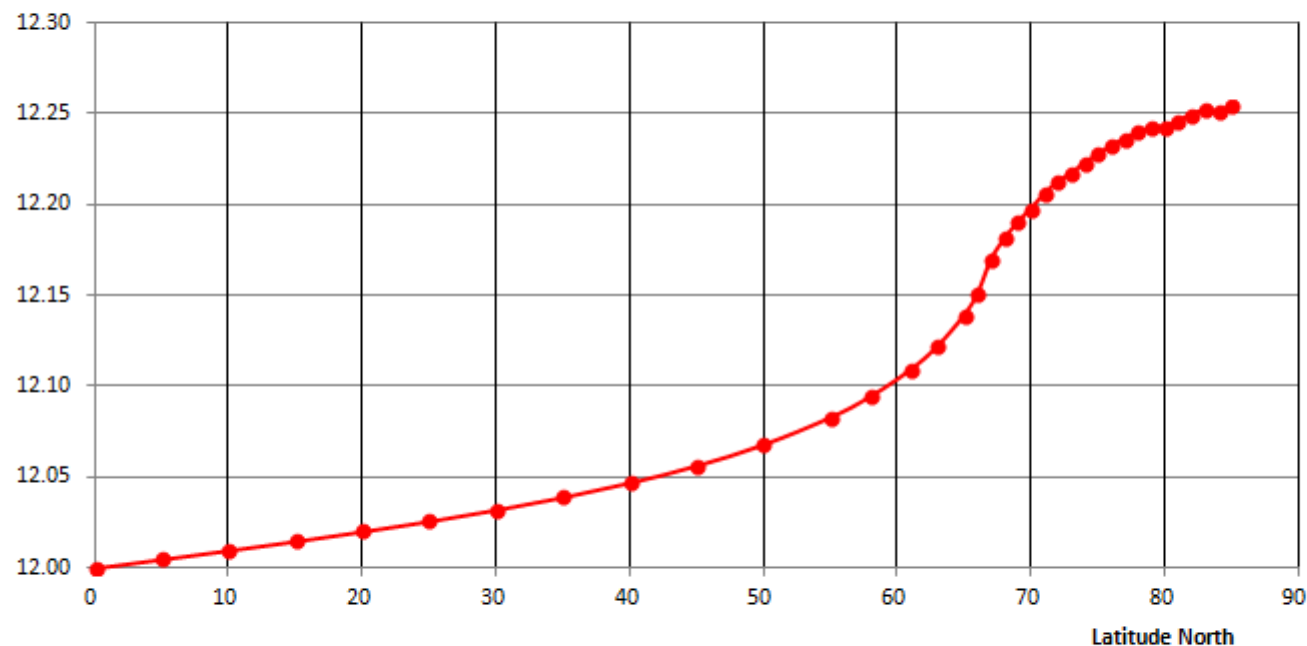


HOURS FROM SUNRISE TO SUNSET AVERAGED OVER A YEAR, AT DIFFERENT LATITUDES

(365 days, 21.12.2020 to 20.12.2021 inclusive)

Average sun
hours per day
DECIMAL HOURS



At each latitude, the times between sun rise and set were calculated for each day of the year. The sun's declination used in calculating both sunrise and sunset on each date was the Dec value at 12:00 GMT on that date. Thank you for Clockwork Mapping data for the sun's declination. Calculations are based on a spherical earth, with sunrise and sunset taken here as at a sun altitude of 0 degrees. Time between sunrise and set was calculated from $2 \times \text{ACOS}(-\text{Tan Lat} \times \text{Tan Dec})$. For days where the sun's Dec at 12:00 is greater than $(90-\text{Lat})$ or less than $(\text{Lat}-90)$, the sunlit hours are counted as 24 or 0 respectively.