The U.S. Group on Earth Observations

Interagency and International Collaboration for Societal Benefit

White House Office of Science and Technology Policy

AGU Fall Meeting

December 14, 2016

Outline

- Background
- Interagency Coordination and Analysis
- Assessing the Impact of Earth Observation Systems
- Making Data More Discoverable, Accessible, and Usable
- Addressing Civil Earth Observation Satellite Needs
- Engaging International Stakeholders

Background: Legislation and Planning

- Congress directed OSTP to "establish a mechanism to ensure greater coordination of the research, operations, and activities relating to civilian Earth observation…" *
- OSTP initiated a national planning process
  - *National Strategy for Civil Earth Observations* (April 2013)
  - *National Plan for Civil Earth Observations* (July 2014)
- The USGEO Subcommittee provides related interagency and international coordination
- OSTP's USGEO Program provides dedicated analysis and advice to OSTP and the Subcommittee

* **NASA Authorization Act of 2010, Section 702**

Background:
National Strategy for Civil Earth Observations (2013)

- Three-year Earth observation assessment and planning framework
- Prioritization of national observing systems
- Earth observation data management guidelines
- Led to publication of first-ever *National Plan for Civil Earth Observations*

Background:
National Plan for Civil Earth Observations (2014)

- New framework for constructing a balanced Earth observations portfolio
  - Informed by the results of the first Earth Observation Assessment
  - Employs a measurement-driven approach rather than a system-driven approach
- Identified Priorities:

1. Continuity of sustained observations for public services
2. Continuity of sustained observations for Earth system research
3. Continued investment in experimental observations
4. Improvements to sustained observation networks and surveys for all observation categories
5. Continuity of/improvements to a rigorous assessment and prioritization process

Interagency Coordination and Analysis: The USGEO Subcommittee

- Reports to the Committee on Environment, Natural Resources, and Sustainability under the National Science and Technology Council
- Coordinates and plans interagency Federal Earth observation activities
- Includes 13 member agencies, in addition to OSTP and OMB
- Accomplishes its activities with the support of four expert working groups
  - Earth Observation Systems Assessment
  - Data Management
  - Satellite Needs
  - International Activities

Interagency Coordination and Analysis: The USGEO Program

- Supports OSTP, the USGEO Subcommittee, its working groups, and USGEO member agencies to provide dedicated analysis and coordination of USGEO activities
- Provides related support as needed to OSTP on civil Earth observations issues with national and international implications
- Along with USGEO agencies, develops a two-year USGEO Plan of Work

Assessing the Impact of Earth Observation Systems: USGEO Assessment Working Group (AWG)

- Oversees and executes a triennial Earth observation systems assessment
- General recommendations, for internal deliberative Executive Branch use
  - Synthesizes input from expert teams
  - Addresses continuity, fulfillment, and advancement of required measurements
- Documents assessment lessons learned and recommends improvements

Assessing the Impact of Earth Observation Systems: The National Earth Observation Assessment (EOA)

- Snapshot of observing systems relied upon by Federal agencies to meet key Earth observing objectives
- Cross-cutting look at observing capabilities (satellite and non-satellite systems)
- Quantifies the impact of those observing systems on delivering societal benefit
- Major input to the *National Plan*

Societal Benefit Areas (SBAs)

Making Data More Discoverable, Accessible, and Usable: The USGEO Data Management Working Group (DMWG)

- Coordinates Earth observation data management activities
- Seeks to improve users' data access, management, and interoperability
- Develops guidance for USGEO agencies that participate in the Big Earth Data Initiative (BEDI)
  - Goal: to make high-impact data and information derived from Federal civil Earth observations easier for everyone to find and use
- Developed the *Common Framework for Earth Observation Data* (March 2016)
  - Meets BEDI Goals and advances national and international open data management principles
  - Establishes criteria and provides guidance to improve data discoverability, accessibility and usability

Addressing Civil Earth Observation Satellite Needs: The USGEO Satellite Needs Working Group (SNWG)

