# AusCover

# Remote sensing data systems and access

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# Overview of the data system

**Open and free**
- Open and freely available data servers.
- Creative Commons BY licensing for most products.

**Easy access**
- Published server paths.
- No login for data access.
- Supports programmatic data access and use.

**OGC web services**
- GeoServer and THREDDS servers
- Web mapping/feature/coverage services.

**Standard metadata, documentation and data formats**
- ANZLIC and GeoNetwork for metadata.
- Push towards well documented products.
- Any data format supported but active push to open formats for longevity and value-adding services.

**Extensible nationwide system**
- Distributed data serving.
- Data products managed by local producers or custodians.
- No system-wide single point of failure, although no replication of products at this time either.

**System aggregation and value-adding tools**
- Search and discovery via GeoNetwork and TERN Data Discovery Portal.
- Visualisation tool using WMS.
- Subsetting and aggregation tool for gridded data.

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# Providers and Users
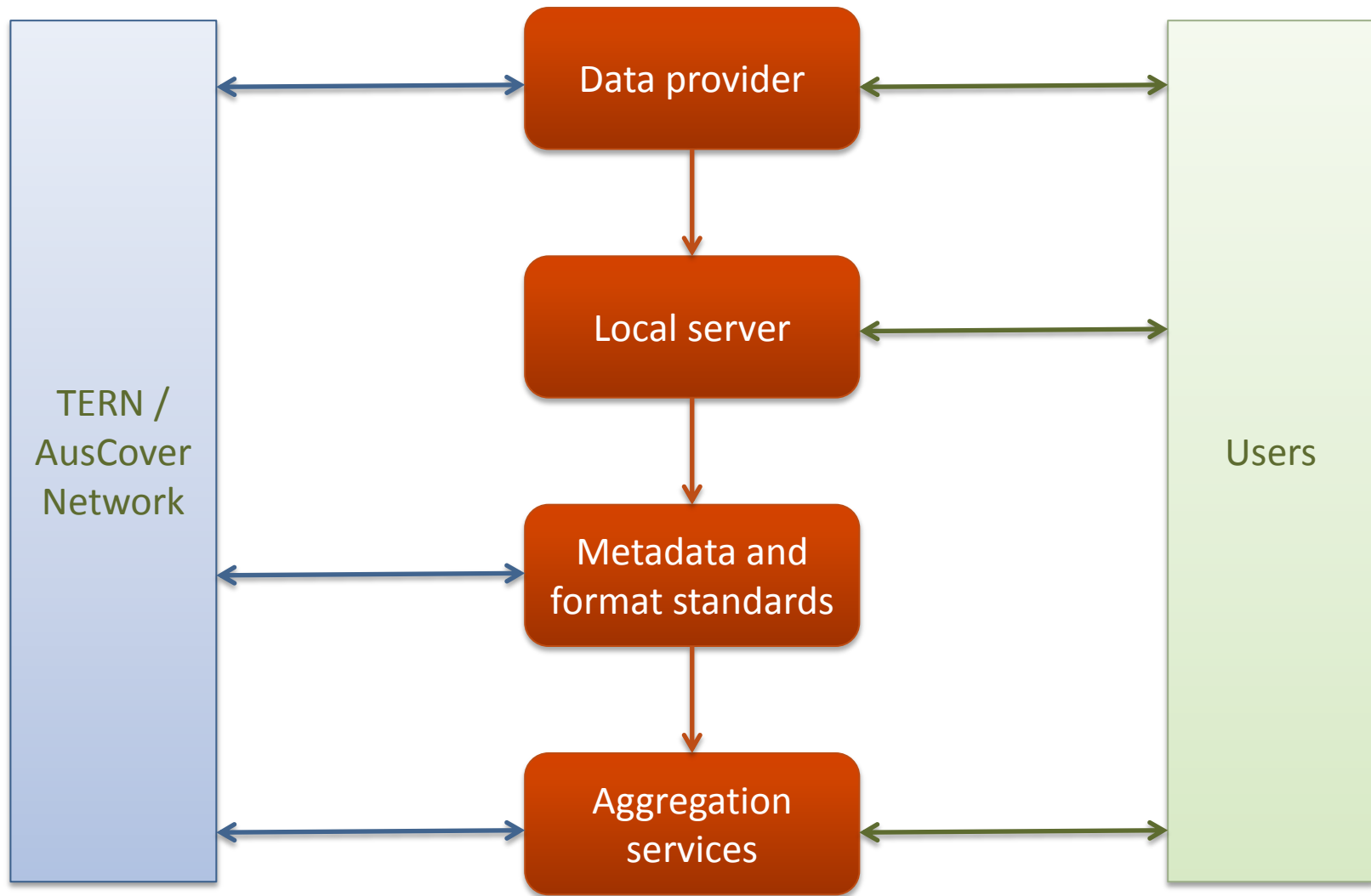
# AusCover data system



