

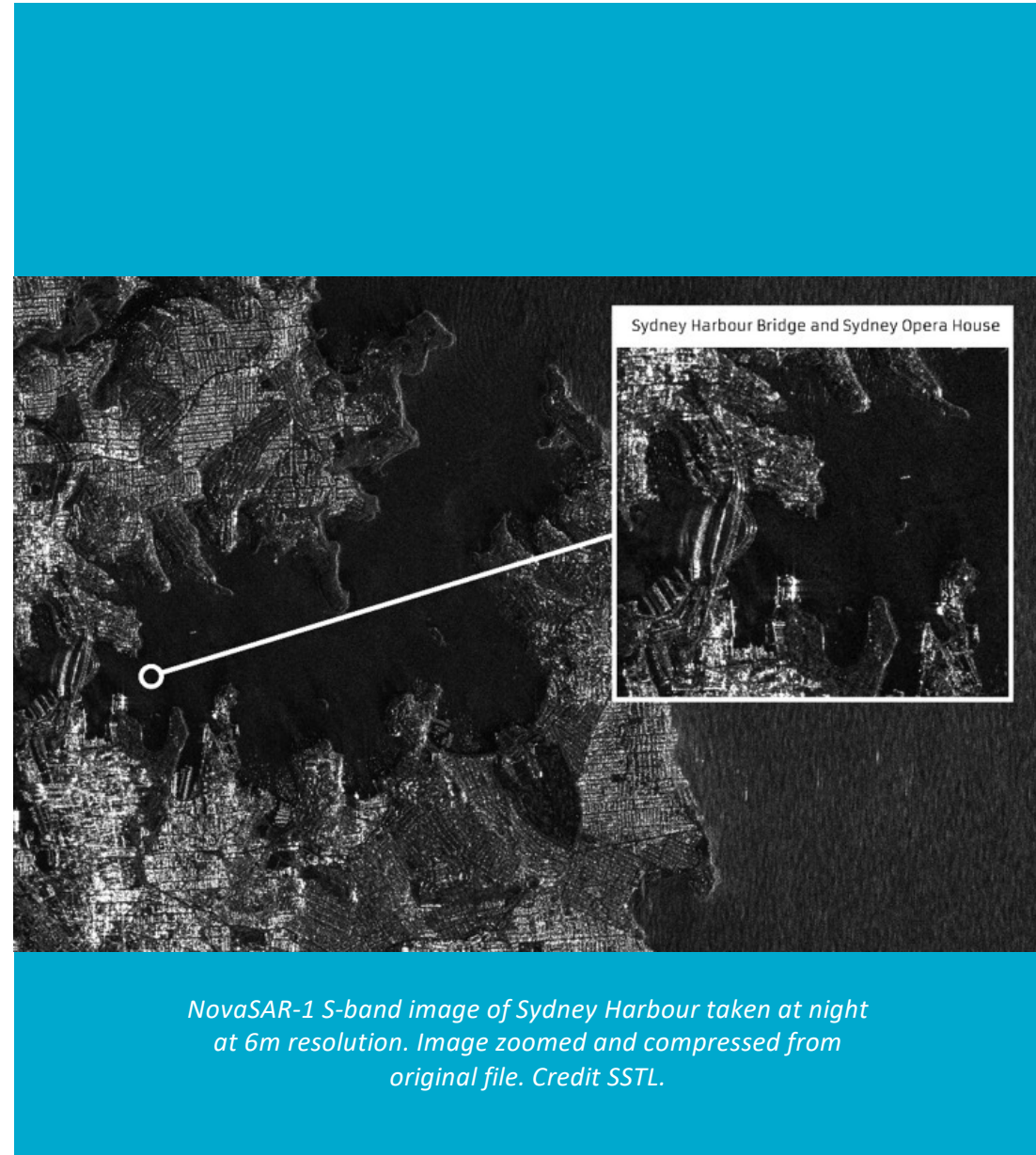


# Agency Highlights & Update

1 December, 2022  
CEOS Plenary, Biarritz

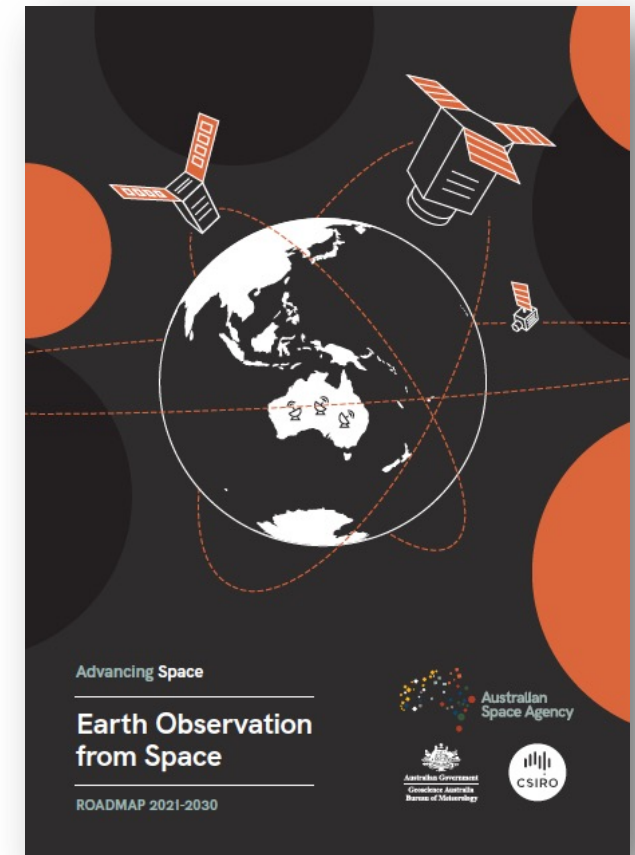
**Dr Alex Held**

Director, EO Infrastructure  
Mission Lead for AquaWatch Australia,  
Centre of Earth Observation, CSIRO Space and Astronomy  
Australia's National Science Agency



## Highlight:

- Published “National Earth observation from Space Roadmap “(2021-2030) in November 2019 - co-developed with ASA, CSIRO, BoM & GA
- Two main ‘observational priorities’: **water quality** and **wildfire fuel condition** monitoring
- Currently developing funding proposals to support its implementation through the Australian Space Agency (ASA)



<https://www.industry.gov.au/publications/earth-observation-space-roadmap-2021-2030>

# CSIRO AquaWatch Australia Mission

Establish a ground-to-space national water quality monitoring system, to safeguard freshwater and coastal resources and grow Australia's high-tech space industry

