

## Hot and sunny with widespread heatwaves, dry in the west, wet in the East

July 2021 brought intense thundery rainfall at times, along with a prolonged hot and dry spell during the third and fourth weeks of the month, with heatwave conditions for many. The month started dry but low-pressure approached from the southwest and brought bands of rain or showers, sometimes heavy and thundery, across the country through most of the first week. A transient ridge of high pressure brought a mostly dry and cool start to the second week before low-pressure brought some rain or showers for a few days during the middle of the week. It became mostly dry from the 13th as the Azores high began to build from the southwest, bringing a very warm tropical maritime air mass over the country initially. A hot and dry tropical continental air mass was drawn up from the southeast between the 17th and 25th as the high-pressure system intensified over Ireland and the UK blocking any Atlantic weather fronts from approaching. This led to heatwave conditions in many places. There was some intense thunderstorm activity in places, especially in the North on the 21st and in the Midlands and West on the 23rd. The final six days of the month brought a return to Atlantic westerlies and low-pressure with rain or showers on most days, heavy and thundery in places, and average temperatures. Storm Evert, named by the UK Met Office, stayed mostly to the south of Ireland but brought some heavy rain to the South and East on the 29th and 30th.

### Rainfall: Below average in the West, above average in the East

Percentage of Long-Term Average (LTA) monthly rainfall values were variable across the country. Percentage of monthly rainfall values ranged from 54% (monthly rainfall total of 53.6 mm) at Valentia Observatory, Co Kerry to 173% (monthly rainfall total of 94.0 mm) at Casement Aerodrome, Co Dublin. Monthly rainfall totals ranged from 44.8 mm (61% of its LTA) at Ballyhaise, Co Cavan (*its driest July since 2000*) to 122.8 mm (128% of its LTA) at Knock Airport, Co Mayo. The highest daily rainfall total was 35.1 mm at Markree, Co Sligo on Wednesday 28th. The number of rain days ranged from 9 days at Phoenix Park, Co Dublin to 17 days at a few stations. The number of wet days<sup>1</sup> ranged from 4 days at Malin Head, Co Donegal to 15 days at Gurteen, Co Tipperary. The number of very wet days<sup>3</sup> ranged from zero days at both Athenry, Co Galway and Valentia Observatory, Co Kerry to 5 days at Knock Airport, Co Mayo. Six stations had dry spells<sup>6</sup> between Monday 5th and Monday 26th July. These were Malin Head, Co Donegal (lasting 22 days), Casement Aerodrome, Co Dublin, Phoenix Park, Co Dublin, Claremorris, Co Mayo, Mount Dillon, Co Roscommon and Mullingar, Co Westmeath (all lasting 15 days).

### Temperature: July station maximum temperature records broken with tropical nights reported

All mean air temperatures across the country were above their Long-Term Average (LTA) for the month. Deviations from mean air temperature ranged from 0.5 °C (14.9 °C, the month's lowest mean temperature) at Malin Head, Co Donegal to 2.3 °C (16.2 °C mean temperature) at Knock Airport, Co Mayo. Mean temperatures were as much as 17.8 °C (1.5 °C above its LTA) at Shannon Airport, Co Clare. All the month's highest and lowest temperatures were recorded at Mount Dillon, Co Roscommon with both lowest air and grass minimum reported on Thu 1st with an air minimum temperature of 5.1 °C while the lowest grass minimum was -0.2 °C. The high maximum was reported on Wed 21st with a temperature of 30.8 °C (*its highest maximum temperature for July on record (length 13 years)*). There was no air frost reported this month. Mount Dillon, Co Roscommon was the only station to report ground frost on Thu 1st. It was the warmest July at most stations since 2013. Heatwaves<sup>7</sup> were reported at 14 stations between Fri 16th and Sun 25th, with six stations reporting heatwaves lasting 10 consecutive days. These were Athenry, Co Galway, Claremorris, Co Mayo, Mount Dillon, Co Roscommon, Shannon Airport, Co Clare, Moore Park, Co Cork and Ballyhaise, Co Cavan. Valentia Observatory, Co Kerry reported two tropical nights (where the night-time temperature does not fall below 20 °C) on the nights of Wed 21st and Thu 22nd (a very rare occurrence in Ireland). Valentia also reported its highest July maximum temperature since 1976 with 28.3 °C on Thu 22nd. Six other stations along with Mount Dillon, Co Roscommon reported their highest July maximum temperature on record. These were Mace Head, Co Galway with 28.4 °C on both Wed 21st and Thu 22nd (length 16 years), Ballyhaise, Co Cavan with 28.9 °C on Wed 21st (length 16 years), Newport, Co Mayo with 30.0 °C on Wed 21st (length 29 years), Gurteen, Co Tipperary with 29.1 °C on Thu 22nd (length 13 years), Athenry, Co Galway with 29.5 °C on Sat 17th (length 11 years) and Knock Airport, Co Mayo with 28.0 °C on Wed 21st (length 23 years).

