

RS&P Newsletter

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Call for collaborative action: Help implement the Australian Earth Observation Community Plan 2026

The Australian Earth Observation Community Plan 2026 (AEOCP) has now been launched and can be downloaded from: aeoccg.org.au/aeocp-the-plan/

As an EO community, we need to move to implement the Plan and this requires formalising the Australian Earth Observation Community Coordinating Group (AEOCCG). The process for doing this is outlined below. If you are able and willing to help with any of these activities, please:

- Join the next AEOCCG Whole of Community Meeting on 14 February 2017, which will specifically focus on implementing the plan (aeoccg.org.au/events/31/1/2017/whole-of-community-meeting/), or
- Contact AEOCCG (aeoccg.org.au/contact/).

Formalising AEOCCG

Implementation of the AEOCP requires the formal establishment of AEOCCG operations, governance, funding and a path to becoming a formally established, independently funded private-public entity.

The list below summarises the main stages of the process. Each section is intended to progressively build capacity and resources to create an enduring resource supporting EO application by Australia's governments, industry, research and education sectors.

1. **Convene a group** to establish and implement revised AEOCCG and AEOCP implementation terms of reference and governance
2. **Establish** revised terms of reference, positions and operational plan for the AEOCCG
3. **Implement** revised terms of reference, positions and operational plan for the AEOCCG
4. AEOCCG **Steering Committee** operations
5. **Funding Group** operations
6. **AEOCP Implementation Group** operations

About the Plan

The Plan has been derived from extensive consultation with industry, government, research and education sectors across Australia. It is timely and will enable Australia to develop a significant national capability in Earth Observation (EO) and space science and industry, which is needed to ensure we deliver growing benefits from EO for Australia's economy and society.

The Plan is directly relevant to Australia’s national interests, and in particular to many scientific, research and industry activities. It demonstrates what is possible when an open, inclusive approach is taken across all the EO sectors in government, industry, research and education. The Plan represents the first ever attempt at collecting requirements across of all of these sectors to build Australia’s unique EO capacity, especially in relation to government/industry partnerships and leveraging our world-leading research. It is a starting point for a much longer process.

The Plan links closely with other major national agendas, specifically:

- 2026 Spatial Industry Transformation and Growth Agenda (2026agenda.com)
- National Research Infrastructure Roadmap
- National Innovation and Science Agenda
- The Attorney General Department’s ‘Critical Infrastructure Resilience Programs – Space Cross Sectoral Interest Group’.

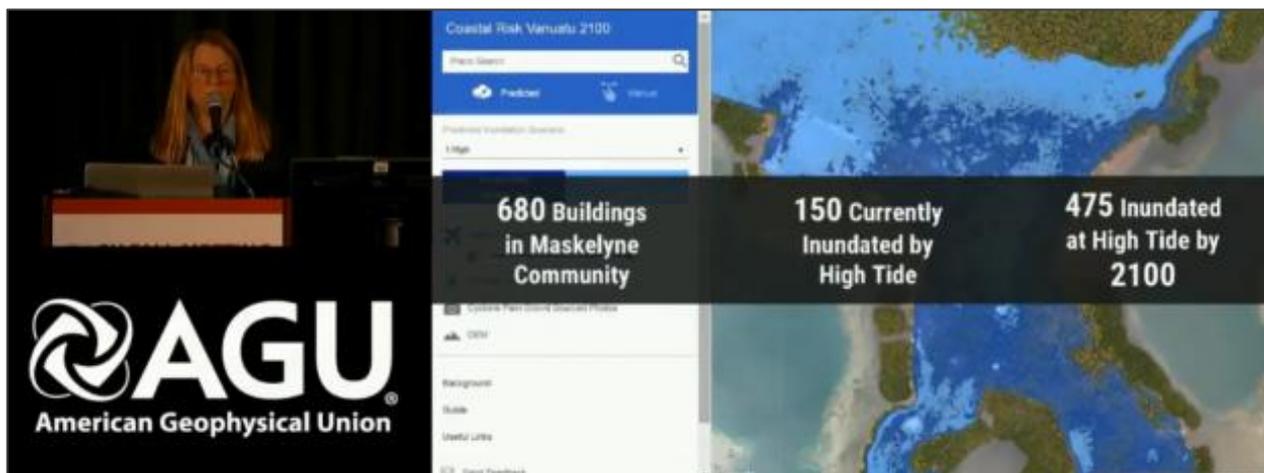
The Plan is exceptionally placed to enable development and delivery of innovative new science and applications and enable growth in EO-related industry and research.

