STORM JOCELYN

Tuesday 23 January 2024

Twelfth named storm of the 2023/2024 season
Named by Met Éireann on Monday 22 January 2024

Date published 21 November 2024

Following quickly after Violent Storm Isha and fuelled by the same powerful jet stream, storm Jocelyn began as a low-pressure system off the east coast of Canada on Sunday 21 January and intensified rapidly as it quickly crossed the Atlantic. Storm Joselyn's didn't deepen as much as storm Isha and it tracked further north as a more mature storm, lessening the impacts for Ireland. By 9 am on Tuesday 23 January the depression centre, of 963 hPa, was positioned 530 nautical miles northwest of Erris Head tracking northeastwards. Storm Jocelyn was the 3rd named storm occurring during January 2024, having followed Henk on Tuesday 3 January and Isha, only two days prior on Sunday 21 January. The storm gradually filled as it tracked towards Scandinavia as a transient ridge of high pressure moved in.

Summary

- The highest sustained (10-minute mean) wind speed was a southwesterly storm force 96 km/h (52 knots or 60 mph) on Tuesday 23 January 2024 around 18 UTC (6 pm local time) observed at Mace Head**, Co Galway.
- The highest gust (3-second mean) wind speed was a southwesterly 122 km/h (66 knots or 76 mph) on Tuesday around 18:08 UTC (6:08 pm local time) observed at Mace Head (coastal), Co Galway.
- The lowest land-station hourly mean sea pressure (MSLP) was 988.6 hPa on Tuesday 23rd at around 19 UTC (7 pm local) observed at Malin Head* (coastal), Co Donegal.
- The highest daily (00-00 UTC) rainfall was 19.2 mm on Tuesday at Valentia Observatory, Co Kerry (187 % of its 1991-2020 Long Term Average (LTA)). The highest 24-hour (09-09 UTC) rainfall total was 41.1 mm on Tuesday at Tralee (Lisaboula), Co Kerry (193 % of its LTA).
- The second highest individual wave height during a storm in the 2023/24 season occurred during Storm Jocelyn with 19.2 m observed at Buoy M6 (in the deep Atlantic) around 21 UTC on Tuesday 23 Jan. The highest was 20.6 m during storm Fergus on Sunday 10 December 2023.

