



## **Chronology of strong winds in the Czech Lands from AD 1501**

Lukas Dolak (1,2), Rudolf Brazdil (1,2), Petr Dobrovolny (1,2), Ladislava Reznickova (1,2), Oldrich Kotyza (3), and Katerina Chroma (1)

(1) Global Change Research Institute CAS, Brno, Czech Republic (dolak@mail.muni.cz), (2) Department of Geography, Masaryk University, Brno, Czech Republic, (3) Regional Museum, Litoměřice, Czech Republic

Because of relatively short series of wind-speed measurements in the Czech Lands starting in the first half of the 20th century, documentary evidence represents an important source of information about strong winds in the pre-instrumental period. Documentary sources are presented particularly by chronicles and memories, weather diaries, economic and financial sources, special prints, letters, newspapers, scientific papers and communications, and early meteorological observations. Strong winds, detected from documentary sources, were used to create a database from AD 1501 when the density of records increased significantly. Up to now, the database contains more than 5000 events of strong winds which were classified on squalls (convective storms), tornadoes, blizzards, gales and windstorms when information of the duration, location, extent and the type of the damage caused was taken into account. Squalls, which often caused losses of human lives, damaged buildings and uprooted or broken trees, are the most frequently recorded type of strong winds. The database was used to compile various long-term chronologies of strong winds for the territory of the Czech Lands from AD 1501 or served as a main source of information for detailed case studies of extraordinary windstorms in the 18th and 19th centuries. The presented chronology represents importance of documentary evidence in the study of strong winds and contributes to the better understanding of their spatiotemporal variability in the past. (This work was supported by Czech Science Foundation, project no. 15-11805S “Windstorms in the Czech Lands during the past 500 years” and Ministry of Education, Youth and Sports of CR within the National Sustainability Program I (NPU I), grant number LO1415.)