

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.

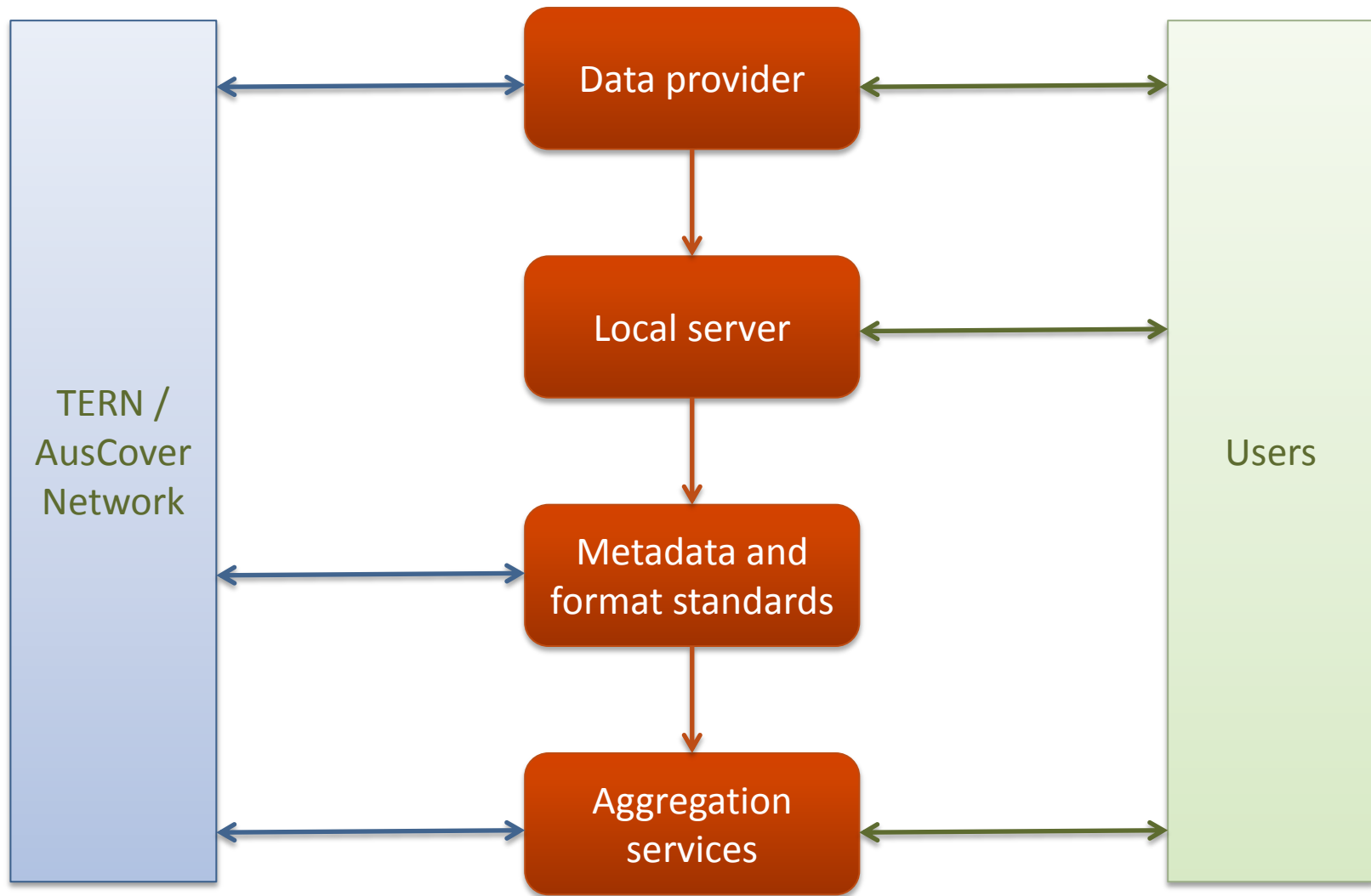
Extensible nationwide system

- 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.

