



## **Transparency in data presentation to support use and understanding for decision makers.**

Lena Strömbäck, Niclas Hjerdt, Lena Eriksson Bram, and Per Lewau

Swedish Meteorological and Hydrological Institute, Folkborgsvägen 1, SE-601 76 Norrköping, Sweden  
(lena.stromback@smhi.se, niclas.hjerdt@smhi.se, lena.eriksson@smhi.se, per.lewau@smhi.se))

Water management in Sweden is focused on characterization of water bodies and establishing action plans to achieve a good ecological status according to the framework directives stated by the European Union. To support this work SMHI has been commissioned to make databases of hydrography, statistics, water flows and scenario models freely available on the web. As a result of this we have created the open website [vattenweb.smhi.se](http://vattenweb.smhi.se). The site currently provides observed and modeled data for fresh water and coastal areas as time series and statistics. In addition to this, the site also exposes data on wetlands and results from climate scenario simulations.

The development of the site has been done in close cooperation with the end users at the water authorities to meet their needs and requirements. This has resulted in an easy to use website, where downloaded data easily can be imported into other tools for further use and analysis by the users. However, during the process we discovered that it was important for the users to learn more on the model setup and quality of simulated data.

Therefore, during 2012, we concentrated on making the website more transparent and explain the assumptions and setup behind the simulation. Simulated data on fresh water quantity and quality are provided by the S-HYPE model, a Swedish setup of the Open Source HYPE model. The model provides daily simulations of discharge and transport of nitrogen and phosphorous for the around 40 000 subbasins defined in the Swedish Water ARchive (SVAR).

To make the simulated data more transparent, the data used for model setup has been made available on the website as a possibility to download input data as well as the resulting data. In addition, we provide a reference guide where origin of data as well as the processing required for the model setup is explained. This allows decision makers to analyze the model assumptions to understand if there are differences to more detailed information on local conditions they might have access to. Finally, the website now provides detailed information on the quality of model results. The interactive presentation of model uncertainty in a map allows the user to easily get an overview of model performance in Sweden, make selections based on catchment size or geographic area, or make a detailed study of a particular catchment of his interest.

These new features have been appreciated by the end users and contributed to their understanding on how to use and interpret model results. During spring 2013 we will further develop the website to allow interactive analysis of the impact on changes in diffuse and point sources. The interactive scenario features will be designed to support decisions on measures to reduce emissions from, e.g., industries, treatment plants and sewage systems.