



**Asia-Pacific
Economic Cooperation**

2015/SOM2/OFWG/021

Agenda Item: Special Session Day 3

Building Regional Ocean and Land Observation Systems to Safeguard APEC Resources and Communities

Purpose: Information
Submitted by: Australia



APEC
PHILIPPINES
2 0 1 5

**5th Oceans and Fisheries Working Group Meeting
Boracay, Philippines
10-12 May 2015**



Australian Government
Department of Industry and Science



*Building regional ocean and land observation systems
to safeguard APEC resources and communities*

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APEC Senior Officials Meeting 2: 10-21 May 2015
Boracay, The Philippines

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Presentation overview

- How science can support APEC priorities
- Earth observation systems
- Building a regional system: opportunities for APEC
- Australian Earth observation infrastructure/activities
- Feedback and invitation to Australia November 2015

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APEC priorities

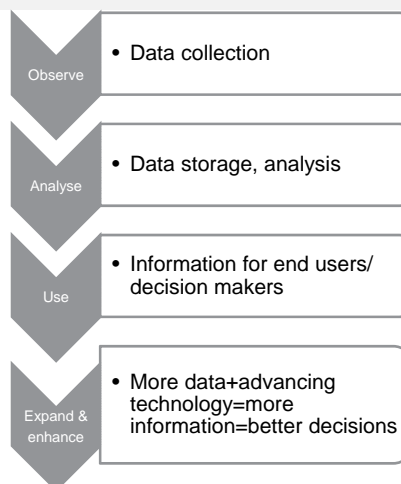
- **The APEC area:**
 - disaster prone
 - reliant on blue economy
 - diverse S&T capabilities
 - Pacific Ocean connections
- **APEC priorities:**
 - ocean-related issues
 - an open economy featuring innovative development
 - interconnected growth and shared interests
 - building sustainable and resilient communities
 - food safety and security
 - emergency preparedness and disaster management
 - human capital development including education and capacity building



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Earth observation systems

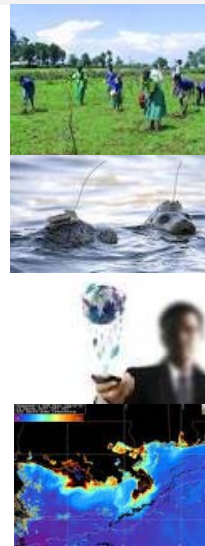
- Earth observation:
 - the collection of information about planet Earth's physical, chemical and biological systems
 - monitoring and assessing the status of, and changes in, the natural and man-made environment.
 - covers space, air, cryosphere, land, ocean
 - range of remote and in-situ instruments
 - supported by data management systems



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Building a regional system: opportunities for APEC

- Increased technological advancement=increased options for use
- Benefits:
 - forecasting weather
 - tracking biodiversity
 - measuring land-use change
 - monitoring and responding to natural disasters, including fires, floods, earthquakes and tsunamis
 - managing natural resources
 - addressing emerging diseases and other health risks
 - predicting, adapting to and mitigating climate change
 - SME innovation
- Collaboration at a regional level delivers national and regional level benefits



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However....



“ The world is moving so fast
the person who says it can't
be done is interrupted by
someone doing it ”

-Elbert Hubbard

Many systems and initiatives exist already;
operating at national, regional and global scales

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Challenges of linking systems



Barbara J. Ryan
Secretariat Director of the intergovernmental Group on Earth Observations 2013

“ *The challenges we face are many...
...getting organisations to recognise
that no single country or organisation
can do everything...*

*...that we are stronger working
together than individually*

*...understanding that the whole is so
much more than the sum of the
parts...*

*.....recognising that working together
to leverage each other's resources is
critical to our success is key.* ”

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The project:

Building regional ocean and land observation systems to safeguard APEC resources & communities



“ *Develop the framework for a Pan-Pacific integrated observation*

system, building the science and research capacity of the region ”

- Focus south-east Asia and the Pacific by:
 - regionalising land and marine observation systems and information to build regional capacity,
 - economic prosperity/development, in particular for blue economy industries (e.g. fisheries, agriculture)
 - improving regional disaster resilience
 - monitoring Indo-Pacific reef health

