

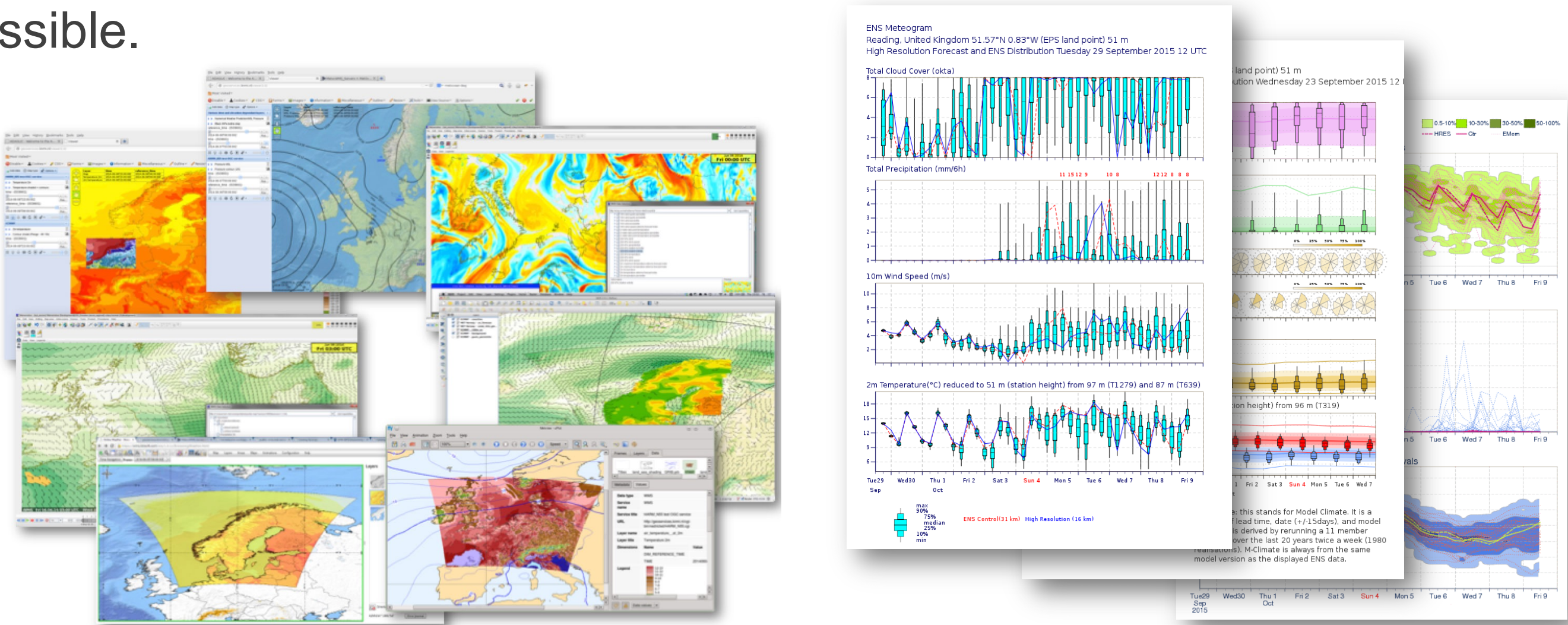
A short history of visualisation developments at ECMWF

Forecast Services Department, ECMWF, Reading, United Kingdom



Why visualisation matters to ECMWF

We generate a lot of complex data sets which are not always easy to use/analyse by our users. Visualisation helps to make our forecasts more accessible.

