

# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## JANUARY 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—Until the closing week the weather of January was extremely unsettled, with frequent heavy rain in the west, and occasional falls of snow or sleet in the north. Thunder and lightning occurred at various times, chiefly in the south-western parts of the kingdom. Towards the close of the month, however, the weather became fair, dry and cold, with fog in many of the northern and central districts. Pressure was low, especially in the west; temperature was high over England, but at about its normal height in Ireland, and rather low in Scotland; winds were principally from between South and West, with heavy gales over Ireland and England on the 2nd and 12th; rainfall was mostly in excess of the average and resulted in serious floods in Wales; bright sunshine was rather deficient in the west, but exceeded the normal in most other districts.

**Pressure.**—*Mean at 8 a.m.* ranged from 29·85 ins. and upwards over the eastern and central parts of the English Channel, to 29·6 ins. and less in the north and north-west of Scotland. The general distribution showed a fair agreement with the normal, but the actual values were in all cases below the average,\* the deficit being greatest (0·2 in. or more) in the west of Ireland. *Highest* readings occurred on the 25th or 26th, when the barometer rose to 30·7 ins. and upwards over the south of Scotland and the northern and central parts of England, and to 30·5 ins. and upwards in all other parts of the United Kingdom. *Lowest* readings occurred over the country generally on the 1st or 2nd, the barometer falling below 28·6 ins. in the west of Scotland and the extreme north of Ireland, and below 29·1 ins. in nearly all other districts. Over the northern half of the kingdom, however, the barometer was equally low, and in many parts of Scotland even a trifle lower, during the passage of the deep depression of the 12th. *Range* was large in the north, but moderate in the south.

**Depressions.**—These were very numerous, the centres of the main disturbances moving in an easterly or east-north-easterly direction across the more northern parts of our islands and the North Sea. The most important depression was that of the 12th-13th. In this case the disturbance was very deep, and moved with unusual rapidity, its passage eastwards across our islands and the North Sea being accomplished at the rate of about 35 miles per hour.

**Anticyclones.**—With the exception of a system which spread temporarily over us from the southward on the 5th, no anticyclone was observed in our immediate neighbourhood until the closing week. On the 23rd an area of high readings spread in from the Atlantic, the system afterwards increasing greatly both in size and height, and eventually covering the greater part of Europe. After the 27th, however, it began to diminish; and although the system had not entirely disappeared at the close of the month, the readings of the barometer in its central area had then fallen below the average for the time of year.

**Winds** were chiefly from points between West and South, but in Ireland and the west of Scotland there was a fair prevalence of breezes from East and South-east. Gales were very frequent in the west, the number of days affected being as large as 18 at Pembroke and 17 at Roche's Point and Scilly. The Westerly gales experienced over Ireland and England on the 2nd and 12th were extremely severe; in Scotland the wind on the former occasion blew with the force of a strong gale from the eastward, and on the latter occasion from the northward.

**Temperature.**—*Mean at sea level*, ranged from 47° and upwards in Scilly and the Channel Islands, and from 45° and upwards on our south-west coasts generally, to 39° and less over the inland parts of northern Ireland, and to 36° and less at several stations in northern and central Scotland. Over Ireland and Scotland the general distribution was in fair accordance with the normal, but in the northern and eastern parts of England there was an almost complete absence of the region of cold found there in an ordinary January. At the English stations the mean values were above the average,\* the excess amounting to 4° and upwards in the east and south, and to more than 5° at Dungeness. In Ireland the values differed but little from the normal, but in Scotland there was a very general deficit. *Highest* readings occurred in Scotland on the 8th or 9th, but over England and Ireland mostly between the 18th and 21st, the thermometer on the latter dates rising slightly above 55° in many places. *Lowest* readings occurred on various dates in the different districts, but mostly between the 24th and the 29th, when sharp frost occurred in most places; at many of the northern and central stations the sheltered thermometer fell below 20°, at Lairg to 12°, and at Braemar to 10°. *Range* was moderate. *Vapour Tension* ranged from 0·28 in. at Scilly and Jersey, and 0·26 in. and upwards on many other parts of our southern coasts, to 0·22 in. and less over the central parts of England and Ireland, and to 0·18 in. or less over central Scotland. *Relative Humidity* ranged from 96 per cent. at Ardrossan, 94 per cent. at Dungeness, and 93 per cent. at Parsonstown, to 83 per cent. at Nairn and 78 per cent. at Valencia.

**Rainfall** was in excess of the average\* over the country generally, and considerably so at many of the western stations. At some places on the east and south-east coasts of England, however, as well as at several stations in the north of Ireland and the west and north of Scotland, there was a deficit, varying greatly in extent in different localities. The largest aggregates reported were 10·1 ins. at Hawes Junction, 9·8 ins. at Arlington, and 9·3 ins. at Killarney; the smallest being 1·4 in. at Felixstowe, 1·5 in. at Spurn Head, and 1·8 in. at Yarmouth. Falls exceeding an inch in 24 hours were recorded in the south-west of England on the 1st, in Scotland on the 18th, and at many western stations on the 20th and 21st, the heaviest of all being 2·8 ins. at Stornoway on the 21st, and 1·9 in. at Glenlee on the 18th.

**Bright Sunshine** was rather deficient at some of the western stations, but exceeded the average\* elsewhere. The percentage of the possible duration ranged from 38 at Felixstowe, 37 at Hollesley Bay (Suffolk), and 33 at Geldeston, Margate and Bognor, to only 9 at Manchester (Prestwich) and 8 at York and Glasgow.

\* The averages employed are—*Pressure* and *Temperature* for the 25 years, 1871-95; *Rainfall* for the 30 years, 1866-95; and *Bright Sunshine* for the 15 years, 1881-95.



TABLE I.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC  
Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,  
(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.560	Ins. -0.116	39.0	35.0	41.8	38.4	-0.5	26	18th	47	9th	Ins. 0.209	88	
	Wick	29.588	.127	37.6	32.7	42.0	37.4	-0.1	26	24th	47	8th, 9th	.201	90	
	Stornoway	29.568	.120	38.2	33.1	42.2	37.7	-0.8	25	18th	49	8th	.210	92	
1. SCOTLAND, E.	Nairn	29.612	.132	34.4	28.8	41.3	35.1	-2.0	20	25th, 26th	50	8th	.168	83	
	Aberdeen	29.646	.140	35.7	32.1	40.7	36.4	-1.0	17	27th	46	9th	.185	88	
	Leith	29.654	.167	37.0	32.9	43.7	38.3	-0.3	22	25th, 26th, 27th	53	18th	.191	87	
2. ENGLAND, N.E.	Shields	29.699	.172	38.9	34.6	44.6	39.6	+1.5	24	28th	54	18th, 21st	.215	91	
	York	29.756	.166	38.6	34.3	45.2	39.8	+2.7	22	26th	54	20th, 21st	.213	91	
	Spurn Head	29.750	.161	40.8	37.4	45.2	41.3	+3.7	31	1st	54	21st	.229	91	
3. ENGLAND E.	Yarmouth	29.799	.161	41.5	36.7	45.8	41.3	+4.3	30	6th	57	19th	.225	87	
	Cambridge	29.830	.149	39.0	34.1	47.9	41.0	+4.2	24	25th, 26th	56	4th, 21st	.216	91	
4. MIDLAND COUNTIES	Loughborough	29.800	.158	38.5	34.7	46.5	40.6	+3.5	18	26th	57	21st	.208	90	
	Oxford	29.837	.150	40.3	36.5	47.5	42.0	+4.3	25	25th, 26th	54	15th, 20th, 21st	.219	88	
5. ENGLAND, S.	London	29.847	.144	41.2	37.5	48.5	43.0	+4.7	29	25th	56	8th	.225	88	
	Dungeness	29.844	.148	43.8	40.1	48.0	44.1	+5.3	32	17th, 24th	54	21st	.267	94	
	Hurst Castle	29.850	.141	43.7	40.1	48.8	44.5	+4.5	30	26th	55	21st	.249	87	
6. SCOTLAND, W.	Ardrossan	29.651	.183	39.7	35.5	44.1	39.8	+0.1	27	27th, 28th	50	4th	.237	96	
7. ENGLAND, N.W.	Hawes Junction*	28.503	?	35.6	31.0	40.7	35.9	?	17	28th	48	12th, 18th, 19th, 20th, 21st	.204	99	
	Liverpool	29.763	.155	40.4	36.3	45.7	41.0	+2.1	23	28th	55	20th	.211	84	
	Holyhead	29.736	.161	43.1	39.0	46.9	43.0	+1.3	30	25th, 26th, 27th	54	8th	.244	87	
8. ENGLAND, S.W.	Pembroke	29.773	.159	44.8	41.5	48.4	45.0	+2.9	30	28th, 29th	53	4th, 8th, 11th, 12th, 13th, 15th, 20th	.260	88	
	Prawle Point	29.844	.147	44.0	39.5	48.3	43.9	+2.5	30	24th, 25th	54	13th	.259	90	
9. IRELAND, N.	Malin Head	29.580	.215	40.5	36.5	44.9	40.7	-0.6	29	17th, 26th	51	3rd, 8th	.225	90	
	Donaghadee	29.683	.171	40.1	35.0	45.7	40.4	+0.4	27	28th	53	18th	.225	91	
	Belmullet	29.627	.203	42.0	37.2	46.5	41.9	-0.7	30	24th, 28th, 29th	54	8th	.233	88	
10. IRELAND, S.	Parsonstown	29.703	.192	38.6	33.3	45.9	39.6	+0.3	25	24th, 25th, 28th, 29th	55	18th	.216	93	
	Valencia	29.687	.207	44.6	38.8	49.2	44.0	-0.4	26	29th	54	3rd, 14th, 15th, 18th, 20th	.231	78	
	Roche's Point	29.733	.176	44.5	39.8	48.7	44.3	+1.2	31	29th	54	8th, 15th	.261	90	
CHANNEL ISLANDS	Scilly	29.803	.157	48.1	42.9	51.5	47.2	+1.8	35	29th	57	13th	.284	85	
	Jersey	29.896	.116	46.8	43.3	50.9	47.1	+5.3	32	26th	57	12th	.275	86	

\* Hawes Junction is 1,135 feet above Mean Sea Level, and the Barometer at this Station is not reduced for altitude.

## BRIGHT SUNSHINE VALUES FOR JANUARY IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	36.7	?	17	?	Hollesley Bay (Suffolk)	92.3	?	37	?
Strathpeffer Spa	48.1	+18.3	22	+8	Sheffield	37.9	?	15	?
Edinburgh	27.2	-6.3	12	-3	Workshop	33.4	-4.1	14	-1
Morpeth (Cockle Park)	52.8	?	22	?	Thurcaston	55.4	+15.1	23	+7
Newcastle-on-Tyne	26.0	?	11	?	Plumstead Common	53.3	?	21	?
Oswaldkirk	38.1	-0.2	16	0	Margate	84.1	+39.4	33	+16



REPORTING STATIONS in the BRITISH ISLANDS during the Month of JANUARY 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER.								WIND.								NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorm.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.	
8.7	Ins. 3.68	Ins. -0.17	Ins. 0.65	8th	26	3	0	0	0	22	10	4	3	2	1	4	1	10	4	2	Sumburgh Head.
6.6	3.20	+0.96	0.53	18th	24	3	0	0	3	12	9	3	2	1	2	7	4	6	6	0	Wick.
7.0	8.17	+3.00	2.75	21st	22	5	1	0	0	12	7	3	0	3	4	3	6	6	6	0	Stornoway.
5.9	3.03	+1.05	0.58	21st	22	7	0	0	6	10	0	2	1	2	3	0	0	11	0	12	Nairn.
7.1	3.30	+0.92	0.47	2nd	23	5	0	0	0	13	12	0	1	1	2	6	9	6	6	0	Aberdeen.
8.6	3.38	+1.60	0.63	18th	19	4	0	0	1	22	4	1	1	1	1	1	5	10	1	10	Leith.
8.3	2.31	+0.59	0.31	22nd	20	3	0	0	0	17	3	3	1	0	2	7	11	4	3	0	Shields.
6.5	2.21	+0.37	0.31	11th	22	4	0	0	7	14	0	7	2	0	4	10	4	2	2	0	York.
6.3	1.45	+0.07	0.18	1st, 20th	18	2	1	1	5	10	6	4	2	2	3	5	10	3	2	0	Spurn Head.
5.0	1.83	-0.13	0.39	11th	22	1	1	0	10	5	2	1	3	4	0	7	10	4	2	0	Yarmouth.
5.3	2.24	+0.72	0.47	12th	21	1	1	0	11	15	1	7	1	0	1	6	13	1	2	0	Cambridge.
7.1	2.99	+0.98	0.57	21st	19	1	1	0	2	15	7	2	2	2	5	3	7	8	2	0	Loughborough.
6.8	2.85	+0.69	0.49	20th	18	1	3	0	11	20	5	4	5	0	3	5	11	2	1	0	Oxford.
5.9	2.57	+0.51	0.45	13th	20	1	1	0	11	13	7	1	6	1	0	6	10	5	2	0	London.
6.5	1.96	-0.51	0.38	1st	19	0	1	0	1	8	13	2	3	4	1	3	10	5	2	1	Dungeness.
6.9	2.73	-0.13	0.55	1st	18	1	1	0	1	12	5	1	8	0	1	3	10	7	1	0	Hurst Castle.
7.3	3.27	-0.62	0.66	18th	22	2	1	0	2	16	6	2	6	0	5	5	3	5	2	3	Ardrossan.
7.9	10.11	?	2.58	18th	23	4	0	0	4	21	2	2	0	6	4	5	9	4	1	0	Hawes Junction.*
6.4	2.93	+0.75	0.50	20th	20	0	0	0	8	15	5	1	1	1	9	4	5	5	3	2	Liverpool.
7.5	5.13	+1.87	0.93	20th	22	2	0	0	2	14	8	0	4	3	4	4	8	6	2	0	Holyhead.
7.6	7.22	+3.51	1.29	20th	21	0	0	0	4	18	18	1	2	4	3	2	7	8	4	0	Pembroke.
7.9	4.71	+1.79	0.76	20th	25	0	2	1	0	13	8	1	4	3	1	5	7	8	2	0	Prawle Point.
7.1	3.95	?	0.54	17th	24	2	3	0	0	15	6	1	0	1	4	14	7	2	2	0	Malin Head.
6.3	3.43	+0.53	0.42	17th	23	0	0	0	1	6	7	1	3	0	2	3	12	9	1	0	Donaghadee.
7.9	4.61	-0.87	0.70	1st	30	0	2	1	2	20	11	1	1	3	6	5	3	10	2	0	Belmullet.
7.9	3.38	+0.39	0.43	20th	24	1	2	0	2	17	0	0	0	2	7	2	5	1	2	12	Parsonstown.
8.6	7.66	+1.35	0.79	5th	21	0	4	1	1	21	13	0	2	5	5	8	5	5	0	1	Valencia.
7.2	7.80	+2.47	1.35	20th	23	1	1	1	0	13	17	2	1	2	3	6	9	4	4	0	Roche's Point.
8.5	4.75	+1.12	0.80	2nd	22	1	4	3	0	16	17	0	5	4	1	5	8	7	1	0	Scilly.
7.6	4.64	+1.43	1.32	1st	21	0	3	3	3	17	8	1	3	4	3	4	7	4	5	0	Jersey.

## ADDITION TO THOSE FOUND IN TABLE II.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Eastbourne .. ..	74.2	+ 19.0	29	+ 8	Hoylake .. ..	43.6	?	18	?
Brighton .. ..	74.6	+ 23.5	29	+ 9	Colwyn Bay .. ..	67.4	?	27	?
Bognor .. ..	83.6	?	33	?	Tenby .. ..	62.0	+ 3.6	25	+ 2
Westbourne (Emsworth)..	76.4	+ 20.4	30	+ 8	Torquay .. ..	50.5	- 9.9	19	- 4
Ventnor Hospital .. ..	69.6	?	27	?	Newquay .. ..	55.5	+ 3.2	21	+ 1
Southport .. ..	40.1	?	17	?	Guernsey .. ..	44.3	- 8.7	17	- 3



TABLE II.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of JANUARY 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	0	0	0	0	0		0			Ins.	Ins.	Ins.		34.8	+ 5.6	16	+ 1
LAIRG	27.0	39.3	33.2	- 3.1	12	25th	46	9th, 10th	18	3.53	- 0.08	0.71	20th	—	—	—	—
GLENCARRON	31.2	40.8	36.0	- 0.9	20	25th	52	9th	21	7.70	- 2.36	1.83	18th	—	—	—	—
FORT AUGUSTUS	31.3	40.8	36.1	- 1.9	20	28th	51	9th	21	5.16	+ 0.45	1.03	15th	30.7	+ 16.0	14	+ 7
FORT WILLIAM	33.4	42.5	38.0	- 0.3	23	28th	53	9th	20	7.00	- 2.52	1.37	18th	25.9	0.0	12	0
ABERDEEN														54.5	+ 1.9	24	+ 1
BRAEMAR	26.8	37.1	32.0	- 2.0	10	27th	49	5th	21	2.68	- 0.45	0.75	21st	39.8	+ 18.4	18	+ 8
OCHTERTYRE	29.8	40.9	35.4	- 1.0	18	24th, 25th	49	29th	23	6.33	+ 1.37	0.71	15th	—	—	—	—
MARCHMONT	32.0	41.5	36.8	+ 1.0	20	27th	49	19th, 22nd	21	3.32	+ 0.65	0.70	18th	40.8	- 0.8	18	0
ALNWICK CASTLE	32.8	44.5	38.7	+ 1.5	19	27th	57	18th	24	3.05	+ 0.83	0.35	18th	—	—	—	—
DURHAM	33.1	43.3	38.2	+ 1.9	20	28th	52	18th, 19th, 21st	22	2.29	+ 0.29	0.43	22nd	48.6	+ 3.6	21	+ 2
SCARBOROUGH	34.6	44.8	39.7	+ 1.7	28	25th, 26th, 29th	55	21st	19	3.08	+ 1.10	0.41	11th	42.3	?	17	?
YORK														19.3	- 10.9	8	- 4
HILLINGTON	35.0	46.3	40.7	+ 4.4	23	6th, 25th	55	21st	19	2.31	+ 0.32	0.72	11th	71.6	+ 25.6	29	+ 10
GELDESTON	36.7	47.4	42.1	+ 4.6	23	6th	56	21st	22	2.18	+ 0.58	0.39	11th	83.2	+ 30.2	33	+ 12
CAMBRIDGE														69.8	+ 20.0	28	+ 8
FELIXSTOWE	37.6	46.2	41.9	?	31	28th	53	15th, 21st	15	1.41	?	0.31	13th	96.2	?	38	?
ROTHAMSTED	35.2	47.1	41.2	+ 4.7	28	6th	55	15th	25	2.65	+ 0.16	0.41	15th	75.8	+ 29.6	30	+ 12
BAWTRY	33.9	45.4	39.7	+ 2.9	20	26th	57	21st	22	2.14	+ 0.29	0.36	15th	—	—	—	—
STAMFORD (Duddington)	34.0	46.0	40.0	+ 3.8	20	25th	55	20th, 21st	23	2.57	+ 0.68	0.47	11th	—	—	—	—
CHEADLE	34.3	43.9	39.1	+ 3.0	26	28th	53	21st	20	3.95	+ 1.22	0.68	20th	—	—	—	—
SHIRLEY (nr. Solihull)	34.7	45.3	40.0	+ 3.2	24	25th	54	15th, 21st	26	4.03	?	0.65	21st	—	—	—	—
CHURCHSTOKE	34.0	44.9	39.5	+ 2.3	19	26th	54	15th, 16th	21	5.07	+ 2.23	1.15	20th	60.0	+ 13.4	24	+ 5
HEREFORD	35.5	45.8	40.7	+ 2.8	19	25th	55	15th	24	3.87	+ 1.36	0.54	20th	—	—	—	—
CIRENCESTER	34.5	46.1	40.3	+ 3.4	26	25th	54	20th	21	3.77	+ 0.77	0.66	20th	55.8	+ 5.5	22	+ 2
OXFORD														69.4	+ 22.3	28	+ 9
LONDON														45.2	+ 19.6	18	+ 8
CRANLEY	35.9	47.7	41.8	+ 3.5	28	6, 26, 27, 31	55	12th, 21st	19	2.96	?	0.43	15th	—	—	—	—
HASTINGS	39.1	47.7	43.4	+ 4.5	31	25th, 28th	53	12, 13, 20, 22	19	2.49	- 0.30	0.35	13th	76.3	+ 15.3	30	+ 6
SOUTHAMPTON	38.1	48.7	43.4	+ 4.2	28	25th	56	21st	22	4.00	+ 0.77	0.77	20th	60.3	+ 7.2	23	+ 2
SHAFTESBURY	36.4	44.8	40.6	+ 3.9	28	25th, 26th, 27th	53	13th	23	3.81	+ 0.69	0.50	1st	—	—	—	—
LAUDALE	34.3	44.4	39.4	- 0.2	26	28th	53	9th	23	6.44	- 2.23	0.75	15th	—	—	—	—
GLASGOW	33.6	41.8	37.7	- 0.3	22	27th	51	18th	22	6.34	+ 2.42	0.85	18th, 20th	17.8	- 5.5	8	- 2
GLENLEE	32.0	43.3	37.7	+ 0.8	15	28th	53	18th	23	7.96	+ 0.64	1.91	18th	—	—	—	—
DOUGLAS	37.1	46.1	41.6	+ 1.4	25	28th	52	4th	22	6.37	+ 1.99	0.75	11th	50.0	- 0.2	21	0
STONYHURST	35.5	43.3	39.4	+ 2.2	24	28th	52	18th	24	7.15	+ 3.12	1.38	20th	27.6	- 8.9	11	- 4
BLACKPOOL	35.7	46.1	40.9	+ 3.1	22	28th	53	18th	22	4.28	+ 1.40	1.05	20th	38.7	+ 2.0	16	+ 1
MANCHESTER (Prestwich)	35.1	45.3	40.2	+ 2.8	25	25th	54	21st	22	4.85	+ 1.66	0.92	20th	21.1	?	9	?
LLANDUDNO	38.4	47.5	43.0	+ 2.1	26	28th	56	18th	20	4.58	+ 1.83	0.73	18th	68.7	+ 24.7	28	+ 10
LLANDOVERY	33.9	47.4	40.7	+ 3.2	23	24th, 25th	56	8th	22	7.95	+ 2.79	1.77	20th	—	—	—	—
PEMBROKE														52.8	- 0.8	21	0
CLIFTON	38.3	47.9	43.1	+ 4.1	26	27th	55	20th, 21st	21	5.72	+ 2.31	0.91	20th	—	—	—	—
ARLINGTON	36.5	46.5	41.5	+ 1.8	27	24th	53	20th	21	9.81	+ 5.50	1.01	20th	—	—	—	—
CULLOMPTON	36.7	47.9	42.3	+ 2.9	25	24th, 26th	55	13th, 15th, 20th	24	5.84	+ 2.44	1.03	1st	57.2	+ 12.9	22	+ 5
FALMOUTH	41.9	48.7	45.3	+ 2.2	31	29th	54	8, 12, 13, 21	22	7.74	+ 2.51	1.48	1st	44.9	- 11.2	17	- 4
PLYMOUTH	39.5	47.8	43.7	+ 2.2	29	24th	54	12th, 21st	22	5.44	+ 1.53	1.07	1st	50.6	- 0.4	19	0
SCILLY														46.3	?	18	?
JERSEY														61.4	- 9.8	23	- 4
LONDONDERRY	34.6	44.0	39.3	- 0.3	25	28th	53	8th, 9th	21	3.92	- 0.05	0.50	17th	—	—	—	—
EDENFEL (Omagh)	32.2	43.1	37.7	+ 0.3	22	28th, 29th	52	18th	22	4.74	+ 1.24	0.82	18th	—	—	—	—
MARKREE CASTLE	33.0	45.2	39.1	0.0	18	28th	53	8th, 18th	23	4.15	+ 0.28	0.45	18th, 20th	46.8	+ 4.4	19	+ 1
ARMAGH	33.5	44.5	39.0	+ 0.6	23	28th	52	21st	22	2.80	0.00	0.38	18th, 22nd	54.9	+ 10.1	23	+ 4
DUBLIN	37.6	47.8	42.7	+ 1.5	28	24th	56	4th	24	2.48	+ 0.22	0.47	6th	66.3	+ 7.0	27	+ 3
PARSONSTOWN														55.9	+ 5.1	23	+ 2
KILKENNY CASTLE	34.1	46.6	40.4	- 0.2	23	24th	55	15th	24	4.66	+ 1.23	0.58	20th	—	—	—	—
VALENCIA (Cahireiveen)														47.0	- 9.1	19	- 3
KILLARNEY	35.9	48.8	42.4	- 0.7	26	28th, 29th	56	3rd	21	9.32	?	0.91	18th	—	—	—	—
FOYNES	36.0	47.1	41.6	+ 0.7	27	26th	54	{ 3, 4, 14 } { 15th, 18th }	22	5.06	?	0.59	16th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table I.

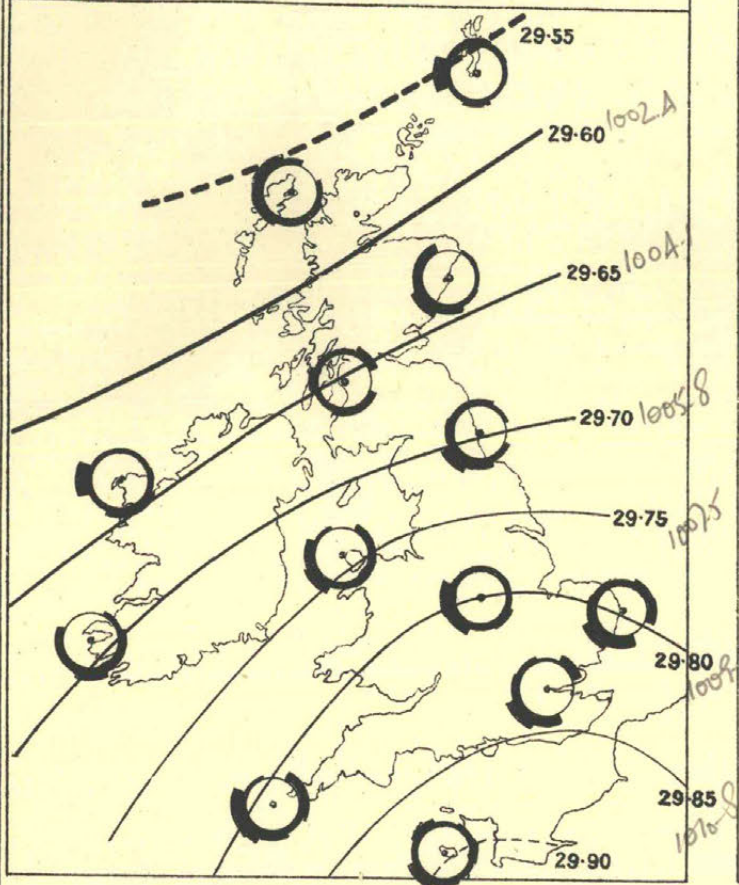


# MONTHLY WEATHER CHART JANUARY 1899.

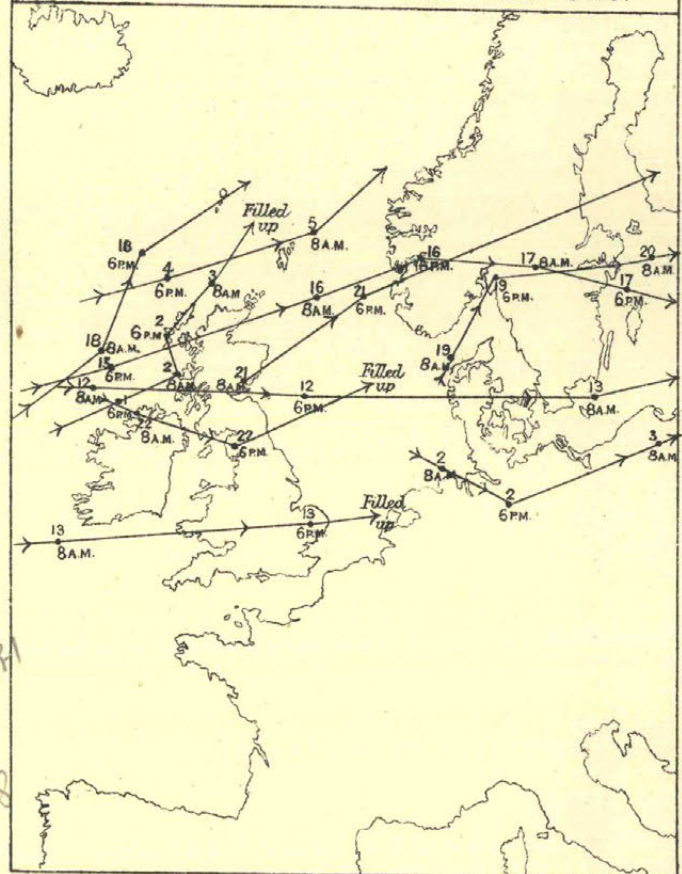
Monthly Summary.

Plate I.

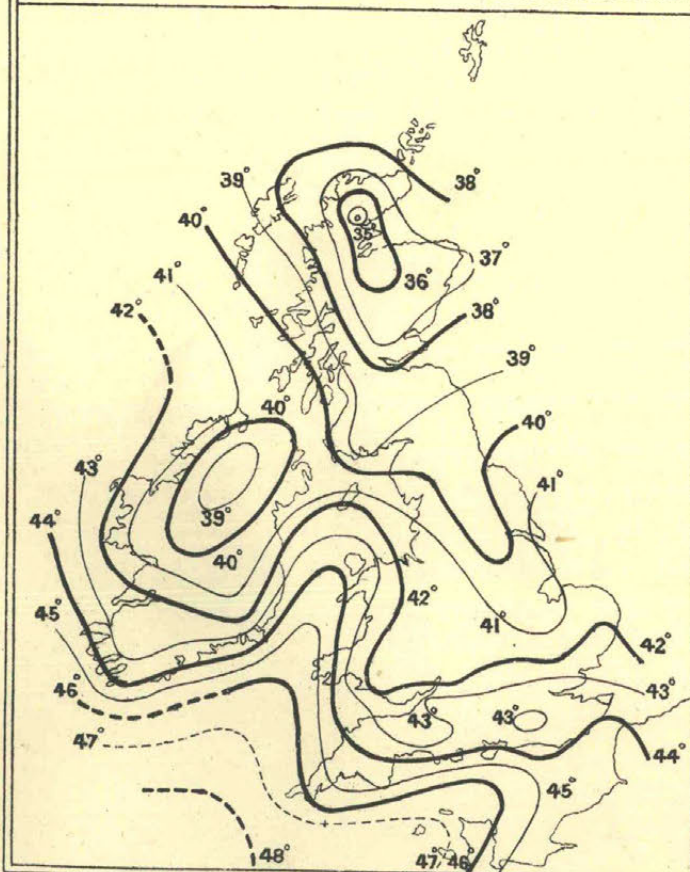
## 1. BAROMETER AND WIND.



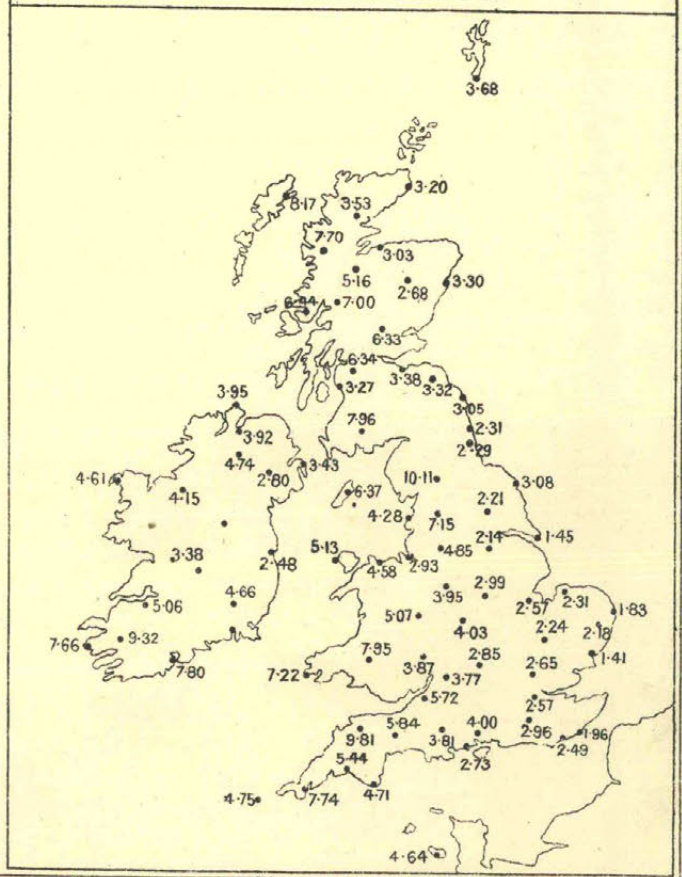
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.

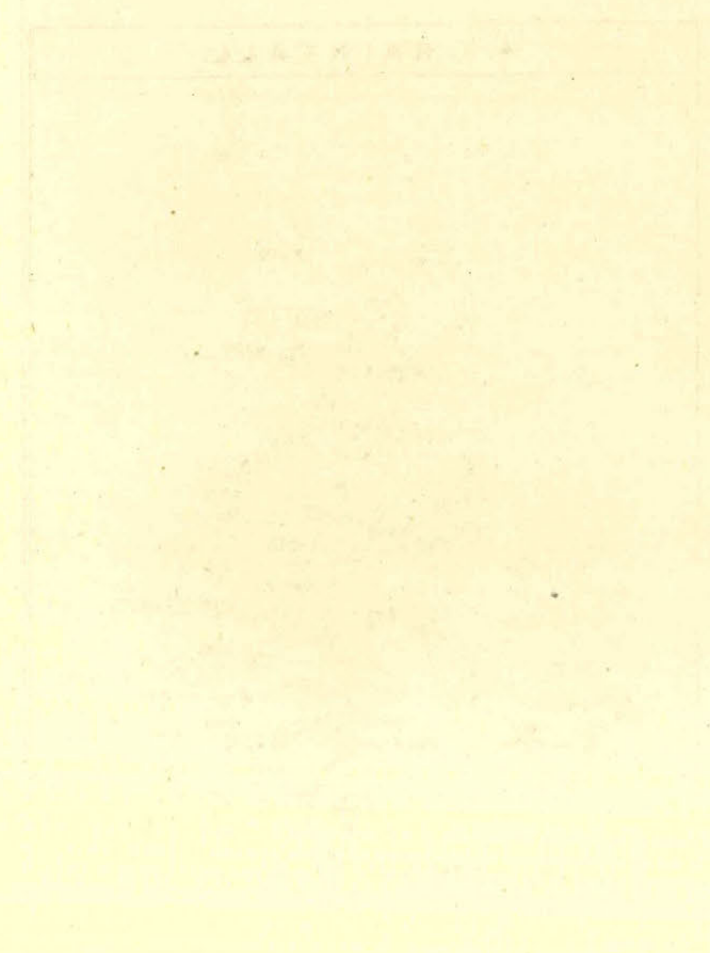
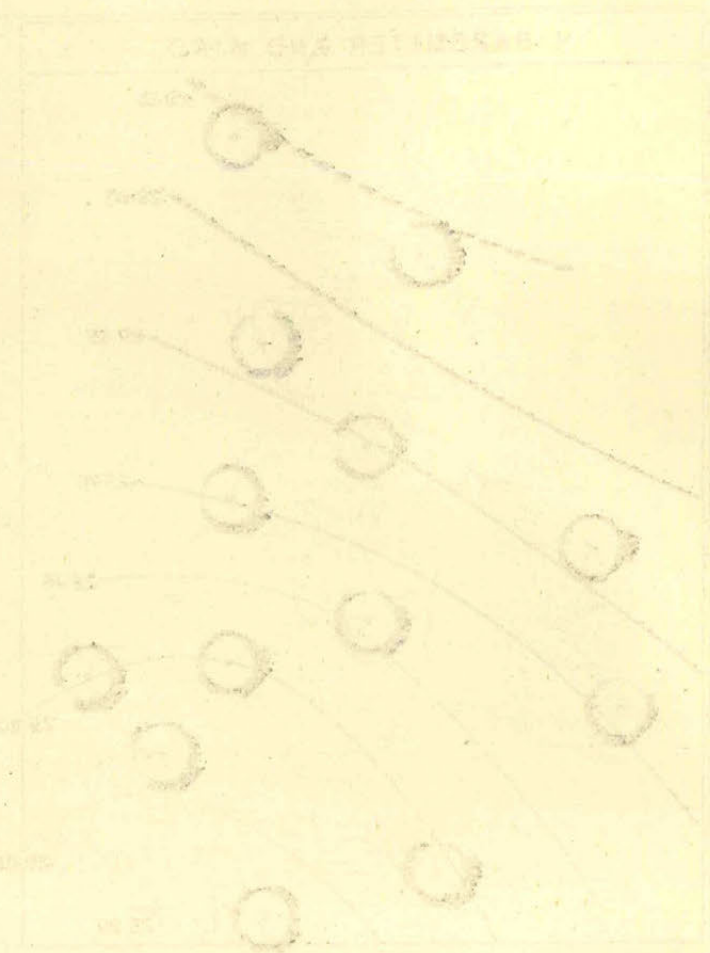
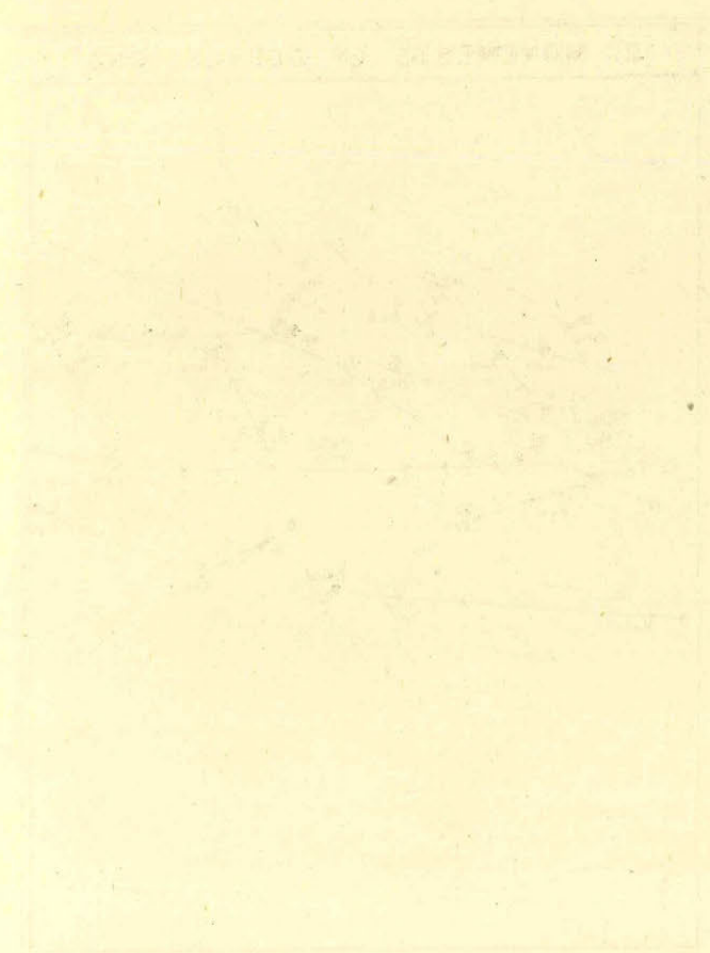


## 4. RAINFALL.



To face p. iv.







# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## FEBRUARY 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST. EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—During the earlier part of the month the weather was extremely unsettled, especially in the west and south, where frequent gales and heavy rains occurred; thunder and lightning were reported in many parts of England and Ireland between the 12th and 14th. After the 16th the conditions became much finer and quieter, with a large amount of sunshine, but with frost and fog in many of the inland districts at night. Pressure was below the average; temperature was high, especially in the east and south of England; the winds were rather variable, but mostly Southerly over Ireland and England; rainfall was deficient in the north and east, but in excess of the average in the west and south; bright sunshine was unusually prevalent, especially at coast stations in the east and south.

**Pressure.**—*Mean at 8 a.m.* ranged from 29.9 ins. and upwards over the south-east of England, to between 29.66 ins. and 29.64 ins. in the Hebrides and the west of Ireland, the gradient being normal as regards steepness, but favourable for winds from a more Southerly quarter than is usual in February. The mean values were in all cases below the average,\* the deficiency being greatest (0.20 in. to 0.27 in.) over the Scilly Isles and the south and west of Ireland, and least (0.08 in. to 0.10 in.) over the northern and eastern parts of Great Britain. *Highest* readings occurred on the 28th, when the barometer rose to 30.7 ins. and upwards at several stations in the southern parts of England and Ireland, to 30.5 ins. and upwards over those countries generally, and to 30.3 ins. and upwards in Scotland. *Lowest* readings occurred very generally on the 13th, when the barometer fell to about 28.6 ins. on our extreme north-west coasts, to 29.0 ins. and less over the western and northern parts of the kingdom generally, and to 29.3 ins. and less in the eastern and south-eastern districts. *Range* was somewhat large, especially in the extreme north-west, where it amounted to nearly 2 inches.

**Depressions.**—Between the 4th and 6th two depressions of moderate depth appeared off the south-west of Ireland, each disturbance throwing off a small secondary system which advanced eastwards along the English Channel or our southern counties. Later on a long series of depressions skirted our extreme western coasts, the centres keeping as a rule well to the westward, but in one instance (between the 9th-10th) passing north-eastwards across Ireland and Scotland. After the 16th the flow of depressions came to an end, and for the remainder of the month the distribution of pressure was anticyclonic.

**Anticyclones.**—At the beginning of the month the anticyclone existing over our islands at the close of January gradually broke up, and for the next fortnight or so the nearest high pressure systems were located at first over Eastern, and afterwards over Southern Europe. After the 17th, however, a large anticyclone in the latter regions spread northwards over nearly the whole of Europe, the system remaining in force over all but the extreme northern countries until the close of the month.

**Winds** varied considerably in direction over Scotland, but were mainly from some Southerly point over England and Ireland. Gales were rather frequent on our south-west coasts, but were in no case of any great severity.

**Temperature.**—*Mean at sea level*, ranged from a little above 48° at Scilly, and from 46° and upwards on our extreme south-west coasts generally, to 41° and less in inland parts of the north of Ireland, and to 38° or less at several stations in the northern and central parts of Scotland, the general distribution over our islands agreeing very closely with the normal. The actual values were, however, in excess of the average\* in nearly all places, the excess being large (3° and upwards) at stations in the east and south of England. *Highest* readings were recorded mostly between the 9th and 11th, but at several stations in the north of Scotland and the south of Ireland they occurred on the 28th. In many parts of England the thermometer on the 10th rose above 60°, the maximum of 66° in London being the highest on record for the month of February. *Lowest* readings were observed at the beginning or end of the month, either between the 3rd and 5th, or on the 27th or 28th. At each of these times sharp frosts were experienced in most places, the lowest readings of all being 11° at Braemar, 12° at Nairn, and 15° at Glenlee. *Range* amounted to 40° or more in several parts of Great Britain, to 44° in London and at Rothamsted, and to 45° at Cambridge and Llandovery. *Vapour Tension* ranged from 0.28 in. at Roche's Point and Scilly to 0.20 in. and less at several stations in the northern and central parts of Great Britain, the lowest value of all being 0.17 in. at Nairn. *Relative Humidity* was as high as 96 per cent. at Ardrossan and Dungeness, and was above 90 per cent. over nearly the whole of Ireland, the west of Scotland, and the north and east of England; the lowest values were 85 per cent. at Liverpool, 83 per cent. at Nairn, and 82 per cent. at Valencia.

**Rainfall** was more than the average\* in the west and south generally, the excess being considerable in all the south-western districts. Elsewhere, however, there was a deficiency, the amount at some of the northern stations being less than half the average. The largest aggregates reported were 8.2 ins. at Killarney, 7.2 ins. at Valencia, and 5.7 ins. at Falmouth; the smallest being 0.7 in. at Shields, 0.9 in. at Lairg, and 1.0 in. at Yarmouth and Geldeston. The number of days with rain was mostly small; at Scarborough, Bawtry, and Jersey there were only nine such occasions. Of the 24 rainy days reported at Belmullet there were eight on which the fall did not amount to more than a hundredth of an inch. Snow or sleet showers occurred in many parts of the kingdom between the 1st and 6th.

**Bright Sunshine** was in excess of the average,\* especially in the south and east of England. The percentage of the possible duration ranged from 49 at Bognor, 48 at Felixstowe and 46 at Westbourne to 30 or less at several of our northern stations, to 22 in London and at Newcastle-on-Tyne, and to only 14 at Glasgow.

\* The averages employed are—*Pressure* and *Temperature* for the 25 years, 1871-95; *Rainfall* for the 30 years, 1866-95; and *Bright Sunshine* for the 15 years, 1881-95.



TABLE III.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC  
Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,  
(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.714	Ins. -0.058	38.9	35.6	43.0	39.3	+ 1.0	25	5th, 6th	48	16th	Ins. 0.219	% 93	
	Wick	29.713	-0.087	38.7	33.8	45.3	39.6	+ 1.7	25	27th	53	28th	.210	89	
	Stornoway	29.657	-0.118	39.9	34.7	45.8	40.3	+ 1.4	27	20th	52	28th	.225	92	
1. SCOTLAND, E.	Nairn	29.720	-0.095	35.4	28.9	46.0	37.5	- 0.5	12	5th	54	17th	.173	83	
	Aberdeen	29.768	-0.085	37.4	33.1	44.4	38.8	+ 0.6	22	5th	54	28th	.191	86	
	Leith	29.765	-0.108	37.4	33.8	46.2	40.0	+ 0.3	24	27th, 28th	54	10th, 11th, 17th	.196	88	
2. ENGLAND, N.E.	Shields	29.804	-0.104	38.3	34.5	46.6	40.6	+ 1.4	26	4th, 5th	60	10th	.205	89	
	York	29.848	-0.097	37.6	33.3	46.5	39.9	+ 1.1	21	28th	59	10th	.205	91	
	Spurn Head	29.851	-0.087	40.5	37.5	45.5	41.5	+ 2.7	32	3rd, 4th, 5th, 28th.	61	10th	.229	91	
3. ENGLAND E.	Yarmouth	29.897	-0.070	40.9	36.8	45.4	41.1	+ 2.9	24	4th	55	10th	.223	87	
	Cambridge	29.904	-0.083	36.9	32.9	50.9	41.9	+ 3.1	20	28th	65	10th	.203	93	
4. MIDLAND COUNTIES	Loughborough	29.868	-0.104	35.7	32.5	48.8	40.7	+ 1.6	20	27th, 28th	62	10th	.189	90	
	Oxford	29.888	-0.106	37.9	35.0	49.6	42.3	+ 2.7	22	4th	62	10th	.205	90	
5. ENGLAND, S.	London	29.906	-0.090	39.3	36.1	49.7	42.9	+ 2.9	22	28th	66	10th	.209	88	
	Dungeness	29.906	-0.084	42.0	38.1	48.0	43.1	+ 3.2	22	28th	54	9th, 10th	.256	96	
	Hurst Castle	29.871	-0.125	42.8	39.3	49.8	44.6	+ 3.7	27	28th	59	10th	.242	88	
6. SCOTLAND, W.	Ardrossan	29.746	-0.134	38.9	35.4	45.4	40.4	+ 0.2	27	3rd, 4th, 5th, 26th	51	22nd	.227	96	
7. ENGLAND, N.W.	Hawes Junction*	28.573	?	34.1	30.4	42.6	36.5	?	20	4th, 5th,	51	9th, 10th	.191	97	
	Liverpool	29.816	-0.127	39.1	35.6	46.6	41.1	+ 1.1	27	4th, 26th	58	10th	.204	85	
	Holyhead	29.767	-0.156	42.7	38.8	47.9	43.4	+ 1.5	31	4th	53	25th	.241	88	
8. ENGLAND, S.W.	Pembroke	29.770	-0.178	44.0	40.6	47.4	44.0	+ 1.8	32	3rd	53	9th	.257	89	
	Prawle Point	29.828	-0.168	44.1	40.0	49.3	44.7	+ 2.5	29	3rd, 4th	56	9th	.258	89	
9. IRELAND, N.	Malin Head	29.647	-0.197	40.8	37.9	45.6	41.8	- 0.1	31	4th	51	25th	.231	92	
	Donaghadee	29.741	-0.153	41.4	37.0	47.3	42.2	+ 1.1	26	27th	52	10th	.242	93	
	Belmullet	29.659	-0.211	42.7	38.8	47.8	43.3	+ 0.3	30	2nd, 3rd	52	23rd	.252	92	
10. IRELAND, S.	Parsonstown	29.698	-0.217	39.7	35.4	48.4	41.9	+ 0.9	22	3rd, 4th	54	9th, 10th	.230	94	
	Valencia	29.646	-0.271	45.6	41.6	50.8	46.2	+ 1.3	33	3rd	55	9th	.250	82	
	Roche's Point	29.703	-0.224	45.5	42.1	49.6	43.9	+ 2.1	34	3rd	55	28th	.280	92	
CHANNEL ISLANDS-	Scilly	29.730	-0.234	47.9	44.1	52.1	48.1	+ 2.6	35	3rd	57	9th	.284	86	
	Jersey	29.881	-0.135	44.6	40.0	51.8	45.9	+ 3.1	31	2nd	61	10th	.252	86	

\* Hawes Junction is 1,135 feet above Mean Sea Level, and the Barometer at this Station is not reduced for altitude.

