

# Queensland's Open (spatial) Data Revolution



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**Department of Natural Resources and Mines**

**April 2014**

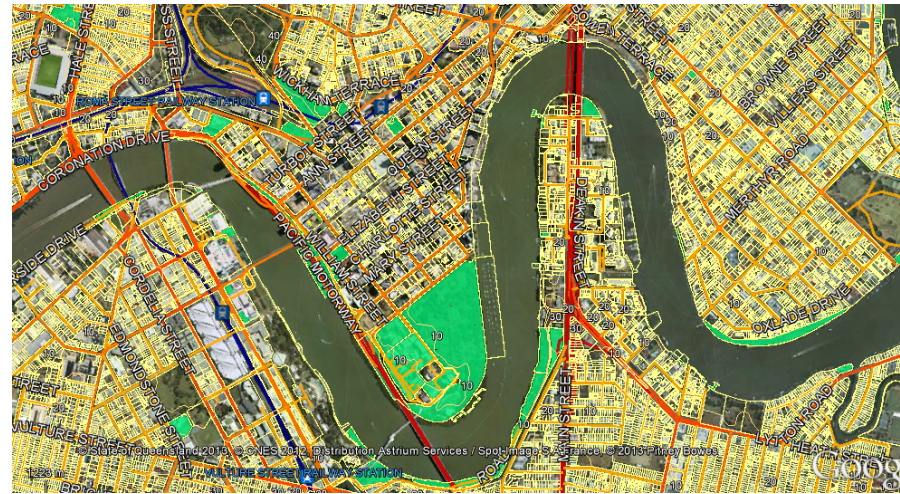
# Background

- In October 2012, Queensland's Premier announced the start of an Open Data Revolution in the State.
- Open Data (in Queensland) must be free, on-line, machine readable and licensed openly (CC-BY)
- All data must be proactively released as OD unless privacy, security, X-in confidence or its release would lead to a significant loss of revenue
- All Agencies must publish their OD Strategies (by May 2013)
- Agencies were given two years to comply (half way!)



# Background

- DNRM is custodian of a significant number of data resources (834), the vast majority are spatial<sup>1</sup>



- Includes 'Foundation Spatial Data' – *Qld base mapping*
- DNRM offers 3 key pathways to its spatial data:
  - *Visualisations*      - *Data Downloads*      - *Web Services*
- By far the most popular visualisation tool is the Queensland Globe launched by the Premier (3rd April 2013) as a key Open Data initiative

<sup>1</sup> *DNRM Open Data Strategy (Draft) 2014*

Users

*Find Data* Queensland Spatial Catalogue  
[www.information.qld.gov.au](http://www.information.qld.gov.au)

*Select a Tool or Application*

Google Earth... <i>Novice</i>	<i>Spatial Applications</i>	ESRI... <i>Expert</i>
MapInfo...		

*Access it as...*

Visualisations	Data Download	Web Services
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90% DNRM's Data is Spatial

*DNRM's Open Data Strategy (2014)*

697 Open Data Resources (85%)	137 Restricted Data Resources (15%)	834 Data Resources
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DNRM Custodians (Senior Executives)

Department of Natural Resources and Mines

Agency Open Data Strategies (20) First Published in 2013  
Accessed via the QG Open Data Portal [www.data.qld.gov.au](http://www.data.qld.gov.au)



# Current Access Arrangements

## Queensland Foundation Spatial Datasets

(April 2014)

	Visualisations	Data Download	Web Services
Admin Boundaries	QLD Globe	QGIS	QSC
Cadastre	QLD Globe	QGIS	QSC
Drainage	QLD Globe	QGIS	(under construction)
Elevation	QLD Globe	QGIS	(under construction)
Imagery	QLD Globe	QGIS	SISP
Place Names	QLD Globe	QGIS	QSC
Property Address	QLD Globe	QGIS	QSC
State Control Survey	QLD Globe (Aug)	QGIS	
Transport	QLD Globe	-	-
Integrated Foundation Spatial Data	QLD Globe	-	Queensland Topographic Map (QTopo)

Foundation Spatial Datasets (Open Data)

Department of Natural Resources and Mines

# Why Queensland Globe?

- Simple way to view and share spatial information
  - emerging need from 2011 floods and cyclone
- Uses Google Earth, started with a one file
  - which connects to, & adds QG Spatial Data
- Can be deployed to anyone  
(in government, business or the public)
- It's Free – thanks to Qld's Open Data policy & Google
- Training not required ~ *everyone's used Google Earth*
- Also available on smart phones and tablets
- Contains Queensland's Foundation Spatial Data
- Plus... much more (over 250 data layers today)
- Accessible from the Open Data portal or DNRM website  
[www.data.qld.gov.au](http://www.data.qld.gov.au) / [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

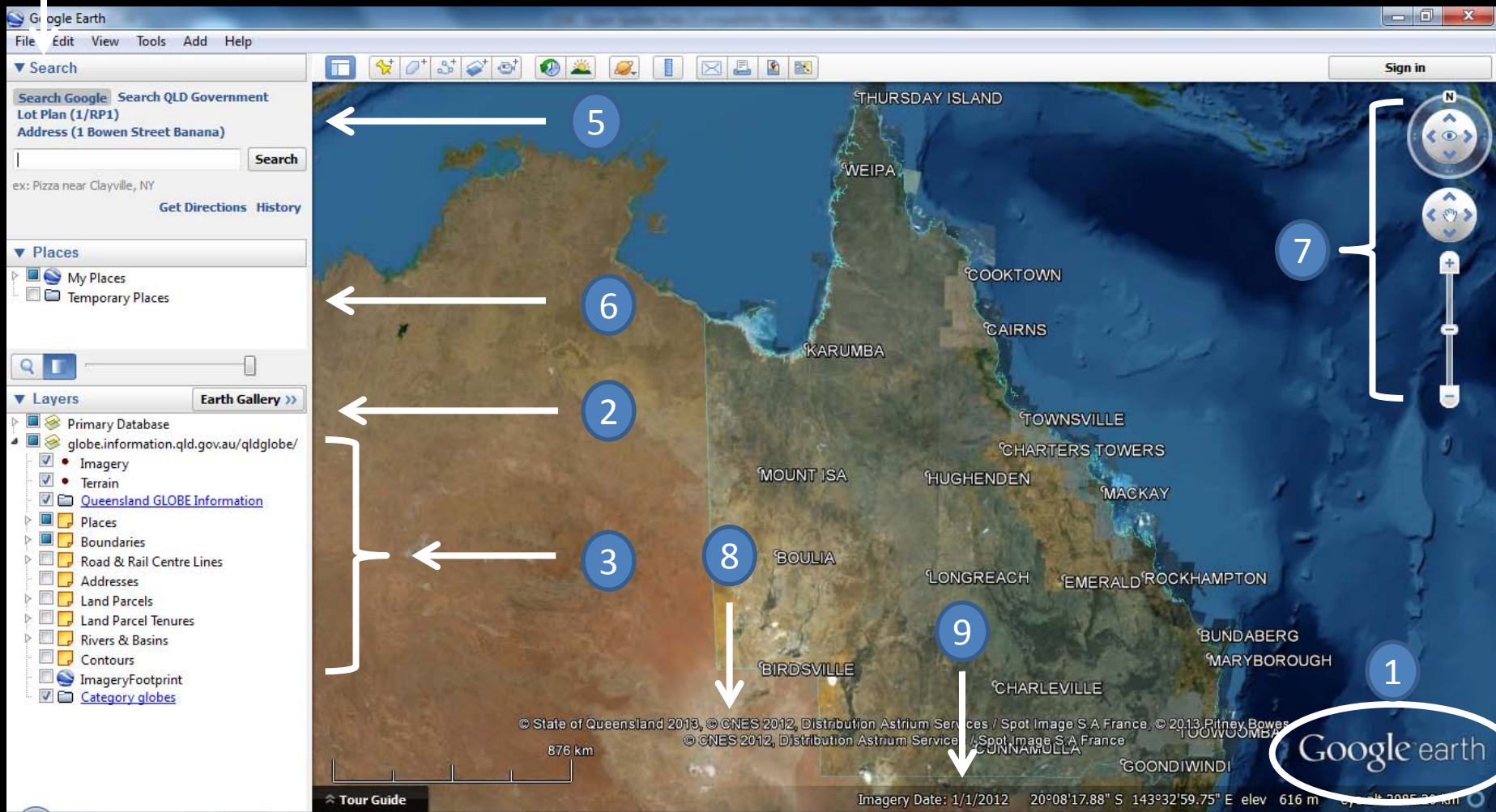
# Main features of the Queensland Globe

- Familiarity for users, confidence with Google's technology
- Google's data is still there - *eg Google's imagery & Street View as well as Google Search*
- Data remains server side – point of truth always
- For all (Open) spatial data within the Globe:
  - provide the full metadata record
  - direct download facility
- Built in Help, Tips, Tutorials, Feedback & Contacts
- Only need one file (which never changes):



