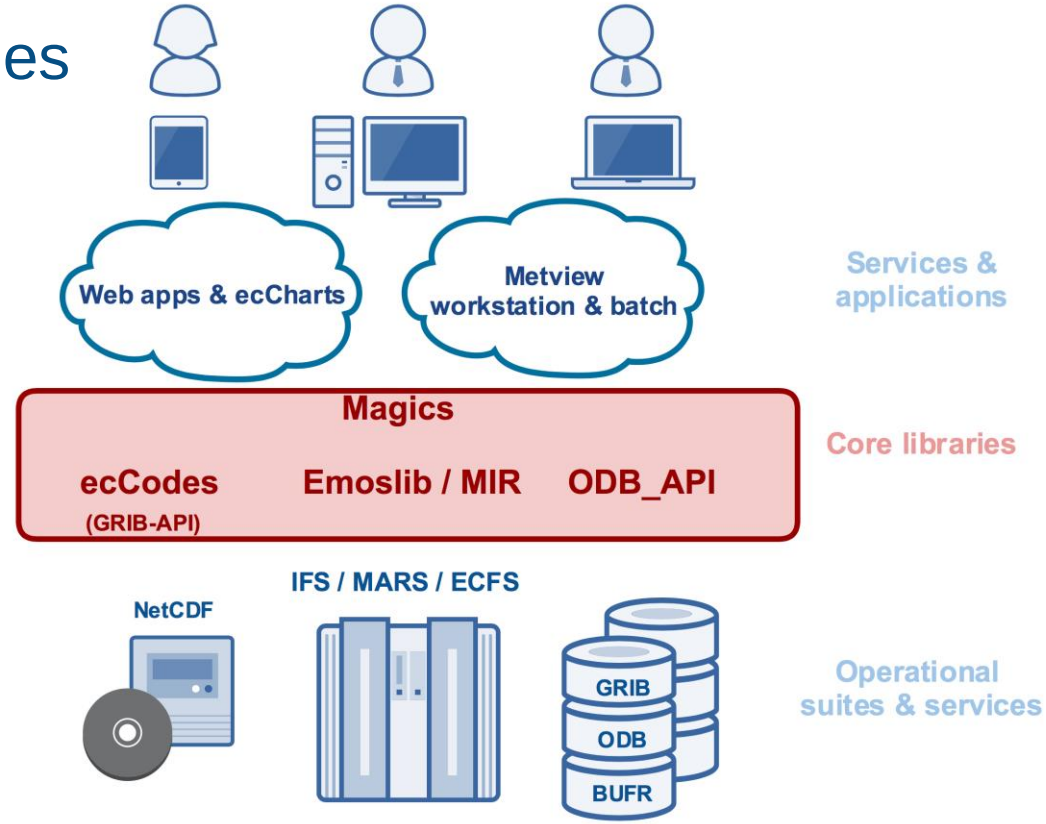
New Software Developments @ECMWF

Generation change in core libraries

Stephan Siemen

Core Libraries Team
Development Section
Forecast Department, ECMWF



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FOSS4G
NOTTINGHAM 2013

… everyone wants change, but no one wants changes …

Unknown developer, FOSS4G 2013

Is the GIS community right to rely on Proj4? **YES!**

ECMWF is full of exciting projects …

Scalability Programme

New Web services

Embracing Python

Next Generation Data Services

Copernicus Services

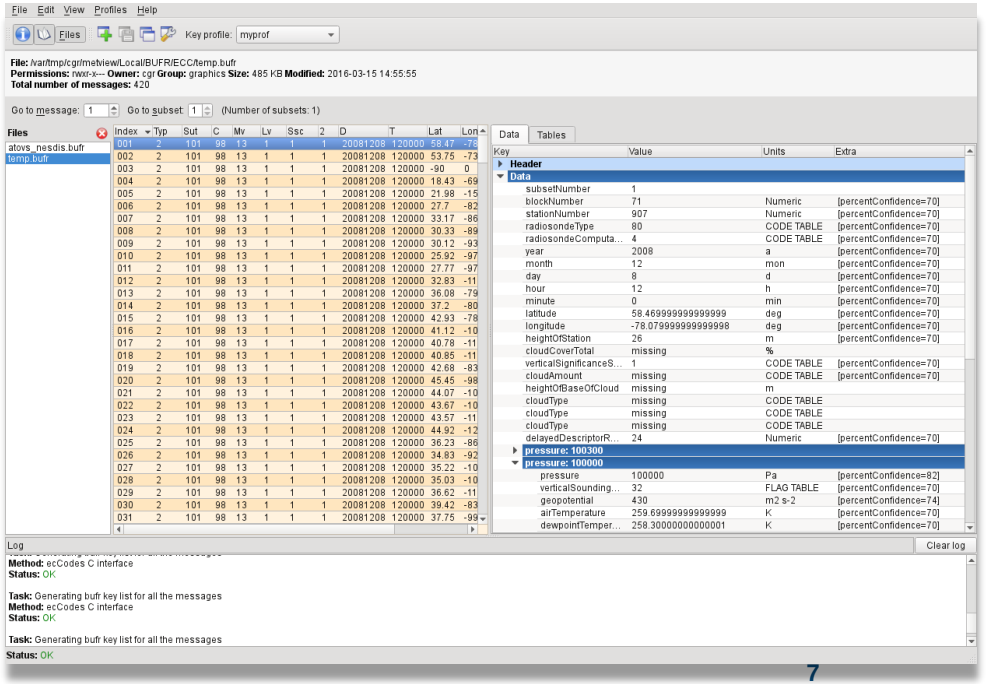
Cloud services

For all this we need a new generation of core software …

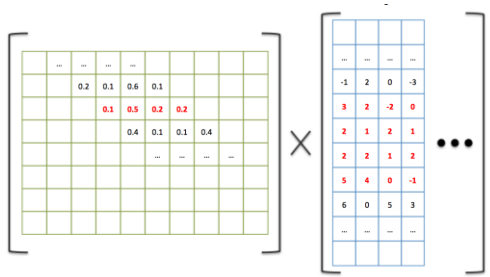
~~MAGICS 6~~	→	Magics++		
~~GRIBEX~~	→	GRIB-API	→	ecCodes
BUFRDC	→	ecCodes		
Emoslib/interpolation	→	MIR		

ecCodes

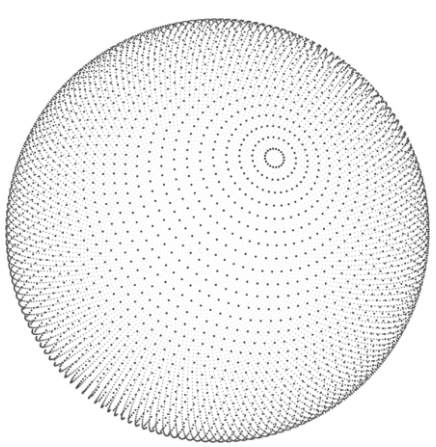
- After a series of beta versions **we are now using ecCodes** in place of GRIB_API
  - IFS, Product Generation, web services, software packages, …
  - **All new developments will only happen in ecCodes**
- For the usage of GRIB the migration is straight forward
