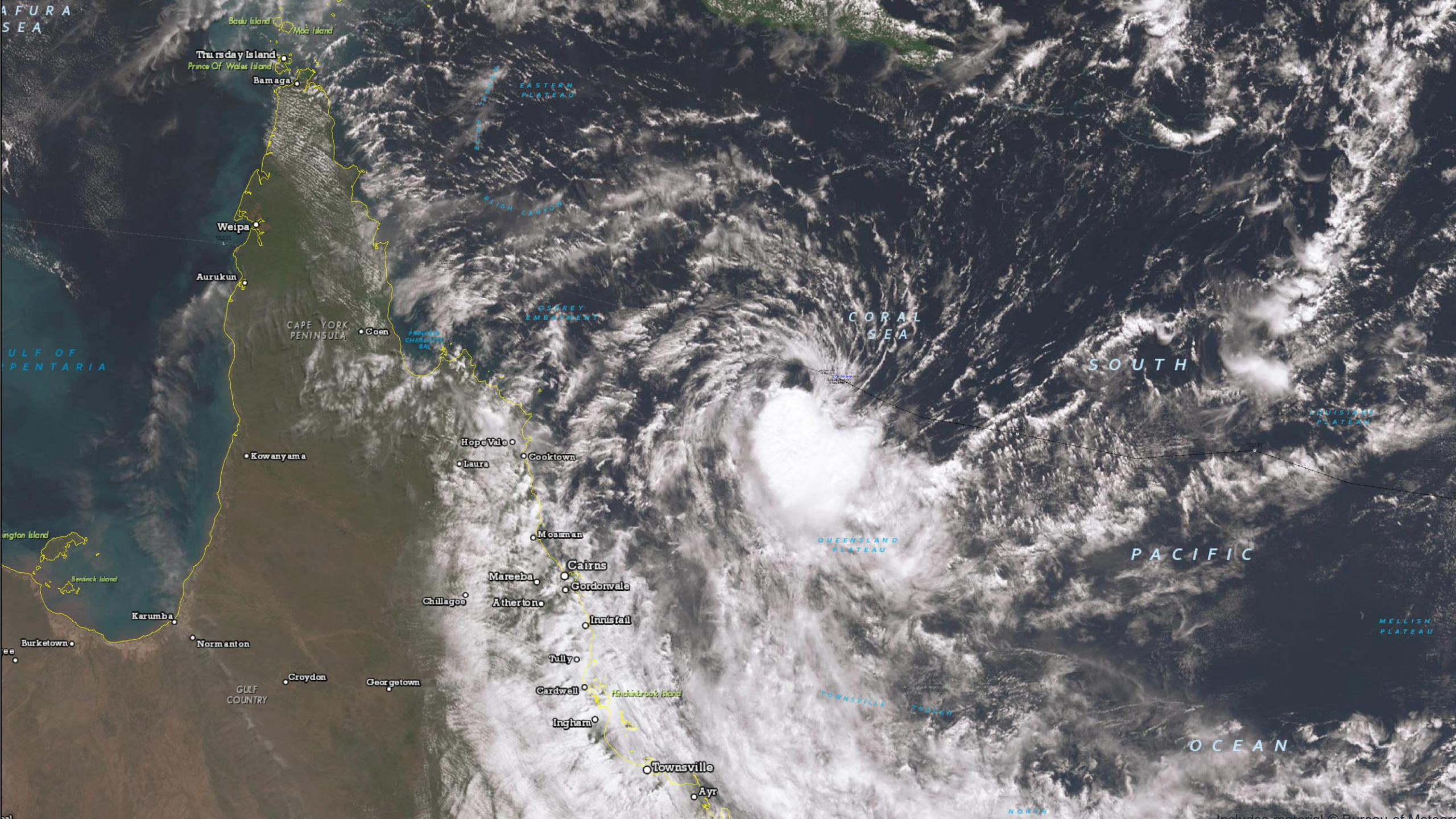


From Fire to Flood

Andy Stewart
Manager, State Imagery, Land and Spatial Information





Spatial Imagery → decision makers



- Land and Spatial Information – State Imagery
- QSat initiative – bushfire and flood case studies
- 2019 Townsville flood event
- Queensland Spatial Imagery Infrastructure – where next

Land and Spatial Information



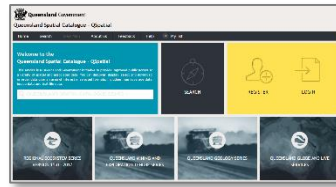
- Acquire, manage and provide access to a vast array of Queensland's spatial information including developing and delivering world class spatial information solutions



DOWNLOAD



QGlobe



QSpatial



QImagery



QTopo

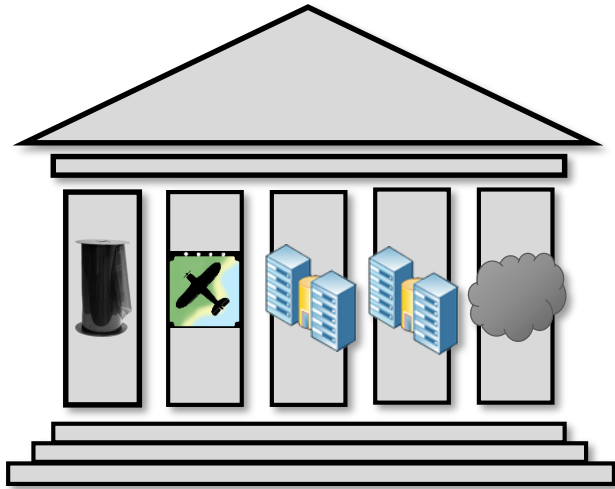


QSat

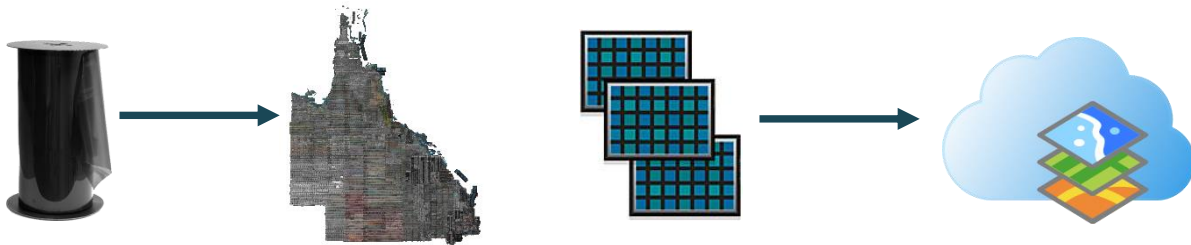


State Imagery

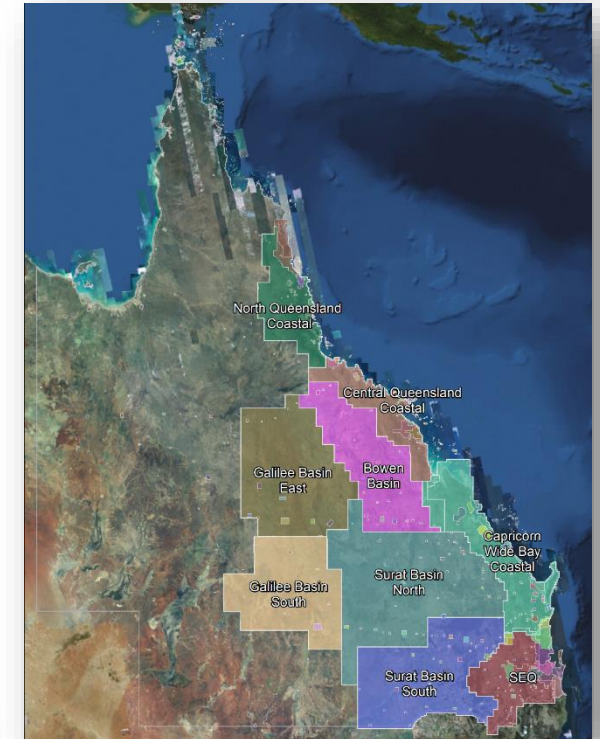
Keep and maintain the *State Remotely Sensed Image Library*



Data management program



Coordinated acquisition program



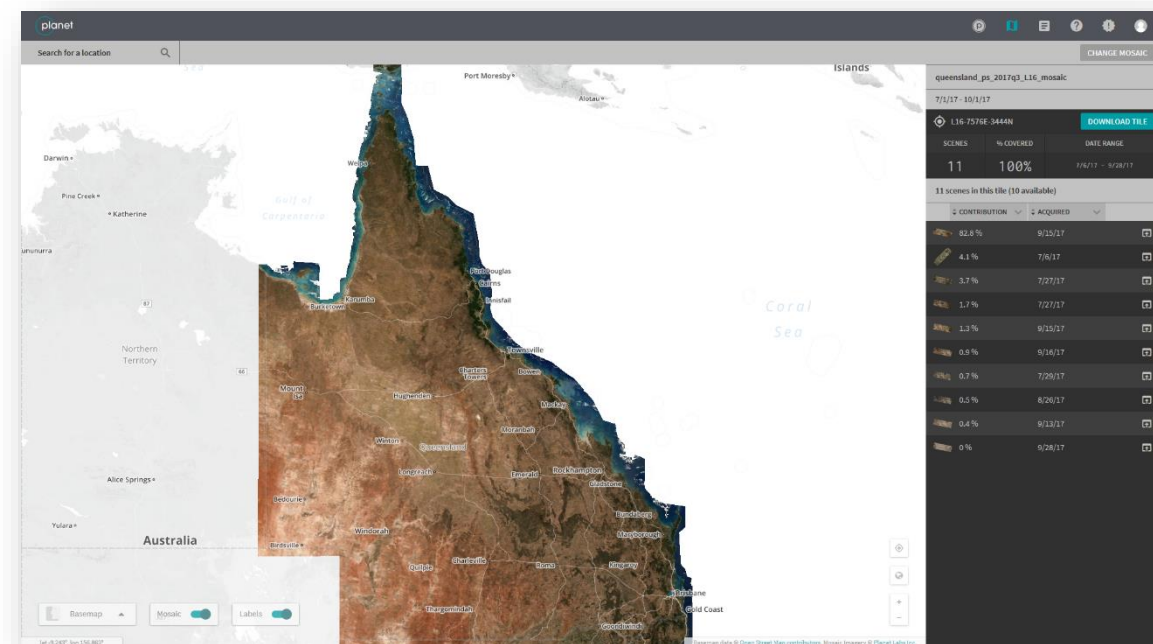


QSat

Source: Planet

QSat initiative

- Launched late 2016
 - Whole-of-state near-daily capture
 - Data available within 24 hours
 - Quarterly statewide products
 - Wide licensing – all QG entities including GOCs and LGAs = consistent decision making
 - Easy to use web-based platform
- Data enables support for timely, better-informed decisions and process-changing opportunities



