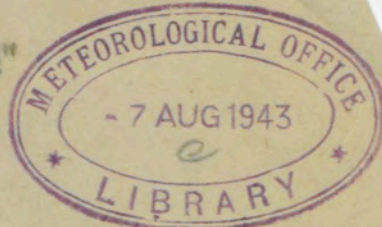


June-July 1943.



THE UNUSUAL WEATHER OF APRIL AND MAY, 1943

By L.F. Lewis.

The spring months April and May 1943 will long be remembered by meteorologists. Mean temperature in April was exceptionally high; it was probably the warmest April on record over Great Britain as a whole, other unusually warm Aprils being 1893, 1894, 1914 and in Scotland, 1896. On comparing the Aprils of 1893 and 1943 it was found that there were some interesting differences. In 1893 the pressure distribution was anticyclonic, the range of temperature great and the days notably warm. In 1943, on the contrary, pressure increased rapidly southward over the British Isles, the month was windier than usual and, although some days were very warm, the high mean temperature was largely due to warm nights. In England the period 15th-18th was exceedingly warm: at Kew Observatory it was the warmest spell of four days (highest mean dry bulb temperature) in April since comparable records began in 1854.

No less notable than the high temperature were the gales of the 5th-7th and 24th-26th, which were both widespread and severe, causing some loss of life and considerable material damage. The gale on the 7th was of exceptional severity: on that day an intense depression moved south-east from the Shetlands and a westerly to north-westerly gale prevailed over these islands. Among the highest speeds recorded in gusts were 91 m.p.h. at Eskdalemuir, Spurn Head and Manchester (Ringway), 88 m.p.h. at South Shields and 86 m.p.h. at Durham. These were all the highest gusts on record in any month at the stations concerned (Ringway is the only station with a short record) and they are the more remarkable because of the season: the most recent table giving the highest gusts on record at anemometer stations gives no instance of the highest gust occurring in April. The

time of day at which they occurred is also unusual: at Eskdalemuir it was 06.45h. at Spurn 11.50h., at South Shields 10.20h. and at Durham 07.00h. Such extreme gusts rarely occur in the forenoon (See page 193, ll. 8-9 of article entitled 'Wind in Britain by Gold in Q.J.Met.Soc. 1936 pp.167-206).

If the weather of April was notable, that of May was even more remarkable. It was characterised by large variations of both pressure and temperature, long sunny periods and alternating dry and wet spells. There was an unusual amount of snow for May from the 8th-10th; it was widespread in Scotland and occurred as far south as central Ireland and the northern half of England and Wales. Snow was six inches deep at Douglas, Isle of Man and three inches at Duntuil, Skye on the 9th and 4 inches at Newton Rigg on the 10th. The storm was particularly severe in Aberdeenshire, snow to a depth of 7 feet blocked the Braemar - Perth road at Cluny Lodge.

The extremes of pressure were exceptional for May; on the 8th pressure at mean sea level fell to 968 mb. at Sealand and only eight days later on the 16th, it rose to 1042 mb. at Dublin and values nearly as high were registered over much of England and Wales. As far as can be ascertained these values are records for more than 50 years for both low and high pressures in the British Isles in May and they are still more remarkable since they occur in the same month within eight days of each other; this is probably without precedent in May during the years in which reliable readings have been taken.

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The value 968 mb. at M.S.L. appears to be a record for the British Isles in May, some previous low readings being roughly 980 mb. at Valentia on May 6th, 1934 and approximately 982 mb. at Aberdeen and Eskdalemuir. on May 28th 1925 and at Falmouth on May 6th, 1929. In its long record back to 1796 Armagh reports values of roughly 975 mb. at M.S.L. in 1877 and 972 mb. in 1796.

Pressures of ⁴⁰1074 mb. are rare in May but in 1881 values of 1040 mb. or a little higher were recorded at stations in Scotland, north Ireland and north England on the 10th. The reading at Aberdeen, Glasgow and Armagh was approximately 1042 mb. Relatively high pressures were also recorded in May 1895, when Parsonstown reported a reading of nearly 1039 mb. on the morning of the 2nd and readings of 1036 mb. and upwards were registered in all the more central regions of the British Isles. In 1915 on May 9th, 1037 mb. was recorded at Dearness and 1037.5 mb. at Aberdeen and high pressures occurred in southern England on May 5th 1920, Totland Bay recording a value of nearly 1038 mb.

Temperature, too, showed large fluctuations. The period 7th-11th was cold and it was very warm over much of England on the 14th and in Scotland on the 18th-19th. At Croydon the maximum temperature on the 10th was 51°F. while that on the 14th, only four days later, was 85°F. a difference of 34°F.