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The project:
Building regional ocean and land observation systems to safeguard APEC resources & communities

- Workshops in Australia, late 2015
 - stocktake of current land and marine observation systems
 - develop an Action Plan for a regional system
 - establish an APEC Marine and Land Observation Community
 - consider future needs and opportunities
 - demonstrate Australian capabilities
- End-user focus, 3 components
 - marine/coastal observation
 - disasters/land observation
 - Common issues/opportunities
- Involvement by all warmly welcomed!
 - speaker roles
 - technical/advisory roles
 - mentoring

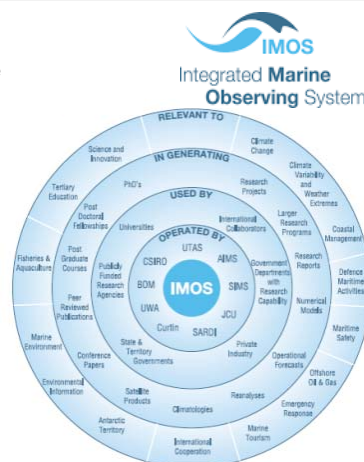


Original image modified from NOAA

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Australian infrastructure: IMOS

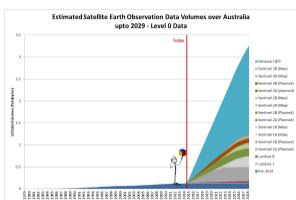
- 9 institutions deploy and deliver data streams
- Used by the entire Australian marine and climate science community and international collaborators
- 5 major research themes:
 - Multi-decadal ocean change
 - Climate variability and weather extremes
 - Major boundary currents and interbasin flows
 - Continental shelf and coastal processes
 - Ecosystem responses
- 10 technology platforms (Facilities)
- IMOS Ocean Portal <http://imos.aodn.org.au>
 - Range of data end users
- IMOS is a Regional Alliance of the Global Ocean Observing System



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The challenge of big space data

- The potential value of Earth observations from space data is enormous.
- Over 130 satellites operated by CEOS Agencies today.
- Billions of dollars invested.
- But it is 'Big Data'.

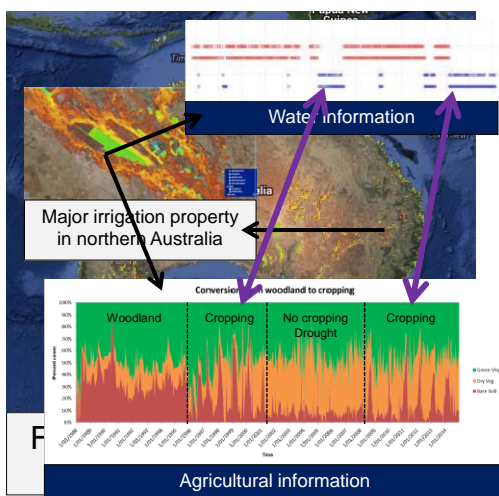


- And traditional approaches to use are holding us back.

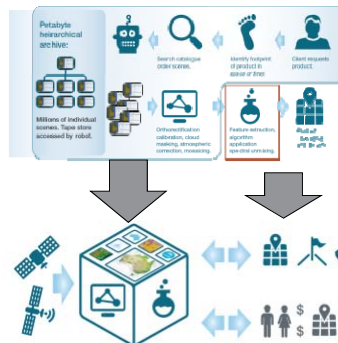


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Australian infrastructure: *The Australian Geoscience Data Cube*



- A new approach, based on establishing continent and regional scale 'data infrastructure', helps address these challenges.



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This is the start of a conversation....

- Register your interest:

International.strategy@industry.gov.au

Subject: AMLOC
(APEC Marine and Land Observation Community)

- Very much value feedback on design, focus, opportunities.....



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Australian Government
Department of Industry and Science

In collaboration with:

- AIMS
- GA
- IMOS
- CSIRO
- BOM

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International co-sponsors:

- China
- Philippines

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