



# STORM ELISA

## Thursday 9 November 2023

The fourth named storm of the 2023/2024 season. Named by Météo France on Thursday 9 November 2023

Published Thursday 22 August 2024

Storm Elisa developed in the North Atlantic tracked north-west of Ireland on Thursday 9 November 2023 and looped southeast over Ireland overnight. The depression moved away from Ireland eastward early Friday.

- The highest sustained (10-minute mean) wind speed was a westerly (270°) Gale Force 72 km/h (39 knots or 45 mph) on Thursday 9 November 2023 around 09 UTC (9 am local) at Mace Head\*\*, Co Galway.
- The highest gust (3-second) wind speed was a westerly (270°) 102 km/h (55 knots or 63 mph) on Thursday 9 November 2023 around 10:19 UTC (10:19 am local) at Sherkin Island (coastal), Co Cork.
- The lowest land-station hourly mean sea pressure (MSLP) was 982.7 hPa on the Thursday around 07 UTC (7 am local) observed at Belmullet (coastal), Co Mayo.
- The highest daily (00-00 UTC) rainfall total was 21.1 mm on Thursday 9 November 2023 at Newport (coastal), Co Mayo (12% of its November 1991-2020 Long Term Average (LTA)).
- The highest 24-hour (09-09 UTC) rainfall total was 29.2 mm (09-09 UTC) on Thursday 9 November 2023 at Glenvickee, Co Kerry (10.0 % of its LTA).
- The highest individual wave was 18.9 m and this was recorded at M6 (in the deep Atlantic) Buoy around 07 UTC (7 am local).

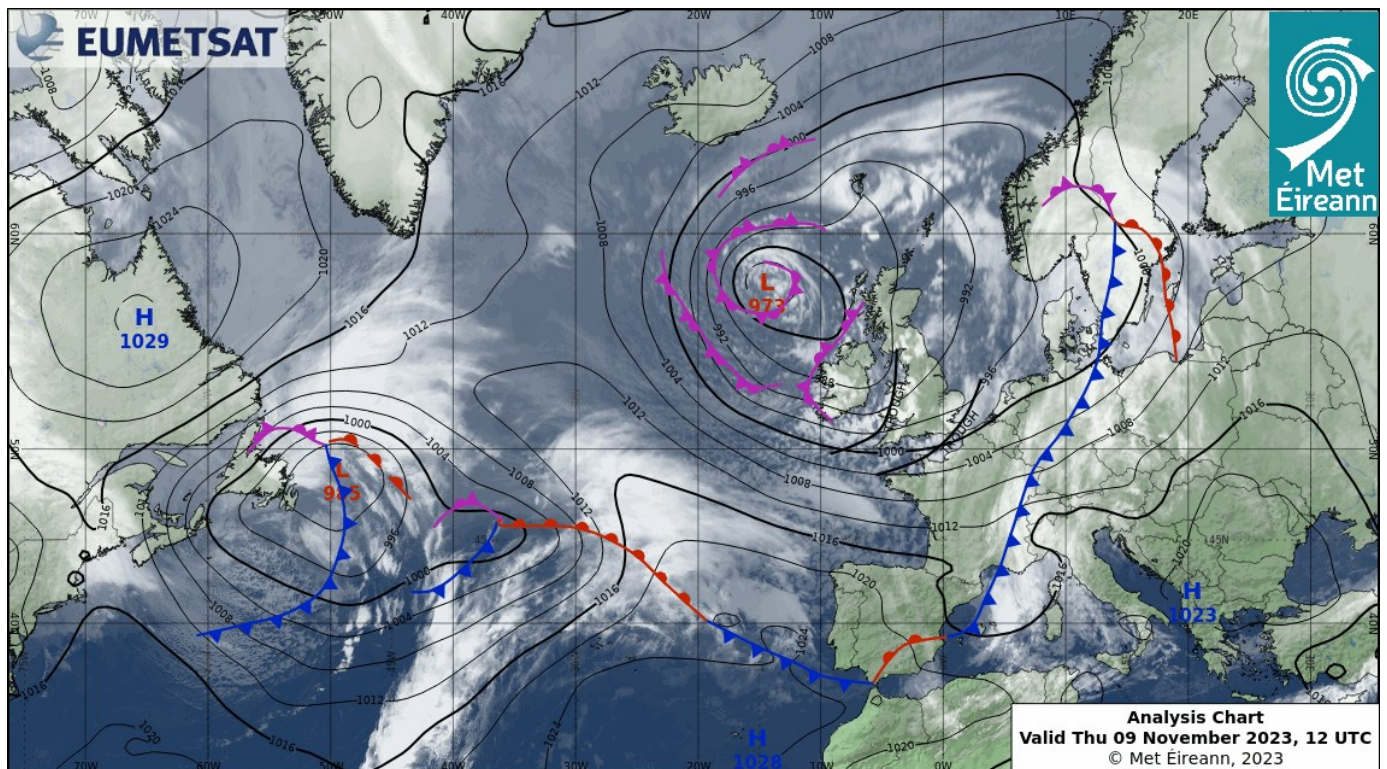
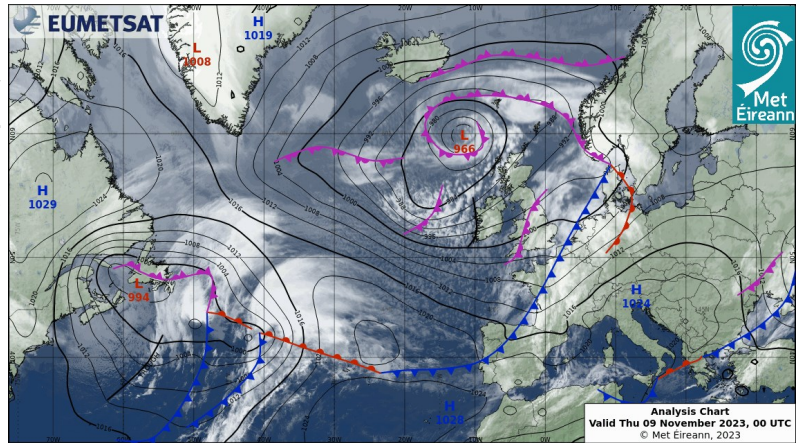