QLDglobe  
Google Earth KML file  
277 bytes

# Queensland Globe Basic Components



1. Google Earth (free client)
2. Google's imagery and layers
3. Queensland Globe imagery and layers
4. Google Search
5. Queensland Government Search

6. Your Places and layers
7. Navigation
8. Copyright Attribution
9. Imagery Date



Search

Search Google Search QLD Government  
 Lot Plan (1/RP1)  
 Address (1 Bowen Street Banana)

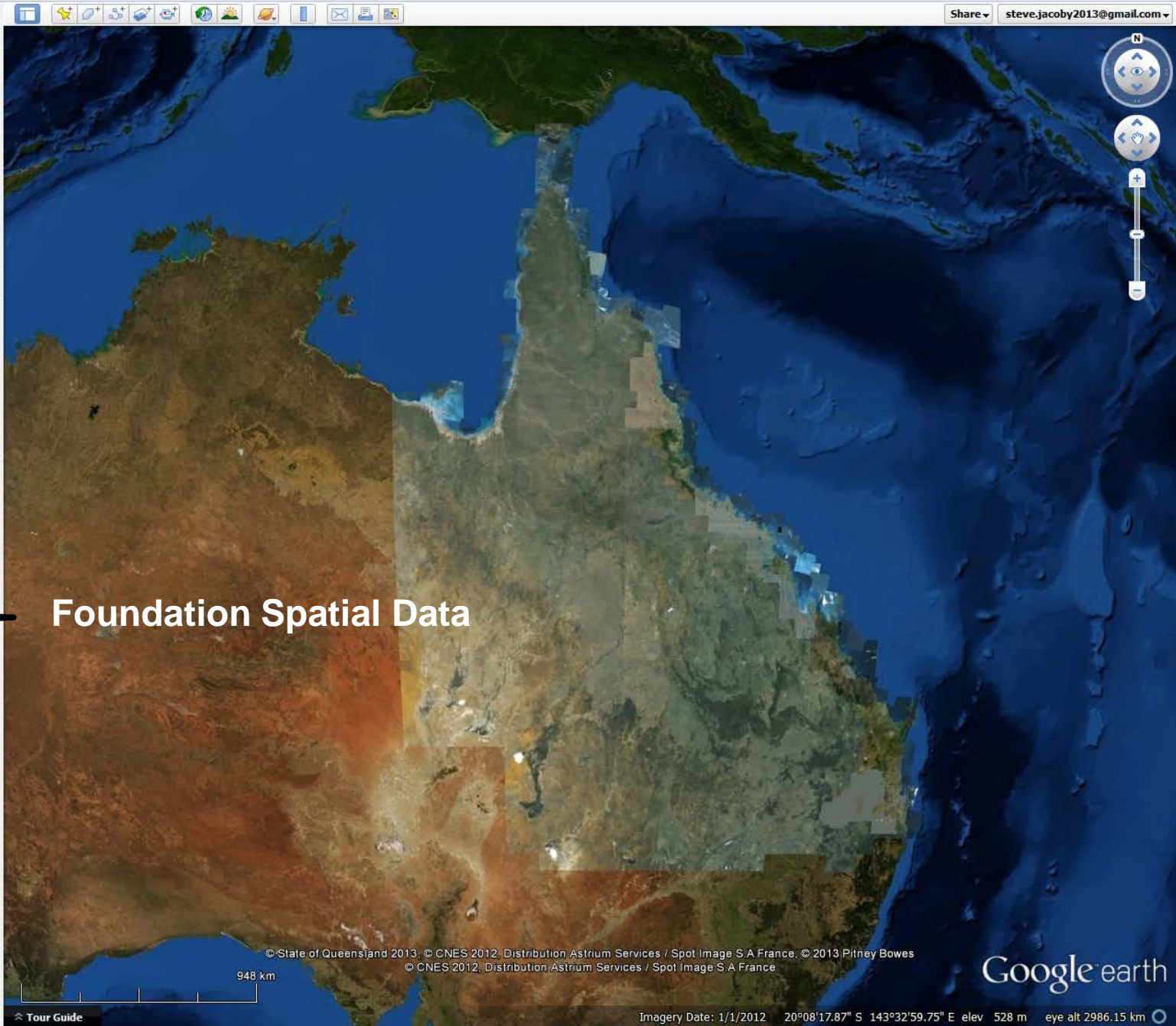
Search

ex: 1600 Pennsylvania Ave, 20500  
 Get Directions History

Places

Layers Earth Gallery >>

- Primary Database
- globe.information.qld.gov.au/qldglobe/
  - Imagery
  - Terrain
  - ImageryFootprint
  - Queensland GLOBE Information
  - Places
    - Population Centre
    - Suburb
    - Other Places
  - Boundaries
    - Coastline
    - Local Government
    - Localities
    - Electoral - State
    - Electoral - Federal
    - Postcodes
  - Road & Rail
    - Arterial Road
    - Minor Road
    - Other - Ferry, Mall, Busway, Path, Track
    - Railway Line
    - Railway Station
  - Address
    - Addresses
    - Land Parcel
      - Property Boundary
      - Property Label
      - Land Parcel Tenures
        - Freehold
        - National Park
        - State Forest
        - State Land



# Foundation Spatial Data

# Timing & the 3 Critical Components that made the Queensland Globe possible!



1. **Policy:** Qld government released its Open Data Policy ~ approved by State Cabinet in Dec '12



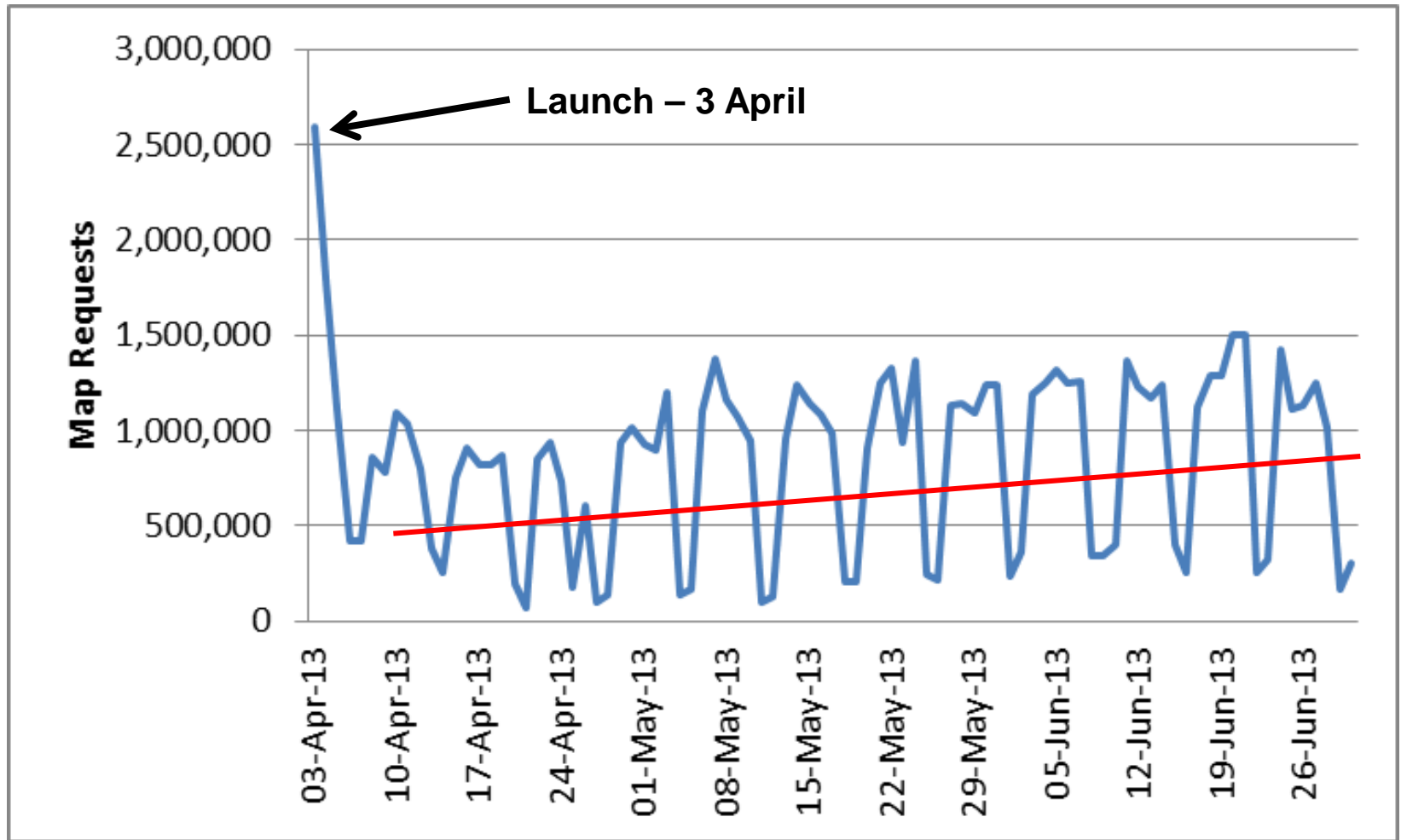
2. **Technology:** Google updated their free Google Earth client in Dec '12 to allow connection to 'private data'



