

Ireland's Climate 2024

Provisional Summary Report



Key Messages*



- 2024 is provisionally the **fourth warmest year on record** in Ireland, with an average temperature of **10.72 °C**.
- This was **1.17 °C** above the 1961-1990 climatological standard normal period and **0.55 °C** above the 1991-2020 long-term average (LTA).
- **Seven** of the ten **warmest years** have occurred since 2005.
- The **highest temperature** recorded in 2024 was **26.6 °C** at Phoenix Park on June 24th, **12.7 °C** above its June LTA.
- The **lowest air temperature** recorded at a primary station was **-7.3 °C** on January 18th at Athenry, Co. Galway, **13.3 °C below** its January LTA.



- 2024 is provisionally the 39th wettest -or 46th driest- year since 1941 (record length 84 years).
- Most primary stations recorded **below-average annual rainfall**, with the driest conditions in the east and the wettest in the south.
- The **highest daily rainfall total** at a primary station was **57.4 mm** at Knock Airport, Co. Mayo on November 23rd during Storm Bert, **40%** of its November LTA in one day.



- **Seven** named storms impacted Ireland: Isha, Jocelyn, Kathleen, Lilian, Ashley, Bert, and Darragh.
- Storm Darragh on December 6th brought the strongest winds of the year.
- The highest gust was 76 knots (141 km/h), the highest 10-minute mean wind speed was 60 knots (111 km/h).
- Storms Isha and Darragh both produced violent storm-force winds.

(*) Statistics in this section are based on data from 25 principal weather stations operated by Met Éireann.



Data Description

The term '**anomaly**' means *difference-from* or *percentage-of* a 30-year average or Long Term Average (LTA). The LTA period used in this report is **1991-2020**, unless otherwise specified. By comparing the average periods 1961-1990 to 1991-2020, we know that Ireland has become **0.7 °C warmer** and **7% wetter**. See more about our [30-year averages on met.ie](#).

The **temperature graphs** from 1900-2024 use data from the **Island of Ireland Temperature Series**, which includes Malin Head, Co. Donegal, Birr/Gurteen, Co. Offaly/Tipperary, Phoenix Park, Co. Dublin, Valentia Observatory, Co. Kerry and Armagh Observatory, Co. Armagh (courtesy of Armagh Observatory and Met Office, UK). This dataset is also used for monthly and seasonal anomalies, and records.

The rainfall and temperature maps in this report are produced using gridded data from Met Éireann stations and a small number of UKMO stations in Northern Ireland and are **provisional**, as not all station data has been collected at time of publication. The data have been gridded using Inverse Distance Weighting (IDW).

Records (warmest temperature recorded at a station etc.) are based on our [25 primary stations](#), as data from other stations is not yet final.

Seasons in this document refer to **Meteorological Seasons**. **Winter** is December, January and February, **spring** is March, April and May, **summer** is June, July and August, and **autumn** is September, November and October.

Page 21 presents **wind roses** for a selection of primary stations for 2024. A wind rose illustrates the distribution of wind direction and speed at a specific location. The diagram shows wind directions with radial lines, where the length of each line indicates the frequency of wind from that direction. Concentric circles represent the percentage of time wind speeds fall within these ranges, providing a visualisation of both wind direction and strength.



Temperature - Annual Overview

- 2024 is provisionally the **4th warmest year** on record in Ireland, with an average annual temperature of **10.72 °C**.
 - This temperature is **1.17 °C** above the 1961-1990 climatological standard normal period and **0.55 °C** above the 1991-2020 LTA.
 - May 2024 was the **warmest May on record** (record length 125 years).
 - The **lowest air temperature** at a primary station was **-7.3 °C** on January 18th at Athenry, Co. Galway, **13.3 °C below** its LTA.
 - The **highest maximum temperature** was **26.6 °C** on June 24th at Phoenix Park, Co. Dublin.
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Seasonal & Monthly Analysis

Winter

- January was colder than average, with high pressure to the north dominating.
- February was mild, seven stations had their warmest February on record.

Spring

- March and April continued the mild trend, with temperatures above average, particularly in the south.
- May was exceptionally mild, particularly during nighttime; weak steering currents led to slow-moving weather systems. It was the warmest May on record.
- Spring 2024 was the 2nd warmest spring on record.

Summer

- June and July were relatively cool overall. The second half of June saw a shift to milder Atlantic westerlies.
- August was cool in the north and west but warmer in the east and southeast due to the influence of high pressure.

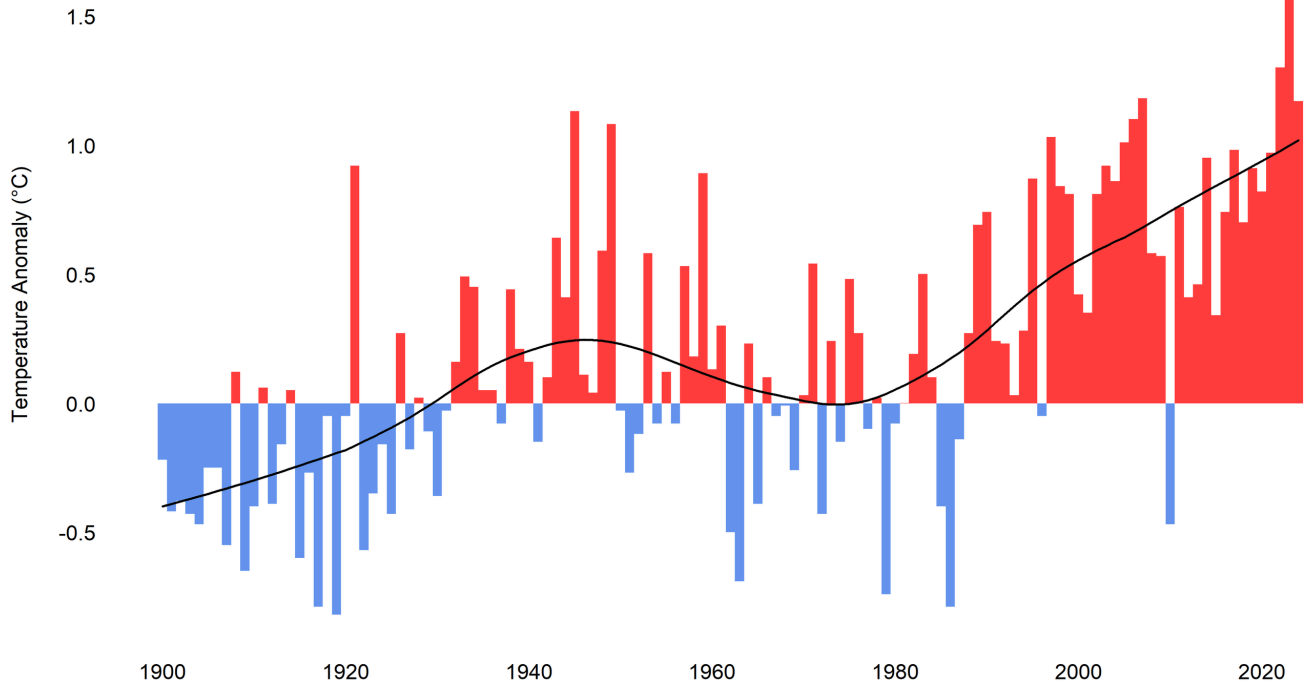
Autumn

- September was relatively cool, the lowest temperature was recorded on the 13th at Mount Dillon, Co. Roscommon with -0.8 °C , the earliest First Autumn Frost in 32 years.
 - October was mild with all mean air temperatures across the country above their LTA for the month.
 - November was mild but dull, with anticyclonic gloom dominating the first half of the month. It was the 10th warmest November on record since 1900.
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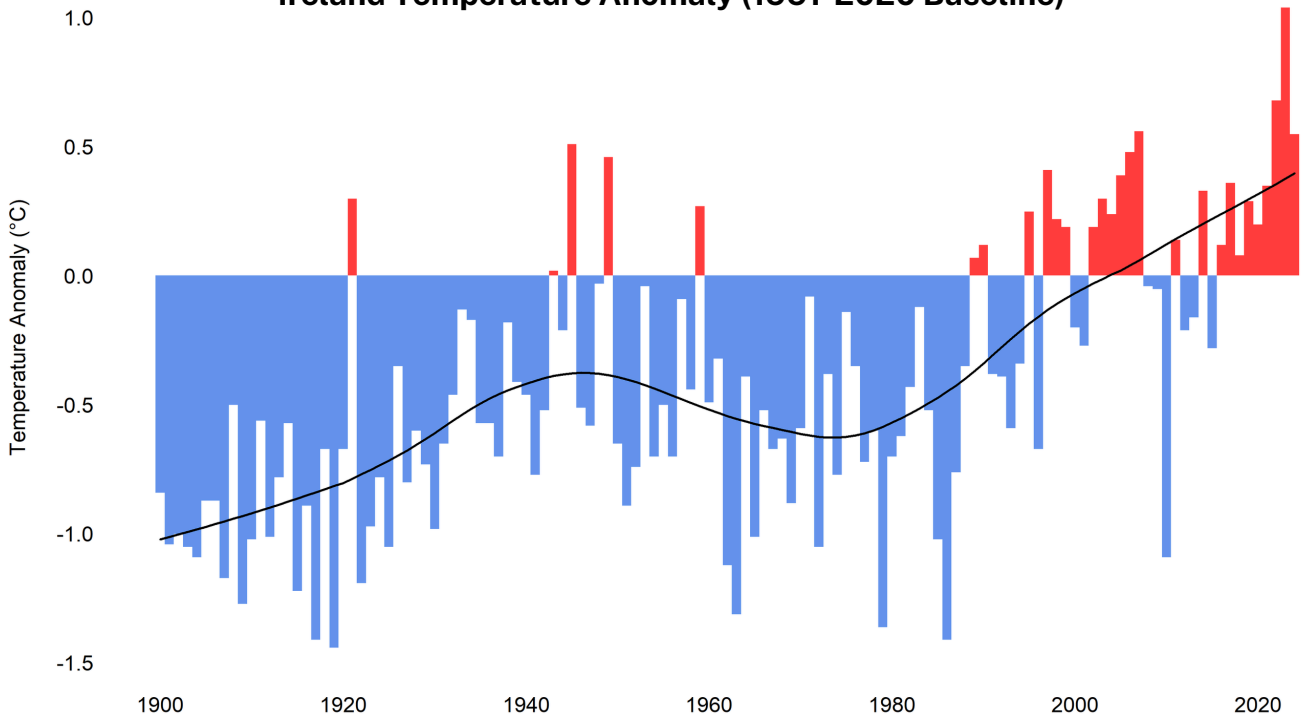