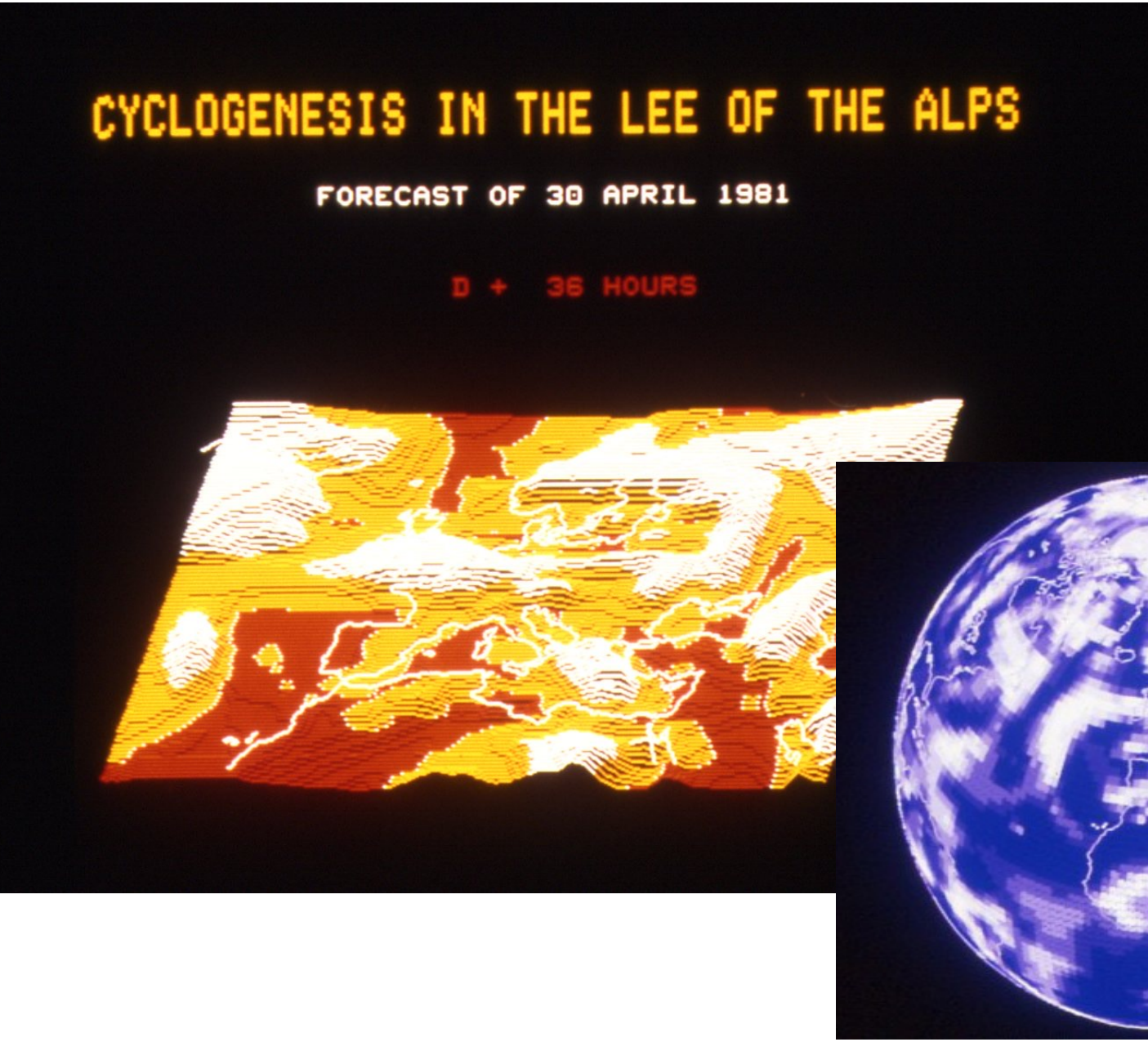


ECMWF supported forecaster workstations and web solutions across our MS through EGOWS community

