

# Global Earth Observations



*"good science for good policy"*



VADM Conrad C. Lautenbacher, Jr. US Navy (Ret.)

Under Secretary of Commerce for Oceans and Atmosphere

November 15, 2005

## Growing Interest in GEOSS in 2005

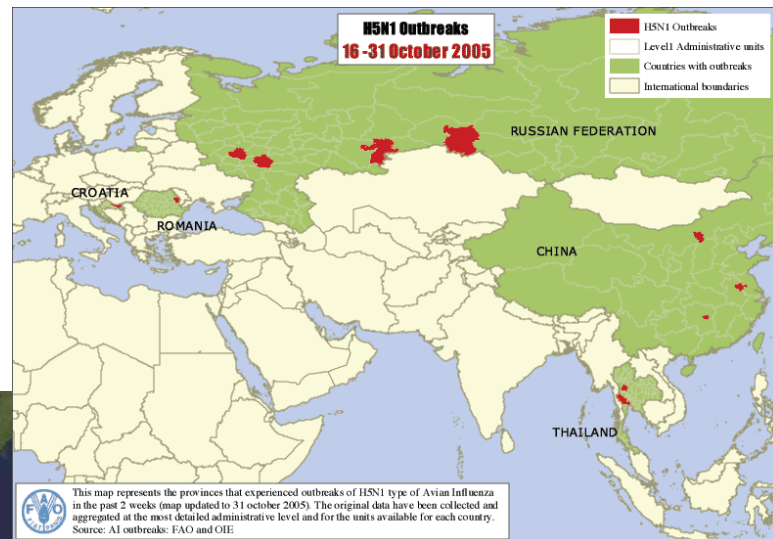
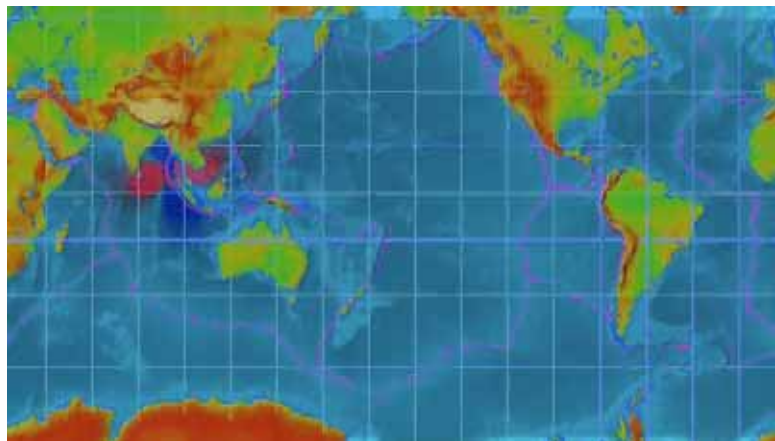
Earth Observation Summit III