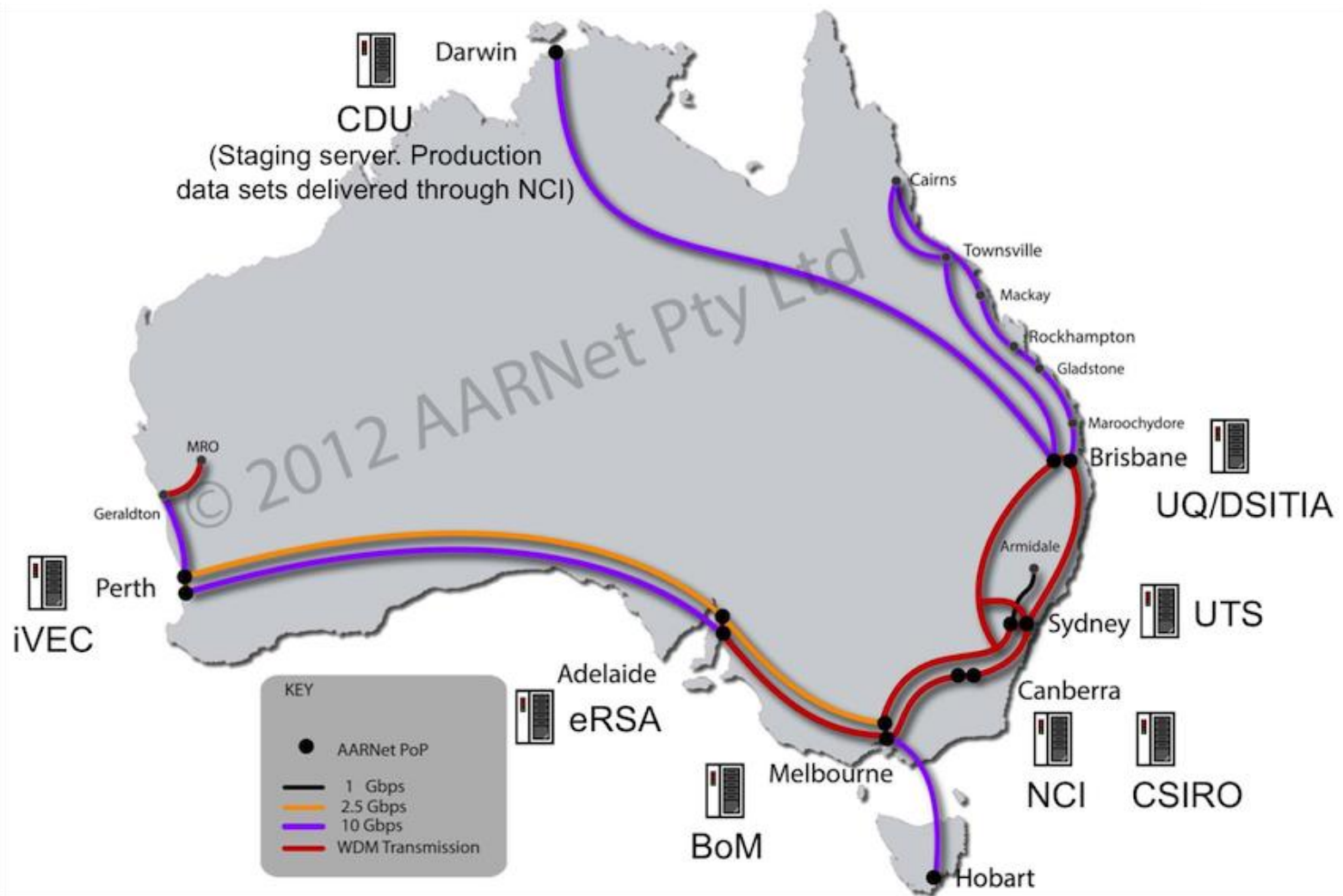
System aggregation and value-adding tools

