



December 2020

Cool, wet and windy at times

Blocking high-pressure systems to the east and at times to the west and north, led to a pattern with deep Atlantic troughs of low-pressure repeatedly stalling close to or over Ireland during December 2020. This kept Ireland on the cool, northern side of a highly amplified, meandering Jetstream. After a few dry days at the beginning of December, a trough of low-pressure moved in from the northwest and stalled over Ireland and the UK for most of the first week in a cyclonic or northerly airflow. This brought strong winds, with bands of rain or showers at first, but also some dry, cold days with frost and fog at night towards the end of the week as the low filled. This setup continued during the second and third weeks as further deep troughs of low pressure stalled just to the west of Ireland bringing further frontal depressions across the country in a cyclonic or westerly airflow. Active weather fronts brought widespread heavy rain on the 9th and 13th. A transient area of high pressure brought a few cold, dry days over the Christmas period, before more active weather fronts, associated with storm Bella, brought a spell of very wet and windy weather across the country from the northwest on the 26th and 27th. Storm Bella, which intensified to the south of Greenland, moved south-eastwards and stalled just to the east of Ireland, establishing a cold northerly airflow for the remainder of the month, with further bands of rain or showers, some wintry.

Rainfall: Above average in most places, highest in the South and West

The majority of monthly rainfall totals were above their Long-Term Average (LTA). Percentage of monthly rainfall values ranged from 94% (monthly rainfall total of 89.3 mm) at Mullingar, Co Westmeath to 157% (monthly rainfall total of 195.6 mm) at Claremorris, Co Mayo. Monthly rainfall totals ranged from 77.9 mm (103% of its LTA) at Casement Aerodrome, Co Dublin to 244.2 mm (148% of its LTA) at Valentia Observatory, Co Kerry. The highest daily rainfall total was 27.5 mm at Newport, Co Mayo on Sunday 13th. The number of rain days ranged from 20 days at Dublin Airport to 31 days at a few stations. The number of wet days¹ ranged from 14 days at Dublin Airport to 30 days at Valentia Observatory, Co Kerry. The number of very wet days³ ranged from 1 day at Mullingar, Co Westmeath to 8 days at Valentia Observatory, Co Kerry.

Temperature: Below average in most places

Nearly all mean air temperatures were below their Long-Term Average (LTA) for the month. Deviations from mean air temperature ranged from -0.9 °C (4.9 °C mean temperature) at Markree, Co Sligo to 0.3 °C (5.8 °C mean temperature) at Finner, Co Donegal. Mean temperatures for the month ranged from 4.3 °C (at its LTA) at Knock Airport, Co Mayo (*its coldest December since 2010*) to 7.8 °C (0.2 °C below its LTA) at Sherkin Island, Co Cork (*its coldest December since 2010*). The month's highest temperature was reported at Dublin Airport on Friday 18th with a temperature of 14.2 °C. The month's lowest air minimum was recorded on Monday 7th at Dunsany, Co Meath with -4.8 °C while the lowest grass minimum was -9.4 °C reported at Athenry, Co Galway on Thursday 31st. All stations reported ground frost during the month. The number of days with ground frost ranged from 6 days at Malin Head, Co Donegal to 21 days at Markree, Co Sligo. More than half of stations reported air frost. The number of days with air frost ranged from zero days at a few stations to 11 days at Dunsany, Co Meath. 22 stations had their coldest December since 2010.

Sunshine: Highest in the South and East

All available sunshine totals were above their Long-Term Average (LTA). Percentage of monthly sunshine values ranged from 113% (monthly sunshine total of 54.0 hours) at Casement Aerodrome, Co Dublin to 145% (monthly sunshine total of 76.3 hours) at Cork Airport, Co Cork (*its sunniest December since 2010*). Monthly sunshine totals ranged from 31.2 hours (No LTA comparison*) at Belmullet, Co Mayo to 73.3 hours (No LTA comparison*) at Johnstown Castle, Co Wexford. The highest number of daily sunshine hours recorded this month was 7.0 hours at both Johnstown Castle, Co Wexford on Sunday 6th and Casement Aerodrome, Co Dublin on Saturday 12th. The number of dull days² ranged from 8 days at Johnstown Castle, Co Wexford to 17 days at Malin Head, Co Donegal.

