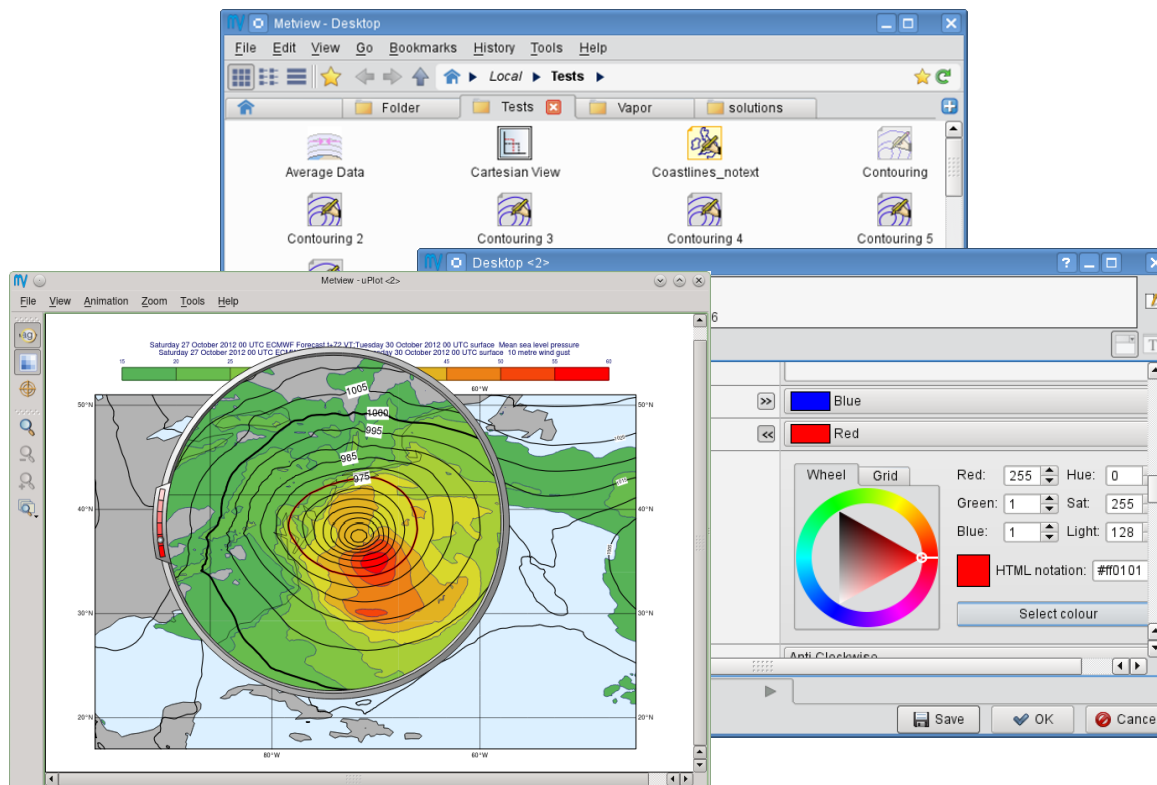# Recent Developments in Metview

Iain Russell

Development Section
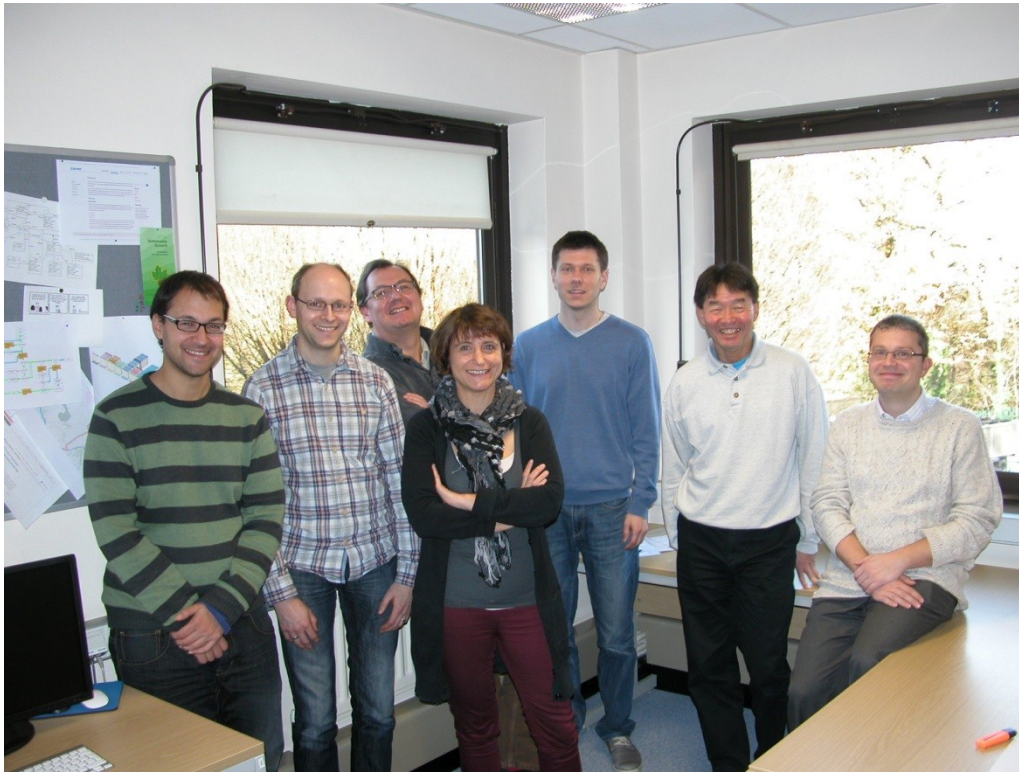*ECMWF*

ECMWF

Metview history (summary 1)

▶ **Announced at first EGOWS in June 1990 (Oslo)**

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
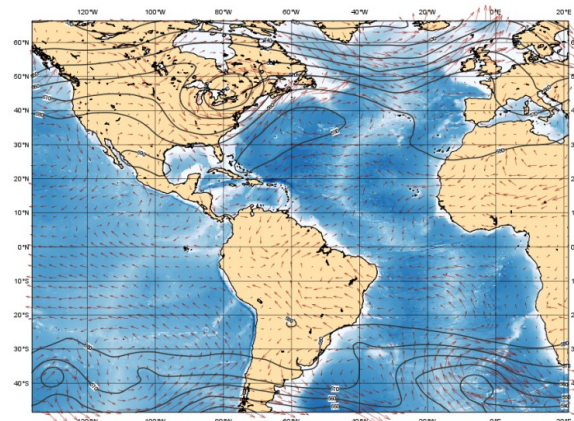
ECMWF

Metview history (summary 2)

▶ **First operational version (1.0)**   Dec 1993

▶ **Metview's 20th birthday celebrated**   Dec 2013

ECMWF

What is Metview?