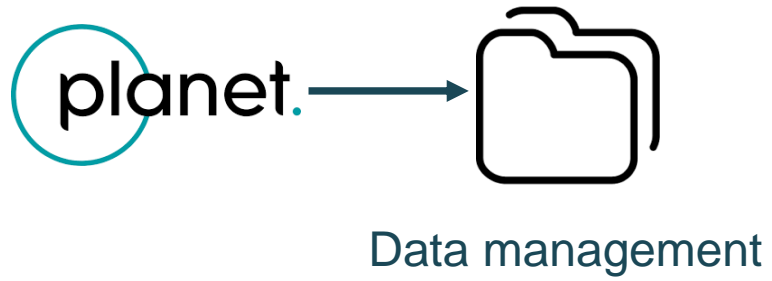
Event response: planet publishing



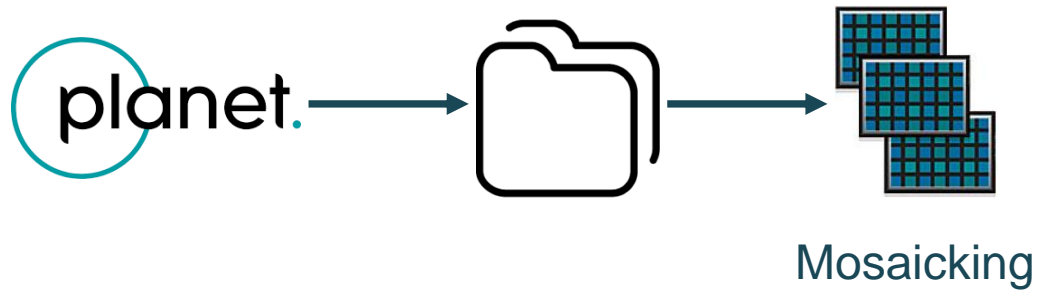
Imagery retrieval



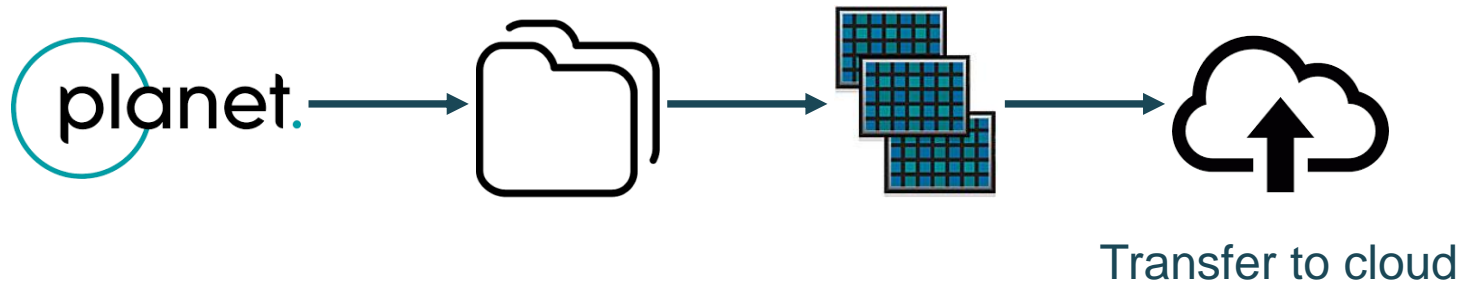
Event response: planet publishing



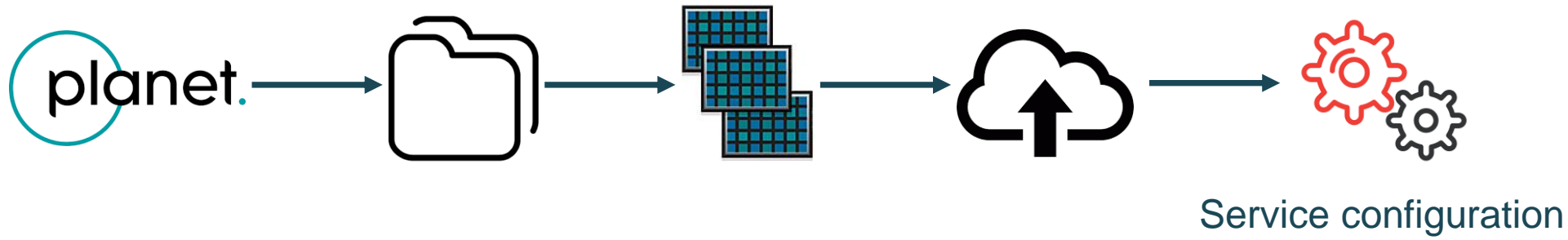
Event response: planet publishing



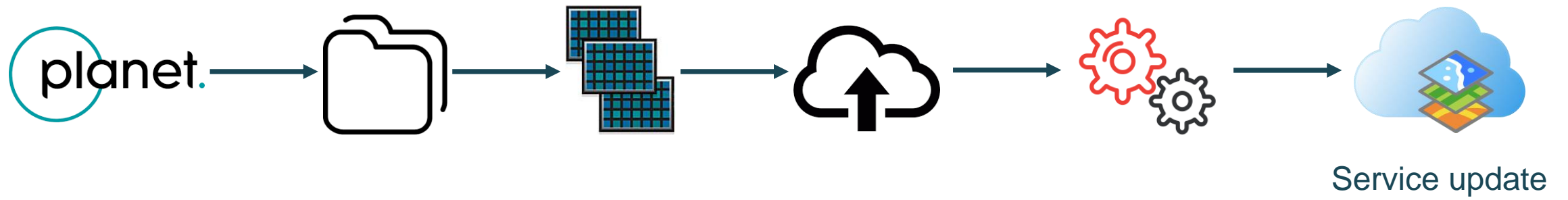
Event response: planet publishing



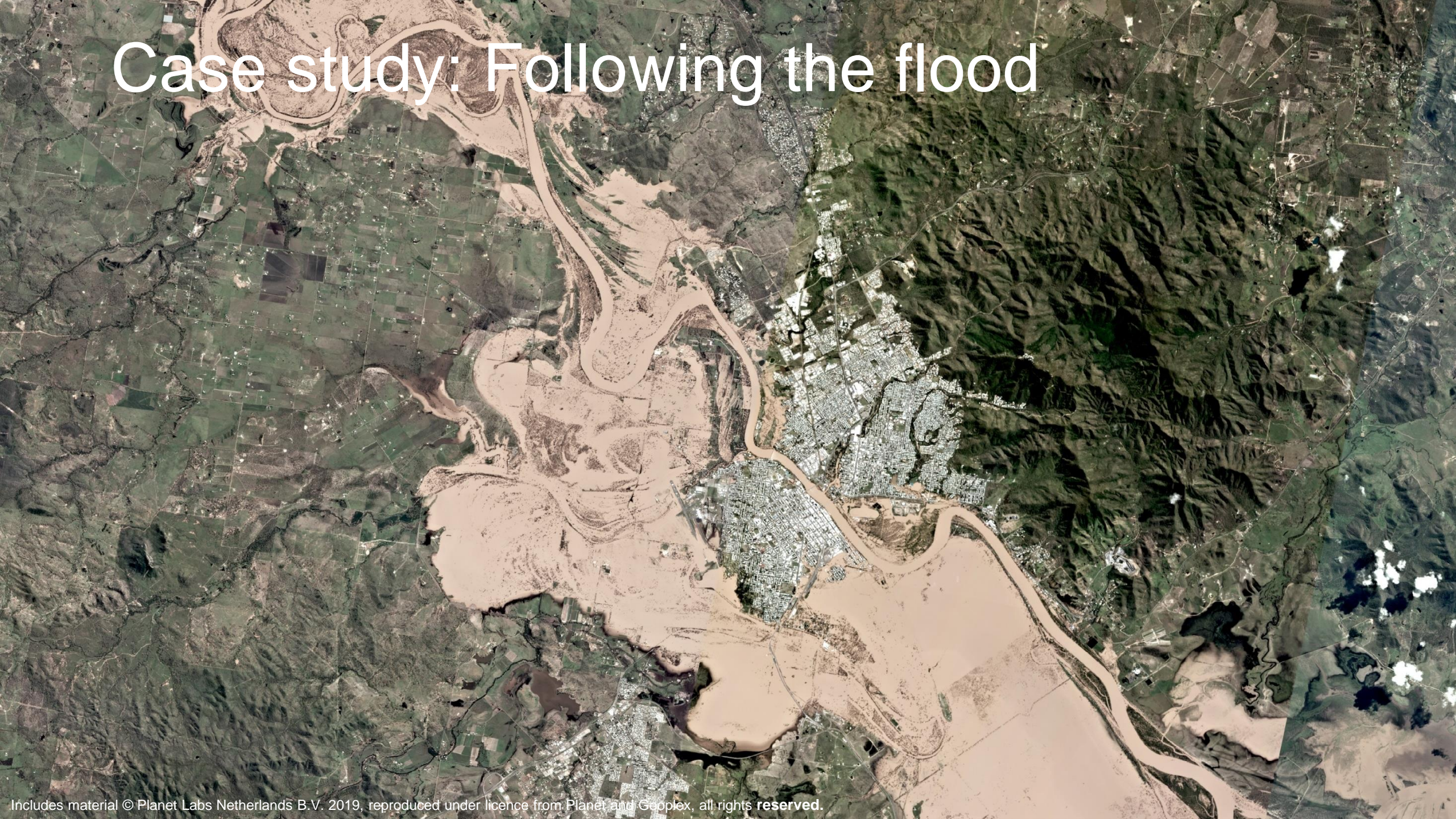
Event response: planet publishing



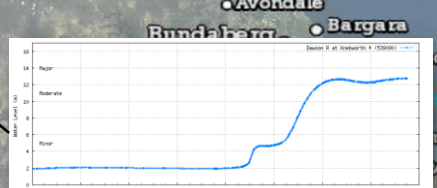
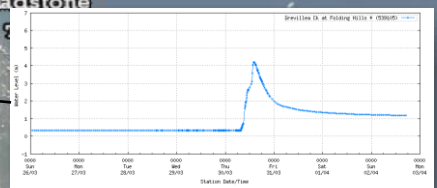
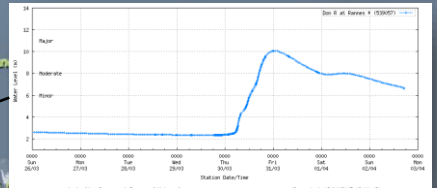
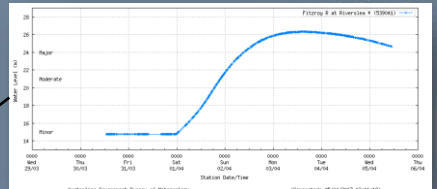
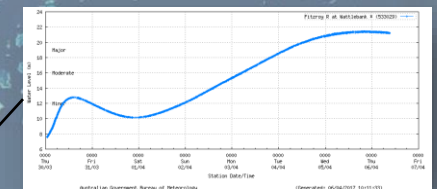
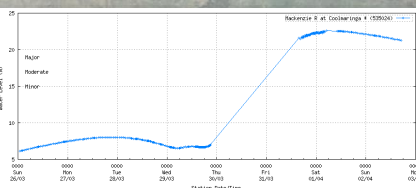
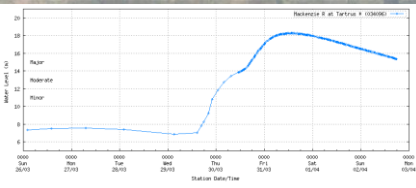
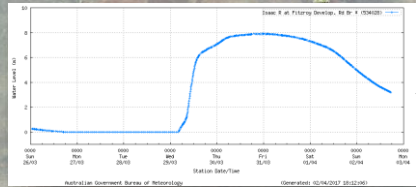
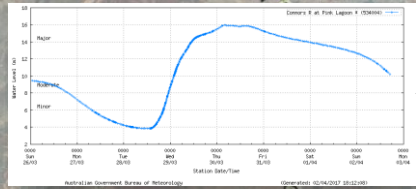
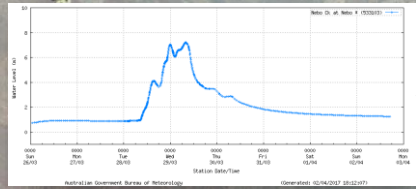
Event response: planet publishing



Case study: Following the flood



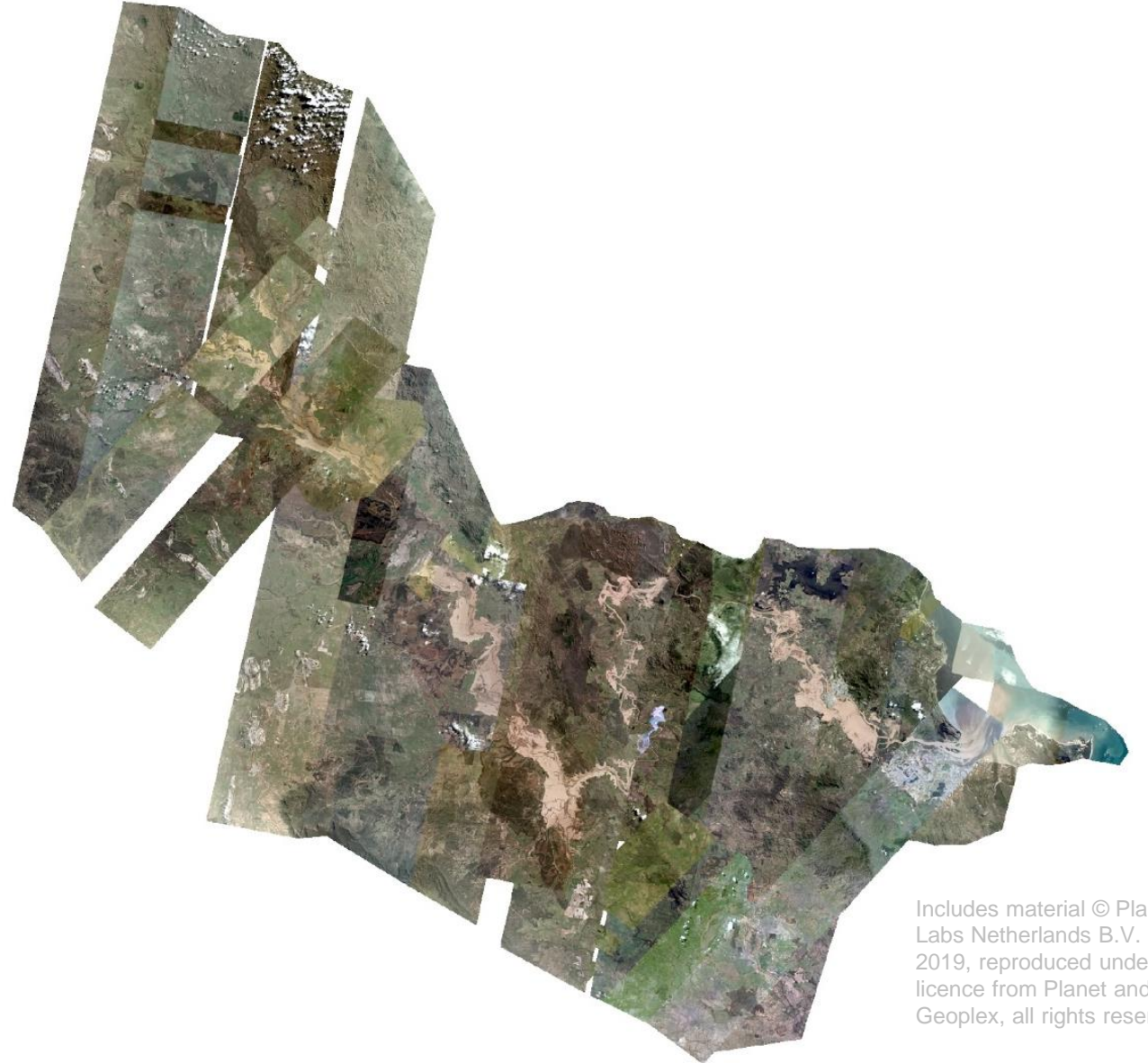
Fitzroy Basin



Mosaic product

Fitzroy Basin Planet mosaic product:

- Captured 30th March – 9th April 2017
- Area Coverage 43,508 km²
- Length >500 km
- Available as open data (CC-NC) and published in Queensland Globe within 24hrs of capture



Includes material © Planet Labs Netherlands B.V. 2019, reproduced under licence from Planet and Geoplex, all rights reserved.