Wind: Storm force winds reported

Monthly mean wind speeds ranged from 6.5 knots (12.0 km/h) at Ballyhaise, Co Cavan to 18.0 knots (33.3 km/h) at Malin Head, Co Donegal. Gales were reported on 14 days during the month with strong gales reported on the 4th, 16th, 26th, 27th and 28th. Mean wind speeds reached storm force on Friday 4th at Malin Head, Co Donegal. The number of days with gales ranged from zero days at Dublin Airport, Co Dublin to 8 days at both Roche's Point, Co Cork and Malin Head, Co Donegal. The number of days with up to strong gales ranged from zero days at most stations to 3 days at Mace Head, Co Galway, Sherkin Island, Co Cork and Malin Head, Co Donegal. The number of days with storm force winds was 1 day at Malin Head, Co Donegal on Friday the 4th. The month's highest gust was reported at Mace Head, Co Galway on Saturday 26th during storm Bella with 66 knots (122 km/h). The month's highest 10-minute mean wind speed was 51 knots (95 km/h) at Malin Head, Co Donegal on Friday 4th.

EXTREME VALUES AT SYNOPTIC STATIONS

Rainfall

Highest total: 244.8 mm at Valentia Observatory, Co Kerry (148% of its LTA)
Lowest total: 77.9 mm at Casement Aerodrome, Co Dublin (103% of its LTA)
Highest daily rainfall: 27.5 mm at Newport, Co Mayo (15% of its monthly LTA) on Sun 13th

Temperature

Highest mean monthly temperature: 7.8°C at Sherkin Island, Co Cork (0.2°C below its LTA) (*its coldest December since 2010*)
Lowest mean monthly temperature: 4.3°C at Knock Airport, Co Mayo (at its LTA) (*its coldest December since 2010*)
Highest Air temperature: 14.2°C at Dublin Airport, Co Dublin (5.9 °C above its LTA) on Fri 18th
Lowest air temperature: -4.8°C at Dunsany, Co Meath (7.1 °C below its LTA) on Mon 7th
Lowest grass minimum: -9.4°C at Athenry, Co Galway on Thu 31st