3. **Resources:** DNRM secured essential financial support for its '24 / 7' spatial data initiative ~ Qld Globe production

*All released, developed or approved in December 2012*

# Queensland Globe usage – first 3 months



# Queensland Globe – July to December ‘13

- Globe proved extremely successful and usage continued to grow
- Released a ‘Mobile’ version for smartphones & tablets



# Queensland Globe – mobile devices

<http://globe.information.qld.gov.au/qldglobemobile>

Confirm Server

<http://globe.informati...gov.au/qld>

Default

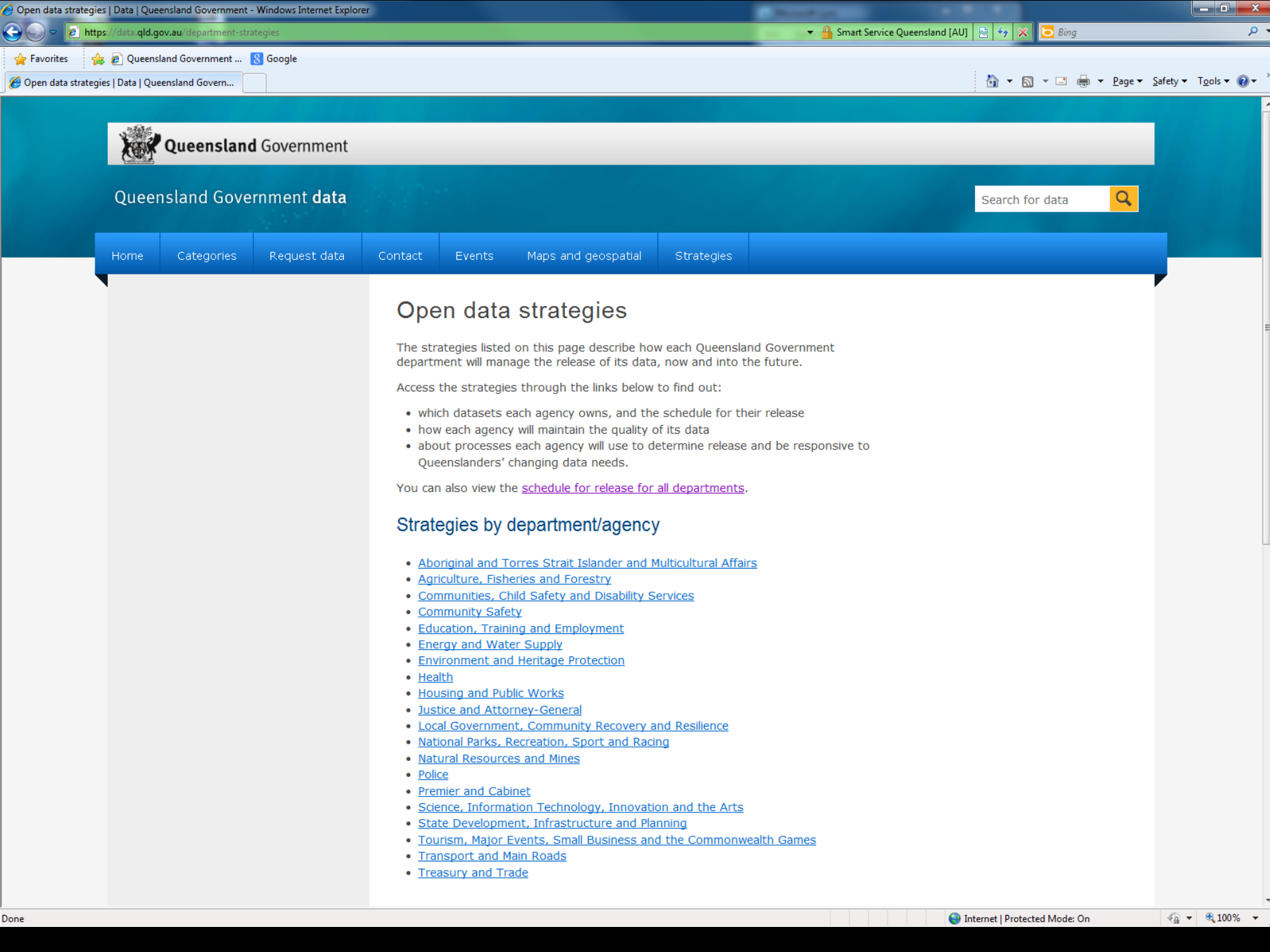
**Details** Done

STANDARD MAP NUMBER		CLIENT SERVICE STANDARDS	
643-3331		SMART (smartmapp) 16/06/10	
<small>           COCB            Location: 367<sup>th</sup>            App Name: 367<sup>th</sup>            Title: 367<sup>th</sup>            Local Government: BRISBANE CITY            Country: SOUTH AUSTRALIA            State: SOUTH AUSTRALIA            Supplier: 2011/02         </small>		<small>           COCB            Location: 168/0110            App Name: 168/0110            Title: 168/0110            Local Government: BRISBANE CITY            Country: SOUTH AUSTRALIA            State: SOUTH AUSTRALIA            Supplier: 2011/02         </small>	

# Queensland Globe – July to December ‘13

- Globe proved extremely successful and usage continued to grow
- Released a ‘Mobile’ version for smartphones & tablets
- Many other Departments and groups (in DNRM too) wanted to feature their spatial data on the ‘Globe’  
- *for example Flood Events*
- We suggested DNRM publish all its Open spatial Data on the Globe as part of its 6 month Action Plan (July – December 2013)... but Government agreed to:  
**“Make all government open (spatial) data available through Queensland Globe”**

<http://www.thepremier.qld.gov.au/plans-and-progress/plans/assets/6-months-july-dec-13.pdf>



## Open data strategies

The strategies listed on this page describe how each Queensland Government department will manage the release of its data, now and into the future.

Access the strategies through the links below to find out:

- which datasets each agency owns, and the schedule for their release
- how each agency will maintain the quality of its data
- about processes each agency will use to determine release and be responsive to Queenslanders' changing data needs.

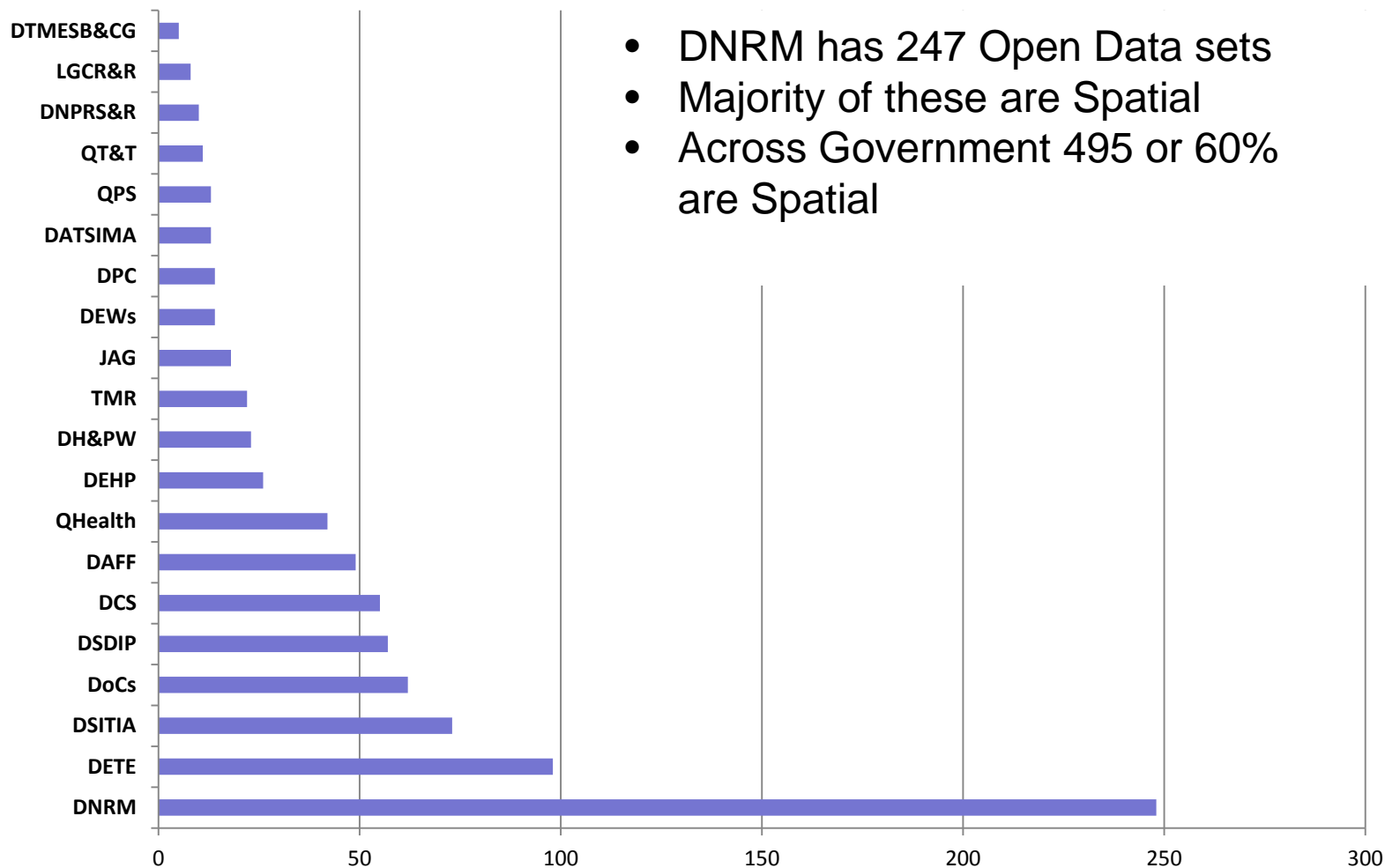
You can also view the [schedule for release for all departments](#).

