

# Climate Change Impact on Hydrological Extremes: Preliminary Results from the Polish-Norwegian Project

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## Abstract

This paper presents the background, objectives, and preliminary outcomes from the first year of activities of the Polish–Norwegian project CHIHE (Climate Change Impact on Hydrological Extremes). The project aims to estimate the influence of climate changes on extreme river flows (low and high) and to evaluate the impact on the frequency of occurrence of hydrological extremes. Eight “twinning” catchments in Poland and Norway serve as case studies. We present the procedures of the catchment selection applied in Norway and Poland and a database consisting of near-natural ten Polish and eight Norwegian catchments constructed for the purpose of climate impact assessment. Climate projections for selected catchments are described and compared with observations of temperature and precipitation available for the reference period. Future changes based on those projections are analysed and assessed for two periods, the near future (2021-2050) and the far-future (2071-2100). The results indicate increases in precipitation and temperature in the periods and regions studied both in Poland and Norway.

**Key words:** climate change, EURO-CORDEX, hydro-climatic projections, catchment selection.