Geophysical Research Abstracts
Vol. 19, EGU2017-2567, 2017
EGU General Assembly 2017

Long-term trends analysis in global meteorological dataset in historical and future climate scenarios

Lorenzo Campo
CIMA Research Foundation, Savona, Italy (lorenzo.campo@cimafoundation.org)

The study of climate trends are a fundamental topic that interests a number of disciplines like atmospheric science, hydrology, natural hazard, economy, etc. In last years an increasing number of global meteorological datasets has become available, in terms of instantaneous maps (at hours or days of temporal resolution) of several variables at global scale (with various spatial resolutions) for long periods (several decades) in the historical periods and, in some case, in different climate change scenarios. Some of these dataset are obtained by several interpolation techniques basing only on observed data (long historical time series of rain gauges, for example), while others are obtained with massive data assimilation procedures that used all the available information (ground networks, meteorological radar, satellite remote sensing of different variables, etc) inside Global Circulation Models (GCMs).
In this work a series of statistics are computed on a pixel- and area- (continent, oceans, etc) base in order to characterize the trends in terms of precipitation and temperature at global scale on long periods of time. The data source are global datasets that come from the observation of ground gauges and other data (like satellite or meteo radar) (CHIRPS, CHIRPS v2, CRU, EU-WATCH,) or from reanalisys from GCMs (ERAINTERIM) or from open loop models that contains future periods (EC-EARTH) in climate change scenarios.
The analysis is presented in terms of global maps and statistics, together with intercomparison, in the present climate and for common areas and periods, between the different datasets.