Mainly Dry and Sunny, but Cool

This picture of a dry Dublin reservoir provides a graphic illustration of how critical the water supply situation in parts of the south and east had become by the latter half of the month. At least the periods of high pressure meant that it was a sunny month overall, except in the northwest, although the clear skies at night caused some sharp frosts inland, leaving mean temperatures a little below normal by the end of the month. The main interruptions to the settled weather were the result of depressions related to tropical storms.

(photo Irish Times)
The month began with an anticyclone to the south and a mild southwesterly airflow over the country. A cold front came down from the northwest and crossed during the night of the 2nd/3rd. It gave appreciable rain in the northwest but little or none in the southeast; this proved to be typical of the spells of unsettled weather for much of the month.

Fortunately the extratropical storm which formed from hurricane 'Gustav' passed well to the north on the 5th. A low moved southeastwards from the north of Scotland into the North Sea on the 6th, maintaining a blustery northwesterly windflow over Ireland. From the 7th to the 13th an anticyclone centred west of Ireland gave generally dry conditions with fog overnight but a good deal of sunshine also, especially between the 9th and 11th. During the 14th and 15th the high-pressure area drifted eastwards and a slack southeasterly windflow developed. On Sunday the 16th some fairly heavy showers developed in a southeasterly airflow but luckily did not affect the football final.

The settled period ended with the passage of a cold front late on the 16th and early on the 17th which caused the wind to veer northwesterly. On the 18th a deep depression moving eastwards to the south of Iceland absorbed the remnants of tropical storm 'Iisleore'. Ireland was in a blustery westerly and there was rain in all areas on the 18th and early on 19th. It remained blustery on the 19th and 20th with northwesterly winds and occasional showers. During the 21st winds slackened as a shallow depression crossed Munster but amounts of rain in the east and south were disappointingly small.

From the 22nd to the 24th northwesterly winds were maintained by a depression centred to the east. There were occasional showers, some heavy on the 22nd. A high near Iceland extended eastwards on the 25th and it was dry with slack northerly winds. The high remained dominant as it moved southeastwards to be south of Ireland on the 27th, but the wind shifted to the southwest. During the 28th the high continued to move away eastwards but it stayed mild and dry. However on the 29th, as a depression moved up from the Azores, its warm fronts approached the south of Ireland. There was some heavy rain in the south and southeast where it was much needed. Further north in the Dublin area amounts of rainfall were considerably less. As the weather turned to the northwesterly winds that prevailed until the end of the month. The sequence of charts across shows tropical storm 'Iisleore' following a similar path later on in the month as it moved north it merged with an existing depression and swept across the Atlantic to reach Ireland on the night of the 18th/19th. The radar picture above shows the rainfall pattern at midnight while the satellite picture on the previous page shows the situation during the early afternoon of the 19th, when the strongest winds occurred, with gusts of up to 63 knots at Malin Head.
A very dry month

While not comparing with the record dry September of 1986, it was a dry month everywhere, especially in the Midlands and east. Monthly totals ranged from 67mm (66% of normal) at Malin Head to just 13mm (17% of normal) at Mullingar, less than 40% of normal rain fell at most stations.

During the first week there was occasional rain in the north and west but little or none in the south and east except on the 5th. The period from the 7th to the 15th was essentially dry apart from spots of rain or drizzle in some coastal and hilly areas. The weather was unsettled from the 16th to the 20th, but in a predominantly west to northwest windflow the south and east did not receive enough rain to significantly alleviate the shortage of water. Dry anticyclonic conditions prevailed from the 25th to the 27th and for much of the 28th.

The heaviest rainfall of the month affected the south and east during the 25th and early on the 26th: a total of nearly 29 mm fell at Cork Airport, 23 mm at Kilkenny but only 2 mm at Casement Aerodrome. Near the south coast more than half the monthly total fell in this single event, with Rosslare for example recording 21 mm of its 36 mm total. The number of days with rain varied from 20 at Malin Head to just half that at Dublin Airport and Rosslare.
Cool nights produce below normal means

Mean temperatures ranged from normal along the south coast to 0.8°C below at Casement Aerodrome, mainly the result of some frosty nights during the month.