Annual Mean Temperature Anomalies

Ireland Temperature Anomaly (1961-1990 Baseline)



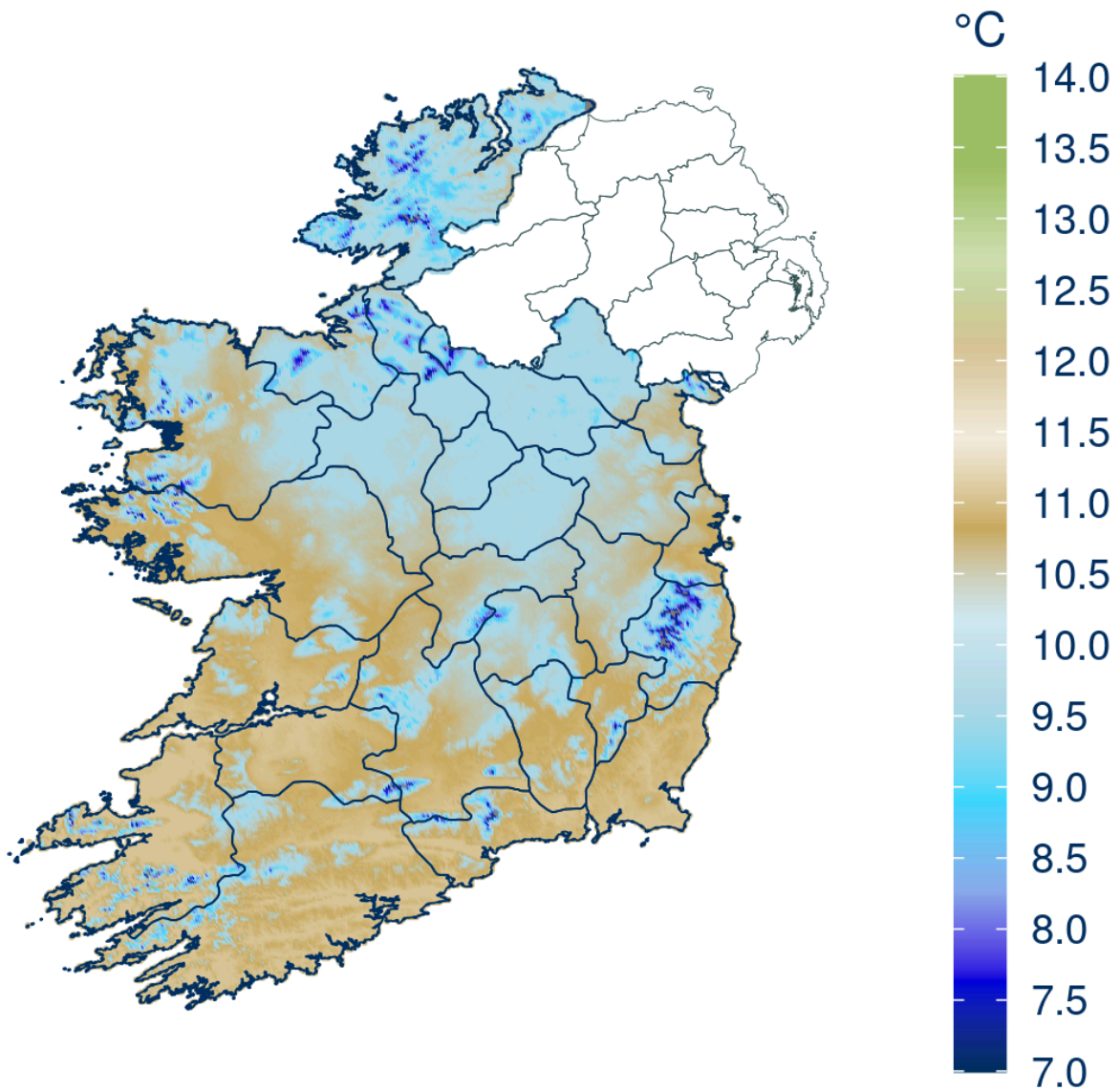
Ireland Temperature Anomaly (1991-2020 Baseline)



- The graphs above show Ireland's temperature anomalies from 1900 to 2024 compared to the 1961-1990 climatological standard normal period (top) and 1991-2020 LTA (bottom).
- The black line is a LOESS trendline, which uses a 42-year window to smooth out patterns in the data over time.
- The graphs show a warming trend in line with global trends.



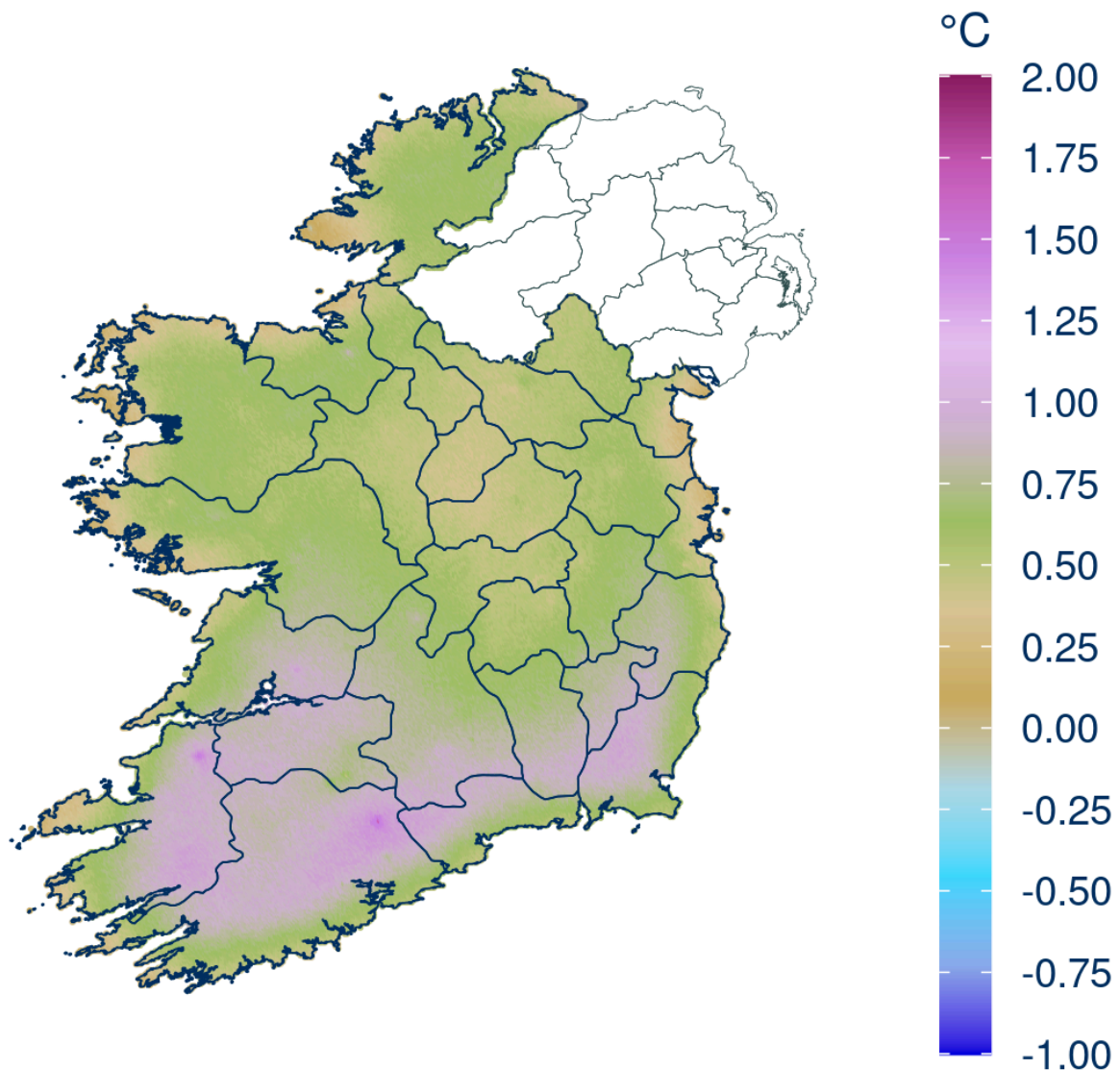
Annual Mean Temperature 2024



- This map shows gridded average air temperatures for Ireland in 2024.
- Ireland's annual average air temperature in 2024 was 10.72 °C.
- It was the 4th warmest year on record.



Annual Mean Temperature 2024 (Anomaly)

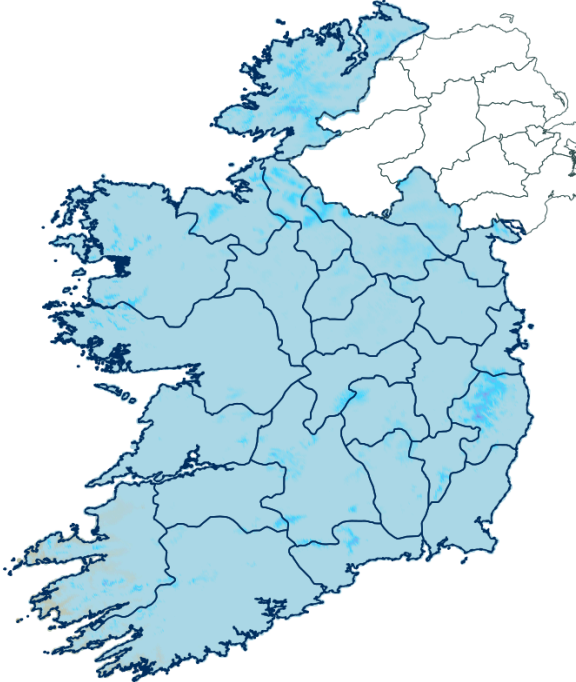


- This map shows the difference in average air temperature in 2024 compared to the 1991-2020 LTA.
- With an average air temperature of 10.72 °C, 2024 was **1.17 °C** above the 1961-1990 climatological standard normal period and **0.55 °C** above the 1991-2020 LTA.

