

# From Metview to Earthkit

## Enabling fast and easy access to ECMWF's forecasts

Development Section, Forecast Department, ECMWF

### Metview

Metview is a meteorological workstation software package for the purpose of **accessing, inspecting, processing and visualising** meteorological data. It combines interactive and batch usage, making it suitable for research and operations.

Metview's development was originally a co-operative project between ECMWF and INPE (Brazil) with assistance from Météo-France.

### 1990

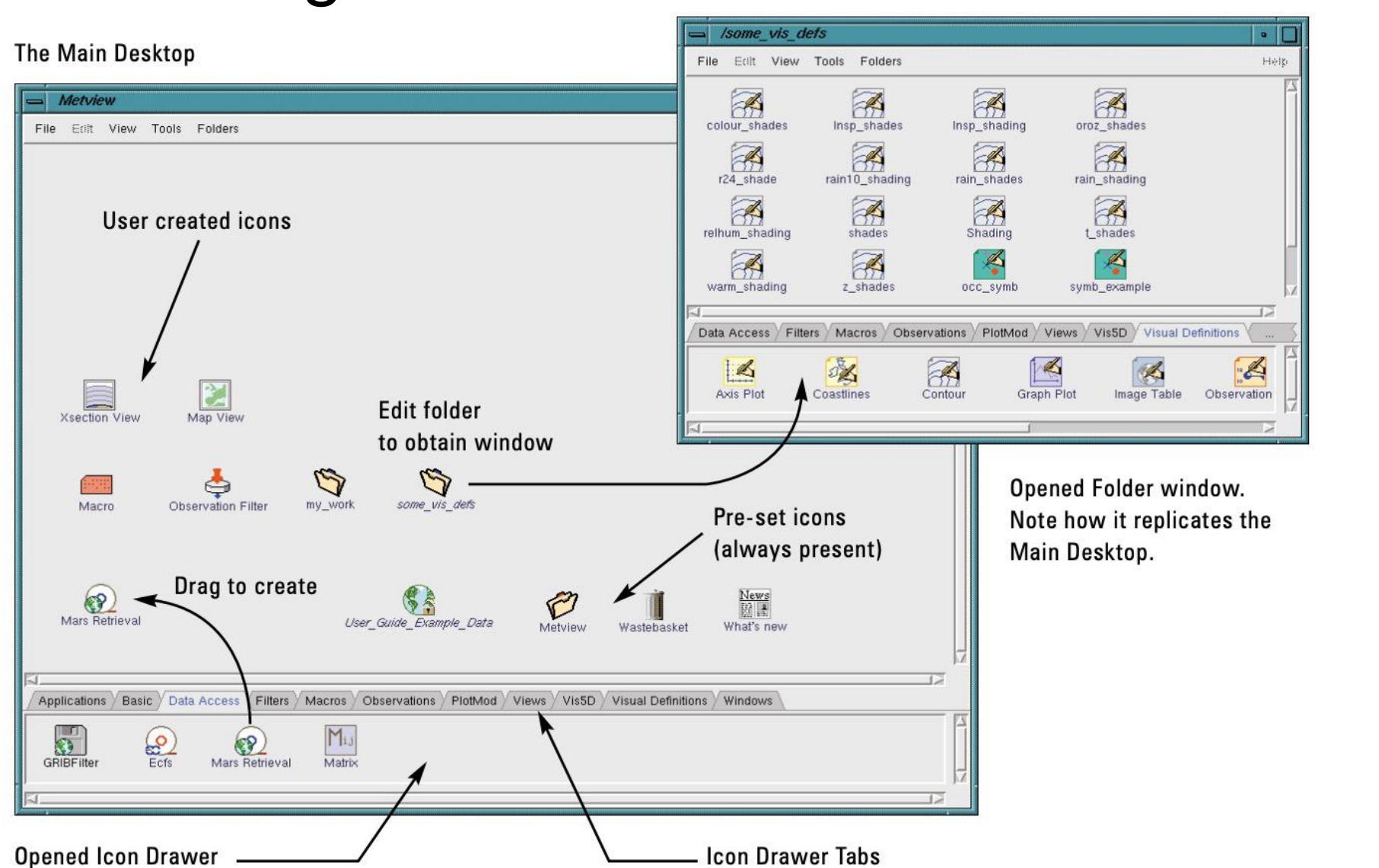
Metview's development was announced in June 1990