### Sunshine: Above average everywhere

All available sunshine totals were above their Long-Term Average (LTA). Percentage of monthly sunshine values ranged from 114% (monthly sunshine total of 192.6 hours) at Cork Airport to 130% (monthly sunshine total of 199.5 hours) at Casement Aerodrome, Co Dublin. Monthly sunshine totals ranged from 138.3 hours at Belmullet, Co Mayo (No LTA comparison\*) to 218.3 hours at Johnstown Castle, Co Wexford (No LTA comparison\*). The highest number of daily sunshine hours recorded this month was 15.3 hours at Johnstown Castle, Co Wexford on Sat 17th. The number of dull days<sup>2</sup> ranged from 3 days at both Dublin Airport, Co Dublin and Johnstown Castle, Co Wexford to 9 days at Belmullet, Co Mayo.

### Wind: Not significantly strong

Monthly mean wind speeds ranged from 3.6 knots (6.7 km/h) at Ballyhaise, Co Cavan to 9.5 knots (17.6 km/h) at Roche's Point, Co Cork. There were no days with gales, strong gales or storms reported this month. The month's highest 10-minute mean wind speed was reported at Sherkin Island, Co Cork, Roche's Point, Co Cork and Malin Head, Co Donegal, all on Wed 28th with 27 knots (50 km/h). The highest gust was 37 knots (69 km/h) reported at Gurteen, Co Tipperary on Fri 23rd during an intense thunderstorm.

## EXTREME VALUES AT SYNOPTIC STATIONS

### Rainfall

Highest total: 122.8 mm at Knock Airport, Co Mayo (128% of its LTA)  
 Lowest total: 44.8 mm at Ballyhaise, Co Cavan (61% of its LTA) (*its driest July since 2000*)  
 Highest daily rainfall: 35.1 mm at Markree, Co Sligo (38% of its monthly LTA) on Wed 28th

### Temperature

Highest mean monthly temperature: 17.8°C at Shannon Airport, Co Clare (1.5°C above its LTA)  
 Lowest mean monthly temperature: 14.9°C at Malin Head, Co Donegal (0.5°C above its LTA)  
 Highest Air temperature: 30.8°C at Mount Dillon, Co Roscommon (11.1°C above its LTA) on Wed 21st (*its highest maximum temperature for July on record (length 13 years)*)  
 Lowest air temperature: 5.1°C at Mount Dillon, Co Roscommon (5.9°C below its LTA) on Thu 1st  
 Lowest grass minimum: -0.2°C at Mount Dillon, Co Roscommon on Thu 1st

