GROUP ON EARTH OBSERVATIONS

Advancing Development with Earth Observations & Geospatial Data & Information

Americas & the Caribbean
GEO Session
Santiago, Chile

Barbara J. Ryan
GEO Secretariat
03 April 2017

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Three Tiers of Development

Stockholm Resilience Center

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THE GLOBAL GOALS For Sustainable Development

Usefulness of information increasingly recognized

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EO4SDGs

Earth Observations for SDGs

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Earth Observation linkages with SDGs Goals, Targets, and Indicators

Sustainble Development Goals

GEO & Earth Observations in Service to *Agenda 2030*

Target — *Contribute to progress on the Target yet not the Indicator per se*									*Goal*	*Indicator* — *Direct measure or indirect support*					
DRAFT						1.4	1.5		1.4.2						
					2.3	2.4	2.c		2.4.1						
				3.3	3.4	3.9	3.d		3.9.1						
							5.a		5.9.1	5.a.1					
		6.1	6.3	6.4	6.5	6.6	6.a	6.b		6.3.2	6.4.2	6.5.1	6.6.1		
					7.2	7.3	7.a	7.b		7.1.1					
								8.4							
					9.1	9.4	9.5	9.a		9.1.1	9.4.1				
					10.6	10.7	10.8	10.a							
	11.1	11.3	11.4	11.5	11.6	11.7	11.b	11.c		11.1.1	11.2.1	11.3.1	11.5.2	11.6.2	11.7.1
				12.2	12.4	12.8	12.a	12.b		12.a.1					
					13.1	13.2	13.3	13.b		13.1.1					
		14.1	14.2	14.3	14.4	14.6	14.7	14.a		14.3.1	14.4.1	14.5.1			
	15.1	15.2	15.3	15.4	15.5	15.7	15.8	15.9		15.1.1	15.1.2	15.2.1	15.3.1	15.4.1	15.4.2
								16.8							
17.2	17.3	17.6	17.7	17.8	17.9	17.16	17.17	17.18		17.6.1	17.18.1				

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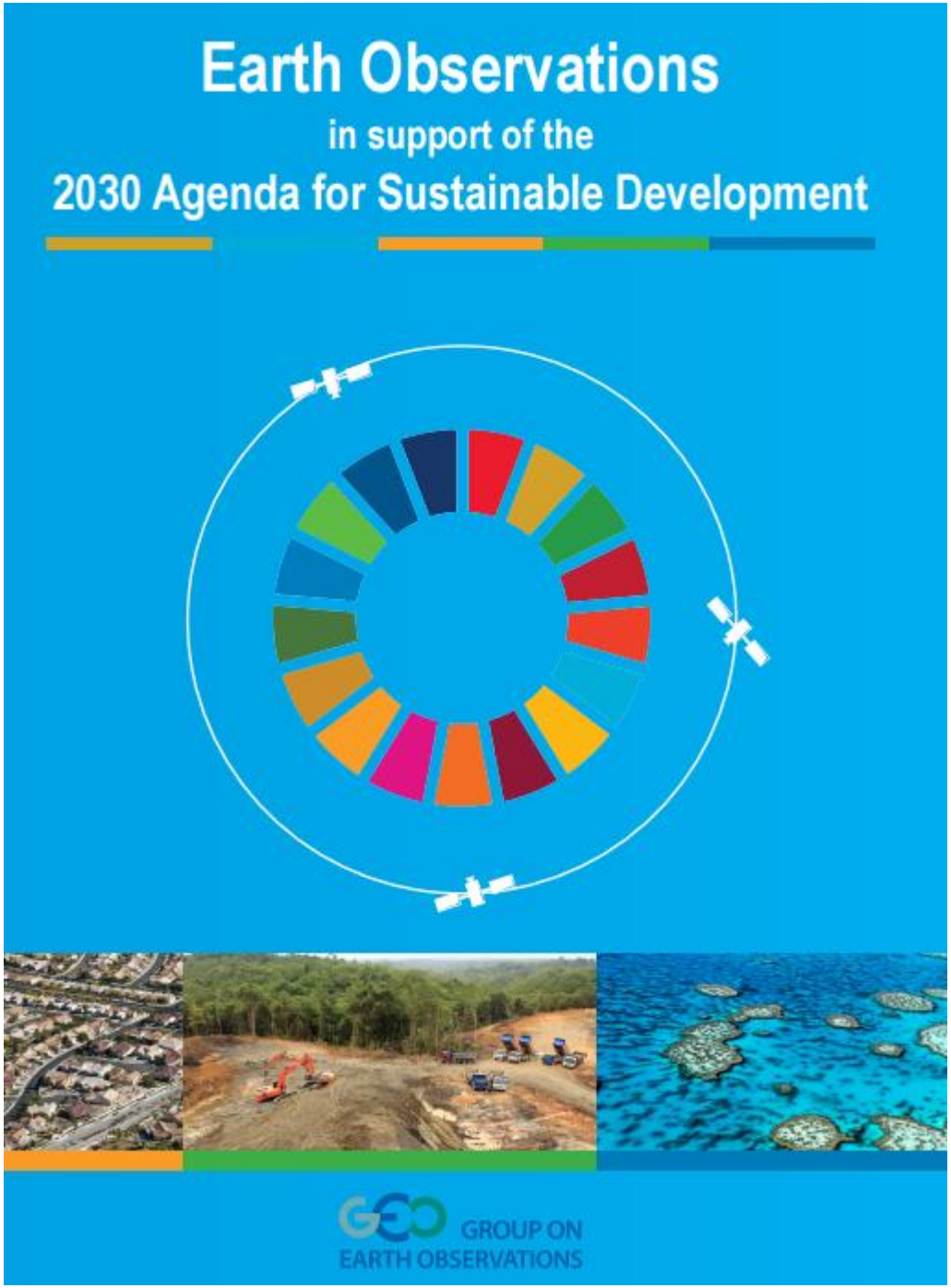
New Report by EO4SDGs Team

