



Solar/geomagnetic activity effects on climate. Case study: European air temperature time series

Venera Dobrica, Crisan Demetrescu, and Georgeta Maris

Institute of Geodynamics, Bucharest, Romania (venera@geodin.ro)

The effects of solar/geomagnetic activity on European climate are investigated by using surface air temperature and solar/geomagnetic indices. A set of 24 time series of air temperature measured at European stations between 1900 and 2006, and 4 European and 14 Romanian stations with 150 year long records, has been processed to show solar/geomagnetic activity signatures at decadal and centennial timescales. The time series were filtered by means of 11- and 22-year running averages and the corresponding variations were compared to solar/geomagnetic variability. Results show a similar temporal behaviour at all analysed stations with amplitude differences that can be understood in terms of large-scale atmospheric circulation patterns influenced by the solar/geomagnetic forcing at the corresponding timescales, but with local intensity differences.