#### BRIGHT SUNSHINE VALUES FOR FEBRUARY IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	76.6	?	30	?	Hollesley Bay (Suffolk) ..	110.2	?	40	?
Strathpeffer Spa .. ..	83.5	+ 21.6	33	+ 9	Sheffield .. ..	62.4	?	23	?
Edinburgh .. ..	60.7	+ 4.2	23	+ 2	Workshop .. ..	70.8	+ 10.7	26	+ 4
Morpeth (Cockle Park) ..	92.4	?	35	?	Thurcaston .. ..	82.0	+ 21.6	30	+ 8
Newcastle-on-Tyne .. ..	57.5	?	22	?	Plumstead Common ..	86.9	?	32	?
Oswaldkirk .. ..	79.8	+ 18.5	30	+ 7	Margate .. ..	95.6	+ 26.0	35	+ 10



## REPORTING STATIONS in the BRITISH ISLANDS during the Month of FEBRUARY 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER.								WIND.								NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.	
8.1	Ins. 2.36	Ins. -0.75	Ins. 0.57	12th	17	1	0	0	0	16	0	6	2	1	4	7	1	4	0	3	Sumburgh Head.
5.5	1.34	-0.82	0.25	7th, 17th	14	2	0	0	7	8	2	3	1	0	2	9	1	5	4	3	Wick.
8.2	3.71	-0.09	0.95	14th	18	2	1	0	2	19	2	1	1	0	5	3	11	2	2	3	Stornoway.
6.2	1.45	-0.20	0.42	17th	10	1	0	0	6	10	0	2	0	1	3	1	2	5	0	14	Nairn.
6.8	2.21	-0.05	0.56	8th	14	5	0	0	0	9	6	1	0	0	5	5	9	3	5	0	Aberdeen.
7.8	1.24	-0.27	0.42	17th	11	3	0	0	0	12	0	1	1	4	1	2	4	4	2	9	Leith.
7.8	0.69	-0.81	0.14	7th	13	4	1	1	1	10	0	0	2	0	2	11	9	0	4	0	Shields.
6.0	1.15	-0.53	0.33	7th	12	3	0	0	10	12	0	3	1	6	3	10	3	1	1	0	York.
5.6	1.06	-0.26	0.33	15th	12	4	0	0	7	9	5	1	1	2	6	7	6	2	3	0	Spurn Head.
4.2	0.98	-0.75	0.33	15th	10	2	1	0	9	2	4	0	2	5	4	7	7	3	0	0	Yarmouth.
6.3	1.21	-0.21	0.31	15th	10	3	1	0	9	16	4	1	2	3	2	5	8	2	0	5	Cambridge.
7.0	1.58	-0.13	0.37	6th	12	3	1	1	3	14	4	0	3	3	7	4	4	4	1	2	Loughborough.
6.7	1.92	+0.16	0.44	15th	12	4	1	0	6	14	3	2	6	2	3	7	5	0	2	1	Oxford.
6.8	2.05	+0.41	0.31	8th	12	0	1	0	7	15	7	0	4	4	6	5	5	1	0	3	London.
6.4	1.42	-0.39	0.41	8th	14	0	1	0	2	8	3	2	1	6	3	5	7	1	3	0	Dungeness.
6.6	2.46	+0.36	0.53	6th	10	1	0	0	4	12	4	3	8	4	1	4	7	0	1	0	Hurst Castle.
6.5	1.41	-1.52	0.38	8th	13	2	0	0	5	13	0	5	10	3	1	6	2	0	0	1	Ardrossan.
7.3	4.62	?	0.91	13th	12	2	0	0	3	16	0	0	3	8	5	4	7	0	1	0	Hawes Junction.*
5.3	1.45	-0.23	0.25	13th	14	4	0	0	11	10	3	1	0	6	10	5	3	1	0	2	Liverpool.
7.6	2.55	+0.13	0.57	9th	16	1	1	0	0	11	6	1	3	2	5	6	6	2	0	3	Holyhead.
7.5	4.36	+1.74	0.63	9th	14	0	0	0	4	17	11	0	0	7	7	1	9	3	0	1	Pembroke.
7.0	3.68	+1.74	0.75	5th, 15th	12	1	2	0	0	10	4	3	4	5	4	3	4	4	1	0	Prawle Point.
6.8	1.07	?	0.28	9th	16	1	0	0	1	10	3	1	0	2	10	12	2	1	0	0	Malin Head.
6.1	2.87	+0.53	0.65	20th	16	0	0	0	0	6	6	1	1	3	8	3	8	3	1	0	Donaghadee.
6.8	2.78	-1.42	0.63	9th	24	0	0	0	6	15	2	0	1	7	7	8	2	2	1	0	Belmullet.
7.9	2.27	+0.11	0.43	8th	15	0	0	0	0	16	0	0	1	0	14	3	2	0	2	6	Parsonstown.
8.6	7.21	+2.32	1.12	16th	18	0	1	0	0	18	7	0	1	7	6	9	0	2	0	3	Valencia.
7.7	5.59	+1.40	0.75	9th	18	0	2	2	0	12	11	1	1	1	5	9	7	1	3	0	Roche's Point.
7.9	3.31	+0.69	0.57	12th	15	0	0	2	1	12	11	0	1	8	3	7	4	4	1	0	Scilly.
6.5	1.84	-0.57	0.37	4th, 8th	9	1	1	0	5	10	3	0	4	9	7	4	2	1	0	1	Jersey.

## ADDITION TO THOSE FOUND IN TABLE IV.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Eastbourne .. ..	116.2	+ 43.9	42	+ 16	Hoylake .. ..	90.2	?	33	?
Brighton .. ..	113.1	+ 35.8	41	+ 13	Colwyn Bay .. ..	111.1	?	41	?
Bognor .. ..	135.2	?	49	?	Aberdovey .. ..	118.2	?	44	?
Watergate (Emsworth) ..	Observations incomplete.				Tenby .. ..	103.4	+ 18.5	38	+ 7
Westbourne (Emsworth) ..	127.6	+ 49.3	46	+ 18	Torquay .. ..	92.8	+ 20.9	34	+ 8
Ventnor Hospital .. ..	118.0	?	43	?	Newquay .. ..	108.9	+ 28.6	39	+ 10
Southport .. ..	97.0	?	36	?	Guernsey .. ..	116.3	+ 26.9	42	+ 10



TABLE IV.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of FEBRUARY 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	0	0	0	0	0	0	0	0	0	Ins.	Ins.	Ins.	0	65.7	+ 2.1	26	+ 1
LAIRG	27.7	46.3	37.0	+ 0.5	18	4th, 5th	58	27th	15	0.94	- 2.08	0.18	17th	—	—	—	—
GLENCARRON	31.7	44.6	38.2	+ 1.3	24	2nd	52	24th	15	3.54	- 3.51	0.61	14th	—	—	—	—
FORT AUGUSTUS	30.6	44.8	37.7	- 0.7	20	2nd	53	23rd	13	2.12	- 1.79	0.51	10th	67.3	+ 27.3	26	+ 11
FORT WILLIAM	34.4	45.0	39.7	+ 0.7	24	4th	50	11th, 21st	14	4.77	- 2.98	0.77	9th	70.9	+ 15.1	27	+ 6
ABERDEEN	—	—	—	—	—	—	—	—	—	—	—	—	—	74.0	+ 0.6	28	0
BRAEMAR	27.5	42.0	34.8	0.0	11	5th	53	27th	13	1.96	- 0.90	0.45	10th	84.8	+ 14.9	33	+ 6
OCHTERTYRE	31.3	44.8	38.1	+ 0.3	18	26th	52	19th	15	4.60	+ 0.95	0.73	10th	—	—	—	—
MARCHMONT	32.8	45.3	39.1	+ 2.0	23	26th	54	17th	11	1.57	- 0.83	0.38	7th	89.8	+ 20.7	34	+ 8
ALNWICK CASTLE	32.9	46.6	39.8	+ 1.5	20	4th	55	11th	17	1.78	- 0.37	0.28	13th	—	—	—	—
DURHAM	31.2	45.1	38.2	+ 0.3	20	4th	57	10th	14	1.31	- 0.28	0.39	1st	88.0	+ 21.8	33	+ 8
SCARBOROUGH	34.5	46.7	40.6	+ 1.4	29	4th	57	10th, 11th	9	1.15	- 0.61	0.31	2nd	92.2	?	35	?
YORK	—	—	—	—	—	—	—	—	—	—	—	—	—	74.8	+ 14.8	28	+ 6
HILLINGTON	34.5	48.4	41.5	+ 3.1	21	28th	64	10th	13	1.19	- 0.56	0.30	15th	105.9	+ 34.1	39	+ 13
GELDESTON	35.0	47.8	41.4	+ 2.5	23	4th, 28th	61	10th	13	1.01	- 0.49	0.34	15th	115.4	+ 41.8	42	+ 15
CAMBRIDGE	—	—	—	—	—	—	—	—	—	—	—	—	—	111.6	+ 41.1	41	+ 15
FELIXSTOWE	36.8	46.0	41.4	+ 2.4	25	4th	55	10th	11	1.32	?	0.50	15th	130.2	?	48	?
ROTHAMSTED	33.5	48.3	40.9	+ 2.6	19	28th	63	10th	15	2.26	+ 0.31	0.40	8th	100.2	+ 32.1	37	+ 12
BAWTRY	32.2	47.3	39.8	+ 0.9	21	22nd	59	10th	9	1.49	- 0.04	0.31	15th	—	—	—	—
STAMFORD (Duddington)	33.0	47.8	40.4	+ 1.7	19	4th	62	10th	14	1.63	- 0.03	0.46	6th	—	—	—	—
CHEADLE	33.6	45.8	39.7	+ 2.0	25	3rd, 4th, 27th	55	10th	12	2.33	+ 0.01	0.55	13th	—	—	—	—
SHIRLEY (nr. Solihull)	33.2	47.4	40.3	+ 1.6	21	4th, 27th	58	10th	13	2.58	?	0.56	6th	—	—	—	—
CHURCHSTOKE	32.6	46.8	39.7	+ 1.0	20	3rd, 26th	57	17th	13	4.17	+ 1.78	0.83	9th	94.7	+ 28.1	35	+ 11
HEREFORD	†	†	†	†	†	†	†	†	†	†	†	†	†	—	—	—	—
CIRENCESTER	33.8	47.9	40.9	+ 2.6	19	28th	59	10th	12	3.04	+ 0.73	0.74	15th	97.7	+ 23.6	36	+ 9
OXFORD	—	—	—	—	—	—	—	—	—	—	—	—	—	105.7	+ 39.4	39	+ 15
LONDON	—	—	—	—	—	—	—	—	—	—	—	—	—	59.5	+ 20.4	22	+ 8
CRANLEY	34.6	49.2	41.9	+ 2.1	20	28th	62	10th	13	2.84	?	0.62	8th	—	—	—	—
HASTINGS	38.7	47.0	42.9	+ 2.9	29	3rd	55	10th	12	2.18	+ 0.16	0.56	8th	114.9	+ 31.1	42	+ 12
SOUTHAMPTON	37.7	50.0	43.9	+ 3.0	26	4th, 28th	61	10th	12	3.13	+ 0.79	0.54	6th	105.0	+ 28.7	38	+ 10
SHAFTESBURY	36.4	47.2	41.8	+ 3.0	27	2nd, 3rd, 26th	57	9th, 10th	12	2.82	+ 0.26	0.55	6th	—	—	—	—
LAUDALE	36.4	45.5	41.0	+ 1.1	25	2nd	52	28th	14	4.33	- 2.49	0.65	9th, 10th	—	—	—	—
GLASGOW	35.3	44.0	39.7	+ 0.8	25	26th	50	9th, 10th, 11th	14	2.27	- 1.05	0.49	8th	35.7	- 9.1	14	- 3
GLENLEE	31.5	45.4	38.5	+ 0.3	15	4th	52	9th, 10th	16	3.85	- 1.01	0.59	8th	—	—	—	—
DOUGLAS	37.4	46.8	42.1	+ 1.4	27	3rd	52	9th, 10th	14	3.02	- 0.30	0.69	9th	90.8	+ 19.9	34	+ 8
STONYHURST	34.7	45.5	40.1	+ 1.3	23	3rd	56	10th	14	2.15	- 1.28	0.81	9th	78.2	+ 18.0	29	+ 7
BLACKPOOL	33.8	47.3	40.6	+ 1.3	23	3rd, 4th	57	9th	14	2.56	+ 0.32	0.56	9th	77.6	+ 15.9	29	+ 6
MANCHESTER (Prestwich)	34.5	46.9	40.7	+ 1.9	23	3rd	56	9th, 10th	11	1.26	- 0.99	0.27	6th	61.6	?	23	?
LLANDUDNO	37.8	49.3	43.6	+ 1.9	27	4th	65	10th	15	2.35	+ 0.27	0.44	11th	101.4	+ 31.5	38	+ 12
LLANDOVERY	34.5	50.7	42.6	+ 3.6	18	3rd	63	17th	16	4.36	+ 0.48	1.08	9th	—	—	—	—
PEMBROKE	—	—	—	—	—	—	—	—	—	—	—	—	—	96.7	+ 16.8	35	+ 6
CLIFTON	36.9	49.1	43.0	+ 2.3	26	3rd, 4th	60	10th	11	4.17	+ 1.65	0.94	15th	—	—	—	—
ARLINGTON	35.9	48.7	42.3	+ 1.5	24	3rd	58	9th	12	3.68	- 0.19	0.64	4th	—	—	—	—
CULLOMPTON	36.2	50.2	43.2	+ 2.2	22	3rd, 28th	58	9th, 10th, 17th	14	4.59	+ 1.78	0.79	14th	76.3	+ 5.0	28	+ 2
FALMOUTH	42.5	49.5	46.0	+ 2.3	32	3rd	58	10th	14	5.65	+ 1.81	1.78	5th	109.2	+ 27.1	39	+ 10
PLYMOUTH	40.6	48.9	44.8	+ 2.2	30	3rd, 28th	56	9th, 10th, 17th	13	4.70	+ 1.83	0.85	5th	96.4	+ 16.5	35	+ 6
SCILLY	—	—	—	—	—	—	—	—	—	—	—	—	—	91.7	?	33	?
JERSEY	—	—	—	—	—	—	—	—	—	—	—	—	—	116.1	+ 21.1	41	+ 7
LONDONDERRY	35.2	46.8	41.0	+ 0.1	28	4th	53	11th, 19th	17	1.93	- 0.99	0.40	9th	—	—	—	—
EDENFEL (Omagh)	34.2	45.8	40.0	+ 1.1	25	2nd, 3rd	51	11th	15	3.19	+ 0.75	0.55	9th	—	—	—	—
MARKREE CASTLE	34.9	47.7	41.3	+ 0.9	17	3rd	52	24th	16	3.33	+ 0.57	0.73	11th	69.8	+ 5.2	26	+ 2
ARMAGH	35.2	47.0	41.1	+ 1.2	23	2nd	53	11th	14	2.68	+ 0.48	0.63	17th	81.3	+ 18.4	30	+ 7
DUBLIN	38.9	49.0	44.0	+ 1.7	29	27th	56	9th	15	2.17	+ 0.17	0.49	20th	84.4	+ 13.6	31	+ 5
PARSONSTOWN	—	—	—	—	—	—	—	—	—	—	—	—	—	75.0	+ 7.0	28	+ 3
KILKENNY CASTLE	36.8	48.4	42.6	+ 0.8	24	3rd	56	28th	16	2.72	+ 0.13	0.39	20th	—	—	—	—
VALENCIA (Cahiriveen)	—	—	—	—	—	—	—	—	—	—	—	—	—	80.4	+ 7.5	29	+ 2
KILLARNEY	39.1	50.8	45.0	+ 1.6	29	3rd	55	4th, 9th, 28th	15	8.24	?	1.41	10th	—	—	—	—
FOYNES	37.3	49.1	43.2	+ 0.3	28	2nd	57	28th	15	4.07	?	0.50	10th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table III.  
† Observations incomplete.

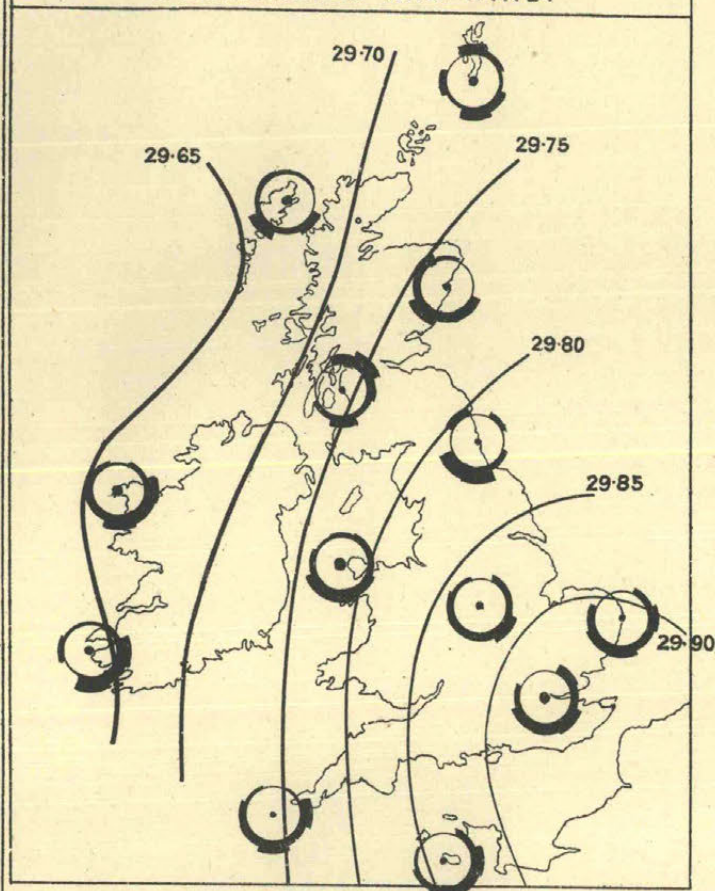


# MONTHLY WEATHER CHART FEBRUARY 1899.

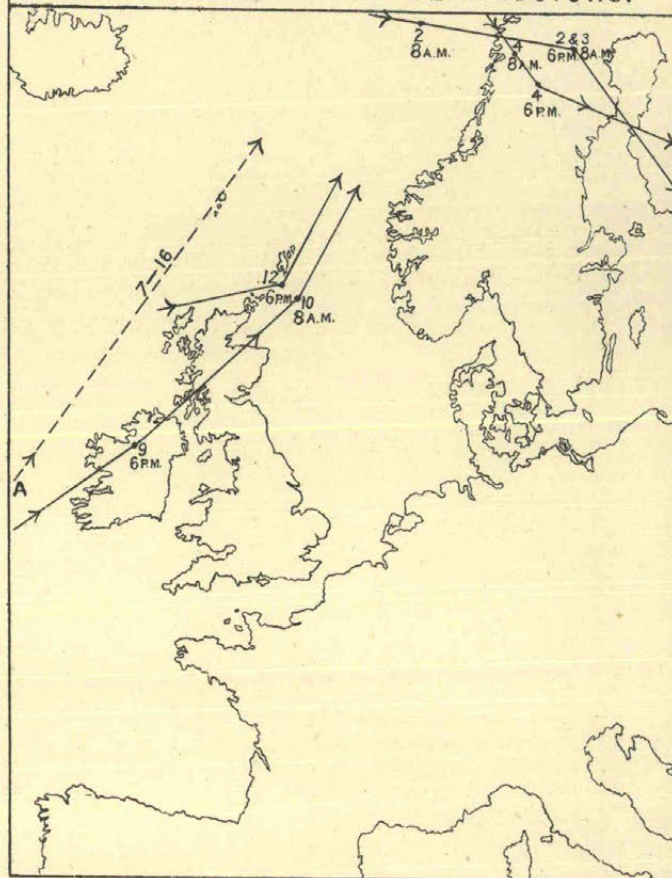
Monthly Summary.

Plate II.

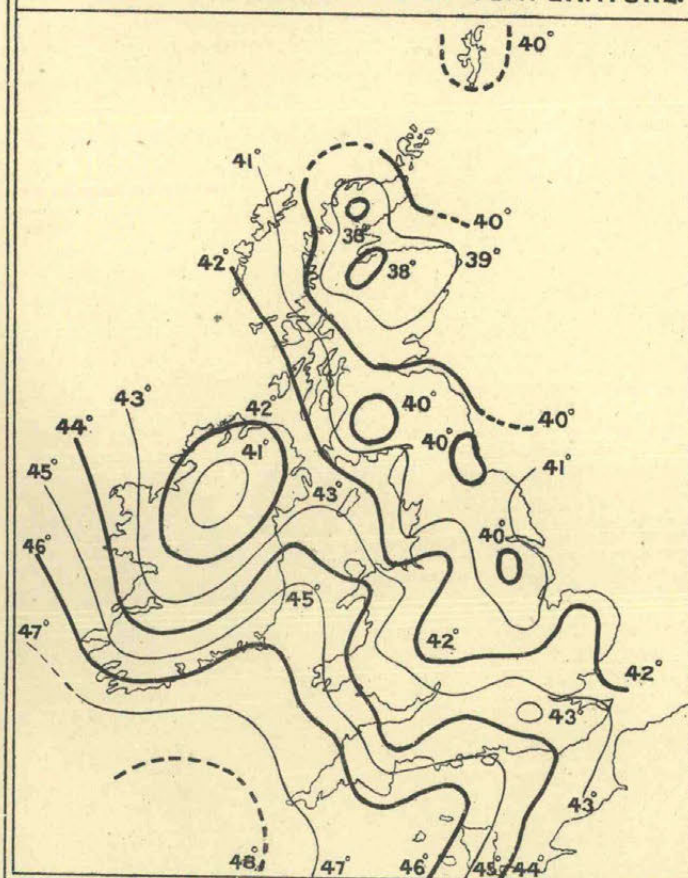
## 1. BAROMETER AND WIND.



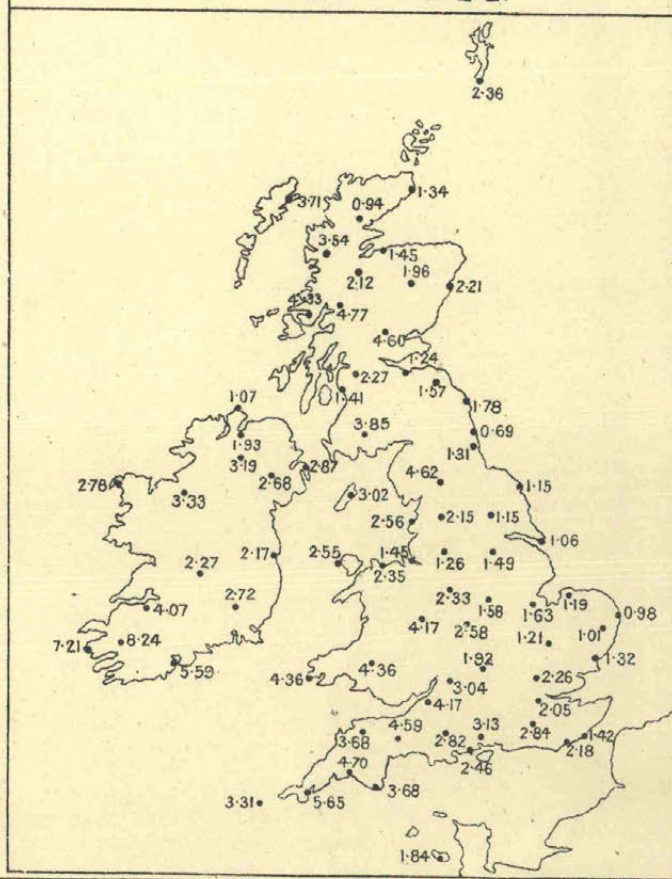
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4 RAINFALL.



To face p. viii.







# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## MARCH 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & CO., 12, HANOVER ST. EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & CO., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—During the earlier half of the month the weather was mostly fair and dry, the only important exception occurring between the 7th and 9th, when rain or snow fell in most districts. Later on the conditions became very inclement, with cold Northerly winds, sharp frost, and frequent falls of snow, especially in the north and east. Towards the close of the month the weather though still unsettled, was milder and somewhat finer; much fog was, however, reported on our south and south-west coasts on the 30th and 31st. Pressure was above the average; temperature was below the normal in the eastern and southern districts, but above it elsewhere; the winds were chiefly Westerly; rainfall was in excess of the average in the north and north-west, but very deficient in the south; bright sunshine was abundant in all districts excepting the north of Scotland.

**Pressure.**—*Mean at 8 a.m.* ranged from 30·10 ins. and upwards over the Channel, the south of England and the extreme south of Ireland to 29·85 ins. and less in the Shetlands, the general distribution over our islands being in fair agreement with the normal. The actual values were, however, above the average,\* and as the excess was greatest in the west and south, and least in the north, the gradient for Westerly winds was somewhat steeper than usual. *Highest* readings occurred over the country generally on the 1st, when the barometer rose to 30·7 ins. and upwards in the south-western districts, and to 30·3 ins. and upwards on all but our extreme northern coasts. In the latter regions the highest readings (30·3 ins. to 30·4 ins.) were observed between the 16th and 18th. *Lowest* readings occurred on the 8th or 9th, when the barometer fell to 28·9 ins. and less in some parts of Scotland, and to 29·1 ins. and less in all other parts of the kingdom. *Range* was somewhat large for the time of year, especially in the south-west, where it amounted to about 1½ inches.

**Depressions.**—These moved along, as a rule, in a track lying far to the northward of our islands, the centres travelling in many cases eastwards or south-eastwards across Scandinavia. In the rear of a deep depression, which passed across northern Europe on the 17th, shallow secondary systems were developed over the southern parts of Scandinavia, one of these moving southwards down the North Sea between the 20th and 22nd and afterwards travelling away eastwards to the Baltic.

**Anticyclones.**—Three such systems were observed. The first was in existence at the commencement of the month, but soon moved away to the south-westward and broke up. The second advanced from the Atlantic on the 4th, and passed quickly away to central and south-eastern Europe. The third extended eastwards over France and the south of our islands on the 10th and 11th, and subsequently spread over nearly the whole of Europe, the system moving away to the westward after the 17th.

**Winds,** though chiefly from the Westward, were rather variable on our south-western and extreme northern coasts. Gales were rather frequent at some of the western and northern stations, the number of days affected being as large as nine at Aberdeen, six at Holyhead and five at Roche's Point. Their strength was, however, at no time very great.

**Temperature.**—*Mean at sea level,* ranged from a little above 47° in the Scilly Islands, and from 45° and upwards over our extreme south-west coasts generally, and on the shores of the St. George's Channel, to 40° and less in the east of England and at many stations in the north of Scotland, and to 38° and less in the Shetlands. The general distribution agreed very closely with the normal, the actual values being a little below the average\* in the eastern, central and southern parts of England, but above it elsewhere. *Highest* readings occurred as a rule on the 16th or 17th, when the thermometer rose to 65° and upwards in many parts of the United Kingdom, and to 68° at Ochertyre and Killarney. *Lowest* readings were recorded between the 21st and 24th, when sharp frost occurred in nearly all districts; at many stations the sheltered thermometer fell below 20°, the lowest readings of all being 3° at Braemar, 9° at Lairg, 11° at Geldeston and 13° at Glenlee and Llandoverly. *Range* was very large,—amounting to between 45° and 50° in many places, to 54° at Llandoverly, 57° at Lairg and 60° at Braemar. *Vapour Tension* ranged from 0·27 in. at Scilly, and from 0·25 in. and upwards on our extreme south-west and north-west coasts generally, to 0·20 in. and less over central England and the eastern and central parts of Scotland. *Relative Humidity* varied from 96 per cent. at Ardrrossan, 94 per cent. at Parsonstown, and 90 per cent. or more at several of the English and Irish stations to 82 per cent. at Aberdeen and 80 per cent. at Valencia.

**Rainfall** was in excess of the average\* over nearly the whole of Scotland, and also at some stations in the north-west of England. Elsewhere there was a deficiency, the amount at many stations in the south of England being considerably less than half, and in some cases less than one-fourth, of the normal quantity. The largest aggregates recorded were 9·3 ins. at Glencarron, 8·5 ins. at Fort William and 6·4 ins. at Stornoway; the smallest being 0·3 in. at Oxford and Cranley, 0·4 in. in London and at Dungeness, and 0·5 in. at Cirencester and Cullompton. In the south of England the number of rainy days was also very small, only five being reported at Cranley and six at Oxford, London and Hurst Castle. Snow or sleet occurred at several northern stations during the opening week, and in nearly all parts of the Kingdom in the latter half of the month, the fall being heavy in some of the eastern districts between the 20th and 24th, and in Scotland on the 25th.

**Bright Sunshine** was in excess of the average\* at nearly all stations, and especially over the central and southern parts of England. In the north of Scotland there was, however, as a rule a slight deficiency. The percentage of the possible duration ranged from 57 at Jersey, 55 at Guernsey and Bognor, and 50 or more on several other parts of our southern coasts, to 24 in London, 23 at Fort William and 19 at Fort Augustus.

\* The averages employed are—*Pressure* and *Temperature* for the 25 years, 1871–95; *Rainfall* for the 30 years, 1866–95; and *Bright Sunshine* for the 15 years, 1881–95.



TABLE V.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC  
Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,  
(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.818	Ins. +0.081	37.5	33.1	41.7	37.4	-1.0	20	24th	49	15th, 17th, 28th	Ins. 0.201	90	
	Wick	29.872	+ .091	39.5	33.7	46.0	39.9	+ 0.5	19	24th	57	14th	215	89	
	Stornoway	29.887	+ .115	39.7	34.1	45.7	39.9	+ 0.3	22	24th	54	17th	220	90	
1. SCOTLAND, E.	Nairn	29.904	+ .102	39.0	33.3	47.4	40.4	+ 0.7	18	24th	58	13th	199	84	
	Aberdeen	29.913	+ .092	39.4	33.9	46.5	40.2	+ 0.2	18	24th	60	1st	197	82	
	Leith	29.953	+ .104	40.7	35.5	48.9	42.2	+ 1.0	24	24th	63	17th	211	83	
2. ENGLAND, N.E.	Shields	29.975	+ .102	38.7	33.5	48.1	40.8	+ 0.3	20	24th	62	17th	208	88	
	York	30.028	+ .124	38.2	32.5	49.5	41.0	- 0.1	21	21st, 24th	60	13th	202	88	
	Spurn Head	30.005	+ .114	39.0	35.4	46.1	40.8	+ 0.2	25	21st	56	11th, 12th	216	91	
3. ENGLAND, E.	Yarmouth	30.031	+ .115	39.5	33.3	46.5	39.9	- 0.4	21	21st	60	11th	207	86	
	Cambridge	30.089	+ .148	36.1	28.8	51.9	40.4	- 1.4	16	21st	63	29th	194	91	
4. MIDLAND COUNTIES	Loughborough	30.072	+ .141	36.3	31.2	51.2	41.2	- 0.6	18	21st	64	13th	186	87	
	Oxford	30.112	+ .161	36.4	31.6	51.3	41.5	- 0.4	21	23rd	61	14th, 15th	193	90	
5. ENGLAND, S.	London	30.108	+ .159	37.0	32.3	50.6	41.5	- 1.2	22	21st	61	31st	187	85	
	Dungeness	30.087	+ .151	38.9	33.1	48.5	40.8	- 0.8	17	22nd	54	30th	213	91	
	Hurst Castle	30.117	+ .162	40.0	35.4	49.8	42.6	+ 0.1	24	21, 22, 23, 24	58	13th	220	90	
6. SCOTLAND, W.	Ardrossan	29.976	+ .115	41.7	37.4	47.0	42.2	+ 0.9	24	24th	54	17th	253	96	
7. ENGLAND, N.W.	Hawes Junction*	28.756	?	34.5	30.1	43.4	36.8	?	17	21st	62	16th, 17th	192	96	
	Liverpool	30.060	+ .149	41.3	36.9	48.4	42.7	+ 0.7	27	24th	57	11th	215	83	
	Holyhead	30.064	+ .158	43.2	38.9	48.0	43.5	+ 0.4	30	22nd, 24th	56	16th, 17th, 31st	238	85	
8. ENGLAND, S.W.	Pembroke	30.099	+ .169	42.9	39.7	47.5	43.6	+ 0.8	30	21st, 22nd, 23rd	58	15th, 16th	248	90	
	Prawle Point	30.131	+ .171	42.7	37.2	50.4	43.8	+ 0.8	25	22nd	56	2nd, 13th, 15th	233	85	
9. IRELAND, N.	Malin Head	29.958	+ .116	43.0	39.9	47.2	43.6	+ 1.1	28	23rd	60	16th	253	91	
	Donaghadee	30.018	+ .135	41.7	37.7	49.6	43.7	+ 1.5	29	5th, 6th	62	17th	238	91	
	Belmullet	30.045	+ .163	45.0	39.4	49.7	44.6	+ 0.7	27	23rd	64	16th	251	84	
10. IRELAND, S.	Parsonstown	30.083	+ .158	38.7	33.2	51.6	42.4	0.0	19	23rd	65	17th	221	94	
	Valencia	30.085	+ .156	44.7	39.8	51.9	45.9	+ 0.2	26	24th	66	16th	236	80	
	Roche's Point	30.109	+ .179	43.5	39.7	50.8	45.3	+ 0.7	28	23rd	61	31st	254	90	
CHANNEL ISLANDS	Seilly	30.103	+ .157	46.5	42.0	51.5	46.8	+ 0.9	31	24th	58	27th	266	85	
	Jersey	30.142	+ .177	43.7	38.3	51.4	44.9	+ 0.1	29	1st, 23rd, 25th	61	15th, 28th	239	83	

\* Hawes Junction is 1,135 feet above Mean Sea Level, and the Barometer at this Station is not reduced for altitude.

#### BRIGHT SUNSHINE VALUES FOR MARCH IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	104.2	?	29	?	Sheffield	111.3	?	31	?
Strathpeffer Spa	90.4	-23.7	25	-7	Workop	119.6	+14.2	33	+4
Edinburgh	97.0	-0.6	27	0	Thurcaston	145.9	+45.4	40	+12
Morpeth (Cockle Park)	121.3	?	33	?	Plumstead Common	98.6	?	27	?
Newcastle-on-Tyne	90.0	?	25	?	Margate	154.3	+29.0	42	+8
Oswaldkirk	130.6	+13.1	36	+4	Eastbourne	187.9	+46.3	52	+13
Hollesley Bay (Suffolk)	160.1	?	44	?	Brighton	175.7	+41.9	48	+11



REPORTING STATIONS in the BRITISH ISLANDS during the Month of MARCH 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER. No. of Days of								WIND. No. of Observations of										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.			
7.2	Ins. 4.34	Ins. +1.59	Ins. 0.67	7th	25	9	0	0	0	15	3	7	5	2	3	0	1	10	2	1	Sumburgh Head.		
6.8	3.05	+1.06	0.50	28th, 31st	20	5	1	0	2	11	4	6	3	2	2	4	2	7	5	0	Wick.		
8.3	6.38	+2.68	1.00	28th	26	7	3	0	2	20	3	4	4	2	4	1	6	6	4	0	Stornoway.		
7.1	2.22	+0.54	0.64	29th	19	9	0	0	2	10	1	2	1	2	0	3	3	10	4	6	Nairn.		
6.8	2.71	+0.48	0.53	20th	22	11	0	0	0	9	9	2	0	0	2	4	6	6	11	0	Aberdeen.		
7.8	1.78	+0.37	0.53	25th	12	5	0	0	3	18	2	3	1	1	1	2	6	11	2	4	Leith.		
7.8	1.74	0.00	0.40	23rd	17	9	2	0	1	14	1	2	1	0	0	2	13	9	4	0	Shields.		
5.4	1.12	-0.54	0.27	30th	17	7	1	0	13	12	1	7	1	1	0	5	3	8	4	2	York.		
6.0	0.87	-0.32	0.17	25th	15	6	2	0	6	10	2	3	1	0	1	2	10	9	5	0	Spurn Head.		
5.0	1.42	-0.31	0.29	25th	14	6	1	0	9	5	1	1	2	0	2	1	8	11	6	0	Yarmouth.		
5.8	0.93	-0.41	0.35	21st	8	5	0	0	10	16	0	4	1	0	1	1	14	4	2	4	Cambridge.		
5.9	0.97	-0.57	0.29	25th	15	7	2	0	4	9	2	1	1	0	4	1	7	12	4	1	Loughborough.		
6.5	0.25	-1.25	0.08	8th	6	3	0	0	8	15	1	5	2	0	1	5	7	7	2	2	Oxford.		
6.2	0.43	-1.00	0.20	25th	6	3	1	0	9	13	1	2	2	2	0	3	9	6	5	2	London.		
6.3	0.42	-1.32	0.27	25th	8	3	0	0	3	8	1	5	4	1	1	2	4	9	5	0	Dungeness.		
5.0	0.58	-1.20	0.26	8th	6	4	0	0	6	8	0	2	9	2	1	1	5	8	3	0	Hurst Castle.		
6.7	2.24	-0.06	0.56	28th	14	2	0	0	8	17	2	4	3	1	0	7	6	4	5	1	Ardrossan.		
6.1	3.43	?	0.76	28th	19	3	0	0	4	13	0	6	2	0	5	3	6	5	3	1	Hawes Junction.*		
5.4	1.06	-0.61	0.29	31st	13	4	1	0	12	12	2	3	1	1	6	3	6	7	2	2	Liverpool.		
7.0	1.70	-0.50	0.51	25th	13	3	1	0	1	9	6	5	2	3	1	1	10	6	2	1	Holyhead.		
5.6	1.58	-0.68	0.64	25th	14	4	0	0	8	13	4	3	4	7	0	0	4	7	6	0	Pembroke.		
5.3	0.60	-1.28	0.26	8th	9	2	0	0	0	2	0	4	4	3	1	1	4	6	8	0	Prawle Point.		
6.6	2.08	?	0.37	30th	23	9	2	0	2	9	1	6	1	1	1	4	11	5	2	0	Malin Head.		
5.5	1.63	-0.34	0.45	25th, 30th	14	1	0	0	6	5	1	2	3	1	0	2	10	10	2	1	Donaghadee.		
6.2	4.32	+0.52	0.80	25th	28	2	2	1	7	16	2	4	1	3	0	1	8	11	3	0	Belmullet.		
6.8	1.26	-0.94	0.34	28th	14	3	0	0	5	17	0	2	2	0	4	4	15	0	4	0	Parsonstown.		
6.5	3.56	-0.31	0.70	8th	19	0	2	0	6	16	1	1	6	4	3	5	5	2	1	4	Valencia.		
6.3	1.71	-1.67	0.48	28th	9	0	1	0	1	9	5	12	3	0	1	2	7	4	2	0	Roche's Point.		
7.3	0.86	-1.42	0.45	8th	11	3	4	0	2	10	4	7	4	4	1	2	3	7	3	0	Scilly.		
5.1	0.65	-1.59	0.29	8th	15	3	1	0	5	7	0	1	6	4	2	1	4	5	8	0	Jersey.		

## ADDITION TO THOSE FOUND IN TABLE VI.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Bognor .. .. .	201.9	?	55	?	Colwyn Bay .. ..	176.3	?	48	?
Watergate (Emsworth) ..	182.0	?	50	?	Aberdovey .. ..	171.9	?	47	?
Westbourne (Emsworth) ..	188.9	+42.0	52	+12	Tenby .. .. .	151.9	+1.5	42	+1
Ventnor Hospital .. ..	185.4	?	51	?	Torquay .. .. .	194.1	+49.1	53	+13
Southport .. .. .	147.3	?	40	?	Newquay .. .. .	167.9	+26.2	46	+7
Hoylake .. .. .	127.0	?	35	?	Guernsey .. .. .	202.0	+45.6	55	+12



TABLE VI.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of MARCH 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	°	°	°	°	°	°	°	°	Ins.	Ins.	Ins.	°	109.5	+ 6.2	30	+ 1	
LAIRG	30.6	47.0	38.8	+ 0.8	9	22nd, 23rd	66	16th	23	3.42	+ 0.37	0.54	29th	—	—	—	—
GLENCARRON	33.0	43.7	38.4	+ 0.2	17	23rd	57	16th	25	9.26	+ 2.75	1.30	31st	—	—	—	—
FORT AUGUSTUS	34.3	46.5	40.4	+ 0.8	17	24th	63	17th	22	3.09	0.00	0.56	28th	69.4	- 8.0	19	- 2
FORT WILLIAM	35.9	45.6	40.8	+ 0.4	20	24th	55	16th, 17th	22	8.54	+ 2.66	1.63	28th	83.4	- 14.6	23	- 4
ABERDEEN	°	°	°	°	°	°	°	°	°	°	°	°	°	129.6	+ 5.6	36	+ 2
BRAEMAR	29.5	43.5	36.5	+ 0.1	3	24th	63	16th	23	2.46	+ 0.10	0.30	28th	128.7	+ 12.1	36	+ 4
OCHTERTYRE	33.4	49.2	41.3	+ 1.4	19	23rd	68	17th	15	3.59	+ 0.90	0.73	30th	—	—	—	—
MARCHMONT	32.7	46.4	39.6	+ 0.5	19	24th	64	17th	18	2.35	- 0.10	0.30	8th	116.3	+ 11.8	32	+ 3
ALNWICK CASTLE	33.8	47.2	40.5	+ 0.5	21	20th	64	17th	17	3.52	+ 1.23	0.85	21st	—	—	—	—
DURHAM	32.4	48.5	40.5	+ 0.4	20	21st	67	17th	15	1.24	- 0.80	0.18	23rd	120.6	+ 4.4	33	+ 1
SCARBOROUGH	33.2	50.0	41.6	+ 0.6	20	22nd	61	13th	11	1.61	- 0.18	0.64	20th	146.7	?	40	?
YORK	°	°	°	°	°	°	°	°	°	°	°	°	°	120.3	+ 11.2	33	+ 3
HILLINGTON	31.2	49.2	40.2	- 1.2	19	21st, 22nd	60	11th, 12th, 29th	14	1.30	- 0.29	0.33	25th	150.9	+ 35.0	41	+ 9
GELDESTON	30.2	49.8	40.0	- 1.4	11	22nd	63	11th	14	1.42	- 0.09	0.32	25th	154.5	+ 22.6	42	+ 6
CAMBRIDGE	°	°	°	°	°	°	°	°	°	°	°	°	°	163.9	+ 36.5	45	+ 10
FELIXSTOWE	32.3	48.4	40.4	- 1.1	20	21st, 22nd	62	29th	9	0.75	?	0.34	25th	167.0	?	46	?
ROTHAMSTED	30.3	49.2	39.8	- 1.2	17	21st	59	14th, 29th, 31st	12	0.77	- 0.90	0.25	8th	149.0	+ 24.8	41	+ 7
BAWTRY	31.9	50.2	41.1	- 0.1	20	21st, 22nd	61	13th	12	0.91	- 0.66	0.34	30th	—	—	—	—
STAMFORD (Duddington)	31.3	50.0	40.7	- 0.8	19	21st	60	12th, 13th, 29th	10	0.75	- 0.63	0.21	8th	—	—	—	—
CHEADLE	32.6	48.4	40.5	+ 0.4	21	22nd	59	16th	13	1.76	- 0.42	0.58	25th	—	—	—	—
SHIRLEY (nr. Solihull)	31.9	48.9	40.4	- 0.6	20	21st, 22nd	61	31st	10	1.15	?	0.37	25th	—	—	—	—
CHURCHSTOKE	31.8	50.6	41.2	+ 0.7	16	24th	63	16th	12	1.55	- 0.36	0.75	25th	169.8	+ 52.7	47	+ 15
HEREFORD	°	°	°	°	°	°	°	°	°	°	°	°	°	—	—	—	—
CIRENCESTER	30.2	50.2	40.2	- 0.4	18	7th, 21st, 25th	60	15th	9	0.48	- 1.52	0.19	8th	180.5	+ 61.8	50	+ 17
OXFORD	°	°	°	°	°	°	°	°	°	°	°	°	°	155.5	+ 35.8	43	+ 10
LONDON	°	°	°	°	°	°	°	°	°	°	°	°	°	88.6	+ 0.2	24	0
CRANLEY	30.5	50.3	40.4	- 1.9	17	22nd	62	14th	5	0.30	?	0.15	8th	—	—	—	—
HASTINGS	34.8	48.2	41.5	- 0.7	20	22nd	57	1st, 15th, 30th	7	0.83	- 1.08	0.35	25th	183.3	+ 40.1	50	+ 11
SOUTHAMPTON	33.8	52.3	43.1	- 0.2	23	24th	63	15th	8	0.88	- 1.07	0.34	25th	169.3	+ 34.3	47	+ 10
SHAFESBURY	34.8	49.1	42.0	+ 1.1	22	23rd, 24th	60	15th	8	0.60	- 1.49	0.27	25th	—	—	—	—
LAUDALE	36.0	47.4	41.7	+ 0.2	20	23rd	59	16th	25	5.83	- 0.34	1.75	28th	—	—	—	—
GLASGOW	36.4	45.7	41.1	+ 0.8	24	24th	58	17th	18	3.29	+ 0.89	0.87	28th	91.2	+ 2.7	25	+ 1
GLENLEE	32.1	49.3	40.7	+ 0.6	13	24th	66	17th	18	5.25	+ 1.43	1.35	28th	—	—	—	—
DOUGLAS	37.0	49.3	43.2	+ 1.6	22	24th	60	16th	14	2.34	- 0.38	0.94	25th	154.2	+ 20.7	42	+ 5
STONYHURST	34.4	46.8	40.6	+ 0.1	20	24th	60	16th, 17th	15	3.84	+ 0.54	1.46	25th	130.4	+ 24.0	36	+ 7
BLACKPOOL	35.0	48.3	41.7	+ 0.5	20	24th	57	17th	16	2.19	+ 0.06	0.92	25th	130.3	+ 27.5	36	+ 8
MANCHESTER (Prestwich)	34.1	48.7	41.4	+ 0.4	20	21st	61	16th	16	2.04	- 0.35	0.62	25th	105.9	?	29	?
LLANDUDNO	38.0	50.0	44.0	+ 0.9	26	24th	61	16th, 17th	11	1.18	- 0.76	0.35	25th	168.3	+ 62.7	46	+ 17
LLANDOVERY	31.5	52.5	42.0	- 0.1	13	22nd	67	15th, 16th	18	2.15	- 1.36	0.91	25th	—	—	—	—
PEMBROKE	°	°	°	°	°	°	°	°	°	°	°	°	°	146.7	+ 6.8	40	+ 2
CLIFTON	35.4	50.6	43.0	+ 0.2	25	22nd	61	16th	7	1.44	- 0.81	0.60	25th	—	—	—	—
ARLINGTON	34.1	49.4	41.8	+ 0.9	23	18th, 22nd	64	16th	16	1.55	- 1.89	0.65	25th	—	—	—	—
CULLOMPTON	31.9	52.6	42.3	- 1.5	15	22nd	63	15th	9	0.53	- 1.80	0.18	8th	163.3	+ 34.1	45	+ 10
FALMOUTH	39.6	49.6	44.6	+ 0.3	28	23rd, 24th	58	31st	14	1.35	- 1.86	0.32	25th	175.1	+ 33.0	48	+ 9
PLYMOUTH	36.9	49.9	43.4	- 0.7	24	22nd	60	14th	14	0.86	- 1.60	0.29	8th	175.6	+ 36.5	48	+ 10
SCILLY	°	°	°	°	°	°	°	°	°	°	°	°	°	170.0	?	47	?
JERSEY	°	°	°	°	°	°	°	°	°	°	°	°	°	205.7	+ 45.5	57	+ 13
LONDONDERRY	°	°	°	°	°	°	°	°	°	°	°	°	°	—	—	—	—
EDENFEL (Omagh)	35.1	48.8	42.0	+ 1.4	21	5th	64	16th	16	2.35	- 0.02	0.80	25th	—	—	—	—
MARKREE CASTLE	35.4	51.1	43.3	+ 1.3	17	23rd	63	16th, 17th	19	2.35	- 0.37	0.45	28th	139.7	+ 34.4	38	+ 9
ARMAGH	35.2	50.5	42.9	+ 1.6	21	23rd	64	16th, 17th	17	1.74	- 0.30	0.56	25th	136.1	+ 32.4	37	+ 9
DUBLIN	38.9	51.2	45.1	+ 1.6	27	{ 21st, 22nd, } { 23rd, 24th }	60	27th, 31st	12	0.91	- 1.06	0.29	25th	160.5	+ 33.6	44	+ 9
PARSONSTOWN	°	°	°	°	°	°	°	°	°	°	°	°	°	126.3	+ 11.6	35	+ 3
KILKENNY CASTLE	35.2	51.7	43.5	+ 0.1	20	24th	62	16th, 17th	10	0.99	- 1.10	0.33	28th	—	—	—	—
VALENCIA (Cahiriveen)	°	°	°	°	°	°	°	°	°	°	°	°	°	152.6	+ 17.3	42	+ 5
KILLARNEY	37.4	52.3	44.9	0.0	20	23rd	68	17th	11	4.69	?	1.40	24th	—	—	—	—
FOYNES	39.9	51.4	45.7	+ 2.1	23	22nd	63	17th	12	1.56	?	0.45	8th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table V.

