

Wikiprint Book

Title: Regional-Continental domain selections

Subject: TracMeteo - udg/ecomms/RPackage/examples/continentalSelection

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In this example we will load data for Europe for the variable surface (2m) minimum temperature (`var = tasmin`), for the first two members (`members = 1:2`) of the CFSv2 hindcast (`dataset = CFSv2_seasonal_16`), considering the wintertime (DJF, `season = c(12,1,2)`) for the 10-year period 1991-2000 (`years = 1991:2000`), according to the forecast issued in September (`leadMonth = 3`). The [?original variable](#) is 6-hourly. We will retrieve the daily minimum values, by setting the argument `time = "DD"` and the daily aggregation function to minimum (`aggr.d = "min"`):

```
> ex2 <- loadECOMS(dataset = "CFSv2_seasonal",
  var = "tasmin",
  members = 1:2,
  lonLim = c(-15,35),
  latLim = c(32, 75),
  season = c(12,1,2),
  years = 1991:2000,
  leadMonth = 3,
  time = "DD",
  aggr.d = "min")
```

Returning the following on-screen information during the data loading process:

```
[2015-05-15 12:39:51] Defining homogeneization parameters for variable "tasmin"
[2015-05-15 12:39:51] Defining geo-location parameters
[2015-05-15 12:39:51] Defining initialization time parameters
NOTE: Daily aggregation will be computed from 6-hourly data
[2015-05-15 12:39:55] Retrieving data subset ...
[2015-05-15 12:46:28] Done
```

The size of the object is 35 Mb:

```
print(object.size(ex2), units = "Mb")
```

In this case, the data are stored in a 4D-array, with the dimensions indicated by the `dimensions` attribute, always following the canonical ordering of dimensions:

```
str(ex2$Data)
```

```
num [1:2, 1:903, 1:47, 1:54] 21.6 16.1 21.1 17.4 21.5 ...
- attr(*, "dimensions")= chr [1:4] "member" "time" "lat" "lon"
```

Members can be plotted individually by setting `multimember = TRUE` in the `plotMeanGrid` function of the `downscaleR` package:

```
plotMeanGrid(ex2, multi.member = TRUE)
```