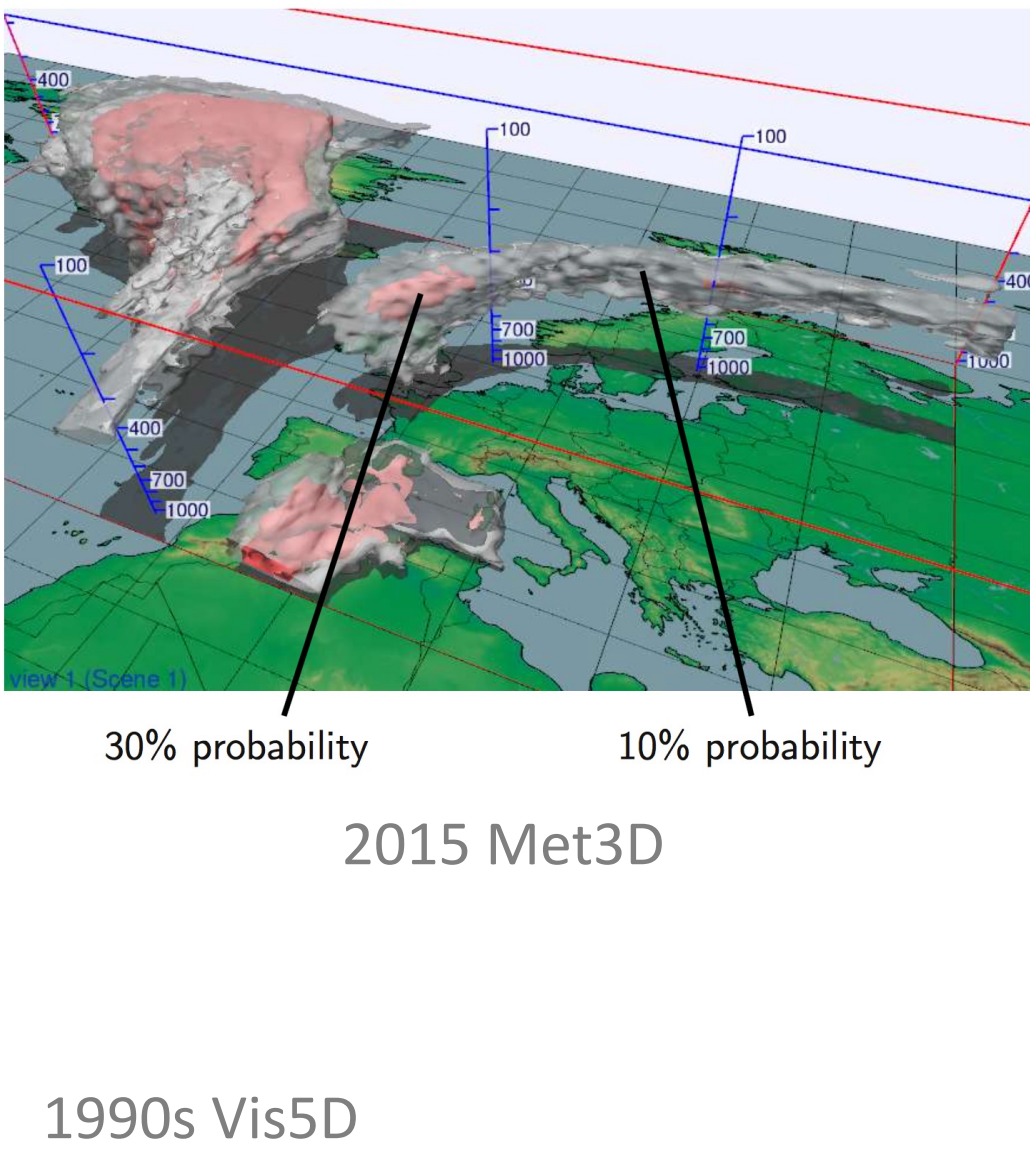
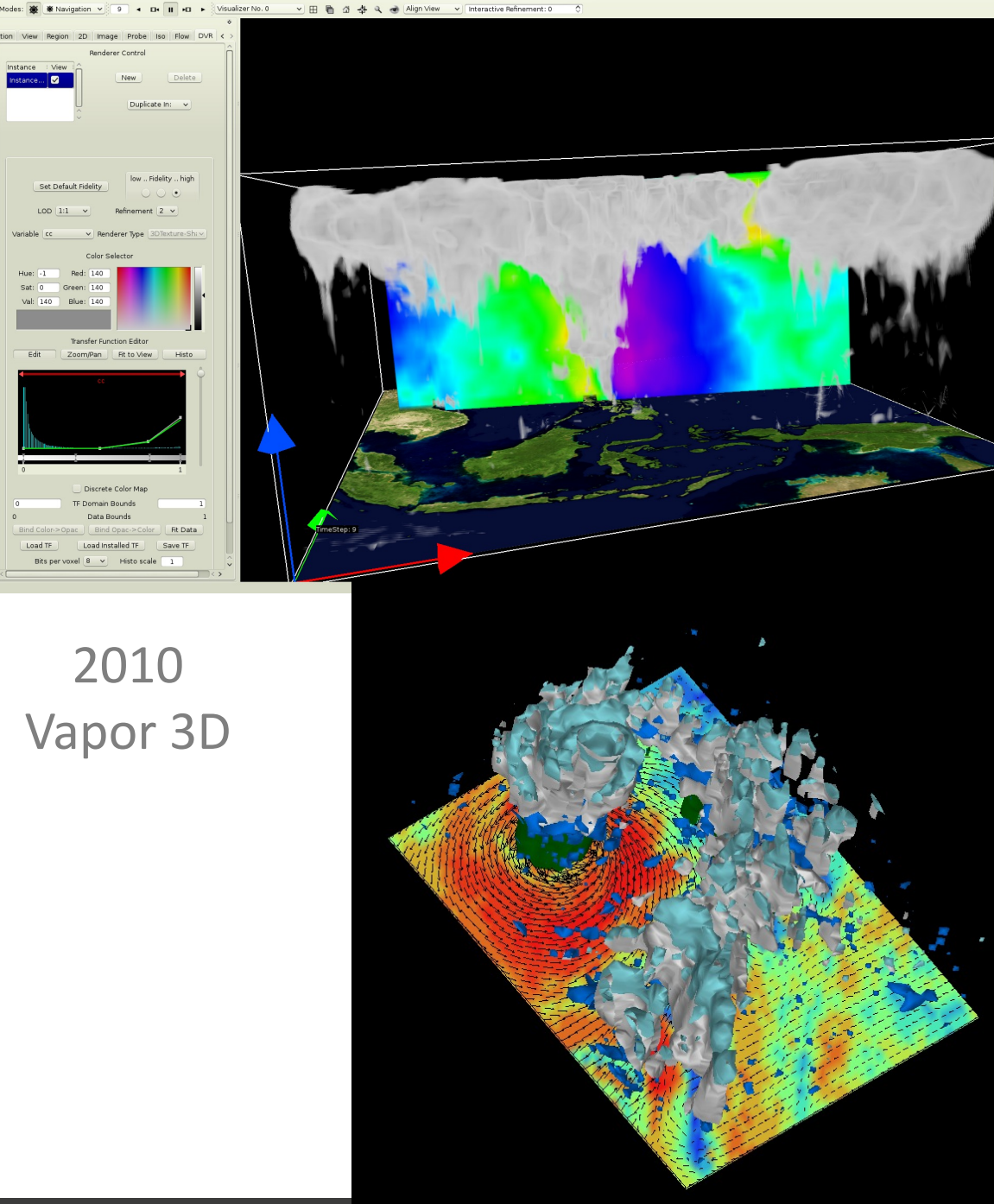
ECMWF meteograms have been a powerful tool communicating ensemble forecasts

