



**Barcelona
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Centro Nacional de Supercomputación

Providentia v2.1 User Meeting

23/03/2023

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Timeline



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TIMELINE

New features
20 min.



Q & A
5 min.



Reminder
5 min.



Q & A
3 min.



Future plans
5 min.



Discussion



New features



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IN THE DASHBOARD

- Restructure of menu bar for a better user experience
- Pop-up information on all plots
- Smoothing slider for timeseries plot
- Multispecies filtering
- Ability to export filtered station data
- Temporal resampling to lower resolutions
- Message boxes for warnings

IN THE OFFLINE REPORTS

- Temporal resampling to lower resolutions

In your configuration file, you can apply the resampling with:

```
resampling = True  
resampling_resolution = monthly
```

- Ability to turn off station and summary plots per plot type

Edit *configurations/report_plots.json* to choose the plot types:

```
"training": {"summary": [ "map-RMSE", "statsummary", "timeseries"],  
             "station": ["distribution", "scatter"]}
```

- Calibration factor

You can edit your configuration file to use the calibration factor and modify the experiments data.

- To add:

`calibration_factor = +10`

- To subtract:

`calibration_factor = -10`

- To divide:

`calibration_factor = /10`

- To multiply:

`calibration_factor = *10`

- Calibration factor

If you want to apply different calibration factors per experiment or/and per species, you can do so:

```
network = EEA_AQ_eReporting  
species = pm2p5, pm10  
experiments = a54s-regional-000, a4xf-regional-000  
calibration_factor = a54s-regional-000 (*0.62, *0.4), a4xf-regional-000 (*0.52, *0.9)
```

In the previous example, PM2.5 from a45s-regional-000 will be multiplied by 0.62 and PM10 by 0.4.



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Reminder



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DO YOU KNOW HOW TO...?

- Change plot characteristics
 - Change colours of legend
 - Change experiment names
 - Change statistics in annotations
- Choose plot types in the offline reports and in the dashboard
- Switch between discrete and continuous colourbars and set range
- Change number and type of cores

```
./bin/providentia --cores=1 --constraint=lowmem
```



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Future plans



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WHAT TO EXPECT IN PROVIDENTIA v2.2.0