RADIATION ON A VERTICAL WALL.

In the issue of the Magazine for June 1942 some computations were given of the amount of radiation falling on a vertical wall, facing south, in London for certain months of the year. The evaluations have been continued and the completed statement is set out below. A few arithmetical errors noted in the earlier article have been corrected in this statement. The earlier article explains the method employed in arriving at these values.

VALUES OF RADIATION ON A VERTICAL WALL FACING SOUTH AT KEW.

TABLE I. Direct Solar Radiation in cal/ft²/min.

hrs.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0600												
0700			+	10	+				7			
0800		2	35	85	97	58	73	85	74	29		
0900	8	35	90	143	162	120	141	153	107	106	6	
1000	64	103	188	215	244	185	222	243	275	211	82	42
1100	138	160	208	230	310	228	274	298	348	312	153	95
1200	160	190	286	268	315	249	286	308	366	312	190	117
1300	150	188	208	222	299	232	274	287	348	297	171	113
1400	87	123	203	210	235	188	218	233	275	217	110	56
1500	18	56	121	146	156	125	139	150	176	121	26	+
1600		7	55	94	93	63	74	83	101	49		
1700			7	13	+			+	20			

+ small amounts - angles cannot be read off diagrams with any precision.

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TAB. II
Total Radiation during day in hundreds of
Calories per sq. ft.

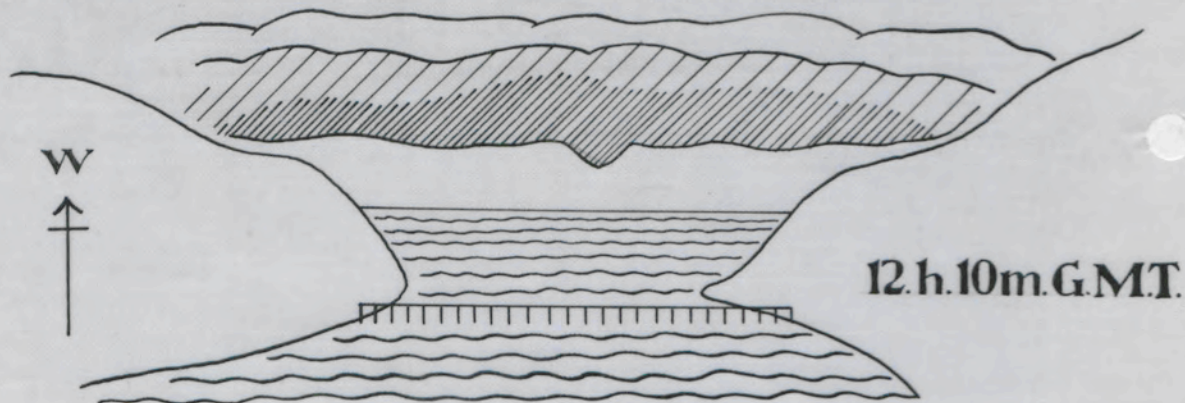
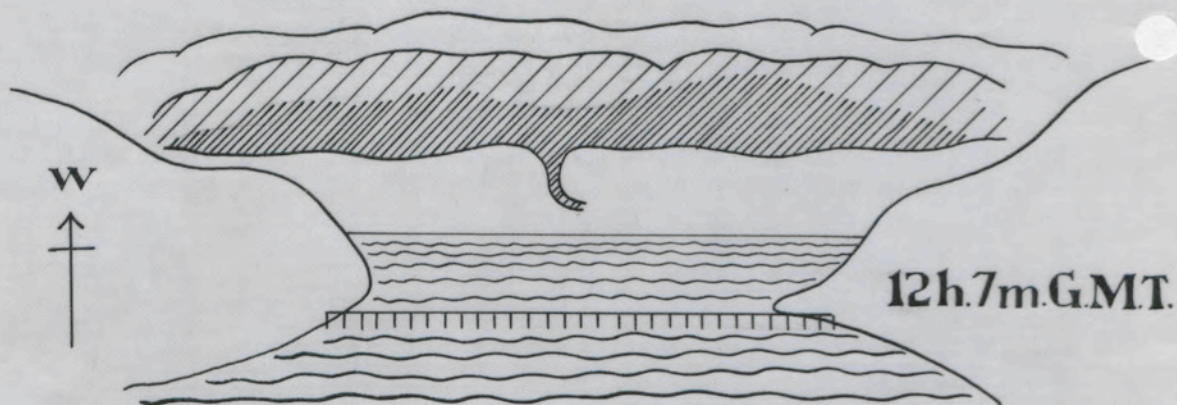
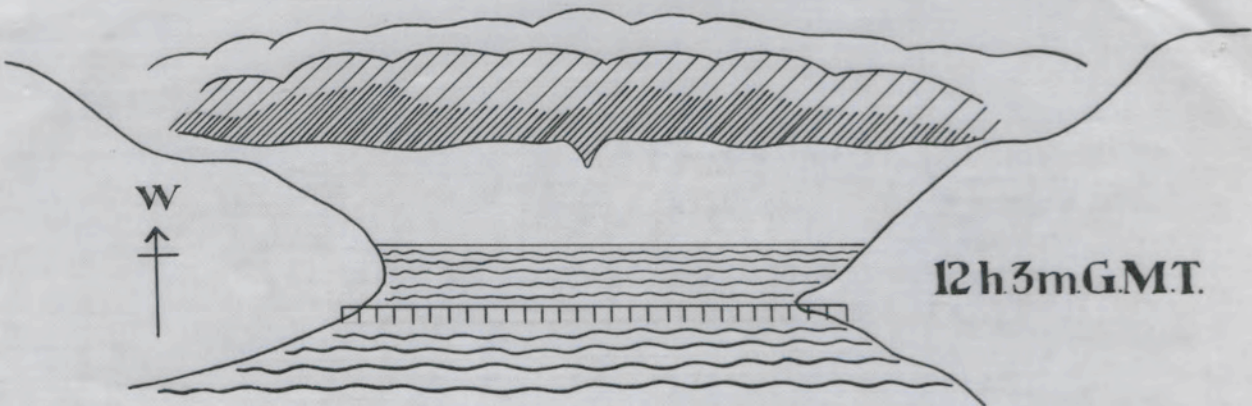
	J.	F.	M.	A.	M.	J.	J.	A.	S.	O.	N.	D.
Direct Solar radiation	375	518	837	903	1147	869	1021	1103	1258	992	443	254
Longwave radiation:												
(1) Sun shining ...	18	24	51	43	55	56	57	57	50	34	21	16
(2) Sun obscured ...	124	117	110	100	95	101	108	107	107	122	122	128
Shortwave radiation:												
(1) Sun shining ...	1	2	3	4	7	5	4	4	4	3	1	1
(2) Sun obscured ...	7	8	12	11	15	17	16	16	16	17	8	5
Total ...	525	609	932	1141	1319	1048	1203	1287	1433	1103	595	404

