



GEO and AmeriGEOSS: the benefits of collaboration

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INEGI - MEXICO



UN-GGIM:Americas

REGIONAL COMMITTEE OF
UNITED NATIONS
ON GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT
FOR THE AMERICAS



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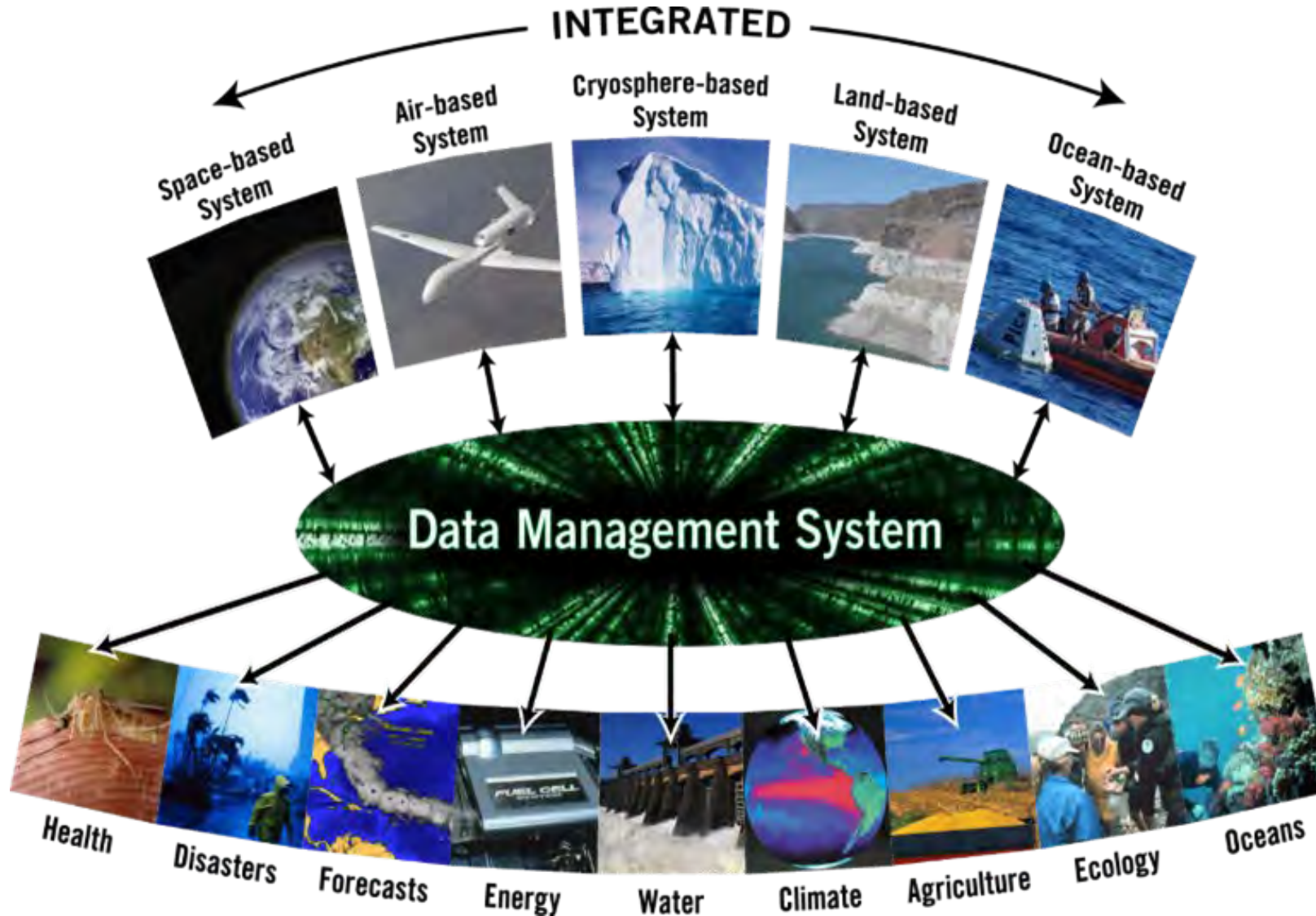
1. GEO: vision, principles & objectives
2. Benefits of belonging to GEO: collaboration towards common goals
3. AmeriGEOSS: Regional cooperation for a common infrastructure

 **GROUP ON
EARTH OBSERVATIONS**

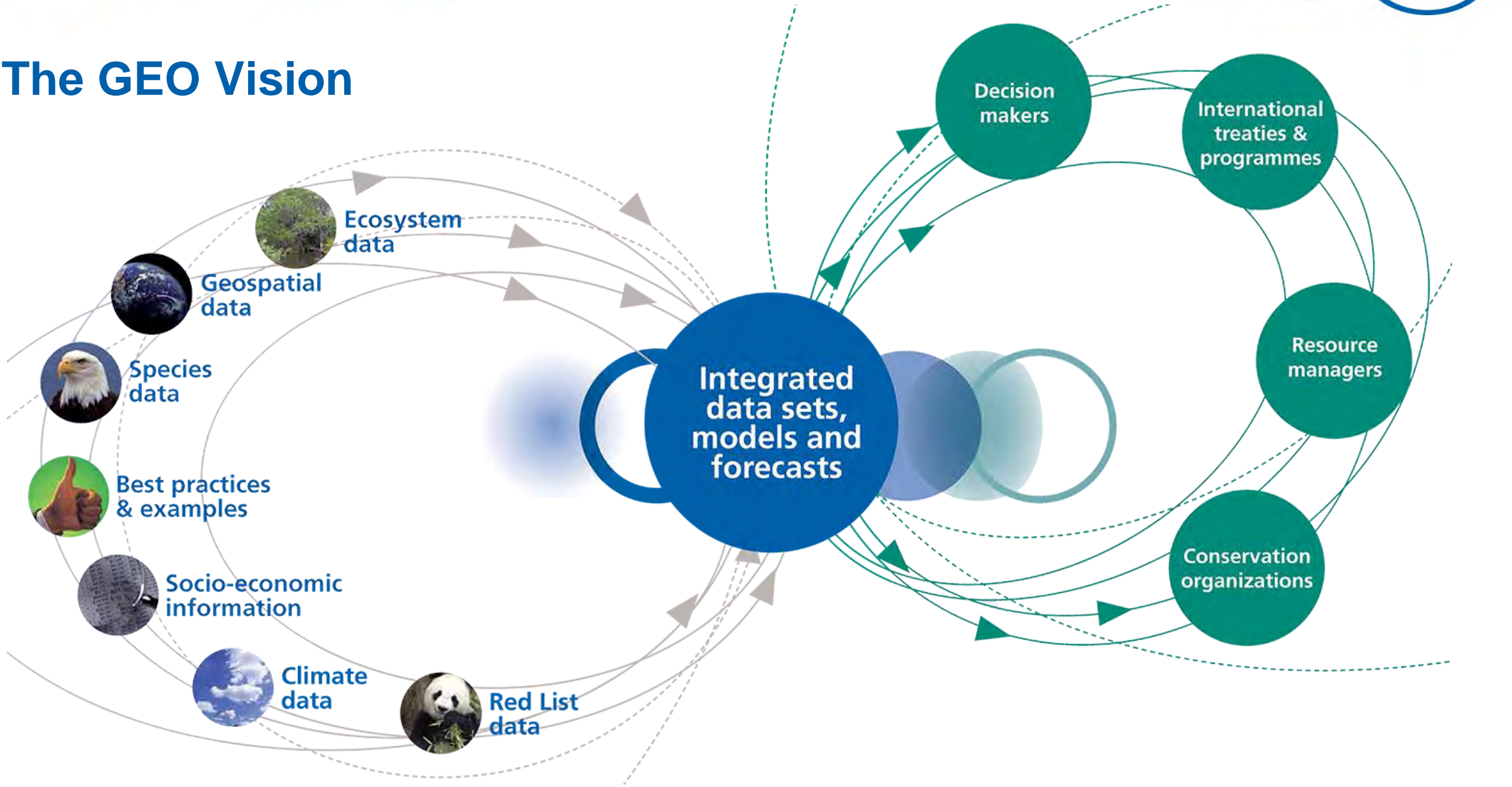
International not-for-profit organization based in Geneva, Switzerland, created in 2005 to develop an Earth Observation System of Systems (GEOSS) for taking coordinated and sustainable decisions for the benefit of humankind, based on robust, comprehensive and sustained Earth observations.