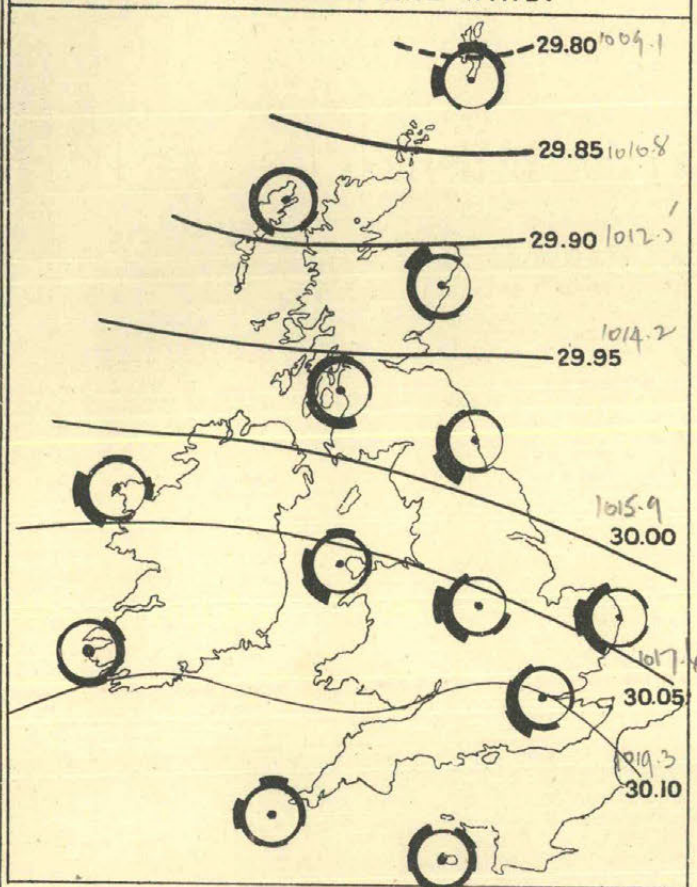


# MONTHLY WEATHER CHART MARCH 1899.

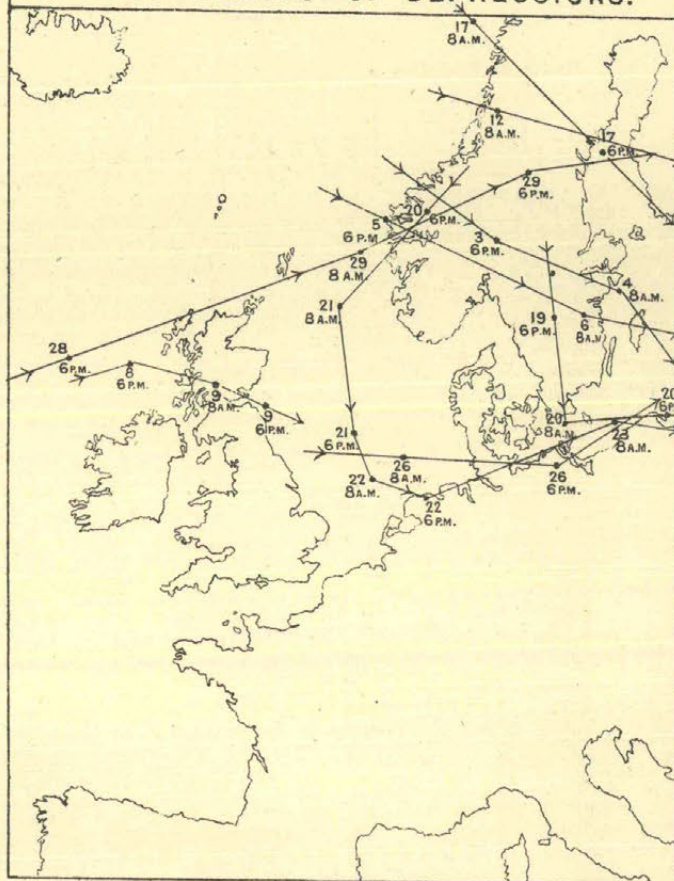
Monthly Summary.

Plate III.

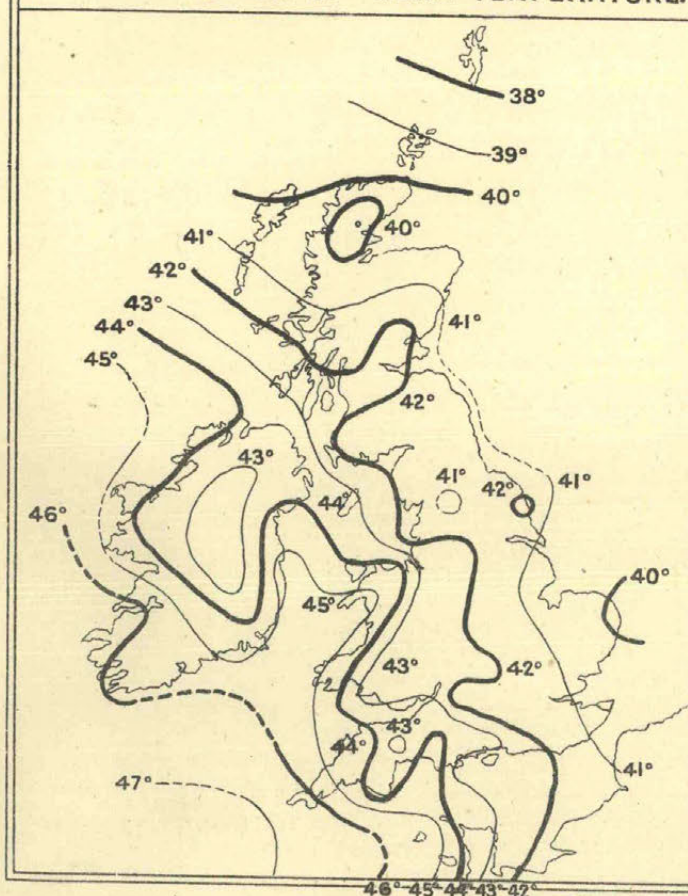
## 1. BAROMETER AND WIND.



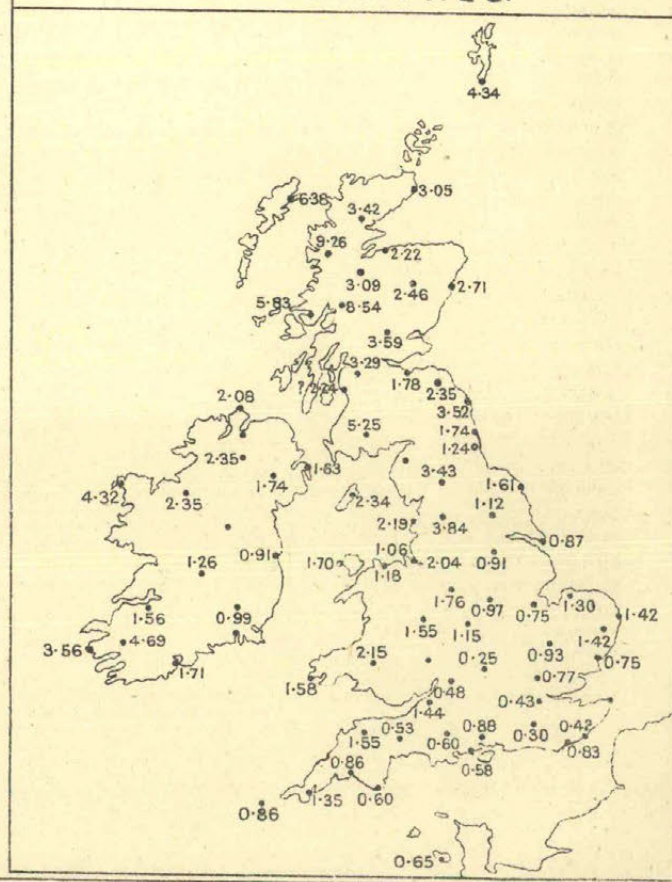
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.



To face p. XII.







# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## APRIL 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—The weather of April was extremely changeable, with frequent falls of rain, occasional showers of snow or sleet, and sporadic thunderstorms. Pressure was low; temperature was a little above the average in England and Ireland, but below it in Scotland; the winds were chiefly from the Westward, and often strong in force; rainfall was in excess of the normal, especially in the north-western districts; bright sunshine was everywhere deficient.

**Pressure.**—*Mean at 8 a.m.* ranged from 29.90 ins. and upwards at Scilly and Jersey, and 29.85 ins. and upwards over the Channel and south-west of England generally to 29.70 ins. and less in the north of Scotland, the great uniformity of pressure shown in the chart of normal values being replaced by a rather decided gradient for Westerly and North-westerly winds. The actual values were in all cases below the average,\* the deficit being greatest (0.15 in. and upwards) in the northern and north-eastern parts of Great Britain, and least (0.05 in. and less) on our extreme south and south-west coasts. *Highest* readings were recorded very generally on the 22nd, when the barometer rose to 30.2 ins. and upwards on all but our extreme northern coasts. Over England, however, the readings were equally high on the 30th. *Lowest* readings were observed mostly on the 13th or 14th, when the barometer fell to 28.9 ins. and less in the east and south-east of England, and to between 29.0 ins. and 29.1 ins. in most other parts of the kingdom. *Range* was moderate.

**Depressions.**—These were very numerous, the centres advancing in many cases across the more northern parts of the United Kingdom, and afterwards moving north-eastwards or northwards across the North Sea and Scandinavia. The depression which passed across our islands on the 6th and 7th was unusually deep for the time of year, and in its rear a strong North-westerly gale sprang up in many parts of our western and southern coasts.

**Anticyclones.**—The anticyclones observed in the neighbourhood of our islands were few in number and very transient. The first spread over England from the southward on the 20th, and was followed two days later by a second area, which drifted quickly across the country from the westward. At the close of the month a third system extended up from the south-westward, but this soon passed away to central Europe.

**Winds.**—Over England and Ireland the winds were mainly from some Westerly point (South-west to North-west). In the north of Scotland, however, they were more variable, and in Caithness and the Shetlands there was a large proportion of winds from the Northward and North-eastward. Gales were somewhat frequent, especially in the west and north, the number of days affected being as large as twelve at Aberdeen, nine at Roche's Point, and seven at Pembroke. The North-westerly gale of the 7th was severe on some parts of our west and south-west coasts, and on the following day violent squalls from the same quarter were experienced at several of the English stations, including London.

**Temperature.**—*Mean at sea level*, ranged from about 50° in the Scilly and Channel Islands, and from 48° and upwards over the south of Ireland and a considerable portion of the south of England, to 43° and less in the north of Scotland, and to 40° and less in the Shetlands. The general distribution over the country agreed very closely with the normal, the mean values being a little above the average\* at most of the English and Irish stations, but below it in Scotland and the extreme north of Ireland. *Highest* readings occurred in the eastern and central parts of England on the 1st, but in other districts on various dates between the 26th and 29th. As a rule the absolute maxima were very little above 60°, and at many coast stations in the west, south, and extreme north the thermometer did not reach that level. In some parts of England, however, it touched or slightly exceeded 65°. *Lowest* readings were observed mostly between the 17th and 19th, when frost occurred in nearly all districts; at Glenlee the sheltered thermometer fell to 21°, and at Ochertyre and Loughborough to 25°. At many stations in Scotland a keener frost was experienced on the 22nd, the shade readings being then as low as 17° at Braemar and 20° at Lairg. *Range* was, as a rule, somewhat small for the time of year; at Braemar and Loughborough, however, it amounted to 41°, and at Lairg to 42°. *Vapour Tension* ranged from 0.30 in. or more in the Scilly and Channel Islands to 0.24 in. and less over the northern parts of Great Britain generally, and to 0.21 in. at Sumburgh Head and Aberdeen. *Relative Humidity* varied from 94 per cent. at Malin Head, and 90 per cent. at Dungeness, to 79 per cent. in London, 77 per cent. at Leith and Liverpool, and 76 per cent. at Aberdeen.

**Rainfall** was almost everywhere in excess of the average.\* In the eastern and central parts of Great Britain and Ireland the excess was not large, but in the western districts it was very considerable, the actual amount being in many instances more than twice as much as the average, and greater than in any April of the previous 25 or 30 years. The largest aggregates reported were 7.9 ins. at Glencarron, 5.8 ins. at Valencia and Llandoverly, and 5.6 ins. at Laudale; the smallest being 1.4 in. at Felixstowe and 1.7 in. at Scarborough and Stamford. The number of rainy days was mostly large, especially in the west and north; at Stornoway, Glencarron and Llandoverly there were 26, and at Valencia 27 days with a measurable quantity. During the earlier half of the month showers of snow or sleet were somewhat frequent in the more northern districts, and on the 8th and 11th they extended to many of our southern stations.

**Bright Sunshine** amounted to less than the average,\* and in some parts of England the deficiency was large. The percentage of the possible duration ranged from 35 and upwards at most of the English Channel stations and at Deerness, Aberdeen, and Douglas (Isle of Man), to 21 at Newcastle-on-Tyne and Workop, and to only 18 at Plumstead Common.

\* The averages employed are—*Pressure* and *Temperature* for the 25 years, 1871–95; *Rainfall* for the 30 years, 1866–95; and *Bright Sunshine* for the 15 years, 1881–95.



TABLE VII.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC

Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,

(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.662	Ins. -0.198	39.9	34.4	45.0	39.7	-1.9	21	21st	55	26th	Ins. 0.210	86	
	Wick	29.695	-0.171	43.1	35.5	48.6	42.1	-1.1	26	17th	58	1st, 3rd	0.239	85	
	Stornoway	29.695	-0.150	42.5	35.7	47.7	41.7	-1.5	27	18th	58	26th	0.234	86	
1. SCOTLAND, E.	Nairn	29.704	-0.164	43.1	35.5	50.2	42.9	-1.3	23	22nd	60	4th	0.237	85	
	Aberdeen	29.706	-0.179	43.3	36.9	49.2	43.1	-0.7	28	18th	63	1st	0.212	76	
	Leith	29.718	-0.169	45.1	37.5	52.0	44.8	-0.3	30	12th, 18th, 21st	64	24th	0.232	77	
2. ENGLAND, N.E.	Shields	29.726	-0.165	44.0	38.2	50.5	44.4	+0.5	29	18th	62	28th	0.246	85	
	York	29.758	-0.143	45.0	38.8	52.6	45.7	-0.1	29	12th, 17th, 18th	61	28th	0.245	82	
	Spurn Head	29.741	-0.146	44.6	40.7	50.6	45.7	+1.3	35	18th	62	28th	0.252	86	
3. ENGLAND, E.	Yarmouth	29.767	-0.127	46.5	40.8	51.3	46.1	+1.5	34	17th	59	1st, 29th	0.261	84	
	Cambridge	29.818	-0.086	45.7	39.4	55.3	47.4	+0.5	29	17th, 22nd	62	1st, 3rd, 29th	0.266	87	
4. MIDLAND COUNTIES	Loughborough	29.797	-0.108	44.4	39.1	54.2	46.7	0.0	25	17th	66	1st	0.242	83	
	Oxford	29.834	-0.073	45.7	40.8	54.1	47.5	+0.5	30	17th	65	1st	0.249	82	
5. ENGLAND, S.	London	29.841	-0.060	46.4	41.2	55.8	48.5	+0.3	32	18th, 19th	66	1st	0.246	79	
	Dungeness	29.833	-0.051	46.9	41.5	52.4	47.0	+0.6	31	12th	57	20th	0.285	90	
	Hurst Castle	29.860	-0.033	47.6	43.3	52.5	47.9	+0.8	35	19th	57	30th	0.277	85	
6. SCOTLAND, W.															
7. ENGLAND, N.W.	Hawes Junction*	28.508	?	39.4	34.9	46.5	40.7	?	24	18th	57	27th	0.233	97	
	Liverpool	29.781	-0.111	46.6	41.6	51.3	46.5	-0.2	33	17th	59	28th	0.243	77	
	Holyhead	29.792	-0.088	46.4	42.2	49.9	46.1	-0.8	36	17th, 18th	56	29th	0.262	84	
8. ENGLAND, S.W.	Pembroke	29.835	-0.040	46.9	43.7	49.8	46.8	+0.4	36	12th	53	29th	0.283	89	
	Prawle Point	29.881	-0.009	47.0	42.0	52.0	47.0	+0.3	34	16th, 17th	58	26th	0.280	87	
9. IRELAND, N.	Malin Head	29.715	-0.140	44.3	40.9	48.4	44.7	-1.2	32	8th	57	24th	0.273	94	
	Donaghadee	29.762	-0.121	45.2	41.7	50.4	46.1	+0.2	33	12th	57	4th	0.260	87	
	Belmullet	29.796	-0.067	47.4	42.1	50.5	46.3	-1.2	34	17th	55	28th	0.277	85	
10. IRELAND, S.	Parsonstown	29.818	-0.065	45.2	39.6	53.9	46.8	+0.2	29	16th, 18th	63	28th	0.258	86	
	Valencia	29.848	-0.023	48.7	43.7	53.3	48.5	-0.2	33	18th	59	1st, 30th	0.290	85	
	Roche's Point	29.848	-0.025	48.1	43.5	53.7	48.6	+0.5	35	18th	59	3rd	0.291	87	
CHANNEL ISLANDS	Scilly	29.880	+0.008	49.7	45.7	54.5	50.1	+1.5	39	17th, 18th	57	2, 27, 28, 30	0.308	87	
	Jersey	29.925	+0.032	49.9	44.9	54.4	49.7	+0.5	35	20th	62	28th	0.301	85	

\* Hawes Junction is 1,135 feet above Mean Sea Level, and the Barometer at this Station is not reduced for altitude.

## BRIGHT SUNSHINE VALUES FOR APRIL IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	163.6	?	38	?	Sheffield	100.9	?	24	?
Strathpeffer Spa	117.0	-30.7	27	-8	Worksop	86.0	-44.0	21	-10
Edinburgh	110.9	-12.2	26	-3	Thurcaston	103.4	-30.1	25	-7
Morpeth (Cockle Park)	120.7	?	29	?	Plumstead Common	73.5	?	18	?
Newcastle-on-Tyne	86.2	?	21	?	Margate	118.2	-35.1	29	-8
Oswaldkirk	90.9	-47.1	22	-11	Eastbourne	154.3	-20.2	38	-4
Hollesley Bay (Suffolk)	133.0	?	32	?	Brighton	139.9	-38.2	34	-9



REPORTING STATIONS in the BRITISH ISLANDS during the Month of APRIL 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				Date.	WEATHER. No. of Days of							WIND. No. of Observations of									NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Rain.		Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.		
7.7	Ins. 2.87	Ins. +0.92	Ins. 0.50	12th	25	8	0	0	0	15	2	8	7	2	3	2	1	4	2	1	Sumburgh Head.	
6.8	2.24	+0.61	0.35	2nd	25	6	4	0	1	11	3	7	5	2	2	5	0	5	4	0	Wick.	
7.8	4.82	+2.33	0.95	28th	26	6	5	0	1	17	4	2	4	4	3	2	3	3	7	2	Stornoway.	
6.7	4.00	+2.79	0.65	18th	22	8	1	0	3	11	0	2	0	5	0	0	1	12	3	7	Nairn.	
6.8	3.15	+1.19	0.69	6th	23	5	2	0	0	9	12	2	4	1	0	7	2	6	8	0	Aberdeen.	
5.9	2.00	+0.54	0.28	6th,9th	21	1	1	0	9	15	1	2	5	2	1	1	4	9	3	3	Leith.	
7.6	2.54	+0.89	0.43	29th	23	3	3	1	0	13	3	3	3	1	1	4	6	8	3	1	Shields.	
6.2	2.05	+0.37	0.31	29th	21	1	0	1	9	14	1	4	2	0	1	7	5	6	5	0	York.	
7.1	1.82	+0.47	0.38	6th	18	0	0	1	2	14	3	2	2	0	1	3	7	8	7	0	Spurn Head.	
6.3	2.97	+1.34	0.62	7th	18	0	2	0	1	3	2	1	2	1	1	3	6	9	7	0	Yarmouth.	
7.3	2.30	+0.74	0.60	6th	16	1	1	0	5	20	0	5	0	0	0	3	10	4	6	2	Cambridge.	
7.8	2.04	+0.33	0.22	9th	22	2	0	2	1	18	4	2	1	3	4	3	3	9	5	0	Loughborough.	
6.9	1.83	+0.17	0.28	9th	19	3	2	0	8	18	1	5	1	0	3	4	6	9	2	0	Oxford.	
7.0	2.47	+0.77	0.38	13th	19	2	0	1	5	14	4	1	1	0	1	3	8	8	7	1	London.	
7.0	2.45	+0.84	0.56	13th	16	0	0	1	1	12	4	5	1	1	1	2	8	7	4	1	Dungeness.	
6.8	2.50	+0.78	0.59	13th	20	1	0	1	2	8	2	2	5	1	0	2	9	6	3	2	Hurst Castle.	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7.7	5.38	?	0.64	6th	29	6	0	0	2	20	0	4	3	5	2	6	5	3	2	0	Hawes Junction.*	
6.2	2.23	+0.69	0.60	9th	20	1	0	1	10	15	4	2	2	2	2	3	5	9	2	3	Liverpool.	
7.9	3.16	+1.30	0.55	9th	21	0	2	0	0	14	4	3	3	1	0	6	6	7	4	0	Holyhead.	
7.1	2.62	+0.73	0.59	21st	19	1	0	0	3	15	7	1	2	3	1	1	7	9	6	0	Pembroke.	
6.8	2.65	+0.71	0.55	13th	22	0	0	1	0	10	3	4	1	0	2	4	5	9	5	0	Prawle Point.	
7.2	4.04	?	0.63	18th	24	1	2	1	0	14	4	5	1	1	2	9	6	2	4	0	Malin Head.	
6.6	3.34	+1.48	0.70	12th	22	2	1	0	2	12	0	6	1	2	0	7	6	5	3	0	Donaghadee.	
8.4	5.37	+2.89	0.70	12th	30	0	0	0	0	19	6	3	2	2	3	3	7	7	3	0	Belmullet.	
8.6	2.96	+0.92	0.48	6th	24	0	0	0	1	21	0	1	3	0	5	3	7	4	5	2	Parsonstown.	
7.9	5.80	+2.13	1.57	20th	27	0	2	1	0	15	6	2	4	0	1	8	5	5	3	2	Valencia.	
6.3	3.83	+0.77	1.10	20th	18	0	2	1	0	7	9	5	3	0	0	3	7	8	4	0	Roche's Point.	
8.1	2.11	-0.04	0.39	12th	20	0	0	0	0	13	5	3	1	0	1	5	5	9	6	0	Scilly.	
7.3	3.22	+1.21	0.66	13th	20	0	4	0	2	14	3	2	0	0	3	2	6	12	5	0	Jersey.	

## ADDITION TO THOSE FOUND IN TABLE VIII.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Bognor .. .. .	148.4	?	36	?	Colwyn Bay .. ..	138.0	?	33	?
Watergate (Emsworth) ..	132.1	?	32	?	Aberdovey .. ..	134.7	?	32	?
Westbourne (Emsworth) ..	147.5	- 37.6	36	- 9	Tenby .. .. .	123.8	- 72.2	30	- 18
Ventnor Hospital .. ..	135.3	?	33	?	Torquay .. .. .	142.2	- 39.0	35	- 9
Southport .. .. .	136.5	?	33	?	Newquay .. .. .	138.1	- 39.6	34	- 9
Hoylake .. .. .	103.1	?	25	?	Guernsey .. .. .	151.2	- 46.5	37	- 11



TABLE VIII.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of APRIL 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.					BRIGHT SUNSHINE.			
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Percentage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
	°	°	°	°	°		°			Ins.	Ins.	Ins.				%	%
STORNOWAY -	°	°	°	°	°		°		°	°	°	°		145'3	-13'7	34	-
LAIRG -	32'8	49'5	41'2	-1'8	20	22nd	62	26th	19	3'75	+1'45	0'46	5th, 13th, 28th	—	—	—	—
GLENCARRON -	34'3	47'5	40'9	-2'1	22	22nd	59	26th	26	7'91	+3'81	1'17	28th	—	—	—	—
FORT AUGUSTUS -	35'6	49'6	42'6	-2'1	22	22nd	59	24th	18	3'87	+1'94	0'77	4th	106'6	-9'2	25	-2
FORT WILLIAM -	37'8	49'2	43'5	-1'6	26	22nd	62	26th	20	5'41	+2'02	0'86	18th	112'0	-31'6	26	-8
ABERDEEN -	°	°	°	°	°		°		°	°	°	°	°	160'2	+6'2	38	+2
BRAEMAR -	32'3	46'3	39'3	-1'6	17	22nd	58	28th	25	4'05	+1'89	0'76	13th	131'0	-5'0	31	-1
OCHTERTYRE -	35'5	52'6	44'1	-0'6	25	16th, 17th	65	26th	20	3'35	+1'16	0'68	18th	—	—	—	—
MARCHMONT -	36'0	49'8	42'9	-0'1	27	18th	59	27th	22	2'85	+0'61	0'34	6th	127'0	-14'1	30	-4
ALNWICK CASTLE -	37'6	51'3	44'5	+1'5	28	17th, 18th	62	24th, 29th	16	2'45	+0'38	0'29	10th	—	—	—	—
DURHAM -	36'6	51'9	44'3	+0'3	27	17th	63	28th	19	2'17	+0'21	0'42	14th	115'2	-8'2	27	-2
SCARBOROUGH -	37'4	51'6	44'5	-0'2	28	12th	62	28th	16	1'67	-0'16	0'34	13th	?	?	?	?
YORK -	°	°	°	°	°		°		°	°	°	°	°	?	?	?	?
HILLINGTON -	39'3	53'6	46'5	+0'5	28	17th, 18th	61	24th, 28th	18	2'28	+0'61	0'49	9th	100'9	-53'9	24	-13
GELDESTON -	39'8	54'2	47'0	+1'3	32	12th	62	2nd	17	2'78	+0'29	0'55	14th	112'7	-53'3	27	-13
CAMBRIDGE -	°	°	°	°	°		°		°	°	°	°	°	112'4	-45'3	27	-11
FELIXSTOWE -	40'8	52'7	46'8	+1'4	31	12th	61	10th	16	1'40	?	0'28	16th	139'5	?	34	?
ROTHAMSTED -	39'5	53'3	46'4	+0'6	28	19th	62	1st	22	2'49	+0'53	0'36	20th	125'5	-23'4	30	-6
BAWTRY -	38'2	53'8	46'0	-0'1	28	17th, 18th	63	28th	16	1'75	+0'11	0'40	9th	—	—	—	—
STAMFORD (Duddington) -	39'0	53'8	46'4	-0'2	27	17th	62	1st	17	1'72	-0'04	0'30	9th	—	—	—	—
CHEADLE -	38'4	51'1	44'8	0'0	29	18th	61	1st	16	3'11	+1'08	0'67	9th	—	—	—	—
SHIRLEY (nr. Solihull) -	38'8	52'5	45'7	0'0	27	17th	65	1st	22	2'37	?	0'35	14th	—	—	—	—
CHURCHSTOKE -	38'6	52'7	45'7	+1'1	27	18th	62	27th	16	2'53	+0'73	0'46	6th	129'2	-17'4	31	-
HEREFORD -	°	°	°	°	°		°		°	°	°	°	°	—	—	—	—
CIRENCESTER -	38'3	52'9	45'6	+0'1	27	17th, 19th	62	1st, 3rd	19	1'77	-0'23	0'29	20th	129'9	-25'3	32	-6
OXFORD -	°	°	°	°	°		°		°	°	°	°	°	126'0	-26'1	31	-6
LONDON -	°	°	°	°	°		°		°	°	°	°	°	102'3	-27'4	25	-6
CRANLEY -	39'7	55'0	47'4	+0'3	30	19th	62	1st	21	2'78	?	0'51	21st	—	—	—	—
HASTINGS -	41'7	52'2	47'0	0'0	32	12th	57	{ 1st, 6th, 25th, 28th }	19	3'05	+1'18	0'62	24th	153'8	-22'2	37	-6
SOUTHAMPTON -	42'0	55'8	48'9	+0'6	33	12th, 17th, 19th	65	1st	19	2'90	+0'92	0'66	13th	135'9	-35'6	33	-
SHAFTESBURY -	40'3	51'6	46'0	0'0	33	12th, 17th, 22nd	60	1st	21	3'36	+0'88	0'63	13th	—	—	—	—
LAUDALE -	37'5	50'3	43'9	-1'9	28	18th	60	26th	23	5'58	+2'03	1'12	12th	—	—	—	—
GLASGOW -	38'7	49'6	44'2	-0'7	30	17th	60	26th	19	4'05	+1'99	0'85	18th	95'4	-34'8	23	-8
GLENLEE -	37'4	51'0	44'2	-0'3	21	18th	60	26th	21	4'90	+2'10	0'76	6th	—	—	—	—
DOUGLAS -	40'0	50'7	45'4	+0'1	30	18th	59	29th	21	5'02	+2'72	1'22	9th	156'9	-25'8	38	-6
STONYHURST -	39'2	50'0	44'6	-0'7	30	13th	58	27th, 28th	22	4'28	+1'96	1'06	9th	115'9	-28'8	28	-7
BLACKPOOL -	40'3	51'8	46'1	+0'2	30	23rd	59	28th	22	3'93	+2'29	0'73	24th	112'8	-35'1	27	-8
MANCHESTER (Prestwich) -	38'9	51'4	45'2	-0'6	28	18th	59	27th, 28th	21	3'60	+1'67	0'93	9th	95'5	?	23	?
LLANDUDNO -	42'2	51'2	46'7	-0'4	32	18th	58	28th	21	2'76	+1'01	0'62	9th	145'2	-5'8	35	-1
LLANDOVERY -	39'2	53'7	46'5	+0'2	28	18th, 22nd	61	29th	26	5'81	+3'23	0'96	6th	—	—	—	—
PEMBROKE -	°	°	°	°	°		°		°	°	°	°	°	137'0	-48'9	33	-12
CLIFTON -	42'0	53'3	47'7	+1'0	34	17th	60	27th, 28th	20	3'93	+1'83	0'65	20th	—	—	—	—
ARLINGTON -	39'6	51'4	45'5	+0'4	30	17th	59	27th	23	5'04	+2'34	0'64	6th	—	—	—	—
CULLOMPTON -	40'9	54'6	47'8	-0'2	28	19th	65	1st	22	3'65	+1'25	0'58	13th	110'9	-46'4	27	-11
FALMOUTH -	43'8	53'5	48'7	+1'0	36	17th	60	28th	23	2'87	+0'01	0'53	12th	153'0	-29'8	37	-8
PLYMOUTH -	42'1	52'3	47'2	-1'4	31	17th	59	3rd	19	3'42	+1'13	0'86	23rd	132'3	-45'4	32	-11
SCILLY -	°	°	°	°	°		°		°	°	°	°	°	149'5	?	36	?
JERSEY -	°	°	°	°	°		°		°	°	°	°	°	161'0	-35'3	39	-9
LONDONDERRY -	39'1	52'2	45'7	-1'2	31	18th	63	24th	24	4'76	+2'58	0'82	18th	—	—	—	—
EDENFEL (Omagh) -	38'8	50'9	44'9	+0'1	27	18th	63	28th	23	4'75	+2'66	0'60	24th	—	—	—	—
MARKREE CASTLE -	38'8	52'7	45'8	-0'2	28	{ ? 16th, ? 18th, 22nd, 23rd }	63	28th	24	4'54	+2'38	0'85	28th	113'2	-36'8	27	-9
ARMAGH -	38'6	52'5	45'6	+0'2	28	18th	61	28th	22	3'46	+1'44	0'49	9th	117'4	-25'4	28	-6
DUBLIN -	42'3	54'8	48'6	+1'3	35	16th, 18th	64	28th	20	2'00	+0'04	0'38	24th	156'6	-10'2	38	-2
PARSONSTOWN -	°	°	°	°	°		°		°	°	°	°	°	127'5	-28'3	31	-7
KILKENNY CASTLE -	40'7	54'3	47'5	+0'3	29	18th	61	1st, 24th	22	2'44	+0'28	0'40	12th	—	—	—	—
VALENCIA (Cahirciveen) -	°	°	°	°	°		°		°	°	°	°	°	137'1	-34'4	33	-9
KILLARNEY -	41'5	54'8	48'2	+0'6	28	17th	63	1st	22	4'08	?	0'62	20th	—	—	—	—
FOYNES -	42'3	53'9	48'1	+0'9	32	16th, 17th	61	27th	19	4'02	?	1'05	20th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table VII.

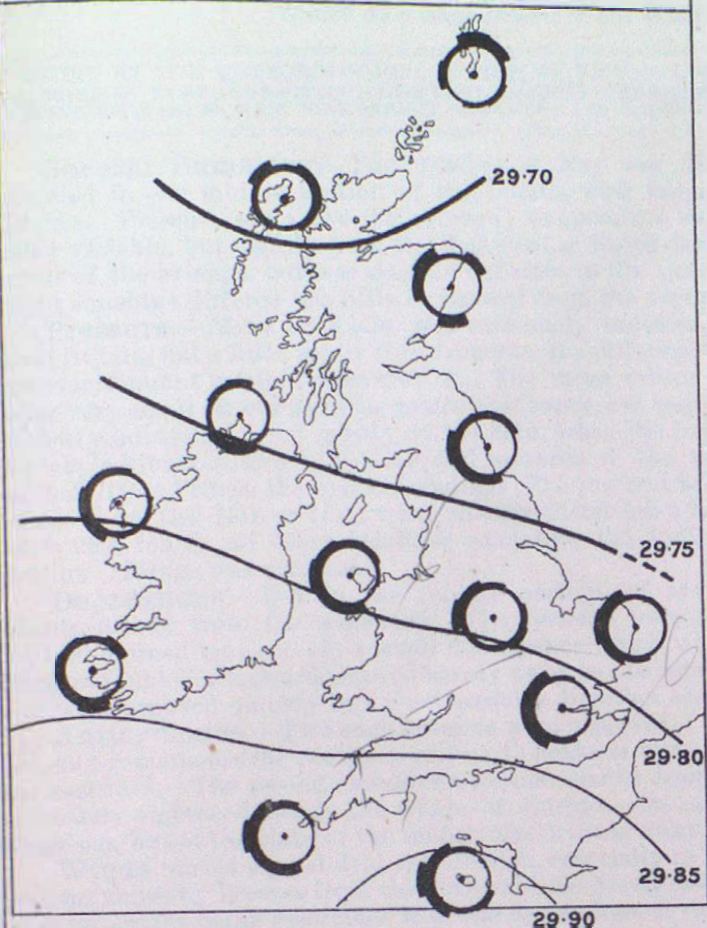


# MONTHLY WEATHER CHART APRIL 1899.

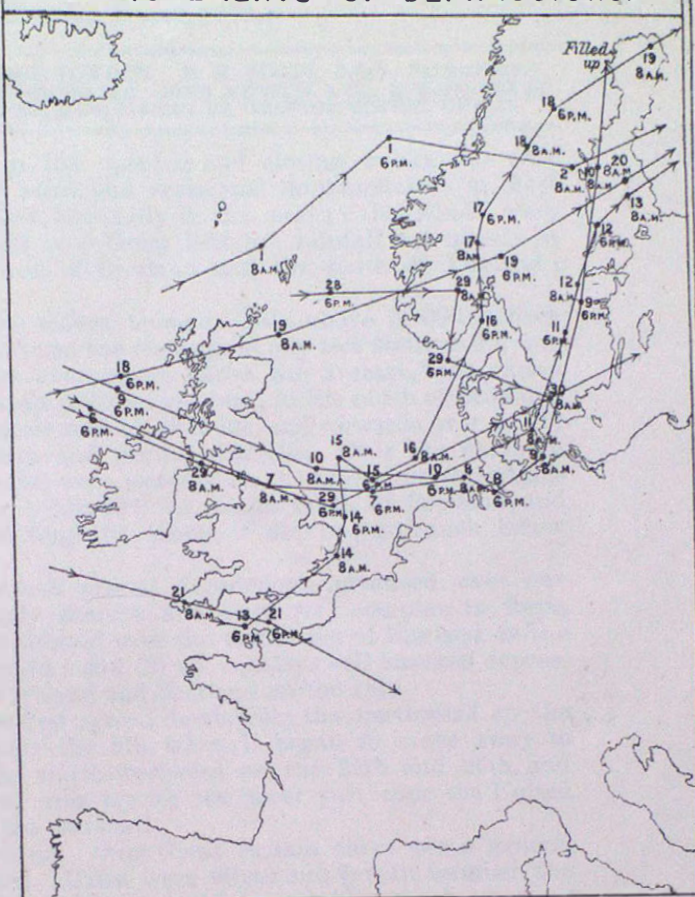
Monthly Summary.

Plate IV.

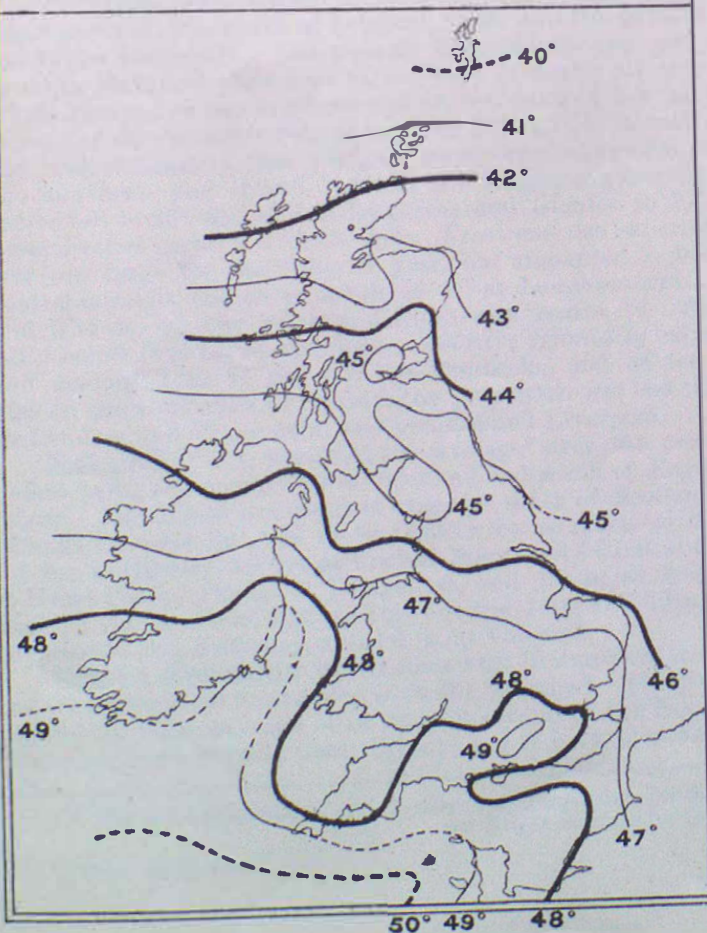
## 1. BAROMETER AND WIND.



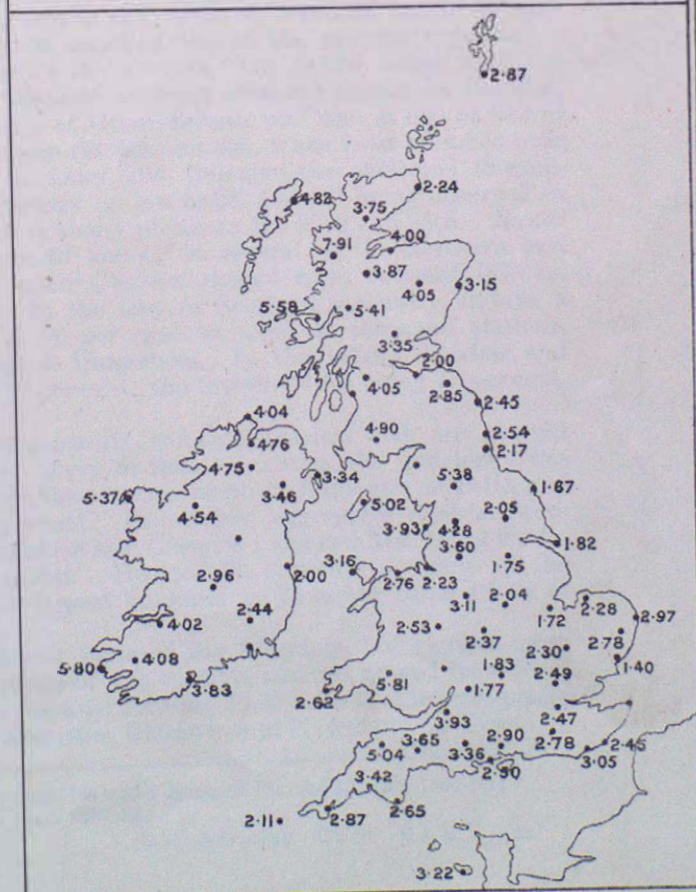
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.









# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## MAY 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST.,  
EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—The weather of May was fine in the opening and closing weeks, but very unsettled in the middle portion of the month, with frequent rains, and occasional thunderstorms in most districts. Pressure was above the average; temperature was low, especially in the north; the winds were rather variable, but mainly from the Eastward or North-eastward over Great Britain; rainfall was mostly in excess of the average, but was slightly deficient in the north-west of Scotland and the south of England; bright sunshine differed but little in amount from the normal.

**Pressure.**—*Mean at 8 a.m.* was extremely uniform, the values being a little above 30·00 ins. over Great Britain, but a little below it in Ireland; the difference between the readings at any two stations did not, however, amount to more than 0·07 in. The mean values were everywhere above the average,\* the excess being very small on our extreme south-west coasts, but rather large (0·10 in. or more) in the north of Scotland. *Highest* readings occurred mostly on the 28th, when the barometer rose to 30·45 ins. and upwards over nearly the whole kingdom, and to 30·5 ins. and upwards in the western and central districts. Over the northern parts of Great Britain the highest readings (30·5 ins. and upwards) were recorded on the 6th. *Lowest* readings occurred on the 15th or 16th, when the barometer fell a little below 29·0 ins. in the north of Scotland, and below 29·4 ins. in all other localities excepting the south of England, where it did not go much below 29·5 ins. *Range* was moderate.

**Depressions.**—During the middle portion of the month several depressions advanced over our islands, mostly from the westward. The systems were usually shallow and often very complex in form, the best defined being:—(1) a small disturbance which was developed over the north-east of England on the 15th, and which afterwards moved slowly away to the northward; and (2) an equally well marked depression which moved quickly in a north-easterly direction across Ireland and Scotland on the 18th.

**Anticyclones.**—Two such systems were observed. The first spread down from the northward on the 3rd, and remained over northern and north-western Europe until the 8th, when it began to move away to the eastward. The second extended over our islands from the north-westward on the 25th and 26th, and ultimately embraced nearly the whole of Europe. Its central area lay for the most part over the United Kingdom, but at the close of the month was drifting away to the eastward.

**Winds** varied a good deal in direction, especially in Ireland. Over Great Britain there was a general predominance of breezes from the Eastward or North-eastward. Gales were slight and few in number, the most important being associated with the depressions of the 15th–18th, when the wind blew hard in many parts of Ireland and England. On our extreme north and north-west coasts there was an entire absence of gales.

**Temperature.**—*Mean at sea level* ranged from 53° and upwards in the Scilly and Channel Islands, and many parts of the south of England, to 46° and less at inland places in the north of Scotland, and to 45° and less in the Shetlands. The general distribution over our islands assumed less of the summer type than is usual in May, and the actual values were in nearly all cases below the average,\* the deficit being upon the whole greatest in the northern and central parts of Scotland. *Highest* readings occurred mostly on the 31st, when the thermometer rose to between 70° and 75° in many parts of Great Britain, and also at one or two of the Irish stations. *Lowest* readings were recorded as a rule between the 4th and 6th, when frost occurred over the northern and inland parts of the kingdom generally; at Lairg and Braemar the sheltered thermometer fell to 25°, and at Fort Augustus and Glenlee to 27°, readings as low as 28° and 29° being observed in several other parts of Great Britain. Frost was also experienced in many places on the 27th and 28th. *Range* was not large for the time of year, but amounted to between 40° and 45° at several of the northern and central stations, and to as much as 47° at Loughborough. *Vapour Tension* ranged from between 0·30 in. and 0·34 in. on our south and south-west coasts, to 0·26 in. in the east of Scotland generally, and to a little below 0·24 in. at Aberdeen. *Relative Humidity* exceeded 80 per cent. at most of the coast stations, and amounted to 87 per cent. at Pembroke, and 88 per cent. at Dungeness. In the inland districts, and also on the west coast of Ireland, the proportion was less than 80 per cent., the lowest values being 73 per cent. in London, and 72 per cent. at Aberdeen and Liverpool.

**Rainfall** was in excess of the average\* over the country generally, the only districts with any general deficit being the north-west of Scotland and south of England. Even in those localities the deficiency was slight. The excess was greatest over the south of Scotland and the extreme north of England; at Leith and Shields the total fall was more than twice as much as the normal. The largest aggregates reported were 5·1 ins. at Glenlee, 4·7 ins. at Roche's Point, and 4·6 ins. at Glencarron and Glasgow; the smallest being 0·9 in. at Hurst Castle, 1·0 in. at Dungeness, and 1·2 in. at Southampton. Heavy falls occurred at many of the western and northern stations between the 16th and 19th, the largest amounts in 24 hours being 1·5 in. at Glencarron and Killarney, and 1·4 in. at Valencia.

**Bright Sunshine** varied somewhat in duration in different parts of the kingdom, but showed upon the whole no great divergence from the average.\* The percentage of the possible amount ranged from 54 at Scilly and Guernsey and 50 or more at several of the English Channel stations, to 35 or less at several places in the northern parts of Great Britain, and to only 29 at Fort Augustus, Glasgow, and Newcastle-on-Tyne.

\* The averages employed are—*Pressure and Temperature* for the 25 years 1871–95; *Rainfall* for the 30 years 1866–95; and *Bright Sunshine* for the 15 years 1881–95.



TABLE IX.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail, (The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.								TENSION OF VAPOUR.	RELATIVE HUMIDITY.	
				Means of					Absolute Extremes.					
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.			Date.
0. SCOTLAND, N.	Sumburgh Head - - -	Ins. 30°001	+0°112	45°4	39°3	48°8	44°1	- 1°2	33	1st, 24th	53	8th, 28th, 29th	Ins. 0°243	81
	Wick - - -	30°007	+ 1°00	47°4	39°0	53°5	46°3	- 1°0	29	4th	66	28th	.266	82
	Stornoway - - -	29°998	+ 1°05	48°3	39°5	53°5	46°5	- 0°8	33	4th, 5th, 26th	64	9th	.272	81
1. SCOTLAND, E.	Nairn - - -	30°016	+ 1°04	47°0	37°0	53°6	45°3	- 4°0	28	4th, 5th	68	29th, 31st	.255	80
	Aberdeen - - -	30°023	+ °097	47°8	39°4	52°7	46°1	- 2°3	31	5th	70	30th	.237	72
	Leith - - -	30°021	+ °085	48°8	40°7	54°9	47°8	- 2°3	33	6th	73	31st	.259	75
2. ENGLAND, N.E.	Shields - - -	30°008	+ °061	47°0	41°1	52°8	47°0	- 1°6	34	5th	69	30th, 31st	.271	85
	Spurn Head - - -	30°004	+ °048	48°9	44°2	53°7	49°0	- 0°7	40	1st, 28th	67	30th	.288	84
3. ENGLAND, E.	Yarmouth - - -	29°998	+ °032	50°2	44°6	54°1	49°4	- 0°7	35	1st	61	20th	.296	82
4. MIDLAND COUNTIES	Loughborough - - -	30°027	+ °051	48°9	40°6	59°2	49°9	- 2°4	28	5th	75	31st	.271	78
	Oxford - - -	30°036	+ °052	50°2	43°0	59°9	51°5	- 0°8	32	5th	71	31st	.284	79
5. ENGLAND, S.	London - - -	30°034	+ °052	51°8	43°9	62°0	53°0	- 0°6	36	4th, 5th, 27th	75	31st	.281	73
	Dungeness - - -	30°012	+ °044	52°0	44°5	57°3	50°9	- 0°9	33	4th	65	31st	.343	88
	Hurst Castle - - -	30°033	+ °050	52°1	46°2	58°6	52°4	- 0°1	37	4th, 5th	68	31st	.309	79
6. SCOTLAND, W.	- - -	-	-	-	-	-	-	-	-	-	-	-	-	-
7. ENGLAND, N.W.	Liverpool - - -	30°019	+ °054	50°1	43°3	56°6	50°0	- 1°7	35	4th	72	31st	.262	72
	Holyhead - - -	30°007	+ °046	50°9	44°3	54°4	49°4	- 1°8	38	4th, 5th	65	31st	.295	80
8. ENGLAND, S.W.	Pembroke - - -	30°007	+ °042	51°2	46°0	55°1	50°6	0°0	40	6th	64	29th	.328	87
	Prawle Point - - -	30°031	+ °043	50°7	45°7	55°7	50°7	- 0°5	40	27th	66	8th	.307	83
9. IRELAND, N.	Malin Head - - -	29°971	+ °053	48°7	44°1	52°1	48°1	- 1°8	38	4th	62	29th	.283	82
	Donaghadee - - -	30°011	+ °059	48°9	44°5	54°9	49°7	- 0°7	38	8th	68	30th, 31st	.292	85
	Belmullet - - -	29°999	+ °058	51°5	44°0	55°8	49°9	- 1°1	38	6th	64	8th	.300	79
10. IRELAND, S.	Parsonstown - - -	29°996	+ °033	50°0	40°5	59°8	50°2	- 1°1	31	6th, 7th	69	31st	.282	79
	Valencia - - -	29°982	+ °015	53°5	45°4	58°2	51°8	- 0°5	35	7th	66	31st	.305	75
	Roche's Point - - -	29°998	+ °034	52°6	45°8	56°3	51°1	- 1°4	40	6, 7, 8, 16, 27	61	30th	.335	84
CHANNEL ISLANDS-	Scilly - - -	29°999	+ °024	52°9	48°7	57°5	53°1	+ 0°7	45	5th, 6th, 27th	60	{ 9, 21, 22, 23, } 29, 31	.336	84
	Jersey - - -	30°052	+ °060	53°6	47°7	59°1	53°4	- 0°2	43	2nd, 3rd	71	31st	.329	80

## BRIGHT SUNSHINE VALUES FOR MAY

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	208.3	?	40	?	Sheffield	152.6	?	31	?
Strathpeffer Spa .. ..	167.5	- 5.5	33	- 1	Worksop .. ..	165.9	- 8.0	34	- 2
Edinburgh .. ..	165.5	+ 0.9	33	0	Thurcaston .. ..	183.5	+ 0.2	38	0
Morpeth (Cockle Park) ..	186.2	?	38	?	Margate .. ..	186.6	- 9.8	39	- 2
Newcastle-on-Tyne .. ..	143.2	?	29	?	Eastbourne .. ..	248.2	+ 21.8	52	+ 5
Oswaldkirk .. ..	158.9	- 15.3	32	- 3	Brighton .. ..	233.4	+ 17.1	49	+ 4
Hollesley Bay (Suffolk) ..	230.2	?	48	?	Worthing .. ..	254.3	?	53	?



