UNIVERSITY OF OXFORD

The Community Intercomparison Suite: An open-source toolbox

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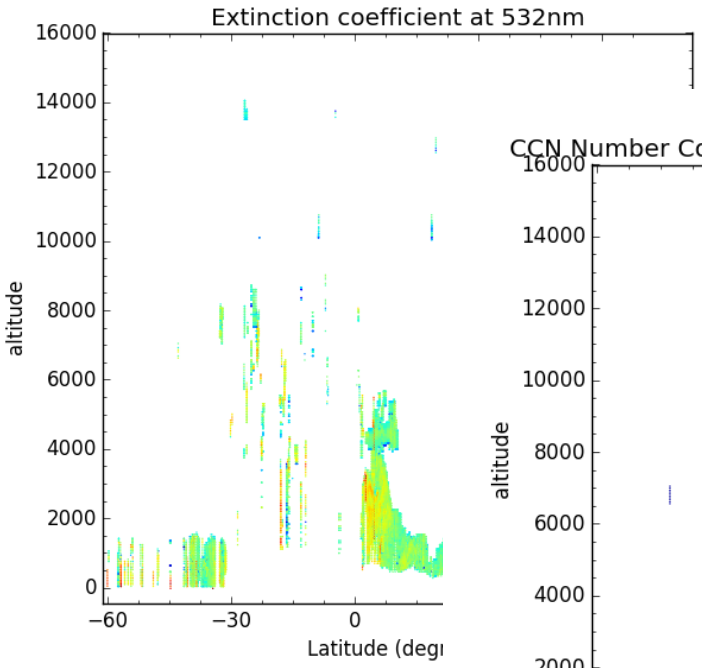
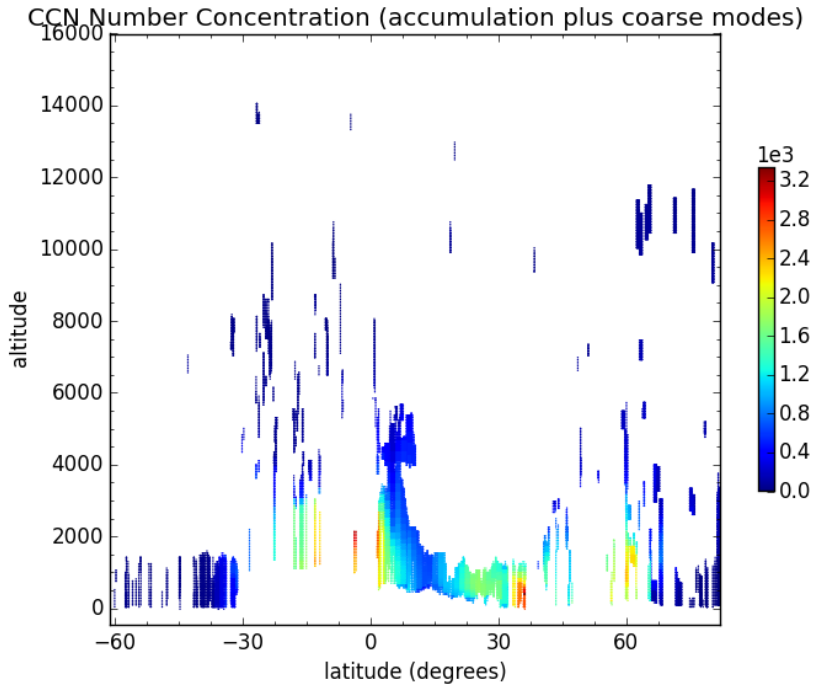
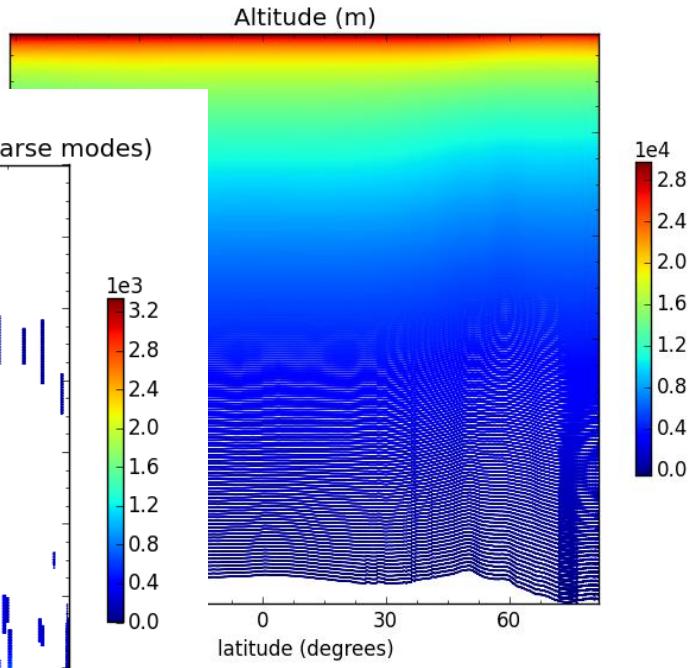
Why CIS?