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

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

Sydney

- Land surface temperature
- Phenology

Canberra - CSIRO

- Fractional vegetation
- USGS land products
- GEOSS ecosystems map

Canberra - GA

- BRDF and Surface reflectance
- Dynamic land cover

Adelaide

- Fractional vegetation

Melbourne - BoM

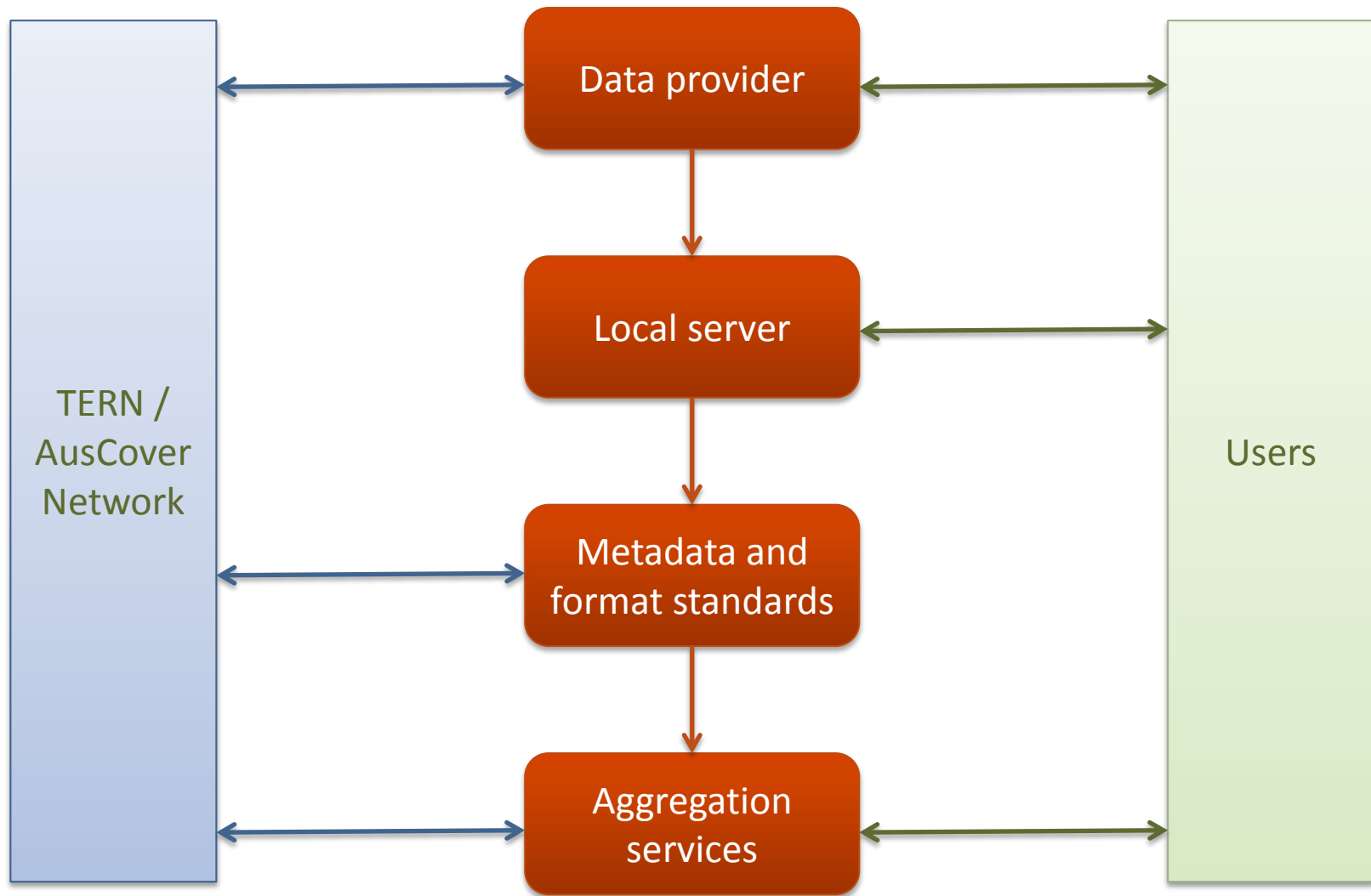
- NDVI and Grass curing
- Gridded meteorology surfaces
- AWAP

Melbourne - RMIT

- Cal/Val standards

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

Providers and Users



Examples of local servers

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



Remote Sensing Data Sets at the NCI

These datasets are produced by a variety of collaborators who are generally, but not specifically, aligned to either the Satellite Remote Sensing Facility of the Integrated Marine Observing System (IMOS) or the AusCover facility within the Terrestrial Ecosystem Research Network (TERN).

The datasets are hosted by the National Computational Infrastructure (NCI) with support from both IMOS and TERN.

If there are problems with broken links please check the [NCI news page](#) (key words for this system are 'projects', 'dcc', 'dc'), or contact the [AusCover data administrator](#).

Base Data (IMOS & TERN)

- [NOAA HRPT](#) Stitched Australian DB sites as full-pass ASDA files (1 week rolling archive).
- [MODIS Level-0](#) Merged Australian DB sites as 5min PDS granules (rolling archive).
- [MODIS Level-1B](#) Merged Australian DB sites as L1B 5min granules (rolling archive).
- [EO-1 Hyperion](#) Raw Australian passes from USGS.