Earth Observations in support of Societal Benefit Areas



The GEO Vision





Main objectives/strengths:

- Ensuring data availability
- Ensuring data sharing
- Capacity building
- National, regional and global coordination
- Building common infrastructure
 - Policies
 - Standards
 - Quality



Advocate Engage Deliver

GEO GROUP ON EARTH OBSERVATIONS

INEGI INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA

2015 Ministerial Summit
& GEO-XII Plenary
Earth Observations to Address Global Challenges
11-13 November 2015, Mexico City

The central graphic contains the event logo, which consists of a globe with three orange butterflies. The words 'Advocate', 'Engage', and 'Deliver' are arranged around the globe. To the right, the GEO logo and the INEGI logo are displayed above the event title and dates.



GEO Governance

Ministerial Summit

- High-Level Guidance and political support/championing

Plenary

- 103 Member States + Participating Organizations
- Main organ of deliberation and decision

Executive Committee

- 13 member state representatives with regional representation
- From the Americas: **Mexico**, Colombia & United States

Programme /Implementation Boards

- Support and recommendations from experts on specific areas
- Review and ensure implementation of Strategic Plan 2016-2025

GEO Membership



GEO Member Map for the year 2016

(Use slider under the map to change the year)

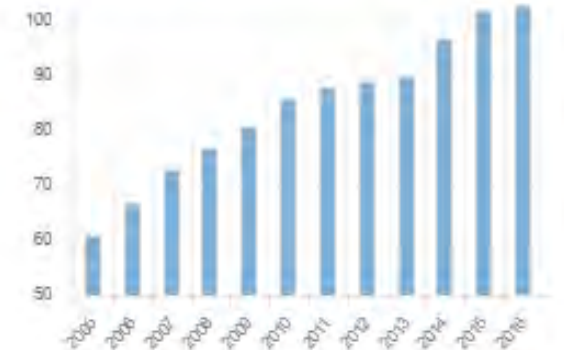


European Commission

Number of Members (2016)

Africa:	27
Americas:	16
Asia/Oceania:	19
C.I.S.:	7
Europe:	34
Total:	103

Number of Members by year



138 functioning satellites worldwide
59 Earth observation/Space agencies



87 Participating Organizations





UN Agencies, Programmes and Conventions



Value Proposition: Leverage existing monitoring efforts, systematically incorporate Earth observations into monitoring international treaties and conventions, and increase political support/recognition of Earth observations and GEO



International Scientific Organizations



Value Proposition: Leverage existing expertise, capacity and coordination/representation of selected communities, and increase visibility for importance of sustained observing systems.



Intergovernmental Organizations



Value Proposition: Leverage existing expertise, capacity, and coordination/representation of selected communities and provide additional data, tools and services.



Emerging Partnerships and/or New Categories



International Development Banks



Value Proposition: Leverage assets in GCI to select, monitor and evaluate investments/loans, ensure new data is open, available and shared (*in situ* opportunities extensive), build capacity and potential funding for GEO projects.



Commercial Sector/Associations



EARSC

European Association
of Remote Sensing
Companies



Value Proposition: Bridge gaps between data and information by developing products, tools and services, potential funding for GCI.



How to become a GEO Member

- Membership is open to all UN member States.
- Membership in GEO is contingent upon formal endorsement of the GEOSS 10-Year Implementation Plan.
- All members belong to a regional caucus, who nominate members of the Executive Committee, and can also hold regional consultations or organize symposia focused on the regional implementation of GEOSS.
- Membership in GEO does not require compulsory annual dues, but members are encouraged to contribute financial resources, to the greatest extent possible, in addition to the human, intellectual and programmatic resources needed to fully implement GEOSS.
- To become a Member of GEO, contact the GEO Secretariat at secretariat@geosec.org
- Current GEO Members can check their GEO designation information by choosing the respective Member from the drop down list below