- Case studies on how EO responds to SDGs
- Examples: Mapping Mangrove Cover, Urban Growth, Forest Cover Extent

Available at: www.earthobservations.org



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Key Messages

- Collaboration at national, regional and international levels is essential – hyper partnering, radical sharing -- e.g. creating interdependencies similar to interdependencies in healthy biological ecosystems;

- Broad, open data policies must be advanced to leverage existing and planned national, regional and global investments to optimize multilateral agreements; and

- Technological advancements for terrestrial applications are improving – e.g. where atmospheric/oceanic domains have excelled.

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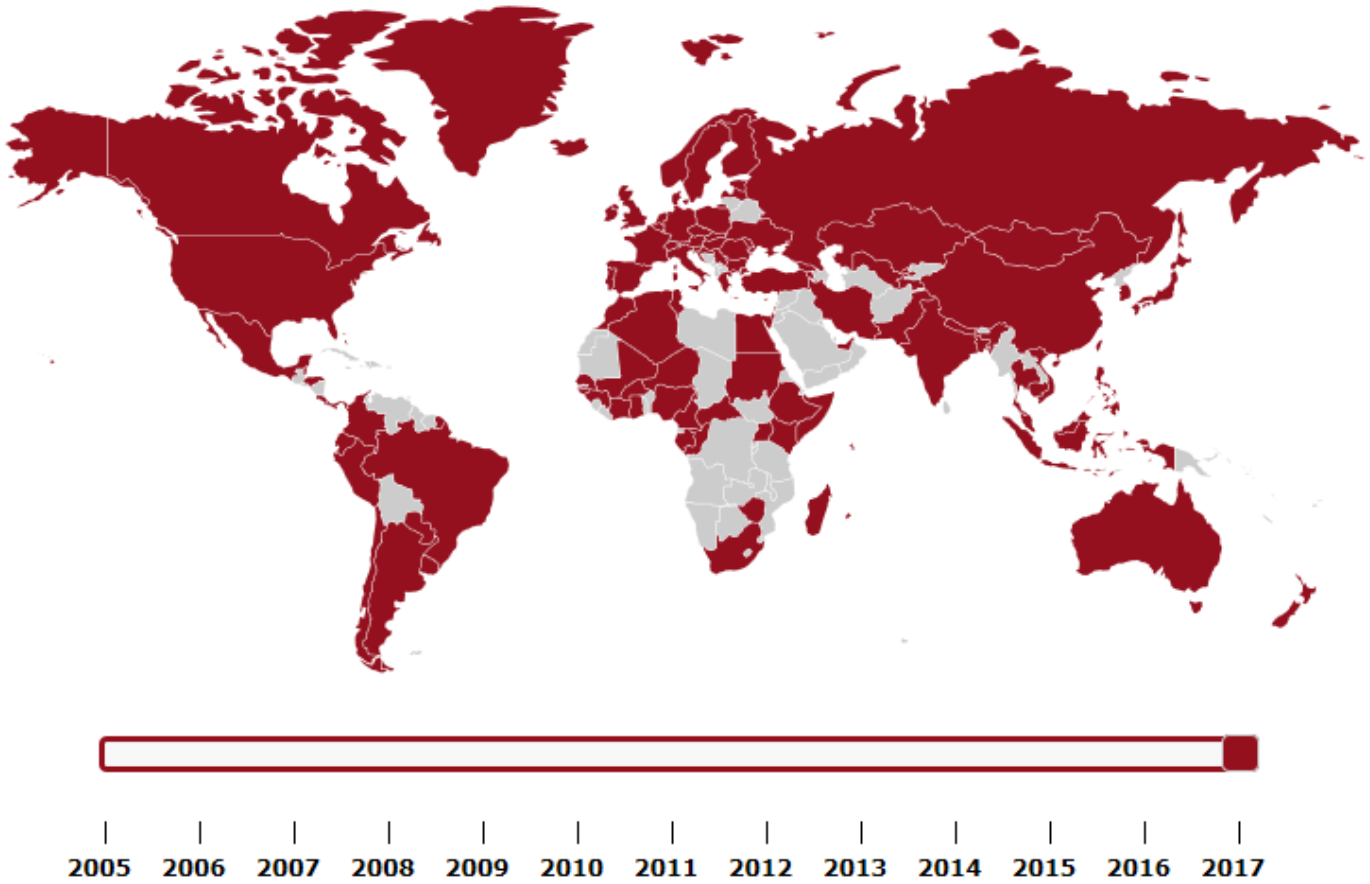
104 Member Governments

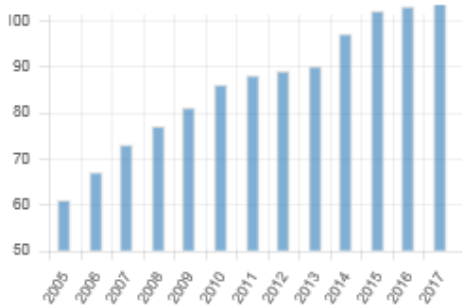
GEO Member Map for the year 2017



Number of Members (2017)

Africa:	27
Americas:	16
Asia/Oceania:	20
C.I.S.:	7
Europe:	34
Total:	104

Number of Members by year



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106 Participating Organizations

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GEO Vision

To realize a future wherein decisions and actions, for the benefit of humankind, are informed by coordinated, comprehensive and sustained Earth observations and information.