CAMS statistics

New plot types

Live search of
metadata fields

Grouping

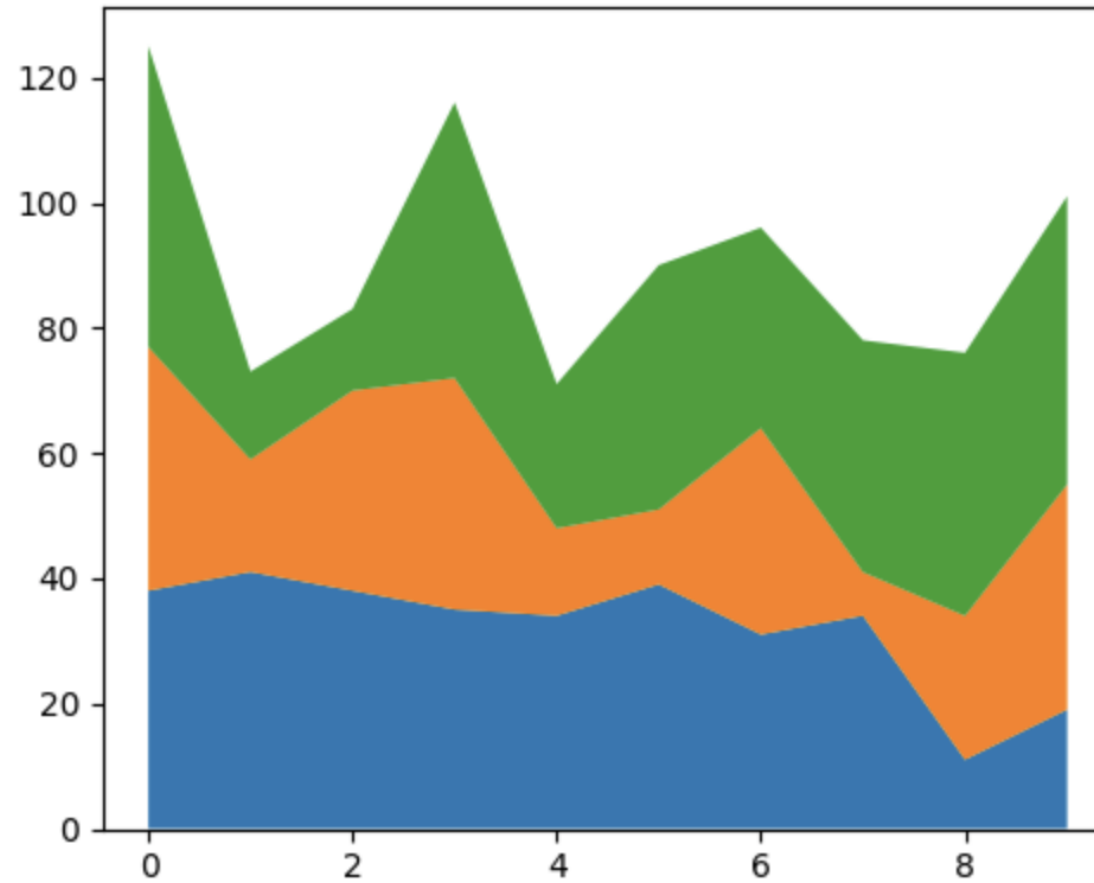
Forecast with
more than 24
hours

Compatibility
with EC-Earth
output

Merged GHOST
network

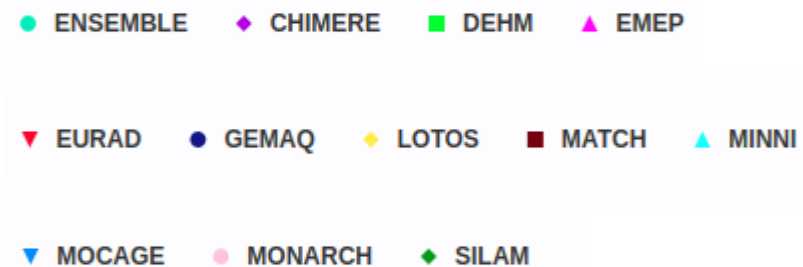
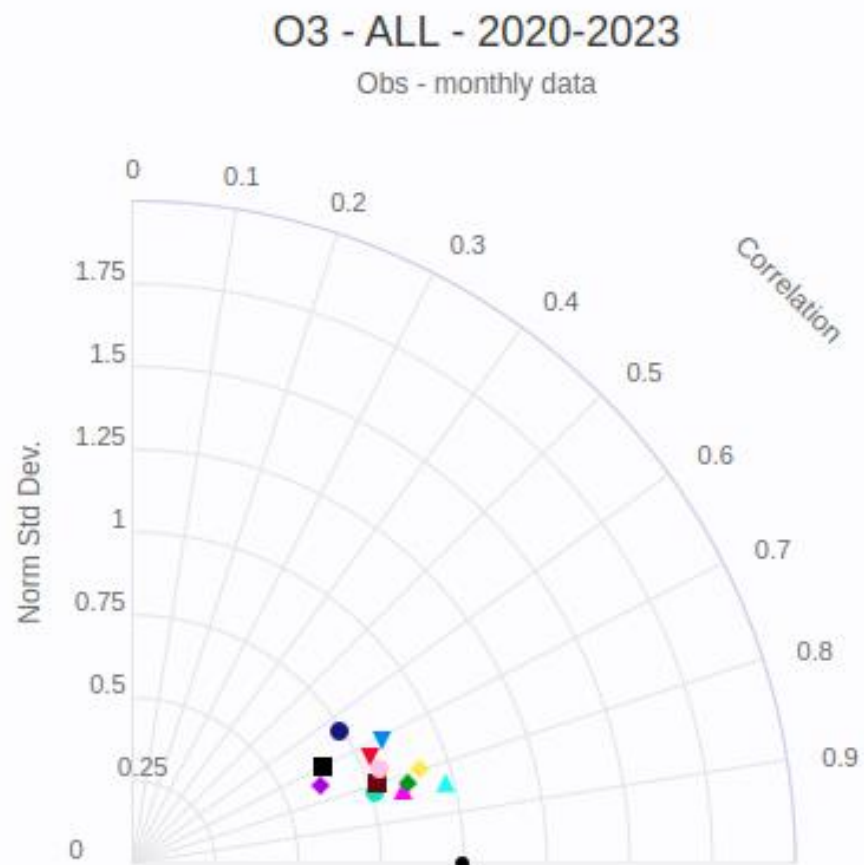
NEW PLOT TYPES