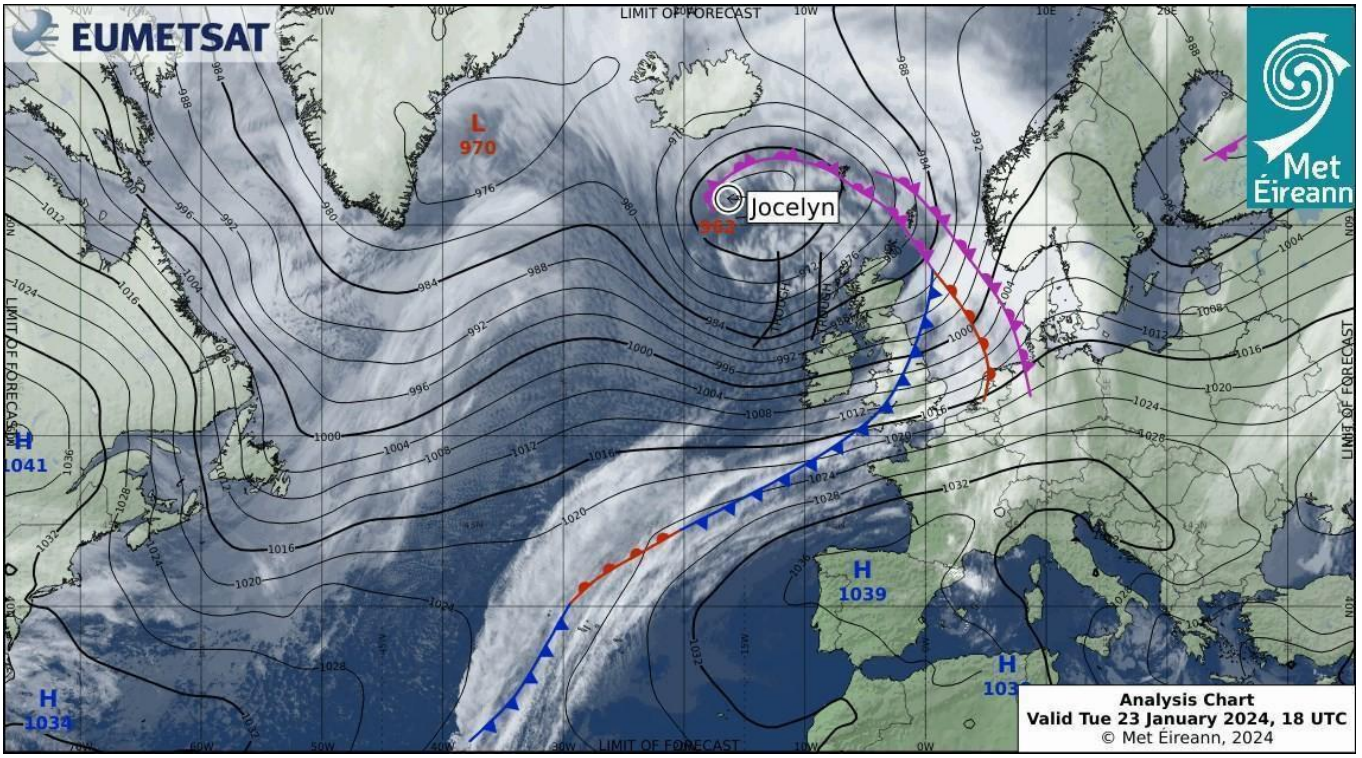


Figure 1. Analysis and Satellite Chart at the hour 12 UTC on Tue 23 Jan 2024

Monday 22 January 2024

Storm Isha tracked to the northwest of Ireland during the day. Strong and gusty southwesterly winds countrywide, with strong gales and high waves along coasts. A wet day too with the rain heavy/ thundery at times, particularly in the West and South. The winds became westerly and decreased in most areas overnight but stayed very strong in the Northwest. Rain cleared eastwards early followed by clear spells and scattered showers.

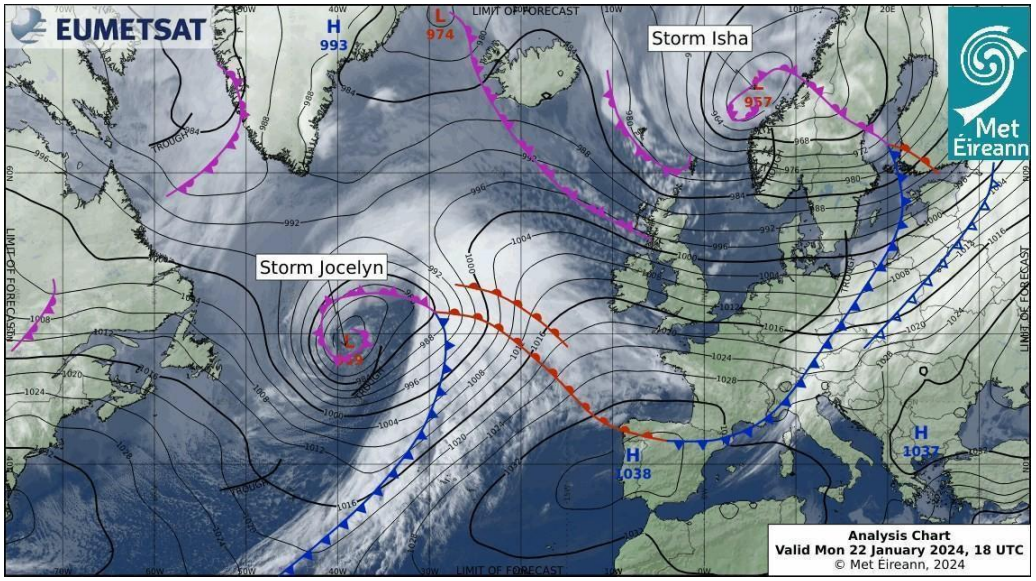


Figure 2. Analysis and satellite chart on Mon 22 Jan 2024 at 18 UTC

Tuesday 23 January 2024

On the morning of the 23rd, Ireland lay in a strengthening southerly airflow as a depression of 968 hPa, Storm Jocelyn, centred approximately 750 nm to the northwest of Belmullet. Associated frontal troughs crossed the area. Widespread rain during the morning and afternoon, followed by scattered showers in the evening. Strong winds continued for a time during the night with very strong and gusty southwest-to -west winds easing overnight.