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Integrating Earth Observations across Many Platforms and Domains to Benefit Society

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Climate cuts across all Societal Benefit Areas (SBAs)

International Data Providers*

Environment

Biodiversity

Disasters

Energy

Food & Security

Satellites

Water

Health

Urban

Regional and National Providers*

Africa

Brazil

Canada

Chile

China

France

Germany

Italy

Japan

New Zealand

Norway

United Kingdom

Russia

South Africa

Spain

USA

India

Private Sector Providers

* more than a hundred in total

GEO DAB

Discovery and Access Broker (DAB)

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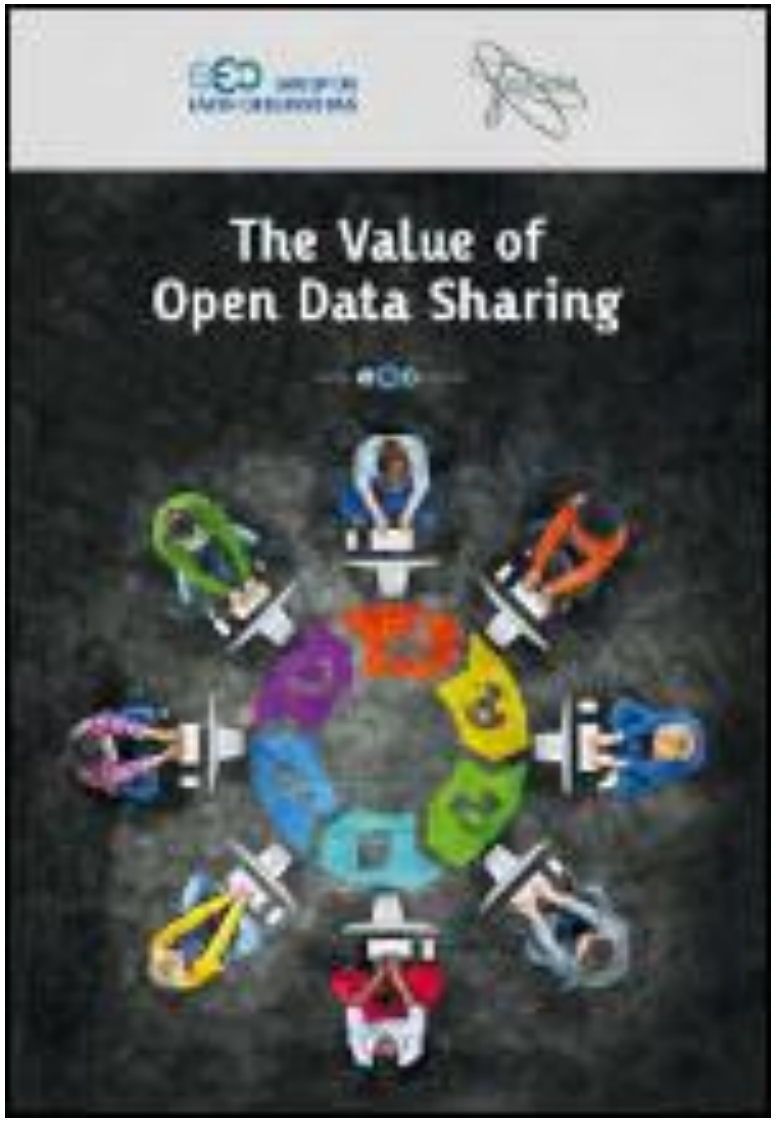
The Value of Open Data Sharing

- Research & Innovation
- Education
- Capacity Development
- Effective Governance & Policy Making
- Social Welfare
- Economic Growth



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AmeriGEOSS

Priority Areas

1. Agriculture, associated with climate variability, climate change, and food security;

2. Disaster risk reduction, particularly for data exchange associated with early warnings, and for generation of regional products of early warnings;

3. Water, associated with the management approach of water resources and data management; and

4. Biodiversity and ecosystem monitoring, in the context of capacity building for better monitoring, management, and maintenance of ecosystems and biodiversity they support; and to predict future changes.

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G20 Agricultural Ministers
Action Plan on Food Price Volatility and Agriculture
Paris, France, June 2011

32. In order to improve crop production projections and weather forecasting, with the use of modern tools, in particular remote sensing tools, we decide to launch, via the Group on Earth Observation, an international voluntary network of agricultural production monitoring based on geoinformation. This "Global Agricultural Geo-Monitoring Initiative" will be a useful input for AMIS concerning the provision of more accurate crop forecasts data.

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UNISDR 2015 Sendai Framework for Disaster Risk Reduction

UN World Conference on Disaster Risk Reduction
2015 Sendai Japan

The Sendai Framework includes language recognizing that Earth observations have a clear role in Disaster Risk Reduction.

GEO DARMA

GEO and other partners proposed to establish a Framework for the Integration of Earth Observation Technologies into Disaster Risk Reduction.