STACKPLOT



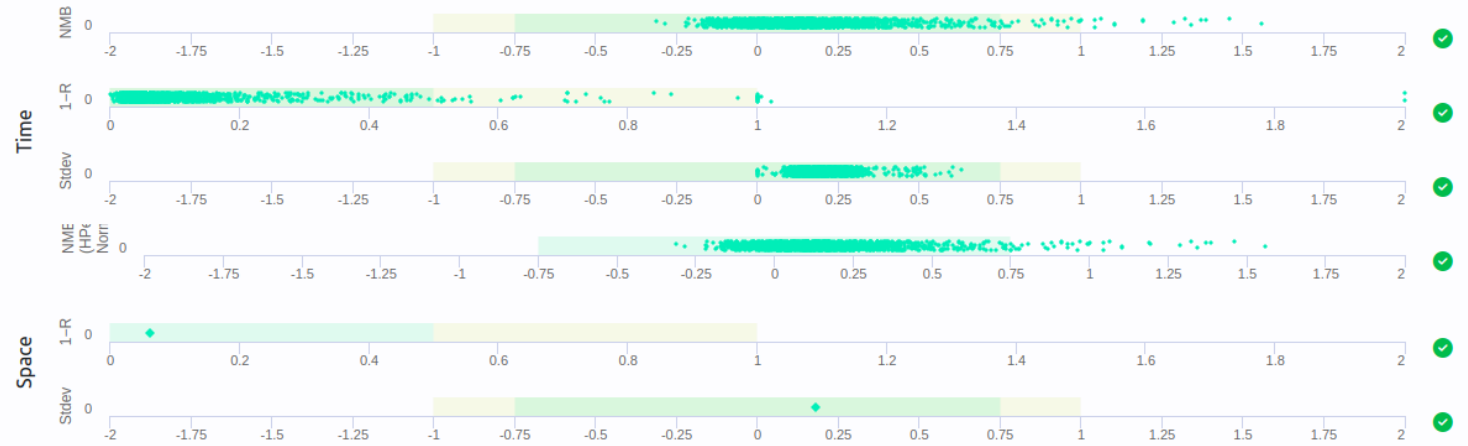
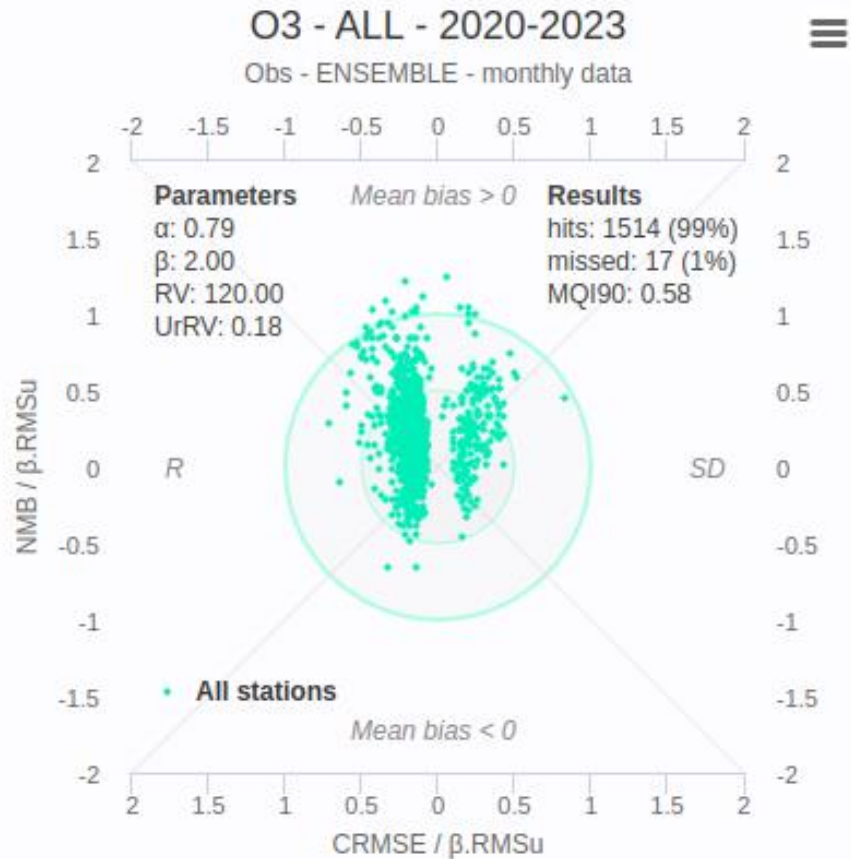
NEW PLOT TYPES