Flood line product

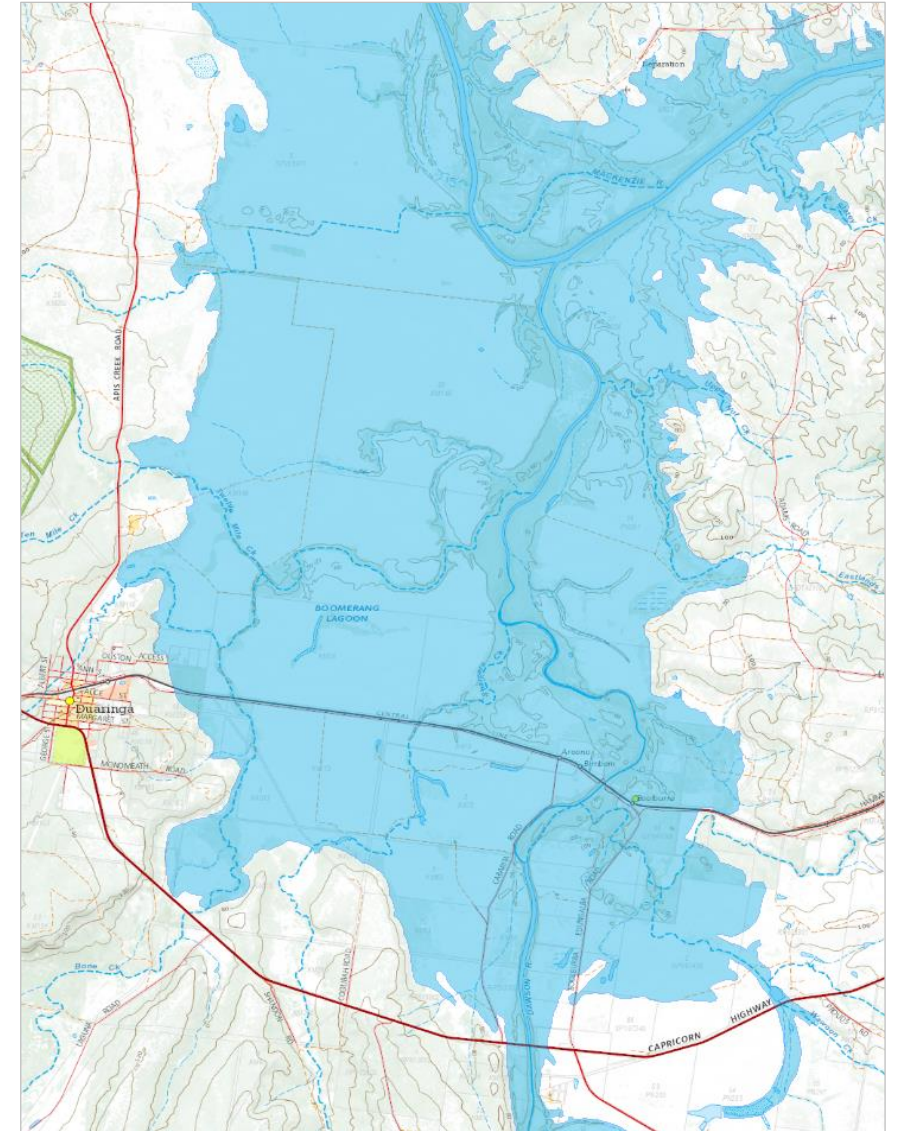


Includes material © Planet Labs Netherlands B.V. 2019, reproduced under licence from Planet and Geoplex, all rights reserved.

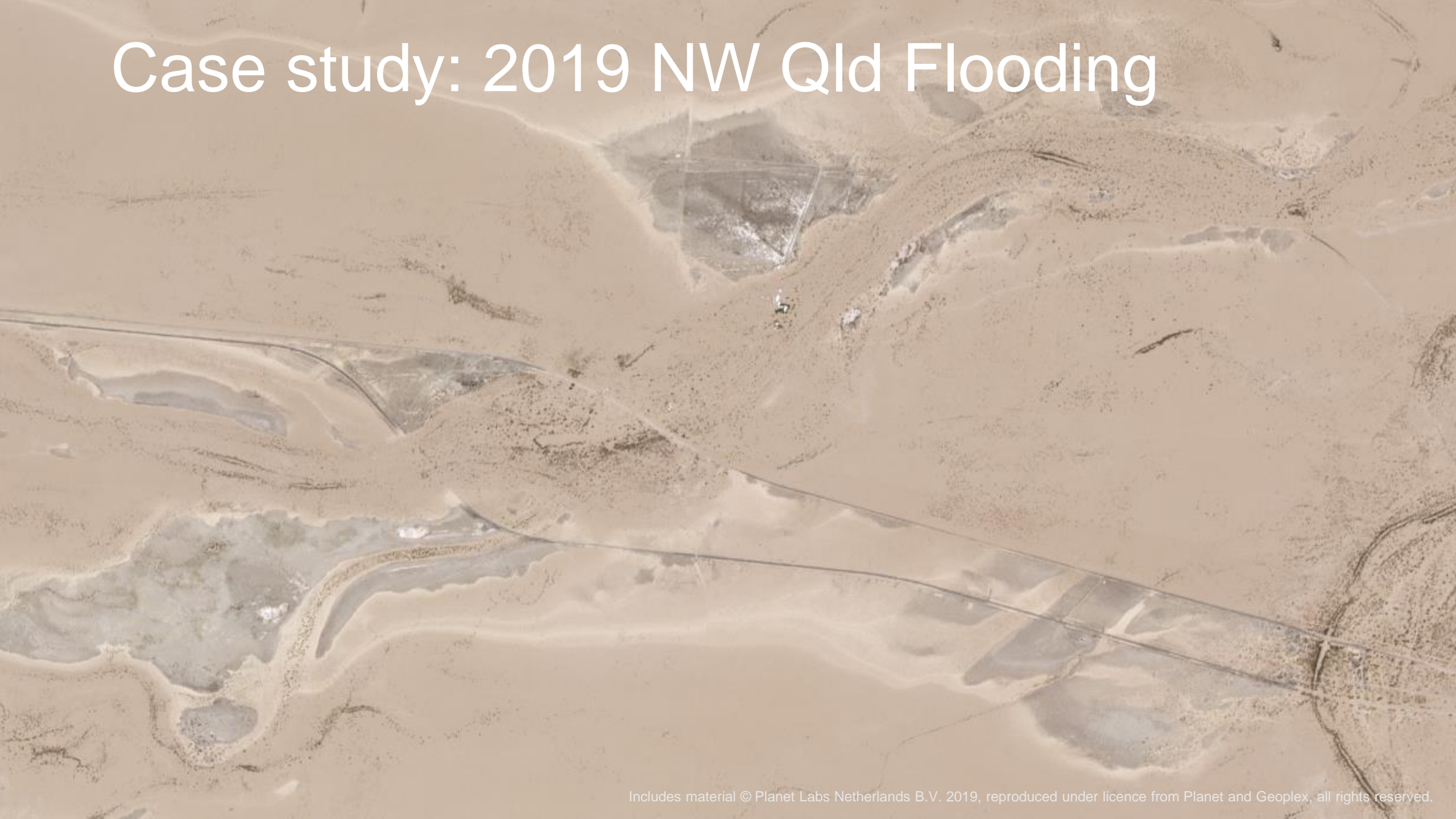
Following the flood

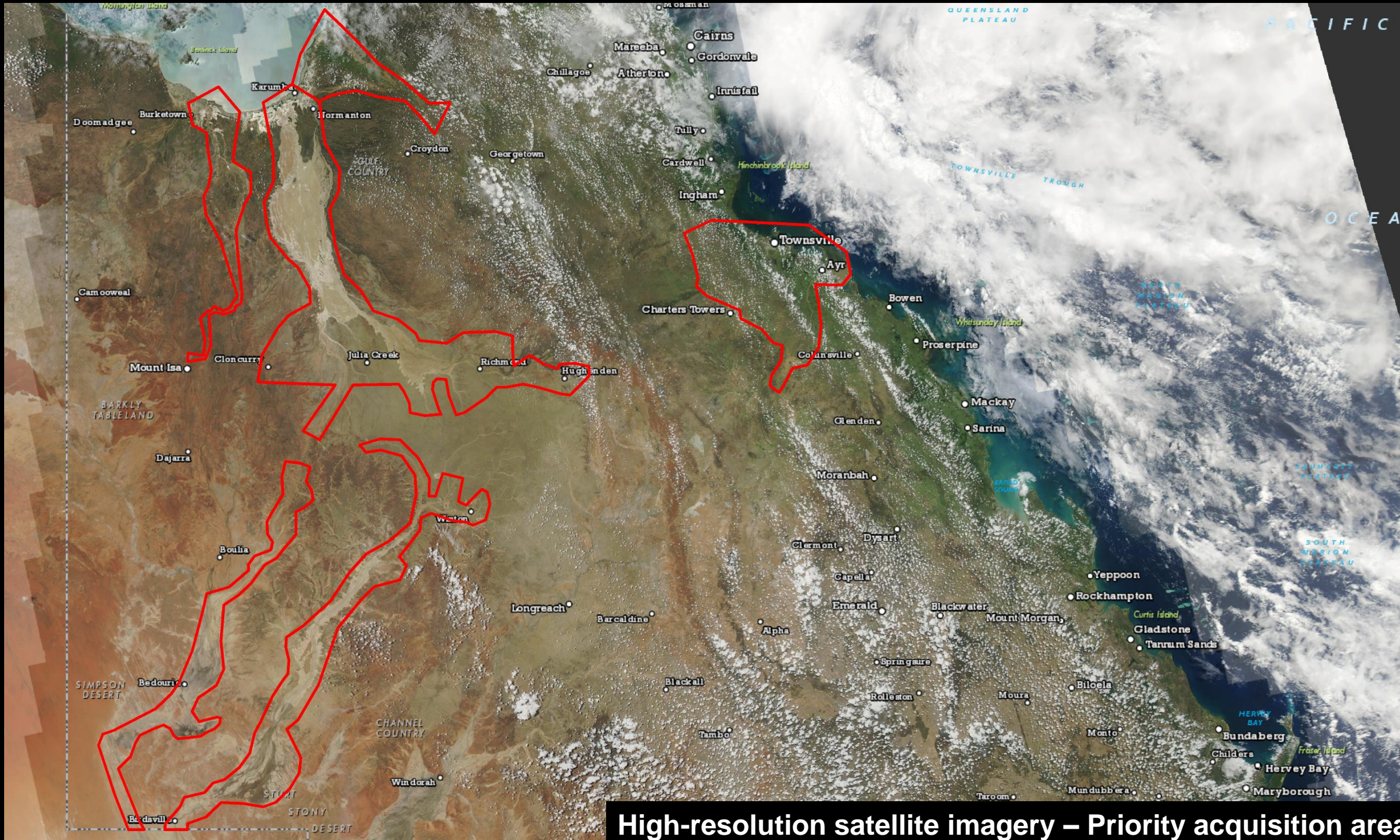
Product outcomes:

- Improve flood modelling in regions never previously observed
- Refine flood gauge equipment accuracy
- Monitor regional road closures
- Accurately assess impacted properties



Case study: 2019 NW Qld Flooding







Flinders River Catchment - February 2019



Photo: Salvation Army Outback Flying Service

Nelia – 10 Feb 2019

Mosaic products



Flinders



Diamantina



Hamilton

Includes material © Planet Labs Netherlands B.V. 2019, reproduced under licence from Planet and Geoplex, all rights reserved.