Daytime maximum temperatures were on average above normal, except in Ulster and north Connacht where they were slightly below. The warmest spells were from the 1st to the 3rd, 9th to 12th and the 28th, while daytime temperatures were below or about normal from the 14th to the 26th, the 21st and 22nd being particularly cool. Highest temperature of the month was 25.3°C, recorded at Kilkenny on the 2nd when a number of stations had their highest September maximum for 5 years.

Mean minimum temperatures ended the month mostly between 0.5°C and 3.5°C below normal although Malin Head was only 0.2°C below. Nights were cool from the 8th to the 13th and between the 21st and the 27th. Ground frost was widespread inland on the 14th and 15th - when the lowest ground temperature of the month, -4.4°C, occurred at Birr - and again between the 25th and the 27th. The lowest air temperatures were also recorded at most stations on those dates: the first air frost of the autumn occurred at Birr on the 26th when the temperature dropped to -0.3°C, the lowest value of the month.

Good sunshine except in northwest

Sunshine amounts were above average everywhere except in the extreme north and northwest, because of the predominant westerly winds. Mean sunshine durations ranged from around 3 hours a day at Malin Head and Belmullet to over 6 hours a day at Rosslare.

Some stations in the south and southeast, in recording 135% to 141% of normal sunshine, had their sunniest September since 1959, while Belmullet, with just 79% of normal, had its dullest September for 5 years. At most stations percentage totals were between 100% and 125% of normal.

The sunniest days were the 2nd, 3rd, 9th to 11th and the 26th, when more than 10 hours of sunshine were recorded at some stations. On the 7th Roche's Point recorded 11.7 hours of sunshine, its highest September amount in 11 years. There were between 1 and 4 days with no sun during the month. The dullest dates were the 16th, 23rd and 29th.

Given that the average length of day in the month of September is 12.7 to 12.8 hours, the percentage of possible sunshine received varied from less than 25% in the northwest to almost 50% in the extreme southeast.
Valentia Observatory

Valentia Observatory is situated just outside the town of Cahersiveen in Co. Kerry. Its name derives from the fact that the observatory was originally established on nearby Valentia Island, where the first weather observations were made on the 8th of October 1860. The Observatory has played a very important role in the world of meteorology. Because of its strategic location on the western edge of Europe, its observations of both surface and upper-air weather conditions are of great interest to forecasters, particularly in Europe. With its long history and tradition, the Observatory has an international reputation.

There has been a steady expansion of the activities undertaken at Valentia following the move to the present site in 1892. Weather observations have been made on an hourly basis since 1892. Observations of upper-level pressure, temperature, humidity and winds are made twice daily, at midday and midnight, using a radiosonde carried aloft by a hydrogen filled balloon. In 1953 a set of variometers and recorders was installed to provide continuous records of the variations in declination, and horizontal and vertical force of the earth’s magnetic field. Global solar radiation observations commenced in 1954 and the observational programme has been expanded since then to include diffuse sky, direct sun and infra-red radiation together with observations of the net radiation budget, atmospheric turbulence and observations of the radiation received on a vertical south-facing surface.

Air and precipitation samples have been collected and processed during the last 30 years for chemical analysis and for radiocarbon monitoring. Twice daily observations of the concentration of atmospheric nuclei were begun in 1950, and since 1976 there has been continuous recording of this concentration using samples taken from the atmosphere every half-hour. In 1962 the Meteorological Service was invited to participate in the ‘World-wide standard seismograph network’ organised by the United States Coast and Geodetic Survey. The equipment was installed at Valentia in a specially-prepared semi-underground vault and consists of short-period and long-period vertical and horizontal seismometers and recorders, together with associated monitoring consoles.

The map above shows the mean monthly surface pressure values at 0600, (in hPa). It is best considered in conjunction with the map of long-term average pressure for the month of September, to the right. A comparison between the two firstly shows that mean atmospheric pressure last month was 1.6 hPa above normal. It also shows a stronger than usual northerly component in the mean wind direction and that mean wind strengths were also above normal, as indicated by the closer spacing of the isobars, especially in the north.