  - API calls (e.g. *grib_set()*), environment variables and tool names (e.g. *grib_ls*) **will continue to be available!**
  - For more details see: *https://software.ecmwf.int/wiki/display/ECC/GRIB-API+migration*
- Migration of BUFR handling from BUFRDC will require more work
  - New API and tools are similar to GRIB specific ones
  - Metview's high-level BUFR interfaces will be backwards compatible
- Work on a graphical user interface to examine GRIB and BUFR has started
  - In Qt 5; based on the data examiners in Metview
  - Can be used standalone and within Metview
- Documentation and training material is growing
  - We just running extended training courses on GRIB and BUFR handling

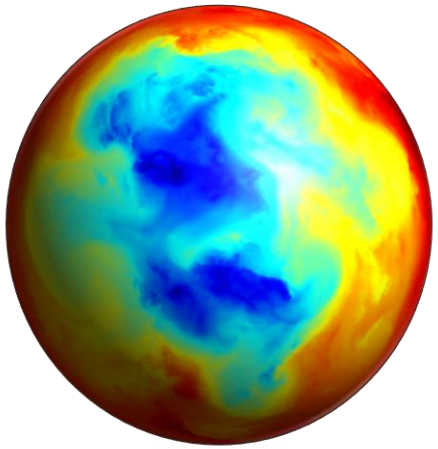


MIR: the new interpolation package



- Review of default interpolation methods together with Research Department
  - Bilinear is not always the best method – as we saw already with the new octahedral grid
  - We want interpolation methods to be applied consistently
- Current status
  - MIR & Atlas (library of numerical methods) are almost feature-complete with Emoslib
  - Full comparison report of interpolation results is starting to be compiled
  - We want and need (!) to finish this year