▶ **Workstation for researchers and operational analysts**

▶ **Retrieve/manipulate/visualise/examine meteorological data**

▶ **Drag & drop user interface / powerful scripting language for batch mode**

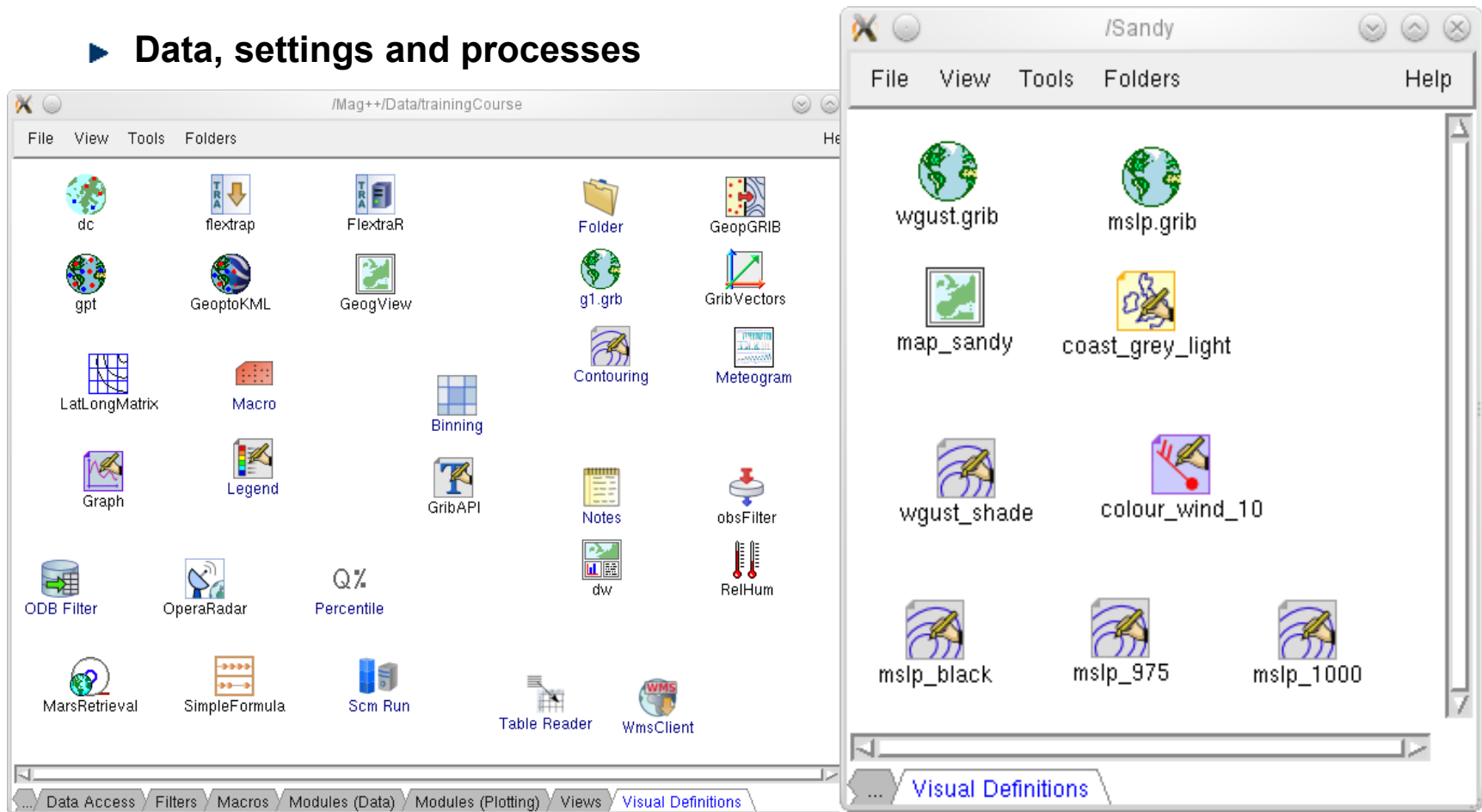> **Built on core ECMWF technologies:**
>
> **MARS, GRIB_API, Magics, ODB, Emoslib**

