



## Exceptional weather events

**Type of event:**

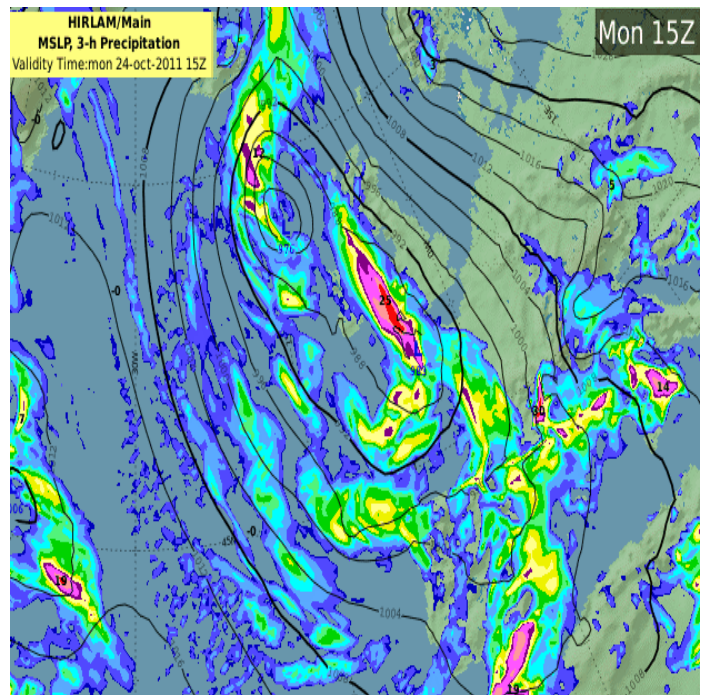
**Heavy Rainfall in the greater Dublin Area.**

**Date: 24th October 2011**

## Heavy Rainfall of 24th October 2011 in the greater Dublin Area.

On the 24<sup>th</sup> of October, Ireland was at the centre of a slow-moving frontal depression which stretched from western France to south of Iceland. A spell of very heavy rainfall occurred, affecting mainly eastern and northern parts of Ireland, the greater Dublin Area and Wicklow received the most rainfall. This heavy rainfall combined with high rainfall totals the previous day, lead to a saturation of soils and flooding occurred in some eastern areas.

Rainfall from slow moving frontal depression was enhanced by two processes, orographic uplift by the Wicklow mountains and the convergence of isobars off the eastern coast. This conspired to produce excessive rainfall in the Dublin /Wicklow area. The heaviest rainfall occurred during the afternoon and early evening, with Dublin Airport reporting a maximum 9-hour rainfall of 66.8 mm. This rainfall had an annual probability of 1 in 100. The daily rainfall of 82.2 mm recorded at Casement Aerodrome had an annual probability of 1 in 20 and the station's greatest October daily rainfall since records began in 1954.



The stations at Dublin Airport and the Phoenix Park also had significant daily rainfall totals of 69.1mm and 71.3mm respectively. In terms of annual exceedence probability, the daily totals at the Dublin stations would represent approximately 1 in 20 to 1 in 25 year events.

The table below summarises the most significant figures.

Station	Daily Rainfall total	Annual Probability	Max. 9-hour Rainfall	Annual Probability	Max. 12-hour Rainfall	Annual Probability
Casement Aerodrome	82.2 mm	20 years	76.5 mm	60 years	77.0 mm	40 years
Phoenix Park	71.2 mm	20 years	72.0 mm	75 years	74.0 mm	55 years
Dublin Airport	69.1 mm	25 years	66.8 mm	100 years	68.8 mm	75 years



The heavy rainfall caused flooding in many parts of Dublin and the east coast, flooding roads and causing lengthy traffic delays. Several flights were delayed or cancelled at Dublin Airport.

Many homes and businesses were under water by Monday evening. Dublin City Council activated a major emergency plan to deal with the floods. Tragically two deaths were attributed to this rainfall event, with damage to Dublin homes, businesses and infrastructure estimated to be worth millions of Euro.

Putting these events in historical context:

- Over 180mm was recorded on 11<sup>th</sup> June 1963 during a violent thunderstorm in the Mount Merrion area of South Dublin.
- 11<sup>th</sup> June 1993, exactly 30 years later, saw amounts of rain of around 100mm over 24 hours in the Dublin area.
- 29<sup>th</sup> June 2005 saw 45mm fall in the Phoenix Park in less than an hour.
- 9<sup>th</sup> August 2008 saw heavy rainfall, particularly affecting the North Kildare and Dublin area with amounts in excess of 70mm measured in the Celbridge, Lucan, Leixlip area.
- Hurricane Charley on the 25<sup>th</sup> August 1986, almost 90mm was recorded in 24 hours at Casement Aerodrome.