### Strategies by department/agency

- [Aboriginal and Torres Strait Islander and Multicultural Affairs](#)
- [Agriculture, Fisheries and Forestry](#)
- [Communities, Child Safety and Disability Services](#)
- [Community Safety](#)
- [Education, Training and Employment](#)
- [Energy and Water Supply](#)
- [Environment and Heritage Protection](#)
- [Health](#)
- [Housing and Public Works](#)
- [Justice and Attorney-General](#)
- [Local Government, Community Recovery and Resilience](#)
- [National Parks, Recreation, Sport and Racing](#)
- [Natural Resources and Mines](#)
- [Police](#)
- [Premier and Cabinet](#)
- [Science, Information Technology, Innovation and the Arts](#)
- [State Development, Infrastructure and Planning](#)
- [Tourism, Major Events, Small Business and the Commonwealth Games](#)
- [Transport and Main Roads](#)
- [Treasury and Trade](#)

# Agency Open Data Strategies

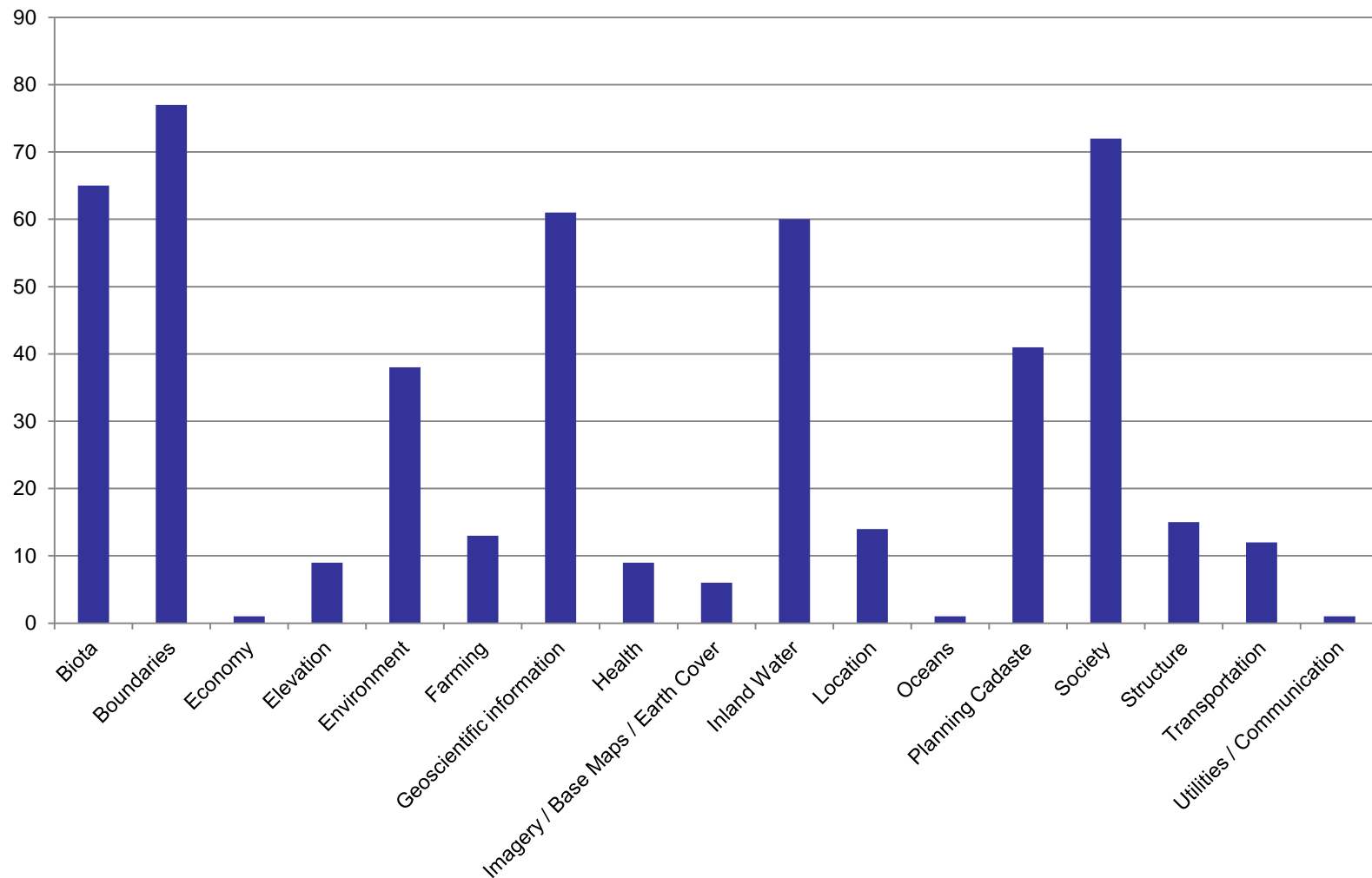
## ~ 861 open data sets



- DNRM has 247 Open Data sets
- Majority of these are Spatial
- Across Government 495 or 60% are Spatial



# Agency Open (spatial) Data Sets ~ by ISO 19115 categories



# New Queensland Globe Framework

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## Queensland Globe

- Base map
- Foundation data



- *Imagery*
- *Terrain*
- *Places*
- *Boundaries*
- *Road & Rail*
- *Addresses*
- *Land Parcels*
- *Tenures*
- *Rivers & Basins*
- *Contours*

# Featured & Category Globes

- *Featured Globes accessed from the QLD Globe Banner*
- *Add to the data layers available*

The screenshot shows the Google Earth interface with a 'Mines Globe' data layer added. A red arrow points from the 'Mines Globe Information' folder in the Layers panel to the 'Mines Globe' data layer in the main view. A text box 'Data Layers Added' is overlaid on the map area.

**Data Layers Added**

**Mines Globe**

This Mines Globe allows the display of mining related datasets using the functionality of the **Queensland Globe**.

[Terms and Conditions](#) [Contact Us & Feedback](#)

If you wish to view information describing the data (Metadata), click on 'Metadata' link below. If you wish to download the data, click on the 'Spatial Data' link.

**Queensland Government Data**

Layers	Spatial Data	Metadata
<b>Geological Basins</b>		
Bowen Basin	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Galilee Basin	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Surat Basin	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
<b>Exploration Permits</b>		
Potential commercial areas	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Mineral development licences	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Offshore petroleum	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Greenhouse	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Petroleum	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Mineral	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Geothermal	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Coal	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
<b>Production Permits</b>		
Mining claim	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>
Minino lease	<a href="#">Spatial Data</a>	<a href="#">Metadata</a>

Imagery Date: 9/15/2012 27°57'55.82" S 153°23'19.18" E elev 10 m eye alt 5.82 km

Imagery Date: 9/15/2012 27°57'36.00" S 153°25'06.94" E elev 0 m eye alt 5.82 km

# Featured & Category Globes

- View the Data

- View Metadata

- Download the Data

The screenshot shows the Google Earth interface with a search window open. The search results display a single entry for the 'Koala planning areas version 1-2 - South East Queensland - data package' by the Department of Environment and Heritage Protection. The entry is a vector file, priced at \$0.00 (AUD inc. GST), with an approximate size of 258 MB. An 'Add to cart' button is visible next to the entry. The search results also show the search term and area of interest coordinates: N Lat -8.75, S Lat -30.00, W Long 137.50, E Long 156.00. The interface includes a search bar, a search results table, and a cart section indicating that the cart is empty. The background shows a satellite view of a coastal area with various planning boundaries overlaid.

Google Earth

File Edit View Tools Add Help

Search

Search Google Search QLD Government Lot Plan (1/RP1) Address (1 Bowen Street Banana) Search

ex: pizza near NYC Get Directions History

Places

Layers Earth Gallery

Rivers & Basins

Contours

ImageryFootprint

Category globes

Queensland Topographic M...

globe.test.dnrm.qld.gov.au/pl...

globe.information.qld.gov.au/...