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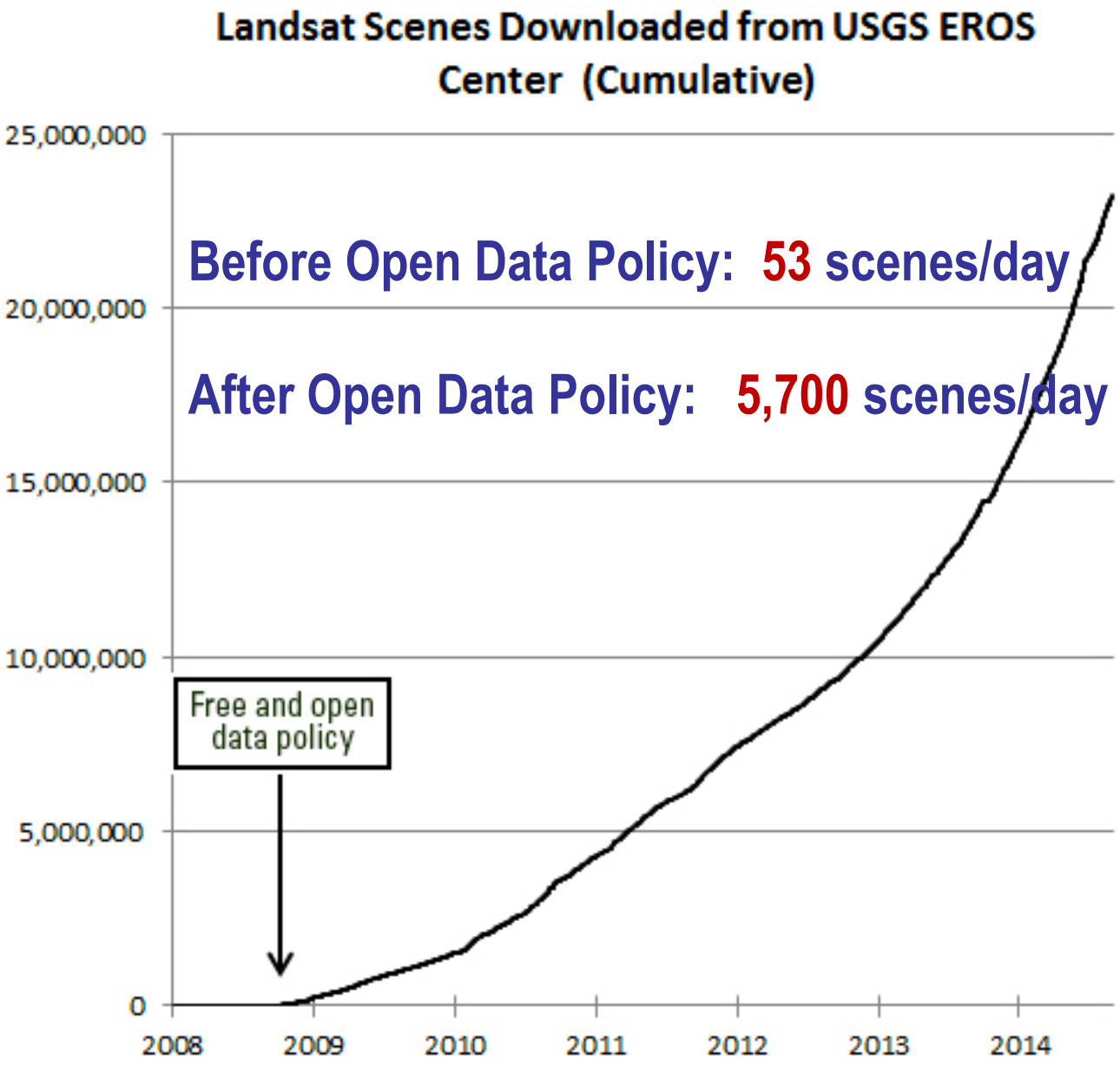
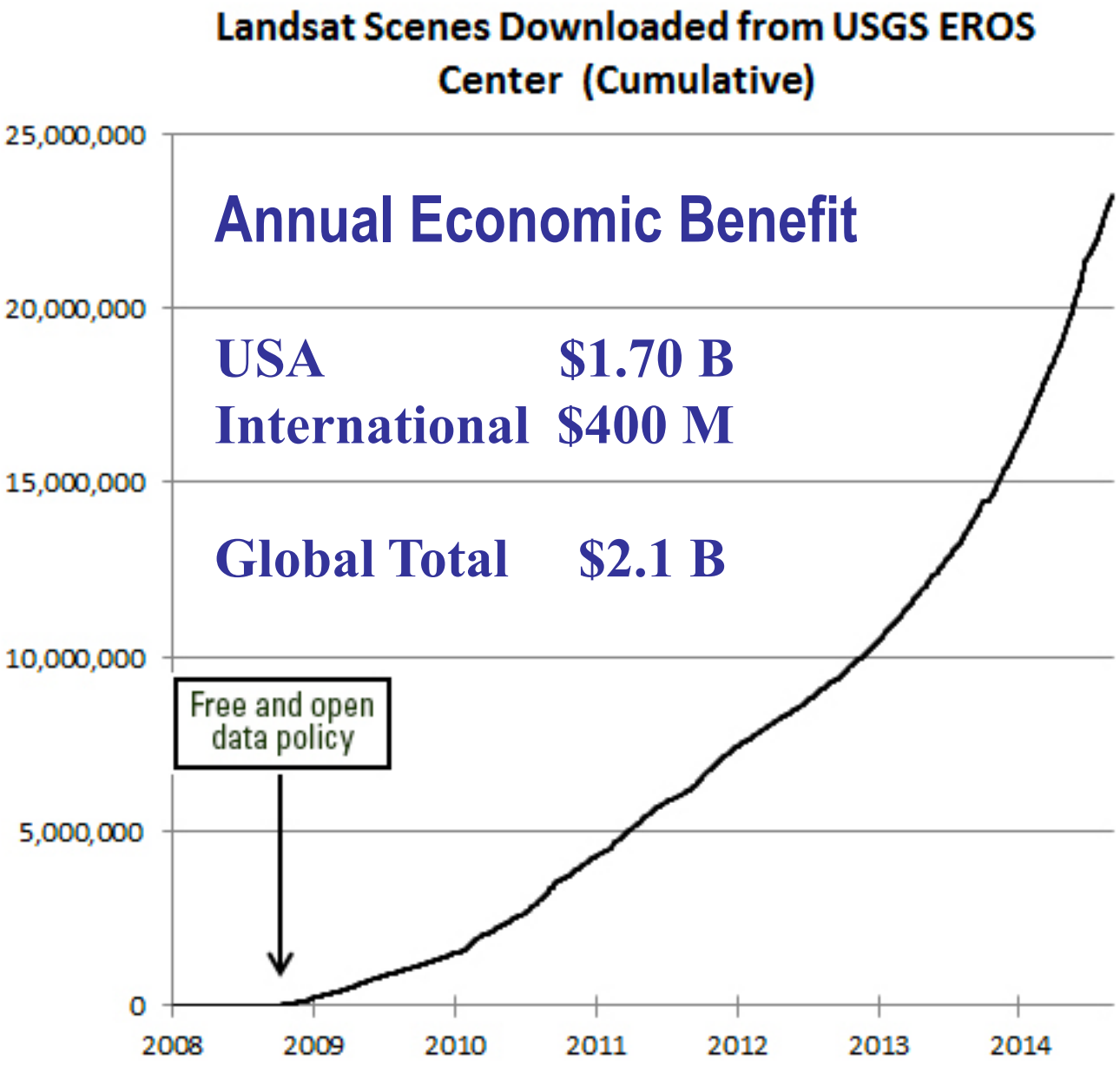
1992 UN Convention on Biological Diversity (CBD)
Aichi Targets 2011 - 2020