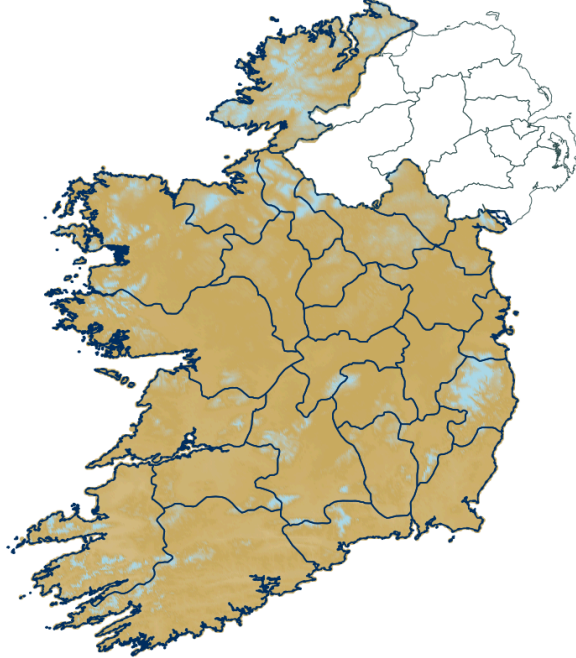


Seasonal Mean Temperature (Grids)

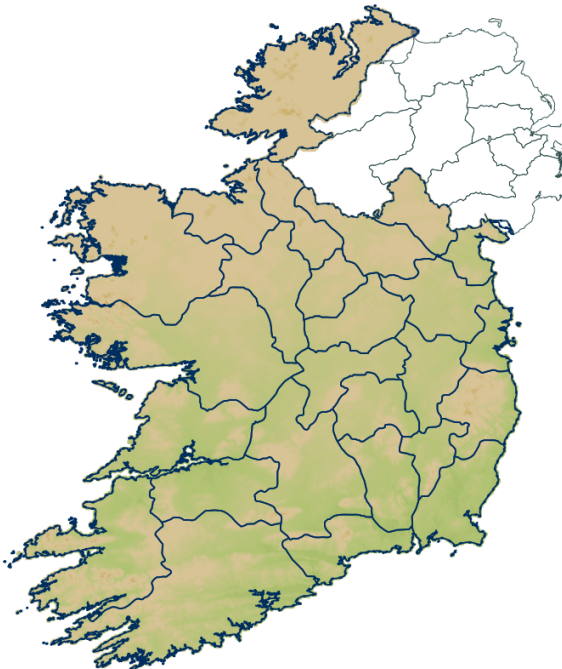
Winter (Dec 2023-Feb 2024)



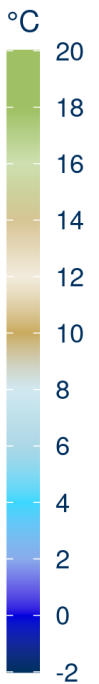
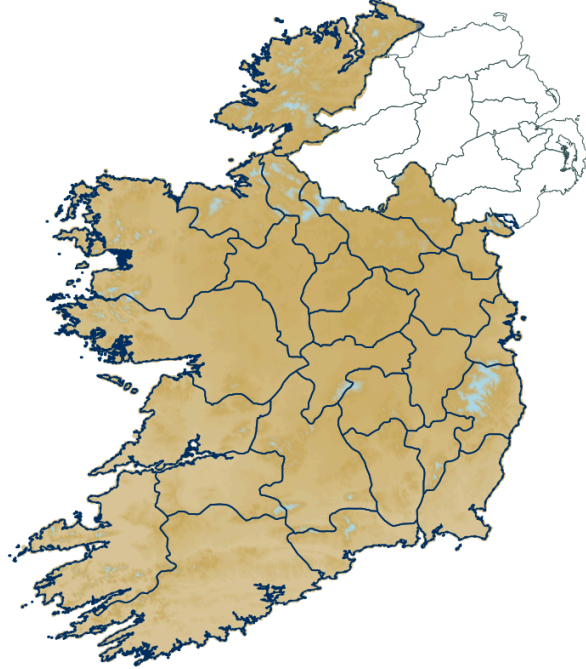
Spring (Mar - May 2024)



Summer (Jun - Aug 2024)



Autumn (Sep - Nov 2024)

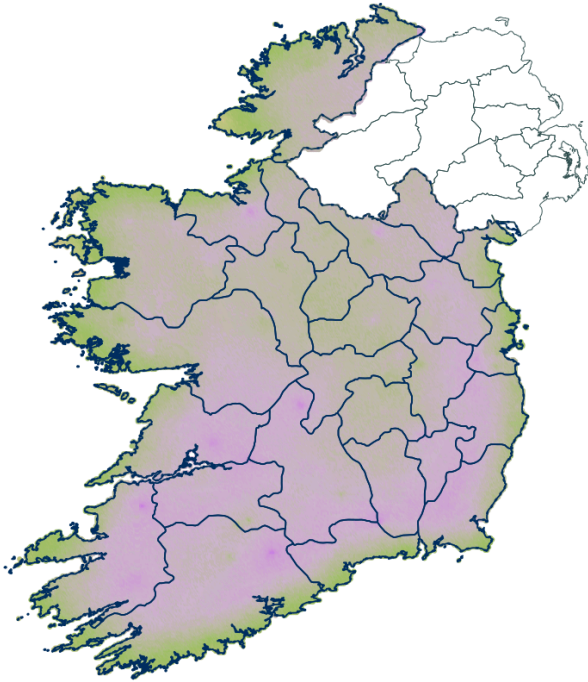


- The maps above show the average air temperatures for the seasons of 2024.
- Blue colours indicate colder temperatures, brown and green colours indicate warmer temperatures.

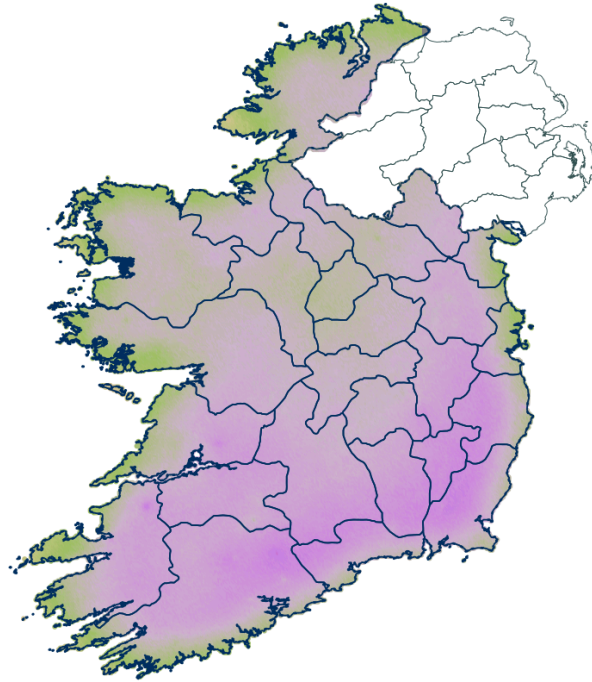


Seasonal Mean Temperature (Anomaly)

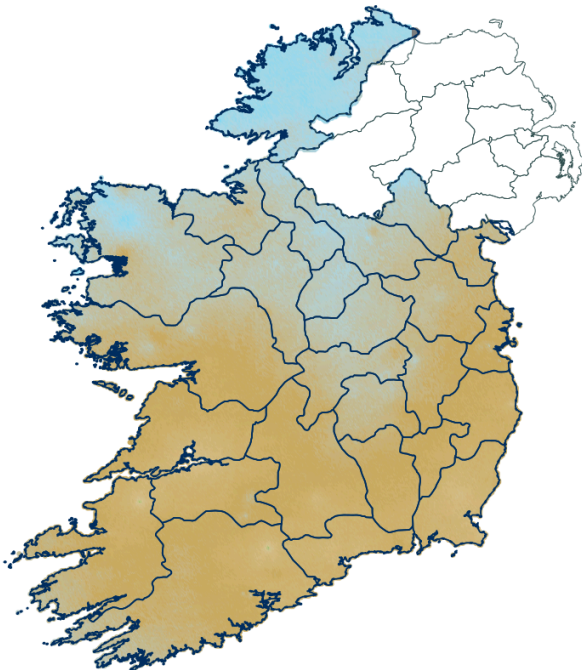
Winter (Dec 2023-Feb 2024)



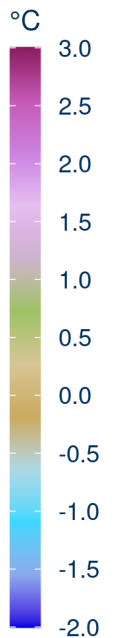
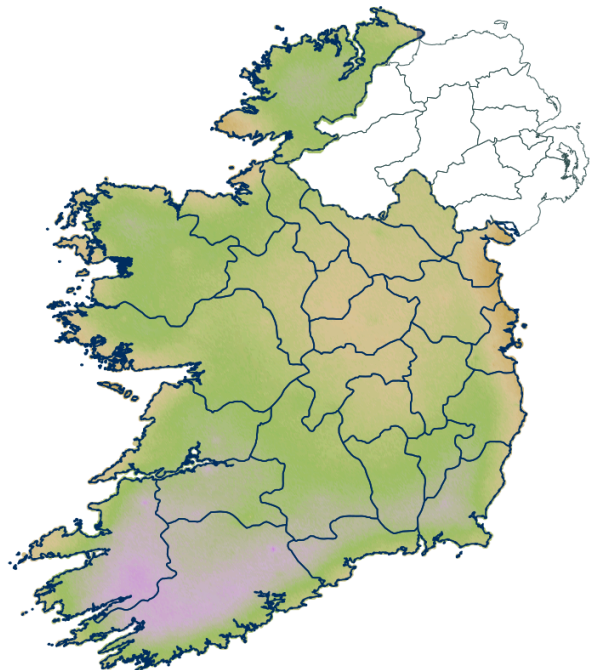
Spring (Mar - May 2024)



Summer (Jun - Aug 2024)



Autumn (Sep - Nov 2024)