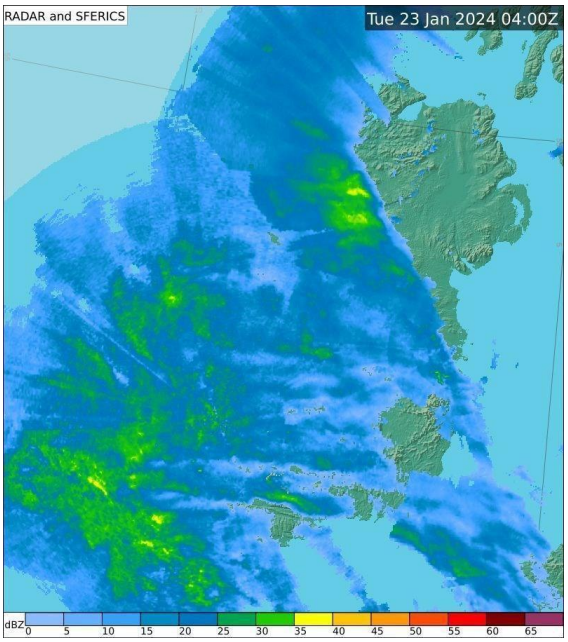


Figure 3. On Tue 23 Jan 2024 in the hour ending 04 UTC, as 4.3 mm of rain fell at Valentia Observatory, Co Kerry

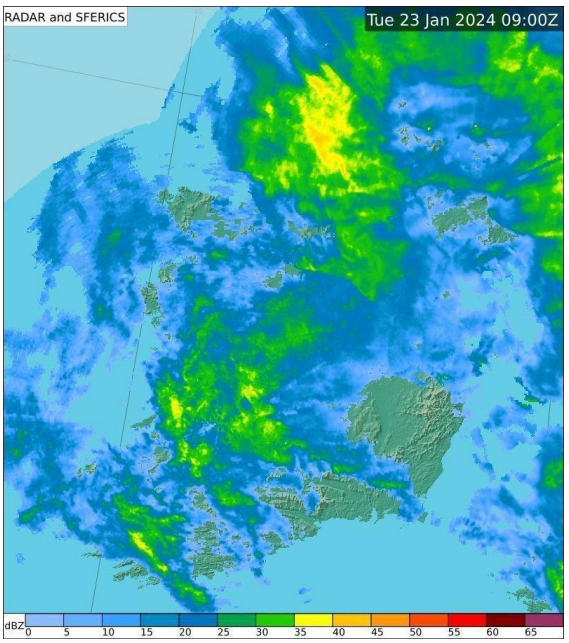


Figure 4. On Tue 23 Jan 2024 in the hour ending 09 UTC, as 5.7 mm of rain fell at Athenry, Co Galway

Wednesday 24 January 2024

On the morning of the 24th, Storm Jocelyn (968 hPa), situated 260 nm north of Scotland, generated a strong to gale westerly airflow across Ireland. The storm gradually filled as it tracked towards Scandinavia as a transient ridge of high pressure moved in.

Mean sea level pressure (MLSP) on land

The minimum hourly mean sea level pressure observed in Ireland during storm Jocelyn was 988.6 hPa at Malin Head (coastal), Co Donegal around 19 UTC on Tuesday 23.