Sea level rise mapping reaches Vanuatu

Pacific Islanders living in Vanuatu can for the first time visualise how their homes, neighbourhoods and even popular tourist spots will be inundated by sea level rise caused by global climate change.

The Coastal Risk Vanuatu website, created in Australia and openly launched in December 2016, charts the low-lying coastline on a number of Vanuatu islands. The free platform incorporates Google Maps technology, local tidal data and nationwide elevation data to map exactly how rising sea levels will encroach on homes, villages and beaches under three scientific scenarios.

Coastal Risk Vanuatu was developed by NGIS Australia and CRCSI and builds on earlier work to help scope and prepare communities in the Pacific Islands for sea level rise that was pioneered by the two organisations and funded by the Australian Government.



Google’s Rebecca Moore showcasing the website at the American Geophysical Union conference in San Francisco. Moore is Director of Engineering, Google Earth, Earth Engine and Earth Outreach.

Earlier in 2016, Coastal Risk Australia was launched to map Australia in a similar manner. The platform drew media attention the world over as one of the first interactive sea level rise web maps. It charted extensive risk areas in populated areas spanning the length of Australia's coastline, including most of Australia's capital cities.

Now, the Coastal Risk approach has been brought to a nation on the frontline of sea level rise. Like many low-lying island nations, Vanuatu is at a high risk of damaging sea level rise. Across the globe, sea levels have risen an average of 17 cm over the course of the 20th century, and scientists are forecasting a further rise of 0.4-1.1 m over the remainder of this century. In Vanuatu, sea level rise is a very real concept, with a number of communities already being inundated during high tides.

To address the growing threat, Coastal Risk has gone a step further this time with Vanuatu by incorporating social media photos and UAV imagery captured during the first response and recovery post Cyclone Pam in 2015.

Among the high risk areas mapped by Coastal Risk Vanuatu are the nation's harbourside capital of Port Vila, popular tourist destination Mele Island also known as 'Hideaway Island', Vanuatu's second largest city Luganville and the remote agricultural island of Melakula.



*A residential and commercial area in Vanuatu's capital of Port Vila.
Areas under threat of inundation are shown in blue.*

NGIS Australia's Nathan Eaton said residents of Vanuatu were already on the frontline of climate change, and authorities and local communities need as much information and assistance as possible to help them prepare for what is to come.

"Vanuatu is already coping with the impacts of climate change, but science tells us worse is to come," Eaton said. "In planning for this, individuals, communities and governments need as much information as possible so they can target their efforts to wherever needs it most."

“For example, it’s not practical to build sea walls around entire islands and our web mapping tool provides decision makers with the ability to protect the communities most at risk.”

In addition to informing communities and business about how they might be affected by sea level rise, it will also give new insights for key decision makers. Vanuatu’s Director General of Climate Change Jesse Benjamin said, “The Coastal Risk Vanuatu website will build awareness regarding the challenges that Vanuatu faces with climate change, and will ultimately lead to more effective decision making.” Even those who are not from Vanuatu can now use Coastal Risk to see how climate change is poised to affect both local communities and holiday spots.

“Building on the technical capabilities drawn from Australian research agencies, we now have the ability to accurately map coastlines to understand the impact of changing sea levels”, said Dr Nathan Quadros, CRCSI. “Through this easy-to-use sea level rise visualisation tool Vanuatu will have access to the best information for their coastal adaptation planning”.

Dr Quadros indicated that further localised coastal risk websites for other Pacific Island nations will be developed in the coming months.

Article source: spatialsource.com.au/gis-data/sea-level-rise-mapping-reaches-vanuatu

To listen to Nathan Quadros interviewed on ABC Radio, go to: abc.net.au/news/2016-12-14/website-maps-predicted-sea-level-rise-in-vanuatu/8121486

To watch a related SBS News story, visit: sbs.com.au/news/article/2017/01/05/vanuatu-mulls-moving-cyclone-hit-village-save-it

Australian data cube innovation receives international recognition

The Australian Geoscience Data Cube has been awarded the 2016 Content Platform of the Year category at the Geospatial World Leadership Awards. The awards recognise significant contributions made by champions of change within the global geospatial industry, and were presented in January at the 2017 Geospatial World Forum in Hyderabad, India.