CBD

2014 COP to CBD:

16. Invites Parties, indigenous and local communities and other relevant stakeholders to collaborate with the Group on Earth Observations Biodiversity Observation Network and other relevant organizations that contribute to building observing systems and to biodiversity monitoring, to address the priority needs identified by Parties related to biodiversity observations and monitoring.


Landsat Scenes Downloaded from USGS EROS Center (Cumulative)
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
2008
2009
2010
2011
2012
2013
2014
Before Open Data Policy: 53 scenes/day
After Open Data Policy: 5,700 scenes/day
Free and open data policy


Landsat Scenes Downloaded from USGS EROS Center (Cumulative)
Annual Economic Benefit
USA $1.70 B
International $400 M
Global Total $2.1 B
Free and open data policy
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
2008
2009
2010
2011
2012
2013
2014

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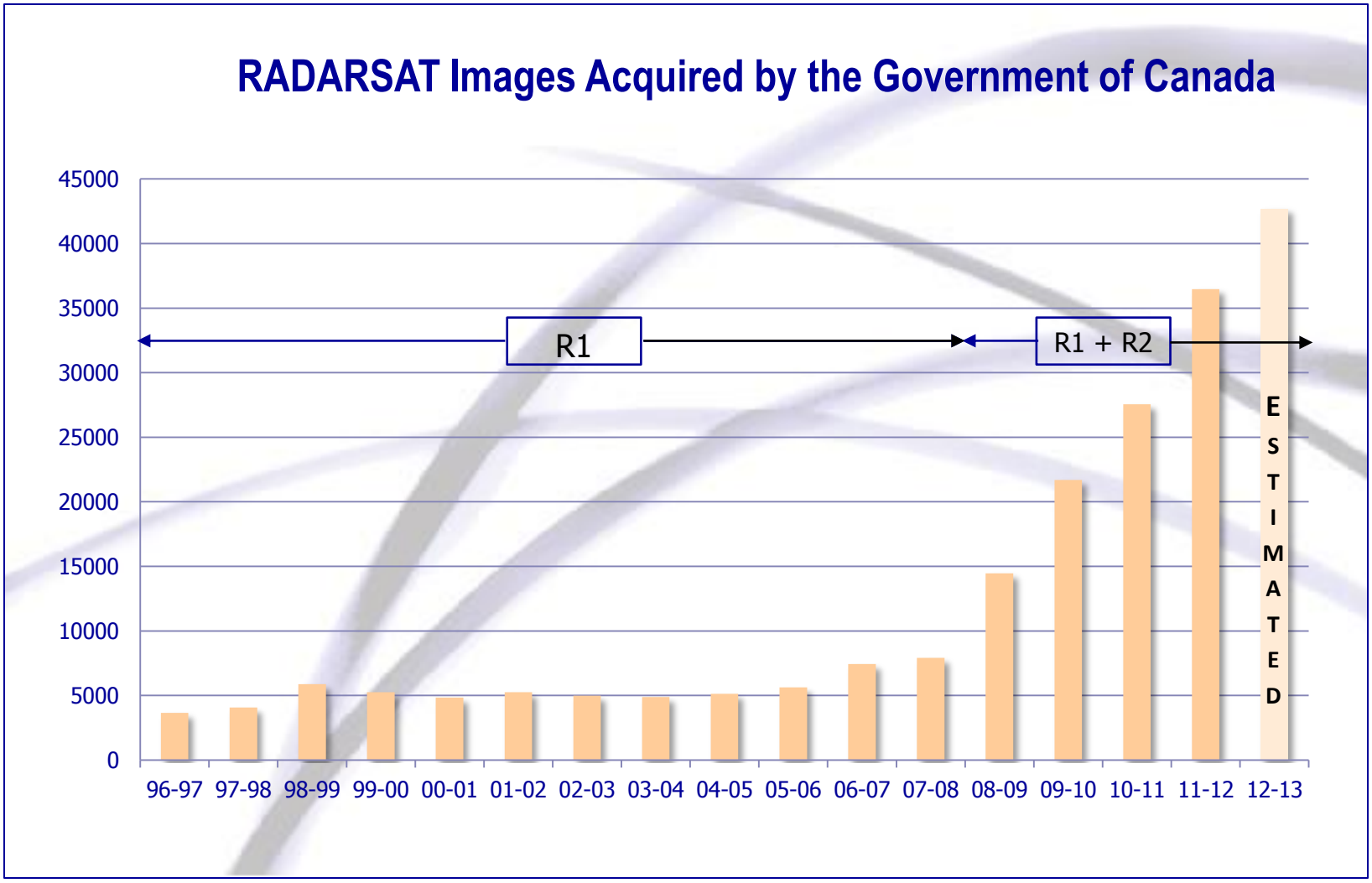
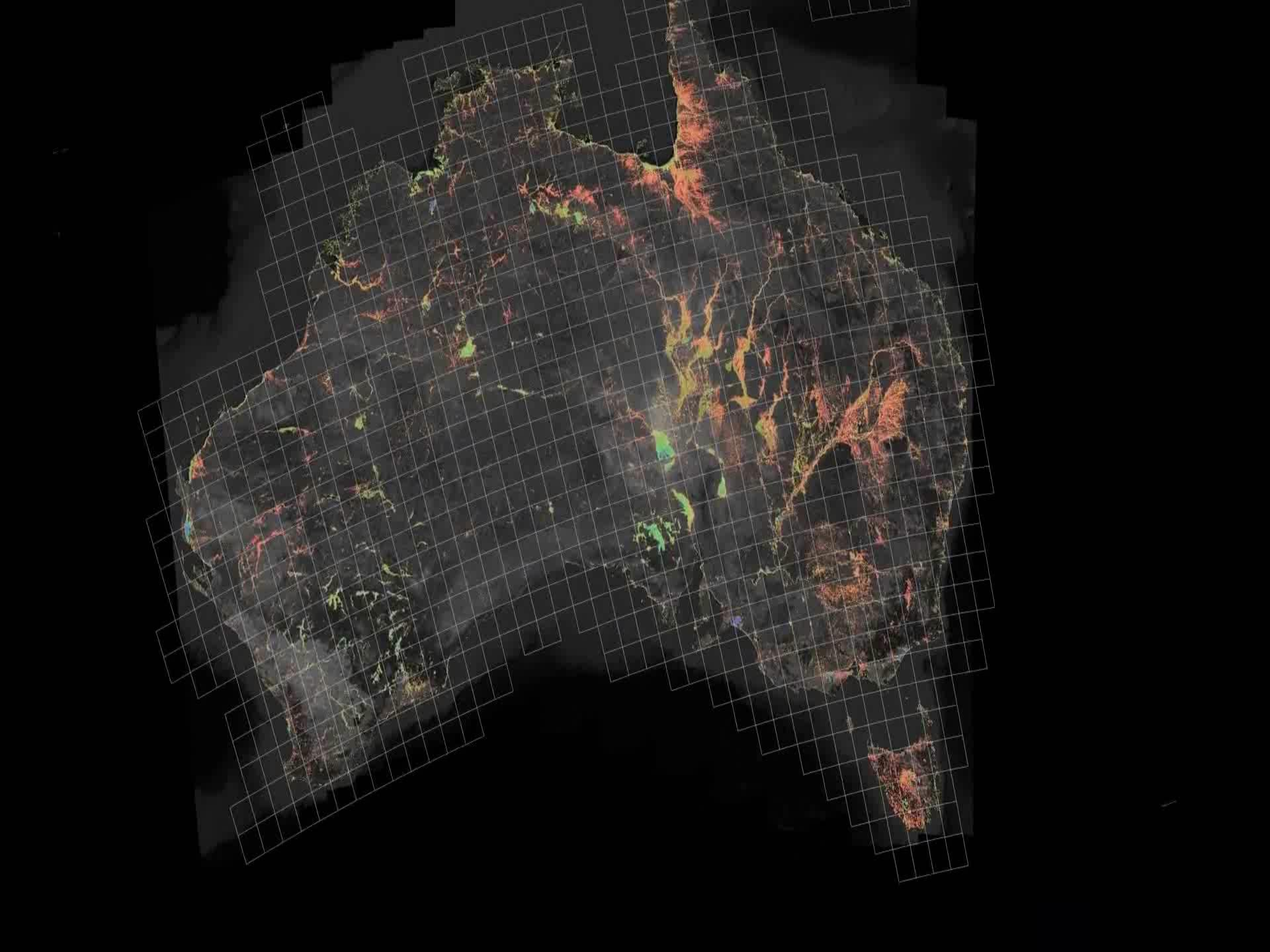
Canada's Experience