TERN/AusCover Products

- [MODIS LPDAAC](#) data for Australia and New Zealand from CMAR
- [MODIS LPDAAC subsets for TERN sites](#) from CMAR
- [MODIS Fractional Cover](#) data from CSIRO Land and Water (Guerschman and Hill)
- [MODIS Fractional Cover Metrics](#) data from ABARES
- [MODIS Fractional Cover Field Sites](#) data from ABARES
- [MODIS Burnt Area for Australia](#) data from Charles Darwin University
- [AVHRR Fire Frequency for Australia](#) data from Charles Darwin University
- [AVHRR PAL](#) Pathfinder AVHRR Land data from GSFC and CMAR (King)
- [AVHRR IPAR](#) data from CSIRO Land and Water (Donohue, Roderick and McVicar)
- [Hyperion Hyperspectral surface reflectance](#) data from Curtin University (Broomhall)

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

Index of /MODIS-dob

Name	Last modified	Size	Description
Parent Directory		-	
envi-erm/	26-May-2013 23:28	-	
geotiff/	26-May-2013 23:28	-	
netcdf/	26-May-2013 23:28	-	
shapefile/	26-May-2013 23:28	-	

Apache/2.2.15 (CentOS) Server at modop.webhop.org Port 80

The image shows the GeoServer Layer Preview interface. It includes a sidebar with 'About & Status', 'Data', and 'Demos' sections. The main area displays a 'Layer Preview' table with columns for Type, Name, Title, Common Formats, and All Formats. The table lists various layers such as 'uts:MODIS13A1_EVI_percent_expected_2012_177', 'derm:qld_2009_icesat_veg_height', and 'validation:auscover_supersites_ozone'. Each row has a 'Select one' dropdown menu for the 'All Formats' column.

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

Example of metadata search/discovery

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

Data products

EXPORT ▼ MORE ACTIONS ▼						ANNOTATIONS	
Important disclaimer - please read							
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		
Ecosystem Variables	Vegetation Continuous Fields - MODIS, LPDAAC MOD44B mosaic, Australia coverage	Available	1	CSIRO	Yes		
	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		
- Vegetation Indices	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			

Example of metadata search/discovery

Data products

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Metadata catalogue

TERN AusCover

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WHAT?

WHERE?