Collaboration across industry, research and government

Pilot projects including 5 international sites

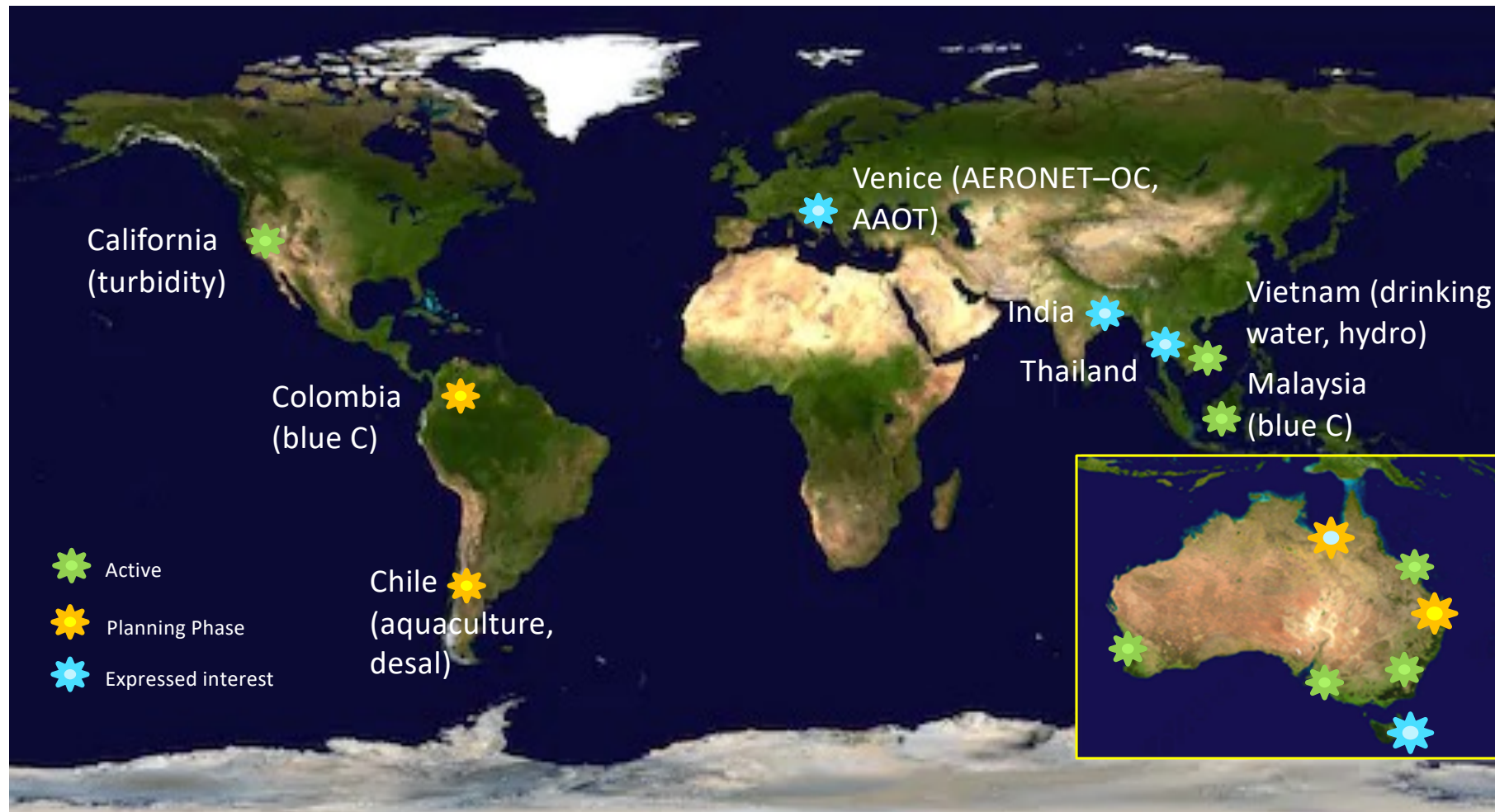
Expected to be approved as a cross-cutting Programme in CSIRO ('Mission')

