Strategies for Stewardship

Development of a Global Observation System

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Presentation Outline

Ongoing International and U.S Efforts

The Benefits of Earth Observation

Next Steps

Challenges and Issues Ahead

The Global Framework

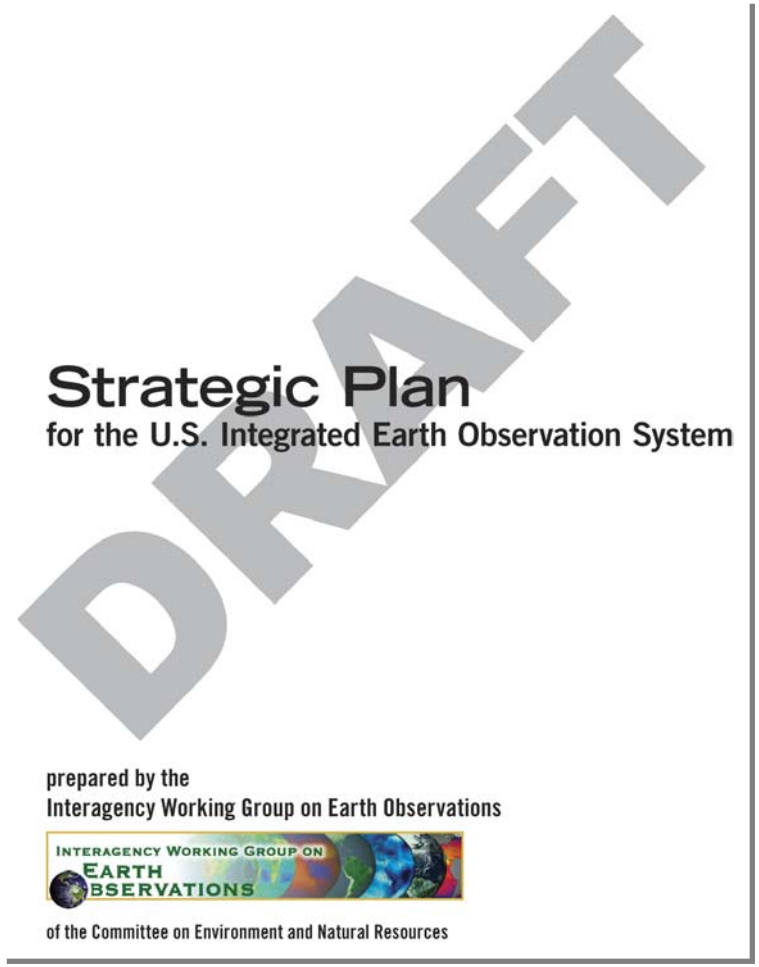
A distributed system of systems

- Improves coordination of strategies and observation systems
- Links all platforms: *in situ,* aircraft, and satellite networks
- Identifies gaps in our global capacity
- Facilitates exchange of data and information
- Improves decision-makers' abilities to address pressing policy issues

U.S. Contribution to GEOSS

VISION: *Enable a healthy public, economy, and planet through an integrated, comprehensive, and sustained Earth observation system.*

http://iwgeo.ssc.nasa.gov/draftstrategicplan.asp



15 USG Agencies and 3 White House Offices

- Department of Commerce
  - NOAA
  - NIST
- 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 & Budget
- White House Office of Science & Technology Policy

Benefits Focus

Natural & Human Induced Disasters

Water Resources

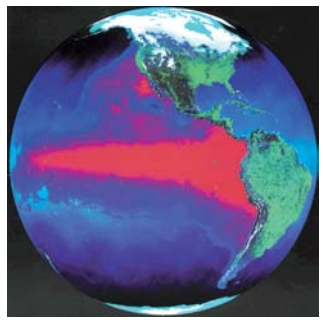
Terrestrial,Coastal, & Marine Ecosystems (GEO)
Ecosystems (US)

Human Health & Well-Being

Energy Resources

Sustainable Agriculture & Desertification

Weather Information, Forecasting & Warning



Climate Variability & Change

Biodiversity (GEO)
Oceans (US)

Disasters

Afflict all all regions of the world

- Significant loss of life and property

What if…

- We had access to all our systems?
  - Research and operational
- Results in more precise assessment of current phenomena
- Better models
- More accurate forecasts

