



Australian Government
Geoscience Australia

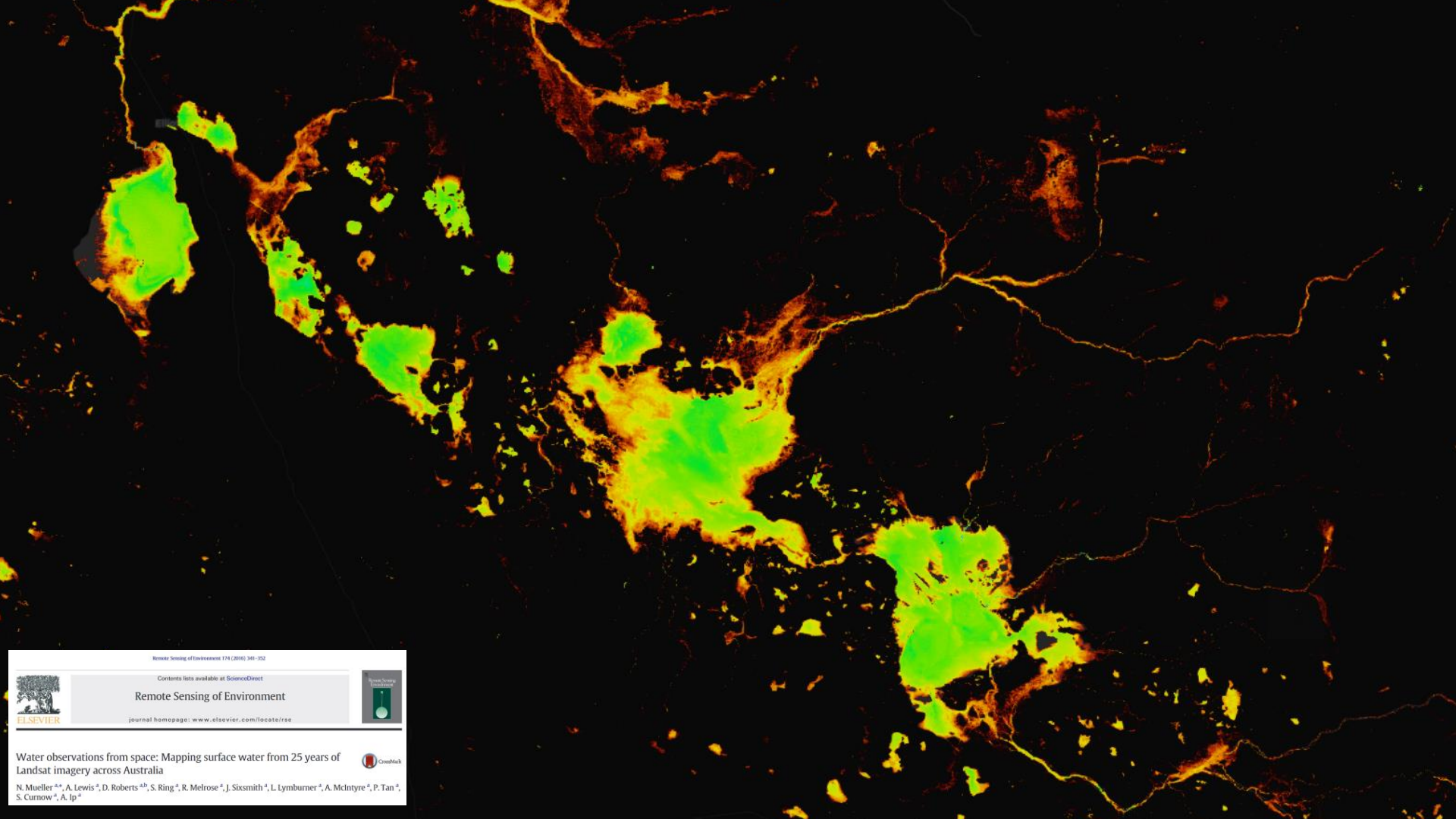


Digital Earth
AUSTRALIA

Watching water with satellites

Dr Claire Krause





Remote Sensing of Environment 174 (2016) 341–352

Contents lists available at ScienceDirect

Remote Sensing of Environment

journal homepage: www.elsevier.com/locate/rse



Water observations from space: Mapping surface water from 25 years of Landsat imagery across Australia

N. Mueller^{a,*}, A. Lewis^a, D. Roberts^{a,b}, S. Ring^a, R. Melrose^a, J. Sixsmith^a, L. Lymburner^a, A. McIntyre^a, P. Tan^a, S. Cumow^a, A. Ip^a

Search for locations

Add data

DATA SETS [1]

