Overview of the `loadeR.ECOMS` package

- Installation and Versions
- Authentication
- Data Homogeneization
- Examples

Since the ?R language has been adopted for some key tasks in the EUPORIAS and SPECS projects (including the development of comprehensive validation and statistical-downscaling packages), `loadeR.ECOMS` is envisaged as a user-friendly, R-based interface to the ECOMS User Data Gateway, enabling ?authentication and remote access to the different datasets (seasonal forecasting, observations, reanalysis) currently available (take a look at the available datasets and variables). Moreover, `loadeR.ECOMS` implements data homogenization (a single vocabulary) and time filtering/aggregation in a transparent way for the user, and it is seamlessly integrated with the ?downscaleR package for downscaling/bias correction and other climate data post-processing.

`loadeR.ECOMS` extends the ?loadeR package, which in turn relies on the powerful capabilities of the ?Unidata's netCDF Java library. These packages are part of the ?climate4R bundle for Climate Data Access and Postprocessing.

`loadeR.ECOMS` is available from ?GitHub

The following panels show an illustrative use of ECOMS-UDG to obtain the minimum DJF temperature DJF bias for System4 hindcast (one-month lead time) over Europe. WFDEI is used as reference.

R code

```
obs <- loadECOMS(dataset = "WFDEI",
                 var = "tasmin",
                 season = c(12,1,2))
prd <- loadECOMS(dataset = "CFSv2_seasonal",
                 var = "tasmin",
                 season = c(12,1,2),
                 members = 1:2,
                 leadMonth = 1)
```

```
obsr <- interpGridData(gridData = obs,
                 new.grid = getGrid(prd),
                 method = "bilinear")
bias <- getBias(obsr,prd)
plotMeanField(bias, multi.member = TRUE)
```

Output