Flood line product



Water classification approach





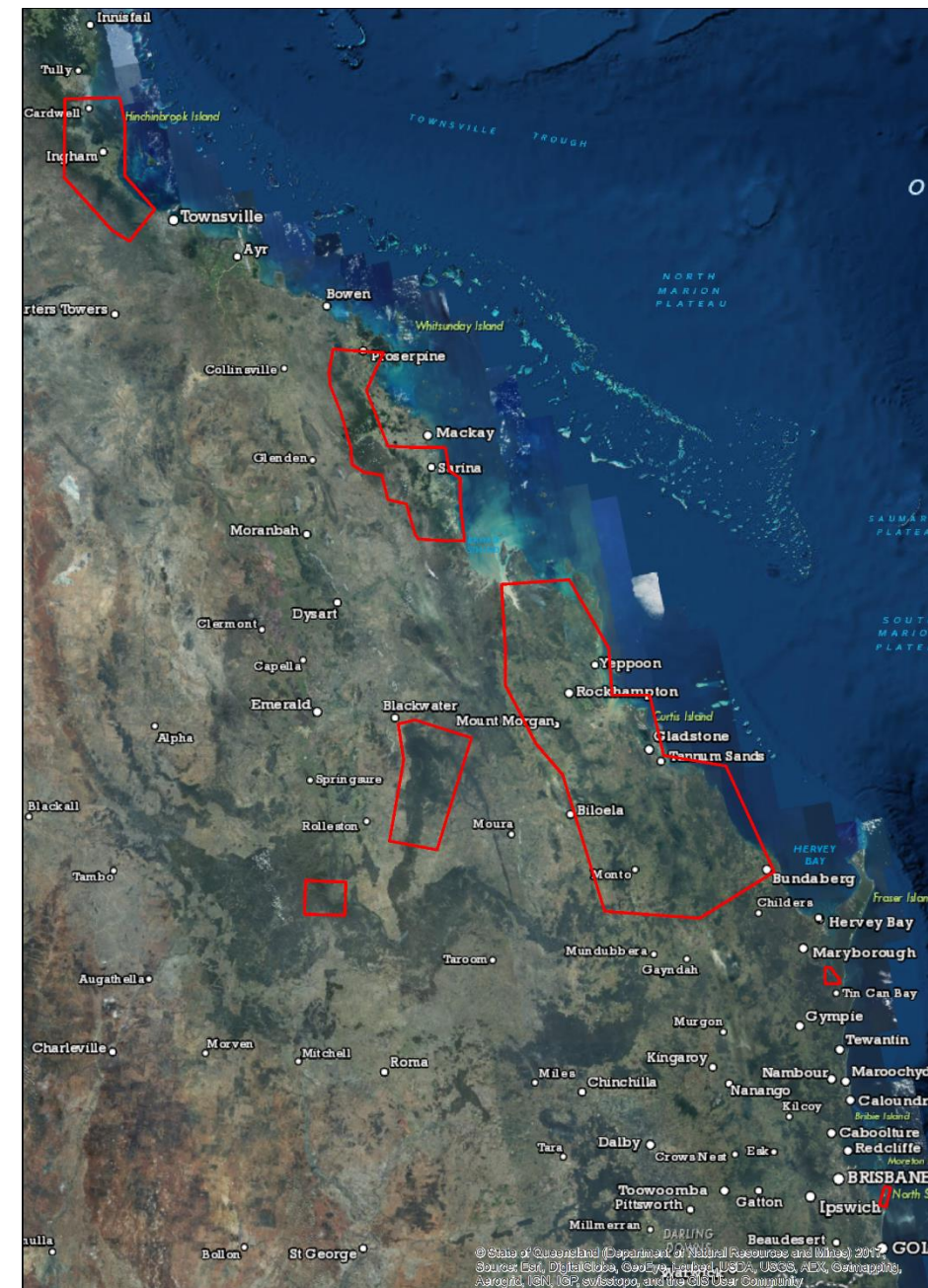
Burdekin Falls Dam – 10 Feb 2019

Case study: True facts and false colours

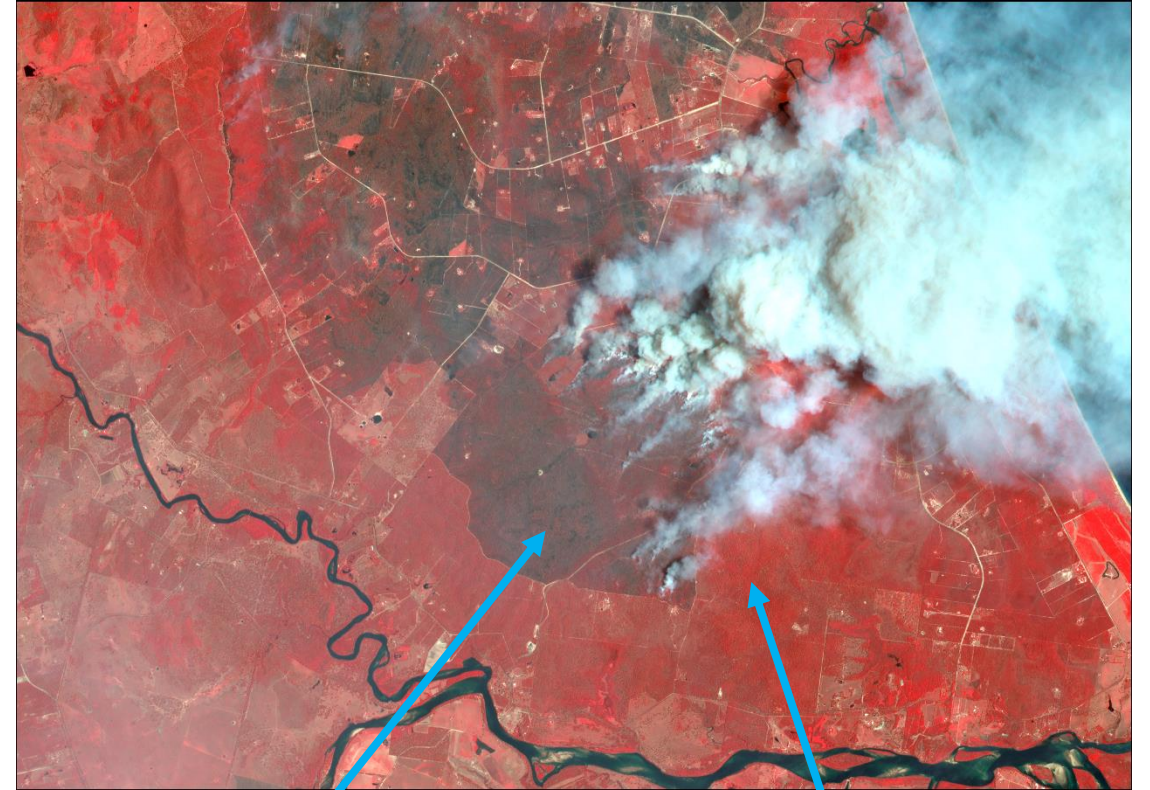


Bushfire response areas

- North Queensland
- Mackay (Eungella/Finch Hatton)
- Central Queensland (Gracemere/Baffle Ck)
- Blackdown Tableland
- Carnarvon Gorge
- Great Sandy Strait (Tinnanbar)
- North Stradbroke Island



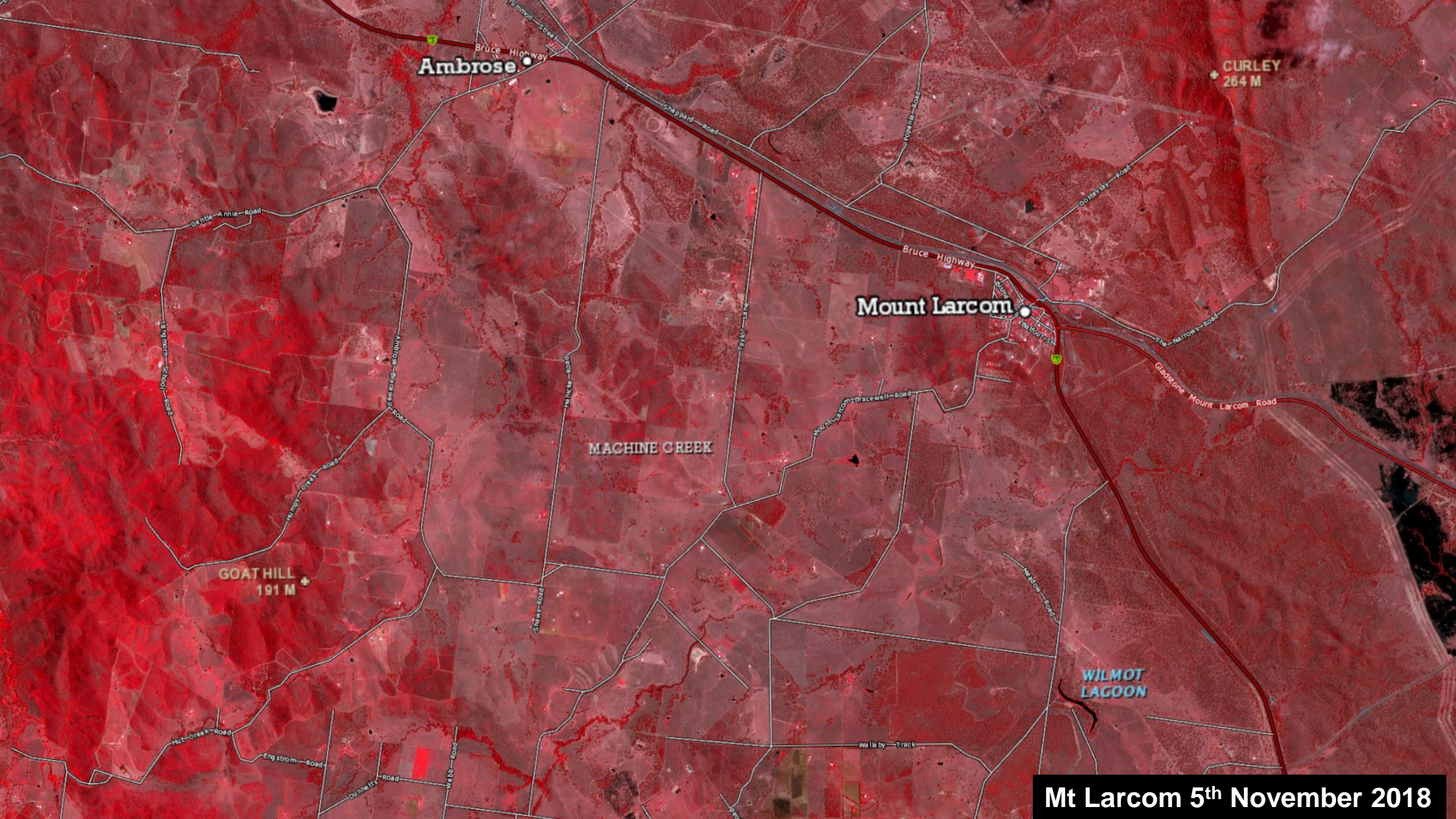
False-colour infrared



Fire scar (black)

Healthy vegetation (red)