## SUMMARY OF OBSERVATIONS, MAY 1899.

XIX

REPORTING STATIONS in the BRITISH ISLANDS during the Month of MAY 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.  
(beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				Date.	WEATHER. No. of Days of							WIND. No. of Observations of										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Rain.		Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.			
7.3	Ins. 3.27	+1.51	Ins. 1.34	15th	13	0	0	0	1	16	0	2	11	3	4	0	2	6	3	0	Sumburgh Head.		
6.2	2.11	+0.34	0.85	15th	17	0	2	1	8	15	0	4	3	2	8	5	2	4	1	2	Wick		
7.1	2.40	-0.13	1.00	16th	12	0	0	0	3	16	0	1	5	8	4	2	3	2	4	2	Stornoway.		
6.0	2.37	+0.69	0.65	15th	11	0	0	1	5	9	0	0	1	12	0	0	0	11	0	7	Nairn.		
7.1	2.72	+0.71	0.75	19th	17	0	1	0	0	13	3	6	5	6	4	0	6	1	3	0	Aberdeen.		
7.7	3.49	+1.79	1.10	19th	15	0	0	0	3	19	0	2	8	10	0	0	4	4	1	2	Leith.		
8.3	3.53	+1.89	0.89	11th	18	0	0	1	0	14	0	11	6	1	1	3	6	2	0	1	Shields.		
6.4	2.55	+0.94	0.50	16th	18	0	1	3	5	13	1	10	6	1	0	6	4	1	3	0	Spurn Head.		
5.1	2.32	+0.49	0.83	23rd	12	0	2	1	7	4	2	7	6	2	3	2	5	4	2	0	Yarmouth.		
6.4	3.07	+1.02	0.70	23rd	16	0	1	3	4	10	1	6	7	2	4	4	3	3	2	0	Loughborough.		
6.5	1.37	-0.46	0.26	15th	11	0	0	1	8	13	1	5	9	1	1	6	4	2	1	2	Oxford.		
6.6	1.27	-0.50	0.34	14th	10	0	2	1	3	14	1	2	8	2	2	5	7	1	3	1	London.		
6.8	0.99	-0.67	0.65	14th	8	0	0	0	0	8	4	5	8	1	0	3	8	3	3	0	Dungeness.		
6.2	0.86	-0.78	0.34	24th	9	0	0	0	3	10	1	2	11	2	0	2	7	6	1	0	Hurst Castle.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
6.2	2.19	+0.36	0.49	9th	16	0	0	2	10	14	0	1	5	6	6	3	3	3	1	3	Liverpool.		
6.0	2.11	+0.26	0.51	9th	15	0	0	1	6	11	3	1	10	4	0	3	7	2	3	1	Holyhead.		
4.9	2.24	+0.28	0.90	19th	13	0	0	0	12	12	2	2	4	6	5	2	5	4	3	0	Pembroke.		
5.9	2.89	+1.41	0.97	12th	12	0	0	0	0	4	0	0	8	6	2	5	6	3	1	0	Prawle Point.		
5.5	2.07	?	0.55	19th	17	0	0	0	8	12	0	4	2	6	7	5	4	3	0	0	Malin Head.		
5.3	3.26	+1.05	0.94	19th	16	0	1	2	7	7	0	3	5	6	8	6	0	2	1	0	Donaghadee.		
5.4	1.86	-0.97	0.73	23rd	19	0	0	0	7	12	0	3	5	5	5	3	3	5	2	0	Belmullet.		
5.7	3.34	+1.03	1.00	17th	15	0	0	0	8	14	0	0	3	1	4	2	8	6	7	0	Parsonstown.		
5.5	2.83	-0.30	1.36	17th	15	0	1	1	4	8	1	4	1	4	7	3	4	2	3	3	Valencia.		
5.5	4.65	+1.64	0.65	17th	16	0	0	2	0	8	2	7	2	2	9	2	3	3	3	0	Roche's Point.		
6.9	1.82	+0.13	0.38	19th	14	0	0	2	1	9	5	6	5	4	2	5	3	5	1	0	Scilly.		
6.4	2.55	+0.69	0.59	21st	11	0	0	1	5	12	1	0	7	6	1	3	5	7	2	0	Jersey.		

## IN ADDITION TO THOSE FOUND IN TABLE X.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Bognor .. .. .	241.2	?	51	?	Colwyn Bay .. ..	216.5	?	45	?
Watergate (Emsworth) ..	216.9	?	45	?	Aberdovey .. ..	217.9	?	45	?
Westbourne (Emsworth) ..	244.4	+17.1	51	+3	Tenby .. .. .	226.8	+8.0	47	+2
Ventnor Hospital .. .. .	219.8	?	46	?	Torquay .. .. .	206.9	-12.9	44	-2
Southport .. .. .	183.9	?	37	?	Newquay .. .. .	211.3	-1.0	45	0
Holylake .. .. .	172.4	?	35	?	Guernsey .. .. .	250.5	-14.5	54	-3



TABLE X.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of MAY 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Dura- tion.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	°	°	°	°	°	°	°	°	°	Ins.	Ins.	Ins.	°	225.4	+40.6	44	+ 8
LAIRG	35.1	54.7	44.9	- 2.8	25	4th, 5th	68	8th, 28th	15	2.22	+ 0.03	0.83	15th	—	—	—	—
GLENCARRON	37.6	53.3	45.5	- 2.8	30	3rd, 4th	66	8th	14	4.55	- 0.12	1.51	16th	—	—	—	—
FORT AUGUSTUS	37.8	53.7	45.8	- 4.0	27	4th	67	29th, 31st	11	2.05	- 0.04	0.76	16th	148.6	+24.1	29	+ 4
FORT WILLIAM	40.2	55.3	47.8	- 2.4	32	4th	66	8th	14	2.10	- 1.46	0.73	16th	196.7	+25.7	39	+ 5
ABERDEEN	°	°	°	°	°	°	°	°	°	°	°	°	°	180.2	-12.0	36	- 2
BRAEMAR	33.7	51.5	42.6	- 3.6	25	4th, 5th	67	31st	15	3.05	+ 0.84	0.77	19th	153.0	-28.3	30	- 6
OCHTERTYRE	38.0	57.5	47.8	- 2.2	28	3rd	70	29th, 31st	16	3.66	+ 1.25	0.95	18th	—	—	—	—
MARCHMONT	38.0	52.2	45.1	- 3.0	30	1st	72	31st	17	3.98	+ 1.60	0.67	19th	168.3	-16.7	34	- 3
ALNWICK CASTLE	39.6	56.1	47.9	- 0.1	30	5th	75	31st	15	2.53	+ 0.38	0.38	13th	—	—	—	—
DURHAM	38.6	54.1	46.4	- 2.7	28	5th	75	31st	18	3.22	+ 1.18	0.87	11th	174.5	- 0.2	35	0
SCARBOROUGH	40.5	53.5	47.0	- 2.5	31	5th	73	31st	19	3.33	+ 1.37	0.86	11th	—	—	—	—
YORK	°	°	°	°	°	°	°	°	°	°	°	°	°	—	—	—	—
HILLINGTON	41.3	58.6	50.0	- 1.3	31	5th	72	30th, 31st	17	1.75	- 0.11	0.32	8th	211.2	+ 0.7	43	0
GELDESTON	42.0	58.1	50.1	- 0.9	29	1st	72	31st	16	2.21	+ 0.48	0.71	20th	218.6	- 7.0	45	- 2
CAMBRIDGE	—	—	—	—	—	—	—	—	—	—	—	—	—	223.0	+23.4	46	+ 5
FELIXSTOWE	43.8	56.5	50.2	- 0.9	33	4th	64	20th	11	1.77	?	0.64	14th	231.3	?	48	?
ROTHAMSTED	41.6	58.7	50.2	- 0.8	32	4th, 5th	69	31st	10	2.57	+ 0.46	0.72	19th	194.8	- 3.8	40	- 1
BAWTRY	39.5	59.2	49.4	- 1.8	29	5th, 6th	75	31st	16	2.18	+ 0.14	0.50	15th	—	—	—	—
STAMFORD (Duddington)	41.0	59.3	50.2	- 1.8	30	4th, 5th	73	31st	14	2.16	- 0.11	0.38	20th	—	—	—	—
CHEADLE	40.6	56.1	48.4	- 1.3	32	4th	70	31st	14	2.64	+ 0.31	0.43	24th	—	—	—	—
SHIRLEY (nr. Solihull)	40.6	58.5	49.6	- 2.2	30	5th, 27th	69	31st	17	1.94	?	0.39	19th	—	—	—	—
CHURCHSTOKE	39.8	57.7	48.8	- 0.9	29	5th	72	31st	16	2.12	- 0.09	0.31	19th	202.8	+14.6	42	+ 3
HEREFORD (Belmont)	41.9	59.7	50.8	- 1.3	30	5th	70	30th, 31st	14	1.85	- 0.23	0.42	19th	—	—	—	—
CIRENCESTER	41.3	58.6	50.0	- 0.8	30	5th	69	31st	10	2.80	+ 0.65	1.22	12th	202.0	0.0	42	0
OXFORD	°	°	°	°	°	°	°	°	°	°	°	°	°	203.5	+ 6.9	42	+ 1
LONDON	°	°	°	°	°	°	°	°	°	°	°	°	°	180.6	- 2.4	37	- 1
CRANLEY	41.4	59.9	50.7	- 2.1	31	5th, 27th	68	?18th, 31st	12	1.31	?	0.41	14th	—	—	—	—
HASTINGS	44.2	56.7	50.5	- 1.5	36	4th	69	31st	11	1.33	- 0.34	0.58	14th	250.8	+12.4	53	+ 3
SOUTHAMPTON	44.4	61.8	53.1	- 0.3	34	5th	70	8th	8	1.18	- 0.70	0.31	24th	220.5	+ 2.6	46	0
SHAFTESBURY	43.2	57.4	50.3	- 0.7	33	5th	65	31st	12	1.57	- 0.56	0.43	16th	—	—	—	—
LAUDALE	41.1	55.9	48.5	- 1.9	34	26th	67	31st	14	2.10	- 1.61	0.45	16th	—	—	—	—
GLASGOW	41.2	54.1	47.7	- 2.3	34	4th, 5th	68	31st	13	4.60	+ 2.17	1.16	18th	142.9	-16.0	29	- 3
GLENLEE	37.8	56.5	47.2	- 2.5	27	4th	68	31st	16	5.07	+ 2.08	1.23	18th	—	—	—	—
DOUGLAS	41.9	55.0	48.5	- 1.4	35	8th	66	8th, 31st	15	3.71	+ 1.53	1.31	19th	221.6	+ 1.0	45	0
STONYHURST	41.5	55.3	48.4	- 2.1	31	28th	69	31st	17	3.43	+ 0.74	0.64	23rd	179.4	-11.3	37	- 2
BLACKPOOL	40.8	57.4	49.1	- 1.7	31	5th	69	31st	16	2.46	+ 0.44	0.35	19th	171.1	-21.4	35	- 4
MANCHESTER (Prestwich)	40.9	56.4	48.7	- 1.8	33	4th, 5th, 26th	72	31st	16	2.75	+ 0.33	0.53	24th	157.2	?	32	?
LLANDUDNO	44.1	55.7	49.9	- 1.8	36	5th	66	31st	14	2.26	+ 0.46	0.45	23rd	221.2	+32.1	46	+ 7
LLANDOVERY	41.1	60.3	50.7	- 1.1	32	5th, 28th	74	31st	19	2.82	+ 0.05	0.79	19th	—	—	—	—
PEMBROKE	°	°	°	°	°	°	°	°	°	°	°	°	°	239.3	+22.0	50	+ 5
CLIFTON	46.3	60.0	53.2	+ 1.5	36	5th	74	31st	12	2.12	- 0.18	0.64	15th	—	—	—	—
ARLINGTON	42.2	57.3	49.8	- 0.9	35	5th, 27th	66	30th, 31st	16	3.95	+ 1.12	0.80	11th	—	—	—	—
CULLOMPTON	43.2	59.5	51.4	- 1.0	32	5th	69	31st	15	2.81	+ 0.68	0.77	12th	177.2	-21.5	37	- 5
FALMOUTH	46.5	57.0	51.8	- 0.2	42	7th, 15th	62	29th	14	2.24	- 0.32	0.80	19th	221.7	- 4.8	47	- 1
PLYMOUTH	45.7	56.0	50.9	- 2.6	40	4th, 5th	65	31st	15	2.27	+ 0.24	0.61	19th	193.9	-18.2	41	- 4
SCILLY	°	°	°	°	°	°	°	°	°	°	°	°	°	253.4	?	54	?
JERSEY	°	°	°	°	°	°	°	°	°	°	°	°	°	246.8	- 2.4	53	0
LONDONDERRY	41.7	59.6	50.7	- 0.9	34	4th, 6th	75	31st	17	3.41	+ 1.00	0.62	13th	—	—	—	—
EDENFEL (Omagh)	40.3	57.5	48.9	- 0.7	32	4th	69	31st	16	3.41	+ 1.07	0.84	23rd	—	—	—	—
MARKREE CASTLE	42.6	58.4	50.5	+ 0.7	31	7th	68	31st	16	2.57	+ 0.11	0.61	23rd	214.1	+30.9	44	+ 7
ARMAGH	40.9	57.3	49.1	- 1.3	33	6, 7, 8, 26	67	31st	15	3.79	+ 1.72	0.76	17th	197.1	+18.5	40	+ 4
DUBLIN	44.9	58.7	51.8	- 0.2	38	27th	70	30th, 31st	16	2.10	+ 0.03	0.36	17th	227.3	+19.5	47	+ 4
PARSONSTOWN	°	°	°	°	°	°	°	°	°	°	°	°	°	212.5	+32.3	44	+ 7
KILKENNY CASTLE	41.2	58.3	49.8	- 1.9	32	5th, 7th, 27th	68	8th	14	2.65	+ 0.52	0.48	24th	—	—	—	—
VALENCIA (Cahiriveen)	°	°	°	°	°	°	°	°	°	°	°	°	°	245.7	+39.3	51	+ 8
KILLARNEY	42.2	59.3	50.8	- 1.3	31	7th	68	30th	13	3.66	?	1.48	17th	—	—	—	—
FOYNES	41.8	59.5	50.7	- 0.4	34	7th	70	31st	14	2.78	?	1.23	17th	—	—	—	—

\* For this information and additional Reports of Bright Sunshine see Table IX.

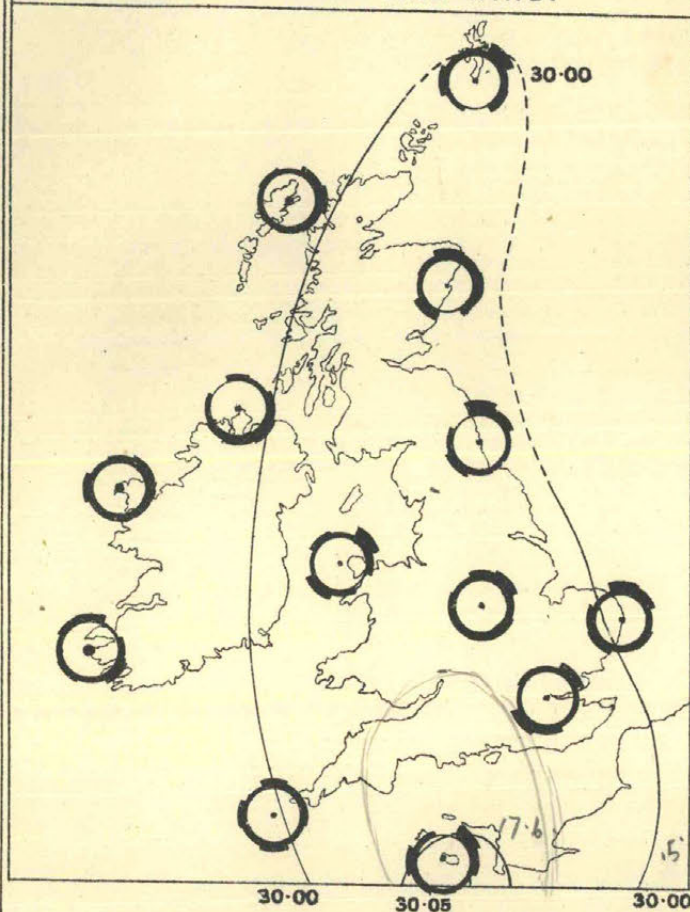


# MONTHLY WEATHER CHART MAY 1899.

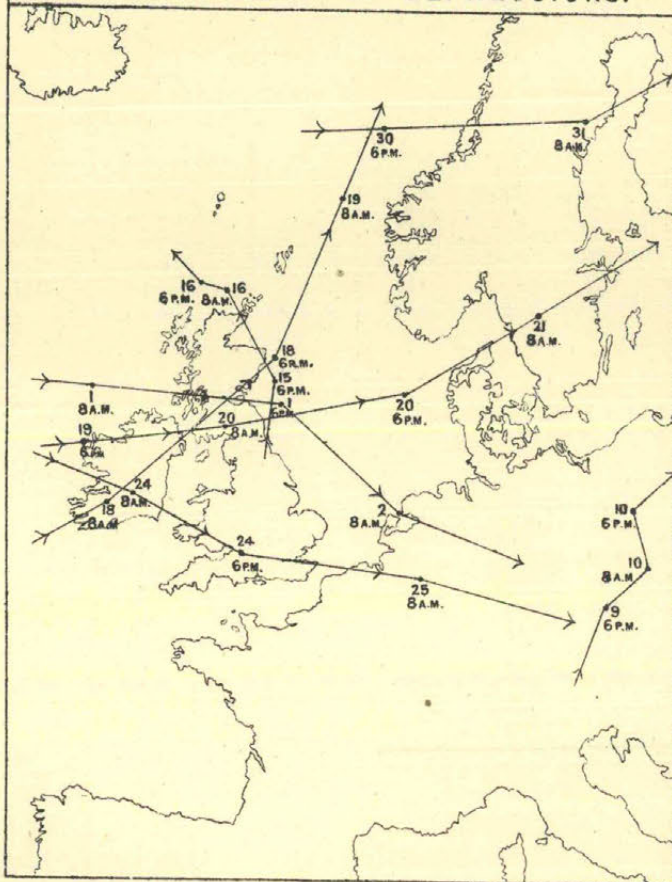
Monthly Summary.

Plate V.

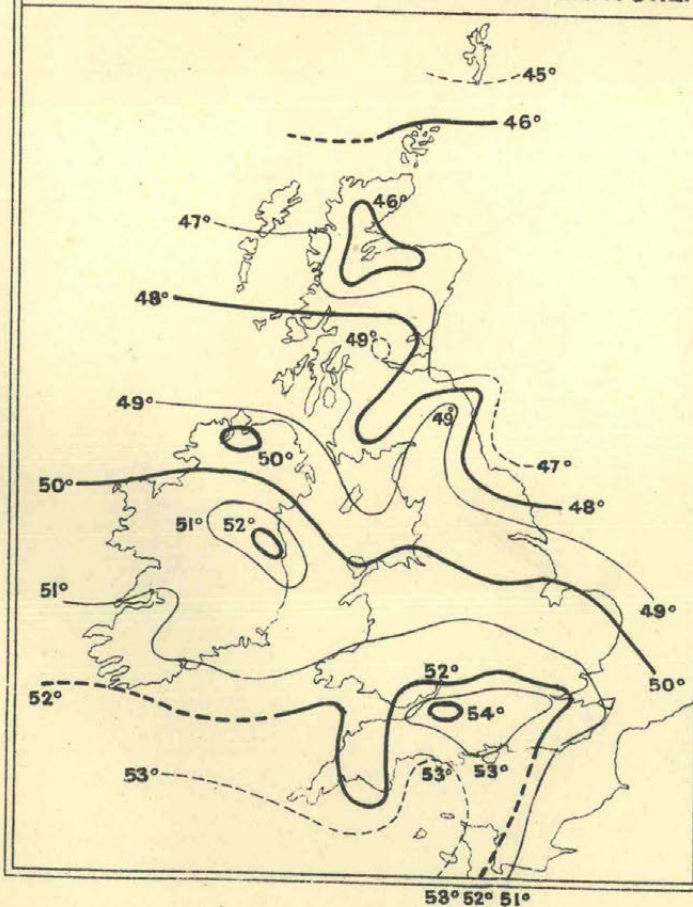
## 1. BAROMETER AND WIND.



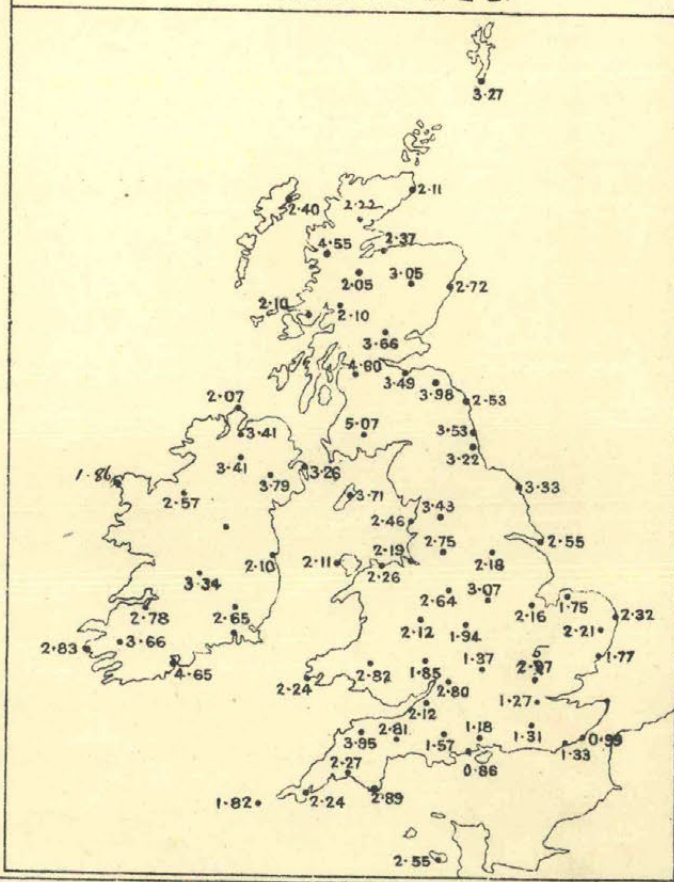
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.



To face p. XX.



ESTR



# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## JUNE 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.

PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—During the earlier half of June the weather was extremely fine and dry, at first over England, and afterwards over the United Kingdom generally. After the 17th, however, it broke up entirely, and for the remainder of the month was very unsettled, with frequent rain in most districts, and occasional thunderstorms, the latter being very general over England between the 27th and 29th. Pressure and temperature were above the average; the winds were rather variable, but mostly from the Westward or North-westward in the north, and from the North-eastward in the south; rainfall was deficient in all but the north-western districts; bright sunshine was in excess of the average, especially over the central and southern parts of England.

**Pressure.**—Mean at 8 a.m. was extremely uniform, the readings ranging between 30·05 ins. and 30·09 ins. over all but the extreme northern parts of the United Kingdom, where they decreased to about 30·02 ins. The greatest difference between the values at any two stations was, in fact, less than 0·08 in. The mean readings were in all cases above the average, the excess being least (0·08 in. or less) over the English Channel, and greatest (0·12 in. to 0·14 in.) on our extreme north and north-west coasts. *Highest* readings occurred on the 8th, when the barometer rose to 30·5 ins. and upwards in Scotland, and to 30·4 ins. and upwards at all stations excepting those in the south of England. *Lowest* readings were registered on the 19th or 20th, when the barometer fell to 29·2 ins. and less on the Cornish coasts, to 29·4 ins. and less over England generally, and to 29·6 ins. and less in Ireland and Scotland. *Range* was moderate.

**Depressions.**—During the earlier half of the month the distribution of pressure was almost continuously anticyclonic, the only depression observed in our neighbourhood being a small system which moved in a north-north-easterly direction along our extreme western and northern coasts on the 1st and 2nd. After the 17th, several depressions advanced over our islands from the westward, their movements being, however, in many instances too irregular to be shown on Map 2, Pl. VI. The disturbance of the 19th–21st hung for some time in the neighbourhood of Cornwall.

**Anticyclones.**—Two such systems were observed. The first extended from the Atlantic on the 2nd and 3rd, and remained over a considerable portion of Western Europe until the 16th, the original system being reinforced from time to time by others which advanced either from the westward or north-westward. The second spread in from the westward on the 24th, the central area remaining off the south-west of our islands until the 27th, when it travelled north-eastward to the North Sea and Scandinavia, where the entire system quickly dispersed.

**Winds** varied a good deal in direction, the general tendency being, however, for breezes from the North-eastward in the south and east, and from the Westward or North-westward in the north and north-west. At Nairn and Valencia there was an unusually large proportion of calms. Slight gales were experienced between the 19th and 21st on our extreme south-west coasts, and on one or two occasions in the north-east of Scotland, but over the country generally the wind never exceeded the force of a strong breeze.

**Temperature.**—Mean at sea level ranged from 63° and upwards at inland stations in the south of England, from 61° and upwards in the east of Ireland, and from 60° and upwards in the south-east of Scotland, to 56° and less on several parts of our eastern and extreme north-western coasts, and to 51° and less in the Shetlands. The general distribution over our islands agreed fairly with the normal, but the thermal gradient between the coast and inland stations was steeper than usual, especially in the north. The actual values were in all cases above the average,\* the amount of excess varying considerably in different places, but being upon the whole greatest at inland stations in the west and north, where it amounted, as a rule, to between three and four degrees. *Highest* readings occurred between the 5th and 7th, excepting on our extreme north and north-west coasts, where they were observed mostly between the 15th and 17th. On each of these occasions readings slightly above 80° were recorded in many places, the highest of all being 85° at Ochtertyre and Llandoverly. *Lowest* readings were registered at somewhat irregular times—mostly between the 13th and 15th over Great Britain, excepting in the extreme north and north-west, but on the 19th in Ireland. At many of the northern and central stations frost occurred on the surface of the ground, and at some places the thermometer, even in the shelter of the screen, fell to within a degree or two of the freezing point. *Range* was large—over 45° in many places, and as much as 48° at Lairg and Durham, and 49° at Bawtry. *Vapour Tension* ranged from 0·44 in. at Pembroke and Dungeness, and 0·40 in. and upwards on several parts of our western and southern coasts, to 0·35 in. or less in the Shetlands and the east of Scotland. *Relative Humidity* varied from 95 per cent. at Sumburgh Head, 92 per cent. at Malin Head, and 89 per cent. at Dungeness, to 75 per cent. and less in the east of Scotland and the central parts of England, and to only 67 per cent. in London.

**Rainfall** was, as a rule, less than the average,\* but showed an excess at several of our north-western stations, as well as at Shields. At some stations in central Scotland, and at many places in the southern parts of Great Britain, the total fall was less than half the average. The largest aggregates reported were 3·5 ins. at Markree Castle, 3·4 ins. at Glenlee, and 3·0 ins. at Liverpool, the smallest being 0·7 in. at Dungeness, and 0·9 in. at several stations in the east and south-east of England. The number of rainy days was mostly small, less than 10 in many places, and as low as 5 at Oxford, Shaftesbury, Hastings, Pembroke, Clifton and Prawle Point. The thunderstorms which occurred so generally towards the end of the month were accompanied in some cases by heavy falls of rain, but amounts exceeding an inch in 24 hours were rare.

**Bright Sunshine** was mostly in excess of the average,\* a slight deficiency being reported, however, at some stations in the west and north of Scotland. The percentage of the possible duration ranged from 66 at Guernsey, and 60 or more on several parts of our south and south-west coasts, to 40 or less at several of our northern stations, and to only 28 at Fort Augustus.

\* The averages employed are—*Pressure* and *Temperature* for the 25 years, 1871–95; *Rainfall* for the 30 years, 1866–95; and *Bright Sunshine* for the 15 years, 1881–95.



TABLE XI.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC  
Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,  
(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
9. SCOTLAND, N.	Sumburgh Head	Ins. 30°02.5	+0°12.7	50°6	46°4	54°2	50°3	+0°5	41	7th, 8th	62	14th, 23rd	Ins. 0°34.8	% 95	
	Wick	30°04.0	+°12.4	55°2	46°2	61°4	53°8	+1°6	35	8th	71	15th	°36.3	84	
	Stornoway	30°02.2	+°12.8	55°1	47°3	61°5	54°4	+2°3	39	1st	75	14th	°37.4	86	
1. SCOTLAND, E.	Nairn	30°04.5	+°12.8	57°7	47°8	66°6	57°2	+2°4	37	1st	78	15th	°37.8	80	
	Aberdeen	30°06.0	+°12.7	57°4	48°9	63°3	56°1	+2°0	39	14th	74	12th	°34.1	72	
	Leith	30°05.6	+°11.3	59°0	49°9	66°2	58°1	+2°1	43	9th, 14th, 15th	81	12th	°37.2	75	
2. ENGLAND, N.E.	Shields	30°06.7	+°10.8	56°0	49°3	63°7	56°5	+1°9	42	9th, 14th, 15th	78	6th	°36.8	82	
	Spurn Head	30°06.9	+°09.8	57°0	51°1	62°4	56°8	+1°1	45	15th	75	2nd	°37.7	81	
3. ENGLAND, E.	Yarmouth	30°06.8	+°08.5	57°1	51°4	61°9	56°7	+0°2	44	16th	74	26th	°37.3	80	
4. MIDLAND COUNTIES	Loughborough	30°09.0	+°09.9	58°8	48°7	71°1	59°9	+1°2	36	15th	83	6th	°36.7	74	
	Oxford	30°08.8	+°09.2	59°2	50°4	71°4	60°9	+2°4	40	15th	82	5th	°37.3	74	
5. ENGLAND, S.	London	30°08.8	+°08.7	61°1	51°9	73°6	62°8	+2°9	43	15th	83	2, 4, 5, 6	°36.2	67	
	Dungeness	30°06.5	+°07.6	59°0	52°0	64°2	58°1	+0°4	40	14th	74	5th	°44.2	89	
	Hurst Castle	30°07.7	+°07.0	61°9	53°4	69°9	61°7	+3°4	44	15th	77	7th	°40.8	75	
6. SCOTLAND, W.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7. ENGLAND, N.W.	Liverpool	30°08.1	+°10.5	59°4	53°2	65°8	59°5	+1°9	47	9th, 15th	80	17th	°37.1	73	
	Holyhead	30°07.4	+°09.8	59°3	52°3	63°5	57°9	+1°4	47	3rd	72	1st	°41.2	82	
8. ENGLAND, S.W.	Pembroke	30°08.1	+°09.8	59°2	53°6	64°8	59°2	+3°1	46	2nd	75	6th, 7th	°43.9	88	
	Prawle Point	30°07.2	+°06.2	60°1	52°6	65°7	59°2	+3°0	46	9th, 15th	76	6th	°39.4	76	
9. IRELAND, N.	Malin Head	30°05.1	+°11.7	55°0	51°5	59°6	55°6	+0°7	44	7th	71	1st	°39.7	92	
	Donaghadee	30°08.0	+°12.1	56°0	50°5	62°3	56°4	+0°8	44	19th, 20th	70	15th	°38.3	85	
	Belmullet	30°09.7	+°14.4	58°1	51°2	62°6	56°9	+0°8	45	19th	73	7th	°40.3	82	
10. IRELAND, S.	Parsonstown	30°09.4	+°11.3	58°2	49°9	69°1	59°5	+2°8	39	19th	82	6th	°38.5	79	
	Valencia	30°09.5	+°11.1	59°9	52°3	64°6	58°5	+1°6	42	19th	79	7th	°40.2	78	
	Roche's Point	30°08.9	+°10.6	60°3	53°9	65°8	59°9	+2°1	48	20th	73	7th, 16th	°41.3	79	
CHANNEL ISLANDS	Scilly	30°04.9	+°04.7	59°5	55°4	64°3	59°9	+2°5	51	3rd	71	6th	°43.0	85	
	Jersey	30°07.3	+°05.4	62°2	54°7	68°8	61°8	+2°9	46	17th	79	4th	°41.1	74	

## BRIGHT SUNSHINE VALUES FOR JUNE IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	178°4	?	33	?	Sheffield	203°3	?	41	?
Strathpeffer Spa	171°3	- 2°7	32	- 1	Workshop	217°7	+ 59°9	44	+ 12
Edinburgh	157°0	+ 0°2	30	0	Thurcaston	230°5	+ 60°5	46	+ 12
Morpeth (Cockle Park)	213°6	?	42	?	Margate	229°0	+ 47°4	47	+ 10
Newcastle-on-Tyne	161°9	?	32	?	Eastbourne	285°3	+ 67°9	58	+ 13
Oswaldkirk	208°3	+ 46°3	41	+ 9	Brighton	280°5	+ 58°7	57	+ 12
Hollesley Bay (Suffolk)	261°8	?	53	?	Worthing	291°9	?	60	?



## REPORTING STATIONS in the BRITISH ISLANDS during the Month of JUNE 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				Date.	WEATHER. No. of Days of								WIND. No. of Observations of										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.			Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calm.			
8.7	Ins. 1.61	Ins. -0.32	Ins. 0.45	5th	13	0	0	1	0	20	0	1	4	3	6	1	1	6	7	1	Sumburgh Head.			
6.0	1.15	-0.60	0.25	29th	14	0	0	1	8	13	1	5	0	3	9	8	0	0	5	0	Wick.			
8.5	2.55	-0.21	0.85	18th	15	0	0	0	1	19	0	3	0	1	1	3	3	6	5	8	Stornoway.			
6.1	1.47	-0.26	0.26	28th	14	0	0	3	4	10	0	0	0	5	0	0	2	7	1	15	Nairn.			
6.3	1.12	-0.68	0.27	29th	12	0	0	1	0	5	1	1	3	6	7	5	1	1	6	0	Aberdeen.			
6.5	1.28	-0.51	0.35	28th	8	0	0	0	6	12	0	1	6	5	0	0	4	10	3	1	Leith.			
7.4	2.01	+0.30	0.62	29th	10	0	0	1	1	10	0	2	6	1	2	2	7	8	2	0	Shields.			
5.4	1.45	-0.19	0.45	19th	11	0	0	1	9	10	0	8	4	2	5	3	0	4	4	0	Spurn Head.			
4.2	1.03	-0.83	0.32	30th	8	0	0	1	12	2	0	6	9	1	7	2	0	3	2	0	Yarmouth.			
6.3	1.20	-1.00	0.31	19th	10	0	0	1	4	11	0	5	4	3	6	0	1	4	4	3	Loughborough.			
6.3	1.05	-1.06	0.54	30th	5	0	0	1	9	15	0	2	9	1	4	2	4	1	4	3	Oxford.			
5.7	0.92	-1.07	0.44	30th	6	0	0	1	10	11	0	2	6	5	4	5	0	3	4	1	London.			
6.3	0.74	-0.78	0.29	30th	6	0	0	1	2	11	0	4	11	6	1	3	1	3	1	0	Dungeness.			
4.5	0.85	-0.98	0.39	30th	6	0	0	1	8	3	0	1	12	4	0	2	2	2	2	5	Hurst Castle.			
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
4.9	2.98	+0.99	0.99	28th	9	0	0	2	13	9	0	0	3	6	5	1	3	8	1	3	Liverpool.			
6.2	1.76	-0.21	0.65	19th	10	0	0	1	6	11	0	2	6	1	0	1	5	6	6	3	Holyhead.			
3.6	1.42	-0.46	0.45	20th	5	0	0	0	18	10	0	0	4	4	8	2	1	1	6	4	Pembroke.			
5.1	1.02	-0.57	0.39	19th	5	0	0	1	0	2	0	0	9	7	2	3	2	6	1	0	Prawle Point.			
7.5	1.80	?	0.42	27th	13	0	0	1	1	16	0	3	1	4	1	5	3	5	8	0	Malin Head.			
5.5	1.96	-0.07	0.62	27th	9	0	0	2	3	9	0	4	5	4	3	4	2	4	4	0	Donaghadee.			
6.0	2.51	-0.34	0.80	27th	17	0	0	1	4	15	0	7	5	4	0	5	3	3	3	0	Belmullet.			
7.7	1.84	-0.50	0.64	20th	9	0	0	2	5	21	0	3	3	2	3	1	8	2	8	0	Parsonstown.			
6.2	2.56	-0.78	1.05	27th	11	0	0	1	5	11	3	3	1	1	2	2	2	1	5	13	Valencia.			
4.3	2.18	-0.89	1.05	19th	7	0	0	1	0	4	2	14	1	1	7	1	2	1	3	0	Roche's Point.			
6.3	1.67	-0.09	0.58	19th	8	0	0	0	0	6	2	4	4	6	3	2	2	3	6	0	Seilly.			
5.7	1.11	-0.75	0.42	30th	6	0	0	2	4	8	0	0	7	8	2	1	1	7	4	0	Jersey.			

## ADDITION TO THOSE FOUND IN TABLE XII.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Bognor .. .. .	285.0	?	58	?	Colwyn Bay .. ..	278.9	?	56	?
Watergate (Emsworth) ..	278.5	?	57	?	Aberdovey .. ..	268.2	?	54	?
Westbourne (Emsworth) ..	301.5	+ 91.7	62	+ 19	Tenby .. .. .	307.7	+ 73.4	62	+ 14
Ventnor Hospital .. .. .	277.1	?	57	?	Torquay .. .. .	302.0	+ 67.1	62	+ 13
Southport .. .. .	267.5	?	53	?	Newquay .. .. .	259.4	+ 30.0	54	+ 7
Hoylake .. .. .	246.9	?	49	?	Guernsey .. .. .	314.8	+ 65.2	66	+ 14



TABLE XII.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of JUNE 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.						
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Duration.	Difference from Average.		
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.											
	°	°	°	°	°		°			Ins.	Ins.	Ins.				%	%		
STORNOWAY	-	-	*	*	*	*	*	*	*	*	*	*	*	*	153.8	-31.3	29	-6	
LAIRG	-	-	46.9	68.0	57.5	+4.0	36	1st	84	15th	16	1.27	-1.01	0.20	18th	-	-	-	
GLENCARRON	-	-	47.8	64.0	55.9	+2.1	40	1st, 3rd	79	14th	18	2.22	-2.85	0.42	18th	-	-	-	
FORT AUGUSTUS	-	-	48.2	65.8	57.0	+2.0	37	1st	81	14th	15	1.33	-0.88	0.44	17th	147.2	+14.7	28	+3
FORT WILLIAM	-	-	50.5	64.7	57.6	+2.7	43	1st	76	13th	14	2.03	-1.83	0.35	18th	167.7	-13.8	32	-3
ABERDEEN	-	-	*	*	*	*	*	*	*	*	*	*	*	*	226.7	+30.2	43	+6	
BRAEMAR	-	-	45.3	65.0	55.2	+2.6	33	1st	76	10th, 14th	13	1.09	-1.26	0.27	27th	200.0	+18.1	38	+3
OCHTERTYRE	-	-	48.2	70.3	59.3	+3.3	40	13th	85	12th	11	2.28	-0.43	0.67	28th	-	-	-	-
MARCHMONT	-	-	48.0	65.8	56.9	+2.9	40	3rd, 14th, 15th	76	6th	8	1.38	-1.12	0.63	28th	227.5	+46.4	44	+9
ALNWICK CASTLE	-	-	47.7	67.5	57.6	+3.5	34	14th, 15th	80	6th	8	1.15	-0.76	0.47	20th	-	-	-	-
DURHAM	-	-	46.8	68.9	57.9	+2.1	34	14th	82	6th	11	1.73	-0.16	0.48	29th	210.2	+41.2	41	+8
SCARBOROUGH	-	-	48.7	65.5	57.1	+1.4	39	15th	76	6th, 18th	7	1.84	-0.19	0.55	29th	-	-	-	-
YORK	-	-	*	*	*	*	*	*	*	*	*	*	*	*	-	-	-	-	
HILLINGTON	-	-	48.6	70.4	59.5	+1.9	34	15th	80	5th	9	0.86	-1.31	0.28	19th	235.2	+40.6	47	+8
GELDESTON	-	-	47.8	67.5	57.7	+0.6	36	1st	80	5th	7	0.89	-0.76	0.42	30th	253.6	+43.3	51	+8
CAMBRIDGE	-	-	*	*	*	*	*	*	*	*	*	*	*	*	230.1	+34.8	47	+7	
FELIXSTOWE	-	-	51.0	64.4	57.7	+0.7	40	14th	78	26th	8	1.44	?	0.63	30th	267.7	?	54	?
ROTHAMSTED	-	-	48.2	69.7	59.0	+1.5	36	15th	81	5th	6	1.46	-0.65	0.81	30th	238.2	+46.3	48	+9
BAWTRY	-	-	47.3	71.4	59.4	+1.8	35	15th	84	6th	8	1.49	-0.76	0.52	30th	-	-	-	-
STAMFORD (Duddington)	-	-	48.5	70.6	59.6	+1.6	34	15th	81	5th	7	1.17	-0.72	0.48	19th	-	-	-	-
CHEADLE	-	-	49.3	67.2	58.3	+2.7	41	9th, 14th	78	6th	8	2.12	-0.73	0.56	18th	-	-	-	-
SHIRLEY (nr. Solihull)	-	-	48.3	69.3	58.8	+1.0	36	14th, 15th	80	6th	10	2.09	?	0.63	28th	-	-	-	-
CHURCHSTOKE	-	-	46.9	70.4	58.7	+2.8	37	14th	79	6th, 17th	8	2.16	-0.05	0.68	28th	271.5	+83.7	54	+16
HEREFORD (Belmont)	-	-	47.7	70.7	59.2	+0.8	36	14th	80	4th, 5th, 6th	8	1.78	-0.29	0.62	19th	-	-	-	-
CIRENCESTER	-	-	48.5	70.3	59.4	+2.5	37	14th	81	17th	9	1.68	-0.54	0.60	30th	282.8	+89.8	57	+18
OXFORD	-	-	*	*	*	*	*	*	*	*	*	*	*	*	255.1	+63.0	52	+13	
LONDON	-	-	*	*	*	*	*	*	*	*	*	*	*	*	218.9	+39.8	44	+8	
CRANLEY	-	-	48.8	71.9	60.4	+1.4	38	15th	81	5th, 6th	7	1.39	?	0.62	30th	-	-	-	-
HASTINGS	-	-	52.2	66.2	59.2	+1.6	44	14th, 15th	79	6th	5	0.85	-0.76	0.35	30th	281.2	+54.6	58	+12
SOUTHAMPTON	-	-	51.9	73.5	62.7	+3.3	43	15th	83	5th	8	1.37	-0.48	0.35	30th	293.2	+83.1	60	+17
SHAFTESBURY	-	-	51.6	69.4	60.5	+4.0	43	9th, 15th	80	5th, 6th	5	1.58	-0.64	0.55	18th	-	-	-	-
LAUDALE	-	-	49.6	64.7	57.2	+1.7	41	12th	75	15th	17	2.60	-1.62	0.80	18th	-	-	-	-
GLASGOW	-	-	50.8	66.5	58.7	+3.1	45	3rd	78	12th	12	2.21	-0.46	0.84	28th	159.1	-8.2	31	-1
GLENLEE	-	-	47.7	68.3	58.0	+2.8	35	3rd	81	16th	12	3.39	+0.31	1.20	28th	-	-	-	-
DOUGLAS	-	-	48.8	66.6	57.7	+2.5	41	3rd	75	6th, 11th	8	2.93	+0.75	0.90	30th	265.5	+44.4	53	+9
STONYHURST	-	-	50.0	68.0	59.0	+2.5	41	3rd, 14th	78	17th	10	1.78	-1.44	0.76	30th	269.7	+77.7	53	+15
BLACKPOOL	-	-	50.0	68.1	59.1	+2.5	41	14th	77	17th	9	2.07	-0.02	0.57	30th	252.3	+59.7	50	+12
MANCHESTER (Prestwich)	-	-	49.4	68.8	59.1	+2.5	41	3rd, 14th	80	17th	9	2.03	-0.91	0.68	30th	239.5	?	47	?
LLANDUDNO	-	-	52.7	66.9	59.8	+2.3	44	3rd	77	1st	11	2.53	+0.65	0.58	20th	269.5	+76.0	54	+15
LLANDOVERY	-	-	48.1	74.1	61.1	+4.0	39	3rd	85	5th	8	1.16	-1.66	0.42	18th	-	-	-	-
PEMBROKE	-	-	*	*	*	*	*	*	*	*	*	*	*	*	287.3	+52.6	58	+10	
CLIFTON	-	-	53.7	72.0	62.9	+4.9	45	9th, 14th	83	6th	5	1.52	-0.67	1.04	30th	-	-	-	-
ARLINGTON	-	-	49.7	69.0	59.4	+3.4	42	3rd	84	5th	9	2.07	-0.90	0.84	30th	-	-	-	-
CULLOMPTON	-	-	49.2	71.6	60.4	+2.4	40	15th	81	4th, 5th, 6th	7	1.90	-0.29	0.64	19th	271.2	+70.7	56	+15
FALMOUTH	-	-	53.6	65.7	59.7	+2.2	49	3rd	76	6th	7	1.57	-0.91	0.59	19th	290.7	+61.0	60	+13
PLYMOUTH	-	-	53.0	67.1	60.1	+1.1	44	15th	76	7th	8	1.72	-0.25	0.64	30th	290.6	+82.6	60	+17
SOILLY	-	-	*	*	*	*	*	*	*	*	*	*	*	*	247.2	?	51	?	
JERSEY	-	-	*	*	*	*	*	*	*	*	*	*	*	*	309.5	+66.4	64	+13	
LONDONDERRY	-	-	51.3	69.2	60.3	+3.3	45	19th	81	14th	13	1.99	-0.51	0.64	27th	-	-	-	-
EDENFEL (Omagh)	-	-	49.8	68.2	59.0	+3.8	39	19th	81	14th	12	2.83	+0.30	1.00	27th	-	-	-	-
MARKREE CASTLE	-	-	49.6	66.4	58.0	+2.9	40	19th	77	13th	11	3.51	+0.57	0.96	28th	185.9	+13.7	37	+3
ARMAGH	-	-	49.2	68.1	58.7	+2.6	42	19th	79	6th	11	2.36	+0.19	0.48	17th	204.0	+25.9	40	+5
DUBLIN	-	-	53.8	68.8	61.3	+3.7	46	19th	74	6, 7, 11, 25, 27	8	1.64	-0.22	0.90	20th	249.0	+53.3	50	+11
PARSONSTOWN	-	-	*	*	*	*	*	*	*	*	*	*	*	*	190.2	+16.5	38	+3	
KILKENNY CASTLE	-	-	50.2	70.1	60.2	+3.1	41	19th	79	6th, 11th	8	1.62	-0.60	0.42	21st	-	-	-	-
VALENCIA (Cahiriveen)	-	-	*	*	*	*	*	*	*	*	*	*	*	*	213.8	+10.4	43	+2	
KILLARNEY	-	-	50.1	68.6	59.4	+2.8	40	3rd, 19th	80	11th	11	1.42	?	0.46	17th	-	-	-	-
FOYNES	-	-	50.8	67.1	59.0	+2.3	40	20th	79	10th, 11th	11	2.22	?	0.51	27th	-	-	-	-

\* For this information and additional reports of bright sunshine, see Table XI.

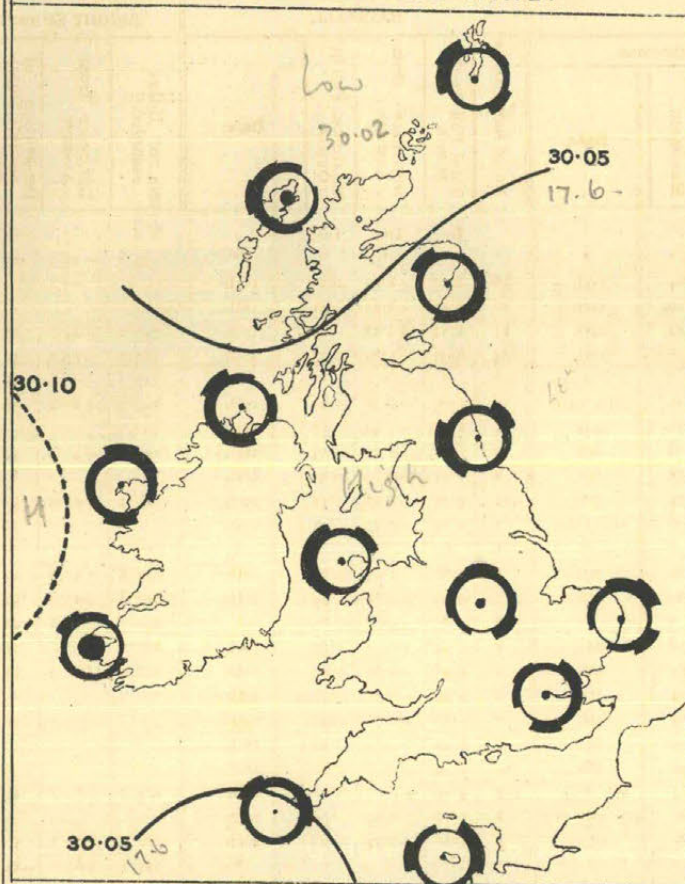


# MONTHLY WEATHER CHART JUNE 1899.

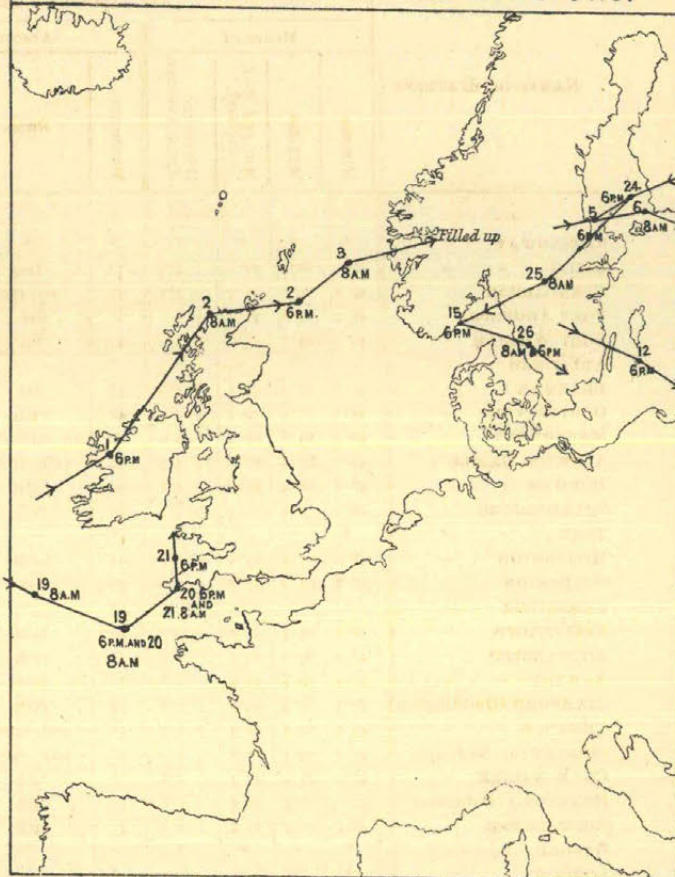
Monthly Summary.