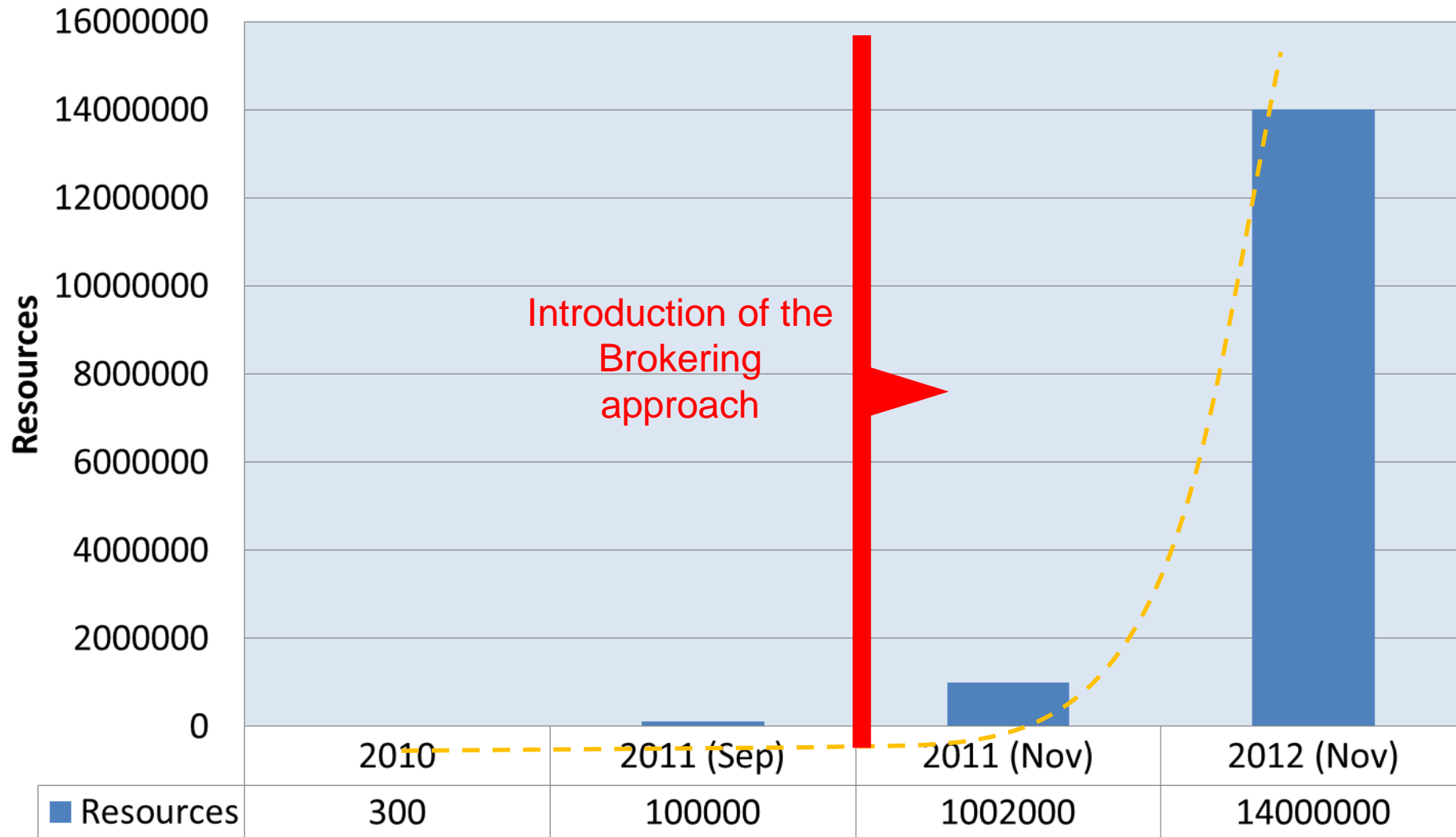


The Brokering Approach

- Implement multi-disciplinary interoperability and lower entry barriers for both Users and Data Providers
- Users and Data Providers continue using their tools and publishing their resources according their standards -as much as possible.
- A set of Brokers bind the heterogeneous resources published by Data Providers, adapting them to the tools commonly utilized by the Users.

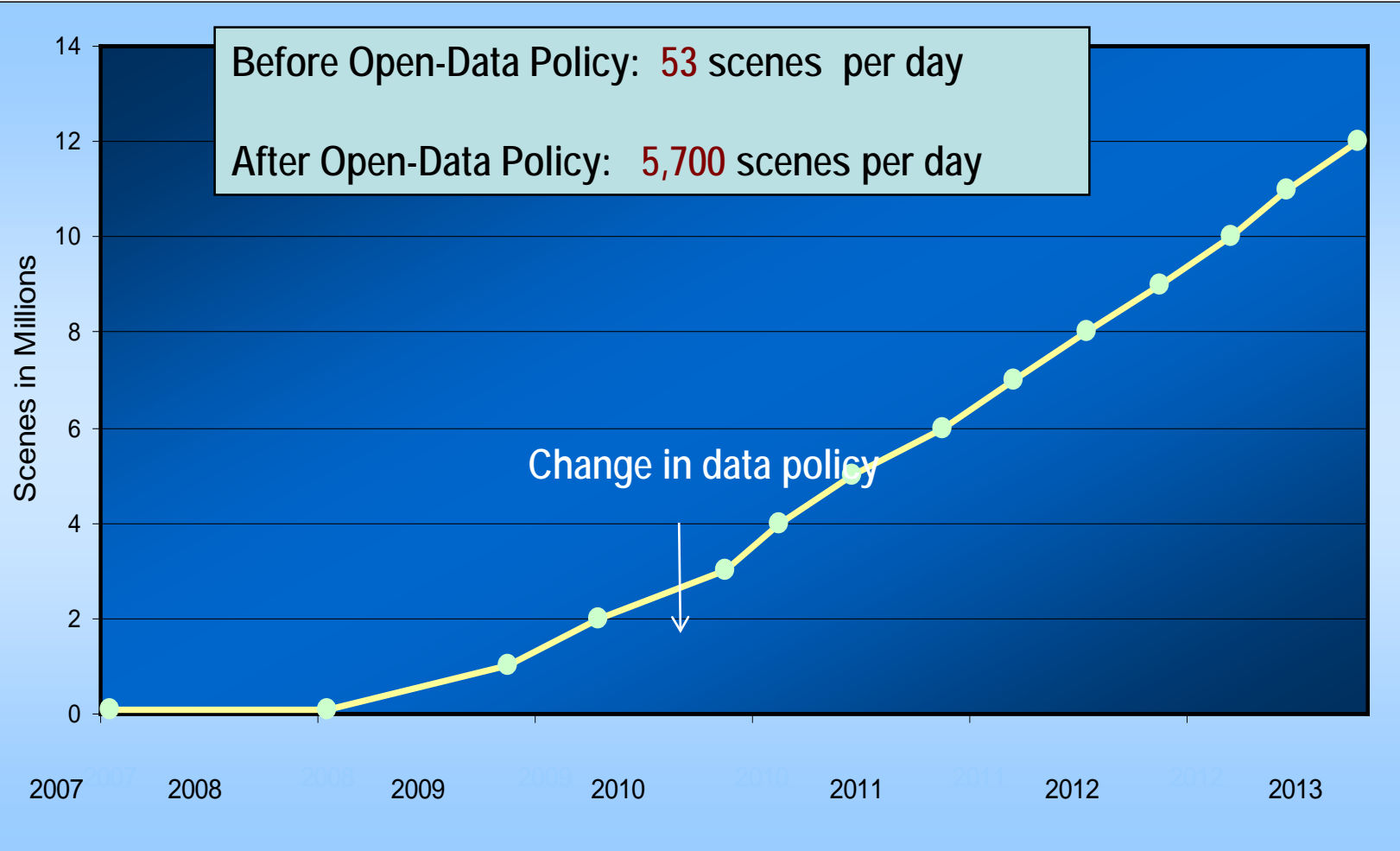


GEOS Resources





GEOSS Implementation Requires: *Data Sharing Principles*



- **Full and Open Exchange of Data**
- **Data and Products at Minimum Time Delay and at Minimum Cost**
- **Free of Charge or Cost of Reproduction**

