



Exceptional weather events

Type of event:
Tornado

Date: March
1995

Meteorological Service
Glasnevin Hill
Dublin 9
Ireland



An tSeirbhís Mheiteareolaíochta
Cnoc Ghlas Naíon
Baile Átha Cliath 9
Éire

Report on the tornado in the Summerhill area of County Meath, 17th March 1995



Mature trees at Clondoogan, a mile southwest of Summerhill, Co. Meath, which were uprooted by the tornado which struck the area in the early afternoon of St. Patrick's Day.

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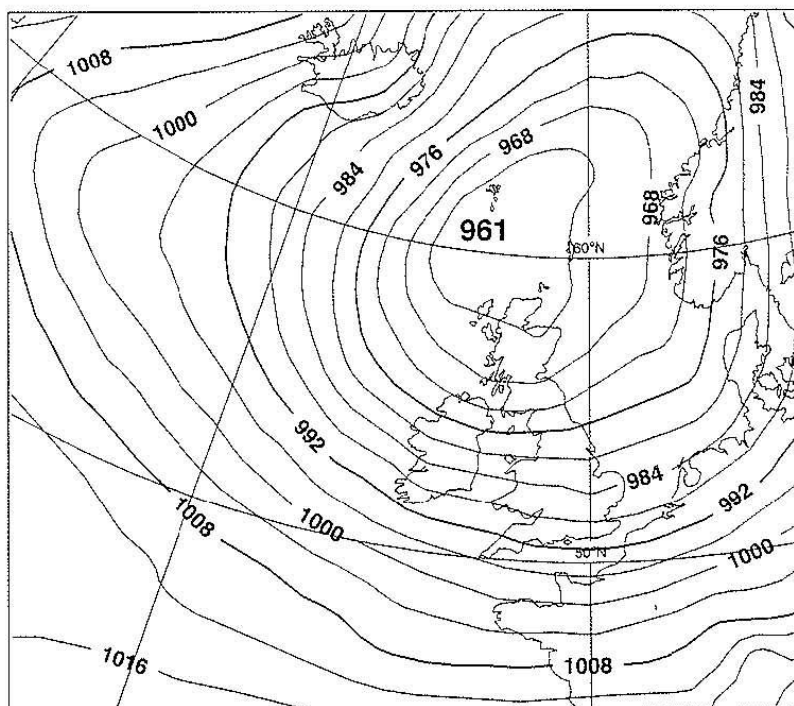
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1. Tornadoes

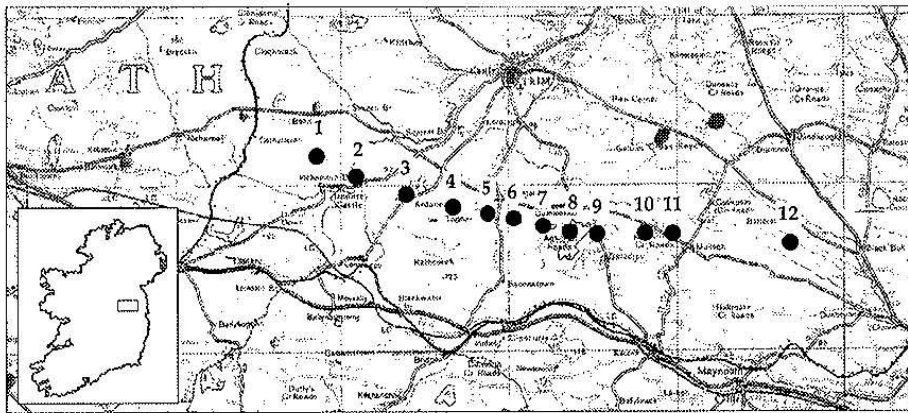
Tornadoes are small violent whirlwinds which are associated with intense cumulonimbus or shower clouds, often accompanied by lightning and/or hail. They are very uncommon in Ireland, being mostly associated with the central United States, where weather conditions in springtime are often suitable for their development. Typically tornadoes are of fairly limited extent, averaging around 100 metres across, and last for usually only 10 to 15 minutes. Their velocity is greater than the usual thunderstorm, normally between 20 and 45m.p.h., so that at any one point the tornado will pass by within a minute or two. They have great destructive power, however, caused both by the tremendous wind speeds associated with them, estimated at over 200m.p.h., and by the extreme differences in atmospheric pressure which occur as a tornado approaches, which causes materials of all kinds to be lifted into the air. Only a very small percentage of the tornadoes that occur strike densely populated communities but when they do the loss of life and property is usually heavy.