1980s – How it started

- Hardware/vendor specific solutions
- Impossible to share/collaborate
- Part of monitoring forecast production



Exploring the use of 3D



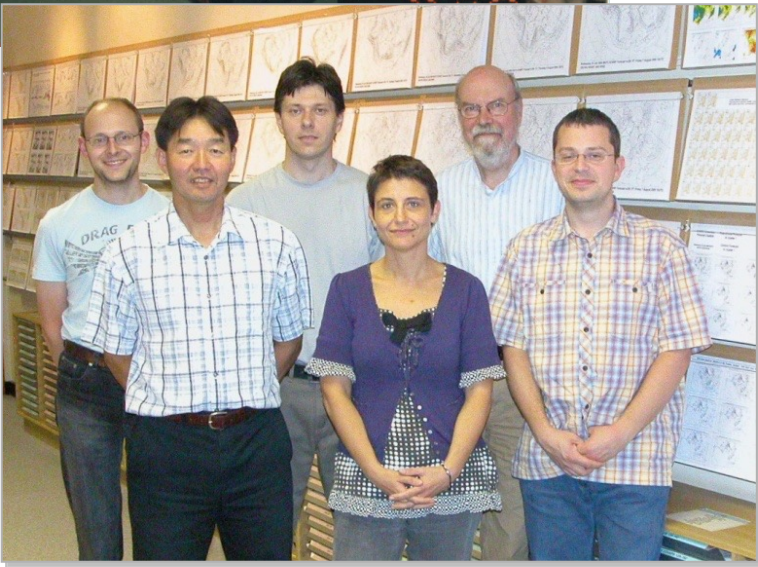
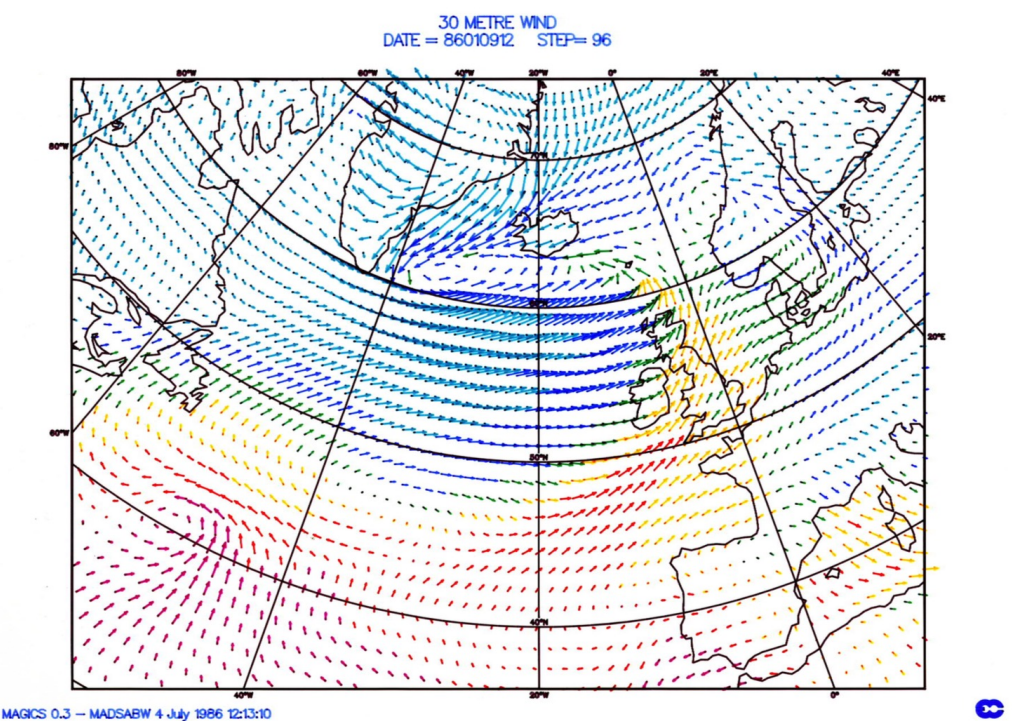
2000s – Age of the paper