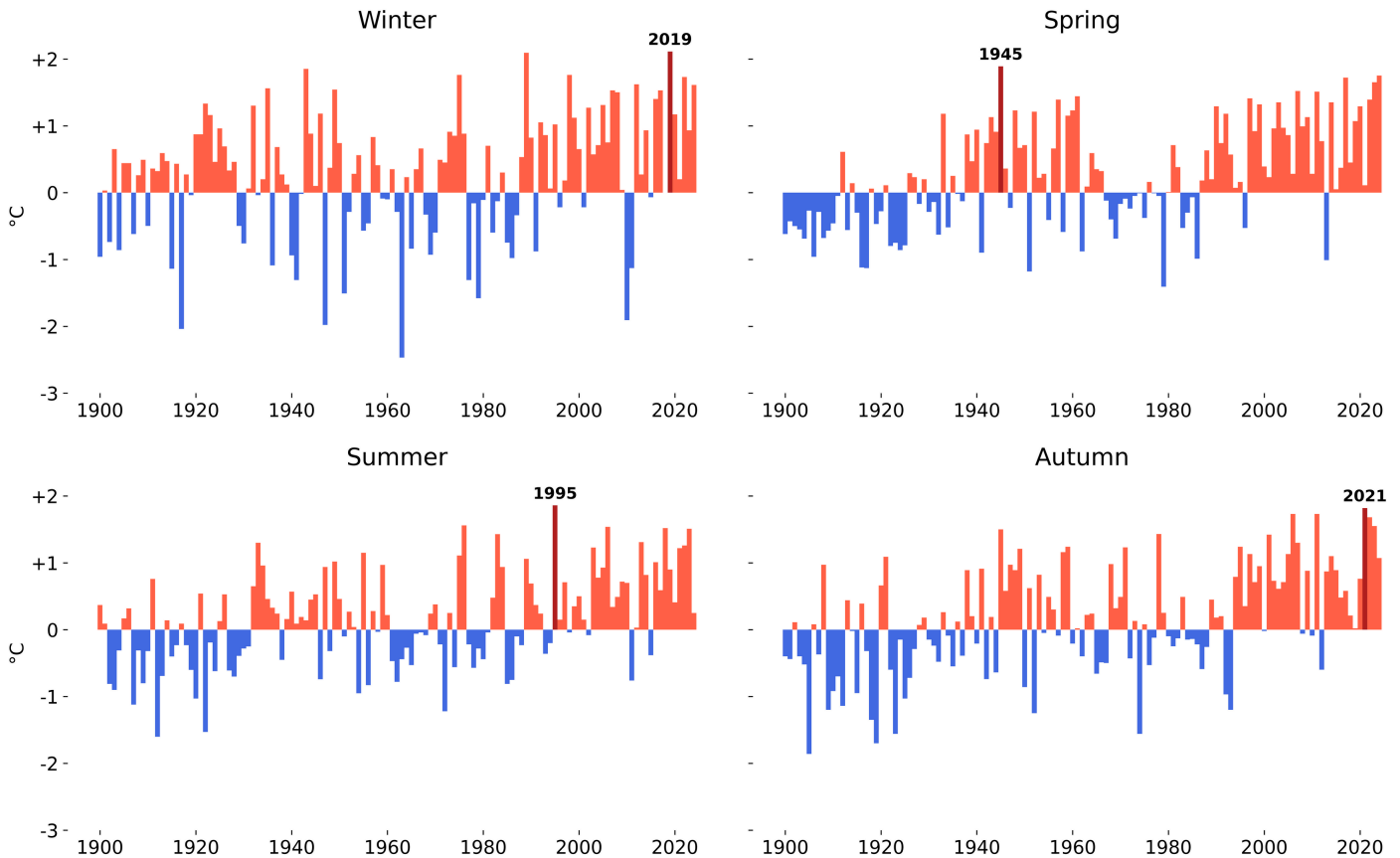


- The maps above show the average temperature anomalies for the seasons of 2024, compared to the 1991-2020 LTA.
- Blue colours indicate colder temperatures, brown colours indicate temperatures close to the LTA, green and pink colours are warmer than average.



Seasonal Mean Temperature (Anomalies)

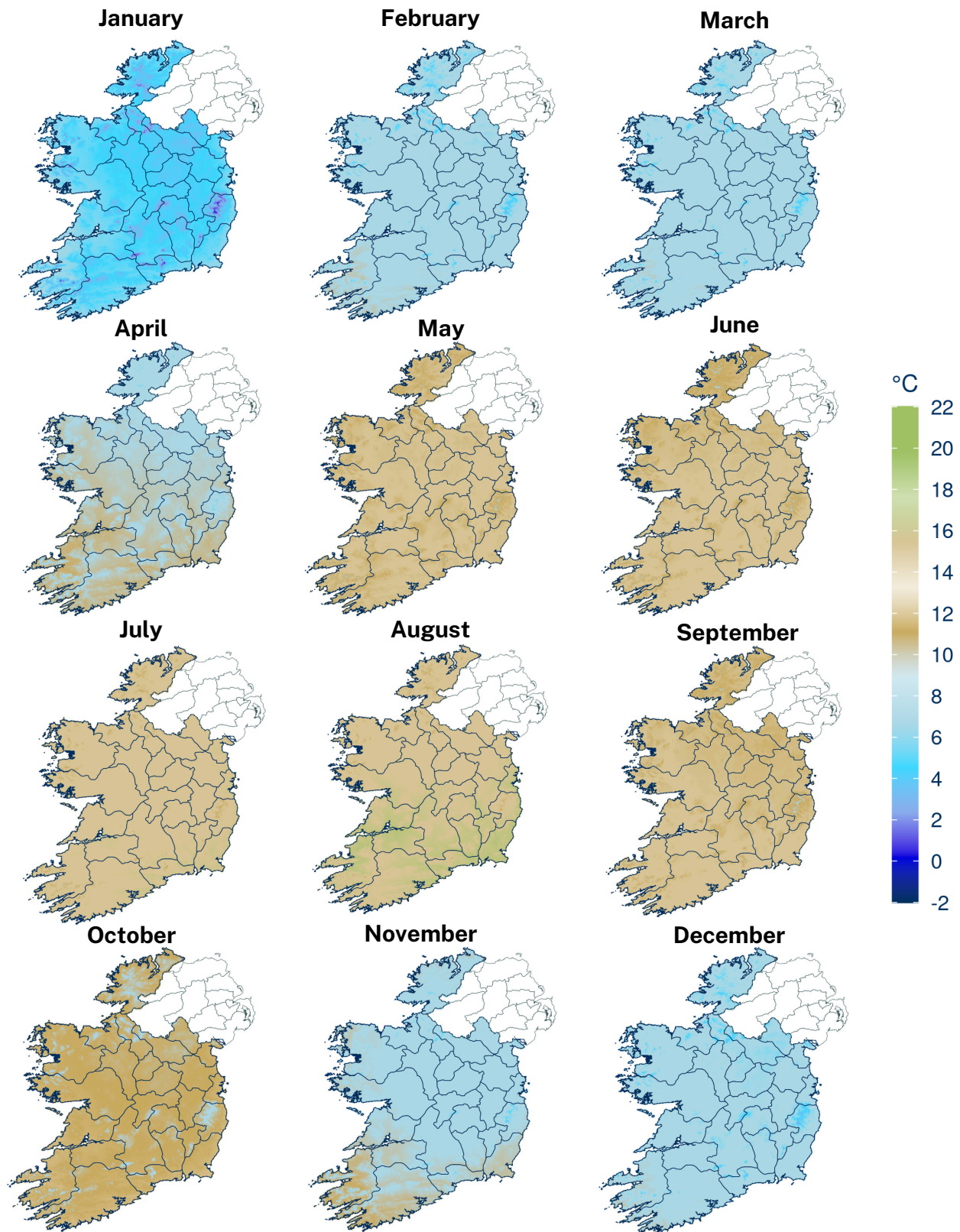
Seasonal Temperature Anomalies (1961-1990 Baseline)



- The graphs above show the average seasonal temperature anomalies since 1900 compared to the 1961-1990 climatological normal period.
- The warmest season on record is in a darker red colour and the year which it occurred is labelled on each graph.
- There is a clear trend towards warmer temperatures across all seasons in recent years.
- Data are from the Island of Ireland Long-Term Temperature Series.



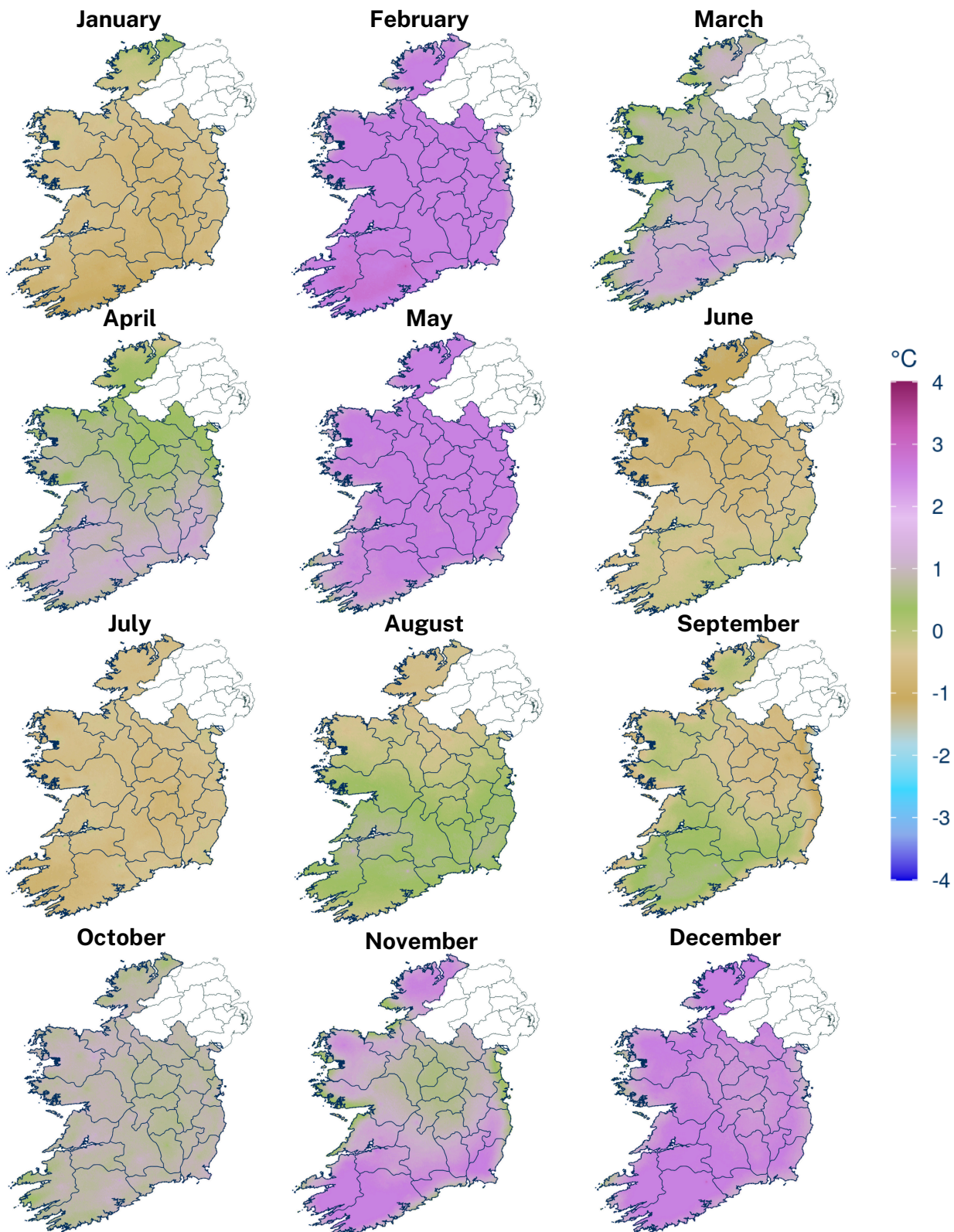
Monthly Mean Temperature (Grids)



- The maps above show the average temperatures for each month in 2024.
- Blue colours indicate colder temperatures, brown and green colours indicate warmer temperatures.



