Contribution ID: **9**   Type: **Poster presentation**

Reproducing the open weather forecast charts using Python and Jupyter notebooks

As of recently, ECMWF started the move towards serving data to users beyond operational forecasters in Member states and commercial customers for a charge, by adopting an open data policy which will be implemented in phases from 2020 to 2025. The first phase included opening hundreds of web forecast charts and making archived data available under a Creative Commons (CC BY 4.0) open licence in 2020. The next step was in January 2022 when the production of open subset of real time medium range forecast began.

This phased move towards free and open also data represents a big step towards a more reproducible open science. However this can not be achieved by only opening the real time data. The users need to be able to find and easily use the data and integrate it into their own research work or application workflows. Reliable access to the data is achieved by making it available both through ECMWF https service and via the Microsoft Azure cloud, where the archived data is kept as well.

In order for the data to be more FAIR (Findable, Accessible, Interoperable and Reusable), additional development work is being done. This work includes the design of an API to easily download the data, and the development of open source Python libraries to process and visualise it. To present these new tools and help users understand how to retrieve and process ECMWF data, a set of Jupyter notebooks was created, each of them reproducing one open weather forecast chart from the downloading the data to the visualisation.

This poster will focus on development of Jupyter notebooks for reproducing the open charts, but will also give a short overview of which open data and software are available.

Primary author: VUCKOVIC, Milana (ECMWF)

Co-author: Ms LAMY-THEPAUT, Sylvie (ECMWF)

Presenter: VUCKOVIC, Milana (ECMWF)

Track Classification: UEF2022