http://data.auscover.org.au/servers
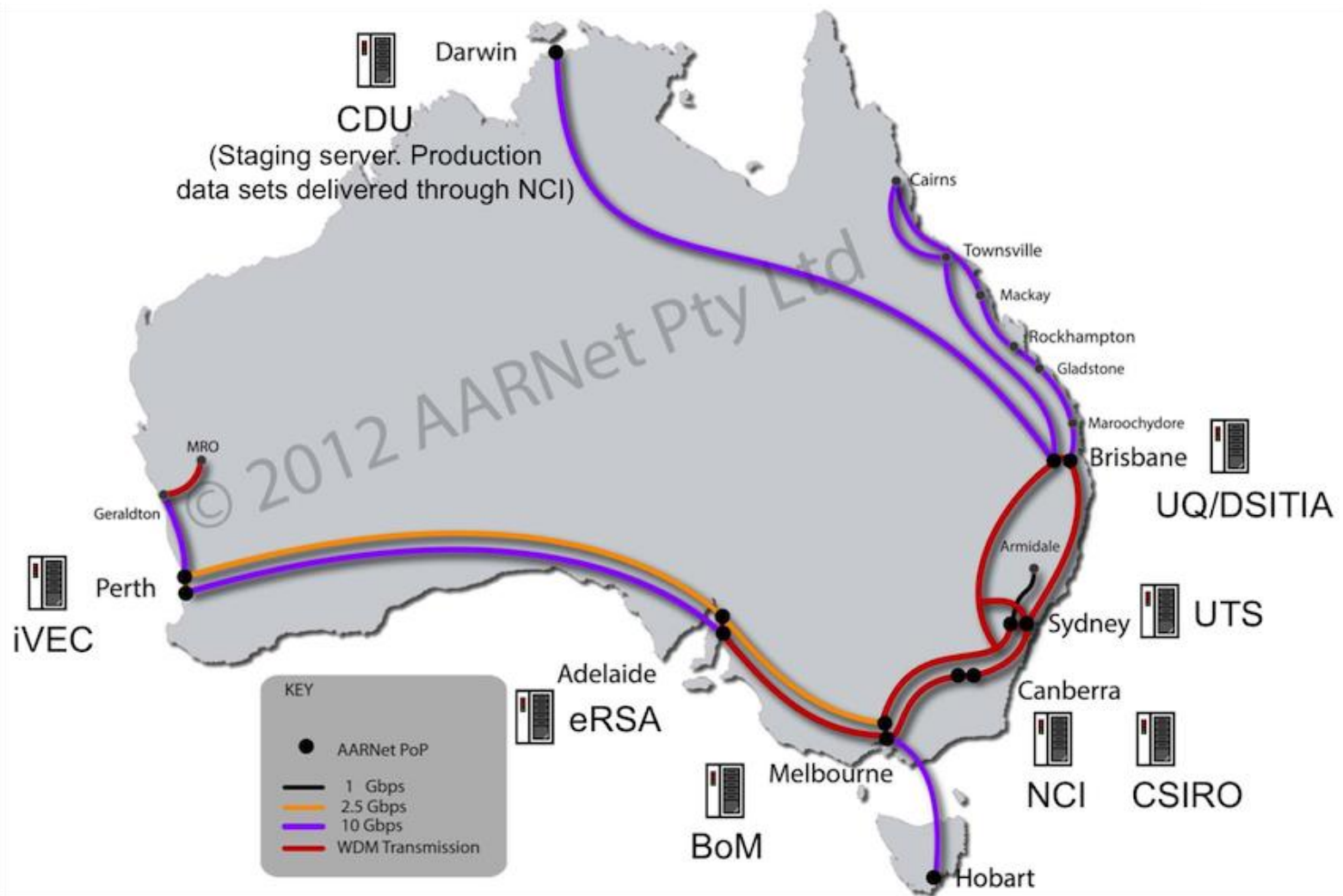
# Summary of node specialities