## *National contribution to GEO AquaWatch*



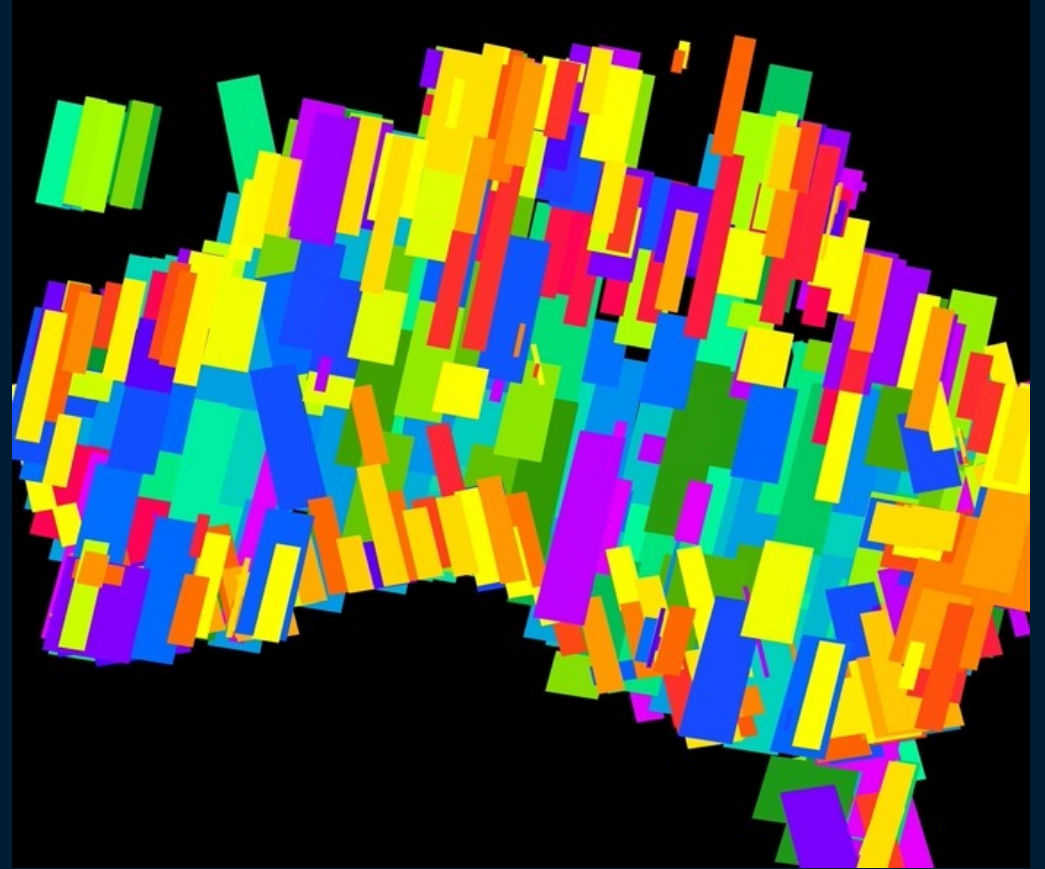


# CSIRO AquaWatch Australia Mission – pilot sites



CSIRO

## Key Activities - Updates



# CSIRO Centre for Earth Observation

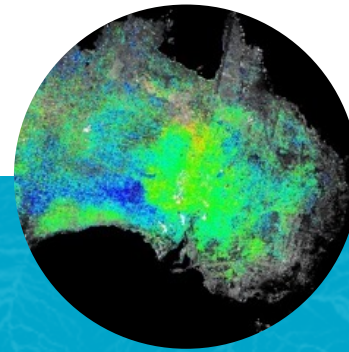
(part of CSIRO's Space Program)



Manage national  
facilities



Calibration/  
validation



Data  
analytics



AquaWatch  
Australia



# CSIRO

## NovaSAR-1 national facility

- International partnership for the mission: UK, India, Philippines and Australia, since 2017
- 10% Capacity share in an Earth observation satellite
- Imaging time allocated on a science merit basis
- Imagery is available free and open to international research community and regional partners (esp. in disaster support)



Australia S-band mosaic and 2022 floods (NovaSAR (<https://research.csiro.au/cceo/novasar-1-facility-update/>)).



## CSIRO Centre for Earth Observation (CCEO): International engagement

- CEOS: governance and working group leadership positions (currently supporting WGCV, SDGs, future Ecosystem Extent ...)
- GEO: GEO Land Degradation Neutrality (LDN), GEO Pacific Islands Advisory Group (PIAG), EO4SDG, etc.
- Asia Pacific Regional Space Agencies Forum (APRSAF: Hanoi, 2022)
- Member of selected International mission science teams
- AquaWatch Australia: active International Science Advisory Group, 5 pilot sites established, and bilateral engagement with CEOS Agencies



CEOS SIT TW, ESRIN in Frascati, 2022



GEO Ministerial, Canberra, 2019



Dr Amy Parker speaking at a panel, APRSAF Hanoi, 2022





## Satellite calibration and validation activities

- Underpins engagement in international missions (public and commercial)
- Operates terrestrial and aquatic cal/val infrastructure including Pinnacles, WA and Lucinda Jetty, QLD
- National AusCalVal Facility has begun establishment
- Integration with RadCalNet (Pinnacles site) with ESA & CNES support