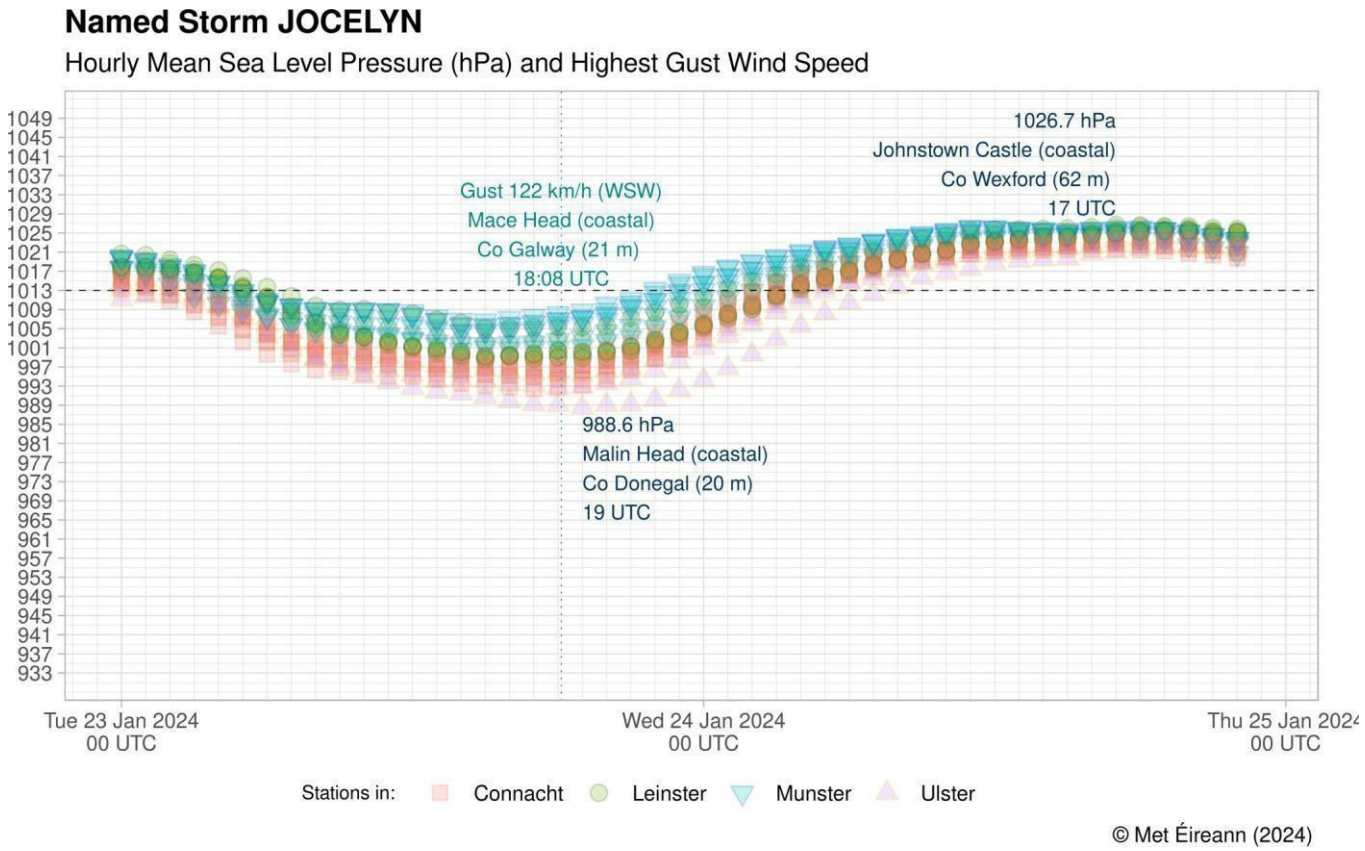


Figure 5: Hourly Mean Sea Level pressure between Tue 23 and Thu 25 Jan 2023. Each point represents the observation at a station and is coloured by province.

Marine area extremes

Table 1. Wind speeds and wave heights extremes at Irish Marine Data Buoys Mon 22 and Tue 23 Jan 2024

Buoy (Location)	Highest Sustained Wind Speeds	Highest Gust Wind Speeds	Highest Significant Wave Height (m)	Highest Individual Wave Height (m)
M2 (Irish Sea)	67 km/h (36 knots or 42 mph)	92 km/h (49 knots or 57 mph)	4.1	8.3
M3 (off Cork coast)	56 km/h (30 knots or 35 mph)	88 km/h (47 knots or 55 mph)	10.5	17.8
M4 (off Donegal coast)	65 km/h (35 knots or 40 mph)	101 km/h (55 knots or 63 mph)	10.3	16.5
M5 (off south Wexford coast)	58 km/h (31 knots or 36 mph)	80 km/h (43 knots or 50 mph)	7.3	12.5
M6 (deep Atlantic)	68 km/h (37 knots or 42 mph)	107 km/h (58 knots or 67 mph)	12.1	19.2

Synoptic land stations' extremes

The following table contains wind speeds and rainfall observations for the primary (SYNOPTIC) stations during storm Jocelyn. Sustained wind speeds (average 10-minute mean land-wind speeds) are shaded according to the Beaufort land-wind scale.

