

Installation

The latest versions (stable and/or devel) can be installed directly from [?github](#), but please note that the R package [?devtools](#) must be installed first to ease the installation process.

First check that `devtools` is installed on your system, otherwise install it by typing:

```
if (!require("devtools")) install.packages("devtools")
```

Then, the `loader.ECOMS` package and associated dependencies are installed by entering the following command (it is important to preserve the ordering of the arguments):

```
devtools::install_github(c("SantanderMetGroup/loader.java",
                           "SantanderMetGroup/loader",
                           "SantanderMetGroup/loader.ECOMS"))
```

If attempting the installation from a proxy server and getting an error, please [?try this](#).

Alternatively, you can directly download the sources of the three packages for a local installation from their respective pages:

1. [?loader.java](#)
2. [?loader](#)
3. [?loader.ECOMS](#)

Again, bear in mind that order matters, and need to be preserved during installation.

In case installation problems arise related to your java configuration, please refer to this [?loader's wiki section](#) for guidance.

Versions

A history of all package releases until the most recent is available on the [?loader.ECOMS releases page](#)

`loader.ECOMS` supersedes the older package `ecomsUDG.Raccess`, which is no longer maintained. This is an historic of old versions:

[?Older versions of ecomsUDG.Raccess \(deprecated\)](#)

version 4.2-0 -- "EC-Earth" (03 Nov 2015)

- New SMHI-EC-EARTH_EUPORIAS hindcast available
- Minor bug fix in monthly aggregations of single-month season queries
- Other minor bug fixes and enhancements

version 4.1-0 -- "Interim" (08 Oct 2015)

- ERA Interim dataset included
- NCEP dataset renamed to NCEP_reanalysis1
- New vertical level variables included in S4_seasonal_15 dataset
- Improved connection error handling
- Minor bug fix in the variable deaccumulation of lead month 0 S4 predictions (affects radiation and precip)
- Other minor bug fixes and enhancements

version 4.0-0 -- "Bolzano" (15 May 2015)

- CFSv2 dataset redefinition
 - Improved performance of data download
 - New [?member definition](#) to avoid errors due to missing runtimes in the original dataset
 - New surface [?variables available](#), including wind speed (derived from north and eastward components)
- New time aggregation options, including:
 - greater flexibility for daily
 - new monthly aggregation feature
- Improved authentication scheme providing greater stability for long queries
- Added new attributes containing relevant metadata (longname, units, time aggregation details...)

- Several minor bug fixes and enhancements

version 3.0-0 (29 Apr 2015)

- New authentication scheme implemented
- New CFSv2 dataset definition
- Several minor bug fixes and enhancements

version 2.2-6 (27 Jan 2015)

- Bug fix in the retrieval of forecast dates beyond the last year of the runtime axis (Reported by Wietse Franssen)
- Enhancement in System4 deaccumulation of precipitation for lead month 0 queries. First day preserved for consistency with non-deaccumulated variables (Suggested by Kathryn Nicklin).
- Documentation update
- Other minor bug fixes and enhancements

version 2.2-5 -- "SPECS Workshop" (06 Sep 2014)

- Minor bug fixes and enhancements proposed by the participants during the practical sessions of the [?SPECS Hands-on Training School](#) on Seasonal Forecasting and Downscaling.

version 2.2-4 (06 Sep 2014)

- Internal changes in imports for compatibility with the new `downscaleR` version 0.4-x

version 2.2-3 (18 Aug 2014)

- Bug fix for 1-dimensional output data queries (i.e. time series at single point locations, without members)

version 2.2-2 (18 Aug 2014)

- New global attributes in output (thanks to Stefan Siegert for this suggestion):
 - `dataset`: Name of the dataset returned (e.g. "System4_seasonal_15", "NCEP", etc.)
 - `source`: Name of the dataset
 - `URL`: URL of the data portal
- Consistent ordering of array dimensions: The output n-dimensional array now preserves the canonical ordering of its dimensions: (member, time, level, lat, lon) (thanks to Stefan Siegert for this suggestion)
- New daily aggregation options: minimum and maximum daily data are now returned when using the `time = "DD"` option for the relevant variables (e.g. "tasmin", "tasmax" ...).

version 2.2-1 (05 Aug 2014)

- Minor enhancements:
 - Improved on screen error messages with clearer instructions for error fixing
 - The 'runtime' dimension in CFSv2 output data array has been changed to 'member' for better integration with other `downscaleR` objects and methods.

version 2.2-0 (16 Jul 2014)

- New dependency on R Package `downscaleR` with inherited features such as:
 - Plotting mean fields
 - Fast Multi-member Interpolation/re-gridding capabilities
 - Many more coming in the next major `downscaleR` release (bias correction, perfect-prog downscaling methods...)
- On screen messages from the HTTP Java authenticator have been suppressed: Only the strictly relevant information is now displayed
- Automatically checks and warns the user about new available versions on attach
- Other minor bug fixes and enhancements

version 2.1-1 (11 Jul 2014)

- Bug fix accessing surface air temperature and derived variables in System4 with mean daily temporal aggregation (thanks to M.D. Frías for pointing to the error)

version 2.1-0 (8 Jul 2014)

- New extended list of available variables
- NCEP reanalysis included in available datasets
- On-the-fly computation of derived variables
- Support for variables with vertical levels and static (e.g. geopotential surface zs)
- New dependency on `downscaleR.java` R package containing Java dependencies

version 2.0-0 (16-jun-2014).

- New input/output format
- Access to a extended list of surface variables
- New observational gridded dataset WFDEI

- On-the-fly time filtering/aggregation capabilities
- **version 1.0-0** (17-feb-2014). Access to a limited list of surface variables for System4 and CFSv2 datasets.

Development version

The development version is available at the 'devel' branch of the [?loader.ECOMS gitHub repository](#), but please note that **the development version is unstable and may not be always functional**