▶ **Handles GRIB, BUFR, NetCDF, ODB, Geopoints, CSV, ASCII**

▶ **Can access MARS, either locally or through the Web API**

▶ **Open Source under Apache Licence 2.0**

▶ **Metview is a co-operation project with INPE (Brazil)**

Icon-based interface

▶ **Everything is represented by an icon**

    ▶ **Data, settings and processes**

Visualisation

GRIB file

wgust.grib

execute
visualise
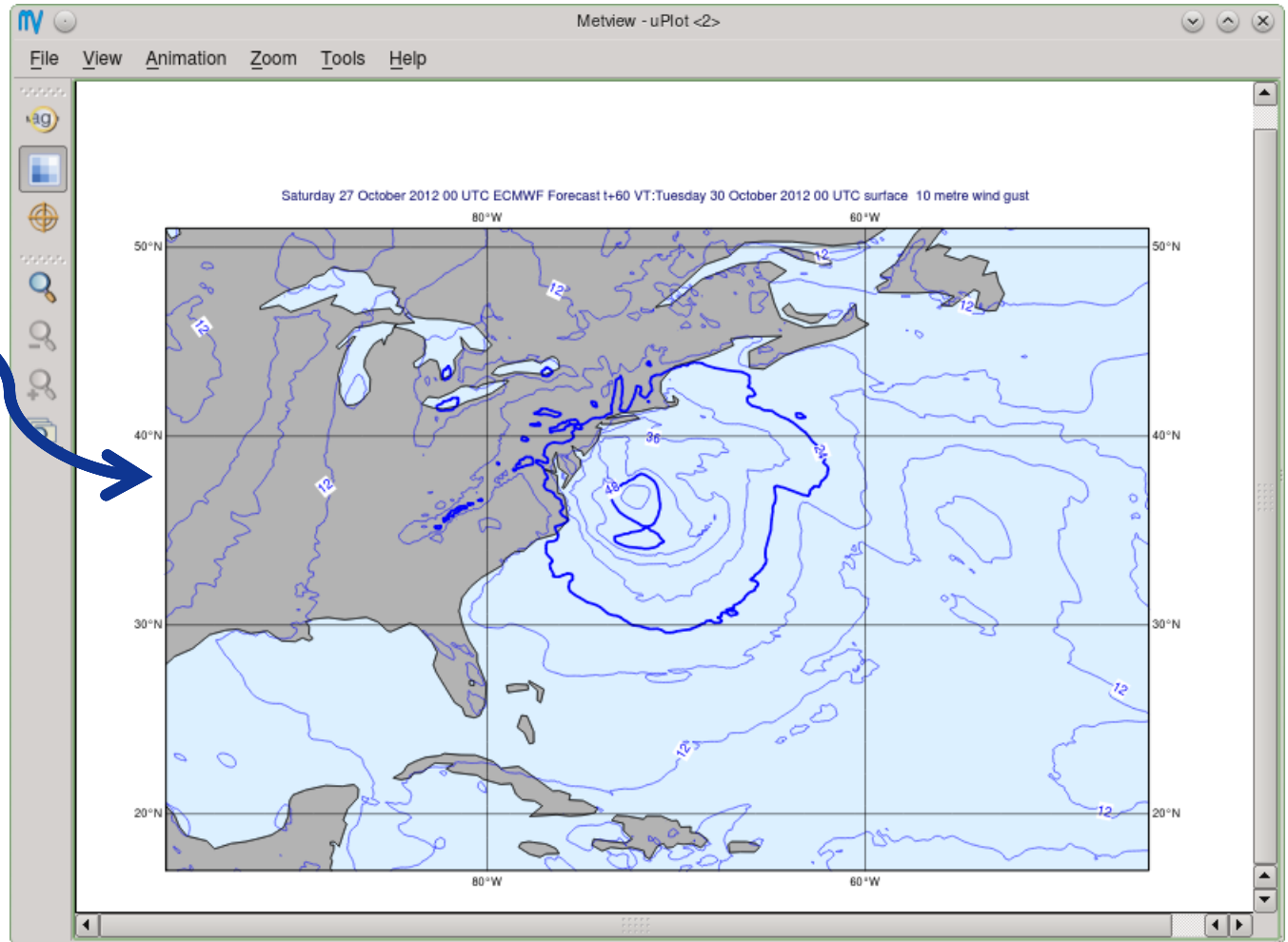examine
save
analyse
edit
duplicate
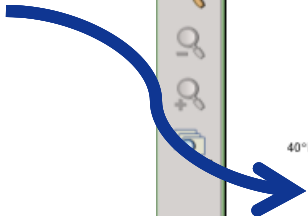delete
empty
output
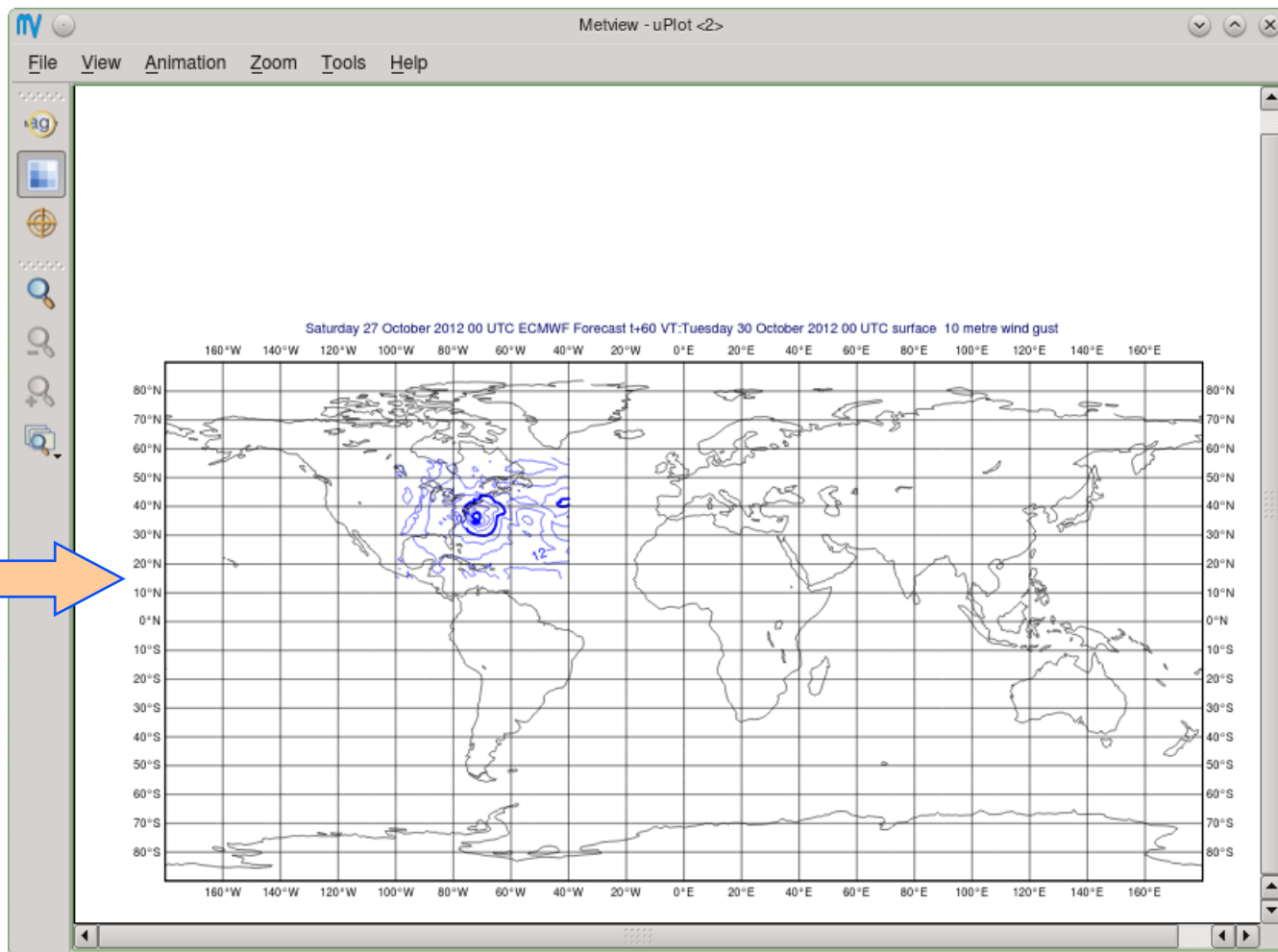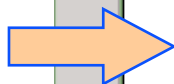
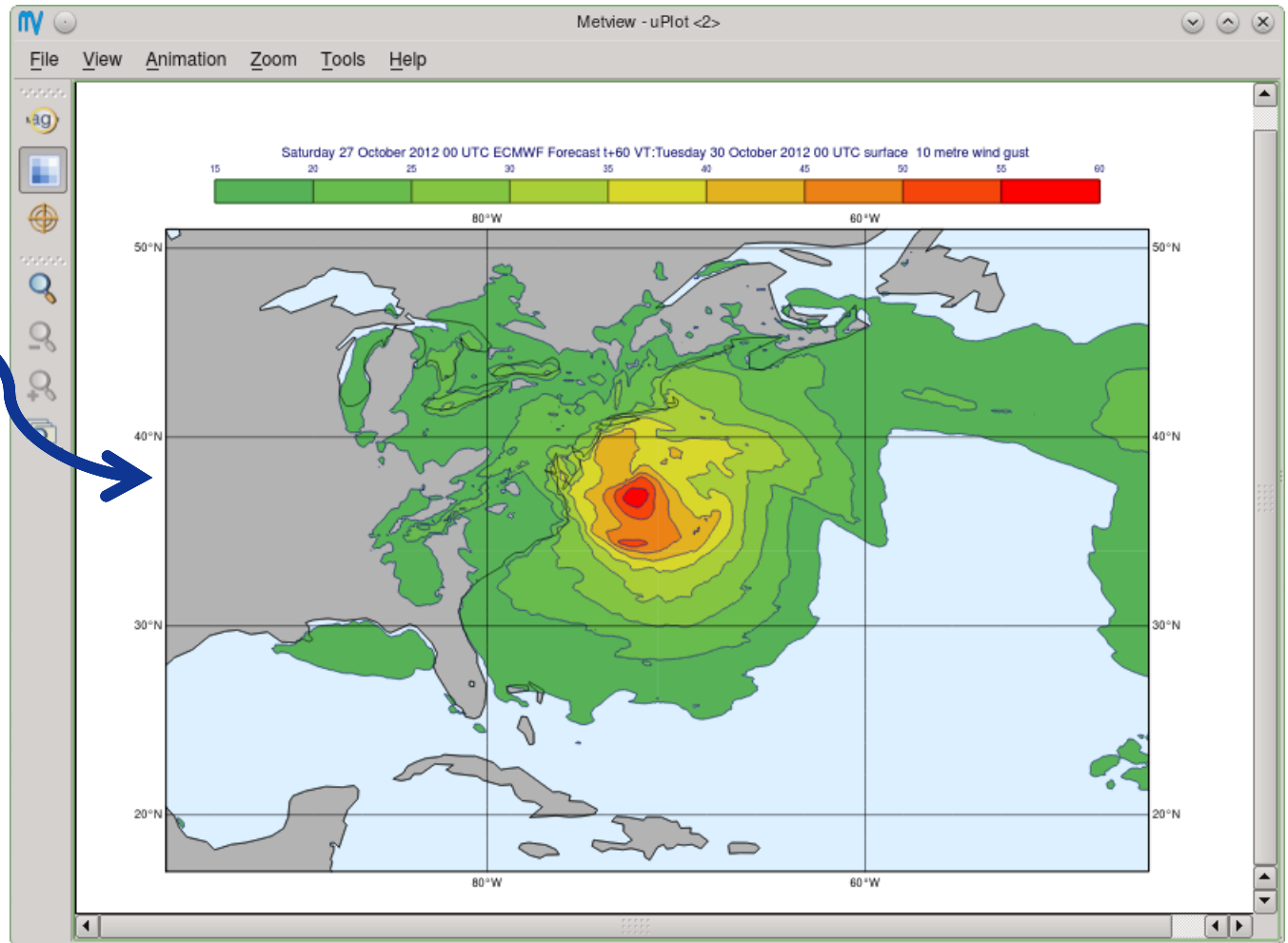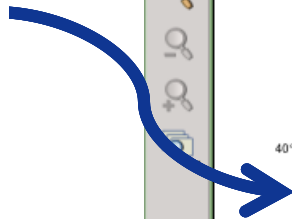# Drag and Drop

