*	*	39	33	c.	ccr	0.0
	Aberystwyth	*	*	37	30	r.o.c	c.bc	2.7
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F	F			Hr.
England. E.	Lowestoft	-	-	34	28	f	f	0.0
	Felixstowe	-	-	34	29.	f om	om	0.0
	Walton-on-Naze							
	Southend-on-Sea	-	-	35	29	ofe	ofe	0.0
England. S.E.	Margate	-	-	37	31	of	bc.o	0.7
	Ramsgate	-	-	42	36	c.c	om	0.7
	Hastings	-	1	36	30.	or.o	o.c	0.0
	Eastbourne	-	1	35	30.	oc	oz	0.0
	Seaford	*	*	37	30	s	s.m	0.0
	Brighton	-	1	38	29	or.d	oe	0.0
	Worthing	-	6	36	?	o	os	?
	Littlehampton	-	2	35	29	o	os	0.0
	Bognor	*	*					
	Bournemouth	Trace	-	42	29.	f	f	0.0
England. S.W.	Weymouth...	*	*	35	29	of	of	0.0
	Torquay	-	-	38	26	bm.b	b	1.2
	Paignton	*	*					
	Penzance	-	-	43	29.	o.c	c.	1.5
	Newquay	-	2.	41	25.	b.o.c	b.p.c.	2.1
	Bude	-	-	42	23	bc	c.o	1.3
	Ilfracombe	-	-	40	32.	bc	bc.	2.5
	Weston-s-Mare	-	-	30	26.	f	cf	0.0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

19th & 20th Dec. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8.3 8.14	11.50 11.51	3.37 3.38
Greenwich	8.4 8.5	11.57 11.58	3.50 3.51
Wick	9.2 9.3	12.9 12.10	3.16 3.17
Valencia	8.48 8.49	12.38 12.39	4.28 4.29

NOTES ON YESTERDAY'S WEATHER.

Heavy precipitation fell at Glasgow, in the form of sleet and snow. The day was generally dull except at a few stations in the South-West, and temperature remained low.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

The Daily Weather Report is sent free by post to any address in the United Kingdom on payment of £1 per annum, for postage and wrappers. Single copies 1d. at M.O.

‡ The barometric change is expressed in half-millibars.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 355

Wednesday, 20th December.

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp. F	Wind: Direc	Wind: Force 0-12	Weather.	THIS MORNING: Barometer: Millibars at M.S.L.	Barometer: Change in 3 hours.	Temp.: Dry Bulb. F	Temp.: Change in 24 hours. °F.	Wind: Direc.	Wind: Force 0-12.	Direc of Upper Cloud	Weather.	Sea 0-9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp.: Max. °F.	Temp.: Min. °F.	Weather: Morning.	Weather: Afternoon.	Weather: Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick	995.3	39	SE	4	0	993.3	0	38	−2	SE	5	–	oq	5	12	40	35	osp	osp	oq hp	*
	Deerness (Orkney)	991.9	36	ESE	3	0	989.8	*	38	+2	SSE	3	–	op	2	6	39	34	op	o.c	cp.o	0.0
	Stornoway	989.5	35	ESE	3	bc	986.7	−1	37	+3	SE	4	–	c	4	–	37	32	bz	c.bc	c.o.c	0.1
	Castlebay (Barra Isd.)	986.5	38	E	3	c	985.7	−1	35	0	N	2	N	csp	3	6	39	33	b sp o	osp.c	c.ac sp	0.0
	Glasgow	989.9	30	SE	1	cm	989.3	−1	30	−1	ENE	1	–	omq	*	5	32	25	s.omq	om sh p	c.bsh p	0.0
	Eskdalemuir	990.8	30	S	1	om	989.9	−2	31	+2	SE	2	–	osm	*	1	31	28	osm.om	om	o.osm	0.0
	Malin Head	987.4	31	S	3	cx	984.0	−2	31	0	S	3	S	bcx	2	1	35	29	bcx	bcx	bcx	3.8
	Blacksod Point	987.9	37	SW	3	bcp	980.2	−7	33	−4	E	3	–	omrs	3	2	41	33	bcp	bcp	bcp.bc	*
	Valencia	969.4	38	–	0	0	975.7	−7	42	+11	S	3	SW	cph	...	22	43	30	c.ph	op	bc.orcp	0.0
	Roche's Point	991.5	37	NE	1	c	980.3	*	45	+13	SSW	4	–	o	4	7	45	32	b om	om c	cp.o	*
	Birr Castle	989.9	31	S	1	c	?	*	37	+11	S	2	–	r	*	3	37	24	f.c	c	cx.or	0.3
	Donaghadee	989.5	32	WSW	3	qm	986.3	−3	36	+6	SE	3	–	om	2	–	36	28	of	of omq	qfx.om	*
	Liverpool (Bidston)	992.0	31	SW	2	b	989.8	−2	30	0	SE	3	–	b	3	–	36	29	bm	b bc	bc	5.2
	Holyhead	990.5	39	SW	3	c	986.3	−3	40	+5	SSE	5	–	c	4	5	41	35	cp c cp	cp.c	opd.bc	0.8
	Pembroke (St. Ann's)	992.9	43	SW	3	c	986.3	−4	45	+7	SSE	5	S	cqp	4	2	45	37	bc cv	cvp	cvp.qp	1.9
	Scilly (St. Mary's)																					
	Falmouth	994.2	46	WSW	1	bcz	988.8	−2	43	+9	SW	3	–	bc	*	1	46	32	bc c b	b bcz	bcp cp	5.3
	Jersey (St. Aubin)	996.1	37	W	3	c	994.3	*	39	+1	S	4	–	b	3	2	46	36	r p b	bc.b.c	o.b	4.3
	Portland Bill	994.5	44	WSW	3	bcv	991.4	−3	46	+7	SSW	4	SW	bcu	4	4	46	39	c.bc	bc	bc.cr	*
	Dungeness	994.6	33	W	2	b	995.2	0	40	+3	S	4	–	or	4	1	41	34	csr	cp b	cpb.sr	*
	Dover	996.3	33	NNW	1	b	996.5	0	37	+1	SSW	4	S	o	4	2	39	30	ops	o.c bc.b	b.qr	0.0
	Wick	991.6	39	SE	2	bc	989.2	0	36	−2	SE	3	–	bc	4	3	41	33	or.omq	crh p	qp l bc	*
	Nairn	988.9	32	–	0	om	988.1	*	25	−2	–	0	–	bc	0	0.4	32	23	bc.cm	cm	cx	0.0
	Aberdeen	990.2	36	S	1	oprs	990.5	+1	28	−3	W	1	–	bc	2	3	39	25	m om o	qprs	or.s.b	0.0
	Leith	989.9	33	SW	1	b	989.4	0	32	−1	SE	1	E	b	1	1	34	29	s	s qm b	cm b.b	*
	Tynemouth	991.4	30	SSW	2	f	991.4	0	23	−8	SW	2	–	fg	3	1	34	22	oqms	oqm	f	*
	Spurn Head	?	34	SW	4	o	993.3	0	31	−2	SSW	4	–	bcm	4	1	37	28	ps.o	op m	cm	0.0
	Yarmouth	993.4	36	SW	4	r	992.2	+1	33	+4	SW	2	–	bcmx	2	1	37	27	bc	bc.omr	omr bm	0.5
	Clacton-on-Sea	994.8	35	W	3	bc	995.9	−1	40	+4	S	4	S	bc	3	1	40	32	bc.ors	ors.bc	bc bx	0.0
	Nottingham	993.5	27	SW	1	b	992.9	*	27	−5	S	1	–	o	*	3	35	20	s.om	o c bm	bmx	0.0
	Benson (Oxon.)	994.4	28	–	0	b	992.8	−1	33	+1	SE	4	–	bc	*	0.2	36	28	os od c	b	c bc	*
	Sth Farnborough	994.6	30	SW	2	b	993.8	−1	32	+1	ESE	3	–	bcm	*	1	37	29	osr.o b	b	b bcm	2.8
	London (Kew Obsy.)	995.4	33	WSW	2	bm	994.3	−1	32	0	SE	1	SE	bcmx	*	0.2	37	29	cmx.oms.d	om.bm	bm.fx bcx	0.3
NORTHERN EUROPE.	Spitsbergen	1023.9	−19	–	0	b	1024.2	+1	−15	−13	–	0	*	o	*	*	−2	−31				
	Vardo	1011.3	18	N	2	0	1011.1	0	19	+1	NE	3	–	o	3	*	19	14				
	Bodö	1002.9	18	E	4	c	1005.3	+1	16	−2	E	2	–	c	2	–	18	14				
	Christiansund	1002.7	36	NE	1	c	1002.0	−1	32	−4	NE	3	–	c	4	6	36	32				
	Skudesnaes	1000.3	34	SE	4	0	997.5	−2	34	0	ESE	5	–	o	3	–	34	32				
	Færder (Christiania Fjord)	1004.3	28	NE	4	0	1004.6	+1	28	0	NE	5	–	o	2	?	28	28				
	The Scaw (Skagen)	1000.4	34	ESE	4	0	1000.4	0	32	0	E	2	–	c	3	?	36	30				
	Blaavands Huk	998.1	30	ESE	1	0	998.7	+1	36	+4	S	3	–	c	3	–	37	27				
	Copenhagen	999.5	34	ESE	3	0	1000.7	+2	30	−2	N	1	–	m	*	–	34	28				
	Bornholm	998.0	35	ENE	3	0	999.1	+2	34	−2	NW	2	–	s	1	2	36	32				
FRANCE, &c.	The Helder	997.3	30	S	4	c	997.6	+1	34	0	S	4	–	o	2	–	37	30				
	C. Gris Nez	996.0	37	SW	4	b	997.2	0	32	+4	S	2	*	bc	2	1	37	28				
	La Hève	...	33	SW	3	r	...	*	34	+4	SE	3	*	b	2	–	36	30				
	Brest (St. Mathieu)	995.8	45	SE	3	c	992.2	−1	47	+2	S	4	*	bc	4	Trace	48	45				
	Rochefort (Ile d'Aix)	999.4	37	SE	3	b	993.7	+1	38	+4	SE	3	*	r	*	3	39	34				
	Biarritz	997.7	48	–	0	bc	993.5	+5	52	+6	WSW	4	*	r	2	6	52	46				
	Paris	1000.6	32	S	2	s	998.9	−1	27	−3	SE	2	–	c	*	Trace	32	27				
	Belfort	1004.0	27	W	2	0	1004.0	*	19	−9	E	1	*	b	*	–	32	16				
	Lyons	1003.5	34	N	1	0	1002	*	28	−6	–	0	*	f	*	–	39	27				
	Nice	995.9	46	W	5	b	1002.6	+3	41	−4	E	2	*	0	4	–	54	36				
	Perpignan	1001.2	46	W	2	0	995.5	−3	41	−5	WNW	1	–	0	*	–	50	36				
	Sanguinaire	*					*	*					*									
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon	999.9	59	SSW	5	0	1007.3	+1	55	0	WSW	3	–	b	6	–	59	54				
	Azores (Horta)	1001.1	*	SW	7	c							*									
	Madeira	1011.1	64	W	4	b	1010.9	−3	63	0	W	5	SW	r	4	4	66	61				
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1016.2	+1	55	0	SW	2	–	0	3	–	72	54				
	Alexandria																					
	Cairo (Helwan)														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at 7.55ᵐ.
Wind at
600 metres S 13 m/s
300 .. S 11 ..
Surface SSE 4 ..

Depth of snow lying.
Leith ... ... 1 cm.

Yarmouth
Lunar Halo observed
5h – 6h15ᵐ 15-day.

London (Greenwich)
Lunar Halo observed at 6h.

LONDON OBSERVATIONS.

	Humidity: 15 h. Yesterday. %	Humidity: 9 h. To-day. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature: Max. °F.	Temperature: Min. °F.	Temperature: Min. on Grass °F.	Rainfall. mm.	Weather: Morning.	Weather: Afternoon.	Weather: Night.
GREENWICH (Royal Observatory)	81	73	0.2	37	29	23	0.3	os,o	o.c	bcx.cx
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	82	91	0.6	38	32	27	–	oe.d	ou	bcm.mx
CAMDEN SQ. (British Rainfall)	85	92	0.0	37	29	27	0.3	o	o	*
HAMPSTEAD (Reservoir)	*	92	0.0	35	30	20	†	os	os.cx	bx
S. KENSINGTON (Museum Grounds)	*	79	0.2	39	33	27	Trace	om.ds	om.bc	bm bzx
RICHMOND PARK	*	*		*	*	*	*	*	*	*

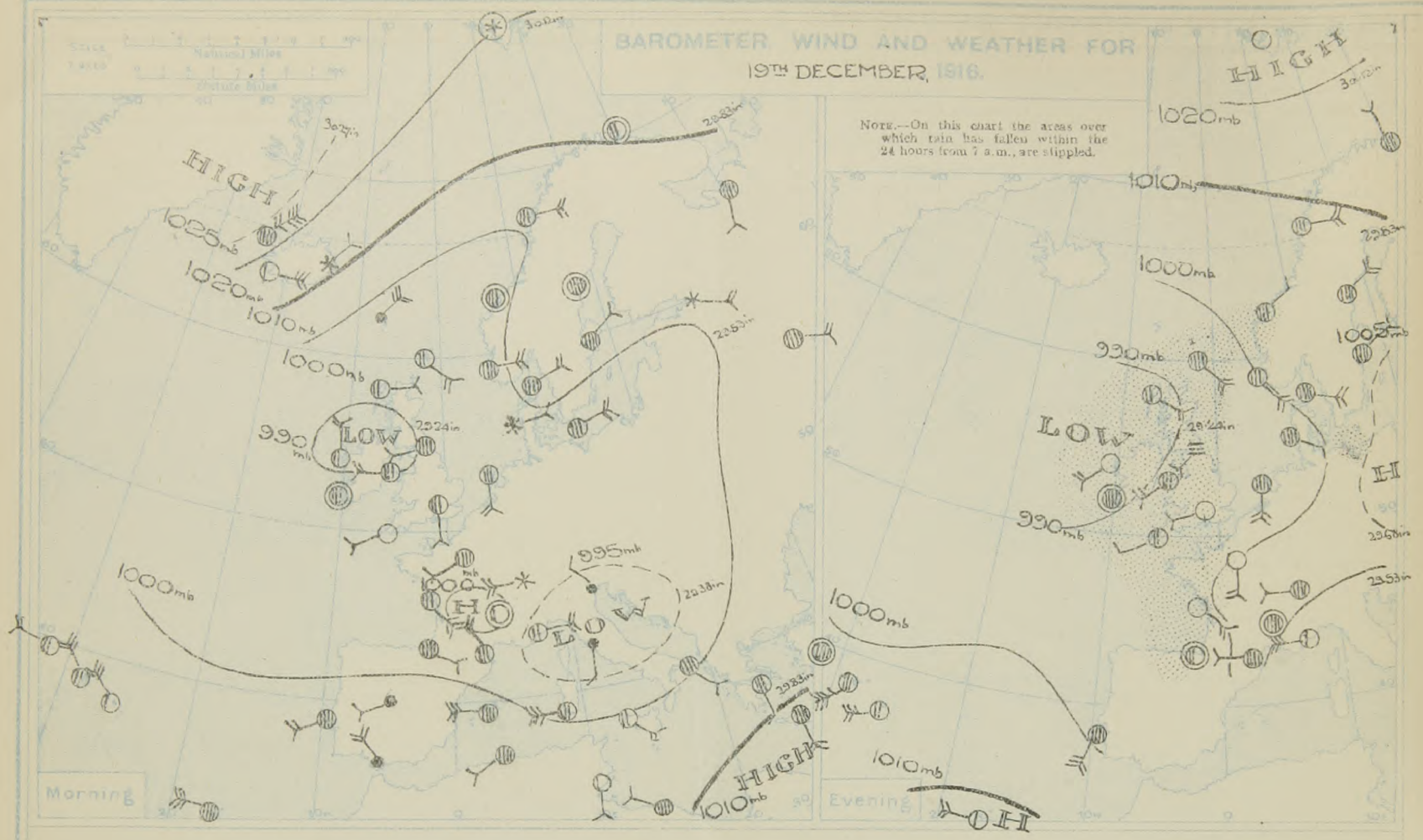
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules. 63	Milliwatts. 2.2	Milliwatts. 15.0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON WEDNESDAY TO NOON THURSDAY.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

0 (a, b), 1 — Moderate Southerly or South-Easterly winds, freshening; fair, but with sleet or snow showers; cold.

2 (a, b), 3, 4 (a, b), 5 — Moderate to fresh S. to S.W. winds; fair at first, showery or some rain later; rather milder.

6 (a, b) — Same as Nos. 0 and 1.

7 (a, b), 8 (a, b), 9 (a, b), 10 (a, b) — Moderate or fresh Southerly to South-Westerly winds, dull, some rain; normal temperature.

11 — Fresh Southerly winds; rather rough sea; fair or dull, some rain.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF WEDNESDAY, 20TH DECEMBER, 1916.

GENERAL INFERENCE.

The depression West of Ireland is likely to cause freshening Southerly winds over the British Isles.

TEMPERATURE, WEATHER AND SEA DISTURBANCE

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ☂ rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊤ₖ thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈

HIGH
1020mb
1015mb
1010mb
1005mb
1000mb
995mb
990mb
985mb
980mb
975mb
LOW
falling
Barometer falling slightly
Barometer steady or rising slightly
HIGH
1000mb.
HIGH
AGW.

SCALE 1 : 2·10⁷
Nautical Miles 0 1 2 3 4 500
Statute Miles 0 1 2 3 4 500

Normal Temperature of the Sea
Below 40° 40-50° 50-60° Above 60°
Scale of Tints for DECEMBER

Issue No. 2947

DAILY WEATHER REPORT.

Wednesday, 20th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours. ‡	Temp. Dry Bulb. °F.	Change in 24 hours. °F.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max. °F	Min. °F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1006·1	9	ESE	2	c	1007·1		-4	-18	SSW	2	0	-	*	-2
	Gorki	999·6	19	SSE	2	b	993·5		19	-9	SE	4	8	23	*	19
	Velieki Luki ...	999·5	30	SE	3	o	999·5	*	30	+7	-	0	0	?	*	28
	Hangö	-	-	-	-	-	998·6	?	28	-4	-	0	8	2	*	28
	Riga	995·4	30	-	0	b	997·6	+1	30	0	-	0	0	5	*	30
	Petrograd ...	1006·6	19	SE	3	8	1006·6	0	19	-8	ESE	3	8	-	27	18
	Moscow	1007·4	9	ESE	3	0	1005·9	-2	12	-16	ESE	3	0	1	*	7
	Kiev														*	
	Kharkov ...														*	
	Kishinev ...														*	
	Elisabetgrad ...														*	
	Nicolaiev ...							*							*	
	Odessa														*	
	Tarkhankout...							*							*	
	Soukhoum ...						1000·8	+1	52	-	ENE	2	r	16	*	48
Mediterranean.	Venice	997·6	43	NNE	1	r	999·7	*	39	-20	NW	1	r	3	45	37
	Pesaro	997·5	41	-	0	r	999·7	*	41	0	W	1	r	15	43	39
	Rome	994·7	59	SE	1	o	999·8	*	59	+2	S	1	r	24	59	57
	Viesti	997·0	54	W	1	b	993·0	*	63	-1	SE	3	0	1	64	46
	Brindisi	999·7	64	SE	4	o	997·5	*	61	0	SSE	2	0	5	64	61
	Cagliari	1000·3	63	NE	4	bc	997·7	*	55	-2	W	6	c	4	66	50
	Palermo	1002·6	68	E	3	o	1000·4	*	61	-7	SE	3	bc	4	72	59
	Tripoli	1009·6	66	-	0	b	1008·2	*	68	+9	WNW	2	0	20	72	59
	Algiers	1003·3	68	W	2	?	1005·7	+3	64	-2	SE	2	0	-	75	63
Sweden.	Hernösand ...	1006·0	21	N	2	o	1005·9	*	18	-14	-	0	0	*	*	*
	Stockholm ...	1000·6	32	N	4	o	1001·5	*	32	0	NE	2	0	*	*	*
	Wisby	997·9	43	N	6	r	998·9	*	32	-4	ENE	2	0	*	*	*

Iceland.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb. °F	Change in 24 hours. °F	Wind. Direc.	Force 0–12.	Weather.
Isafjord ...	1025·0	23	-7	NE	9	o
Reykjavik	1015·5	28	+1	E	5	b
Vestmanna	1012·3	23	-11	-	0	b
Seydisfjord	1014·6	28	+3	NE	2	3
Thorshavn	996·9	35	+5	NE	5	c

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h. Mm.	Day. 9h-18h. Mm.	Temperature. Max. F	Min. F	Weather. Forenoon.	Afternoon.	Sunshine Hr.
Scotland.	Oban	1	3	35	29	s.	o.	0·0
	Banff	Trace	1	35	23	o.c.	crs	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	5	2	32	23	s.o	om	0·0
	Skegness	-	1	36	31	s.c.o	r.o	0·0
Eng. N.W.	Morecambe	2	2	36	31			1·0
	Southport	4	-	38	29	bc.b.bc	bc.c.o	2·5
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	2	1	37	23	bc-bf	bcr	3·3
Wales.	Rhyl	1	-	35	29	s.f	f.bc.c.	3·1
	Colwyn Bay...	*	*	37	33	bc	bc.	3·2
	Llandudno	*	*	39	34	c.bc	b	2·5
	Aberystwyth	*	*	40	30	s.o.c	o.or	1·5
	Tenby							

	STATIONS.	Rainfall. Night. 18h-9h. Mm.	Day. 9h-18h. Mm.	Temperature. Max. F.	Min. F.	Weather. Forenoon.	Afternoon.	Sunshine Hr.
England. E.	Lowestoft	-	Trace	38	27	of.c	c.or	0·2
	Felixstowe	Trace	2.	38	29.	bc	bc.or	0·1
	Walton-on-Naze							
	Southend-on-Sea	-	Trace	37	30.	bc.c.of	o.c.bc	0·0
England, S.E.	Margate	-	1	38	31	c	or	0·0
	Ramsgate	-	Trace	36	29.	o	or	0·0
	Hastings	-	3	40	33.	o.bc	of.bc.	1·8
	Eastbourne	-	3	41	29	rdrh	og	1·5
	Seaford	*	*	43	32	r	bc	2·2
	Brighton	Trace	2	42	31	or.c	c.bc	2·6
	Worthing	3	1	43	32.	r.c	bc.	2·2
	Littlehampton	1	-	42	31	o.b	b.o	3·6
	Bognor	*	*					
	Bournemouth	4	-	42	30	b	b.	5·7
England. S.W.	Weymouth...	*	*	42	32	bc.b	b.bc	6·1
	Torquay	2	-	43	28.	m.b	bm	2·4
	Paignton	*	*					
	Penzance	8	-	47	34	c.bc.	bc.	4·9
	Newquay	12.	-	45	32.	b	b.	4·1
	Bude	2	2.	46	32.	b	cp.	4·0
	Ilfracombe	3	1	42	33.	bc.c	cgr.	3·9
	Weston-s-Mare	1	-	41	26.	b	b.bc.	4·1

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

20th & 21st December 1916.	Sunrise. G.M.T.	Noon G.M.T.	Sunset. G.M.T
Yarmouth	8.17	11.51	3.36
	8.14	11.51	3.38
Greenwich	8.5	11.58	3.51
	8.5	11.58	3.51
Wick	9.3	12.10	3.17
	9.3	12.10	3.17
Valencia	8.19	12.34	4.28
	8.19	12.34	4.29

NOTES ON YESTERDAY'S WEATHER.

Considerable rain and hail fell at Valencia, but at most stations little precipitation was measured. Temperature has risen in the South-West but remains cold elsewhere. Sunshine ranged up to 5 or 6 hours at some stations.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 356 — Thursday, 21st December.

	STATIONS	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp.	Wind: Direc.	Wind: Force 0-12	Weather.	THIS MORNING: Barometer: Millibars at M.S.L.	Barometer: Change in 3 hours.	Temp.: Dry Bulb.	Temp.: Change in 24 hours.	Wind: Direc.	Wind: Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp.: Max.	Temp.: Min.	Weather: Morning.	Weather: Afternoon.	Weather: Night.	Sunshine for Yesterday.
			°F.					÷	°F.	°F.							°F.	°F.				Hours.
BRITISH ISLANDS.	Lerwick ...	990·1	39	SSE	4	o	980·0	−2	41	+3	S	9	–	ggq	7	6	42	35	q,sb	q,sb	cq,bg	*
	Deerness (Orkney)	985·8	40	SE	5	q r c	973·6	*	42	+4	SE	6	–	qq	5	7	42	38	o c b c b	c bc or	rq.o	1·7
	Stornoway ...	980·4	36	SE	5	o	970·3	−2	38	+1	SW	4	–	orq	4	8	40	33	c	c .o	c.orq	0·0
	Castlebay (Barra Isd.)	976·5	35	ENE	5	o r s	971·2	0	41	+6	W	3	–	c	4	25	41	34	c s p o	o h e r s	r s . o . c	0·0
	Glasgow ...	979·4	36	SE	3	o q	976·9	+3	36	+6	SSW	4	–	qq	*	5	37	29	o m h s b	o m s p o	q b q q p	0·0
	Eskdalemuir ...	980·8	34	SE	5	o m	979·6	+2	35	+4	SSW	4	–	b c q	*	9	35	30	o s . o o m	o m . o r s	o r s . o q	0·0
	Malin Head ...	982·1	36	SE	3	o m	979·5	+2	38	+7	WSW	5	W	b c q	4	7	38	30	o m r	o m	o m p	0·0
	Blacksod Point	979·3	38	NW	5	o m r	979·2	0	38	+5	NW	3	NW	bc	3	11	38	33	o m s	o m r	c m r . b c	*
	Valencia ...	981·8	43	W	5	b	981·4	−1	35	−7	NE	2	SW	b q p h	8	2	44	32	c . o p	o p . b	b . b c	1·4
	Roche's Point	981·4	40	W	4	b	981·6	*	38	−12	N	2	–	b	3	1	48	31	c p h	c . b	b x	*
	Birr Castle ...	977·2	37	W	2	c	980·9	*	29	−8	W	1	–	c	*	7	38	29	c p o r	o r c p l	c p e x	0·4
	Donaghadee ...	974·2	42	S	5	o t l r h	978·8	+3	35	−1	W	4	W	b m q	3	19	43	35	o m p l	o m r q s	c g m l r	*
	Liverpool (Bidston)	981·8	36	SE	4	b c	982·5	−1	36	+6	SE	2	SE	o	3	0·2	42	30	.0	o . c	c . o	0·0
	Holyhead ..	977·0	42	S	6	o t l q	980·5	−3	41	+1	WSW	4	-	b m	3	16	45	40	c p q p . c	c t l p h	c p l . o . c	0·1
	Pembroke (St. Ann's)	980·7	47	SW	6	b c q	981·3	−2	40	−5	ENE	2	–	o	3	6	48	39	c q p . c q	c q p	b c q c o	0·1
	Scilly (St. Mary's)																					
	Falmouth ...	986·7	46	SSW	4	b	978·6	−6	39	−4	NE	4	–	o d	*	8	49	39	b c p	c . b c	b b c . o r	1·4
	Jersey (St. Aubin)	993·6	40	S	5	o q e	977·7	*	41	+2	S	6	–	o	4	2	47	37	b b c o	q q e	q e q q p	3·8
	Portland Bill ...	988·6	44	SSW	6	b c q	978·7	−11	43	−3	E	5	–	o r	5	14	46	41	b c . c	c q	c . o r	*
	Dungeness ...	993·1	42	SSE	5	b c	985·0	−6	43	+3	SSW	5	–	r	5	3	47	42	o . b c	b c	c b c o r	*
	Dover	9348	38	S	6	b	9858	−5	42	+5	SE	6	SE	r	6	3	42	35	o . c	c . b c . b	b b c o r	1·0
	Wick	984·8	40	SE	4	o	9936	0	41	+6	SSE	6	–	c	?	3	43	35	b c m	b c o m p	o m p q	*
	Nairn ...	981·7	36	E	2	o q	972·0	*	37	+12	W	3	–	b c	2	1	39	24	b c c m	c q	f q . c	0·0
	Aberdeen	984·4	41	SE	6	r	976·8	+1	41	+13	S	5	–	c q	4	10	42	26	e z o	m b r q	o r q . c	0·0
	Leith	9808	35	ENE	2	o	9768	0	39	+7	WSW	3	SW	b c	3	0·3	40	30	b m o s o	o r s q o	p g . o b c	*
	Tynemouth ...	9842	38	S	6	o q n r	9814	0	37	+14	SSW	2	–	c m	4	3	38	22	f	o m q r	o m q	*
	Spurn Head ...	989·2	37	SSE	6	c q m	9857	−1	37	+6	S	4	–	c q	4	0·2	38	31	f m	c m	f q . o	0·0
	Yarmouth ..	9927	40	SW	6	b c	987·4	−4	41	+8	SSW	5	–	o m p	5	2	42	32	b c m e . o m	o m . b c m	o m p	0·0
	Clacton-on-Sea	993·9	40	S	4	b c	986·9	−3	41	+1	SSE	5	–	o	5	-	41	38	b c . c	c . b c	b c . c g	0·0
	Nottingham ...	987·9	36	SSE	4	r	984·0	*	39	+12	S	1	S	o	*	1	42	26	o m	o r	f o	0·0
	Benson (Oxon.) ...	989·7	38	S	4	o	982·2	−6	41	+8	SE	4	–	o r	*	12	42	32	c . o	o	o . o r	*
	Sth Farnborough	990·8	38	S	3	r	983·0	−6	41	+9	SSE	4	–	o r	*	5	43	31	b c o r . o	q b b c . o r	r . o r	0·2
	London (Kew Obsy.)	991·0	39	S	4	b	983·8	−7	43	+11	SSE	5	–	o r	*	5	44	32	b c m x . c m x o	e o m . c . b c b	b b c . r a r	0·3
NORTHERN EUROPE.	Spitsbergen ...												*		*	*						
	Vardö															*						
	Bodö																					
	Christiansund ...																					
	Skudesnaes ...																					
	Færder (Christiania Fjord)																					
	The Scaw (Skagen)	1003·4	32	E	2	o	1005·2	−1	32	0	ESE	3	–	o	3	–	34	30				
	Blaavands Huk	1001·3	34	S	4	b c	1000·0	−3	28	+8	SE	5	–	o	5	–	37	29				
	Copenhagen ...	1004·0	32	WNW	2	o	1006·4	0	32	+2	SSE	3	–	o	*	–	34	30				
	Bornholm ...	1003·8	32	WNW	3	o	1007·7	+1	32	−2	S	2	–	m	1	–	34	30				
FRANCE, &c.	The Helder ...	999·7	32	SSE	3	o	992·8	−5	34	0	SSE	4	–	o	2	–	34	30				
	C. Gris Nez ...	989·7	33	S	4	b c	987·8	−8	38	+6	S	4	*	r	3	2	39	32				
	La Hève							*					*									
	Brest (St. Mathieu)	991·4	50	WSW	5	c	976·3	0	48	+1	NW	6	*	c	4	30	52	46				
	Rochefort (Ile d'Aix)	999·1	47	WSW	3	c	9859	−5	46	+8	S	6	*	o	*	Trace	50	37				
	Biarritz	1002·4	51	ESE	2	b	990·0	−4	50	−2	S	5	*	b c	2	1	55	50				
	Paris	999·5	32	SSE	2	o	990·7	−9	39	+12	SSE	3	–	c	*	–	41	27				
	Belfort	1003·7	27	E	2	s	1003·4	*	28	+9	E	3	*	b	*	2	29	19				
	Lyons	1004·8	32	—	0	o	1001·3	*	33	+5	SSW	1	*	b	*	–	40	28				
	Nice	1003·7	41	E	2	r	1007·3	+1	42	+1	–	0	*	b	3	4	50	37				
	Perpignan ...	1004·7	50	NW	2	b	997·5	−4	52	+11	S	4	–	c	*	–	55	39				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	1003·7	*	NNE	4	bc	1000·0	+2	62	+9	WSW	8	*	o	4	13	62	53				
	Madeira	1008·6	59	WSW	5	r	1015·0	+3	57	−6	N	3	–	b	4	–	66	57				
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*																
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands.

Lerwick 21st
S 8 from 3h.
S 9 at 7h.

Aberdeen 20th
Gusts SE 22 m/s from 18h - 20h.

Solar Halo
observed in London at 13h. 20th

LONDON OBSERVATIONS.

	Humidity: 15 h. Yesterday.	Humidity: 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature: Max.	Temperature: Min.	Temperature: Min. on Grass	Rainfall.	Weather: Morning.	Weather: Afternoon.	Weather: Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	77	94	0·9	44	35	30	8	c . c d	o	o b . o r
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	76	94	0.2	45	37	32	8	o	o	o r
CAMDEN SQ. (British Rainfall) ..	77	100	0.0	45	37	32	9	o	o	*
HAMPSTEAD (Reservoir)	*	99	0 0	43	38	32	8	c f	c , o d	o b . o r
S. KENSINGTON (Museum Grounds)	*	97	0 . 1	45	37	35	9	o m x . o	o . c	b . o b . o r
RICHMOND PARK	*	*	*	*	*	*	*	*	*	*

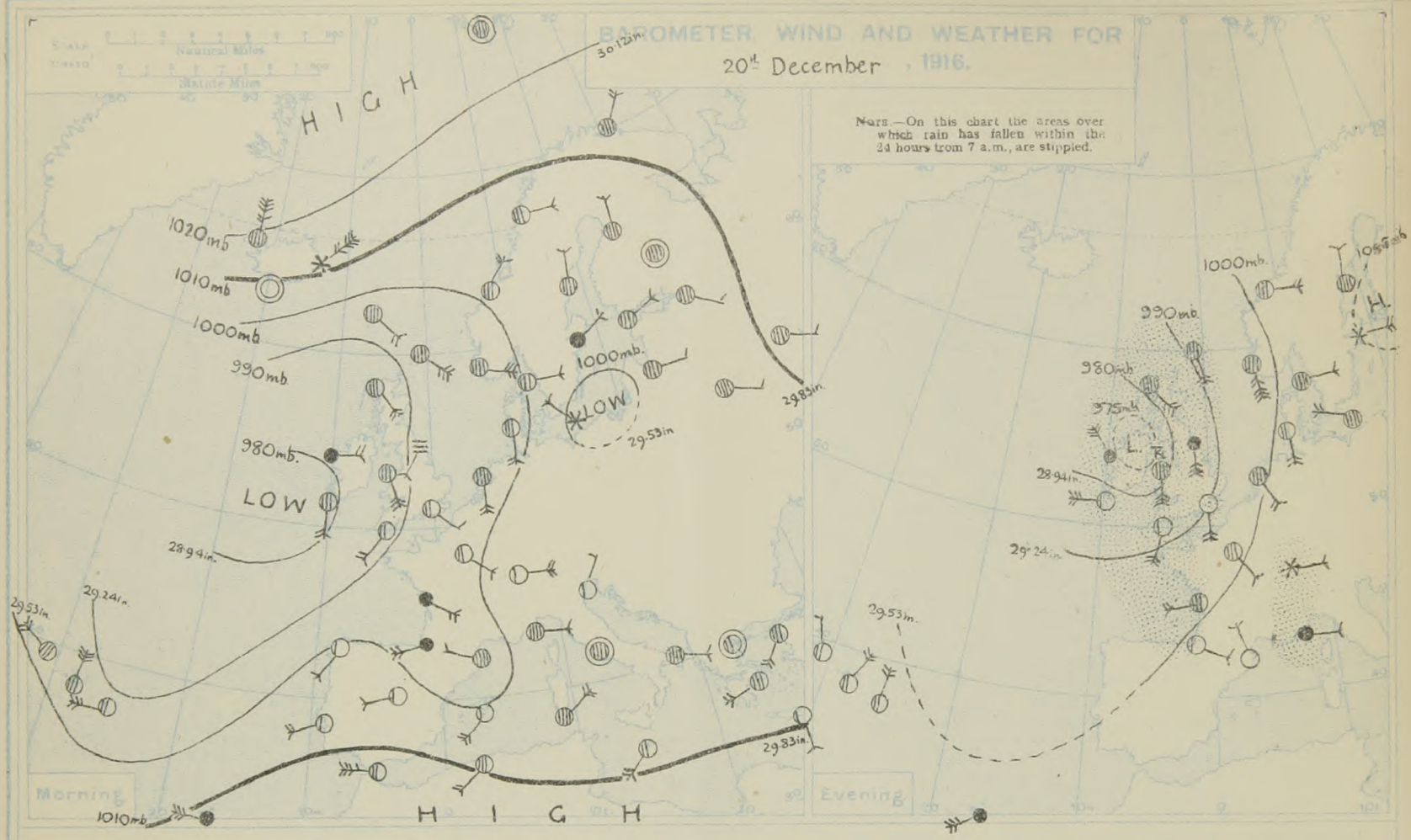
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
179	64	19.0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON THURSDAY TO NOON FRIDAY.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

South Cone Hoisted Yesterday in Districts 0,1,2,6,7,9 & 10 @ 14.15h & in Districts 3 & 5 @ 20.19h

0 a, b / 1 — Southerly gales, moderating later; unsettled, some rain or sleet; normal temperature.

2 a, b — Fresh Southerly winds, moderating temporarily unsettled, some rain or sleet; rather cold.

3 — South-Easterly gales, veering North later; dull, rainy, probably snow later; becoming cold again.

4 a, b — Same as No.2.

5 — Same as No.3.

6 a, b — Fresh to moderate South-Westerly winds; fair, some showers; normal temperature.

7 a, b — Same as No.2.

8 a, b — Moderate North-Easterly winds, increasing later; some cold precipitation; fair intervals; cold.

9 a, b / 10 a, b — Moderate Northerly or North-Westerly winds; fair but hail or sleet showers; cold.

11 — Strong Westerly or South-Westerly winds, veering later; rough sea; showery.

Western Channel and Bay

FURTHER OUTLOOK.

R G K LEMPFERT, Superintendent, Forecast Division

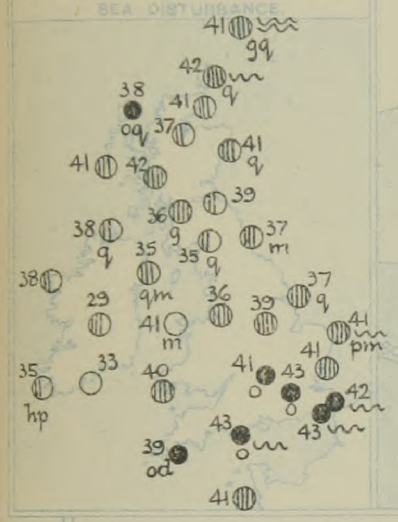
NAPIER SHAW, Director

SYNOPTIC CHART FOR THE MORNING OF THURSDAY, 21ST DECEMBER, 1916.

GENERAL INFERENCE.

Under the influence of the depressions in the North-West and South-West very unsettled conditions are probable with strong winds in most districts

TEMPERATURE, WEATHER AND SEA DISTURBANCE



EXPLANATION.