**Darwin**
- Fire products

**Brisbane**
- Landsat fractional vegetation
- Biomass mapping
- Field and airborne data coordination

**Perth**
- Surface reflectance
- Cloud and atmosphere

**Canberra - CSIRO**
- Fractional vegetation
- USGS land products
- GEOSS ecosystems map

**Canberra - GA**
- BRDF and Surface reflectance
- Dynamic land cover

**Sydney**
- Land surface temperature
- Phenology

**Adelaide**
- Fractional vegetation

**Melbourne - BoM**
- NDVI and Grass curing
- Gridded meteorology surfaces
- AWAP

**Melbourne - RMIT**
- Cal/Val standards

http://data.auscover.org.au -> Data products

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# Providers and Users
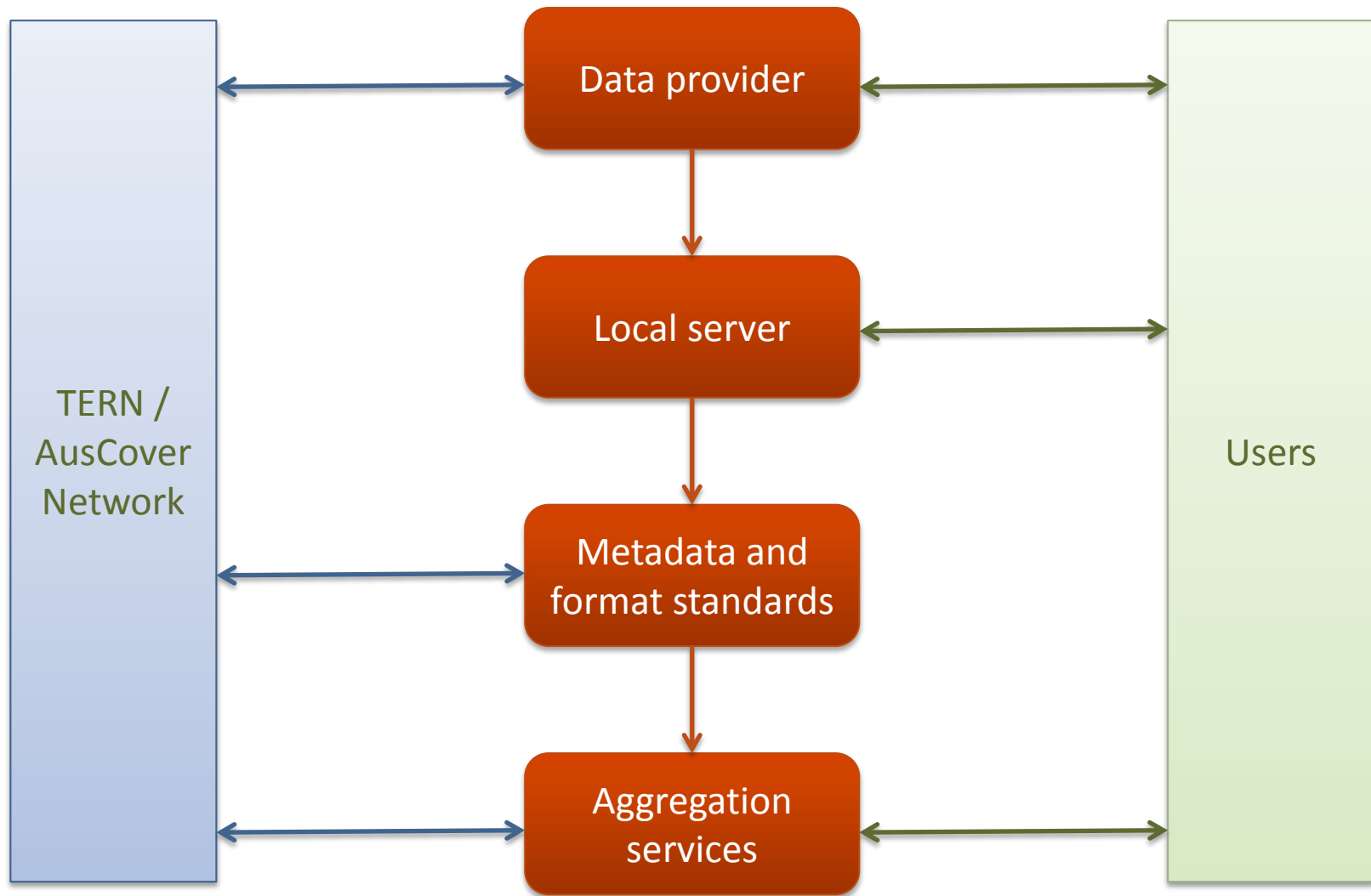
# Examples of local servers

