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## Temperature and precipitation projections for Poland based on downscaled EuroCORDEX ensemble

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Regional climate projections are necessary to assess possible changes in the exposure and risk to allow planning the adaptation strategies.

Projections of temperature and precipitation trends were developed using a consistent methodology and homogeneous datasets to address the needs of up-to-date climate change scenarios for Poland.

The Euro-Cordex results with the resolution of 0.11deg (about 12.5km) for RCP4.5 and RCP8.5 were downscaled based on various historical gridded datasets (EOBS, ERA5, UERRA and data from IMWM).

Ensemble analysis was undertaken to assess the projection uncertainty and ensemble mean were calculated for base parameters (daily average, minimum, and maximum temperature and daily precipitation sum) as well as for the number of climate indices.

We will present spatial and temporal variability of selected climate indices over Poland for subsequent decades. Increase of the annual average temperature is due to the rise in the number of hot days and the reduction of the number of frost days. All temperature indices are characterized by statistically significant trends, strongest for RCP8.5. The most pronounced changes in the frequency and amount of precipitation occur in the north-east of Poland. The total number of days with precipitation increases slightly. The increase in the annual rainfall is due to the increase in the number of days with extreme precipitation.

Results are presented via an interactive web portal. Further analysis includes the development of projection for solar radiation, wind speed, humidity and snow cover.