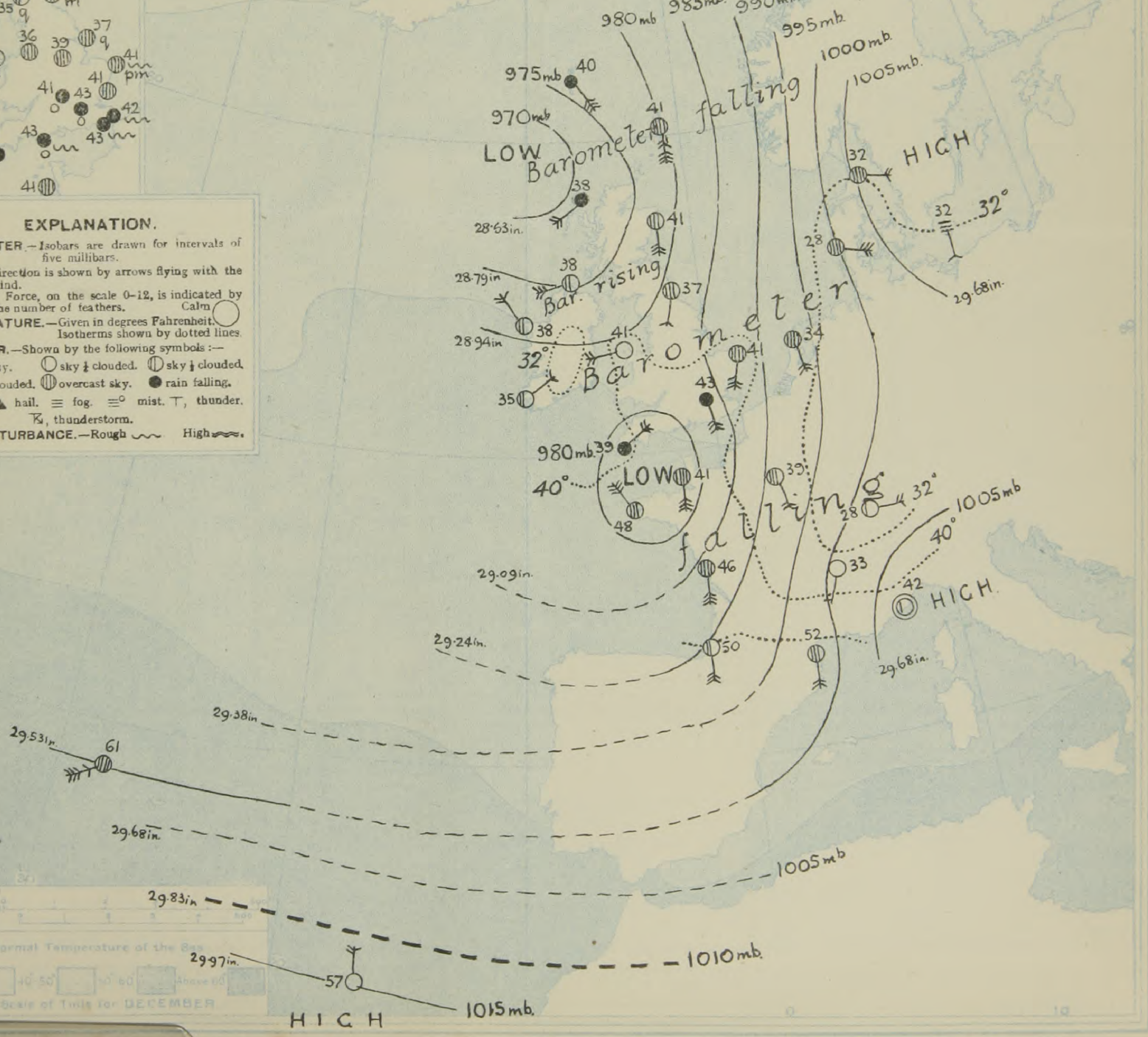
BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~ High ≈≈.



Issue No. 22,48

DAILY WEATHER REPORT.

Thursday, 21st December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel	1009·3	-8	NE	3	0	1011·1	?	3	+7	-	0	0	-	*	-6
	Gorki	1004·8	19	SE	3	0	1003·0	0	12	-7	ESE	1	0	19	*	12
	Velieki Luki	-	-	-	-	-	1002·4	*	28	-2	-	0	0	-	*	23
	Hangö	-	-	-	-	-	1004·6	0	25	-3	ENE	2	0	1	*	23
	Riga	1002·1	52	-	0	0	1003·2	-1	28	-2	E	1	0	-	*	28
	Petrograd	1004·6	25	SE	2	5	1008·0	+2	23	+4	SE	1	0	1	25	19
	Moscow	1008·7	14	NE	1	0	1012·3	+1	14	+2	ESE	1	0	-	*	12
	Kiev														*	
	Kharkov														*	
	Kishinev														*	
	Elisabetgrad														*	
	Nicolaiev							*							*	
	Odessa														*	
	Tarkhankout							*							*	
	Soukhoum														*	
Mediterranean.	Venice	9962	41	-	0	0	1003·3	*	41	+2	NNE	1	b	Trace	45	39
	Pesaro	9977	39	N	1	c	1004·4	*	36	-5	SW	1	b	3	46	36
	Rome	9997	54	-	0	0	1003·3	*	58	-1	-	0	0	2	61	52
	Viesti	9988	57	WNW	1	c	1004·1	*	55	-8	SW	1	bc	-	68	55
	Brindisi	1000·7	61	NW	3	b	1004·1	*	59	-2	SE	2	0	-	66	57
	Cagliari	1001·4	64	NW	4	b	1004·1	*	57	+2	NE	4	0	5	56	52
	Palermo							*								
	Tripoli							*								
	Algiers	1007·1	59	-	0	0	1007·4	+2	63	-1	SW	3	c	3	72	57
Sweden	Hernösand	1000·2	30	?	?	0	1008·2	*	25	+7	N	2	0	*	*	*
	Stockholm	1004·4	28	?	?	0	1002·8	*	30	-2	NE	2	r	*	*	*
	Wisby	1006·7	21	?	?	0	1000·0	*	34	+2	ENE	2	0	*	*	*

Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord	1019·9	21	-2	N	9	0
Reykjavik	1004·3	27	-1	N	8	bc
Vestmanna	1005·9	26	+2	-	0	b
Seydisfjord	1011·3	25	-3	NE	9	s
Thorshavn	999·8	37	+2	SE	3	0

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall. Night. 18h-0h.	Rainfall. Day. 0h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F	F			Hr.
Scotland.	Oban	14	3	36	30	b	ovs	0·0
	Banff	1	1	38	23	b.bc	c.rsd	1·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews	-	2	37	23	oc	oc	0·0
Eng. N.E.	Harrogate	—	Trace	34	16	m.o	osp	0·0
	Skegness	-	-	38	27	0	0	0·0
Eng. N.W.	Morecambe	1	2	40	30			0·0
	Southport	-	1	38	28	bc.o	o.p.c.o	0·0
Midlands.	Leamington Spa							
	Malvern	-	Trace	39	31	c	c	0·0
	Ross-on-Wye	-	4	42	29	ov	or	0·0
Wales.	Rhyl	-	1	41	28	f.o	o.p.cp	0·0
	Colwyn Bay	*	*	41	35	c	cp	0·0
	Llandudno	*	*	41	34	c	cr	0·0
	Aberystwyth	*	*	43	31	r.o.c	or.o	0·2
	Tenby	Trace	-	41	28	c.o	o.c	0·0

	STATIONS.	Rainfall. Night. 18h-0h.	Rainfall. Day. 0h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F			Hr.
England, E.	Lowestoft							
	Felixstowe	-	-	41	32	bc.c.	c.bc	0·0
	Walton-on-Naze							
	Southend-on-Sea	-	-	42	32	o.c.bc	cbc	1·4
England, S.E.	Margate	-	-	41	32	c.	bc.c	1·0
	Ramsgate	-	-	40	36	o.c	c.o	1·0
	Hastings	1	-	42	33	o.p.c	bc	1·7
	Eastbourne	Trace	-	43	30	o.bc	bc.o	1·5
	Seaford	*	*	44	32	o.c	c.bc	1·8
	Brighton	1	-	44	31	o.c	c.bc	1·2
	Worthing	-	-	45	29	bc	bc	0·7
	Littlehampton	1	-	43	31	o.	bc.o	0·5
	Bognor	*	*	44	32	bc	bc	0·9
	Bournemouth	Trace	Trace	44	30	o	o.c	0·2
England, S.W.	Weymouth	*	*					
	Torquay	3	10	46	32	or	optl	0·0
	Paignton	*	*					
	Penzance	2	5	51	37	or.c	bc.c	2·3
	Newquay	2	5	49	32	bcr	cr	1·0
	Bude							
	Ilfracombe	1	9	46	36	c.g.p	g.p	0·0
	Weston-s-Mare	-	2	44	35	or	or.bc	0·0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

21st & 22nd December 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8·14 / 8·14	11·51 / 11·51	3·38 / 3·38
Greenwich	8·5 / 8·5	11·58 / 11·58	3·31 / 3·31
Wick	9·3 / 9·14	12·10 / 12·11	3·17 / 3·17
Valencia	8·49 / 8·50	12·39 / 12·40	4·29 / 4·30

NOTES ON YESTERDAY'S WEATHER.

Rain or snow fell in all districts, heavily in some places. Lightning was reported from several areas in the West. Sunshine was scanty.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 357. Friday, 22nd December.

	STATIONS.	YESTERDAY EVENING					THIS MORNING								PAST 24 HOURS					Sunshine for Yesterday
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0–12	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12	Direc. of Upper Cloud	Weather.	Sea 0–9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	976·3	41	SSE	8	o q h	971·5	−2	40	− 1	SSE	6	–	oq	6	18	44	38	oq p	oq p l r	orq	*
	Deerness (Orkney)	975·3	41	SE	5	o	973·2	*	37	− 5	W	2	–	bc	4	–	43	36	o. cq	o	o c b c	0 . 0
	Stornoway ...	972·0	34	SW	1	c	977·9	+ 5	38	0	N	5	–	bcq	4	2	39	30	cz	cz	c. b c f q	0 . 8
	Castlebay (Barra Isd.)	972·2	41	WSW	3	o p	982·3	+ 3	41	0	WNW	4	–	b	4	6	43	37	c o p c	c. o p	a c h p. b	0 . 0
	Glasgow ...	978·1	36	SW	2	b z	980·8	+ 4	38	+ 2	WSW	3	–	cm	*	1	38	34	o h p cm	cm b e z	b z p c p	0 . 0
	Eskdalemuir ...	979·3	31	–	0	o	982·3	+ 3	34	− 1	SW	6	–	o	*	4	36	29	bcq c o	o c of o	o.c.b.o	0 . 1
	Malin Head ...	975·9	42	WNW	5	c q p	984·4	+ 3	42	+ 4	WNW	5	w	cq	5	13	43	35	bcq p	bcq p	cq	1 . 7
	Blacksod Point	981·6	40	NW	3	b c p	986·4	0	41	+ 3	SW	3	w	bc	3	3	42	37	bc p h	bc p h	bc p h l	*
	Valencia ...	985·2	37	SSE	2	o	990·0	+ 2	33	− 2	NE	2	w	bcx	3	4	38	29	bc od	o p d	o p l b b x	0 . 0
	Roche's Point	985·6	38	W	2	o	990·6	*	33	0	N N W	2	–	b	2	2	40	31	b b c. o	o	r c b x	*
	Birr Castle ...	983·5	31	S	1	c	989·1	*	29	0	S	1	–	c	*	–	36	28	c.	c x	e x	2 . 9
	Donaghadee ...	980·2	35	W	3	b m l x	985·7	+ 4	35	0	W	3	–	bcm	3	–	39	33	bcm	bcm	o q b c m	*
	Liverpool (Bidston)	981·6	37	WSW	4	b	987·8	+ 1	36	− 1	S	3	–	b	3	–	40	35	cm	cm	bx	0 . 4
	Holyhead ...	987·2	41	WSW	4	b z	987·9	+ 3	41	0	WSW	3	W	bc	2	–	44	39	o m. c m. c	bc. c. b	b l. bc	1 . 8
	Pembroke (St. Ann's)	985·0	44	SW	3	c	989·8	+ 2	42	+ 2	WSW	2	W	bcy	3	1	45	37	o c. bc	bc. c	ф bc p o	3 . 0
	Scilly (St. Mary's)																					
	Falmouth ...	987·4	38	WSW	3	b z	990·8	+ 2	38	− 1	W	2	–	b	*	5	46	36	d. o p. c p	bc. b	b a c p b	1 . 3
	Jersey (St. Aubin)	990·0	44	W	6	c q p	993·0	*	44	+ 3	WSW	3	–	or	3	7	50	41	o g r q	c . o q p	f q. b l r	1 . 3
	Portland Bill ...	986·5	46	W	3	c	990·2	− 1	45	+ 2	SW	5	SW	bc	5	12	49	37	or. c	bc. c	cr ep	*
	Dungeness ...	984·4	42	WSW	6	b	992·0	0	41	− 2	WSW	4	SW	cq	5	18	48	41	r c. o	o. c. b	b c q r	*
	Dover	987·1	39	WNW	4	b	993·5	0	41	− 1	SW	4	SW	r	6	11	48	35	r. o	o d. bc. b	b. or	0 . 0
	Wick	975·2	41	SSW	4	o	974·2	+ 1	35	− 6	W	3	–	bc	4	Trace	42	30	o p cm	c, o m q	o g. b c m	*
	Nairn	973·7	34	SSW	1	bc	975·6	*	36	− 1	W	1	–	cq	1	–	40	29	bc, c. bc	bc	bc c	4 . 5
	Aberdeen	976·7	36	SW	2	c	976·2	+ 2	36	− 5	WSW	1	–	b	2	1	41	32	c, cq	o c	c. q p b	0 . 0
	Leith	977·0	36	SW	2	bc	978·5	+ 2	38	− 1	WSW	4	W	b	3	–	39	35	bc u. o c	c. o. bc	bcb	*
	Tynemouth ...	978·0	36	WNW	1	cm	982·8	0	40	+ 3	SW	3	–	o q m	3	–	40	32	om	cm	o m q	*
	Spurn Head ...	978·1	37	SSW	4	o	983·5	+ 1	35	− 2	SSW	4	–	bcq	4	13	38	34	o m r	or	o b c q	0 . 0
	Yarmouth ...	975·3	39	NW	6	o m d q	980·8	+ 1	39	− 2	SW	3	–	bc	4	10	45	34	o m q r	o q p	b m b p	0 . 0
	Clacton-on-Sea	980·2	38	WNW	5	o	982·0	0	40	− 1	SW	2	SW	c	2	7	46	36	o g r	o q p	o q. b c. c	0 . 0
	Nottingham ...	981·7	35	W	2	b	984·2	*	35	− 4	SW	1	SW	o	*	9	39	33	o r s	s r. c. b c	b	0 . 0
	Benson (Oxon.) ...	982·3	34	W	2	b	990·4	0	34	− 7	S	1	–	c	*	22	41	33	r	s c. c b	b b c	*
	Sth Farnborough	983·4	35	W	3	b	990·8	0	36	− 5	SE	2	–	o m	*	15	48	34	r. o	r s. o b e p b	b a b c. o	0 . 0
	London (Kew Obsy.)	983·4	37	WSW	3	b	991·3	− 1	38	− 5	SW	1	–	o m	*	13	48	36	o r. o r q. o q	o q. o r c. o. b c b	b b c. o m	0 . 0
NORTHERN EUROPE.	Spitsbergen ...	1031·0	−35	–	0	b	1032·2	+ 1	−20	+ 9	–	0	*	o	*	*	−20	−38				
	Vardö	1020·4	19	E	3	o	1025·2	+ 1	16	− 3	NE	2	–	o	2	*	21	16				
	Bodö	1016·0	19	E	4	b	1017·6	0	19	0	E	4	–	b	2	–	19	18				
	Christiansund ...	993·9	36	SE	4	b	993·7	− 2	37	+ 5	NE	5	–	o	4	–	36	28				
	Skudesnaes ...	988·0	39	ESE	10	o	980·3	+ 3	37	+ 1	SSE	10	–	r	7	?	39	34				
	Færder (Xtiania Fjord)	1004·2	32	E	6	o	991·4	− 5	34	+ 4	E	6	–	s	4	?	34	30				
	The Scaw (Skagen)	1002·0	36	SE	6	o	991·0	+ 1	39	− 2	SSW	6	–	o	6	4	39	?				
	Blaavands Huk	999·0	32	SE	7	o	993·1	+ 10	41	+ 13	WSW	4	–	o	5	2	41	27				
	Copenhagen ...	1003·0	36	SE	7	c	998·1	+ 5	39	+ 7	SSW	3	–	o	*	4	39	32				
	Bornholm ...	1004·3	34	ESE	7	m	1000·7	+ 2	32	0	SSW	6	–	s	2	1	34	30				
FRANCE, &c.	The Helder ...	979·9	39	SSE	7	r	993·5	0	41	+ 7	S	6	–	c	4	7	43	34				
	C. Gris Nez ...	982·6	41	W	8	o	993·3	− 1	41	+ 3	S	6	*	o	5	18	46	39				
	La Hève	*	45	S	6	o	*	*	40	...	SW	5	*	r	4	2	46	37				
	Brest (St. Mathieu)	991·7	45	W	5	c	992·6	+ 1	45	− 3	W	5	*	c	5	7	52	43				
	Rochefort (Ile d'Aix)	999·8	50	W	5	r	1001·7	+ 1	47	+ 1	SW	7	*	r	*	10	52	45				
	Biarritz	1005·3	54	WSW	4	c	1005·5	− 1	55	+ 5	SSW	2	*	c	3	4	61	54				
	Paris	993·9	45	SW	3	b	998·9	− 4	45	+ 6	SSW	5	–	r	*	3	48	39				
	Belfort	999·3	35	–	0	r	1010·0	*	38	+ 10	–	0	*	b	*	5	38	28				
	Lyons	998·6	51	S	4	o	1011·9	*	39	+ 6	NW	2	*	bc	*	–	51	33				
	Nice	1006·4	45	E	2	r	1012·4	+ 4	45	+ 3	–	0	*	bc	3	23	52	42				
	Perpignan ...	1003·0	54	NW	4	b	1012·7	0	36	− 16	–	0	–	b	*	–	61	32				
	Sanguinaire ...	1009·5	57	SW	4	r	1011·7	*	55	+ 5	E	1	*	o	4	–	59	48				
SOUTHERN STATIONS.	Corunna																					
	Madrid														*							
	Lisbon																					
	Azores (Horta) ...	999·8	*	SSW	8	o	994·7	+ 1	61	− 1	WSW	7	*	bc	4	2	64	57				
	Madeira	1017·3	63	W	5	bc	1017·5	− 1	63	+ 6	W	7	SW	o	5	–	66	57				
	Gibraltar							*					*									
	Malta	*	*	*	*	*	1011·9	+ 1	61	0	–	0	–	m	0	–	64	57				
	Limassol	*	*	*	*	*	1015·3	+ 1	55	− 2	SW	1	–	b	3	–	70	54				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at 7h 54m

Wind at
2700 WSW 12 m/s.
2400 WSW 11
2100 WSW 9
1800 WSW 10
1500 WSW 9
1200 W'S 10
900 W'S 8
600 W'S 8
300 SW'W 6
Surface SW 3

GALES
Duration and Extreme Force in British Islands.

Lerwick: 21st 7h – 22nd 6h SSE 8.
Dungeness: 21st 12h – 16h. S.8; 13h. S 9.
Dover: 21st 14h – 16h SW 8. 15h. SW 10.
Yarmouth: 21st 12h – 13h. S 9.
London (Kew): 21st 12h 20m Gust S 19 m/s.

Line-Squall 21st
S. Farnboro' 13.15. Barometer rose 1 mb. Temperature fell 7.5°. Wind changed to WNW. Slight rain.
Kew. 14.20. Barometer rose Temperature fell 10°. Wind changed from S – WNW.

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	93	95	0 . 0	49	35	30	7	or	o	b d p c
CITY (Bunhill Row)	*	*		*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	91	92	0 . 0	51	37	31	7	or	or m. m	m
CAMDEN SQ. (British Rainfall) ...	100	97	0 . 0	49	35	31	7	or	or . o	*
HAMPSTEAD (Reservoir)	*	96	0 . 0	47	33	25	8	orm	or. bc	bx
S. KENSINGTON (Museum Grounds)	*	88	0 . 0	50	36	36	7	or. od	od. b	b. o p. bc. o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

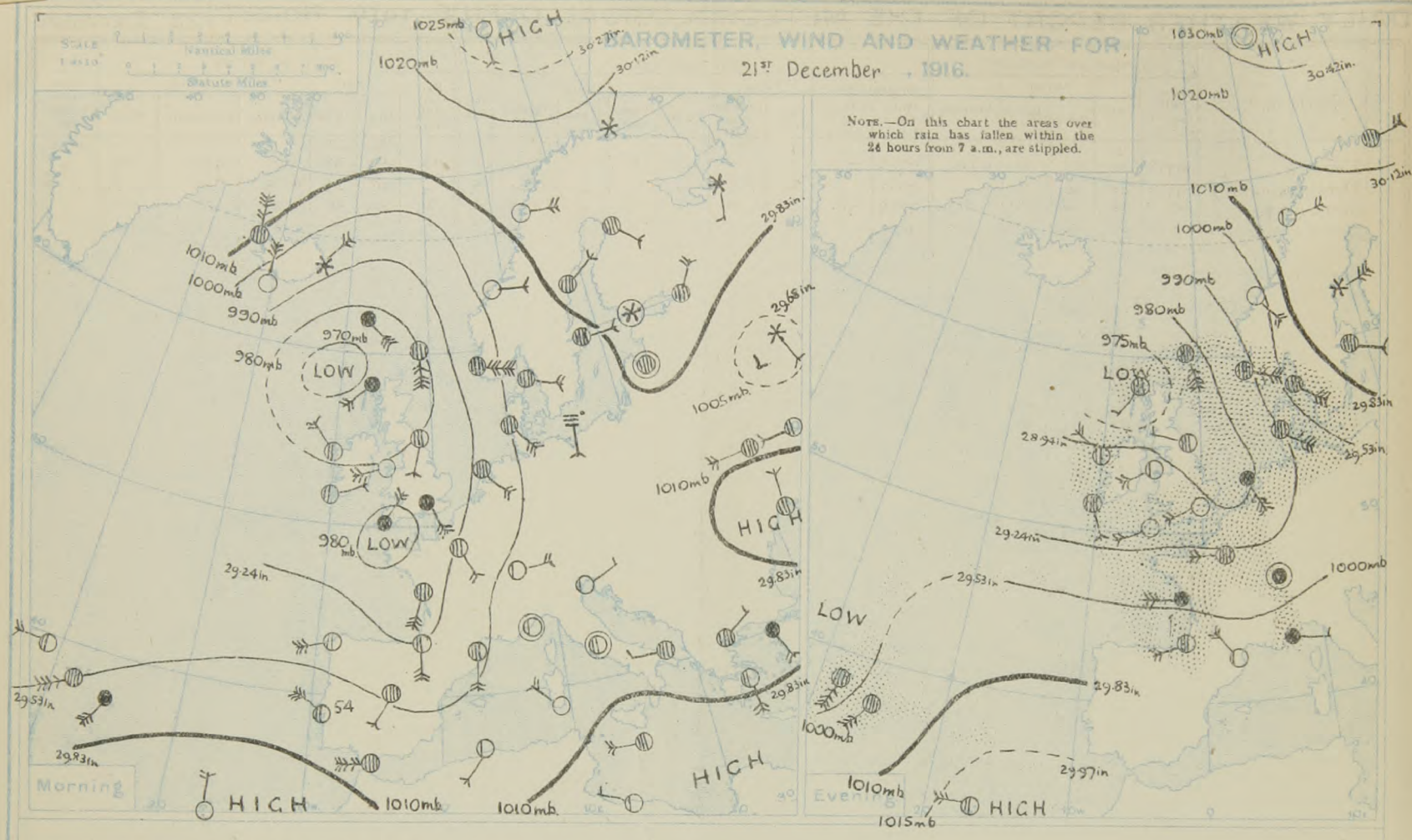
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
36	1·3	10·0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars



FORECASTS FOR THE 24 HOURS NOON FRIDAY TO NOON SATURDAY

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay 11

0 a b, 1, 2 a b, 3, 4 a b, 5 — Moderate Westerly or South-Westerly winds; changeable, showery; temperature rather below normal.

6 a b, 7 a b — Moderate or fresh winds between North-West and West, then decreasing later; changeable, showery; cool.

8 a b, 9 a b, 10 a b — Light or moderate South-Westerly or indefinite winds; changeable, showery; rather cold.

11 — Fresh or strong South-Westerly winds; rough sea; unsettled, some showers.

Millibs 1050 1040 1030 1020 1010 1000 990 980 970

FURTHER OUTLOOK.

R G K LEMPFERT, Superintendent, Forecast Division

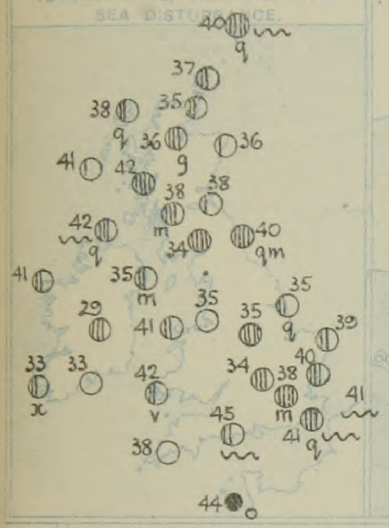
NAPIER SHAW, Director

SYNOPTIC CHART FOR THE MORNING OF FRIDAY, 22nd DECEMBER, 1916.

GENERAL INFERENCE.

No great change in the general conditions is probable.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.



EXPLANATION.

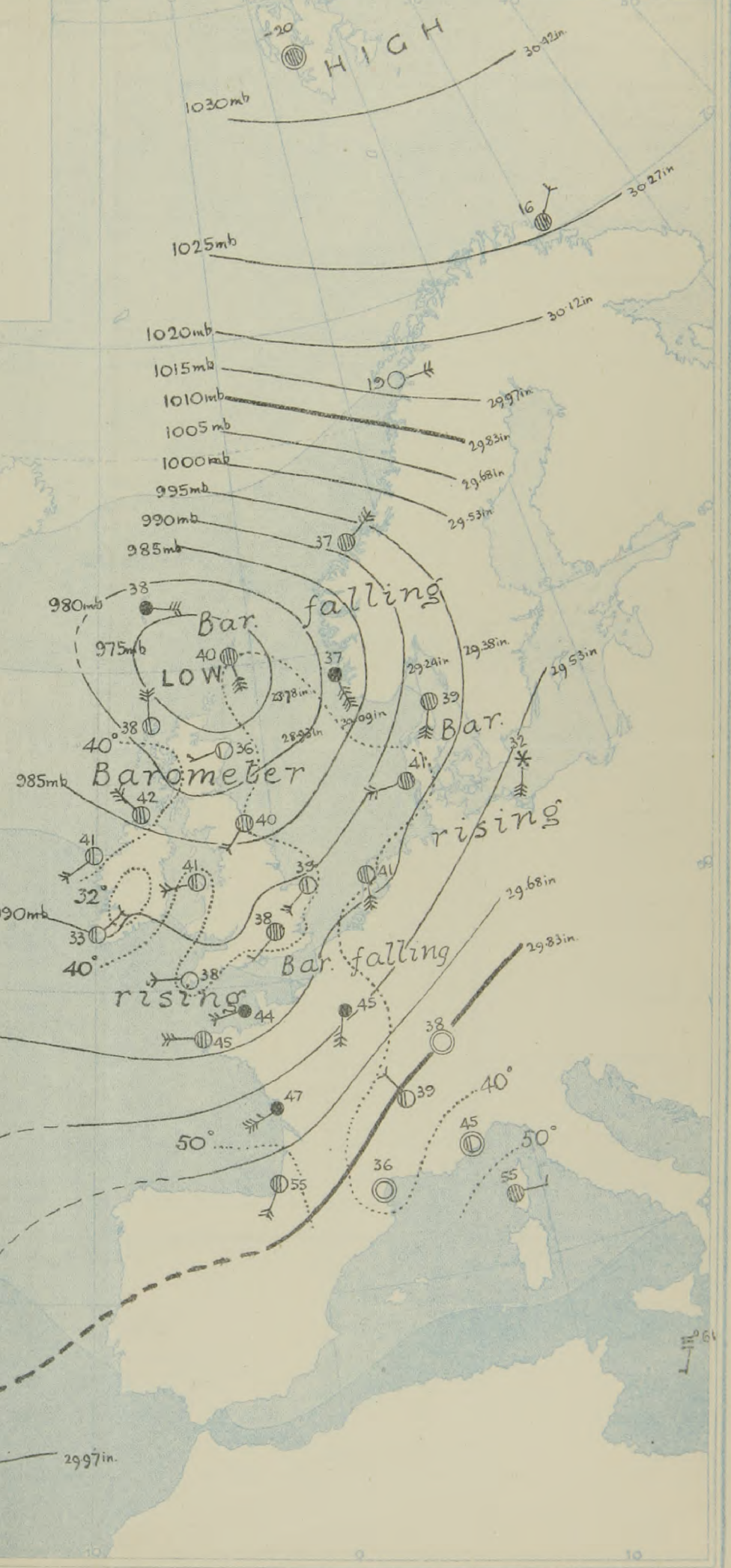
BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ½ clouded. ◔ sky ¼ clouded.
◍ sky ¾ clouded. ◍ overcast sky ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.



Issue No. 20,119 — **DAILY WEATHER REPORT.** — Friday, 22nd December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1010·2		SE	1	0	1013·0	+1	14	+11	S	1	S	-	*	3
	Gorki														*	
	Velieki Luki ...						1006·6	*	16	-12	-	0	0	14	*	14
	Hangö						1011·4	+2	25	0	-	0	S	-	*	23
	Riga						1010·7	+1	21	-7	-	0	0	-	*	19
	Petrograd ...	1009·1	25	E	3	0	1011·6	0	23	0	NNE	3	0	-	25	21
	Moscow	1009·4	12	ENE	3	0	1002·4	+3	14	0	NE	2	S	10	*	10
	Kiev	1001·9	30	WNW	5	0	1009·2	+3	30	-	W	4	0	1	*	27
	Kharkov ...						1007·3	+4	28	-	W	4	bc	6	*	28
	Kishinev ...	1009·0	36	-	0	b	1014·0	+3	28	-	-	0	0	-	*	27
	Elisabetgrad ...	1001·8	37	W	4	b	1013·0	+5	23	-	W	3	b	3	*	28
	Nicolaiev ...	1008·0	37	NW	2	bc	1015·5	*	30	-	WSW	2	bc	-	*	28
	Odessa	1009·9	37	WNW	3	b	1015·8	+2	34	-	N	2	c	-	*	32
	Tarkhankout...	1009·0	45	NE	3	0	1016·3	*	37	-	E	4	0	1	*	36
	Soukhoum ...									-					*	
Mediterranean.	Venice	1008·9	36	-	0	bc	1009·7	*	39	-2	-	0	c	-	46	39
	Pesaro	1001·9	45	W	1	0	1008·7	*	43	+7	WNW	2	0	3	49	36
	Rome	1003·3	55	-	0	0	1007·1	*	52	-6	-	0	bc	6	59	52
	Viesti	1005·2	55	S	1	bc	1005·7	*	55	0	W	1	c	-	59	54
	Brindisi	1005·5	59	SSE	1	0	1001·2	*	55	-4	W	1	0	1	66	52
	Cagliari	1001·4	63	NW	5	0	1009·7	3	59	+2	NW	3	b	4	70	50
	Palermo	1005·8	57	-	0	0	1011·1	*	57	-	ENE	1	c	2	68	57
	Tripoli	1012·1	61	-	0	b	1014·9	*	57	-	-	0	b	-	73	55
	Algiers	1012·7	61	-	0	b	1006·9	+6	59	+4	SW	2	b	-	68	57
Sweden.	Hernösand ...	1014·6	23	N	2	0	1014·0	*	23	-2	NE	2	0	*	*	*
	Stockholm ...	1006·0	?41	E	4	S	1009·3	*	32	-2	E	2	0	*	*	*
	Wisby	1002·7	41	ENE	2	S	1007·9	*	30	-4	E	2	C	*	*	*

Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	1011·0	10	-11	N	9	0
Reykjavik	999·8	18	-9	NW	8	b
Vestmanna	991·4	19	-6	N	5	b
Seydisfjord	995·3	14	-6	NE	4	S
Thorshavn	976·2	40	-3	SE	6	r

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F	F			Hr.
Scotland.	Oban	10	7	43	31	o	bchp	0·2
	Banff	5	-	39	35	bc	bc	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	1	Trace	35	33	om	o.c.bc	0·0
	Skegness	4	15	40	33	or	o	0·0
Eng. N.W.	Morecambe	2	-	39	32			0·0
	Southport	1	-	40	32	o	o.c.bc.b	0·0
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	4	4	44	34	omr	c.bc	0·9
Wales.	Rhyl	1	-	41	35	c.op	o.c	0·4
	Colwyn Bay...	*	*	41	36	c	bc	0·0
	Llandudno	*	*	44	37	o	o.c	0·5
	Aberystwyth	*	*	43	36	r.o.c	c.o	2·0
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft	9	4	48	38	ot	ogt.c	0·0
	Felixstowe	1	4	48	37	org	ogp	0·0
	Walton-on-Naze							
	Southend-on-Sea	6	1	47	32	or	o.c	0·1
England, S.E.	Margate	8	7	49	35	r	c	0·0
	Ramsgate	7	5	52	34	r.o	o	0·0
	Hastings	7	1	49	39	or.o	o.bc	0·0
	Eastbourne	13	1	48	39	or.o	og	0·0
	Seaford	*	*	50	39	r	o	0·0
	Brighton	13	1	50	39	or.o	ocob	0·2
	Worthing	16	Trace	50	38	r.c	bc	0·2
	Littlehampton	2	Trace	49	37	r.o	bc.o	0·5
	Bognor	*	*					
	Bournemouth	38	-	49	39	r	o c	2·0
England. S.W.	Weymouth...	*	*					
	Torquay	29	2	46	34	ors	b.o	1·7
	Paignton	*	*					
	Penzance	2	1	49	40	bc	bc cp	3·0
	Newquay	1	-	46	38	o	o	0·9
	Bude	4	Trace	48	38	o	o	2·5
	Ilfracombe	3	Trace	45	42	r.o.c	c.bc.c	2·8
	Weston-s-Mare	15	8	43	36	rs.c	b bc	2·0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

22nd & 23rd Dec. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8.5 8.5	11.52 11.52	3.39 3.39
Greenwich	8.6 8.6	11.59 11.59	3.52 3.52
Wick	9.14 9.14	12.11 12.11	3.18 3.18
Valencia	8.50 8.50	12.40 12.40	4.30 4.30

NOTES ON YESTERDAY'S WEATHER.

Weather was fair on the East coast, but elsewhere there was a good deal of precipitation, 22 mm. at Benson. A little sunshine was measured at a few stations but generally the day was dull.

No.—The information relating to weather is indicated by the following letters—b blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 358.

Saturday, 23rd December

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp. °F.	Wind: Direc.	Wind: Force 0–12.	Weather.	THIS MORNING: Barometer: Millibars at M.S.L.	Barometer: Change in 3 hours.	Temp.: Dry Bulb. °F.	Temp.: Change in 24 hours. °F.	Wind: Direc.	Wind: Force 0–12.	Direc. of Upper Cloud.	Weather.	Sea 0–9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp.: Max. °F.	Temp.: Min. °F.	Weather: Morning.	Weather: Afternoon.	Weather: Night.	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	976.1	42	SW	8	o	984.9	0	44	+4	SSW	4	S	c	4	3	44	39	omp	op	c	*
	Deerness (Orkney)	981.7	41	W	4	cp	983.7	*	42	+5	S	5	—	o	5	2	43	36	bc cp	c opc	cp.o	o.o
	Stornoway ...	985.4	36	SW	3	c	980.0	+1	40	+2	SSW	6	—	cq	5	5	43	31	cpq	c	or.cq	1.7
	Castlebay (Barra Isd.)	985.0	42	S	4	op	981.6	0	44	+3	SSW	5	—	o	5	2	45	39	b.o.b	b.op	op l c c	1.7
	Glasgow ...	991.3	37	SSW	2	bm	986.0	−3	36	−2	SSE	2	-	og	*	—	41	35	c.b.bcm	bc bm	c bc c o	2.8
	Eskdalemuir ...	993.5	31	S	2	bc	986.8	−4	34	0	SSE	2	—	o	*	5	37	30	o c b	b bc.b	or.rq.o	3.2
	Malin Head ...	984.8	37	SSW	5	cql	983.6	−1	36	−6	S	4	-	og	6	—	43	35	bc	bcq	og	1.2
	Blacksod Point	985.3	42	S	8	bcqp	987.1	0	37	−4	NW	4	NW	cq	5	5	44	35	cphrl	bc.op	bcp.cg	*
	Valencia ...	991.4	43	S	3	bc	990.3	+5	42	+9	NW	5	—	bc	*	8	46	32	bc.c.b	b.bc	c or c	3.1
	Roche's Point	994.6	45	WSW	3	bc	988.1	*	38	+5	WNW	3	—	r	4	4	46	31	bbc.b	op.bc	or	*
	Birr Castle ...	991.6	36	S	1	c	986.8	*	35	+6	W	1	—	r	*	3	40	27	c	cp	c or	4.0
	Donaghadee ...	990.9	37	SW	3	bcm	985.9	−3	36	+1	SW	2	—	cqm	1	—	40	32	bcm	bcm	bcnl	*
	Liverpool (Bidston)	996.3	36	S	2	b	986.3	−9	35	0	SE	1	—	og	2	1	41	34	b	b	b.or	5.9
	Holyhead ...	994.6	44	SW	5	bqg	985.0	−4	40	−1	SSE	2	—	orm	2	14	46	40	x. bc	bc.b	b l orm	5.2
	Pembroke (St. Ann's)	996.8	46	SW	3	cr	984.9	−5	37	−5	rr	2	—	or	3	5	46	36	bcpr	bv bcv	bcp op	3.1
	Scilly (St. Mary's)																					
	Falmouth ...	999.2	39	WSW	1	bc	983.3	+3	38	0	NW	4	-	od	*	17	48	37	b .bc	b.bcz	bcr.d.c	5.0
	Jersey (St. Aubin)	1002.2	48	SW	3	c	983.9	*	54	+10	SSW	5	-	ogu	4	13	54	43	r.o.b.bc	c.bc	ogru	5.3
	Portland Bill ...	999.6	44	W	3	b	978.3	−8	45	v	SW	4	-	or	5	10	48	40	c.bc	bc	bc.or	*
	Dungeness ...	999.8	43	WSW	3	b	979.9	−21	52	+11	SSW	10	—	o	8	20	52	41	r. bc	bc	r.c.r.o	*
	Dover	1001.5	41	W	2	b	981.1	−11?	51	+10	SSW	8	SW	r	7	18	51	35	op r c	c.bc.b	b.ord	2.1
	Wick	984.1	35	W	3	bc	983.5	−2	41	+6	S	5	—	bc	4	1	43	32	bcp	bcp	bcm	*
	Nairn	987.2	36	W	1	c	983.9	*	37	+1	W	1	—	bc	1	0.2	39	30	cd .bc	bc	bc.c	3.5
	Aberdeen	988.2	36	SW	3	b	986.8	−2	40	+4	S	2	—	op	3	0.1	41	32	bcz.b	bc.b	b.op	3.2
	Leith	990.8	37	S	1	b	986.6	−3	37	−1	SE	2	—	r	3	1	41	35	bm bc c	c bc b	bc c or	*
	Tynemouth ...	993.6	40	WSW	2	bm	988.7	−4	35	−5	SSW	2	—	ogm	3	—	43	35	bcm	bcm	gm	*
	Spurn Head ...	996.9	36	SW	5	bc	988.0	−2	37	+2	SW	4	—	or	4	1	39	34	bc	bcm	bc.or	2.0
	Yarmouth ...	998.4	37	WSW	2	bc	986.4	−15	41	+2	SE	7	—	omqr	6	3	41	32	bc o	bc o	bcm bm	1.7
	Clacton-on-Sea	999.6	38	W	2	b	982.1	−11	43	+3	ESE	6	—	r	5	7	43	36	c.bc	bc c.b	b.qrs	0.0
	Nottingham ...	997.8	33	SW	1	bmx	985.1	*	34	−1	NE	3	NE	s	*	7	36	29	o.cm	c.bmx	bx	0.0
	Benson (Oxon.) ...	999.8	30	SW	1	b	978.9	−18	36	+2	NNE	3	—	r	*	12	42	29	c.bc	b	bc.or	*
	Sth Farnborough	1000.0	33	—	0	b	978.5	−17	40	+4	—	0	—	or	*	11	45	32	op.o.b.c	bc b	b or	3.6
	London (Kew Obsy.)	1001.0	38	SW	2	b	978.7	−22	41	+3	E	5	—	omr	*	8	44	31	o.cm.cg o	o.b	bkx.omr	2.6
NORTHERN EUROPE.	Spitsbergen ...	1020.3	19	SSE	10	s	1016.4	+1	12	+32	SSE	8	*	o	*	*	19	−20				
	Vardö	1027.8	14	—	0	o	1029.2	o	16	o	N	2	—	m	3	*	21	14				
	Bodö	1013.3	18	E	7	b	1008.0	−1	18	−1	ESE	8	—	o	4	—	19	10				
	Christiansund ...	989.5	41	ESE	5	D	993.7	+1	43	+6	SSE	4	—	c	4	—	43	30				
	Skudesnaes ...	987.1	39	SSE	8	r	1993.7	o	39	+2	S	3	—	b	5	18	41	36				
	Færder (Christiania Fjord)	997.2	37	SE	6	o	999.1	+4	37	+3	SE	4	—	m	3	1	41	34				
	The Scaw (Skagen)	997.0	39	S	3	o	999.0	+2	36	+3	SSW	2	—	m	2	Trace	39	33				
	Blaavands Huk	994.9	37	S	2	o	999.5	o	37	−4	SSE	1	—	o	1	1	41	36				
	Copenhagen ...	999.1	39	SSW	2	o	1001.2	+3	36	−3	NW	1	—	f	*	4	39	34				
	Bornholm ...	1001.5	37	S	4	m	1000.2	+5	36	+4	WNW	7	—	m	2	7	37	32				
FRANCE, &c.	The Helder ...	997.9	41	WSW	3	c	993.0	−12	37	−4	SE	2	—	o	2	2	43	36				
	C. Gris Nez ...	1000.3	45	WSW	5	b	983.4	−21	48	+7	S	8	*	r	8	19	48	41				
	La Hève	*	46	WSW	5	c	*	*	53	+13	SW	6	*	o	5	31	53	40				
	Brest (St. Mathieu)	1001.9	48	W	4	c	986.0	+1	52	+7	WNW	8	*	o	8	14	52	33				
	Rochefort (Ile d'Aix)	1007.9	49	WSW	2	f	1001.2	o	54	+7	SW	7	*	r	*	12	58	47				
	Biarritz	1009.6	60	SE	4	o	1007.0	o	63	+8	SSW	5	*	b	3	—	63	55				
	Paris	1006.1	44	SSW	2	b	994.0	−4	55	+10	SSW	6	—	o	*	14	54	37				
	Belfort	1009.3	45	WSW	7	o	1007.8	*	46	+8	SW	6	*	r	*	2	46	38				
	Lyons	1013.2	48	S	3	o	1010.3	*	48	+9	S	2	*	r	*	1	50	39				
	Nice	1016.4	45	E	2	c	1017.3	+1	46	+1	E	1	*	o	4	Trace	54	36				
	Perpignan ...	1015.1	48	—	0	b	1012.8	+1	48	+12	NE	1	—	o	*	—	57	37				
	Sanguinaire ...	1018.6	57	E	3	bc	1020.6	*	51	−4	E	4	*	o	4	—	57	33				
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	995.5	*	SSW	6	c	996.4	−2	59	−2	SSW	7	*	o	4	13	63	55				
	Madeira	1018.0	63	WSW	6	r	1018.4	o	63	o	WSW	6	SW	r	4	1	66	63				
	Gibraltar							*					*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1014.7	+2	57	+2	—	0	—	c	2	Trace	72	55				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands.