The US Contribution to GEOSS

International Activities Since EOS III

Upcoming Events

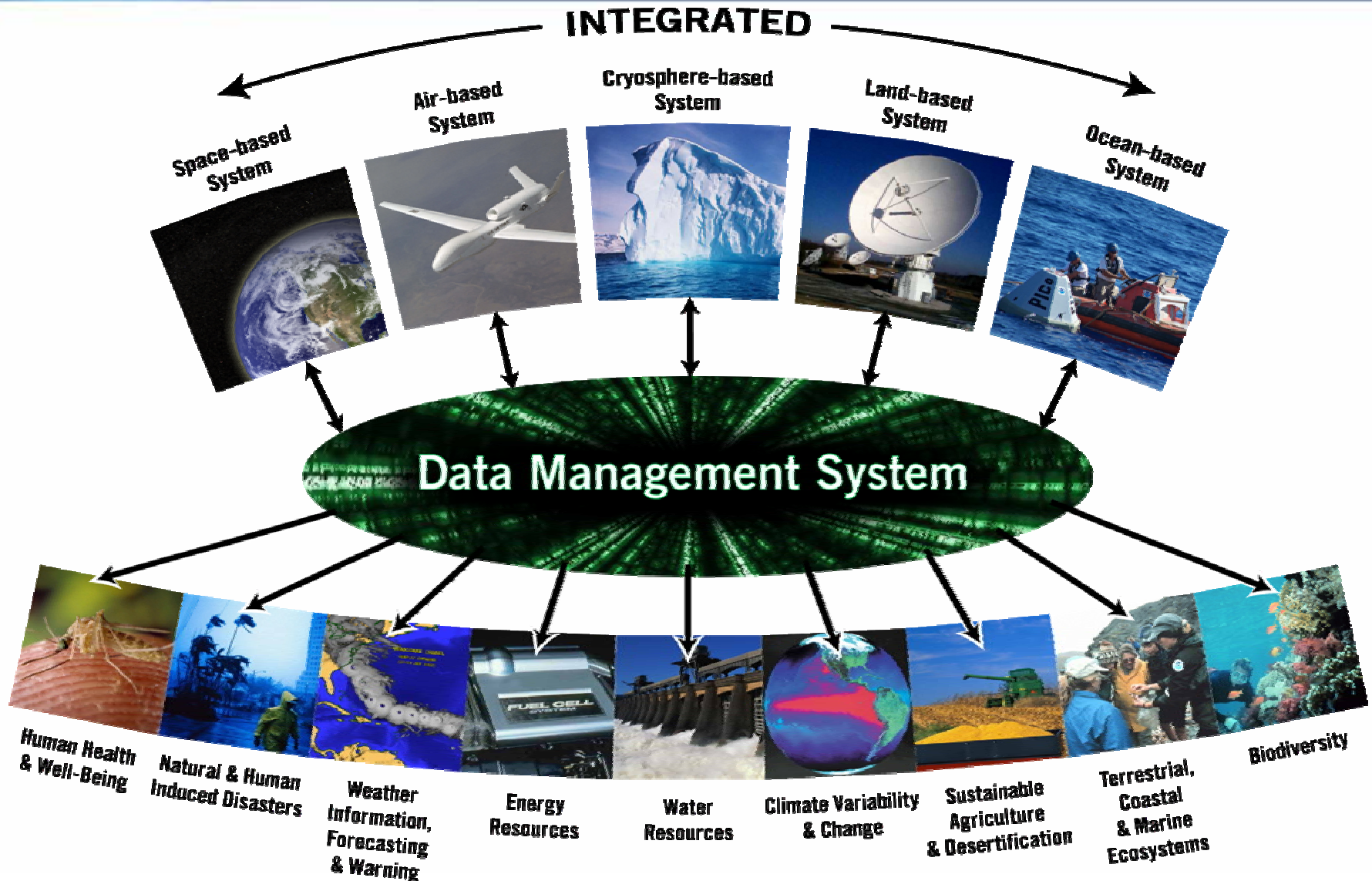
# Growing Interest in GEOSS



## FEATURE—Year of disasters speeds drive to pool knowledge

*"From tsunamis and earthquakes to hurricanes and bird flu, the natural disasters of the past year have underlined the urgency of a global project to pool knowledge that could limit the damage."*

# From Observations to Benefits



# The Intergovernmental Group on Earth Observations (GEO)



US kicked off process in 2003 at first ever Earth Observation Summit with **34** countries present

Now, political will has grown to nearly **60** countries

Participation of **47** organizations like the IOC, WMO and ISDR

- 🌐 These organizations don't always talk to each other; GEO offers a mechanism to coordinate projects like an all-hazards warning system



Growing Interest in GEOSS in 2005

## **Earth Observation Summit III**

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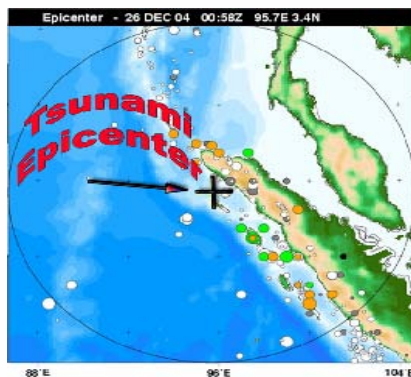


# Earth Observation Summit III

Brussels, Belgium February 16, 2005

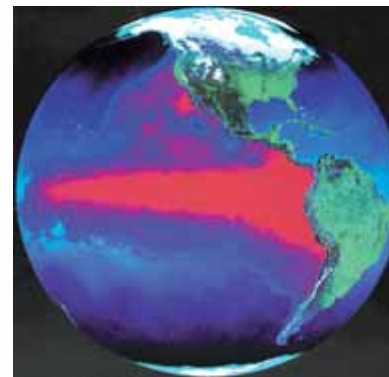
The two most repeated words at Earth Observation Summit III...