TAYLOR DIAGRAM



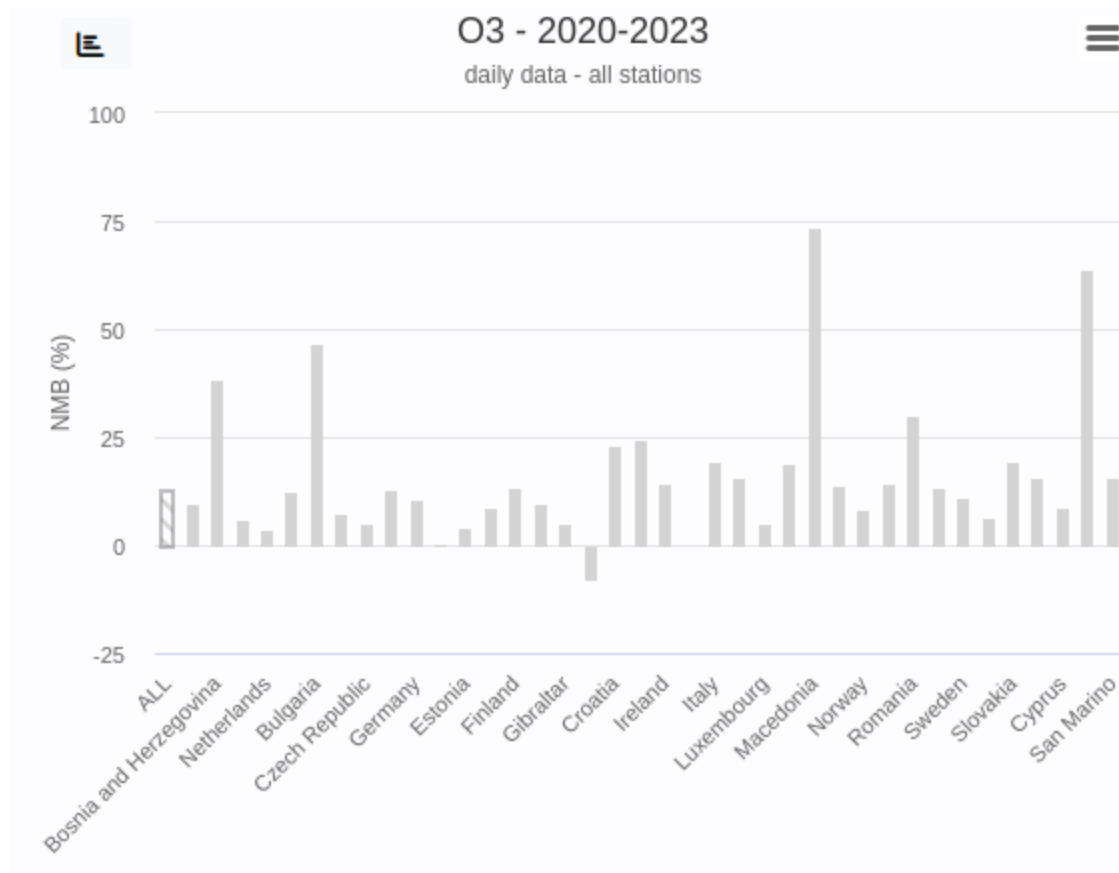
NEW PLOT TYPES

FAIRMODE



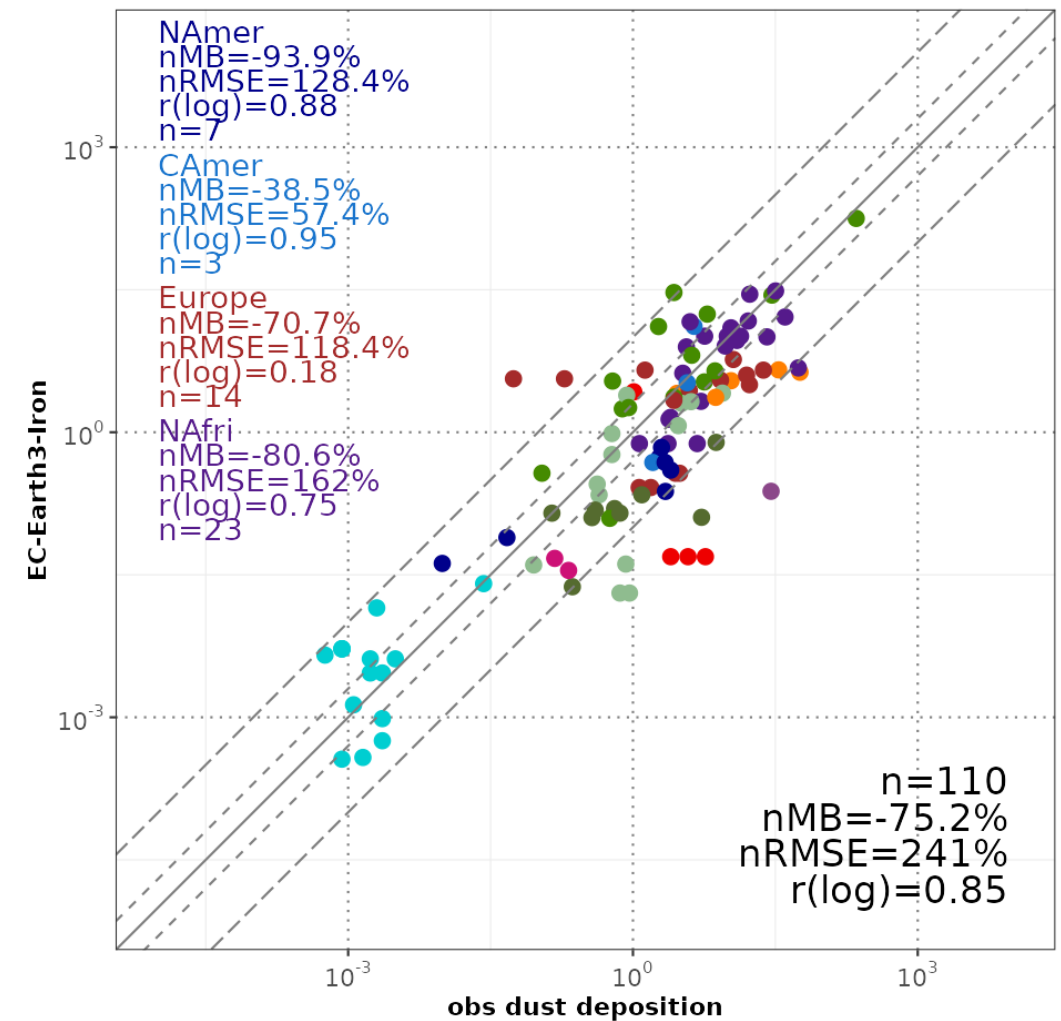
EXAMPLES

GROUPING



Annual mean dust deposition g m-2 yr-1

a4ij: AMIP-IFS-TM5 - obs. dust depo. (lt 10um) 2010-2011 tuned by 1.1