Map view

map_sandy

Drag and Drop

Contour shading

wgust_shade

Drag and Drop - Overlay

Overlay works for all the data types!
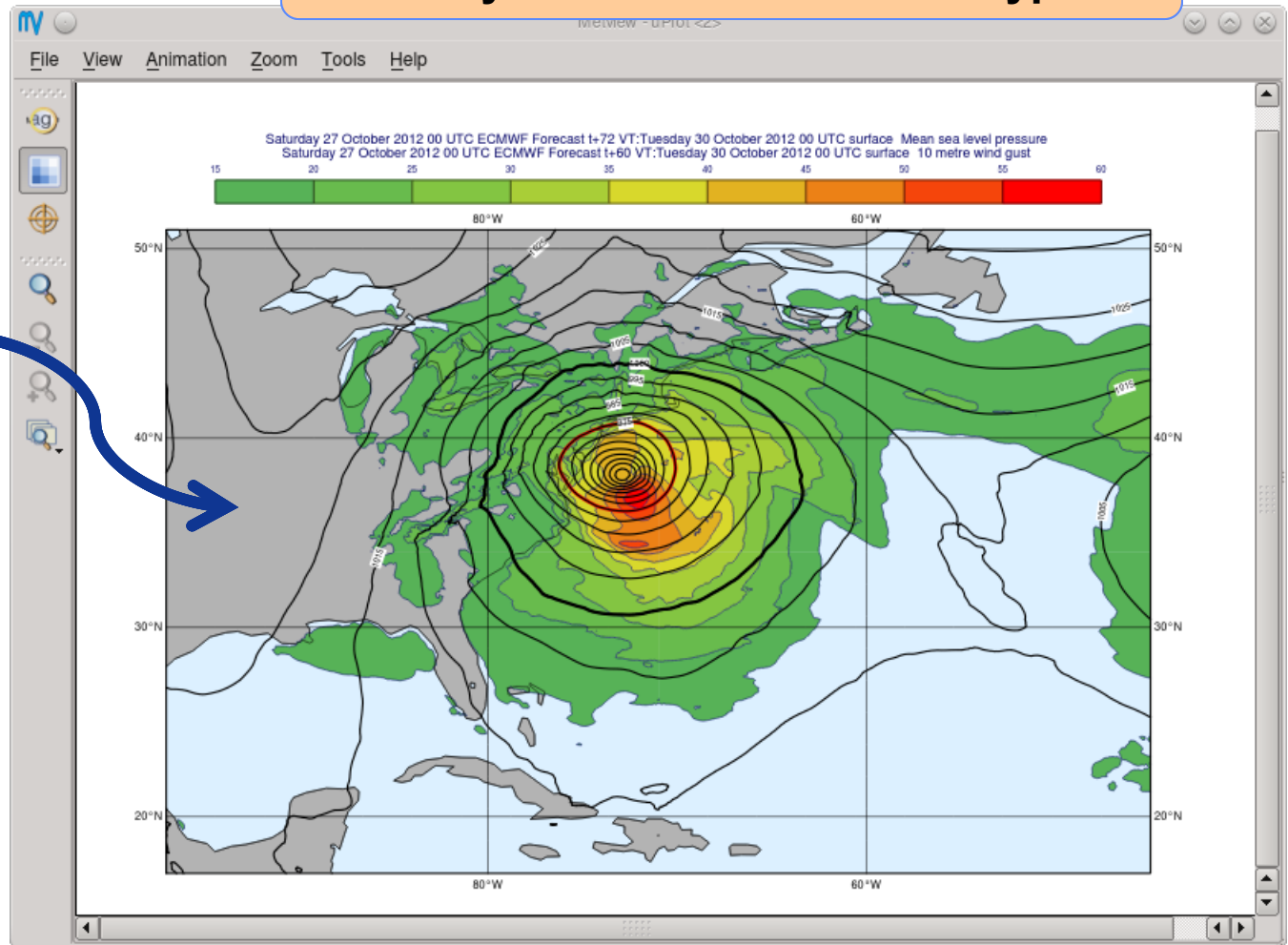
MSLP (GRIB)
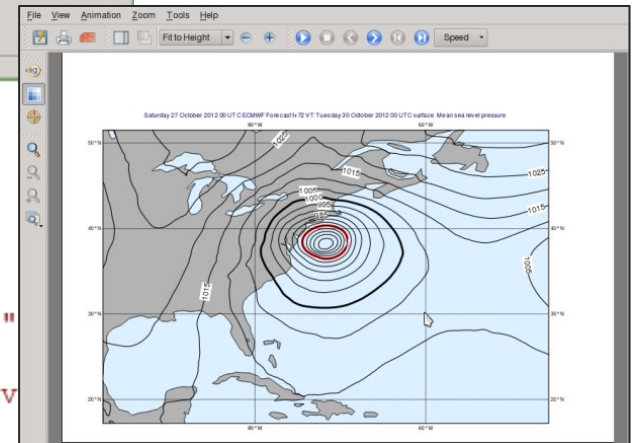
mslp.grib