Search

Reset Advanced Options

GeoRSS

1 Fire Frequency - AVHRR, Charles Darwin University algorithm, Australia coverage

2 Burnt Area and Approximate Day of Burn - MODIS, Charles Darwin University algorithm, Australia coverage

3 Level 3 joint atmosphere product - MODIS, LAADS Mx08, Australia coverage

4 Surface reflectance - MODIS, 19-band with atmospheric correction, Australia coverage

5 Fraction of Photosynthetically Active Radiation (FPAR) - AVHRR, CSIRO Land and Water algorithm, Australia coverage

6 Normalized Difference Vegetation Index (NDVI) - AVHRR, without atmospheric correction, Australia coverage

7 Fractional cover - MODIS, CSIRO Land and Water algorithm, Australia coverage

8 Hyperspectral surface reflectance - Hyperion, enhancement and atmospheric correction technique, Australia coverage

9 Vegetation Continuous Fields - MODIS, LPDAAC MOD44B mosaic, Australia coverage

10 Thermal Anomalies (Fire Hotspots) - MODIS, LPDAAC MOD14A2 mosaic, Australia coverage

data.auscover.org.au/geonetwork/srv/en/about

EXPORT MORE ACTIONS						ANNOTATIONS	
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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			
	cover >20% - Landsat, Australia coverage	TBD		DCCEE			
	cover <20% - Landsat, Australia coverage	TBD		DCCEE			
	tion height - IceSat, Queensland coverage	Available	1	JRSRP			
	tion height - IceSat, Australia coverage	2013/Q2	2	JRSRP			
	ic Land Cover Dataset - MODIS, Australia coverage	Available		GA			
	cover Type - MODIS, LPDAAC MCD12Q1 mosaic, Australia coverage	Available	2	CSIRO	Yes		
Primary Productivity	tion Continuous Fields - MODIS, LPDAAC MOD44B mosaic, Australia coverage	Available	1	CSIRO	Yes		
	Primary Productivity - MODIS, LPDAAC MOD17A2 mosaic, Australia coverage	Available	3	CSIRO	Yes		
	cover Dynamics - MODIS, LPDAAC MCD12Q2 mosaic, Australia coverage	Available	2	CSIRO	Yes		
	logy/Seasonality - MODIS, Australia coverage	2012/Q4		UTS			
	ance Index - MODIS, Australia coverage	2012/Q3		UTS			
	nal cover metrics - MODIS, ABARES algorithm, Australia coverage	Available		ABARES			
	ground Vegetation Biomass - Australia coverage	TBD		CSIRO			
	Ground Biomass - (Kyoto and Carbon III method), Australia coverage	2013/Q2		JRSRP			
	lized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI) - MODIS, LPDAAC MOD13Q1 mosaic, Australia coverage	Available	3	CSIRO	Yes		
	ed Vegetation Index (EVI) - MODIS, LPDAAC MOD13Q1 mosaic, Australia coverage	TBD	n/a	GA	Yes		
Normalized Difference Vegetation Index (NDVI) - AVHRR, without atmospheric correction, Australia coverage	lized Difference Vegetation Index (NDVI) - AVHRR, without atmospheric correction, Australia coverage	Available	UV	BoM	Yes		
	lized Difference Vegetation Index (NDVI) - AVHRR, with atmospheric correction, Australia coverage	2012/Q4		BoM			
	lized Difference Vegetation Index (NDVI) - AVHRR, with atmospheric correction, Australia coverage	2013/Q1		BoM			

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- Thermal Anomalies (Fire Hotspots) - MODIS, LPDAAC MOD14A2 mosaic, Australia coverage

data.auscover.org.au/geonetwork/srv/en/about



Username Password English Login

Find interactive maps, GIS datasets, satellite imagery and related applications

Aggregated results matching search criteria: 1-4/4 (Page 1/1), 0 selected

Save Search Clear Search

Refine Search ?

Advanced Boolean Search

Search ecosystem data

Dates

Show temporal data between: 1800 & 2025 GO

Region

Please select a region type

Facilities

Auscover (4) GO

EXPORT MORE ACTIONS

Important disclaimer - please read

Theme	Product	Availability	Validation	Custodian	GN
Land Cover	Fractional cover - Landsat, Joint Remote Sensing Research Program algorithm, Australia coverage	Available	2	JRSRP	
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	cover >20% - Landsat, Australia coverage	TBD		DCCEE	
	cover <20% - Landsat, Australia coverage	TBD		DCCEE	
	tion height - IceSat, Queensland coverage	Available	1	JRSRP	
	tion height - IceSat, Australia coverage	2013/Q2	2	JRSRP	
	ic Land Cover Dataset - MODIS, Australia coverage	Available		GA	
	cover Type - MODIS, LPDAAC MCD12Q1 mosaic, Australia coverage	Available	2	CSIRO	Yes

Multiple matches (4):

- 1 Normalized Difference Vegetation Index (NDVI) - AVHRR, without atmospheric correction, Australia coverage
- 2 Fraction of Photosynthetically Active Radiation (FPAR) - AVHRR, CSIRO Land and Water algorithm, Australia coverage

Showing 4 of 4 results Display 10 results Sort By Relevance Page: 1 of 1

Map ref#	Title	Date released
1	Normalized Difference Vegetation Index (NDVI) - AVHRR, without atmospheric correction, Australia coverage	18-02-2013
2	Fraction of Photosynthetically Active Radiation (FPAR) - AVHRR, CSIRO Land and Water algorithm, Australia coverage	18-02-2013
3	Normalized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI) - MODIS, LPDAAC MOD13Q1 mosaic, Australia coverage	18-02-2013
4	Fractional cover - MODIS, CSIRO Land and Water algorithm, Australia coverage	18-02-2013

Example of visualisation - Portal

The screenshot displays the AusCover Visualisation Portal. At the top, there is a navigation bar with links for 'Log in or Register', 'eMII', 'AusCover', and 'Home'. The main header includes the 'TERN' logo and the 'AusCover Visualisation Portal' title. Below the header, there are three buttons: 'Home', 'Map', and 'Search'. The 'Map' button is currently selected.