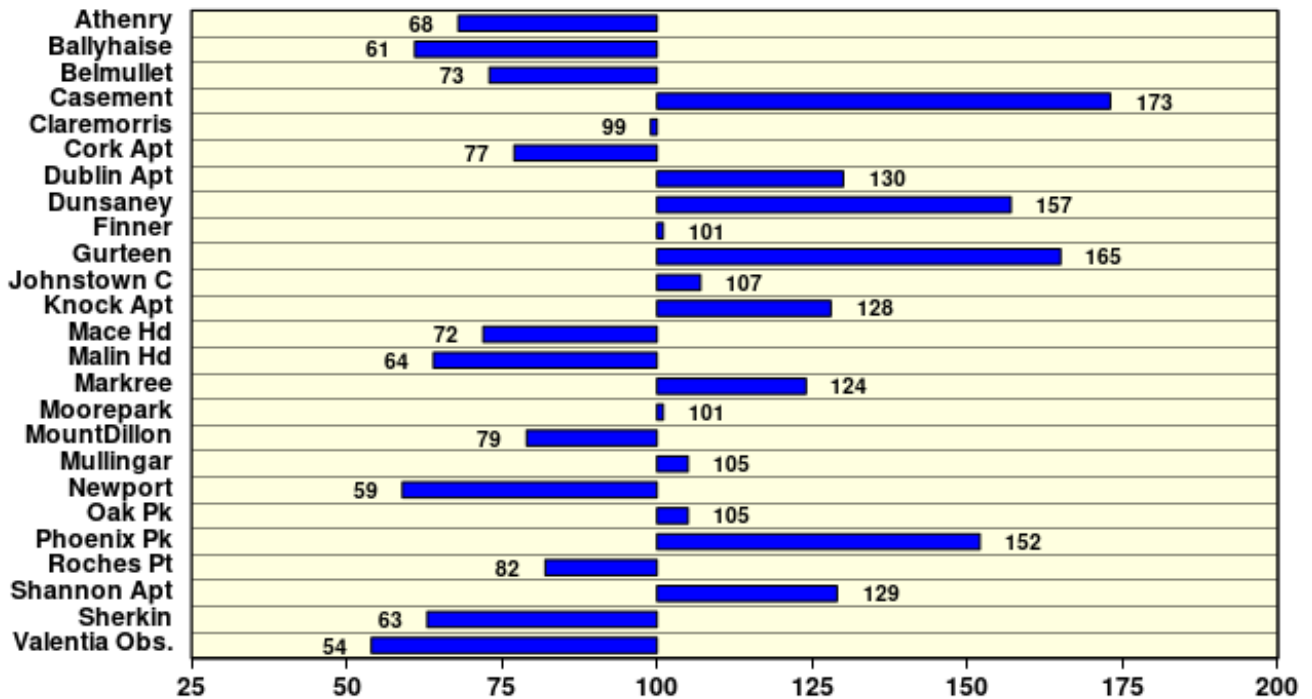
### Sunshine

Highest monthly total: 218.3 hrs (daily mean 7.04 hrs/day) at Johnstown Castle\*, Co Wexford  
 Lowest monthly total: 138.3 hrs (daily mean 4.46 hrs/day) at Belmullet\*, Co Mayo  
 Highest daily sunshine: 15.3 hours at Johnstown Castle, Co Wexford on Sat 17th

