



Tropical Nights (TR)

Key Message

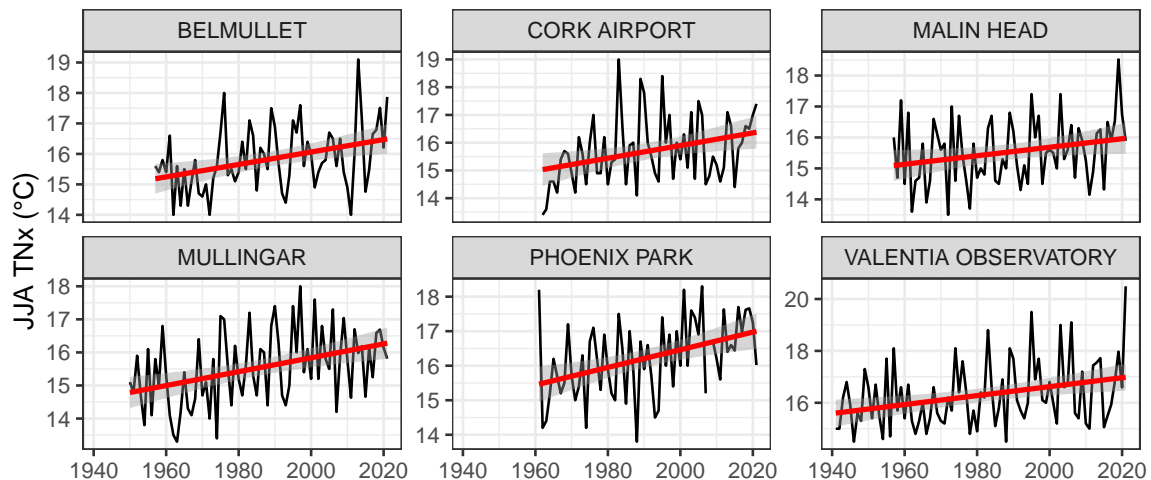
- Tropical nights have only been observed at one synoptic weather station in Ireland (on two occasions in 2021 at Valentia Observatory).

Definition

- Daily minimum temperature (**TN**), based on 09UTC - 09UTC observations, are used to calculate the index.
- The Tropical Night (**TR**) index is calculated by counting the number of times the minimum temperature is greater than 20°C ($TN > 20^{\circ}\text{C}$) during the period of interest (year, season or month).

Trends

- Tropical Nights have only ever been observed twice at a Met Éireann synoptic weather station, both in summer 2021 at Valentia Observatory.
- Increases in the **TNx** index (see associated factsheet and plots below) indicate that the potential for Tropical Nights is increasing.
- These are in agreement with global trends for this index, [Dunn et al., 2020].

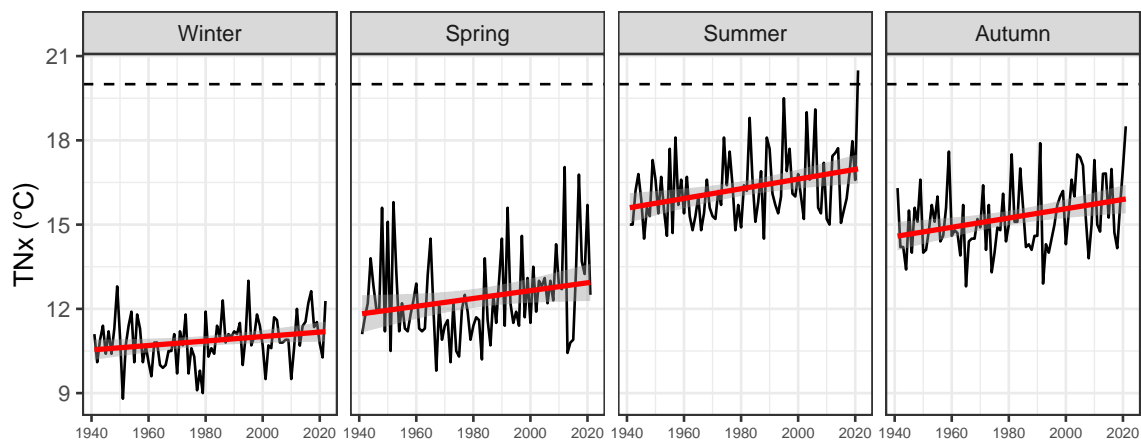




Seasonality

- Tropical Nights are likely to be solely a summer time phenomenon in Ireland.
- This is shown below, for seasonal plots of the **TN_x** index at Valentia Observatory.
- Conditions are most conducive to producing Tropical Nights during summer and, to a lesser extent, autumn.
- The increasing trends in **TN_x** has increased the possibility of these events occurring.

Valentia Observatory



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

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>.