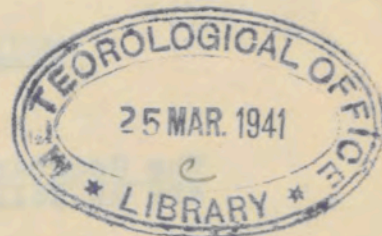


November, 1940.



SMOKE-CLOUD AND WIND OVER RUABON.

On the night of August 29th-30th 1940 a large fire was started by enemy action on Ruabon mountain, to the west of Wrexham, at a distance of about five miles. During the late afternoon of the 30th the smoke from the heather, gorse, etc. was noticed to be forming a true cloud, and at sunset on the same day, when the cloud was no longer illuminated by sunlight, its structure was visible, and appeared exactly like the stratus cloud which forms at sunset on clear evenings.

Early on the 31st the fire had extended to Esclusham Mountain, Cyn y Brain, and Eglwyseg Mountain, occupying an area of many square miles to the west of Wrexham, and on this day several interesting phenomena were observed in connection with it. The day was cloudless (except for the smoke-cloud already described) and very fine and warm. In Wrexham the morning was calm until about 10.30h. when a fresh breeze from the W. set in, very unexpectedly, and quite out of keeping with the character of the day. This wind increased in force until about 13h, when for a period of about five hours it blew with gale force, tearing branches from trees and doing other damage. But the most remarkable feature of the smoke-bearing wind was the small area over which it blew. To the north and south of a narrow belt running westwards from the fire to Wrexham the wind velocity was very much less, and this leads me to the conclusion that the high velocity of the wind was caused in some way by the fire itself. About 17h. I had to visit places outside the belt of wind described above, and found that absolutely calm, cloudless conditions prevailed, but on returning to Wrexham, the wind was still blowing, though with somewhat less smoke-content and increased gustiness. Then at about 20h.35m. another interesting phenomenon occurred, observed from Caego, four miles west of the most active part of the fire. The sky was perfectly clear, with stars, except for the area covered by the smoke cloud, when light rain commenced to fall from this cloud, continuing for about twenty minutes. This is the first time I have heard of rain falling from an "artificially produced" cloud. The wind gradually lessened during the early hours of September 1st, as the intensity of the fire decreased.

S.E. ASHMORE.

TWILIGHT: Civil, Nautical and Astronomical.

An interesting note with this title is included in The Geographical Journal for September 1940. The main points are as follows:

The Nautical Almanac defines twilight as the periods evening and morning between the times (called astronomical twilight) when the sun is 18° below the horizon and the times when its refracted upper limb is on the horizon at sunset or sunrise. It then divides these periods each into three by defining civil twilight as the time when the centre of the sun is 6° below the horizon, and nautical twilight as the time when it is 12° below.

The Nautical Almanac considers that if the sun is much lower than 6° "ordinary outdoor civil occupations are impracticable without artificial light", assuming that the sky is clear. The shortening of effective twilight caused by cloudy skies corresponds roughly to the distinction made by the Road Transport Act 1927 in the times of lighting up: half an hour after sunset when Summer Time is not normally in force, an hour when it is. This takes no account of the light of the night sky. On a bright starlit but moonless night one can see the main features of the landscape after a few minutes away from artificial light; and part of the light comes from permanent auroral glow.

Civil twilight in latitude 50 lasts for 32-44 minutes according to the seasons and in latitude 60 from 83-116 minutes, while at the equator, despite the popular view that there is no twilight in the tropics, it lasts for about 22 minutes at all seasons.

Nautical twilight might have been called naval twilight, for it is supposed to mark the end of the time in which there is or may be just enough light for handling and landing boats; the sea horizon for sextant observations has disappeared earlier, round about the time called civil twilight. But even astronomical twilight is not to be despised: clear nights in June are in our latitudes never really dark.

These questions of twilight have now more importance than usual; Wardens and Home Guards would find it interesting to note each evening the time when it is effectively dark enough to stay or permit certain operations, and so estimate the value and significance of these twilight tables first calculated for the Nautical Almanac for 1937, and summarized in Whitaker.

