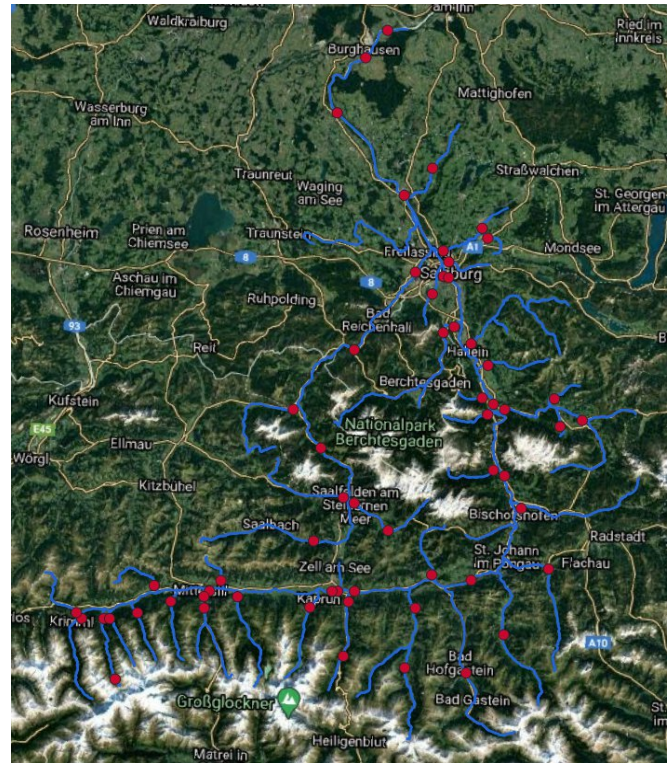


# UPDATE OF THE HYDROLOGICAL FLOOD FORECAST FOR THE RIVER SALZACH

## TASK

The flood forecast is increasingly based on real-time simulation results from meteorological, hydrological and hydrodynamic models. The real-time forecast poses particular challenges in terms of computing times, the robustness and accuracy of the algorithms used and requires concepts for forecast correction and the integration of a large number of different data sets. The hydrological-hydrodynamic simulation of the catchment area of the Salzach is the essential basis for the hydrological forecasting system Hydris of the state of Salzburg. In the course of a renovation, the catchment area of the Salzach is simulated with the grid-based hydrological model wflow\_sbm (developer Deltares) and the snow and glacier processes are also determined using an energy balance approach. In addition to the PCRaster-based wflow\_sbm, PCRaster and Python are used.



The project area showing the river network and available river gauges

## AIMS

- Application of a raster-based open source model
- Focus on open data for model development and operation
- Increase in the spatial model resolution for hydrological processes to one km<sup>2</sup>
- Increase in the spatial model resolution for glacier and snow processes to 0.25 km<sup>2</sup>
- Implementation of new approaches for the modeling of snow accumulation and melting as well as glacier accumulation and melting (temperature and radiation based as well as energy balance based)
- 72 hour forecast horizon
- Temporal model resolution 15 minutes

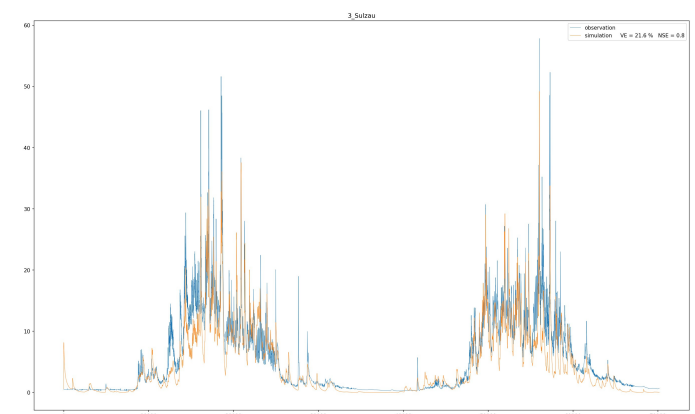
## KEY DATA

**Topic:** Hydrological modelling

**Client:** Land Salzburg, Verbund AG, Salzburg AG

**Place:** Salzburg

**Completion:** September 2022



Runoff simulation for the gauge Sulzau 2016-2017