Providing Open Access to Weather, Climate and Seismological data

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The Royal Netherlands Meteorological Institute (KNMI) has over 150 years of knowledge and gathered data related to Weather, Climate and Seismology. The part of this digital collection published on the KNMI Data Centre (KDC) has grown steadily over the past 3 years. The KNMI Data Centre is the data portal hosting the varied KNMI data. The different standards for both data and services require significant investment to properly support the different fields.

Recently the focus has been on Dutch Open Data requirements and the initial rollout of services following OGC standards and OPeNDAP. Challenges that come up include publishing metadata to other catalogues (like data.overheid.nl), coping with large climate datasets, in the order of petabytes, requiring flexible approaches to data storage and addressing and the presentation of the data in an approachable way to wildly differing audiences. As the Dutch reference institute on weather, Climate and Seismology, these our users range from (international) scientists through app developers and enthusiasts to regular citizens.

Making the KNMI data available as Open Data has resulted in an explosion of use and broadening of our user community. This is especially, but not exclusively, is the case for our real time data (both measurements and , model output). Together with RWS (the Department of Public Works), another big producer of Open Data, a data battle has been organized to encourage usage of KNMI Open Data and gather feedback from users regarding our data and data portal. This has resulted in a number of nice examples innovative applications of Open Data useour data, especially where combined with other Open Data.

Future plans include more services for different communities, such as FDSN webservices for the seismo-logical community and more generic APIs for other users, like app developers. A new development is the integration with the upcoming KNMI Data Lab which will see requirements for on demand processing and analysis and further enabling the use of KDC with data science tools.

The KNMI Data Centre project has an agile development approach, using SCRUM methodology with lots of demoing and user involvement. .

The system is built on open standards and proven open source technology, which includes in-house devel-oped software like ADAGUC and Portal.

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