

# GRIB API: Library and Tools

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## Training course time table and course material, February 2015

### Tuesday 24 February

09:00 Welcome - Umberto Modigliani

- Lecturers
- Students

09:15 [GRIB API Introduction](#) - Shahram Najm

- GRIB editions 1 and 2: structure and differences
- GRIB API design and concepts

*10:30 Coffee*

11:00 [GRIB API: Tools](#) - Carsten Maass

- Introduction to the command-line tools
- Obtaining information about the `grib_api` installation with `grib_info`
- Inspecting the content of GRIB files with `grib_count`, `grib_ls` and `grib_dump`

[Solutions to `grib\_dump` and `grib\_ls` practical](#)

12:15 [GRIB API: Keys](#) - Shahram Najm

- Coded and computed keys
- Namespaces
- Examples of keys

*13:00 Lunch*

14:00 [GRIB API: Tools](#) - Paul Dando

- Using `grib_get`
- Printing data values with `grib_get_data`
- Comparing the content of GRIB messages with `grib_compare`

*15:30 Coffee*

16:00 [GRIB API: Tools](#) - Paul Dando

- Copying GRIB messages with `grib_copy`
- Making simple modifications to the GRIB header information with `grib_set`

16:55 Questionnaire/Feedback

*17:00 Cocktails*

### Wednesday 25 February

09:00 [GRIB API: Fortran, C, Python APIs - Basics](#) - Dominique Lucas, Xavi Abellan, Cristian Simarro

**What is  
happening**

[Blog posts to follow](#)

**Complete the  
survey**

[Survey to follow](#)

- Overview of the API
- Using the API functions for decoding with Fortran, C and Python
- [Practicals](#)

*10:30 Coffee*

11:00 GRIB API: Fortran, C, Python APIs (continued) - Dominique Lucas, Xavi Abellan, Cristian Simarro

- [Practicals](#)

*13:00 Lunch*

14:00 [GRIB API: Advanced tools](#) - Paul Dando

- Basic features of `grib_filter`
- Conversion from GRIB to NetCDF with `grib_to_netcdf`

*15:30 Coffee*

16:00 GRIB API: General practicals

16:55 Questionnaire/Feedback

*17:00 End*

## Thursday 26 February

09:00 GRIB API: [Fortran, C, python APIs - Advanced features](#) - Dominique Lucas, Xavi Abellan, Cristian Simarro

- Use of the indexing routines
- Encoding GRIB messages and using GRIB samples
- [Practicals](#)

*10:30 Coffee*

11:00 GRIB API: Fortran, C, python APIs - Advanced features (continued) - Dominique Lucas, Xavi Abellan, Cristian Simarro

- [Practicals](#)

*13:00 Lunch*

14:00 GRIB API: [Python interface](#) - Xavi Abellan

- A short introduction to Python and its use at ECMWF
- The Python interface to `grib_api` for decoding, encoding and indexed access to GRIB messages

*15:30 Coffee*

16:00 [GRIB API: Advanced topics I](#) - Shahram Najm

- Simple packing
- Constant fields
- Bitmap fields
- Multi fields

16:55 Questionnaire/Feedback

*17:00 End*

## Friday 27 February

09:00 [GRIB API: Advanced topics II](#) - Shahram Najm

- Parameter database
- Conversion from GRIB 1 to GRIB 2

*10:30 Coffee*

11:00 [GRIB API: Advanced topics II](#) - Shahram Najm

- Local adaptation - how to define your own local parameters

12:15 [Quiz](#)

12:55 Questionnaire/Feedback

*13:00 End of module COM GRIB*

## Recommended reading

1. Lecture notes:[GRIB API: Library and tools training course 2014](#)