Biota globe information

Annual pest distribution Sur...

Aquatic conservation assess...

Aquatic conservation assess...

Biodiversity planning assess...

Desert Uplands Strategic Res...

Directory of important Wet...

Dugong protected areas

Electric Ants movement con...

Hymenachne Information

Koala Plan

Mango Leafhopper - Cape Y...

Nature refuges and coordin...

Phylloxera control zone

Queensland rubbervine

Rabbit barrier fence

Ramsar sites

Red Imported Fire Ants restr...

Wild dog barrier fence

Ramsar sites

Red Imported Fire Ants restr...

Wild dog barrier fence

Rabbit barrier fence

Ramsar sites

Red Imported Fire Ants restr...

Wild dog barrier fence

Back to Google Earth

http://dds.information.qld.gov.au/DDS/SearchResult.aspx - Search results

Home | Contact us | About this service | Help

Queensland Government

Search results

Displaying results 1 to 1 of 1

Search for: Search Term = "Koala planning areas version 1 2 South East Queensland data package", Area of interest: N Lat -8.75, S Lat -30.00, W Long 137.50, E Long 156.00

Redefine search New search

Title	Publisher	Type	Price (AUD inc. GST)	Approx. size (MB)	Action
<a href="#">Koala planning areas version 1-2 - South East Queensland - data package</a>	Department of Environment and Heritage Protection	vector	\$0.00	258 MB	<a href="#">Add to cart</a>

Cart

Your cart is empty.

Cards accepted VISA MasterCard

planning intent. This dataset should be used together with the Koala Plan document, and this document also provides further detail on Koala Habitat Areas, Koala Conservation Areas, Koala Sustainability Areas, Urban Koala Areas and Koala Living Areas. The

Queensland Government

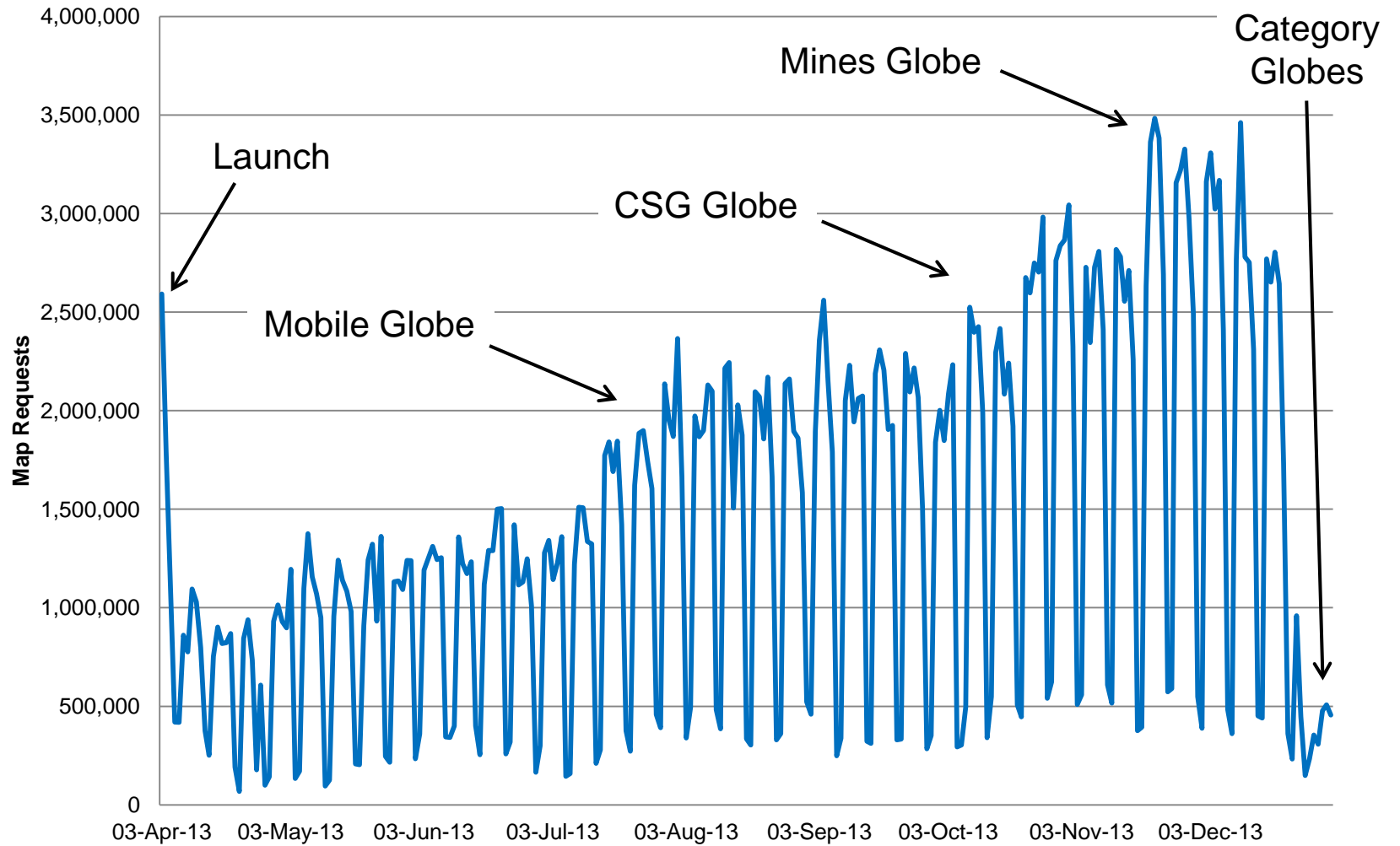
Last Updated 12 December 2013

Imagery Date: 9/15/2012 27°57'35.96" S 153°25'07.82" E elev 0 m eye alt 5.82 km

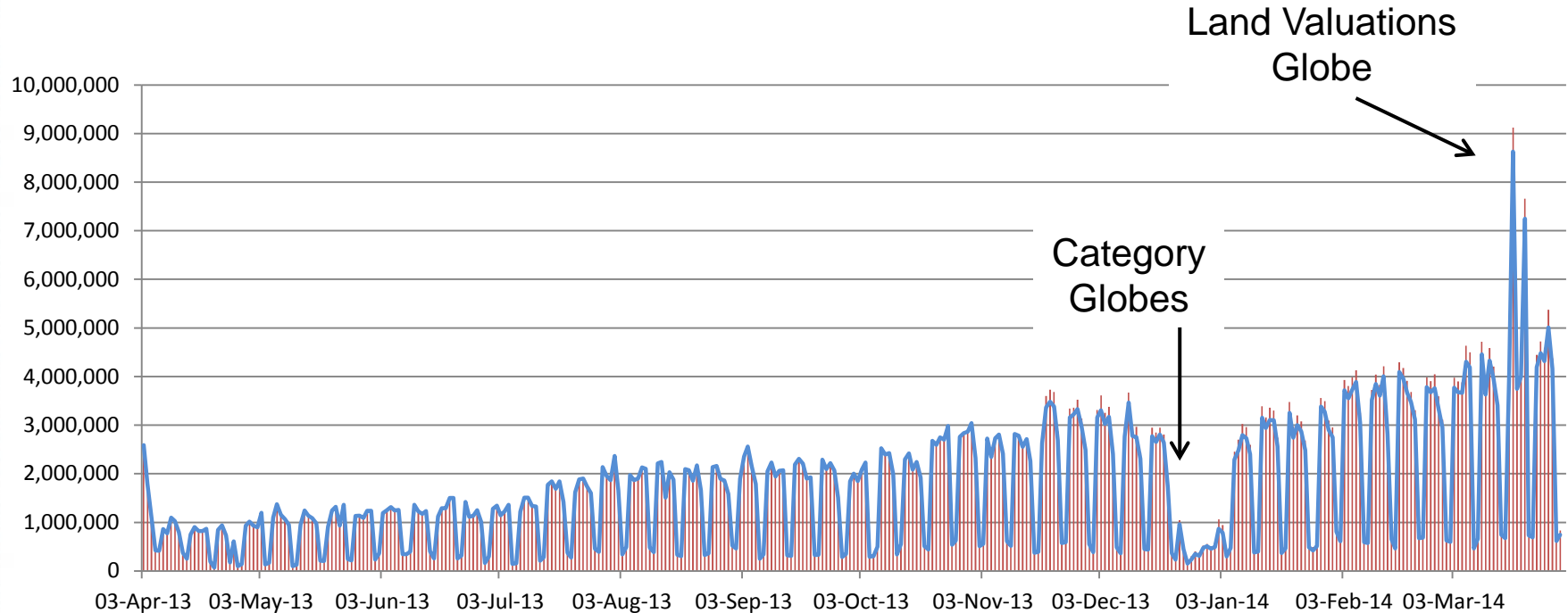
Imagery Date: 9/15/2012 27°58'02.54" S 153°26'57.23" E elev -10 m eye alt 5.82 km