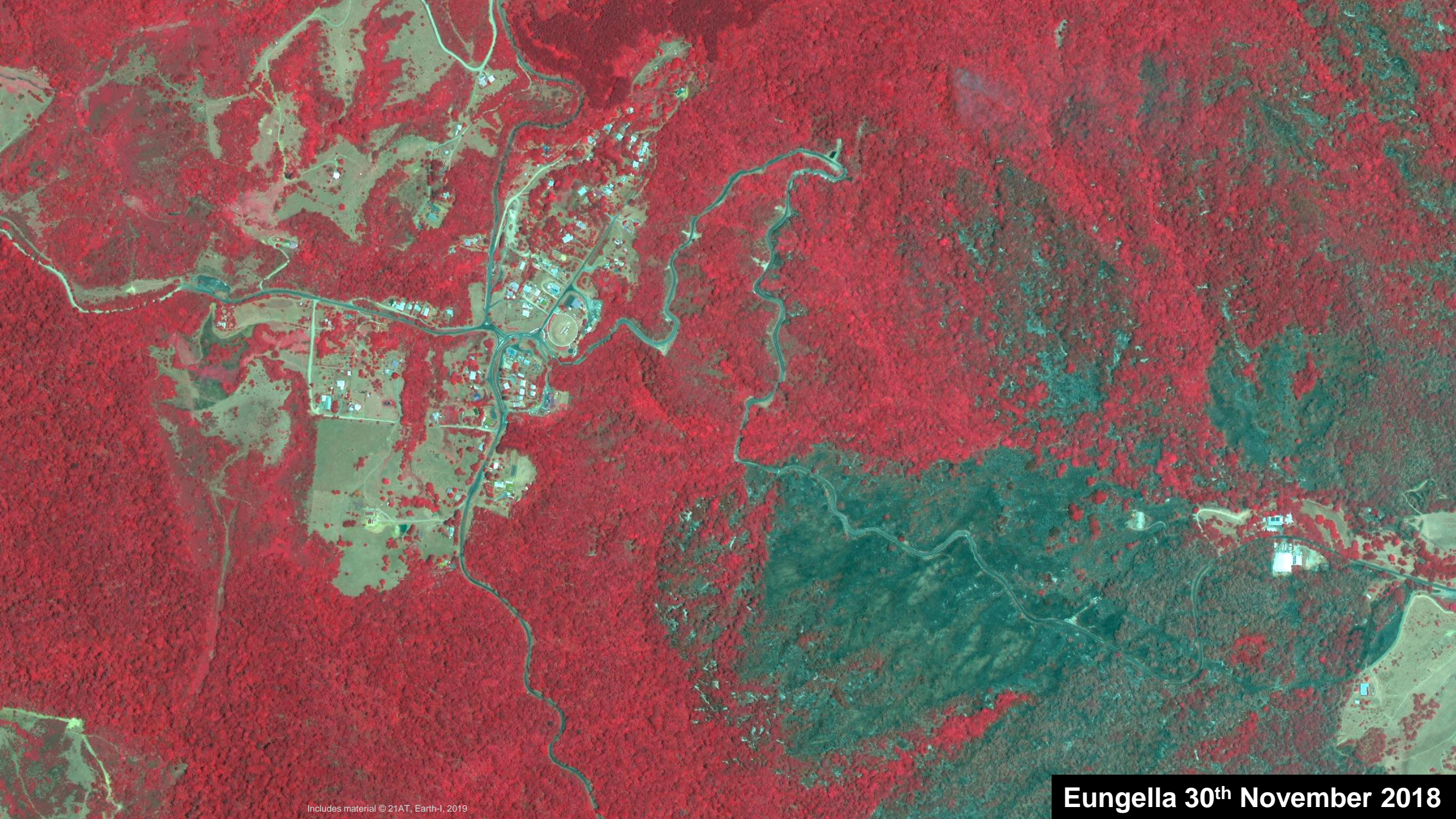
Mt Larcom 5th November 2018

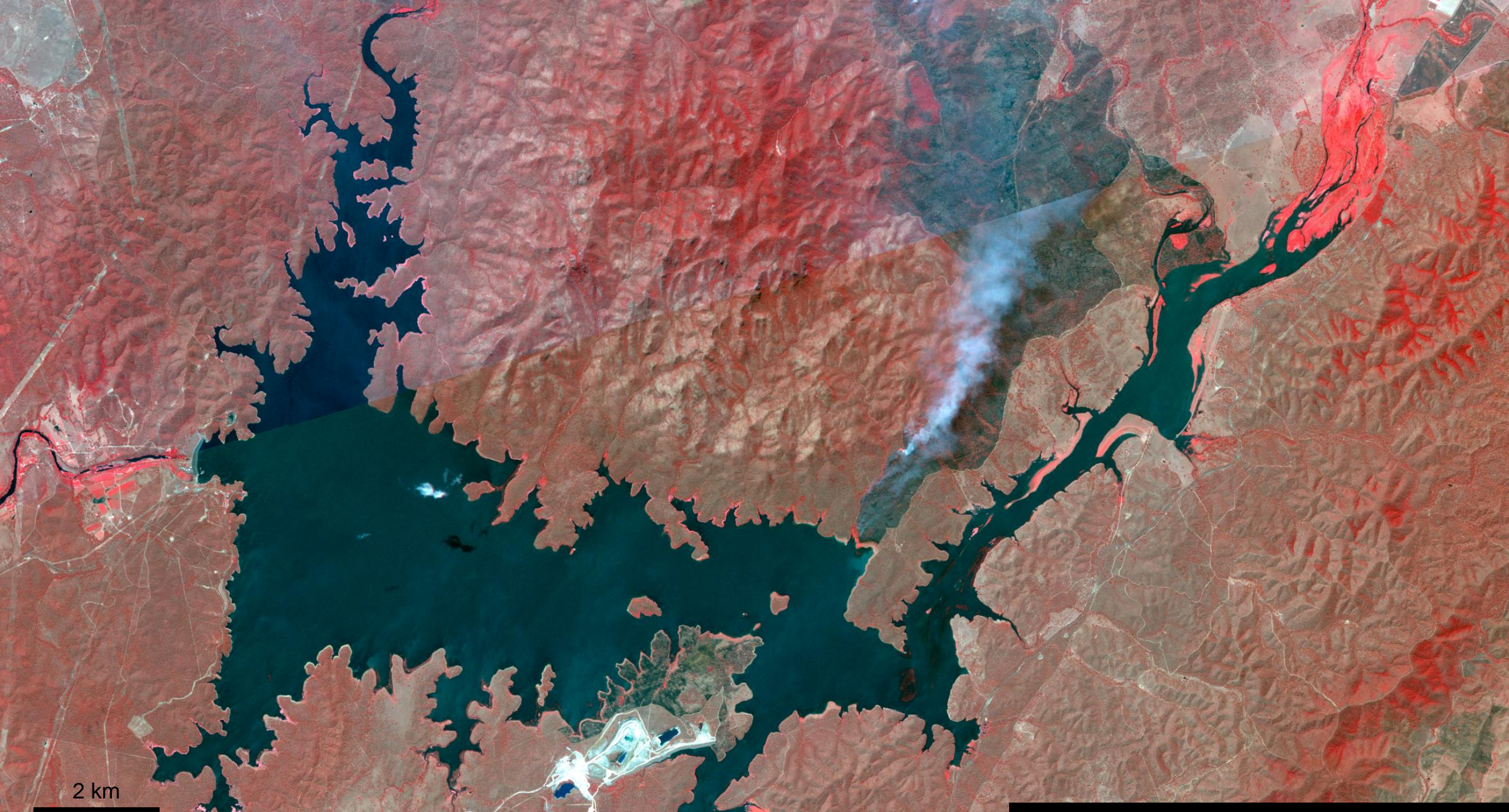


Mt Larcom 30th November 2018



Deepwater 1st December 2018

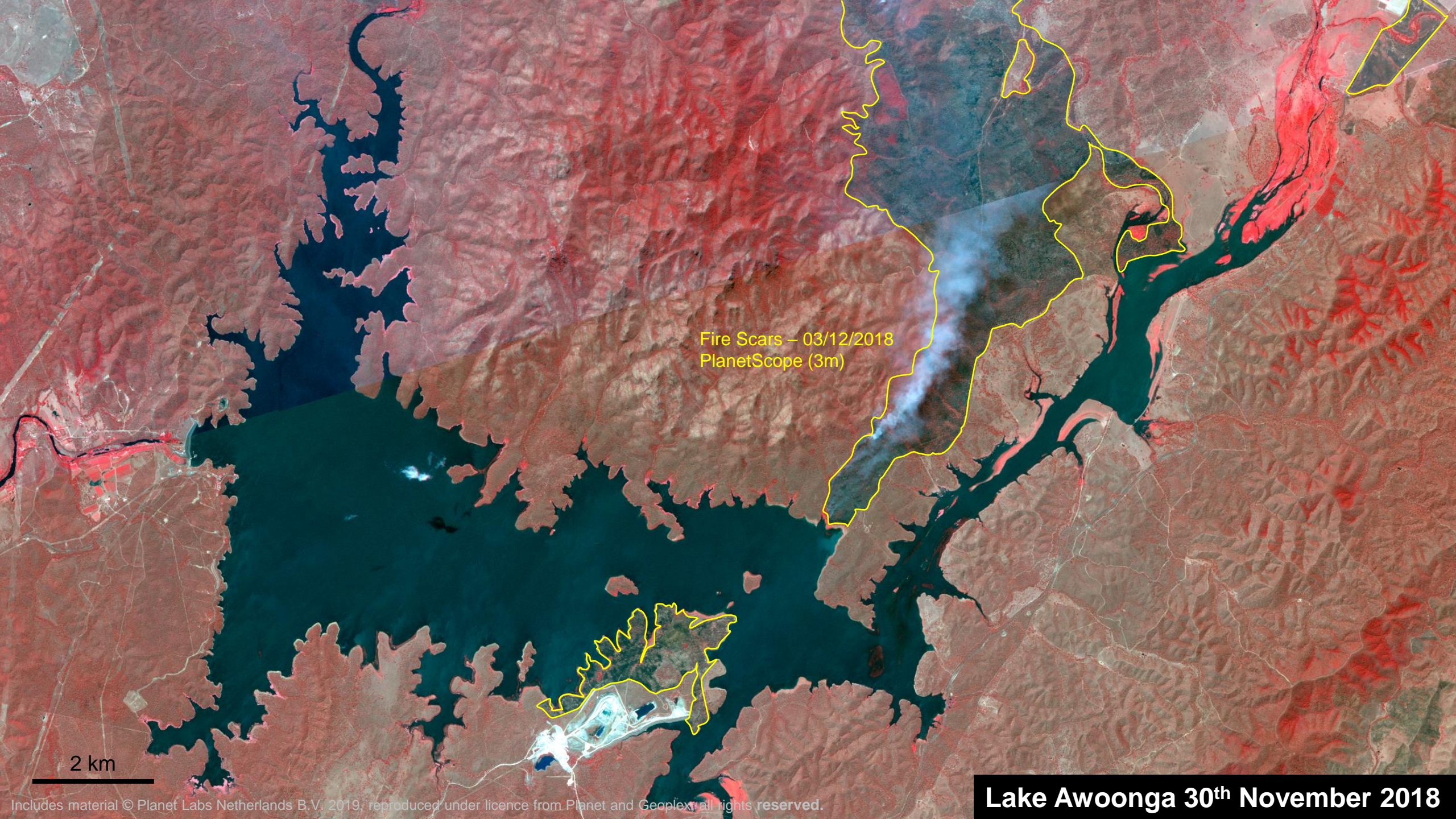




2 km

Lake Awoonga 30th November 2018

Includes material © Planet Labs Netherlands B.V. 2019, reproduced under licence from Planet and Geoplex, all rights reserved.

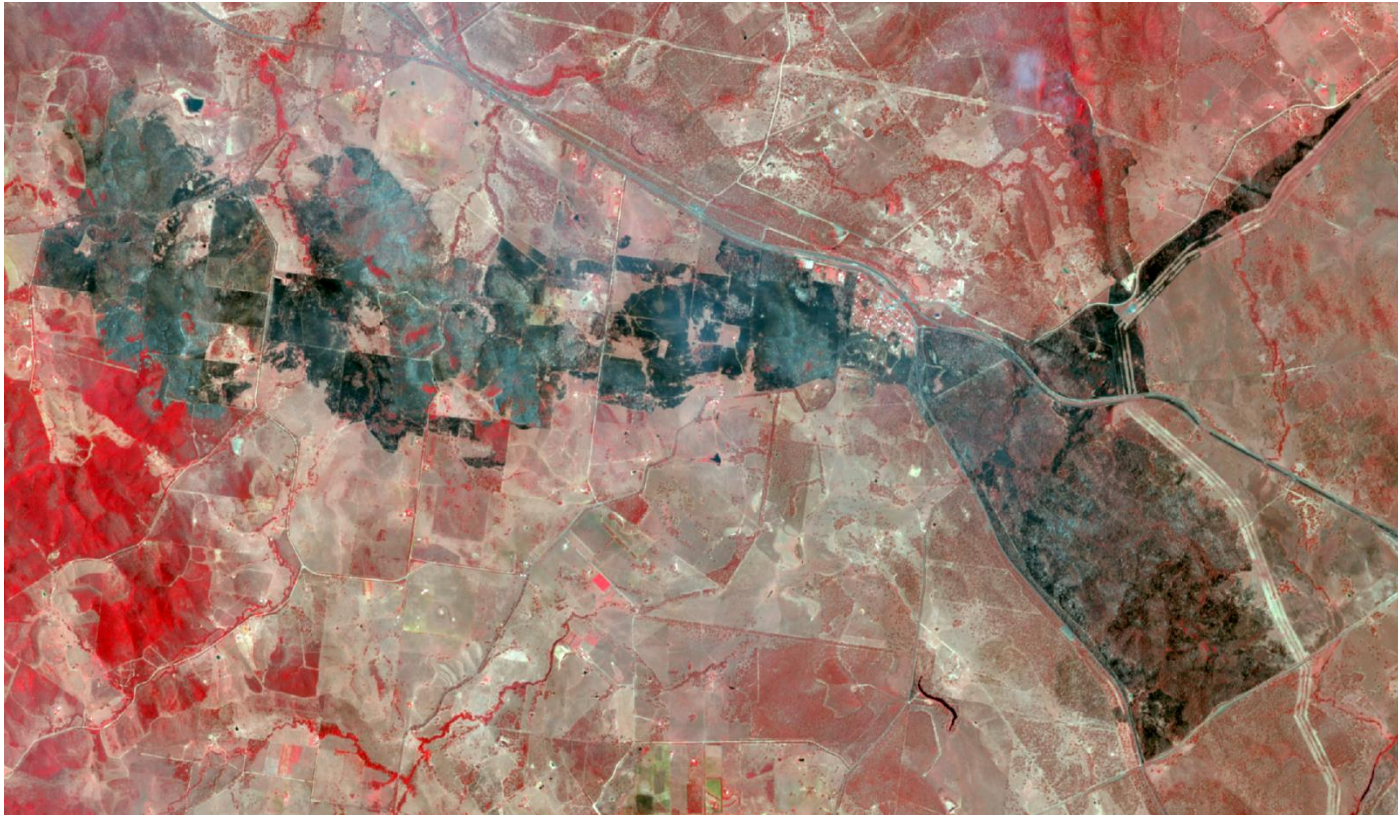


Fire Scars - 03/12/2018
PlanetScope (3m)

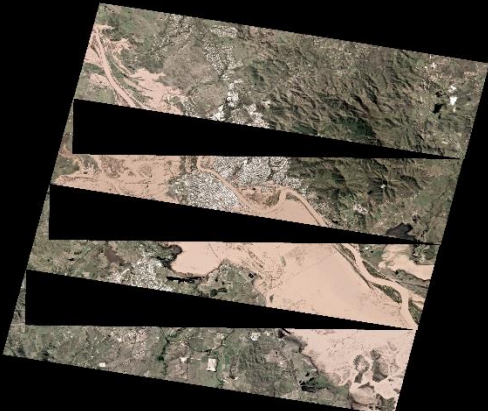
2 km

Lake Awoonga 30th November 2018

QSat event response reflections



Data



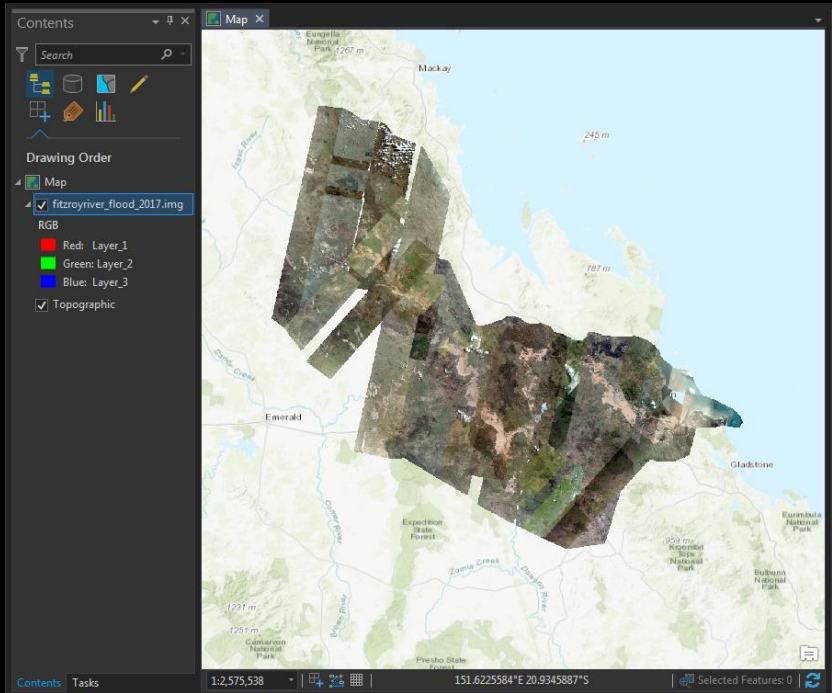
Sorted

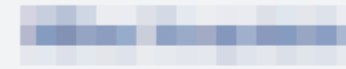


Arranged



Consumed

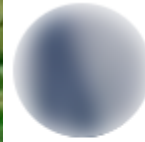




why show it if it is false????



Like · Reply · 5w



I don't get it?
Is it true or false?



Like · Reply · 5w · Edited



What about the false forecasts that bom puts out on a regular basis, November bom says monsoon will be light with minam cyclones this season, good to see you've nailed it again , over payed public servants .