http://modop.webhop.org/MODIS-dob/



https://remote-sensing.nci.org.au

http://tern-auscover.science.uq.edu.au/geoserver

# Example of metadata search/discovery

- Development: Wiki
- Published: GeoNetwork
- Harvested: TERN Data Discovery Portal

Data products



| Theme | Product | Availability | Validation | Custodian | GN |
|---|---|---|---|---|---|
| **Land Cover** | | | | | |
| | **Fractional cover** - Landsat, Joint Remote Sensing Research Program algorithm, Australia coverage | Available | 2 | JRSRP | |
| | **Fractional cover** - MODIS, CSIRO Land and Water algorithm, Australia coverage | Available | 2 | CSIRO | Yes |
| | Fractional cover - MODIS, University of Adelaide algorithm, Australia coverage | 2012/Q4 | | UA | |
| | **Persistent Green-Vegetation Fraction and Wooded Mask** - Landsat, Australia coverage | Available | 1 | JRSRP | |
| | Forest cover >20% - Landsat, Australia coverage | TBD | | DCCEE | |
| | Forest cover <20% - Landsat, Australia coverage | TBD | | DCCEE | |
| | **Vegetation height** - IceSat, Queensland coverage | Available | 1 | JRSRP | |
| | Vegetation height - IceSat, Australia coverage | 2013/Q2 | 2 | JRSRP | |
| | **Dynamic Land Cover Dataset** - MODIS, Australia coverage | Available | | GA | |
| | **Land Cover Type** - MODIS, LPDAAC MCD12Q1 mosaic, Australia coverage | Available | 2 | CSIRO | Yes |
| | **Vegetation Continuous Fields** - MODIS, LPDAAC MOD44B mosaic, Australia coverage | Available | 1 | CSIRO | Yes |
| **Ecosystem Variables** | | | | | |
| | **Gross Primary Productivity** - MODIS, LPDAAC MOD17A2 mosaic, Australia coverage | Available | 3 | CSIRO | Yes |
| | **Land Cover Dynamics** - MODIS, LPDAAC MCD12Q2 mosaic, Australia coverage | Available | 2 | CSIRO | Yes |
| | **Phenology/Seasonality** - MODIS, Australia coverage | 2012/Q4 | | UTS | |
| | **Disturbance Index** - MODIS, Australia coverage | 2012/Q3 | | UTS | |
| | **Fractional cover metrics** - MODIS, ABARES algorithm, Australia coverage | Available | | ABARES | |
| | Above ground Vegetation Biomass - Australia coverage | TBD | | CSIRO | |
| | Above Ground Biomass - (Kyoto and Carbon III method), Australia coverage | 2013/Q2 | | JRSRP | |
| - Vegetation Indices | | | | | |
| | **Normalized Difference Vegetation Index** (NDVI) and **Enhanced Vegetation Index** (EVI) - MODIS, LPDAAC MOD13Q1 mosaic, Australia coverage | Available | 3 | CSIRO | Yes |
| | **Enhanced Vegetation Index** (EVI) - MODIS, LPDAAC MOD13Q1 mosaic despiked, Australia coverage | TBD | n/a | GA | Yes |
| | **Normalised Difference Vegetation Index** (NDVI) - AVHRR, without atmospheric correction, Australia coverage | Available | UV | BoM | Yes |
| | Normalised Difference Vegetation Index (NDVI) - AVHRR, with atmospheric correction, Australia coverage | 2012/Q4 | | BoM | |
| | Normalised Difference Vegetation Index (NDVI) - AVHRR, with atmospheric and angular correction, Australia coverage | 2013/Q1 | | BoM | |

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# Example of metadata search/discovery

- Development: Wiki
- Published: GeoNetwork
- Harvested: TERN Data Discovery Portal

Data products

Metadata catalogue

# Example of metadata search/discovery

- Development: Wiki
- Published: GeoNetwork
- Harvested: TERN Data Discovery Portal