#### Metview

*There are plans to develop a general and unique system for the visualization of meteorological data at ECMWF which should serve the scientist and the operational analyst alike. The Metview concept will provide a standard framework within which applications relating to the retrieval, processing and visualization of meteorological data can be implemented, and will enable both Operations and research*

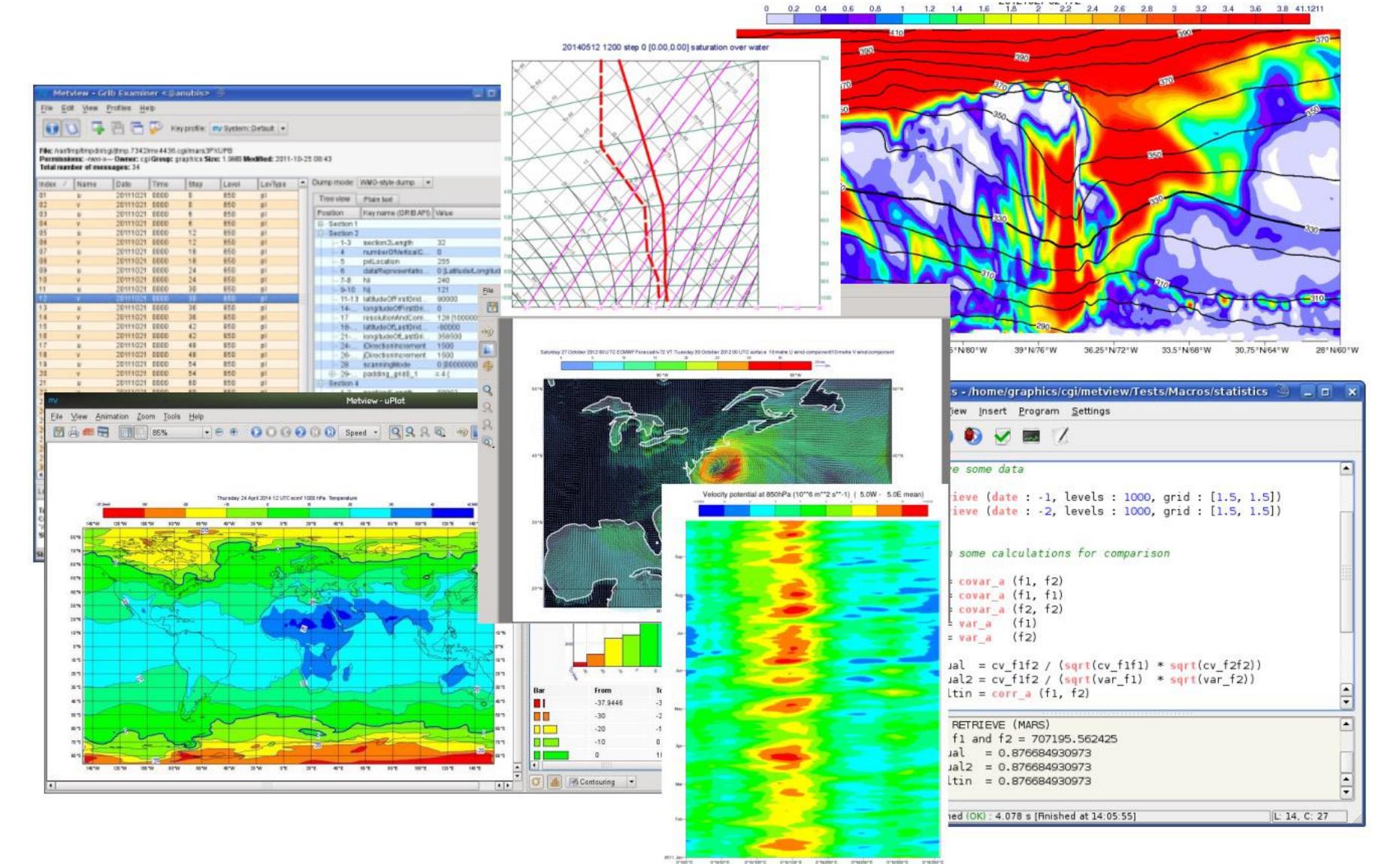
### 1993 / 1993 / 1998

Metview versions 1.0, 2.0 and 3.0 are released with progressively advanced technologies