mslp_black mslp_975 mslp_1000

Contouring

Saturday 27 October 2012 00 UTC ECMWF Forecast t+72 VT:Tuesday 30 October 2012 00 UTC surface Mean sea level pressure
Saturday 27 October 2012 00 UTC ECMWF Forecast t+60 VT:Tuesday 30 October 2012 00 UTC surface 10 metre wind gust

Metview Macro drag and drop

Strong synergy between Icons & Macros

▶ **Every icon can be translated into a Macro command**

Metview + GRIB

Metview + BUFR

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Metview + ODB, NetCDF, Geopoints, CSV

CSV

NetCDF (QuikSCAT)

ODB

Geopoints

Metview Overlay

GRIB x 3 + BUFR
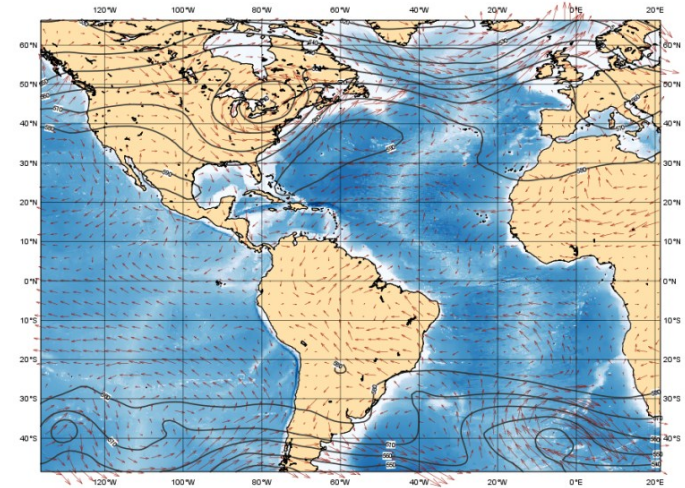
GRIB x 2 + WMS

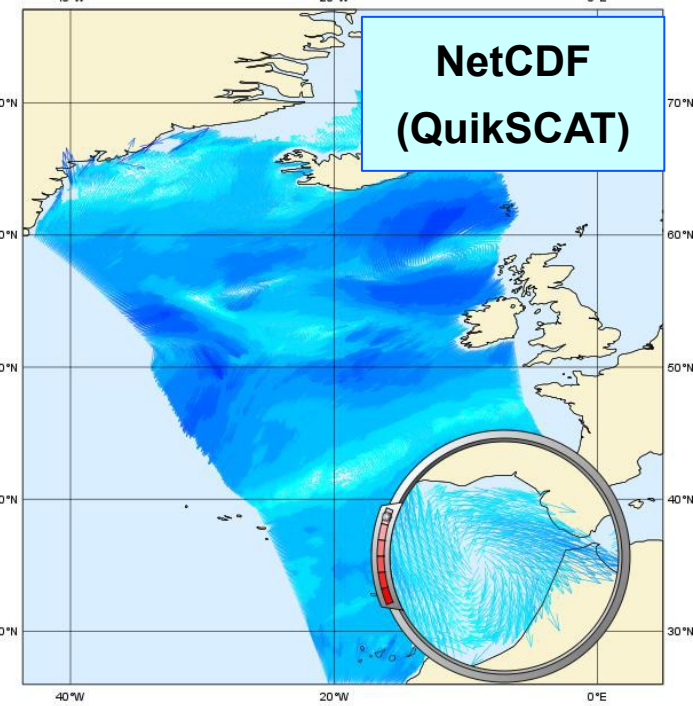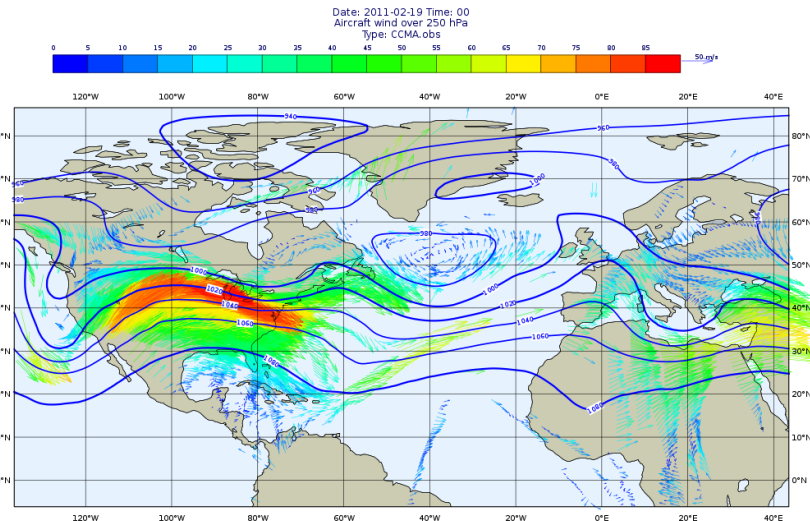GRIB + ODB

