

Supplementary Material: 85th percentile of the IVT distributions as function of the latitude and sinusoidal fit

In the present study, we calculate the IVT from 1980 to 2020 at 00 and 12 UT with ECMWF ERA-5 at 10°W and from 30°N to 60°N. Then we used the 85th percentile of the IVT distribution to calculate an IVT threshold (IVT_{th}) which depends on the latitude. To avoid some threshold discontinuities with the latitude and to optimize computation time, a sinusoidal fit of the 85th percentile is used by the algorithm.

$$IVT_{th} = 280 \sin(0.03\lambda + 0.1) + 70 \sin(0.15\lambda), \quad (1)$$

Where λ is the latitude in degree. This function fits well the 85th percentile between 20°N and 70°N but could not be used outside of this domain.

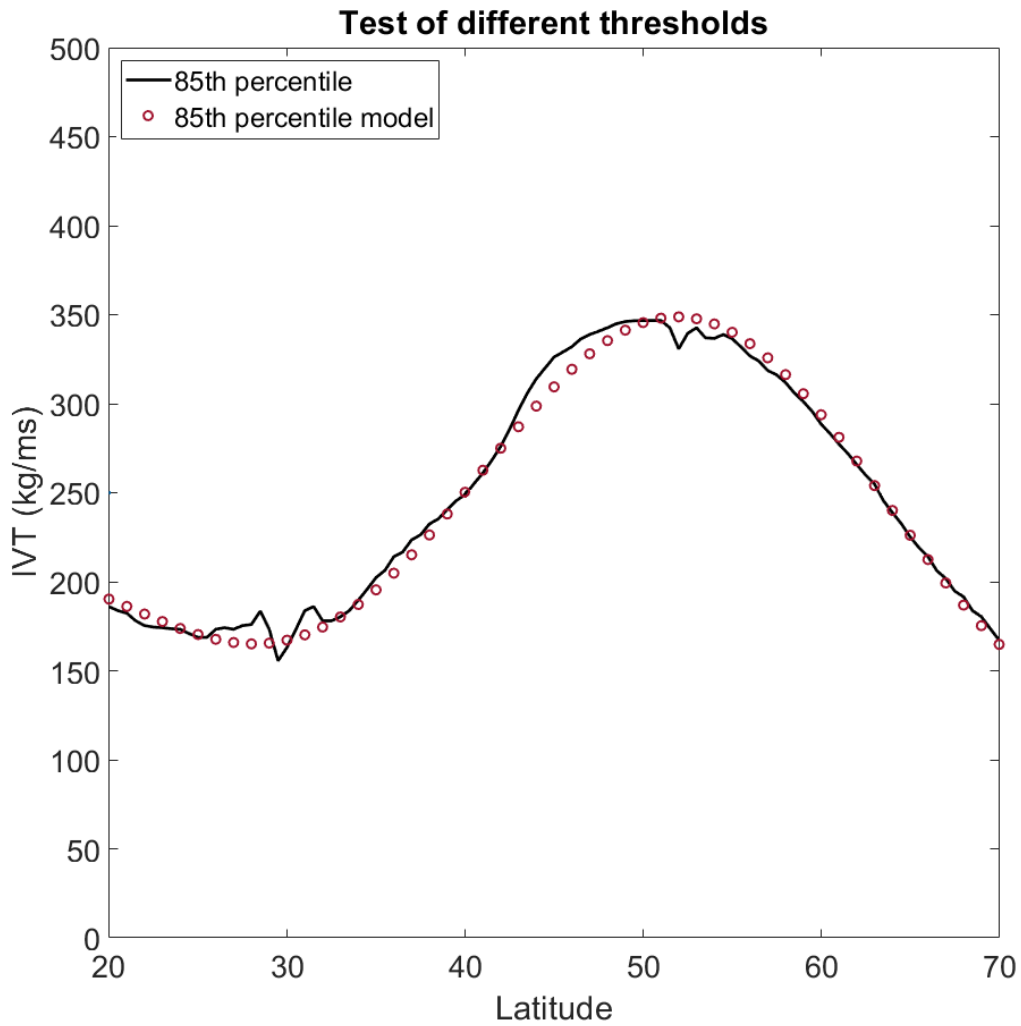


Figure S1: The figure shows the good agreement between the real distribution of the 85th percentile of IVT (in black) and the sinusoidal fit (red circles).