Like · Reply · 5w · Edited



The facts are true, it's just the colour use to highlight the location and extend is false. After all, flood water is brown, so is the outback.

Like · Reply · 5w

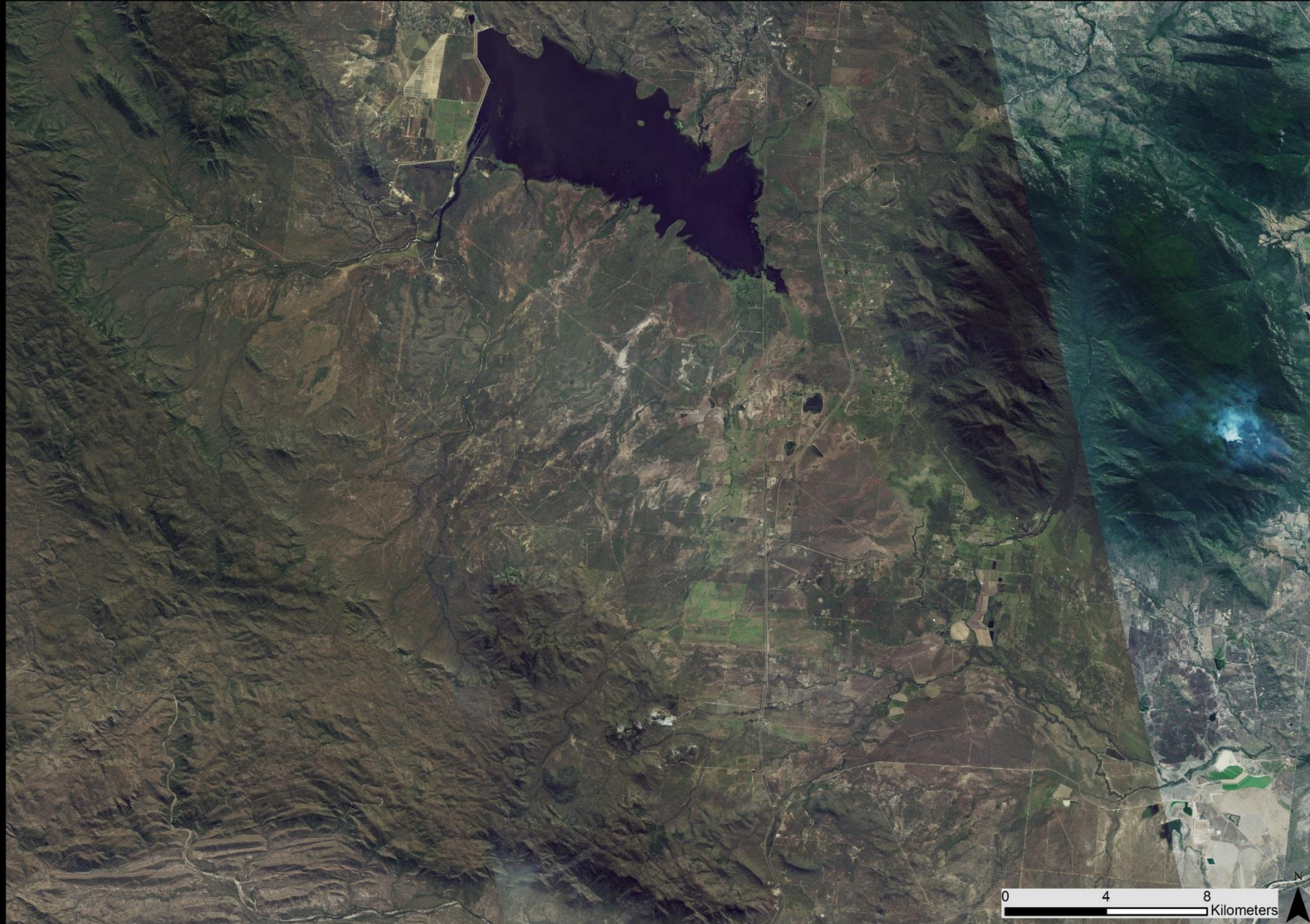


Townsville Flood 2019

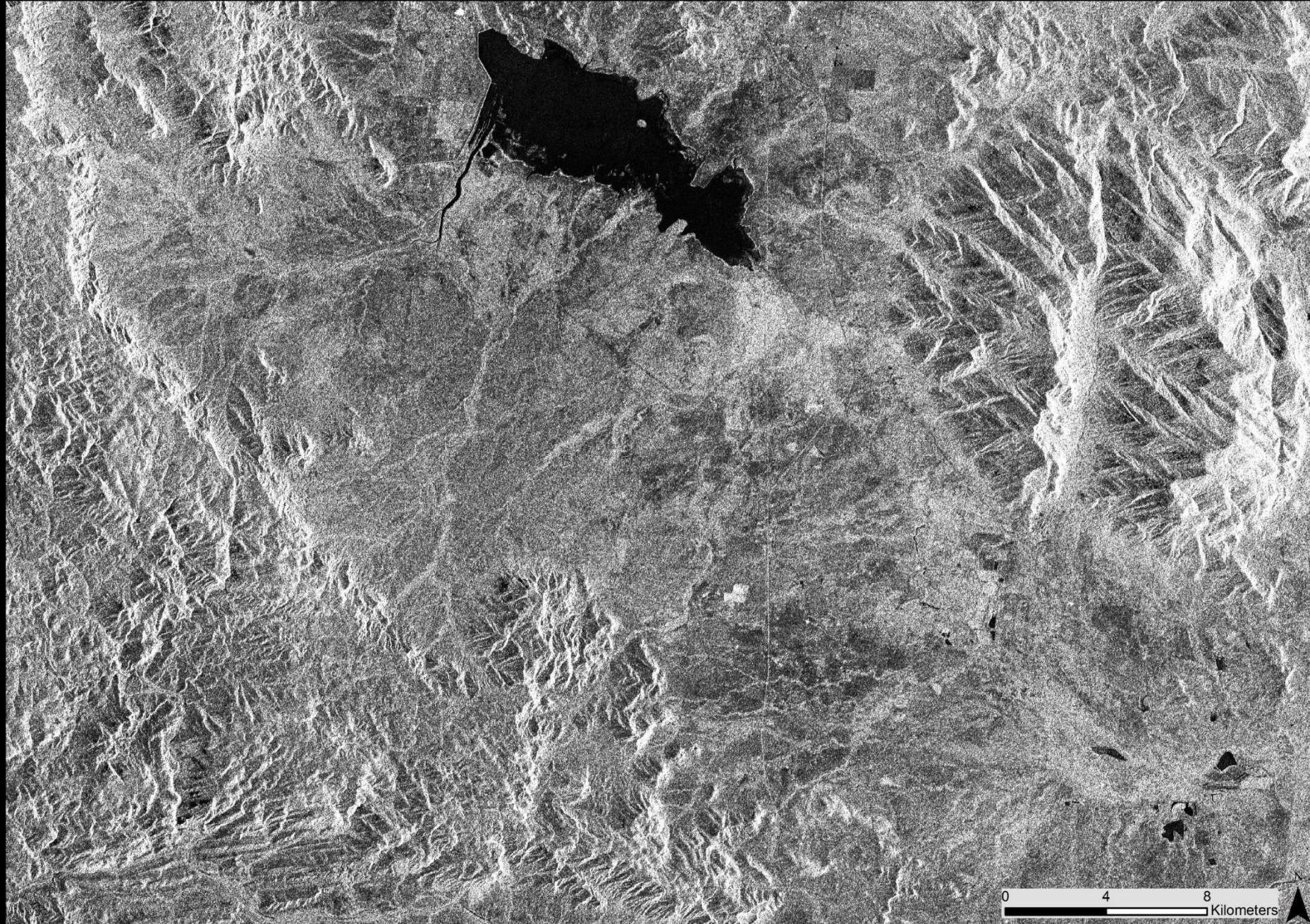


- Flood peak ~11am 4th February 2019 – cloudy with heavy rain
- “Plan B” imagery sources:
 - Satellite Radar
 - EMQ Helicopter
 - EMQ Drones