Figure 1. Analysis Chart at 12 UTC on Thu 9 Nov 2023

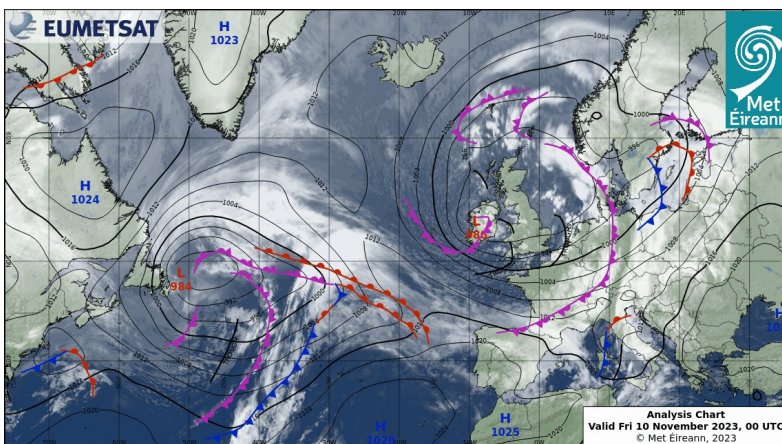


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Ireland experienced a strong southwesterly airflow with a depression centred 310 nautical miles northwest of Malin Head. The depression moved south, approaching Ireland's northwest coast. The day saw clear spells and frequent blustery showers, especially in the West, some heavy with lightning and prolonged rain. Moderate to fresh south to southwest winds became strong in the Southwest.



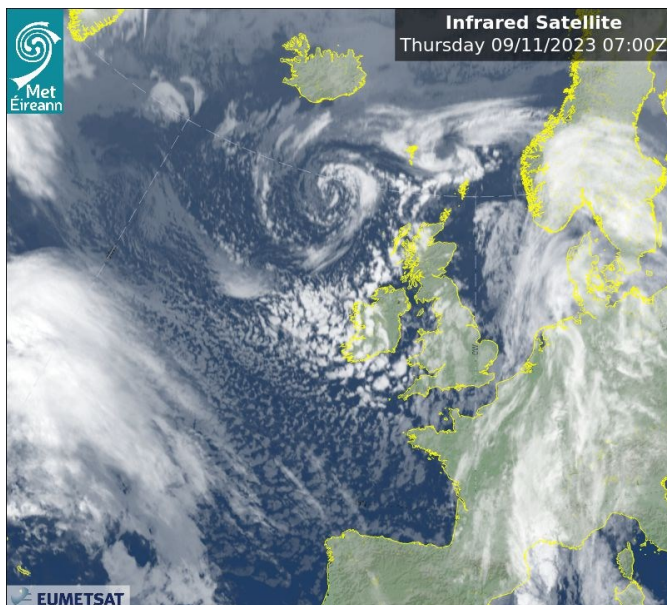
**Figure 2.** Frontal analysis chart with EUMETSAT satellite at 00 UTC on Thu 09 Nov 2023