SEA TEMPERATURE

A tide gauge is maintained by the Ordnance Survey at Portmore Pier, Malin Head. Sea level readings and observations of sea temperature are made twice a day by the staff of the nearby meteorological station. Records date back to 1939, the few small gaps in that record being due to the impossibility of reaching the tide gauge at the end of the pier during stormy weather.

The mean sea surface temperature at Malin Head during September 1950 was 16.5°C, which is 0.4°C above the 1939 to 1980 average for the month. An indication of the conservative nature of sea temperature is given by the fact that the highest value of the month was just a degree above the mean and the lowest a degree below. Sea temperatures around the coasts of Ireland generally ranged from between 14.5°C in the north to 16.5°C in the south at the beginning of the month, to between 13°C and 15°C by the end of the month. They will continue to fall slowly till about next February.
Saturday 1st: Generally cloudy and mild - only the south coast having much sunshine. Cloud thick enough to give some drizzle. Light variable winds.
Rainfall: 0.64mm
Temperature: max. 17°C, min. 12°C
Relative humidity: 76%
Sunshine: 6.5 hours

Sunday 2nd: A warm southwesterly airflow over the country. Some fog or drizzle lasting out in all but northwestern areas. Later more persistent rain moved into western coastal areas. Southwesterly winds were generally light but moderate to fresh in the west.
Rainfall: 3.6mm across western areas, less than trace elsewhere
Temperature: max. 17°C, min. 11°C
Relative humidity: 76%
Sunshine: Variable, low pressure and widespread fog 1/4 hours at Colchester

Monday 3rd: A cold front crossed the country during the night and a fresh to strong unsteady westerly flow became established. Sunshine and a few showers.
Rainfall: 0.5mm
Temperature: max. 17°C, min. 14°C
Relative humidity: 81%
Sunshine: 5.5 hours but 3.5 hours at Colchester

Tuesday 4th: A westerly airflow brought showers to western and northern areas. Only a few scattered light showers elsewhere. Generally cloudy with some small amounts of sunshine. Later a weak front moved into the west giving some light rain as it crossed eastwards. Winds light to moderate westerly before becoming strong in the afternoon and increasing moderate to fresh on western coasts.
Rainfall: 0.5mm
Temperature: max. 15°C, min. 7°C
Relative humidity: 45%

Wednesday 5th: A deep depression moved east-northeast to north of the country. Associated fronts crossed the country during the day. A moderate to fresh southeasterly wind strengthened and veered during the day to become strong with some gales over the north by late evening. Rain and later showers fell in all areas.
Rainfall: 3.6mm at Enniskillen, mild northeast
Temperature: max. 16°C, min. 12°C
Relative humidity: 81%
Sunshine: 6.5 hours

Thursday 6th: A depression centred over northern Scotland. Strong west to northwesterly airflow over the country. Winds northwest or west to fresh to strong - gale force in the north with gusts reaching 50kts. Widespread showers - mostly light. Winds eased in the evening.
Rainfall: 2.2mm at Galway, Strong winds
Temperature: max. 16°C, min. 7°C
Relative humidity: 62%

Friday 7th: A northwesterly airflow over the country as an anticyclone out to the west drifted slowly towards us. Northwesterly winds generally light to moderate but strong in the north with gusts. Light showers in places.
Rainfall: 0.2mm
Temperature: max. 14°C, min. 7°C
Relative humidity: 81%
Sunshine: 7 hours

Saturday 8th: An anticyclone approached from the west as a weak front moved southsouthwestwards, giving outbreaks of drizzle in Ulster. Elsewhere, it was a dry day with some spells of mist, except in the south western half where it was mainly cloudy. Mist and fog affected some inland areas.
Rainfall: 0.6mm
Temperature: max. 16°C, min. 5°C
Relative humidity: Up to 8 hours

Saturday 9th: The anticyclone over the country was almost stationary, after a cold front with widespread fog, the day was dry, with warm and sunny with light variable winds.
Rainfall: 0
Temperature: max. 16°C, min. 4°C
Relative humidity: 62%