# Queensland Globe usage – 2013

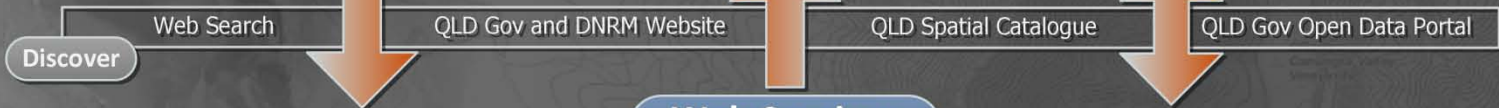


# Queensland Globe usage – first 12 months



- 650 million map requests in first 12 months
- 4m – 5m every work day (750k on Sat & Sun)
- 100m during March
- Over 9m on a single day

# Customers Users



## Visualisation

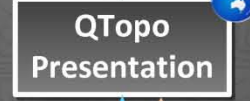
## Web Services and Tools

## Data Download

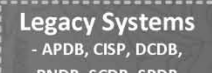
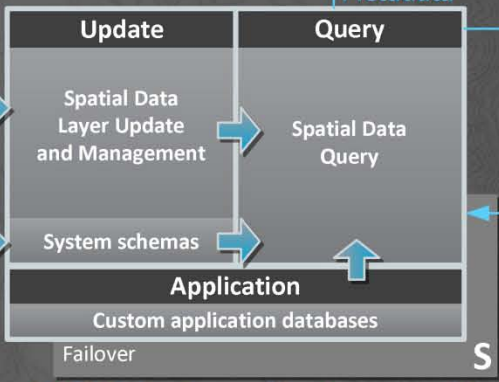
QLDGlobe  
QTopo  
SMIS  
IQ Atlas

Property Location Service (PLS)  
PLS Batch Converter, PN Query  
Foundation Services, EARL Service  
(REST, WMS, SOAP)

QGIS2  
DDX  
Product Delivery FTP



External Data and Services



S Scalable    Web Authenticated    Web Un-authenticated

## SIR Database Environment

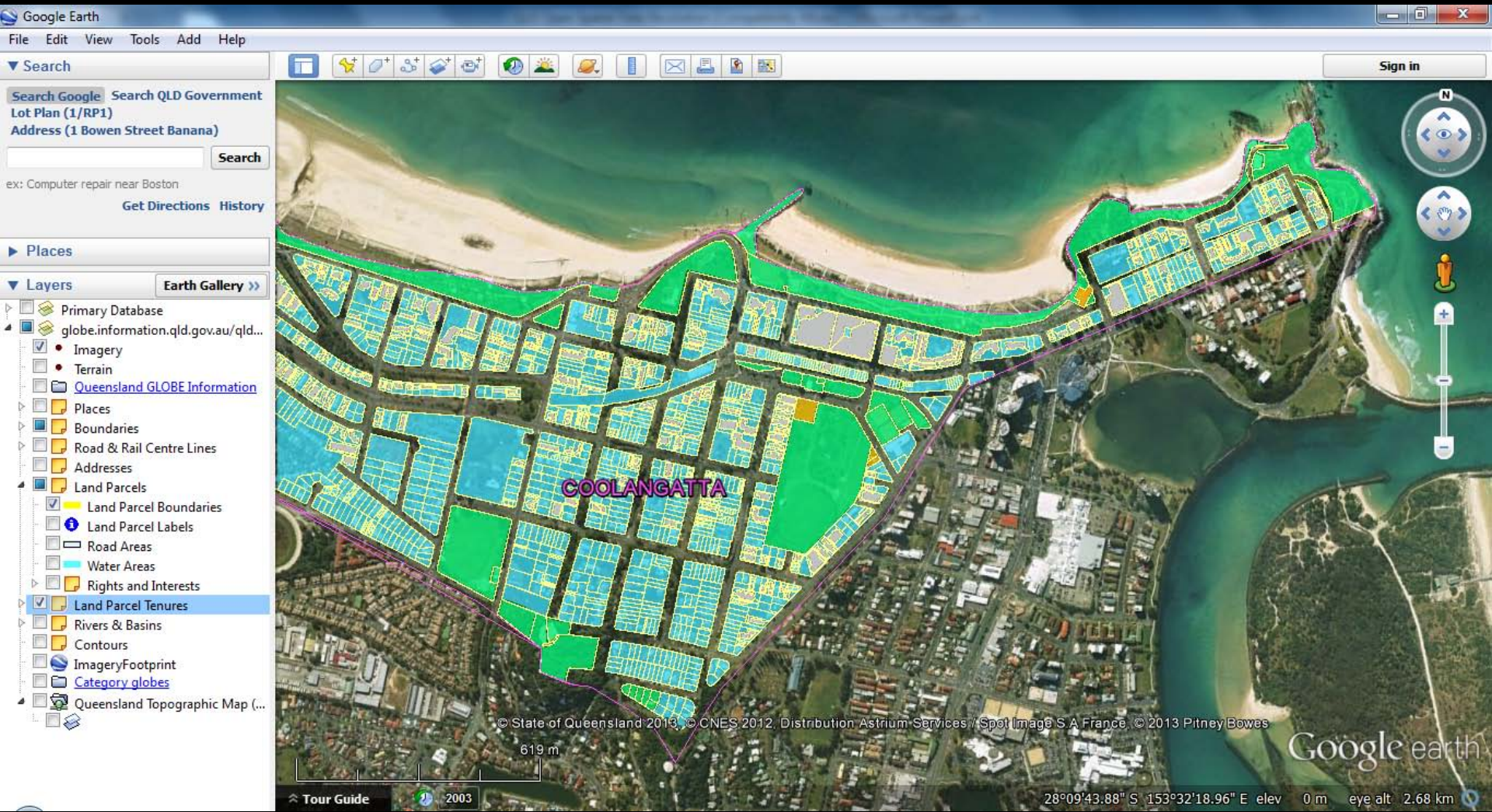
# Latest Features – released April 2014

- Included Statistical Geography from the ABS in the Queensland Globe
  - Australian Census Data – down to mesh block
  - Mesh blocks attributed with dwelling count and number of persons usually in residence
- Queensland Topographic Map service
  - Seam-less, scale-less topographic map
- New and updated Category Globes
  - Biota
  - Farming
  - Inland Waters
  - Geoscientific Information
  - Society
  - Planning Cadastre
  - Transportation
  - *Others under construction*
- Link(s) to other State & Territory Globes - NSW
- Updated help, settings, tips, You-Tube tutorials, etc



# QLD Globe

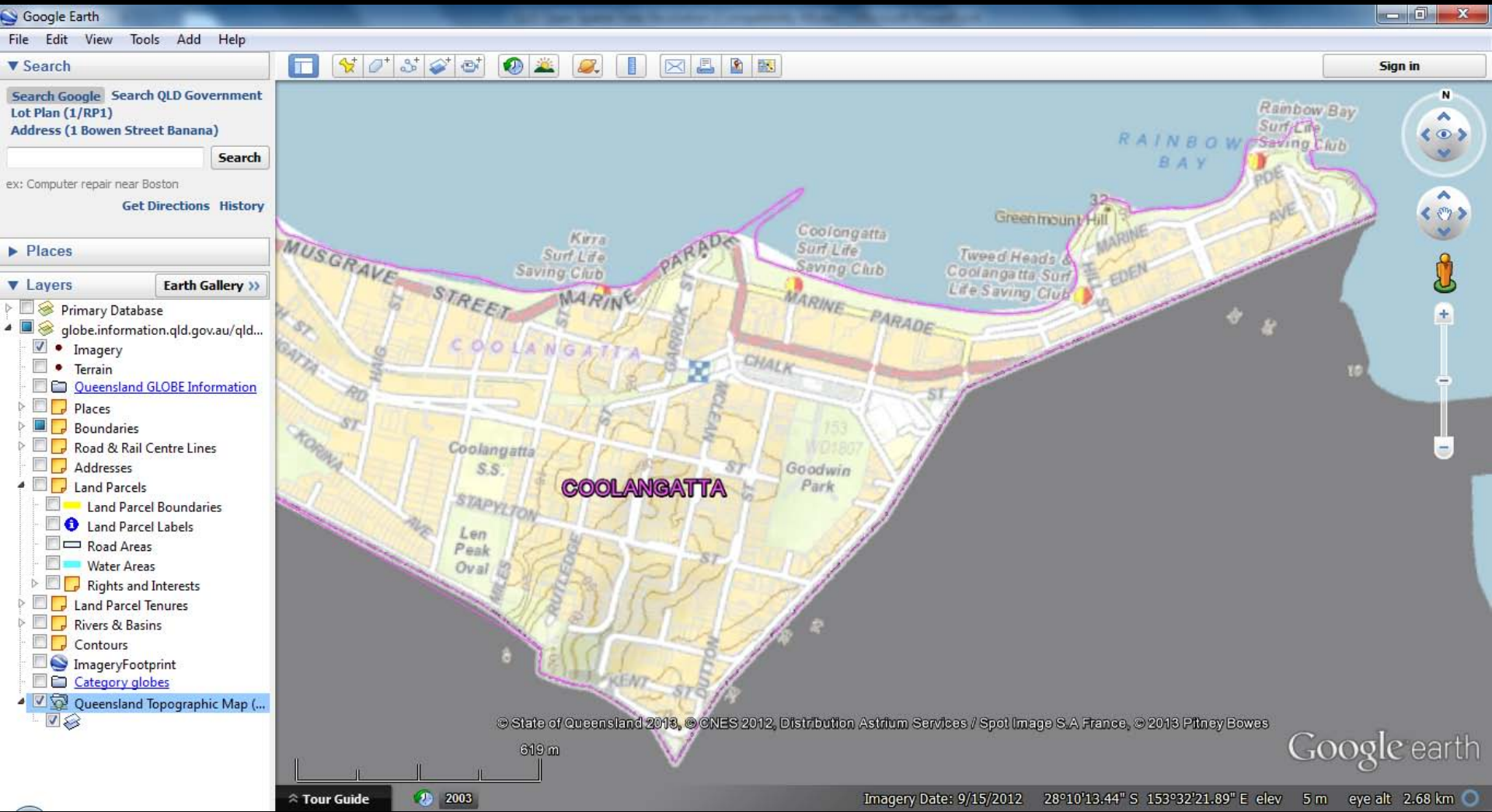
- Imagery
- Land parcels
- Tenures
- Localities





