



THREDDS and GSKY Examples

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You can clone or download the jupyter notebook examples so that you can play with them at your pace:

```
$ git clone https://github.com/nci-training/notebooks-demo.git
```

or

Follow examples from nci-data-training readthedocs:

https://nci-data-training.readthedocs.io/en/latest/_notebook/tds/tds.html

https://nci-data-training.readthedocs.io/en/latest/_notebook/gsky/gsky.html

- How to access datasets - THREDDS examples
- How to access datasets - GSKY examples

Recap: THREDDS (Thematic Realtime Environmental Distributed Data Services) data server (TDS) developed by Unidata (UCAR) allows for browsing and accessing of data (as well as metadata)

Name	Description
OPeNDAP (DAP2)	Protocol enabling data access and subsetting through the web
NetCDF Subset Service (NCSS)	Web service for subsetting files that can be read by the netCDF java library
Web Map Service (WMS)	OGC web service for requesting static images of data
Web Coverage Service (WCS)	OGC web service for requesting data in some output format
Godiva Data Viewer	Tool for simple visualisation of data
HTTP File Download	Direct downloading



programmatic data access examples using **GSKY – a scalable Geospatial data server**

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[Direct download notebook example](#)

[Data subsetting notebook example](#)

[Data viewing notebook example](#)

[OPeNDAP notebook example](#)

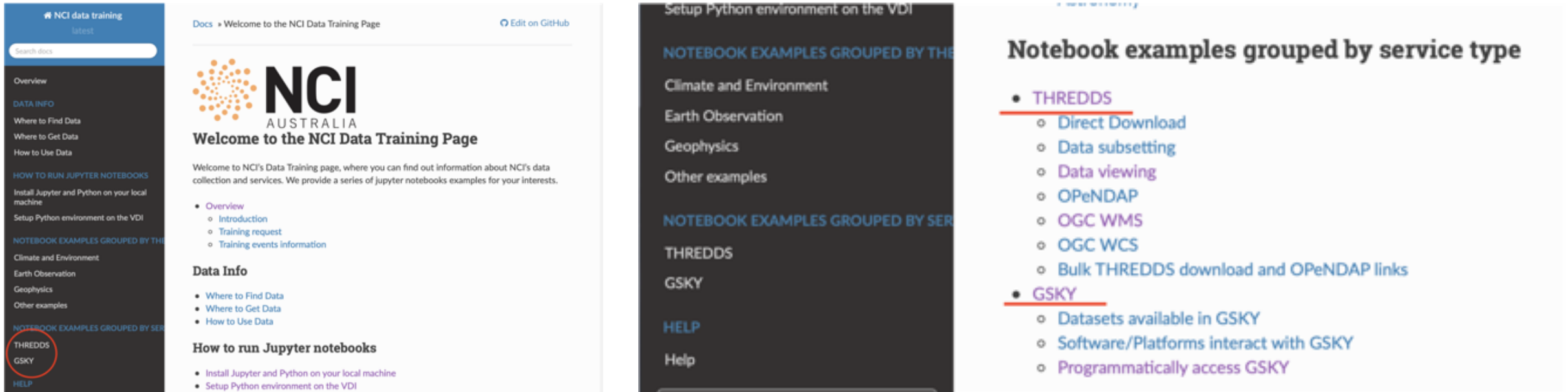
[OGC WMS notebook example](#)

[OGC WCS notebook example](#)

[THREDDS multifiles bulk download](#)

https://nci-data-training.readthedocs.io/en/latest/_notebook/tds/tds.html

Or you can look at the examples at <https://nci-data-training.readthedocs.io/en/latest/>



The image displays three screenshots of the NCI Data Training ReadTheDocs website:

- Left Screenshot:** Shows the site's navigation sidebar. The 'THREDDDS' and 'GSKY' menu items are circled in red.
- Middle Screenshot:** Shows the 'Welcome to the NCI Data Training Page' with the NCI AUSTRALIA logo and introductory text. It lists 'Overview' and 'Data Info' sections.
- Right Screenshot:** Shows a page titled 'Notebook examples grouped by service type' with a list of services: THREDDDS (underlined), Direct Download, Data subsetting, Data viewing, OPeNDAP, OGC WMS, OGC WCS, Bulk THREDDDS download and OPeNDAP links, GSKY (underlined), Datasets available in GSKY, Software/Platforms interact with GSKY, and Programmatically access GSKY.

