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1 GIS based Water Balance of Slovenia

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Water is becoming more and more valuable and not always available natural resource. Water balance is a good instrument to gain additional knowledge about hydrological characteristics of drainage basins, precipitation and evaporation, all very important elements concerning water cycle.

The first water balance of Slovenia for the reference period 1961-1990 was finished and published in 1998. The research was based on traditional research more or less biased by the authors' subjective interpretations. With water balance for the new reference period (1971 – 2000), we wanted to improve previous methodology by applying new tools like GIS, to do more objective, unbiased and detailed research in all main elements of water balance.

The main goal of the project water balance was the creation of integrated database and models in GIS for all main water balance elements: precipitation, evaporation, discharge and the change of the water reserves. The long term water balance (1971 – 2000) is serving as a model for building GIS based yearly water balances, which are required for yearly evaluation on national level and for reporting purposes (EEA and EU Commission).

The results of water balance are, due to the complexity of the project, divided into two major parts. The methodological part is presenting the methodology and solutions for calculation every single element of water balance. In the second part, the research results of water balance for the new period 1971-2000 are explained by cartographic presentation.