

## Recent Warm Weather Report Up to 2nd July 2018

On June 21st, an area of high pressure of up to 1035 hPa was centred to the west of Ireland bringing a northwesterly air flow across Ireland. In the days that followed, an easterly airflow has dominated and continues to dominate our weather. As high pressure persists over Ireland, it has brought the warmest conditions so far in 2018, with the highest maximum temperature of 32.0°C recorded at Shannon Airport on the 28<sup>th</sup> June.

Five Synoptic stations in the West and South had a max temp of over 30°C on the 28<sup>th</sup> June 2018. These were Shannon Airport, Mount Dillon, Claremorris, Athenry and Moore Park. On 29<sup>th</sup> June, Shannon Airport was the only station which recorded above 30 °C with a temperature of 31.1 °C.

The weather for June 2018 has been warm and dry with temperatures 1.8 degrees above normal on average and rainfall just 50% of normal in the west and as low as 5% of normal in the east. This follows on from what was a dry and warm May.

### HEATWAVES

*Definition:* A heatwave occurs where there are 5 consecutive days or more with maximum temperature over 25 degrees Celsius (i.e. daily max > 25 C.)

Official heatwaves were recorded at thirteen Synoptic stations this year, (See table below). These occurred in the East, the Midlands, the West and the South. Warm air from the continent continues to move towards Ireland.

*Update to heatwave status on 2<sup>nd</sup> July 2018.*

The only stations that still have an ongoing heatwave are Moore Park, Co Cork and Oak Park, Co Carlow.

RECORDED HEATWAVE PERIODS SINCE 2000			
STATION WITH LONGEST PERIOD	START DATE	END DATE	LENGTH
CAVAN	04-Aug-03	08-Aug-03	5
GLENGARRIFF	09-Jul-05	13-Jul-05	5
CAVAN	15-Jul-06	21-Jul-06	7
NAVAN	24-Jul-06	28-Jul-06	5
CASHEL	06-Jul-13	14-Jul-13	9
KILKENNY	17-Jun-17	21-Jun-17	5
OAK PARK	24-Jun-18	Ongoing	
MULLINGAR	24-Jun-18	29-Jun-18	6
GURTEEN	24-Jun-18	30-Jun-18	7
ATHENRY	24-Jun-18	30-Jun-18	7

MOUNT DILLON	24-Jun-18	30-Jun-18	7
SHANNON AIRPORT	24-Jun-18	30-Jun-18	7
CASEMENT	24-Jun-18	28-Jun-18	5
MOORE PARK	25-Jun-18	Ongoing	
BALLYHAISE	25-Jun-18	29-Jun-18	5
NEWPORT	25-Jun-18	29-Jun-18	5
DUNSANY	24-Jun-18	29-Jun-18	6
CLAREMORRIS	25-Jun-18	30-Jun-18	6
KNOCK AIRPORT	26-Jun-18	30-Jun-18	5

### HIGHEST JUNE MAXIMUM TEMPERATURES PER DECADE

DECADE	TEMPERATURE	STATION	DATE
1940's	27.7°C	Shannon Airport	23rd June 1949
1950's	28.9°C	Mullingar	6th June 1950
1960's	26.6°C	Belmullet	10th June 1963
	26.6°C	Mountmellick	1st June 1963
	26.6°C	Tuam	12th June 1968
1970's	32.5°C	Boora, Co. Offaly	29th June 1976
1980's	28.7°C	Galway	19th June 1989
1990's	31.1°C	Athy	29th June 1995
2000's	28.6°C	Galway	2nd June 2009
2010's	32.0°C	Shannon Airport	28th June 2018

### SUNSHINE

The highest daily sunshine for June this year was 16.5 hours at Malin Head on the 28<sup>th</sup> June. A value of 16.0 hours was recorded at Knock Airport on the 24<sup>th</sup> June, its highest daily value since the station opened in 1997.

### DROUGHT

*Definitions:* 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 (i.e. daily tot < 0.2 mm.)

A partial drought is a period of at least 29 consecutive days the mean daily rainfall of which does not exceed 0.2 mm (i.e. mean for period ≤ 0.2 mm.)

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.)

Drought conditions are being experienced in the East and Southeast, with soil moisture deficits as much as 85mm in parts of the Southeast. The reason we are not recording droughts in some parts of

the country yet is because a band of rain crossed the country on 16<sup>th</sup> June and again on the 19<sup>th</sup> June, which interrupted the sequence of 15 dry days we need to record a drought. An absolute drought occurred at Belmullet earlier in the month (see table below). The last time there were drought conditions in Ireland was April-May 2017 in the Midlands and the West.

*Update to drought status on 2<sup>nd</sup> July 2018.*

24 out of the 25 Synoptic stations have now 11 consecutive days with daily total rainfall less than 0.2mm (that's from 21<sup>st</sup> June – 1<sup>st</sup> July) with Belmullet being the exception. So there will be an Official Absolute Drought at these stations at Midnight on Thursday 5<sup>th</sup> July if there is less than 0.2 mm rain at these stations every day up until then.