On the left side, there is a 'Map Layer Chooser' panel. It contains a 'Map Layers' section with a tree view of data layers. The 'Active Layers' section at the bottom shows two layers: 'Hemispherical Photography' and 'Fract Cover CLW - NPV'. There are also checkboxes for 'Auto zoom to layer' and 'Hide layer details', and buttons for 'Remove All Layers' and 'Reset Map'.

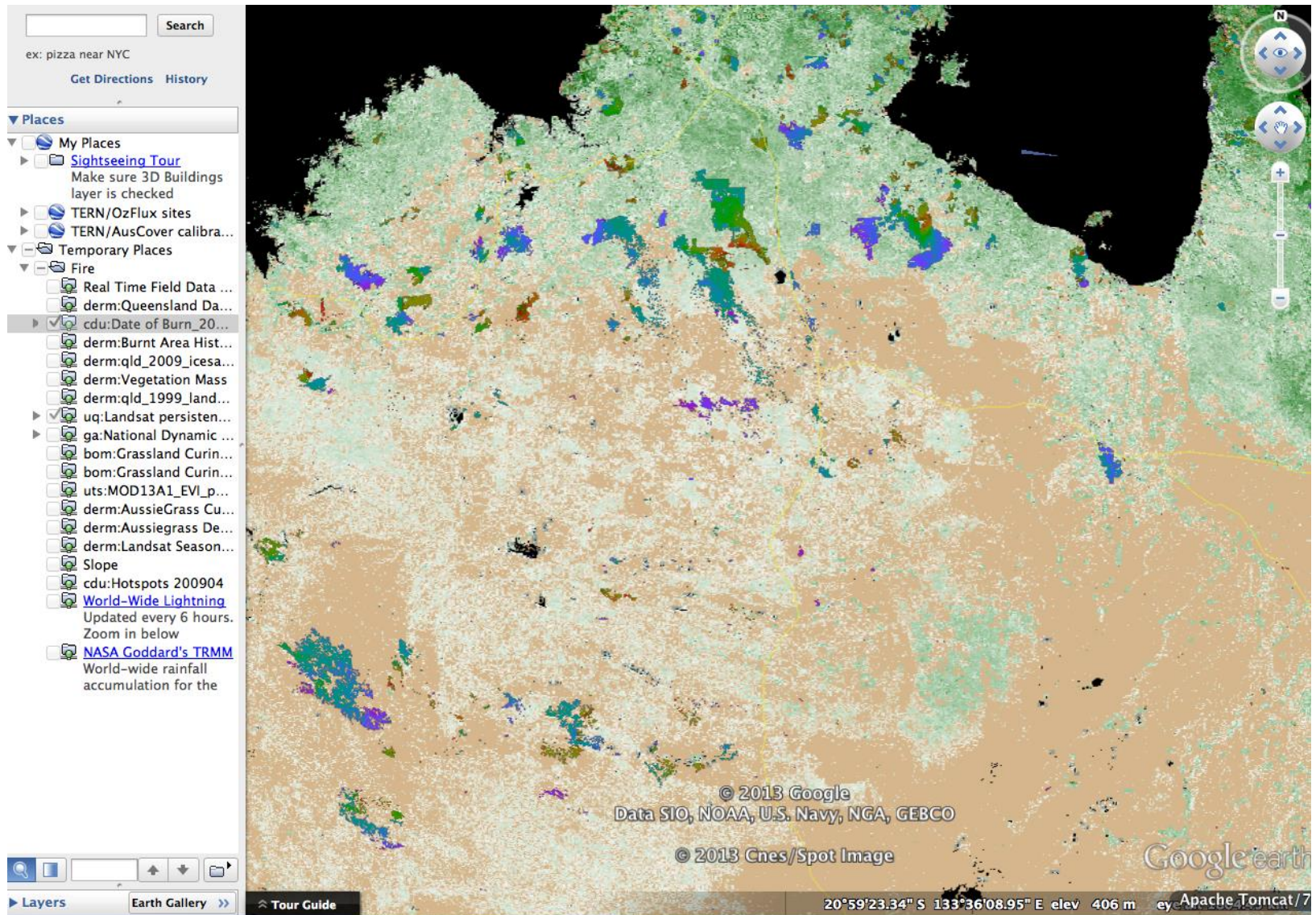
The central map area shows a coastal region with a color-coded overlay representing different data layers. A vertical toolbar on the left of the map includes zoom in/out buttons, a full-screen button, and a search icon.

