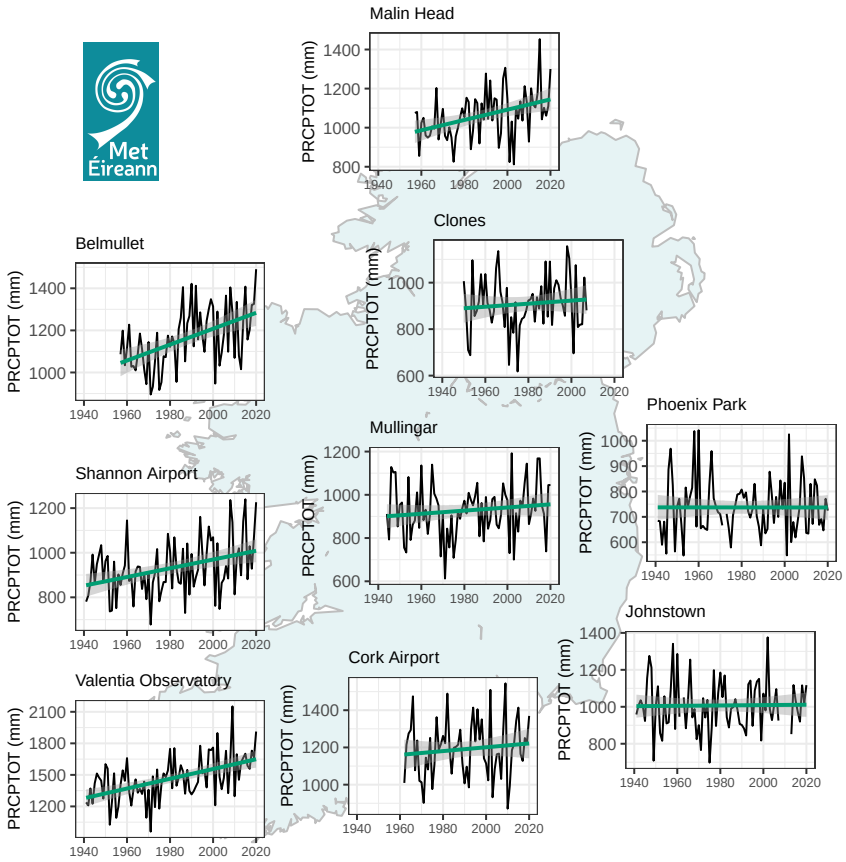
# Total Precipitation (PRCPTOT)

## Key Message

- Some stations (particularly in the west) are observing increases in total annual rainfall.
- There is large year-to-year and spatial variability in total precipitation, with many inland/eastern stations not exhibiting significant long-term trends.

## Definition

- Daily precipitation (**R**), from 09UTC-09UTC observations, are used. In particular this index considers only "wet days" (R $\geq$ 1mm) when calculating the value of the index.
- The Total Precipitation (**PRCPTOT**) index is the total accumulated precipitation (in mm) from "wet days" during the period of interest (year, season or month).

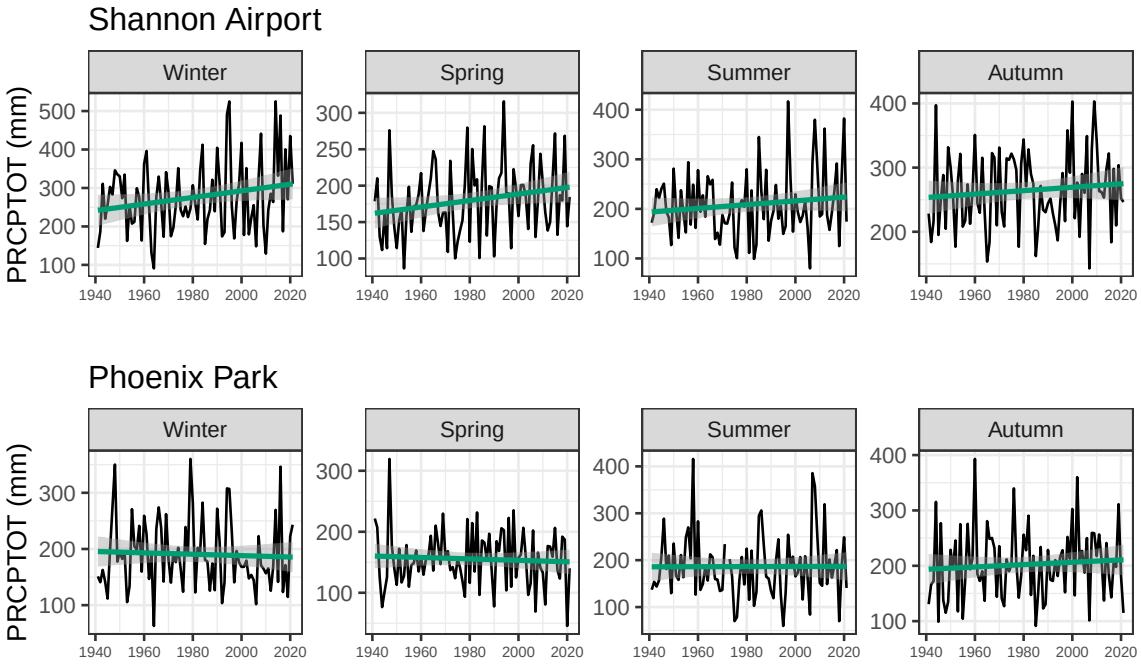


## Trends

- **PRCPTOT** has increased at many weather stations along the west coast in recent years, see graphs above. While stations further inland and on the east coast exhibit less of a trend in this index.
- Average **PRCPTOT** has increased by 6.7% between 1961-1990 and 1991-2020 at the nine stations shown in the map above, which is similar to results found in [Cámaro García and Dwyer, 2021].
- Research into data rescue and homogenisation has found that while these increasing trends do remain, the level of statistical significance can change depending on the time period considered, [Noone et al., 2016, Ryan et al., 2021].
- Globally the **PRCPTOT** index is on average increasing but with a large amount of spatial variability, [Dunn et al., 2020].

## Seasonality

- The increase in **PRCPTOT** at these western stations is generally most apparent in winter but can be seen in other seasons also, shown below for Shannon Airport.
- The lack of a signal in the east is evident for all seasons, shown below at Phoenix Park.



## Data Access

Data for this index can be downloaded through the web-page below (or the QR code in the header):

- https://www.met.ie/climate/climate-change-indices-etccdi/

For further information contact Met Éireann Climate Enquiries: enquiries@met.ie

## References


Walther C.A. Cámaro García and Ned Dwyer. The Status of Ireland's Climate, 2020. *Environmental Protection Agency*, 2021. doi: https://www.epa.ie/publications/research/climate-change/Research_Report_386.pdf.

Robert JH Dunn et al. Development of an updated global land in situ-based data set of temperature and precipitation extremes: HadEX3. *Journal of Geophysical Research: Atmospheres*, 125(16):e2019JD032263, 2020. doi: https://doi.org/10.1029/2019JD032263.

Simon Noone et al. Homogenization and analysis of an expanded long-term monthly rainfall network for the island of ireland (1850–2010). *International Journal of Climatology*, 36(8):2837–2853, 2016. doi: https://doi.org/10.1002/joc.4522.

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