Partial droughts are still being recorded at Dublin Airport, Phoenix Park and Oak Park.

<b>RECORDED PARTIAL DROUGHTS 2018</b>			
<b>STATION</b>	<b>START DATE</b>	<b>END DATE</b>	<b>LENGTH</b>
Dublin Airport	28-May-18	1-Jul-18	35
Phoenix Park	28-May-18	1-Jul-18	35
Carlow	28-May-18	1-Jul-18	35
<b>RECORDED ABSOLUTE DROUGHTS 2018</b>			
Belmullet	22-May-18	12-Jun-18	22

## **RECENT MAXIMUM TEMPERATURE INFORMATION**

The last time a June temperature in Ireland was above 31.5 °C was 29-Jun-1976 at Shannon Airport, Co Clare (when it was 31.6 °C) and on the same day at Boora, Co Offaly (when it was 32.5 °C).

32.0 °C was the highest temperature recorded so far this year (it was recorded on 28<sup>th</sup> June 2018) at Shannon Airport and this is the highest June temperature recorded in Ireland since 1976. It is the highest temperature for any month since July 2006, (where 32.3 °C was recorded at Elphin, Co Roscommon on 19<sup>th</sup> July 2006). 32.0 °C is the highest temperature ever recorded at a Synoptic station in Ireland (and it was recorded on 28<sup>th</sup> June 2018 at Shannon Airport).

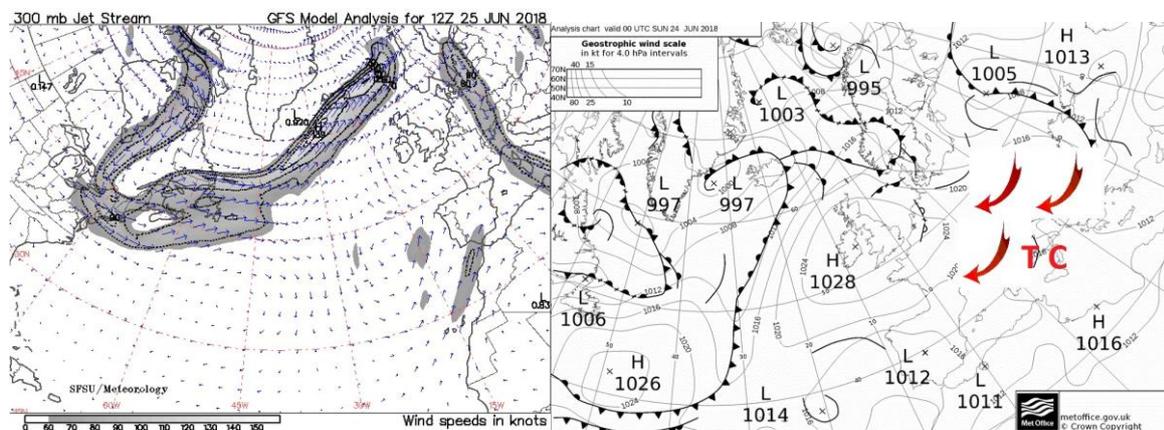
If the temperature gets above 32.5 °C, we'll have the highest temperature ever recorded in Ireland in the 20<sup>th</sup> and 21<sup>st</sup> Century.

### *What is a heatwave?*

A heatwave refers to a prolonged period of abnormally hot weather which may be accompanied by high humidity. While there is no generally accepted definition of a heatwave, in Ireland it's classified as 5 consecutive days with a maximum temperature in excess of 25 degrees Celsius.

### *Why and when do heatwaves happen?*

Heatwaves are most common in summer when high pressure develops over the country. High pressure systems, also known as anticyclones, are slow moving and can persist for a prolonged period of time, resulting in dry and settled weather. In anticyclones, cool air descends from aloft and diverges outwards at lower levels. As the air descends it is warmed by compression. The position of the jet stream over Ireland determines the type of weather we experience. When a high pressure system materialises over Ireland, the jet stream is usually located to the north of us and keeps low pressure systems away.



Above: Surface pressure chart for 24<sup>th</sup> June 2018 showing a Tropical Continental (TC) air mass affecting Ireland, bringing highest maximum temperatures close to 30°C.

Different air masses affect us at different times of the year and this has a major impact upon the weather we experience in this country. The Tropical Continental air mass is the least frequent air mass affecting Ireland and is most common in summer when sub-tropical high pressure moves north. This air mass originates over North Africa and tracks northwards over continental Europe. Although the lower layers of this air mass are usually quite stable, the unstable upper layers may give rise to severe thunderstorms. Its low humidity tends to bring us clear skies and long periods of sunshine. The highest temperatures experienced in Ireland usually occur under the influence of this air mass giving maximum temperatures in excess of 30 °C.

Ireland only experiences occasional heatwaves which are usually less frequent and not as prolonged as those found in more southerly latitudes. In August 1976, Birr recorded heatwave conditions lasting 14 days. More recently, heatwave conditions occurred in the summers of 2017, 2013, 2006, 2003, 1995, 1989 and 1983.

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