Monthly Mean Temperature (Anomalies)



- The maps above show the average monthly temperature **anomalies** in 2024 compared to the 1991-2020 LTA.
- Blue colours indicate colder temperatures, green colours indicate temperatures close to the LTA, green and pink colours are warmer than average.



Rainfall - Annual Overview

- 2024 is provisionally the **39th wettest -or 46th driest-** year since 1941.
 - Dublin Airport recorded the **lowest annual rainfall** total (**670.0 mm**).
 - The **highest daily rainfall** at a Met Éireann primary station was recorded at Knock Airport, Co Mayo, on November 23rd (**57.4 mm**) during Storm Bert.
 - 15 separate **dry periods** were observed, including one **absolute drought*** at Moorepark, Co. Cork in January.
 - It was the driest year in Finner, Co. Donegal's 13 year record with **1036.9 mm**.
-

Seasonal & Monthly Analysis

Winter

- December 2023 was dominated by Atlantic low pressure systems with four named storms affecting Ireland.
- January 2024 was dry with high pressure dominating. Moorepark in Co. Cork had an absolute drought lasting 16 days.
- February saw a significant increase in rainfall due to persistent Atlantic low-pressure systems.

Spring

- March and April were wetter than average, particularly in the midlands, south, and east. Dublin Airport recorded its 3rd wettest March on record (82 year length).
- May had mixed rainfall patterns, higher in the south and east, including a thundery spell in mid-May which led to downpours in the south and midlands.

Summer

- June and July were relatively dry, with cold Arctic airflows in early June suppressing rainfall, and the jet stream situated to the south for most of July.
- August saw wetter conditions in the north and west due to Atlantic low pressure, while the south and southeast were more influenced by high pressure over mainland Europe and remained drier.

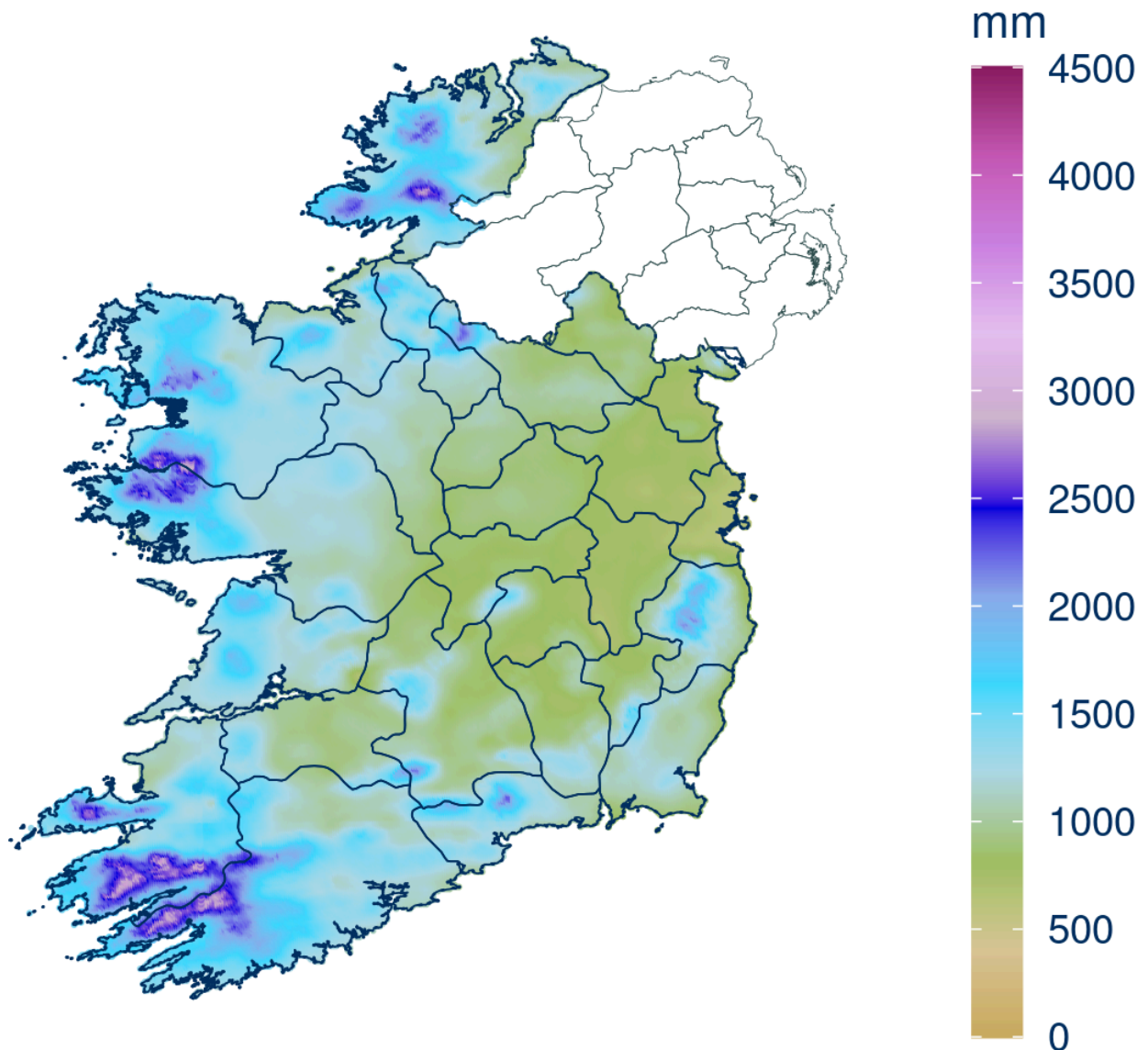
Autumn

- September was dry overall; high pressure to the north led to drier spells in the west and north, while low pressure to the south led to more rain in the south and east.
 - October was dry in most areas except the southwest.
 - November started with dry conditions but became wetter in the second half.
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*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.



Annual Rainfall

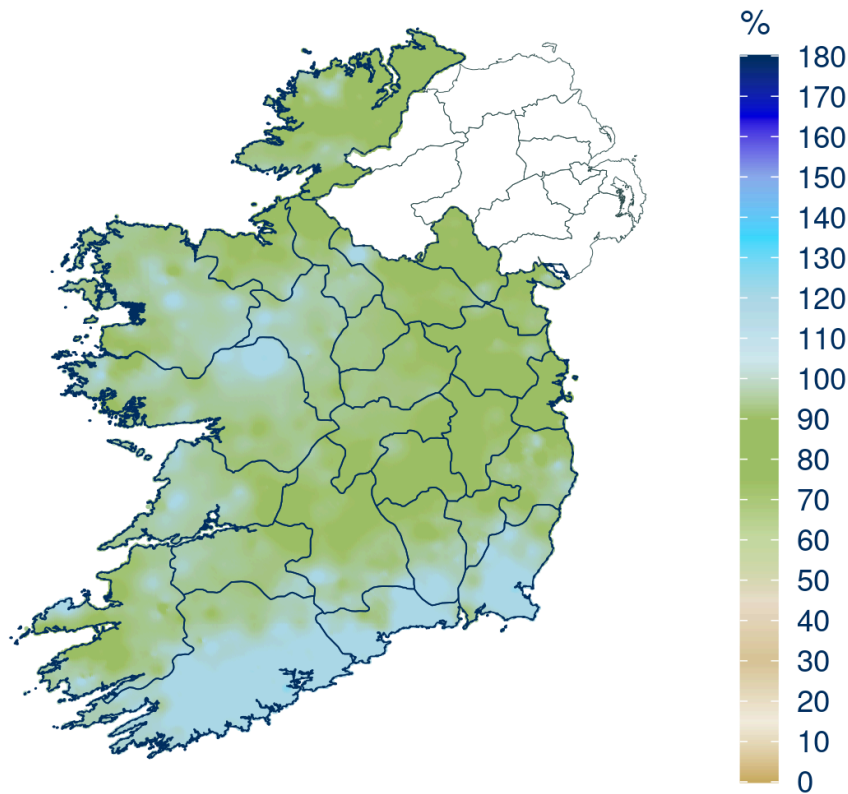


- This map shows gridded average rainfall for Ireland in 2024, with higher values in the west of the country and in upland areas.
- Annual rainfall totals at our 25 primary stations ranged from **670.0 mm** at Dublin Airport, Co Dublin to **1652.3 mm** at Valentia Observatory, Co Kerry.
- The number of rain days* ranged from 198 days at Dublin Airport to 279 days at Knock Airport, Co Mayo.