- Response to joint OMB/OSTP request in the President's FY16 Budget
- Addresses challenges faced by agencies in obtaining and sustaining space-based observations
- Aggregates user needs for provider agencies (primarily NASA)

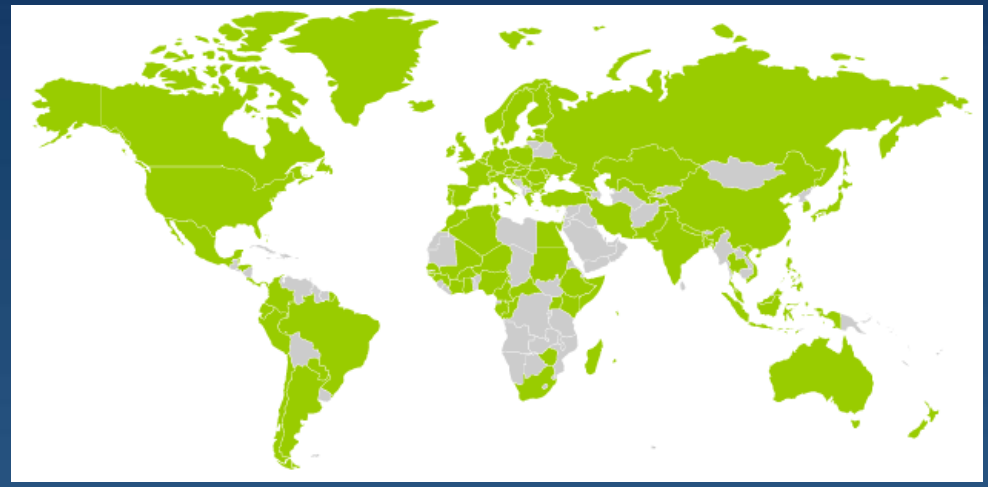
Engaging International Stakeholders: The USGEO International Activities Working Group (IAWG)

- Coordinates U.S. participation in the international Group on Earth Observations (GEO)
- Facilitates specific U.S. contributions to the GEO Work Programme
  - a “system of systems” approach for improved use of Earth observations for public and private decision-making
  - the U.S. leads or participates in multiple projects and initiatives

Engaging International Stakeholders: The Group on Earth Observations (GEO)

established 2005

- Voluntary international, interdisciplinary framework
- Geared toward open data sharing and open scientific collaboration
- Partners develop new projects, coordinate supporting Earth observations
- GEO today:
  - 102 Member countries including the European Commission
  - 106 Participating Organizations (*e.g.*, UN organizations, international groups, NGOs, private sector participants)