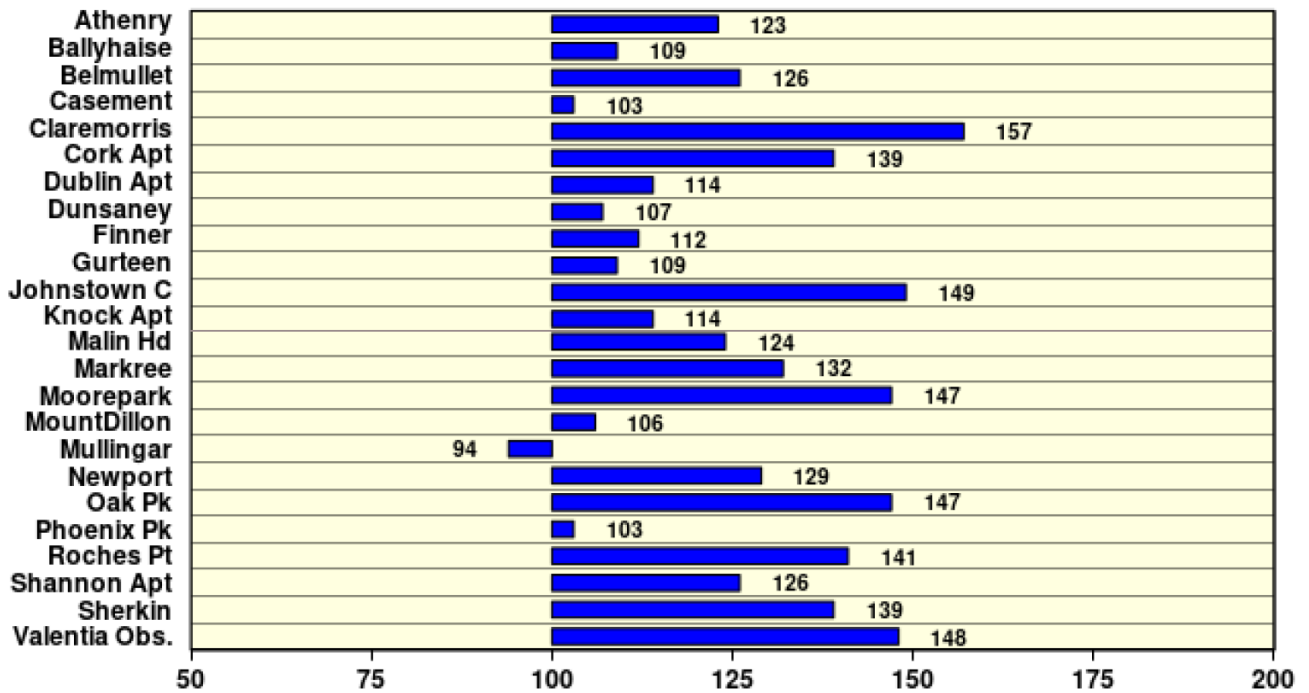
Sunshine

Highest monthly total: 76.3 hrs (daily mean 2.46 hrs/day) at Cork Airport, Co Cork (*its sunniest December since 2010*)
Lowest monthly total: 31.2 hrs (daily mean 1.01 hrs/day) at Belmullet*, Co Mayo
Highest daily sunshine: 7.0 hours at both Johnstown Castle, Co Wexford on Sun 6th and Casement Aerodrome, Co Dublin on Sat 12th