Metview + models
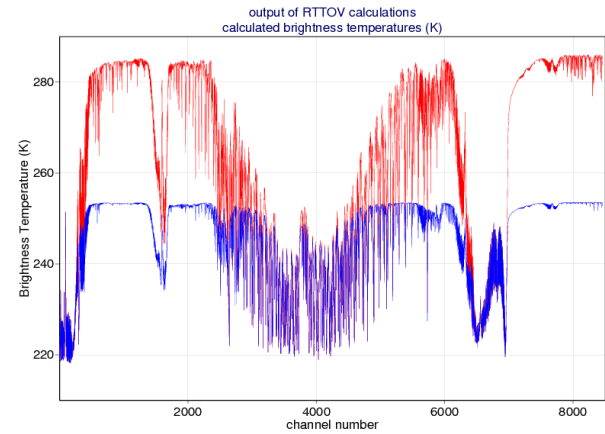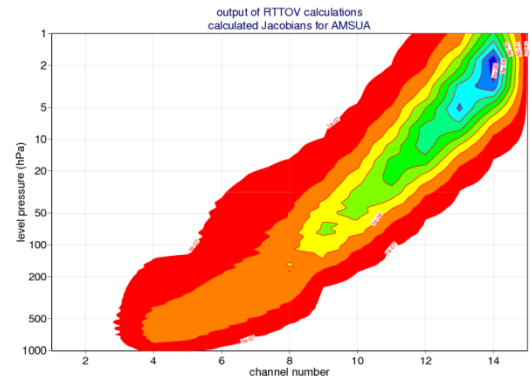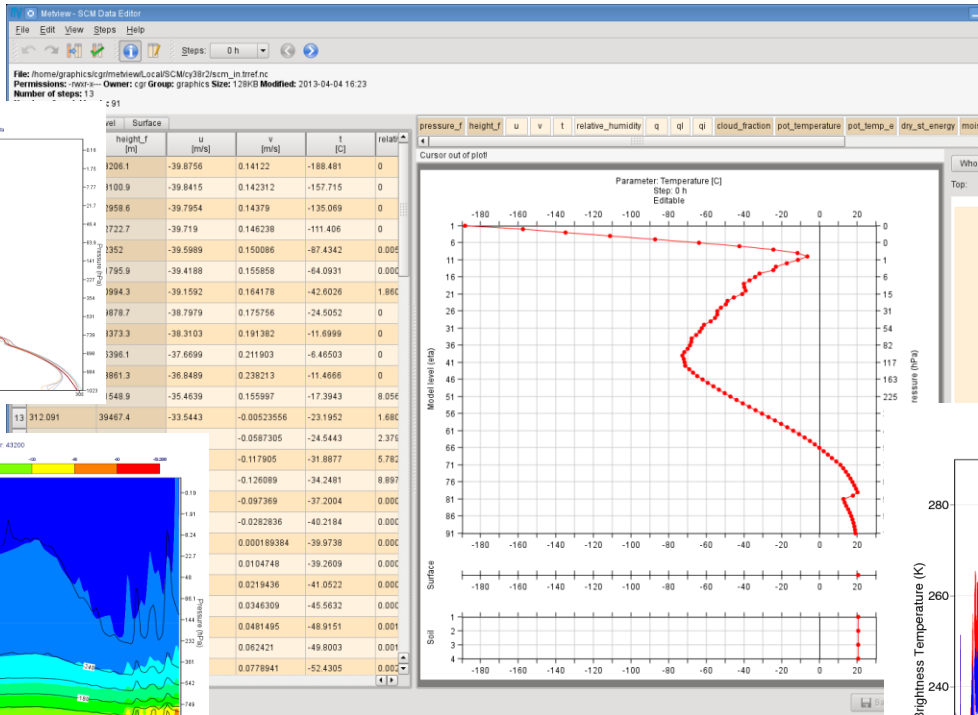
Metview + Single Column

Model / OpenIFS

Metview + RTTOV

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Metview + external packages
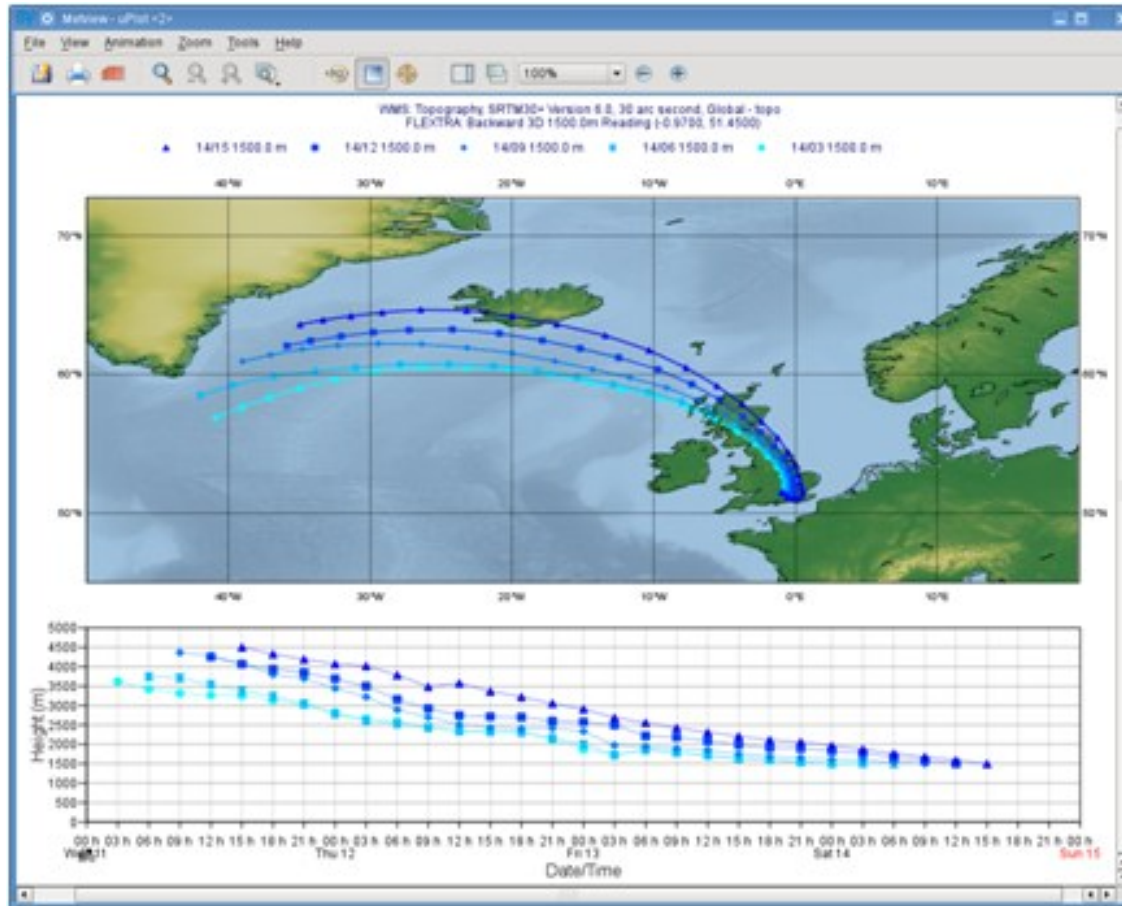
FLEXTRA (trajectories)

What's new since last EGOWS?

