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Smart weather based water control in the Gasawka basin

F Bijlsma (1), D van Dijke (1), R Mureau (1), and A Glowacka (2)
(1) Meteo Group, the Netherlands, (2) Meteo Group, Poland

In many countries drought (or wetness) damage in agriculture is a significant problem. Due to the expected climate change these problems may become even bigger. Smart control of water flows, adapted to the current and future water needs in the agricultural sector can reduce water shortages and flooding. The control of water flows results in higher crop yields and a higher economic benefit will be gained. Particular in arable farming and fruit cultivation irrigation is widely used. For other forms of agriculture such as livestock (grassland) it is important that the groundwater level is high enough in the summer.

The consortium, consisting of the Dutch companies Nelen & Schuurmans, Meteo Consult, Dacom and the Polish ITP aims to prevent wasting of high quality water for the agriculture. The target of this project is to develop a detailed water balance (a combination of precipitation, evapotranspiration and water forecast models) which provides guidance for optimizing the water management and agriculture demand for the next 10 days.

The project contains of three subtask: monitoring current state of crops, modeling the water flows and forecasting future water demand. For the latter task the NOAH Land-surface model, forced by the ECMWF model, is used to generate high resolution forecasts of evapotranspiration.