



► City of Arvika

Climate change impact

Status

SMHI continues its activities that assess the influence of climate change on hydrology, including both regional and urban applications.

- We have processed outputs from existing regional climate change projections and have performed additional climate modeling in order to produce higher resolution climate projections for the region.
- We have processed climate model results from 16 climate change projections at 25 km resolution. This includes preliminary hydrological simulations for Lake Glafsforden.
- New climate model simulations at 12 km resolution have been performed and analyzed for the present climate and are underway for the future climate.
- Activities toward more detailed assessment of urban hydrology have also been initiated.

Capacity of storm water drainage system

Status

Extensive field work has been carried out to establish a physical description of the existing storm water drainage system, including xyz-coordinates and dimensions of more than 2,000 pipes.

Based on this data, models of seven drainage areas have been created. Simulations of today's climate as well as the future climate have been carried out, and adaptation alternatives have been proposed.

In areas where basement flooding has occurred, drainpipes from roofs have been inspected to ensure correct installation. More than 750 buildings have been inspected.



Inundation map

Status

An inundation map for the flood-prone area along Lake Glafsforden has been created. Helicopter laser scanning of the area has resulted in high resolution elevation data and digital orthophotographs, which formed the basis for the inundation map.

Detailed models and contour lines have been created using GIS software and 3D tools. Through this it became possible to obtain the surface areas flooded at different water levels and to identify important objects in the risk zone.

SGI has set up a hydraulic model of Glafsforden which was used to simulate water levels for different return periods.

The elevation of all buildings within the risk zone has been determined, through field work.