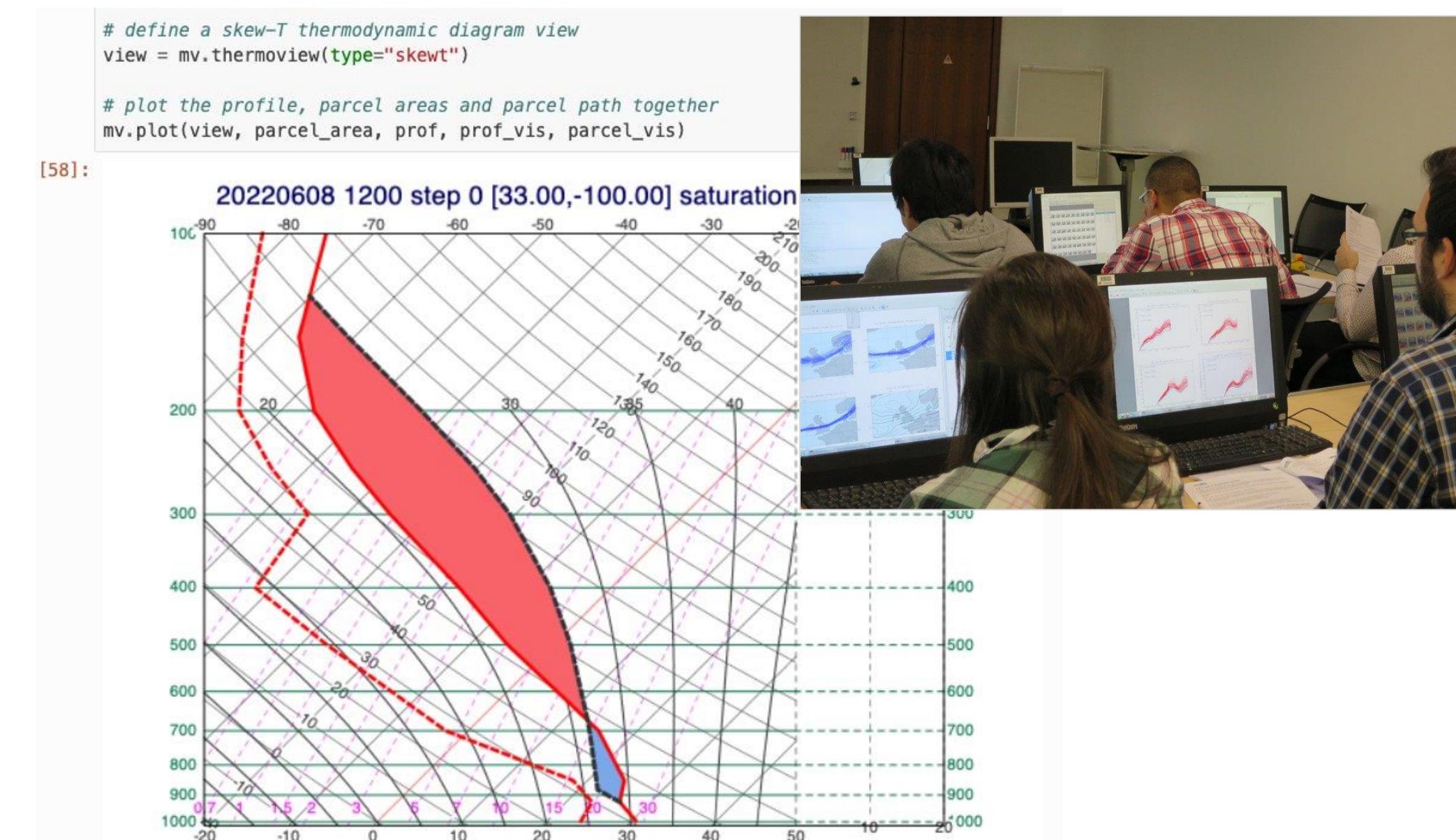
### 2012

Metview version 4.0 is released as Open Source, and with a new user interface



### 2017

Metview version 5.0 is released with a Python interface

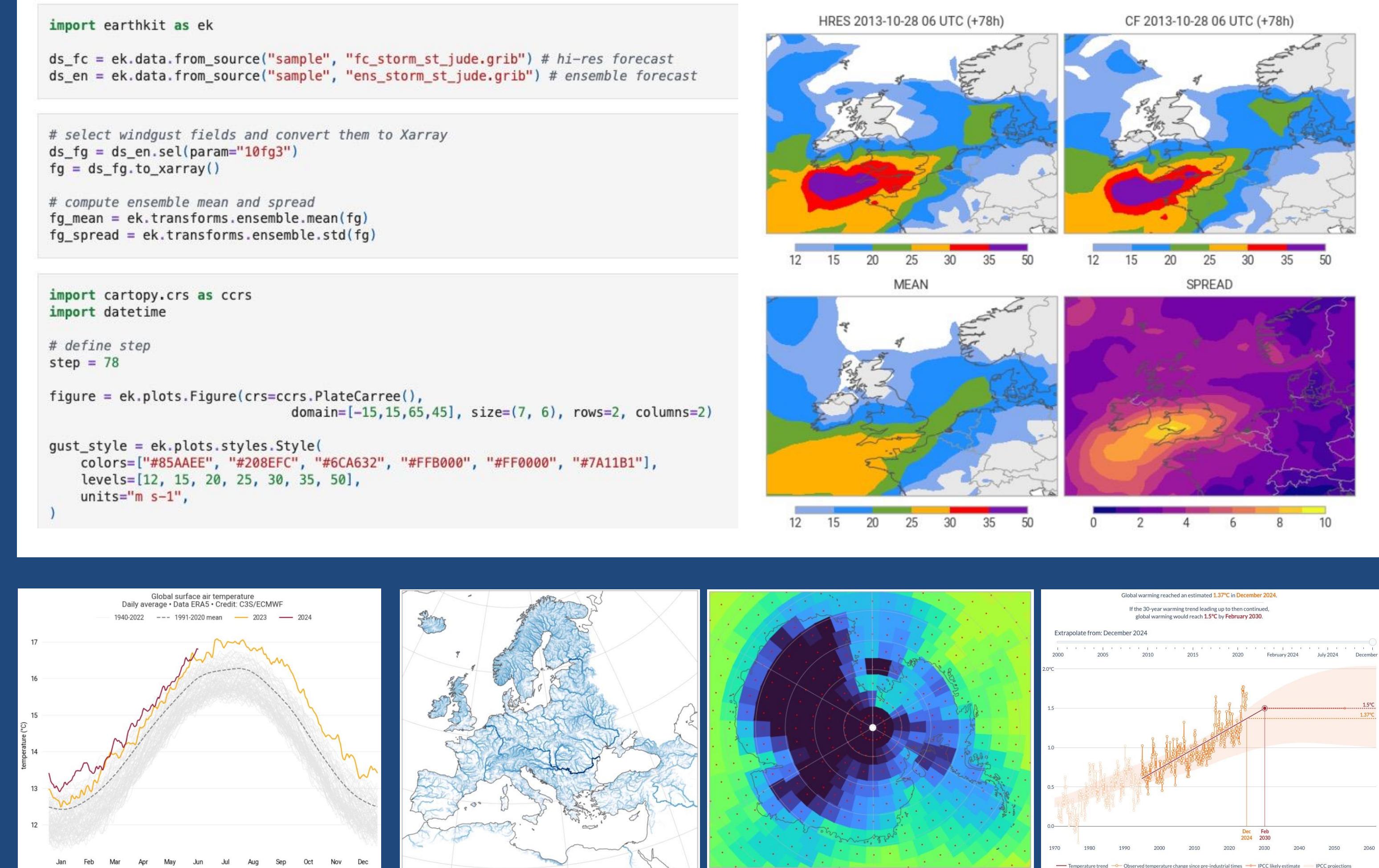


### 2023

ECMWF's Software Strategy and Roadmap is published, emphasising Open Development, greater reusability and componentisation of software, and scalability on modern hardware. Those principles, merged with the philosophy of Metview, formed the basis of Earthkit.

### Earthkit

Earthkit is a new set of high-level Python packages that work together to provide an ecosystem suitable for research and operations. Also providing functionality for data access, analysis, processing and plotting, Earthkit will be the natural successor to Metview.



Feature	Metview	Earthkit
Development started	1991	2023
Programming language	C++ & Python	Python (uses underlying C/C++ ECMWF stack)
Computations	CPU	CPU & GPU
Temporary data storage	Disk	Memory & Disk
Field input types	GRIB	GRIB, NetCDF, Xarray, Numpy
Data sources	File, MARS, ECFS, URL	File, MARS, URL, S3, FDB, ECFS, CDS, ADS, Polytope, ...
Code organisation	Monolithic	Package per category of functionality
Plotting	Based on Magics (bespoke C++)	earthkit-plots uses Matplotlib