HEAVY HAIL DURING THUNDERSTORMS ON JUNE 15th-16th,
1943.

Local thunderstorms occurred in Great Britain on numerous occasions in the first half of June, 1943 and during the period 14th-16th, they were widespread. The storms on the 15th and 16th were accompanied in some places by unusually heavy hail. The observer at Lowestoft, Mr. Beckett, says of a storm on the 15th:- "It appears that the belt of heavy hail, which approached from a westerly direction, was about $\frac{1}{2}$ mile wide ... The hailstones were of semi-hard hail and I estimate that the average size was between $\frac{1}{2}$ inch and 1 inch, but taking very necessary cover with a board over the head, I measured quite a large number of over $1\frac{1}{2}$ inch diameter and several of $1\frac{1}{2}$ inch diameter." Special note of the shape was not recorded but the observer is of the opinion that they were of the usual circular shape as any variation would have been noticed. The largest stones must have been nearly as big as golf balls which are roughly 1.6 inch in diameter. With regard to the damage he says. "Lettuce plants in full conditions, were completely shredded as if with multiple knives, hard-hearted cabbages were cut to the heart. Potatoe haulm was stripped from the plants leaving only bare stalks. Peas and beans were cut off, and tomato plants smashed to the ground. Fruit trees were denuded of fruit (gooseberries, raspberries, currants,) and young onions, radishes and beetroot actually cut out of the ground."

At approximately 30 minutes after the beginning of the storm, a ruler plunged into the slush in the open showed a depth of 3 inches.

The daily press shows a photograph taken in north London after a hailstorm on the 15th, in which stones the size of camphor balls fell. The picture indicates hail lying some inches deep. Mr. Hawke reports



Funnel Cloud Observed over Cardigan Bay July 7th 1943

that in the Watford-Bushey-Stammore districts on the same day, he has heard on good authority that the storm was severe, with large hail (stones as big as cherries according to one informant), which did extensive damage to gardens. Another correspondent writes that on June 16th in High Holborn, London large hailstones fell during a heavy storm. The stones were ellipsoids, all the axes being about 1 cm.; when cut the usual concentric structure was plainly visible.

L.F.L.

FUNNEL

FORMED CLOUD OBSERVED OVER CARDIGAN BAY
JULY 7th 1943.