Extinction coefficient at 532nm
altitude
Latitude (degr


CCN Number Concentration (accumulation plus coarse modes)
altitude
latitude (degrees)
1e3

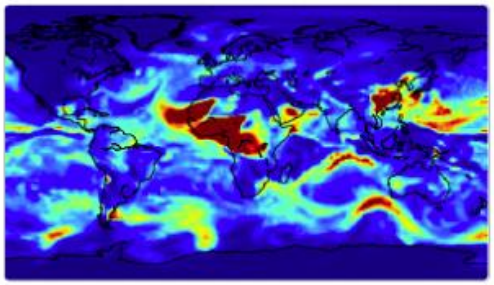

Altitude (m)
latitude (degrees)
1e4

What is CIS?

Read

Resample

Analyse



Read your data

1.5.0
6094c0e

v1.5.0

Edit

duncanwp released this on Nov 7, 2016 · **14 commits** to master since this release

CIS 1.5 features

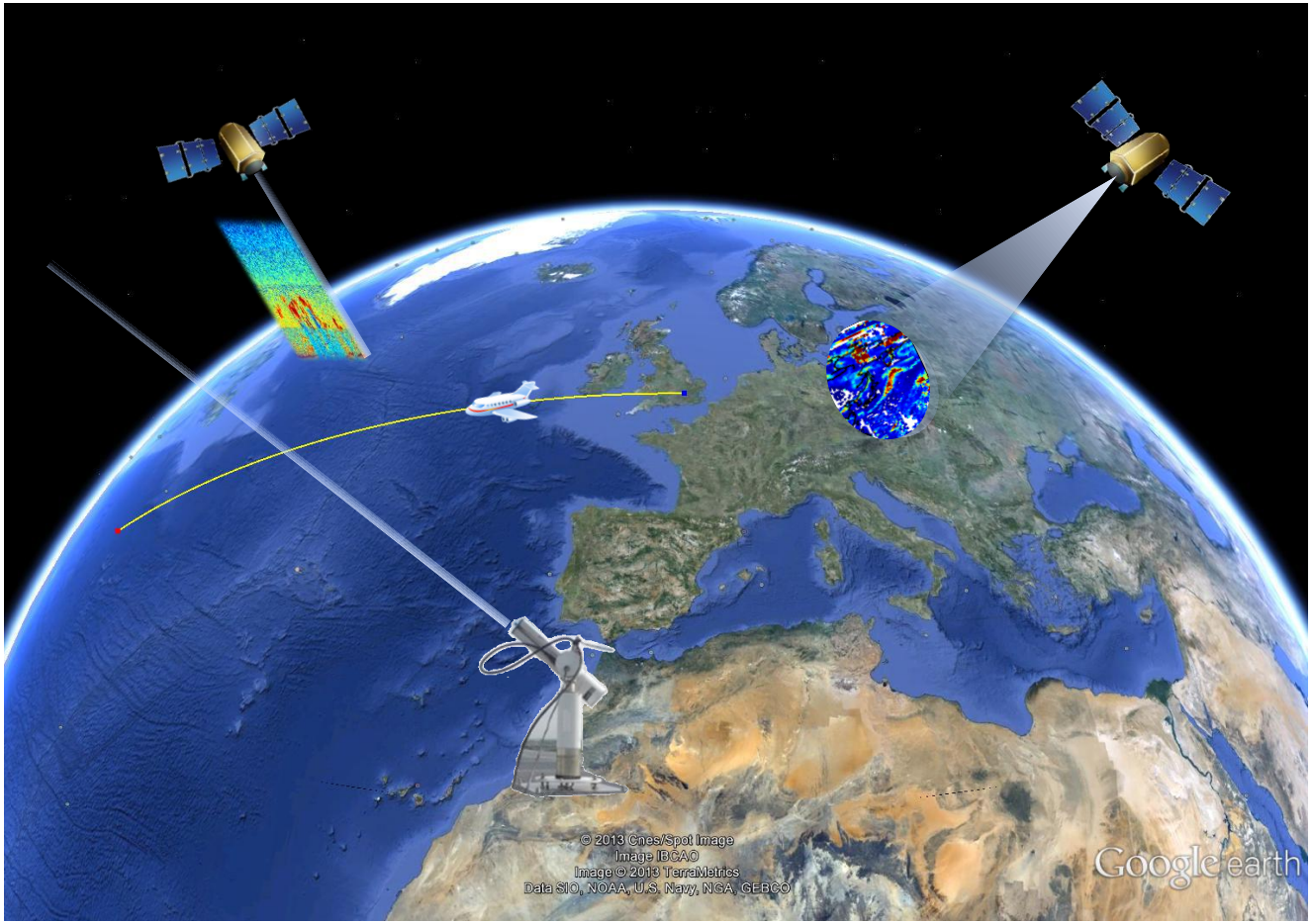
- The biggest change is that CIS can now be used as a Python library, all of the command line tools are now easily
  available through Python. This allows commands to be run sequentially in memory, slicing of gridded or ungridded
  datasets and easy integration with other Python packages such as Iris and Pandas.
- Taylor diagrams - CIS is now able to plot Taylor diagrams which are an excellent way of quantitatively comparing two
  or more (collocated) datasets
- All map plots are now able to be plotted in any of the available Cartopy projections, see http://scitools.org.uk/cartopy/docs/latest/crs/projections.html for a full list.

