

# The Production and Use of a Hydrographic Flow-Direction Network of Surface Waters

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**Key words:** Hydrography; Risk management; Standards

## SUMMARY

Lantmäteriet, the Swedish mapping, cadastral and land registration authority and The Swedish Meteorological and Hydrological Institute, SMHI, are working together in a joint project called “The hydrographic network” with the overall goal to have new nationwide hydrographic products for customers ready in 2017. In the beginning of 2016 we are going to launch the first 15 main catchments areas as a hydrographic network for customers.

The hydrographical information has lakes and streams in a network and shows how the water flows from the water source to the sea. The project is working in main catchment areas to cover entire Sweden and the first map information has covered southern parts of Sweden. Hydrographic information is produced in map scale 1:10,000 which is more detailed to the currently available Swedish hydrographic information. To make the hydrographic network and its metadata available, standardized view- and download web services will be developed. Using standards makes it easier for end users to understand and combine other data with the network.

For this project we are using existing data made for cartographic use, which is not suitable for analysis and spatial calculations. Hence the data is transformed so it can be used for hydrographic network analysis.

Products are created for the use in environmental and civil protection:

- dispersal of pollutants and analysis of acidification and liming needs
- calculation of flood risks and impact in environmentally sensitive

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areas

- forestry and other infrastructural activities to see the potential effect on the landscape
- to see the effects of flow regulation and the impact on watercourses continuity
- migration of fish and other organisms and sediment transport

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