Developed by Geoscience Australia in partnership with CSIRO and the National Computational Infrastructure (NCI) at the Australian National University, the Data Cube is a world-leading data analysis system for satellite and other Earth observation data. Chief of Geoscience Australia’s Environmental Geoscience Division, Dr Stuart Minchin said the award recognises how the Data Cube is helping Australia and other countries to capitalise on the billions of dollars invested in launching and operating Earth observation satellites.

“The volume and diversity of satellite and other Earth observation data has increased exponentially over the last 30 to 40 years, and until recently this presented significant technical barriers to realising its full potential. The Data Cube is an innovative approach to organising and analysing this data, making it quicker and easier to provide information to decision makers in fields such as agriculture, natural resource management and community safety. This enables us to take the incredible resource of freely-available Earth observation data from around the world and improve how we monitor our landscape and better target the money we spend to protect our environment and grow our economy,” Dr Minchin explained.

This Australian innovation is now influencing how the world looks at and uses satellite data. The Data Cube was intentionally developed using Open Source technology and freely available data, to make it possible for other governments to easily adapt and implement their own versions of the Data Cube.

The Data Cube consortium is now actively working to build a global community that further develops the open-source codebase as a resource for the benefit of the broader international community. Through partnerships with the international Committee on Earth Observation Satellites (CEOS), the technology has already been adapted and is being implemented in Cameroon, Columbia and Kenya. This will provide valuable insight into key issues such as water resource management, and which could in turn help to address the UN sustainable development goals.

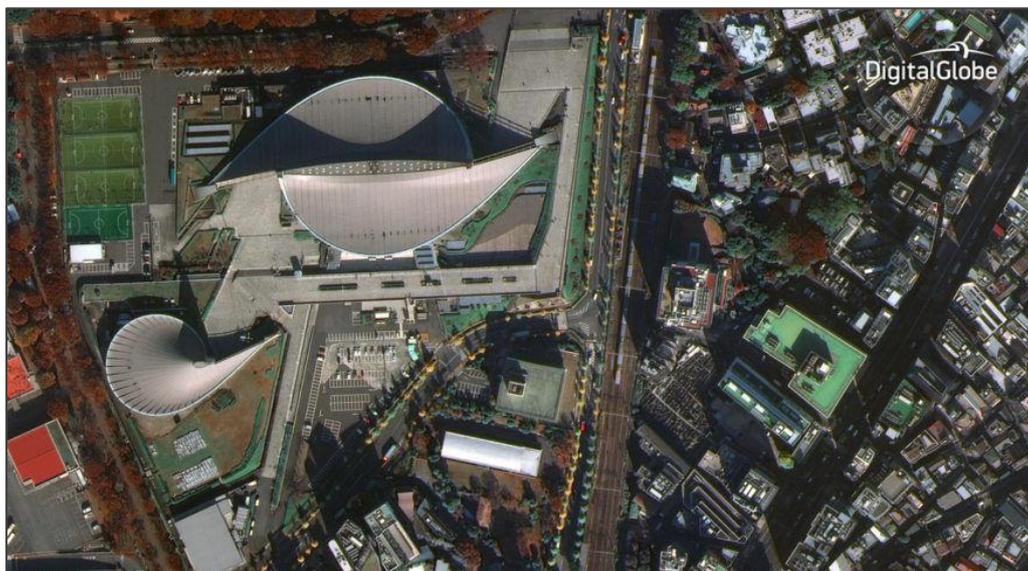
A key innovation of the Data Cube is its sophisticated geospatial cataloguing system to manage and analyse the large volumes of satellite imagery and other gridded geospatial datasets covering the Australian continent.

CSIRO’s Executive Director of Digital, National Facilities and Collections, Dr Dave Williams said “the Data Cube is a catalyst for the Australia’s spatial applications industry. It provides small businesses with access to stable and standardised data from which they can innovate to produce new products and services for both domestic and international markets.”

“Data Cube creates a whole range of opportunities within Australia for example, products and applications that can improve agricultural productivity, provide more efficient tools for environmental accounting and monitoring at mine sites,” Dr Williams said.

Article source: spatialsource.com.au/gis-data/australian-data-cube-innovation-receives-international-recognition

First images received from WorldView-4



WorldView-4’s first public image, taken on November 26, features the Yoyogi National Gymnasium in Shibuya, Tokyo. The site hosted events during the 1964 Olympic Games and will again host international competition when the games return to Tokyo in 2020.

To download the image and see the specs, visit: worldview4.digitalglobe.com