Blacksod Point
22nd 14h – 20h. S.8.

Eskdalemuir
22nd 23h Gust S 18 m/s

Dungeness
23rd from 5h. S 8
7h SSW 10

Dover
23rd 7h SSW 8

LONDON OBSERVATIONS.

	Humidity: 15 h. Yesterday. %	Humidity: 9 h. To-day. %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day. Temperature. Max. °F.	Min. °F.	Min. on Grass °F.	Rainfall. mm.	Weather. Morning.	Afternoon.	Night.
GREENWICH (Royal Observatory)	79	99	1.6	50	32	26	10	c	c bc	bx o.or
CITY (Bunhill Row)	*	*	0.0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	84	99	0.3	45	36	29	12	bc	bc	c.d.m.rm
CAMDEN SQ. (British Rainfall) ..	85	100	0.3	44	35	28	11	o	c. bc	*
HAMPSTEAD (Reservoir)	*	95	1.0	44	34	22	11	c	bx	orm
S. KENSINGTON (Museum Grounds)	*	96	0.3	46	37	28	10	omadbc	bc.b	bc dp.or
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

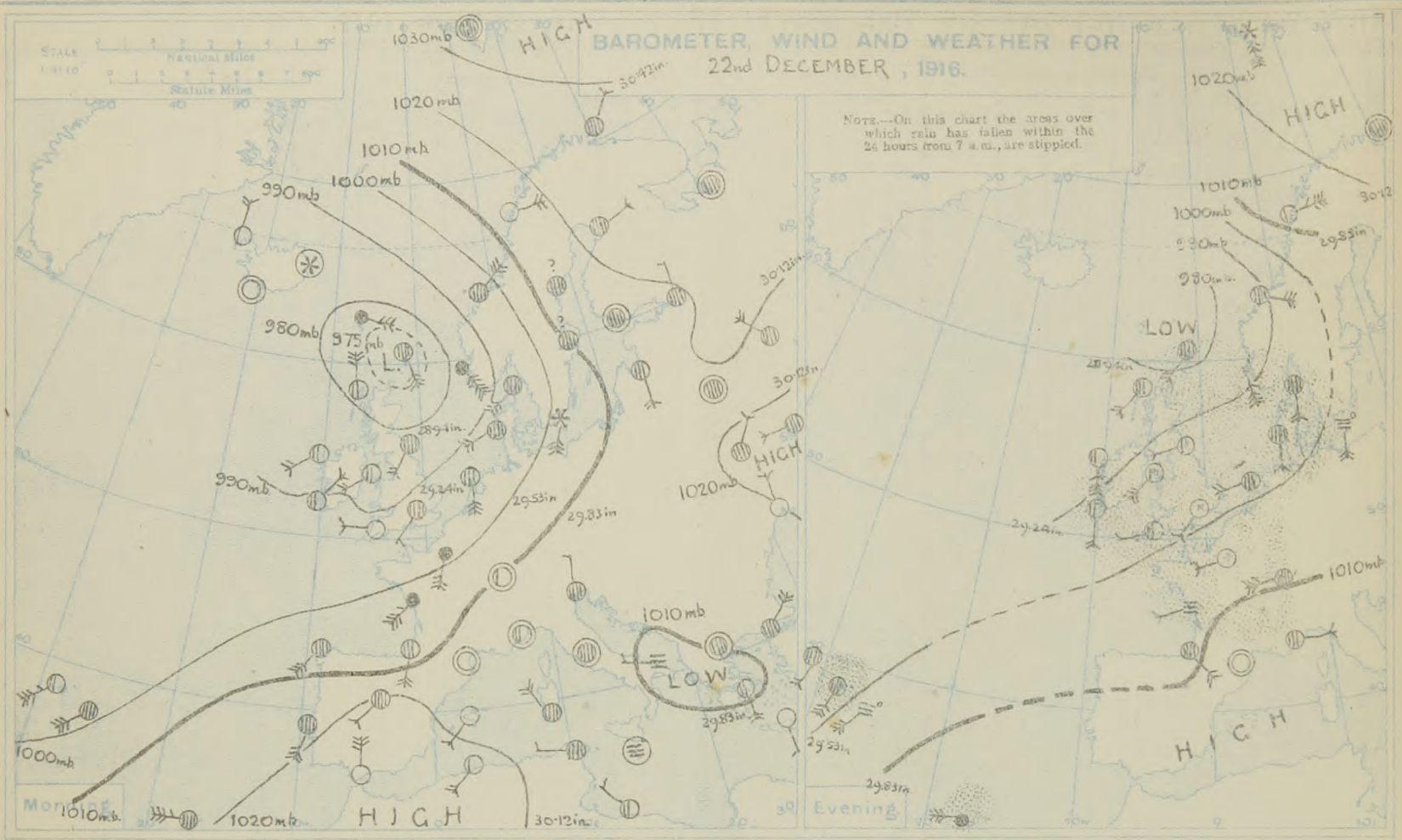
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
134	4.8	15.0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

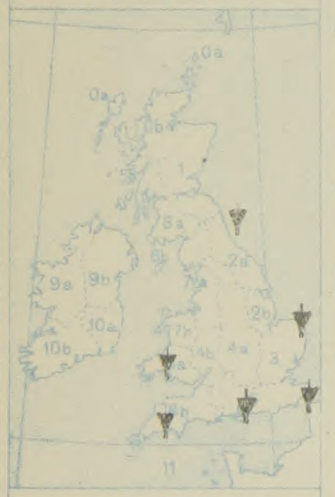
* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 22nd DECEMBER, 1916.



FORECASTS FOR THE 24 HOURS NOON SATURDAY TO NOON SUNDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

South Cone Hoisted in Districts 5 & 8 @ 3.9h. & in District 2 & 3 @ 6.15h.

Western Channel and Bay

0 a, b; 1 — Moderate Southerly winds, backing East later; unsettled, some rain; normal temperature.

2 a, b — Freshening E. winds, backing North later; some cold precipitation; rather cold.

3 — Indefinite winds, becoming strong to a gale North or North-West, moderating later; some cold precipitation, then improving; cold.

4 a, b — Same as No. 2.

5 — Westerly or North-Westerly gales; some cold precipitation, improving later and wind moderating; rather cold.

6 a, b — Fresh Southerly winds, moderating; unsettled, some rain; normal temperature.

7 a, b; 8 a, b; 9 a, b; 10 a, b — Northerly or North-Westerly winds, increasing decidedly; unsettled, showery; rather cold.

11 — West or South-West gales; moderating later; high sea; unsettled, some rain.

Millibars: 1050, 1040, 1030, 1020, 1010, 1000, 990, 980, 970

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF SATURDAY, 23rd DECEMBER, 1916.

GENERAL INFERENCE.

The depression over the South of England will move across to the North Sea.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit.
Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
○ clear sky. ◐ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky ⦿ rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈.

1015mb 1020mb 1025mb 1010mb 1005mb 1000mb 995mb 990mb 985mb 980mb

HIGH

LOW

Barometer falling

Barometer falling briskly

1000mb

1005mb

1010mb

1015mb

1020mb

29.97in. 30.12in. 29.83in. 29.66in. 29.53in. 29.38in. 29.24in. 29.09in.

Normal Temperature of the Sea

Below 40° 40-50° 50-60° above 60°

Scale of Tints for DECEMBER

Issue No. 20,120 — DAILY WEATHER REPORT. — Saturday, 23rd December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.						
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	10200	12	SE	1	0	1022·1	+1	12	-2	-	0	0	-	*	10
	Gorki	10080	9	-	0	b	101914	+1	12	...	-	0	0	-	*	12
	Velieki Luki ...	10153	16	E	2	b	10215	*	19	+3	SW	2	0	-	*	16
	Hangö	...	...	...	...	...	101814	0	19	-6	-	0	0	-	*	3
	Riga	10173	23	S	1	0	10195	0	21	0	S	3	c	-	*	19
	Petrograd ...	10163	21	N	2	0	10198	+2	23	0	N	2	0	-	25	21
	Moscow	10078	12	NNW	2	0	10162	+1	10	-4	NNW	3	0	b	*	7
	Kiev	10175	27	W	2	0	10220	+1	21	-9	NE	2	0	-	*	19
	Kharkov ...	10189	23	W	3	b	1021·1	+3	12	-16	W	2	0	-	*	9
	Kishinev ...									...					*	
	Elisabetgrad ...	10181	30	NW	2	c	10220	+1	21	-7	NNW	1	b	-	*	21
	Nicolaiev ...	10162	28	-	0	b	10202	*	25	-5	N	2	b	-	*	23
	Odessa	10173	37	ESE	3	0	10195	+2	32	-2	E	3	b	-	*	32
	Tarkhankout...	10160	37	ESE	4	bc		*		...					*	
	Soukhoum ...									...					*	
Mediterranean.	Venice	10047	37	-	0	b	10137	*	39	0	N	1	0	Trace	43	33
	Pesaro	10106	39	-	0	b	10147	*	41	-2	-	0	r	-	46	37
	Rome	10104	50	-	0	b	10111	*	54	+2	E	1	0	-	58	38
	Viesti	10106	54	WNW	2	b	10124	*	52	-3	-	0	0	-	61	50
	Brindisi	10082	59	W	3	b	10086	*	59	+4	W	1	f	-	66	55
	Cagliari	10094	64	SSE	4	0	1011·1	*	57	-2	NW	4	0	3	70	45
	Palermo	10110	59	-	0	0	10122	*	55	-2	-	0	0	-	66	46
	Tripoli	10129	61	W	1	b	10133	*	67	+10	NW	2	b	-	67	57
	Algiers	10107	61	W	5	b	1021·2	+4	57	-2	SW	3	b	Trace	72	54
Sweden.	Hernösand ...	1017·1	25	ENE	6	s	1017·2	*	25	+2	...	...	0	*	*	*
	Stockholm ...	10126	32	ESE	2	0	10100	*	34	+2	...	...	0	*	*	*
	Wisby	10101	30	ESE	2	b.	10060	*	34	+4	...	...	0	*	*	*

Morning. Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.
		°F	F			
Isafjord ...	9866	16	+6	N	3	b
Reykjavik	9856	12	-6	N	2	c
Vestmanna	9867	16	-3	-	0	b
Seydisfjord	9839	30	+11	-	0	s
Thorshavn	9779	38	-2	ESE	5	r

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	6	-	44	38	o	b.o	2·9
	Banff	-	-	40	31	bc.b	bc	3·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	-	-	41	32	bx	bx	2·9
Eng. N.E.	Harrogate	-	-	40	32	bc.cv	c.bc.b	1·3
	Skegness	-	-	37	32	b	b	1·0
Eng. N.W.	Morecambe	Trace	-	44	32	...	...	5·5
	Southport	-	-	43	33	bc.c bc	bc.b	2·3
Midlands.	Leamington Spa							
	Malvern	6	-	40	35	bc	bc.b	2·0
	Ross-on-Wye	-	-	43	31	bc	b.bc	2·7
Wales.	Rhyl	-	-	43	32	o.c	c.bc	5·0
	Colwyn Bay...	*	*	42	35	bc	bc	4·2
	Llandudno	*	*	44	39	bc	bc	5·0
	Aberystwyth	*	*	45	34	r.o.c	bc.o	2·5
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England. E.	Lowestoft	Trace	-	40	34	c.o.c.	c.bc.	1·4
	Felixstowe	Trace	-	42	36	o.bc	bc.m.	0·6
	Walton-on-Naze							
	Southend-on-Sea	-	-	44	37	o.c.bc	c.bc.b	0·7
England. S.E.	Margate	1	2	49	37	or c	c.bc.b	0·5
	Ramsgate	1	3	43	35	r.o.c	bc	1·3
	Hastings	16	2	47	39	or.c	bc.b	3·2
	Eastbourne	14	2	47	39	oqr	bc	2·6
	Seaford	*	*					
	Brighton							
	Worthing	14	-	46	38	bc.b	b	3·5
	Littlehampton							
	Bognor	*	*					
	Bournemouth	6	-	47	37	b	b	6·5
England. S.W.	Weymouth..	*	*	47	36	bc.b	b	6·1
	Torquay							
	Paignton	*	*					
	Penzance	4	Trace	50	39	bc	qp	5·3
	Newquay	5	Trace	47	37	bc	bc	3·4
	Bude	6	1	47	37	bc	bc	2·5
	Ilfracombe	5	3	44	38	r.o.c	bc.c	3·0
	Weston-s-Mare	-	1	45	38	bcpc	b	3·0

Table showing the Greenwich Times of Sunrise Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

23rd & 24th Dec. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	8.5 / 8.6	11.52 / 11.53	3.39 / 3.40.
Greenwich	8.6 / 8.7	11.59 / 12.0	3.52 / 3.53
Wick	9.4 / 9.5	12.11 / 12.12	3.18 / 3.19
Valencia	8.50 / 8.51.	12.40 / 12.41	4.30 / 4.31.

NOTES ON YESTERDAY'S WEATHER.

Rain fell generally, heavily in the South. Sunshine measurements were fair in most parts and ranged up to 6·5 hours at Bournemouth.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 359.

Sunday. December 24th

	STATIONS.	YESTERDAY EVENING					THIS MORNING.								PAST 24 HOURS.					Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F.					‡	°F.	°F.							°F.	°F.				Hours.
BRITISH ISLANDS.	Lerwick ...	985·6	42	S	4	o	991·6	+2	42	-2	SW	4	-	o	3	6	44	39	oqplt	or	o	*
	Deerness (Orkney)	985·4	40	SSW	3	c	991·9	*	37	-5	WNW	2	-	bc	3	3	43	35	opo	oc	cpbc	0.0
	Stornoway ...	983·5	35	SW	6	orq	995·0	+2	36	-4	SW	4	-	b	4	3	41	33	cbc	bcorq	bcpbq	2.8
	Castlebay (Barra Isd.)	986·9	45	WSW	2	c	996·3	0	44	0	S	5	-	o	5	4	44	37	ohpbc	bcopc	chpco	1·9
	Glasgow ...	989·1	34	W	1	bcm	1001·4	+3	37	-1	SSW	2	-	b	*	3	37	32	oursp	oupcm	cbbcx	0·0
	Eskdalemuir ...	989·7	33	WSW	3	bc	1003·3	+5	28	-6	SSW	2	-	b	*	5	35	26	odoms	omsoc	b	0·0
	Malin Head ...	987·6	35	W	2	bc	998·2	0	38	+2	SW	5	SW	bcm	5	2	42	35	bcqph	bc	m	2.0
	Blacksod Point	996·1	41	W	7	bc	999·3	0	44	+7	SW	4	SW	cg	3	1	44	35	bcqph	bcqph	bcpcq	*
	Valencia ...	1002·4	44	W	5	cpq	1006·4	0	44	+2	SSW	4	SW	bc	*	5	46	37	cbcpsq	cpq	bccp	1·5
	Roche's Point	1002·3	39	W	3	b	1004·1	*	44	+6	NW	3	-	b	3	1	44	36	cq	cpqb	b	*
	Birr Castle ...	998·2	38	W	2	c	1004·3	*	40	+5	S	2	-	c	*	2	40	33	orsc	cps	c	0·0
	Donaghadee ...	989·0	35	W	4	bcmps	1003·5	0	36	0	W	3	W	cgm	2	Trace	40	32	cgm	bcm	bcmps	*
	Liverpool (Bidston)	995·0	34	W	6	o	1006·4	+2	37	+2	SW	3	-	b	3	9	43	34	os	or	oqb	0·0
	Holyhead ...	998·2	39	WNW	7	bqq	1005·5	-1	43	+3	SW	4	-	bc	3	11	44	37	onmp	opcbc	orbbc	0.7
	Pembroke (St. Ann's)	999·5	42	WNW	6	cq	1008·9	+4	47	+10	W	5	NW	bcq	5	5	48	38	orcqp	cq	bcq	1·5
	Scilly (St. Mary's)	1005·8	47	SSE	6	o	1010·6	+3	46	-1	WNW	6	NW	c	6	10	49	42	c	ov	omr	0·1
	Falmouth ...	1005·0	49	W	5	bc	1012·9	+1	42	+4	WSW	3	-	b	*	4	44	37	dbcpq	bcphq	bcpbq	2·1
	Jersey (St. Aubin)	1004·2	48	W	7	oqp	1014·7	*	46	-8	SW	4	SW	c	3	2	56	41	oguqp	bcqph	bc	1·6
	Portland Bill ...	1000·6	43	WNW	7	bcq	1011·7	+3	47	+2	WSW	6	W	b	6	1	49	40	cp	cp	bbc	*
	Dungeness ...	994·3	41	W	6	b	1009·9	+4	41	-11	WSW	5	W	b	5	1	52	40	rc	oc	bcbc	*
	Dover	996·4	40	W	4	b	1010·1	+4	36	-13	WSW	3	-	b	4	1	51	36	opre	cbcb	b	0·0
	Wick	985·1	37	SSW	2	bc	996·4	+5	34	-17	SSW	2	-	b	1	-	42	32	bccg	qbcm	bcx	*
	Nairn	986·4	32	-	0	c	997·4	*	32	-5	-	0	-	bc	1	-	39	29	oc	cbc	bc	0·0
	Aberdeen	987·5	37	SSW	1	omd	999·0	+4	32	-8	SW	2	-	b	2	1	40	30	obm	omd.	odbcb	0·0
	Leith	988·6	35	SW	1	bc	1000·1	+3	37	0	SW	2	SW	b	2	5	38	32	r	dmgoc	bcmbb	*
	Tynemouth ...	987·5	35	WNW	2	omr	1002·8	+5	36	+1	W	3	-	bm	3	9	36	31	fr	fr	bm	*
	Spurn Head ...	986·8	38	N	7	o	1005·8	+6	37	0	W	4	-	bc	4	15	39	33	or	soq	oqr	0·0
	Yarmouth ...	986·4	35	NW	7	r	1005·8	+7	37	-4	NNW	4	-	bqm	5	10	48	35	omqr	omqr	omqb	0·0
	Clacton-on-Sea	990·6	39	W	6	o	1009·1	+4	35	-8	WNW	2	-	b	2	3	47	35	oggr	og	ogbcb	0·0
	Nottingham ...	991·9	36	W	4	o	1007·6	*	34	0	W	1	-	b	*	9	39	33	r	sr	sro	0·0
	Benson (Oxon.) ...	996·2	36	WSW	3	b	1010·1	+4	36	0	SSW	3	r	b	*	3	39	32	rso	bc	b	*
	Sth Farnborough	997·5	37	W	4	b	1010·3	+4	35	-5	W	3	-	b	*	2	40	34	mrsr	rob	b	0·1
	London (Kew Obsy.)	995·9	39	W	4	b	1010·8	+5	36	-5	SW	2	-	bx	*	3	42	36	b	bx	bx	0·0
NORTHERN EUROPE.	Spitsbergen ...	1012·7	27	NW	5	o	1012·4	+2	25	+13	N	5	*	c	*	*	25	-8				
	Vardö	1027·8	16	-	0	o	1027·0	0	14	-2	SW	2	-	bc	3	*	18	10				
	Bodö	1008·7	19	ESE	9	c	1009·2	0	18	0	ESE	9	-	b	4	-	19	14				
	Christiansund ...	996·0	39	SE	4	b	996·6	+1	46	+3	SE	4	-	b	4	-	46	32				
	Skudesnaes ...	989·9	37	SSE	3	o	994·4	+4	37	-2	NE	4	-	o	4	-	41	36				
	Færder (X'tania Fjord)	995·3	34	ENE	6	o	990·0	+2	30	-7	NNE	8	-	s	3	?	37	30				
	The Scaw (Skagen)	992·3	37	ESE	3	o	981·9	+3	36	0	NE	8	-	r	8	8	39	36				
	Blaavands Huk	978·0	34	E	7	s	983·9	+20	37	0	NNW	6	-	o	9	7	39	30				
	Copenhagen ...	989·6	37	SE	5	r	969·9	-10	37	+1	SW	5	-	r	*	10	41	36				
	Bornholm ...	994·4	37	SE	5	r	980·2	-8	37	+1	SW	10	-	r	2	10	43	34				
FRANCE, &c.	The Helder ...	976·4	43	WSW	9	r	1003·5	+10	41	+4	W	7	-	bc	4	16	50	41				
	C. Gris Nez ...	992·8	47	WSW	9	bc	1010·1	+8	44	-4	W	7	*	b	7	1	52	43				
	La Hève	?	43	WSW	8	r	?	*	45	-8	WSW	5	*	bc	5	11	53	43				
	Brest (St. Mathieu)	1008·6	46	NW	7	bc	1015·7	0	47	-5	S	2	*	bc	5	-	55	41				
	Rochefort (Ile d'Aix)	1011·9	50	WNW	6	bc	1017·1	0	42	-12	ESE	3	*	c	*	2	55	41				
	Biarritz	1014·6	55	SW	3	r	1014·7	0	47	-16	E	3	*	r	3	13	66	46				
	Paris	1003·8	45	WSW	4	b	1016·4	+3	34	-21	SSW	2	-	b	*	trace	57	34				
	Belfort	1003·1	55	SW	8	o	1020·4	*	34	-12	WSW	3	*	b	*	1	55	32				
	Lyons	1010·7	52	S	2	o	1020·0	*	43	-5	-	0	*	bc	*	2	56	40				
	Nice	1015·1	49	-	0	o	1012·0	0	53	+7	-	0	*	b	3	-	53	46				
	Perpignan ...	1014·4	47	-	0	bc	1015·9	+2	50	+2	W	1	-	o	*	-	55	45				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna	1013·5	50	N	2	o	1007·8	-2	61	+2	SW	5	-	o	4	21	61	48				
	Madrid	1018·7	53	SW	1	o	1020·6	-4	51	+3	W	1	W	c	*	5	53	50				
	Lisbon	1017·5	59	SSW	5	r	1017·5	0	59	-2	SSW	4	-	o	7	1	61	59				
	Azores (Horta) ...	996·4	*	SSE	5	bc	995·8	+1	56	-3	NW	3	*	bc	3	39	64	55				
	Madeira	1017·3	64	WSW	6	bc	1013·6	-2	66	+3	WSW	4	S	c	4	-	68	48				
	Gibraltar							*					*									
	Malta	*	*	*	*	*	1020·3	+1	55	-4	W	2	-	bc	1	-	63	55				
	Limassol	*	*	*	*	*	1013·0	+1	55	-2	E	1	-	bc	4	-	73	52				
	Alexandria ...	1013·0	66	-	0	b	1013·6	+2	61	+2	SW	2	-	b	0	-	75	55				
	Cairo (Helwan) ...	1012·6	68	SSE	2	b	1014·7	+3	55	-4	-	0	-	b	*	-	75	52				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands

Dungeness 23rd
SSW-S 8 7h-17h.
Spurn Head 23rd.
NW 8 19h-22h

LONDON OBSERVATIONS.	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	88	87	0·0	47	36	30	5	or	or	c. bx
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	90	95	0·0	47	36	30	2	or	or	bm. bc
CAMDEN SQ. (British Rainfall) ...	100	94	0·0	45	35	30	2	or	o	*
HAMPSTEAD (Reservoir)	*	97	0·0	44	32	25	2	orm	or bc	bc.x
S. KENSINGTON (Museum Grounds)	*	91	0·0	45	37	30	2	or	or	od. bc. b
RICHMOND PARK	*	*		*	*	*	*	*	*	*

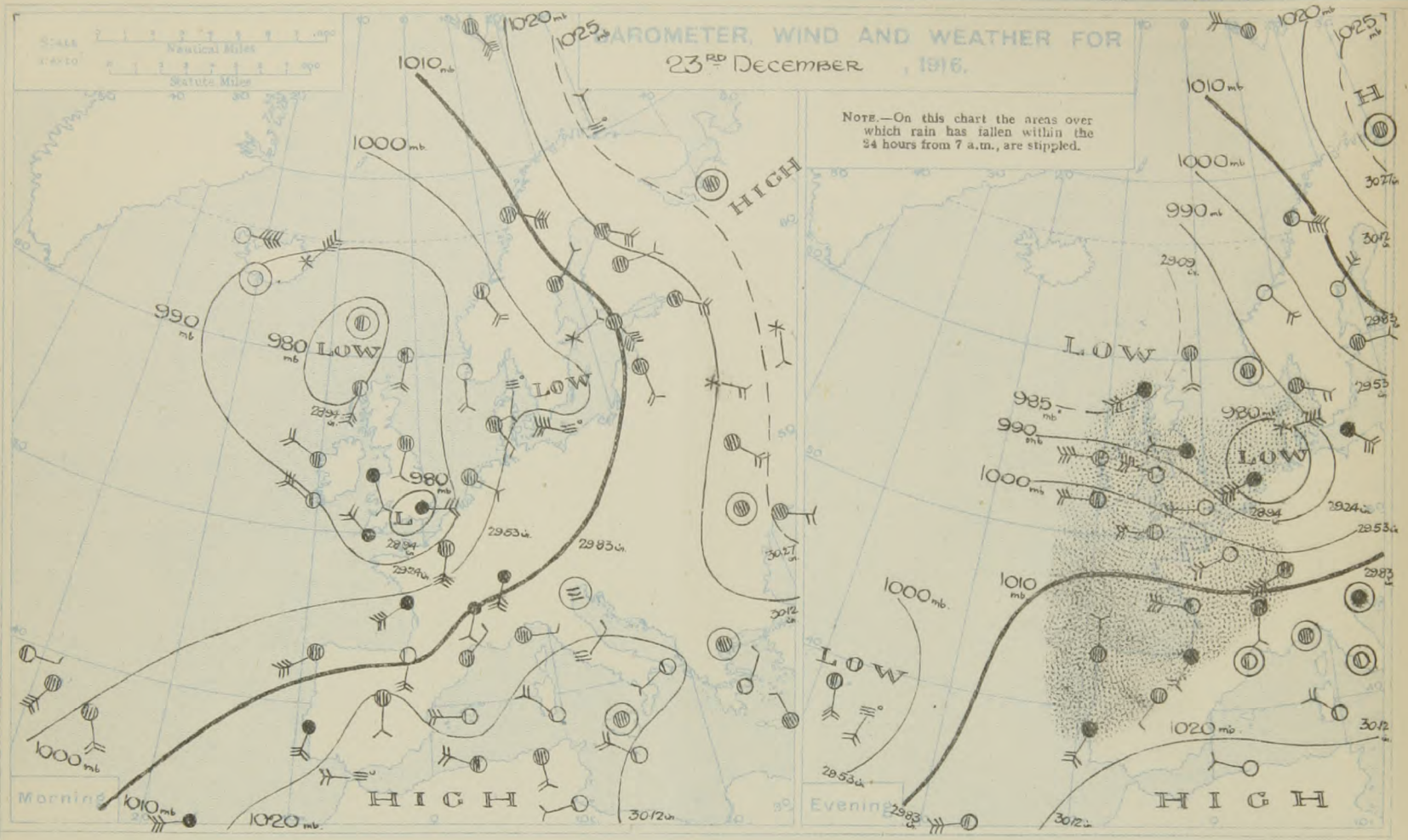
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
68	2·4	5·0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

BAROMETER, WIND AND WEATHER FOR 23RD DECEMBER, 1916.



FORECASTS FOR THE 24 HOURS NOON SUNDAY TO NOON MONDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

0a, 0b, 1	Moderate South-Westerly or Southerly winds; fair, but some showers; normal temperature.
2a, 2b, 3, 4a, 4b, 5	Moderate South-Westerly winds; fair to-day, less settled to-morrow; normal temperature.
6a, 6b, 7a, 7b, 8a, 8b, 9a, 9b, 10a, 10b	Moderate to fresh South-Westerly or Southerly winds; fair at first, less settled later; normal temperature.
Western Channel and Bay 11	Moderate to fresh Southerly or South-Westerly winds in Western Channel, moderate Southerly or South-Easterly in Bay; moderate or rather rough sea; fair, some showers.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

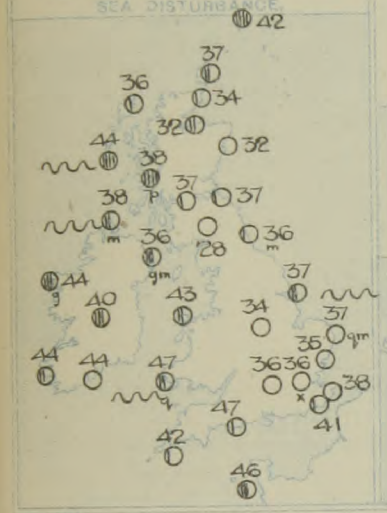
NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF Sunday, 24th DECEMBER, 1916.

GENERAL INFERENCE.

The depression over Denmark is moving away eastward but further depressions from the Atlantic are likely to affect the British Isles.

TEMPERATURE, WEATHER AND SEA DISTURBANCE



EXPLANATION.

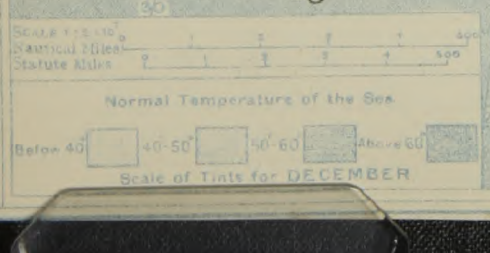
BAROMETER.—Isobars are drawn for intervals of five millibars.

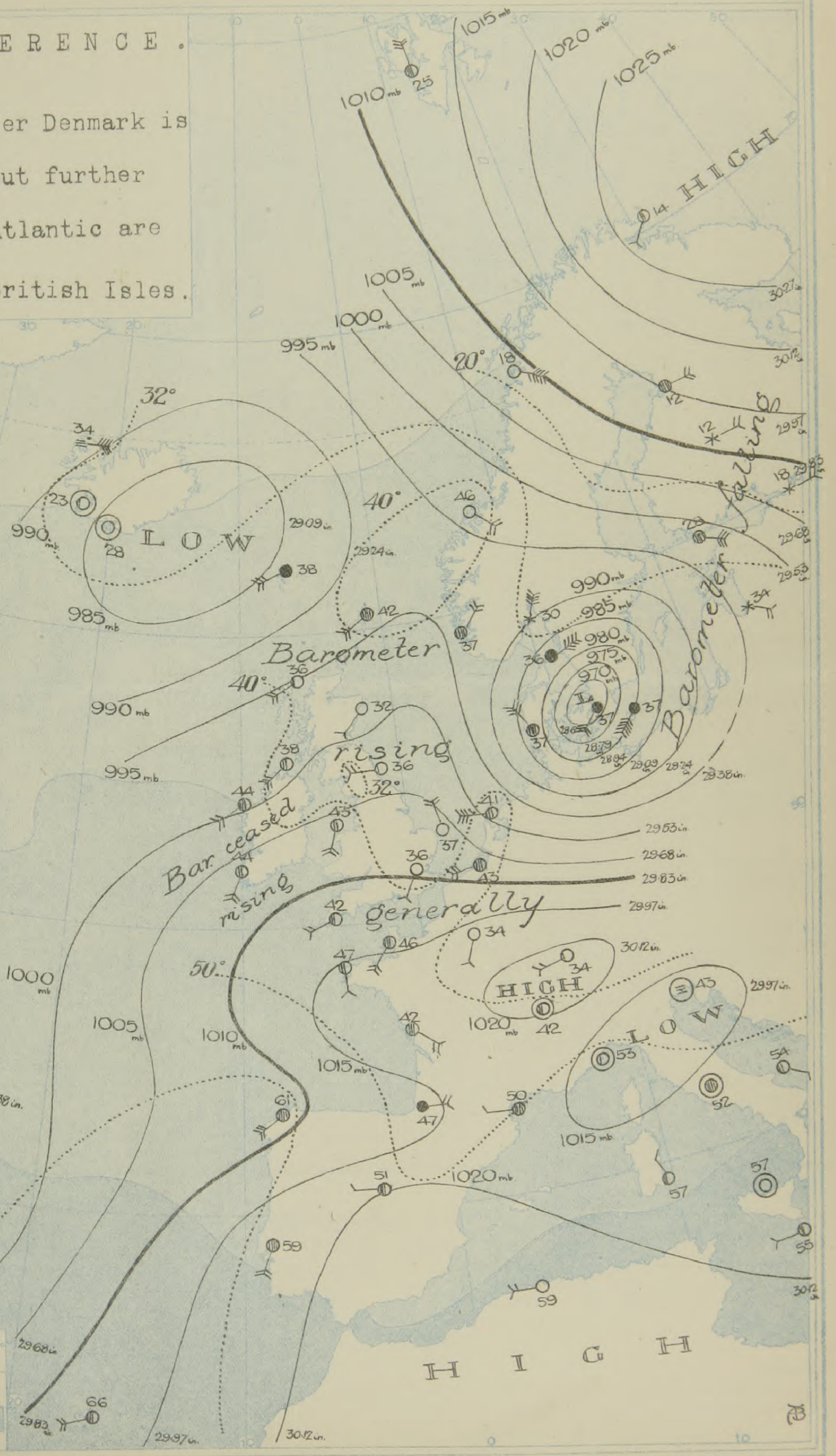
WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ½ clouded. ◐ sky ½ clouded. ◍ sky ¾ clouded. ◍ overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊤↯, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈.





Issue No. 20,121

DAILY WEATHER REPORT.

Sunday 24th December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.						°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...						1026·9	0	10	−2	—	0	0	—	*	9
	Gorki	1022·9	14	S	1	0	1020·0	+1	16	+4	SE	3	5	—	*	12
	Velieki Luki ...	1022·7	18	SSE	1	0	1018·6	*	16	−3	SE	3	0	—	*	16
	Hangö						1007·8	−3	32	+13	SSE	8	0	—	*	14
	Riga	1012·6	21	SSE	6	5	1012·0	−3	26	+4	S	3	0	2	*	21
	Petrograd ...	1022·1	21	E	5	0	1018·6	−1	18	−5	SE	5	0	—	23	18
	Moscow	1024·7	10	NW	2	0	1028·2	+1	9	−1	SSW	2	5	—	*	5
	Kiev	1026·1	19	SE	3	0	1024·1	−2	21	0	SSE	4	0	—	*	19
	Kharkov ...	1028·2	10	NW	1	0	1030·9	+1	3	−9	W	2	0	—	*	3
	Kishinev ...	1020·3	34	E	1	0									*	
	Elisabetgrad ...	1022·6	30	SE	2	b	1027·0	−1	18	−3	SE	2	0	—	*	18
	Nicolaiev ...	1026·2	27	ENE	2	0	1026·3	*	19	−6	ESE	3	0	—	*	19
	Odessa	1025·3	30	ESE	3	0	1026·6	−1	28	−4	SE	2	0	—	*	27
	Tarkhankout...	1017·6	39	NE	5	b		*							*	
	Soukhoum ...	1013·6	55	ENE	2	0	1016·4	+2	52		NNE	1	0	—	*	32?
MEDITERRANEAN.	Venice	1017·2	43	WNW	1	0	1018·2	*	39	0	—	0	f	Trace	45	39
	Pesaro	1017·9	43	WNW	1	0	1019·4	*	41	0	S.W	1	0	Trace	46	37
	Rome	1017·4	50	—	0	b	1023·6	*	43	−11	N.E	1	f	13	54	41
	Viesti	1018·6	64	WSW	1	bc	1019·4	*	52	0	NW	1	b	—	57	50
	Brindisi	1016·1	57	SE	1	b	1020·9	*	64	−5	WSW	2	b	—	54	52
	Cagliari	1014·8	63	NW	5	b	1020·4	*	55	−2	NW	3	b	—	70	46
	Palermo	1016·2	59	SSW	2	0	1020·7	*	57	+2	—	0	0	3	61	44
	Tripoli							*								
	Algiers	1023·0	55	—	0	b	1021·0	+1	57	0	WNW	4	c	—	63	52
SWEDEN.	Hernösand ...	1011·1	28	SE	6	0	1009·5	*	29	+2	NE	2	0	*	*	*
	Stockholm ...	1003·4	32	SE	4	5	1002·4	*	32	−2	E	2	5	*	*	*
	Wisby	1002·1	34	S	2	0	999·1	*	34	0	E	2	r	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	994·6	34	+18	E	9	0
Reykjavik	998·8	28	+16	—	0	b
Vestmanna	987·0	23	+7	—	0	b
Seydisfjord	889·9	32	+2	NE	8	5
Thorshavn	979·2	33	−5	—	0	b

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	—	5	40	38	bc ph	bc ph	0.0
	Banff	—	1	36	32	c. or	r. 0	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews							
Eng. N.E.	Harrogate	1	6	34	30	S	S 0	0.0
	Skegness	*	*	39	32	or	or	0.0
Eng. N.W.	Morecambe							
	Southport	2	6	40	33	or	r.0.bc	0.0
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	12	3	41	32	os	osr bc	0.2
Wales.	Rhyl							
	Colwyn Bay...	*	*					
	Llandudno	*	*	43	35	rc	c.b	0.0
	Aberystwyth	*	*	41	34	roc	c 0	0.5
	Tenby							

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft	10	5	49	34	orq	c opq	0.1
	Felixstowe							
	Walton-on-Naze							
	Southend-on-Sea	6	1	50	35	or	o c bc b	0.0
England, S.E.	Margate	9	Trace	54	36	or	c	0.0
	Ramsgate	10	2	56	35	or	o	0.0
	Hastings	8	1	52	38	or. o	o bc b	0.0
	Eastbourne	15	1	53	32	cq	cq	0.0
	Seaford	*	*	51	40	r. c	o	0.0
	Brighton							
	Worthing							
	Littlehampton	13	Trace	59	38	d.r.o	dr.o	0.5
	Bognor	*	*					
	Bournemouth	21	—	42	35	o	c	0.8
England, S.W.	Weymouth	*	*					
	Torquay	17	Trace	46	36	o c bc	bcp	4.7
	Paignton	*	*	45	29	ofo bc	bc	3.4
	Penzance	17	3	45	38	or bc	bc. c	2.3
	Newquay							
	Bude							
	Ilfracombe							
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

..... 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T.
Yarmouth	8.6	11 53	3 40
	8.6	11 53	3 41
Greenwich	8 7	12 0	3 53
	8 7	12 0	3 53
Wick	9 5	12 12	3 19
	9 5	12 12	3 19
Valencia	8 51	12 41	4 31
	8 51	12 41	4 32

PILOT BALLOON ASCENTS for the PAST WEEK
Component Velocities to East and to North in metres per Second.

