

# **Comparison between Precipitable Water Vapor data, obtained from METEOSAT products, and NCEP data**

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Water vapor in atmosphere plays an important role in the mechanisms to the base of meteorology and climatology. Precipitable water vapor trends study is an useful method in order to analyse and observe climate and its changes, both on a regional and global scale.

The aim of this work is to study precipitable water vapor spatial and temporal distribution obtained from satellite observations.

Precipitable water vapor values are calculated from tropospheric humidity data, a product derived from two water vapor channels of meteorological satellite Meteosat-8. The tropospheric humidity product provides a layer-mean relative humidity for two tropospheric layers (between 600 and 850 hPa and between 850 and 600 hPa). In this work the integrated precipitable water vapor between 300 and 850 hPa isobaric layers is analyzed, for the period from February to December 2004. The geographical area studied in this work coincides with the one that satellite Meteosat - 8 analyses (the satellite instrument has a resolution of 3 km), a circular area included between 63 degree north and south of latitude and between 63 degree west and east of longitude.

Analyzing precipitable water vapor trends, a connection between its temporal variation and the North Atlantic Oscillation (NAO) is noted. Seen the lack of phenomena of El Nino or La Nina in year 2004, eventually connections between precipitable water vapor temporal trends and the Southern Oscillation (SO) couldn't be observed and therefore analysed.

In order to evaluate the results consistence, daily global analysis of precipitable water vapor data from National Centers for Environmental Prediction (NCEP), with a 2.5 degree resolution, is done.