



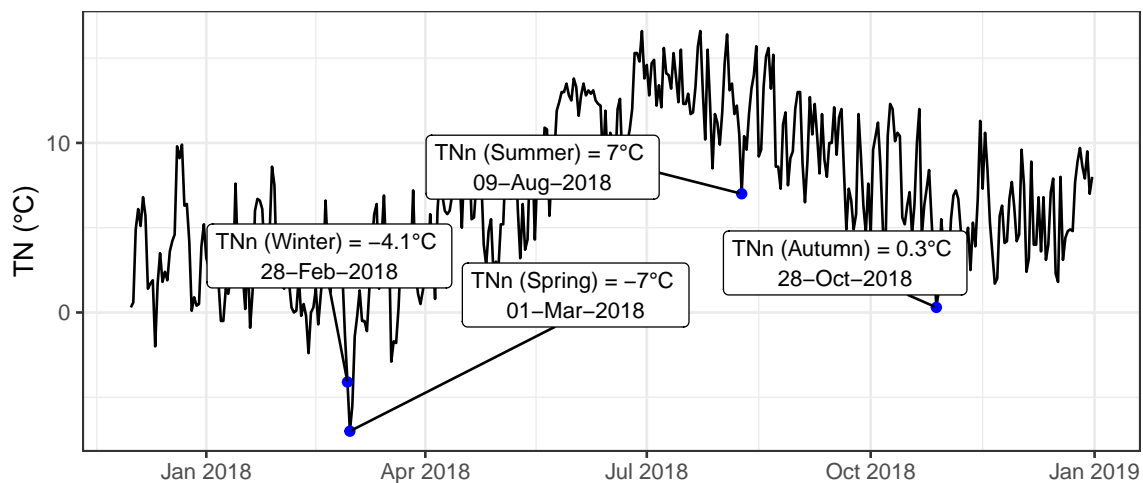
Coldest Nights (TNn)

Key Message

- The coldest night of the year is tending to become warmer at the majority of weather stations in Ireland.

Definition

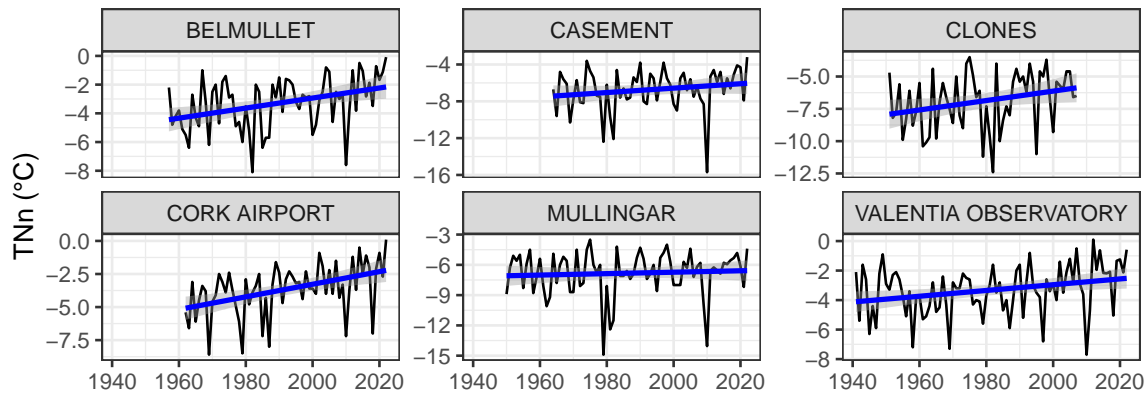
- Daily minimum temperature (**TN**), based on 09UTC - 09UTC observations, are used to calculate the index.
- The **TNn** index represents the minimum value of daily minimum temperature (TN) during the period of interest (year, season or month).
- An illustrated example is shown below for seasonal values of **TNn** in 2018 at Cork Airport. The annual **TNn** value for 2018 at Cork Airport was -7°C .





Trends

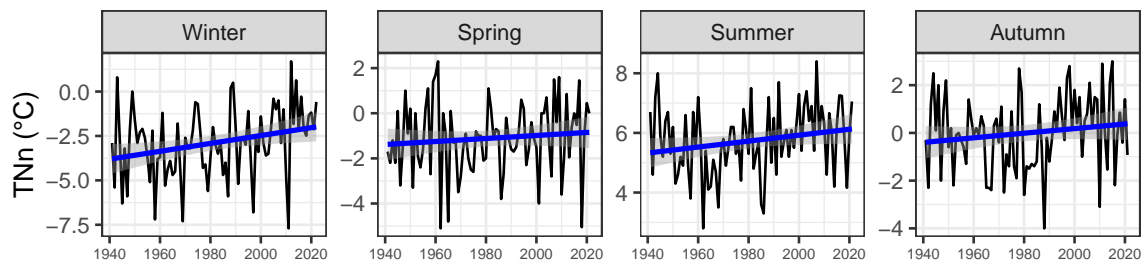
- There is an increasing trend in **TN_n** at the majority of Met Éireann's synoptic weather stations, as shown in the graphs below.
- The 30-year average value of **TN_n** has increased by 1°C, between 1961-1990 and 1991-2020, at the six stations shown in the graphs below.
- These are in agreement with global trends for this index, [Dunn et al., 2020].



Seasonality

- Annual **TN_n** values typically occur most often during winter.
- When separated seasonally, the warming trend in **TN_n** is evident for most seasons, shown below at Valentia Observatory as an example.

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>.