STATION, Date and Hour.	Comp. to E.	Comp. to N.	Comp. to E	Comp. to N.	Comp. to E.	Comp. to N	Comp to E.	Comp to N.	Comp to E.	Comp to N.	Comp to E.	Comp to N	Comp to E.	Comp to N.
Heights in Kilometres														

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE. 1916. No. 360 [Monday 25th December

	STATIONS.	YESTERDAY EVENING					THIS MORNING.								PAST 24 HOURS						Sunshine for Yesterday
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F				‡		°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	996·0	43	SW	4	bc	991·9	−1	45	+3	SSW	4	–	c	3	2	45	37	op.bc	bc	o c	*
	Deerness (Orkney)	995·9	41	SSW	3	bc	990·5	*	42	+5	S	5	–	bc	5	1	41	37	bc	bc op bc	bcq	1·7
	Stornoway ...	994·3	39	SW	4	bp	985·8	−4	44	+8	SW	7	–	obq	6	9	44	35	op.bcq	bp	opq	0·5
	Castlebay (Barra Isd.)	996·1	46	SW	4	bcp													op	o bcp		
	Glasgow ...	1001·5	40	SSW	4	bc	999·9	−3	36	−1	S	3	–	og	*	7	41	34	bc cop	o c	c.omrs	0·0
	Eskdalemuir ...	1004·0	36	SSW	3	or	995·7	−3	33	−5	SSW	3	–	o	*	3	38	27	b bc.c.o	o or	or.o	0·1
	Malin Head ...	997·6	40	SW	5	bcq	988·1	−3	39	+1	S	5	SW	cq	6	1	43	38	bcmq	bcq	cq	4·0
	Blacksod Point	99·68	45	SSW	6	cmp	990·0	+2	42	−2	WNW	7	NW	cmq	6	5	46	39	bcp	cp	cp cop	
	Valencia ...	1001·6	42	S	4	o	997·1	+5	45	+1	W	5	–	bc	*	4	46	40	bc. cp	c.op	o.op.ocp	0·7
	Roche's Point	1004·0	45	SW	4	o	997·1	*	42	−2	W	2	NW	b	4	9	47	41	c o	op o	or b	*
	Birr Castle ...	1002·9	39	S	1	c	993·8	*	38	−2	S	2	–	o	*	1	44	37	c	c	op	5·1
	Donaghadee ...	1002·6	39	SW	3	bcm	993·1	−3	39	+3	SW	3	–	cgm	3	0·3	44	35	cgm	bcm	cgmbq	*
	Liverpool (Bidston)	1007·5	39	SSW	3	bc	997·2	−6	36	−1	ESE	1	–	od	2	1	46	35	b	b	c.op	5·4
	Holyhead ...	1005·9	45	SW	5	cfgq	996·0	−2	39	−4	SW	3	–	omq	3	9	48	38	bc opc	bc cp o	cp opn	2·3
	Pembroke (St. Ann's)	1006·4	47	S	4	bc	997·0	−2	41	−6	SW	2	SW	c	4	3	47	39	bcqp	bcq	opr.op	1·1
	Scilly (St. Mary's)	1005·8	47	SSE	6	o	1000·6	+3	46	−1	WNW	6	NW	c	6	10	49	42	c	oV	omr	0·1
	Falmouth ...	1007·1	45	SSE	4	c	999·9	+8	43	+1	W	3	–	c	*	11	48	38	bc c	c bc c	corq o	0·2
	Jersey (St. Aubin)	1010·7	44	ESE	4	o	999·4	*	48	+2	W	6	W	c	4	4	48	39	c	c.o	ogp c	0·6
	Portland Bill ...	1009·9	45	SSE	4	c	995·7	+9	38	−9	NW	4	–	bc	4	7	49	36	bc c	c	o.or	*
	Dungeness ...	1012·9	45	WSW	2	b	988·4	−11	46	+5	S	5	–	r	5	8	48	43	bc	c.b	c.bc or	
	Dover	1013·7	38	SW	1	b	988·4	?	42	+4	–	0	–	r	4	8	47	37	b	b	nb ord	6·6
	Wick	995·0	39	SSW	3	c	994·4	−3	42	+8	SSW	5	–	o	4	Trace	43	33	bx.c	cmp	bcm.og	*
	Nairn	997·3	34	W	1	c	990·0	*	40	+8	W	2	–	c	2	1	40	29	b. bc	bc.c.	cgd	0·3
	Aberdeen	1000·2	39	S	3	o	994·2	−3	41	+9	S	4	–	o	2	–	42	31	b.bc	c o	o.c o	1·2
	Leith	1000·7	41	SW	2	b	994·1	−3	40	+3	SW	1	–	o	2	–	42	36	b	b.u.c.bm	bm bq o	*
	Tynemouth ...	1004·9	41	SSW	2	bcm	997·3	−5	36	0	SW	2	–	ogm	4	–	42	35	bcm	bcm	ogm	*
	Spurn Head ...	1009·2	40	SW	3	bc	998·9	−1	40	+3	SE	5	–	ogr	4	0·1	40	36	bc	bc	og	3·4
	Yarmouth ...	1011·7	38	W	2	b	999·8	−9	40	+3	SSE	7	–	omqr	7	2	45	35	bcm	bcm	bcmor	0·0
	Clacton-on-Sea	1012·6	39	SW	2	b	999·5	−13	37	+2	ESE	4	–	r	3	8	44	35	b bc	bc b	bm ors	4·5
	Nottingham ...	1009·7	39	S	2	b	999·3	*	37	+3	E	1	–	r	*	2	43	32	bc.o	o c b	bc.c	1·4
	Benson (Oxon.) ...	1010·5	35	SSE	2	b	999·6	−2	33	−3	NNE	2	–	o	*	6	45	32	b	bc	ors	*
	Sth Farnborough	1011·1	38	SE	2	bc	999·7	−5	33	−2	N	2	–	os	*	8	46	33	bc b	b c	bc.b.c	4·2
	London (Kew Obsy.)	1011·8	39	S	2	bm	999·7	−5	34	−2	N	3	–	om	*	8	41	33	bx bcm bxbm	bm bm	bmbcmors	3·1
NORTHERN EUROPE.	Spitsbergen ...	1018·7	18	N	2	o	1021·6	+2	−0	−25	–	0	*	b	*	*	25	−2				
	Vardö	1026·7	16	–	0	b	1023·1	−2	16	+2	NNE	1	–	b	3	*	19	16				
	Bodö	1009·0	16	ESE	9	b	1007·5	0	19	+1	E	5	–	b	2	–	16	10				
	Christiansund ...	1000·6	34	SE	1	b	1001·5	0	36	−10	E	2	–	o	3	–	46	34				
	Skudesnaes ...	1002·7	34	ESE	3	c	1000·2	−3	39	+2	W	4	–	o	3	4	39	34				
	Færder (X'tania Fjord)	1004·4	28	N	6	r	1007·3	−1	27	−3	ESE	1	–	o	0	3	30	25				
	The Scaw (Skagen)	1004·2	32	NNE	6	r	1007·5	−1	30	−6	SE	1	–	bc	2	?	37	27				
	Blaavands Huk	1006·6	37	–	0	c	1006·4	?	39	+2	S	1	–	o	1	3	39	34				
	Copenhagen ...	999·9	36	NW	5	r	1009·2	0	30	−7	W	1	–	m	*	3	37	30				
	Bornholm ...	993·0	37	WNW	10	o	1008·4	+3	32	−5	NW	5	–	o	2	5	37	32				
FRANCE, &c.	The Helder ...	1011·5	43	SW	2	b	999·8	−13	37	+4	ESE	3	–	o	2	–	43	36				
	C. Gris Nez ...	1013·6	43	SW	3	o	989·0	−2	43	−1	S	6	*	r	2	5	46	37				
	La Hève	*	46	SW	3	c	*	*	50	+5	WSW	7	*	o	8	8	50	45				
	Brest (St. Mathieu)	1005·6	43	SE	5	r	1003·7	+10	50	+3	NW	6	*	b	4	4	50	39				
	Rochefort (Ile d'Aix)	1009·0	43	ESE	4	r	1008·2	+3	55	+13	WSW	7	*	r	*	11	?	41				
	Biarritz	1009·5	64	SW	4	o	1011·7	+2	64	+17	S	4	*	o	3	–	66	47				
	Paris	1015·4	37	SE	2	c	998·1	−4	54	+20	SW	4	–	o	*	3	54	32				
	Belfort	1019·8	34	E	2	b	1010·9	*	34	0	–	0	*	r	*	9	55	32				
	Lyons	1018·0	40	NNW	2	o	1013·2	*	49	+7	SSW	3	*	o	*	3	49	38				
	Nice	1015·7	50	–	0	o	1018·0	+1	48	−5	–	0	*	c	2	–	57	46				
	Perpignan ...	1015·1	50	–	0	o	1017·1	0	46	−4	SW	2	SW	o	*	–	55	45				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna	1007·4	63	SSW	7	o	1011·7	+4	59	−2	SW	6	–	r	4	2	64	59				
	Madrid														*							
	Lisbon	1016·3	59	SE	2	o	1013·7	−1	55	−4	N	1	–	c	6	–	61	55				
	Azores (Horta) ...	999·4	*	NNE	5	c	1005·9	+1	55	−1	NW	3	*	bc	2	3	63	55				
	Madeira	1011·1	68	SW	4	o	1013·3	+1	64	−2	SW	6	SW	r	5	?	70	64				
	Gibraltar							*					*									
	Malta	*	*	*	*	*	1018·8	+3	59	+4	WNW	4	–	o	2	–	64	55				
	Limassol	*	*	*	*	*	1011·9	0	63	+8	SW	1	–	o	5	3	70	54				
	Alexandria ...	1013·9	64	NW	3	bc	1014·6	+1	64	+3	NW	2	NW	bc	1	–	72	59				
	Cairo (Helwan) ...	1014·3	64	–	0	b	1016·4	+3	55	0	ESE	1	–	b	*	–	70	57				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands.

Dungeness 25th
3h – 6h 5 8

LONDON OBSERVATIONS.	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night
	%	%	Hours.	°F	°F	°F	mm.			
GREENWICH (Royal Observatory)	71	95	1·6	46	32	29	8	c	c	cxo.rs
CITY (Bunhill Row)	*	*	0·3	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	–	99	1·0	47	34	31	9	bc	g.om	fr.r
CAMDEN SQ. (British Rainfall) ...	–	95	0·4	45	33	29	8	–	–	*
HAMPSTEAD (Reservoir)	*	94	1·4	44	31	27	8	bc	bcm	bc.ors
S. KENSINGTON (Museum Grounds)	*	100	1·0	47	33	32	8	bcx3	bm	bm.o
RICHMOND PARK	*	*	*	*	*	*	*	*	*	*

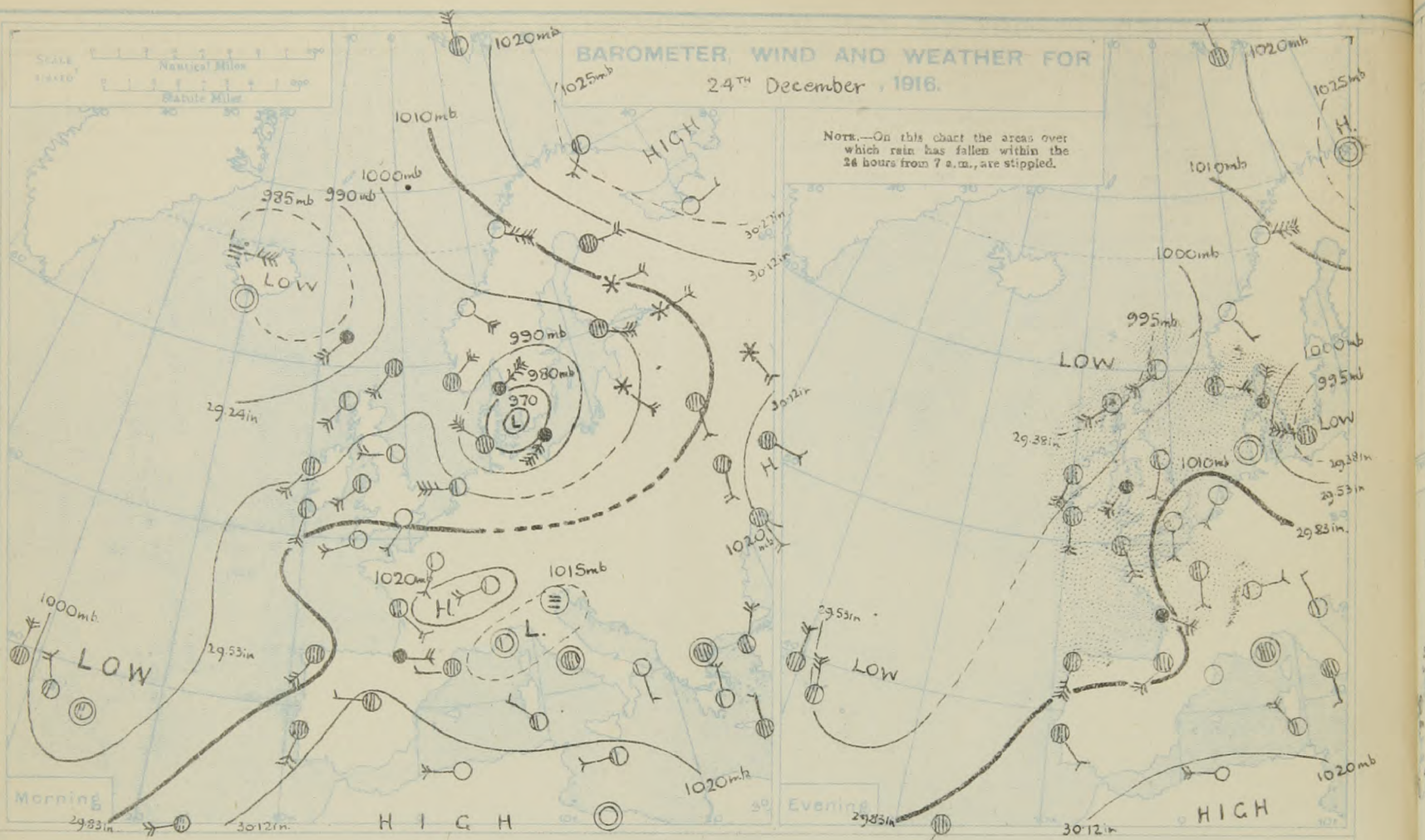
SOUTH KENSINGTON

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
187	6·7	+14

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON MONDAY TO NOON TUESDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

0a, 0b, 1	Fresh Southerly winds; dull, some rain; temperature rather above normal.
2a, 2b, 3	Variable winds, then increasing Westerly; unsettled, some rain; normal temperature. Strong North-Easterly winds, moderating and backing Westerly; becoming fairer, but some showers; rather cold.
4a, 4b	Same as No. 2.
5	Strong North-Westerly or Westerly winds; some rain or sleet showers, improving; rather cold.
6a, 6b, 7a, 7b	Strong South-Westerly or Westerly winds; unsettled, some rain; normal temperature.
8a, 8b, 9a, 9b, 10a, 10b	Strong Westerly winds; showery; normal temperature.
Western Channel and Bay 11	Strong Westerly to South-Westerly winds; rough sea; showery.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF MONDAY, 25TH DECEMBER, 1916.

GENERAL INFERENCE.

The depression over Dover will move away across the southern North Sea.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit.
Isotherms shown by dotted lines

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.

Scale 1 : 2 x 10⁶
Nautical Miles
Statute Miles

Normal Temperature of the Sea.
Below 40° | 40°-50° | 50°-60° | Above 60°
Scale of Tints for DECEMBER

1020mb HIGH 1015mb 1010mb 1005mb 1000mb 995mb 990mb 985mb LOW Barometer falling generally 1005mb LOW 1010mb 1015mb 1020mb HIGH

Issue No. 20122 — DAILY WEATHER REPORT. — Monday, 25th December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours. ‡	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel	1028·2	-7	-	0	b	1027·1	0	-13	-23	E	1	b	-	*	-15
	Gorki	1012·4	18	S	3	0	1009·6	0	21	+5	S	2	0	-	*	9
	Velieki Luki	1009·3	19	SE	4	5	1006·9	*	28	+12	SE	3	0	3	*	19
	Hangö	-	...	...	...	...	998·9	-3	28	-4	E	4	0	?	*	5
	Riga	1001·7	34	SSW	2	0	995·4	-5	34	+9	SE	3	5	3	*	34
	Petrograd	1011·4	16	E	4	0	1007·1	-1	18	0	E	3	5	1	18	14
	Moscow	1009·1	10	SE	3	0	1017·7	-2	16	+7	SSE	3	5	-	*	9
	Kiev	1018·1	25	SSW	4	0	1015·4	-3	27	+6	SSE	3	0	-	*	21
	Kharkov	1026·7	7	ESE	2	b	1022·7	-2	7	+4	SE	2	0	-	*	7
	Kishinev	1026·3	34	SW	3	0	1019·9	-3	30	+2	-	0	b	-	*	27
	Elisabetgrad	1022·7	23	S	2	0	1019·4	-2	27	+9	SE	2	0	-	*	21
	Nicolaiev	1023·9	28	ESE	2	0	1020·3	*	27	+8	SE	2	0	-	*	?
	Odessa	1022·0	34	SSE	3	c	1018·9	-2	37	+9	SSE	3	0	-	*	34
	Tarkhankout	1021·9	30	-	0	b	1020·7	*	30	...	NE	3	f	-	*	28
	Soukhoum	1017·5	54	-	0	c	1017·7	?	52	0	-	0	0	-	*	32
Mediterranean.	Venice	1015·0	43	-	0	r	1012·6	*	43	+4	-	0	f	3	45	41
	Pesaro	1015·6	55	-	0	0	1014·6	*	41	0	W	1	0	-	54	43
	Rome	1019·1	53	-	0	bc	1016·7	*	52	+9	-	0	0	-	54	48
	Viesti	1016·7	52	SE	1	0	1015·3	*	54	+2	SE	1	bc	-	57	50
	Brindisi	1018·6	54	S	1	b	1016·0	*	52	-2	S	1	b	3	68	48
	Cagliari	1018·8	64	NW	3	b	1017·3	*	57	+2	NNW	1	bc	-	68	48
	Palermo	1021·2	54	-	0	f	1018·6	*	57	0	-	0	b	-	64	41
	Tripoli	1022·6	55	-	0	b	1022·7	*	56	...	-	0	b	-	64	48
	Algiers	1021·0	59	WNW	2	b	1020·4	?	59	+2	W	3	c	-	70	52
Sweden	Hernösand	1009·2	25	NE	4	0	...	*	...	...	...	...	...	*	*	*
	Stockholm	1010·3	34	ENE	2	0	-	*	...	...	...	...	...	*	*	*
	Wisby	997·1	36	SE	2	0	...	*	...	...	...	...	...	*	*	*

Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.
		°F	°F			
Isafjord	993·5	34	0	E	7	m
Reykjavik	986·3	23	-5	-	0	b
Vestmanna	983·3	28	+5	-	0	b
Seydisfjord	...	...	...	...	...	-
Thorshavn	985·7	38	+5	SW	5	r

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban							
	Banff	-	-	37	28	bc	r.bc	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews							
Eng. N.E.	Harrogate	-	1	40	32	o.c	opg	0·2
	Skegness	-	-	43	33	b	b	5·2
Eng. N.W.	Morecambe							
	Southport	2.	-	46	37	bc	bc.c.o.	2·8
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	Trace	-	47	35	bc	bc c	3·0
Wales.	Rhyl	1	-	49	33	c.p.c	c.bc.c.p	3·0
	Colwyn Bay	*	*					
	Llandudno	*	*	47	40	c	c.b.r	
	Aberystwyth							
	Tenby	*	*					

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft							
	Felixstowe	1	-	45	35	bc	bcm.	5·5
	Walton-on-Naze							
	Southend-on-Sea	-	-	47	34	b	b	5·0
England, S.E.	Margate	-	-	44	36	b	b	4·8.
	Ramsgate	-	-	43	34	b	b	0·0
	Hastings	-	-	48	37	b.	bbc	5·2
	Eastbourne	-	-	47	40	bcz	bcz	4·3.
	Seaford	*	*	48	39	bc	b	4·7.
	Brighton	-	-	47	39	c	c	3·6.
	Worthing	-	-	50	37	b	b	4·1.
	Littlehampton	Trace	-	46	40	b	b	5·0
	Bognor	*	*	47	37	bc.	bc	4·6
	Bournemouth	-	-	48	36	b	bc.a	3·8.
England. S.W.	Weymouth	*	*					
	Torquay	1	-	47	39	bc.c	c.a.	2·4.
	Paignton	*	*	48	32	a	bc	2·1.
	Penzance							
	Newquay	1	-	47	39	c	c	0·0
	Bude							
	Ilfracombe							
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

25th 26th ..... 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8.6 / 8.6	11.53 / 11.54	3.41 / 3.42
Greenwich	8.7 / 8.8	12.1 / 12.1	3.54 / 3.55
Wick	9.5 / 9.5	12.12 / 12.13	3.19 / 3.20
Valencia	8.31 / 8.31.	12.41 / 12.42	4.32 / 4.33

NOTES ON YESTERDAY'S WEATHER.

Temperature was at about the normal level. Showery weather was general, there being no heavy rain. Bright sunshine varied greatly, from none in some localities, to as much as 6 1/8 hours at Dover.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 361 { Tuesday, 26th December

	STATIONS.	YESTERDAY EVENING					THIS MORNING.								PAST 24 HOURS						Sunshine for Yesterday
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud	Weather	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon	Weather. Night.	
			°F					‡	°F.	°F.							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	991·1	43	SSW	5	o	993·2	+1	39	-6	W	2	NW	bc	2	3	45	38	o	om	o.bc	*
	Deerness (Orkney)	990·2	41	S	4	op	997·3	*	39	-3	W	2	-	b	2	1	43	37	bc.c	c.op	qc.bc.b	0·0
	Stornoway ...	989·2	37	W	4	c.p	1000·1	+6	40	-4	NW	7	-	oq	5	7	44	33	or	or.c.p	bc.cpq	0·0.
	Castlebay (Barra Isd.)	992·2	42	W	4	oph	1005·4	+7	44	...	WNW	4	-	b	4	5	45	39	op.c.op	op.ch.p	hpbl.	0·1.
	Glasgow ...	998·3	38	SW	3	b	1002·1	+4	40	+4	WSW	3	-	b	*	7	41	33	omrs.p	a.cr.s.p	brshp	0·0.
	Eskdalemuir ...	997·7	35	SW	4	o	1003·5	+2	37	+4	W	5	-	c	*	5	38	32	0.05	c6.0	o.bc.c	0·1
	Malin Head ...	994·6	41	SW	5	cq.p	1005·0	+3	44	+5	NW	6	W	bcq	7	0·3	44	35	cq	cq.p	bcq	2·5
	Blacksod Point	1000·0	42	WNW	7	cmq.p	1008·3	+1	42	0	WNW	3	NW	bc	4	1	44	38	cq.m.p	cq.m.p	cm.bc	*
	Valencia ...	1006·5	46	W	5	bc	1009·6	0	34	-1	ENE	2	-	b	4	0·1	46	34	bc.b.bc	bc.bc.p	bc	5·2
	Roche's Point	1007·1	42	WNW	3	b	1010·1	*	35	-7	N	1	-	o	3	0·2	46	35	b	b	b.o.	*
	Birr Castle ...	1004·2	36	SW	2	c	1009·5	*	31	-7	SW	1	-	bc	*	1	42	31	c.p	c.p	c.bcx	5·3.
	Donaghadee ...	997·6	38	W	5	bcmq	1006·3	+4	38	-1	SW	3	-	bm	2	2	41	36	cgm.p	bc.mq	bcqr	*
	Liverpool (Bidston)	1002·3	39	WSW	4	b	1007·8	+2	39	+3	SW	2	W	bc	3	1	43	36	op.	bc.b.	bcx	1·9.
	Holyhead ...	1002·6	43	W	4	bc	1008·0	+1	44	+5	W	4	-	bc	3	2	44	38	bc.m.p	bcm	bc	4·6
	Pembroke (St. Ann's)	1008·8	46	WSW	5	bc	1009·8	+1	39	-2	NNE	1	N	c	3	1	47	39	bcq.p	bcq	bc.c	3·8
	Scilly (St. Mary's)																					
	Falmouth ...	1009·0	43	W	2	b	1009·0	-2	40	-3	NE	2	-	o	*	Trace	49	37	a.bo.nc	c.b	b.bc.o	2·3.
	Jersey (St. Aubin)	1009·9	50	W	3	o	1008·4	*	45	-5	E	3	-	op	3	0·2	52	40	c	c.o	b.o.p	3·2.
	Portland Bill ...	1007·6	47	W	4	b	1010·0	-1	46	+5	E	2	-	o	4	-	49	38	bc	bc.c	b.bc.co	*
	Dungeness ...	1006·4	42	W	3	bc	1010·8	0	35	-11	WSW	2	W	bc	2	-	48	35	oc	c.bc	b.bc.x	*
	Dover	1007·1	43	W	4	b	1011·3	0	34	-8	-	0	-	b	2	0·3	44	33	p.oc.cb	c.b	b.f.x	3·7.
	Wick	990·5	39	SSW	4	c	999·9	+4	32	-10	WNW	1	-	bc	2	1	43	31	os	os.p.o.c	bcm	*
	Nairn	991·1	37	W	1	o	997·2	*	35	-5	W	1	-	bc	1	0·2	42	33	bc.cg	cd.g	c.bcx	0·7.
	Aberdeen	993·0	38	SW	2	o	999·2	+4	34	-7	W	3	-	b	2	0·3	42	32	od	oc.od	oc.b	0·0
	Leith	994·6	39	SW	2	c	1000·7	+2	41	+1	SW	2	-	b	3	1	42	35	o.uc.g.o	oc.p.o.c.	c.b.	*
	Tynemouth ...	997·6	38	W	3	b	1002·4	0	39	+3	W	2	-	bm	3	1	39	35	o.m.p	bc.m.p	bm	*
	Spurn Head ...	1000·9	40	W	5	bc	1006·9	0	36	-4	W	4	-	c	4	7	42	34	or	om.bc	bcq	0·0.
	Yarmouth ...	1003·2	38	WNW	2	bc	1008·4	0	35	-5	WNW	3	-	c	3	7	40	34	o.m.r	om.r.bc	bm.bc	0·0
	Clacton-on-Sea	1004·5	39	WSW	3	bc	1010·7	0	34	-3	WSW	1	-	bc	1	2	39	33	o.rs.c.o.	o.c.bc	bcx	0·0
	Nottingham ...	1003·8	37	W	3	b	1008·1	*	34	-3	SW	3	SW	ox	*	1	38	30	no.dm.c	c.m.b	b	0·3.
	Benson (Oxon.) ...	1006·2	35	SW	1	b	1010·1	0	30	-3	S	1	-	cx	*	1	42	29	bc.b	b	b	*
	Sth Farnborough	1006·3	38	WSW	3	b	1010·2	-1	29	-4	-	0	-	o	*	Trace	43	28	o.bc.c	op.c.b	bo.x.m	1·9
	London (Kew Obsy.)	1006·4	40	WSW	3	b	1010·8	0	30	-4	-	0	-	ofx	*	0·2	42	30	o.m.c.m	o.b	bmo.f.x	0·9.
NORTHERN EUROPE.	Spitsbergen ...	1014·2	19	OSE	8	s	1018·3	0	21	+21	SSE	8	*	o	*	*	21	-13				
	Vardö	1019·6	27	E	3	o	1014·8	-4	27	+11	NE	3	-	o	3	*	28	16				
	Bodö	1005·9	19	E	4	b	1003·8	0	18	-1	E	4	-	b	2	-	23	16				
	Christiansund ...	999·9	30	E	2	b	1001·2	0	30	-6	-	0	-	c	3	-	34	28				
	Skudesnaes ...	998·8	27	SSE	4	r	1001·0	0	37	-2	E	5	-	o	3	4	39	34				
	Færder (X'iania Fjord)	1005·1	25	NE	2	o	1005·9	0	23	-4	NE	2	-	o	1	-	27	23				
	The Scaw (Skagen)	1003·0	30	E	3	c	1005·1	+1	30	0	SE	1	-	bc	2	-	36	27				
	Blaavands Huk	997·4	34	E	2	r	1004·6	0	36	-3	SSE	1	-	r	2	2	39	34				
	Copenhagen ...	1000·3	34	SE	5	c	1006·0	+5	34	+4	-	0	-	o	*	-	36	30				
	Bornholm ...	1001·4	36	SE	4	o	1004·4	+9	34	+2	NE	6	-	o	2	Trace	37	32				
FRANCE, &c.	The Helder ...	1006·2	41	WNW	4	o	1008·7	+1	41	+4	WSW	3	W	bc	2	6	43	41				
	C. Gris Nez ...	1008·4	46	W	6	b	1011·5	-1	37	-6	SSW	2	*	b	2	2	48	39				
	La Hève	[illegible]	46	W	5	c	*	*	41	-9	SE	3	*	c	3	-	50	37				
	Brest (St. Mathieu)	1010·8	50	W	2	bc	1005·2	-2	46	-4	E	4	*	r	3	1	52	46				
	Rochefort (Ile d'Aix)	1012·8	50	SE	2	m	1007·6	-2	48	-7	S	4	*	o	*	4	57	48				
	Biarritz	1013·0	64	SSE	3	bc	1008·8	-2	62	-2	S	4	*	o	2	-	66	61				
	Paris	1012·3	43	WSW	2	b	1011·9	-3	37	-7	SSW	1	-	f	*	Trace	55	34				
	Belfort	1012·0	50	WSW	7	c	1011·4	*	41	+7	-	0	*	r	*	8	55	40				
	Lyons	1016·0	50	SW	2	o	1013·2	*	46	-3	-	0	*	c	*	-	55	45				
	Nice	1017·2	48	E	1	c	1016·7	+1	48	-1	-	0	*	c	3	-	48	?				
	Perpignan ...	1018·2	50	-	0	o	1013·3	-3	50	-4	-	0	-	f	*	-	52	48				
	Sanguinaire ...	*	56	SW	3	o	*	*	54	...	E	3	*	f	3	-	57	52				
SOUTHERN STATIONS.	Corunna	1008·2	61	S	6	o	1009·4	+2	59	0	SW	6	-	c	3	2	66	55				
	Madrid	1018·8	55	-	0	b	1020·0	+2	46	...	SW	1	-	r	*	?	57	45				
	Lisbon	1013·8	61	SSW	4	o	1017·6	+1	59	+4	NW	4	-	o	6	-	64	55				
	Azores (Horta) ...	1003·8	*	NW	7	b	1008·3	0	57	+2	WSW	8	*	b	4	1	63	57				
	Madeira																					
	Gibraltar	1020·6	54	NW	1	m	1021·0	*	59	...	NW	3	*	m	3	-	61	51				
	Malta	*	*	*	*	*	1020·6	0	57	-2	NW	2	-	b	1	-	63	57				
	Limassol	*	*	*	*	*	1010·3	0	52	-11	W	1	-	b	3	-	68	48				
	Alexandria ...	1019·0	63	-	0	c	1014·0	0	63	-1	W	4	-	c	3	14	73	55				
	Cairo (Helwan) ...	1015·6	59	NW	2	c	1015·6	+1	54	-1	S	3	-	o	*	5	72	54				

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	85	100	0·4	41	31	26	2	o	o	b. ox.
CITY (Bunhill Row)	*	*	0·2	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	86	99	0·4	43	30	27	-	o.g	u	ou.x.m
CAMDEN SQ. (British Rainfall) ...	...	100	0·0	42	29	26	-	...	...	*
HAMPSTEAD (Reservoir)	*	90	0·6	40	31	23	-	om	bm	bc.x.
S. KENSINGTON (Museum Grounds)	*	96	0·5	43	33	25	Trace	o	o	o.b
RICHMOND PARK	*	*	...	*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
95	34	16.

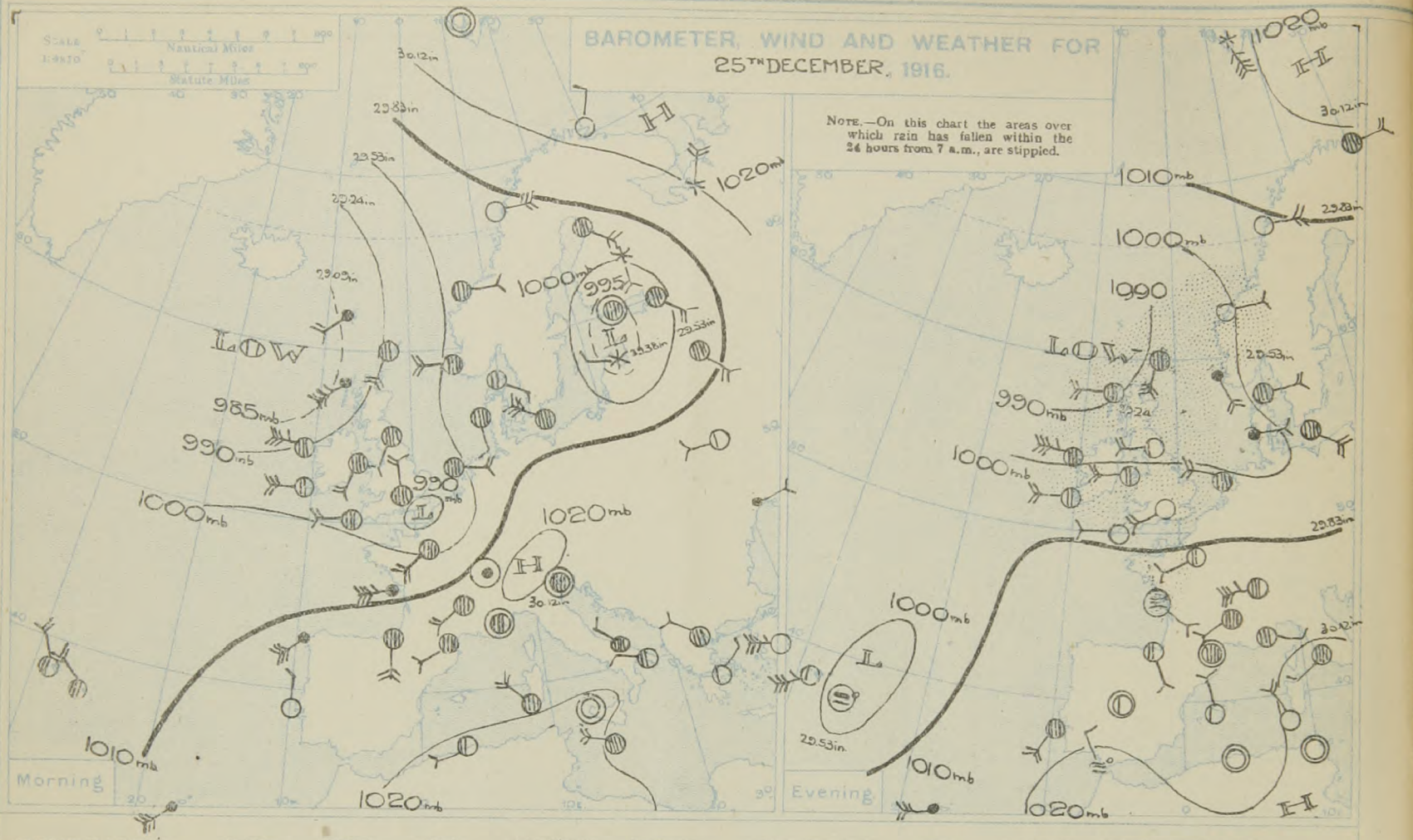
Temperatures at Greenwich and Camden Square are from Glaisher screens.

RAINFALL

Equivalents of Millimetres in Inches.

mm.	Inches	mm.	Inches
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON TUESDAY TO NOON WEDNESDAY.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

Western Channel and Bay

0a, 0b, 1, 2a, 2b — Moderate Westerly or North-Westerly winds; fair weather; normal temperature.

3, 4a, 4b, 5 — Light indefinite or Easterly winds; cloudy, some showers of rain or sleet; rather cold.

6a, 6b, 7a — Fresh North-Westerly winds, moderating; fair, some showers; normal temperature.

7b, 8a, 8b, 9a, 9b, 10a — Light indefinite winds, becoming moderate Easterly; cloudy, some showers; normal temperature.

10b, 11 — Moderate or fresh Southerly or South-Easterly winds and moderate sea; dull, some showers.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF TUESDAY, 26th DECEMBER, 1916.

GENERAL INFERENCE.

The shallow depression over the Bay region will cause some extension of the Easterly current over the South-West and South of the country.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ○

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
○ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤ thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~. High ≈≈.

Scale 1 : 2×10⁶
Nautical Miles 0 1 2 3 4 500
Statute Miles 0 1 2 3 4 500

Normal Temperature of the Sea
Below 40° | 40-50° | 50-60° | Above 60°

Scale of Inls for DECEMBER

HIGH
1015mb
1010mb
1005mb
1000mb
995mb
LOW
Barometer rising decidedly
Barometer steady
Barometer falling So
1020mb
30·12in
AGW.