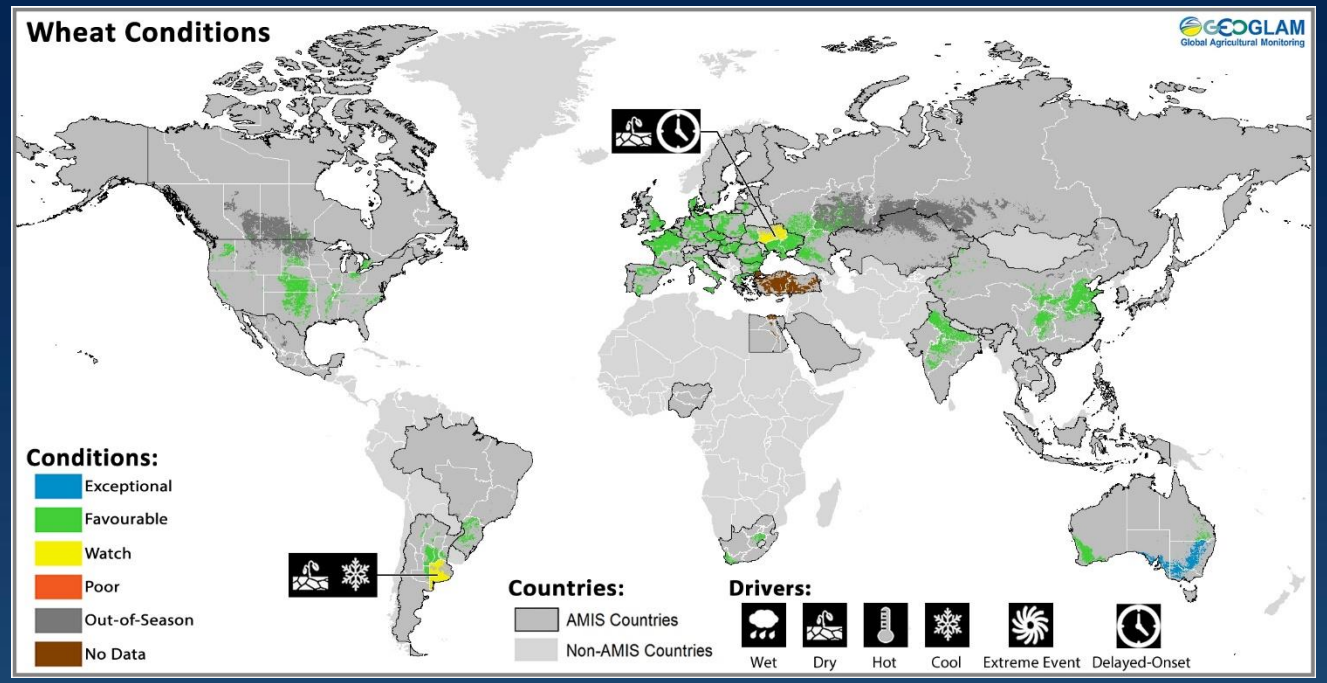


Green countries are GEO members

Selected GEO Achievements

Global Agricultural Monitoring and Early Warning (GEOGLAM)

GEOGLAM helps governments to meet the challenges of their citizens' growing needs for food. It promotes the use of Earth Observations in producing timely, relevant, and actionable information on food supply. It is being implemented globally and regionally with an emphasis on enhancing national capacity to autonomously assess crop conditions.



Global Water Sustainability (GEOGLOWS)

GEOGLOWS facilitates uses of Earth observation assets to mitigate water shortages, excesses and degraded quality arising from population growth, climate change and industrial development.

Selected GEO Achievements (cont'd)

Global Forest Observations Initiative (GFOI)

GFOI advances national forest monitoring and assessment that is robust, reliable, and achievable at reasonable cost. It helps nations develop a capacity to utilize Earth observations for forest carbon stock and flow estimation. The United States assists partner governments in related development and operation of national forest monitoring systems.

Global Biodiversity Observation (GEO BON)

GEO BON is a developing a global biodiversity observation network that contributes to effective management policies for the world's biodiversity and ecosystem services. Its goal is to improve the acquisition, coordination and delivery of biodiversity observations and related services to users including decision makers and the scientific community.

Backup


EXECUTIVE OFFICE OF THE PRESIDENT OF THE UNITED STATES
OFFICE OF SCIENCE AND TECHNOLOGY POLICY

USGEO Timeline

2010

- Sec. 702 of the NASA Authorization Act of 2010 called for the OSTP Director to establish a mechanism to ensure greater coordination and routine national planning of civil Earth observation activities

2011-2012

- OSTP convened the National Earth Observations Task Force (NEOTF)
- NEOTF conducted the first assessment of civil Earth observations

2013

- OSTP released the *National Strategy for Civil Earth Observations*
- The U.S. Group on Earth Observations (USGEO) re-chartered as NSTC/CENRS Subcommittee
- OSTP established USGEO Program

2014

- OSTP released the first *National Plan for Civil Earth Observations*
- United States supported extension of the international Group on Earth Observations (ten-year mandate)

2015

- USGEO approved its 2015-2016 Plan of Work

2016

- OSTP released the *Common Framework for Earth Observation Data*
- OSTP established USGEO Satellite Needs Process
- USGEO approved its 2017-2018 Plan of Work
- USGEO completed its second Earth Observation Assessment