# QLD Globe

- Topographic Map Service
- Localities



# QLD Globe

- Imagery
- Localities
- Australian Bureau of Statistics - Meshblocks

The screenshot shows the Google Earth interface with a map of Coolangatta, Queensland. The map is overlaid with a grid of meshblocks, each marked with a small blue icon. A popup window is open over one of the meshblocks, displaying the following data:

Mesh Block 30282110000	
DWELLINGS	47
Persons usually in residence	83
MB CODE11	30282110000
MB CAT11	Residential
SA1 MAIN11	30902123010
SA1 7DIG11	3123010
SA2 MAIN11	309021230
SA2 5DIG11	31230
SA2 NAME11	Coolangatta
SA3 CODE11	30902
SA3 NAME11	Coolangatta
SA4 CODE11	309
SA4_NAME11	Gold Coast
GCC CODE11	3RQLD
GCC_NAME11	Rest of Qld
STE CODE11	3
STE NAME11	Queensland
Area	1.7465 ha

The interface includes a search bar on the left with the text "Search Google Search QLD Government Lot Plan (1/RP1) Address (1 Bowen Street Banana)", a "Layers" panel on the left with "Mesh Blocks" selected, and a "Tour Guide" at the bottom. The map shows a coastal area with buildings, roads, and a beach. The name "COOLANGATTA" is visible on the map. The bottom status bar shows "Imagery Date: 9/15/2012 28°10'18.50" S 153°32'21.88" E elev 12 m eye alt 2.68 km".



# QLD Globe & NSW Globe

**Google Earth**  
File Edit View Tools Add Help

**Search**  
Search Google Search QLD Government  
Lot Plan (1/RP1)  
Address (1 Bowen Street Banana)  
Search  
ex: Museums in New York, NY  
Get Directions History

**Places**

**Layers** Earth Gallery >>

- Primary Database
- globe.information.qld.gov.au/qld...
  - Imagery
  - Terrain
  - Queensland GLOBE Information
  - Places
  - Boundaries
  - Road & Rail Centre Lines
  - Addresses
  - Land Parcels
  - Land Parcel Tenures
  - Rivers & Basins
  - Contours
  - ImageryFootprint
  - Category globes
- Queensland Topographic Map (...)
- globe.six.nsw.gov.au/nswglobe/

**NSW GLOBE**  
An initiative of Land and Property Information

**WELCOME | TIPS AND TRICKS | TERMS AND CONDITIONS | CONTRIBUTORS**

## Welcome to NSW Globe

NSW Globe is implemented through the free Google Earth™ application and displays New South Wales Government (NSW) maps and spatial data including land parcels.

Google's familiar search and mapping functionality is maintained with interface tools providing an easy to use and familiar experience for public, business and government users.

Land Property Information (LPI) medium to high resolution imagery and elevation data can easily be viewed in this application, as well as private sector high resolution airborne and satellite imagery.

NSW Globe also contains imagery datasets covering past and current emergency events for flood and fire.

Historic 1943 imagery, covering most of Greater Sydney, is a feature that provides a significant change detection tool and illustrates the value of spatial data.

NSW Globe is also available for use on smart phones and tablets. Email [globe@lpi.nsw.gov.au](mailto:globe@lpi.nsw.gov.au) for more information or to provide feedback.

A division of the [Department of Finance & Services](#)

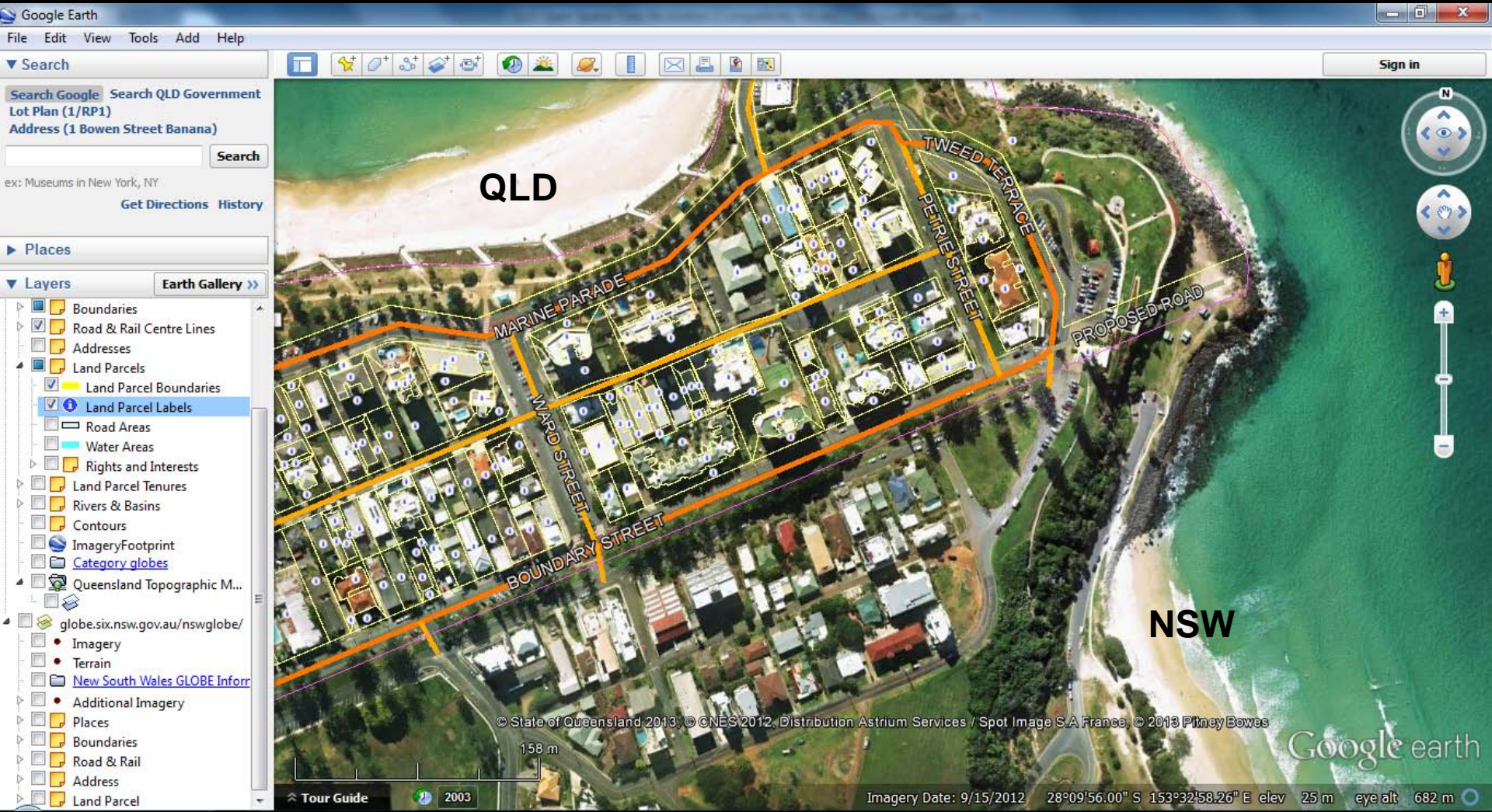
NOTE: BY CLOSING THIS BANNER PAGE YOU ARE AGREEING TO THE TERMS AND CONDITIONS DISPLAYED IN THE CORRESPONDING TAB, AND THE CONTENT OF THE LINKS INCLUDED WITHIN.

