



R5mm

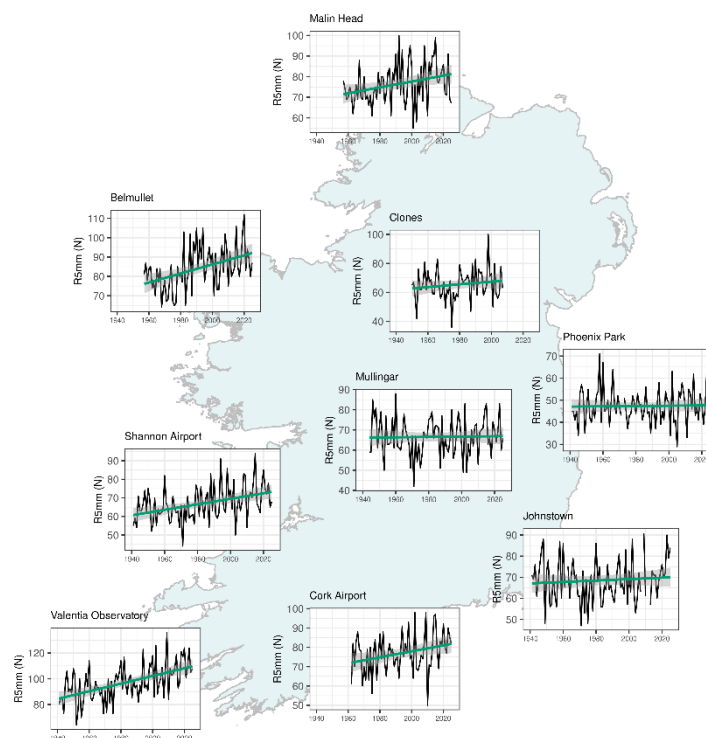
KEY MESSAGE

- Some stations (particularly in the west of the country) are observing an increase in the number of days exceeding 5mm of rain, but with greater uncertainty for stations further east.

DEFINITION

- Daily precipitation (R), based on 09UTC - 09UTC observations, are used to calculate this index.
- The **R5mm** index is calculated by counting the number of times the daily precipitation exceeds 5mm ($R \geq 5\text{mm}$) during the period of interest (year, season or month).

TRENDS



- The graphs above indicate that **R5mm** is primarily increasing at western coastal locations.
- Stations further east tend to exhibit less coherent trends.
- Ongoing research into data rescue and homogenisation have found that while the majority of stations are exhibiting an increasing trend in **R5mm**, only a small number of these have been found to be statistically significant, (Ryan, et al. 2022).

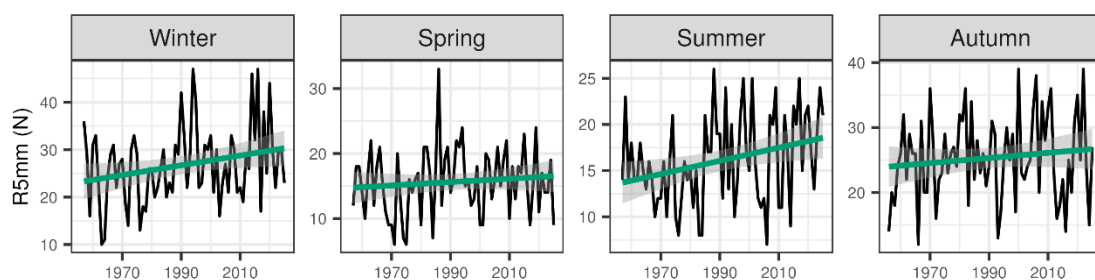


- **R5mm** is not a standard ETCCDI index. Global analysis of similar threshold-based rainfall indices have found pockets of the globe where significant increases are occurring, such as eastern Europe or central USA, (Dunn, et al. 2020).

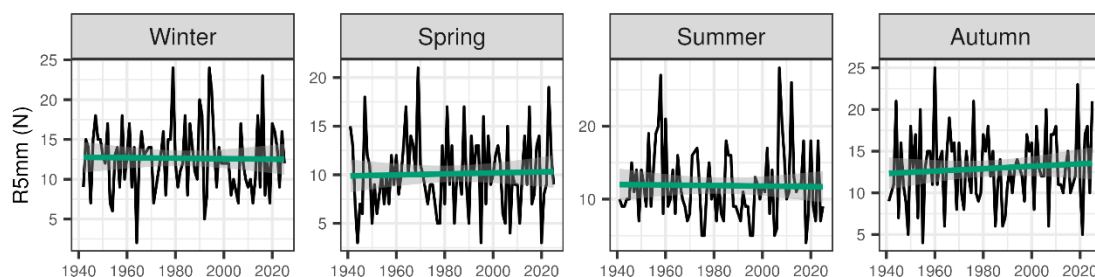
SEASONALITY

- The moderate increase in **R5mm** at western stations is present for most seasons, shown below for Belmullet, though trends are less certain than for annual values.
- The lack of a signal in the east is evident for all seasons, shown below at Phoenix Park.

Belmullet



Phoenix Park



DATA ACCESS

Data for this index can be downloaded through the webpage 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

Dunn, Robert JH, Lisa V Alexander, Markus G Donat, Xuebin Zhang, Margot Bador, Nicholas Herold, Tanya and Allan, Rob Lippmann, Enric Aguilar, Abdoul Aziz Barry, and others. 2020. "Development of an updated global land in situ-based data set of temperature and precipitation extremes: HadEX3." *Journal of Geophysical Research: Atmospheres* e2019JD032263. doi:<https://doi.org/10.1029/2019JD032263>.

Ryan, Ciara, Mary Curley, Séamus Walsh, and Conor Murphy. 2022. "Long-term trends in extreme precipitation indices in Ireland." *International Journal of Climatology* (Wiley Online Library) 42 (7): 4040-4061. doi:[10.1002/joc.7475](https://doi.org/10.1002/joc.7475).