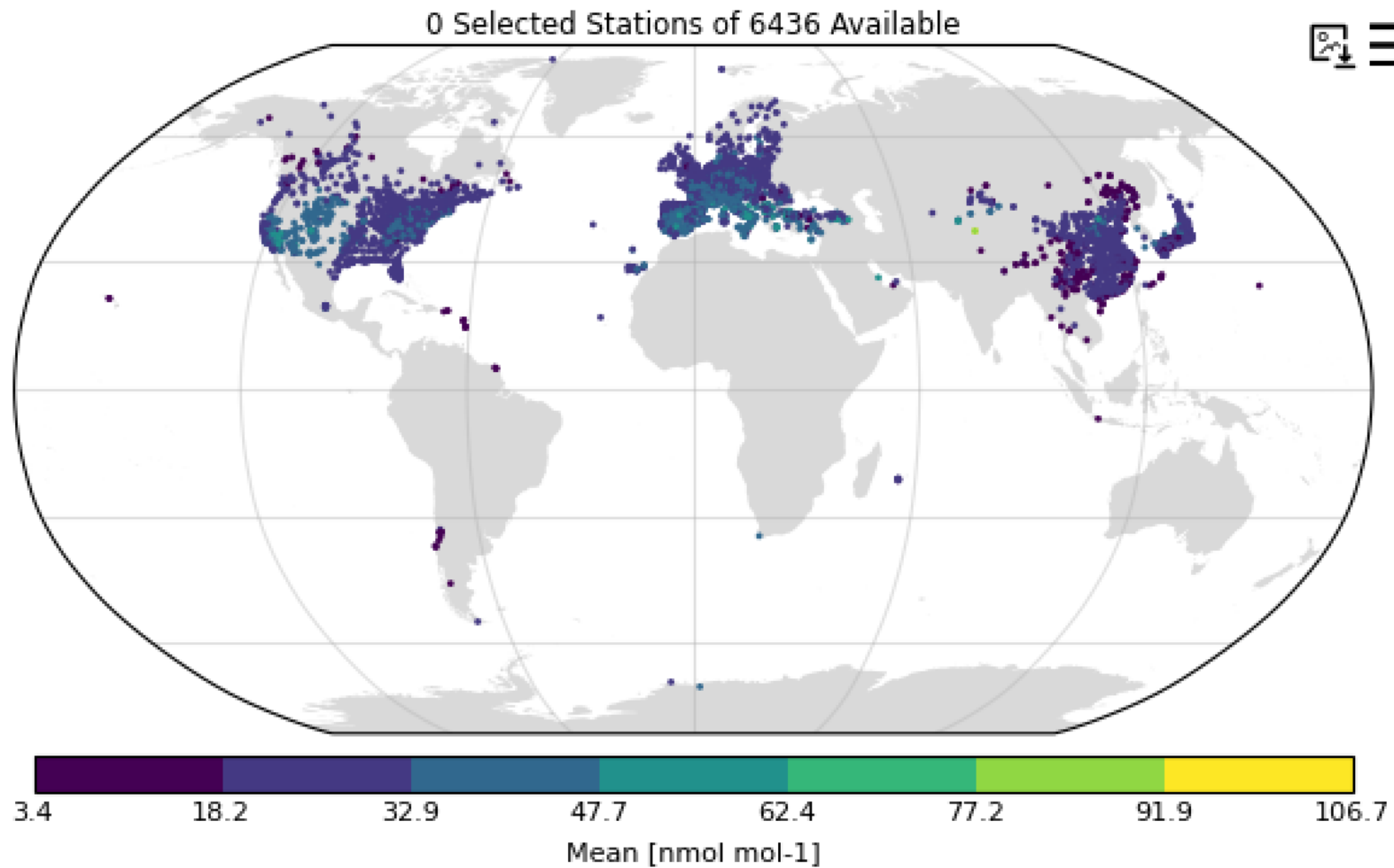


- Custom subsets as in configuration files (e.g. assimilated and validated)
- Dust regions (by coordinates)
- Common GHOST metadata subsets:
 - Countries
 - Continents
 - Land use
 - Land form classification
 - Distance to coast
- Station classifications
- Area classifications

Add your ideas here:

<https://earth.bsc.es/gitlab/ac/Providentia/-/issues/280>

MERGED GHOST NETWORK





Discussion



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