Data reading

Read

Resample

Analyse

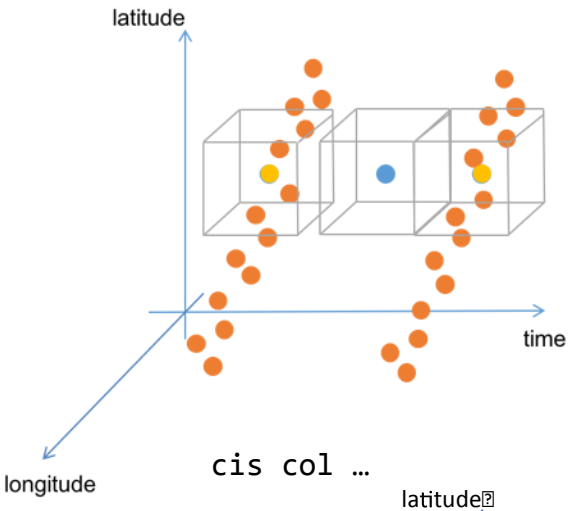


Flexible data analysis

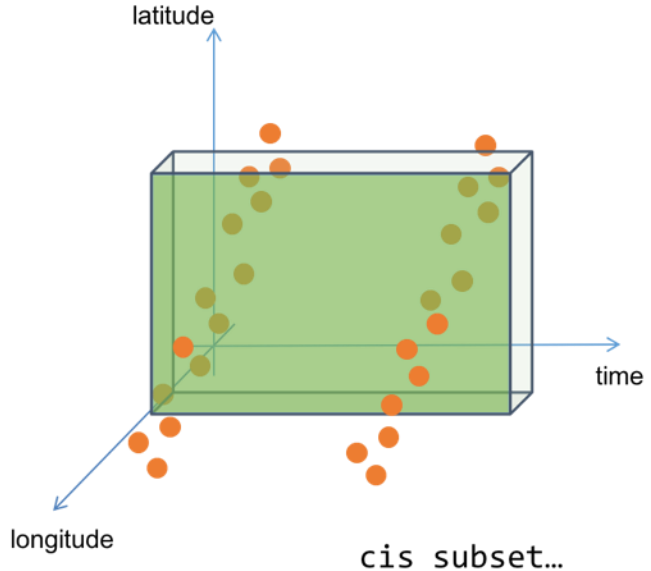
Read

Analyse

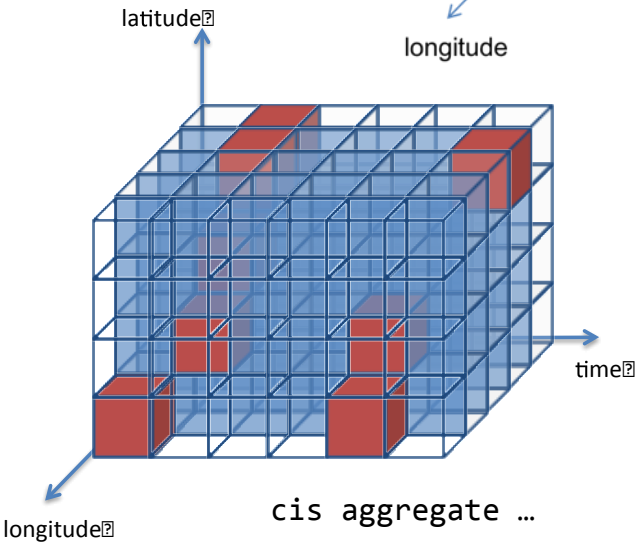
Visualise



`cis col …`



`cis subset…`



`cis aggregate …`

Overview of commands: plotting

Read

Resample

```
cis plot…
```

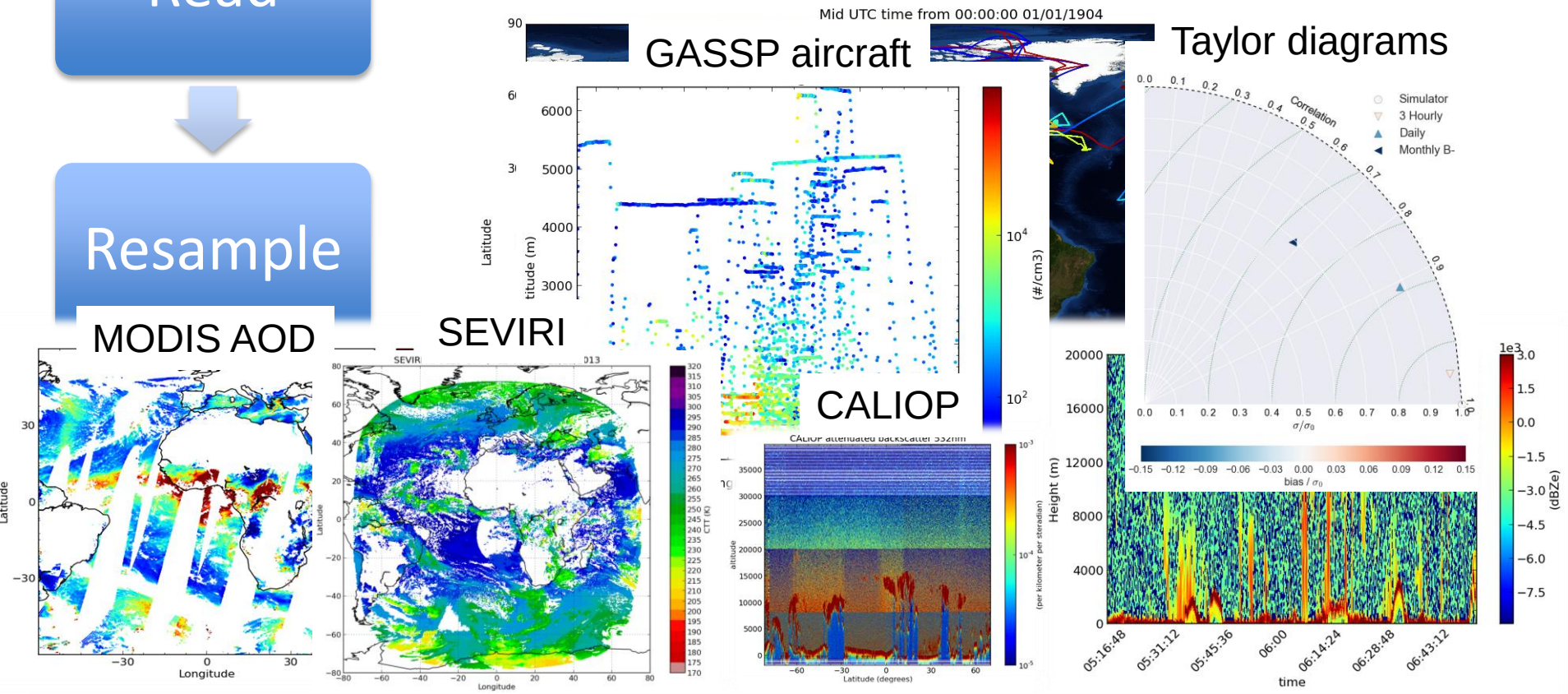
GASSP aircraft

Taylor diagrams

MODIS AOD

SEVIRI

CALIOP



DEMO

Roadmap and challenges

- Our distinction between ‘ungridded’ and ‘gridded’ data is fairly arbitrary and has some limitations
  - E.g. non-coordinate dimensions and LIDAR data
- Moving towards a ‘standard’ data-model
  - Wrapping Iris worked OK at first, but it’s a high maintenance approach and has usability issues
- Dask and parallelisation
  - It’s not clear what the benefits are for ‘ungridded’ datasets. Easy parallel chunking could be a big win though.
- Funding
  - We rely on funding from research councils who don’t provide software support beyond specific projects