Plate

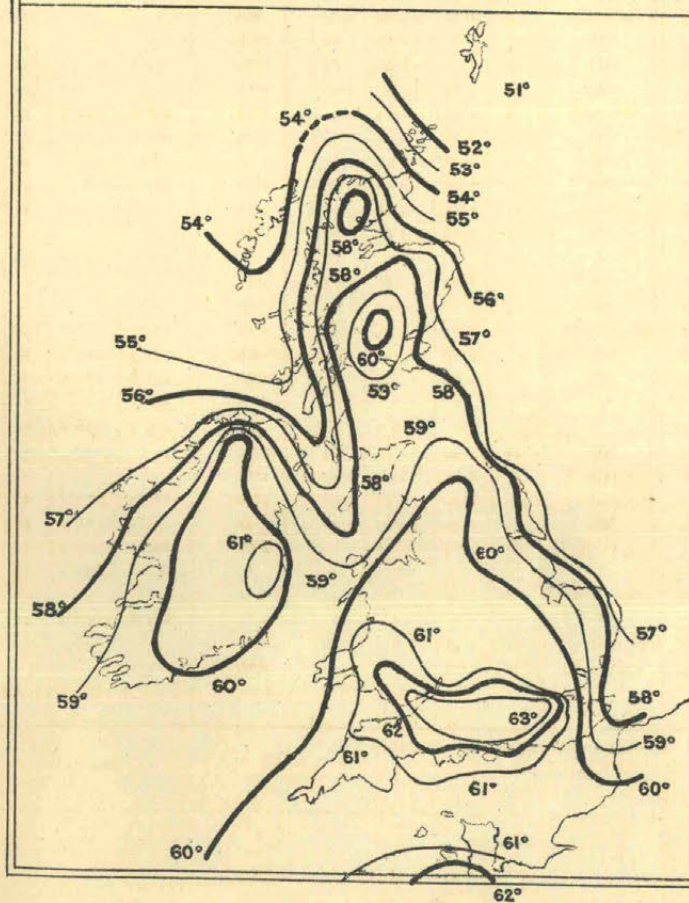
## 1. BAROMETER AND WIND.



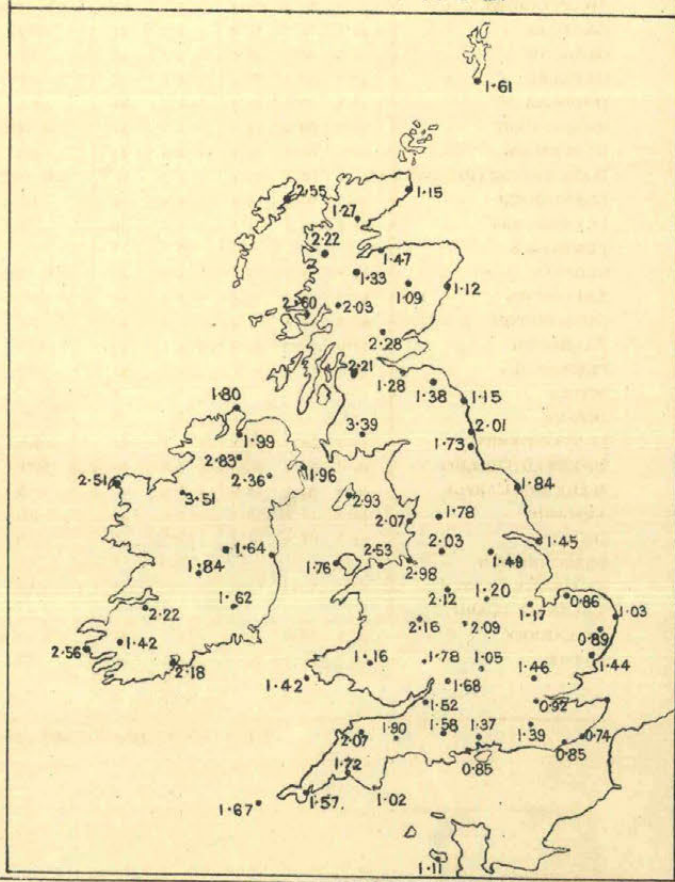
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.



To face page xxiv.







# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## JULY 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & CO., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & CO., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—Over the United Kingdom as a whole the weather of July was very changeable, with frequent thunderstorms, accompanied locally by heavy falls of rain. In many of the English districts, however, and especially in the east and south, the latter part of the month was mostly fair and dry, the spell of fine weather being interrupted only by severe thunderstorms, which occurred at various times between the 20th and 23rd. Pressure and temperature were above the average, the excess of warmth being considerable in the south of England; winds were mainly from some Westerly point; rainfall was very deficient over England, but showed great variations in Ireland and Scotland; bright sunshine was considerably in excess of the normal in our eastern, central, and southern districts, but was slightly below the average in Ireland and the northern parts of Great Britain.

**Pressure.**—*Mean at 8 a.m.* ranged from 30·10 ins. and upwards over the extreme southern and south-western parts of our islands generally, to 29·95 ins. and less in the extreme north of Scotland, the general distribution being in fair agreement with the normal. The actual values were, however, in all cases above the average,\* the excess ranging from about 0·12 in. on the east and south-east coasts of England, to between 0·17 in. and 0·19 in. in Ireland. *Highest* readings occurred on the 31st, when the barometer rose to 30·45 ins. and upwards at many of the English stations, and to 30·40 ins. and upwards in all but the extreme northern parts of the kingdom. *Lowest* readings were observed during the passage of the depression of the 1st and 2nd, the barometer falling below 29·4 ins. in the north of England and the south of Scotland, and below 29·7 ins. in all other localities. *Range* was moderate generally, but rather large for the time of year in the districts just mentioned.

**Depressions.**—The depressions observed in the immediate neighbourhood of our islands were few in number, and mostly of little depth. The principal disturbance moved eastward across the more central parts of the United Kingdom on the 1st, and ultimately became filled up over the North Sea.

**Anticyclones.**—Three such systems were observed. The first extended over our islands from the south-westward on the 3rd, and ultimately embraced nearly the whole of Europe, but moved away to the eastward and southward on the 9th and 10th. The second spread over Europe from the south-westward on the 14th, but broke up after the 18th, a portion of the system remaining, however, over the north of our islands until the 22nd. The third extended over the western countries from the Atlantic on the 24th, and after receding temporarily southwards on the 25th, finally spread over nearly the whole of our islands and the Continent.

**Winds** were chiefly from some Westerly point (between South-west and North-west). Slight gales were experienced in many places during the early part of the month—chiefly during the progress of the depression of the 1st.

**Temperature.**—*Mean at sea level* ranged from between 66° and 68° over inland portions of the south of England, to 59° and less on all our extreme north and north-west coasts, to rather below 57° in the Hebrides, and to about 55° in the Shetlands. The general distribution was in close agreement with the normal, but the mean values were everywhere above the average,\* the excess being slight on our north-west coasts, but large (three and a half to four and a half degrees, or rather more) in the south of England. *Highest* readings occurred over England mostly on the 20th or 21st, when the thermometer rose to 85° and upwards at many of the inland stations, to 89° in London, and to 90° at Cambridge. In Ireland and Scotland the absolute maxima were recorded, as a rule, on the 31st, and were in no case much above 80°. *Lowest* readings were observed at various times, the thermometer falling in many places slightly below 45°, at Wick and Markree Castle to 40°, and at Braemar to 37°. *Range* was moderate generally, but rather large at some of the English and Welsh stations; at Cirencester it amounted to 41°, at Cambridge to 42°, and at Llandovery to 46°. *Vapour Tension* ranged from 0·48 in. and upwards at most of the English Channel stations, to 0·42 in. over Scotland generally, and to a little below 0·40 in. at Aberdeen. *Relative Humidity* varied from 92 per cent. at Sumburgh Head and Malin Head, and 91 per cent. at Holyhead, to between 75 and 80 per cent. over the east of Scotland and the eastern and central parts of England, and to only 71 per cent. in London.

**Rainfall.**—Over England as a whole the amount of rain was considerably less than the average,\* this being especially the case at some of the south-western stations, where the total quantity was less than one-fourth of the normal. In Ireland and Scotland there were considerable local variations in the amount, an excess being shown, however, at most stations in the east and south of Scotland. The largest aggregates reported were:—6·6 ins. at Glencarron, 5·8 ins. at Holyhead, and 4·3 ins. at Fort William and Laudale; the smallest being 0·5 in. at Jersey, 0·6 in. at Clifton, and 0·7 in. at Hereford and Falmouth. The number of days with rain was fairly large in the extreme north and north-west, but small over England; at Dungeness there were only five such occasions, while at Portland Bill there were only three. Amounts exceeding an inch in 24 hours were reported at many places in the west and north, the largest being 3·4 ins. at Holyhead on the 20th (an inch more than the average for the whole month), and 1·9 ins. at Shaftesbury and Cullompton on the 22nd.

**Bright Sunshine.**—This was slightly deficient over Ireland and the northern parts of Great Britain, but considerably in excess of the average\* elsewhere. The percentage of the possible duration ranged from 64 at Bognor, and 60 and upwards at several other of the English Channel stations, to 20 or less at Strathpeffer Spa, Markree Castle and Armagh, and to 17 at Fort Augustus and Fort William.

\* The averages employed are—*Pressure and Temperature* for the 25 years 1871–95; *Rainfall* for the 30 years 1866–95; and *Bright Sunshine* for the 15 years 1881–95.



TABLE XIII.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail, (The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.923	+0.134	55.3	49.7	59.9	54.8	+1.9	45	21st	64	23rd	Ins. 0.402	92	
	Wick	29.968	+1.155	58.9	49.7	64.9	57.3	+2.0	40	20th	80	31st	408	82	
	Stornoway	29.956	+1.156	57.9	50.5	62.8	56.7	+2.1	46	2nd, 22nd, 23rd	71	22nd, 31st	417	87	
1. SCOTLAND, E.	Nairn	29.977	+1.160	59.1	51.3	66.0	58.7	+1.2	42	9th	78	31st	412	82	
	Aberdeen	29.989	+1.158	60.4	53.5	65.9	59.7	+2.5	48	5th	75	29th, 30th	396	75	
	Leith	30.003	+1.157	61.1	53.9	67.8	60.9	+2.1	49	5th	79	30th	418	78	
2. ENGLAND, N.E.	Shields	30.010	+1.144	59.9	53.9	66.6	60.3	+2.4	48	9th	75	7th, 31st	449	88	
	Spurn Head	30.030	+1.134	62.0	57.1	67.6	62.4	+2.5	53	5th	79	19th	462	83	
3. ENGLAND, E.	Yarmouth	30.038	+1.115	62.5	56.5	67.4	62.0	+1.5	51	28th	76	26th	452	80	
4. MIDLAND COUNTIES	Loughborough	30.071	+1.144	62.2	54.8	74.1	64.5	+2.7	46	17th	85	19th, 31st	433	78	
	Oxford	30.083	+1.140	63.4	56.0	75.0	65.5	+4.1	48	5th	86	20th	436	75	
5. ENGLAND, S.	London	30.086	+1.133	64.6	57.1	77.9	67.5	+4.5	50	5th, 28th	89	20th, 21st	426	71	
	Dungeness	30.065	+1.115	63.5	57.5	69.7	63.6	+2.2	50	5th, 6th	79	30th	496	84	
	Portland Bill	30.108	+1.138	61.8	54.9	67.2	58.1	+2.4	50	1st, 2nd	73	20th	465	84	
6. SCOTLAND, W.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7. ENGLAND, N.W.	Liverpool	30.061	+1.156	61.2	55.9	66.3	61.1	+1.1	51	2nd, 3rd	73	31st	440	82	
	Holyhead	30.069	+1.160	59.0	54.9	63.9	59.4	+0.4	50	13th	70	18th	452	91	
8. ENGLAND, S.W.	Pembroke	30.103	+1.170	59.8	56.4	64.1	60.3	+1.7	54	1st, 2nd, 3rd, 4th, 28th	75	20th	459	90	
9. IRELAND, N.	Malin Head	30.018	+1.167	57.1	54.5	61.4	58.0	+0.8	50	13th	67	6th, 23rd, 31st	433	92	
	Donaghadee	30.050	+1.170	58.2	52.6	64.1	58.4	+0.7	49	13th	73	25th	430	88	
	Belmullet	30.075	+1.186	58.7	54.0	62.6	58.3	+0.3	47	12th	73	31st	423	85	
10. IRELAND, S.	Parsonstown	30.093	+1.179	58.8	52.8	67.5	60.2	+1.4	46	13th, 14th	80	31st	428	87	
	Valencia	30.115	+1.178	60.4	55.6	65.1	60.4	+1.6	49	29th	78	31st	445	85	
	Roche's Point	30.112	+1.179	60.7	55.4	66.0	60.7	+1.1	50	2nd, 13th	72	22nd	446	85	
CHANNEL ISLANDS	Scilly	30.106	+1.137	62.2	58.2	67.5	62.9	+2.6	53	2nd, 3rd, 4th	72	31st	481	86	
	Jersey	30.123	+1.125	64.9	57.4	71.4	64.4	+2.1	53	5th, 9th	83	19th, 20th	482	79	

## BRIGHT SUNSHINE VALUES FOR JULY

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	150.3	?	28	?	Hollesley Bay (Suffolk) ..	255.1	?	52	?
Strathpeffer Spa .. ..	105.8	-20.1	20	-4	Sheffield .. ..	185.5	?	37	?
Edinburgh .. ..	118.1	-19.6	23	-4	Workshop .. ..	159.2	+3.4	32	+1
Morpeth (Cockle Park) ..	160.8	?	31	?	Thurcaston .. ..	214.6	+52.5	43	+11
Newcastle-on-Tyne .. ..	130.9	?	26	?	Margate .. ..	224.1	+32.6	46	+7
Oswaldkirk .. ..	167.6	+15.2	33	+3	Eastbourne .. ..	290.7	+71.3	59	+14
Lowestoft .. ..	226.3	?	46	?	Brighton .. ..	300.0	+81.9	61	+16



## SUMMARY OF OBSERVATIONS, JULY 1899.

xxvii

REPORTING STATIONS in the BRITISH ISLANDS during the Month of JULY 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.  
beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER. No. of Days of								WIND. No. of Observations of									NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.		
8.0	Ins. 1.56	Ins. -0.80	Ins. 0.46	25th	14	0	0	1	0	16	2	2	4	0	2	3	2	8	5	5	Sumburgh Head.	
6.7	2.10	-0.42	0.37	25th	17	0	0	1	5	14	3	3	0	1	1	11	2	3	8	2	Wick.	
9.5	2.74	-0.34	1.10	15th	17	0	0	1	0	27	2	0	2	2	2	2	8	7	5	3	Stornoway.	
6.5	2.37	-0.36	0.45	11th	14	0	0	0	2	10	0	0	1	3	0	0	3	14	0	10	Nairn.	
7.1	3.73	+0.89	1.26	18th	15	0	0	4	0	10	0	1	5	4	0	8	6	4	3	0	Aberdeen.	
6.9	3.12	+0.32	0.78	1st	14	0	0	1	2	13	0	1	3	4	0	1	8	10	2	2	Leith.	
8.0	2.33	-0.36	0.39	20th	20	0	0	3	1	15	0	5	2	1	1	2	8	9	2	1	Shields.	
6.1	0.85	-0.93	0.33	2nd	11	0	0	6	2	8	1	1	3	3	1	4	3	7	7	2	Spurn Head.	
3.9	2.47	-0.42	0.98	23rd	7	0	0	3	11	1	0	2	2	2	6	3	4	5	7	0	Yarmouth.	
6.6	1.76	-0.59	0.58	1st	6	0	0	4	3	12	0	0	3	2	3	3	2	11	7	0	Loughborough.	
5.4	1.28	-1.40	0.76	22nd	8	0	0	2	14	12	0	4	6	0	1	6	2	6	6	0	Oxford.	
4.6	0.86	-1.62	0.50	22nd	8	0	0	4	13	8	0	2	2	1	2	1	9	5	8	1	London.	
5.5	0.95	-1.10	0.36	22nd	5	0	0	1	2	5	1	4	2	4	2	2	6	5	5	1	Dungeness.	
5.6	1.24	?	0.80	23rd	3	0	0	2	3	10	4	9	2	6	1	1	2	4	6	0	Portland Bill.	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6.5	2.19	-0.80	0.45	22nd	16	0	0	0	6	12	1	0	2	2	7	3	6	9	1	1	Liverpool.	
8.1	5.78	+3.41	3.36	20th	11	0	0	2	0	16	1	3	2	1	0	1	11	8	4	1	Holyhead.	
7.1	1.99	-0.54	1.27	10th	9	0	0	0	4	17	1	1	4	3	1	1	7	5	7	2	Pembroke.	
8.4	1.20	?	0.29	1st	13	0	0	0	0	21	0	3	0	3	5	3	5	5	6	1	Malin Head.	
7.0	2.79	-0.03	1.09	11th	17	0	0	2	1	13	0	7	4	1	0	3	4	5	7	0	Donaghadee.	
8.4	2.10	-1.49	0.40	18th	17	0	0	0	1	23	2	2	2	2	0	3	8	7	7	0	Belmullet.	
9.5	3.43	+0.45	0.66	19th	16	0	0	1	0	26	0	2	1	0	5	2	6	7	8	0	Parsonstown.	
8.8	2.60	-1.63	0.55	9th	22	0	0	2	1	25	0	3	1	1	2	8	2	5	5	4	Valencia.	
7.5	1.91	-1.27	0.75	10th	11	0	0	1	0	18	1	7	2	2	2	4	4	3	7	0	Roche's Point.	
7.0	1.91	-0.56	1.02	11th	9	0	0	2	1	9	4	5	2	2	0	5	5	5	7	0	Scilly.	
5.3	0.54	-2.00	0.39	21st	7	0	0	3	9	11	1	4	2	4	0	0	2	11	8	0	Jersey.	

## IN ADDITION TO THOSE FOUND IN TABLE XIV.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Worthing .. .. .	298.7	?	61	?	Colwyn Bay .. ..	181.3	?	36	?
Bognor .. .. .	311.6	?	64	?	Aberdovey .. ..	183.3	?	37	?
Watergate (Emsworth) ..	280.6	?	57	?	Tenby .. .. .	244.0	+ 46.6	49	+ 9
Westbourne (Emsworth) ..	308.7	+ 99.9	63	+ 20	Torquay .. .. .	307.2	+ 105.0	61	+ 21
Ventnor Hospital .. ..	292.0	?	60	?	Newquay .. .. .	230.8	+ 22.7	48	+ 5
Southport .. .. .	175.9	?	35	?	Guernsey .. .. .	327.9	+ 93.3	68	+ 19
Hoylelake .. .. .	168.9	?	34	?					



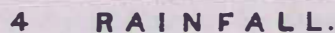
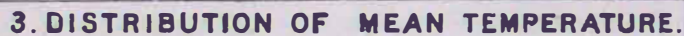
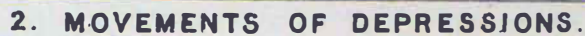
TABLE XIV.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of JULY 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.					BRIGHT SUNSHINE.			
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	0	0	0	0	0	0	0	0	0	Ins.	Ins.	Ins.	0	125.1	-18.5	24	-3
LAIRG	51.1	65.8	58.5	+3.7	41	21st	81	31st	20	2.49	-0.64	0.46	11th	—	—	—	—
GLENCARRON	50.9	61.9	56.4	+1.2	45	9th	70	31st	23	6.57	+0.51	1.26	28th	—	—	—	—
FORT AUGUSTUS	52.8	64.5	58.7	+1.8	44	9th	75	31st	15	2.61	-0.58	0.49	11th	87.3	-0.7	17	0
FORT WILLIAM	53.6	64.1	58.9	+1.9	48	9th, 10th	71	22nd	19	4.28	-1.01	1.14	25th	89.1	-35.4	17	-7
ABERDEEN	0	0	0	0	0	0	0	0	0	0	0	0	0	163.8	+3.0	31	0
BRAEMAR	48.7	62.9	55.8	+0.9	37	5th, 6th	76	31st	15	2.39	-0.52	0.45	1st	119.3	-21.4	23	-4
OCHTERTYRE	52.3	69.3	60.8	+2.3	45	8th	81	31st	15	3.46	+0.19	1.02	11th, 12th	—	—	—	—
MARCHMONT	52.0	66.7	59.4	+2.4	44	1st	80	31st	17	3.72	+0.22	0.93	17th	151.0	-13.5	29	-3
ALNWICK CASTLE	53.2	69.6	61.4	+3.8	48	16th	76	8th, 30th, 31st	14	2.76	-0.13	0.61	1st	—	—	—	—
DURHAM	52.9	70.7	61.8	+2.5	46	9th	82	30th	18	3.03	-0.01	0.65	2nd	152.5	-4.8	30	-1
SCARBOROUGH	54.3	69.5	61.9	+2.6	50	5, 17, 27, 28	79	31st	11	2.07	-0.77	0.51	22nd	—	—	—	—
YORK	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—	—	—
HILLINGTON	54.7	74.6	64.7	+3.7	47	14th, 28th	87	12th	9	1.76	-1.28	0.42	23rd	232.3	+45.2	46	+9
GELDESTON	54.4	71.8	63.1	+2.2	47	18th	82	20th	6	2.82	+0.13	1.26	23rd	220.9	+19.9	45	+4
CAMBRIDGE	54.5	76.4	65.5	+3.6	48	16th, 28th, 29th	90	20th	10	1.14	-1.48	0.37	23rd	236.0	+46.4	48	+10
FELIXSTOWE	56.6	70.4	63.5	+2.6	51	5th, 18th, 28th	79	26th	7	2.03	-0.73	0.73	23rd	253.7	?	51	?
ROTHAMSTED	54.5	73.3	63.9	+3.3	48	5th, 28th	84	20th	8	1.16	-1.67	0.26	22nd	258.5	+57.8	52	+11
BAWTRY	53.6	73.2	63.4	+2.9	46	16th, 17th	85	31st	9	0.92	-1.86	0.27	12th	—	—	—	—
STAMFORD (Duddington)	54.4	74.4	64.4	+2.7	46	5th	85	19th	10	1.04	-1.67	0.41	1st	—	—	—	—
CHEADLE	53.6	68.9	61.3	+3.0	47	25th, 27th	79	31st	10	2.03	-1.19	1.06	1st	—	—	—	—
SHIRLEY (nr. Solihull)	53.0	71.5	62.3	+1.7	44	5th	81	19th, 31st	10	1.44	?	0.49	1st	—	—	—	—
CHURCHSTOKE	51.5	70.8	61.2	+2.8	44	16th, 17th, 27th	82	31st	8	0.82	-1.71	0.27	1st	227.2	+57.7	45	+11
HEREFORD (Belmont)	51.9	73.0	62.5	+1.7	44	5th, 29th	83	20th	9	0.69	-1.67	0.35	11th	—	—	—	—
GIRENCESTER	53.3	73.6	63.5	+3.8	46	29th	87	20th	8	1.01	-2.07	0.45	22nd	271.9	+90.4	55	+18
OXFORD	0	0	0	0	0	0	0	0	0	0	0	0	0	268.0	+82.5	54	+16
LONDON	0	0	0	0	0	0	0	0	0	0	0	0	0	232.3	+60.6	47	+12
CRANLEY	55.1	76.3	65.7	+3.4	47	14th	86	20th	8	1.39	?	0.51	1st	—	—	—	—
HASTINGS	57.1	71.8	64.5	+3.6	52	2nd, 14th	84	20th	7	0.99	-1.40	0.49	22nd	280.6	+60.1	57	+12
SOUTHAMPTON	57.0	77.1	67.1	+4.8	49	5th	87	30th	8	1.33	-1.48	0.57	1st	291.0	+86.5	59	+17
SHAFTESBURY	55.1	72.1	63.6	+4.5	48	5th	82	19th	9	2.36	-0.74	1.90	22nd	—	—	—	—
LAUDALE	53.1	64.1	58.6	+1.2	47	10th	73	31st	24	4.27	-1.09	0.88	25th	—	—	—	—
GLASGOW	54.0	65.4	59.7	+2.0	49	4th	75	31st	15	3.70	+0.30	1.11	11th	125.1	-14.4	24	-3
GLENLEE	51.8	66.3	59.1	+1.1	44	5th	76	31st	17	2.34	-1.81	1.22	11th	—	—	—	—
DOUGLAS	52.9	65.1	59.0	+1.5	47	17th, 25th	70	29th, 30th	11	4.11	+1.12	1.46	11th	178.4	-18.6	35	-4
STONYHURST	54.1	66.9	60.5	+1.6	47	5th	76	31st	14	2.99	-1.45	0.73	1st	184.1	+15.8	36	+3
BLACKPOOL	54.7	67.4	61.1	+1.4	49	9th	72	18th, 20th	13	2.00	-1.15	0.51	11th	171.6	-5.0	34	-1
MANCHESTER (Prestwich)	54.0	69.6	61.8	+2.7	45	5th	81	31st	11	1.65	-2.21	0.45	1st	169.3	?	34	?
LLANDUDNO	55.7	67.2	61.5	+1.4	52	2nd	73	7th	10	1.85	-0.81	0.39	20th	172.3	+3.8	34	0
LLANDOVERY	52.4	72.7	62.6	+3.3	41	28th	87	31st	13	2.60	-1.52	0.80	11th	—	—	—	—
PEMBROKE	0	0	0	0	0	0	0	0	0	0	0	0	0	211.9	+12.2	43	+3
CLIFTON	57.3	73.2	65.3	+4.3	50	5th	86	20th	8	0.59	-2.71	0.30	11th	—	—	—	—
ARLINGTON	53.4	69.1	61.3	+2.3	45	16th	82	20th	14	1.43	-3.43	0.58	11th	—	—	—	—
CULLOMPTON	53.8	74.1	64.0	+2.7	44	29th	85	20th	8	2.39	-0.76	1.92	22nd	245.1	+71.0	50	+14
FALMOUTH	57.1	68.4	62.8	+2.6	52	2nd, 13th	74	26th, 30th	9	0.72	-2.60	0.30	11th	294.6	+80.5	61	+17
PLYMOUTH	55.9	69.0	62.5	+1.1	46	1st	80	20th	8	1.34	-1.63	0.50	22nd	274.9	+82.0	57	+17
SCILLY	0	0	0	0	0	0	0	0	0	0	0	0	0	253.3	?	52	?
JERSEY	0	0	0	0	0	0	0	0	0	0	0	0	0	304.0	+74.0	63	+15
LONDONDERRY	53.3	67.8	60.6	+2.0	46	13th	82	31st	19	2.30	-1.21	0.32	18th	—	—	—	—
EDENFEL (Omagh)	53.3	65.2	59.3	+2.2	43	13th	77	31st	17	2.54	-0.87	0.59	1st	—	—	—	—
MARKEE CASTLE	52.7	66.1	59.4	+2.2	40	13th	79	31st	20	2.01	-1.75	0.40	1st, 2nd	103.0	-25.3	20	-5
ARMAGH	53.5	66.4	60.0	+1.8	46	13th	76	31st	13	2.01	-1.17	0.53	11th	101.1	-39.5	20	-8
DUBLIN	56.2	68.2	62.2	+2.2	49	2nd, 13th	75	5th, 29th	12	3.12	+0.66	1.40	11th	138.8	-22.5	28	-4
PARSONSTOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	112.1	-24.4	22	-5
KILKENNY CASTLE	53.4	68.5	61.0	+1.6	44	13th, 14th	79	31st	16	2.60	-0.01	1.25	11th	—	—	—	—
VALENCIA (Cahirciveen)	0	0	0	0	0	0	0	0	0	0	0	0	0	143.5	-10.3	29	-2
KILLARNEY	53.8	67.4	60.6	+1.9	44	13th	79	31st	13	3.47	?	1.72	22nd	—	—	—	—
FOYNES	54.6	65.7	60.2	+2.2	47	8th	80	31st	12	2.05	?	0.52	10th	—	—	—	—

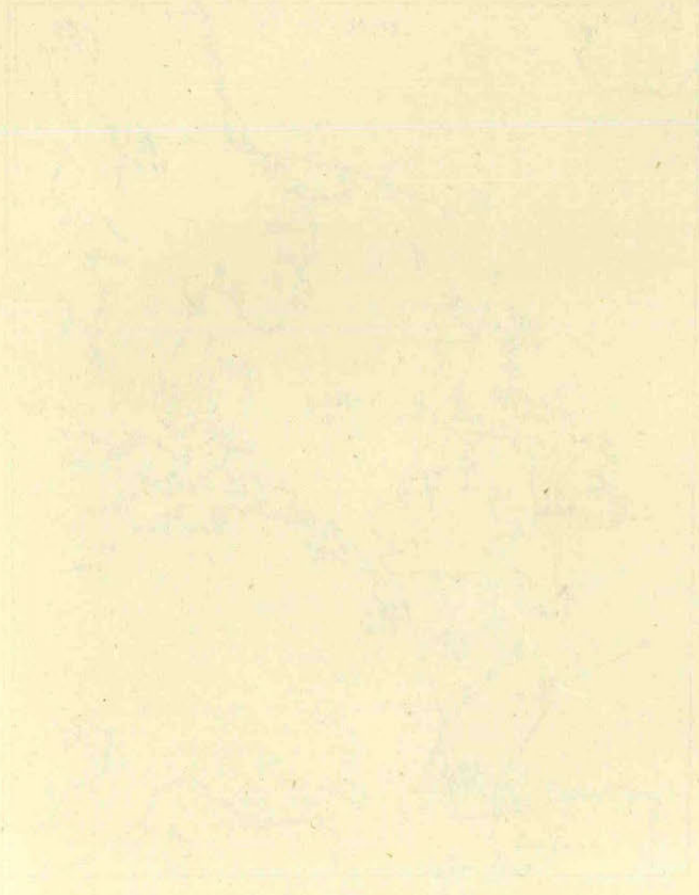
\* For this information and additional Reports of Bright Sunshine see Table XIII.



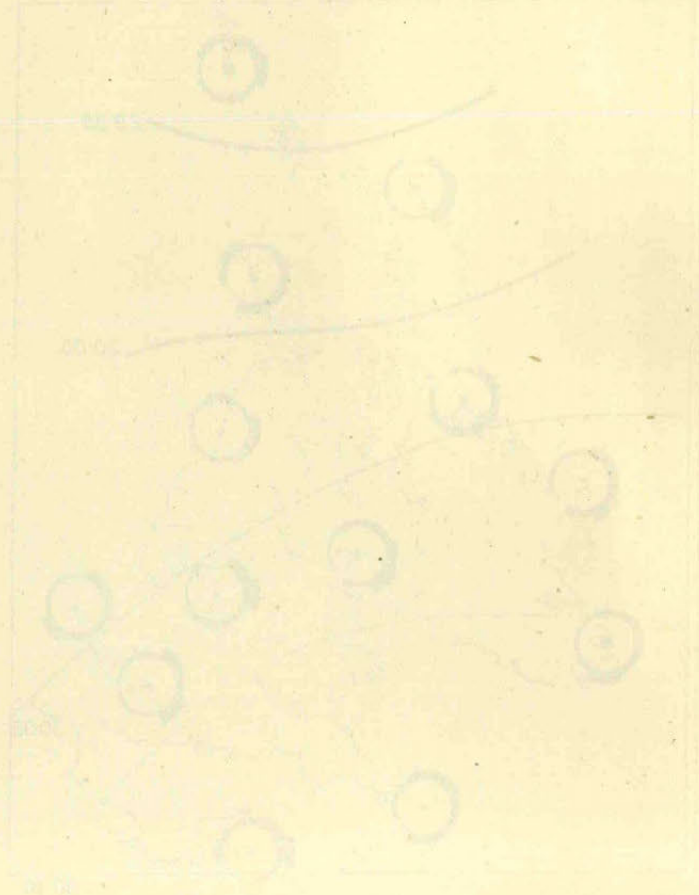




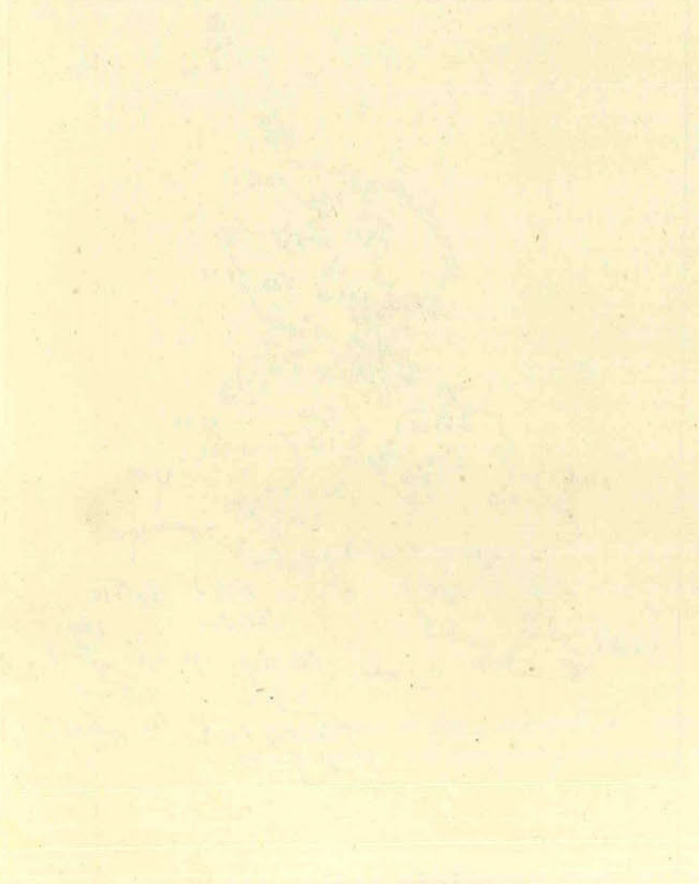
1. MOVEMENTS OF DEPRESSIONS



2. BAROMETER AND WIND



3. RAINFALL



4. DISTRIBUTION OF MEAN TEMPERATURE





# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## AUGUST 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—Until the closing week the weather of August was mostly fine, warm and dry, the only important exceptions occurring between the 3rd and 7th, and on the 15th, when sharp thunderstorms occurred, with heavy falls of rain locally. After the 24th the conditions became for a time far less settled, frequent rain occurring in most districts, with occasional thunderstorms; in the south-east of England, however, the showers were of little weight. Pressure and temperature were considerably above the average; the winds were rather variable, but mostly from the Eastward in the south; rainfall was very deficient, especially in the north and east; bright sunshine was largely in excess of the average. Proof of the abnormal character of the weather in the south-east of England is afforded by the fact that in London the values for each of the following elements constituted a record for the month of August, viz., mean pressure, mean temperature, and also mean maximum and mean minimum temperature, total rainfall and number of rainy days, and bright sunshine. The records with which the comparison was made extend back in the case of pressure and temperature to 1871, total rainfall to 1866, number of rainy days to 1871, and bright sunshine to 1881.

**Pressure.**—Mean at 8 a.m. ranged from 30.10 ins. and upwards over the greater part of England and the Channel (excluding the extreme northern and south-western counties) to 30.05 ins. and less in the west of Ireland, the extreme north-west of Scotland and the Shetlands. The general distribution over our islands was quite abnormal, being of a strongly marked anticyclonic type, and the mean values were considerably above the average\* especially in the north of Scotland, where the excess amounted to more than a quarter of an inch. Highest readings occurred over England on the 1st, when the barometer rose to 30.4 ins. and upwards, over nearly the whole country. In Scotland the highest values (30.3 ins. and upwards) were recorded on the 11th, while in Ireland similarly high readings occurred at various times in the month, chiefly on the 1st or 22nd. Lowest readings were registered mostly on the 27th and 30th, when the barometer fell below 29.6 ins. in many parts of Scotland and the north of Ireland and below 29.8 ins. on all but our extreme southern coasts. In the north of Scotland somewhat lower readings (29.4 ins. to 29.5 ins.) were recorded on the 16th. Range was moderate.

**Depressions.**—The depressions observed in our immediate neighbourhood were few in number and of little importance, the chief disturbances being those of the 16th and 17th and of the 30th and 31st. The former—a small but deep disturbance—skirted our extreme northern coasts and afterwards passed across the south of Scandinavia; the latter advanced north-eastwards directly across Scotland, and moved on to the south of Norway, where it dispersed very early in September.

**Anticyclones.**—A large anticyclone which had spread over Europe from the Atlantic at the close of July gradually broke up after the 2nd, a remnant of the main area moving off to the northward of our islands. In this position it remained almost stationary until the 7th, when it again increased in intensity and spread southward over nearly the whole of Europe, the system drifting away towards the eastward after the 14th. A second anticyclone advanced from the Atlantic on the 16th, and also extended over our islands and nearly the whole of the Continent, the system moving away to the eastward on the 23rd and finally settling down over Southern Europe.

**Winds** varied a good deal in direction, but at our western and southern stations the current most strongly represented was that from the Eastward (North-east to South-east). Over England and Ireland there was an almost complete absence of high winds, but in Scotland a strong gale from West and North-west was experienced during the passage of the depression of the 16th and 17th.

**Temperature.**—Mean at sea level ranged from 68° and upwards over inland parts of the south of England, to 58° and less on the north-east coast of Scotland, and to 54° and less in the Shetlands. The general distribution over our islands agreed fairly with the normal, but the mean values were considerably above the average\*, the excess amounting to between 5° and 6° in many parts of England and Ireland, and to more than 7° at Lairg and Clifton. Highest readings occurred in Ireland and the north-eastern parts of Great Britain on the 1st, but in other localities mostly on the 24th or 25th; in Ireland and Scotland the thermometer did not rise much above 80°, but at most of the English stations it exceeded 85°, and in London and at Cambridge and Llandoverly it reached 90°. Lowest readings occurred as a rule between the 9th and 11th, when the thermometer fell to 45° and less over the northern and central parts of the kingdom as a whole, to 35° at Braemar and to 33° at Wick. Range was rather large for the time of year—between 40° and 45° at most of the inland stations, and as many as 46° at Bawtry and 47° at Wick. Vapour Tension ranged from 0.54 in. at Scilly and 0.52 in. and upwards at the English Channel stations generally to 0.44 in. and less over central England, and to 0.40 in. and less on the north-east coasts of Scotland. Relative Humidity varied from 91 per cent. at Shields, and 90 per cent. at Stornoway and Pembroke to 76 per cent. at Liverpool and Jersey.

**Rainfall** was in excess of the average\* at some stations in central and southern Ireland, but very deficient elsewhere, and especially over the more northern and eastern parts of Great Britain, where the total amount was in many cases less than one-fourth of the normal. The largest aggregates reported were 5.4 ins. at Valencia, 4.3 ins. at Parsonstown and 3.8 ins. at Dublin and Belmullet; the smallest being 0.1 in. at Spurn Head, 0.3 in. in London and 0.4 in. at Felixstowe and Jersey. The number of rainy days was generally small; in London there were only 5 such occasions, and at Spurn Head and Cranley only 4. In some places heavy falls were experienced locally during thunderstorms, the largest daily amounts reported being 2.2 ins. at Dublin on the 5th and at Valencia on the 24th, 1.7 in. at Parsonstown on the 7th, and 1.5 in. at Hillington on the 15th.

**Bright Sunshine** was greatly in excess of the average\* in nearly all districts. The percentage of the possible duration exceeded 65 on many parts of our south and south-west coasts, and amounted to as much as 72 at Brighton and Jersey and 74 at Guernsey. The lowest values reported were 24 per cent. at Deerness, 28 per cent. at Newcastle-on-Tyne and 31 per cent. at Glasgow.

\* The averages employed are—Pressure and Temperature for the 25 years, 1871–95; Rainfall for the 30 years, 1866–95; and Bright Sunshine for the 15 years, 1881–95.



TABLE XV.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC

Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,

(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.								TENSION OF VAPOUR.	RELATIVE HUMIDITY.	
				Means of					Absolute Extremes.					
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.			Date.
0. SCOTLAND, N.	Sumburgh Head	Ins. 30°043	+0°276	54°4	49°7	58°0	53°9	+0°8	40	20th	64	21st	Ins. 0°372	88
	Wick	30°061	+2°63	57°7	50°3	63°7	57°0	+2°1	33	19th	80	1st	391	82
	Stornoway	30°026	+2°44	58°7	50°5	67°2	58°9	+4°4	43	9th	75	24th	440	90
1. SCOTLAND, E.	Nairn	30°060	+2°57	59°4	49°5	69°3	59°4	+2°5	42	10th, 29th	86	24th	417	83
	Aberdeen	30°085	+2°66	59°5	51°0	64°1	57°6	+0°9	39	10th	81	1st	393	78
	Leith	30°077	+2°42	60°2	53°4	69°4	61°4	+2°8	45	29th	82	1st	429	83
2. ENGLAND, N.E.	Shields	30°099	+2°41	57°8	53°5	66°1	59°8	+2°0	48	10th	81	1st	439	91
	Spurn Head	30°112	+2°18	61°4	56°4	67°4	61°9	+2°2	52	19th	81	1st	458	85
3. ENGLAND, E.	Yarmouth	30°104	+1°84	63°2	57°1	67°3	62°2	+1°7	50	19th	72	28th	456	79
4. MIDLAND COUNTIES	Loughborough	30°129	+2°06	60°7	52°3	76°3	64°3	+3°1	44	22nd	89	25th	426	81
	Oxford	30°117	+1°73	62°5	54°2	76°9	65°6	+4°5	47	10th	85	24th, 25th	450	80
5. ENGLAND, S.	London	30°117	+1°66	64°3	57°3	79°0	68°2	+5°6	48	22nd	90	25th	466	78
	Dungeness	30°088	+1°43	66°7	60°8	71°8	66°3	+4°3	51	21st	78	15th, 25th	537	83
	Portland Bill	30°098	+1°33	64°2	56°5	70°2	63°4	+2°4	52	10th	74	3rd, 16th	519	86
6. SCOTLAND, W.														
7. ENGLAND, N.W.	Liverpool	30°099	+2°01	61°9	56°3	71°2	63°8	+3°8	50	9th	85	24th	417	76
	Holyhead	30°083	+1°85	63°6	57°0	68°4	62°7	+3°3	53	10th, 11th	76	23rd, 24th	482	82
8. ENGLAND, S.W.	Pembroke	30°077	+1°54	62°8	58°8	69°2	64°0	+4°7	55	28th	78	3rd	516	90
9. IRELAND, N.	Malin Head	30°031	+2°01	60°2	57°1	65°9	61°5	+3°6	53	28th	78	24th	463	89
	Donaghadee	30°086	+2°17	59°3	53°4	66°5	60°0	+2°4	47	16th	78	1st	448	89
	Belmullet	30°044	+1°77	63°3	57°1	68°6	62°9	+4°6	50	16th	78	23rd	470	80
10. IRELAND, S.	Parsonstown	30°070	+1°62	60°6	54°2	72°5	63°4	+4°8	43	10th	82	1st	457	86
	Valencia	30°034	+1°13	65°3	56°4	71°7	64°1	+4°8	48	16th	81	2nd	477	78
	Roche's Point	30°061	+1°40	64°1	58°0	70°0	64°0	+4°2	52	16th	74	18th	501	84
CHANNEL ISLANDS-	Scilly	30°038	+0°80	66°2	61°9	71°0	66°5	+5°6	57	28th	75	21st	540	84
	Jersey	30°118	+1°31	68°1	61°3	75°9	68°6	+5°6	57	19th	85	3rd, 24th	525	76

## BRIGHT SUNSHINE VALUES FOR AUGUST IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	111°0	?	24	?	Hollesley Bay (Suffolk)	268°6	?	60	?
Strathpeffer Spa	195°2	+80°3	42	+17	Sheffield	173°2	?	38	?
Edinburgh	164°7	+19°4	36	+4	Worksop	217°4	+73°4	48	+16
Morpeth (Cockle Park)	189°7	?	42	?	Thurcaston	249°5	+90°7	55	+20
Newcastle-on-Tyne	126°3	?	28	?	Margate	239°6	+55°7	54	+13
Oswaldkirk	175°6	+41°9	39	+10	Eastbourne	287°9	+92°0	65	+21
Lowestoft	240°5	?	54	?	Brighton	319°7	+108°3	72	+24



REPORTING STATIONS in the BRITISH ISLANDS during the Month of AUGUST 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER. No. of Days of								WIND. No. of Observations of										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.			
8'4	Ins. 1'07	Ins. -2'27	Ins. 0'58	16th	10	0	0	1	0	19	3	0	6	6	3	1	3	6	5	1	Sumburgh Head.		
7'4	1'36	-1'32	0'30	16th, 30th	11	0	0	2	3	17	2	1	1	3	1	14	1	2	8	0	Wick.		
7'4	1'18	-2'59	0'40	16th	11	0	0	1	0	14	2	0	0	3	7	4	2	4	4	7	Stornoway.		
6'2	0'65	-2'15	0'14	15th	9	0	0	1	3	12	0	0	0	4	1	0	0	9	1	16	Nairn.		
6'7	0'72	-2'43	0'25	29th	9	0	0	1	0	14	2	0	3	3	7	5	3	7	3	0	Aberdeen.		
6'4	0'56	-2'18	0'25	29th	8	0	0	0	4	12	1	2	6	6	1	1	2	7	1	5	Leith.		
8'3	1'17	-1'69	0'43	27th	10	0	0	1	0	17	0	2	1	3	5	2	7	6	1	4	Shields.		
4'5	0'13	-1'71	0'05	30th	4	0	0	1	9	6	1	3	4	5	3	4	3	4	4	1	Spurn Head.		
3'4	0'55	-1'75	0'25	31st	6	0	0	1	15	1	0	3	8	6	3	1	1	5	4	0	Yarmouth.		
5'2	0'60	-1'90	0'27	28th	7	0	0	3	5	5	1	0	8	3	4	0	4	4	3	5	Loughborough.		
5'4	1'80	-0'52	0'87	15th	6	0	0	3	11	10	0	3	13	1	3	2	2	3	2	2	Oxford.		
4'3	0'30	-2'06	0'12	28th	5	0	0	3	15	9	0	1	6	11	4	1	4	1	3	0	London.		
5'3	0'72	-1'35	0'39	5th	6	0	0	3	2	3	0	5	10	8	2	0	2	2	2	0	Dungeness.		
5'4	1'67	?	0'74	3rd	8	0	0	2	6	6	1	1	5	14	2	0	3	3	3	0	Portland Bill.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
4'7	2'16	-0'71	0'96	28th	13	0	0	2	16	11	0	0	1	10	9	1	3	3	1	3	Liverpool.		
5'6	0'70	-0'28	0'11	31st	14	0	0	3	4	6	0	1	2	6	0	5	4	4	3	6	Holyhead.		
4'6	2'15	-0'73	0'50	27th	10	0	0	1	10	10	0	1	1	8	12	2	1	2	4	0	Pembroke.		
5'9	0'76	?	0'18	17th	11	0	0	3	4	11	1	1	1	5	7	5	6	3	1	2	Malin Head.		
4'5	1'50	-1'77	0'41	29th	13	0	0	2	7	6	0	6	4	2	5	6	2	2	3	1	Donaghadee.		
5'1	3'83	-0'79	0'72	31st	15	0	0	4	11	12	0	0	3	8	4	6	4	4	2	0	Belmullet.		
5'9	4'34	+0'67	1'65	7th	10	0	0	3	7	13	0	3	3	3	6	1	8	2	5	0	Parsonstown.		
5'3	5'36	+0'51	2'22	24th	14	0	0	3	7	8	0	0	4	8	5	2	2	4	1	5	Valencia.		
4'2	2'68	-1'35	0'75	6th	10	0	0	4	0	3	0	6	5	5	4	1	3	3	4	0	Roche's Point.		
5'8	1'64	-0'90	0'48	29th	8	0	0	3	0	4	1	2	1	12	6	2	4	2	2	0	Scilly.		
3'7	0'41	-2'03	0'29	31st	6	0	0	1	9	4	0	0	8	10	0	0	6	4	2	1	Jersey.		

## ADDITION TO THOSE FOUND IN TABLE XVI.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Worthing .. .. .	298'4	?	67	?	Colwyn Bay .. .. .	260'5	?	58	?
Bognor .. .. .	301'3	?	68	?	Aberdovey .. .. .	282'6	?	63	?
Watergate (Emsworth) ..	276'8	?	62	?	Tenby .. .. .	306'0	+ 119'2	69	+ 27
Westbourne (Emsworth) ..	308'6	+ 106'5	70	+ 24	Torquay .. .. .	306'8	+ 105'0	69	+ 23
Ventnor Hospital .. .. .	279'8	?	63	?	Newquay .. .. .	306'5	+ 106'5	69	+ 24
Southport .. .. .	224'6	?	49	?	Guernsey .. .. .	324'8	+ 87'6	74	+ 20
Hoylelake .. .. .	220'4	?	49	?					