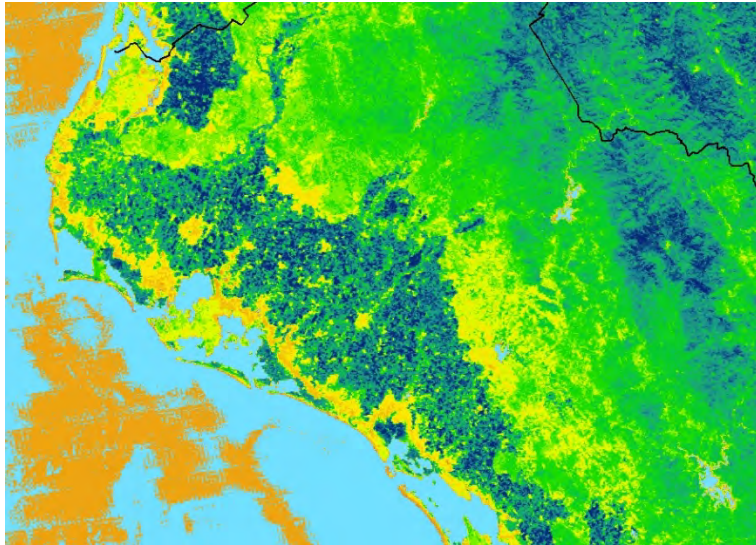
Policy Change for Landsat Data

SDG 2. End hunger and achieve food security

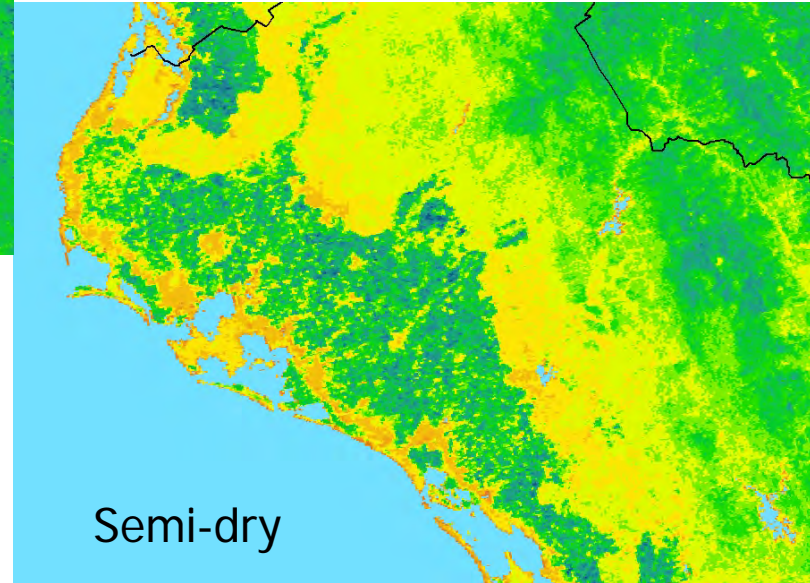
Indicator 2.3.1 Volume of production per labour unit