Summary

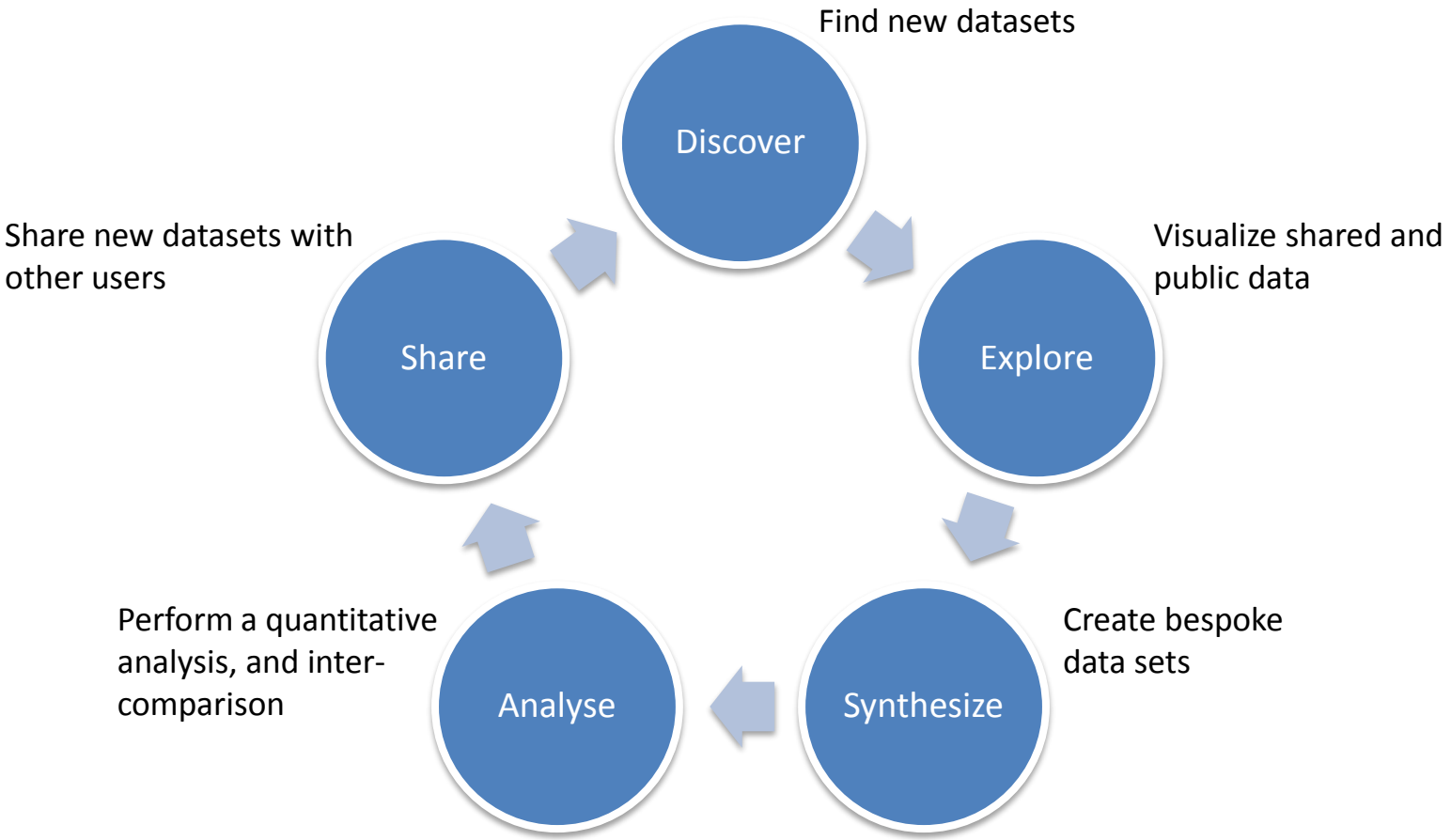
- CIS is an open source python toolbox for reading, analysing and visualising earth sciences data
- Lots of support for community developed plugins
- Looking to collaborate with other libraries wherever possible!

