

Change of default versions of ECMWF and third-party software packages - May 2018

ECMWF is updating the default versions of its software packages and libraries used across all user platforms at the centre as part of the regular update cycle.



When?

The changes will take place on **22 May 2018 10:00 - 10:30 UTC**



What platforms are affected?

All user platforms at the centre will see their default additional software stack updated:

- All clusters in our High Performance Computing Facility, mainly **CCA** and **CCB**
- **ECGATE**
- **Linux Clusters**
- **Linux Desktops**

Table of contents

- [Highlights](#)
- [How to use the new versions for testing BEFORE the update](#)
- [How to revert to the old versions in case of problems AFTER the update](#) Users that experience problems with the new default software packages after the update of 10 May will be able to revert to the old default versions. These can be selected with the commands:
- [Change list](#)
 - [ECMWF Software](#)
 - [Third-party software](#)

Highlights

Software stack ready for next operational IFS cycle

With the upcoming [Implementation of IFS cycle 45r1](#), this set of defaults is ready to handle the data produced, including all the new parameters introduced in this cycle

Magics 3 and Metview 5

Both Magics and Metview see their major version updated.

Magics comes with some improvements on the visualisation of NetCDF-CF and colour setting gradients, and support for Python 3.

Metview 5 will benefit from the new features of Magics 3, plus interesting features such as a new interactive layer management, per-colour transparency and FLEXPART support, among others.

See the [Magics](#) and [Metview](#) latest news for a more detailed list of changes.

CodesUI first stable release

[CodesUI](#) is an interactive graphical application built on [ecCodes](#) to inspect GRIB and BUFR messages, that has now reached the [first public release](#).

Consolidation of main third-party software package defaults across all platforms

The default versions for other third party software and libraries have historically diverged in the different platforms at the centre. We will take this opportunity to converge our defaults to the same versions across all those platforms, so we can offer a more consistent environment and user experience. Amongst the affected packages we can find popular tools and libraries like Python, R, cdo or netCDF 4. See below for the [complete list](#).

How to use the new versions for testing BEFORE the update

Users are strongly encouraged to test their software applications and data processing chain with the new versions of the various software packages before the date of the change to the default versions.

The new versions of the software packages can be selected by using the **may18** tag in modules. For example:

```
module swap metview/may18
module load Magics/may18
module swap eccodes/may18
module swap python/may18
```

How to revert to the old versions in case of problems AFTER the updateUsers that experience problems with the new default software packages after the update of 10 May will be able to revert to the **old** default versions. These can be selected with the commands:

```
module swap metview/old
module load Magics/old
module swap eccodes/old
module swap python/old
```


Please let ECMWF know if you need to revert to the old version of any of the packages after the update of the defaults has taken place.

Change list

ECMWF Software

This table summarises the changes in the version of the different packages:

Package	Default version		Release notes	Download page
	Before	After		
CodesUI	0.9.8	1.0.0	CodesUI - Change History	CodesUI - Releases
ecCodes	2.5.0	2.7.3	Latest news	ecCodes Releases
ecFlow	4.7.1	4.9.0	Latest news	ecFlow Releases
Magics	2.34.3	3.0.4	Latest News	Magics Releases
Metview	4.9.0	5.0.3	Version 5.0 Updates	Metview Releases Metview Bundle
ODB	1.0.3	1.0.8	-	-
ODB API	0.17.3	0.17.6	Change history	ODB API Release

 ecCodes is now the official ECMWF encoder and decoder for GRIB and BUFR formats. It supersedes GRIB-API, for the GRIB format, and EMOSLIB, for the BUFR. If you still use any of those, we encourage you to migrate to ecCodes.

Package	Default version		Release notes	Download page
	Before	After		
EMOSLIB	4.5.2	4.5.5	History of EMOSLIB changes	EMOSLIB Releases
GRIB-API	1.24.0	1.26.1	Latest news	GRIB-API Releases

Please see the Release notes for full details of the changes implemented in each package.

Third-party software



Some of the versions in this list may already be the default for a specific package on a certain platform, so no changes will be made in those cases. After the update, all platforms will have the same defaults for all these packages.

Package	Next default	Notes
boost	1.61.0	http://www.boost.org/users/history/version_1_61_0.html
cdo	1.8.2	With Grib, netcdf 4, hdf5 and Magics support https://code.zmaw.de/news/349
cmake	3.10.2	https://cmake.org/cmake/help/v3.10/release/3.10.html
forge	18.1.3	https://developer.arm.com/products/software-development-tools/hpc/downloads/download-arm-forge
gdal	2.1.1	https://trac.osgeo.org/gdal/wiki/Release/2.1.1-News
geos	3.5.0	https://trac.osgeo.org/geos/browser/tags/3.6.0/NEWS
git	2.16.2	https://github.com/git/git/tree/master/Documentation/RelNotes
gsl	2.2.1	http://git.savannah.gnu.org/cgit/gsl.git/tree/NEWS
hdf	4.2.12	https://support.hdfgroup.org/ftp/HDF/releases/HDF4.2.12/src/hdf-4.2.12-RELEASE.txt
hdf5	1.8.17	https://support.hdfgroup.org/ftp/HDF5/releases/ReleaseFiles/hdf5-1.8.17-RELEASE.txt
intel	17.0.3	https://software.intel.com/en-us/articles/intel-parallel-studio-xe-2017-update-3-readme
nag	24	A number of a number of routines in the "G05 – Random Number Generators" chapter have been withdrawn. https://www.nag.co.uk/numeric/fl/nagdoc_fl24/html/GENINT/replace.html
ncl	6.4.0	http://www.ncl.ucar.edu/prev_releases.shtml
nco	4.6.7	http://nco.sourceforge.net/ANNOUNCE
netcdf4	4.4.1	http://www.unidata.ucar.edu/blogs/news/entry/netcdf-4-4-1
proj4	4.9.2	https://github.com/OSGeo/proj.4/blob/4.9.2/ChangeLog
python	2.7.12-01	More up-to-date extra python modules MKL used for linear algebra in numpy and scipy https://hg.python.org/cpython/raw-file/v2.7.12/Misc/NEWS
python3	3.6.5-01	https://docs.python.org/3/whatsnew/3.6.html
R	3.3.1	More up-to-date extra R packages MKL used for all linear algebra operations https://cran.r-project.org/doc/manuals/r-release/NEWS.html
udunits	2.2.17	https://abi-laboratory.pro/tracker/changelog/udunits/2.2.17/log.html