On July 7th a good example of a "funnel" cloud was observed over Cardigan Bay from the southern slopes of Moel Cynwch near Dolgelley. The sky at the time was about $\frac{1}{2}$ overcast, with a heavy band of nimbus apparently extending across the mouth of the Mawddach estuary about 8 miles distant. There was a fresh breeze from the west and the general conditions were rather cool and unsettled. As shown in the accompanying sketches, a "funnel" was observed to be forming shortly after noon G.M.T. and in a few minutes had developed a long tail in motion swerving to the north. At 12h.10m. however, this began to recede rapidly upward and by 12h.15m. had entirely disappeared.

A.T. BENCH.

ST. ELMO'S FIRE IN SHETLAND.

The following report of an unusual electrical phenomenon experienced on January 5th 1943 has been received from the Keeper of the remote Whalsey Skerries Lighthouse in Shetland.

"From 5.30 to 6.30 a.m. from the tower balcony, the top of the flagpole and gutter around the dome were seen to be illuminated. An effect was also felt at finger tips, which glowed and hissed, especially if ones arm was extended over the balcony rail."

The description suggests the brush-like discharges of electricity sometimes seen on masts and yards of ships at sea known as St. Elmo's Fire.

Two Dust-Devils observed at Wrexham.

I should like to place on record two occasions in the past twelve months on which have been observed these somewhat rare visitors.

The first dust devil occurred on June 20th, 1942; it appeared in the Public Park; it was about twelve feet high, and it pursued a meandering course over various types of ground, including grass, asphalt paths, and part of a hard tennis court, which, under wartime conditions, had become very dusty. Dry grass and dust were raised profusely, and when the devil passed the heavy iron gate of the tennis courts, it was thrown open. The rotation was clockwise. The day was one of a long spell of fine, warm and rainless weather, with high and steady barometer. There was a good deal of alto-cumulus early, and cumulus was beginning to form at 1035, when the dust devil was seen.

...

Two Dust-Devils observed at Wrexham (Contd.)

The other one was observed on May. 21st. 1943, at 1145. This day, too, was one of a warm, dry, sunny spell. It was observed on an "unadopted" road outside Wrexham Girls' County School; the surface of the road is of boiler ashes; it is about 300 yards from the weather station. The dust devil was about six feet high, and vigorous as regards its rotation and the volume of dust raised. The early stages of it were not seen - it was already developed and travelling in a South-easterly direction away from the observer when he came round the corner. An Air Force Officer said it was a perfect miniature of those he had been accustomed to seeing in the East.

It was dead calm at the time; there was much strato-cumulus over most of the sky, and below it a few cumuli beginning to develop into cumulo-nimbus; these clouds dispersed soon after.

S.E. Ashmore.

BIRTHDAY HONOURS 1943.

The order of K.C.B. is conferred upon Dr. N.K. JOHNSON, Director of the Meteorological Office and a Knighthood is awarded to Dr. H. Spencer Jones, Astronomer Royal.

56. Here
SOME NOTES ON 17th CENTURY WEATHER IN HEREFORDSHIRE.

Mr. F.C. Morgan, Librarian and Curator of the Hereford Public Library and Museum inquired about the weather in Herefordshire during the 17th century. He wrote:-

"A tract was published in 1661 recording an earthquake which took place in October of that year following a violent storm, when many miraculous events are said to have happened. Do you think this has any foundation in fact?

"Also in investigating the history of local iron forges I have come across a record of extensive repairs to the flood-gates at a local mill caused by a great flood. The repairs were made in October 1646. I have found a record that the summer of that year was very dry. Was it followed by heavy rains or were the floodgates repaired when the water was very low owing to the lesser rainfall?

Wing-Commander C.E. Britton has made the following comments:-

"The events in Herefordshire in 1661 mentioned by Mr. Morgan are referred to in the diary of John Nicoll, writer to the Signet. This diary was published by the Bannatyne Club (Edinburgh 1836) and at page 347 there is an account of an earthquake at Hereford followed by a violent tempest on the 1st October 1661. The account includes a number of miraculous events which are clearly impossible. According to Nicoll he obtained his information from a printed paper and I presume that this will be the tract which is referred to in the attached note. I have never seen a copy of this tract. It should be added that a few days later in his diary Nicoll states that the account in this tract is a pure invention. I am not aware of any other contemporary allusion to these events and it is therefore impossible to say how much reliance can be placed on the information given in the tract.

.....

Spent here

"I do not possess any notes of weather in the Hereford area in 1646. There are a number of allusions in various publications to the fact that the summer of this year was very hot, although it does not necessarily follow from this that it was also very dry. On the contrary such allusions as I can trace to weather in August and September would seem to indicate that this part of the year was unusually wet."