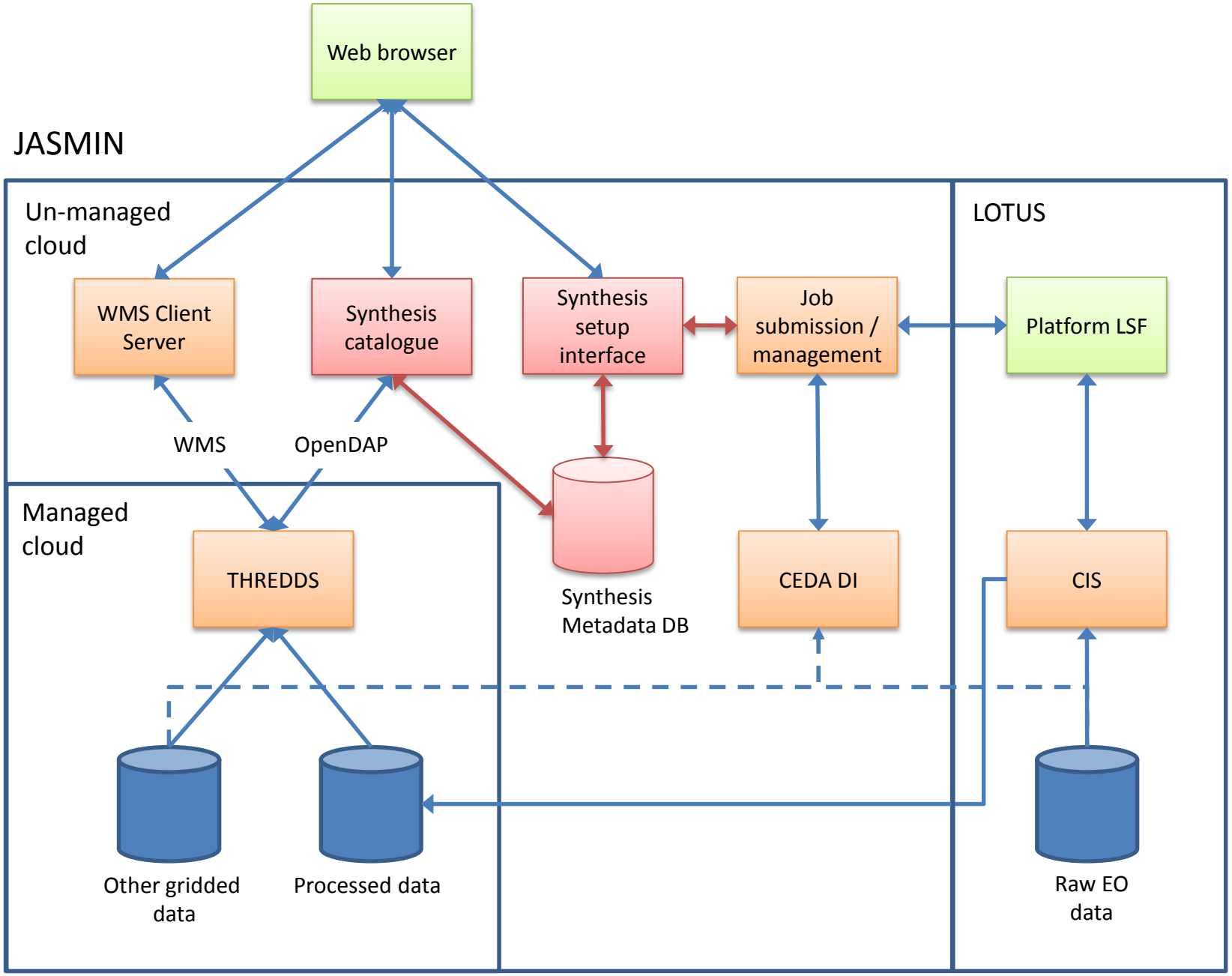
Join us at cistools.net

Follow us @cistoolsnet

SPARE SLIDES

CIS evaluation and synthesis platform (CIS-ESP)




Web browser
JASMIN
Un-managed cloud
LOTUS
WMS Client Server
Synthesis catalogue
Synthesis setup interface
Job submission / management
Platform LSF
WMS
OpenDAP
Managed cloud
THREDDS
Synthesis Metadata DB
CEDA DI
CIS
Other gridded data
Processed data
Raw EO data