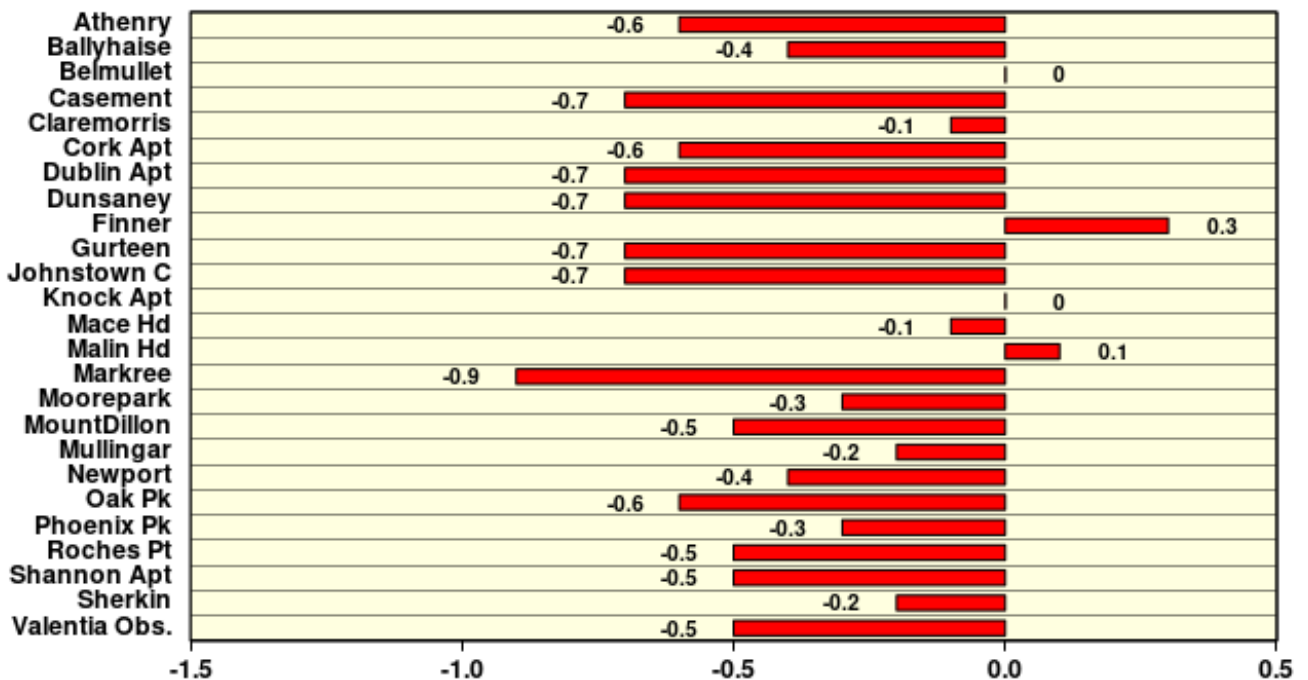
December 2020

Based on Data from 1-31 December 2020 on whole month basis

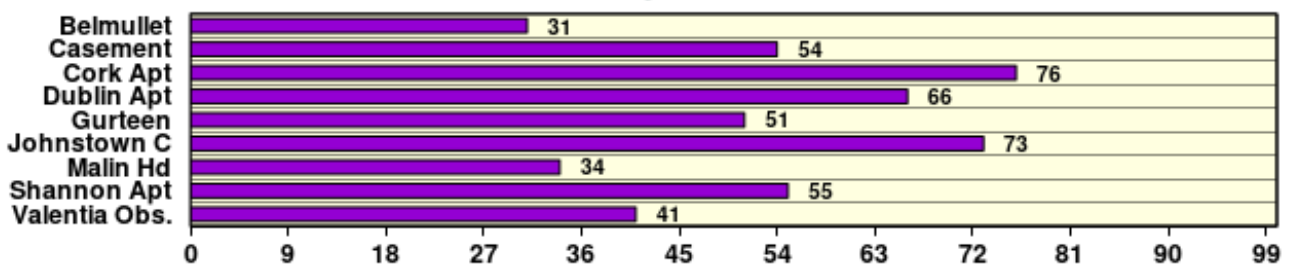
Rainfall (% of average for period 1981-2010) on whole month basis



Temperature (°C) (difference from average for period 1981-2010)



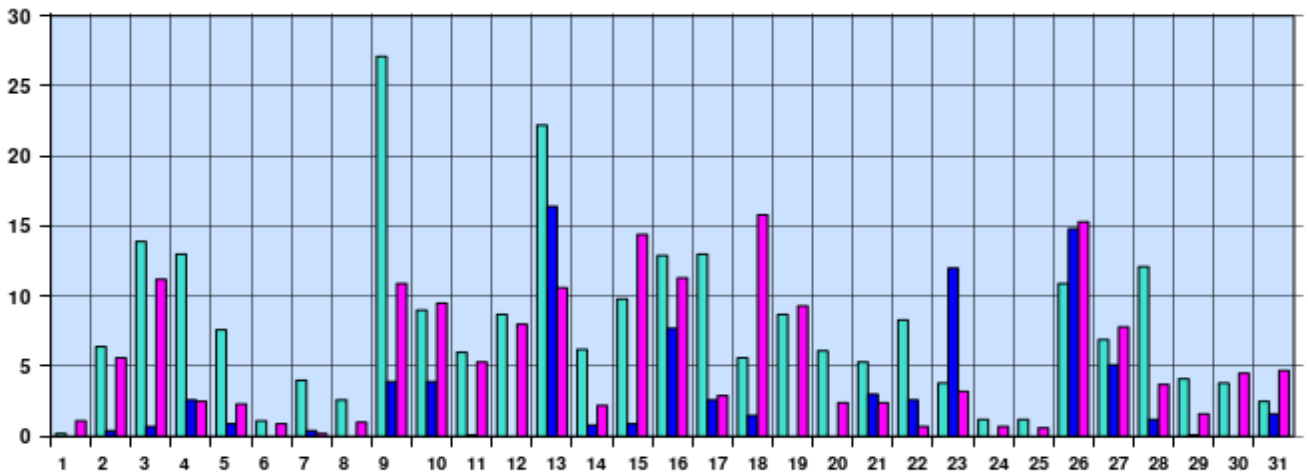
Sunshine (Number of monthly sunshine hours)



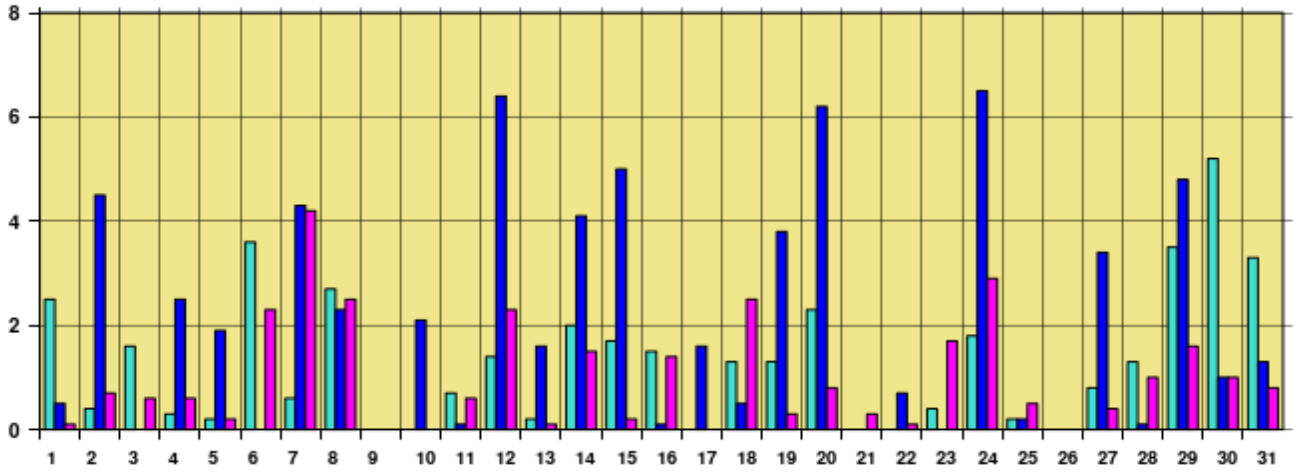
December 2020 Daily Values at selected synoptic stations