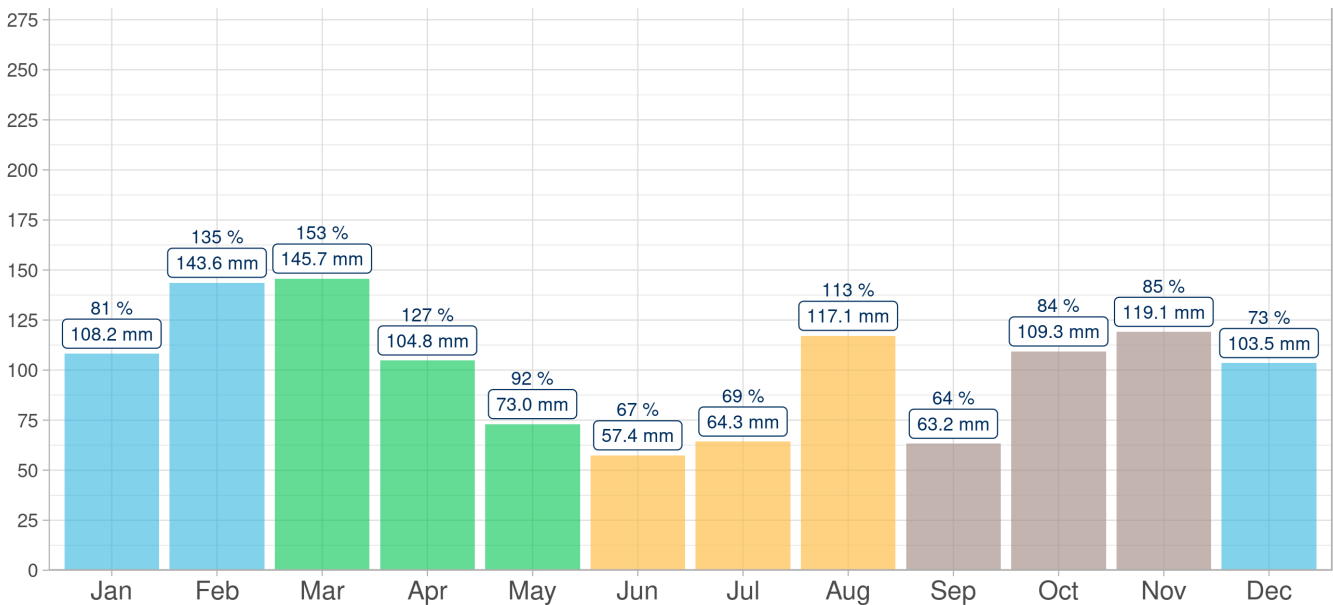
(*)A rain day is a day on which 0.2 mm or more of rainfall is measured.



Annual Rainfall (Anomaly)



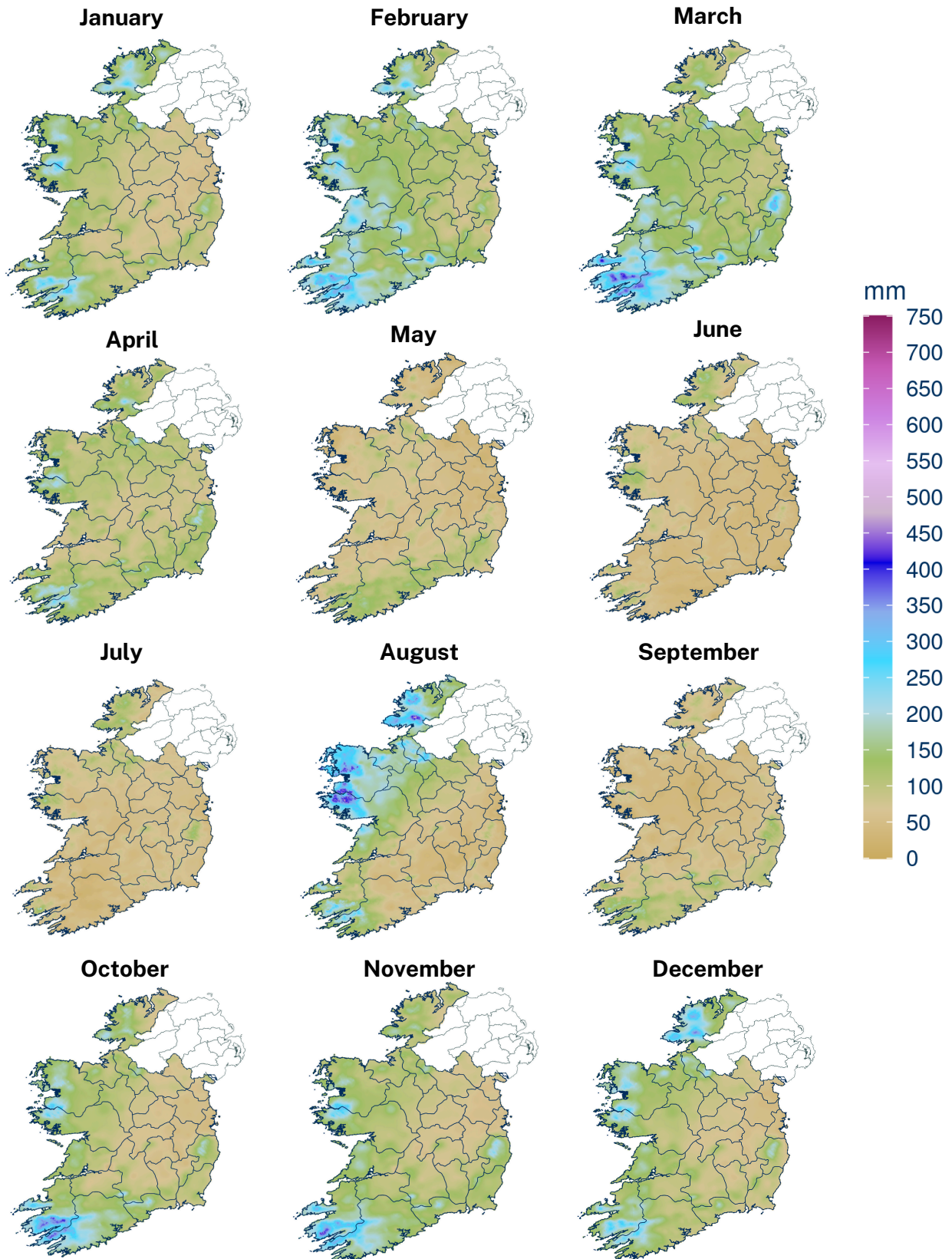
Provisional Gridded Monthly Rainfall (2024) compared to 1991-2020 LTA



- This map shows the difference in rainfall in 2024 compared to the 1991-2020 LTA.
- Green/brown colours show below average rainfall while blue colours show around and above average rainfall.
- The graph shows monthly rainfall totals compared to the 1991-2020 LTA.
- Many months of 2024 saw below average rainfall, with the exception of February, March, April and August.



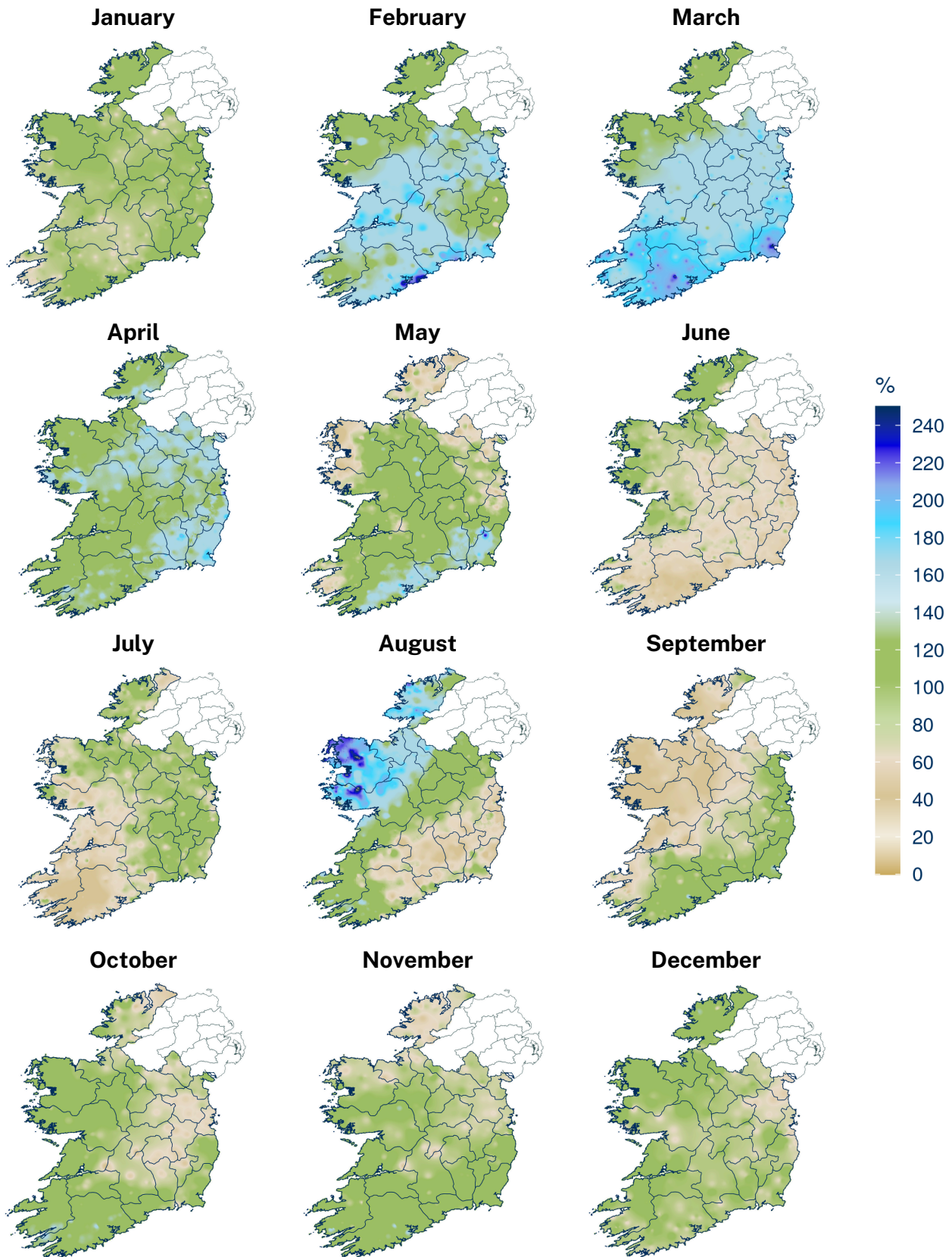
Monthly Rainfall



- The maps above show the average rainfall for each month of 2024.
- Blue and pink colours indicate higher rainfall totals, green and brown colours indicate lower rainfall totals.



