



**Barcelona
Supercomputing
Center**

Centro Nacional de Supercomputación



s2dverification

Update meeting – 08/02/2016

Mailing list:

s2dverification@bsc.es

Wiki:

<https://earth.bsc.es/wiki/doku.php?id=tools:s2dverification>



- Current state
- Features in testing phase
- Issues and comments
- Useful links

- Latest release: s2dverification 2.5.0
 - Available internally only (2.4.0 on CRAN).
 - Bugs when loading data with masks, now fixed.
 - Can now specify paths to NetCDF masks in Load():

```
mask_exp <- list(path = '/path/to/mask_exp.nc')
mask_obs <- list(path = '/path/to/mask_obs.nc')

data <- Load(exp = c('expA', 'expB'), obs = c('obsX'),
             maskmod = list(mask_exp, mask_exp),
             maskobs = list(mask_obs), .....
```

Features in testing phase



Branch name	Pending testers	Deadline
develop-interfacing-SpecsVerification	Omar	2016-01-01
develop-trend	Chloé	2016-01-01
develop-seaicemodestc	François, Chloé	2016-01-01
develop-composite	Chloé, Verónica	2016-01-01
develop-toymodel	Eleftheria	2016-01-01
develop-AnimVSLTime	Chloé, Eleftheria, Omar	2016-01-01
develop_Plotwind	Eleftheria, Verónica	2016-01-01
develop-StatTC	Javier	2016-02-01
develop-RMSE_boot	Chloé, Omar	2016-02-01
BoxesStereomap	Neven, Chloé	2016-06-01

■ Stuck at the developer's side

- Can now switch versions with:

```
#!/bin/bash

# Old version
module load s2dverification/2.4.6-foss-2015a-R-3.2.0

# New version
module load s2dverification/2.5.0-foss-2015a-R-3.2.0
```

- **Virginie: we need a mechanism to specify in the R scripts which version of s2dverification they were written for.**

- Can now switch versions with:
 - Nico (post-meeting): the mechanism consists of putting these lines right after loading s2dverification in your scripts:

```
library(s2dverification)

.expected_s2dv <- package_version('2.4.7')
.found_s2dv <- packageVersion('s2dverification')
if (.found_s2dv$major != .expected_s2dv$major ||
    .found_s2dv$minor < .expected_s2dv$minor) {
  stop(paste0('This script is only compatible with ',
              's2dverification >= v',
              .expected_s2dv$major, '.',
              .expected_s2dv$minor, '.0 ',
              'and < v', .expected_s2dv$major + 1, '.0.0. ',
              'Found v', .found_s2dv, '.'))
}
```

- s2dverification paper to JSS
 - First draft of most sections now written.
 - All the functions to explain in the package will be included in the release 2.6.0 to CRAN. Most recent features are:
 - Neven's: Non-linear trends, sea ice modes, composite
 - LP's: StatSeasAtlHurr
 - Eigentechiniques: EOF, PCA, AA, Mode, NAO, Plotbox
 - Virginie will review all sections and notify if any of the features is missing.
 - **Virginie: The deadline for the first draft is 01/03/2016.**

- s2dverification paper to JSS
 - Features out of the scope:
 - Eigentechiniques: MCA, DTO, AMO
 - Javi's: finite differences
 - Chloe's: Plotwind
 - Daniel Macia's: RMSE_boot
 - Nico to review the paper and add technical aspects + state of the art analysis.
 - Each responsible of each section will have to review the corresponding vignette (documents that explain how to use the package with code examples and images).

- Towards s2dverification 3.0.0
 - Do we do a compatibility break? When? Available only outside?
 - It will affect you in the following aspects:
 - Some function names will change.
 - E.g.: `Consist_Trend()` → `ConsistTrend()`
 - E.g.: `Filter()` → `Foo()` (the name is not chosen yet)
 - Some data structures will change.
 - E.g.: `var <- Load(...)`
`var$mod` → `var$Data$exp`
 - Some functions will disappear
 - E.g.: `CRPS()`

- Towards s2dverification 3.0.0
 - Chloé: Doing a compatibility break would be bad for people that has developed lots of scripts with the old version, unless they could use the old and the new version simultaneously in a same R script. This way they could be able to adapt gradually their scripts.
 - All: Finally, we will release 2.6.0 on CRAN with new features that must be included in the paper, by end of March. That version will contain some changes in the API required for JSS to accept the package but will preserve the backwards compatibility. This will allow Nico to develop all the planned modifications for the compatibility break with time.

- Towards s2dverification 3.0.0
 - All: the compatibility break version (3.0.0) with changes overall to improve usability, will be released by July to CRAN and will be installed also internally with a modified name so that we can use both versions simultaneously.
 - Nico: should we change the package name to s2dv?
 - Virginie: the paper publication has to have the same name as the final name we choose for the compatibility break (so the release 2.6.0 to CRAN should already have the name changed, if we change it).

- Can now Load() data without a configuration file:

```
expA <- list(name = 'expA',  
            path = '/path/to/experiments/$EXP_NAME$/  
                  $STORE_FREQ$_mean/$VAR_NAME$/  
                  $VAR_NAME$_$START_DATE$.nc')  
obsX <- list(name = 'obsX',  
            path = '/path/to/observations/$OBS_NAME$/  
                  $STORE_FREQ$_mean/$VAR_NAME$/  
                  $VAR_NAME$_$YEAR$$MONTH$.nc')  
data <- Load(exp = list(expA), obs = list(obsX),  
            sdates = c(.....), .....
```

- Remember to share your configuration entries
 - Clone the Git repository > create a branch > add your changes to inst/config/BSC.conf > create a merge request (see steps on wiki in 'Development').

- Julia Giner joining the s2dverification team soon
- Ongoing developments
 - Any other ongoing developments?
 - Eleftheria: she has developed enhancements for PlotEquiMap() to plot multiple boxes (not only one) and some extra shading functionalities.
 - Chloé: she has developed a new ColorBar() that breaks compatibility.
 - Chloé: we should follow a common convention for specifying lon-lat boxes to functions in s2dverification.

- How to develop in s2dverification

<https://earth.bsc.es/wiki/doku.php?id=tools:s2dverification#development>

- GitLab

<https://earth.bsc.es/gitlab/s2dverification>

- Script to test or try features in development

</shared/earth/software/scripts/test-s2dverification> feature

- Script to upgrade configuration files (v2.4.6 → ≥ v2.4.7)

</shared/earth/software/scripts/convertConfig.R> file.conf



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EXCELENCIA
SEVERO
OCHOA

Thanks for your attention

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