OPTICAL PHENOMENA OBSERVED AT PETERBOROUGH IN
OCTOBER 1940.

At 16h.15m. G.M.T. on the afternoon of October 15th extensive irisation was seen above the setting sun. Coronal colouring on lenticular belts of alto-cumulus at first was visible up to 12 degrees from the sun. Above the strips of alto-cumulus was visible the faint upper semicircle of a thin 22 degree halo, formed by thin striated cirro-stratus, so that I could measure very easily the extension of the colouring from the sun. By 16h.23m. only the upper limits of the halo remained as the cirro-stratus was moving quickly away eastwards, but irisation now was visible on fragments of alto-cumulus 20° from the sun, on three sides.

At 16h.30m. the phenomenon was extremely beautiful, lenticular fragments between 28 and 30 degrees from the sun were now glowing with colour. All the edges and extremities of the clouds were fringed with rose, and the centres were alternately coloured with green, turquoise and violet. All the colours were remarkably fine and this was the most extensive coronal colouration that I have seen in the past seven years of observing. The colour seemed to be the deepest, farthest away from the sun, and was visible in every direction.

On October 21st at 21h.35m. G.M.T. the unusual phenomenon of a mock-moon was seen through bands of alto cumulus. The cause was a small belt of cirrus.

G.E.D. Alcock.
59, London Road,
Peterborough.

Aurora Observed from Earls Colne, Oct.1st 1940.

Aurora was observed from Earls Colne, on Tuesday, October 1st, from 19h.20m. to 19h.30m. G.M.T.

Centre - about 15° west of North.
Extent - about 30° wide - from horizon to about 45° high.
Colour - orange west, green east - appeared to be drawn-up musical-hall curtains. Centre was brilliant white light.

This was thought to be an oil-bomb at first but was soon seen obviously to be aurora. I happened to hear a local wireless set nearly bursting itself with crackling during the appearance.

The papers next morning reported that many people had mistaken the London barrage for northern lights - but I am pretty certain it was aurora.

H.V.Sims.

Earls Colne.

Essex.

October 6th 1940.

MISCELLANEOUS FILES.

"A great danger in any filing system is the opening of a miscellaneous or general file for documents which cannot be easily placed. Very strict orders should be given to prevent this being done, since these are never really necessary and only result in a document getting lost."

From the R.A.F. Quarterly, September, 1940.

METEOROLOGICAL STATIONS.

Malvern: Mr.W. Osborne Thorp, the Surveyor to the Council has retired. He was responsible for the meteorological observations from 1925 onwards.

Chelmsford: The Crop-Weather station at Chelmsford (Agricultural Station) has now been transferred to Writtle and it is hoped that observations will begin shortly.

Ramsgate. The station suffered severely in the bombardment in August and the Office of the Engineer and Surveyor were wrecked and many records damaged or destroyed.

All the instruments are now in working order with the exception of the barometer which has just been salvaged from the wrecked office.

Meteorological observers continue to maintain records in spite of difficult conditions and the number of stations closed through enemy action is very small.

Mr.J.L. Bennett, who has recently established a climatological station at Colgate near Horsham reports that he was bombed and forced to leave his house. He now writes that it has been possible to resume:- "it would take a lot to make me give up the weather observations."

Unfortunately Mr.Bennett's new home was also bombed and he was forced to leave the neighbourhood for the time being.

OBITUARY.

SIR F.G. HEYGATE. Bart. who died on January 1940 was responsible for the rainfall observations at Bellarena, Co.Londonderry from 1915 onwards. The record was started in 1864 by Sir.F.W.Heygate and it is hoped that this long and interesting series of observations will be continued.

Miss B.M. LEGH. who died in October 1940 was responsible for the rainfall observations at Camp Field, Minchinhampton, from 1925 onwards. This record which was started in 1913 by Mr.Piers Legh has now terminated.