TABLE XVI.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of AUGUST 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.					BRIGHT SUNSHINE.			
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	°	°	°	°	°		°		°	Ins.	Ins.	Ins.		262.3	+144.9	56	+31
LAIRG	54.7	70.8	62.8	+7.3	42	19th	83	13th	9	1.20	-1.70	0.27	16th, 25th	—	—	—	—
GLENCARRON	50.6	68.0	59.3	+4.2	42	9th	81	24th	12	2.72	-4.07	0.83	16th	—	—	—	—
FORT AUGUSTUS	51.3	70.3	60.8	+3.8	41	29th	83	24th, 25th	7	0.49	-2.85	0.21	16th	217.4	+142.5	47	+31
FORT WILLIAM	52.9	69.6	61.3	+3.9	44	10th	81	24th	11	1.67	-4.40	0.52	16th	230.8	+144.7	50	+31
ABERDEEN	°	°	°	°	°		°		°	°	°	°		169.3	+18.2	37	+4
BRAEMAR	46.7	68.6	57.7	+3.7	35	10th, 29th	80	23rd	8	1.30	-2.56	0.82	30th	214.7	+101.1	46	+21
OGHTERTYRE	50.9	71.8	61.4	+3.8	41	9th	84	23rd	10	1.65	-2.19	0.55	25th	—	—	—	—
MARCHMONT	51.3	69.3	60.3	+3.8	42	10th	81	1st	7	1.54	-2.01	0.76	28th	191.5	+39.5	42	+9
ALNWICK CASTLE	51.2	68.8	60.0	+2.9	39	10th	83	1st	8	0.89	-2.26	0.38	27th	—	—	—	—
DURHAM	51.6	70.2	60.9	+2.4	43	11th	87	1st	12	1.10	-1.74	0.42	28th	163.3	+17.1	36	+4
SCARBOROUGH	53.7	67.9	60.8	+2.0	46	11th	86	1st	7	1.45	-1.22	0.58	28th	?	?	?	?
YORK	°	°	°	°	°		°		°	°	°	°		—	—	—	—
HILLINGTON	54.2	74.9	64.6	+4.1	46	21st, 22nd	87	15th	8	2.00	-0.73	1.45	15th	275.4	+101.9	61	+22
GELDESTON	52.4	70.9	61.7	+1.0	44	11th	82	15th	7	0.78	-1.26	0.37	31st	249.1	+60.7	56	+14
CAMBRIDGE	53.4	78.1	65.8	+4.3	45	22nd	90	25th	9	0.68	-1.71	0.48	15th	258.4	+77.9	58	+18
FELIXSTOWE	56.3	70.9	63.6	+3.4	48	21st	80	27th	7	0.38	?	0.08	29th, 31st	285.9	?	64	?
ROTHAMSTED	53.1	74.9	64.0	+3.8	43	21st, 22nd	86	25th	11	1.01	-1.58	0.31	31st	258.0	+72.3	58	+16
BAWTRY	51.6	75.5	63.6	+3.8	43	11th	89	1st, 25th	9	0.94	-1.40	0.28	31st	—	—	—	—
STAMFORD (Duddington)	52.4	76.5	64.5	+3.3	44	11th, 22nd	89	25th	8	0.84	-1.40	0.55	15th	—	—	—	—
CHEADLE	53.5	72.9	63.2	+5.3	48	9th	86	25th	10	1.39	-2.13	0.28	31st	—	—	—	—
SHIRLEY (nr. Solihull)	51.6	75.2	63.4	+2.9	45	9th, 11th, 13th	86	25th	9	1.35	?	0.42	15th	—	—	—	—
CHURCHSTOKE	51.6	75.1	63.4	+5.2	42	9th	86	24th	6	1.04	-1.70	0.50	31st	238.8	+74.4	53	+16
HEREFORD (Belmont)	52.2	76.7	64.5	+4.0	45	11th	86	24th	10	0.96	-1.48	0.33	29th	—	—	—	—
CIRENCESTER	53.6	76.2	64.9	+6.0	48	11th	86	25th	10	1.66	-1.42	0.38	30th	262.7	+84.1	59	+19
OXFORD	°	°	°	°	°		°		°	°	°	°		253.5	+70.6	57	+16
LONDON	°	°	°	°	°		°		°	°	°	°		240.7	+73.7	54	+17
CRANLEY	54.6	78.0	66.3	+4.0	45	23rd	86	15th	4	0.62	?	0.48	28th	—	—	—	—
HASTINGS	58.5	73.8	66.2	+4.7	50	21st	83	5th	6	0.84	-1.61	0.29	27th	294.6	+90.9	66	+20
SOUTHAMPTON	57.3	78.3	67.8	+5.6	51	22nd	88	3rd	7	0.58	-2.10	0.27	29th	293.9	+90.9	66	+20
SHAFESBURY	54.7	75.0	64.9	+4.8	48	9th	84	15th	7	2.30	-0.56	1.24	15th	—	—	—	—
LAUDALE	53.6	69.3	61.5	+4.4	45	10th	79	23rd, 24th	12	2.37	-3.09	0.56	29th	—	—	—	—
GLASGOW	53.8	68.6	61.2	+4.1	46	10th	80	24th	9	1.12	-2.93	0.41	29th	143.0	+13.9	31	+3
GLENLEE	49.0	70.9	60.0	+2.9	41	16th	80	2nd, 12th	10	1.16	-3.57	0.37	6th	—	—	—	—
DOUGLAS	52.6	69.1	60.9	+3.7	44	16th	78	13th	12	1.27	-2.58	0.25	30th	236.0	+72.0	52	+16
STONYHURST	54.2	70.3	62.3	+3.8	46	9th	82	2nd	13	2.35	-2.80	0.67	29th	236.2	+93.9	52	+21
BLACKPOOL	53.8	71.0	62.4	+2.9	43	9th	85	24th	11	1.75	-1.63	0.42	31st	215.0	+64.3	47	+14
MANCHESTER (Prestwich)	53.4	72.8	63.1	+4.2	46	9th	87	25th	13	1.51	-2.22	0.33	29th	197.2	?	43	?
LLANDUDNO	58.0	72.1	65.1	+4.9	51	9th	86	24th	14	2.44	-0.23	0.76	28th	252.0	+100.4	56	+22
LLANDOVERY	52.0	79.3	65.7	+6.1	45	20th, 29th	90	24th	9	2.60	-2.09	1.38	7th	—	—	—	—
PEMBROKE	°	°	°	°	°		°		°	°	°	°		284.0	+95.2	64	+22
OLIFTON	58.5	78.1	68.3	+7.6	53	9th	88	24th	7	1.65	-1.82	0.65	29th	—	—	—	—
ARLINGTON	55.7	74.6	65.2	+6.3	49	22nd	82	3rd, 24th	11	3.43	-1.82	0.92	7th	—	—	—	—
CULLOMPTON	53.6	76.8	65.2	+4.7	48	23rd, 31st	84	3rd	10	2.26	-0.64	1.07	3rd	282.5	+104.3	64	+24
FALMOUTH	59.5	69.9	64.7	+4.3	55	28th	75	19th	13	1.80	-1.85	0.47	29th	297.1	+94.4	67	+21
PLYMOUTH	58.8	72.7	65.8	+4.5	52	22nd	78	24th	8	1.23	-1.70	0.48	29th	311.9	+125.1	71	+29
SCILLY	°	°	°	°	°		°		°	°	°	°		303.9	?	69	?
JERSEY	°	°	°	°	°		°		°	°	°	°		314.9	+73.7	72	+17
LONDONERRY	54.0	74.6	64.3	+6.0	45	10th	86	1st	12	1.90	-2.00	0.39	6th	—	—	—	—
EDENFEL (Omagh)	52.5	71.2	61.9	+5.2	43	16th	81	22nd	11	3.32	-0.51	1.09	29th	—	—	—	—
MARKREE CASTLE	52.2	71.7	62.0	+4.8	40	10th	80	1st	15	2.92	-1.18	0.68	29th	207.2	+84.7	46	+19
ARMAGH	53.1	70.8	62.0	+4.1	44	9th, 10th	82	1st	14	2.06	-1.15	0.60	29th	235.4	+120.8	52	+27
DUBLIN	56.4	70.4	63.4	+3.9	49	10th	78	24th	10	3.78	+0.84	2.23	5th	251.9	+97.0	56	+22
PARSONSTOWN	°	°	°	°	°		°		°	°	°	°		236.4	+105.4	53	+24
KILKENNY CASTLE	52.4	72.7	62.6	+3.1	41	10th	81	1st	13	1.46	-2.02	0.34	26th	—	—	—	—
VALENCIA (Cahiriveen)	°	°	°	°	°		°		°	°	°	°		270.1	+124.1	61	+28
KILLARNEY	53.9	73.7	63.8	+4.4	44	16th	82	1st	10	2.33	?	0.41	24th	—	—	—	—
FOYNES	55.3	72.5	63.9	+5.2	51	12th, 16th, 23rd	82	2nd	13	3.10	?	0.80	8th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table XV.

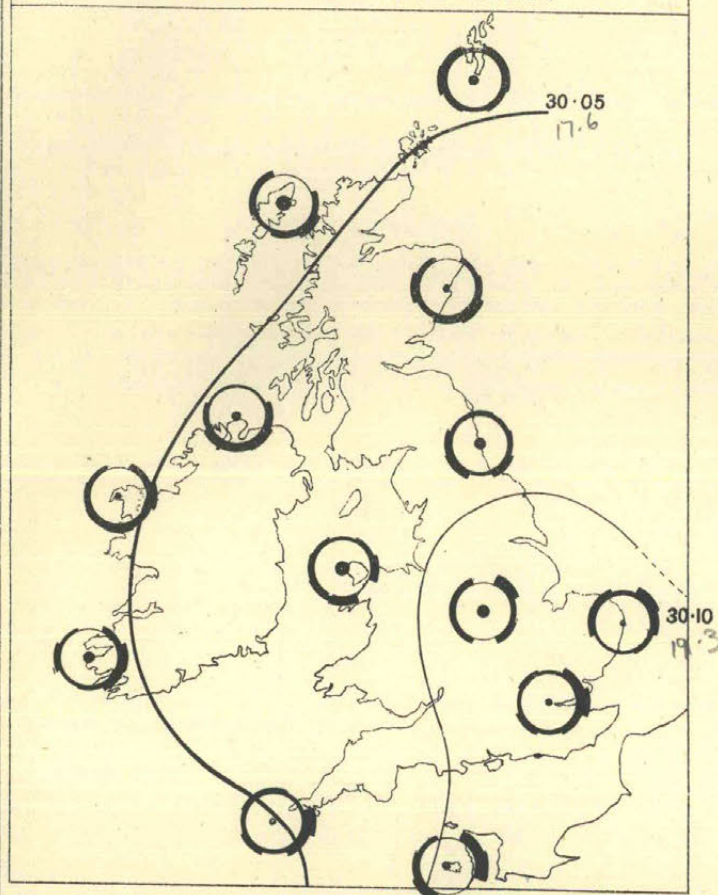


# MONTHLY WEATHER CHART AUGUST 1899.

Monthly Summary.

Plate VIII.

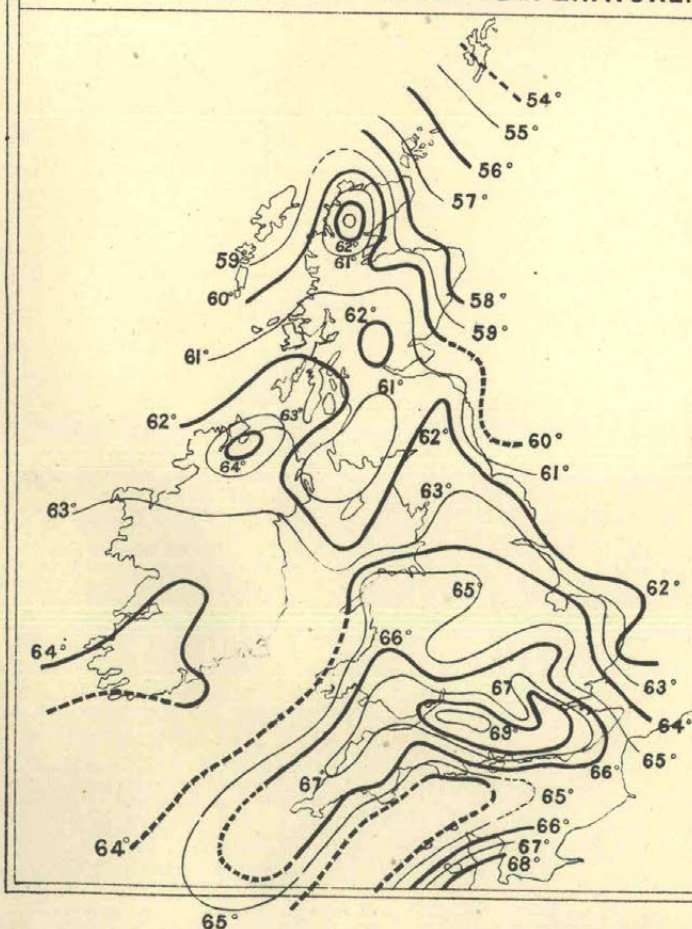
## 1. BAROMETER AND WIND.



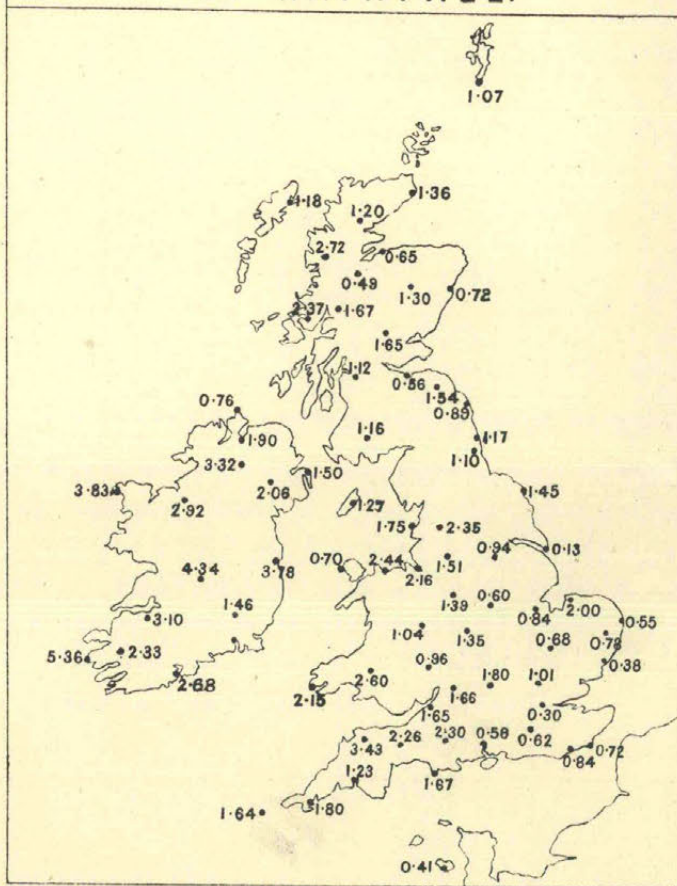
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.









# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## SEPTEMBER 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & CO., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & CO., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—The weather of September was very unsettled, especially during the closing week, when thunderstorms and heavy rains occurred in nearly all districts. On the 6th and 7th similar weather was experienced over the south and east of England, a torrential fall of rain being experienced in London during a short but sharp thunderstorm which occurred on the former date. Pressure was low; temperature was below the average in the north and north-west, but above it elsewhere; the winds were chiefly Westerly, with frequent gales on the more exposed parts of our north and north-west coasts; rainfall was in excess of the average at all but our south-western and a few of our southern stations; bright sunshine was rather deficient in Ireland, but considerably above the normal in nearly all parts of Great Britain.

**Pressure.**—*Mean at 8 a.m.* ranged from 29.95 ins. and upwards in the south-west of Ireland and the Channel Islands, and from 29.90 ins. and upwards over the south-western parts of the Kingdom generally to 29.6 ins. and less in the extreme north of Scotland. The values were in all cases below the average,\* the amount of deficit being very small in the south-west, but large (0.20 in. or more) in the extreme north and north-east of Scotland. The gradient over our islands was consequently much steeper than usual, the difference between the mean readings at our extreme northern and extreme southern stations being nearly twice as great as that shown by the average values. *Highest* readings were reported between the 9th and 11th, when the barometer rose to 30.3 ins. and upwards in the west and south of Ireland, to 30.2 ins. and upwards over our western and southern districts generally, and to 30.1 ins. and upwards on our north and east coasts. *Lowest* readings occurred in the north on the 26th, the barometer falling below 28.8 ins. in Caithness and below 29.0 ins. over Scotland generally. Over the central and southern parts of the kingdom the lowest readings (29.2 ins. to 29.4 ins.) were recorded on the 30th. *Range* was moderate generally, but rather large in the extreme north.

**Depressions.**—These were very numerous, the centres passing, in the majority of cases, along our extreme northern coasts, and thence on to Scandinavia and Denmark. A striking feature in connection with these systems was the very strong tendency they evinced to disperse on reaching the neighbourhood of the Baltic. On the 30th of the month a well-marked depression was developed over England near the Welsh border, the centre moving, firstly, in a southerly direction to the mouth of the Channel and, afterwards, in a north-easterly direction across England and the North Sea.

**Anticyclones.**—The only anticyclone observed in the immediate neighbourhood of our islands spread in from the Atlantic on the 8th, its central area remaining almost stationary off our extreme west and south coasts until the 12th, when it extended temporarily over nearly the whole of Ireland and England. After the 14th the entire system moved away, first to the south-westward and afterwards to the southward.

**Winds** were chiefly from the Westward, the tendency being to draw into South-west in the north, but into North-west in the south. On the more exposed parts of our north-west, north and east coasts gales were rather numerous, the number of days affected being as large as 11 at Holyhead and Malin Head, and 10 at Liverpool, as well as at Portland Bill.

**Temperature.**—*Mean at sea level* ranged from 62° and upwards at Jersey, and 60° and upwards at all the English Channel stations west of Southampton, to 54° and less in inland parts of the north of Ireland, to 52° and less on the north coasts of Scotland, and to 50° and less in the Shetlands. The general distribution agreed very fairly with the normal, but as the actual mean values were below the average,\* in the north and north-west, and above it elsewhere, the thermal gradient over our islands was somewhat steeper than usual. *Highest* readings occurred mostly on the 4th or 5th, when the thermometer rose to between 80° and 85° at many of the English stations, to 88° at Hillington and Cambridge, and to 89° in London. In Ireland and Scotland it did not rise much above 70°. *Lowest* readings were registered very generally on the 28th or 29th, but in many parts of Ireland and the south-west of England on the 30th; on one or other of these dates the thermometer in the screen fell slightly below 32° at many of our northern and central stations, the lowest reading reported being 29° at Markree Castle and Parsonstown. *Range* was generally large, especially in the east and south-east of England, where it amounted, in many places, to over 50°; at Stamford and Gledston it was no less than 55°. *Vapour Tension* ranged from between 0.40 in. and 0.45 in. over the English and Bristol channels, to 0.34 in. and less over the whole of Scotland, and to 0.31 in. at Sumburgh Head and Aberdeen. *Relative Humidity* varied from 91 per cent. at Shields and 90 per cent. at Portland Bill, to 78 per cent. in London and at Aberdeen, and to 77 per cent. at Jersey.

**Rainfall.**—This varied considerably in amount in different localities. Over all the more northern and eastern parts of the kingdom it was, as a rule, in excess of the average\*, and in the north of Scotland the excess was large. At the south-western and many of the southern stations, however, there was a deficit, especially marked about the mouth of the St. George's Channel. The largest amounts reported were 16.1 ins. at Glencarron, 9.1 ins. at Stonyhurst, and 8.9 ins. at Laudale; the smallest being 0.8 in. at Roche's Point, 1.4 in. at Pembroke, and 1.7 in. at Felixstowe. Falls exceeding an inch in 24 hours were recorded in many places, the more general of these occurring:—(1) on the 6th and 7th over all the more southern and eastern parts of England; (2) on the 29th and again in the same locality, and (3) on the 30th in Scotland. In London (at Brixton) during a smart thunderstorm on the 6th, an inch of rain was collected in the space of half-an-hour.

**Bright Sunshine.**—Over the country generally the amount of bright sunshine was in excess of the average,\* a slight deficiency being shown, however, in Ireland, and at some stations in the north of Scotland. The percentage of the possible duration ranged from 50 and upwards on several parts of our south and east coasts to 25 at Braemar, 24 at Strathpeffer Spa, 22 at Fort Augustus, and 19 at Fort William.

\* The averages employed are—*Pressure and Temperature* for the 25 years 1871–95; *Rainfall* for the 30 years 1866–95; and *Bright Sunshine* for the 15 years 1881–95.



TABLE XVII.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC  
Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,  
(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29° 569	Ins. -0° 224	49° 1	44° 6	54° 0	49° 3	- 0° 3	36	29th	61	5th	Ins. 0° 309	89	
	Wick	29° 610	- 221	52° 3	44° 8	57° 2	51° 0	- 0° 8	35	28th	67	4th	334	85	
	Stornoway	29° 628	- 186	51° 3	44° 8	57° 1	51° 0	- 0° 2	35	24th	65	1st	329	87	
1. SCOTLAND, E.	Nairn	29° 648	- 195	51° 2	44° 5	59° 2	51° 9	- 1° 0	31	30th	72	4th	323	86	
	Aberdeen	29° 663	- 200	52° 7	45° 5	58° 9	52° 2	- 0° 8	38	28th, 29th	68	4th, 6th	310	78	
	Leith	29° 704	- 183	53° 6	47° 3	61° 8	54° 6	- 0° 2	38	28th	73	4th	327	79	
2. ENGLAND, N.E.	Shields	29° 738	- 172	52° 5	47° 2	61° 8	54° 5	+ 0° 3	37	30th	74	4th, 5th	357	91	
	Spurn Head	29° 774	- 173	55° 1	51° 2	62° 1	56° 7	+ 0° 1	45	20th, 28th, 29th	79	5th	356	82	
3. ENGLAND, E.	Yarmouth	29° 803	- 156	56° 3	50° 0	61° 7	55° 9	- 0° 9	40	28th, 29th	72	3rd, 5th	371	81	
4. MIDLAND COUNTIES	Loughborough	29° 845	- 126	52° 7	48° 2	65° 4	56° 8	+ 0° 3	33	29th	82	5th	329	83	
	Oxford	29° 879	- 106	54° 7	50° 2	65° 7	58° 0	+ 1° 4	39	28th	85	5th	347	82	
5. ENGLAND, S.	London	29° 881	- 110	55° 9	49° 8	68° 1	59° 0	+ 0° 9	37	29th	89	5th	349	78	
	Dungeness	29° 874	- 107	58° 4	52° 2	66° 6	59° 4	+ 0° 9	39	29th	78	7th	412	84	
	Portland Bill	29° 917	- 086	59° 3	54° 4	64° 7	59° 6	+ 1° 6	45	30th	74	7th	451	90	
6. SCOTLAND, W.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7. ENGLAND, N.W.	Liverpool	29° 818	- 129	55° 2	51° 2	60° 6	55° 9	- 0° 3	40	29th	75	4th	357	82	
	Holyhead	29° 846	- 095	56° 0	51° 5	60° 4	56° 0	- 0° 7	44	29th, 30th	69	5th	370	82	
8. ENGLAND, S.W.	Pembroke	29° 900	- 062	58° 0	54° 1	61° 8	58° 0	- 1° 3	45	24th, 29th	69	7th, 10th	407	84	
9. IRELAND, N.	Malin Head	29° 736	- 133	53° 9	50° 8	58° 3	54° 6	- 0° 2	40	29th	70	4th	364	88	
	Donaghadee	29° 793	- 123	52° 8	47° 7	60° 7	54° 2	- 0° 5	36	29th	72	7th	353	88	
	Belmullet	29° 858	- 046	56° 8	51° 2	59° 6	55° 4	- 0° 2	39	28th	69	4th	383	87	
10. IRELAND, S.	Parsonstown	29° 895	- 053	52° 4	47° 9	61° 6	54° 8	+ 0° 3	29	30th	71	3rd, 4th	350	89	
	Valencia	29° 951	- 010	57° 8	52° 9	61° 8	57° 4	+ 0° 8	35	30th	69	6th	387	81	
	Roche's Point	29° 940	- 023	56° 7	52° 0	62° 9	57° 5	+ 1° 1	40	30th	69	10th	387	84	
CHANNEL ISLANDS	Scilly	29° 949	- 033	61° 2	56° 7	65° 4	61° 1	+ 2° 7	48	30th	73	4th, 5th	443	82	
	Jersey	29° 956	- 047	61° 2	57° 1	67° 2	62° 2	+ 1° 8	47	30th	79	5th	411	77	

## BRIGHT SUNSHINE VALUES FOR SEPTEMBER

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	114° 7	?	30	?	Hollesley Bay (Suffolk) ..	197° 7	?	53	?
Strathpeffer Spa .. ..	92° 3	- 27° 8	24	- 8	Sheffield .. ..	125° 8	?	34	?
Edinburgh .. ..	103° 6	- 0° 8	28	0	Workshop .. ..	120° 2	+ 1° 3	32	0
Morpeth (Cockle Park) ..	149° 2	?	40	?	Thurcaston .. ..	139° 2	+ 18° 3	37	+ 5
Newcastle-on-Tyne .. ..	128° 5	?	34	?	Margate .. ..	164° 1	+ 21° 2	44	+ 6
Oswaldkirk .. ..	135° 8	+ 20° 2	36	+ 5	Eastbourne .. ..	185° 9	+ 23° 0	50	+ 6
Lowestoft .. ..	168° 8	?	45	?	Brighton .. ..	199° 8	+ 37° 6	53	+ 10



## SUMMARY OF OBSERVATIONS, SEPTEMBER 1899.

XXXV

REPORTING STATIONS in the BRITISH ISLANDS during the Month of SEPTEMBER, 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER. No. of Days of							WIND. No. of Observations of										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.		
7.5	Ins. 4.59	Ins. +1.21	Ins. 0.82	15th	25	0	0	0	0	12	0	4	6	1	0	2	4	5	5	3	Sumburgh Head.	
7.9	5.32	+2.81	0.66	10th	27	0	1	1	0	17	1	1	0	0	2	7	4	0	13	3	Wick.	
8.1	8.45	+4.36	0.80	26th	29	0	0	0	1	18	4	3	0	1	1	1	4	7	11	2	Stornoway.	
7.3	3.92	+1.44	0.48	22nd	26	0	0	1	1	13	0	1	0	0	1	0	1	19	0	8	Nairn.	
6.7	3.65	+0.76	0.60	1st	27	0	1	2	0	8	6	0	0	1	1	2	11	10	5	0	Aberdeen.	
7.6	2.96	+0.77	0.98	30th	20	0	0	0	2	15	2	0	0	1	0	0	14	13	2	0	Leith.	
6.8	2.37	+0.07	0.54	21st	19	0	0	0	2	12	1	1	1	0	0	2	15	9	2	0	Shields.	
4.9	2.22	+0.39	0.60	29th	16	0	0	2	5	6	8	4	0	0	1	2	5	11	7	0	Spurn Head.	
4.4	2.92	+0.28	1.22	29th	19	0	0	2	9	2	4	1	1	2	1	2	4	13	5	1	Yarmouth.	
5.5	2.69	+0.19	0.80	29th	20	0	0	2	4	7	8	0	1	3	6	0	3	12	5	0	Loughborough.	
6.5	2.28	-0.15	0.52	29th	18	0	0	4	8	14	0	3	0	1	1	4	10	7	3	1	Oxford.	
5.7	3.43	+1.26	1.01	6th	16	0	0	4	10	10	1	3	0	0	0	3	4	7	10	3	London.	
5.7	2.93	+0.40	0.58	29th	17	0	0	3	1	2	2	4	0	0	1	1	2	11	10	1	Dungeness.	
6.7	2.32	?	0.94	5th	12	0	1	1	2	10	10	10	1	1	2	2	1	3	10	0	Portland Bill.	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6.9	3.46	+0.29	0.53	29th	24	0	1	1	6	13	10	0	1	0	2	2	9	11	3	2	Liverpool.	
7.1	2.71	-0.39	0.70	21st	19	0	0	0	1	8	11	3	3	0	0	0	8	12	4	0	Holyhead.	
6.3	1.44	-1.88	0.33	29th	18	0	0	0	2	12	7	4	3	2	1	1	0	8	10	1	Pembroke.	
7.4	5.04	?	0.53	17th	27	0	1	2	0	13	11	2	1	0	0	4	7	7	9	0	Malin Head.	
7.7	2.93	-0.19	0.86	21st	26	0	1	0	1	13	5	1	2	0	1	3	6	11	6	0	Donaghadee.	
6.6	3.62	-0.84	0.90	21st	30	0	0	0	4	11	5	4	1	1	0	1	5	7	11	0	Belmullet.	
7.8	2.26	-0.66	0.55	21st	21	0	0	0	3	21	0	3	0	0	7	3	4	9	4	0	Parsonstown.	
7.8	3.33	-1.05	0.72	1st	24	0	1	0	0	15	4	1	1	1	1	3	4	7	5	7	Valencia.	
5.3	0.75	-2.99	0.16	21st	13	0	0	1	1	3	0	7	2	0	0	1	3	7	10	0	Roche's Point.	
7.2	2.11	-1.17	0.41	26th	16	0	0	1	0	5	6	2	2	2	1	1	4	10	8	0	Scilly.	
6.5	3.28	+0.32	0.76	29th	16	0	1	2	2	9	3	2	1	1	0	1	5	14	6	0	Jersey.	

## IN ADDITION TO THOSE FOUND IN TABLE XVIII.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Worthing .. .. .	200.3	?	54	?	Rhyl .. .. .	144.0	?	39	?
Bognor .. .. .	202.3	?	54	?	Colwyn Bay .. .. .	131.3	?	35	?
Watergate (Emsworth) .. .. .	169.1	?	45	?	Aberdovey .. .. .	140.8	?	38	?
Westbourne (Emsworth) .. .. .	192.8	+35.1	52	+10	Tenby .. .. .	152.1	0.0	41	0
Ventnor Hospital .. .. .	181.7	?	49	?	Torquay .. .. .	185.6	+26.5	50	+7
Southport .. .. .	136.1	?	36	?	Newquay .. .. .	148.0	4.5	40	-1
Hoylake .. .. .	124.6	?	33	?	Guernsey .. .. .	179.1	+5.0	48	+1



TABLE XVIII.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of SEPTEMBER, 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.					BRIGHT SUNSHINE.			
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY -	0	0	0	0	0	0	0	0	0	Ins.	Ins.	Ins.	0	120.1	+16.8	32	+5
LAIRG -	46.4	60.6	53.5	+2.3	35	29th	72	7th	28	5.40	+2.38	0.61	17th	—	—	—	—
GLENCARRON -	44.9	55.6	50.3	-1.0	35	30th	66	4th	30	16.08	+8.83	2.00	27th	—	—	—	—
FORT AUGUSTUS -	44.9	58.2	51.6	-1.8	31	28th	70	4th	26	6.44	+2.53	0.84	15th	83.4	+8.7	22	+2
FORT WILLIAM -	46.9	57.3	52.1	-1.6	34	28th	65	4th	28	8.73	+1.75	1.11	15th	73.3	-22.7	19	-6
ABERDEEN -	0	0	0	0	0	0	0	0	0	0	0	0	0	124.9	+0.7	23	0
BRAEMAR -	41.8	54.6	48.2	-1.6	33	29th	65	11th	25	4.92	+1.59	1.91	30th	94.5	-12.8	35	-3
OCHTERTYRE -	43.9	61.6	52.8	-0.5	31	27th	73	11th	20	4.68	+1.32	1.06	30th	—	—	—	—
MARCHMONT -	44.6	59.4	52.0	-0.5	35	29th	71	7th	18	3.34	+0.19	1.23	30th	124.8	+11.9	33	+3
ALNWICK CASTLE -	46.6	61.9	54.3	+1.1	30	29th	76	4th	17	3.15	+0.38	0.68	30th	—	—	—	—
DURHAM -	46.2	62.9	54.6	+0.5	31	29th	77	5th	19	2.40	+0.10	0.87	29th	139.6	+23.5	37	+
SCARBOROUGH -	46.8	62.0	54.4	-0.7	40	26th, 29th	79	5th	16	3.39	+0.81	1.35	29th	—	—	—	—
HILLINGTON -	50.6	64.4	57.5	+1.5	35	29th	88	5th	18	4.39	+1.86	0.96	29th	159.9	+26.9	43	+7
GELDESTON -	48.3	65.1	56.7	-0.1	32	29th	87	5th	18	3.13	+0.75	1.47	29th	170.9	+15.2	46	+4
CAMBRIDGE -	49.1	67.2	58.2	+1.2	34	29th	88	5th	14	2.02	-0.11	0.72	29th	172.0	+27.8	46	+7
FELIXSTOWE -	51.1	65.2	58.2	+0.9	40	29th	76	6th	15	1.71	?	0.77	29th	192.1	?	51	?
ROTHAMSTED -	48.7	64.5	56.6	+0.9	31	29th	84	5th	17	2.32	-0.23	0.91	29th	172.1	+31.2	46	+8
BAWTRY -	47.0	63.6	55.3	-0.1	31	29th	81	5th	17	2.17	-0.05	0.56	29th	—	—	—	—
STAMFORD (Ketton) -	47.7	65.1	56.4	0.0	31	29th	86	5th	16	4.06	+1.33	1.09	7th	—	—	—	—
CHEADLE -	47.5	60.8	54.2	+0.1	37	28th, 29th	77	5th	18	4.14	+1.06	0.63	6th	—	—	—	—
SHIRLEY (nr. Solihull) -	48.2	63.5	55.9	+0.3	36	28th, 29th	80	5th	21	3.10	?	0.85	6th	—	—	—	—
CHURCHSTOKE -	47.6	63.2	55.4	+1.3	37	28th	82	5th	20	4.22	+1.58	1.85	6th	154.3	+22.8	41	+6
HEREFORD (Belmont) -	48.5	65.3	56.9	+1.0	36	28th	84	5th	17	2.98	+0.39	1.04	6th	—	—	—	—
CIRENCESTER -	47.7	64.6	56.2	+1.2	34	28th, 29th	82	5th	17	2.59	-0.38	1.14	7th	177.8	+47.9	48	+13
OXFORD -	0	0	0	0	0	0	0	0	0	0	0	0	0	172.1	+31.1	46	+8
LONDON -	0	0	0	0	0	0	0	0	0	0	0	0	0	149.7	+27.3	40	+7
CRANLEY -	49.7	67.6	58.7	+1.0	39	28th	84	5th	13	3.49	?	1.32	29th	—	—	—	—
HASTINGS -	51.1	65.4	58.3	+0.1	42	23rd	79	5th	15	4.56	+1.86	1.06	29th	191.6	+28.2	51	+7
SOUTHAMPTON -	51.1	68.6	59.9	+1.8	38	29th	86	5th	18	3.17	+0.36	1.12	6th	182.0	+27.0	49	+8
SHAFESBURY -	49.3	65.0	57.2	+1.4	38	28th	82	5th	20	3.13	-0.16	0.70	5th	—	—	—	—
LAUDALE -	47.3	57.9	52.6	-0.9	35	28th	65	2nd, 12th	30	8.86	+2.03	1.03	15th	—	—	—	—
GLASGOW -	46.9	58.2	52.6	-0.5	36	28th	68	4th	25	4.26	+0.53	0.55	30th	110.2	+9.9	29	+2
GLENLEE -	43.6	59.8	51.7	-1.6	30	28th	71	7th	25	5.73	+0.92	0.99	26th	—	—	—	—
DOUGLAS -	48.5	61.2	54.9	+0.8	36	28th, 29th	70	7th	20	3.33	-0.26	0.94	21st	140.4	-3.9	38	-1
STONYHURST -	47.4	59.5	53.5	-1.1	34	28th	72	4th	23	9.11	+4.27	1.47	15th	125.9	-0.3	34	0
BLACKPOOL -	50.2	61.7	56.0	+0.6	36	28th	75	4th	20	3.57	-0.05	0.87	21st	123.4	+1.1	33	0
MANCHESTER (Prestwich) -	47.3	61.2	54.3	-0.6	35	29th	76	5th	25	5.89	+2.08	0.93	15th	105.9	?	28	?
LLANDUDNO -	52.8	62.2	57.5	+0.6	43	29th	76	4th	21	3.90	+0.91	0.79	29th	124.2	+5.0	33	+1
LLANDOVERY -	47.2	65.8	56.5	+1.2	32	29th	81	5th	22	3.14	-1.32	0.93	30th	—	—	—	—
PEMBROKE -	0	0	0	0	0	0	0	0	0	0	0	0	0	146.0	-0.5	39	0
CLIFTON -	53.2	65.4	59.3	+2.8	42	28th	80	5th	14	3.93	+0.62	0.54	29th	—	—	—	—
ARLINGTON -	50.2	63.6	56.9	+1.4	40	28th, 29th	80	5th	23	5.16	+0.52	1.18	26th	—	—	—	—
CULLOMPTON -	50.0	67.3	58.7	+1.5	36	29th	84	5th	19	2.30	-0.92	0.54	30th	161.9	+21.9	43	+6
FALMOUTH -	54.5	64.7	59.6	+2.3	44	30th	72	7th	18	3.45	-0.84	1.28	29th	183.1	+28.4	49	+8
PLYMOUTH -	53.6	65.5	59.6	+1.9	42	23rd	74	7th	17	1.75	-1.76	0.35	15th	168.6	+16.6	45	+4
SCILLY -	0	0	0	0	0	0	0	0	0	0	0	0	0	182.3	?	49	?
JERSEY -	0	0	0	0	0	0	0	0	0	0	0	0	0	180.6	-2.8	49	0
LONDONDERRY -	47.1	61.1	54.1	-0.4	35	29th	74	4th, 7th	27	4.30	+0.69	0.51	26th	—	—	—	—
EDENFEL (Omagh) -	46.4	59.0	52.7	-0.1	34	28th	69	3rd	24	4.84	+1.42	0.82	21st	—	—	—	—
MARKREE CASTLE -	46.2	60.9	53.6	+0.1	29	30th	72	4th	27	5.00	+1.17	0.82	21st	99.2	-3.9	27	-1
ARMAGH -	46.9	61.1	54.0	+0.2	33	30th	71	3rd	23	3.70	+0.93	0.76	21st	117.3	+3.8	31	+1
DUBLIN -	50.1	62.2	56.2	+0.6	39	28th, 30th	72	3rd, 4th	21	2.75	+0.58	1.04	30th	67.2	-11.1	34	-3
PARSONSTOWN -	0	0	0	0	0	0	0	0	0	0	0	0	0	118.4	-6.3	32	-1
KILKENNY CASTLE -	47.8	62.8	55.3	+0.1	33	21st	72	3rd, 7th	17	1.75	-1.00	0.34	1st	—	—	—	—
VALENCIA (Cahiriveen) -	0	0	0	0	0	0	0	0	0	0	0	0	0	108.7	-21.7	29	-6
KILLARNEY -	†	†	†	†	†	†	†	†	15	3.16	?	0.65	22nd	—	—	—	—
FOYNES -	50.2	61.6	55.9	+0.7	37	30th	73	4th	24	3.18	?	0.61	26th	—	—	—	—

\* For this information and additional Reports of Bright Sunshine see Table XVII.

† Observations incomplete.

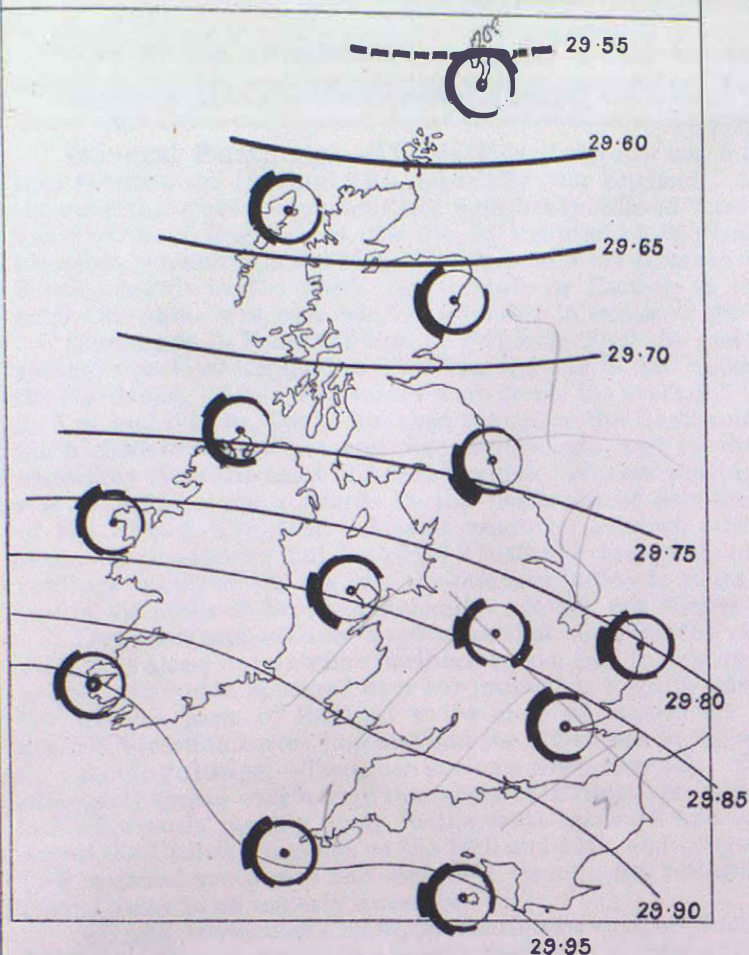


# MONTHLY WEATHER CHART SEPTEMBER 1899.

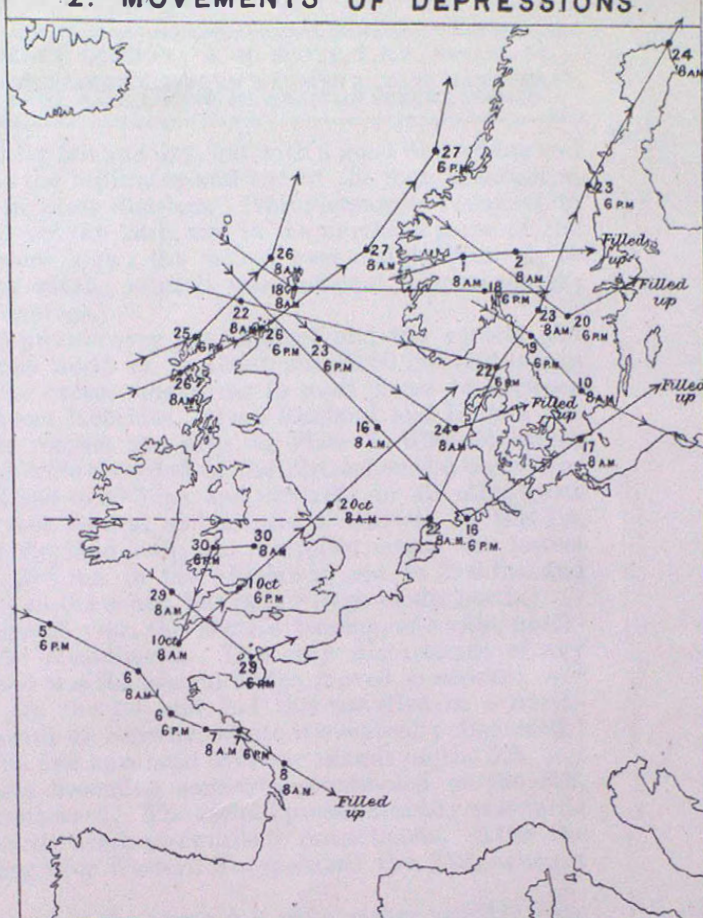
Monthly Summary.

Plate IX.

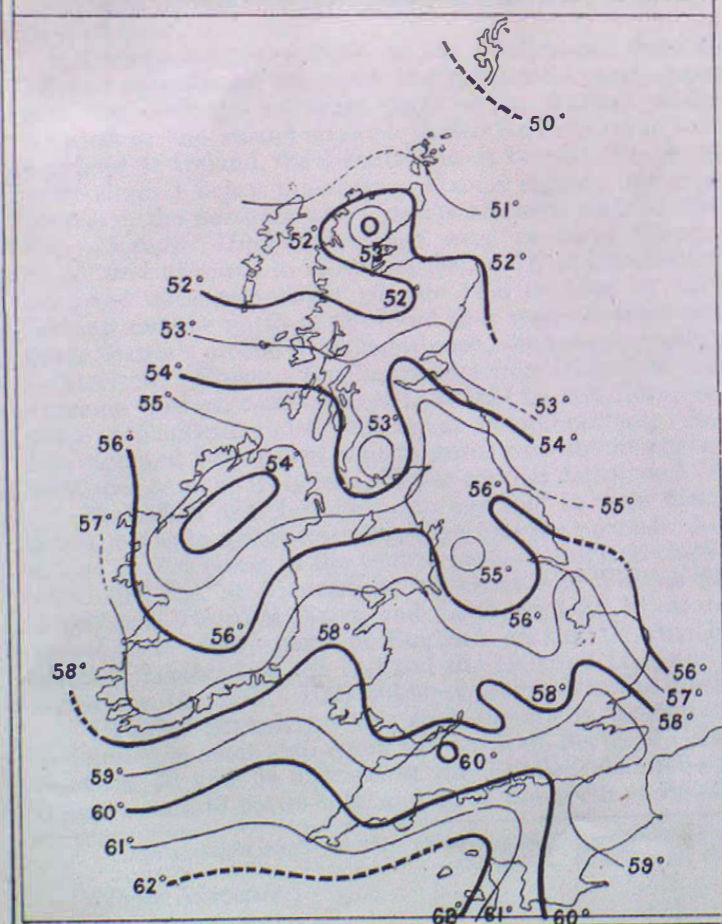
## 1. BAROMETER AND WIND.



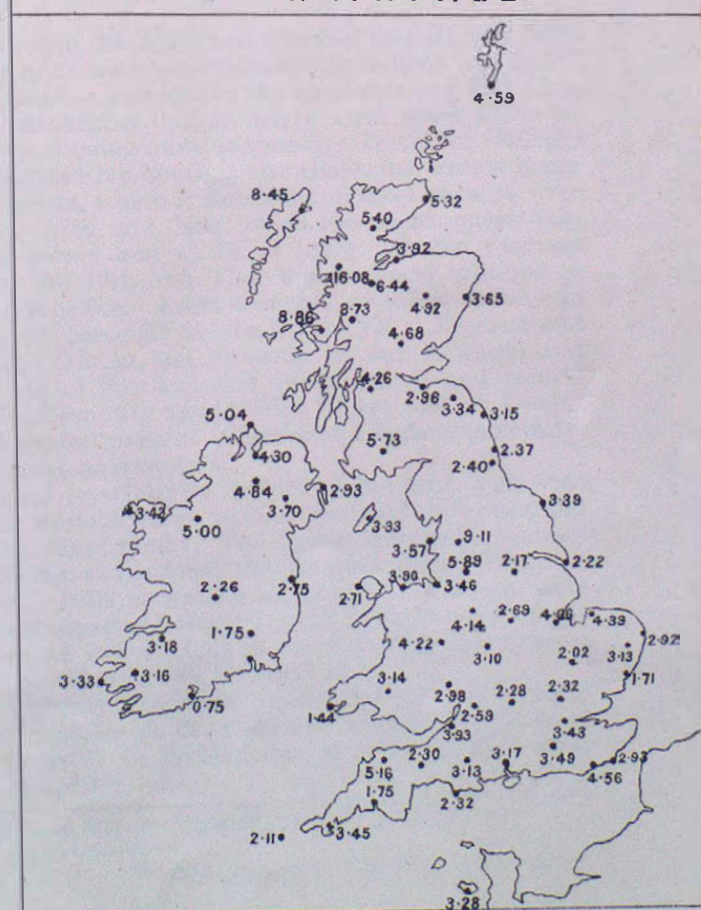
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.









# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## OCTOBER 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—The weather of October was mostly fair and dry, but with a good deal of fog and mist between the 18th and 24th, especially over England. At the beginning and end of the month, however, the conditions were very unsettled, with heavy falls of rain in most districts. Thunderstorms occurred in many parts of England on the 1st, in the west of Scotland on the 28th, and in the northern parts of the kingdom generally on the 30th. Pressure and temperature were high; the winds were mainly Westerly or South-westerly in the north, but variable or Easterly in the south; rainfall was deficient in most places; bright sunshine was, as a rule, considerably in excess of the average.

**Pressure.**—*Mean at 8 a.m.* ranged from 30·05 ins. and upwards over the Channel and the central and southern parts of England to 29·85 ins. and less in the extreme north of Scotland, and 29·80 ins. and less in the Shetlands. The mean values were above the average,\* the excess amounting in most places to between 0·15 in. and 0·18 in., but to less than 0·10 in. in the Shetlands and Hebrides. Over England and Ireland the mean distribution of pressure was anticyclonic, and in this respect the map on Plate X. differed rather materially from the chart of normal values. *Highest* readings were recorded on the 21st, when the barometer rose to 30·5 ins. and upwards in the north-east of Scotland and to 30·3 ins. and upwards in all other parts of the United Kingdom. *Lowest* readings occurred over our central and southern districts on the 1st, when the barometer fell below 29·2 ins. over the whole of England. On our northern coasts the lowest readings occurred on the 3rd, the mercury falling to about 28·8 ins. in the Shetlands, and to 29·0 ins. and less in the north of Scotland generally. *Range* was moderate in the south, but rather large in the north.

**Depressions.**—These were somewhat rare for the time of year, the centres passing, as a rule, north-eastwards along our extreme northern coasts, and thence on to Scandinavia. The only disturbance of any importance which appeared over our immediate neighbourhood was the system which moved southward over the western parts of England at the close of September. On the 1st and 2nd this travelled in a north-easterly direction across England and the North Sea to the south of Norway, where it eventually dispersed.

**Anticyclones.**—Two such systems were observed. The first advanced over our islands on the 5th, and ultimately spread over nearly the whole of Europe, the system becoming somewhat contracted on the 8th, and afterwards moving away to the south-eastward and southward. The second passed steadily eastwards across the United Kingdom on the 14th and 15th, and afterwards north-eastwards to Scandinavia. After the 17th it spread southward and westward, its influence remaining over Western Europe until the 24th, when it moved away in an easterly direction.

**Winds** were chiefly from the South-westward or Westward in the north, but were rather variable over England. On our south-west coasts there was a large proportion of wind from the Eastward (North-east to South-east). Gales were experienced in most places at the beginning and end of the month, and again on some parts of our northern coasts on the 13th and 14th. They were, however, of no great severity for the time of year.