Table 1. Extremes of wind speeds and rainfall totals at synoptic stations

Station location	Sustained (10-minmean) Wind Speed	Date highest Sustained Wind Speed	Wind Direction Highest sustained	Gust (3-sec mean) Wind Speed	Date Highest Gust	Wind Direction Highest Gust	Daily Rain Total	Total Rain (2 days)
Mace Head** (coastal) Co Galway	**96 km/h** Storm Force (52 knots or 60 mph)	Tue 23 Jan 2024 18UTC	230° (SW)	**122 km/h** (66 knots or 76 mph)	Tue 23 Jan 2024 1808 UTC	240° (WSW)	**13.1 mm** Tue 23 Jan 2024	14.0 mm
Malin Head* (coastal), Co Donegal	**83 km/h** Strong Gale Force (45 knots or 52 mph)	Tue 23 Jan 2024 19 UTC and Wed 24 Jan 2024 0UTC	230° (SW) and 250° (SW)	**115 km/h** (62 knots or 71 mph)	Tue 23 Jan 2024 1906 UTC	230 ° (SW)	**11.7 mm** Tue 23 Jan 2024	12.4 mm
Finner (coastal) Co Donegal	**72 km/h** Gale Force 8 (39 knots or 45 mph)	Tue 23 Jan 2024 23 UTC	250° (WSW)	**107 km/h** (58 knots or 67 mph)	Tue 23 Jan 2024 1828 UTC	230 ° (SW)	**9.2 mm** Tue 23 Jan 2024	10.1 mm
Belmullet (coastal) Co Mayo	**72 km/h** Gale Force 8 (39 knots or 45 mph)	Tue 23 Jan 2024 20 UTC	240° (WSW)	**106 km/h** (57 knots or 66 mph)	Tue 23 Jan 2024 2025 UTC	250° (WSW)	**12.4 mm** Tue 23 Jan 2024	12.6 mm
Sherkin Island (coastal) Co Cork	**72 km/h** Gale Force 8 (39 knots or 45 mph)	Tue 23 Jan 2024 19 UTC	240° (WSW)	**94 km/h** (51 knots or 59 mph)	Tue 23 Jan 2024 1802 UTC	240° (WSW)	**8.0 mm** Tue 23 Jan 2024	10.6 mm
Shannon Airport (coastal) Co Clare	**70 km/h** Gale Force 8 (38 knots or 44 mph)	Tue 23 Jan 2024 18 UTC	240° (WSW)	**106 km/h** (57 knots or 66 mph)	Tue 23 Jan 2024 2002 UTC	240° (WSW)	**9.5 mm** Tue 23 Jan 2024	10.4 mm
Roches Point (coastal) Co Cork	**70 km/h** Gale Force 8 (38 knots or 44 mph)	Tue 23 Jan 2024 18 UTC	240° (WSW)	**98 km/h** (53 knots or 61 mph)	Tue 23 Jan 2024 1858 UTC	240° (WSW)	**8.8 mm** Tue 23 Jan 2024	10.0 mm
Knock Airport Co Mayo	**69 km/h** Gale Force 8 (37 knots or 43 mph)	Tue 23 Jan 2024 21 UTC	260° (W)	**111 km/h** (60 knots or 69 mph)	Tue 23 Jan 2024 1951 UTC	240° (WSW)	**11.6 mm** Tue 23 Jan 2024	12.5 mm
Oak Park Co Carlow	**67 km/h** Gale Force 8 (36 knots or 41 mph)	Tue 23 Jan 2024 19 UTC	240° (WSW)	**102 km/h** (55 knots or 63 mph)	Tue 23 Jan 2024 2005 UTC	240° (WSW)	**3.7 mm** Tue 23 Jan 2024	3.9 mm
Casement Aerodrome Co Dublin	**63 km/h** Gale Force 8 (34 knots or 39 mph)	Tue 23 Jan 2024 21UTC and Wed 24 Jan 2024 03 UTC	240° (WSW) and 260° (WSW)	**96 km/h** (52 knots or 60 mph)	Tue 23 Jan 2024 2005 UTC	240° (WSW)	**5.3 mm** Tue 23 Jan 2024	5.4 mm
Valentia Observatory (coastal) Co Kerry	**63 km/h** Gale Force 8 (34 knots or 39 mph)	Tue 23 Jan 2024 18 UTC	240° (WSW)	**96 km/h** (52 knots or 60 mph)	Tue 23 Jan 2024 1914 UTC	240° (WSW)	**19.2 mm** Tue 23 Jan 2024	22.9 mm