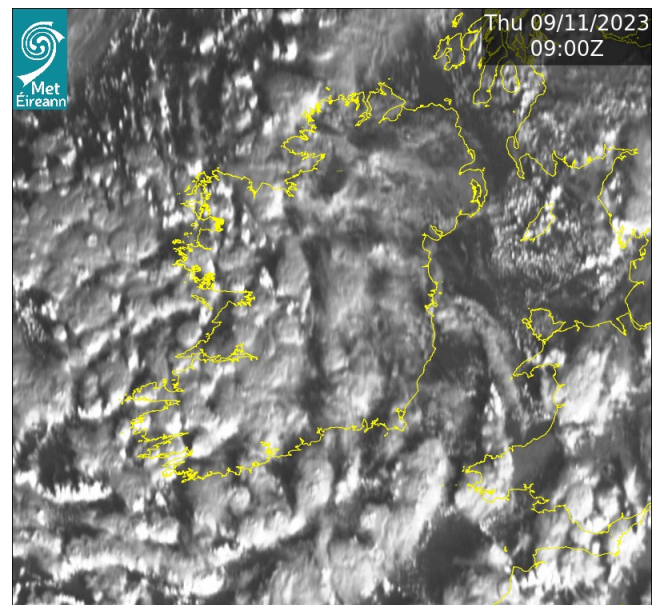
**Figure 3.** Frontal analysis chart with EUMETSAT satellite at 00 UTC on Fri 10 Nov 2023

## Friday 10 November 2023

Early morning showers, heavy at times, spread from the south and later became confined to the west before moving east in the afternoon. It was windy along the western and southern coasts initially, easing by evening but picking up on northern coasts. Showers became scattered by late evening, mostly in the Northeast, with mist and fog patches re-appearing.



**Figure 4.** Infrared EUMETSAT Satellite images near the hour of the lowest mean sea level pressure of 982.7 hPa at Belmullet (coastal), Co Mayo on Thu 9 Nov 2023 at 07 UTC



**Figure 5.** Visible EUMETSAT Satellite images at the hour of the Highest sustain weed speed (72 km/h) at Mace Head, Co Galway on Thu 9 Nov 2023 at 09 UTC

## Mean Sea Level Pressure

The minimum hourly mean sea level pressure (MSLP) observed in Ireland during storm Elisa was 982.7 hPa at Belmullet, Co Mayo around 07 UTC on Thursday.