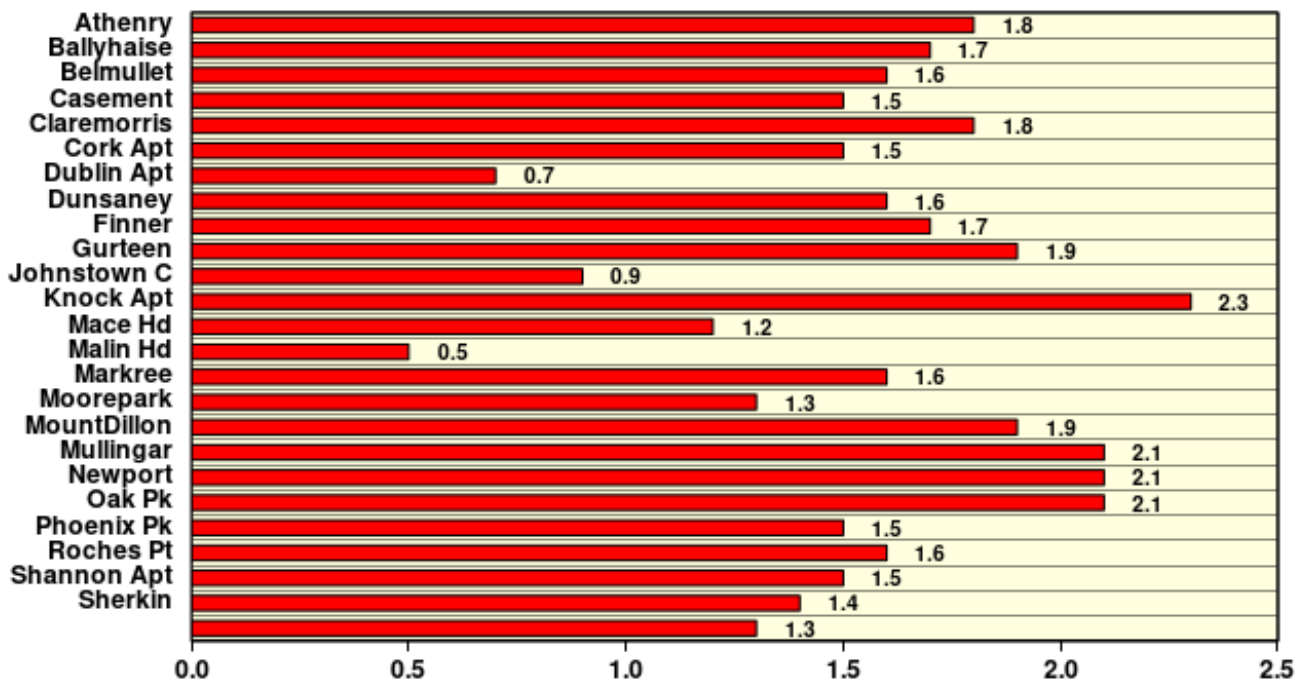
## July 2021

Based on Data from 1-31 July 2021 on whole month basis

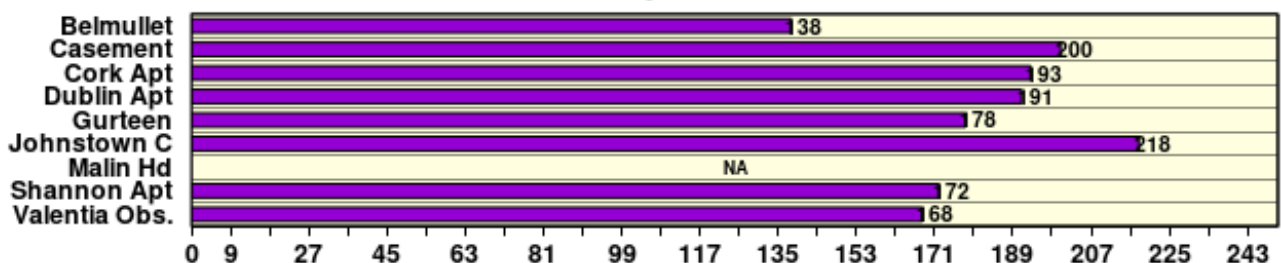
### Rainfall (% of average for period 1981-2010) on whole month basis



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



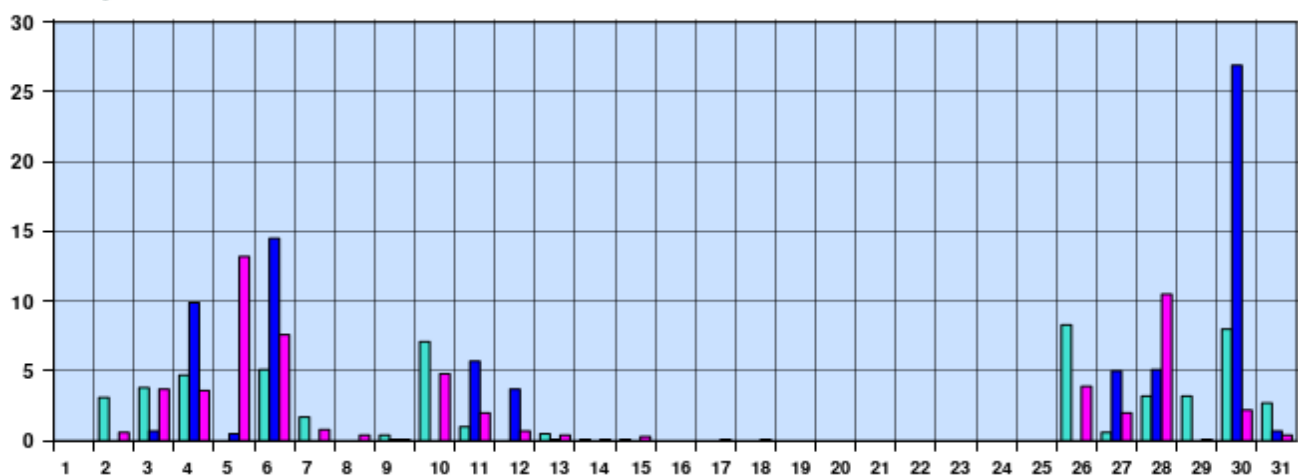
### Sunshine (Number of monthly sunshine hours)