## Data Analytics capability & regional development

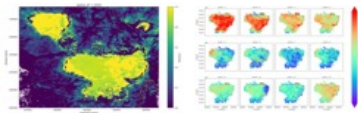
- Earth Analytics Science and Innovation (EASI) platform is CSIRO's implementation of the OpenData Cube
- Underpins the CEOS EAIL, ChileCube, EOCSI Singapore, and international capability building activities
- Managed as infrastructure for Earth observation science for CSIRO and external partners (incl. commercial)



# CSIRO EASI: accelerating innovation, enhancing engagement

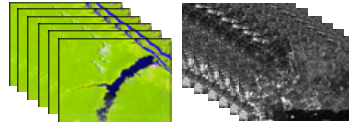


CSIRO and shared science



OPEN DATA CUBE

Analysis Ready Data



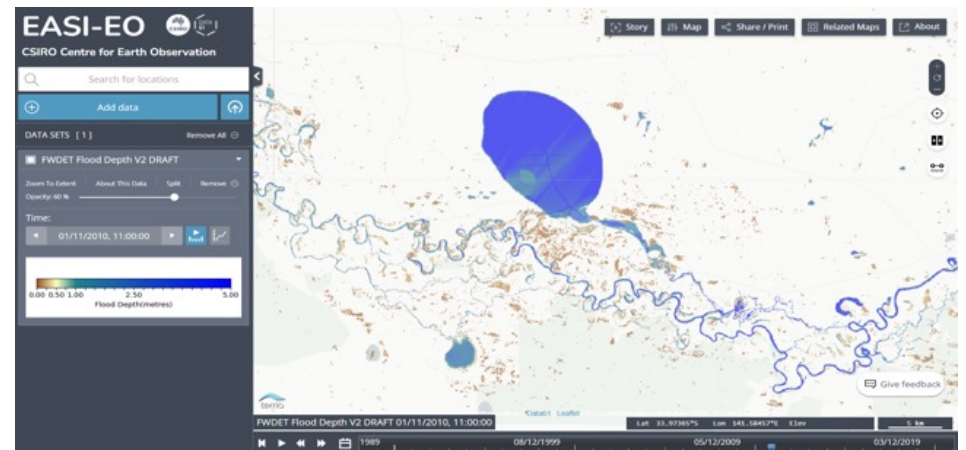
Apps and services



AWS utilities



Continental-scale land cover and flood mapping



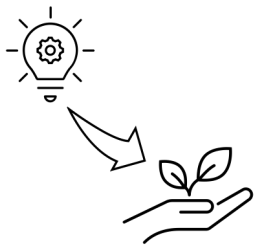


# CSIRO Earth Observation for Climate Smart Innovation (EOCSI)

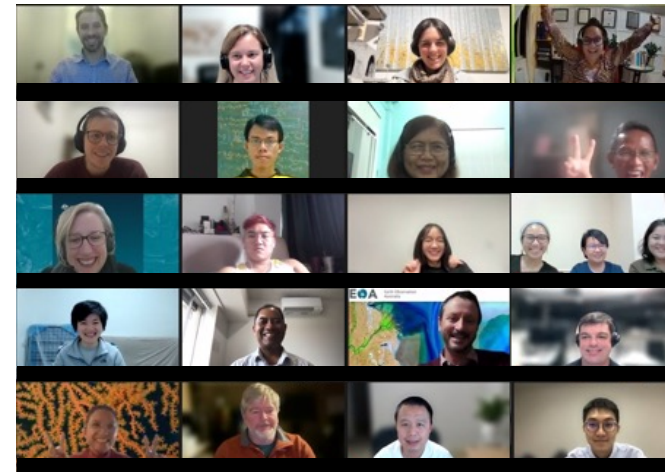
A CSIRO and GA collaboration, funded by the Australian Government for South East Asia



Building  
regional  
networks



Ideas to  
solutions



[https://www.youtube.com/watch?v=LYpZFvk\\_sKU](https://www.youtube.com/watch?v=LYpZFvk_sKU)



Thank you for hosting us  
in Biarritz this year!

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[https://research.csiro  
.au/cceo](https://research.csiro.au/cceo)