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Floods and windstorms in the Czech Republic during the past millennium: synthesis of documentary and instrumental data

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Floods and windstorms are the most disastrous natural events occurring on the territory of the Czech Republic. Study of their frequency, severity, seasonality, causes and impacts in the long-term scale is important for saving of human lives and diminishing of material losses. Information related to these phenomena from the period of instrumental hydrological and meteorological measurements can be significantly extended by using documentary evidence going back to the 12th century. Basic types of documentary evidence with information about floods and windstorms are presented and methodological problems of elaboration of such evidence are discussed. Synoptic causes of floods and windstorms in the Czech Republic are demonstrated. Series of these phenomena created for the instrumental and pre-instrumental period are finally used for compilation of synthesis series, namely for floods of the main rivers in the Czech Republic (the Vltava, the Ohře, the Elbe, the Odra and the Morava) and for windstorms divided according to the type of event, extent and character of damage. Moreover, the most disastrous events ("floods and windstorms of the century") are particularly analyzed. Finally, floods and windstorms are discussed in the context of past long-term climate variability.