Natural & Human  
Induced Disasters



"Tsunami"

Climate Variability  
& Change



"Climate"

*...reflected two of the nine GEOSS focus areas*



# GEO Tsunami Resolution



“Support the coordinating activities of the UNESCO Intergovernmental Oceanographic Commission (IOC) and related national and regional initiatives to realize effective tsunami warning systems in the Indian Ocean and other regions of the world, as an integral part of a multi-hazard approach supported by GEOSS.”

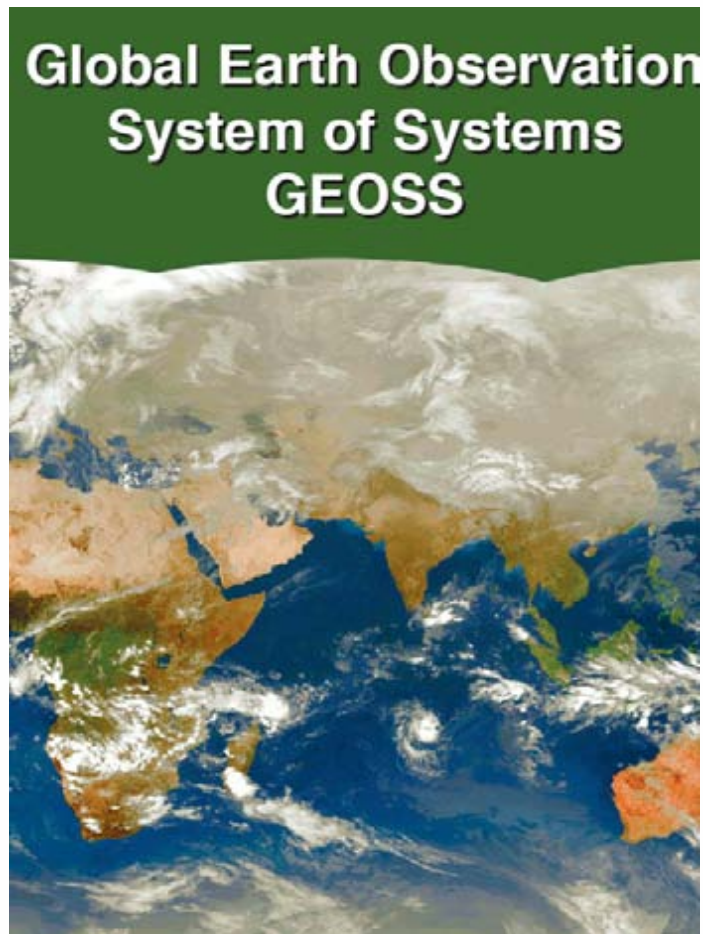
*Adopted February 16, 2005*

*Earth Observation Summit III, Brussels, Belgium*



# Climate in GEOSS

## *10 Year Implementation Plan*



### *4.1.4 Climate:*

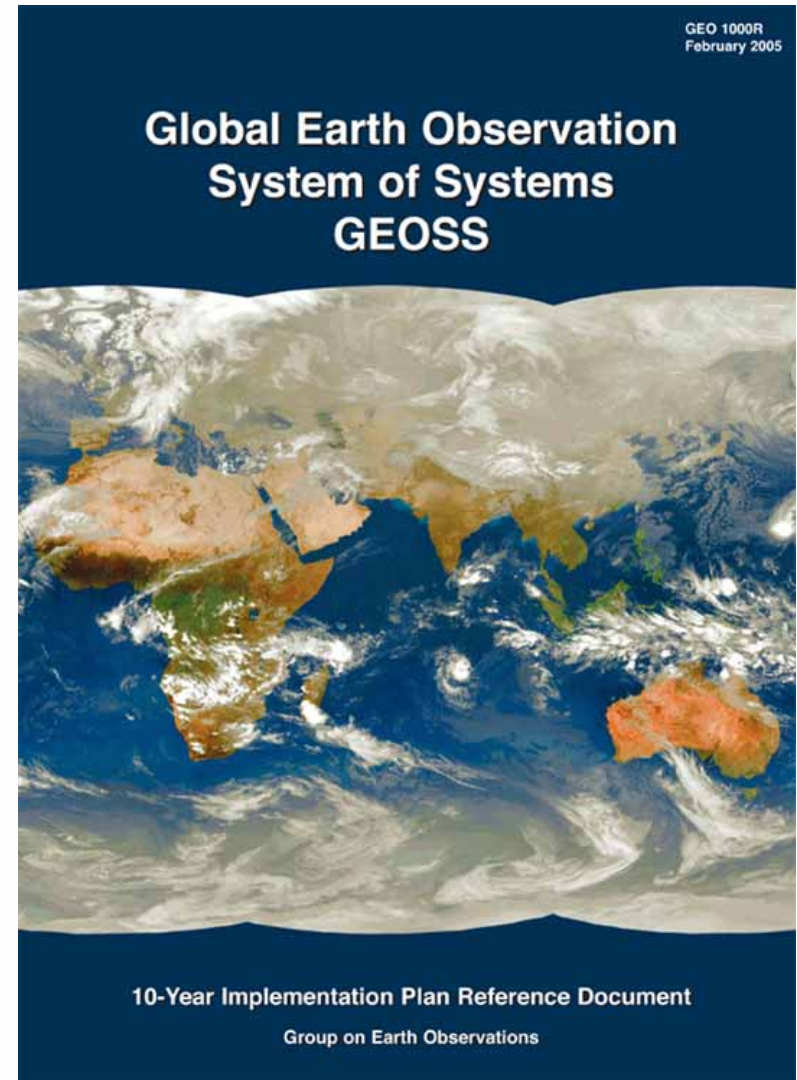
*Understanding, assessing, predicting, mitigating, and adapting to climate variability and change*

The climate has impacts in each of the other eight societal benefit areas. Coping with climate change and variability demands good scientific understanding based on sufficient and reliable observations. GEOSS outcomes will enhance the capacity to model, mitigate, and adapt to climate change and variability. Better understanding of the climate and its impacts on the Earth system, including its human and economic aspects, will contribute to improved climate prediction and facilitate sustainable development while avoiding dangerous perturbations to the climate system.

# GEOSS Climate Targets

## Examples include:

- 🌐 2 year targets, such as supporting implementation of actions called for in GCOS Implementation Plan;
- 🌐 6 year targets, such as promoting the establishment of data archive centers for all Essential Climate Variables (ECV's); and
- 🌐 10 year targets, such as establishing an evaluation mechanism for climate product applicability to socio-economic benefits.





# EOS III and Climate

“It is fitting that this summit is taking place today, the date of the entry into force of the Kyoto Protocol on Climate Change. . . .”



EC Environment Commissioner Stavros Dimas  
(C),



# EOS III and Climate

“ ... The basic point is that *good policy needs good science.* Or in other words, we need to understand our environment in order to protect it. I am convinced that Earth Observation has a major contribution to make in this regard.”



European Commission Environment Commissioner **Stavros Dimas**  
*Welcoming Remarks to Earth Observation Summit III*  
*Brussels, Belgium — February 16, 2005*



# Hon. Carlos Gutierrez

## *US Secretary of Commerce*

"The United States is making the commitment to move earth observation to the next level to benefit this next generation. This is one of President Bush's environmental priorities... And today, I am pleased to present you with our government's plan for an Integrated U.S. Earth Observation system."