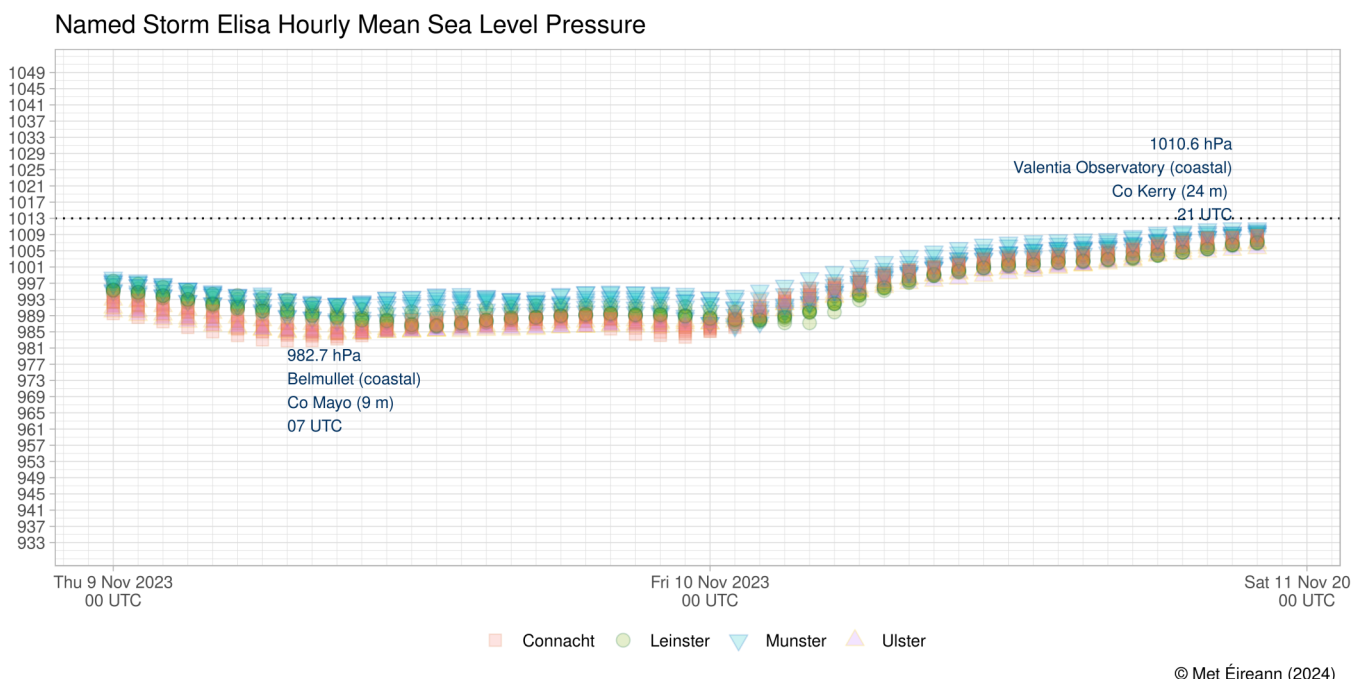


Figure 6: Hourly Mean Sea Level pressure (MSLP) by county (coloured by province) between Thu 9 and Fri 10 Nov 2023

## Impacts

- **Power Outages:** No major outages report in Ireland ([ESB PowerCheck, 2023](#)).
- **Flooding:** No major outages report in Ireland.
- **Travel:** No major reports of train stoppages in Ireland ([Irish Rail, 2023](#)).

## Synoptic stations—highest wind speeds and rainfall totals

The following table contains wind speeds and rainfall observations at the primary (SYNOPTIC) stations.