Table 1. Cont'd

Station location	Sustained (10-min mean) Wind Speed	Date Highest Sustained Wind Speed	Wind Direction Highest sustained	Gust (3-sec mean) Wind Speed	Date Highest Gust Wind Speed	Wind Direction Highest Gust	Daily Rain Total	Total Rain (2 days)
Dunsany Co Meath	**59 km/h** Near Gale (32 knots or 37mph)	Tue 23 Jan 2024 22UTC	240° (WSW)	**96 km/h** (52 knots or 60 mph)	Tue 23 Jan 2024 2003 UTC	230° (SW)	**6.8 mm** Tue 23 Jan 2024	7.0 mm
Cork Airport (coastal) Co Cork	**59 km/h** Near Gale (32 knots or 37 mph)	Tue 23 Jan 2024 13UTC	230° (SW)	**96 km/h** (52 knots or 60 mph)	Tue 23 Jan 2024 1904 UTC	260° (W)	**12.1 mm** Tue 23 Jan 2024	12.9 mm
Gurteen Co Tipperary	**57 km/h** Near Gale (31 knots or 36 mph)	Tue 23 Jan 2024 18UTC	230° (SW)	**85 km/h** (46 knots or 53 mph)	Tue 23 Jan 2024 2106 UTC	240° (WSW)	**10.9 mm** Tue 23 Jan 2024	11.2 mm
Claremorris Co Mayo	**56 km/h** Near Gale (30 knots or 35 mph)	Tue 23 Jan 2024 23UTC	260° (W)	**94 km/h** (51 knots or 59 mph)	Tue 23 Jan 2024 2309 UTC	270° (W)	**15.6 mm** Tue 23 Jan 2024	16.1 mm
Newport (coastal) Co Mayo	**54 km/h** Near Gale (29 knots or 33 mph)	Tue 23 Jan 2024 11UTC	200° (SSW)	**89 km/h** (48 knots or 55 mph)	Tue 23 Jan 2024 2009 UTC	240° (WSW)	**14.4 mm** Tue 23 Jan 2024	14.9 mm
Athenry Co Galway	**52 km/h** Near Gale (28 knots or 32 mph)	Tue 23 Jan 2024 18UTC	240° (WSW)	**83 km/h** (45 knots or 52 mph)	Tue 23 Jan 2024 1556 UTC	230° (SW)	**18.1 mm** Tue 23 Jan 2024	19.1 mm
Mount Dillon Co Roscom-mon	**50 km/h** Strong Breeze (27 knots or 31 mph)	Tue 23 Jan 2024 18UTC	230° (SW)	**91 km/h** (49 knots or 56 mph)	Tue 23 Jan 2024 1848 UTC	230° (SW)	**14.8** Tue 23 Jan 2024	15.1 mm
Dublin Airport (coastal) Co Dublin	**48 km/h** Strong Breeze (26 knots or 30 mph)	Wed 24 Jan 2024 02UTC	260° (W)	**78 km/h** (42 knots or 48 mph)	Tue 23 Jan 2024 2030 UTC and Wed 24 Jan 2024 0106 UTC	250° (WSW) and 260° (WSW)	**7.1 mm** Tue 23 Jan 2024	7.6 mm
Johnstown Castle (coastal) Co Wexford	**46 km/h** Strong Breeze (25 knots or 29 mph)	Tue 23 Jan 2024 15UTC	230° (SW)	**80 km/h** (43 knots or 49 mph)	Tue 23 Jan 2024 1550 UTC	220° (SW)	**9.0 mm** Tue 23 Jan 2024	9.0 mm
Mullingar Co West-meath	**44 km/h** Strong Breeze (24 knots or 28 mph)	Tue 23 Jan 2024 18UTC	230° (SW)	**81 km/h** (44 knots or 51 mph)	Tue 23 Jan 2024 1848 UTC	240° (WSW)	**15.0 mm** Tue 23 Jan 2024	16.2 mm
Moore Park Co Cork	**44 km/h** Strong Breeze (24 knots or 28 mph)	Tue 23 Jan 2024 19UTC	240° (WSW)	**76 km/h** (41 knots or 47 mph)	Tue 23 Jan 2024 2205 UTC	260° (W)	**4.2 mm** Tue 23 Jan 2024	4.3 mm
Ballyhaise Co Cavan	**43 km/h** Strong Breeze (23 knots or 26 mph)	Tue 23 Jan 2024 14UTC	230° (SW)	**83 km/h** (45 knots or 52 mph)	Tue 23 Jan 2024 1422 UTC	220° (SW)	**13.0 mm** Tue 23 Jan 2024	13.9 mm

Impacts

Storm Jocelyn, with winds peaking on Tuesday 23 January 2024, followed quickly after Violent Storm Isha (winds peaking on Sunday 21 January 2024) and its impacts.

- Power Outages: ESB reported 12,000 homes without electricity ESB PowerCheck 2023
- Travel: Some flights cancelled or diverted, The Independent 2024

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 Average (LTA) and 'normal' refer to the climatological reference period of 1991-2020.
- Beaufort Scale
- Marine area buoy maps and definitions

** 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 coastline.*

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 or Contact Us