



WP 2

Hydrology

Anticipating increased demands from non-regulated energy production, management of hydropower reservoirs for peaking or load balancing will require improved inflow prognosis tools for both long term management and short term peaking operation, including flood management. Emphasis is set on improving these tools for short time step simulation and updating from observation data. Important topics will be:

- Development of algorithms to improve the hourly forecast accuracy, including gridded runoff response simulation. A core approach is to explicitly separate channel hydraulic attenuation from terrain drainage processes, utilizing all available geographic information. Changed climatic conditions will be addressed with particular attention on high winter flows.
- Analysis of hourly inflow data quality with respect to calibrating and updating gridded response units from hourly data measured at catchment scale. The updating techniques must be improved to utilize locally and remotely measured data, accounting for the data quality.

Future inflow scenarios will be provided for several other work packages, specifically the modeling of power systems in WP 3 and the river ice effects in WP 8.