Issue No. 20.123 — DAILY WEATHER REPORT. — 26th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					÷	°F.	°F					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1026·6	-2	N	2	b	1020·6	-4	3		NE	4	s	–	*	6
	Gorki	1002·9	30	S	1	o	1006·0	+1	30		SW	1	*	–	*	18
	Velieki Luki ...	1002·9	34	SSE	2	s	1000·4	*	34		SSE	3	o	4	*	32
	Hangö	-	-	-	-	-	994·1	+1	30		ESE	1	o	?	*	25
	Riga	9933	36	S	4	o	993·1	+3	34		WNW	1	s	6	*	32
	Petrograd ...	1001·3	23	E	4	s	998·3	0	32		SE	3	o	7	32	18
	Moscow	1016·4	18	SE	3	o	1014·4	-1	16		SE	3	s	1	*	14
	Kiev	1012·4	34	SW	2	o	1015·5	0	32		W	2	b	1	*	27
	Kharkov ...	-	-	-	-	-	1018·7	0	27		SE	2	r	–	*	23
	Kishinev ...	-	-	-	-	-	-	-	-		-	-	-	-	*	-
	Elisabetgrad ...	1016·2	32	SSE	3	f	1017·6	+2	32		–	0	s	6	*	30
	Nicolaiev ...	-	-	-	-	-	1018·4	*	36		E	2	r	1	*	27
	Odessa	-	-	-	-	-	1017·4	+2	41		N	3	r	1	*	?
	Tarkhankout...	-	-	-	-	-	1017·4	*	46		SE	4	o	–	*	30
	Soukhoum ...	1020·8	52	–	0	bc	1020·6	-3	52		–	0	c	–	*	?
MEDITERRANEAN.	Venice	1019·0	52	NNW	1	bc	1018·3	*	36		NNE	1	o	1	46	36
	Pesaro	1018·2	45	WNW	1	o	1018·0	*	45		ESE	1	o	4	48	43
	Rome	1017·0	55	S	1	o	1019·3	*	52		NE	1	o	-	59	50
	Viesti	1016·6	54	NW	1	b	1017·5	*	54		NW	1	o	–	59	52
	Brindisi	1015·6	54	W	1	b	1016·4	*	55		NW	1	bc	–	64	50
	Cagliari	1014·9	61	NW	4	bc	1019·1	*	55		NW	4	o	–	68	48
	Palermo	1017·4	59	–	0	f	1020·0	*	54		–	0	b	–	66	48
	Tripoli	1022·9	52	–	0	f/b	1022·7	*	50		W	1	b	–	64	48
	Algiers	1020·2	59	W	4	b	1021·1	+1	59		WSW	2	bc	–	60	54
SWEDEN.	Hernösand ...	.	.	.	.	.	.	*	.	.	.	.	.	*	*	*
	Stockholm ...	.	.	.	.	.	.	*	.	.	.	.	.	*	*	*
	Wisby	.	.	.	.	.	.	*	.	.	.	.	.	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	°F			
Isafjord ...	-	-	-	-	-	-
Reykjavik	-	-	-	-	-	-
Vestmanna	-	-	-	-	-	-
Seydisfjord	-	-	-	-	-	-
Thorshavn	985·3	38		SW	3	r

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall. Night. 18h-9h.	Rainfall. Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	–	6	43	38	c bcp	c bcp	0·0
	Banff	-	-	39	32	bc	o. bc	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews	–	2	40	35	op	op	0·0
Eng. N.E.	Harrogate	2	1	37	33	op.c.bc	cp bc.b	0·2
	Skegness	2	1	40	35	r.o	b.o.b	0·4
Eng. N.W.	Morecambe							
	Southport	1	1	42	35	o.c.r.o	o.c.bc	1·6
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye							
Wales.	Rhyl	Trace	1	44	34	cp.c	c.bcp	2·6
	Colwyn Bay...	*	*	42	36	c	bc	2.3
	Llandudno	*	*	44	36	cp	b	2·2
	Aberystwyth	*	*	43	35	r.o.c	b.bc	2·7
	Tenby							

	STATIONS.	Rainfall. Night. 18h-9h.	Rainfall. Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft							
	Felixstowe	10	Trace	38	36	op.bc	cp.bc	0·0
	Walton-on-Naze ...							
	Southend-on-Sea ...	7	–	40	35	o.c	o.c.bc.b	0·2
England, S.E.	Margate	*	*	42	38	c	c	0·0
	Ramsgate	7	-	41	35	o. c	c	0·3
	Hastings	6	-	47	36	or. bc	bc	3·6
	Eastbourne	10	–	47	38	o. bc	bc. b	5·6
	Seaford	*	*	47	36	bc	bc	4·2
	Brighton	9	-	44	35	c. bc	bc.c	4·2
	Worthing							
	Littlehampton	8	–	47	35	o. bc	bc	3·9
	Bognor	*	*	49	35	bc	bc	3·4
	Bournemouth	10	-	48	34	b	bc	4·3
England. S.W.	Weymouth...	*	*					
	Torquay							
	Paignton	*	*	51	31	bc c	c bc	3.0
	Penzance							
	Newquay	8	2	49	37	c b. p.	b. p.	2·4
	Bude							
	Ilfracombe							
	Weston-s-Mare							

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

26th Dec. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8·6	11·54	3.42
	8·6	11·54	3.43
Greenwich	8·7	12.1	3·54
	8·8	12.1	3.55
Wick	9.5	12.13	3.20
	9.5	12.13	3.21
Valencia	8·51	12.43	4.33
	8·51	12.43	4.34

NOTES ON YESTERDAY'S WEATHER.

Temperature was rather above the normal in most localities. Small amounts of rain fell in all districts Several stations had no sunshine, others had fairly good records, up to 5⅛ hours at Eastbourne.

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 362

Wednesday 27th December

	STATIONS.	YESTERDAY EVENING					THIS MORNING.									PAST 24 HOURS.						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0–12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Direc. of Upper Cloud.	Weather.	Sea 0–9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Hours.
			°F.					‡	°F.	°F.							°F.	°F.				
BRITISH ISLANDS.	Lerwick ...	9045	41	WNW	3	or	10077	+3	37	-2	NW	2	NW	bc	2	8	42	36	comp	omp	bc	*
	Deerness (Orkney)	10034	38	WNW	4	b	10105	*	37	-2	WSW	2	.	bc	1	3	42	36	bbcp	c.bc.b	bbcx	0.7
	Stornoway ...	1007.1	37	WSW	4	bc	10122	+2	39	-1	WSW	1	.	odm	1	3	42	35	cpq	bc	bcodm	2.1
	Castlebay (Barra Isd.)	10098	44	W	*3	bc	10139	+1	43	-1	NE	2	N	o	3	2	45	39	bobc	bc	bcopd	3.4
	Glasgow ...	10100	37	SW	1	bz	10157	+3	36	-4	WSW	1	.	b	*	0.2	42	33	bz	bz	bz bx	4.0
	Eskdalemuir ...	10106	35	SSW	1	b	10174	+3	26	-11	SSE	1	.	bcx	*	.	39	26	c.bc.b	b	bbcx	0.0
	Malin Head ...	10107.4	43	W	3	bc	10139	+2	38	-6	SW	2	SW	bc	2	.	45	37	beq	bc	bc	3.5
	Blacksod Point	1011.1	45	SSE	2	bv	10137	0	40	-2	SSE	4	S	bc	3	.	46	37	bc	bv	bv bc	*
	Valencia ...	1011.9	35	-	0.	b.	10149	+1	43	+9	SSE	4	.	o	0	0.1	46	30	bc.c bc.	bc.b	bbcco	5.1
	Roche's Point	1012.1	37	N	2	b	10163	*	45	+10	SSE	1	.	o	3	0.2	45	34	c	cmbm	bo	*
	Birr Castle ...	1012.7	30	E	1	m	10167	*	26	-5	SE	1	.	m	*	.	39	23	bc	bcxf	fxz	4.7
	Donaghadee ...	1010.9	35	W	3	bm	10162	+2	32	-6	SW	2	.	bcmx	1	.	42	30	bcm	bcm	bmx	*
	Liverpool (Bidston)	1011.3	38	WSW	1	b	10178	+4	28	-11	.	0	.	f	1	.	44	28	bm	b.	b fx	2.3
	Holyhead ...	1011.3	43	NW	2	bz	10173	+3	34	-10	SW	2	.	bx	0	.	47	33	bc.bz	bz	bx	4.2
	Pembroke (St. Ann's)	10100	39	NE	2	bc	10183	+3	35	-4	NE	1	.	bcx	2	.	40	34	bc.c	cbc	b bcx	0.0
	Scilly (St. Mary's)																					
	Falmouth ...	1009.1	41	NE	2	c	10172	+3	35	-5	NNE	2	.	bx	*	4	44	34	od rd.	od oe.o	c bc bx	0.0
	Jersey (St. Aubin)	10058	45	E	5	r	10157	*	43	-2	E	4	.	b	3	20	50	42	op or	or	or b	0.0
	Portland Bill ...	1008.4	40	NE	4	c	10157	+2	41	-4	NE	3	.	bc	3	1	46	39	o	or c	c bc	*
	Dungeness ...	10089	41	SE	2	r	10169	+5	34	-1	NNE	1	.	f	2	3	45	34	bco	op	r bm fx	*
	Dover	1009.3	38	.	0	bc	10187	+4	33	-1	N	2	.	f	2	-	41	32	c.o	oc.bc	bcf	0.0
	Wick	100.4	36	WNW	3	bc	10111	+2	33	+1	WNW	2	.	o	1	-	41	32	bcmpd	bcmp	bcmo	*
	Nairn	10068	36	-	0	bc	10127	*	37	+2	-	0	.	c	1	0.4	41	33	d oc	bc	bcx	3.2
	Aberdeen	10069	37	W	1	b	10128	+3	37	+3	W	3	.	b	2	-	41	33	b	bzb	b	4.9
	Leith	10091	38	SW	1	b	10148	+2	36	-5	SW	1	SW	b	2	-	43	35	b	b	bmbzb	*
	Tynemouth ...	10081	38	W	2	bm	10148	+2	36	-3	W	2	.	b	3	-	43	34	bm	bm.	bm	*
	Spurn Head ...	1008.9	37	WNW	3	bcm	10168	+1	35	-1	NW	3	.	bc	4	-	38	32	c	bc	bcm	0.0
	Yarmouth ...	10086	36	WNW	2	b	10162	+6	33	-3	NW	2	.	bm	2	-	39	32	c	c bcm	bcmx	1.0
	Clacton-on-Sea	10101	37	WSW	1	c	1017.4	+5	31	-4	WNW	1	.	b	1	-	39	30	bcc	cm	c bcmx	0.2
	Nottingham ...	10101	34	W	1	b	10182	*	23	-11	WSW	1	.	fx	*	-	40	21	ocm	c.bm.	bmx	0.0
	Benson (Oxon.) ...	10101	31	-	0	bc	10167	+3	27	-3	NW	1	.	mx	*	-	34	23	o	om.	f	*
	Sth Farnborough	10097	32	-	0	f	1017.4	+4	27	-3	-	0	.	f	*	-	35	26	omf	of	of	0.0
	London (Kew Obsy.)	1010.4	34	-	0	f	10182	+3	26	-4	-	0	.	fx	*	-	36	26	ofx	ofxof	ffx	0.0
NORTHERN EUROPE.	Spitsbergen ...	1021.0	16	SSE	1	b	10006	+1	-4	-25	S	4	*	b	*	*	23	-8				
	Vardö	1012.4	23	N	3	o	10115	+1	25	-2	NE	3	.	b	4	*	28	23				
	Bodö	10060	18	E	4	b	10077	0	19	+1	E	4	.	b	2	-	19	10				
	Christiansund ...	10029	32	-	0	o	10052	+2	32	+2	-	0	.	s	3	8	32	28				
	Skudesnaes ...	10010	37	S	2	o	10039	+3	39	+2	NW	7	.	r	4	6	39	34				
	Færder (X'tania Fjord)	10046	28	NE	2	o	10061	+3	25	+2	NNE	2	.	o	*	2	28	23				
	The Scaw (Skagen)	10038	32	S	3	r	10085	+2	36	+6	SW	1	.	o	2	1	36	30				
	Blaavands Huk	10027	39	SW	2	r	1008.4	+3	39	+3	WNW	2	.	o	3	4	41	34				
	Copenhagen ...	10066	37	SW	3	o	10059	+4	36	+2	N	2	.	o	*	3	37	30				
	Bornholm ...	1007.3	37	SW	5	o	10050	+1	37	+3	NW	4	.	r	1	3	37	32				
FRANCE, &c.	The Helder ...	1008.3	43	SW	2	o	1015.0	+5	43	+2	NW	3	.	o	2	Trace	43	41				
	C. Gris Nez ...	1009.5	41	ENE	1	o	10170	+4	39	+2	N	4	*	bc	2	3	43	37				
	La Hève	...	43	ENE	5	o	..	*	37	-4	ENE	3	*	m	3	7	48	37				
	Brest (St. Mathieu)	1017.3	47	NE	4	o	10137	+3	45	-1	ENE	4	*	bc	3	14	52	43				
	Rochefort (Ile d'Aix)	1009.9	54	WSW	6	r	1014.0	+3	52	+4	W	5	*	o	*	4	55	48				
	Biarritz	1011.8	61	WSW	3	c	10163	0	54	-8	-	0	*	c	2	1	64	54				
	Paris	1008.9	43	ENE	1	r	10157	+6	34	-3	NNE	1	.	b	*	9	45	34				
	Belfort	1010.4	43	.	0	f	10122	*	46	+5	W	3	*	r	*	11	50	41				
	Lyons	1010.7	54	SW	2	o	1013.1	*	50	+4	W	2	*	o	*	-	59	48				
	Nice	1013.9	50	.	0	c	1011.5	-2	46	-2	-	0	*	b	3	-	57	45				
	Perpignan ...	1013.2	48	.	0	b	10172	+3	52	+2	WNW	1	W	bc	*	-	55	43				
	Sanguinaire ...	*	59	E	3	bc	*	*	54	0	W	1	*	o	3	-	61	52				
SOUTHERN STATIONS.	Corunna	1014.9	57	SW	4	bc	10212	+2	55	-4	SW	1	-	o	2	2	61	54				
	Madrid	1018.7	55	W	3	b		+2	46	0	WSW	1	-	o	*	Trace	55	45				
	Lisbon	10208	59	SW	2	o	10237	+2	57	...	NW	3	.	bc	5	1	61	57				
	Azores (Horta) ...	1010.4	*	SW	6	bc	10078	-1	63	+6	SSW	9	*	o	6	.	64	63				
	Madeira	1022.3	64	W	2	o	10259	0	57	...	N	1		b	1	-	66	57				
	Gibraltar	1022.7	59	NW	4	m	10237	*	56	-3	NW	3	*	bc	3	-	68	56				
	Malta	*	*	*	*	*	10162	+1	59	+2	W	2	-	c	1	-	64	57				
	Limassol	"	"	"	"	"	1011.7	+3	50	-2	-	0	-	b	2	-	70	48				
	Alexandria ...	1013.3	63	NNW	4	o	10139	0	63	0	N	3	N	m	2	5	70	57				
	Cairo (Helwan) ...	1011.0	57	-	0	b	10149	+1	54	0	-	0	-	c	*	1	64	54				

RAINFALL.

Equivalents of Millimetres in Inches.

mm.	Inches.	mm.	Inches.
1	0·04	26	1·02
2	0·08	27	1·06
3	0·12	28	1·10
4	0·16	29	1·14
5	0·20	30	1·18
6	0·24	31	1·22
7	0·28	32	1·26
8	0·32	33	1·30
9	0·35	34	1·34
10	0·39	35	1·38
11	0·43	36	1·42
12	0·47	37	1·46
13	0·51	38	1·50
14	0·55	39	1·54
15	0·59	40	1·58
16	0·63	41	1·61
17	0·67	42	1·65
18	0·71	43	1·69
19	0·75	44	1·73
20	0·79	45	1·77
21	0·83	46	1·81
22	0·87	47	1·85
23	0·91	48	1·89
24	0·95	49	1·93
25	0·98	50	1·97

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Temperature. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Morning.	Weather. Afternoon.	Weather. Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	84	100	0·0	40	26	23	-	o	o	o b. f
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	
WESTMINSTER (St. James's Park)	98	95	0·0	38	29	28	-	f	f	fx f
CAMDEN SQ. (British Rainfall) ..	...	100	0·0	34	27	25	Trace	f	f	
HAMPSTEAD (Reservoir)	*	97	0·0	39	23	17	-	cx.	o. bc	bx. f
S. KENSINGTON (Museum Grounds)	*	94	0·0	39	27	22	-	b. f	f	f
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

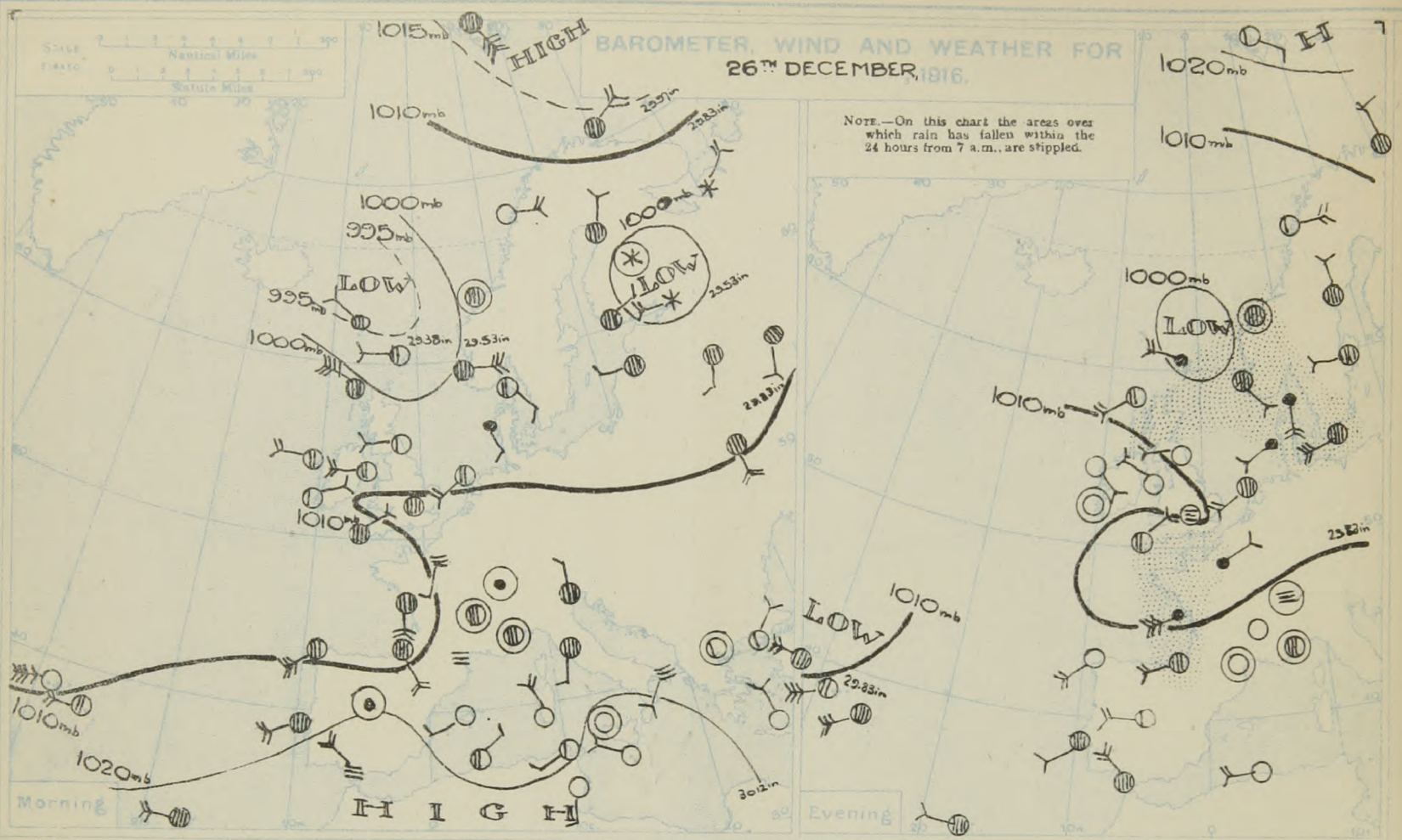
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
95	3·4	16

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 26TH DECEMBER, 1916.



NOTE.—On this chart the areas over which rain has fallen within the 24 hours from 7 a.m., are stippled.

FORECASTS FOR THE 24 HOURS NOON WEDNESDAY TO NOON THURSDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

Western Channel and Bay

0 a, 0 b, 1 — Westerly to Southerly winds, light to moderate, becoming less fine, some rain in west later; temperature rising

2 a, 2 b, 3 — Wind light, between North and West or variable; much mist and fog, otherwise fair generally;

4 a, 4 b, 5 — temperature low.

6 a, 6 b — Same as Nos. 0 and 1.

7 a, 7 b, 8 a, 8 b — Light variable to Southerly winds; mostly fair, some mist; rather cold.

9 a, 9 b, 10 a, 10 b — Southerly winds, light to fresh; fair, then unsettled, with some rain; temperature rising.

11 — Wind light, variable or North-Easterly, sea slight; some mist, otherwise fair.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF WEDNESDAY, 27TH DECEMBER, 1916.

GENERAL INFERENCE.

The anticyclone over these Islands seems likely to increase in intensity and to move eastward.

TEMPERATURE, WEATHER AND SEA DISTURBANCE.

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯
TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
◯ clear sky ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow ▲ hail. ≡ fog. ≡° mist. T, thunder. K, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ~~~

Normal Temperature of the Sea
Below 40° 40°-50° 50°-60° Above 60°
Scale of Tints for DECEMBER

Issue No. 20,124

DAILY WEATHER REPORT.

Wednesday, 27th December, **1916.**

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1004·2	10.	NE	5	S	1005·5	+5	10.	+7	NE.	3	S	–	*	10.
	Gorki	1007·6	32	SW	1	0	1002·4	0	30.	0	SW	1	0	–	*	19.
	Velieki Luki ...		.	.	.	.	1003·4	*	28.	-6	S	1	0	1	*	28.
	Hangö		.	.	.	.	1000·7	0	14.	-16	–	0	0	2	*	12
	Riga	1003·4	30.	WSW	2	0	1002·7	0	28.	-6	WSW	1	0	1	*	28.
	Petrograd ...	999·4	34.	E	2	0	997·1	+2	28.	-4	W	3	S	3	34	28.
	Moscow	1009·8	28.	SSE	3	0.	1008·4	0	32.	+16	SSW	2	0.	2	*	28
	Kiev	1016·3	30.	W	2	0.	1008·8	-6.	34	+2	S	4	0.	–	*	27.
	Kharkov ...	1017·4	30	–	0	0	1017·5	-1	25	-2	–	0	f	3	*	23
	Kishinev ...														*	
	Elisabetgrad ...	1019·2	32.	–	0	b	1002·6	+3	27	-5	SSE	2	0	2.	*	19
	Nicolaiev ...	1019·4	28.	–	0	f	1016·2	*	28.	-8	ESE	2	f	4	*	27
	Odessa	1020·6	37	NNE	2	b	1016·0	+5	39	-2	SSW	4	c	2	*	34
	Tarkhankout...	1019·2	39	NE	4	b		*							*	
	Soukhoum ...	1016·2	54	–	0	0.	1017·7	+1	52	0	–	0	0	–	*	48
Mediterranean.	Venice	1015·7	45	SW	1	0	1017·2	*	43	0	–	0	0	–	45	?
	Pesaro	1017·2	46	–	0	b	1017·7	*	43	-2	–	0	f	–	49	?
	Rome	1020·1	57	–	0	0	1019·6	*	54	+2	S	1	0	–	59	52
	Viesti	1017·9	55.	NW	1	b	1016·9	*	54	0	–	0	c	–	57	52
	Brindisi	1018·9	54	W	4	f	1017·7	*	55	0	SW	2	f	–	57	52
	Cagliari	1020·1	63	NW	3	b	1016·4	*	54	-1	NNW	3	b	–	70	46
	Palermo	1020·4	59	–	0	b	1021·3	*	52	-2	–	0	b	–	70	43
	Tripoli	1022·6	52	–	0	b	1022·7	*	50.	0	–	0	b	–	68	48
	Algiers	1015·5	63	–	0	b	1019·5	+1	57	-2	NE	1	bc	–	70	57
Sweden.	Hernösand ...						1005·5	*	46		N	2	b	*	*	*
	Stockholm ...						1005·3	*	50		W	2	0	*	*	*
	Wisby						1004·3	*	28		N	2	0	*	*	*

Iceland.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...						
Reykjavik	1002·3	30.		–	0	b
Vestmanna	999·9	28.		N	1	b
Seydisfjord	998·6	30		NE	4	c
Thorshavn	994·1	38.		NW	2	c

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	2.	1	44	37	op	bc.	0·4
	Banff	–	–	41	34	b	b.	2·8
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	*	*	42	36	o.c.	bc-b	2·1
	Skegness	–	–	39	33	o bc.	bc-b	0·0
Eng. N.W.	Morecambe							
	Southport							
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye							
Wales.	Rhyl							
	Colwyn Bay...	*	*	44	39	bc	bc.	2·4
	Llandudno	*	*	45	39	c-b	b.	3·3
	Aberystwyth	*	*	41	34	r.o.c	c.o.	0·0
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England, E.	Lowestoft							
	Felixstowe	Trace	–	40	32.	bcm	bcm	0·7
	Walton-on-Naze	Trace	–	39	34	bc	bc	0·2
	Southend-on-Sea	–	–	40	33.	oz	o.c.bc.b	0·0
England, S.E.	Margate	–	–	43	36	o	c.	0·0
	Ramsgate	–	–	42	33.	bc.om	od	0·0
	Hastings	–	1	43	35.	bc.o	or.	0·0
	Eastbourne	–	2.	41	32	oq	oqr	0·0
	Seaford	*	*	46	34	o	o.or.	0·0
	Brighton	–	–	42	31	c	c.	0·0
	Worthing	–	1	44	31	o	r	0·0
	Littlehampton	–	2.	41	33.	o.or	or.	0·0
	Bognor	*	*					
	Bournemouth	–	–	39	31	o	o	0·0
England, S.W.	Weymouth...	*	*					
	Torquay							
	Paignton	*	*					
	Penzance							
	Newquay	–	–	43	34	c	c.	0·0
	Bude							
	Ilfracombe							
	Weston-s-Mare							

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

27th & 28th Dec., 1916.	Sunrise.	Noon.	Sunset.
	G.M.T.	G.M.T.	G.M.T
Yarmouth	8·6	11.54	3.48
	8·6	11.55	3.44
Greenwich	8·8	12.1	3.55
	8·8	12.2	3.56
Wick	9.5	12.18	3.21
	9.5	12.14	3.22
Valencia	8.51	12.42	4.34
	8.51	12.43	4.35

NOTES ON YESTERDAY'S WEATHER.

Temperature remained below 40° in many parts of England, and sharp frost was experienced during the night. Bright sunshine was rather prevalent in the west and north of the Kingdom. Rain fell over the English Channel; 20 mm. at Jersey.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; z. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 363 — Thursday, 28th December

	STATIONS.	YESTERDAY EVENING: Barom. Millibars at M.S.L.	Temp. °F	Wind: Direc	Wind: Force 0–12.	Weather.	THIS MORNING: Barometer: Millibars at M.S.L.	Barometer: Change in 3 hours.	Temp: Dry Bulb. °F	Temp: Change in 24 hours. °F	Wind: Direc.	Wind: Force 0–12.	Direc. of Upper Cloud	Weather.	Sea 0–9.	PAST 24 HOURS: Rainfall. Millimetres.	Temp: Max. °F	Temp: Min. °F	Weather: Morning	Weather: Afternoon	Weather: Night	Sunshine for Yesterday. Hours.
BRITISH ISLANDS.	Lerwick ...	1013.6	35	-	0	bcm	1003.6	-8	44	+7	S	5	-	0	4	1	44	34	bc	bcm	om	*
	Deerness (Orkney)	1014.2	40	SW	2	ce	1001.3	*	43	+6.	SSE	4	-	or	4	6	43	37	b.bc.c	ce	c.or	0.0
	Stornoway ...	1011.9	43	SSW	5	0	997.0	-6	48	+9	SW	7	-	opq	6	6	48	37	od.rq.	o.	opq	0.0.
	Castlebay (Barra Isd.)	1013.4	43	SSW	4	0													op	o		
	Glasgow ...	1016.5	38	SSW	3	cm.	1008.1	-8	45	+9	SSW	4	-	ogr	*	4	45	35	b.bc.m	cm.	cm.ogr	0.0.
	Eskdalemuir ...	1013.2	31	-	0	0	1011.7	-7	39	+13	SSW	7	-	odm	*	1	39	23	bc.x.c	bc.o	oc.od	0.1.
	Malin Head ...	1012.7	39	S	5	cmq	1001.9	-2	46	+8	SSW	7	-	ompq	6	1	46	35	bcm	bcm	omqp	0.0
	Blacksod Point	1010.9	45	S	6	omq	1002.9	-2	51	+11	S	8	-	omé	6	4	51	39	cg	cgp	pmomr	*
	Valencia ...	1015.4	40	SSE	4	0	1010.0	-2	53	+10	S	5	-	od	*	10	53	43	onc	o.c	oc.or	0.0.
	Roche's Point	1018.7	48	S	5	0	1014.1	*	50	+5	SSW	4	-	r	3	1	50	45	c	c.o	or	*
	Birr Castle ...	1016.6	41	SSE	2	0	1010.2	*	50	+14	S	3	-	r	*	3	50	26	c	c.o	o.or	0.9
	Donaghadee ...	1017.3	38	S	3	bcm	1008.2	-4	45	+13	S	4	-	omrq	4	2	46	31	bcm	bcm	omrq	*
	Liverpool (Bidston)	1021.9	32	SE	2	b	1017.7	-2	38	+5	SE	3	-	o	2	0.1	39	28	bf	bf	bc.o	3.1
	Holyhead ...	1020.7	41	SW	5	bq	1014.7	-3	43	+9	SSW	7	-	omr	6	1	45	34	b.bc	bc.b	b.bcr	5.0
	Pembroke (St. Ann's)	1021.7	46	SE	3	bc	1018.1	-4	48	+13	S	5	-	o	3	-	48	35	c.bc	bc	bc.o	5.0.
	Scilly (St. Mary's)																					
	Falmouth ...	1022.9	43	ESE	2	b.	1021.7	-2	44	+9	S	3	-	c.	*	-	47	33	b.bc.z.	bc.b	b.bc	4.3
	Jersey (St. Aubin)	1021.1	42	ENE	3	bm.	1020.0	*	34	-9	W	2	-	cf	1	Trace	43	34	b.bc	bm.	bm.xu	5.0.
	Portland Bill ...	1022.9	40	NE	2	b	1022.6	-1	45	+4	S	3	5	c	3	-	45	37	bc	b.	b.bc.c	*
	Dungeness ...	1023.7	33	NE	1	f	1024.7	-1	42	+8	SSW	2	5	bc	3	-	45	32	f	f.	f.c.bc	*
	Dover	1023.4	30	-	0	b	1025.4	0	40	+7	S	3	5	c	3	0.3	40	29	f.o.c	c.bcf	bf.o	1.0.
	Wick	1014.6	39	SW	2	bc	1001.0	-9	44	+11	S	5	-	o	4	5	44	32	o.c.	c.bcm	c.ogp	*
	Nairn	1014.7	39	-	0	our	1001.1	*	46	+9	-	0	-	og	1	0.2	46	35	og	cgw	ogp	0.5.
	Aberdeen	1016.5	36	SSW	1	boz	1006.7	-8	43	+6	SSW	4	-	o	3	3	43	34	b.bc.o.z	co.z.	bc.bor	0.2
	Leith	1018.0	37	SW	1	c	1007.9	-6	46	+9	SSW	5	-	o	3	0.2	45	35	b.bc.z.c	cm.o.c	c.bc.po	*
	Tynemouth ...	1020.0	37	W	2	bc	1013.9	+3	36	0	S	4	-	omqr	3	1	39	34	bcm	bcm.	ogm.	*
	Spurn Head ...	1022.1	38	WSW	2	bcm	1020.4	-1	38	0	SSW	5	-	om	4	-	38	33	bcm	bcm	bcm	0.0.
	Yarmouth ...	1023.4	34	NW	3	b	1023.9	0	30	-3	WNW	2	-	f	2	-	40	28	bcf	bcf.	bcf	5.1
	Clacton-on-Sea	1023.8	36	WNW	2	b	1024.1	-1	34	+3	W	1	-	f	0	-	37	27	bm	bm	bm.f	4.9.
	Nottingham ...	1023.2	28	WSW	1	fx	1026.8	*	31	+8	SW	1	-	mx	*	-	31	21	fx	fx	fx	0.0.
	Benson (Oxon.) ...	1023.6	24	-	0	f	1022.4	-3	32	+5	S	3	-	omx	*	-	32	23	f	f	f.omx	*
	Sth Farnborough	1023.9	27	-	0	f	1023.5	-1	28		SSE	2	W	bcx	*	-	29	23	fx	fx	f.bcx	0.0.
	Loudon (Kew Obsy.)	1024.1	27	-	0	fx	1024.1	-2	28	+2.	-	0	-	fx	*	-	29	25	fx	fx.	fx	0.0
NORTHERN EUROPE.	Spitsbergen ...	1023.9	-13	SSE	3	b	1024.3	0	-15	-11	S	1	*	b	*	*	-4	-18				
	Vardö	1014.1	21	NE	3	0	1014.4	0	21	-4	-	0	-	0	3	*	28	21.				
	Bodö	1013.7	23	E	4	c	1015.9	0	25	+6	E	2	-	0	2	-	25	18				
	Christiansund ...	1012.2	30	E	2	5	1013.5	0	37	+5	-	0	-	c	4	25	32	27.				
	Skudesnaes ...	1014.0	37	NW	3	b	1015.1	-2	37	-2	E	3	-	0	2	1	41	32				
	Færder (Christiania Fjord)	1013.3	21	N	4	0	1018.4	0	19	-9	-	0	-	f	1	-	26	19				
	The Scaw (Skagen)	1009.3	37	NW	1	bc	1018.1	+1	32	-4	-	0	-	b	2	Trace	37	32				
	Blaavands Huk	1016.6	39	NW	3	b	1020.8	0	39	0	WNW	2	-	c	2	Trace	41	37				
	Copenhagen ...	1013.9	36	NW	3	c	1020.2	+3	37	4	NW	2	-	c	*	1	37	34				
	Bornholm ...	1011.9	36	WNW	3	m	1018.6	+5	37	0	NNW	3	-	o	1	1	37	34.				
FRANCE, &c.	The Helder ...	1022.6	39	W	1	b	1024.2	-1	41	-2.	SSW	2	-	c	1	-	43	39.				
	C. Gris Nez ...	1022.9	40	NE	2	m	1024.7	-1	34	-5	S	4	*	c	3	1	43	34				
	La Hève	*	39	E	2	m	*	*	33	-4	SE	2	*	m	2	-	48	32				
	Brest (St. Mathieu)	1022.3	43	NE	3	c	1024.6	-1	46	+1	S	3	*	o	3	-	46	43				
	Rochefort (Ile d'Aix)	1017.6	51	W	2	o	1025.3	+3	47	-5	NW	5	*	o	*	3	54	46				
	Biarritz	1022.3	54	W	4	r	1026.7	+1	54	0	WNW	3	*	o	3	2	57	52				
	Paris	1022.7	34	NE	2	b	1025.6	+1	30	-4	ENE	1	-	b	*	-	45	28.				
	Belfort	1023.5	36	E	6	o	1028.0	*	34	-12	E	2	*	o	*	2	46	33				
	Lyons	1019.8	48	W	2	r	1026.1	*	40	-10	-	0	*	o	*	4	53	40.				
	Nice	1013.5	47	E	2	b	1021.3	+5	47	+1	E	2	*	b	2	-	55	43.				
	Perpignan ...	1018.4	57	NW	3	o	1024.7	+5	54	+2	N	3	NW	bc	*	-	61	34.				
	Sanguinaire ...	*	57	E	2	o	*	*	54	0	NW	2	*	c	4	-	61	48.				
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	1009.2	*	SSW	9	m.							*									
	Madeira																					
	Gibraltar												*									
	Malta	*	*	*	*	*																
	Limassol	*	*	*	*	*	1011.7	+1	52	+2	NW	1	-	b	2	-	68	48.				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

2,100	metres	W.S.	11 mphs.
1,800	"	SWW	11 "
1,500	"	SWW	10 "
1,200	"	SWW	10 "
900	"	SWW	8 "
600	"	SWS	11 "
300	"	SSW	12 "
Surface		S'W	4 "

GALES
Duration and Extreme Force in British Islands.

LONDON OBSERVATIONS.

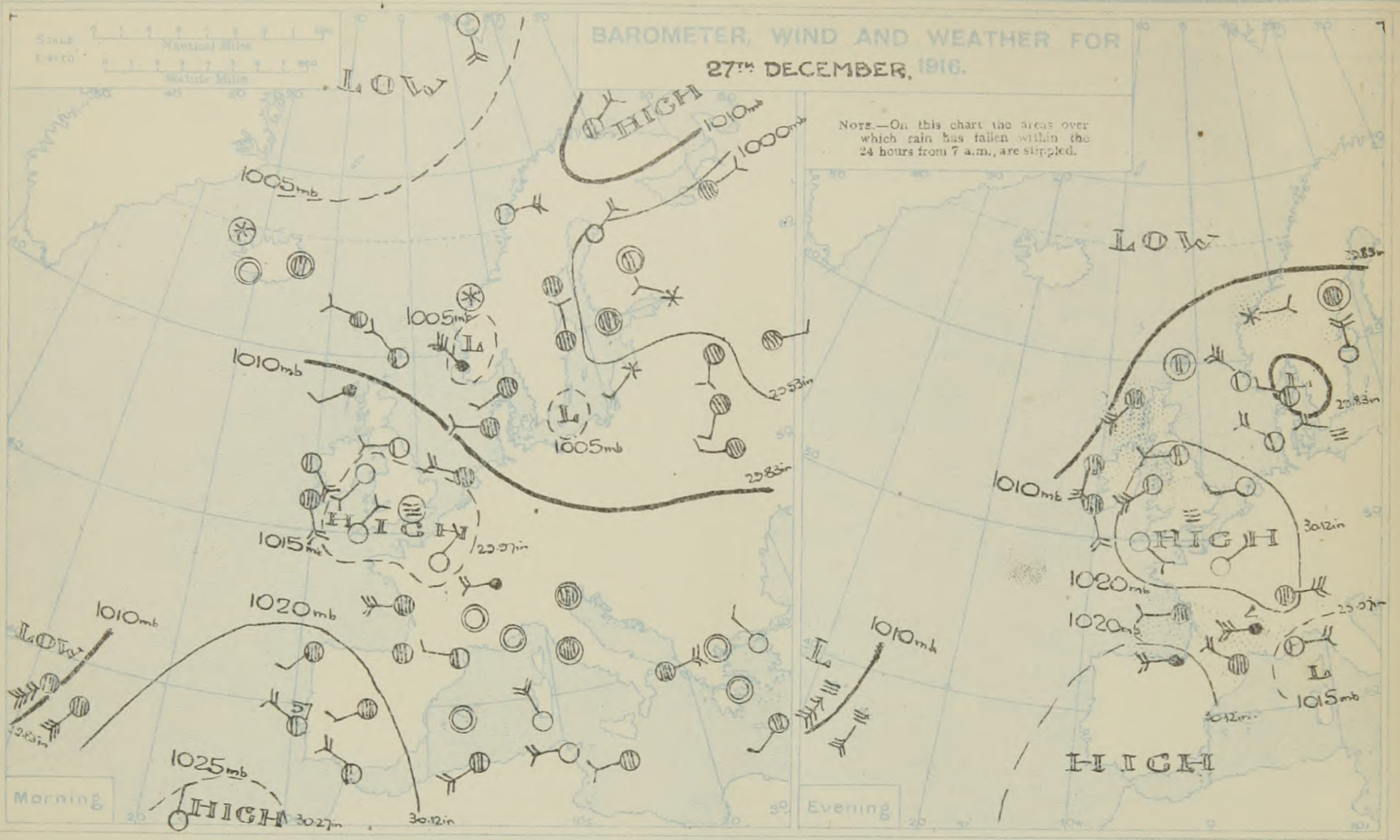
	Humidity: 15 h. Yesterday %	Humidity: 9 h. Today %	Sunshine for Yesterday. Hours.	24 Hours ended 9 h. To-Day: Temperature: Max. °F.	Temperature: Min. °F.	Temperature: Min. on Grass °F.	Rainfall. mm.	Weather: Morning.	Weather: Afternoon.	Weather: Night.
GREENWICH (Royal Observatory)	100	96	0.0	31	26	26	-	fx	fx	f.c.x
CITY (Bunhill Row)	*	*	*	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	100	94	0.0	33	28	26	-	f	f	f
CAMDEN SQ. (British Rainfall) ...	100	100	0.0	34	27	25	Trace	f	f	*
HAMPSTEAD (Reservoir)	*	88	1.9	33	28	25	-	bx f.	xf	xf
S. KENSINGTON (Museum Grounds)	*	92	0.0	33	27	25	-	f.	fx.	fx.
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
82	2.9	7.0.

Temperatures at Greenwich and Camden Square are from Glaisher screens.



FORECASTS FOR THE 24 HOURS NOON THURSDAY TO NOON FRIDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No Warnings Issued.

0 a, b 1 2 a, b	Southerly and South-Westerly winds, moderate to fresh or strong, much cloud, some rain; rather mild.
3 4 a, b 5	Southerly and South-Westerly winds, light or moderate; fair to overcast; milder.
6 a, b 7 a, b 8 a, b 9 a, b 10 a, b	Same as Nos. 0 - 2.
Western Channel and Bay 11	Southerly winds, light to fresh; sea moderate; variable, sky, some rain.

FURTHER OUTLOOK.

