Emoslib

Please note that Emoslib has been superseded by the new interpolation routines within Metview and MARS. Please check the documentation of these tools for further information. There will be no new developments and support for Emoslib.

What is EMOSLIB

The Interpolation library (EMOSLIB) includes Interpolation software and BUFR & CREX encoding/decoding routines. It is used by the ECMWF meteorological archival and retrieval system (MARS) and also by the ECMWF workstation Metview.

This software covers :

- Interpolating fields
  - spectral coefficients to spectral coefficients
  - spectral coefficients to rotated spectral coefficients
  - spectral coefficients to regular latitude-longitude grids
  - spectral coefficients to regular gaussian grids
  - spectral coefficients to quasi-regular gaussian grids
  - regular latitude-longitude grids to regular latitude-longitude grids
  - regular latitude-longitude grids to regular gaussian grids
  - regular gaussian grids to regular gaussian grids
  - regular gaussian grids to regular latitude-longitude grids
  - quasi-regular gaussian grids to regular latitude-longitude grids
  - quasi-regular gaussian grids to regular gaussian grids
- encoding/decoding of WMO FM-94 BUFR BUFR code messages
- encoding/decoding of WMO FM-95 CREX CREX code messages
- handling pure binary unix files
- multiple(Temperton's) FFT routines (from release 000340 onwards)

For the encoding/decoding of WMO FM-92 GRIB GRIB code messages we strongly recommend the use of the ecCodes.

A new cycle of this public version is created from time to time to consolidate operational extensions.

Quick Links

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- Known bugs or issues
- History of changes

Report a bug or issue

Please send an email to software.support@ecmwf.int or go to **Issues** if you have any suggestions for improvements or have discovered a bug with this software package.

Releases

Emoslib 4.3.x series

Version 4.2.1 of Emoslib was the first version which introduced full support for the new octahedral reduced Gaussian grid which ECMWF will use in its forecast system from Spring 2016 onwards. We were aware that this version had a suboptimal performance. This was addressed in the latest versions from 4.3.0 onwards by rewriting parts of the necessary code. Tests have shown that the performance has been greatly increased and accuracy improved, but causing values to change in some cases. We are happy that these changes are correct, but currently still evaluate them further. We will update this page when we finished our evaluation.

Therefore we ask users **to test and evaluate Emoslib 4.3.x carefully before using it operationally** and provide us with feedback when necessary at Software.Support@ecmwf.int.

Emoslib > 4.1.1

From version 4.1.1 on, by default, Emoslib aborts execution on GRIBEX calls as its functionality is deprecated (this change of behaviour was introduced in internal version 4.1.0). As alternative, the package can be configured to avoid aborting, by configuring with:
`cmake -DENABLE_GRIBEX_ABORT=OFF ... /path/to/libemos`

File	Modified

ZIP Archive libemos-4.5.9-Source.tar.gz	Dec 04, 2018 by Pedro Maciel
ZIP Archive libemos-4.5.7-Source.tar.gz	Sep 27, 2018 by Pedro Maciel
ZIP Archive libemos-4.5.5-Source.tar.gz	Apr 18, 2018 by Pedro Maciel
ZIP Archive libemos-4.5.4-Source.tar.gz	Mar 02, 2018 by Pedro Maciel
ZIP Archive libemos-4.5.1-Source.tar.gz	Aug 08, 2017 by Pedro Maciel
ZIP Archive libemos-4.5.0-Source.tar.gz	Jul 19, 2017 by Pedro Maciel
ZIP Archive libemos-4.4.9-Source.tar.gz	Jun 29, 2017 by Pedro Maciel
ZIP Archive libemos-4.4.7-Source.tar.gz	Mar 23, 2017 by Pedro Maciel
ZIP Archive libemos-4.4.6-Source.tar.gz BUFR tables version 000410 (WMO tables 27, released Nov 2016)	Jan 30, 2017 by Pedro Maciel
ZIP Archive libemos-4.4.5-Source.tar.gz Fix for wave parameters on specific sub-areas straddling Greenwich meridian	Nov 23, 2016 by Pedro Maciel
File libemos-4.4.4-Source.tar.gz fix for Greenwich meridian values on particular combinations of increments and sub-areas	Oct 23, 2016 by Stephan Siemen
ZIP Archive libemos-4.4.3-Source.tar.gz Interpolation of new directional wave parameter (wefxd)	Aug 17, 2016 by Pedro Maciel
ZIP Archive libemos-4.4.2-Source.tar.gz Allow optional build using ecCodes instead of GRIB-API for GRIB handling	Jun 29, 2016 by Pedro Maciel
ZIP Archive libemos-4.4.1-Source.tar.gz	Apr 27, 2016 by Pedro Maciel
ZIP Archive libemos-4.3.9-Source.tar.gz Avoid interpolations when not strictly necessary, build configuration improvements. Please read note above!	Mar 17, 2016 by Pedro Maciel
ZIP Archive libemos-4.3.8-Source.tar.gz Fixes on interpolation to sub-areas and single points. Please read note above!	Mar 03, 2016 by Pedro Maciel
ZIP Archive libemos-4.3.7-Source.tar.gz Performance improvements for reduced Gaussian grids, and fixes on interpolation to sub-areas. Please read note above!	Feb 03, 2016 by Pedro Maciel
ZIP Archive libemos-4.3.3-Source.tar.gz Performance improvements for reduced Gaussian grids. Please read note above!	Dec 03, 2015 by Stephan Siemen
ZIP Archive libemos-4.2.1-Source.tar.gz First version with full support for the new octahedral reduced gaussian grid	Dec 03, 2015 by Stephan Siemen
ZIP Archive libemos-4.1.1-Source.tar.gz	Sep 16, 2015 by Pedro Maciel
File libemos-4.0.7-Source.tar.gz	Jun 24, 2015 by Pedro Maciel
File libemos-4.0.6-Source.tar.gz First release version with CMake based build system	Dec 03, 2015 by Stephan Siemen
File emos_000392.tar.gz Apache license	Mar 28, 2013 by mas
ZIP Archive emos_000382.tar.gz GRIB 2 support for interpolation	Oct 25, 2012 by Stephan Siemen

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Changes in version 000463
Oct 06, 2020 • created by Pedro Maciel
Bug fix implemented in EMOSLIB 4.3.x
Apr 17, 2020 • updated by Paul Dando • view change
Emoslib
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Changes in version 000462
Jun 12, 2019 • created by Pedro Maciel
Changes in version 000461
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