



Open data distributed on Amazon's cloud service

Roope Tervo and Mikko Visa

Finnish Meteorological Institute, Helsinki, Finland (mikko.visa@fmi.fi)

Finnish Meteorological Institute has implemented Open Data Portal to provide open meteorological time series and grid data. The portal provides weather observations, weather forecast and oceanographic forecast models data. The data is provided in INSPIRE harmonized forms and the portal meets INSPIRE requirements.

The Finnish Meteorological Institute is now building up experience of distributing large amounts of data using cloud services. Over the space of a two-year pilot project, the Institute's open data will be available on Amazon's cloud service. The objective is to increase the utility and effective use of weather and climate data.

In the initial stage, Amazon's cloud service (AWS S3 Bucket) will provide access to the Hirlam weather forecasting model that covers the whole of Europe. The model is provided with the same content and in the same format as in the Finnish Meteorological Institute's own open data service. The model's forecast period is forty-eight hours, the timestep is one hour and the horizontal resolution is 7.5 kilometres. The model provides data both for the surface of the earth as well as for pressure levels in the upper atmosphere. The data is updated four times every twenty-four hours. Unlike the FMI's open data service, the old model times will not be removed from Amazon's service. Amazon's service will thus also provide an archive of old model data covering the duration of the pilot.

Hirlam data can be downloaded by all users without registration. A particularly practical service for AWS users is the ability to process data in the cloud. The data in Amazon's service is provided in its entirety, broken down by parameters in the GRIB2 format commonly used in weather models. The FMI's service offers the possibility to search for data only for points that the person is interested in. The cloud service will be of particular help for users who need data from the whole weather model, for example for drawing maps. Appropriate software or libraries are available to enable the user utilise the data. The FMI has also published the open source code for the SmartMet Server, the server software used in the distribution of data and products.