Monthly Rainfall (Anomaly)

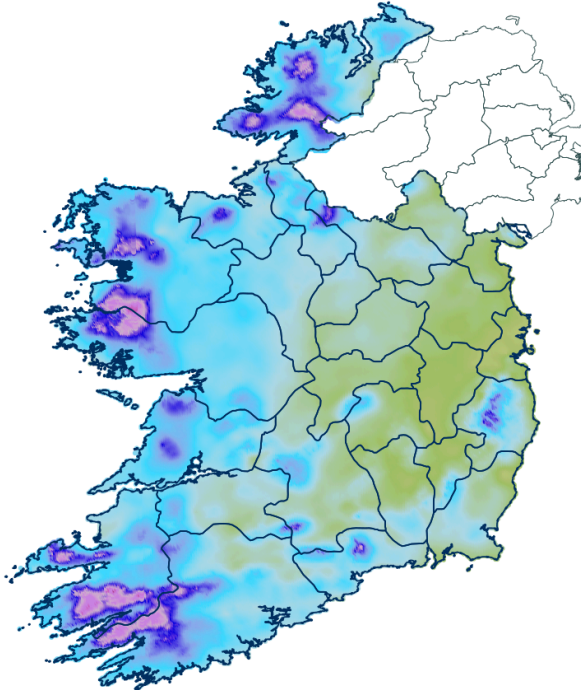


- The maps above show monthly rainfall **anomalies** in 2024 (% of the LTA).
- Blue and purple colours indicate a larger difference above average, green is around average, and brown is below average.

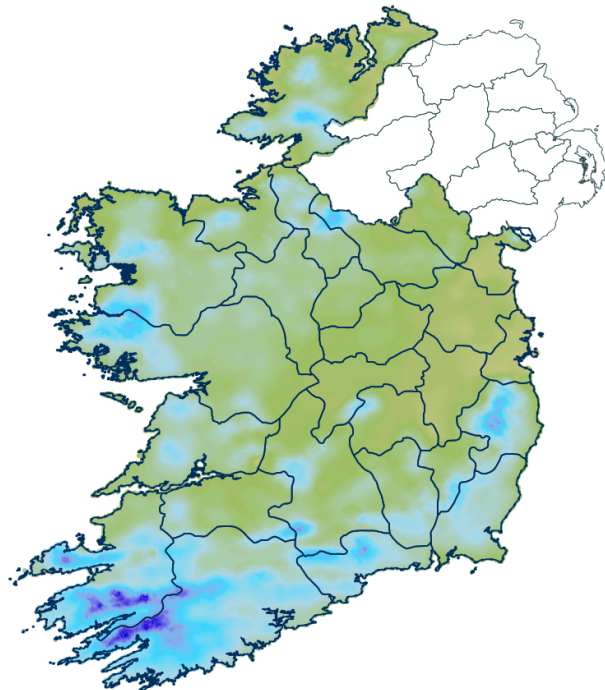


Seasonal Rainfall

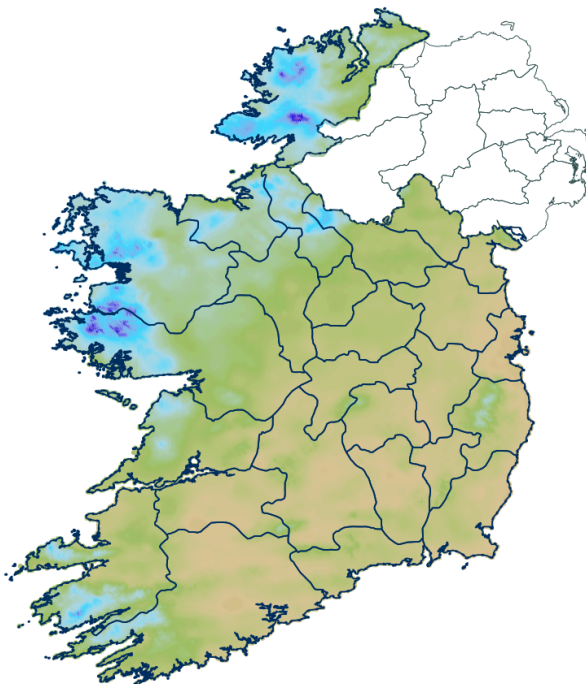
Winter (Dec 2023-Feb 2024)



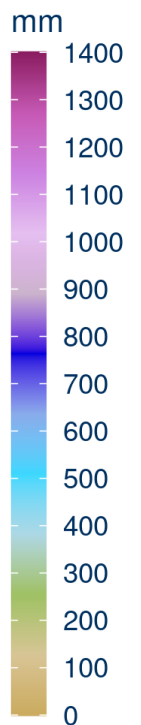
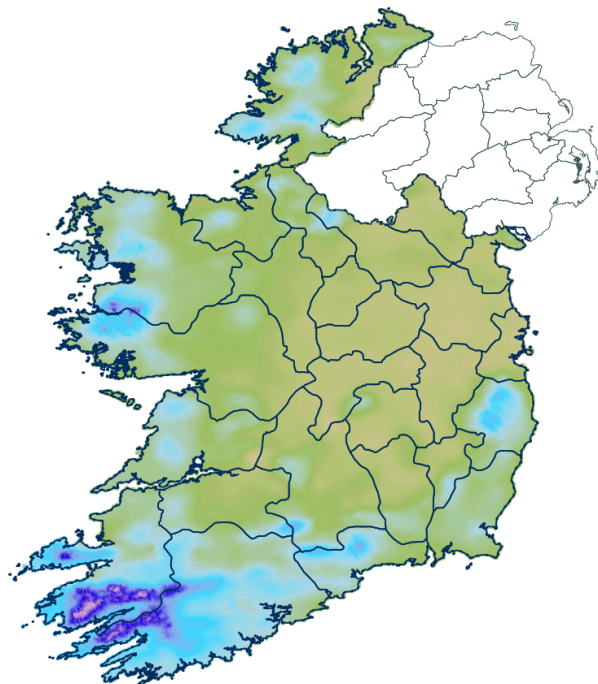
Spring (Mar - May 2024)



Summer (Jun - Aug 2024)



Autumn (Sep - Nov 2024)

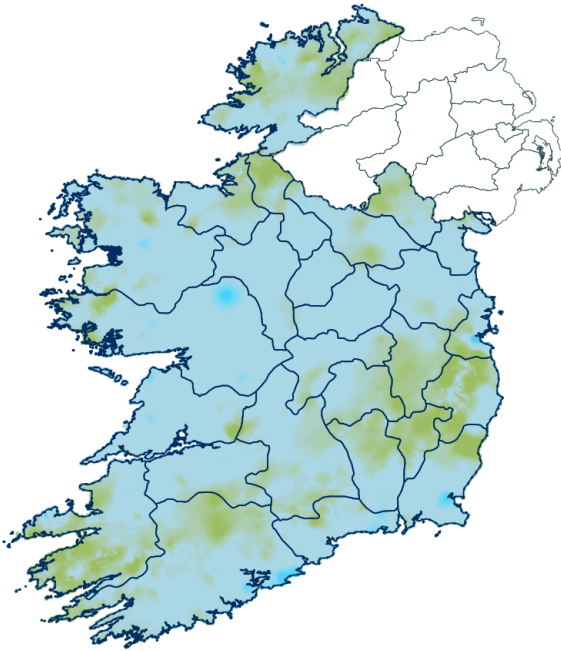


- The maps above show rainfall for the meteorological seasons of 2024.
- Blue and pink colours indicate higher rainfall totals, green and brown colours indicate lower rainfall totals.

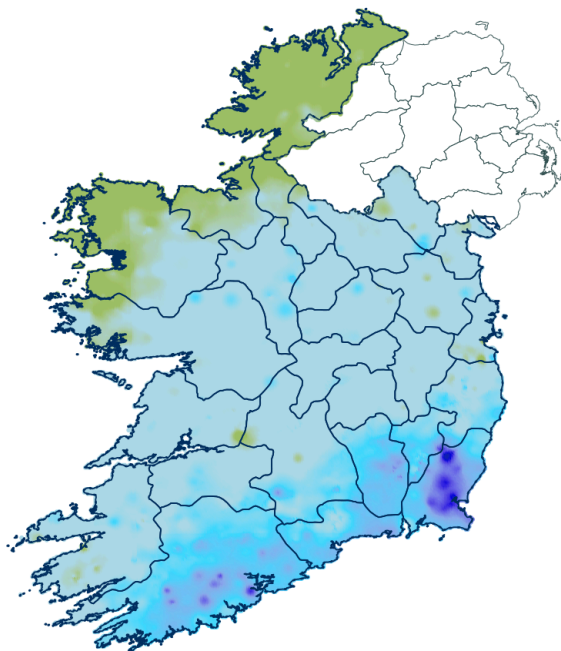


Seasonal Rainfall (Anomaly)

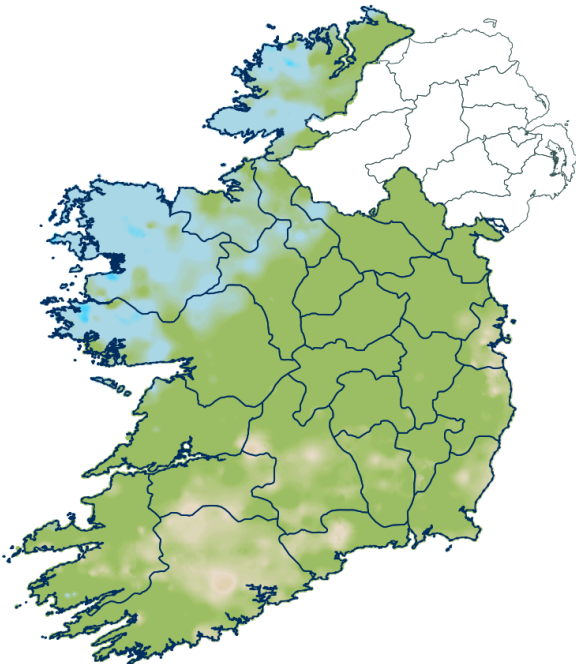
Winter (Dec 2023-Feb 2024)



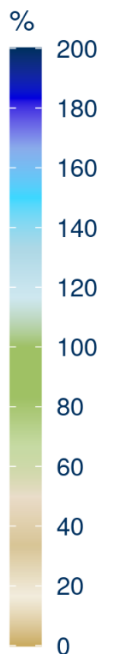
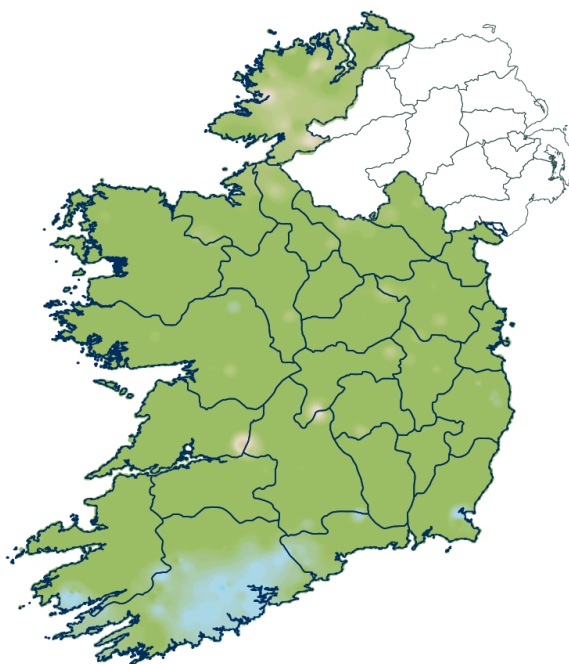
Spring (Mar - May 2024)



Summer (Jun - Aug 2024)



Autumn (Sep - Nov 2024)



- The maps above show rainfall **anomalies** for the seasons of 2024.
- Blue and purple colours indicate a larger difference above average, green is around average, and brown is below average.