On the right side, there is a 'Feature information found for 2 / 2 layers' panel. It contains a 'Loading ...' message and two tabs: 'Fract Cover CLW - NPV' and 'Hemispherical Photography'. The 'Hemispherical Photography' tab is active, displaying a 'Brief Abstract' and a 'Data Downloads' section. The 'Brief Abstract' describes the dataset as true color and infrared hemispherical imagery. The 'Data Downloads' section lists links for 'Summary Shapefile', 'Hemispheric Images', and 'Metadata Links'. The 'Metadata Links' section lists links for 'Shapefile Attribute Metadata', 'Product Metadata', and 'Field Data Collection Protocol'. Below these sections, there is a 'Sample Data' table.

Sample Data	
supersite:	robsons creek
satellite:	dc
instrument:	hm
product:	ir
scene:	14560281e01710955s
date:	20120914
azimuth:	180

<http://data.auscover.org.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.

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

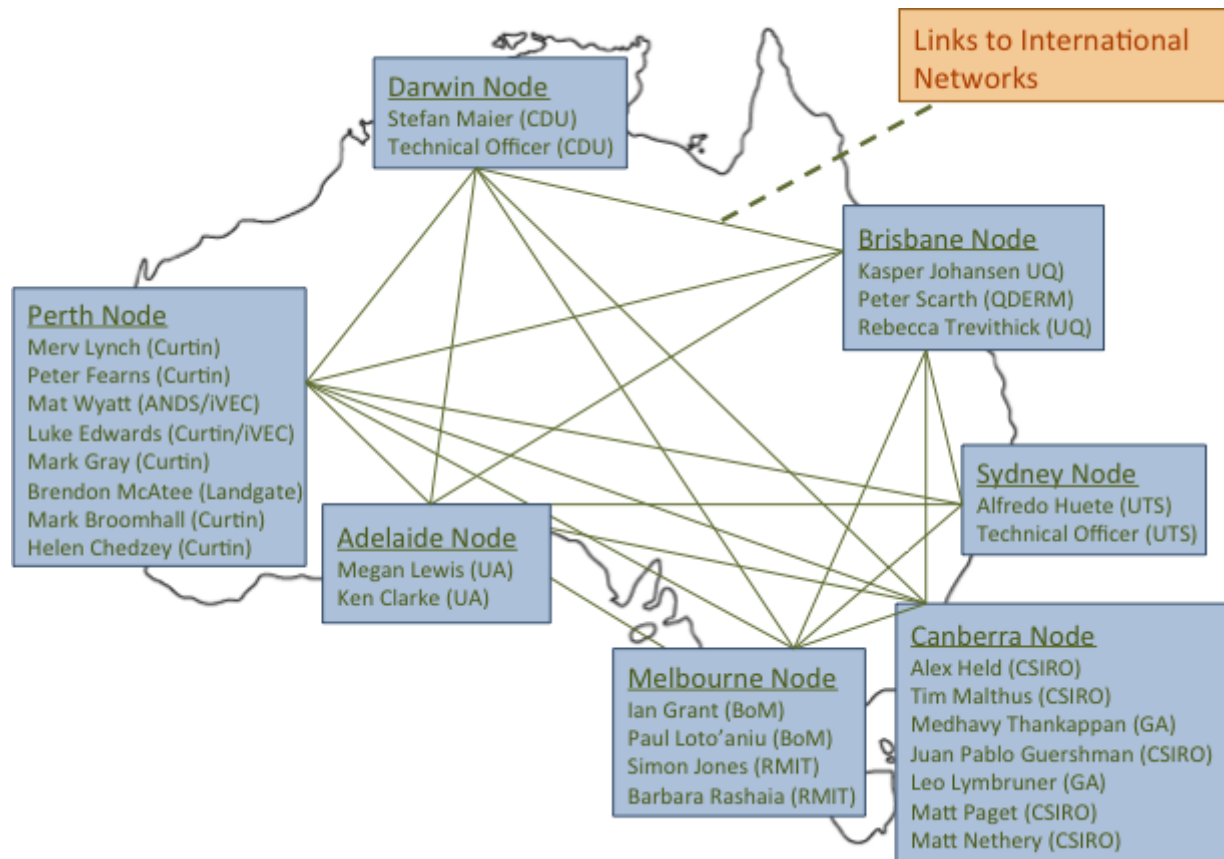
- First convened in 2009.
- Prioritisation of products.
- Will reform with new members in 2013.

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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