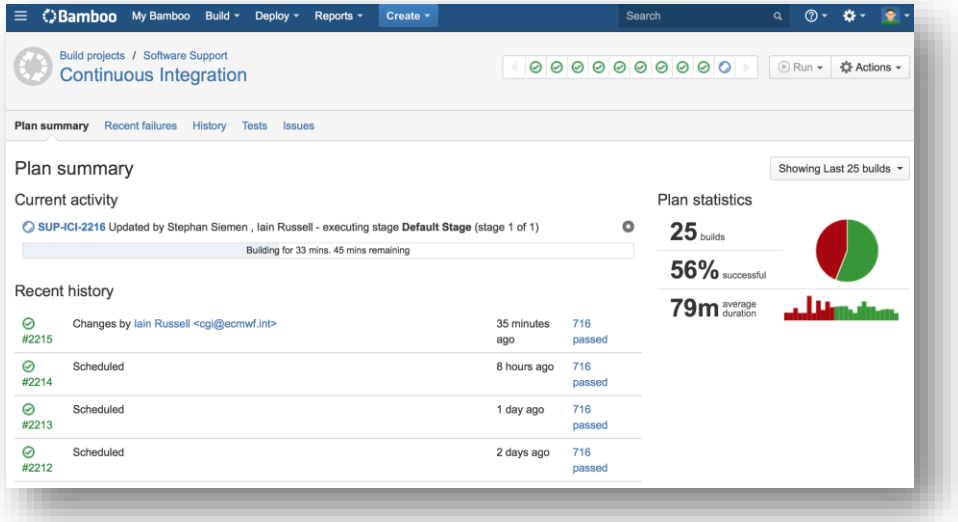


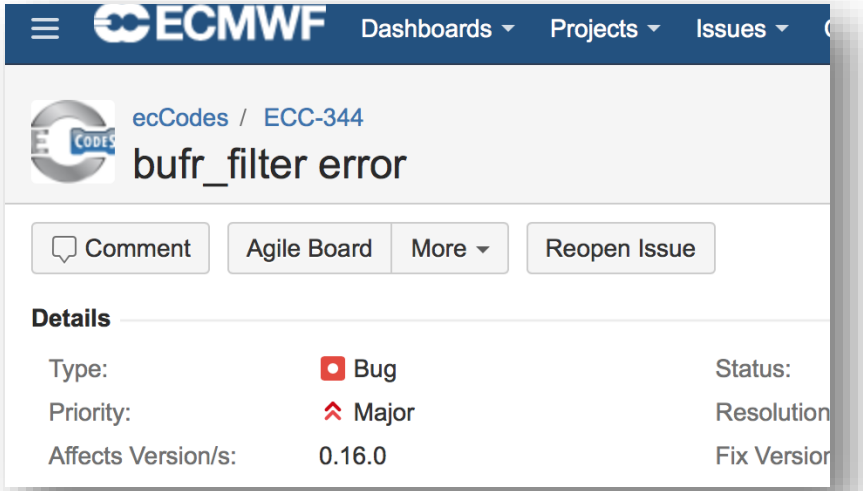


So how can we guarantee good core libraries in future?

How can you (the community) help?

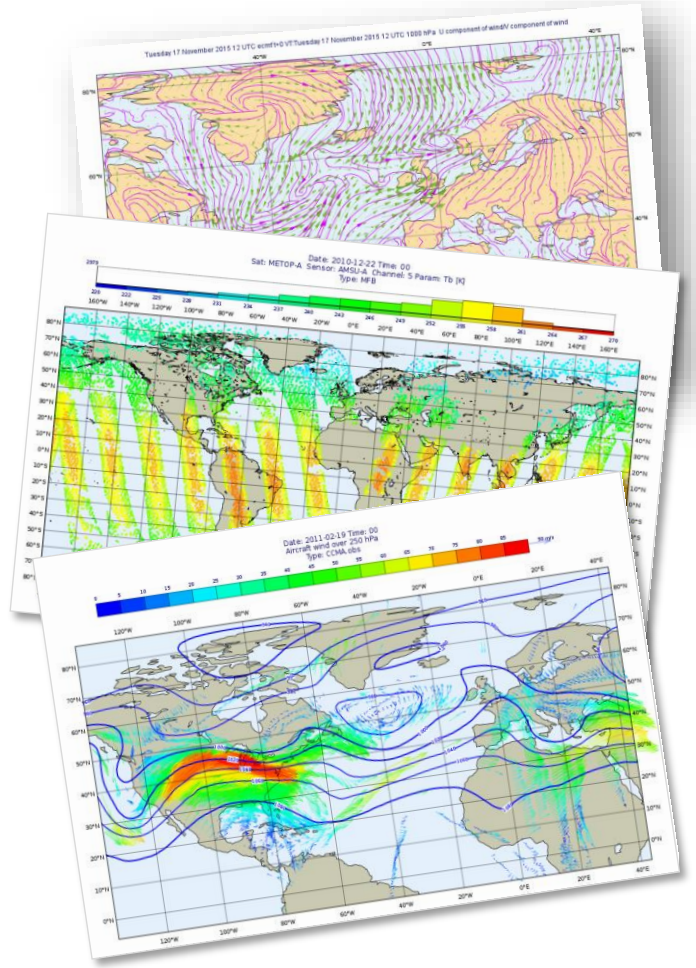
- Migrate to new software
  - If you use GRIBEX/GRIB-API try ecCodes asap
- Contribute tests
- Contribute code
  - With tests & documentation
- Contribute documentation!
- File constructive JIRA reports
  - Good titles & examples we can use to reproduce problems





Any questions?

https://software.ecmwf.int/developersblog



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