Growing Interest in GEOSS in 2005

Earth Observation Summit III

## **The US Contribution to GEOSS**

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# U.S. Contribution to GEOSS

## Interagency Working Group on Earth Observations Membership

### Department of Commerce

- National Oceanic and Atmospheric Administration
- National Institute for Standards and Technology

### Department of Defense

- Air Force
- National Geospatial-Intelligence Agency
- Navy
- U.S. Army Corps of Engineers

### Department of Energy

### Department of Health & Human Services

- National Institute of Environmental Health Sciences

### Department of Homeland Security

- Federal Emergency Management Agency

### Department of the Interior

- US Geological Survey

### Department of State

### Department of Transportation

### Environmental Protection Agency

### National Aeronautics and Space Administration

### National Science Foundation

### Smithsonian Institution

### Tennessee Valley Authority

### U.S. Agency for International Development

### U.S. Department of Agriculture

- Agriculture Research Service
- U.S. Forest Service

### White House Council on Environmental Quality

### White House Office of Management and Budget

### White House Office of Science and Technology Policy

# STRATEGIC PLAN FOR THE U.S. INTEGRATED EARTH OBSERVATION SYSTEM



Interagency Working Group on Earth Observations  
NSTC Committee on Environment and Natural Resources



# Earth Observations in IEOS

*“Scientific evidence suggests that a complex interplay of natural and human-related forces may explain climate variability and change.”*

*Strategic Plan for the U.S. Integrated Earth Observation System, p. 20.*

## Climatic Functional Requirements:

- › Improved knowledge of Earth’s past and present climate, including natural variability, and understanding of causes of observed variability and change
- › Climate system variables that specify the state, forcings, and feedbacks
- › Reduced uncertainty in Earth’s climate change forecasts
- › Integrated observations from operational and research observing systems
- › Better understanding of the sensitivity and adaptability of natural and managed ecosystems





# Near Term Opportunities

## USGEO focusing on 6 Near Term Opportunities

- 🌐 Disasters
- 🌐 Drought / NIDIS
- 🌐 Land Observation
- 🌐 Air Quality
- 🌐 Sea Level
- 🌐 Data Management



Each overlaps several benefit areas, but all are connected to understanding climate variability and change.

USGEO also tracking US activities to GEO WorkPlan

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# G8 Gleneagles Climate Change

## *Plan of Action*



G8 GLENEAGLES 2005

## Monitoring and Data Interpretation

34. The G8 made a commitment at Evian to strengthen international cooperation on global Earth observations. We will continue to exercise leadership in this area, and welcome the adoption of the 10-year implementation plan for development of the Global Earth Observation System of Systems (GEOSS) at the Third Earth Observations Summit which took place in Brussels in February this year.

### We will:

- a) move forward in the national implementation of GEOSS in our member states;
- b) support efforts to help developing countries and regions obtain full benefit from GEOSS, including from the Global Climate Observing System (GCOS) such as placement of observational systems to fill data gaps, developing of in-country and regional capacity for analysing and interpreting observational data, and development of decision-support systems and tools relevant to local needs;
- c) in particular, work to strengthen the existing climate institutions in Africa, through GCOS, with a view to developing fully operational regional climate centres in Africa.

**Recent 3d ExCom Meeting  
In Geneva, September 30**

**First meeting with new  
Secretariat Director,  
Achache**

**Tsunami Update**

3

3

1

2

3

**Americas**

US (co-chair)  
Brazil  
Honduras

**Europe**

EC (co-chair)  
Italy  
Germany

**Africa**

SA (co-chair)  
Morocco

**Asia/Oceania**

China (co-chair)  
Japan  
Thailand

**Commonwealth of Independent States**

Russia

**GEO Executive Committee**



# From Ideas to Implementation

## Discussion of 2006 WorkPlan

- 🌐 Over 100 tasks identified
- 🌐 US Government currently reviewing
- 🌐 Primary near term objective – find high-profile deliverable that serves as a clear demonstration of GEOSS benefit
  - 🌐 Tsunami/All Hazards Warning System
  - 🌐 GEONetcast

## Asia Pacific Partnership for Clean Development and Climate

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# Upcoming events...

## GEO side event at COP-11/MOP-1

- 🌐 First COP meeting since the GEO Implementation Plan agreed to (on the day Kyoto became legal)
- 🌐 Side event on November 29 requested by South Africa on behalf of the GEO co-chairs

## GEO ExCom 4 meeting/ GEO II meeting

- 🌐 Geneva: December 13-15
- 🌐 Agree on Budget for 2006
- 🌐 Develop WorkPlan – Near-, Mid-, and Long-term priorities

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*"good science for good policy"*



For more information:

<http://earthobservations.org>

<http://iwgeo.ssc.nasa.gov>



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