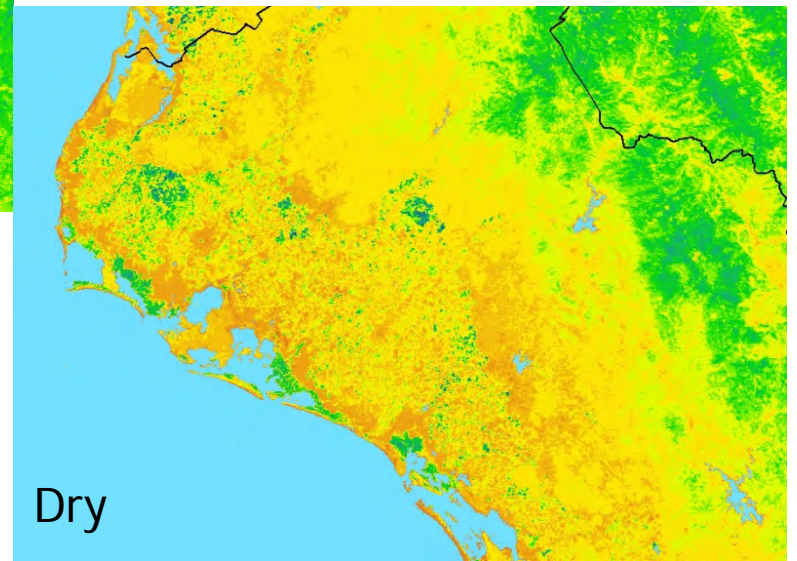
GEOGLAM
Global Agricultural Monitoring



Vigorous



Semi-dry



Dry

**Weekly crop monitoring
During a drought**

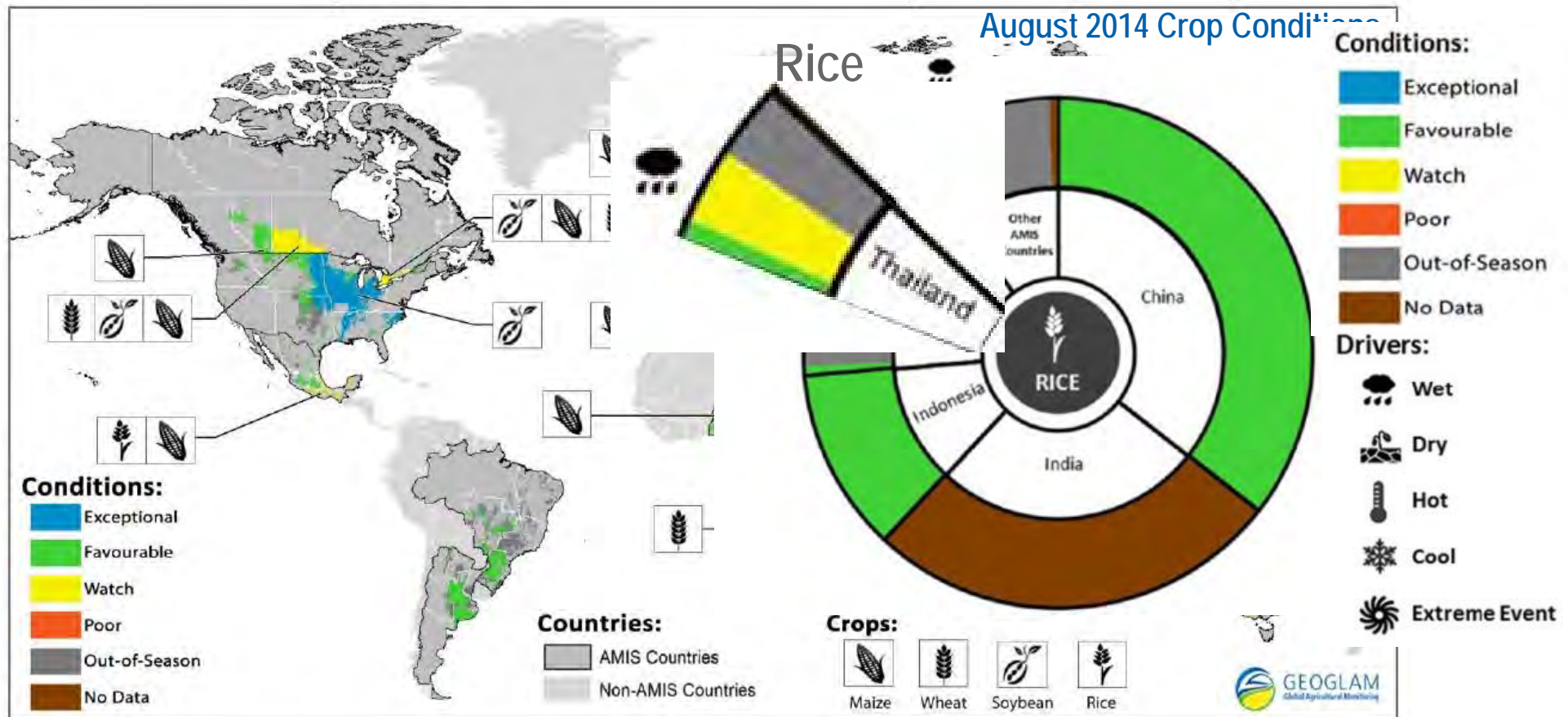
Sinaloa, Mexico

- Agua
- Nubes
- Nubes, suelos
- Vegetación seca y escasa
- Vegetación seca
- Vegetación semiseca
- Vegetación, cultivos verdes
- Vegetación, cultivos vigorosos



GEOGLAM Crop Monitoring

- Operational since September 2013
- 36 institutions, 22 countries + 7 international organizations
- Global map for 4 staple crops (Maize, Wheat, Soybean, Rice)

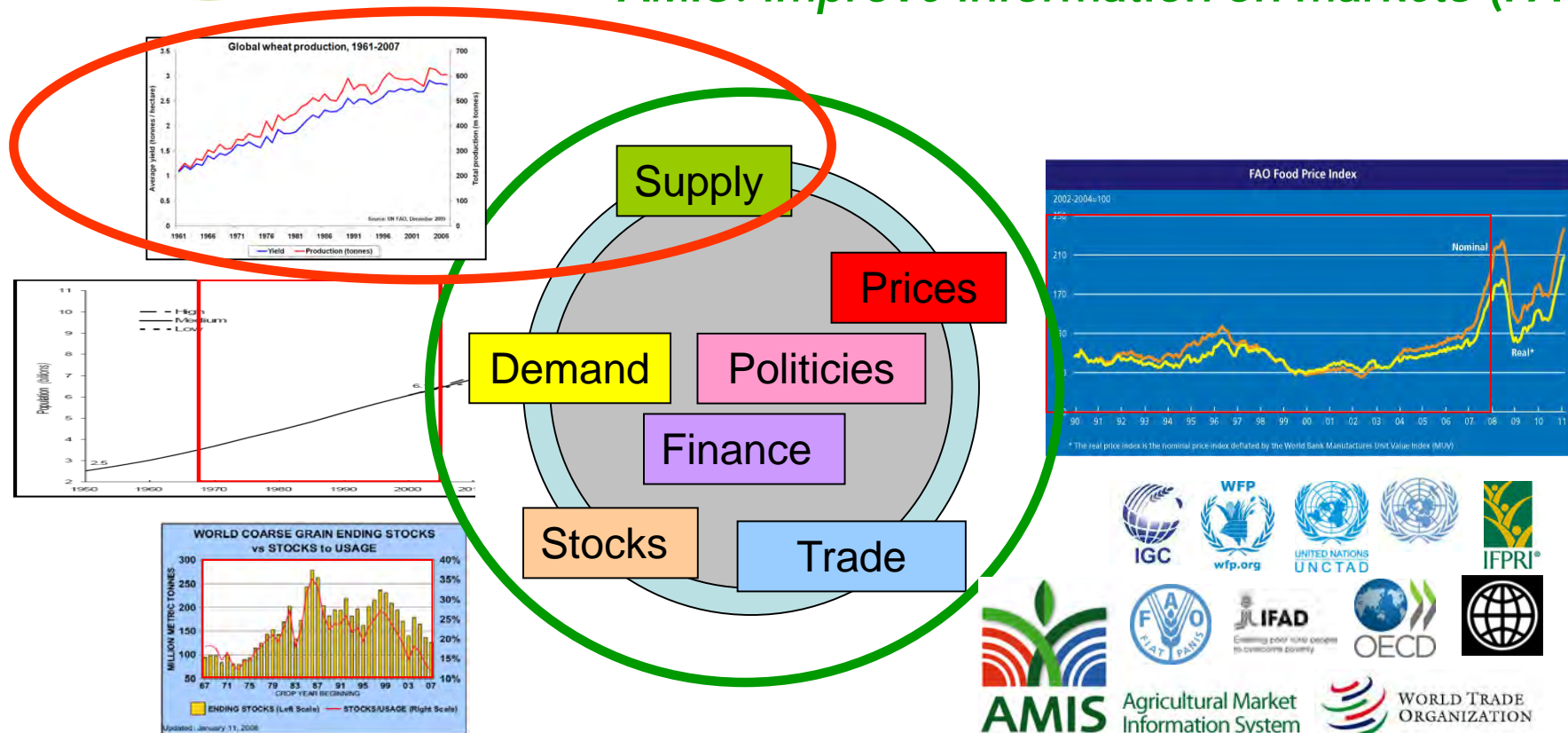




An initiatives to increase: information availability, quality and transparency



GEOGLAM: improve information on supply (GEO)
AMIS: improve information on markets (FAO)



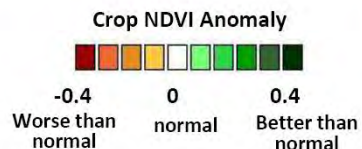
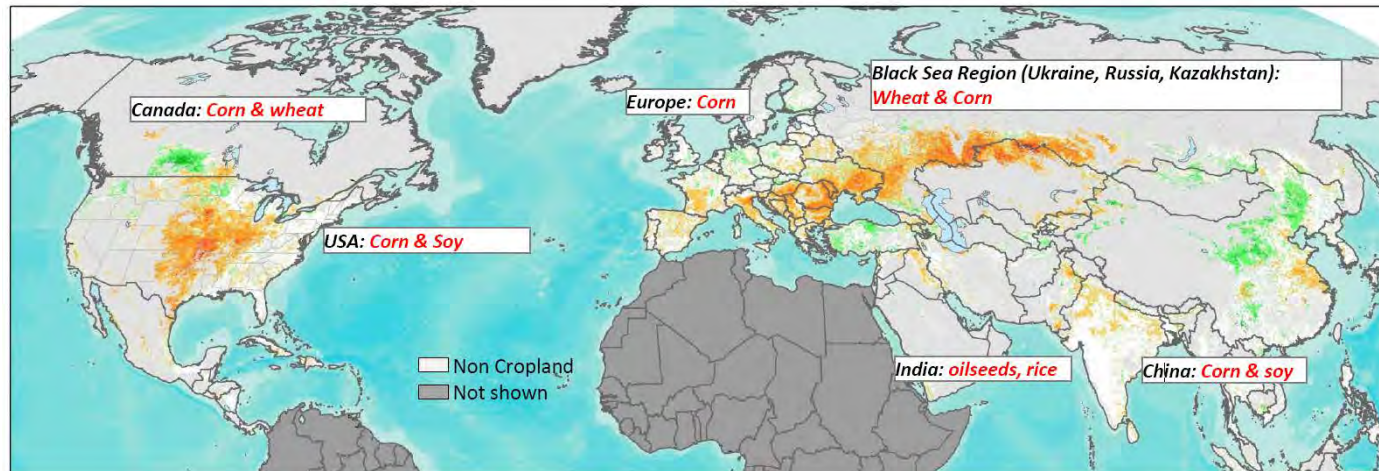