Metadata catalogue

Data products



http://portal.tern.org.au

# Example of visualisation - Portal



http://data.auscover.og.au/webportal

# Example of visualisation - Google
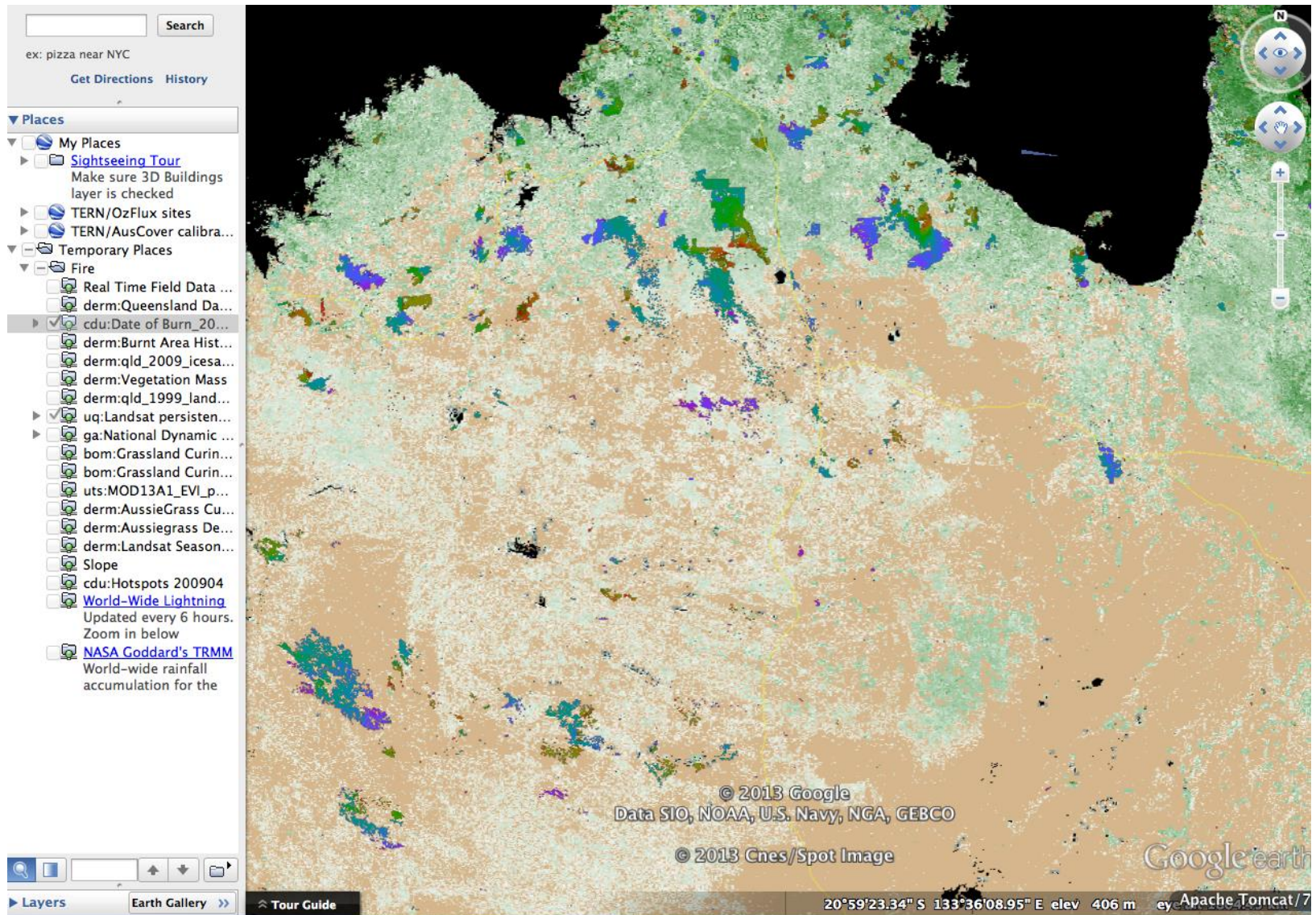
# The year (or two) ahead

**Technical**

- Easier metadata creation/management, automated crosswalks.
- Code repository for reformatting data in a variety of languages.
- Rebuild of our http://data.auscover.org.au, improved layout/info.
- Subsetting and aggregation tool for gridded data.

