

# Package ‘cmsaf’

March 18, 2022

**Version** 3.4.2

**Title** A Toolbox for CM SAF NetCDF Data

**Contact** CM SAF Team <contact.cmsaf@dwd.de>

**Description** The Satellite Application Facility on Climate Monitoring (CM SAF) is a ground segment of the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) and one of EUMETSAT's Satellite Application Facilities. The CM SAF contributes to the sustainable monitoring of the climate system by providing essential climate variables related to the energy and water cycle of the atmosphere (<<https://www.cmsaf.eu>>). It is a joint cooperation of eight National Meteorological and Hydrological Services. The 'cmsaf' R-package includes a 'shiny' based interface for an easy application of the 'cmsafops' and 'cmsafvis' packages - the CM SAF R Toolbox. The Toolbox offers an easy way to prepare, manipulate, analyse and visualize CM SAF NetCDF formatted data. Other CF conform NetCDF data with time, longitude and latitude dimension should be applicable, but there is no guarantee for an error-free application. CM SAF climate data records are provided for free via (<<https://wui.cmsaf.eu/safira>>). Detailed information and test data are provided on the CM SAF webpage (<[http://www.cmsaf.eu/R\\_toolbox](http://www.cmsaf.eu/R_toolbox)>).

**URL** <https://www.cmsaf.eu>

**License** GPL (>= 3)

**Depends** R (>= 3.6), cmsafops (>= 1.2.0), cmsafvis (>= 1.1.5)

**Imports** colourpicker (>= 1.0), colorspace (>= 1.4), fields (>= 10.3), FNN (>= 1.1), mapproj (>= 1.2), maps (>= 3.3), maptools (>= 0.9), ncdf4 (>= 1.17), R.utils (>= 2.9), raster (>= 3.0), rworldxtra (>= 1.01), shiny (>= 1.4), shinyFiles (>= 0.8.0), shinyjs (>= 1.1), shinythemes (>= 1.1), shinyWidgets (>= 0.6), sp (>= 1.4), tcltk (>= 3.5), data.table, SearchTrees, xml2

**NeedsCompilation** no

**Repository** CRAN

**Suggests** spelling (>= 2.1), testthat (>= 2.3)

**RoxygenNote** 7.1.2

**Encoding** UTF-8

**Language** en-US

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cmsaf	<i>cmsaf: A user-friendly Toolbox for preparing, manipulating, analyzing and visualizing satellite-based CM SAF NetCDF formatted data.</i>
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### Description

The 'cmsafops' functions are manipulating NetCDF input files and write the result in a separate output file. The functions were designed and tested for CM SAF NetCDF data, but most of the functions can be applied to other NetCDF data, which use the CF convention and time, latitude, longitude dimensions. As interface This package uses functionalities of the [cmsafops](#) and [cmsafvis](#) packages.

### Get started

Run `run_toolbox()` to open the interactive toolbox.

### Author(s)

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### References

[http://www.cmsaf.eu/R\\_toolbox](http://www.cmsaf.eu/R_toolbox)

Kothe, S.; Hollmann, R.; Pfeifroth, U.; Träger-Chatterjee, C.; Trentmann, J. The CM SAF R Toolbox—A Tool for the Easy Usage of Satellite-Based Climate Data in NetCDF Format. ISPRS Int. J. Geo-Inf. 2019, 8, 109. doi: [10.3390/ijgi8030109](https://doi.org/10.3390/ijgi8030109)

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`run_toolbox`*Run the CMSAF R Toolbox.*

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**Description**

Run the interactive shiny-based CM SAF R Toolbox. It uses functions from [cmsafops](#) and [cmsafvis](#).

**Usage**

```
run_toolbox(...)
```

**Arguments**

... Arguments to be passed to [runApp](#).

**Examples**

```
## Not run: run_toolbox(launch.browser = TRUE)
```

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