ECMWF
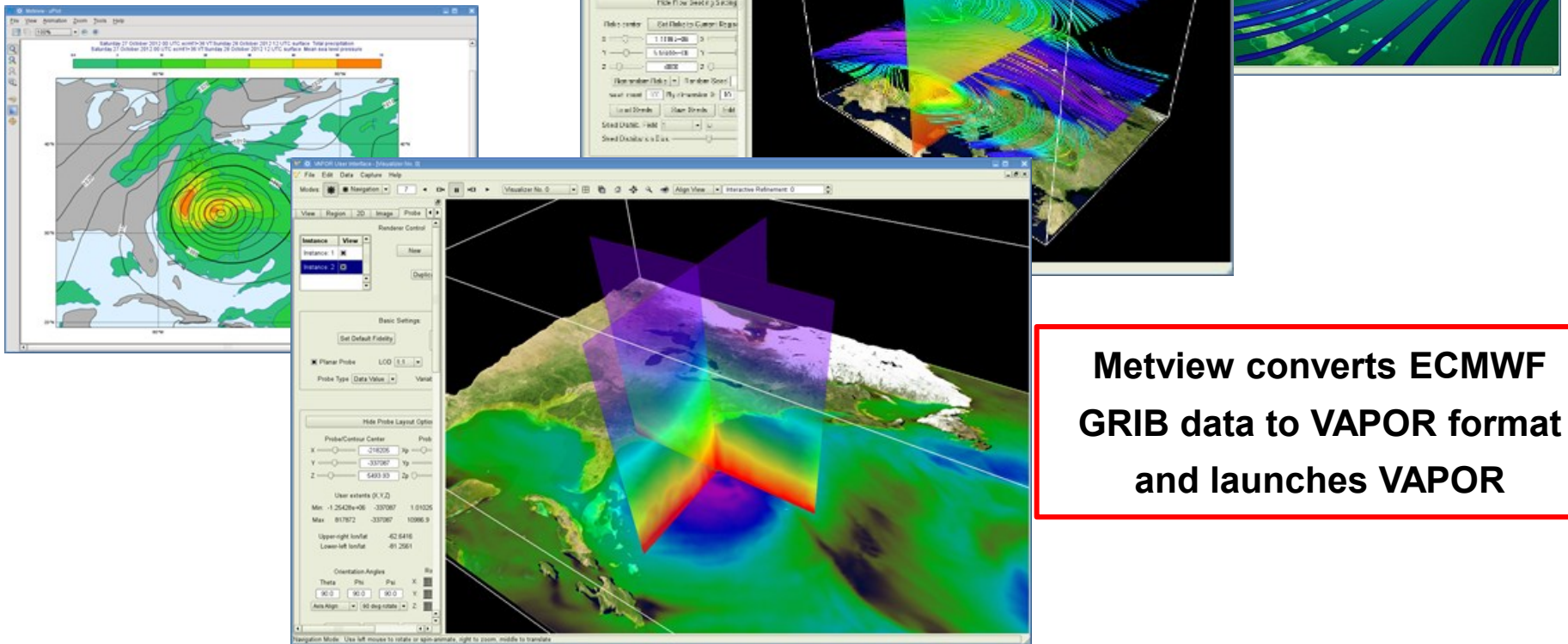
NEW: Metview + VAPOR

Metview converts ECMWF GRIB data to VAPOR format and launches VAPOR

VAPOR development is led by the National Center for Atmospheric Research's Scientific Computing Division in collaboration with U.C. Davis and Ohio State University.

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NEW: Metview + MARS Web API

▶ **Allows access to ECMWF's MARS research datasets**

▶ **For non-commercial use**

▶ **When built outside ECMWF, the Mars Retrieval icon will be able to retrieve data using the Web API**

   ▶ **Only requires the curl library**

▶ **Not a replacement for dissemination!**

▶ **Need to set up an access key first, and register for each dataset you wish to download**

NEW: Metview's new user interface

More intuitive and easy to use.

Same (and more) functionality.

Beta in version 4.4.7 and above. Will become default in 4.5.

