



Growing Season Length (GSL)

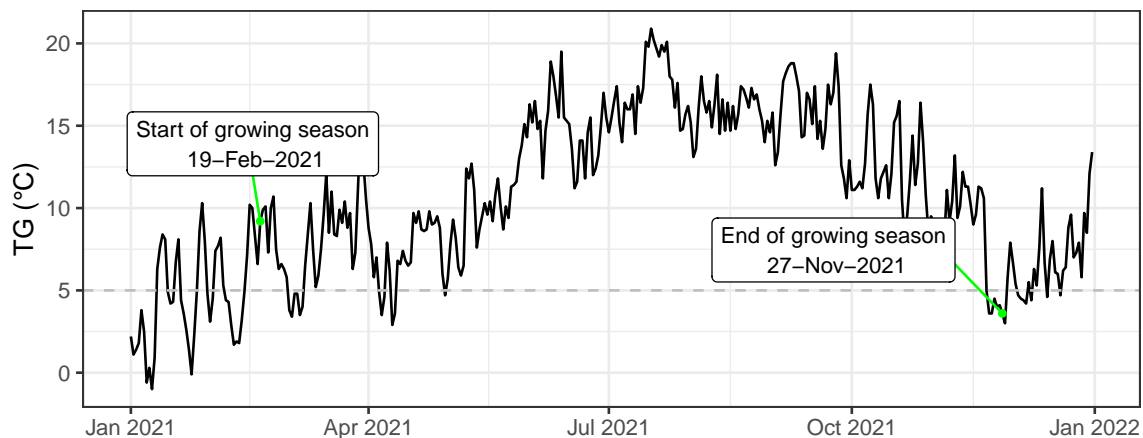
Key Message

- The length of the growing season is increasing at the majority of stations due to the warming climate.

Definition

- The Growing Season Length (**GSL**) index is based upon daily mean temperature (TG) and represents the number of days between:
 - the first occurrence in the year of six consecutive days with $TG > 5^{\circ}\text{C}$ and
 - the first occurrence in the year of six consecutive days with $TG < 5^{\circ}\text{C}$ (or year-end if this does not occur).
- Mean temperature is defined as $TG = \frac{TN+TX}{2}$, with TN and TX being the daily minimum and maximum temperatures respectively.
- An illustrated example is shown below for Phoenix Park in 2021, with the threshold value of 5°C marked by the dashed grey line.

Phoenix Park





Trends

- Growing season lengths are increasing at the majority of Met Éireann’s synoptic weather stations, see table and graphs below.
- These are in agreement with global trends for increasing **GSL**, [Dunn et al., 2020].

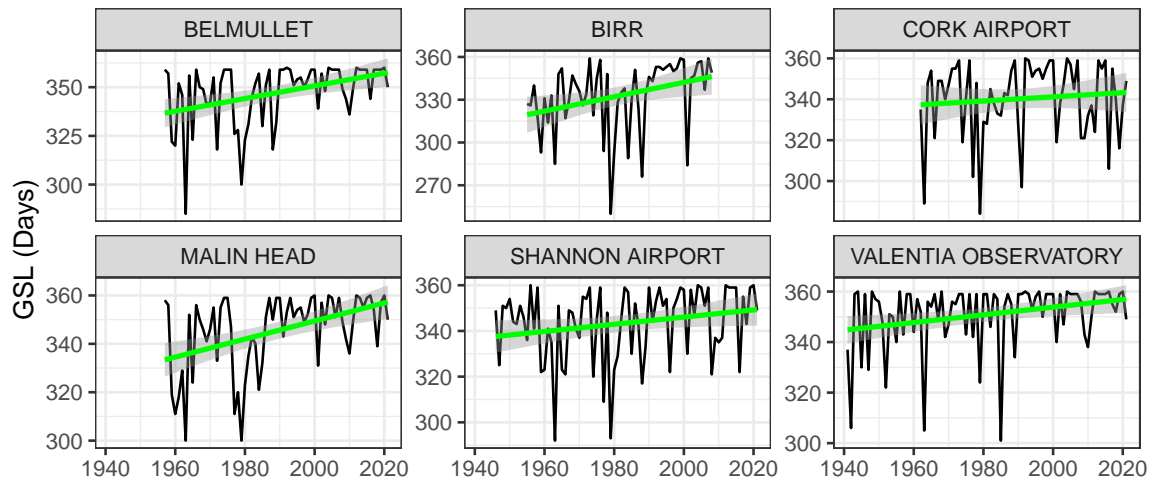


Table 1: Mean annual value of GSL during thirty year periods (1961-1990 and 1991-2020) at 8 different stations

Station	1961-1990	1991-2020
Belmullet	340.5	354.6
Casement	320.9	335.1
Cork Airport	337.4	342.9
Johnstown	342.9	348.2
Malin Head	339.1	352.6
Phoenix Park	321.4	337.4
Shannon Airport	337.5	349.1
Valentia Observatory	349.3	355.6

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>.