Remove All

All water observations combined

Zoom To Extent About This Data Split Export Remove

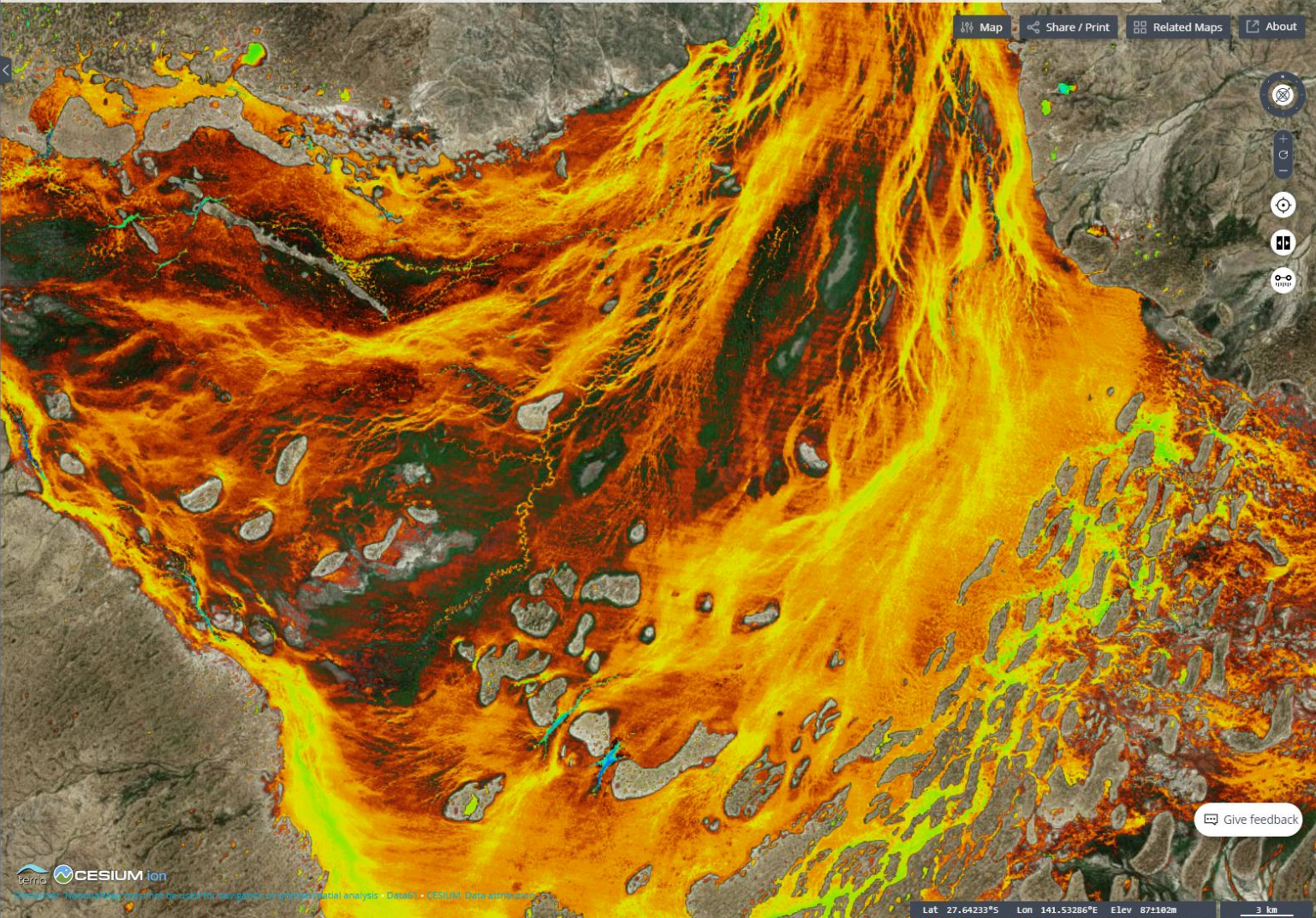
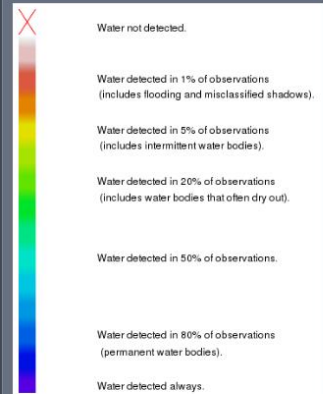
Opacity: 100 %

Time:

01/01/1970, 10:00:00

Style

Filtered Water Summary



🔍 Search for locations

⊕ Add Data ↻

Your workbench is empty

Click 'Add Data' above to

- Browse the Data Catalogue
- Load your own data onto the map

💡 TIP All your active data sets will be listed here

Data Catalogue

My Data

Done

🔍 Search the catalogue

Hotspots ▶

Satellite images ▶

Surface Water ▼

📁 Water Observations from Space ▼

Daily water observations ⊕

April-October water observations ⊕

November-March water observations ⊕

Annual water observations ⊕

All water observations ⊕

☐ April-October water observations source data ▶

☐ November-March water observations source data ▶

☐ Annual water observations source data ▶

☐ All water observations combined source data ▶

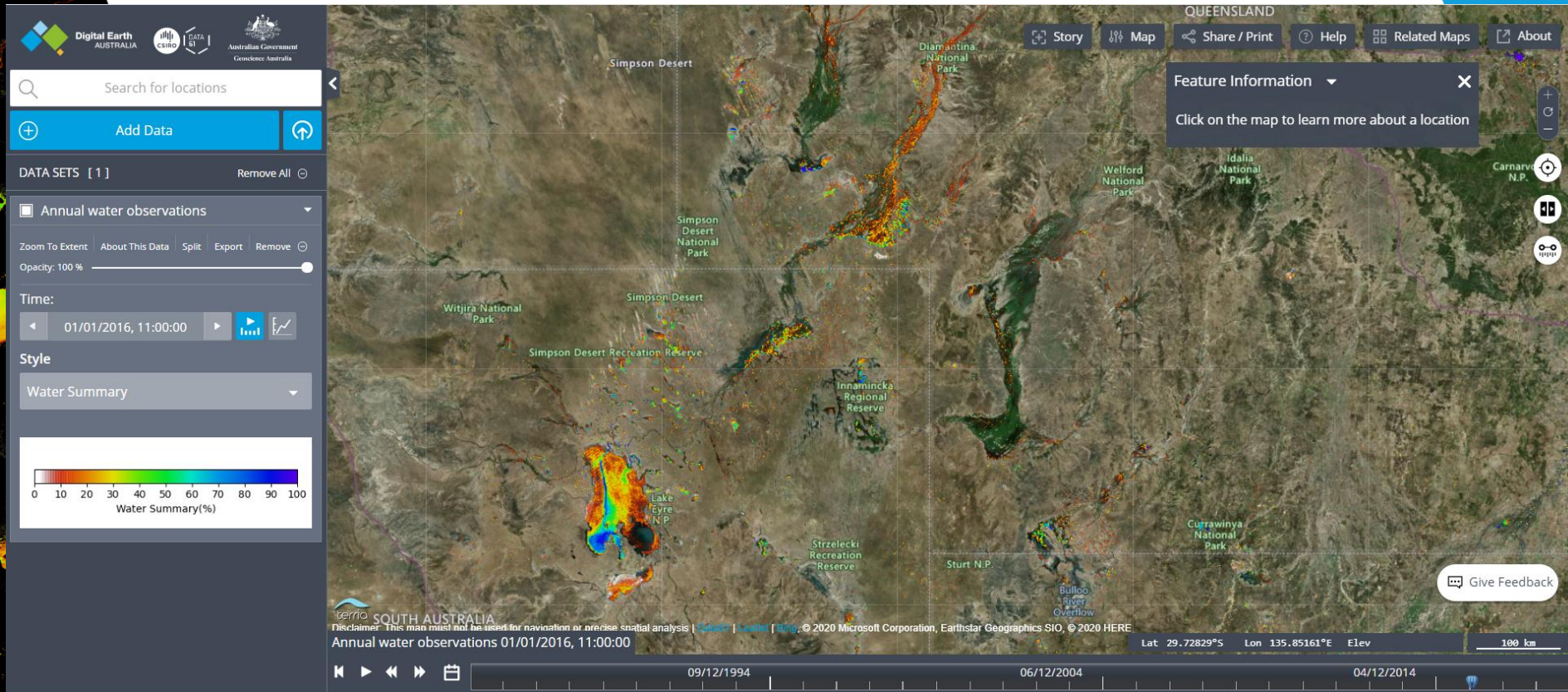
Water Observations from Space

🔗 Share

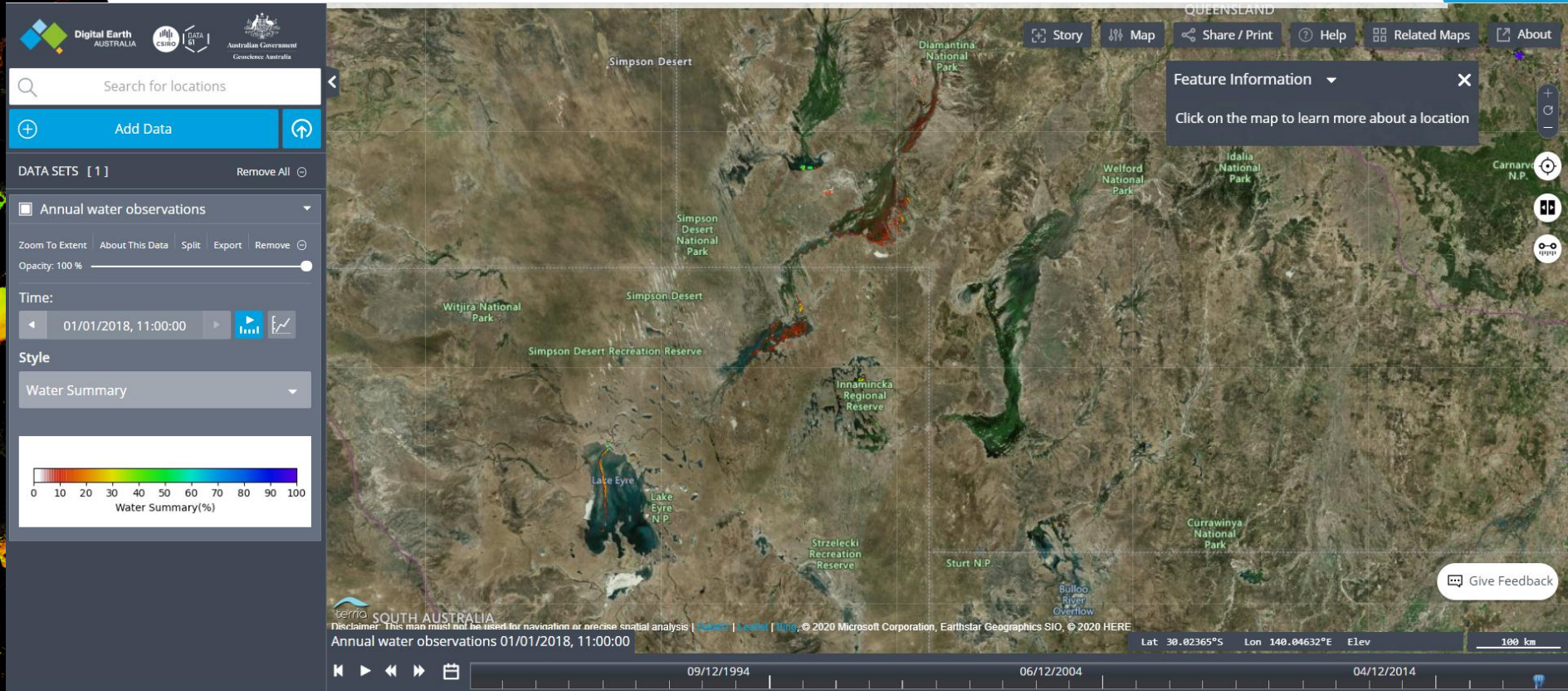


Disclaimer: This map must not be used for navigation or precise spatial analysis | [Data61](#) | [Leaflet](#) | [Bing](#)

2016



2018



Raster



Vector



An aerial photograph of a landscape featuring a large central field, a road, and various vegetation. Three specific areas are highlighted with cyan pixel clusters. The first cluster, in the upper left, is a small rectangular area. The second cluster, in the center, is a larger, irregular shape. The third cluster, in the lower right, is a small rectangular area. Each cluster is accompanied by a white text label indicating its pixel count.