**Table 1.** Extremes of wind and rainfall at synoptic stations

Station location	Sustained (10-min mean) Wind Speed	Date highest mean	Wind Direction Highest sustained	Gust (3-sec mean) Wind Speed	Date Highest Gust	Wind Direction Highest Gust	Daily Rain (mm)	Total Rain (mm)
Mace Head** (coastal) Co Galway	72 km/h Gale Force 8 (39 knots or 45 mph)	Thu 9 Nov 2023 09 UTC	270° (W)	96 km/h (52 knots or 60 mph)	Thu 9 Nov 2023 0901 UTC	270° (W)	5.3 mm Thu 9 Nov 2023	5.6 mm
Sherkin Island (coastal) Co Cork	69 km/h Gale Force 8 (37 knots or 43 mph)	Thu 9 Nov 2023 10 UTC	270° (W)	102 km/h (55 knots or 63 mph)	Thu 9 Nov 2023 1019 UTC	270° (W)	9.3 mm Thu 9 Nov 2023	9.8 mm
Roches Point (coastal) Co Cork	69 km/h Gale Force 8 (37 knots or 43 mph)	Fri 10 Nov 2023 04 UTC	310° (NW)	83 km/h (45 knots or 52 mph)	Fri 10 Nov 2023 0438 UTC	310° (NW)	7.9 mm Thu 9 Nov 2023	8.7 mm
Valentia Observatory (coastal)	59 km/h Near Gale (32 knots or 37 mph)	Fri 10 Nov 2023 01 UTC	290° (WNW)	91 km/h (49 knots or 56 mph)	Fri 10 Nov 2023 0121 UTC	290° (WNW)	12.0 mm Thu 9 Nov 2023	13.0 mm
Shannon Airport (coastal) Co Clare	50 km/h Strong Breeze (27 knots or 31 mph)	Fri 10 Nov 2023 02 UTC	270° (W)	74 km/h (40 knots or 46 mph)	Thu 9 Nov 2023 1226 UTC	270° (W)	13.4 mm Thu 9 Nov 2023	13.7 mm
Cork Airport (coastal) Co Cork	46 km/h Strong Breeze (25 knots or 29 mph)	Fri 10 Nov 2023 03 UTC	280° (W)	69 km/h (37 knots or 43 mph)	Fri 10 Nov 2023 0223 UTC	280° (W)	11.4 mm Thu 9 Nov 2023	12.9 mm
Malin Head* (coastal)	44 km/h Strong Breeze (24 knots or 28 mph)	Thu 9 Nov 2023 04 UTC	190° (S)	61 km/h (33 knots or 38 mph)	Thu 9 Nov 2023 0435 UTC	190° (S)	3.7 mm Fri 10 Nov 2023	3.9 mm
Belmullet (coastal) Co Mayo	41 km/h Strong Breeze (22 knots or 25 mph)	Fri 10 Nov 2023 01 UTC	230° (SW)	67 km/h (36 knots or 41 mph)	Thu 9 Nov 2023 0138 UTC	220° (SW)	6.4 mm Thu 9 Nov 2023	10.2 mm
Casement Aerodrome Co Dublin	41 km/h Strong Breeze (22 knots or 25 mph)	Thu 9 Nov 2023 14 UTC	230° (SW)	59 km/h (32 knots or 37 mph)	Thu 9 Nov 2023 1328 UTC	230° (SW)	4.2 mm Fri 10 Nov 2023	4.2 mm
Oak Park Co Carlow	41 km/h Strong Breeze (22 knots or 25 mph)	Thu 9 Nov 2023 13 UTC	260° (W)	57 km/h (31 knots or 36 mph)	Thu 9 Nov 2023 1309 UTC	250° (WSW)	6.2 mm Fri 10 Nov 2023	7.8 mm
Newport (coastal) Co Mayo	35 km/h Fresh Breeze (19 knots or 22 mph)	Fri 10 Nov 2023 12 UTC	300° (WNW)	61 km/h (33 knots or 38 mph)	Thu 9 Nov 2023 0210 UTC	220° (SW)	21.1 mm Thu 9 Nov 2023	26.8 mm
Moore Park Co Cork	35 km/h Fresh Breeze (19 knots or 22 mph)	Fri 10 Nov 2023 02 UTC	260° (W)	57 km/h (31 knots or 36 mph)	Fri 10 Nov 2023 0208 UTC	270° (W)	5.3 mm Thu 9 Nov 2023	7.0 mm