NEW: Metview's new user interface

Bookmarks

Folder navigation
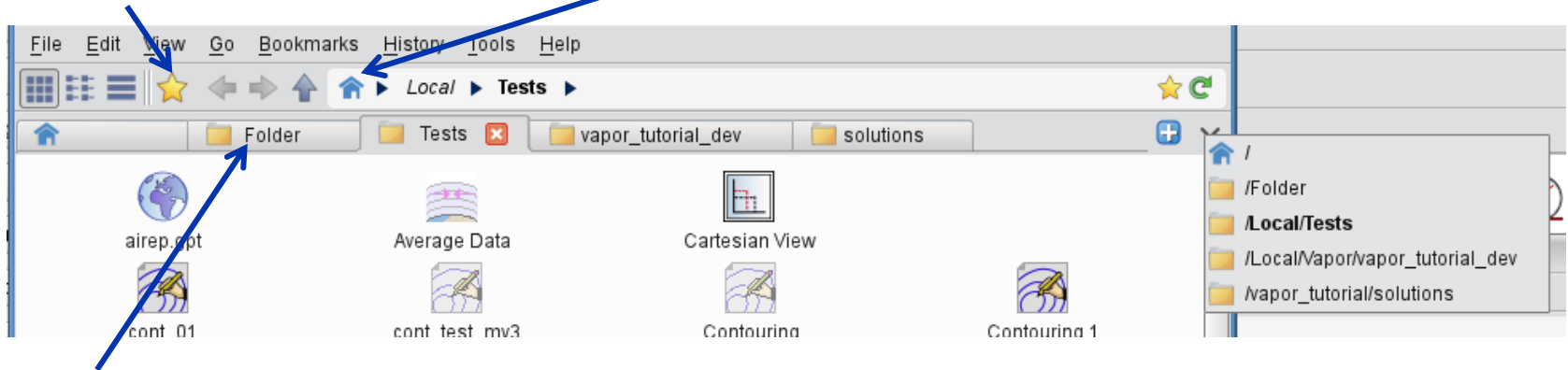
Tabbed interface

Should be familiar to existing users

But easier to pick up for new users

© ECMWF 2014

NEW: Metview's new user interface
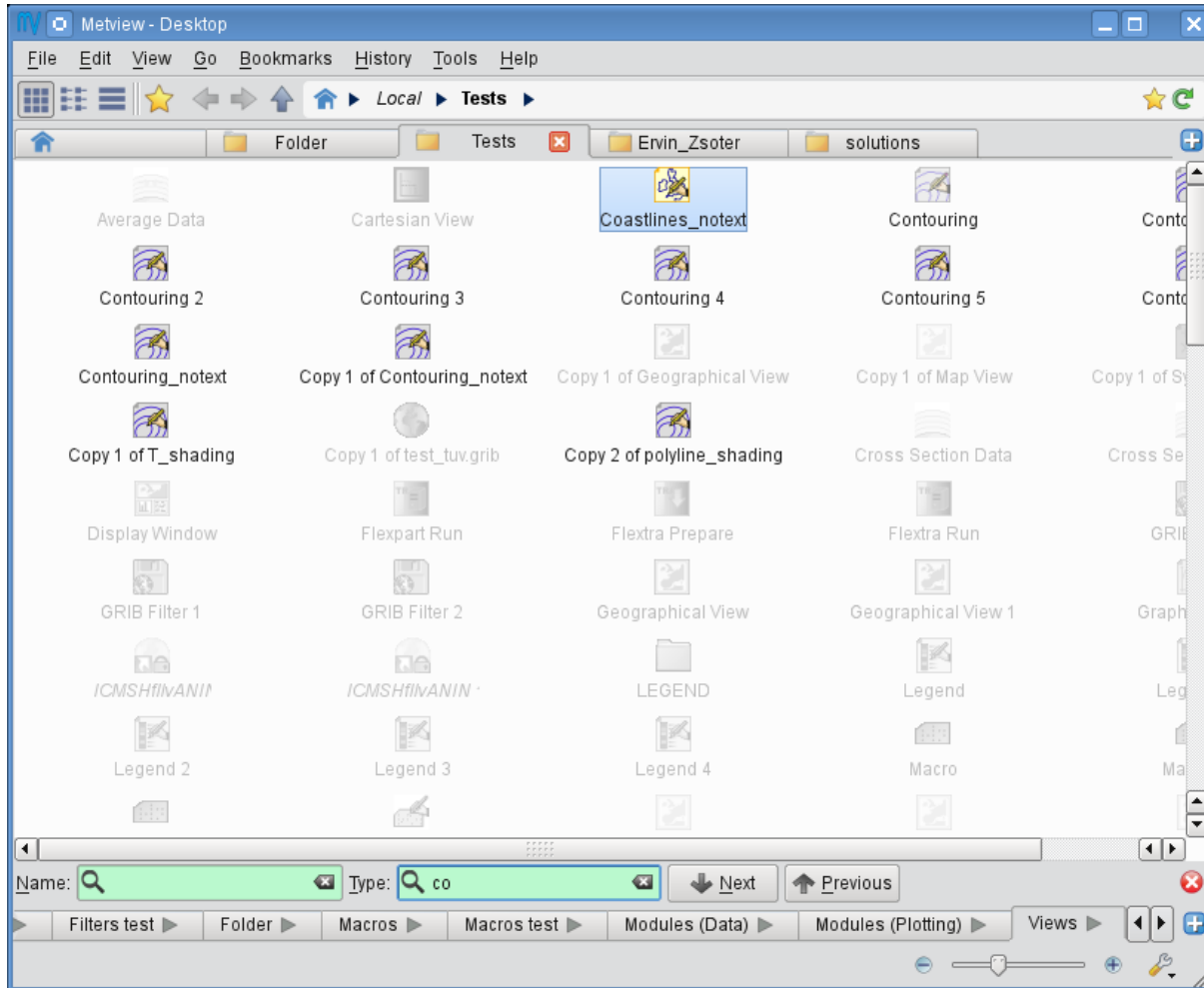
Icon filtering (search)

NEW: Metview's new user interface

▶ **Written in Qt (was Motif)**

▶ **The user interface can now progress**

▶ **Lesson: take the given Qt styles as they are, or completely redesign**

    ▶ **Especially if you want to retain the ability to switch between Qt styles**

Builds and distributions

- **The current release is 4.4.7 (new UI enabled with a switch)**

- **Coming this Summer: Metview 4.5**

  - **New UI will be the default**

  - **Built using CMake**

  - **Testing on Mac OS X**

  - **Can now build Metview without Motif!**

  - **Will also be moved from Perforce to git**

- **The downloadable Metview virtual machine has been popular**

  - **Quick way to try Metview**

- **Future possibility to have a Metview virtual appliance, providing 'software as a service' (SaaS)**

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For more information …

email us:

🖱 **Metview: metview@ecmwf.int**

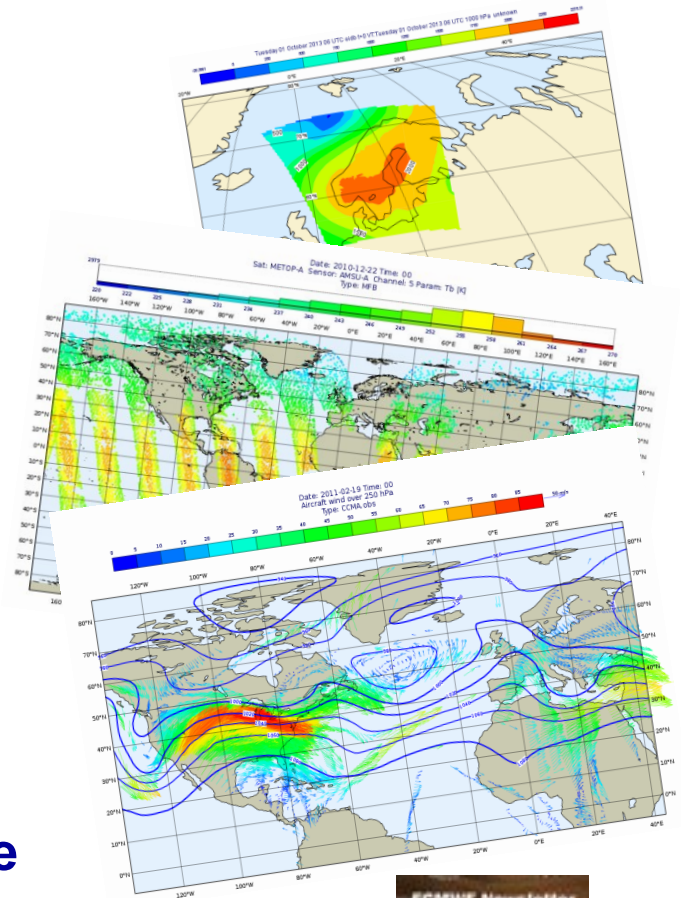**visit our web pages:**

🖱 **https://software.ecmwf.int/metview**

➢ **Download**

➢ **Documentation and tutorials available**

➢ **Metview articles in recent ECMWF newsletters**

Questions?