**Temperature.**—*Mean at sea level* ranged from about 56° in the Scilly and Channel Islands, and from 52° and upwards on our south and south-west coasts generally to 49° and less over central Ireland, and to 48° and less over the northern parts of the English midland counties, and also in the Shetlands and Hebrides. At most of the inland stations in Scotland the mean values were higher than in the central parts either of England or Ireland, the distribution of temperature in this respect being quite abnormal. The mean readings were slightly below the average at some stations in Central England but above it elsewhere, the excess being largest in the northern and extreme southern parts of the Kingdom, where it amounted in most cases to over two degrees. *Highest* readings were recorded between the 17th and 19th, when the thermometer rose to 65° and upwards in most districts, to 71° at Llandudno and Jersey and to 76° at Lairg. *Lowest* readings occurred as a rule either on the 14th or 15th or between the 19th and 21st, but at many stations in Ireland and the north of Scotland they were observed on the 5th or 6th. Frost occurred at most stations in these districts on the dates mentioned, the lowest readings of all being 23° at Glenlee and 25° at Braemar and Ochertyre. *Vapour Tension* ranged from 0·38 in. at Scilly and 0·32 in. and upwards on our southern and extreme western coasts generally to 0·27 in. and less over the east of Scotland and the northern and central parts of England, and to 0·25 in. at Loughborough. *Relative Humidity* varied from 94 per cent. at Loughborough and 90 per cent. and upwards over the northern and central parts of England and Ireland generally, to 83 per cent. at Holyhead, 79 per cent. at Jersey and 78 per cent. at Aberdeen.

**Rainfall** was less than the average\* in most districts, and especially in the east of Scotland, where the amount was in many cases less than half the normal. At some stations in the west of Scotland, however, and at one or two places in the central parts of England there was a slight excess. The largest aggregates reported were 10·8 ins. at Glencarron, 9·2 ins. at Fort William and 6·5 ins. at Laudale; the smallest being 0·8 in. at Aberdeen, 0·9 in. at Nairn and Leith, and 1·1 in. at Jersey. Falls exceeding an inch in 24 hours were recorded in many parts of England on the 1st (the heaviest reported being 1·7 in. at Rothamsted), in the west of Scotland on the 2nd and the 10th and 11th, and at one or two stations in the western parts of Great Britain on the 29th. Hail and sleet occurred in the north of Scotland on the 11th and 12th.

**Bright Sunshine** was considerably in excess of the average\* in most places, but showed a slight deficiency at some stations in the north of Scotland. The percentage of the possible duration ranged from between 50 and 54 at most of the English channel stations to 27 in London and at Edinburgh, to 23 at Glasgow, and to between 22 and 25 in the north of Scotland generally.

\* The averages employed are—*Pressure* and *Temperature* for the 25 years, 1871–95; *Rainfall* for the 30 years, 1866–95; and *Bright Sunshine* for the 15 years, 1881–95.



TABLE XIX.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC  
Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,  
(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.772	+0.060	47.3	42.1	51.0	46.6	+0.9	35	6th	59	18th	Ins. 0.283	88	
	Wick	29.848	+1.01	48.3	42.5	54.2	48.4	+2.4	32	5th	64	19th	0.289	86	
	Stornoway	29.835	+0.92	48.2	41.4	53.4	47.4	+1.8	33	5th	62	19th	0.297	89	
1. SCOTLAND, E.	Nairn	29.882	+1.19	47.5	40.5	56.3	48.4	+2.4	29	15th, 22nd	69	19th	0.287	89	
	Aberdeen	29.914	+1.35	48.3	41.9	55.4	48.7	+2.0	33	31st	68	10th	0.265	78	
	Leith	29.956	+1.51	47.0	41.2	57.2	49.2	+1.2	29	15th	65	19th	0.268	84	
2. ENGLAND, N.E.	Shields	29.981	+1.55	45.5	40.7	55.5	48.1	+0.4	33	14th	63	11th, 19th	0.275	91	
	Spurn Head	30.017	+1.70	49.3	44.9	55.5	50.2	+0.8	37	14th	61	12th	0.306	88	
3. ENGLAND, E.	Yarmouth	30.044	+1.70	49.5	43.9	55.3	49.6	+0.1	36	14th	62	12th	0.306	87	
4. MIDLAND COUNTIES	Loughborough	30.067	+1.81	41.8	37.5	57.5	47.5	-0.8	26	15th	67	12th, 17th, 18th	0.247	94	
	Oxford	30.077	+1.71	43.6	39.9	57.1	48.5	-0.2	30	19th, 20th	65	17th	0.263	93	
5. ENGLAND, S.	London	30.074	+1.67	46.2	41.7	58.4	50.1	+0.4	33	10th, 14th	66	18th	0.290	93	
	Dungeness	30.066	+1.68	51.3	45.8	58.5	52.2	+1.0	33	10th, 14th, 21st	63	3rd, 28th	0.339	90	
	Portland Bill	30.051	+1.41	53.6	49.0	58.5	53.8	+2.6	42	14th	63	1st, 2nd	0.361	88	
6. SCOTLAND, W.															
7. ENGLAND, N.W.	Liverpool	30.028	+1.66	47.6	43.2	55.5	49.4	+0.3	33	15th	62	17th	0.277	85	
	Holyhead	30.021	+1.67	50.7	45.6	56.5	51.1	+0.3	38	15th	66	18th	0.307	83	
8. ENGLAND, S.W.	Pembroke	30.029	+1.58	52.3	48.3	56.5	52.4	+1.1	42	1st, 2nd	59	9, 17, 18, 22, 23, 25, 28.	0.339	86	
9. IRELAND, N.	Malin Head	29.923	+1.25	50.1	47.3	55.2	51.3	+2.3	38	15th, 31st	64	17th, 18th	0.328	91	
	Donaghadee	29.990	+1.56	48.7	44.0	55.5	49.8	+1.3	34	6th	60	7th, 11th, 19th	0.304	89	
	Blacksod Point	29.946	+1.00	51.1	45.9	56.3	51.1	+1.1	38	8th	63	18th, 19th	0.320	84	
10. IRELAND, S.	Parsonstown	30.015	+1.38	45.0	39.5	57.1	48.3	+0.8	27	6th	66	18th	0.373	91	
	Valencia	30.002	+1.23	51.2	45.2	58.3	51.8	+0.5	32	6th	65	19th	0.320	85	
	Roche's Point	30.032	+1.56	51.8	46.9	57.5	52.2	+1.4	37	6th	61	9th, 10th	0.338	87	
CHANNEL ISLANDS	Scilly	30.004	+1.12	55.5	51.7	59.6	55.7	+2.4	45	14th	62	4th, 17th, 26th	0.384	87	
	Jersey	30.068	+1.55	55.5	49.5	61.7	55.6	+2.1	40	10th, 14th, 15th	71	17th	0.350	79	

## BRIGHT SUNSHINE VALUES FOR OCTOBER IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	78.4	?	25	?	Hollesley Bay (Suffolk)	157.1	?	49	?
Strathpeffer Spa	99.3	+6.0	32	+2	Sheffield	106.3	?	33	?
Edinburgh	85.0	+2.3	27	+1	Workshop	105.3	+20.4	33	+7
Morpeth (Cockle Park)	118.6	?	37	?	Thurcaston	111.8	+24.4	35	+8
Newcastle-on-Tyne	87.9	?	28	?	Margate	132.6	+27.1	41	+9
Oswaldkirk	109.9	+26.4	34	+8	Eastbourne	162.1	+44.3	50	+14
Lowestoft	149.3	?	46	?	Brighton	162.2	+39.9	50	+12



REPORTING STATIONS in the BRITISH ISLANDS during the Month of OCTOBER 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER.								WIND.										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.			
8.3	Ins. 5.03	Ins. +0.72	Ins. 0.87	11th	22	0	0	0	0	21	8	3	2	0	1	5	4	10	5	1	Sumburgh Head.		
7.6	1.95	-1.19	0.40	3rd, 30th	18	0	2	0	1	16	8	2	0	1	1	5	1	7	13	1	Wick.		
8.8	5.04	-0.11	0.95	29th	21	0	2	0	0	20	4	2	1	1	1	0	13	6	6	1	Stornoway.		
5.5	0.94	-1.57	0.34	3rd	14	1	0	0	3	6	0	0	0	1	0	0	2	20	1	7	Nairn.		
6.1	0.75	-2.30	0.12	10th	15	0	1	0	0	10	7	1	0	2	0	4	16	6	2	0	Aberdeen.		
6.7	0.92	-1.11	0.35	1st	10	1	1	1	2	10	4	2	0	2	3	4	8	9	0	3	Leith.		
7.9	1.86	-0.72	1.09	1st	11	0	0	0	0	11	2	2	1	0	0	6	14	6	2	0	Shields.		
6.5	2.19	-0.14	0.96	1st	8	0	0	0	3	11	7	1	1	0	3	6	9	5	6	0	Spurn Head.		
4.2	1.80	-1.31	0.48	27th	12	0	0	0	15	4	1	1	3	3	5	3	5	7	3	1	Yarmouth.		
8.2	2.49	-0.34	0.73	1st	8	0	0	1	1	19	4	1	1	4	7	2	4	3	4	5	Loughborough.		
6.9	2.59	-0.16	0.92	27th	7	0	1	1	10	19	1	6	3	3	1	5	4	4	1	4	Oxford.		
7.1	2.22	-0.60	1.06	27th	9	0	0	0	8	18	2	1	1	7	1	1	5	5	1	9	London.		
6.0	1.50	-1.93	0.30	4th	11	0	0	0	4	12	4	4	3	4	4	3	5	4	4	0	Dungeness.		
6.5	1.74	?	0.45	27th	8	0	0	0	5	13	7	2	4	11	3	2	3	3	3	0	Portland Bill.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
5.2	2.93	-0.65	0.68	12th	12	0	0	1	13	11	5	0	1	7	8	2	5	3	2	3	Liverpool.		
6.4	3.27	-1.17	1.11	1st	16	0	0	0	1	8	5	2	3	4	3	2	6	1	4	6	Holyhead.		
6.7	3.09	-1.02	0.85	29th	12	0	0	0	3	14	3	2	2	11	5	1	5	1	3	1	Pembroke.		
6.8	2.22	?	0.48	11th	20	0	1	1	0	11	5	5	0	1	4	9	9	0	3	0	Malin Head.		
6.6	1.97	-1.25	0.58	11th	16	0	1	0	0	8	2	3	1	1	4	9	9	2	2	0	Donaghadee.		
6.0	3.12	?	0.54	10th	18	0	1	0	1	9	6	2	2	1	1	7	8	4	4	2	Blacksod Point.		
6.5	1.58	-1.54	0.39	30th	13	0	0	0	7	18	0	0	2	3	8	2	6	5	5	0	Parsonstown.		
6.4	3.30	-2.27	0.49	1st	17	0	1	1	6	14	0	1	5	6	6	2	3	2	1	5	Valencia.		
6.9	2.02	-2.14	0.75	29th	11	0	0	0	0	10	4	8	4	0	7	5	2	3	2	0	Roche's Point.		
7.5	2.69	-1.08	0.62	29th	13	0	0	0	0	10	5	2	3	8	6	3	4	1	4	0	Scilly.		
5.5	1.14	-3.56	0.26	26th, 30th	12	0	1	0	5	7	5	0	6	9	5	1	4	5	1	0	Jersey.		

## ADDITION TO THOSE FOUND IN TABLE XX.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Worthing .. .. .	173.1	?	53	?	Rhyl .. .. .	140.1	?	44	?
Bognor .. .. .	170.0	?	52	?	Colwyn Bay .. .. .	154.6	?	48	?
Watergate (Emsworth) ..	161.6	?	50	?	Aberdovey .. .. .	153.6	?	48	?
Westbourne (Emsworth) ..	159.6	+ 48.1	49	+ 15	Tenby .. .. .	137.9	+ 29.7	43	+ 10
Ventnor Hospital .. .. .	144.9	?	44	?	Torquay .. .. .	130.7	+ 22.0	40	+ 7
Southport .. .. .	143.3	?	45	?	Newquay .. .. .	143.0	+ 29.2	44	+ 9
Hoylelake .. .. .	128.6	?	40	?	Guernsey .. .. .	155.7	+ 41.9	47	+ 12



TABLE XX.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of OCTOBER 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Dura- tion.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	°	°	°	°	°	°	°	°	°	Ins.	Ins.	Ins.	°	69.8	- 14.3	22	- 5
LAIRG	39.5	56.5	48.0	+ 3.5	29	15th, 22nd	76	19th	22	3.52	-0.37	0.70	3rd	—	—	—	—
GLENCARRON	42.4	52.7	47.6	+ 2.5	30	15th	67	19th	23	10.82	+1.90	1.70	11th	—	—	—	—
FORT AUGUSTUS	42.3	54.9	48.6	+ 1.9	30	15th	67	19th	19	4.52	+0.38	0.67	3rd	72.7	+ 16.6	23	+ 5
FORT WILLIAM	43.8	54.0	48.9	+ 1.6	32	15th	62	17th, 18th	20	9.16	+1.46	1.54	10th	69.0	- 7.7	22	- 2
ABERDEEN	°	°	°	°	°	°	°	°	°	°	°	°	°	127.1	+ 29.6	41	+10
BRAEMAR	38.8	51.8	45.3	+ 2.2	25	15th	64	19th	15	1.78	-2.18	0.36	30th	98.2	+ 29.4	31	+ 9
OCHTERTYRE	39.4	56.2	47.8	+ 1.5	25	14th	66	20th	11	2.90	-1.27	0.82	29th	—	—	—	—
MARCHMONT	41.2	54.3	47.8	+ 2.1	30	22nd	66	18th	10	1.82	-1.64	0.99	1st	102.3	+ 16.3	32	+ 5
ALNWICK CASTLE	41.7	56.0	48.9	+ 2.0	27	15th	69	19th	9	2.00	-1.13	1.42	1st	—	—	—	—
DURHAM	38.6	55.4	47.0	+ 0.1	29	20th	62	19th	12	1.92	-1.11	1.26	1st	122.0	+ 35.2	38	+11
SCARBOROUGH	42.1	56.3	49.2	+ 0.8	35	14th	63	10th	12	2.59	-0.66	0.85	1st	—	—	—	—
HILLINGTON	39.7	57.5	48.6	+ 0.2	32	6th, 14th, 19th	66	12th	11	2.78	-0.03	0.71	29th	135.0	+ 40.0	42	+12
GELDESTON	39.0	58.7	48.9	- 0.4	27	20th	66	12th	12	1.83	-1.00	0.57	27th	140.6	+ 31.2	43	+ 9
CAMBRIDGE	38.1	59.0	48.6	- 0.1	29	18th, 20th	68	18th	9	1.92	-0.49	0.80	27th	128.8	+ 24.4	40	+ 8
FELIXSTOWE	44.8	57.1	51.0	+ 1.8	37	14th	63	28th	11	2.13	?	0.69	27th	156.9	?	48	?
ROTHAMSTED	39.4	56.8	48.1	+ 0.3	31	10th, 19th	64	18th	10	3.56	+0.43	1.74	1st	139.1	+ 30.9	43	+10
BAWTRY	38.1	55.6	46.9	- 0.6	26	20th	65	17th	9	2.90	+0.09	1.36	1st	—	—	—	—
STAMFORD (Ketton)	38.7	56.7	47.7	- 0.8	29	20th	66	12th	10	2.85	-0.13	0.75	27th	—	—	—	—
CHEADLE	41.2	54.8	48.0	+ 1.4	33	21st	61	10th, 17th	10	3.23	-0.27	0.79	1st	—	—	—	—
SHIRLEY (nr. Solihull)	37.9	56.7	47.3	0.0	27	20th	64	17th, 18th, 19th	11	2.52	?	0.72	1st	—	—	—	—
CHURCHSTOKE	38.9	57.0	48.0	+ 1.1	28	21st	64	17th	12	2.75	-0.73	0.95	1st	137.3	+ 46.7	43	+15
HEREFORD (Belmont)	38.0	56.3	47.2	- 1.0	26	19th	64	17th	11	3.09	+0.30	1.11	1st	—	—	—	—
CIRENCESTER	39.2	56.6	47.9	+ 0.5	30	19th	62	11, 17, 22	9	2.76	-0.49	0.77	27th	135.5	+ 35.5	42	+11
OXFORD	°	°	°	°	°	°	°	°	°	°	°	°	°	113.2	+ 11.5	35	+ 4
LONDON	°	°	°	°	°	°	°	°	°	°	°	°	°	87.2	+ 9.4	27	+ 3
CRANLEY	40.6	59.2	49.9	+ 0.6	29	19th	65	18th	6	2.08	?	0.75	27th	—	—	—	—
HASTINGS	46.0	58.3	52.2	+ 1.3	40	14th, 31st	63	28th	11	2.82	-1.08	1.03	1st	168.0	+ 48.6	52	+15
SOUTHAMPTON	42.8	60.5	51.7	+ 1.2	32	14th	65	12th, 17th, 18th	8	2.19	-1.37	0.78	27th	147.0	+ 34.5	45	+10
SHAFESBURY	44.0	57.6	50.8	+ 3.2	35	15th	64	22nd	9	2.44	-1.46	1.00	27th	—	—	—	—
LAUDALE	44.1	55.1	49.6	+ 2.0	32	5th	63	19th	23	6.51	-1.19	1.20	2nd	—	—	—	—
GLASGOW	43.5	53.5	48.5	+ 1.9	32	15th	61	18th, 19th	17	2.76	-1.05	0.39	30th	71.8	+ 2.7	23	+ 1
GLENLEE	37.7	54.9	46.3	- 0.5	23	15th	61	18th	18	4.62	-1.14	0.99	11th	—	—	—	—
DOUGLAS	41.5	55.7	48.6	+ 0.3	32	6th, 7th, 20th	60	3, 8, 18, 19, 20	14	3.69	-0.79	1.23	1st	118.0	+ 12.8	37	+ 4
NEWTON REIGNY	37.1	56.2	46.7	+ 0.1	27	6th, 15th	68	19th	11	3.11	?	0.69	29th	141.1	?	44	?
STONYHURST	41.2	54.1	47.7	+ 0.4	33	7th, 20th	61	18th	12	3.06	-2.11	0.88	29th	135.5	+ 49.5	42	+15
BLACKPOOL	40.7	56.9	48.8	0.0	31	6th	65	17th, 18th	11	3.55	-0.64	1.02	29th	139.3	+ 51.8	43	+16
MANCHESTER (Prestwich)	39.8	56.6	48.2	+ 0.4	28	25th	65	17th, 18th	13	3.12	-1.00	0.78	29th	103.0	?	32	?
LLANDUDNO	45.8	58.6	52.2	+ 1.9	39	6th, 7th, 15th	71	18th	12	3.65	-0.39	0.93	1st	151.8	+ 72.4	47	+22
LLANDOVERY	39.2	60.1	49.7	+ 2.1	29	6, 7, 8, 14	70	22nd	15	4.92	-0.74	1.24	29th	—	—	—	—
PEMBROKE	°	°	°	°	°	°	°	°	°	°	°	°	°	146.8	+ 43.4	45	+13
CLIFTON	43.0	57.2	50.1	+ 0.9	35	21st, 22nd	64	17th	10	3.81	+0.05	0.83	29th	—	—	—	—
ARLINGTON	44.5	57.8	51.2	+ 2.2	34	14th	66	22nd	16	5.82	-0.41	1.38	3rd	—	—	—	—
CULLOMPTON	41.2	59.7	50.5	+ 2.3	28	14th	68	17th	9	2.24	-1.81	0.75	27th	120.0	+ 25.5	37	+ 8
FALMOUTH	50.4	57.9	54.2	+ 2.6	41	14th	62	4th	13	3.64	-1.81	0.85	29th	140.6	+ 21.8	43	+ 7
PLYMOUTH	48.6	59.0	53.8	+ 2.7	33	14th	66	22nd	11	2.97	-0.99	1.20	27th	139.2	+ 32.7	43	+10
SCILLY	°	°	°	°	°	°	°	°	°	°	°	°	°	138.4	?	42	?
JERSEY	°	°	°	°	°	°	°	°	°	°	°	°	°	176.8	+ 49.4	54	+15
LONDONDERRY	43.3	56.7	50.0	+ 2.1	34	15th	66	17th, 19th	14	1.81	-2.48	0.45	11th	—	—	—	—
EDENFEL (Omagh)	39.3	55.0	47.2	+ 1.3	30	14th, 21st	63	18th, 19th	14	1.98	-1.78	0.49	11th	—	—	—	—
MARKREE CASTLE	39.9	57.4	48.7	+ 1.4	29	21st	66	17th	17	2.39	-2.06	0.51	12th	123.0	+ 32.7	38	+10
ARMAGH	41.1	56.9	49.0	+ 2.0	30	15th	66	18th	14	1.70	-1.34	0.43	25th	129.2	+ 40.7	40	+12
DUBLIN	43.2	57.1	50.2	+ 1.0	33	6th	65	11th, 18th	11	1.54	-1.45	0.26	11th	149.0	+ 40.5	46	+12
PARSONSTOWN	°	°	°	°	°	°	°	°	°	°	°	°	°	138.3	+ 41.2	43	+13
KILKENNY CASTLE	40.0	57.6	48.8	+ 0.4	27	6th	65	11th, 18th	15	1.74	-1.40	0.47	29th	—	—	—	—
VALENCIA (Cahiriveen)	°	°	°	°	°	°	°	°	°	°	°	°	°	132.4	+ 28.2	41	+ 9
KILLARNEY	†	†	†	†	†	†	†	†	13	2.76	?	0.99	29th	—	—	—	—
FOYNES	44.3	57.5	50.9	+ 2.1	32	6th	66	17th	12	2.19	?	0.35	12th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table XIX.

† Observations incomplete.

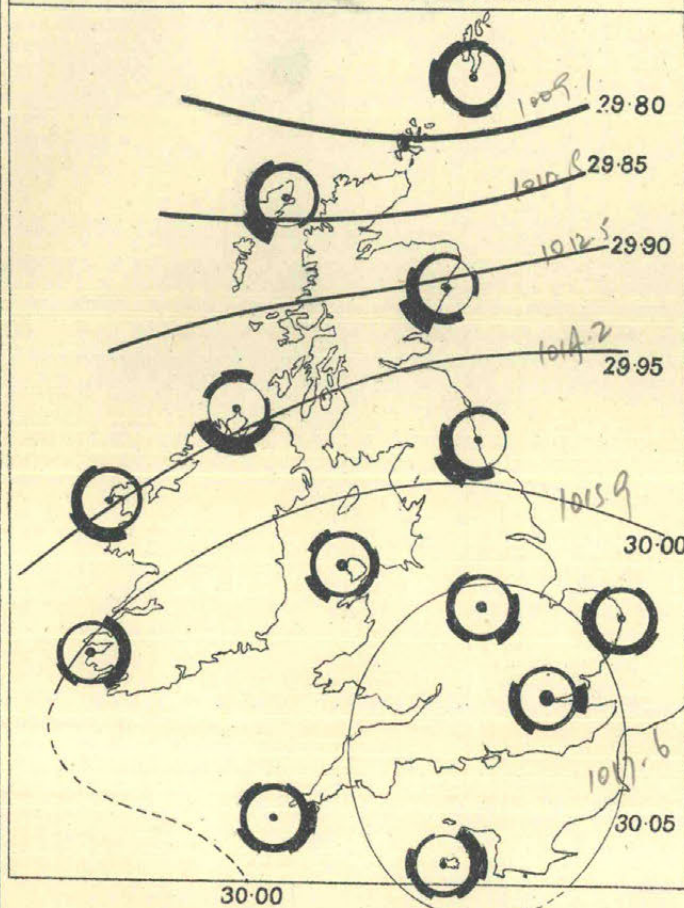


# MONTHLY WEATHER CHART OCTOBER 1899.

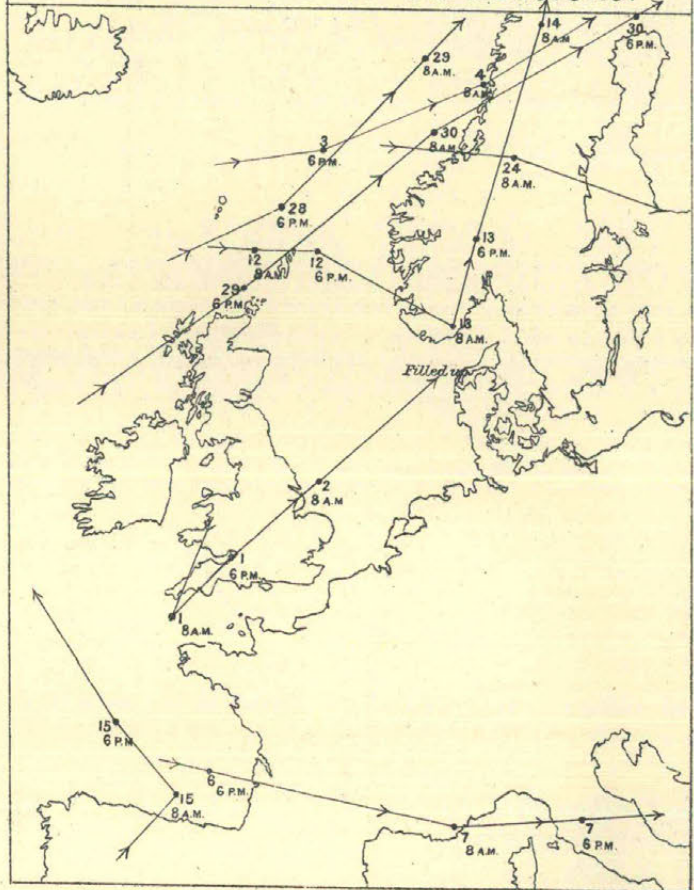
Monthly Summary.

Plate X.

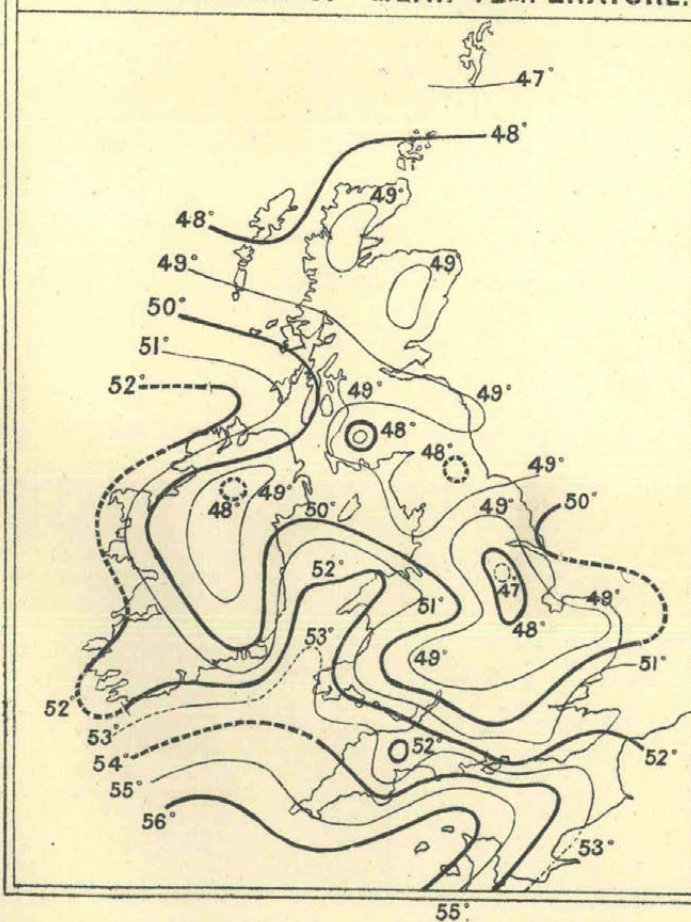
## 1. BAROMETER AND WIND.



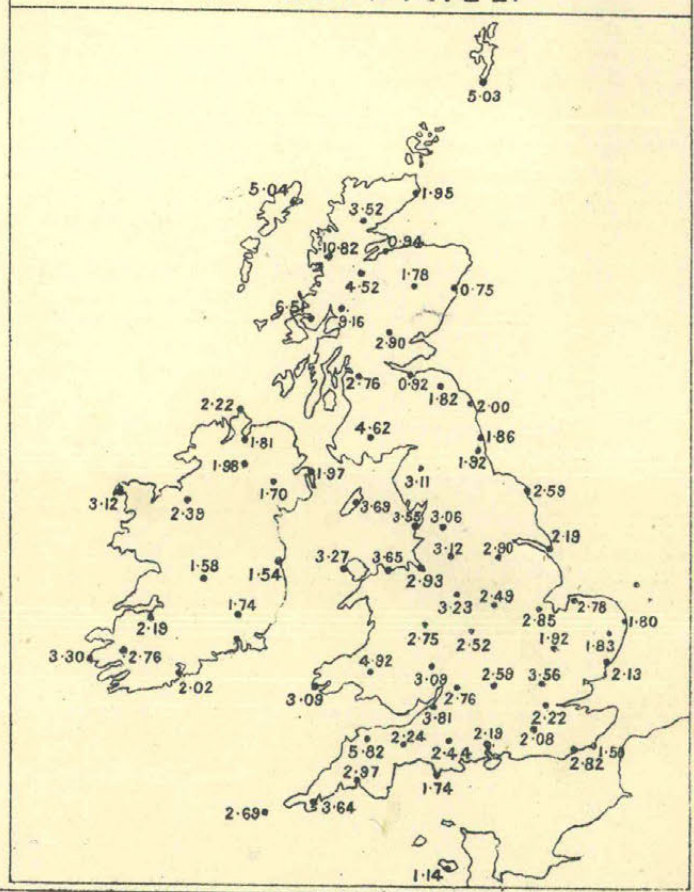
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.





NOVEMBER 1933

WINTER AND SPRING



WINTER AND SPRING





# SUMMARY of the OBSERVATIONS made at the STATIONS included in the DAILY and WEEKLY WEATHER REPORTS for the CALENDAR MONTH,

## NOVEMBER 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & CO., 12, HANOVER ST., EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & CO., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—During the first nine or ten days the weather was in an extremely unsettled state, with heavy rain in most districts, and occasional thunder and lightning in the north-western parts of the Kingdom. Later on, however, a decided improvement occurred on all but our extreme north and north-west coasts, and at some stations in the south and east of England no rain fell after the 10th or 11th. Pressure was above the average, especially over England; temperature was considerably above the normal; the winds were mostly from the Westward or South-westward; rainfall was deficient over the country generally, but exceeded the average in the east and south of England, and also in the western and central parts of Scotland; bright sunshine was in excess of the normal at many of the English stations, but below it elsewhere, and especially in the extreme north and north-west.

**Pressure.**—*Mean at 8 a.m.* ranged from between 30·20 ins. and 30·25 ins. over the greater part of the English Channel and our southern counties, to a little below 29·70 ins. in the Shetlands. The general distribution agreed very closely with the normal, but the gradients over our islands were far steeper than usual, the difference between the mean pressure in the extreme north and south being more than twice as great as that shown by the chart of normal values. The readings were, in nearly all cases, above the average,\* the excess being slight in the north of Scotland, but large over England, where it ranged between 0·25 in. and 0·30 in. *Highest* readings occurred on the 17th, when the barometer rose to 30·6 ins. and upwards in Ireland, and to 30·7 ins. and upwards in most parts of Great Britain. *Lowest* readings were observed during the passage of the deep depression of the 3rd, when the barometer fell to 28·2 ins. and less in the Shetlands, and to 29·0 ins. and less over Scotland generally, but to very little below 29·5 ins. in the extreme south and south-east of England. *Range* was moderate generally, but large in the extreme north, where it amounted to over two inches.

**Depressions.**—The track of these lay, as a rule, well outside our western and northern coasts, the centres being, in many cases, too distant for their positions to be shown on Map 2, Plate XI. During the latter half of the month several large disturbances advanced over northern Europe, apparently from the north-westward.

**Anticyclones.**—An anticyclone spread over our islands from the south-westward on the 11th, but moved away to the eastward on the 13th. Next day, however, a larger and more permanent system extended from the north-westward over the United Kingdom, and later on over the whole of western and central Europe. On the 20th this receded temporarily to the westward, but on the following day it again spread eastwards, and remained over all the more southern parts of our islands and the Continent until the end of the month.

**Winds** were chiefly from the Westward or South-westward, with frequent gales in the west and north; at Blacksod Point and Valencia the wind reached the force of a gale on 13 days, and at Aberdeen on as many as 16 days. The storms were, however, of no great severity for the time of year.

**Temperature.**—*Mean at sea level* ranged from 53° and upwards in the Scilly Islands, and from 51° and upwards on our south-west coasts generally, to 47° and less in several distinct areas lying over various parts of our northern and eastern districts. The general distribution agreed very closely with the normal, but the actual values were considerably above the average,\* the excess varying from a little under 4° at several stations in the east and south of England, to between 5° and 6° in many parts of Scotland and the north of Ireland, and to as much as 6·3° at Newton Reigny. Over the northern parts of the Kingdom as a whole the mean temperature was the highest registered in November since at least the year 1871. *Highest* readings occurred mostly on the 4th or 5th, when the thermometer rose to 60° or slightly above it in most parts of the United Kingdom, to 65° at Dublin and to 66° at Jersey. *Lowest* readings were registered at various times between the 17th and 20th, when frost occurred in most districts, the lowest temperatures reported being 22° at Stamford and Llandovery, and 23° at Braemar and Cirencester. *Range* was moderate. *Vapour Tension* ranged from 0·36 in. at Pembroke, and 0·32 in. and upwards on our south-west coasts generally, to 0·26 in., or a little less, over central England and the east of Scotland. *Relative Humidity* varied from 92 per cent. at Donaghadee, and 91 per cent. at Malin Head and Pembroke, to 81 per cent. at Aberdeen, and 79 per cent. at Jersey.

**Rainfall** was in excess of the average\* in the north-west of Ireland and the central parts of Scotland, as well as at many stations in the south and south-east of England. Elsewhere the amount was less than the normal, the deficiency being large over some of the northern and central parts of England. The largest aggregates reported were 16·6 ins. at Glencarron, 12·7 ins. at Fort William, and 10·4 ins. at Laudale; the smallest being 0·7 in. at Spurn Head, 1·1 in. at Bawtry and Liverpool, and 1·2 in. at Shields and Stamford. In the south and east of England the rainfall was confined almost entirely to the first nine days of the month, in London there was no measurable quantity after the 11th, and at Oxford none after the 10th. Falls exceeding an inch in 24 hours were reported in the north-western parts of the Kingdom on several occasions. Between the 2nd and 3rd, and again on the 7th, they occurred far more generally, while on the 5th heavy falls were experienced only in the south and east of England. The largest daily amounts reported were on the 7th, when 2·1 ins. fell at Braemar, 2·0 ins. at Glenlee, and 1·9 in. at Ochertyre; and on the 3rd, when 1·8 in. fell at Southampton, and 1·7 in. at Braemar, Glenlee, and Newton Reigny. At Sumburgh Head and Laudale there were 27, and at Glencarron 28 days with a measurable quantity of rain.

**Bright Sunshine** was rather deficient over the country as a whole, but exceeded the average\* at several of the English stations. The percentage of the possible duration ranged from 33 at Scilly and 30 at Jersey and Dublin, to 7 at Deerness and Glasgow, and to only 5 at Fort Augustus and Fort William.

\* The averages employed are—*Pressure and Temperature* for the 25 years 1871–95; *Rainfall* for the 30 years 1866–95; and *Bright Sunshine* for the 15 years 1881–95.



TABLE XXI.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail, (The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.								TENSION OF VAPOUR.	RELATIVE HUMIDITY.	
				Means of					Absolute Extremes.					
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.			Date.
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.689	Ins. -0.004	46.2	42.0	49.9	46.0	+ 4.0	33	20th	54	4th	Ins. 0.274	89
	Wick	29.759	+ .031	47.4	41.0	52.3	46.7	+ 5.4	30	16th	58	23rd, 27th	.284	87
	Stornoway	29.736	+ .033	47.5	41.2	51.6	46.4	+ 4.6	34	9th, 15th	55	27th, 28th	.292	90
1. SCOTLAND, E.	Nairn	29.810	+ .067	47.2	40.5	51.0	46.8	+ 6.2	28	15th, 16th	60	2nd	.275	86
	Aberdeen	29.871	+ .099	46.6	41.4	52.2	46.8	+ 5.3	31	16th	58	28th	.254	81
	Leith	29.926	+ .128	47.7	42.1	53.4	47.8	+ 5.1	30	18th	61	2nd, 4th	.269	82
2. ENGLAND, N.E.	Shields	29.994	+ .170	47.1	42.3	52.8	47.6	+ 4.8	33	17th, 18th, 19th	61	2nd	.283	88
	Spurn Head	30.077	+ .223	47.2	43.3	52.7	48.0	+ 4.2	35	17th, 18th	60	4th	.284	89
3. ENGLAND, E.	Yarmouth	30.135	+ .256	47.6	42.6	52.6	47.6	+ 4.1	35	15th, 20th	60	4th	.293	90
4. MIDLAND COUNTIES	Loughborough	30.147	+ .259	45.3	41.1	52.7	46.9	+ 4.3	24	19th	62	2nd, 4th	.261	87
	Oxford	30.192	+ .284	44.6	40.8	52.6	46.7	+ 3.6	25	19th, 20th	63	4th	.262	89
5. ENGLAND, S.	London	30.207	+ .297	46.1	42.1	53.4	47.8	+ 3.8	29	30th	62	2nd, 4th	.277	89
	Dungeness	30.203	+ .299	49.8	44.7	55.5	50.1	+ 4.8	32	29th	63	2nd, 3rd	.322	90
	Portland Bill	30.206	+ .291	51.1	47.3	54.4	50.9	+ 4.5	38	20th	59	2nd, 4th	.310	82
6. SCOTLAND, W.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. ENGLAND, N.W.	Liverpool	30.089	+ .227	47.2	44.5	53.1	48.8	+ 4.9	31	18th, 19th	61	2nd, 4th	.271	84
	Holyhead	30.067	+ .222	51.0	46.3	53.2	49.8	+ 3.4	41	18th	58	4th	.311	83
8. ENGLAND, S.W.	Pembroke	30.122	+ .251	52.5	49.3	54.6	52.0	+ 5.0	41	17th	58	2nd, 4th	.357	91
9. IRELAND, N.	Malin Head	29.864	+ .109	48.6	45.5	52.0	48.8	+ 4.3	40	7th, 12th, 15th	59	4th	.310	91
	Donaghadee	29.976	+ .157	48.4	43.7	52.6	48.2	+ 4.2	36	19th	57	4th	.312	92
	Blacksod Point	29.917	+ .118	50.0	45.4	53.6	49.5	+ 4.0	35	17th	60	4th	.317	88
10. IRELAND, S.	Parsonstown	30.018	+ .166	46.9	43.0	53.0	48.0	+ 4.9	30	19th, 20th	62	4th	.283	89
	Valencia	30.030	+ .163	51.2	47.3	55.2	51.3	+ 3.7	41	22nd	59	4th	.315	84
	Roche's Point	30.076	+ .207	52.2	46.9	54.6	50.8	+ 4.2	41	11th	58	4th	.330	84
CHANNEL ISLANDS—	Scilly	30.146	+ .248	53.4	48.5	57.4	53.0	+ 3.4	45	26th, 27th	60	4th, 5th	.332	82
	Jersey	30.245	+ .308	51.7	47.2	55.9	51.6	+ 3.3	39	25th, 26th	66	4th	.303	79

## BRIGHT SUNSHINE VALUES FOR NOVEMBER

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	14.9	?	7	?	Hollesley Bay (Suffolk)	58.8	?	23	?
Strathpeffer Spa	26.8	-14.2	12	-6	Sheffield	43.8	?	17	?
Edinburgh	46.2	-3.1	19	-2	Workshop	39.1	-7.3	15	-3
Morpeth (Cockle Park)	69.7	?	28	?	Thurcaston	41.2	-10.2	16	-4
Newcastle-on-Tyne	41.7	?	17	?	Margate	55.1	-5.7	21	-2
Oswaldkirk	38.9	-7.2	16	-3	Eastbourne	68.0	+8.9	26	+3
Lowestoft	60.7	?	24	?	Brighton	58.2	-5.2	22	-2



## SUMMARY OF OBSERVATIONS, NOVEMBER 1899.

xliii

REPORTING STATIONS in the BRITISH ISLANDS during the Month of NOVEMBER, 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER. No. of Days of							WIND. No. of Observations of									NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calm.	
9.6	Ins. 6.27	Ins. +2.13	Ins. 0.83	23rd	27	1	0	0	0	26	12	3	1	0	1	4	5	12	4	0	Sumburgh Head.
7.6	2.15	-0.78	0.53	3rd	25	0	1	0	0	15	7	1	0	0	1	5	3	9	11	0	Wick.
9.6	8.63	+3.83	1.03	13th	26	0	1	1	0	27	9	1	1	0	1	0	9	9	7	2	Stornoway.
7.0	2.09	-0.05	0.48	3rd	20	0	0	0	0	10	1	0	0	1	1	0	7	18	1	2	Nairn.
6.7	1.32	-1.84	0.29	3rd	17	0	0	0	0	8	16	0	0	0	1	8	15	4	2	0	Aberdeen.
7.4	1.89	-0.16	0.45	3rd	14	0	0	0	2	15	3	0	1	1	0	3	13	9	0	3	Leith.
7.8	1.21	-1.18	0.27	2nd	13	0	0	0	0	11	2	0	1	0	1	5	14	7	2	0	Shields.
6.8	0.71	-1.57	0.23	7th	6	0	0	0	1	7	8	0	0	1	2	7	9	8	3	0	Spurn Head.
5.3	2.18	-0.74	0.61	5th	11	0	0	1	7	6	1	0	1	1	0	6	9	10	3	0	Yarmouth.
7.4	1.59	-0.62	0.53	7th	10	0	0	1	3	16	6	0	1	1	4	4	10	7	2	1	Loughborough.
7.9	2.52	+0.10	0.71	3rd	8	0	0	0	5	20	0	1	2	0	1	7	12	3	1	3	Oxford.
7.4	4.23	+1.92	1.44	5th	9	0	0	0	5	16	4	0	0	1	2	7	11	5	1	3	London.
7.4	1.86	-1.44	0.49	7th	14	0	0	0	0	12	8	4	2	1	1	2	7	8	5	0	Dungeness.
7.3	4.29	?	1.29	5th	8	0	0	0	2	11	7	2	2	5	1	3	6	3	8	0	Portland Bill.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7.7	1.09	-1.72	0.26	4th	12	0	0	0	3	18	3	0	0	3	10	3	9	5	0	0	Liverpool.
8.0	3.96	0.00	1.19	7th	13	0	1	2	0	11	9	1	0	2	2	3	11	8	3	0	Holyhead.
7.9	2.60	-1.44	0.66	9th	13	0	0	0	0	12	9	0	0	6	0	3	10	7	4	0	Pembroke.
8.7	2.03	?	0.24	5th	20	0	0	0	0	20	11	1	0	0	2	8	12	2	5	0	Malin Head.
7.4	2.50	-0.60	0.84	3rd	15	1	0	0	0	11	5	1	0	2	1	12	8	5	1	0	Donaghadee.
6.6	7.02	?	0.96	6th	20	0	3	2	0	5	13	1	1	1	0	4	14	4	5	0	Blacksod Point.
8.6	2.74	-0.12	0.66	3rd	18	0	0	0	2	23	0	0	0	1	3	5	13	1	2	0	Parsonstown.
8.3	5.43	-0.20	1.65	2nd	16	0	2	0	1	21	13	1	0	4	4	10	7	2	1	1	Valencia.
7.9	2.84	-1.95	0.75	7th	11	0	0	0	0	12	11	4	1	0	2	3	12	6	2	0	Roche's Point.
7.9	2.62	-1.18	0.97	3rd	11	0	0	0	0	10	10	3	0	3	3	8	7	5	1	0	Scilly.
6.8	3.86	-0.33	1.34	5th	11	0	1	0	1	13	4	1	1	6	4	2	5	5	5	1	Jersey.

## IN ADDITION TO THOSE FOUND IN TABLE XXII.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Worthing .. .. .	64.2	?	25	?	Rhyl .. .. .	63.7	?	25	?
Bognor .. .. .	66.1	?	25	?	Colwyn Bay .. .. .	70.0	?	28	?
Watergate (Emsworth) ..	62.7	?	24	?	Aberdeveay .. .. .	49.6	?	20	?
Westbourne (Emsworth) ..	63.8	+ 9.2	24	+ 3	Tenby .. .. .	39.5	- 19.8	15	- 8
Ventnor Hospital .. .. .	60.6	?	23	?	Terquay .. .. .	64.9	+ 4.4	24	+ 1
Southport .. .. .	34.2	?	14	?	Newquay .. .. .	75.5	+ 2.4	28	+ 1
Hoylake .. .. .	55.2	?	22	?	Guernsey .. .. .	73.0	+ 14.8	27	+ 6



TABLE XXII.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of NOVEMBER, 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Per-centage of possible Dura- tion.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
	°	°	°	°	°		°			Ins.	Ins.	Ins.				%	%
STORNOWAY	39.2	50.9	45.1	+ 5.1	25	16th	61	17th	24	3.61	+ 0.08	0.40	3rd	26.5	-15.6	12	-
LAIRG	42.2	50.5	46.4	+ 6.2	29	15th	61	4th	28	16.55	+ 6.92	1.26	3rd	-	-	-	-
GLENCARRON	41.3	52.0	46.7	+ 5.2	26	15th	60	5th	25	8.05	+ 3.69	1.09	4th	12.7	- 3.6	5	- 2
FORT AUGUSTUS	43.7	52.4	48.1	+ 5.8	32	15th	63	4th	26	12.65	+ 4.74	1.29	26th	11.6	-16.0	5	- 7
FORT WILLIAM														52.3	- 2.4	22	-
ABERDEEN	37.0	48.4	42.7	+ 4.8	23	15th, 16th	57	4th	20	6.70	+ 2.94	2.10	7th	19.2	- 9.0	8	- 4
BRAEMAR	40.8	51.6	46.2	+ 5.6	30	14th	57	4th	18	6.72	+ 2.35	1.92	7th	-	-	-	-
OCHTERTYRE	38.7	51.3	45.0	+ 4.9	31	16th	58	5th	15	3.17	- 0.22	0.52	9th	53.3	- 0.5	22	- 1
MARCHMONT	41.1	52.9	47.0	+ 5.1	29	16th, 18th	61	4th	13	2.03	- 1.16	0.31	7th, 24th	-	-	-	-
ALNWICK CASTLE	39.8	52.7	46.3	+ 5.0	28	17th	62	5th	14	1.56	- 1.21	0.41	2nd	66.9	+14.5	27	+ 6
DURHAM	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
SCARBOROUGH	39.7	51.8	45.8	+ 3.6	28	18th	62	5th	13	2.23	- 0.50	0.68	3rd	54.9	+ 2.5	22	+ 1
HILLINGTON	41.4	53.5	47.5	+ 4.1	30	15th	61	2nd, 4th, 10th	10	2.62	- 0.03	0.80	3rd	62.5	+ 1.3	24	0
GELDESTON	39.5	53.8	46.7	+ 4.2	27	18th	63	4th, 5th	7	2.66	+ 0.59	0.81	3rd	58.6	- 3.1	23	- 1
CAMBRIDGE	42.8	52.3	47.6	+ 3.8	34	15th, 21st	60	2nd, 4th, 10th	8	2.85	?	1.10	3rd	73.2	?	28	?
FELIXSTOWE	39.5	52.3	45.9	+ 3.8	28	30th	61	4th	11	3.54	+ 0.75	1.04	5th	53.1	- 5.6	21	- 2
ROTHAMSTED	40.7	52.9	46.8	+ 4.7	25	18th	63	2nd	8	1.05	- 1.04	0.30	7th	-	-	-	-
BAWTRY	39.2	52.8	46.0	+ 3.6	22	19th	62	4th	8	1.16	- 1.48	0.38	3rd	-	-	-	-
STAMFORD (Duddington)	40.7	50.8	45.8	+ 4.5	25	19th	60	2nd, 4th, 5th	10	1.46	- 1.61	0.31	8th	-	-	-	-
CHEADLE	40.5	51.7	46.1	+ 4.1	24	18th, 19th	62	4th	11	1.90	?	0.73	7th	-	-	-	-
SHIRLEY (nr. Solihull)	41.5	52.3	46.9	+ 5.0	24	18th	61	2nd	11	2.39	- 1.02	0.58	3rd	52.0	+ 3.4	20	+ 1
CHURCHSTOKE	†	†	†	†	†	†	†	†	†	†	†	†	†	-	-	-	-
HEREFORD (Belmont)	39.5	51.8	45.7	+ 3.9	23	19th	60	4th	10	2.71	- 0.38	0.63	9th	56.9	+ 3.2	22	+ 1
CIRENCESTER														46.6	- 8.8	18	- 4
OXFORD														35.5	- 0.7	14	0
LONDON	43.1	54.1	48.6	+ 4.8	31	17th	61	2nd, 4th	8	5.40	?	1.64	5th	-	-	-	-
CRANLEY	44.6	53.6	49.1	+ 4.0	37	20th	62	2nd	10	3.47	+ 0.14	1.04	7th	65.9	- 1.3	25	- 1
HASTINGS	43.2	54.3	48.8	+ 4.0	31	19th	62	5th	9	5.31	+ 2.22	1.75	3rd	62.9	+ 4.1	24	+ 2
SOUTHAMPTON	42.0	51.6	46.8	+ 4.7	33	20th	59	4th	14	4.62	+ 1.05	1.54	3rd	-	-	-	-
SHAFTESBURY	44.2	53.1	48.7	+ 5.5	32	15th	60	4th	27	10.36	+ 1.65	1.02	26th	-	-	-	-
LAUDALE	44.0	51.3	47.7	+ 6.0	32	18th	59	4th	21	5.16	+ 1.39	1.24	3rd	17.6	-10.0	7	- 5
GLASGOW	42.5	51.9	47.2	+ 6.1	28	18th	58	5th	20	10.22	+ 3.90	2.01	7th	-	-	-	-
GLENLEE	45.6	52.8	49.2	+ 4.8	33	17th	57	4th, 5th	13	2.90	- 1.72	0.64	30th	43.1	-18.5	17	- 8
DOUGLAS	41.2	51.2	46.2	+ 6.3	24	18th	59	5th	16	5.78	?	1.73	3rd	38.3	?	16	?
NEWTON REIGNY	43.2	50.9	47.1	+ 4.7	28	18th	60	4th	16	3.27	- 1.25	0.97	26th	37.6	- 5.2	15	- 2
STONYHURST	44.6	53.1	48.9	+ 5.7	31	18th	62	2nd	13	2.64	- 0.77	0.84	4th	35.0	- 8.0	14	- 3
BLACKPOOL	42.0	52.4	47.2	+ 4.8	29	18th	61	2nd, 4th, 5th	14	1.59	- 1.90	0.26	3rd	23.8	?	10	?
MANCHESTER (Prestwich)	40.9	54.6	50.8	+ 5.3	35	18th	64	2nd	13	2.34	- 1.11	0.55	3rd	58.0	+10.9	23	+ 4
LLANDUDNO	40.8	53.3	47.1	+ 4.0	22	19th	60	2nd, 4th	17	4.12	- 1.03	0.87	7th	-	-	-	-
LLANDOVERY														43.8	-15.0	17	- 6
PEMBROKE	44.5	53.2	48.9	+ 5.4	29	19th	62	4th	12	3.11	- 0.35	0.99	3rd	-	-	-	-
CLIFTON	42.4	52.6	47.5	+ 3.7	29	19th	59	2nd, 4th	16	4.61	- 1.57	1.31	3rd	-	-	-	-
ARLINGTON	41.6	53.9	47.8	+ 4.1	29	19th	61	4th	10	3.37	- 0.33	1.01	9th	45.6	- 5.4	17	- 2
CULLOMPTON	47.4	54.5	51.0	+ 3.3	41	19th	59	2nd, 4th	12	2.80	- 2.65	0.94	3rd	74.9	+ 6.2	28	+ 2
FALMOUTH	45.5	54.0	49.8	+ 3.2	32	19th	58	2nd, 4th, 5th	8	3.15	- 0.62	1.31	9th	55.7	- 4.1	21	- 1
PLYMOUTH														88.6	?	33	?
SCILLY														82.1	+11.2	30	+ 4
JERSEY	43.9	52.5	48.2	+ 5.2	38	4th, 10th	60	4th	20	3.18	- 1.01	0.40	2nd, 13th	-	-	-	-
LONDONDERRY	42.1	51.2	46.7	+ 5.4	31	19th	60	4th	18	3.04	- 0.59	0.47	3rd	-	-	-	-
EDENFEL (Omagh)	42.8	52.8	47.8	+ 5.1	31	18th, 19th	61	4th	17	4.78	+ 0.73	1.00	2nd	43.2	-14.5	17	- 6
MARKREE CASTLE	44.0	52.5	48.3	+ 6.1	38	11th	60	4th	16	2.78	- 0.05	0.51	9th	44.5	-14.7	18	- 6
ARMAGH	46.2	55.1	50.7	+ 5.7	38	19th	65	4th	13	1.96	- 0.52	0.39	3rd	75.8	+ 4.0	30	+ 2
DUBLIN														59.6	- 3.5	23	- 2
PARSONSTOWN	41.9	53.2	47.6	+ 3.4	30	19th, 20th	60	4th	11	2.89	+ 0.08	0.78	7th	-	-	-	-
KILKENNY CASTLE														60.5	- 3.3	24	- 1
VALENCIA (Cahirciveen)	45.2	55.4	50.3	+ 4.8	35	19th, 20th	61	4th	14	6.10	?	1.59	2nd	-	-	-	-
KILLARNEY	44.5	54.1	49.3	+ 4.5	35	19th	62	4th	13	3.70	?	1.25	2nd	-	-	-	-
FOYNES																	

\* For this information and additional Reports of Bright Sunshine see Table XXI.

