

ecCodes Home

What is ecCodes

ecCodes is a package developed by ECMWF which provides an application programming interface and a set of tools for decoding and encoding messages in the following formats:

- WMO FM-92 **GRIB** [edition 1](#) and [edition 2](#)
- WMO FM-94 **BUFR** [edition 3](#) and [edition 4](#)
- WMO GTS [abbreviated header](#) (only decoding).

A useful set of [command line tools](#) provide quick access to the messages. C, Fortran 90 and Python interfaces provide access to the main ecCodes functionality.

ecCodes is an evolution of **GRIB-API**. It is designed to provide the user with a simple set of functions to access data from several formats with a key/value approach.

For GRIB encoding and decoding, the GRIB-API functionality is provided fully in ecCodes with only minor interface and behaviour [changes](#). Interfaces for C, Fortran 90 and Python are all maintained as in GRIB-API. However, the GRIB-API Fortran 77 interface is no longer available.

In addition, a new set of functions with the prefix "codes_" is provided to operate on all the supported message formats. These functions have the same interface and behaviour as the "grib_" functions.

A selection of GRIB-API tools has been included in ecCodes ([ecCodes GRIB tools](#)), while new tools are available for the BUFR ([ecCodes BUFR tools](#)) and GTS formats. The new tools have been developed to be as similar as possible to the existing GRIB-API tools maintaining, where possible, the same options and behaviour. A significant difference compared with GRIB-API tools is that bufr_dump produces output in [JSON](#) format suitable for many web based applications.



ecCodes is now the primary GRIB encoding/decoding package used at ECMWF. GRIB-API is no longer maintained (as of December 2018). Replacing GRIB-API with ecCodes is expected to be transparent for current GRIB-API users. In particular the "grib_" functions are included in the ecCodes library. Users are strongly advised to start the migration process.

What's new

- [Python 3 interface for ecCodes](#)
- [GRIB-API migration](#)

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Report a bug or issue

Please visit <https://support.ecmwf.int> or go to [Issues](#) if you have any suggestions for improvements or have discovered a bug with this software package.

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- [ecCodes version 2.34.0 released](#) ([ecCodes](#))
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- [ecCodes version 2.32.1 released](#) ([ecCodes](#))

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