



EMS Annual Meeting Abstracts

Vol. 20, EMS2023-472, 2023, updated on 21 May 2024

<https://doi.org/10.5194/ems2023-472>

EMS Annual Meeting 2023

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KNMI Data Platform - A cloud-based data platform for searching and accessing FAIR and Open Data using APIs

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The KNMI Data Platform (KDP) is a cloud-based data platform that provides a central location for finding and accessing open and FAIR data related to weather and climate. KDP brings a user-friendly and searchable data catalog based on metadata, as well as the option to browse through the files of a dataset, and if applicable a Web Mapping Service (WMS) preview.

The data is accessible through multiple APIs. In addition to our file-based API and WMS API, we released an alpha version of our Environmental Data Retrieval EDR API in October 2022. Both the data and the APIs adhere to internationally recognized standards by for instance the Open Geospatial Consortium (OGC), allowing interoperability and easy integration of the data into applications.

The platform is built with cloud-based technologies resulting in high scalability and reliability. Not only is the data stored on Amazon Web Services (AWS), but the whole infrastructure containing the platform and the APIs are hosted on AWS. This ensures large amounts of data are stored and processed while always being available to users.

KDP has been operational since 2019, evolving into a robust and highly available platform. This opens up room for community building where we exchange experience and knowledge. Currently, KDP facilitates the community by connecting researchers, organizations, and companies from different fields beyond the traditional meteorological user base. The result is better user feedback to KNMI and an exchange of code between companies about the interpretation of KNMI's data.

The aim of this contribution is to present the KNMI Data Platform along with an overview of ongoing advancements and forthcoming features. This will be shown by using a representative dataset to introduce our different APIs, demonstrating this dataset can be accessed and visualized using our platform. Additionally, we hope to discuss the opportunities and challenges surrounding building an API-based Open Data Platform using cloud technology.