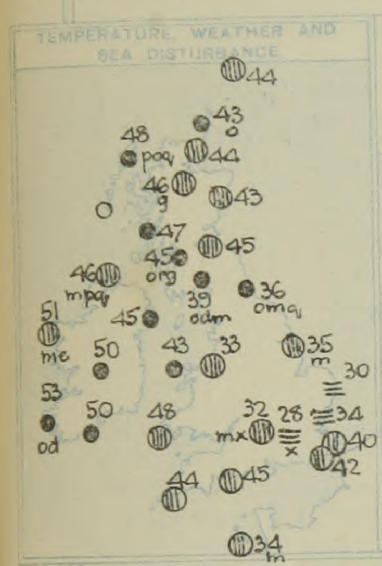
R. G. K. LEMPFERT, Superintendent, Forecast Division.

NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF THURSDAY, 28TH DECEMBER, 1916.

GENERAL INFERENCE.

The anticyclone will continue to recede southeastward, while the depression will extend further over the United Kingdom.



EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◐ sky ¼ clouded. ◑ sky ½ clouded. ◕ sky ¾ clouded. ● overcast sky. ● rain falling. ✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⊤ₓ, thunderstorm.

SEA DISTURBANCE.—Rough ~~. High ≈≈.

Scale 1:12 000 000
Nautical Miles 0 100 200 300 400 500
Statute Miles 0 100 200 300 400 500

Normal Temperature of the Sea
Below 40° | 40-50° | 50-60° | Above 60°
Scale of Tints for DECEMBER

HIGH
1020mb
30·12in
29·97in
29·83in
29·68in
29·53in
29·38in
29·24in
LOW
990mb
995mb
1000mb
1005mb
1010mb
1015mb
1020mb
1025mb
Barometer falling briskly
Barometer rising
Barometer falling
Barometer generally HIGH
50°
40°
32°
30·27in
30·12in

Issue No. 20,125. **DAILY WEATHER REPORT.** Thursday, 28th December, **1916.**

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Min.
			°F.					‡	°F.	°F.					°F	°F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1001·1	12.	NNE	2	0	1000·8	+1	18.	+8.	E	2	0	–	*	10.
	Gorki	998·9	28.	–	0	0	1009·3	+1	23.	-5.	SW	1	0	–	*	30.
	Velieki Luki ...	1004·0	27.	WSW	2	0	1008·4	*	27.	-3.	SSW	2	0	–	*	21
	Hangö						1003·3	-1	25.	+11	–	0	0	?	*	10.
	Riga	1006·6	28.	–	0	S	1007·1	+1	28	0	SW	1	S	5	*	27
	Petrograd ...	1000·8	25.	WNW	2	0	1003·4	+1	18	-10	NW	2	S	1	30	18.
	Moscow	1004·4	28	ESE	2	S	1002·9	+1	28.	-4	ESE	1	0	3	*	27
	Kiev	1012·0.	36	WSW	3	0.	1013·3.	+5.	32.	-2.	NW	2	0	1	*	32.
	Kharkov ...	1010·7	28	SW	2	0.	1011·3.	+1	32.	+7	SW	1	0	1	*	28.
	Kishinev ...														*	
	Elisabetgrad ...	1011·9	34.	WSW	2	b									*	
	Nicolaiev ...							*							*	
	Odessa	1013·6	29	W	3	0									*	
	Tarkhankout...	1014·6	50	SW	5	0	1015·8.	*	39		NE	4	b.	–	*	37
	Soukhoum ...	1015·9	54	–	0	0	1014·6	0	52.	0	–	0	0	–	*	?
MEDITERRANEAN.	Venice	1013·6.	51	–	0	0	1011·0.	*	56.	+13	–	0	0.	–	56	43
	Pesaro	1014·4	66	SW	1	bc.	1012·1.	*	45.	+2.	WSW	1	0	France	48	43.
	Rome	1015·3	55.	S	1	bc.	1012·2.	*	51	0.	–	0	0.	1	61	52.
	Viesti	1013·7	55.	–	0	b	1011·3.	*	59	+5.	–	0	b	–	59	51.
	Brindisi	1016·1	57	S	3	0	1011·6	*	57	+2.	E	4	0.	–	64	50.
	Cagliari	1018·8	66	SE	2	0.	1015·1	*	52.	-2.	NNW	4	b	–	68	46.
	Palermo						1015·3	*	64.	+12.	–	0	b	–	66	50.
	Tripoli						1019·9	*	52.	+2.	–	0	b.	–	64	50
	Algiers	1020·4	64.	W	3	b.	1020·8	+1	59	+2.	WSW	4	c.	–	73	57.
SWEDEN.	Hernösand ...	1005·6	5	N	2	0	1006·9	*	10		–	0	0	*	*	*
	Stockholm ...	1006·4	12.	W	2.	0	1006·7	*	10		N	2	0	*	*	*
	Wisby	1006·6	27.	NNW	2.	0.	1005·0	*	30		SSE	2.	0	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc	Force 0–12.	Weather.
		°F	F			
Isafjord ...	1005·2	30.		–	0	s
Reykjavik	1007·0.	19		–	0	b
Vestmanna	1006·4	21		–	0	b
Seydisfjord	1009·2	21		–	0	c
Thorshavn	1009·0.	31.		NW	2	c

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY. UP TO 18h.

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F			Hr.
Scotland.	Oban	–	–	44.	33.	bc	bc.	0·0
	Banff	–	–	40	34.	bc	b.	0·0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...	–	–	40	32.	oz	oz.	0·0
Engd. N.E.	Harrogate	–	–	40	31	b	b. bc.	4·6
	Skegness	–	Trace	39	27	bf	b	4·3.
Engd. N.W.	Morecambe							
	Southport							
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	–	–	30	20	fz	f	0·0
Wales.	Rhyl	–	–	41	27	bcz	bc.	6·7
	Colwyn Bay...	*	*	42	29	bc	bc	6·7
	Llandudno	*	*	45	30	b	b	6·1
	Aberystwyth	*	*	42	27	o c b	bc. c	6·5
	Tenby							

	STATIONS.	Rainfall Night. 18h–9h.	Rainfall Day. 9h–18h.	Temperature Max.	Temperature Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
England. E.	Lowestoft							
	Felixstowe	–	Trace	39	28.	bcf	bcf.	4·2
	Walton-on-Naze							
	Southend-on-Sea	–	–	34	26.	bf	bf.	0·0
England. S.E.	Margate	–	–	39	35.	om f	f.	0·0
	Ramsgate	Trace	–	39	32.	f	f.	0·0
	Hastings	2.	–	39	32.	er. bc. b	bc.	3·4
	Eastbourne	3	–	37	32.	m	bcm.	1·5
	Seaford	*	*	40	30	bc	c	4·5
	Brighton							
	Worthing	–	–	39	30	b	bc.	4·2
	Littlehampton	–	–	41	33			4·2
	Bognor	*	*					
	Bournemouth	–	–	38	27	b	b.	4·8
England. S.W.	Weymouth...	*	*					
	Torquay	–	–	44	33	b	b.	5·9
	Paignton	*	*					
	Penzance	–	–	48	33	b	b	5·5
	Newquay	–	–	44	32.	b	b.	5·7
	Budé	–	–	44	28	b	b	6·0
	Ilfracombe	–	–	42	32.	bc. b	b	6·0
	Weston-s-Mare	–	–	38	26.	f	f.	0·0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

28th & 29th Dec., 1916.	Sunrise.	Noon.	Sunset.
	G.M.T.	G.M.T.	G.M.T
Yarmouth	8.16	11.58	3.44
	8.6	11.55.	3.45
Greenwich	8.8	12.2	3.56
	8.8	12.2.	3.57
Wick	9.5	12.14	3.23.
	9.5	12.14	3.23.
Valencia	8.51	12.48	4.36
	8.51	12.43.	4.36

NOTES ON YESTERDAY'S WEATHER.

Frost continued through the day over a large portion of England, accompanied by fog or mist. At some coast stations the sun shone for several hours. Rain fell in the night in the West & North.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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† The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 364 (Friday 22nd December

	STATIONS.	YESTERDAY EVENING					THIS MORNING.									PAST 24 HOURS.						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	
			°F					‡	°F.	°F.							°F.	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	992·4	47	SSW	5	om.	993·9	0	46	+2	SW	5	-	om	4	9	47	43	op	om.	omr	*
	Deerness (Orkney)	993·5	46	S	3	r	992·5	*	46	+3	SW	3	-	bc	3	6	47	40	oe	or	rpc.bc	0·0
	Stornoway ...	993·1	49	SW	6	oq	992·6	+1	48	0	SW	4	-	bc	3	2	52	45	opq	opq	abcp	0·0
	Castlebay (Barra Isd.)	996·9	50	WSW	4	bc	996·3	0	50	...	SW	6	-	op	6	2	51	48	opm	opmbc.	bebop	0·0
	Glasgow ...	1000·0	50	SW	5	od.	1000·4	0	48	+3	SW	4	-	og	*	11	52	45	omgp	omqp.	or.op	0·0.
	Eskdalemuir ...	1008·0	42	SSW	6	omr	1002·3	0	47	+8	SSW	4	-	o	*	44	48	38	cdorm	orm	orqod.	0·0.
	Malin Head ...	998·1	51	SW	5	omqp	1000·6	0	48	+2	SW	4	-	om.	6	1	51	47	cmqp	omqr	om	0·0.
	Blacksod Point	1000·9	49	S	6	ofr	999·1	-3	49	-2	S	6	-	omp	6	3	51	47	ofe	ofd.	omfom	*
	Valencia ...	1007·0	53	SSW	4	b	1003·4	-6	52	-1	SSW	5	-	or	*	10	54	52	od	od.r	opoor	0·0
	Roche's Point	1010·2	51	SW	4	r	1006·2	*	52	+2	SW	5	-	r	5	13	52	50	fd.	fd.	dr	*
	Birr Castle ...	1005·4	54	SW	2	r	1003·7	*	50	0	SW	1	-	r	*	6	59	49	odr	odr	or	0·0
	Donaghadee ...	1001·6	54	SW	5	opmq	1001·3	-1	51	+6	SSW	5	-	omq	4	5	54	45	ompq	ompq	ompq	*
	Liverpool (Bidston)	1008·4	50	SSW	3	o	1006·3	0	51	+18	SSW	3	8	o	3	1	53	33	om	od.	oq	0·0.
	Holyhead ...	1007·3	51	SW	6	ofeq	1005·1	-3	50	+7	SW	5	-	fr	4	2	51	43	orfd	fdpof	fe	0·0.
	Pembroke (St. Ann's)	1012·3	50	S	6	f	1009·8	-1	51	+3	SSW	6	-	omr	5	12	52	47	opor	ofr	ofpmr	0·0
	Scilly (St. Mary's)																		oqoeq	oqrdq		
	Falmouth ...	1016·0	52	SW	6	odq	1015·0	-1	52	+8	SW	8	-	odq	*	14	53	44	oqoeq	oqrdq	dqrq	0·0.
	Jersey (St. Aubin)	1021·9	48	SSW	2	oe	1020·5	*	51	+7	WSW	4	-	o	3	1	51	34	c.oe.o	oc.oe.	od.d	0·0.
	Portland Bill ...	1017·0	46	SW	5	or	1014·1	0	48	+3	SW	6	-	odm	4	4	48	44	c.o	or	ordm	*
	Dungeness ...	1020·1	41	SW	4	c	1013·3	-1	48	+6	SW	5	-	r	4	5	50	43	bc	bc	acomr	*
	Dover	1019·3	44	SW	6	c	1014·0	0	52	+12	SW	6	SW	r	6	6	52	39	c.o	o.c.	cord	0·0.
	Wick	995·3	46	S	2	r	993·8	0	42	-2	WNW	2	-	bc	3	3	48	40	ogom	compd.	pbom	*
	Nairn	997·9	50	WSW	4	cg	994·4	*	46	0	W	2	-	bc	2	1	50	43	cqg	cpg	cgp	0·0
	Aberdeen	997·1	45	SSW	3	o	997·0	+1	41	-2	SSW	2	-	o	2	2	46	36	o	or.o	cbc.o	0·0
	Leith	999·2	52	SW	4	o	999·1	0	50	+5	SW	3	SW	c	3	9	53	45	opqwo	oqpgo.	orgo.c	*
	Tynemouth ...	1003·7	45	SW	3	omqr	1001·8	0	51	+15	WSW	3	-	bcm	3	5	51	35	omqr	omqr	cmp	*
	Spurn Head ...	1010·3	37	SSW	6	oqr	1006·8	0	44	+9	SW	5	-	o	5	2	46	41	om	orq	oq	0·0
	Yarmouth ...	1015·7	38	SW	5	o	1009·2	0	51	+21	WSW	4	-	c	4	3	51	29	bcf	o.	omqbc	0·0.
	Clacton-on-Sea	1018·4	40	SSW	3	o	1012·7	0	47	+13	WSW	2	-	o	2	7	48	33	f.c.o.	oq.	oqdr	0·0.
	Nottingham ...	1012·4	43	SW	3	r	1007·7	*	51	+20	SW	2	-	o	*	5	51	30	fxmo.	or	r.o.	0·0.
	Benson (Oxon.) ...	1015·8	43	SSW	5	o	1011·6	0	51	+19	SSW	4	-	o	*	2	51	32	om	o	or.o	*
	Sth Farnborough	1017·1	44	SW	3	r	1012·8	0	52	+24	SW	5	-	od.	*	2	52	28	bc.om	odm	or.od.	0·0.
	London (Kew Obsy.)	1017·2	43	SSW	4	om	1012·9	0	51	+23	SW	4	-	o	*	3	52	27	fx	fxom.	omord.	0·0.
NORTHERN EUROPE.	Spitsbergen ...	1022·1	-17	-	0	b	1017·7	-1	-19	-4	NE	1	*	b.	*	*	15	-22.				
	Vardö	1013·6	19	-	0	0	1013·1	0	30	+9	SE	1	-	o	2	*	30	19.				
	Bodö	1013·7	19	E	4	c	1005·6	-5	19	-6	E	4	-	b	2	-	25	16				
	Christiansund ...	1003·0	34	SE	4	o	999·6	-2	34	-3	E	3	-	o	3	-	37	28				
	Skudesnaes ...	1001·7	39	S	6	r	999·1	+1	43	+6	-	0	-	o	4	15	43	37.				
	Færder (X'tania Fjord)	1012·0	25	NNE	4	s	997·7	-4	25	+6	N	6	-	s	3	?	25	19.				
	The Scaw (Skagen)	1013·2	37	SSW	2	o	999·8	-8	37	+5	SW	2	-	r	2	8	39	32				
	Blaavands Huk	1014·9	41	SSW	4	r	1000·3	-5	43	+4	SW	4	-	r	5	11	43	37.				
	Copenhagen ...	1019·1	37	WSW	4	m	1001·1	-8	36	-1	WSW	4	-	r	*	8	37	32				
	Bornholm ...	1019·5	37	W	4	m	1003·7	-9	36	-1	WSW	8	-	r	2	1	37	34				
FRANCE, &c.	The Helder ...	1018·0	39	SSW	4	o.	1008·3	-2	46	+5	SW	4	-	o	4	2	46	37.				
	C. Gris Nez ...	1026·3	41	SW	6	m.	1014·3	0	48	+14	SW	7	*	f	5	28	50	37				
	La Hève	...	37	SSW	4	o	...	*	46	+13	SW	5	*	o	5	2	46	33				
	Brest (St. Mathieu)	1021·6	56	S	5	o	1021·3	-1	52	+6	SW	6	*	o	5	-	56	46				
	Rochefort (Ile d'Aix)	1028·6	48	SW	3	c	1028·8	0	52	+5	WSW	4	*	o	*	2	54	47				
	Biarritz	1030·3	52	ESE	1	b	1031·3	0	46	-8	ESE	1	*	b	2	-	55	46				
	Paris	1025·5	41	SSW	2	o	1022·9	0	48	+16	SW	4	-	o	*	-	48	30				
	Belfort	1029·6	38	-	0	o	1028·7	*	45	+1	WSW	7	*	o	*	-	48	34				
	Lyons							*					*		*							
	Nice												*									
	Perpignan ...	1029·2	52	NW	2	b	1031·8	+2	39	-15.	W	1	-	b	*	-	61	32.				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	1010·0	*	SSW	9	o.	1016·7	+1	61	...	SSW	6	*	r	6	7	64	59.				
	Madeira	1025·3	63	E	3	bc	1026·1	+1	55	...	N	2	-	b	2	-	66	54.				
	Gibraltar	1028·8	59	SE	4	b	1030·1	*	58	...	SE	5	*	c	4	-	64	63.				
	Malta	*	*	*	*	*	1025·6	+3	59	...	ESE	3	-	b	4	8	63	57.				
	Limassol	*	*	*	*	*	1013·1	+3	52	0.	-	0	-	b	2	-	70	48.				
	Alexandria ...	1015·1	66	WNW	3	b	1015·7	+1	64	...	NNW	2	NW.	bc	1	7	70	57.				
	Cairo (Helwan) ...	1015·7	61	S	2	b	1014·9	+3	54	...	S	2	-	bc	*	-	68	52.				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands.

Blacksod Point: 28th Dec
S.8. 7h - 20h.

Falmouth: 29th Dec
S.W.8. 3h - 7h.

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	89	92	0·0	53	31	27	4	o. c.	o.	or. o.
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	87	94	...	54	28	30	5	f. o.	o.	ord.
CAMDEN SQ. (British Rainfall) ..	95	97	0·0	53	35	31	6	of.	o.	*
HAMPSTEAD (Reservoir)	*	98	0·0	51	? 33	36.	6	of.	o	or.od.
S. KENSINGTON (Museum Grounds)	*	94	0·0	54	33	43	4	fomx	o.	o.or.
RICHMOND PARK	*	*	...	*	*	*	*	*	*	*

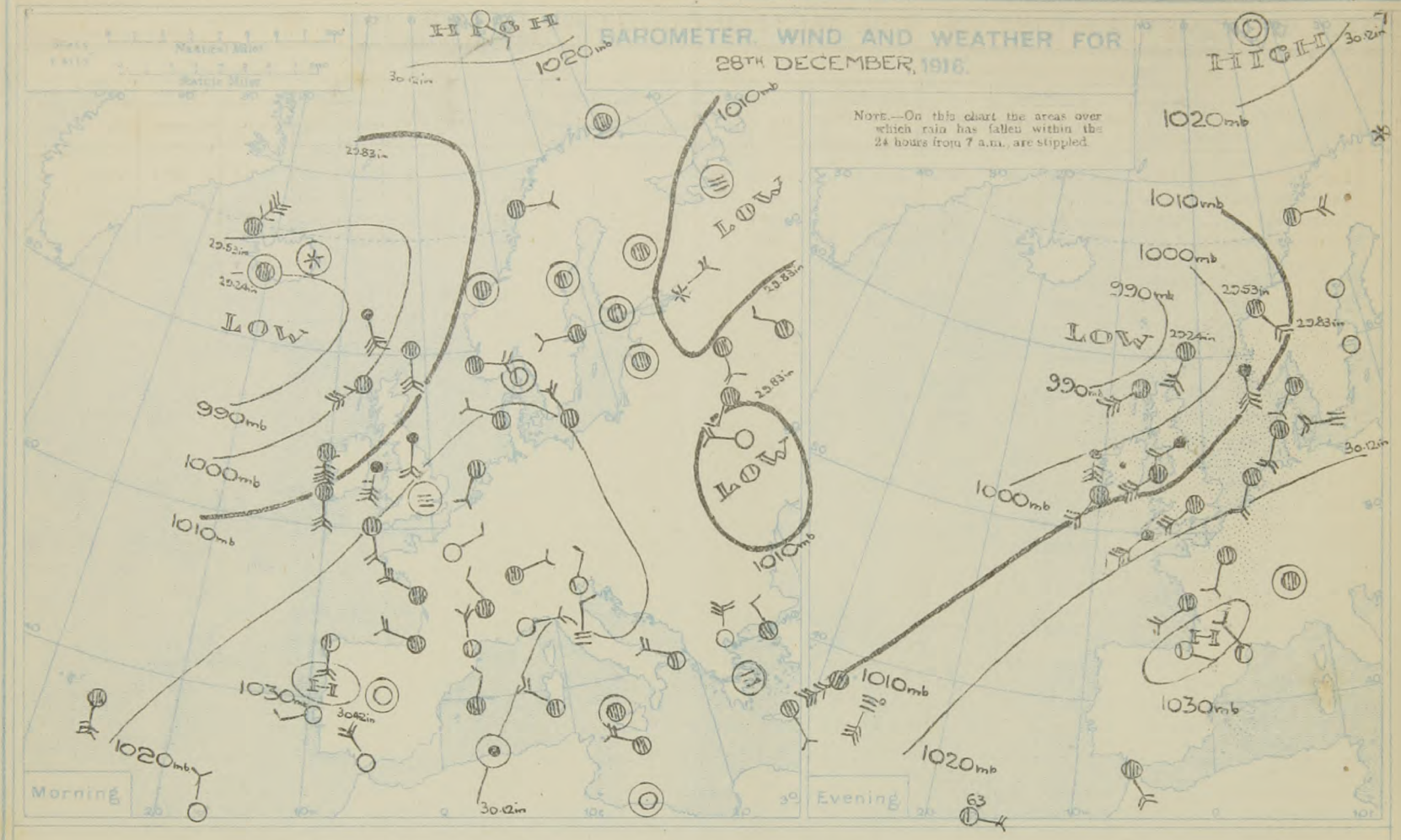
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
117	42	100

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON FRIDAY TO NOON SATURDAY.

FORECAST DISTRICTS.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

Cones Hoisted at 7.55h.

Western Channel and Bay

0 a b, 1 — Wind mainly South-Westerly, moderate or fresh; changeable, some rain, mist locally; rather mild.

2 a b, 3, 4 a b — Wind between South and South-West, moderate to fresh or strong; rain at times; mild.

5, 6 a b, 7 a, 8 a b, 9 a b, 10 a b — Wind between South and West, fresh or strong; a gale in places; rain at times, mist locally; mild.

11 — South-Westerly winds, strong to a gale, sea rough or high; rain at times, squally.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division. NAPIER SHAW, Director.

SYNOPTIC CHART FOR THE MORNING OF FRIDAY, 29TH DECEMBER, 1916.

GENERAL INFERENCE.

The new depression off the South-West of Ireland is likely to move or spead in an Easterly direction.

TEMPERATURE, WEATHER AND SEA DISTURBANCE

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈

HIGH
1015mb
29.97in
30
1010 mb
29.83in
1005mb
1000mb
995mb
990mb
985mb
29.68in
29.53in
LOW
40°
34
985mb
29.38in
29.24in
990mb
46
43
37
Bar falling decidedly
995mb
41
48
51
Barometer
49
50°
43
46
50
51
Barometer
steady
52
48
1000mb
1005mb
1010mb
1015mb
1020mb
falling
51
52
45
30.12in
30.27in
30.42in
40°
46
39
HIGH
61
1015mb
1020mb
58
1025mb
55
030mb

Scale 1 : 3 x 10⁶
Nautical Miles
Statute Miles

Normal Temperature of the Sea
Below 40° | 40–50° | 50–60° | above 60°
Scale of Tints for DECEMBER.

Issue No. 20,126

DAILY WEATHER REPORT.

Friday, 29th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp. °F.	Wind. Direc.	Wind. Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours. ‡	Temp. Dry Bulb. °F.	Temp. Change in 24 hours. °F.	Wind. Direc.	Wind. Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max. °F	Temp. Min. °F
RUSSIA 7 a.m. and 9 p.m. Local Time.	Archangel ...	1004·2	16	SW	2	0	1008·4	0	5	-13	-	0	f	-	*	2
	Gorki	...	...	...	...	...	1011·4	0	19	-4	SW	1	0	-	*	19
	Velieki Luki ...	...	...	...	...	...	1010·1	*	27	0	S	3	0	-	*	25
	Hangö	...	...	...	...	...	1012·8	+1	12	-13	-	0	c	-	*	10.
	Riga	1007·4	32	-	0	0	1011·0	0	28	0	-	0	0	H	*	25.
	Petrograd ...	1007·3	19	SSW	2	0	1007·9	0	19	+1	ENE	3	S	-	19	14
	Moscow	1012·2	21	WNW	3	bc	1011·9	0	14	-14	NW	1	0	-	*	10.
	Kiev	1011·1	30	SE	3	S	1003·8	0	28	-4	NW	3	0	19	*	28.
	Kharkov ...	1015·7	32	WNW	1	0	1011·7	0	30	-2	S E	1	c	-	*	30
	Kishinev ...									...					*	
	Elisabetgrad ...	1013·3	30	SE	2	b	1005·7	+1	32	...	S	2	0	1	*	28
	Nicolaiev ...							*							*	
	Odessa														*	
	Tarkhankout...							*							*	
	Soukhoum ...														*	
MEDITERRANEAN.	Venice	1016·1	45	-	0	b	1023·7	*	43	-13	NNE	1	b	-	50	41
	Pesaro	1016·1	46	N	1	0	1023·0	*	48	-3	W	1	0	-	51	45
	Rome	1014·4	54	-	0	b	1018·2	*	45	-9	N	1	f	1	61	45
	Viesti	1015·1	54	NW	2	b	1019·1	*	55	-4	SW	1	c	Trace	61	52
	Brindisi	1012·6	54	W	2	0	1013·9	*	59	+2	NW	3	bc	-	64	54
	Cagliari	1017·4	63	NW	4	b	1017·7	*	57	+5	NW	3	c	-	68	48
	Palermo	1015·1	61	SSE	2	b	1017·5	*	48	-16	-	0	b	-	70	45
	Tripoli	1018·7	54	-	0	b	1018·8	*	52	0	-	0	b	-	66	46
	Algiers	1021·0	59	WNW	4	c	1020·0	+1	53	-4	-	0	r	1	66	55
SWEDEN.	Hernösand ...	1011·4	14	W	2	0	1018·3	*	16	+6	W	2	c	*	*	*
	Stockholm ...	1011·4	5	-	0	b	1016·0	*	14	+4	-	0	0	*	*	*
	Wisby	1010·9	21	N	4	0.	1017·6	*	28	-2	N	4	0.	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb. F	Temp. Change in 24 hours. F	Wind. Direc.	Wind. Force 0–12.	Weather.
Isafjord ...	1002·1	27	-3	NE	8	0
Reykjavik	999·9	23	+4	N	3	bc
Vestmanna	988·2	37	+16	-	0	0
Seydisfjord	994·6	34	+13	-	0	S
Thorshavn	997·8	41	+10	SSE	6	r

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h. Mm.	Rainfall Day. 9h-18h. Mm.	Temperature. Max. F.	Temperature. Min. F	Weather. Forenoon.	Weather. Afternoon.	Sunshine Hr.
Scotland.	Oban	11	10	50	40	r	Q	0.0
	Banff	4	Trace	47	31	bc o	or c	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews...							
Eng. N.E.	Harrogate	-	6	44	31	or	or	0.0
	Skegness	Trace	2	39	30	f.o	or	0.0
Eng. N.W.	Morecambe	Trace	14	44	29	-	-	0.0
	Southport	1	2	49	28	or o	or o	0.0
Midlands.	Leamington Spa							
	Malvern	-	2	46	28	c	c	0.0
	Ross-on-Wye	Trace	1	49	22	bcm	c. or	0.0
Wales.	Rhyl	Trace	Trace	53	27	bc cp	p	0.0
	Colwyn Bay...	*	*	52	38	bc	cv	0.0
	Llandudno	*	*	56	35	cp	r	0.0
	Aberystwyth	*	*	52	33	o.c.o	o. r	0.0
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h. Mm.	Rainfall Day. 9h-18h. Mm.	Temperature. Max. °F.	Temperature. Min. °F.	Weather. Forenoon.	Weather. Afternoon.	Sunshine Hr.
England, E.	Lowestoft							
	Felixstowe	Trace	-	40	28	f bcm	bc o	0.3
	Walton-on-Naze							
	Southend-on-Sea	-	-	40	27	b.bc.c.o	o	0.3
England, S.E.	Margate	-	-	42	?	o	o	0.0
	Ramsgate	Trace	-	40	28	o	o	0.0
	Hastings							
	Eastbourne	Trace	-	45	30	bc.o	oq	0.0
	Seaford	*	*	46	33	o	o	0.0
	Brighton	-	-	45	32	c.o	oc	0.0
	Worthing	-	-	45	31	c	o	0.0
	Littlehampton							
	Bognor	*	*	46	31	o	o	0.0
	Bournemouth	Trace	1	48	?	o	o	0.0
England, S.W.	Weymouth...	*	*	50	33	com	om.r	0.0
	Torquay	-	2	52	33	o	o. r	0.0
	Paignton	*	*					
	Penzance	Trace	3	53	?	om r	or	0.0
	Newquay	-	2	53	33	o	r	0.0
	Bude	-	5	53	31	o	r	0.0
	Ilfracombe	-	5	44	33	bcgom	m.r	0.0
	Weston-s-Mare	-	Trace	49	25	o	o. r	0.0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

29th & 30th Dec. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8.6	11.55	3.45
	8.6	11.56	3.46
Greenwich	8.8	12.2	3.57
	8.8	12.3	3.58
Wick	9.5	12.14	3.23
	9.5	12.16	3.24
Valencia	8.51	12.43	4.36
	8.51	12.44	4.37

NOTES ON YESTERDAY'S WEATHER.

Temperature rose very quickly over England, reaching a maximum above 50° during the night. Very few stations recorded any bright sunshine, and rain fell very generally; 17 mm. at Falmouth and 44 mm. at Eskdalemuir.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 365 | Saturday, 30th December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday.
			°F.					″	°F.	°F.							°F.	°F.				Hours.
BRITISH ISLANDS.	Lerwick ...	9888	46	WSW	3	o	988·2	0	45	-1	SW	4	.	or	3	4	47	43	om	om'p.	oc'p.	*
	Deerness (Orkney)	9898	44	SW	4	r													bc.c.o	or		
	Stornoway ...	9903	47	WSW	6	c'pq	992·2	+2	47	-1	WSW	6	.	bcq	5	7	49	43	cpq	c'pq	bc'pq	0·2
	Castlebay (Barra Isd.)	9945	49	WSW	4	b	9968	+2	47	-3	W	6	.	o'p	6	7	50	45	or	r.o.b.	bcc.o'p	0·2
	Glasgow ...	9985	47	SW	4	omd.	9993	-1	44	-4	WSW	4	.	or	*	5	49	44	o'm'p	om'p.c'p.	c'pq.o'p	0·0.
	Eskdalemuir ...	10008	45	SSW	4	or	10014	0	42	-5	SSW	4	.	o	*	9	48	42	a.o.e.or	or.a.or	c.o.	0·0.
	Malin Head ...	9970	48	W	6	bcq	9998	+3	45	-3	SW	5	SW	bcq	6	3	50	43	c.eq	bcq	cq'p	0·0
	Blacksod Point	1001·3	48	SW	6	cm'r.	10051	+5	47	-2	SW	7	SW	c	6	4	49	45	cg	a.m'p.	cm'bc'p.	*
	Valencia ...	10085	51	SW	4	c	10120	+4	50	-2	SW	5	.	b	*	2	53	47	or.c	c.o.	c.bc	0·1.
	Roche's Point	10081	50	WNW	3	b	1011·6	*	47	-5	W	3	.	b	4	3	53	47	d.o	o.b	bo'b.	*
	Birr Castle ...	10056	49	W	1	c	10097	*	46	-4	W	1	.	c	*	7	50	44	or.c	c	c'p.	0·5·
	Donaghadee ...	9999	48	W	5	bcmq	10029	+2	45	-6	SW	4	SW	bcmp	3	2	51	44	cm'p.	bcmq	bcmq	*
	Liverpool (Bidston)	1005·1	49	WSW	5	o	10056	+2	46	-5	SW	4	W	bc	4	8	53	43	or.a	o.	c.bc	0·0.
	Holyhead ...	10059	49	SW	4	o.g.	10067	+1	47	-3	NW	4	.	bc	4	10	51	47	fr.fe.d.	fd.a.co	b.o.p.c	0·0.
	Pembroke (St. Ann's)	1009·7	51	SW	5	o	10105	+2	50	-1	WSW	5	W	bq	4	2	52	48	o.f.m.r	o.f.m.r.o	o.c.b.c.b	0·0.
	Scilly (St. Mary's)																					
	Falmouth ...	1013·3	53	WSW	8	o.d.q	1015·4	+6	50	-2	W	5	.	b	*	19	58	47	d.q.c.q	r.q.d.q	d.q.r.bc	0·0.
	Jersey (St. Aubin)	1018·5	52	SW	3	o	1017·3	*	49	-2	W	4	.	b	3	16	54	48	b	c.c.a	o.r.b	0·1.
	Portland Bill ...	1011·7	51	WSW	7	o.d.r	1012·4	+1	49	-1	WSW	5	W	c	4	17	52	48	o.d.r	o.d.r	o.n.d.c.	*
	Dungeness ...	1011·5	50	SW	7	r	10085	-1	45	-3	WSW	5	.	or	5	14	50	45	mr	mr	o.r.f.o.r	*
	Dover	1011·4	50	WSW	7	r	10099	+2	47	-6	W	4	W	r	2	9	52	46	o.d.r	o.d.n	o'pr	0·0
	Wick	9910	43	S	2	c	9931	+1	41	-1	SSW	3	-	bc	2	2	46	39	bc.e.m.	c.m'p.	b.e.m.	*
	Nairn	9918	45	WSW	2	c'pq	9943	*	42	-4	WSW	1	.	cd.	2	3	48	40	bc.o'p	c'p.	c'p.bc.c	0·0.
	Aberdeen	9942	44	SSW	3	bc	9959	+1	43	+2	SSW	3	.	o	2	-	46	39	om	om.c	ba'b.o	0·0.
	Leith	9969	48	W	4	c	9986	0	46	-4	WSW	3	W	c	3	0·4	50	45	co.u'pc	c'p.c.q.c	c.b.e.w.e	*
	Tynemouth ...	9995	49	W	4	bq	10012	0	48	-3	WSW	3	.	om	3	-	53	44	om	b.c.m.q	b.e.m.	*
	Spurn Head ...	10028	48	SW	5	om	10050	0	44	0	SW	4	.	om	4	7	50	43	om.r	om.	b.e.m.	0·0.
	Yarmouth ...	10053	55	WSW	5	c	10060	+1	47	-4	WNW	3	.	om	4	1	55	46	omd	omd.c'p.	b.c.o.	0·0
	Clacton-on-Sea	10081	50	WSW	2	o	10081	0	47	0	WNW	2	.	r	1	3	50	45	o.g.e	o.g.c'p.	o.g.e.r	0·0.
	Nottingham ...	10054	53	W	4	c	10068	*	45	-6	W	1	SW	c	*	4	55	45	or	o'p.c	c'p.o	0·0.
	Benson (Oxon.) ...	10078	52	SW	3	r	10088	+2	47	-4	SW	4	.	bc	*	6	55	47	o.o.q	or	or	*
	Sth Farnborough	10094	53	W	5	o	10099	+1	47	-5	SW	4	.	r	*	4	54	47	d.o.	or.o	or.c.d	0·0.
	London (Kew Obsy.)	10092	53	SW	5	o	10099	+2	48	-3	WSW	4	.	o	*	4	54	47	o.m.d.o	o.g.r.o.	o.o.d.c.r	0·0.
NORTHERN EUROPE.	Spitsbergen ...	10150	10	SE	6	o	1014·9	+1	19	+38	S	7	*	o	*	*	19	-19				
	Vardö	10128	25	SE	2	bc	10128	0	23	-7	NE	4	-	s	4	*	30	23				
	Bodö	1002·6	18	E	4	b	10006	-1	19	0	E	4	.	b	2	-	19	16.				
	Christiansund ...	9928	46	SE	2	b	992·4	-1	37	+3	NNE	1	_	b	3	3	46	30.				
	Skudesnaes ...	9930	41	S	5	r	9950	0	39	-4	S	6	.	r	5	7	43	37.				
	Færder (X'tiania Fjord)	9997	27	NNE	5	o	9993	0	27	+2	N	4	-	o	2	?	27	25.				
	The Scaw (Skagen)	9989	37	N	2	o.	997·9	+1	36	-1	E	2	.	o	2	6	41	34.				
	Blaavands Huk	9991	41	WSW	1	r	9995	0	41	-2	W	2	.	o	3	9	45	39.				
	Copenhagen ...	9990	41	NW	3	m	9979	+3	39	+3	NW	1	.	r	*	18	45	36				
	Bornholm ...	9984	43	W	5	f	9980	+2	37	+1	NNE	2	.	r	1	9	41	32.				
FRANCE, &c.	The Helder ...	10037	48	SW	6	r	1005·1	+1	46	0	WSW	2	.	o	3	6	48	46.				
	C. Gris Nez ...	1011·8	50	WSW	7	r	1008·4	-2	46	-2	W	6	*	r	5	17	50	46				
	La Hève	...	44	SW	5	o	...	*	45	-1	NW	5	*	r	5	7	50	41.				
	Brest (St. Mathieu)												*									
	Rochefort (Ile d'Aix)	1028·8	52	WSW	4	o	1024·2	-3	50	-2	WSW	6	*	o	*	.	54	48.				
	Biarritz	1029·6	52	NE	2	b	1029·9	+2	53	+7	WSW	3	*	bc	3	.	57	46				
	Paris	1021·2	54	SSW	4	o	1013·3	-5	52	+4	SW	5	_	r	*	Trace	55	48.				
	Belfort							*					*		*							
	Lyons							*					*		*							
	Nice	1023·3	46	-	0	b	1022·4	-2	43	-2	-	0	*	c	2	-	54	39.				
	Perpignan ...														*							
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Corunna														*							
	Madrid																					
	Lisbon																					
	Azores (Horta) ...	1019·0	*	SW	5	r							*									
	Madeira																					
	Gibraltar	1031·1	59	SE	5	b	10305	*	58	0	SE	5	*	o	-3	-	61	57				
	Malta	*	*	*	*	*	1027·1	0	55	-4	W	4	-	b	2	-	63	54				
	Limassol	*	*	*	*	*	1012·2	+4	43	-10	NE	1	-	b	1	17	70	45.				
	Alexandria ...																					
	Cairo (Helwan) ...														*							

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at ...7.15h

900 metres	W.N.	20 mps
600 "	W.N.	17. "
300 "	W.S.	15 "
Surface	W.S.W.	7. "

GALES
Duration and Extreme Force in British Islands.