625 m  
Tour Guide 2003  
Imagery Date: 5/5/2012 28°10'00.00" S 153°31'31.29" E elev 2 m eye alt 2.68 km



# QLD Globe

- Land parcels
- Addresses
- Roads
- Localities

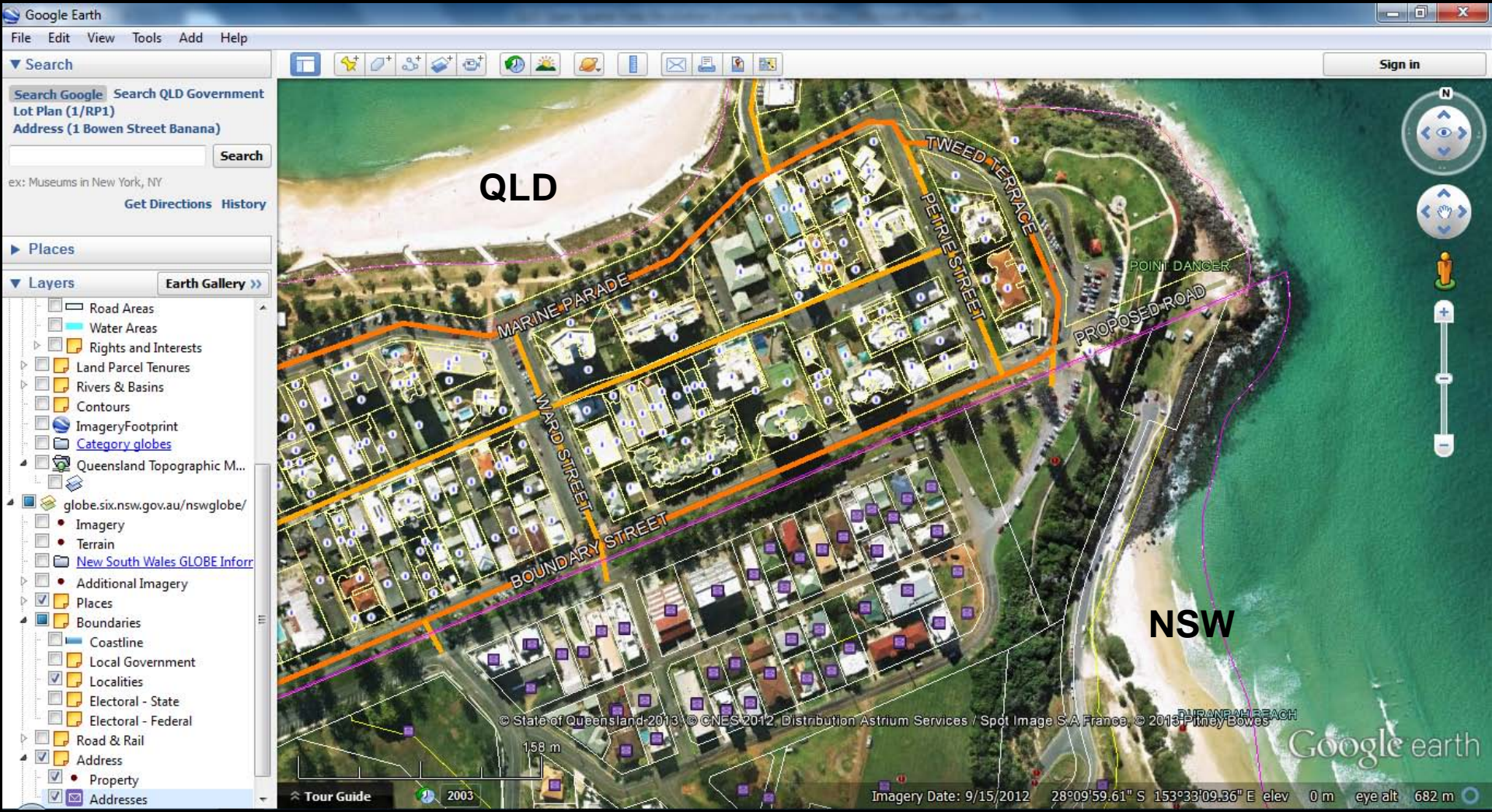




# QLD Globe *plus...* NSW Globe

- Land parcels
- Addresses
- Roads
- Localities

- Land parcels
- Addresses
- Localities





# Guided Tutorials for novices & experts

QLD Globe. Tutorial 1: Getting Started



## Queensland Globe

### Tutorial Series



Tutorial 1: Getting Started



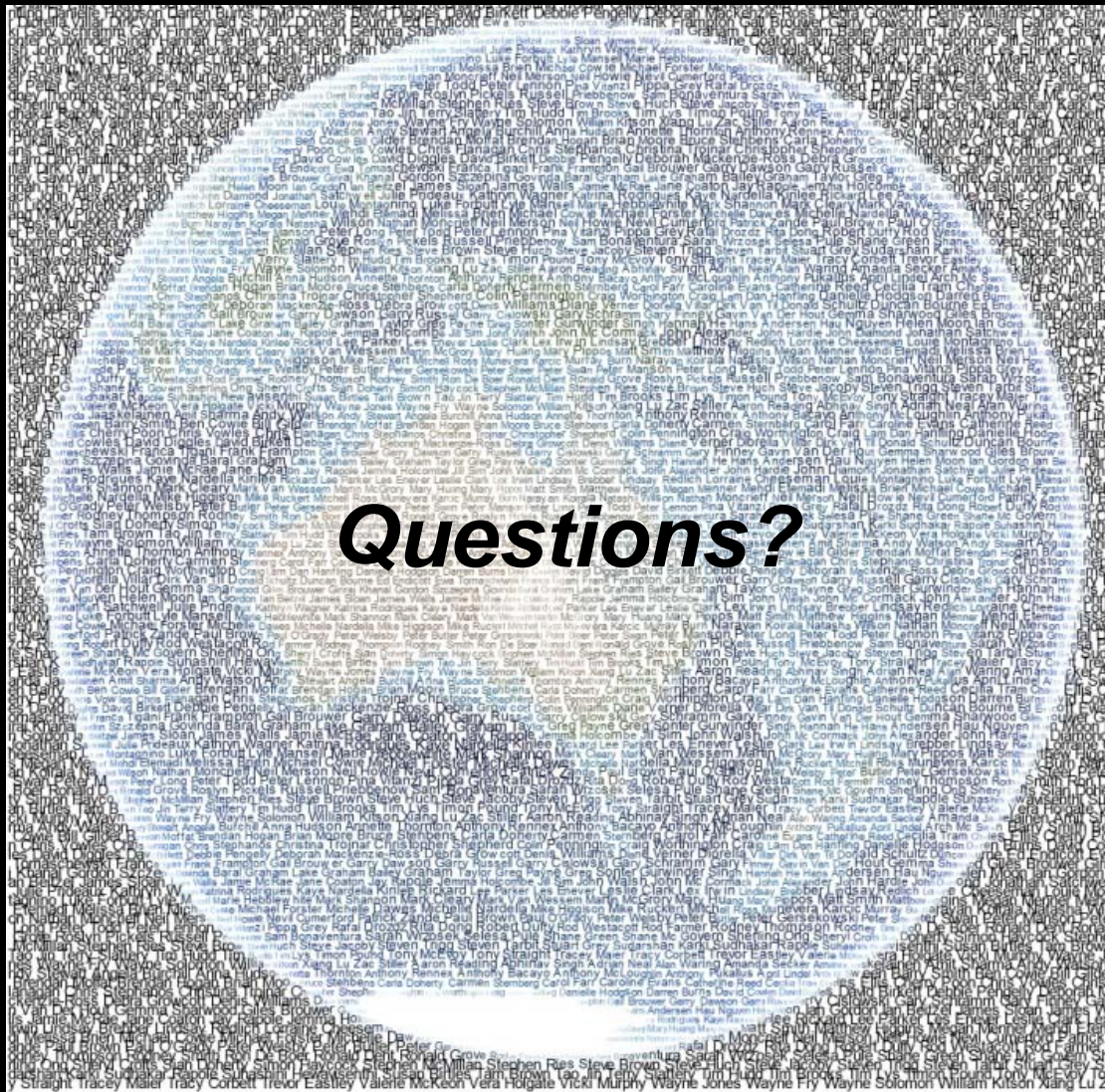
0:07 / 4:28



# Queensland's Open (spatial) Data Summary

- Significant advances in last 12 months
- Well over 250 data layers available (and growing!)
- Visualisation / Download / Webservices
- Free, Openly licensed (CC-BY), Digital, On-line
- Aimed at non-experts / public but increasingly used by spatial professionals too
- Hugely successful
  - Usage – many new users to spatial industry
  - Emerging co-production with private sector
  - Value-adding – new services and products
  - Business Process Reform – Productivity improvements in numerous areas
  - Delivering transparent & more accountable government
- Much more to come!





# Questions?

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