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Beyond Open Data: the importance of data standards and interoperability - Experiences from ECMWF's Open Data Week

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The European Centre for Medium-Range Weather Forecasts (ECMWF) has been providing an increasing amount of data to the public. One of the most widely used datasets include the global climate reanalyses (e.g. ERA-interim) and atmospheric composition data, which are available to the public free of charge. The centre is further operating, on behalf of the European Commission, two Copernicus Services, the Copernicus Atmosphere Monitoring Service (CAMS) and Climate Change Service (C3S), which are making up-to-date environmental information freely available for scientists, policy makers and businesses.

However, to fully benefit from open data, large environmental datasets also have to be easily accessible in a standardised, machine-readable format. Traditional data centres, such as ECMWF, currently face challenges in providing interoperable standardised access to increasingly large and complex datasets for scientists and industry.

Therefore, ECMWF put open data in the spotlight during a week of events in March 2017 exploring the potential of freely available weather- and climate-related data and to review technological solutions serving these data. Key events included a Workshop on Meteorological Operational Systems (MOS) and a two-day hackathon. The MOS workshop aimed at reviewing technologies and practices to ensure efficient (open) data processing and provision. The hackathon focused on exploring creative uses of open environmental data and to see how open data is beneficial for various industries.

The presentation aims to give a review of the outcomes and conclusions of the Open Data Week at ECMWF. A specific focus will be set on the importance of data standards and web services to make open environmental data a success. The presentation overall examines the opportunities and challenges of open environmental data from a data provider's perspective.