

Change of default versions of ECMWF and third-party software packages - June 2020

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 **Wednesday 3 June 2020 10:00 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**



Do I need to do anything?

We strongly recommend you test that your programs, scripts and suites work with the new versions of any software or library affected before the change happens.

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Highlights

Software stack ready for next operational IFS cycle

With the upcoming [Implementation of IFS Cycle 47r1](#), this set of defaults is ready to handle the data produced, including all the new parameters introduced in this cycle.

No Python 2 upgrade

As Python 2 reached its end of life on 1st January 2020, no newer versions of the Python 2 installations and their associated subpackages such as numpy and others. Older versions remain available for those who haven't migrated to Python 3. If you haven't done so yet, please see [Migration to Python 3](#) for some guidance on where to start.

Metview improvements

[Metview](#), ECMWF's interactive and batch software for manipulation and plotting of data, brings a number of new features and improvements, such as:

- easier access to the layer metadata in the interactive plot window
- a new set of pre-defined areas in the [Geographical View](#) icon
- improvements to the GRIB and BUFR examiners (and hence also in [CodesUI](#))
- improvements to the existing thermodynamic functions
- plus a new function to compute relative humidity from temperature and dewpoint, a new way to control the font sizes in the user interface

Codes UI efficiency improvements

[CodesUI](#), the standalone combination of Metview's GRIB and BUFR examiners, provides a highly improved initial BUFR message scan (about 50-100 times faster than before), a filter bar for the GRIB namespace list and extra information about BUFR elements.

A lot of other bugfixes and improvements

All the new versions, both ECMWF and 3rd Party, come with a number of bug fixes and improvements. You may see the Change logs for any individual package or library in the list below if you want to have all the details.

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 **jun20** tag in modules. For example:

```
module swap metview/jun20
module load Magics/jun20
module swap eccodes/jun20
module swap python3/jun20
```

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 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 python3/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	1.2.7	1.3.1	CodesUI - Change History	CodesUI - Releases
ecCodes	2.14.0	2.17.1	Latest news	ecCodes Releases
ecFlow	4.17.0	4.17.2	Latest news	ecFlow Releases
Magics	4.1.0	4.3.3	Latest News	Magics Releases
Metview	5.7.5	5.8.3	Version 5.8 Updates	Metview Releases Metview Bundle
ODB API	0.19.1	0.19.4	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.

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
aec	1.0.4	https://gitlab.dkrz.de/k202009/libaec/-/blob/master/CHANGELOG.md
cdo	1.9.8	https://code.mpimet.mpg.de/news/452
clang	9.0.1	https://releases.lvm.org/9.0.0/tools/clang/docs/ReleaseNotes.html
cmake	3.16.5	https://cmake.org/cmake/help/v3.16/release/3.16.html
cmor	3.5.0	https://cmor.llnl.gov/news/2019/07/31/cmor3/
ferret	7.5.0	https://ferret.pmel.noaa.gov/Ferret/documentation/version-75-release-notes
fcm	2019.05.0	https://github.com/metomi/fcm/blob/master/CHANGES.md
fftw	3.3.8	http://www.fftw.org/release-notes.html
gdal	3.0.4	https://trac.osgeo.org/gdal/wiki/Release/3.0.2-News
geos	3.8.1	https://trac.osgeo.org/geos/browser/git/NEWS?rev=3.8.1
git	2.26.0	https://github.com/git/git/tree/master/Documentation/RelNotes
gnuparallel	20200322	https://github.com/git/git/tree/master/Documentation/RelNotes
gsl	2.6	http://git.savannah.gnu.org/cgi/gsl.git/tree/NEWS
grads	2.2.1	http://cola.gmu.edu/grads/ChangeLog
hdf5	1.10.6	https://support.hdfgroup.org/ftp/HDF5/releases/ReleaseFiles/hdf5-1.10.6-RELEASE.txt
nccmp	1.8.2.1	https://gitlab.com/remikz/nccmp/-/blob/master/README.md
nco	4.9.2	http://nco.sourceforge.net/ANNOUNCE
netcdf4	4.7.4	https://www.unidata.ucar.edu/blogs/news/entry/netcdf-4-7-4
proj	6.3.1	https://proj.org/news.html#id30
python3	3.6.10-01	https://docs.python.org/3/whatsnew/3.6.html
R	3.6.3	More up-to-date extra R packages https://cran.r-project.org/doc/manuals/r-release/NEWS.html