3 pixels

23 pixels

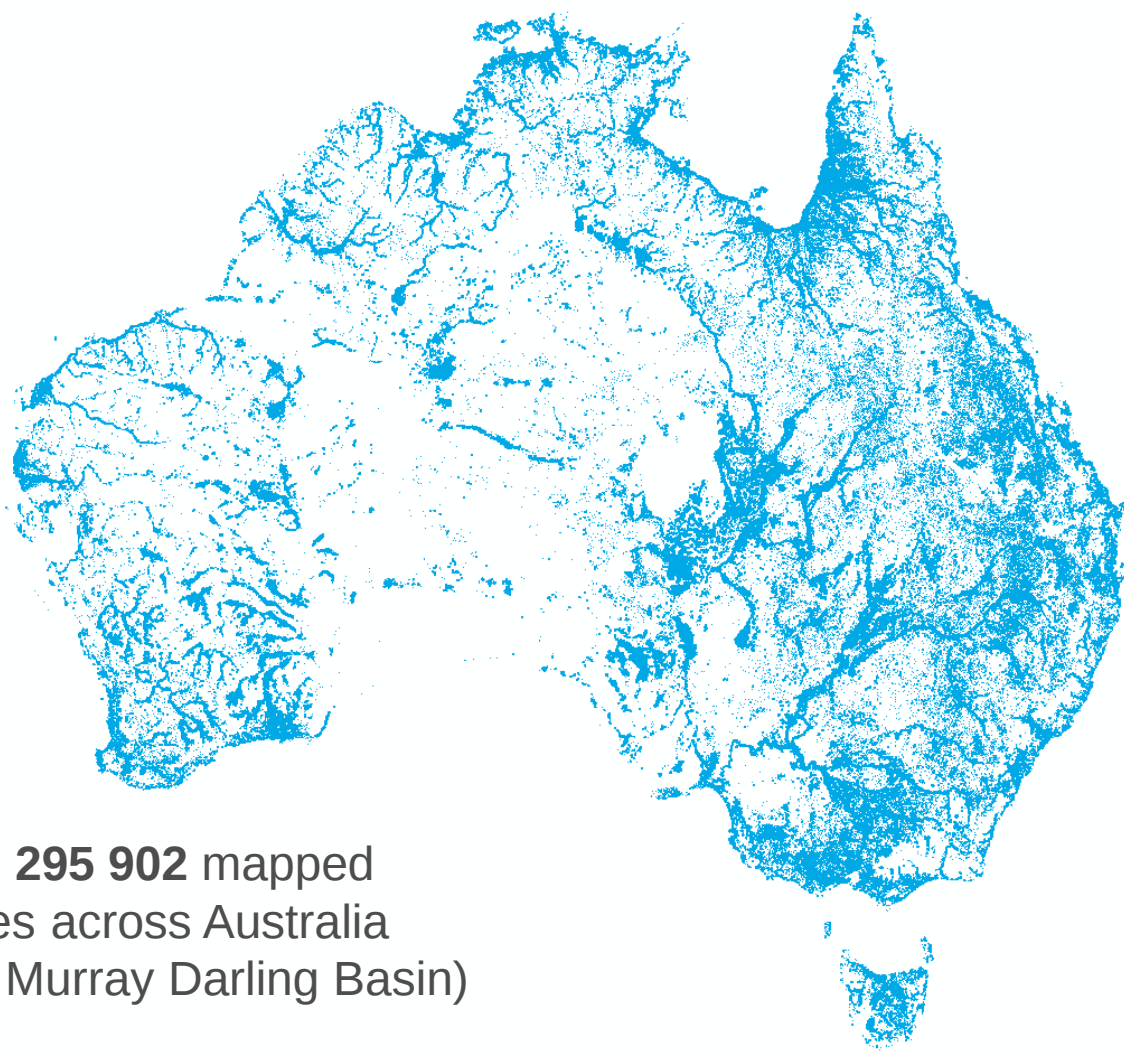
6 pixels



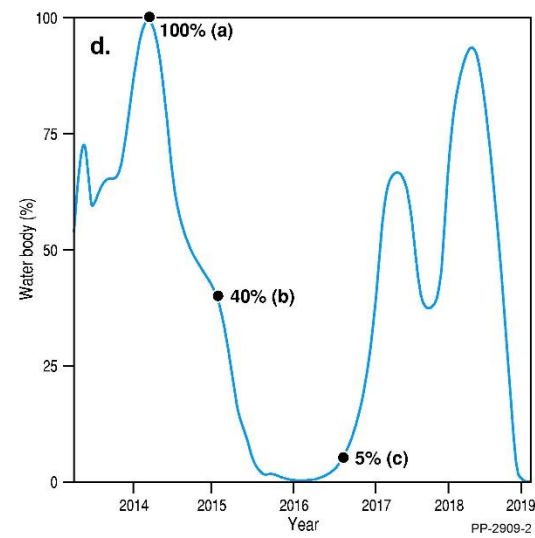
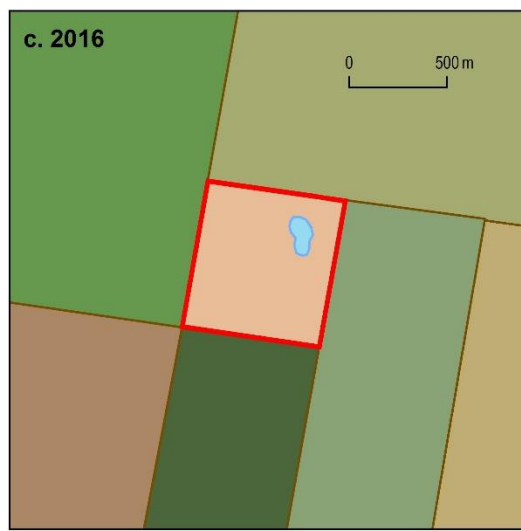
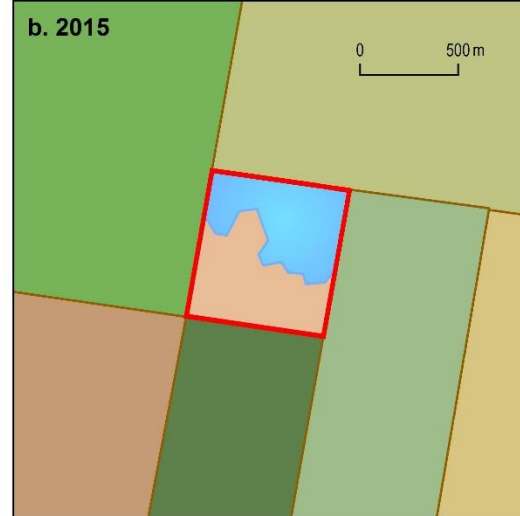
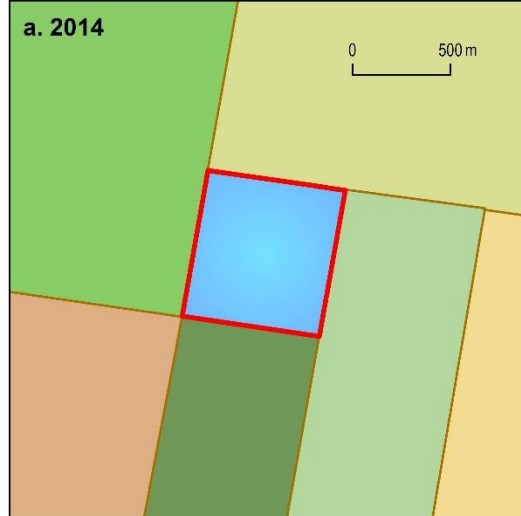
3 pixels