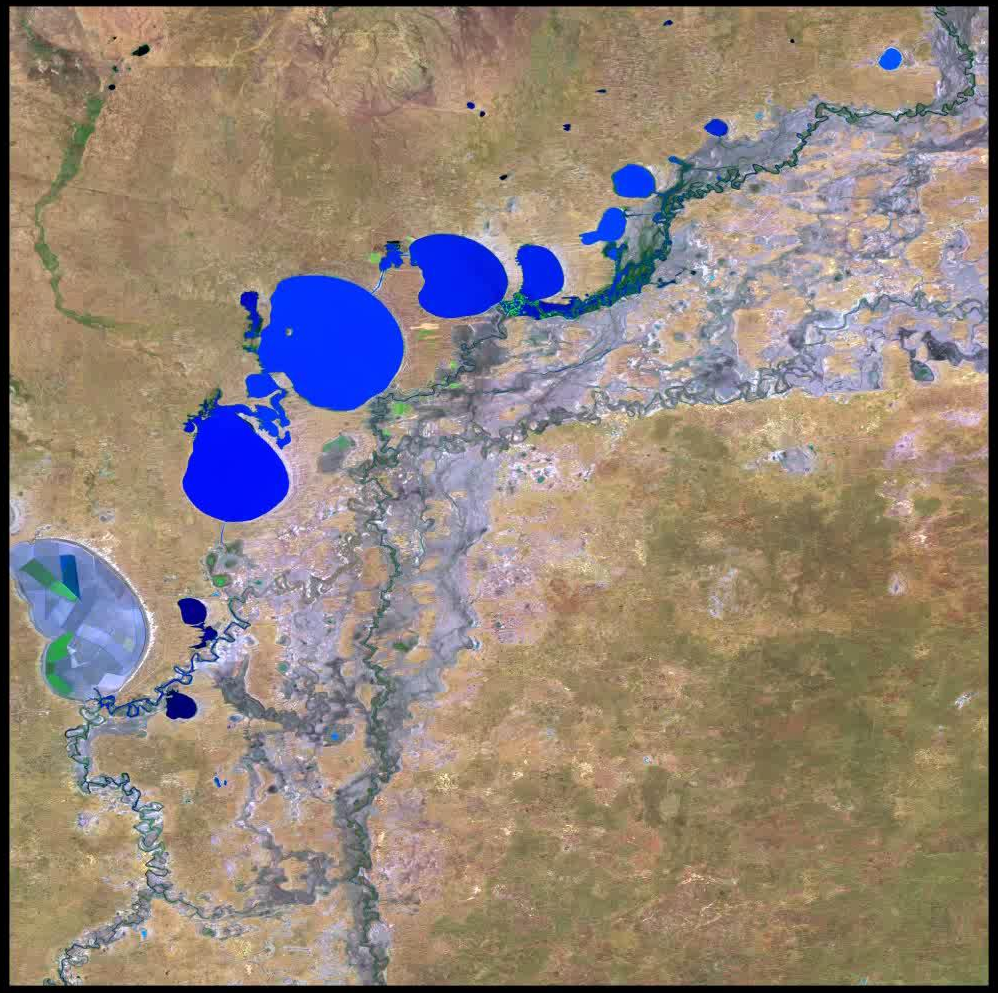




Surface Water
Menindee lakes

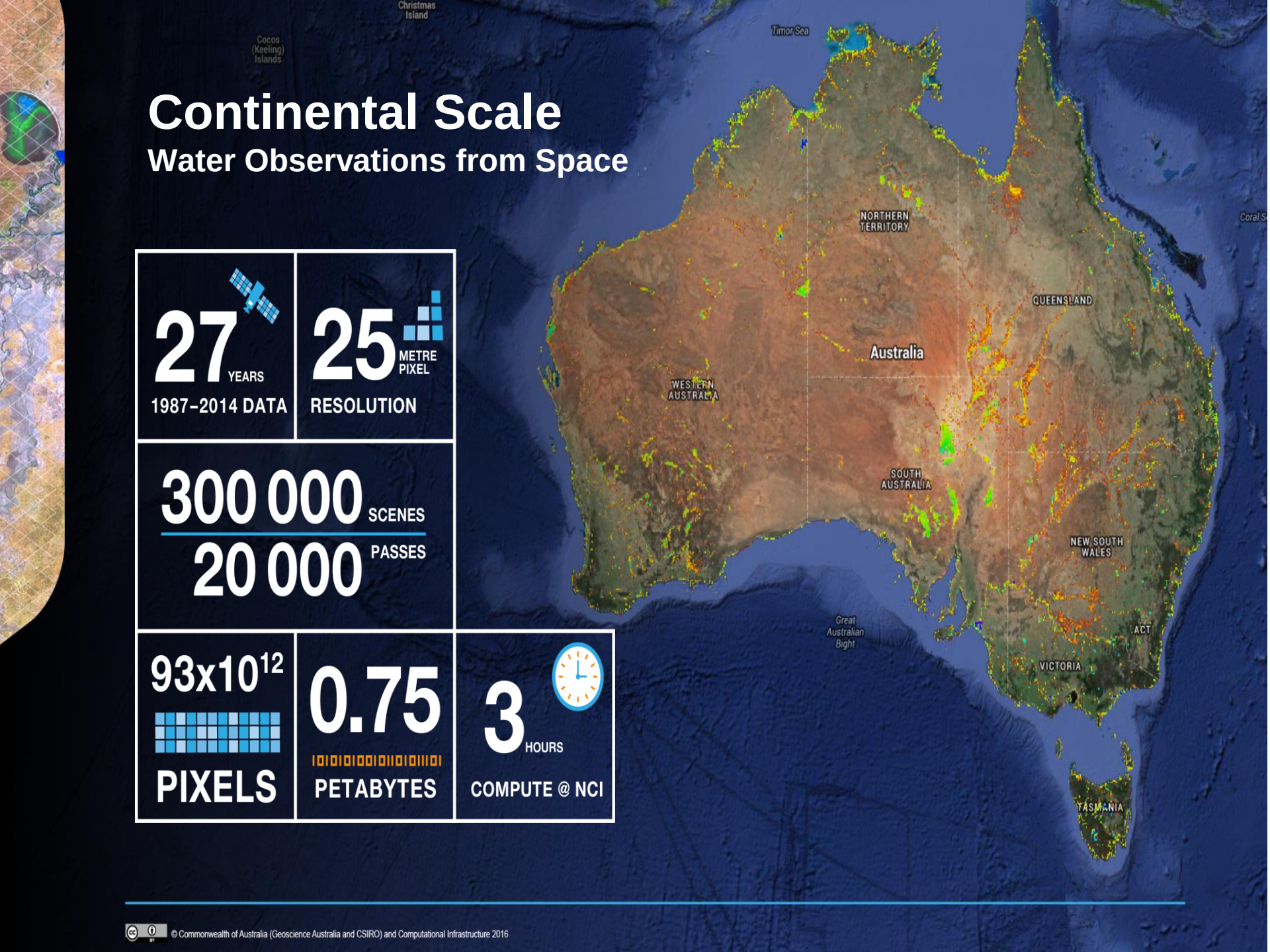
40 billion observations

15 minutes processing time



Continental Scale

Water Observations from Space



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Countries have borders; Earth observations don't.

Barbara J. Ryan
Director, GEO Secretariat
Adapted from NY Times
September 2015