Wind - Annual Overview

- The **highest wind speeds of the year** were recorded at Mace Head, Co Galway, on December 6th during **Storm Darragh**, with:
 - A maximum gust of **76 knots (141 km/h)**.
 - A highest 10-minute mean wind speed of **60 knots (111 km/h)**.
-

Seasonal & Monthly

Winter (December 2023 - February 2024)

- Violent storm force winds were reported during storm Isha on January 21st at Mace Head, Co Galway.
- Storm force winds occurred on December 10th (storm Fergus) and January 23rd (storm Jocelyn).
- The highest gust in winter was 74 knots (137 km/h) at Mace Head on January 21st during storm Isha, with a peak 10-minute mean wind speed of 57 knots (106 km/h).

Spring (March - May)

- Gales occurred on numerous days, with Malin Head recording 13 days with gales, and 2 days of strong gales were recorded at both Mace Head and Malin Head.
- The highest gust in spring was 61 knots (113 km/h) at Finner, Co Donegal, on April 6th during storm Kathleen, with the highest 10-minute mean wind speed of 46 knots (85 km/h) reported at several locations.

Summer (June - August)

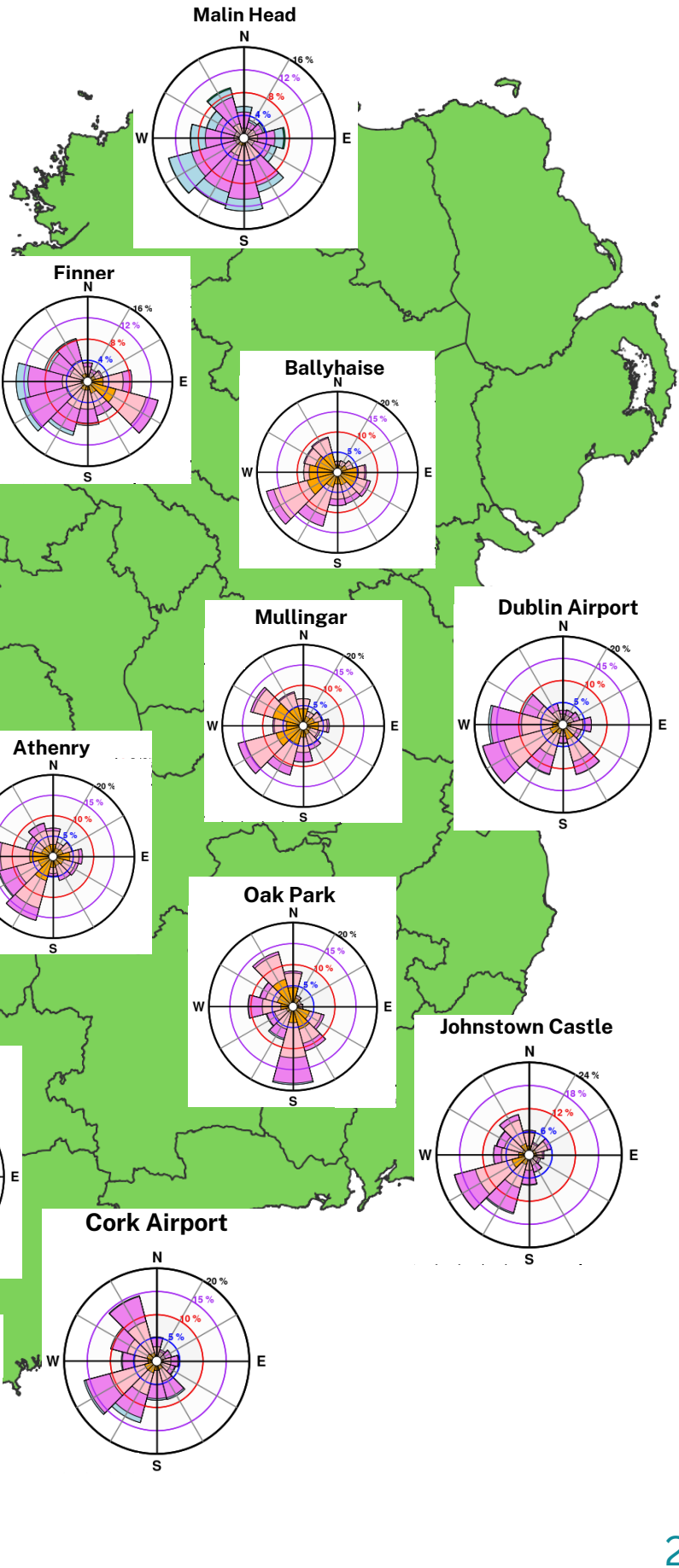
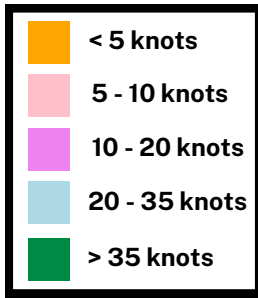
- Gales were reported on 1 day in June and 5 days in August, with storm Lilian contributing to gale force winds in August.
- The highest gust of the season was 52 knots (96 km/h) at Roche's Point, Co Cork, on August 23rd during storm Lilian, and the highest 10-minute mean wind speed of 37 knots (68 km/h) was recorded at several locations.
- No strong gales or storm force winds were reported during the summer season.

Autumn (September - November)

- Storm force winds were reported during storm Ashley in October and storm Bert in November, with the highest gust of 74 knots (137 km/h) recorded at Mace Head, Co Galway, on October 20th.
 - The highest 10-minute mean wind speed of 54 knots (100 km/h) was recorded at Mace Head, Co Galway, and Belmullet, Co Mayo, on October 20th during storm Ashley.
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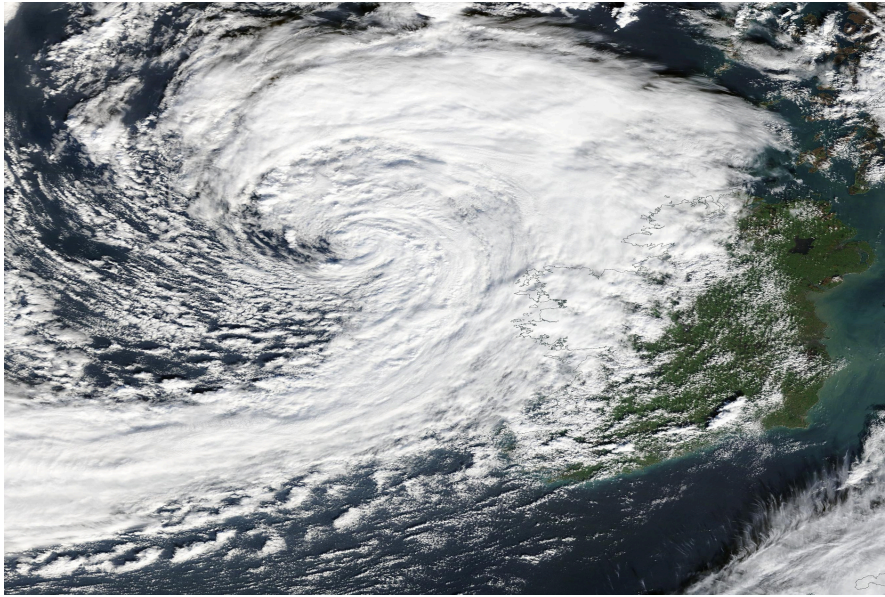


Annual Wind (Stations)





Storms



Storm Ashley - Image credit NASA Terra Satellite 20th October 2024

Ireland experienced seven named storms in 2024, which brought strong winds and heavy rainfall. Two storms, Isha and Darragh, produced violent storm-force winds, while other storms brought notable impacts, including heavy rain, flooding, and coastal erosion.

- **Storm Isha (January 21st-22nd)** brought widespread violent winds, causing power outages, fallen trees, and major travel disruptions, especially in the west and northwest.
- **Storm Jocelyn (January 23rd)**, closely following Isha, brought storm force winds and heavy rain, worsening existing damage.
- **Storm Kathleen (April 6th)** brought strong winds and heavy rainfall, particularly in the south and east, contributing to the wet spring.
- **Storm Lilian (August 23rd)** brought gale force winds and yellow warnings to Ireland, but had bigger impacts in the UK.
- **Storm Ashley (October 20th)** marked the beginning of an active late-autumn period, bringing strong winds and unsettled weather to the northwest.
- **Storm Bert (November 23rd)** delivered heavy rain and strong winds, with Knock Airport recording the year's highest daily rainfall at 57.4 mm (40% of its November LTA in one day), leading to localized flooding.
- **Storm Darragh (December 6th)** had the strongest winds of the year, causing widespread disruption along the western and southern coasts.



Further Information

Useful Links

- **30-year Averages:** www.met.ie/climate/30-year-averages
- **Climate Change:** www.met.ie/climate/climate-change
- **Irish Weather Extreme Records:** www.met.ie/climate/weather-extreme-records
- **Latest News:** www.met.ie/about-us/latest-news
- **National Framework for Climate Services:** www.met.ie/nfcs
- **Past Weather and Climate Statements:** www.met.ie/climate/past-weather-statements
- **Storm Centre:** www.met.ie/climate/storm-centre



Contact Us

+353 1 806 4200

www.met.ie/climate

enquiries@met.ie

[@MetÉireann](https://www.instagram.com/MetÉireann)

[@MetClimate](https://www.facebook.com/MetClimate)

67 Glasnevin Hill, Dublin 9, Ireland