Crop Information for Decision-Making

(Canada, China, EC, France, Japan, Kazakhstan, India, Mexico, Russia, USA, CEOS, FAO, WMO)



Northern Hemisphere NDVI Crop Anomaly, August 13th, 2012



Observed highlights:

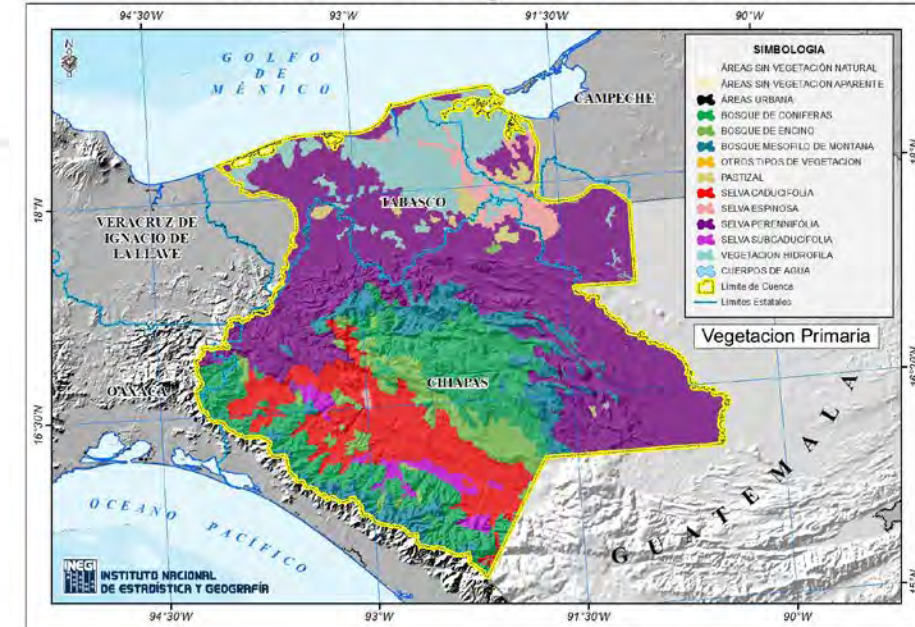
- Drought conditions persist in US, south eastern Ukraine, Russia, and Kazakhstan, with slight improvement in some areas in northern Kazakhstan
- Rains in India mitigate dry conditions

- * GEOGLAM part of G20 Action Plan on Food Price Volatility
- * New crop outlook
- * Rice crop monitoring

Goals of GEO-BON

- ▶ Global monitoring changes in species distribution and abundance
 - ▶ Selected taxa
 - ▶ Birds, Other Terrestrial Vertebrates, Butterflies, and Plants
 - ▶ Monitor both common and threatened species in each group
 - ▶ Harmonization and protocol guidance of abundance data
 - ▶ Sampling scheme taxa based (extensive site coverage) and not site based
 - ▶ Rather than duplicating existing in-situ monitoring efforts, GEO BON seeks to complement and coordinate these efforts
 - ▶ Integrate spatial species monitoring with spatial data on drivers of ecosystem services

Cuenca Grijalva-Usumacinta



Participation in global and regional conversations on geospatial information and Earth observations in support of common goals and agreements



Climate Change



UN World Conference on
Disaster Risk Reduction
2015 Sendai Japan
Disaster Risk Reduction



Biodiversity

PERMANENT MISSION OF DENMARK
TO THE UNITED NATIONS



47th Session of the United Nations Statistical Commission
Statistical-Geospatial Integration Forum

**Geospatial Information and Earth Observations:
Supporting Official Statistics in Monitoring the SDGs**

Monday 7 March 2016
10:00am – 1:00pm,
Conference Room 4 (CB), United Nations, New York

Working Group on Geospatial Information of the IAEG-SDGs

To ensure from a statistical and geographic location perspective that one of the key principles of the 2030 Agenda, to “leave no one behind”, is reflected in the Global indicator framework.

- Countries in the IAEG-SDGs:

Bahrain, Brazil, Botswana, Cape Verde, Colombia, Denmark, Egypt, France, Germany, Jamaica, Mexico (co-chair), Sweden (co-chair) & Uganda

- UN-GGIM Regional Representatives
- Group on Earth Observations (GEO)
- Global Working Group on Big Data, EG-ISGI
- Other UN agencies: EC (Eurostat) and OECD

First informal meeting during UN-GGIM6



Geospatial contributions to the Global indicator Framework

A preliminary analysis within the GIWG-IAEG

	Geospatial	Tier I	Tier II	Tier III	Total
1 No poverty	Yes	1	3	2	6
2 Zero hunger	Yes			1	1
3 Good health and well-being	Yes			1	1
4 Quality education	Yes		1	1	2
5 Gender equality	Yes			2	2
6 Clean water and sanitation	Yes	3		3	6
7 Affordable and clean energy	Yes	1			1
8 Decent work and economic growth	Urban/rural?				
9 Industry, innovation and infrastructure	Yes	1		1	2
10 Reduced inequalities	Urban/rural?				
11 Sustainable cities and communities	Yes	2	6	2	10
12 Responsible consumption and production	Urban/rural?				
13 Climate action	Yes		2		2
14 Life below water	Yes	1		3	4
15 Life on land	Yes	3	1	2	6
16 Peace, justice and strong institutions	Urban/rural?				
17 Partnerships for the goals	Capacity, Statistics	Σ 12+	Σ 13+	Σ 18+	Σ 43+



Regional Initiatives

Latin America

Africa

Middle East

Asia





Implementing GEOSS in the Americas
Implementando GEOSS en América
Implementando GEOSS na América
Mise en œuvre du GEOSS en Amérique



AmeriGEOSS Initiative

Born in October 2014, launched in November 2015

Is a cooperative effort that:

