



2014 GEO MINISTERIAL SUMMIT  
17 JANUARY 2014  
GENEVA, SWITZERLAND

# EARTH OBSERVATIONS TO SUSTAIN OUR PLANET

The 2014 GEO Ministerial Summit will take place on 17 January in Geneva. Hosted by the Swiss Confederation, the Ministerial will be attended by Ministers and high-level representatives from GEO's 90 Member governments and 67 Participating Organizations.

Ministers will be asked to endorse the Geneva Ministerial Declaration when they meet in Geneva. This Declaration is intended to document decisions and guidance concerning the completion of the GEOSS Implementation Plan 2005-2015 and the renewal of the GEO mandate through 2025.

GEO is an international partnership established in 2005 with an initial ten-year mandate designed to link the various Earth Observation endeavours worldwide into a "Global Earth Observation System of Systems" (GEOSS). GEO fosters coordination of Earth observations amongst its partners and promotes free and open access to data and information. Through GEOSS, the GEO Members and Participating Organizations contribute "to realize a future wherein decisions and actions for the benefit of humankind are informed by coordinated, comprehensive, and sustained Earth observations and information."

## GEO MAJOR ACHIEVEMENTS

There exist acute global, regional and national needs: for developed and developing nations battling drought and disease; emergency managers making evacuation decisions; farmers making planting choices; companies evaluating energy costs; and coastal communities concerned about sea-level rise. These are needs for

new analytical tools, access to timely data, and forecasts about emerging threats that enable wise choices in a challenging world. GEO achievements address these and other societal challenges, as well as build technical capacity, develop information infrastructure and standards, and provide better access to data.

The **Global Earth Observations System of Systems (GEOSS)** consists of a global network of Earth observation systems and organizations, including data providers and application developers, designed to provide decision-support tools to a wide variety of policy, scientific and business decision-makers. GEOSS resources -- including Earth observation data (space-based, airborne and *in situ*), information services, standards and best practices -- can be

searched, discovered and accessed through the **GEOSS Common Infrastructure (GCI)**. The *GEOSS Portal* ensures easy connection to existing observation and data systems.

The **GEOSS Data Sharing Principles** are the foundation for GEOSS:

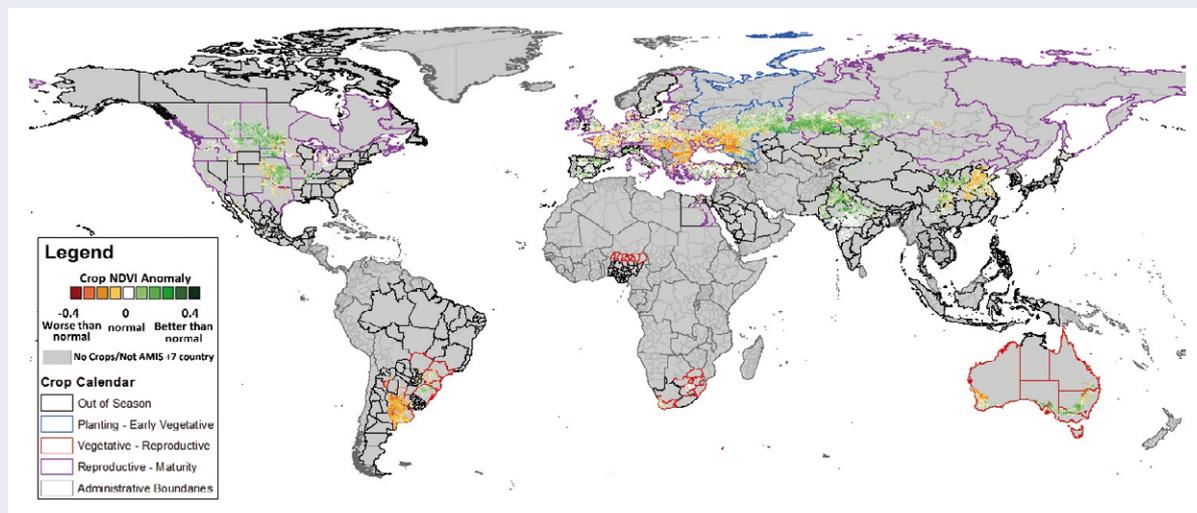
- There will be full and open exchange of data shared within GEOSS, recognizing relevant international instruments and national policies and legislation;
- All shared data will be made available with minimum time delay and at minimum cost;
- All shared data being free of charge or no more than the cost of reproduction.

Data sets that adhere to the Data Sharing Principles make up the **GEOSS DataCORE (Data Collection of Open Resources for Everyone)**.



The **GEOGLAM Crop Monitor Assessment** is an international initiative on food security focused on assessing growing conditions for four major crops – wheat, maize, rice and soybeans. The assessment is based on regional expertise and analysis of satellite data, ground observations and meteorological data conducted by experts from global, regional and national monitoring systems. The GEOGLAM Crop Monitor Assessment is included in the UN Food and Agriculture Organization (FAO)-hosted Agricultural

Market Information System (AMIS) Monthly Monitor – a publication designed to improve market transparency and detect emerging problems that might warrant the attention of policy makers relating to food supplies and prices. The GEOGLAM initiative aims to enhance agricultural production estimates through the use of Earth observations, with timeliness and transparency. It was developed in response to the G20 Agricultural Ministers’ concern about reducing market volatility for the world’s major crops.

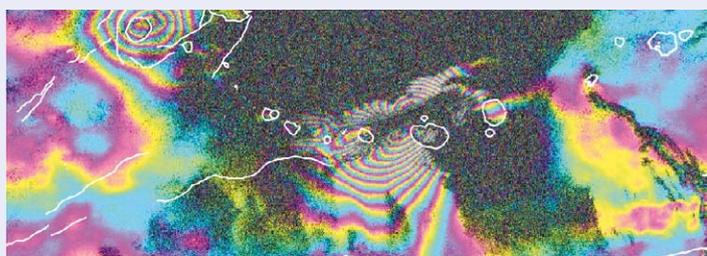


*Satellite-based vegetation conditions for wheat in August 2013 (NDVI)*

The **GEO Global Forest Observation Initiative (GFOI)** aims to help countries design, implement and monitor policies to combat deforestation and forest degradation; fulfill national and international carbon reporting obligations; and access funds available through the UN Framework Convention on Climate Change (UNFCCC) to help preserve forests. GFOI supports national forest monitoring systems by facilitating access to Earth observation data and assisting countries in its use. GFOI coordinates with the Committee on Earth Observation Satellites (CEOS), FAO and The World Bank to ensure the supply and use of satellite data and follows approved UNFCCC guidelines. This will allow countries sustainable, long-term access to the satellite and *in situ* data required for forest greenhouse gas measuring, reporting and validation.



*Enlargement of forest cover and change map 1997-2009, Amazon, Brazil (INPE/PRODES 2009)*



*ENVISAT ASAR data from June 2007 event showing deformation associated with the "Father's Day" intrusion and eruption of Kilauea, Hawaii (Image Courtesy of USGS).*

The **Geohazard Supersites and Natural Laboratories (GSNL) Initiative** is a partnership of international agencies monitoring earthquakes, volcanoes and other geohazards. Fundamental scientific research is strengthened through international collaboration and acquisition of *in situ* and space data, all available under open data policies ensuring free and easy access to raw data and products. Supersites include volcanoes in Hawaii, Iceland and Italy and faults in California and Turkey. Expected results include improved estimates of volcanic unrest, better response during eruptions, improved forecasts of ash dispersion and more accurate and reliable hazard assessment.