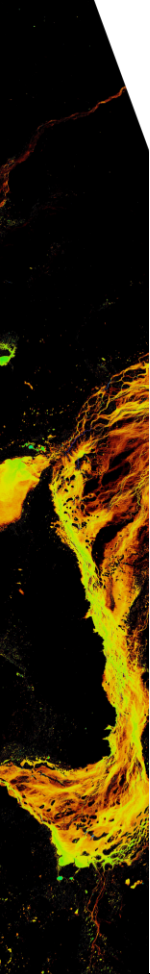
23 pixels

6 pixels

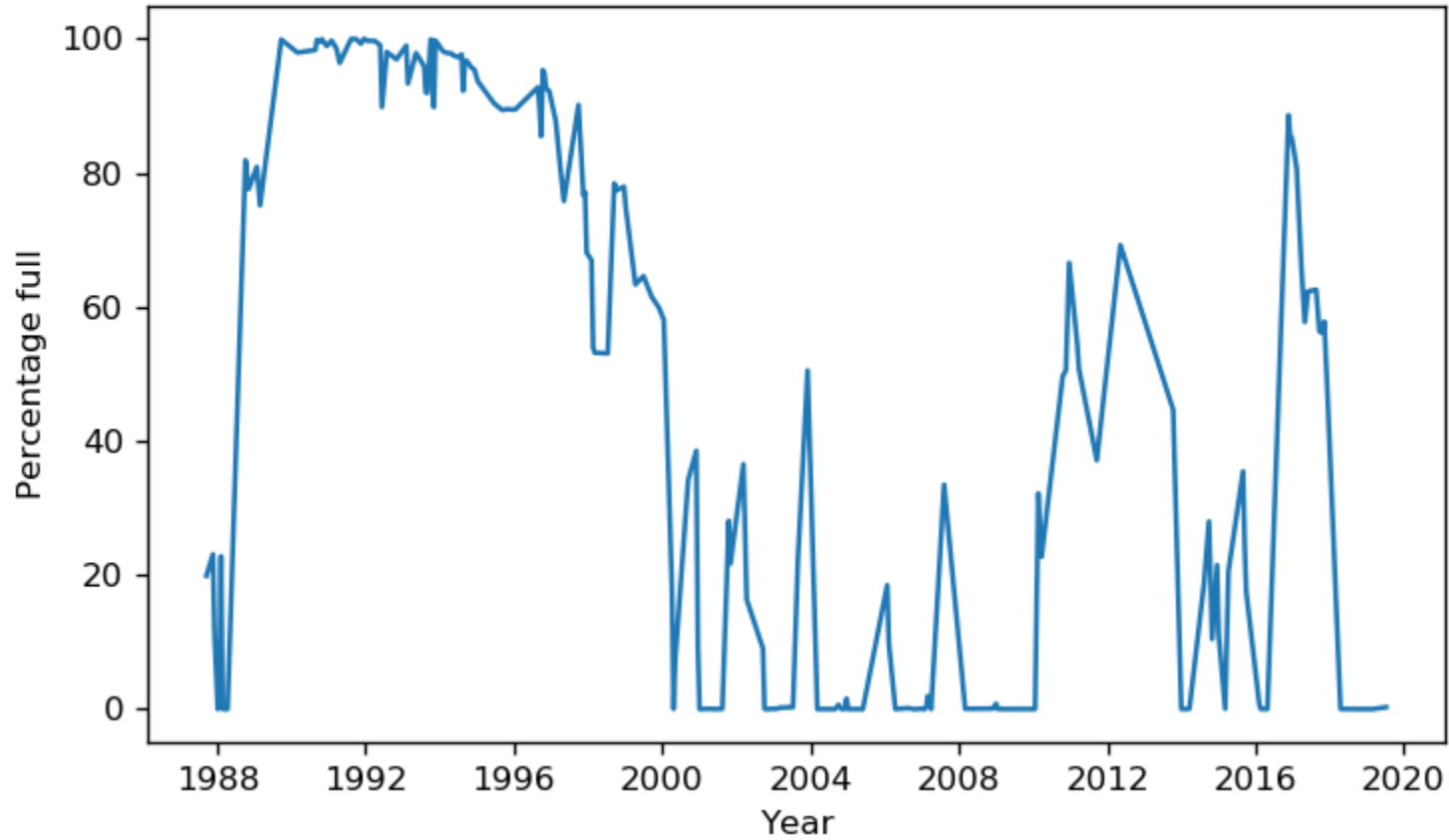


There are **295 902** mapped
waterbodies across Australia
(58 493 in the Murray Darling Basin)