Falmouth: 29th
W.S.W.8 during afternoon.
Dover: 29th
W.S.W.9 @ 15h

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	86	88	0·0	53	47	42	4	o	o	o.o.r.o
CITY (Bunhill Row)	*	*	0·0	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	88	92	0·0	56	48	40	4	o	o	o.r.bc
CAMDEN SQ. (British Rainfall) ...	86	91	0·0	55	47	42	4	o.d.o	o.o.d.	*
HAMPSTEAD (Reservoir)	*	94	0·0	53	44	37	.4	o.r.c.d.	o.r	bc.
S. KENSINGTON (Museum Grounds)	*	82	0·0	55	48	44	4	o.r.o.e	c.o.g	o. o
RICHMOND PARK	*	*	...	*	*	*	*	*	*	*

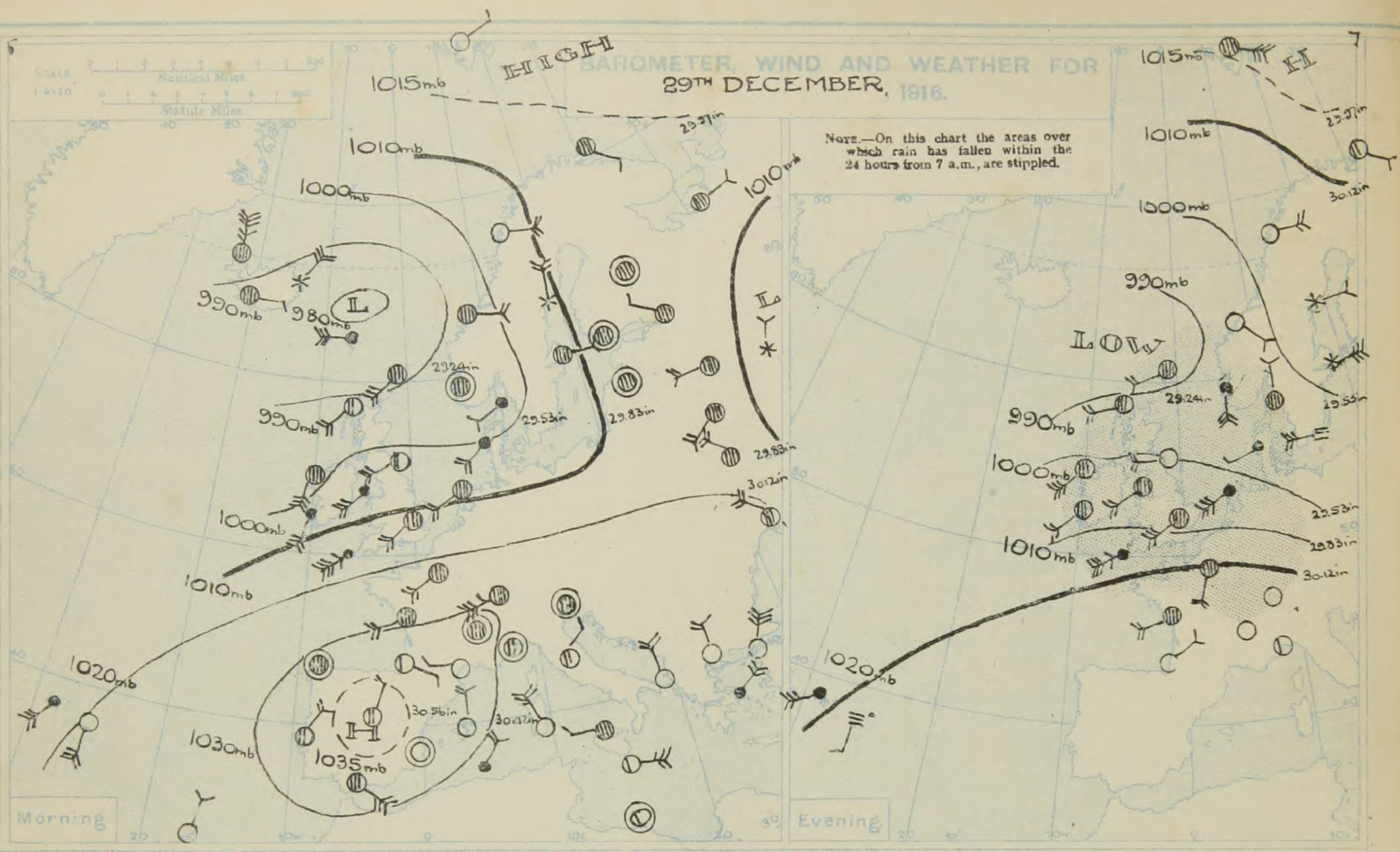
SOUTH KENSINGTON.

Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
45	1·6	5·0.

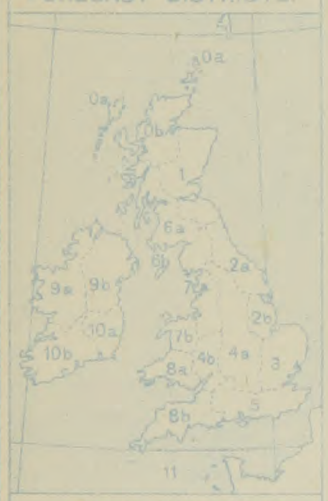
Temperatures at Greenwich and Camden Square are from Glaisher screens.

* The barometric change is expressed in half-millibars.



FORECASTS FOR THE 24 HOURS NOON SATURDAY TO NOON SUNDAY.

FORECAST DISTRICTS.



STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

No. Warnings Issued.

Western Channel and Bay 11

0 a b
1
2 a b
3
4 a b
5

Wind mainly between West and South-West, light or moderate, fresh at times locally; variable sky, some rain; mild.

6 a b
7 a b
8 a b
9 a b
10 a b

Wind between West and South, moderate or fresh, strong at times locally; changeable, some rain; mild.

11

West and South-West winds, moderate or fresh; sea rather rough; changeable, some showers.

FURTHER OUTLOOK.

R. G. K. LEMPFERT, Superintendent, Forecast Division

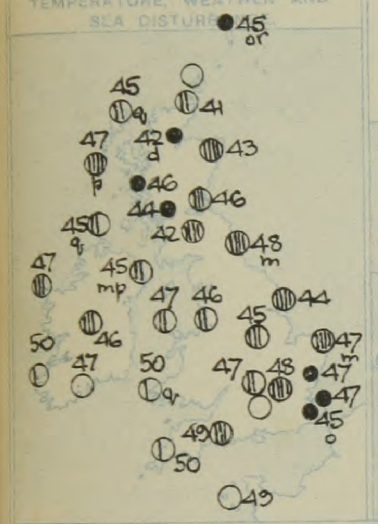
NAPIER SHAW, Director

SYNOPTIC CHART FOR THE MORNING OF SATURDAY, 30TH DECEMBER, 1916.

GENERAL INFERENCE.

There are no indications of any material change in the type of conditions now prevailing.

TEMPERATURE, WEATHER AND SEA DISTURBANCE



EXPLANATION.

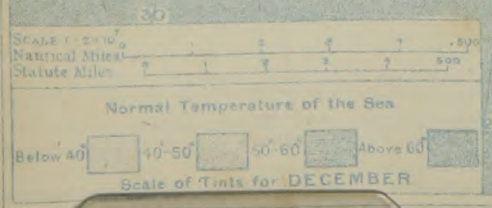
BAROMETER.—Isobars are drawn for intervals of five millibars.

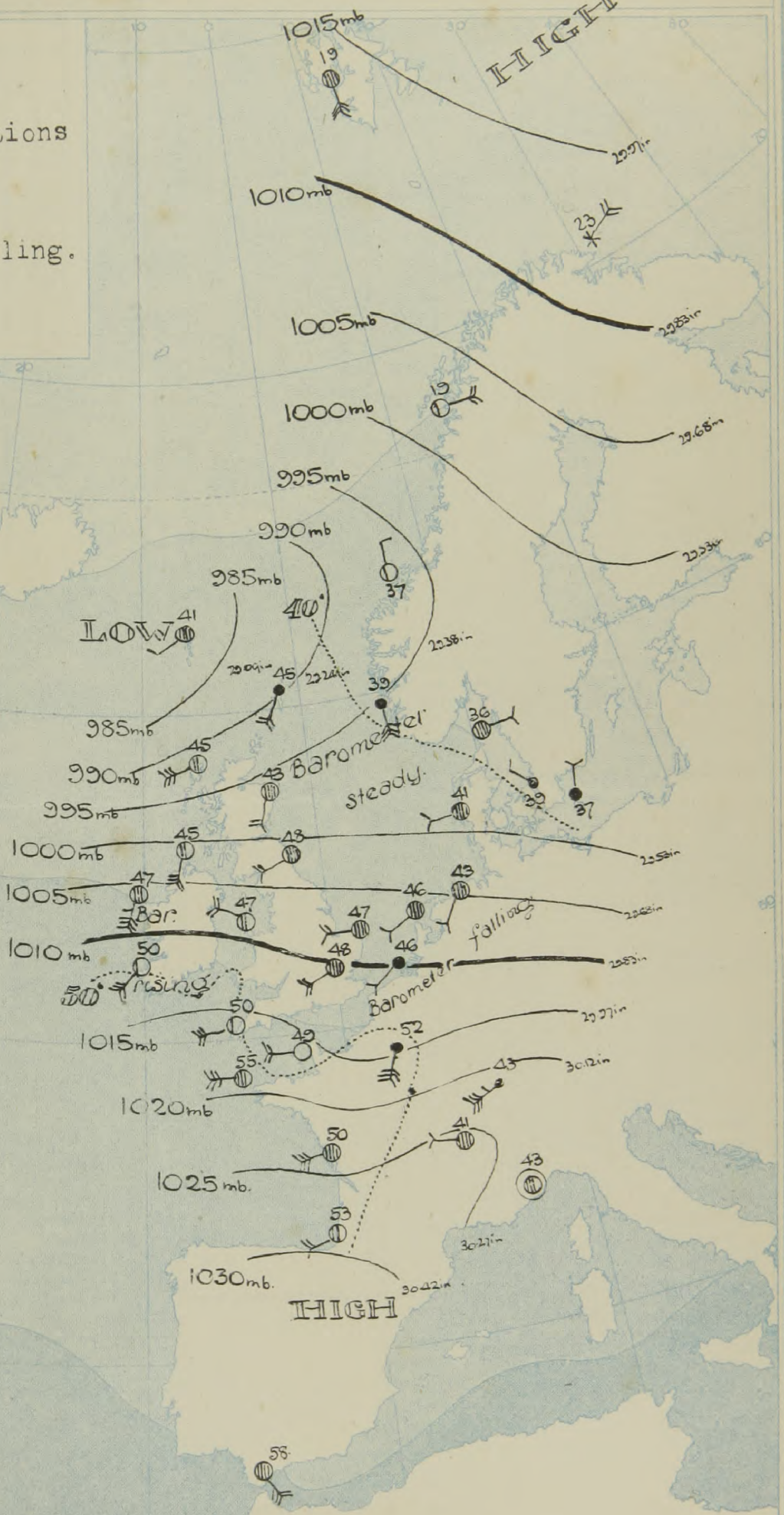
WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols:—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ● overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder.
⊼, thunderstorm.

SEA DISTURBANCE.—Rough ~~ High ≈≈.





Issue No. 20127.

DAILY WEATHER REPORT.

Saturday, 30th December, 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel ...	1010·0	18	-	0	S	1011·4	+2	7	+2	E	2	0	-	*	5
	Gorki	1009·9	21	SW	1	0	1012·6	0	18	-1	SW	3	0	-	*	18
	Velieki Luki ...	1013·6	21	SW	2	f.	1014·7	*	18	-9	W	3	0	-	*	18
	Hangö	...	...	...	...	...	1014·4	+3	16	+4	-	0	0	-	*	2
	Riga	1018·4	27	-	0	0	1014·3	+3	23	-5	-	0	0	2	*	23
	Petrograd ...	1014·0	5	NW	2	0	1014·2	-1	5	-14	NW	1	0	-	21.	3
	Moscow	1013·5	12	E	1	0.	1005·5	-5	19	+5	NNE	2	f	4	*	12.
	Kiev	1013·3	27	NW	4	0	1018·0	+4	18	-10	NW	4	0	.1	*	18
	Kharkov ...	1000·8	30	SW	3	0	1010·0	+5	19	-11	W	4	b	3	*	19
	Kishinev ...	...	...	...	...	...	...	...	...	...	...	...	...	...	*	...
	Elisabetgrad ...	1012·7	28	WNW	5	0	1017·7	+3	21.	-11	WNW	4	c	5	*	21.
	Nicolaiev ...	1016·4	30	NW	2	0	1020·2	*	32	...	WNW	4	c	3	*	30
	Odessa	1019·1	34	NNW	4	0	1022·0	+2	32	...	NNW	4	c	-	*	30.
	Tarkhankout...	1017·5	41	NW	8	r	1021·7	*	41	...	NW	5	0	6	*	37.
	Soukhoum ...	1010·3	50	-	0	r	1013·1	+3	46	...	WSW	2	r	30.	*	45.
Mediterranean.	Venice	1028·9	41	-	0	0	1027·9	*	39	-4	-	0	0	-	48	39.
	Pesaro	1029·2	41	NE	1	b	1029·2	*	37	-9	SW	1	0	-	54	34.
	Rome	1025·5	50	N	1	b	1028·3	*	41	-4	NE	1	bc	-	59	39
	Viesti	1026·0	54	NNW	4	b	1028·3	*	48	-7	NW	2	b	-	61	46
	Brindisi	1022·5	55	N	4	b	1026·7	*	52	-7	N	4	b	-	59	52
	Cagliari	1018·8	64	NE	2	bc	1028·4	*	55	-2	NNW	4	b	-	70	48
	Palermo	1021·5	59	-	0	0	1028·0	*	50	+2	E	1	0	-	64	46
	Tripoli	1021·0	67	-	0	b	1021·9	*	48	-4	-	0	b	-	64	46
	Algiers	1026·4	55	NNE	2	b	1027·9	+2	55	0	NNE	2	b	24	57	54
Sweden.	Hernösand ...	1019·3	41	-	0	b	1009·3	*	14	+2	N	4	S	*	*	*
	Stockholm ...	1019·1	9	W	2	0	1004·3	*	25	+11	E	2	0	*	*	*
	Wisby	1019·3	27	WNW	4	0	1005·9	*	34	+6.	S	2	0	*	*	*

ICELAND.	Morning. Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0–12.	Weather.
		°F	F			
Isafjord ...	998.7	23	-4	N	9	0
Reykjavik	985.6	28	+5	N	2	bc
Vestmanna	985°	36	-1	E	1	0
Seydisfjord	986.0	36	+2	NE	4	S
Thorshavn	980.9	43	+2.	W	6	r

Hours of Observation G.M.T.

	Morning. h.	Evening. h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna...	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall. Night. 18h-9h.	Rainfall. Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	F.	F.			Hr.
Scotland.	Oban	3	6	50	47	or	o	0.0
	Banff	-	1	51	39	c o	cr o	0.0
	Montrose							
	Carnoustie	*	*					
	St. Andrews	1	-	50	45	oq	oq	0.0
Eng. N.E.	Harrogate	1	2	50	44	or	dpdc	0.0
	Skegness	4	5	55	38	or	op	0.0
Eng. N.W.	Morecambe							
	Southport	11	13	50	44	r	r o c oc	0.0
Midlands.	Leamington Spa							
	Malvern	2	1	55	46	o	o	0.0
	Ross-on-Wye	2	1	55	49	m o r	or c	0.0
Wales.	Rhyl	3	2	54	46	op	or	0.0
	Colwyn Bay...	*	*	55	49	r	c	0.0
	Llandudno	*	*	57	46	r	r c	0.0
	Aberystwyth	*	*	51	45	r o c	or. o	0.0
	Tenby	*	*					

	STATIONS.	Rainfall. Night. 18h-9h.	Rainfall. Day. 9h-18h.	Temperature. Max.	Temperature. Min.	Weather. Forenoon.	Weather. Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft	3	Trace	55	41	oqr	o	0.0
	Felixstowe	5	Trace	53	35	om	op	0.0
	Walton-on-Naze							
	Southend-on-Sea	5	-	52	36	o	o	0.0
England, S.E.	Margate	4	-	54	37	o	oe	0.0
	Ramsgate	3	±	52	36	oe	oe	0.0
	Hastings	5	3	51	46	or	od	0.0
	Eastbourne	8	1	52	45	od	oq	0.0
	Seaford	*	*	50	45	r o	r a	0.0
	Brighton	8	1	50	32	ord.	od.	0.0
	Worthing	8	-	51	44	c o	c o	0.0
	Littlehampton	7	1	49	43	d.o	od	0.0
	Bognor	*	*	51	45	or	or	0.0
	Bournemouth	7	1	52	39	r o	o r	0.0
England. S.W.	Weymouth...	*	*	52	50	m.od.	d.o	0.0
	Torquay	7	3	53	51	or	or	0.0
	Paignton	*	*					
	Penzance	6	2	54	51	orm	orm	0.0
	Newquay	11	2	54	45	d r	dp	0.0
	Bude							
	Ilfracombe	8	11	53	41	r	r	0.0
	Weston-s-Mare	12	6	53	37	cr	r.c	0.0

Table showing the Greenwich Times of Sunrise, Noon and Sunset for Stations in the United Kingdom To-day and To-morrow.

30 & 31 December. 1916.	Sunrise. G.M.T.	Noon. G.M.T.	Sunset. G.M.T
Yarmouth	8.6 / 8.6	11.56 / 11.56	3.46 / 3.46
Greenwich	8.8 / 8.8	12.3 / 12.3	3.58 / 3.58
Wick	9.5 / 9.5	12.15 / 12.15	3.34 / 3.25
Valencia	8.51 / 8.51	12.44 / 12.44	4.37 / 4.37

NOTES ON YESTERDAY'S WEATHER.

Temperature rose to 50° or above in most parts of the Kingdom, rain fell at nearly all stations, and a gale was experienced on some parts of the English Channel. A few places recorded less than 15 minutes of bright sunshine, but generally there was none.

Note.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

DAILY WEATHER REPORT OF THE METEOROLOGICAL OFFICE, 1916. No. 366

Sunday, 31st December.

	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0-12.	Weather.	THIS MORNING. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max.	Min.	Weather. Morning.	Afternoon.	Night.	Sunshine for Yesterday.
			°F					‡	°F	°F							°F	°F				Hours.
BRITISH ISLANDS.	Lerwick ...	29.76	46	WSW	5	o	997.9	+ 4	43	- 2	NW	2	NW	c	2	9	47	41	dp	or	bc.c	*
	Deerness (Orkney)	994.2	46	W	5	bc	1001.3	*	44	...	WNW	3	-	or	3	3	47	43	o.c	dp.bc	b.bc.or	0.0
	Stornoway ...	29.89	46	WSW	6	cpq	1005.5	+ 5	45	- 2	WNW	6	-	bcq	5	6	47	43	cpq	cpq	bcpq	0.4
	Castlebay (Barra Isd.)	1004.2	48	WSW	4	o	1008.9	+ 3	50	+ 3	WNW	4	-	or	4	6	51	45	o.dp	dp.o	or.c.or.	0.0
	Glasgow ...	1006.1	44	WSW	4	bc	1009.9	+ 3	47	+ 3	SW	3	-	b	*	6	50	43	dp.bcp	dp.c.bc	cq.dpb	0.9
	Eskdalemuir ...	1008.1	43	WSW	7	c	1010.2	+ 3	45	+ 3	WSW	6	-	b	*	8	49	41	dpq	orq.c	orq.b	1.0
	Malin Head ...	1006.5	47	WSW	5	omqd	1010.1	- 1	46	+ 3	WSW	5	-	omq	6	4	50	44	bcq	cmq	omq	0.8
	Blacksod Point	1008.1	49	SSW	8	orm	1012.3	0	50	+ 3	SSW	7	-	omd	5	3	50	45	czmq	omr	omr.od	*
	Valencia ...	1017.2	52	SW	5	o	1019.5	0	52	+ 2	SW	3	-	od	*	0.1	53	49	bc.c	c.o	o	1.3
	Roche's Point	1018.3	50	WSW	3	c	1020.6	*	52	+ 5	NNW	1	-	o	4	0.2	52	45	b.bc.o	o.c	o.c.o	*
	Birr Castle ...	1014.6	49	SW	1	o	1016.7	*	51	+ 5	SW	4	-	o	*	2	51	44	c	c.o	od.o	3.2
	Donaghadee ...	1010.3	45	W	4	cmq	1012.9	+ 1	51	+ 6	W	4	-	omq	3	1	52	44	bf.mq	bcmqp	ompq	*
	Liverpool (Bidston)	1013.9	46	WSW	5	b	1014.2	+ 3	50	+ 4	WSW	6	W	c	5	-	53	42	b	om	bcq	3.0
	Holyhead ...	1014.5	48	WSW	5	bc	1016.0	+ 1	50	+ 3	WSW	5	-	om	4	0.4	51	46	b.bc.c.o	o.c.bc	bc.od.o	1.8
	Pembroke (St. Ann's)	1018.6	49	WSW	4	bc	1020.2	+ 3	49	- 1	SW	5	-	o	5	0.2	51	49	bc	bc	o.dpd	?
	Scilly (St. Mary's)																					
	Falmouth ...	1022.5	49	W	3	b	1023.8	+ 1	50	0	W	4	-	o	*	-	52	48	bq.bcq	bc.b	bcq.cq	1.2
	Jersey (St. Aubin)	1023.2	51	W	5	c	1025.0	*	50	+ 1	WSW	2	-	o	3	0.2	53	48	bc.o	odp.c	e.o	0.3
	Portland Bill ...	1019.6	48	W	5	bc	1021.0	o	49	o	WSW	5	SW	c	4	-	51	47	c.bc	bc	bc.c	*
	Dungeness ...	1018.2	48	WSW	4	bc	1017.4	- 1	48	+ 3	WSW	5	-	o	5	1	50	48	or.bc	bc	r.o.c.o	*
	Dover	1018.2	47	W	4	b	1018.3	o	49	+ 2	SW	5	W	c	4	Trace	51	44	bc.b	bc.b	b.bc.c	4.1
	Wick	29.68	44	W	4	bc	1002.9	+ 7	43	+ 2	WNW	2	-	r	3	5	45	39	m.b.o	bcqp	bc.omp	*
	Nairn	1000.7	45	WSW	2	c	1005.4	*	46	+ 4	WSW	2	-	cq	2	3	48	39	cp.bc	p.c	opq	2.2
	Aberdeen	1001.4	43	SW	3	b	1003.7	+ 4	47	+ 4	W	1	-	o	3	1	48	38	c.bc	bc.bq	b.opaq	2.5
	Leith	1004.7	46	SW	4	c	1006.9	+ 2	48	+ 2	WNW	5	W	b	5	1	52	44	cmpq.c	c.op.ac	cq.o.b	*
	Tynemouth ...	1007.5	46	WNW	2	bcm	1007.9	+ 2	49	+ 1	W	4	W	cmq	3	-	52	44	bcmq	bcm	cmq	*
	Spurn Head ...	1010.9	45	WNW	6	oqm	1010.6	o	46	+ 2	W	5	-	om	5	-	46	44	bcqm	oqm	om	o.o
	Yarmouth ...	1013.7	47	NW	3	bc	1012.9	- 1	50	+ 3	WNW	2	-	cm	2	1	52	43	bcq	bc	bcmp	3.5
	Clacton-on-Sea	1016.5	46	WNW	3	c	1016.0	- 1	48	+ 1	WNW	4	NW	bc	3	-	50	42	oq.bc.b	b.bc.c	c.bc	3.6
	Nottingham ...	1014.7	46	WSW	2	c	1014.7	*	51	+ 6	W	3	W	o	*	1	52	43	dp.o	o.c	c.o	0.8
	Benson (Oxon.) ...	1018.0	44	SW	3	b	1017.7	+ 2	50	+ 3	SSW	4	-	o	*	-	52	42	bc.c	b	bc.o	*
	Sth Farnborough	1018.9	44	WSW	3	b	1019.0	+ 1	49	+ 2	WSW	4	-	o	*	Trace	51	42	b.bc.c	c.b	b.bc.o	2.1
	London (Kew Obsy.)	1018.0	47	WSW	3	bc	1018.7	+ 1	50	+ 2	WSW	3	-	o	*	Trace	51	44	oc.bc.b	bc.c.o.bc	bc.o.bc.o	2.9
NORTHERN EUROPE.	Spitsbergen ...	1020.7	9	S	7	b	1023.3	+ 2	-9	-28	-	0	*	b	*	*	19	-11				
	Vardö	1011.7	21	E	2	o	1010.7	0	19	- 4	NE	4	-	o	4	*	23	19				
	Bodö	1002.3	21	E	4	b	1002.9	0	18	- 1	E	6	-	b	2	-	21	14				
	Christiansund ...	993.1	39	SE	2	o	993.0	+ 2	37	o	-	0	-	r	3	3	39	36				
	Skudesnaes ...	997.1	43	S	4	r	994.3	o	43	+ 4	W	4	-	o	4	6	43	37				
	Færder (Christiania Fjord)	1000.6	30	WNW	1	o	993.7	- 4	34	+ 7	-	0	-	f	1	1	34	27				
	The Scaw (Skagen)	1001.2	37	SE	2	o	996.6	- 1	41	+ 5	WSW	2	-	o	2	2	43	34				
	Blaavands Huk	1003.5	41	WNW	1	o	1001.3	- 3	41	o	W	3	-	r	3	Trace	43	39				
	Copenhagen ...	1001.5	39	NE	2	m	1001.2	- 2	43	+ 4	W	3	-	m	*	3	43	37				
	Bornholm ...	1001.3	36	ESE	2	r	1001.6	- 4	41	+ 4	W	5	-	f	2	4	41	34				
FRANCE, &c.	The Helder ...	1012.0	46	W	4	o	1008.6	- 7	48	+ 2	WSW	6	-	o	4	3	48	45				
	C. Gris Nez ...	1017.5	46	W	6	b	1018.7	o	48	+ 2	W	7	*	o	7	5	48	46				
	La Hève	*	46	W	6	o	*	*	46	+ 1	WSW	5	*	o	4	-	52	45				
	Brest (St. Mathieu)	1027.4	51	W	4	b	1028.0	.0	50	...	WSW	4	*	f	5	-	52	48				
	Rochefort (Ile d'Aix)	1028.6	50	WNW	3	bc	1030.9	o	47	- 3	WSW	4	*	m	*	-	52	46				
	Biarritz	1031.0	54	WSW	3	o	1031.9	+ 1	53	o	WNW	2	*	c	4	4	55	50				
	Paris	1022.9	50	SW	2	o	1025.3	- 3	48	- 4	WSW	2	-	o	*	1	54	45				
	Belfort	1023.9	44	WSW	6	c	1027.0	*	43	o	WSW	6	*	o	*	1	46	42				
	Lyons	1027.7	46	—	o	o	1031.1	*	41	o	-	o	*	o	*	1	49	40				
	Nice	1017.1	45	—	o	c	1021.1	+ 3	48	+ 5	E	2	*/	bc	2	-	52	39				
	Perpignan ...	1027.3	55	NW	4	b	1029.7	+ 3	52	+ 15	NNW	3	NW	52	*	-	64	37				
	Sanguinaire ...	*					*	*					*									
SOUTHERN STATIONS.	Coruña	1032.6	55	—	o	o	1034.4	+ 1	54	o	-	0	-	o	1	-	57	52				
	Madrid	1032.7	46	—	o	o	1035.4	+ 1	36	o	NNE	1	N	b	*	-	48	34				
	Lisbon	1030.9	54	NNE	3	b	1030.6	- 1	45	- 1	NE	2	-	b	5	-	55	45				
	Azores (Horta) ...	1020.3	*	ESE	8	o	1021.1	o	62	...	S	8	*	o	4	-	64	61				
	Madeira	1025.5	63	E	3	b	1027.4	+ 2	55	o	E	3	-	b	3	-	68	55				
	Gibraltar						*						*									
	Malta	*	*	*	*	*	1019.9	+ 1	59	+ 4	NW	5	-	b	5	-	61	55				
	Limassol	*	*	*	*	*	1014.4	+ 2	50	+ 7	NNW	3	-	b	2	-	61	41				
	Alexandria ...	1018.9	61	NNW	4	c	1018.4	o	61	o	WNW	3	NW	c	2	-	64	55				
	Cairo (Helwan) ...	1017.2	61	—	o	b	1020.6	+ 2	50	- 2	S	2	-	c	*	-	63	46				

UPPER AIR.
South Farnborough.
Pilot Balloon Ascent at .....

GALES
Duration and Extreme Force in British Islands.

Eskdalemuir
30th 12h. Gusts WSW 18 m/s
" 15½h. " WSW 21
31st 1h. " WSW 25

Blacksod Point
30th 16h-23h. S-SSW 8.

Lunar Halo observed at Roche's Point and Aberdeen during last evening, and in London 19h-20h.

LONDON OBSERVATIONS.

	Humidity. 15 h. Yesterday.	Humidity. 9 h. To-day.	Sunshine for Yesterday.	24 Hours ended 9 h. To-Day. Temperature. Max.	Min.	Min. on Grass	Rainfall.	Weather. Morning.	Afternoon.	Night.
	%	%	Hours.	°F.	°F.	°F.	mm.			
GREENWICH (Royal Observatory)	74	87	3.9	51	44	39	-	bc	bc.c	c.o
CITY (Bonhill Row)	*	*	1.1	*	*	*	*	*	*	*
WESTMINSTER (St. James's Park)	81	90	2.3	53	45	38	-	bc	o	ow
CAMDEN SQ. (British Rainfall) ...	73	86	1.9	55	44	39	-	bc	bc	*
HAMPSTEAD (Reservoir)	*	91	3.0	51	41	33	-	bc	c	o
S. KENSINGTON (Museum Grounds)	*	84	2.8	53	45	41	-	c.bc	bc.c	bc.c.o
RICHMOND PARK	*	*		*	*	*	*	*	*	*

SOUTH KENSINGTON.

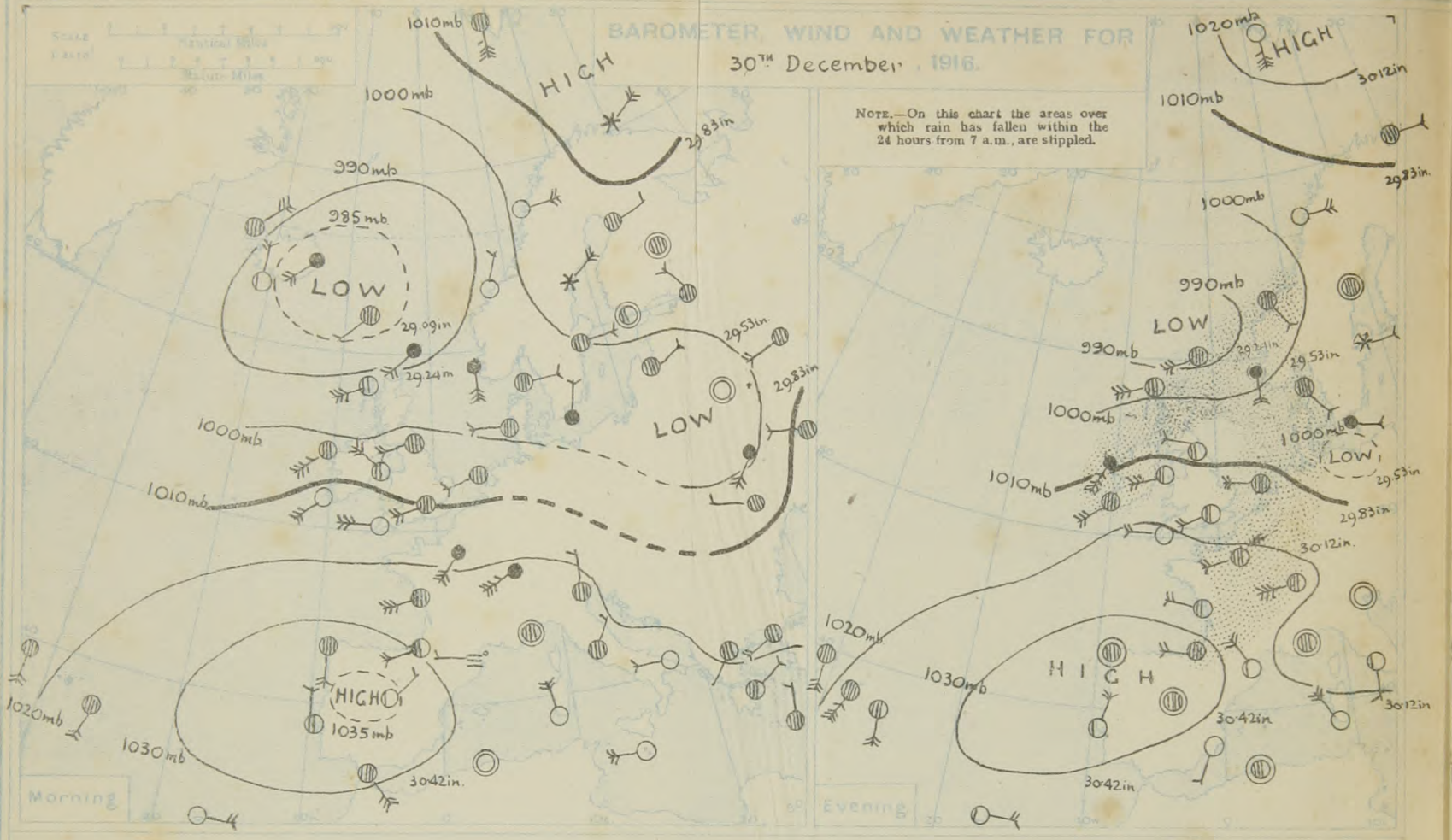
Vertical Component of Solar Radiation per square Centimetre during Yesterday.

Total.	Average Rate.	Max. Rate.
Joules.	Milliwatts.	Milliwatts.
179	6.4	17.0

Temperatures at Greenwich and Camden Square are from Glaisher screens.

* Information for these columns not usually received. † Received too late for insertion in Charts. ‡ The barometric change is expressed in half-millibars.

BAROMETER, WIND AND WEATHER FOR 30TH December, 1916.



FORECASTS FOR THE 24 HOURS NOON SUNDAY TO NOON MONDAY

FORECAST DISTRICTS

0 1 2 3 4 5 6 7 8 9 10 11

Wind mainly between North-West and South-West, moderate or light, fresh or strong at times locally; a good deal of cloud generally, some showers; rather mild.

Wind between West and South-West or South, moderate or fresh, strong locally; changeable, some showers; mild.

Westerly and South-Westerly winds, moderate or fresh; sea moderate or rather rough; variable sky, some showers.

STORM WARNINGS.

The Coasts upon which the Warning Signals are at present displayed are indicated thus:—

Signals hoisted yesterday.	Signals hoisted this morning.
South Cone.	South Cone.
North Cone.	North Cone.

NO WARNINGS ISSUED.

Western Channel and Bay

FURTHER OUTLOOK

R. G. K. LEMPFERT, Superintendent, Forecast Division

NAPIER SHAW, Director

SYNOPTIC CHART FOR THE MORNING OF SUNDAY, 31ST DECEMBER, 1916.

GENERAL INFERENCE.

There are still no definite indications of any important change in the general distribution of pressure.

TEMPERATURE, WEATHER AND SEA DISTURBANCE

EXPLANATION.

BAROMETER.—Isobars are drawn for intervals of five millibars.

WIND.—Direction is shown by arrows flying with the wind.
Force, on the scale 0–12, is indicated by the number of feathers. Calm ◯

TEMPERATURE.—Given in degrees Fahrenheit. Isotherms shown by dotted lines.

WEATHER.—Shown by the following symbols :—
◯ clear sky. ◔ sky ¼ clouded. ◑ sky ½ clouded.
◕ sky ¾ clouded. ◍ overcast sky. ● rain falling.
✳ snow. ▲ hail. ≡ fog. ≡° mist. ⊤, thunder. ⛈, thunderstorm.

SEA DISTURBANCE.—Rough ~~~ High ≈≈≈.

Scale 1:12M
Nautical Miles
Statute Miles

Normal Temperature of the Sea

Below 40° | 40–50° | 50–60° | Above 60°

Scale of Time for DECEMBER

Issue No. 20,128

DAILY WEATHER REPORT.

Sunday 31st December 1916.

REPORTS FOR YESTERDAY.

	STATIONS.	Previous Evening. Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Force 0–12.	Weather.	Morning. Barometer. Millibars at M.S.L.	Change in 3 hours.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weather.	Past 24 Hours. Rainfall. Millimetres.	Temp. Max.	Temp. Min.
			°F.					‡	°F.	°F.					°F	°F
Russia 7 a.m. and 9 p.m. Local Time.	Archangel	1010·0	7	NE	2	o	998·4	-5	14	+7	NE	5	s	-	*	5
	Gorki	1006·6	16	-	o	o	997·1	-1	18	o	-	o	b	-	*	18
	Velieki Luki	1006·6	14	-	o	o	1001·1	*	12	-6	SE	1	o	-	*	12
	Hangö						1003·5	-1	5	-11	ENE	1	bc	-	*	1
	Riga	1000·6	21	E	3	s	998·9	-1	19	-4	ENE	2	o	3	*	19
	Petrograd	1007·9	9	NW	2	o	1002·0	-3	10	+5	NNW	2	o	-	12	5
	Moscow	1000·2	16	ENE	4	o	1002·6	+1	14	-5	WSW	3	o	-	*	12
	Kiev	1013·5	23	SW	3	o	997·7	-8	32	+14	SW	4	r	6	*	18
	Kharkov	1015·5	18	W	3	o	1011·5	-5	18	-1	S	2	o	-	*	12
	Kishinev	1018·3	36	W	4	b	1008·6	+1	34		WNW	1	o	1	*	34
	Elisabetgrad	1018·0	18	W	1	o	1005·3	-8	28	+7	S	3	o	-	*	18
	Nicolaiev						1007·0	*	36	+4	WSW	2	bc	-	*	27
	Odessa	1019·9	32	SW	3	b	1007·8	+7	32	o	WSW	3	o	-	*	32
	Tarkhankout	1018·7	39	NNW	9	c	1011·0	*	46	+5	SSW	7	o	-	*	36
	Soukhoum	1010·3	50	-	o	r	1013·1	+1	46	o	ENE	2	o	3	*	37
Mediterranean.	Venice	1024·7	37	NNE	o	o	1020·0	*	37	-2	N	1	o	-	43	37
	Pesaro	1025·4	39	SW	1	b	1020·3	*	37	o	W	1	bc	-	46	34
	Rome	1028·0	46	NE	o	c	1024·3	*	48	+7	NE	1	o	-	55	45
	Viesti	1025·6	46	NW	1	b	1022·4	*	48	o	S	1	b	-	61	45
	Brindisi	1025·4	46	S	2	b	1023·4	*	55	+3	W	2	b	-	59	50
	Cagliari	1026·9	64	SE	3	b	1028·4	*	54	-1	NNW	4	b	-	70	48
	Palermo	1029·6	50	ENE	2	b	1027·0	*	43	-7	ENE	1	b	-	66	37
	Tripoli							*								
	Algiers	1030·6	57	-	o	c	1028·3	o	52	-3	-	o	b	Trace	59	52
Sweden.	Hernösand	1007·7	27	E	2	s	1006·6	*	21	+7	NE	4	s	*	*	*
	Stockholm	1001·9	30	E	6	s	1003·0	*	27	+2	E	2	o	*	*	*
	Wisby	997·7	34	E	2	o	1000·0	*	32	-2	ENE	2	o	*	*	*

Iceland.	Barom. Millibars at M.S.L.	Temp. Dry Bulb.	Change in 24 hours.	Wind. Direc.	Force 0–12.	Weathe
		°F	°F			
Isafjord	993·1	28	+5	NE	5	o b b r t
Reykjavik	987·5	25	-3	-	o	
Vestmanna	985·1	30	-6	N	3	
Seydisfjord	983·0	39	+3	SW	4	
Thorshavn	983·6	41	-2	SW	-	

Hours of Observation G.M.T.

	Morning.	Evening.
	h.	h.
British Isles	7	18
France	7	18
Norway	7	18
Sweden	7	17
Denmark	7	18
Holland	7	18
Italy	7	20
Egypt	6	18
Corunna	7	16
Madrid	8	16
Lisbon	7	21
Azores	8	17
Madeira	7	21
Malta	8	—
Limassol	6	—

TEMPERATURE, WEATHER, SUNSHINE AND RAINFALL FOR YESTERDAY, UP TO 18h.

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min.	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
Scotland.	Oban	7	1	50	45	r.o	o	0·1
	Banff	-	-	47	38	bc	b	3·4
	Montrose							
	Carnoustie	*	*					
	St. Andrews							
Engl. N.E.	Harrogate	1	Trace	46	42	cp	bc.c	0·7
	Skegness	*	*	49	40	o.bc	o	2·0
Engl. N.W.	Morecambe							
	Southport	Trace	-	46	44	c.bc.c	c.o.bc.b	2·7
Midlands.	Leamington Spa							
	Malvern							
	Ross-on-Wye	2	-	51	43	c.bc	bc	2·7
Wales.	Rhyl							
	Colwyn Bay	*	*					
	Llandudno	*	*					
	Aberystwyth	*	*	51	46	r.o.c	c.o.	0·3
	Tenby							

	STATIONS.	Rainfall Night. 18h-9h.	Rainfall Day. 9h-18h.	Temperature Max.	Temperature Min	Weather Forenoon.	Weather Afternoon.	Sunshine
		Mm.	Mm.	°F.	°F.			Hr.
England. E.	Lowestoft							
	Felixstowe	6	-	50	45	bc	bcm	4·2
	Walton-on-Naze	4	-	50	?	bc.c.b.	b.bc	4·7
	Southend-on-Sea	3	-	50	45	o c bc	c.bc.bz	2·1
England. S.E.	Margate	3	-	52	46	bc.c.b.	bc.	2·9
	Ramsgate	5	-	50	45	bc	bc	4·2
	Hastings	12	-	51	46	or.bc.b.	b.bc	5·8
	Eastbourne	12	-	49	46	o	bc.	3·8
	Seaford	*	*	50	45	bc	bc.o	3·7
	Brighton	11	-	47	45	c	c	1·2
	Worthing	11	-	48	46	bc	b	1·3
	Littlehampton	10	-	50	48	bc.o	bc.o	2·1
	Bognor	*	*					
	Bournemouth	8	-	52	45	b	bc.b	3·2
England. S.W.	Weymouth	*	*					
	Torquay	7	-	54	48	bc	bc	2·1
	Paignton	*	*	53	44	b.bc	bc	1·8
	Penzance	12	-	52	49	cz	cz	0·1
	Newquay							
	Bude							
	Ilfracombe							
	Weston-s-Mare							

TABLE SHOWING THE GREENWICH TIMES OF SUNRISE, NOON AND SUNSET FOR STATIONS IN THE UNITED KINGDOM TO-DAY AND TO-MORROW.