- Reflects local, national, and regional interests of the GEO country-members for short and long-term planning, development, and implementation aligned with GEO activities.
- Is enabled by the institutional and technical capabilities of its country members and the resources of other global initiatives available for the benefit of the region.
- Seeks to increase institutional and personal capacity and engage experts, stakeholders, and decision makers in the process of decision making.
- Brings the information gained from 138 Earth science satellites to the Americas to address pressing issues



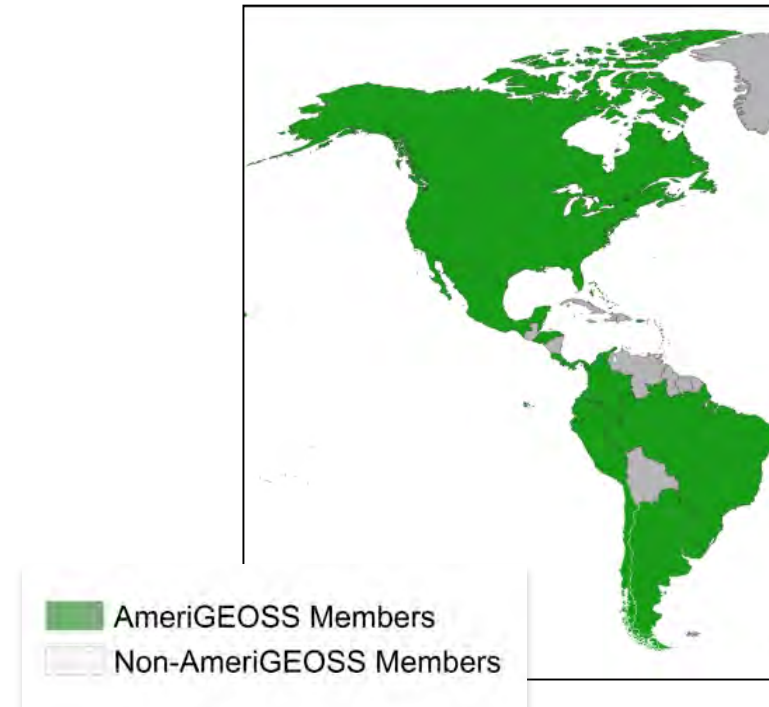
Implementing GEOSS in the Americas
Implementando GEOSS en América
Implementando GEOSS na América
Mise en œuvre du GEOSS en Amérique



AmeriGEOSS Initiative

- 16 Americas Caucus Member countries:

- Argentina
- Bahamas
- Belize
- Brazil
- Canada
- Chile
- Colombia
- Costa Rica
- Ecuador
- Honduras
- Mexico
- Panama
- Paraguay
- Peru
- United States
- Uruguay



- Observers:

- Bolivia and Guatemala

Priority Areas



• **Food security and sustainable agriculture** - Agriculture, associated with climate variability, climate change, and food security. SDG2



• **Disaster resilience** - Disaster risk reduction, particularly for data exchange associated with early warnings, and for the generation of regional products of early warnings. Sendai Framework.



• **Water resource management** - Associated with the management approach of water resources and data management and services. SDG 6.



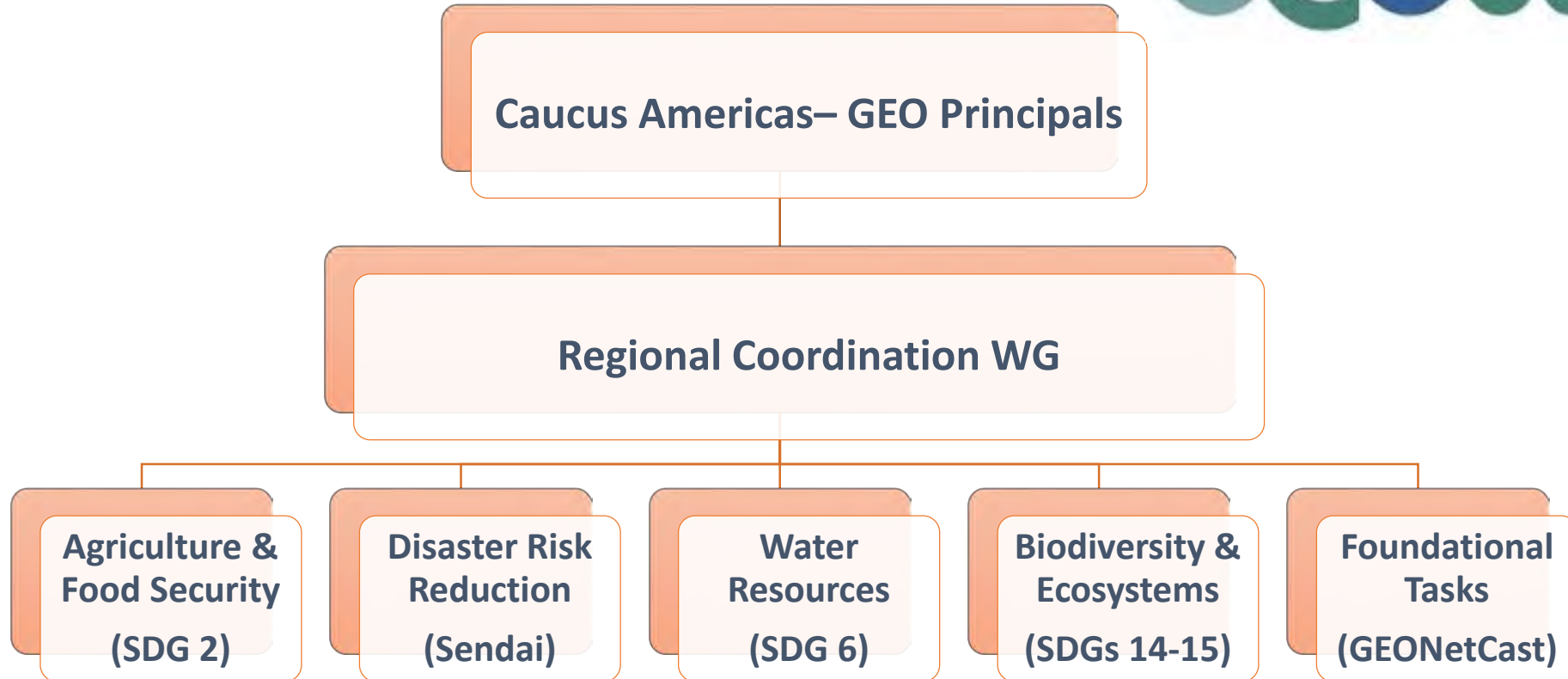
• **Biodiversity and ecosystem sustainability** - In the context of capacity building for better monitoring, management, and maintenance of ecosystems and biodiversity they support; and to predict future changes. SDGs 14-15



• **Foundational activities** – Data systems infrastructure and capacity building.