Recap GSKY: WMS, WCS, and WPS.

Datasets: Earth Observation, Geophysics.

Examples are available here: https://nci-data-training.readthedocs.io/en/latest/_notebook/gsky/gsky.html

[How to load GSKY layer to National Map website](#)

[How to load GSKY layer to TerriaJS](#)

[How to request WPS to GEOGLAM RAPP](#)

[How to load GSKY layer into ArcGIS online version](#)

[How to load GSKY layer into QGIS](#)

You can browse and search NCI's data collection published through GSKY by going to the [Terria Map](#) or [National Map](#) websites.

To view the DEA or GEOGLAM collections, click on Add Data -> My Data -> Add Web Data and enter the following URLs respectively:

<http://gsky.nci.org.au/ows/dea>

<http://gsky.nci.org.au/ows/geoglam>

Digital Earth Australia (DEA) Geoscience Earth Observations, which include the following products of the Landsat 5, 7 and 8 satellite missions:

- Surface reflectance (NBAR/NBART true and false colour)
- Terrain corrected surface reflectance geometric median (geomedian)
- Intertidal Extents Models (ITEM)
- High and Low Tide Composites (HLTC)
- Water Observations from Space (WOfS)
- Sentinel 2 Analysis Ready Data (Beta)
- Blended service (landsat + sentinel)

GEOGLAM, the GEO Global Agricultural Monitoring initiative, which include the following products:

- MODIS Total Vegetation Cover v3.1 (8-day and Monthly)
- MODIS Total Vegetation Cover Anomaly v3.1 (Monthly)
- MODIS Total Vegetation Cover Decile v3.1 (Monthly)
- MODIS Vegetation Fractional Cover 8-day v3.1 (8-day and Monthly)
- CHIRPS Precipitation v2.0 (Monthly)

Koondrook forest

<https://terria-cube.terria.io/#share=s-cQBEsxJIW4nxQMEkOpaBa0SChfU>

Northern connectivity event

<https://terria-cube.terria.io/#share=s-gHSQuI0QZHx12ZHYcFOJgtEE8g8>

king sound

<https://terria-cube.terria.io/#share=s-wGIN5rxm9p7FSw7MOmyGHteDQmU>

Fraser Island

<https://terria-cube.terria.io/#share=s-xJAaBEMSDFuC3ircRfKYw3TT6oc>

Narrabi

<https://terria-cube.terria.io/#share=s-6J47U0PTSPRKgjupkFDJMWGVyQE>

Kinglake

<https://terria-cube.terria.io/#share=s-5ZFvg18Vg1gvA82CVXBznpWi4Xk>

Download notebooks

```
$ git clone https://github.com/nci-training/notebooks-demo.git*  
$ cd notebooks-demo
```

Running notebooks

```
$ Jupyter notebook  
$ Jupyter notebook Notebook_GSKY_WCS.ipynb
```

For these tutorials, you need these libraries: [owslib](#), [matplotlib](#), [pillow](#), [gdal](#), [netCDF4](#).

- install them if you run these examples on your local computer
- load those modules if you run on VDI

See instruction on setting up python environment in [local computer](#) and [VDI](#).

***NOTES:** the notebooks-demo repo is used for temporarily storing jupyter notebooks for training purposes. It is valid only during the training webinar or event. The content in this repo is subject to change without notice.

1. [Construct WMS GetCapabilities and GetMap requests](#)
2. [Programmatic WMS requests GSKY's blended services from Python](#)
(request_GSKY_WMS_sentinel2_bushfire_NSW_Sep2019.ipynb)
3. [Construct WCS GetCoverage, GetCapabilities and DescribeCoverage requests](#)
4. [Request map images through GSKY WCS from Python.](#)
(Notebook_GSKY_WCS.ipynb)
5. [WCS click to select the region, then ship the data](#)
(Notebook_GSKY_ClicknShip.ipynb)

GSKY time-out error: exceed GSKY processing time limit (maximum 30 seconds)

Import error: libraries are not installed

Empty images:

- data is not available in selected time frame/location
- areas requested are too large (>50km is not available in dea data collections to download) - we are working on this issue right now

GetMap or GetCoverage error: arguments are not set properly

Software:

1. [QGIS](#)
2. [ArcGIS](#)

Platform:

1. [TerriaJS](#)
2. [National Map](#)
3. [GEOGLAM RAPP](#)

