



The impact of climat change on shortages of rainfall and water resources in Dunajec basin

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Dunajec basin as a one of the larger and with the biggest potential of water resources in the whole Upper Vistula basin, has a big significant impact on the whole Vistula basin.

However, there are periods of shortage of rainfall which result are droughts. These may have effects as devastating as excess in rainfall.

Analysis of historical "proxy data" and contemporary instrumental measurements and observations allowed to extract the years that have experienced long lasting periods of high temperatures and shortages of rainfall. Drought periods caused low water levels in large areas of the basin.

The collected historical material and the measurement was used to develop scenarios for the years 2001-2060 to determine the impact of climate change on the frequency and extent of occurrence of shortage of rainfall in the future and the impact on the water regime across the whole Vistula.

In analysis of climate variability for the first time were used daily data derived from the results of six regional simulations generated in different models in the EU project ENSEMBLES

Detailed analysis were performed for DMI-HIRLAM 5 ARPEGE & KNMI-RACMO₂_ECHAM5 simulation.