Saturday 10th: A strong cold front crossed the country during the night, changing light rain. The day was mostly cloudy with some scattered light showers. A weak warm front brought further light rain to northwestern areas late in the evening. Winds west to northwesterly, light to moderate generally but fresh and gusty in the north and northwest.
Rainfall: 0.1mm at the south, showed up to 0.5mm at Inishowen, light rain at Malahide Head
Temperature: max. 16°C, min. 7°C
Relative humidity: 62%

Sunday 11th: The warm front passed eastwards giving rain in Ulster and North Leinster. Warm sector conditions followed with southwesterly winds rising steadily during the afternoon and evening. Rain in most areas, heaviest in the north.
Rainfall: 3.6mm in the south, up to 10mm at Malahide Head
Temperature: max. 16°C, min. 9°C
Relative humidity: up to 8 hours of Malahide

Monday 12th: A cold front crossed southeasterly across the country during the night - winds veering from the south to northeast generally moderate to fresh but gale force in the north. Rain, mostly light at night - isolated showers by day.
Rainfall: generally light to trace. Snow in Tueart
Temperature: max. 16°C, min. 7°C
Relative humidity: 62%

Tuesday 13th: Continuing anticyclonic weather.
Rainfall: 0
Temperature: max. 16°C, min. 7°C
Relative humidity: 62%

Wednesday 14th: As the anticyclone moved closer to the northwesterly airflow over the country, resulting in a cool, dry day with scattered showers. A frontal trough moved into the south during the evening bringing rain and drizzle to the south and west. West-northwesterly winds, moderate to fresh at first, with gusts in the north, later dropped light and variable.
Rainfall: 0.5mm
Temperature: max. 16°C, min. 7°C

Thursday 15th: A northwesterly airflow over the country resulted in a cool, dry day with scattered showers. A frontal trough moved into the south during the evening bringing rain and drizzle to the south and west. West-northwesterly winds, moderate to fresh at first, with gusts in the north, later dropped light and variable.
Rainfall: 0.5mm
Temperature: max. 16°C, min. 7°C

Friday 16th: A southwesterly airflow over the country resulted in a cool, dry day with scattered showers. A frontal trough moved into the south during the evening bringing rain and drizzle to the south and west. West-northwesterly winds, moderate to fresh at first, with gusts in the north, later dropped light and variable.
Rainfall: 0.5mm
Temperature: max. 16°C, min. 7°C

Saturday 17th: A light to moderate southwesterly airflow becoming variable. Early morning drizzle was replaced by persistent rain on the south east and east as a depression developed near the north coast.
Rainfall: 0.5mm generally but 2.5mm at Malahide
Temperature: max. 16°C, min. 9°C
Relative humidity: 62%

Sunday 18th: Early rain as the depression moved away westwards. A weak ridge approached from the west. A dry day with light to moderate north or northwest winds.
Rainfall: 0.5mm in southwest and south, less than 0.5mm elsewhere
Temperature: max. 16°C, min. 9°C

Sunday 19th: No rain as the depression moved away westwards. A weak ridge approached from the west. A dry day with light to moderate north or northwest winds.
Rainfall: 0.5mm in southwest and south, less than 0.5mm elsewhere
Temperature: max. 16°C, min. 9°C

Sunday 20th: A cold front crossed the country as the high to the east declined. Southwesterly winds veered northwesterly with the passage of the front.
Rainfall: 0.5mm generally but 2mm at Malahide
Temperature: max. 12°C, min. 8°C

Sunday 21st: The northwesterly airflow over the country was established. Winds were light to moderate northwesterly through the period.
Rainfall: 0
Temperature: max. 15°C, min. 5°C

Sunday 22nd: A cold front moved eastwards, bringing colder temperatures to the area.
Rainfall: 0
Temperature: max. 12°C, min. 8°C
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NOTES: Rainfall in millimetres. Temperatures in degrees Celsius. Sunshine in Hours and Wind in knots. Gale Gust = Gust of > 33.5 knots. * = days with 0.2mm or more

Annual subscription £21. All data published in this bulletin are provisional.