† Observations incomplete.

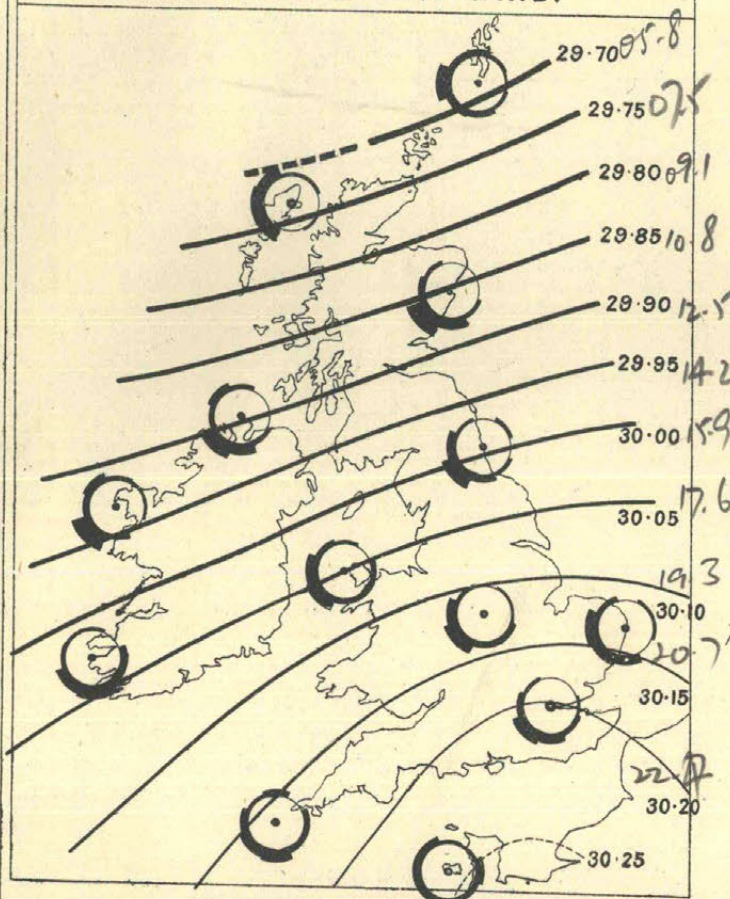


# MONTHLY WEATHER CHART NOVEMBER 1899.

Monthly Summary.

Plate XI.

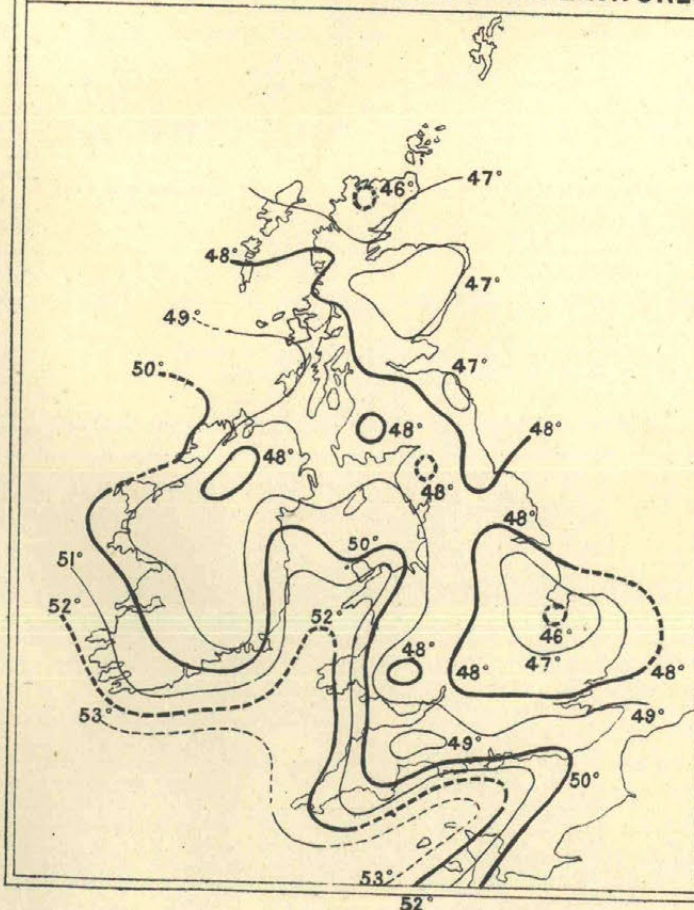
## 1. BAROMETER AND WIND.



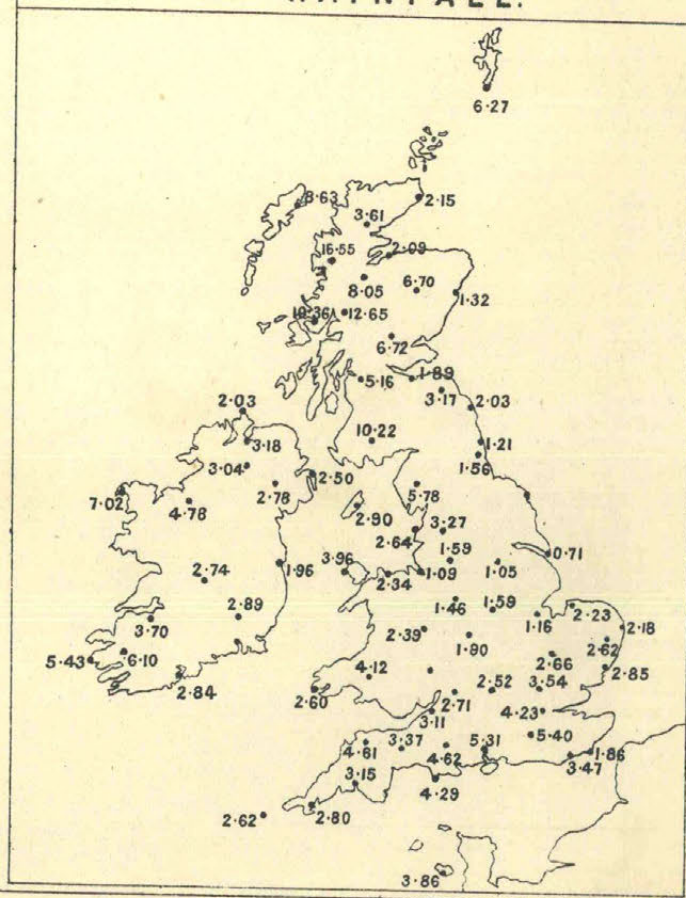
## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.





REPORT OF THE  
COMMISSIONERS OF THE GENERAL LAND OFFICE  
ON THE  
LANDS BELONGING TO THE UNITED STATES  
IN THE  
STATE OF CALIFORNIA

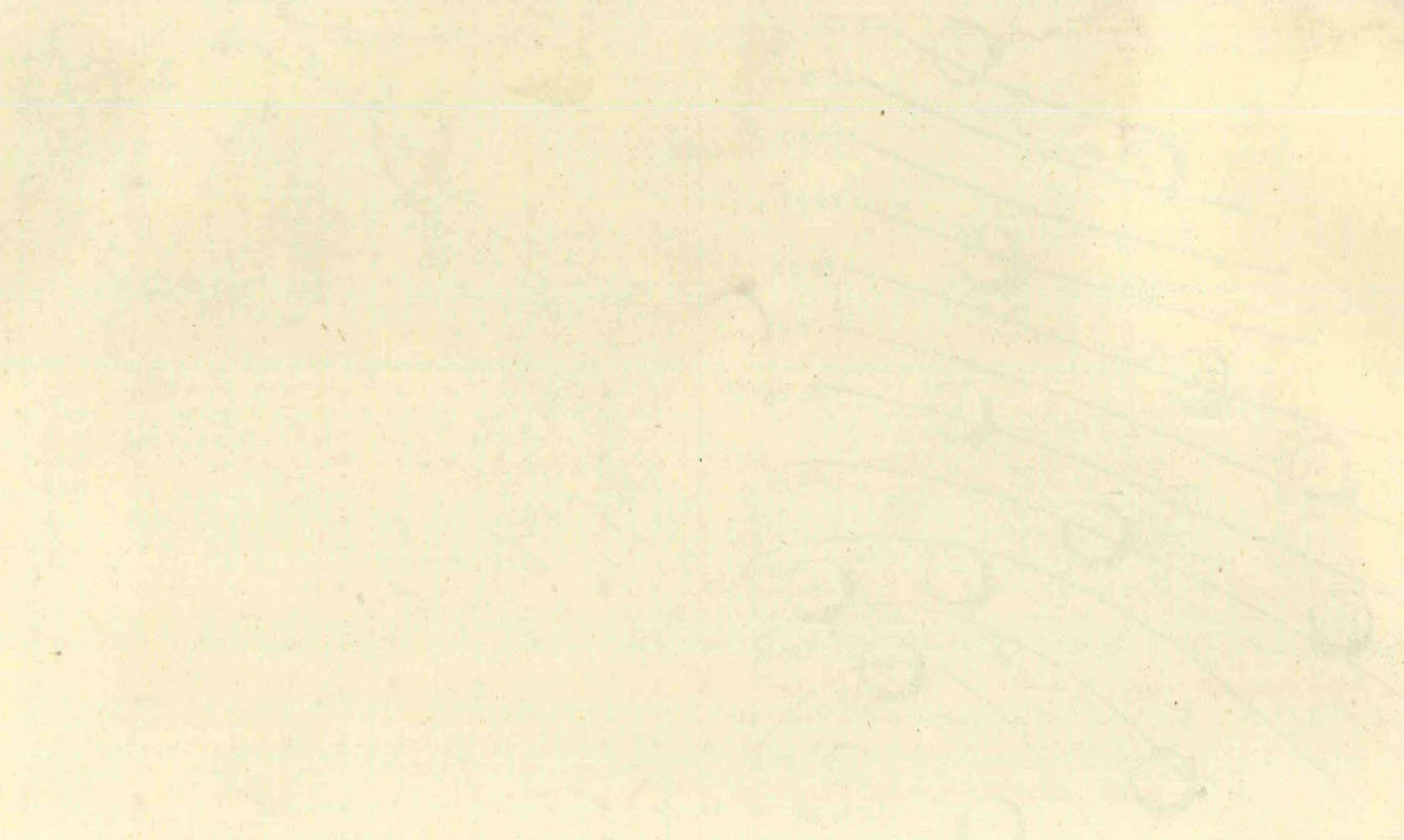
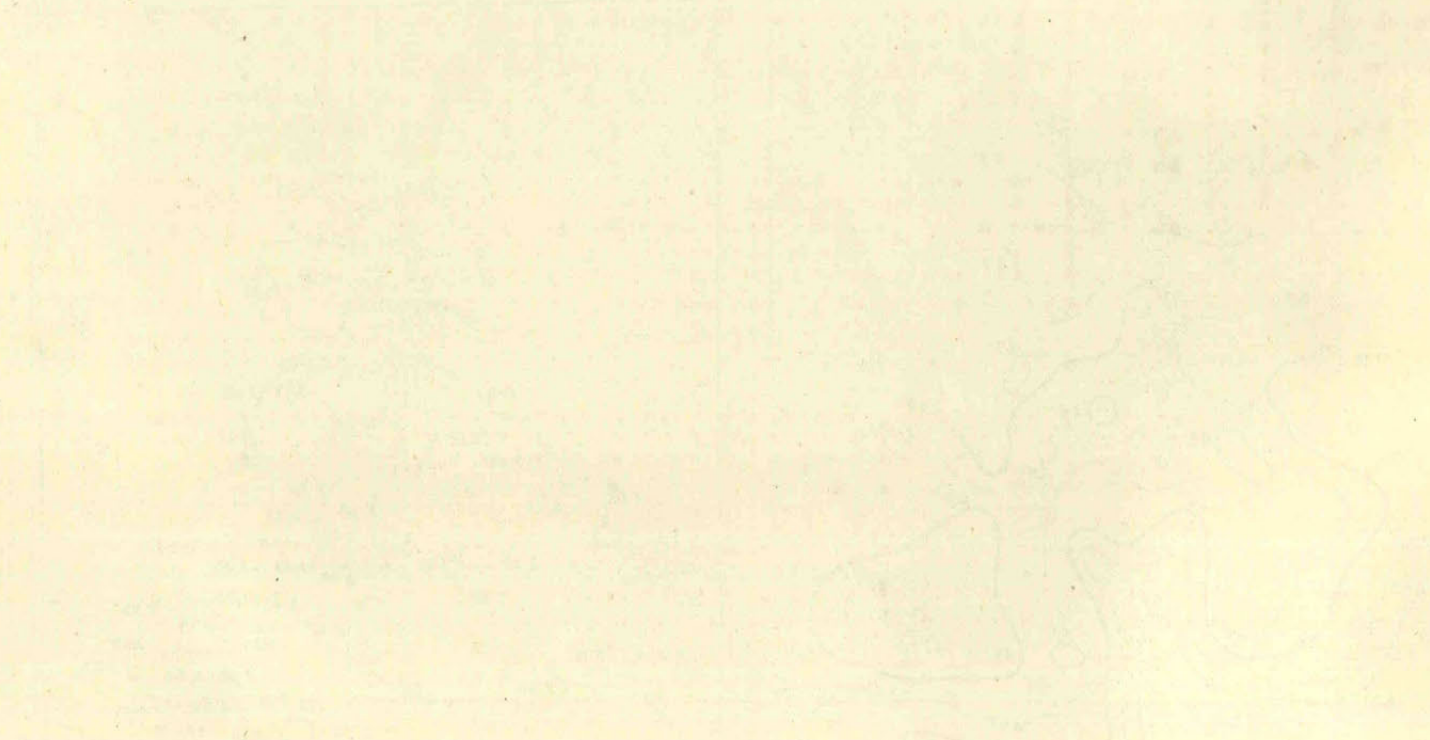


PLATE I.

DISTRIBUTION OF PUBLIC LANDS



U.S. GEOLOGICAL SURVEY

WASHINGTON, D.C.



SUMMARY of the OBSERVATIONS made at the STATIONS included  
in the DAILY and WEEKLY WEATHER REPORTS for the  
CALENDAR MONTH,

DECEMBER, 1899.

(Issued as a Supplement to the Weekly Weather Report, 1899.)

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.  
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; JOHN MENZIES & Co., 12, HANOVER ST.  
EDINBURGH, and 90, WEST NILE STREET, GLASGOW; AND HODGES, FIGGIS, & Co., LIMITED, 104, GRAFTON STREET, DUBLIN.

**General Summary.**—The weather of December was cold and changeable, with hard frost in nearly all districts about the middle of the month, and sharp (though less severe) frost about the 27th and 28th. Snow fell very generally between the 8th and 14th, and again in the western and northern districts between the 21st and 29th, while in the west and south of Ireland there were frequent heavy falls of rain. Thunder and lightning occurred in the north of Scotland on the 27th, and on our south-west coasts generally on the 28th. Pressure was above the average in the north, but below it elsewhere: temperature was low excepting in Ireland, the south-west of England, and the extreme north of Scotland; winds were mainly from the Southward; rainfall was less than the average in most parts of England and the west of Scotland, but largely in excess in the west and south of Ireland; bright sunshine was rather deficient generally.

**Pressure.**—*Mean at 8 a.m.* ranged from 29.90 ins. and upwards over the south-east of England to 29.75 ins. and less in the extreme northern and north-western parts of the kingdom generally, and to about 29.70 ins. in the Hebrides. The gradient was somewhat slighter than the normal, and the distribution of pressure was favourable for winds from a more Southerly quarter than is usual in December. In Scotland the mean values were above the average,\* but over England and Ireland they were below it, the deficiency being rather large in the south of Ireland. *Highest* readings occurred mostly on the 2nd, when the barometer rose to 30.4 ins., and upwards, over the entire kingdom; in the east of Scotland, however, the readings were equally high, and in some places a little higher, on the 21st. *Lowest* readings occurred on the 29th and 30th, when the mercury fell to 28.2 ins. at Scilly and to 28.5 ins. and less in all districts excepting the north of Scotland. In London the reading of 28.46 ins. at 5 p.m. on the 29th was the lowest observed since December 1886. *Range* was large—nearly two inches in most places, and still larger at many of our western stations.

**Depressions.**—Throughout all the middle portion of the month the Atlantic depressions were warded off by a large anticyclone which lay over northern Europe and which occasionally spread over a considerable portion of the United Kingdom. In several instances the depressions which appeared off our extreme western coasts split into two portions, one of these moving away to the northward, while the other passed southwards or south-eastwards to the Bay of Biscay and Spain. The only disturbance of any importance which advanced directly over the kingdom was that which passed north north-eastwards across our western and northern districts between the 29th and 31st, when the barometer fell, as has been already shown, to an unusually low level.

**Anticyclones.**—Two such systems were observed. The first spread over our islands from the westward on the 2nd, but soon moved away to the central, and finally to the southern parts of the Continent. The second was formed over northern Europe on the 6th and 7th and remained in that locality until about the 23rd, when it passed away to the eastward. On the 9th and 10th, and again between the 17th and 22nd, the system extended south-westward over a considerable portion of the United Kingdom. For some time, about the middle of the month, a second high pressure area was located over the Spanish peninsula and the neighbouring parts of the Atlantic.

**Winds,** though rather variable, were mostly from some Southerly point (South-east to South-west). Gales were rare in the east and south, but were rather numerous in the west and north; at Wick they occurred on 12, at Scilly on 13 and at Roche's Point on as many as 16 days.

**Temperature.**—*Mean at sea level* ranged from rather above 48° at Scilly, and from 45° and upwards on our extreme south-west coasts generally to 39° and less in the central parts of the north of Ireland, and to 35° and less in several distinct areas lying over the northern and eastern parts of Great Britain, the winter type of distribution being unusually well marked. The mean values were a trifle above the average\* in Ireland and the extreme south-west of England as well as on the north coasts of Scotland, but below it elsewhere, the deficiency being greatest (three degrees or more) at stations in the east of Scotland and the west and north of England. *Highest* readings occurred on various dates between the 1st and 6th, when the thermometer rose to 55° and upwards in many parts of the kingdom, and to 61° at Dublin, the latter reading being the highest recorded in that city in December for at least 27 years past. *Lowest* readings occurred between the 14th and 16th excepting in Ireland and the north of Scotland, where they were registered between the 26th and 28th. On the former dates severe frost was experienced over Great Britain, the sheltered thermometer falling to 10° or less at several of the northern and central stations, to 8° at Braemar, Geldeston and Loughborough and to 5° at Hereford (Belmont). At Worksop the thermometer on the ground fell on the 14th to - 7°. *Range* amounted to over 40° in many parts of Great Britain, and to as many as 51° at Hereford. *Vapour Tension* ranged from between 0.26 in. and 0.29 in. on our extreme south-west coasts to 0.18 in. over the central parts both of England and Scotland. *Relative Humidity* varied from 95 per cent. at Malin Head and 92 per cent. at Shields to 84 per cent. at Aberdeen and Valencia, and 81 per cent. at Jersey.

**Rainfall.**—In the west of Scotland and in all but the south-western parts of England the rainfall amounted to less than the average.\* Elsewhere there was an excess, slight in many places, but very large in the west and south of Ireland. At Valencia the amount was half-an-inch in excess of that registered in any month since the record commenced in 1869, while at Roche's Point it was more than two inches in excess of anything recorded since 1868. The largest aggregates reported were 12.9 ins. at Roche's Point, 11.4 ins. at Valencia and 11.0 ins. at Blacksod Point; the smallest being 1.3 in. at Rothamsted, Oxford and London, 1.4 in. at Felixstowe and Cranley, and 1.5 in. at Cambridge. Amounts exceeding an inch in 24 hours were recorded at many of the western and northern stations; at Roche's Point there were four such falls, two of which exceeded an inch-and-a-half. Snow or sleet occurred over nearly the whole kingdom between the 8th and 14th, and again in many places between the 22nd and 30th.

**Bright Sunshine** amounted in most places to a little less than the average.\* The percentage of the possible duration ranged from 30 at Aberdovey and 20 or more on the English and Welsh coasts generally to 10 or less at most stations in Scotland and the north-west of England, to 4 at Fort William and Glasgow, and to only 3 at Manchester (Prestwich).

\* The averages employed are—*Pressure and Temperature* for the 25 years, 1871-95; *Rainfall* for the 30 years, 1866-95; and *Bright Sunshine* for the 15 years, 1881-95.



TABLE XXIII.—Giving a SUMMARY of the METEOROLOGICAL OBSERVATIONS made at TELEGRAPHIC

Observations are made at 8 a.m. daily, but the Numbers of Days of Rain, Snow, Hail,

(The Stations are grouped in Districts, and then arranged in order of Latitude,

NAMES OF DISTRICTS.	NAMES OF STATIONS.	Mean Height of Barometer (at 32° Fahrenheit and Mean Sea Level) from Observations made at 8 a.m.	Difference from Average.	AIR TEMPERATURE.										TENSION OF VAPOUR.	RELATIVE HUMIDITY.
				Means of					Absolute Extremes.						
				At 8 a.m.	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.			
0. SCOTLAND, N.	Sumburgh Head	Ins. 29.785	Ins. +0.129	40.2	36.6	43.1	39.9	+0.7	30	28th	47	1st, 3rd	Ins. 0.213	86	
	Wick	29.750	+0.051	39.3	33.5	43.7	38.6	+0.9	19	26th	54	3rd	.215	90	
	Stornoway	29.701	+0.013	41.6	35.3	44.6	40.0	+1.1	28	26th, 27th	52	3rd	.229	88	
1. SCOTLAND, E.	Nairn	29.759	+0.032	36.2	30.0	41.9	36.0	-1.3	41	13th, 29th	55	3rd	.184	86	
	Aberdeen	29.813	+0.055	37.0	32.9	41.3	37.1	-0.3	16	15th	54	3rd, 4th	.184	84	
	Leith	29.809	+0.012	35.9	30.4	41.0	35.7	-3.2	12	14th	55	4th	.189	89	
2. ENGLAND, N.E.	Shields	29.836	0.000	37.5	33.2	40.9	37.1	-1.4	25	16th	53	1st, 4th	.205	92	
	Spurn Head	29.804	-0.006	38.8	55.2	43.1	39.2	+0.2	25	28th	53	3rd	.212	90	
3. ENGLAND, E.	Yarmouth	29.898	-0.017	37.6	32.8	41.3	37.1	-0.9	18	16th	52	1st	.198	88	
4. MIDLAND COUNTIES	Loughborough	29.895	-0.027	33.8	29.2	40.1	34.7	-3.0	8	14th	54	1st, 4th, 6th	.174	89	
	Oxford	29.906	-0.050	35.3	30.5	41.1	35.8	-2.6	15	16th	56	6th	.185	90	
5. ENGLAND, S.	London	29.918	-0.038	36.3	31.9	42.0	37.0	-2.2	23	16th	55	1st, 6th	.188	88	
	Dungeness	29.917	-0.037	38.7	32.8	44.4	38.6	-1.7	21	16th	54	1st, 2nd, 5th, 6th, 7th.	.210	89	
	Portland Bill	29.874	-0.091	41.8	36.6	46.1	41.4	0.0	25	15th	55	1st, 2nd, 6th	.231	88	
6. SCOTLAND, W.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7. ENGLAND, N.W.	Liverpool	29.853	-0.038	36.3	32.8	41.0	36.9	-2.9	21	14th, 15th	55	4th	.188	88	
	Holyhead	29.819	-0.057	41.2	36.5	44.5	40.5	-2.4	28	11th, 12th, 15th	54	4th, 6th	.217	85	
8. ENGLAND, S.W.	Pembroke	29.823	-0.091	43.8	39.1	47.2	43.2	-0.6	26	14th	55	1st, 5th, 6th, 7th.	.257	90	
9. IRELAND, N.	Malin Head	29.724	-0.044	41.5	37.8	44.3	41.1	-0.6	31	18th	54	6th	.247	95	
	Donaghadee	29.793	-0.047	41.1	37.4	45.0	41.2	+0.1	28	27th	53	6th	.243	94	
	Blacksod Point	29.742	-0.080	44.5	39.9	47.3	43.6	+0.6	29	27th	59	5th	.247	84	
10. IRELAND, S.	Parsonstown	29.789	-0.102	38.5	33.8	44.8	39.3	0.0	22	27th, 28th	56	6th	.215	93	
	Valencia	29.760	-0.140	45.5	41.0	49.7	45.4	+0.2	28	27th	57	5th	.255	84	
	Roche's Point	29.784	-0.124	45.4	41.3	48.9	45.1	+1.3	30	15th, 27th, 28th	54	3rd, 4th, 5th, 6th.	.273	91	
CHANNEL ISLANDS	Scilly	29.770	-0.180	48.5	43.8	52.3	48.1	+1.4	37	18th, 27th	58	4th, 6th	.290	86	
	Jersey	29.895	-0.098	42.7	38.2	46.2	42.2	-1.5	24	11th	55	1st, 6th	.220	81	

## BRIGHT SUNSHINE VALUES FOR DECEMBER IN

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Deerness (Orkney Islands)	15.0	?	8		Hollesley Bay (Suffolk)	64.2	?	27	?
Strathpeffer Spa	27.1	-4.0	14	-2	Sheffield	24.2	?	11	?
Edinburgh	13.8	-10.2	7	-4	Workshop	28.0	-4.8	12	-2
Morpeth (Cockle Park)	24.1	?	11	?	Thurcaston	32.5	+2.3	14	+1
Newcastle-on-Tyne	24.5	?	11	?	Margate	44.7	-3.0	19	-1
Oswaldkirk	? 28.0	-8.4	? 13	-3	Eastbourne	58.3	+2.5	24	+1
Lowestoft	52.3	?	22	?	Brighton	53.1	+2.1	22	+1



## REPORTING STATIONS in the BRITISH ISLANDS during the Month of DECEMBER 1899.

Thunderstorms, and Gales are counted irrespective of the Hours at which they occurred.

beginning in each case with the Station lying furthest North.)

AMOUNT OF CLOUD.	RAINFALL.				WEATHER.								WIND.										NAMES OF STATIONS.
	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Days of								No. of Observations of										
					Rain.	Snow.	Hail.	Thunderstorms.	Clear Sky.	Overcast.	Gales.	North.	N.E.	East.	S.E.	South.	S.W.	West.	N.W.	Calms.			
9.5	Ins. 4.67	Ins. +0.40	Ins. 0.85	30th	26	3	0	0	0	28	8	3	1	3	11	9	1	3	0	0	Sumburgh Head.		
8.3	3.71	+0.54	0.80	30th	23	3	1	0	0	17	12	1	0	3	3	14	0	3	7	0	Wick.		
9.7	5.79	+0.15	0.70	5th, 11th	28	4	1	2	0	28	9	2	2	3	2	4	9	4	4	1	Stornoway.		
6.0	3.72	+1.78	0.56	5th	17	5	0	1	4	12	0	0	0	2	3	2	4	6	2	12	Nairn.		
8.4	4.90	+1.79	0.81	6th	28	10	3	0	0	19	10	1	0	1	9	5	8	4	3	0	Aberdeen.		
8.1	2.17	+0.28	0.41	6th	15	3	0	0	0	18	1	0	0	5	3	3	4	4	0	12	Leith.		
8.2	3.42	+1.10	0.80	28th	20	5	1	0	0	15	0	0	1	2	5	4	11	6	2	0	Shields.		
6.8	2.13	+0.08	0.58	6th	11	7	0	0	3	8	9	1	2	5	6	4	6	4	3	0	Spurn Head.		
5.9	1.90	-0.63	0.41	6th	16	2	0	0	6	6	4	1	3	5	5	3	6	4	4	0	Yarmouth.		
8.0	2.11	-0.13	0.50	29th	17	5	0	0	3	21	2	0	0	4	9	2	3	7	2	4	Loughborough.		
8.3	1.30	-0.80	0.29	1st	18	6	0	0	4	23	0	3	4	6	4	2	7	1	2	2	Oxford.		
7.9	1.28	-0.83	0.25	1st	16	3	0	0	6	21	2	2	2	8	3	2	4	4	3	3	London.		
7.6	2.18	-0.61	0.63	29th	13	1	0	0	2	17	5	6	1	5	4	4	1	6	3	1	Dungeness.		
8.1	2.23	?	0.35	11th, 24th	18	0	1	0	2	20	5	2	6	6	5	4	1	4	3	0	Portland Bill.		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
7.4	2.93	+0.31	0.60	28th	15	4	1	0	5	17	1	0	0	12	7	2	5	4	0	1	Liverpool.		
7.9	3.77	-0.06	0.59	28th	18	2	2	0	1	15	6	2	2	5	7	6	4	3	2	0	Holyhead.		
8.2	4.28	+0.32	1.00	28th	23	1	0	0	0	14	4	1	4	10	4	3	5	1	3	0	Pembroke.		
7.2	2.55	?	0.30	4th, 28th	23	2	1	0	0	15	4	0	1	2	6	10	4	2	6	0	Malin Head.		
7.7	4.62	+1.77	0.80	28th	25	4	0	0	0	17	1	1	0	0	9	9	2	2	8	0	Donaghadee.		
6.7	10.99	?	3.27	16th	27	1	2	0	1	8	11	3	2	3	2	10	4	1	6	0	Blacksod Point.		
9.2	3.74	+0.65	0.62	28th	21	3	0	0	0	25	0	1	1	2	12	4	4	2	5	0	Parsonstown.		
8.3	11.36	+5.43	1.92	16th	28	2	1	0	0	20	8	6	4	5	5	5	2	1	3	0	Valencia.		
7.9	12.91	+7.75	1.75	13th	24	2	1	1	0	18	16	5	2	0	4	6	5	2	6	1	Roche's Point.		
8.4	6.36	+2.36	0.80	27th	23	0	1	1	0	15	13	1	3	5	6	8	3	2	3	0	Scilly.		
7.0	3.09	-0.67	0.60	26th	19	2	1	1	3	16	5	0	6	3	8	2	5	3	3	1	Jersey.		

## ADDITION TO THOSE FOUND IN TABLE XXIV.

Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.	Stations.	No. of Hours Recorded.	Diff. from Average.	Percentage of Possible Duration.	Diff. from Average.
Worthing .. .. .	58.0	?	24	?	Rhyl .. .. .	47.7	?	21	?
Bognor .. .. .	47.0	?	20	?	Colwyn Bay .. .. .	58.1	?	25	?
Watergate (Emsworth) ..	49.6	?	21	?	Aberdovey .. .. .	69.2	?	30	?
Westbourne (Emsworth) ..	50.1	0.0	21	0	Tenby .. .. .	38.8	- 8.4	17	- 3
Ventnor Hospital .. ..	39.0	?	16	?	Torquay .. .. .	47.3	- 5.1	19	- 3
Southport .. .. .	25.5	?	11	?	Newquay .. .. .	45.1	- 5.0	19	- 2
Hoylake .. .. .	36.0	?	16	?	Guernsey .. .. .	36.7	- 9.1	15	- 3



TABLE XXIV.

OBSERVATIONS of TEMPERATURE, RAINFALL, and BRIGHT SUNSHINE, obtained from the VALUES supplied for use in the WEEKLY WEATHER REPORT, for the Month of DECEMBER 1899.

NAMES OF STATIONS.	AIR TEMPERATURE.								RAINFALL.				BRIGHT SUNSHINE.				
	Means of				Absolute Extremes.				No. of Rainy Days.	Total Fall in the Month.	Difference from Average.	Maximum Fall in One Day.	Date.	No. of Hours recorded.	Difference from Average.	Percentage of possible Duration.	Difference from Average.
	Minima.	Maxima.	Min. and Max. combined.	Difference from Average.	Minimum.	Date.	Maximum.	Date.									
STORNOWAY	0	0	0	0	0		0			Ins.	Ins.	Ins.		14.9	- 10.5	8	- 5
LAIRG	28.0	39.1	33.6	- 2.7	13	15th	51	4th	19	3.99	+0.06	0.59	29th	—	—	—	—
GLENCARRON	30.5	41.0	35.8	- 0.6	18	27th	52	4th	20	6.33	- 3.49	1.71	3rd	—	—	—	—
FORT AUGUSTUS	31.5	42.2	36.9	- 0.8	16	28th	54	4th	19	2.59	- 2.40	0.46	5th	17.9	+ 10.8	9	+ 5
FORT WILLIAM	33.3	42.7	38.0	- 1.0	17	28th	54	4th	20	5.90	- 3.38	1.11	15th	8.1	- 3.2	4	- 2
ABERDEEN														13.4	- 26.5	7	- 13
BRAEMAR	25.3	36.5	30.9	- 3.3	8	12th, 13th, 15th	51	4th	20	3.24	+0.17	0.55	5th	14.0	- 7.2	7	- 3
OCHTERTYRE	27.8	38.9	33.4	- 3.2	12	14th	54	4th	17	4.72	+0.57	0.69	12th	—	—	—	—
MARCHMONT	29.5	38.4	34.0	- 2.1	16	14th	53	4th	15	3.59	+0.56	0.71	6th	25.3	- 8.3	12	- 4
ALNWICK CASTLE	29.8	39.6	34.7	- 3.1	17	15th	56	4th	18	3.48	+0.46	0.54	5th, 7th	—	—	—	—
DURHAM	30.5	38.5	34.5	- 2.4	16	13th	54	4th	20	2.50	- 0.21	0.50	28th	40.0	- 3.9	19	- 1
SCARBOROUGH																	
YORK														24.7	- 1.8	11	- 1
HILLINGTON	29.9	40.0	35.0	- 1.9	15	11th, 16th	52	1st, 7th	19	1.88	- 0.54	0.45	5th	45.7	+ 4.6	20	+ 2
GELDESTON	30.6	41.0	35.8	- 2.3	8	12th	53	1st	20	1.73	- 0.42	0.31	5th	46.5	- 2.0	20	- 1
CAMBRIDGE	30.4	41.2	35.8	- 1.6	17	16th	55	1st	14	1.49	- 0.33	0.35	5th	41.2	0.0	18	0
FELIXSTOWE	33.1	41.4	37.3	- 1.6	21	12th	51	1st, 5th, 6th	15	1.43	?	0.27	5th	61.2	?	26	?
ROTHAMSTED	30.1	40.3	35.2	- 2.3	14	14th	54	1st, 6th	19	1.27	- 1.16	0.24	28th	39.4	- 3.5	17	- 1
BAWTRY	28.9	39.2	34.1	- 3.1	10	14th	55	4th	17	2.23	+0.04	0.48	28th	—	—	—	—
STAMFORD (Ketton)	29.5	39.6	34.6	- 2.3	13	16th	55	1st	17	1.61	- 0.62	0.48	28th	—	—	—	—
CHEADLE	30.0	38.6	34.3	- 2.4	17	16th	53	4th	17	2.78	- 0.36	0.55	28th	—	—	—	—
SHIRLEY (nr. Solihull)	29.2	39.5	34.4	- 2.6	10	14th	54	6th	20	2.16	?	0.55	29th	—	—	—	—
CHURCHSTOKE	29.2	39.6	34.4	- 3.5	10	15th	55	1st	18	3.35	+0.24	1.12	28th	37.8	- 0.5	17	0
HEREFORD (Belmont)	28.7	40.2	34.5	- 4.0	5	15th, 16th	56	1st	14	2.30	- 0.06	0.82	28th	—	—	—	—
CIRENCESTER	29.5	40.8	35.2	- 2.2	12	15th	54	6th	14	2.44	- 0.32	0.55	28th	35.4	- 6.4	15	- 3
OXFORD														36.3	- 5.5	16	- 2
LONDON														23.6	+ 3.5	10	+ 1
CRANLEY	31.2	42.2	36.7	- 2.6	20	14th	54	1st, 6th	11	1.42	?	0.32	28th	—	—	—	—
HASTINGS	34.0	43.0	38.5	- 1.8	24	14th	54	1st, 6th, 7th	15	2.35	- 0.55	0.47	29th	68.7	+ 10.8	29	+ 5
SOUTHAMPTON	33.4	44.2	38.8	- 1.3	21	15th	57	1st	20	1.59	- 1.50	0.27	28th	38.6	- 11.5	16	- 5
SHAFTESBURY	30.6	40.8	35.7	- 0.9	19	14th	52	1st, 5th, 6th	21	2.55	- 0.51	0.96	28th	—	—	—	—
LAUDALE	34.5	43.4	39.0	- 1.3	18	28th	55	4th	25	6.75	- 2.43	1.30	15th	—	—	—	—
GLASGOW	32.5	40.1	36.3	- 1.9	18	28th	53	4th	16	3.42	- 0.63	0.57	6th	8.5	- 8.7	4	- 4
GLENLEE	29.1	40.5	34.8	- 2.7	9	14th, 15th	54	4th	21	5.31	- 1.05	0.86	23rd	—	—	—	—
DOUGLAS	36.1	44.7	40.4	- 1.0	27	27th	54	6th, 7th	18	5.08	+0.44	0.82	23rd	40.8	- 0.2	18	0
NEWTON REIGNY	28.7	39.0	33.9	- 2.2	12	14th, 15th	51	1st, 4th, 5th	13	2.46	?	0.57	29th	18.8	?	9	?
STONYHURST	31.2	39.4	35.3	- 2.5	14	28th	52	6th, 7th	16	4.10	- 0.68	0.83	4th	18.5	- 9.2	8	- 4
BLACKPOOL	31.2	41.6	36.4	- 2.6	16	14th	53	5th, 6th	15	2.82	- 0.32	0.37	4th	15.0	- 10.4	7	- 4
MANCHESTER (Prestwich)	30.4	40.8	35.6	- 2.1	15	28th	53	6th, 7th	18	3.20	- 0.48	0.71	25th	7.7	?	3	?
LLANDUDNO	35.2	43.2	39.2	- 2.6	25	11th, 15th	57	6th	17	2.61	- 0.52	0.42	4th	50.0	+ 19.3	22	+ 9
LLANDOVERY	28.9	43.1	36.0	- 2.2	13	15th	56	6th	19	3.05	- 2.34	0.74	28th	—	—	—	—
PEMBROKE														28.8	- 17.2	12	- 8
CLIFTON	32.5	42.4	37.5	- 1.8	19	15th	57	6th	15	3.44	+0.30	0.98	28th	—	—	—	—
ARLINGTON	33.2	43.6	38.4	- 1.4	20	15th	56	6th	21	5.23	- 0.71	1.04	28th	—	—	—	—
CULLOMPTON	32.1	44.2	38.2	- 0.5	17	15th	57	6th	20	5.12	+1.60	1.64	28th	38.0	- 0.6	16	0
FALMOUTH	40.9	48.3	44.6	+ 0.3	32	15th	57	6th	24	4.42	- 0.93	0.96	11th	43.2	- 12.9	18	- 5
PLYMOUTH	38.3	47.5	42.9	+ 0.3	26	14th	56	6th	22	4.27	+0.38	1.15	28th	41.6	- 10.1	17	- 4
SCILLY														41.8	?	17	?
JERSEY														56.0	- 6.6	23	- 2
LONDONDERRY	35.2	44.4	39.8	+ 0.2	21	28th	56	6th	25	5.91	+1.92	0.77	19th	—	—	—	—
EDENFEL (Omagh)	33.2	42.1	37.7	+ 0.4	17	28th	53	5th, 6th	18	4.99	+1.30	0.75	19th	—	—	—	—
MARKREE CASTLE	34.3	44.7	39.5	+ 0.6	19	27th	54	4th, 5th, 6th	27	6.18	+2.02	1.03	19th	23.1	- 11.2	10	- 5
ARMAGH	34.7	43.6	39.2	+ 0.9	23	27th	54	6th	22	3.42	+0.58	0.45	19th	30.8	- 4.8	14	- 2
DUBLIN	37.3	46.6	42.0	+ 0.9	26	27th	61	6th	24	3.29	+0.90	1.13	28th	43.6	- 8.6	19	- 4
PARSONSTOWN														36.8	- 8.2	16	- 4
KILKENNY CASTLE	34.5	45.6	40.1	- 0.2	22	27th	56	6th	26	5.38	+2.14	1.06	28th	—	—	—	—
VALENCIA (Cahiriveen)														27.0	- 16.9	12	- 7
KILLARNEY	38.3	48.3	43.3	+ 0.4	25	27th	57	5th	22	9.72	?	1.36	13th	—	—	—	—
FOYNES	36.9	46.7	41.8	+ 0.2	25	27th	56	5th	22	7.19	?	1.35	13th	—	—	—	—

\* For this information and additional reports of bright sunshine, see Table XXIII.

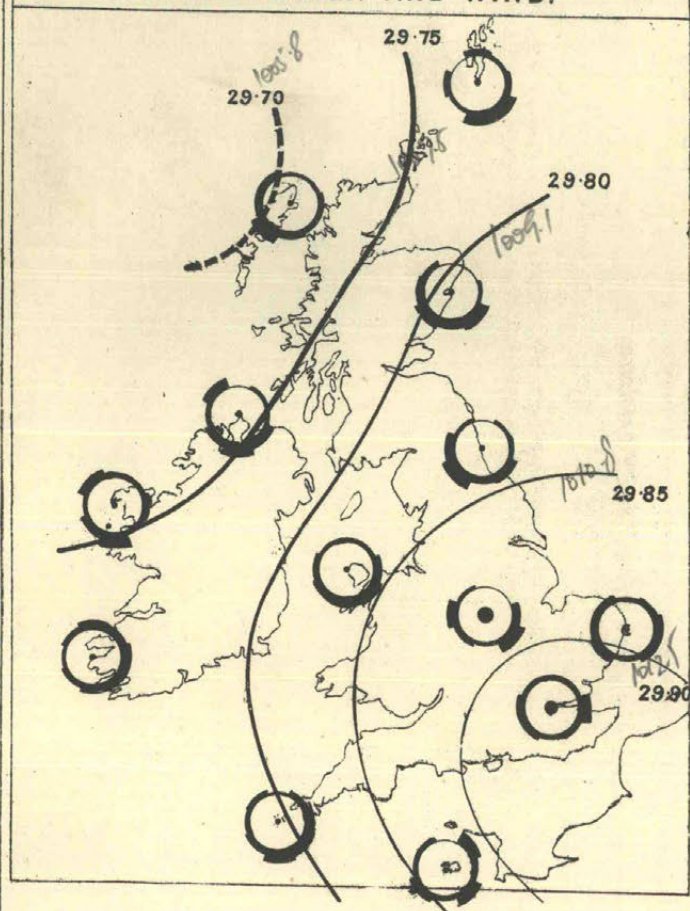


# MONTHLY WEATHER CHART DECEMBER 1899.

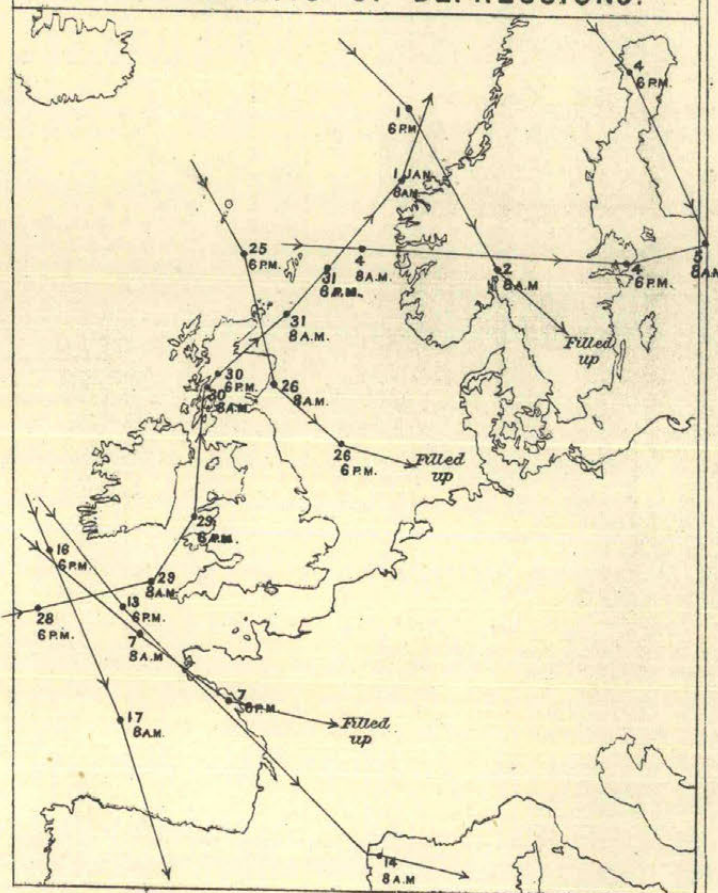
Monthly Summary.

Plate XII.

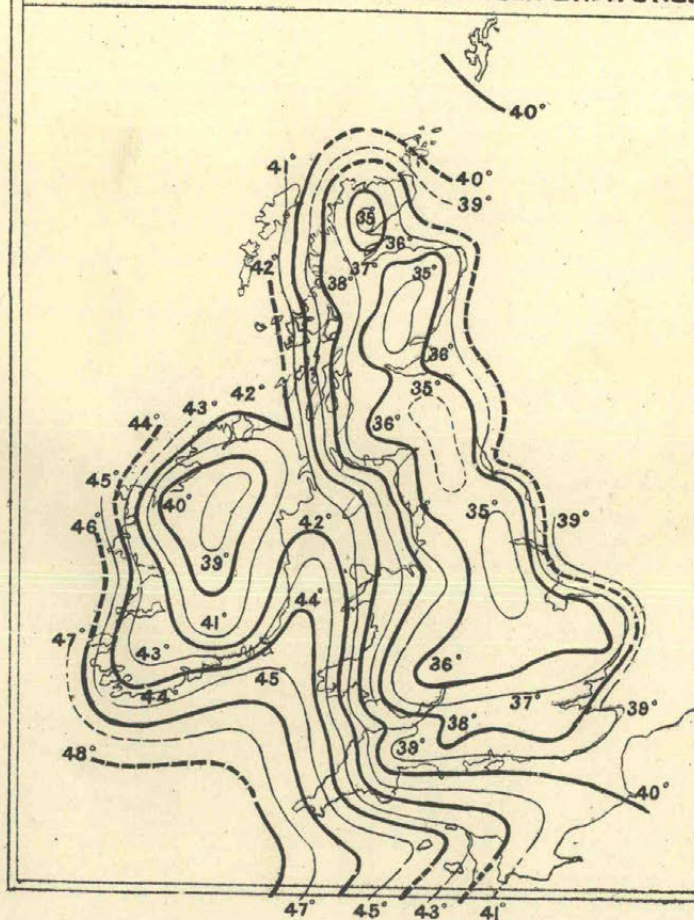
## 1. BAROMETER AND WIND.



## 2. MOVEMENTS OF DEPRESSIONS.



## 3. DISTRIBUTION OF MEAN TEMPERATURE.



## 4. RAINFALL.