**Use and Delivery**

- Partnering with groups to extend the use of RS data in a variety of disciplines.
- Improving the operational delivery of each product.
- Online validation tool.
- Consideration of new products.
- Provide the local nodes with all the tools they need to prosper in the TERN/AusCover network, and beyond the life of TERN/AusCover.

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# Outreach

**Seasonal fire outlooks**

- Approaching the groups this season.
- Look to deliver some products next season.
- E.g., Connections to NAFI, FireWatch, Sentinel, LongPaddock.

**AusCover data user workshops**

- Connect with local interested parties, e.g., government, research, non-government.
- Darwin, Melbourne, Sydney, Adelaide.

**AusCover user reference group**

- First convened in 2009.
- Prioritisation of products.
- Will reform with new members in 2013.

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# Questions and requests

- Can not find something?
- Want to add a product?
- Reporting a problem?

Contact your local representative

or

data@auscover.org.au
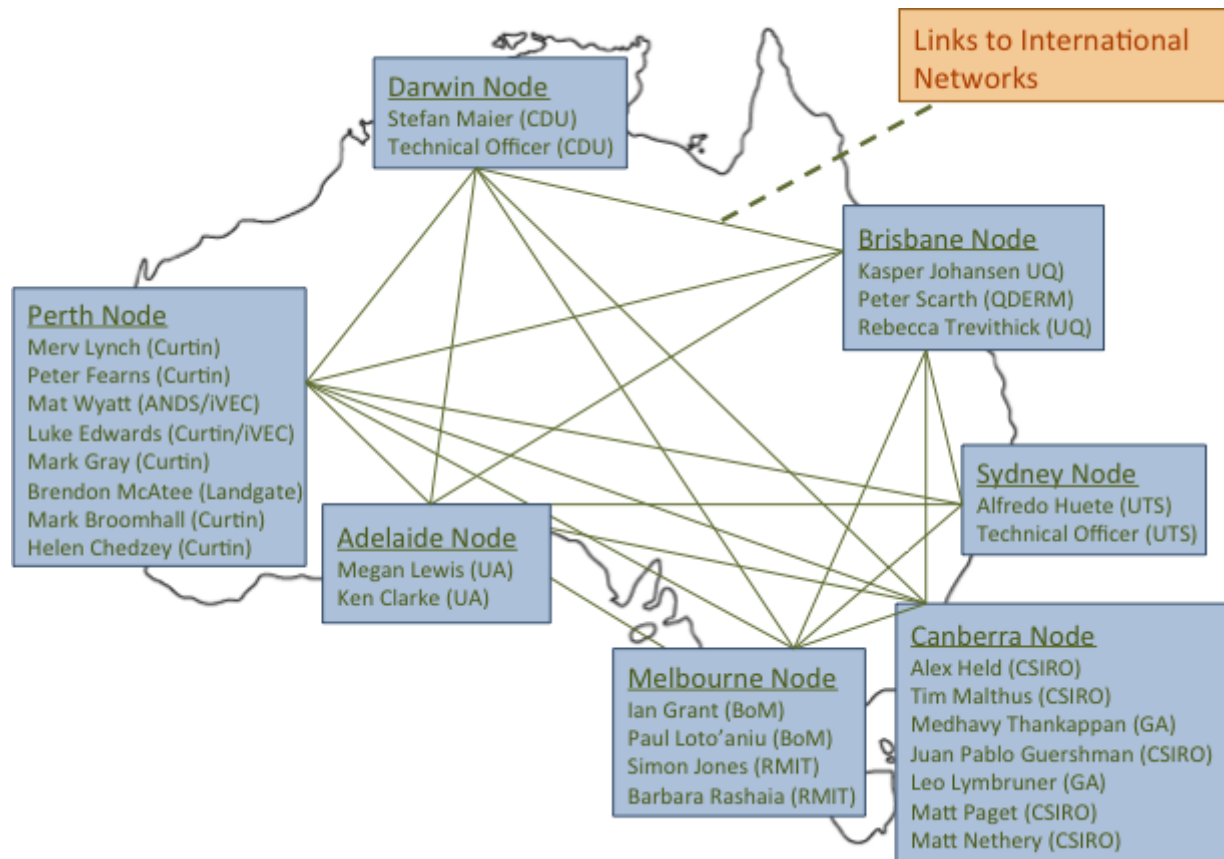
# Facility Contact Details

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