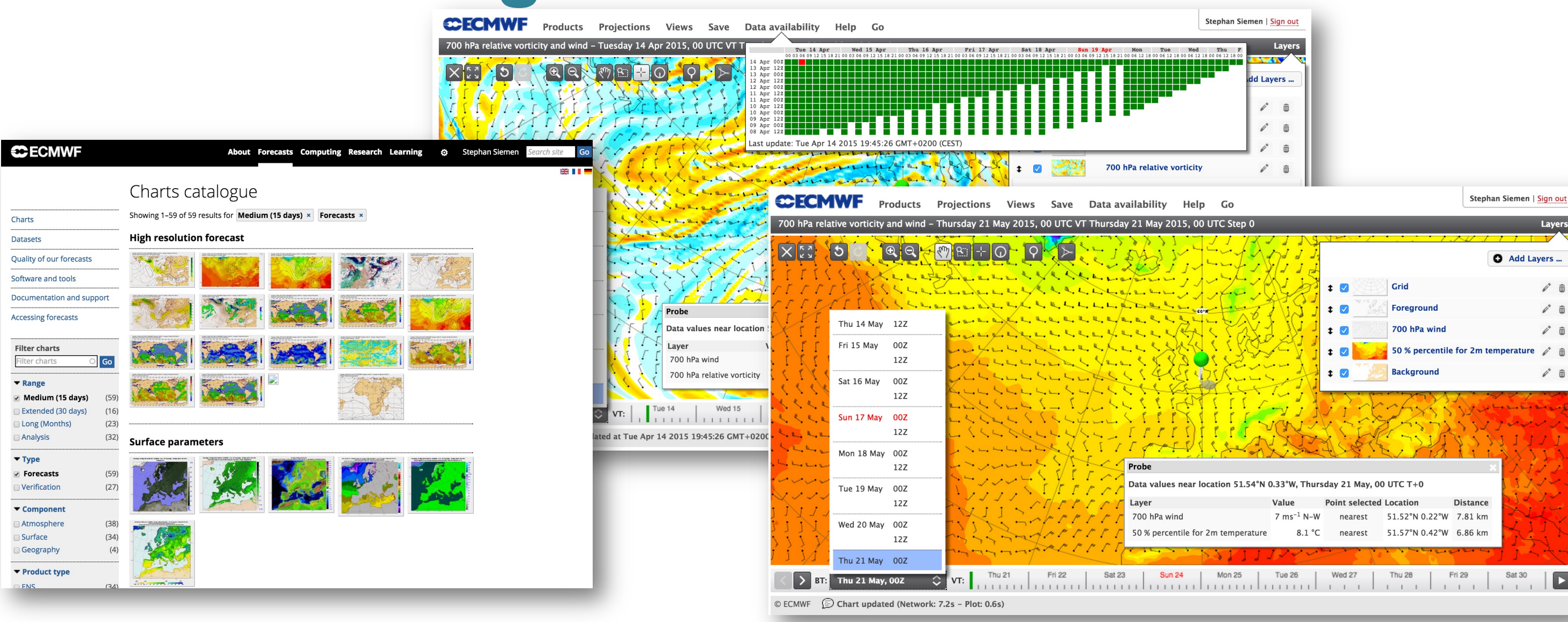
Until 2010 the MetOps room (Reading computer hall Mezzanine) was the heart of the day-to-day forecast evaluation