Table 1. Cont'd

Station location	Sustained (10-min mean) Wind Speed	Date highest mean	Wind Direction Highest sustained	Gust (3-sec mean) Wind Speed	Date Highest Gust	Wind Direction Highest Gust	Daily Rain (mm)	2-day Total Rain (mm)
Johnstown Castle (coastal) Co Wexford	<b>35 km/h</b> Fresh Breeze (19 knots or 22 mph)	Thu 9 Nov 2023 15 UTC	250° (WSW)	<b>56 km/h</b> (30 knots or 35 mph)	Thu 9 Nov 2023 1535 UTC	260° (W)	<b>4.1 mm</b> Fri 10 Nov 2023	<b>4.2 mm</b>
Claremorris Co Mayo	<b>35 km/h</b> Fresh Breeze (19 knots or 22 mph)	Fri 10 Nov 2023 14 UTC	300° (WNW)	<b>52 km/h</b> (28 knots or 32 mph)	Fri 10 Nov 2023 1444 UTC	290° (WNW)	<b>12.7 mm</b> Thu 9 Nov 2023	<b>14.4 mm</b>
Knock Airport Co Mayo	<b>35 km/h</b> Fresh Breeze (19 knots or 22 mph)	Fri 10 Nov 2023 14 UTC	300° (WNW)	<b>52 km/h</b> (28 knots or 32 mph)	Fri 10 Nov 2023 1411 UTC	300° (WNW)	<b>11.1 mm</b> Thu 9 Nov 2023	<b>14.6 mm</b>
Finner (coastal) Co Donegal	<b>35 km/h</b> Fresh Breeze (19 knots or 22 mph)	Fri 10 Nov 2023 15 UTC	300° (WNW)	<b>50 km/h</b> (27 knots or 31 mph)	Thu 9 Nov 2023 1536 UTC	280° (W)	<b>4.9 mm</b> Thu 9 Nov 2023	<b>8.6 mm</b>
Dublin Airport (coastal) Co Dublin	<b>31 km/h</b> Fresh Breeze (17 knots or 20 mph)	Fri 10 Nov 2023 15 UTC	280° (W)	<b>48 km/h</b> (26 knots or 30 mph)	Thu 9 Nov 2023 1435 UTC	260° (W)	<b>1.0 mm</b> Fri 10 Nov 2023	<b>1.2 mm</b>
Gurteen Co Tipperary	<b>31 km/h</b> Fresh Breeze (17 knots or 20 mph)	Thu 9 Nov 2023 11 UTC	250° (WSW)	<b>48 km/h</b> (26 knots or 30 mph)	Thu 9 Nov 2023 1039 UTC	230° (SW)	<b>7.9 mm</b> Thu 9 Nov 2023	<b>14.1 mm</b>
Dunsany Co Meath	<b>28 km/h</b> moderate breeze (15 knots or 17 mph)	Thu 9 Nov 2023 11 UTC	210° (SSW)	<b>43 km/h</b> (23 knots or 26 mph)	Thu 9 Nov 2023 1336 UTC	230° (SW)	<b>3.0 mm</b> Fri 10 Nov 2023	<b>4.6 mm</b>
Athenry Co Galway	<b>26 km/h</b> moderate breeze (14 knots or 16 mph)	Fri 10 Nov 2023 03 UTC	330° (NNW)	<b>48 km/h</b> (26 knots or 30 mph)	Thu 9 Nov 2023 0310 UTC	200° (SSW)	<b>17.5 mm</b> Thu 9 Nov 2023	<b>19.6 mm</b>
Mullingar Co Westmeath	<b>24 km/h</b> moderate breeze (13 knots or 15 mph)	Thu 9 Nov 2023 08 UTC	210° (SSW)	<b>39 km/h</b> (21 knots or 24 mph)	Thu 9 Nov 2023 0843 UTC	200° (SSW)	<b>2.1 mm</b> Fri 10 Nov 2023	<b>3.7 mm</b>
Mount Dillon Co Roscommon	<b>20 km/h</b> moderate breeze (11 knots or 13 mph)	Fri 10 Nov 2023 14 UTC	280° (W)	<b>41 km/h</b> (22 knots or 25 mph)	Thu 9 Nov 2023 0705 UTC	170° (S)	<b>8.8 mm</b> Thu 9 Nov 2023	<b>12.8 mm</b>
Ballyhaise Co Cavan	<b>20 km/h</b> moderate breeze (11 knots or 13 mph)	Thu 9 Nov 2023 00 UTC	190° (S)	<b>35 km/h</b> (19 knots or 22 mph)	Thu 9 Nov 2023 0029 UTC	220° (SW)	<b>5.0 mm</b> Fri 10 Nov 2023	<b>6.7 mm</b>

## Definitions

- Sustained (or mean) wind speeds are an average of 10-minute wind speeds.
- Gust wind speeds are an average of 3-second wind speeds.
- Unless otherwise stated daily means midnight to midnight UTC.
- Long-Term Averages (LTAs) and 'normal' refer to the observations being averaged over the period 1991-2020.
- Beaufort Scale available at [www.met.ie/forecasts/marine-inland-lakes/beaufort-scale](http://www.met.ie/forecasts/marine-inland-lakes/beaufort-scale)
- Marine area buoy maps and definitions available at [www.met.ie/forecasts/marine-inland-lakes/sea-area-forecast-terminology](http://www.met.ie/forecasts/marine-inland-lakes/sea-area-forecast-terminology)

*\* Malin Head, Co Donegal's wind speeds are observed (using an anemometer) at a non-standard height of 23 m while all others are at 10 m. This will cause Malin Head's wind speeds to be higher in a strong air flow.*

*\*\* Mace Head, Co Galway's anemometer is situated above exposed rock at the coast line.*

This report is based on the observations from Met Éireann's weather and climate stations and data available up to the publication date. For more information, please contact Met Éireann's Climate Services Division: [enquiries@met.ie](mailto:enquiries@met.ie) or <https://www.met.ie/about-us/contact-us>.