Geophysical Research Abstracts
Vol. 20, EGU2018-6936, 2018
EGU General Assembly 2018


# The Vltava River floods in context of solar inertial motion

Libor Elleder
Czech Hydrometeorological Institute, Prague, Czech Republic (elleder@chmi.cz)

The presented contribution reflects the time-series of estimated peak discharges of the Vltava River in Prague in time span of 1118–2015. Based on the above data series, a thorough analysis focused on the periods of high frequency of flood events occurrence has been already published. The flood series are often correlated with NAO or ENSO series, or with solar activity indices. The solar activity cycle is, according to some studies, somehow synchronized with the solar inertial motion (SIM), which is the motion of the Sun around the centre of mass of the solar system (Barycentre). The aim of the presented study was to examine the association between flood rich periods and individual extreme floods (Q50-Q1000) with SIM 180-yr cycle. According to the presented results, the most important floods occurred in six period of this cycle, always in the first 130 years of each cycle. In the last 50 years of each cycle, no extreme flood was observed. According to the both SIM periods it is possible to estimate in advance the dangerous flood rich, and more safe flood poor periods. Reliability of these preliminary results should be in future verified by other flood series in Central Europe.