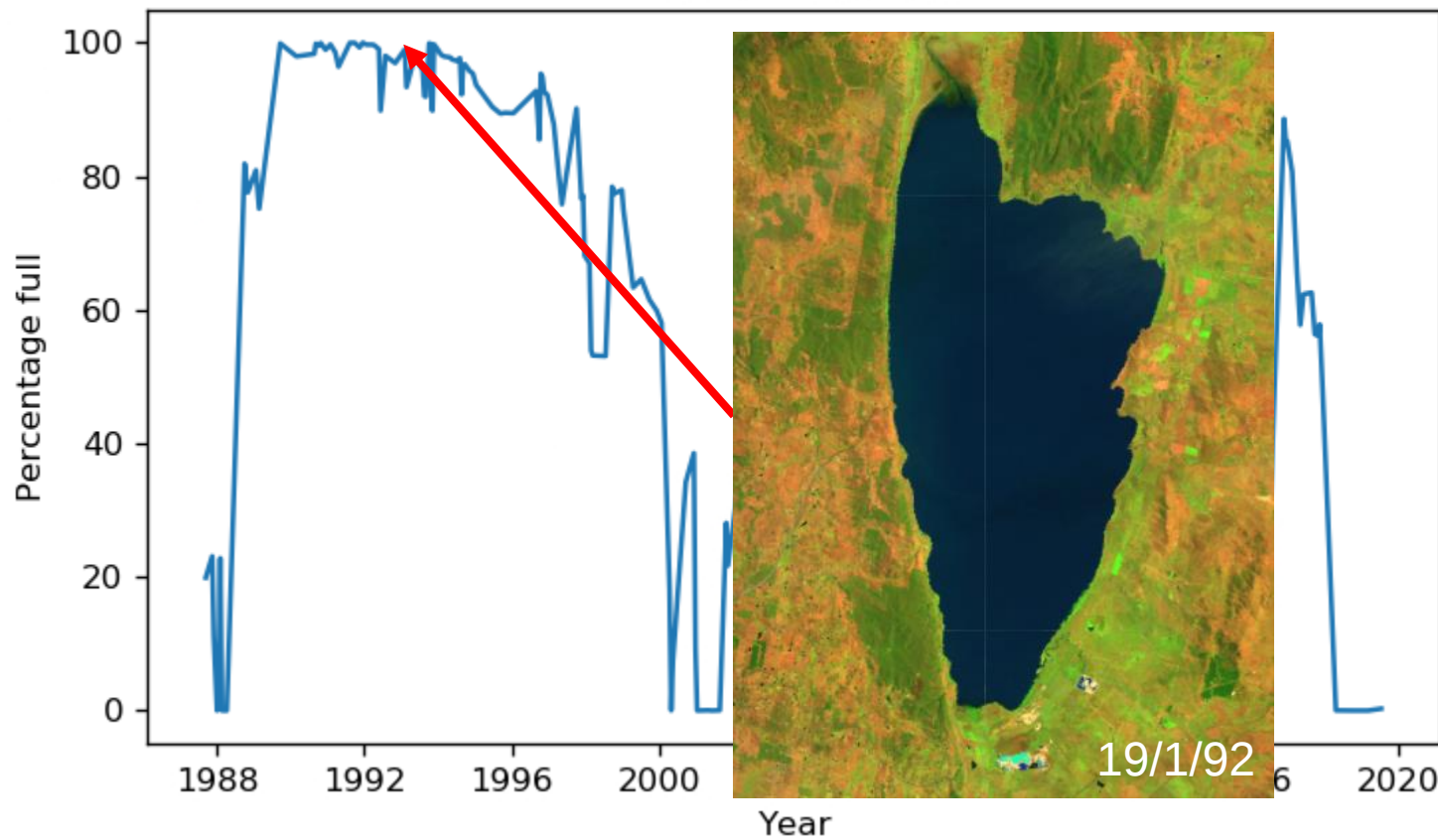




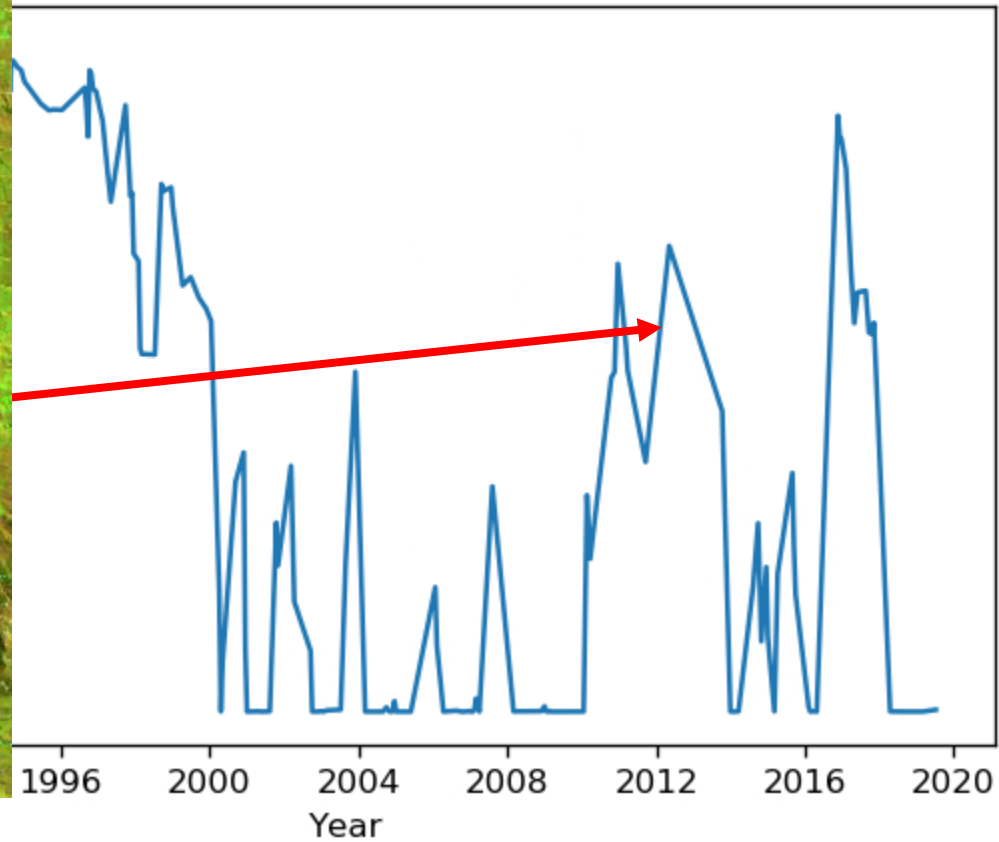
Lake George, NSW



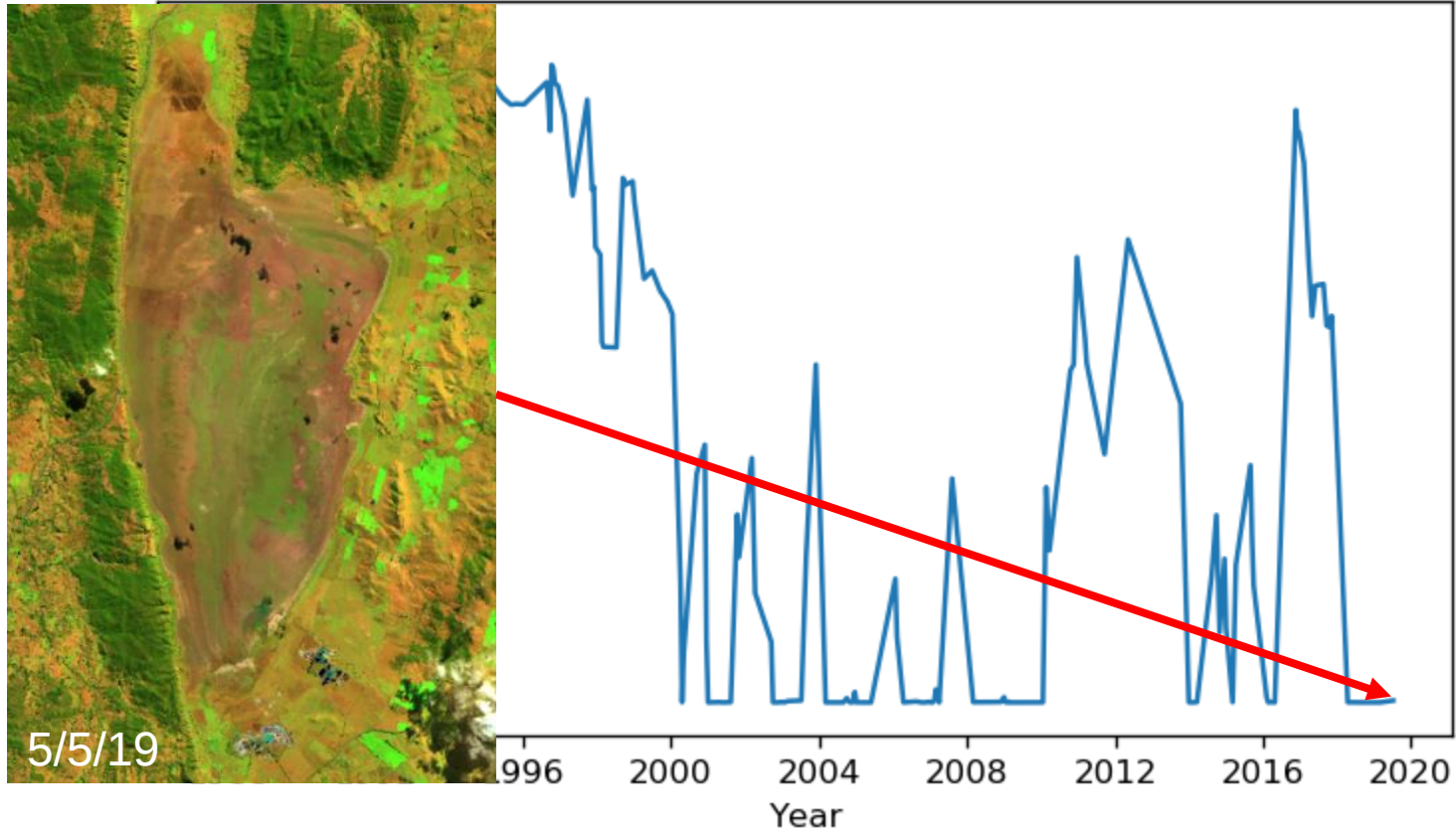
Lake George, NSW



Lake George, NSW



Lake George, NSW



The screenshot displays the Digital Earth Australia (DEA) maps interface. The top navigation bar includes the DEA logo, 'Digital Earth AUSTRALIA', 'CSIRO', 'DATA', and 'Australian Government Geoscience Australia'. A search bar labeled 'Search for locations' is present. Below the search bar is a 'Your workbench is empty' message with instructions to click 'Add Data' above to browse the Data Catalogue or load own data. A tip states: 'TIP: All your active data sets will be listed here'. The main map area shows a satellite view of the Simpson Desert in Queensland, Australia. A 'Data Catalogue' panel is open on the left, listing various data layers: Hotspots, Satellite images, Surface Water, Water Observations from Space, Digital Earth Australia Waterbodies (highlighted), Vegetation, Coastal, and Water Regulations Data (BoM). The 'Digital Earth Australia Waterbodies' layer is selected, and a 'Feature Information' panel is open on the right, displaying the title 'Digital Earth Australia Waterbodies' and a 'Share' button. The bottom status bar shows the map's coordinates (Lat 26.83554°S, Lon 133.83111°E, Elev), a scale bar (100 km), and a disclaimer: 'Disclaimer: This map must not be used for navigation or precise spatial analysis | Google | Microsoft | Bing, © 2020 Microsoft Corporation, Earthstar Geographics SIO, © 2020 HERE'.