AmeriGEOSS

Governance and Regional Coordination

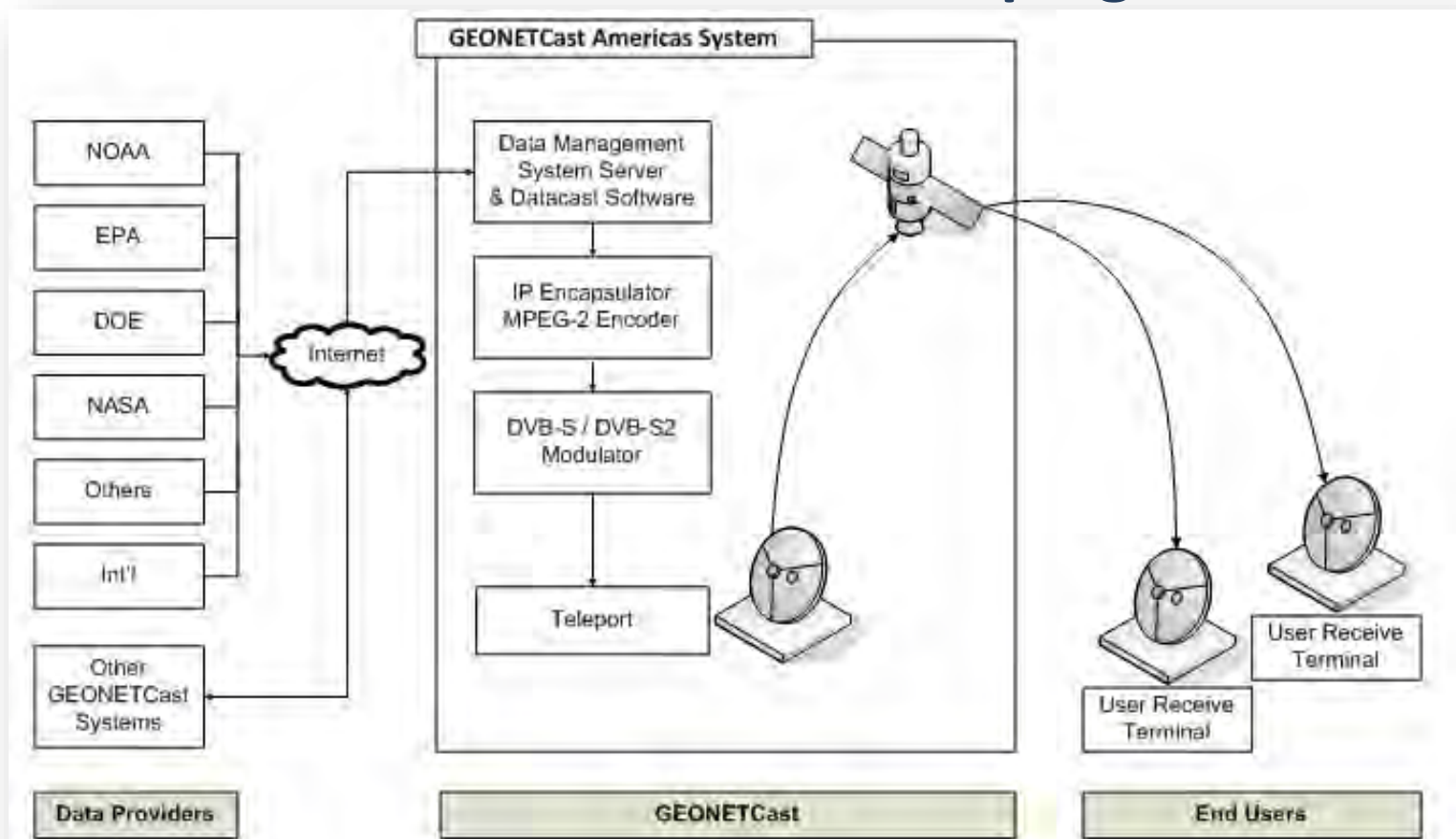


Currently: developing TORs for each step in this Coordination Process



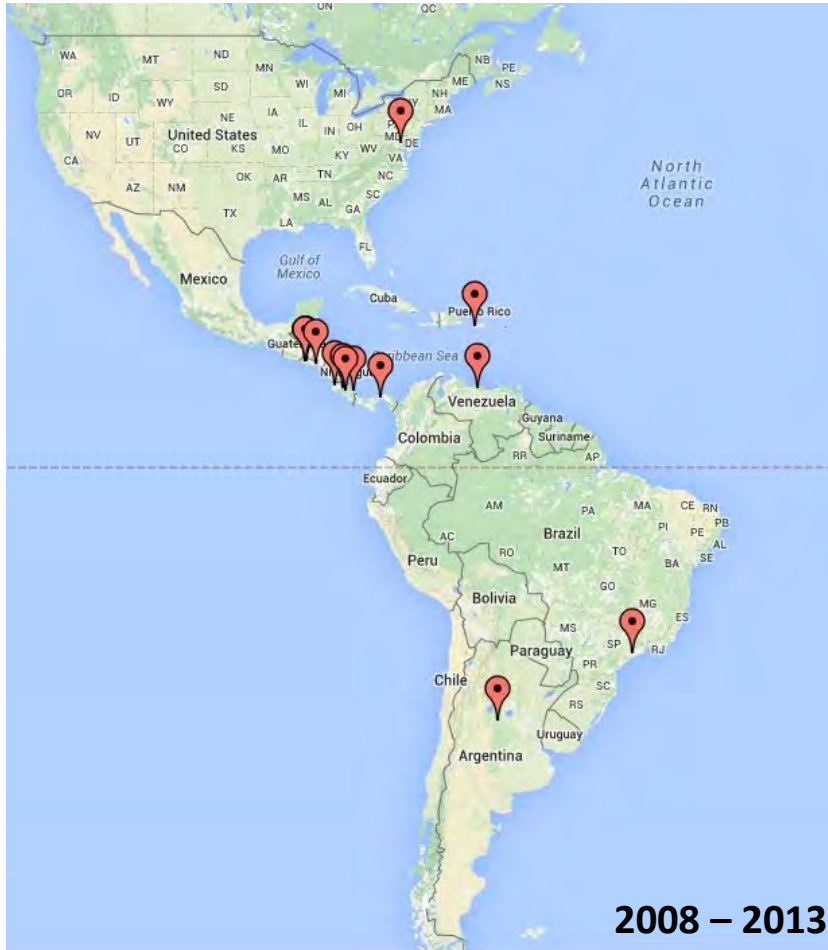
GeoNetCast

- Global network of satellite information
- GEO contribution to developing countries



GEONETCast

- Expansion of network in the Americas
- Use by various institutions per country
- Coordinated use for disaster and climate change monitoring



Red: Operational stations
Green: Installations in progress
Orange: EUMETCast-Americas in conversion to GNC-A
Yellow: In consideration by the organization
Blue: Acquiring equipment





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