"Mr. Morgan is somewhat disappointed that the tract of 1661 is apparently entirely fictitious, especially as at the end of the tract is a printed statement that the truth is vouched for by various inhabitants of Hereford. He adds that at the beginning of the tract is a manuscript dated 1686 which gives the names of different witnesses (not autographs) who testify to the truth of the occurrences. Upon the back of this manuscript is a contemporary satirical poem.

"Mr. Morgan was good enough to send a photograph of the title page of the tract which is reproduced opposite.

ROTHAMSTED EXPERIMENTAL STATION.

The centenary of the Rothamsted Experimental Station was celebrated on July 21st, 1943, by a meeting of representatives of 28 nations and of many leaders of British Agriculture.

Recently the Royal Society of Arts awarded the Albert Gold Medal for 1943 to the Director, Sir John Russell.

This medal, struck in 1864 to commemorate the presidency of the Society by Prince Albert is awarded for "distinguished merit in promoting arts, manufacture and commerce."

It is interesting to recall that 50 years ago the medal was awarded to Sir John Bennet Lawes and John Henry Gilbert for their joint services to scientific agriculture and notably for the researches carried out by them at Rothamsted.

Sir John Russell is retiring in September and he is being succeeded as Director by Dr. W.G. Ogg who is well known for his researches at the East of Scotland College of Agriculture, the Macaulay Institute for Soil Research and elsewhere.

THE TERCENTENARY OF THE BAROMETER.

The tercentenary of the invention of the barometer is to be marked by a meeting to be held at the University of Toronto on October 19th, 1943.

OBITUARY.

Dr. Gerard de Geer, the eminent Swedish geologist, has died at the age of 84 (his death is reported in "The times" of July 26th 1943).

Dr. Geer is best known, perhaps, for his chronology of the closing stages of the Ice Age. By a study of the deposits of laminated mud (varve clays) laid down by the melt-waters of glaciers and ice-sheets, he obtained a definite chronology for the retreat of the great Scandinavian ice-sheet. He maintained that the same sequence of varves could be recognised also in North America as well as in Iceland.

Those who have had the privilege of meeting Dr. de Geer will remember, too, his charming personality.

A.E.M. Dodington. The death is announced of Commander A.E.M. Dodington R.N. on 6th July, 1943.

Commander Dodington passed out of Dartmouth in 1914. In 1920 he answered the first call of the Admiralty for volunteers to fly and when he was rejected as a pilot on medical grounds he joined the first course for naval observer's at Lee on Solent in 1922 and may thus be regarded as one of the pioneers in The Fleet Air Arm.

During two commissions on the China station he gained considerable experience of meteorological work in H.M. Ships and this was turned to full account on his return to England when in 1935 he was selected as the first naval officer to co-operate with the Meteorological Office in preparing Handbooks of Weather for naval stations. He was himself almost entirely responsible for the compilation of the Handbook of the China seas, which appeared in 3 volumes in 1937-8 and which with the Handbook of the Mediterranean, still forms the standard on which later volumes have been modelled. On the completion of the work Dodington joined the Naval Ordnance Dept., in which he served until he was invalided from the service early in 1943.

Cdr. Dodington will long be remembered by those with whom he worked for his courage and sound common sense and above all for his friendliness. He did much to promote good feeling and a spirit of co-operation between the scientific officers of the Meteorological Office and the Naval Meteorological Branch.

He leaves a wife and one daughter.

The Rev. Hugh de Normanville, O.S.B. died on June 22nd 1943. He was in charge of the Meteorological Station at Ampleforth Abbey, from 1912-1926 and again from September 1941 to the time of his death. The Rev. T.L. Jackson is now responsible for the station.

J.D.W. GRIFFITH.

It is with much regret that we have learnt of the death in April of Mr. J.D.W. Griffith, who maintained a rainfall record at Denbigh (Garn) from 1928 to February 1943. Mr. Griffith succeeded his father, the late Mr. W.D.W. Griffith, who set up the station in 1883 and made an unbroken series of observations up to the time of his death in 1927. The grandson, Major J.W. Griffith, hopes to resume observations of rainfall at the station after the war.

ARTHUR MEE.

It is with much regret that we have learnt of the death of Mr. Arthur Mee, Mr. Mee who is well known for his literary work maintained a rainfall record at his residence at Eynsford Hill, Kent.

Rainfall observations were commenced in 1914 and, except for the year 1940, returns have been received for each subsequent year.

Mrs. Mee has arranged for the continuance of the rainfall record.