Based on data from 1-31 December 2020 on a pro rata basis

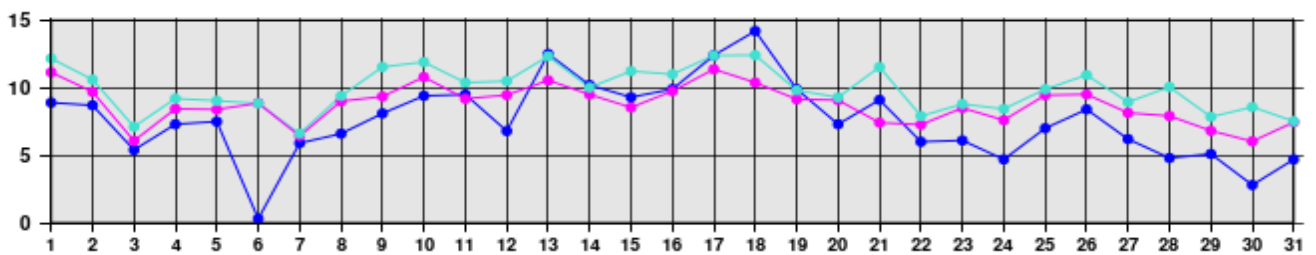
Daily 00-24h rainfall values(mm)



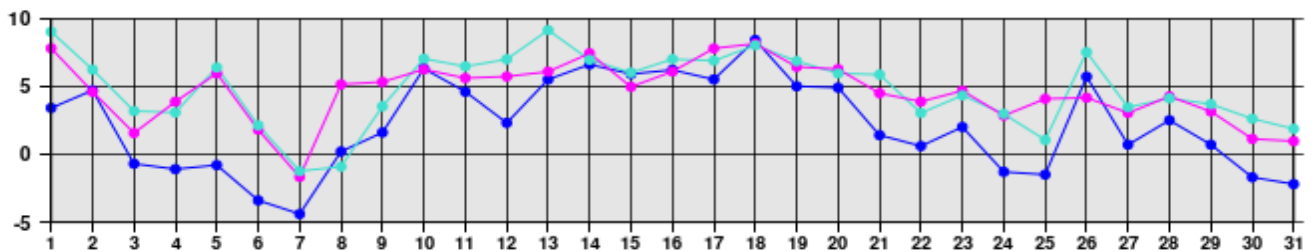
Daily sunshine values(hours)



Daily 00-24h maximum temperature (°C)



Daily 00-24h minimum temperature (°C)



- Valentia Observatory - Dublin Airport - Belmullet

Issued by Met Éireann on Tuesday the 5th January 2021. This report is based on available preliminary data from 25 principal weather stations operated by Met Éireann. Synoptic station data is midnight to midnight UTC. Long-Term Averages (LTAs) and "average" refer to the period 1981-2010. ¹A wet day is a day with 1.0 mm or more of rainfall. ²A dull day is a day with less than 0.5 hours of sunshine. ³A very wet day is a day with 10.0 mm or more of rainfall. ⁴An absolute drought is a period of 15 or more consecutive days to none of which is credited 0.2 mm or more of precipitation. ⁵A partial drought is a period of at least 29 consecutive days, the mean daily rainfall of which does not exceed 0.2 mm. ⁶A dry spell is a period of 15 or more consecutive days to none of which is credited 1.0 mm or more of precipitation (i.e. daily tot < 1.0 mm). *Sunshine data is from the Autosol Network. LTAs for these sites are currently not used for comparison purposes. For more information, contact Met Éireann at 01-8064200 or e-mail: enq@met.ie