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esa European Space Agency

CNR-IIA

GEOSS Data Providers Workshop

20 - 21 April

Florence, Italy

http://www.earthobservations.org/me_201704_dpw.php

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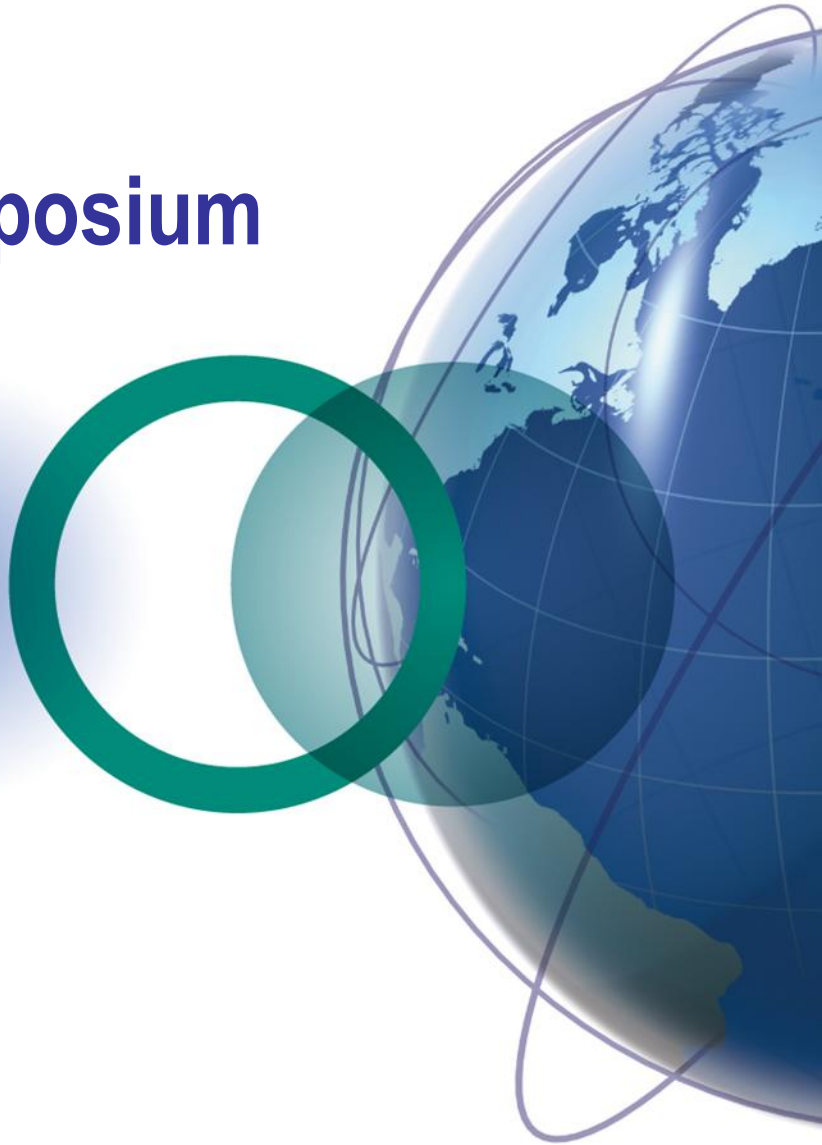
GEO Work Programme Symposium
Pretoria, South Africa
12-13 May 2017

http://www.earthobservations.org



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