



Climate Trends and Variability in the Piedmont (NW Italy)

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In this report, we have studied a daily thermo - pluviometric dataset containing values for 21 meteorological stations in Piedmont. The meteorological stations, belong to ex-SIMN (Hydrographic and Marigraphic National Service), and have been operating with continuity during 56 years, from 1951 to 2006.

After carefully quality-controlling our series, they have been homogenized on a monthly basis using an implementation of the well known SNHT. Daily data has been corrected with the help of using HOM method and the interpolation of monthly factors to daily values.

The homogenized database has been used to study the relationship of temperature and precipitation in the Piedmont region with large-scale atmospheric patterns and global indices such as the North Atlantic Oscillation (NAO). Finally, to illustrate the trend of temperature and precipitations extreme values, we calculated the set of indices proposed by the Expert Team on Climate Change Detection and Indices (ETCCDI). Those indices have been averaged for two different, non overlapping 20 years periods (1951-1970; 1977-2006) and the two segments have been compared.

The homogeneous temperature and precipitation dataset will be used in the near future for the analysis and classification of local climates in the Piedmont region.