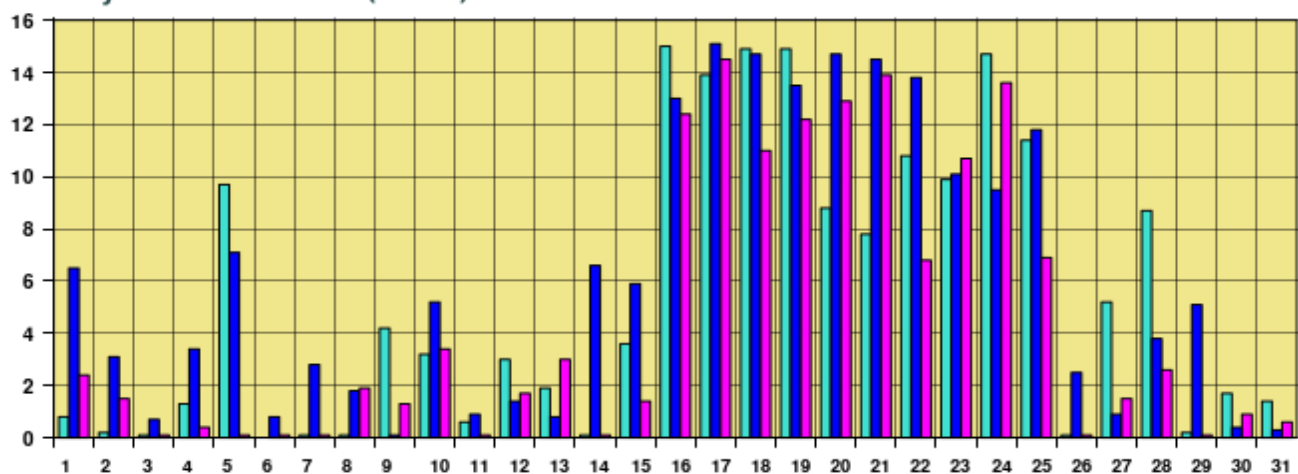
## July 2021 Daily Values at selected synoptic stations

Based on data from 1-31 July 2021 on a pro rata basis

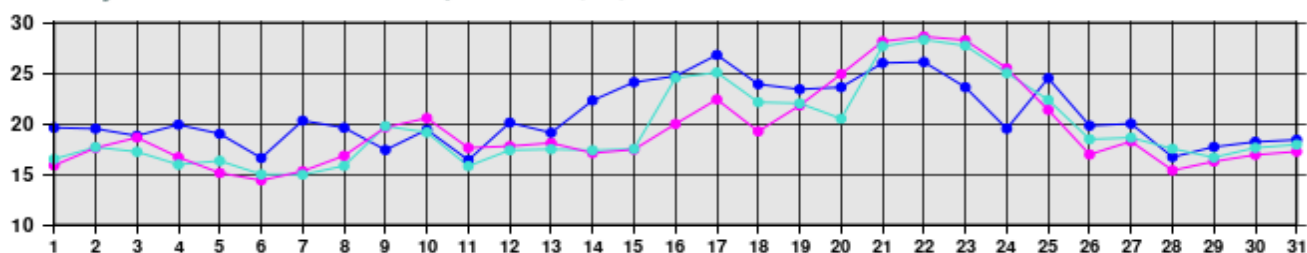
### Daily 00-24h rainfall values(mm)



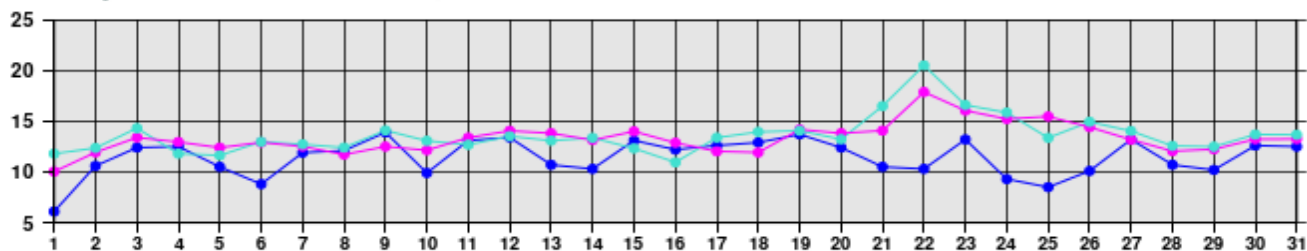
### Daily sunshine values(hours)



### Daily 00-24h maximum temperature (°C)



### Daily 00-24h minimum temperature (°C)



- Valentia Observatory - Dublin Airport - Belmullet

Issued by Met Éireann on Wednesday the 4th August 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. <sup>1</sup>A wet day is a day with 1.0 mm or more of rainfall. <sup>2</sup>A dull day is a day with less than 0.5 hours of sunshine. <sup>3</sup>A very wet day is a day with 10.0 mm or more of rainfall. <sup>4</sup>An absolute drought is a period of 15 or more consecutive days to none of which is credited 0.2 mm or more of precipitation. <sup>5</sup>A partial drought is a period of at least 29 consecutive days, the mean daily rainfall of which does not exceed 0.2 mm. <sup>6</sup>A 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). <sup>7</sup>A heatwave occurs where there are 5 consecutive days or more with maximum temperature over 25°C (that is, a daily maximum screen air temperature > 25°C). \*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