Milestones from 1980 to today

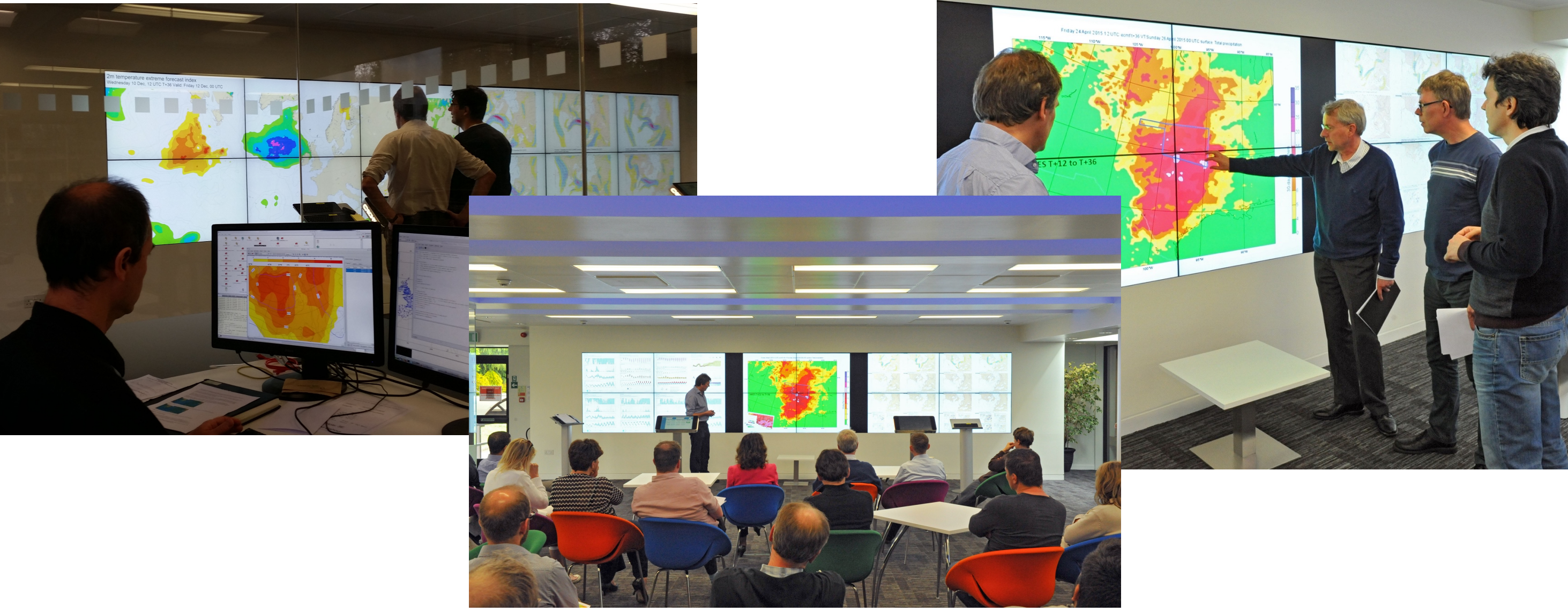
- 1983 Start developments of **MAGICS**
Meteorological **A**pplication **G**raphics **I**ntegrated **C**olour **S**ystem
Library with extensible API running on HPC
- 1985 MAGICS 0.3 plotting coloured wind arrows
- 1987 MAGICS 1.0
- 1990 Start development of Metview
- 2003 Start work on Magics++
Increasing use of on-demand web plots
- 2010 Start of web redevelopment → ecCharts
- 2012 Release of Metview as Open Source
- 2013 Dedicated graphics/visualisation team is merged with other development teams
- 2015 ECMWF hosts Visualisation Week
- 2017 Metview version 5 with new Python interface
- 2023 Developments on earthkit start
- 202x Metview & Magics superseded by earthkit



2010s – Emergence of web visualisation



2010s – Shinfield Park Weather Room



2020s → earthkit