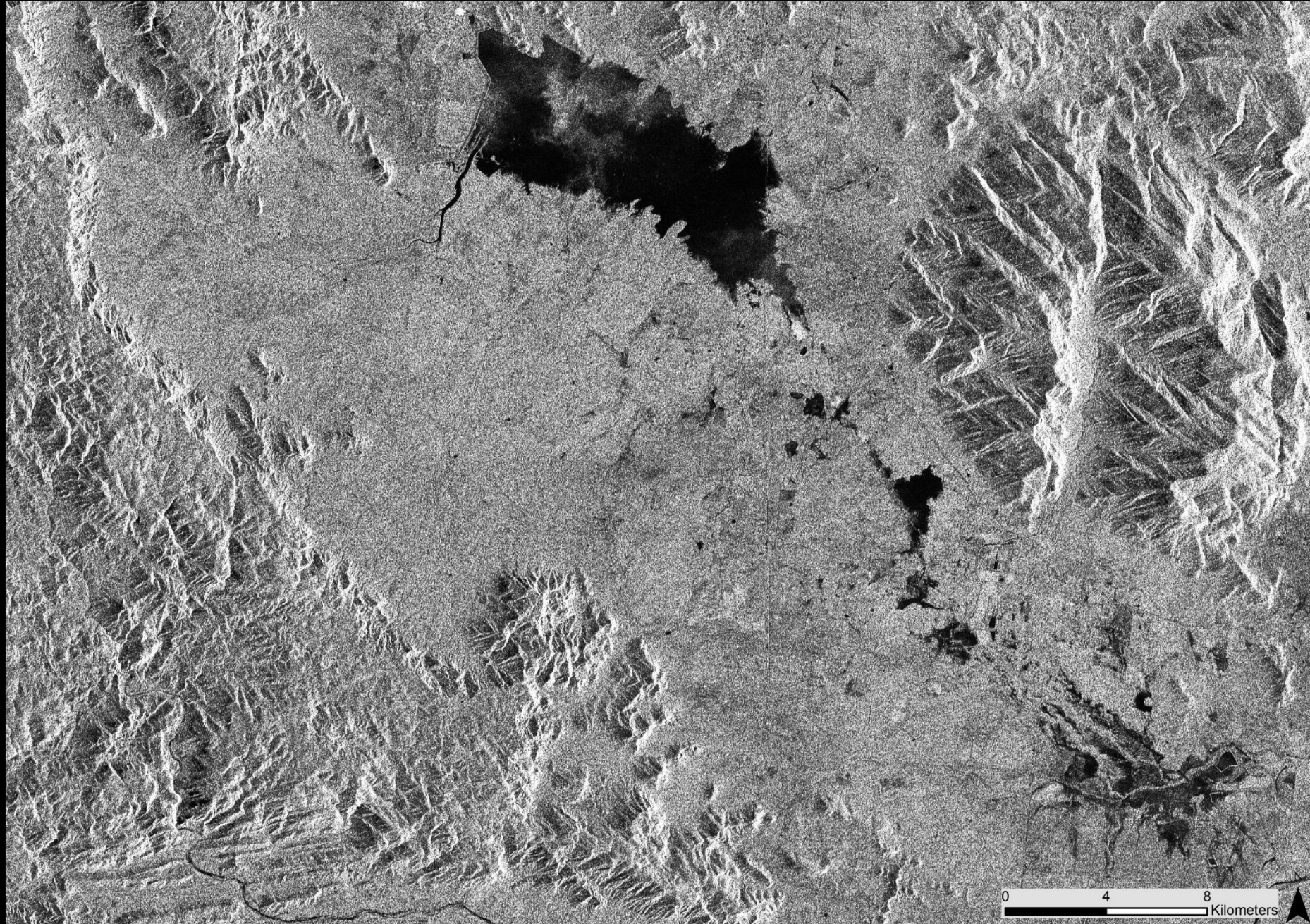




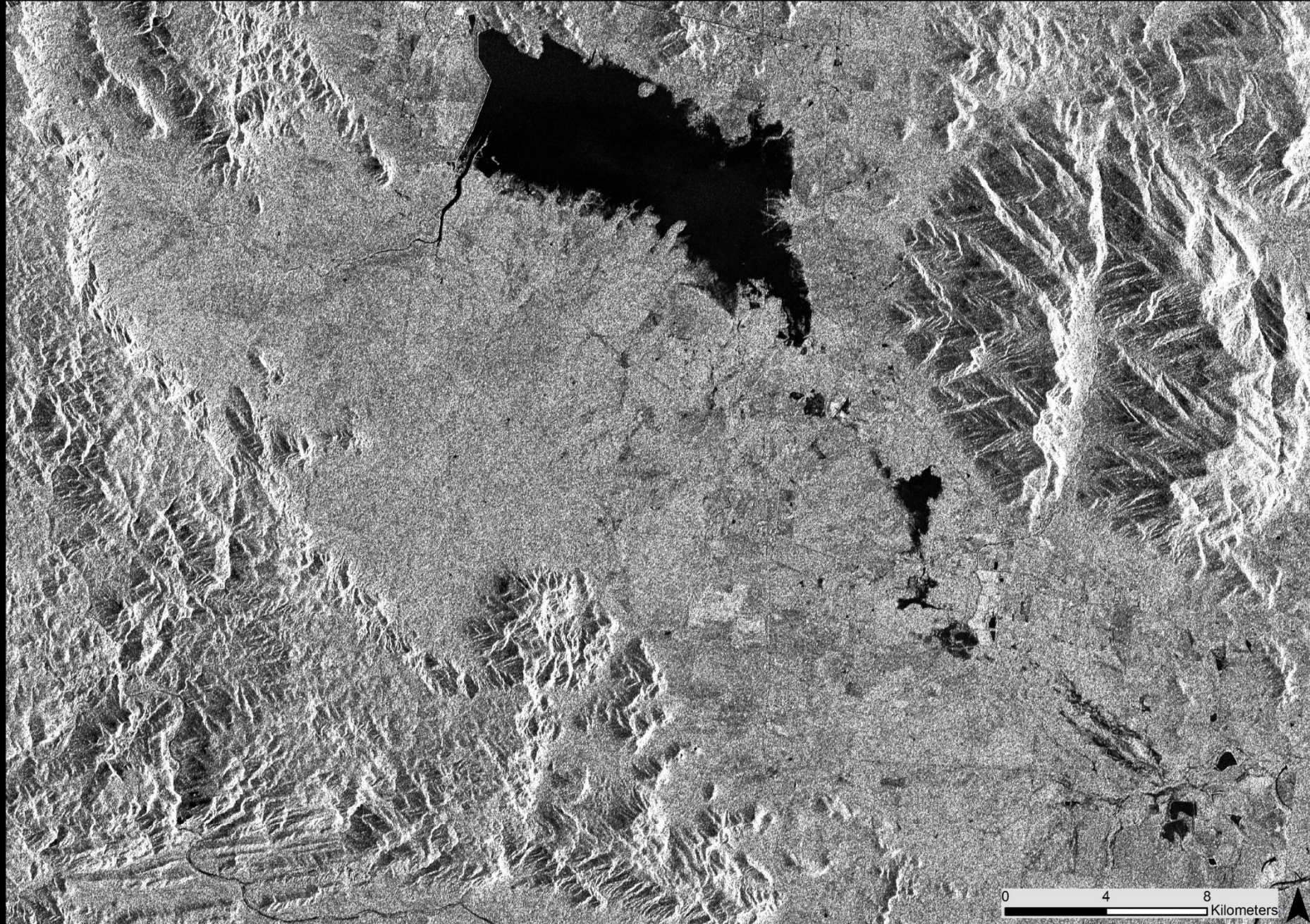
Ross River – Earth-i 2018



Ross River – Sentinel-1A, 18th January 2019



Ross River – Sentinel-1A, 30th January 2019



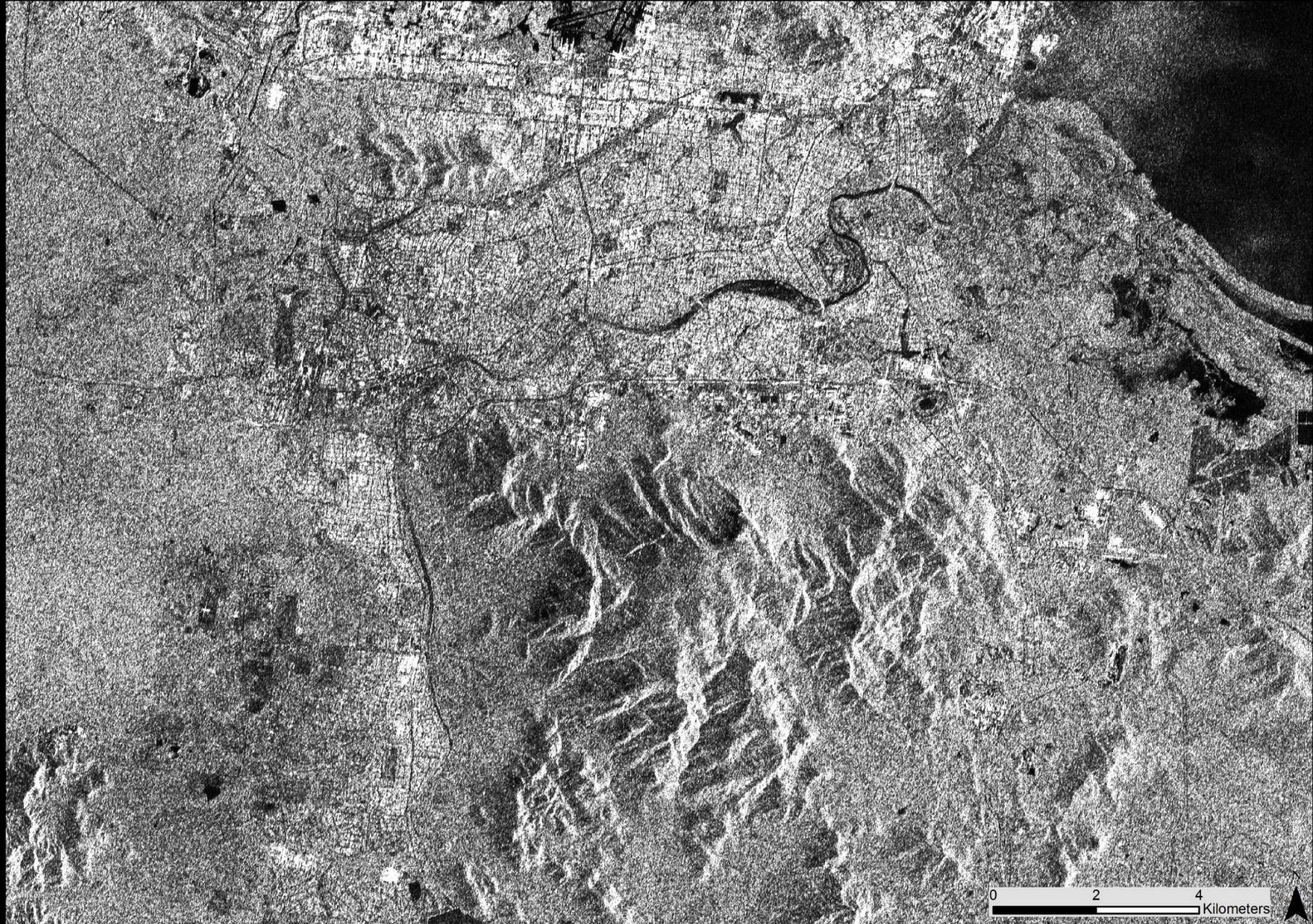
Ross River – Sentinel-1B, 6th February 2019



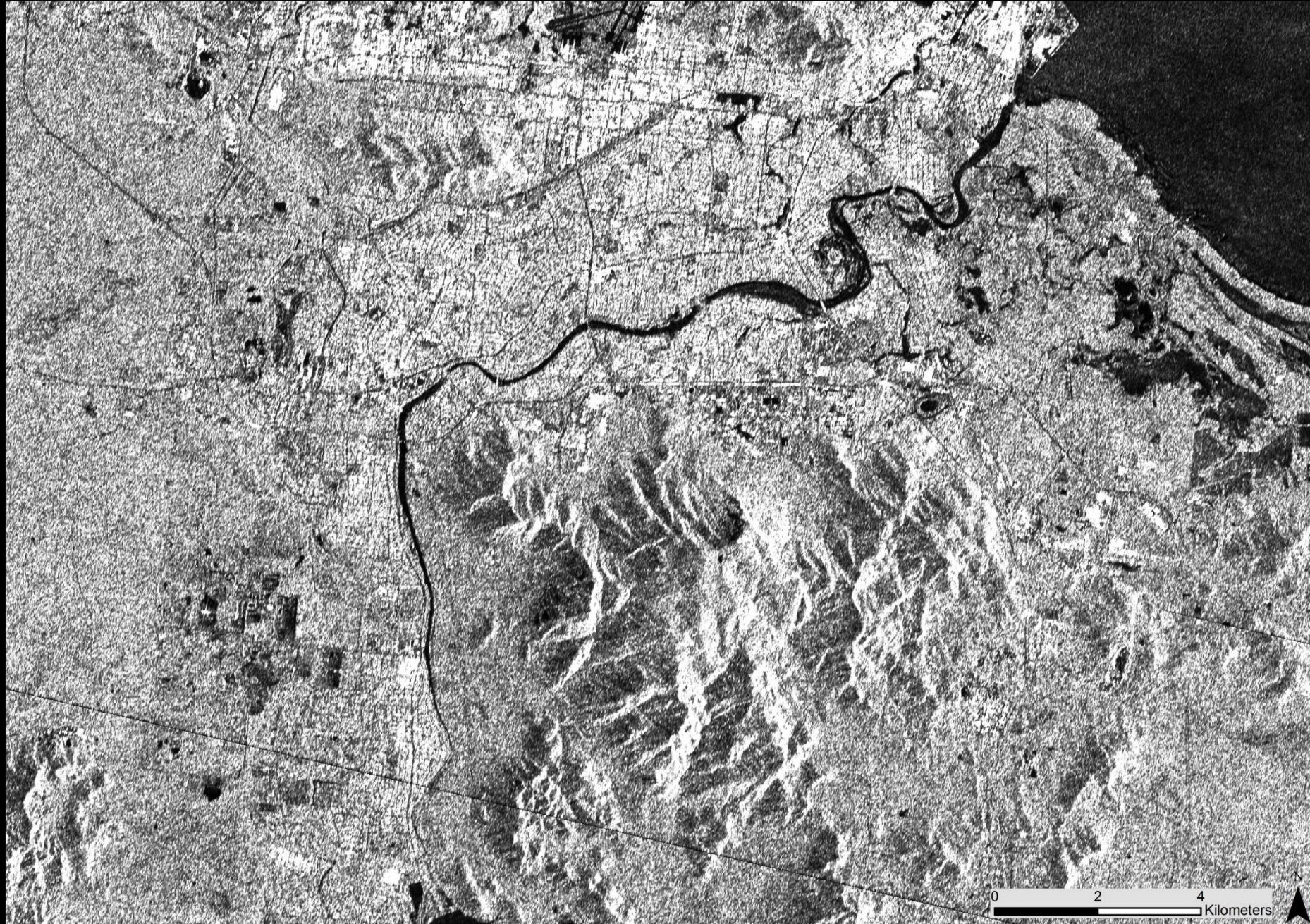
Townsville – Earth-i 2018



Townsville – Sentinel-1A, 18th January 2019



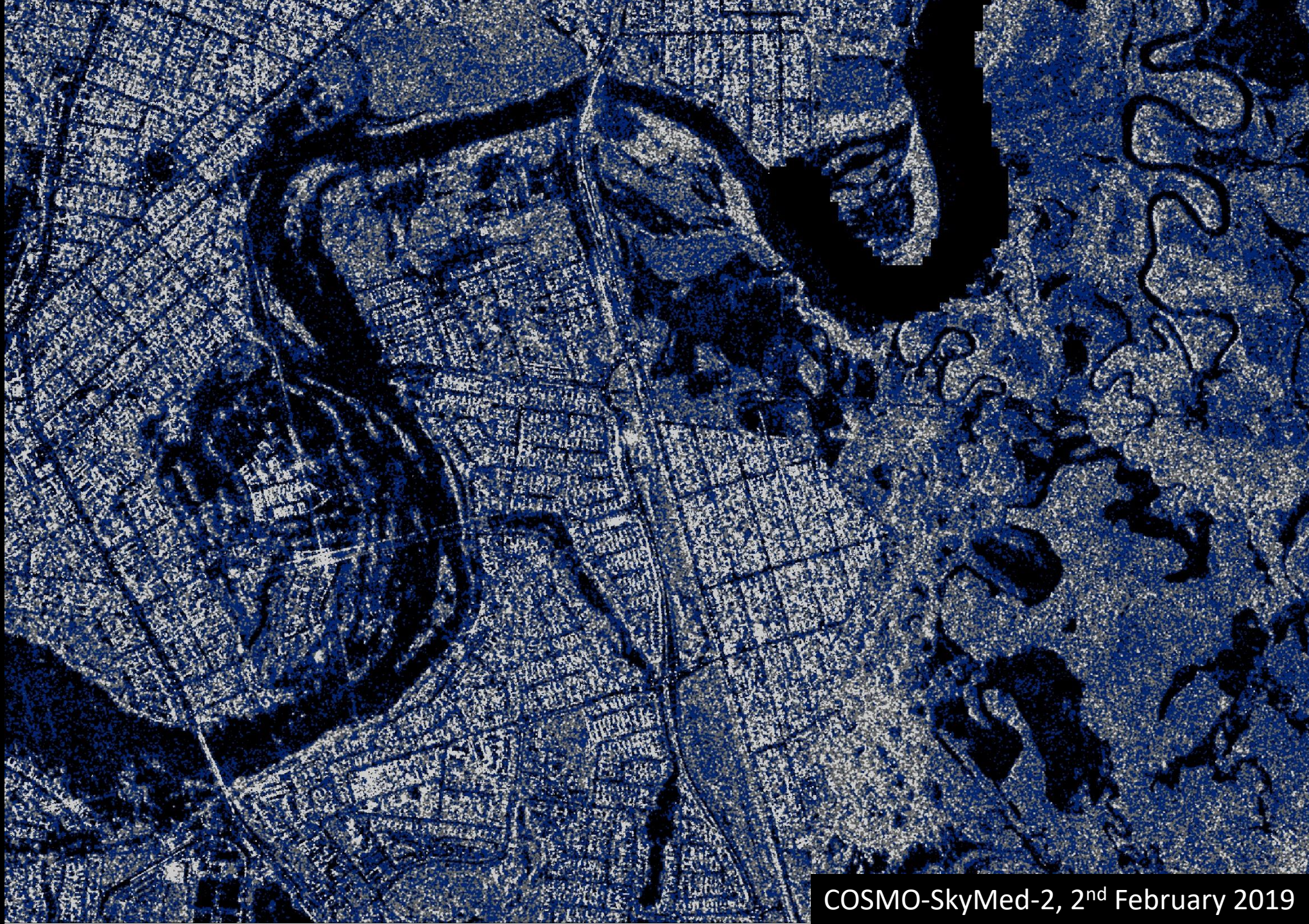
Townsville – Sentinel-1A, 30th January 2019



