

ECMWF Open Data Programme

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ECMWF recognises that open data is an essential tool in contributing to the development of new meteorological methods and analysis. Since 2020, ECMWF has been taking steps towards an open data policy. In 2023, we have seen a significant increase in the user uptake of ECMWF open data.

The data currently released as open data are a subset of ECMWF Real-time catalogue at a 0.25-degree spatial resolution, from both ECMWF Integrated Forecasting System (IFS) and Artificial Intelligence/Integrated Forecasting System (AIFS). ECMWF Open Data are being provided through different mechanisms, all of which have seen a notable growth in usage in the past year:

- Open Charts Service, which provides chart visualisations of ECMWF products. Some of the increased uptake can be attributed to the introduction of charts based on Machine learning products in mid-2023.
- The Open Data Portal (an FTP service) is available since January 2022 and shows a continuing increase in numbers of requests. ECMWF predicts even higher usage with the addition of new Open Data of IFS products at higher resolution and additional parameters, plus AIFS products (machine learning-based) in early 2024.
- WMO Essential and WMO Additional datasets (also provided via FTP service) are still increasingly popular. ECMWF will, in the future, optimise this provision.
- Since January 2022, ECMWF Open Data is also redistributed by 3rd parties. ECMWF has partnered with different cloud providers as part of their public dataset program (e.g. Amazon, Google and Microsoft), but the data has also started being provided by smaller independent users (e.g. Open-meteo.de) and in research archives (e.g. NCAR). The benefit is not only a good user uptake but also that data can be shared with a larger user community with no additional load on ECMWF systems.

ECMWF is committed to moving forward to achieve the goal of an open data policy during the next few years. Creative Commons licences will be applied to further datasets, while reducing and eventually removing the cost of data. The main objective of these changes is to continue to encourage collaboration, innovation and progress within the meteorological and climate science communities.

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