QUEENSLAND

Simpson Desert

Diamantina National Park

Search for locations

Search the catalogue

Hotspots

Satellite images

Surface Water

Water Observations from Space

Digital Earth Australia Waterbodies

Digital Earth Australia Waterbodies

Vegetation

Coastal

Water Regulations Data (BoM)

Digital Earth Australia Waterbodies

Share

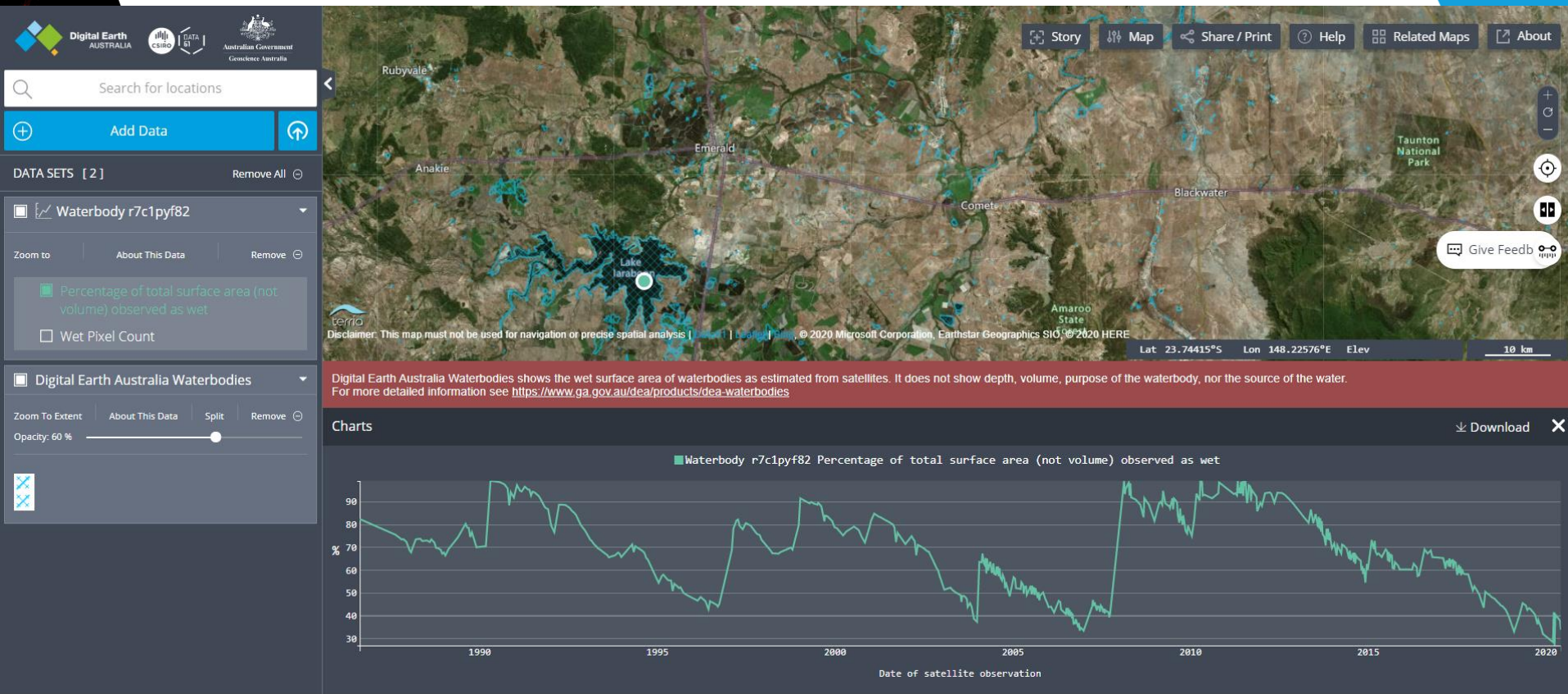
Feature Information

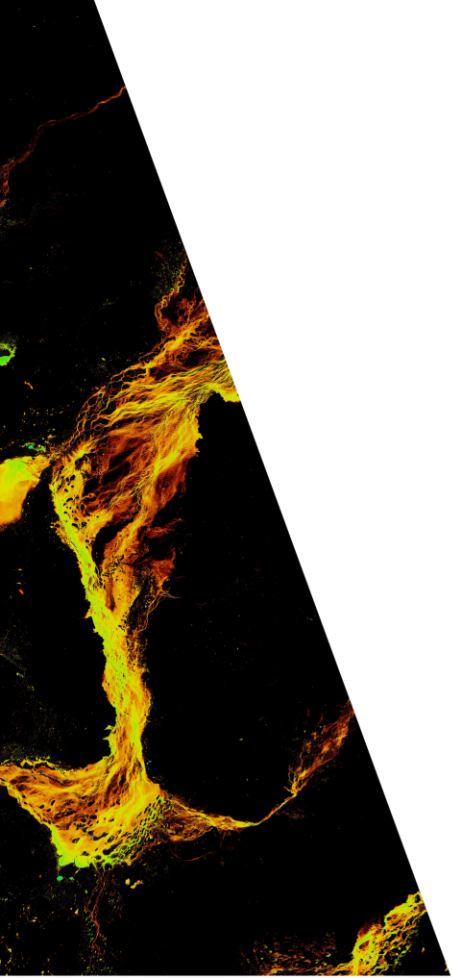
Done

Lat 26.83554°S Lon 133.83111°E Elev

100 km

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How can I access DEA data?

- DEA Maps
 - <https://maps.dea.ga.gov.au>
- Amazon Web Services
 - <https://data.dea.ga.gov.au/>
- National Computational Infrastructure
 - <https://docs.dea.ga.gov.au/index.html>
- OGC web services
 - <https://ows.services.dea.ga.gov.au/>
- DEA Sandbox
 - <https://github.com/GeoscienceAustralia/dea-notebooks/wiki>



Australian Government
Geoscience Australia



Digital Earth
AUSTRALIA

Thanks 😊

Claire Krause

Further Information

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Hindmarsh Drive, Symonston ACT 2609