31st December 1916 / 1st January 1917	Sunrise.	Noon.	Sunset.
	G.M.T.	G.M.T	G.M.T
Yarmouth	8.15 / 8.6	11.56 / 11.57	3.46 / 3.46
Greenwich	8.8 / 8.8	12.3 / 12.4	3.58 / 4.0
Wick	9.5 / 9.6	12.15 / 12.16	3.25 / 3.27
Valencia	8.51 / 8.51	12.44 / 12.45	4.37 / 4.38

PILOT BALLOON ASCENTS for the PAST WEEK.

Component Velocities to East and to North in metres per Second.

Heights in Kilometres	Comp. to E. Eskdalemuir 28th 12 50h.	Comp. to N. Eskdalemuir 28th 12 50h.	Comp. to E. Eskdalemuir 27th 12-42h.	Comp. to N. Eskdalemuir 27th 12-42h.	Comp. to E. Benson 28th Noon	Comp. to N. Benson 28th Noon	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.	Comp. to E.	Comp. to N.
3			+13	-1										
2			+16	+4										
1	+7	-11	+10	+4	+12	+6								
0·5	+6	-6	+7	+2	+11	+10								
0	+7	-7	+2	+1	0	+6								

NOTE.—The information relating to weather is indicated by the following letters—b. blue sky; bc. sky half clouded; c. sky three parts clouded; d. drizzling rain; e. wet air, without rain falling; f. fog; g. gloom; h. hail; l. lightning; m. mist; o. overcast sky; p. passing showers; q. squalls; r. rain; s. snow; t. thunder; u. ugly, threatening sky; v. visibility, unusual transparency; w. dew; x. hoar frost; z. dust-haze, or smoke.

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‡ The barometric change is expressed in half-millibars.

ADDITIONS AND CORRECTIONS

TO THE

DAILY WEATHER REPORT.

DECEMBER, 1916.

DATE.	STATIONS.	YESTERDAY EVENING					THIS MORNING 7 A.M., G.M.T.									PAST 24 HOURS.						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind. Direc.	Wind. Force 0-12.	Weather.	Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather Morning.	Weather Afternoon.	Weather Night.	
			°F.						°F.	°F.							°F.	°F.				Hours.
							ADDITIONS.															
1st	Scilly	1021·0	48	S	2	0	1017·6	-2	45	0	SSE	3	S	bc	3	—	50	44	b	bc.c	c.bc	5·7
.	Spitsbergen	1012·6	-33	—	0	b	1023·5	+6	-36	-30	—	0	*	b	*	*	-6	-38	.	.	.	.
.	Sanguinere	*	57	SSE	4	0	*	*	59	+3	SE	5	*	0	3	—	61	52	.	.	.	.
.	Corunna	1017·9	54	NNE	5	c	1014·6	-1	52	0	—	0	—	0	2	Trace	54	52	.	.	.	.
.	Madrid	1011·9	45	N	1	bc	1013·7	0	41	0	WNW	1	—	m	*	2	46	41	.	.	.	.
.	Lisbon	1013·7	54	NNW	4	b	1014·6	0	52	+6	NW	1	—	0	5	—	75	46	.	.	.	.
2nd	Scilly	1013·2	49	ESE	4	c	1014·3	+1	49	+4	E	3	SE	c	7	1	51	45	bc	bc	cp.bc.c	4·4
.	Spitsbergen	1031·4	-35	—	0	b	1032·6	0	-27	+9	S	1	*	b	*	*	-27	-42	.	.	.	.
.	Vardö	1028·3	27	NW	2	c	1033·2	+2	25	-5	SE	2	—	c	3	*	30	25	.	.	.	.
.	Bodö	1020·7	36	E	2	0	1023·8	+1	32	0	E	2	—	c	2	—	36	30	.	.	.	.
.	Christiansund	1021·5	39	—	0	b	1020·6	-1	43	-2	E	1	—	0	3	—	45	37	.	.	.	.
.	Skudesnaes	1023·3	45	S	4	0	1024·7	0	45	-1	S	7	—	0	5	—	46	43	.	.	.	.
.	Færder	1025·0	45	SSW	2	0	1027·9	+1	45	+4	W	7	—	0	1	—	45	41	.	.	.	.
.	Madrid	1009·7	48	—	0	c	1011·7	-3	36	-5	—	0	—	m	*	Trace	50	32	.	.	.	.
.	Lisbon	1011·3	54	—	0	0	1005·2	-3	54	+2	ESE	3	S	0	5	1	59	52	.	.	.	.
.	Madeira	1014·6	66	W	3	0	1005·7	-2	59	-2	NW	3	—	r	3	16	66	57	.	.	.	.
.	Limassol	*	*	*	*	*	1019·1	+1	57	-7	—	0	—	b	4	—	73	48	.	.	.	.
.	Alexandria	1017·7	68	NE	2	c	1019·8	0	63	-5	ENE	3	—	r	2	2	73	61	.	.	.	.
.	Cairo	1016·7	64	N	2	bc	1017·9	+2	57	-4	—	0	—	b	*	—	70	52	.	.	.	.
.	Azores	.	.	.	.	.	1021·6	0	53	-3	N	1	*	bc	4	1	63	50	.	.	.	.
3rd	Scilly	1016·1	46	ESE	4	bcm	1019·0	+1	47	-2	NE	2	NE	cm	4	—	51	43	cm	bcm	om.cm	1·3
4th	Scilly	1020·8	46	N	4	bc	1021·2	0	44	-3	N	5	N	c	4	0·4	49	42	cmp	bc	bc.cqp	3·0
.	Spitsbergen	987·1	21	E	7	S	992·3	+3	5	-18	E	8	.	s	.	.	23	5	.	.	.	.
.	Corunna	1014·6	55	NE	6	b	1020·7	+3	52	+11	NNE	3	—	o	2	1	57	41	.	.	.	.
.	Madrid.	1015·5	45	—	0	0	1018·6	+2	37	-2	—	0	—	m	.	0	46	37	.	.	.	.
.	Lisbon	1012·8	52	—	0	r	1017·6	+1	46	-6	NNE	3	—	bc	6	5	54	46	.	.	.	.
.	Madeira	1003·3	63	W	3	0	1000·0	-3	57	+2	S	2	—	r	2	19	64	55	.	.	.	.
5th	Scilly	1022·8	45	N	4	c	1023·5	0	45	+1	NNW	3	N	c	4	—	47	43	c	c	c	3·6
.	Spitsbergen	1004·6	-19	SE	1	b	1010·1	+2	-29	-34	S	1	.	b	.	.	5	-31	.	.	.	.
.	Vardö	999·7	28	W	2	b	1011·4	+8	27	-11	NW	3	—	o	3	.	36	27	.	.	.	.
.	Bodö	1012·8	34	NW	4	0	1015·9	0	36	-9	S	1	—	c	1	19	39	28	.	.	.	.
.	Christiansund	1014·7	37	—	0	c	1016·6	0	34	-5	—	0	—	b	3	—	41	32	.	.	.	.
.	Skudesnaes	1010·3	41	NNE	2	r	1017·6	+5	39	-2	NE	2	—	b	2	Trace	41	34	.	.	.	.
.	Paerder	1011·3	37	NE	4	0	1018·6	+4	37	0	N	4	—	o	2	10	39	37	.	.	.	.
.	Corunna	1020·7	52	NNE	6	b	1021·3	0	43	-9	—	0	—	b	1	—	55	43	.	.	.	.
.	Lisbon	1015·3	55	NNE	4	b	1014·4	-2	48	+2	NNE	4	—	b	5	—	57	46	.	.	.	.
.	Azores	.	.	.	.	.	1017·7	-1	57	0	NNE	5	—	bc	3	—	61	57	.	.	.	.
.	Malta	*	*	*	*	*	1011·7	-1	59	+4	SW	3	—	bc	0	—	64	56	.	.	.	.
.	Alexandria	1019·0	64	NE	1	b	1018·6	0	64	+1	—	0	N	bc	0	—	73	63	.	.	.	.
.	Cairo.	1017·0	64	NE	4	bc	1016·2	+1	61	+2	NE	4	—	b	.	—	72	59	.	.	.	.
6th	Scilly	1019·4	45	N	1	omd	1021·9	+1	38	-7	ESE	1	E	b	3	2	46	36	cp	omd	bc.b	0·0
.	Spitsbergen	1004·3	-6	SSE	1	0	992·8	-1	18	+47	ENE	5	.	o	.	.	18	-31	.	.	.	.
.	Madrid	1016·3	41	NNE	2	b	1015·1	0	30	-9	—	0	—	b	.	—	45	27	.	.	.	.
7th	Scilly	1021·5	43	NNE	2	bc	1019·6	-2	42	+4	—	0	—	bc	3	—	46	36	bm	b.bc	bc	6·1
.	Spitsbergen	998·1	9	ESE	5	0	1005·0	+4	7	-11	ESE	6	.	b	.	.	18	7	.	.	.	.
.	Lyons	1011·4	33	—	0	0	1014·0	.	30	-2	NNW	1	.	o	.	—	36	25	.	.	.	.
.	Corunna	1017·3	52	NE	6	b	1020·3	+1	43	-2	SSE	1	—	bc	1	—	52	39	.	.	.	.
.	Madrid	1013·1	41	NNW	1	b	1017·9	+3	30	0	—	0	—	b	.	—	43	28	.	.	.	.
.	Lisbon	1013·1	50	NNE	2	b	1016·2	+1	44	-1	NNE	3	—	b	2	—	52	41	.	.	.	.
.	Malta	.	.	.	.	.	1008·7	+1	61	0	WSW	3	—	b	1	—	72	59	.	.	.	.
.	Alexandria	1017·2	66	ENE	2	bc	1016·3	0	66	0	—	0	NW	o	0	—	73	61	.	.	.	.
.	Cairo	1015·5	66	NE	4	o	1015·4	+2	59	0	WNW	1	SW	c	.	—	75	55	.	.	.	.
8th	Scilly	1016·5	48	WSW	3	c	1013·7	-1	47	+5	NW	3	NW	bc	4	1	48	41	c.o	om	cp.bcv	0·0
.	Spitsbergen	1015·8	-11	SSE	2	b	1022·1	+3	-22	-29	S	1	.	b	.	.	7	-23	.	.	.	.
.	Sanguinaire	.	44	NE	3	b	.	.	42	-2	E	3	.	bc	4	3	48	41	.	.	.	.
.	Corunna	1019·8	52	NE	5	b	1021·0	0	39	-4	SSE	1	—	bc	1	—	54	47	.	.	.	.
.	Madrid	1011·2	45	W	3	b	1022·1	+1	32	+2	—	0	—	b	.	—	48	30	.	.	.	.
.	Lisbon	1017·3	50	NNE	2	b	1019·1	0	41	-3	NNE	3	—	b	2	—	52	41	.	.	.	.
.	Azores	.	.	.	.	.	1019·9	+1	55	0	NNE	1	—	b	1	—	61	55	.	.	.	.
9th	Scilly	1004·0	45	SE	3	omr	994·1	-3	44	-3	NW	8	W	cqp	7	8	48	42	c	omr	cq.cqp	0·0
.	Sanguinaire	.	50	N	4	0	.	.	47	+5	NW	4	.	0	5	—	70	41	.	.	.	.
.	Corunna	1017·9	52	SW	1	bc	1009·7	+1	54	+15	NNW	5	—	0	3	16	54	39	.	.	.	.

ADDITIONS AND CORRECTIONS TO THE

DATE.	STATIONS.	YESTERDAY EVENING. Barom. Millibars at M.S.L.	Temp	Wind. Direc.	Wind. Force 0-12.	Weather.	THIS MORNING 7 A.M., G.M.T. Barometer. Millibars at M.S.L.	Barometer. Change in 3 hours.	Temp. Dry Bulb.	Temp. Change in 24 hours.	Wind. Direc.	Wind. Force 0-12.	Direc. of Upper Cloud.	Weather.	Sea 0-9.	PAST 24 HOURS. Rainfall. Millimetres.	Temp. Max.	Temp. Min.	Weather. Morning.	Weather. Afternoon.	Weather. Night.	Sunshine for Yesterday.
			°F.						°F.	°F.							°F.	°F.				Hours.
9th	Madrid.	1018.6	43	—	0	b	1015.7	-4	28	-4	—	0	—	f	.	—	45	28	.	.	.	.
.	Lisbon.	1018.1	52	NNW	2	b	1015.8	-1	46	+5	—	0	—	c	2	—	52	41	.	.	.	.
.	Alexandria	1016.0	63	—	0	b	1017.5	0	61	-2	SSE	1	—	b	0	—	75	59	.	.	.	.
.	Cairo.	1015.1	63	NNW	2	b	1015.9	+2	59	+2	ENE	1	NW	bc	0	—	70	55	.	.	.	.
10th	Scilly.	989.1	42	WNW	6	cqp	979.2	-4	40	-4	WSW	4	W	cp	6	9	47	37	cqp	cqp	cqp	2.5
.	Paris.	994.4	37	NW	3	r	993.7	0	37	-4	SE	2	—	c	.	8	45	34				
11th	Scilly.	983.3	43	E	5	cqp	986.7	-1	42	+2	N	4	N	cp	6	11	44	38	cqp	cqp	bc.cqp	0.4
.	Sanguinaire.	.	49	SE	4	o	.	.	45	.	SE	4	—	f	5	31	52	43	.	.	.	.
.	Corunna.	996.8	52	NW	7	o	1002.6	+3	48	0	WNW	6	—	c	6	8	52	45	.	.	.	.
.	Madrid.	1000.3	42	W	3	o	1005.0	+5	32	0	WSW	1	—	b	.	Trace	42	32	.	.	.	.
.	Malta.	.	.	.	.	.	1005.0	-2	64	+7	SSE	4	—	c	2	—	73	56	.	.	.	.
.	Alexandria.	1019.7	64	ENE	1	c	1021.5	+3	64	0	—	0	NW	b	0	—	77	61	.	.	.	.
.	Cairo.	1017.7	66	E	2	b	1019.9	+2	54	-5	—	0	—	b	.	—	77	54	.	.	.	.
12th	Scilly	981.1	41	WNW	5	cqp	978.7	+1	39	-3	—	0	NW	c	4	8	42	38	cqp	cqp	cqpl	0.0
.	Spitsbergen	?	-29	—	0	b	1027.3	+4	-29	+4	SSE	3	.	b	.	.	-29	-38	.	.	.	.
.	Nice	996.0	40	—	0	c	1000.0	+1	41	+3	E	2	.	r	.	?	46	37	.	.	.	.
.	Perpignan	996.7	43	—	0	b	991.8	-4	34	0	—	0	—	r	0	—	50	32	.	.	.	.
.	Sanguinaire	.	50	W	4	r	.	.	60	.	E	3	—	o	.	—	54	46	.	.	.	.
.	Madrid	1005.0	41	WSW	3	c	999.9	0	43	+11	SW	4	SW	o	.	Trace	43	37	.	.	.	.
.	Lisbon	1008.8	52	WSW	3	c	1003.0	-3	55	+9	WSW	5	—	bc	6	3	55	46	.	.	.	.
.	Malta	.	.	.	.	.	1012.3	+3	57	-7	W	2	—	b	1	—	73	57	.	.	.	.
13th	Scilly	984.5	40	WNW	1	c	987.4	+1	40	+1	NNE	2	—	c	4	4	44	37	c.bc	bc.cpl	ctlp.cp	4.1
.	La Heve	*	38	W	5	r	*	.	39	+3	SW	4	.	o	2	8	43	36				
.	Lyons	991.3	45	WSW	4	o	990.6	.	33	-1	—	0	.	r	.	9	50	33	.	.	.	.
.	Madrid	998.7	45	W	4	r	1003.7	+6	34	-9	W	1	—	b	.	8	48	34	.	.	.	.
.	Lisbon	998.7	55	WSW	5	b	1005.5	+2	48	-7	WSW	2	—	b	6	6	59	48	.	.	.	.
.	Gibraltar	1009.1	57	—	0	o	1005.7	.	53	-2	NW	5	.	tlr	5	41	59	53	.	.	.	.
.	Malta	.	.	.	.	.	1014.6	0	59	+2	SSW	2	W	c	1	—	63	55	.	.	.	.
14th	Scilly	987.7	40	—	0	c	988.1	0	41	+1	E	5	E	bc	4	0.4	45	39	c.bc	bc	cl.bc	4.0
.	Sanguinaire	.	52	SW	6	r	.	.	50	-7	SW	3	.	o	5	6	57	45	.	.	.	.
.	Corunna	1000.8	46	WSW	6	c	996.0	-1	48	+5	W	7	—	c	5	15	48	43	.	.	.	.
.	Madrid	1005.1	41	SW	1	o	1008.2	-1	36	+2	ESE	2	—	s	.	Trace	43	34	.	.	.	.
.	Lisbon	1009.5	50	SW	2	r	1009.3	-1	52	+4	WSW	4	—	bc	.	Trace	55	48	.	.	.	.
.	Azores	.	.	.	.	.	1007.1	+2	57	-3	ENE	9	.	r	7	28	63	57	.	.	.	.
.	Gibraltar	1011.2	51	NW	4	b	1013.2	.	48	-5	NW	3	.	bc	2	7	54	47	.	.	.	.
.	Malta	.	.	.	.	.	1008.8	+1	61	-8	SW	2	—	o	1	—	72	59	.	.	.	.
.	Alexandria	1017.5	66	N	3	b	1017.9	0	64	0	—	0	W	bc	0	—	72	63	.	.	.	.
.	Cairo	1017.3	66	N	2	c	1018.1	+2	57	-4	E	3	—	b	.	—	73	52	.	.	.	.
15th	Scilly	991.6	42	N	5	cp	997.3	+1	43	+2	N	4	N	c	5	5	45	39	bc	cp	cqp	4.6
.	Vardö	1016.0	28	E	3	s	1007.7	-4	30	0	E	4	—	o	4	.	30	25				
.	Corunna	996.0	48	NW	7	c	1006.9	+4	41	-7	WSW	6	.	r	5	13	52	41	.	.	.	.
.	Madrid	1001.2	43	WSW	4	r	1007.3	+5	36	0	W	1	—	b	.	5	43	34	.	.	.	.
.	Lisbon	1006.9	52	WSW	5	r	1009.0	+2	50	-2	NW	2	—	bc	6	2	57	48	.	.	.	.
.	Azores	.	.	.	.	.	1000.7	-3	57	0	NE	9	.	r	6	6	59	57	.	.	.	.
.	Madeira	1009.6	63	E	2	o	1005.9	-1	61	0	SW	4	—	r	4	2	64	59	.	.	.	.
.	Gibraltar	1011.2	56	W	5	b	1009.8	.	55	+7	W	5	.	o	2	1	68	47	.	.	.	.
.	Malta	.	.	.	.	.	1015.7	+2	54	-7	—	0	—	b	0	—	72	52	.	.	.	.
16th	Scilly	998.2	41	W	2	bcv	1000.1	+1	39	-4	—	0	NE	c	3	4	46	38	cp	c.o.bcv	bcv.cp	1.9
.	Nice	1001.0	44	SW	6	b	1010.0	+7	36	-8	E	3	.	b	4	—	60	34				
.	Perpignan	1006.0	45	N	1	b	1012.6	+3	30	-16	SW	1	SW	bc	.	10	52	30	.	.	.	.
.	Sanguinaire	.	51	SW	4	o	.	.	50	—	SW	5	.	r	5	2	54	45	.	.	.	.
.	Corunna	1007.5	48	SW	2	b	1007.4	0	45	+4	SE	5	—	bc	4	5	50	41	.	.	.	.
.	Alexandria	1018.6	64	—	0	b	1020.6	+1	61	+2	SSE	3	—	b	.	—	77	57	.	.	.	.
.	Cairo	1019.0	64	—	0	b	1020.0	0	63	+6	E	3	—	b	.	—	75	57	.	.	.	.
17th	Scilly	1006.2	41	ENE	2	b	1008.8	0	39	0	ENE	3	—	r	4	1	46	38	cp.bc	b	b	3.2
.	Corunna	1001.7	48	SE	1	o	999.0	+6	48	+3	NE	3	—	r	3	1	50	45				
18th	Scilly	1008.3	37	E	1	b	1002.2	-2	38	-1	—	0	—	b	3	—	45	36	b.bc	. b	bx	7.5
.	La Heve	?	37	—	0	f	*	.	34	0	SE	4	.	o	1	—	37	32	.	.	.	.
.	Sanguinaire	.	50	SE	3	r	.	.	50	.	E	3	—	f	4	—	54	46	.	.	.	.
.	Madrid	1005.2	54	W	3	r	998.7	-7	50	+2	SSW	2	—	r	.	19	54	48	.	.	.	.
.	Lisbon	1003.0	61	SSW	5	o	995.8	-5	61	0	SSW	6	—	r	6	6	63	59	.	.	.	.
.	Gibraltar	1010.1	67	W	8	b	1006.8	.	63	.	W	9	—	r	6	45	70	61	.	.	.	.
.	Malta	.	.	.	.	.	1010.3	0	63	+4	SW	3	—	r	7	—	68	59	.	.	.	.
.	Alexandria	1020.6	63	—	0	b	1019.4	+1	57	-4	—	0	W	bc	1	—	75	57	.	.	.	.
.	Cairo	1019.8	63	NE	2	bc	1018.9	+1	57	0	NE	1	NW	bc	0	—	75	54	.	.	.	.
19th	Scilly	995.2	43	SW	3	c	993.8	+1	40	+2	NW	3	NW	c	5	5	45	37	bc	bc.c	cqpl.c	3.5
.	Spitsbergen	1018.9	-4	S	1	s	1020.0	+2	-2	+11	—	0	—	s	-	*	-2	-13				
.	Vardö	1000.8	18	—	0	b	1012.3	0	18	+1	—	0	—	bc	3	*	19	16	.	.	.	.
.	Bodö	1002.9	23	E	4	s	1001.1	-1	18	-5	E	4	—	c	2	?	23	16				
.	Christiansund	999.3	34	—	0	s	999.5	0	36	0	—	0	—	c	2	1	36	32	.	.	.	.
.	Skudesnaes	999.3	34	SE	6	o	998.9	0	34	-2	E	4	—	o	2	-	36	32	.	.	.	.
.	Faerder	1001.9	37	N	4	o	1003.1	0	28	+3	NNE	5	—	o	2	—	28	25	.	.	.	.
.	Sanguinaire	x	56	SW	2	f	+	*	56	+6	NW	4	—	o	5	—	59	48	.	.	.	.
.	Lisbon	10047	57	WSW	3	o	10030	-1	55	-6	WSW	3	—	bc	?	7	61	54	.	.	.	.
.	Horta	—	—	—	—	—	1003.5	+1	55	+2	WNW	5	—	bc	3	13	59	53	.	.	.	.
.	Alexandria	1019.1	63	—	0	b	10187	+2	57	0	SSE	2	NW	b	0	-	73	55	.	.	.	.
.	Cairo	1017.6	63	N	2	b	1019.0	+3	52	-5	—	0	—	c	*	—	75	50	.	.	.	.
20	Scilly	994.1	43	SW	2	bc	988.0	-4	47	+7	SSW	5	SW	cp	6	3	47	40	c.bcv	bcv	cpv.t	5.4
.	Sanguinaire	—	57	E	2	o	—	—	50	-6	E	3	.	c	4	-	61	48				
.	Corunna	996.4	52	S	1	r	1000.7	+6	50	-	SW	3	.	b	1	11	55	45	.	.	.	.
.	Madrid	1003.0	48	SW	2	o	1006.3	+10	45	-1	WSW	2	.	b	.	3	48	45				
.	Horta	-	.	.	.	.	995.1	+3	53	-2	N	6	.	e	3	9	61	53	.	.	.	.
.	Gibraltar	1007.8	63	W	8	r	1011.8	-	60	+1	W	7	.	bc	4	16	65	58	.	.	.	.
.	Malta	-	-	-	-	-	1008.8	+1	63	-	SW	3	.	bc	1	-	70	61	.	.	.	.
.	Alexandria	1018.0	64	-	0	b	1018.6	+1	59	+2	SE	2	W	c	0	-	75	55	.	.	.	.
.	Cairo	1018.3	61	NE	3	b	1019.3	+2	57	+5	-	0	W	cv	-	-	73	52	.	.	.	.
21	Scilly.	986.1	47	WNW	6	c	981.6	-4	45	-2	NNE	4	N	cv	4	3	50	43	cqp	cqp	cv.o.c	1.7
.	Spitsbergen	1025.2	-29	S	2	b	1027.0	+2	-29	-14	SSE	1	.	o	-	*	-15	-38				
.	Vardö	1011.9	19	-	0	o	1015.1	+2	19	0	NE	1	.	s	3	4	21	16	.	.	.	.
.	Bodö	1009.5	23	E	4	o	1012.3	0	19	+3	E	3	.	b	2	-	23	14				
.	Christiansund	1001.5	32	E	2	c	1000.2	-1	32	0	E	2	.	b	3	-	32	32	.	.	.	.
.	Skudesnaes	997.1	36	ESE	8	o	995.5	0	36	+2	ESE	10	.	o	5	-	36	34				
.	Faerder	1005.9	27	NE	2	bc	1006.9	0	30	+2	ENE	4	.	o	2	-	30	27	.	.	.	.

REPORTS FOR DECEMBER, 1916.

DATE.	STATIONS.	YESTERDAY EVENING					THIS MORNING 7 A.M., G.M.T.									PAST 24 HOURS.						Sunshine for Yesterday.
		Barom. Millibars at M.S.L.	Temp.	Wind.		Weather.	Barometer.		Temp.		Wind.		Direc. of Upper Cloud.	Weather.	Sea 0-9.	Rainfall. Millimetres.	Temp.		Weather.			
				Direc.	Force 0-12.		Millibars at M.S.L.	Change in 3 hours.	Dry Bulb.	Change in 24 hours.	Direc.	Force 0-12.					Max.	Min.	Morning.	Afternoon.	Night.	
			°F.						°F.	°F.							°F.	°F.				Hours.
21	La Hève	*	36	S	5	bc	*	–	43	+9	S	5	–	r	4	2	43	34	–	–	–	–
	Sanguinaire	*	54	NW	3	c	*	–	50	0	SSW	3	–	c	3	1	?	!	.	.	.	.
	Corunna	9957	57	SSW	6	r	996·4	+12	52	+2	WSW	6	–	bc	8	6	59	50	.	.	.	.
	Madrid	1009·3	48	SW	2	0	998·6	+1	46	+1	SSW	2	–	0	–	11	50	45	.	.	.	.
	Lisbon	1000·3	59	SSW	5	0	1002·7	+11	54	–1	NW	6	–	bc	8	2	61	54	.	.	.	.
	Gibraltar	1010·8	63	W	6	c	1005·4	–	59	–1	W	9	–	0	6	23	66	54	.	.	.	.
	Malta	.	.	.	.	.	1012·6	+2	61	–2	W	4	SW	c	2	–	68	59	.	.	.	.
	Limassol	.	.	.	.	.	1018·0	+1	57	+2	SW	1	–	c	3	–	70	54	.	.	.	.
	Alexandria	1019·0	64	–	0	b	1018·0	+1	59	0	–	0	–	b	0	–	75	55	.	.	.	.
	Cairo.	1019·7	64	–	0	b	1018·9	+2	55	–2	E	1	–	b	–	–	75	54	.	.	.	.
22	Scilly	986·5	44	WNW	5	c	991·2	+1	44	–1	WNW	6	W	cq	5	4	48	40	bc	cqp	cqp	2·8
	Corunna	1004·3	52	SSW	2	r	1006·1	+5	57	+5	SW	6	–	0	4	4	57	52	.	.	.	.
	Madrid	1008·7	50	WNW	3	bc	1020·4	+5	53	–3	SSW	2	–	0	–	2	52	39	.	.	.	.
	Lisbon	1015·0	57	SW	3	0	1016·0	+1	59	+5	SSW	5	–	0	7	–	59	54	.	.	.	.
	Gibraltar	1020·0	57	NW	5	b	1022·3	–	58	–0	N	5	–	b	2	5	62	55	.	.	.	.
	Alexandria	1015·5	66	–	0	b	1015·3	0	59	0	–	0	NW	bc	0	–	79	55	.	.	.	.
	Cairo	1016·2	64	S	1	b	1016·2	+2	59	+4	SE	1	W	bc	–	–	77	55	.	.	.	.
23	Scilly	998·6	47	WSW	3	bc	987·6	+5	43	–1	NW	5	–	or	6	18	48	41	cp.bcp	bc	c.or	4·5
	Corunna	1004·7	61	SSW	6	r	1009·1	+6	59	+2	SW	7	–	0	4	7	63	57	.	.	.	.
	Madrid	1020·2	48	WSW	1	0	1020·2	+2	48	+5	S	2	–	0	–	trace	50	43	.	.	.	.
	Lisbon	1016·4	61	S	5	o	1016·3	0	61	+2	SSW	5	–	r	6	3	61	59	.	.	.	.
	Gibraltar	1022·7	55	W	2	m	1022·3	–	52	–6	W	4	–	m	1	–	66	50	.	.	.	.
	Malta	–	–	–	–	.	1019·5	+3	59	–2	NNW	4	–	b	3	–	64	59	.	.	.	.
	Alexandria	1012·7	66	–	0	b	1013·1	0	59	0	SE	1	W	0	c	–	82	57	.	.	.	.
	Cairo	1013·3	64	ESE	1	b	1012·8	+1	59	0	E	1	SW	b	–	–	77	54	.	.	.	.
24	Scilly	1006·3	44	NW	7	cpq	1013·2	+1	47	+4	W	4	NW	cw	5	2	47	39	cqp	cqp	cq.bcv	2·5
25	Castlebay	–	–	–	–	–	987·0	–2	43	–1	S	6	–	op	6	4	46	40	op	o.bcp	bc.op	0·0
26	Scilly	1008·7	46	WNW	3	bc	1008·7	–2	44	–2	E	3	–	0	4	1	50	41	cp	bc	bcv.cp	0·6
27	Scilly	1008·7	45	E	4	0	1016·9	+2	44	0	SE	2	–	c	4	1	46	40	ovc	o	c	0·0
28	Castlebay	–	–	–	–	–	1001·2	–3	50	+7	SSW	6	–	op	6	6	50	42	op	o	op.r.op	0·0
	Scilly	1022·5	46	SSE	3	bc	1020·6	–2	50	+6	SSW	5	SW	c	4	–	50	42	bc	b.bcm	bcm.cm	5·5
	Corunna	1025·2	55	NW	1	b	1028·0	+1	52	+3	S	4	–	bc	1	trace	59	48	–	–	–	–
	Madrid	1022·0	52	W	2	r	1029·3	+5	37	–9	–	0	NE	b	–	5	54	36	.	.	.	.
	Lisbon	1026·6	57	NW	2	bc	1029·6	+2	54	–3	WSW	1	–	b	6	–	64	52	.	.	.	.
	Horta	–	–	–	–	–	1011·4	–	59	–4	S	7	–	o	5	31	64	57	.	.	.	.
	Madeira	1027·6	64	N	1	b	1027·0	+2	59	+2	N	2	–	b	2	–	68	57	.	.	.	.
	Gibraltar	1026·4	59	NW	4	b	1026·1	–	54	–2	NW	3	–	b	3	–	64	53	.	.	.	.
	Malta	–	–	–	–	–	1016·7	+3	59	0	NW	3	–	c	2	–	64	59	.	.	.	.
	Alexandria	1015·4	53	N	3	bc	1015·3	+1	61	–2	SW	3	NW	bc	2	–	70	55	.	.	.	.
	Cairo	1015·3	59	–	0	b	1016·8	+3	54	0	SE	2	–	b	–	trace	68	52	.	.	.	.
29	Scilly	1016·1	52	WSW	5	rf	1015·4	0	52	+2	SW	6	–	odm	6	4	52	49	cm.om	ovc.r	odm	0·0
	Lyons	1030·6	44	–	0	0	1032·2	–	39	–1	–	0	–	0	–	–	45	37	.	.	.	.
	Nice	1027·1	50	–	0	b	1028·6	0	45	–2	–	0	–	bc	2	–	59	41	.	.	.	.
	Sanguinaire	.	58	N	3	b	–	–	50	–4	E	3	–	bc	4	–	59	46	.	.	.	.
	Corunna	1030·7	55	SW	3	0	1031·9	+1	54	+2	–	0	–	0	3	–	59	52	.	.	.	.
	Madrid	1030·3	48	ESE	1	bc	1035·9	+3	36	–1	NNE	1	NE	bc	–	–	48	36	.	.	.	.
	Lisbon	1030·0	55	NNW	3	b	1031·0	+1	48	–6	NNE	3	–	bc	?	–	61	48	.	.	.	.
30	Deerness	–	–	–	–	–	991·2	–	43	–3	SW	4	–	c	3	2	46	41	bc.co	or	r o	0·0
	Scilly	1013·5	52	W	6	md	1016·7	41	50	–2	WNW	5	SW	c	6	14	53	48	odm	fd	ovc.bc	0·0
	Brest	1019·1	53	SW	6	0	1021·0	–	49	–3	WSW	4	–	f	5	2	54	48	–	–	–	–
	Belfort	1027·4	45	WSW	7	0	1020·4	–	43	–2	SW	7	–	r	–	6	48	41	–	–	–	–
	Lyons	1030·7	44	NNW	0	b	1026·4	–	41	+2	W	2	–	0	–	1	45	39	–	–	–	–
	Perpignan	1029·3	45	–	0	b	1027·1	0	37	–2	W	1	–	m	–	–	55	36	.	.	.	.
	Sanguinaire	1029·0	55	E	2	bc	1027·3	–	50	0	E	2	–	0	4	–	59	48	.	.	.	.
	Corunna	1032·0	55	SW	2	c	1032·4	+2	54	0	S	3	–	0	2	–	57	54	.	.	.	.
	Madrid	1033·3	46	–	0	bc	1035·4	+1	36	0	NE	1	NE	b	–	–	48	34	.	.	.	.
	Lisbon	1031·4	55	NNE	2	b	1032·0	+2	46	–2	N	2	–	bc	6	–	57	46	.	.	.	.
	Madeira	1025·7	63	E	3	b	1026·7	0	55	0	E	3	–	0	3	–	68	55	.	.	.	.
	Alexandria	1017·5	63	NNW	4	bc	1019·1	+1	61	–3	NNW	5	NW	c	4	1	72	57	.	.	.	.
	Cairo	1017·2	61	NW	2	b	1019·3	+2	52	–2	NW	2	–	b	–	–	68	50	.	.	.	.
	Horta	–	–	–	–	–	1021·3	–	63	+2	SE	5	–	0	3	14	63	61	.	.	.	.
31	Scilly	1023·0	50	W	4	om	1024·6	+1	50	0	W	5	W	om	6	0·4	51	48	cpm	cm.om	om.f	0·0

CORRECTIONS.

DATE	STATIONS.	OBSERVATIONS
1.	Spurn Head.	Morning temp. 31°. Min. temp. 29°
.2	Deerness	" " 46° Max. " 46°
	Glasgow	Evening wind direc. S.E.
	Eskdalemuir	Rainfall nil.
	Dungeness	Max. temp. 42°
	Tynemouth	" " 40°
	Blaavands Huk.	Evening temp. 36°
3	Falmouth	" weather cm.
	Dover	Sea. 1. Max. temp. 37°. Min. temp. 32°
	Benson	Evening wind. direc. N.E.
4.	Eskdalemuir	Min. temp. 30°
	Dover	Morning bar. 1014·0 mb.
	Christiansund	Max. temp. 45°. Min. temp. 37°
5.	Yarmouth	Morning temp. 37°
	Benson	Evening " 33°
6	Eskdalemuir	" " 23°
	Blacksod Point	Min. temp. 43°
7	Holyhead	" " 32°
8	Spurn Head.	Morning wind direc. W.N.W.
	S. Farnborough	Evening bar. 1014·5 mb.
	Alexandria	Rainfall 16 mm.
10	Stornoway	Evening bar. 1000·9 mb.
	Yarmouth	Rainfall 1 mm.
11	Deerness	Morning temp 41°
	Roche's Point.	Min. temp. 35°
12.	" "	Evening wind N.N.W.3
	Clacton-on-Sea	Min. temp. 39°
	S. Farnborough	Night weather or. on. of
14.	Valencia	Min. temp 32°
	Pembroke	Sunshine 3·1 hrs.
	Benson	Evening bar. 988·5 mb. Morning temp. 26°
15	Glasgow	Afternoon weather c. bc. b
	Blacksod Point	Evening wind direc. N.N.W.
	Holyhead	Min. temp 40°.
	Benson	Max. " 29°
17.	Wick.	Min. temp. 32°.
	Skudesnaes	Rainfall nil.
18	Blacksod Pt.	Evening wind direc. W.S.W.
	Birr Castle	Sunshine 0·0 hr.
	Nairn	Evening temp. 32°
	Yarmouth	Morning bar. 1000·9 mb.
19	Holyhead	Rainfall 33 mm.
20	Castlebay	" 5 mm.
	Pembroke	Sunshine 1·4 hr.
22	Holyhead	Evening bar. 982.7 mb.
23	Pembroke	Sunshine 3·6 hr.
	Spurn Head	" 0·0 hr.
24	Pembroke	Min. temp. 37°
25	Holyhead	Rainfall 1 mm.
	Yarmouth	Sunshine 5·8 hrs.
26	Castlebay	Rainfall 0·5 mm. Min temp. 37°
	Valencia	Evening wind force 4
27	Benson	Min. temp. 24°
	Madrid	Morning bar. 1024·4 mb
28	Glasgow	Night weather om. ogr
	Spurn Hd.	Sunshine 2·4 hrs.
29	Eskdalemuir	Evening bar. 1003·2 mb. Evening temp. 46° Evening wind S.S
	Birr Castle	Max. temp. 55°
	Jersey	Sunshine 0·1 hr.
	Nairn	Evening bar. 994·0 mb. Evening temp. 47°
	Spurn Hd.	" temp. 39°. Min. temp. 35°
30	Stornoway	Morning temp. 45°
31	Roche's Pt.	" wind direc. S.W.
	Pembroke	Sunshine 2·0 hrs
	Spurn Hd	" 1·0 hr.

LONDON OBSERVATIONS.

	STATIONS.	Humidity. 3 p.m. Yesterday.	Humidity. 9 a.m. Today.	Sunshine for Yesterday.	Temperature. In Screen. Max.	Temperature. In Screen. Min.	Temperature. Min. on Grass.	Rainfall.	Weather. Forenoon.	Weather. Afternoon.	Weather. Night.
					24 Hours ended 9 A.M. To-Day.						
		%	%	Hr.	°F.	°F.	°F.	mm.§			
2nd.	Westminster.	96	90	0·0	41	32	32	-	m	m	m
	S. Kensington	-	-	-	-	38	-	-	-	-	-
4th	City	-	-	0·0	-	-	-	-	-	-	-
7th	S. Kensington	-	82	-	42	37	36	-	-	-	-
11th	City	-		0·3	-	-	-	-	-	-	-
22nd	"	-	-	0·0	-	-	-	-	-	-	-
26th	Greenwich	-	-	-	-	-	-	0·3	-	-	-
28th	City	-	-	0·0	-	-	-	-	-	-	-
	S. Kensington	-	-	-	-	29	-	-	-	-	-
29th	Westminster	-	-	0·0	-	-	-	-	-	-	-
31st.	Greenwich	-	-	4·0	-	-	-	-	-	-	-

GALES

Duration and Extreme Force in British Islands

Date.	ADDITIONS.	Date.	CORRECTIONS.
9	Scilly. 9h 3am – 7am. Extreme NW 9 at 4am		
10	Scilly 9h 7am – 10am. Extreme NW 8.		
24	Scilly 23d 10am and 2pm Squalls NW 9.		