Townsville – Sentinel-1B, 6th February 2019



SISP Aerial Photography 2018



COSMO-SkyMed-2, 2nd February 2019



Townsville – COSMO-SkyMed-3, 5th February 2019

EMQ Helicopter vision



EMQ Drone imagery



Flood line product



Flood line product



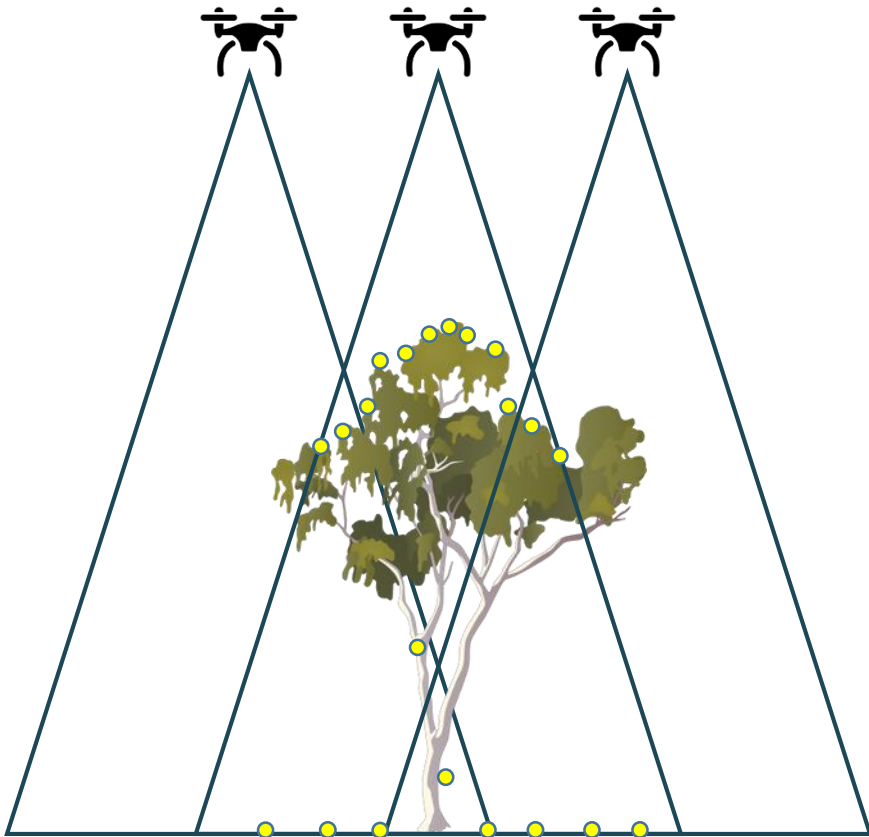
Flood line product



Townsville imagery reflections



Photogrammetry 3D products



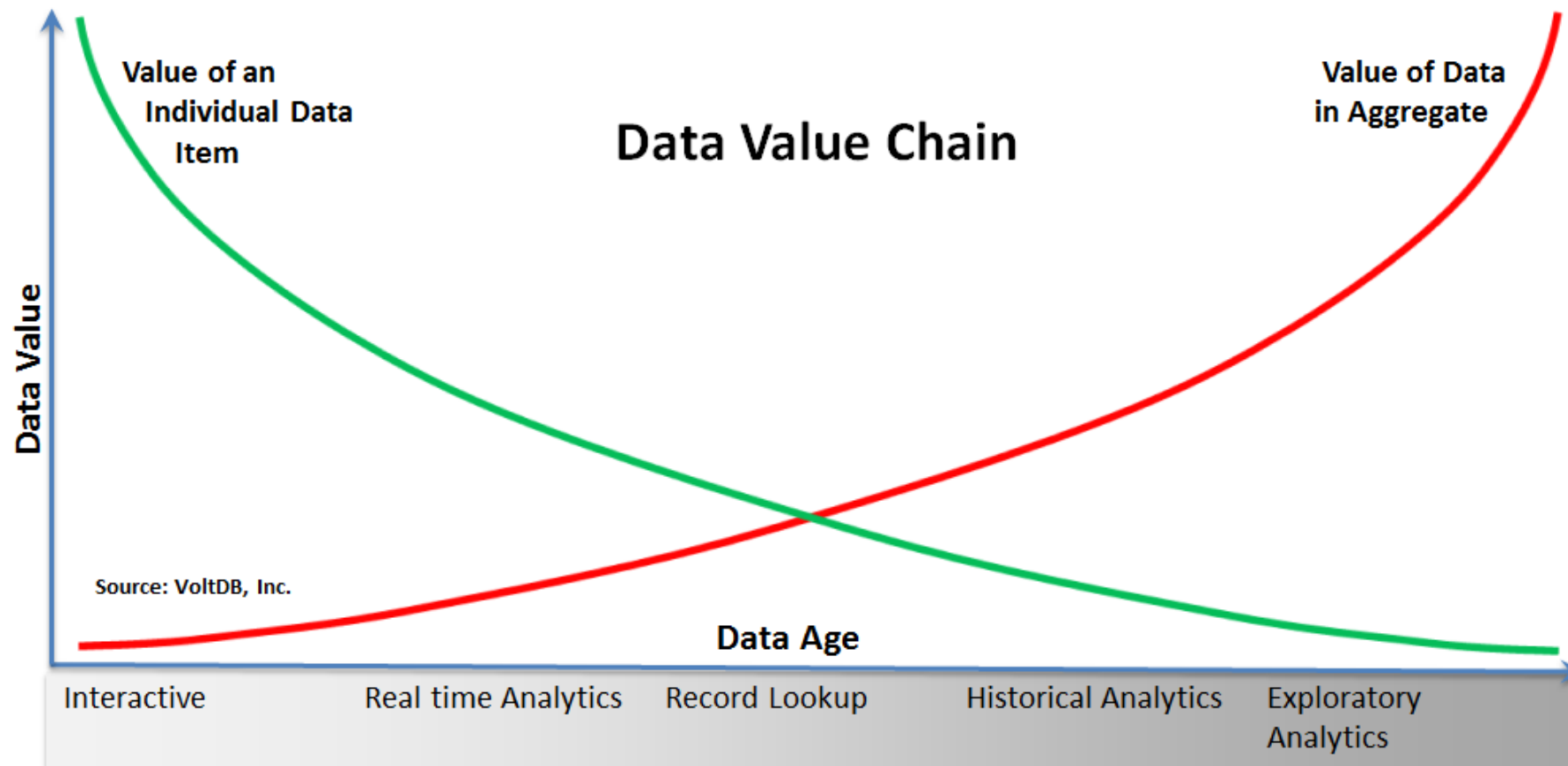






Queensland Spatial Imagery Infrastructure

Library – fundamental value assumption



Queensland Spatial Imagery Infrastructure

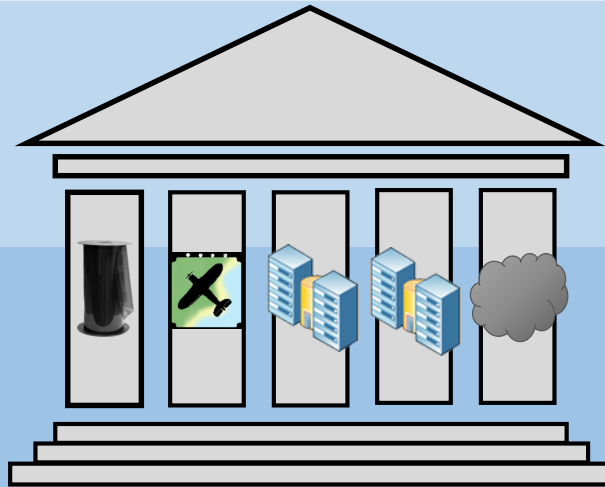
User Systems

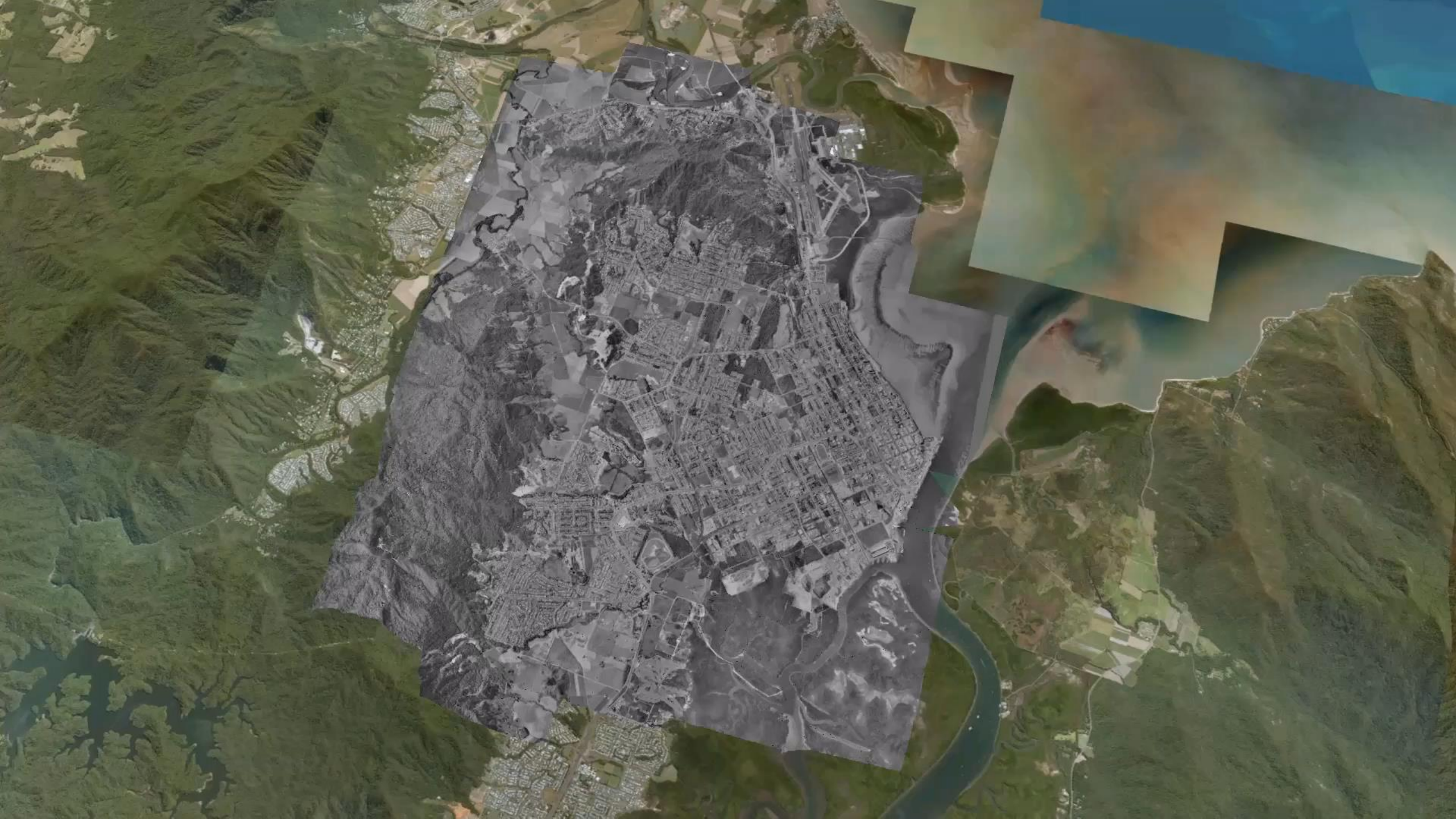
- Discovery
- Visualisation
- Access

Program Activities

Standards & Policies

Enabling Frameworks







QSIC Regional Seminar - Cairns 'Spatial industry trends'

Wednesday 29 May 2019, 8.45 am – 12.00 pm

Venue: Cairns Convention Centre, Cnr Wharf & Sheridan Streets, Cairns

PROGRAM

9.00 am **Welcome and Introduction:** Peter Gersekowski, QSIC Office (10 mins)

9.10 am **Our future: 2026 Agenda** (30 mins)
Chris Schiebusch, SiBA|GITA Queensland Chair & Destination Spatial Qld Chair

The 2026 Agenda initiative allows you to participate in a national action agenda to drive the future growth of the spatial industry, to coordinate efforts, and to deliver on the roadmap to transform the sector over the next decade.

9.40 am **Cadastre Qld Transformation: enabling a Digital Twin** (30 mins)
Judith Jensen, Program Director, Cadastre Qld Transformation,
Land and Spatial Information, Department of Natural Resources, Mines and Energy

The CQT Program is creating a prototype of a 3D survey-improved spatial cadastre to enable a future Queensland Digital Twin environment.

10.15 am – 11.00 am **Networking & Morning Tea** (provided) – outside Auditorium

11.00 am **Geo-information for disasters - UN Humanitarian Aid** (30 mins)
George Corea, Volunteer, Standby Taskforce & Data Guru, Mangoesmapping P/L

Lots of information that has location and descriptions of damage, rescue needs etc. are generated during disasters but machines can still not get useful data from this as well as humans. The Standby TaskForce steps in at these times to fill the void between the digital world and disaster response by providing critical information to local responders and planners.

11.30 am **Southern Atherton Tablelands Revegetation Decision Support Tool:**
Combining ecological and spatial logic (30 mins)
Gary Searle, GIS Technical Leader, Terrain Natural Resource Management

The process and results of working with technical experts and community groups to develop an online mapping portal that maps potential revegetation locations across the Southern Atherton Tablelands in a way that can be used by community tree planting groups, Local Government and other stakeholders.

12.00 pm **CLOSE**

QSIC acknowledges the generous support of:





QSat

Email opendata@dnrme.qld.gov.au