

First steps towards a valuable Open Data portal for weather information provided by DWD

Renate Hagedorn & Eduard Rosert

Deutscher Wetterdienst, Department on Product Development and Customer Relations

Outline

- Motivation: legal and political background
- First steps: Fileserver on the Web (HTTPS)
 - Structure
 - Content: expert/traditional file formats
 - Statistics: number of files, size, throughput, usage

Challenges and further plans ahead:

- Serving new user communities (SMEs, general public,...)
- Meeting requirements from INSPIRE regulations
 - Providing services to download, search, transform and visualize the data
- Developing an Open-Data-Portal for DWD's weather data
- Data in the cloud to allow users to bring computation to data





- DWD's duties result from the legal mandate as laid down in the so-called "Deutscher Wetterdienst Act"
 - Providing meteorological and climatological services to...
- 25.07.2017: Amendments (amongst others to allow free public access to the data)
 - (2a) Provided that there are no other legal regulations prescribing charges, the Deutscher Wetterdienst shall provide the following services free of charge:
 - 1. services for the Federation, the Länder and local governments and municipal associations within the meaning of Section 4(4) above;
 - 2. services for the public within the meaning of Section 4(1)(3) and (7) above for public distribution;
 - **3.** *provision of spatial data and spatial data services* within the meaning of Section 3(1) and (3) of the Spatial Data Access Act (GeoZG) on the 'Geoportal' for spatial data of Germany's national spatial data infrastructure.

Open Data

First step: file server on the web at <u>https://opendata.dwd.de</u>

- available since July 25, 2017
- freely accessible, realtime data
- permissive copyright
 - free for any use
 - attribution required (§ 3 GeoNutzV, § 7 DWD-Gesetz)





. . /



Structure

Deutscher Wetterdienst Wetter und Klima aus einer Hand







EMS Annual Meeting | 03.09 - 07.09.2018

Usage

- Daily usage in July 2018 (average/maximum):
 - visits: 970.000 / 1.100.000
 - hits: 160 million / 190 million
 - downloads: 150 million / 170 million files
 - Download volume: 7.3 terabytes / 7.7 terabytes





Formats

- > Our data is available in a number of different formats:
 - Internationally standardized (WMO) binary formats GRIB and BUFR for observations and NWP data
 - Internationally standardized (OGC) XML format KML for local forecasts (MOS), observations (radiosonde)
 - Internationally standardized (OASIS) XML format CAP for weather/health alerts
 - open standard JSON/GeoJSON
 for observations, NWP data, ...
 - Plain text formats CSV, TEXT/ASCII for 'classical' TEXT/FAX/SMS products



DWD





- Current customers benefit from open data by
 - having easy, direct access to most of our data for free without the overhead of authentication, setting up a special data delivery, or buying packages or products up front
 - having the data in well-known ('traditional') data formats

New customers/general public

- can access data that was previously unavailable / too expensive
- often cannot use/read/display the data because of missing meteorological or technological background and tools



Next steps

Meeting user requirements

- Accessing the data through standardised api (WMS, WFS, ...)
- Finding the data -> proper meta data and catalogue services
- Transforming the data -> formats, subsetting,...
- Visualizing the data

Open Data Web Portal based on geo-web services

- search & discovery
- WebGIS application for dynamic visualisation
- Bringing data to the cloud
 - avoiding unnecessary data transport and serving our clients where they are
 - enabling the combination of data with other data sources



Wetter und Klima aus einer Hand