2. Synoptic situation, 17th March 1995

On the 17th Ireland lay in a very unstable, cold, strong and gusty west to northwesterly airflow associated with a deep depression situated between Scotland and Iceland. There were rain showers from early morning in many places, with thunderstorms reported at both Mullingar and Shannon Airport before midday. Showers of rain, hail or snow became more widespread and intense as a trough moved eastwards across the country and thunderstorms were fairly widely reported during the afternoon. The tornado which affected County Meath was recorded between 1410 and 1430 UTC, moving quickly eastwards in the strong westerly flow in a practically straight line over a path approximately 18 miles long. It was accompanied by lightning and hailstones of up to 5cm in diameter. Wind speeds near its centre are impossible to determine accurately, but from the level of destruction caused must have been in excess of 100m.p.h.; the noise of the approaching tornado was described as "like the roar of a low-flying aircraft". The tornado's radial extent was probably between 40 and 60 metres.



Mean sea level pressures at 1200 UTC, 17th March 1995

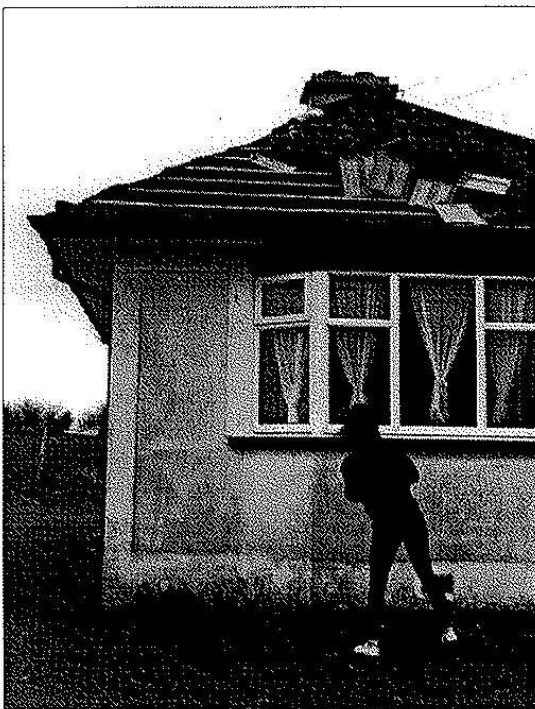


APPROX SCALE : 1 CM = 4 KM (1 INCH = 6 MILES)

3. The area affected

The tornado caused some considerable structural damage to dwellings and farm buildings, resulted in the death of some farm animals and felled a large number of mature trees. Luckily two of the worst affected houses were unoccupied at the time, while the partly damaged National School was closed for the holiday. The tornado caused most damage in the following locations, identified in the map above:

1. Roof blown off house and haysheds, some farm buildings destroyed at Kilmer.
2. Roof taken off garage with roof tiles blown up to 300m away at Dalystown.
3. Many 200 to 250 year old oaks uprooted or badly damaged along a track 50 to 75 metres wide at Tobertynan; damage was most severe along the centre of the track. Ten domesticated pigeons blown away and killed.



4. Roof tiles blown off roof into schoolyard at Kill National School.
5. Group of houses damaged just south of Rathmolyon, including shattered glass from large front windows blown into living rooms.
6. A number of houses badly damaged at Isaacstown (see picture left) and some farm buildings destroyed.
7. Roof taken off barn near Summerhill, hens and chickens taken into the air and some killed.
8. Several trees uprooted at Clondoogan (see cover picture), glasshouse destroyed and other buildings damaged at Flynn's Nurseries (see pictures page 4).
9. Large number of mature trees severely damaged or uprooted in Summerhill wood.
10. Roof tiles taken completely off houses and garage, mobile home overturned at Kilmore.
11. Farm buildings seriously damaged near Mullagh.
12. Beech trees uprooted, blocking road.



Some of the destruction caused at Flynn's Nurseries, Clondoogan. (picture on left courtesy Meath Chronicle)

4. Previous tornadoes in Ireland

While tornadoes are very rare occurrences in Ireland, by coincidence there were two other reports of tornado activity in February and March 1995, both associated with the same weather pattern of a cold, unstable westerly airflow as the Summerhill event. In the early morning of 13th February 1995 a tornado, accompanied by an intense hail shower affected the County Cork town of Youghal, moving in from the sea and destroying a number of caravans in a park before veering away from the town and dying out. A week before the Summerhill tornado, another was recorded in the Castlefin area of County Donegal shortly before noon on the 10th. Here the track of the tornado appears to have been between 25 and 30 metres wide, uprooting trees and telephone poles and demolishing a stone building. Other well documented accounts of tornadoes include one that passed through the County Cork village of Killeagh on 8th August 1967, accompanied by torrential rain. It caused some structural damage along a path about 2 miles in length. At the time a depression lay just south of Ireland, feeding in warm, moist and very unstable air. There are no known accounts of fatalities associated with a tornado in Ireland, but the Tiger Bay area of north Belfast had a lucky escape when a tornado passed through the area on 26th September 1982, removing the roofs of 30 houses and badly damaging 70 more. Three or four years previously a tornado caused considerable damage to a caravan park at Ballycastle, Co. Antrim. Because of their short-lived nature there is usually no photographic record of tornadoes but the picture shown on right was taken at Dungarvan, Co. Waterford on 24th July 1965 and reproduced in the journal *Weather* of June 1966, showing a funnel cloud on the edge of a heavy shower.