Desired Outcome

- Global disaster reduction & warning system

Drought

Worldwide implications

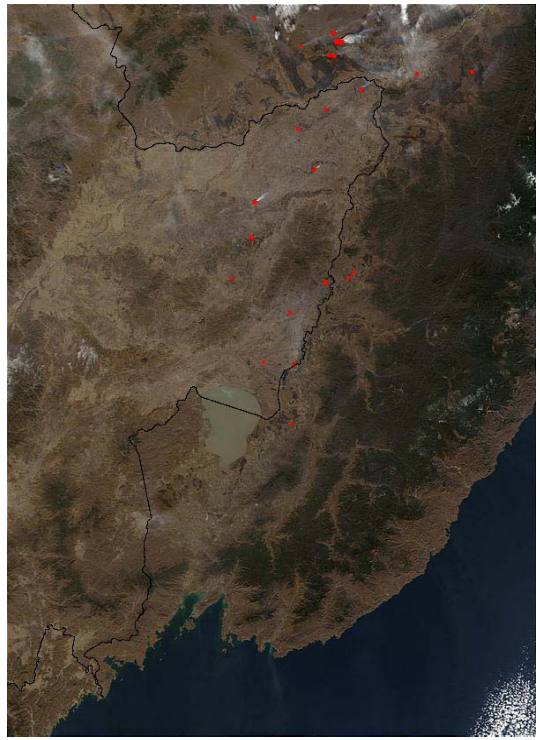
- Affects agriculture production, water supply, & wildfires

United States -

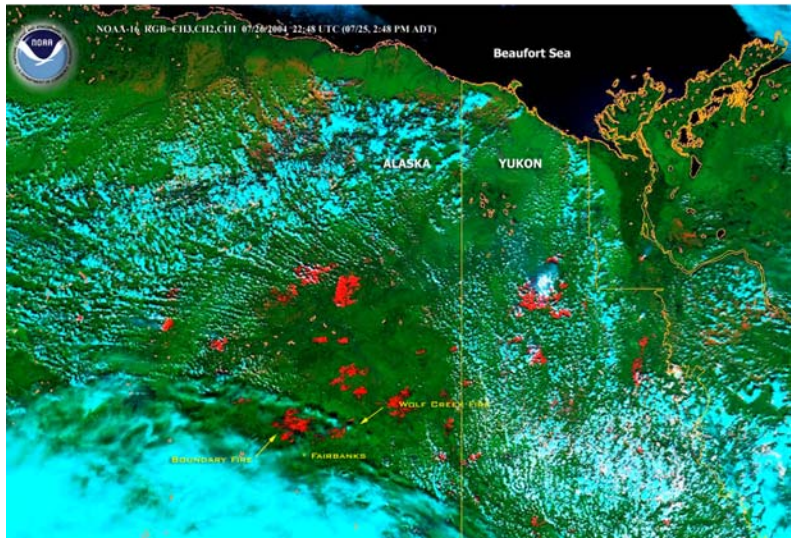
- Annual U.S. losses are $6-8 billion
- Western U.S. experiencing 5-year drought

GEOSS Recommendation

- Fully integrate in situ & satellite observations
- On-time drought early warning system



Wildfires



Global & Local Implications

Central and South America

- $40 million in 2000-2003

Integrated EO System

- Better prediction and tracking of fires
- Improved tracking of smoke plume direction & air quality effects
- Improved response and recovery

Global Sea Level Rise

Assess, Predict, Mitigate and Adapt to Climate Change

- Focus of Both International and National Plan

Sea Level: Key Variable

- 100 million people live within 1 meter of sea level
- Global sea rise statistics range from 5-90 centimeters

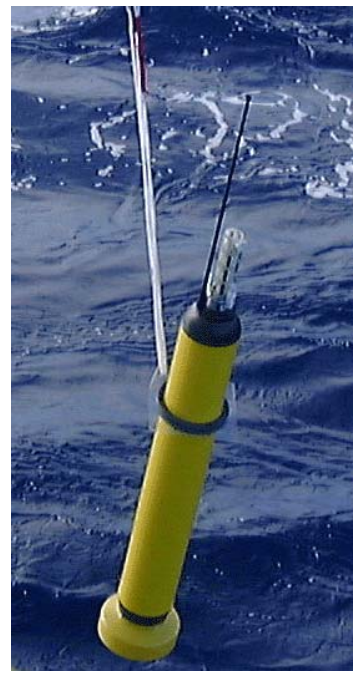
Socio-Economic Implications Worldwide

Global Sea Level Rise

Short-term focus of US Plan

Discussion point of G8:

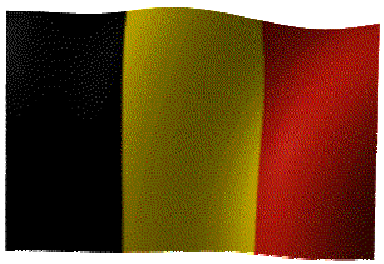
- About 170 tidal gauges, reporting hourly data in real time, and with co-located GPS receivers to measure the vertical movement of land
- At least three decades of coverage by satellite altimetry
- Continuing observations of the upper-ocean temperature and salinity structure by a global array of 3,000 Argo profiling floats
- Improved understanding of the re-distribution of water mass on the surface of the Earth

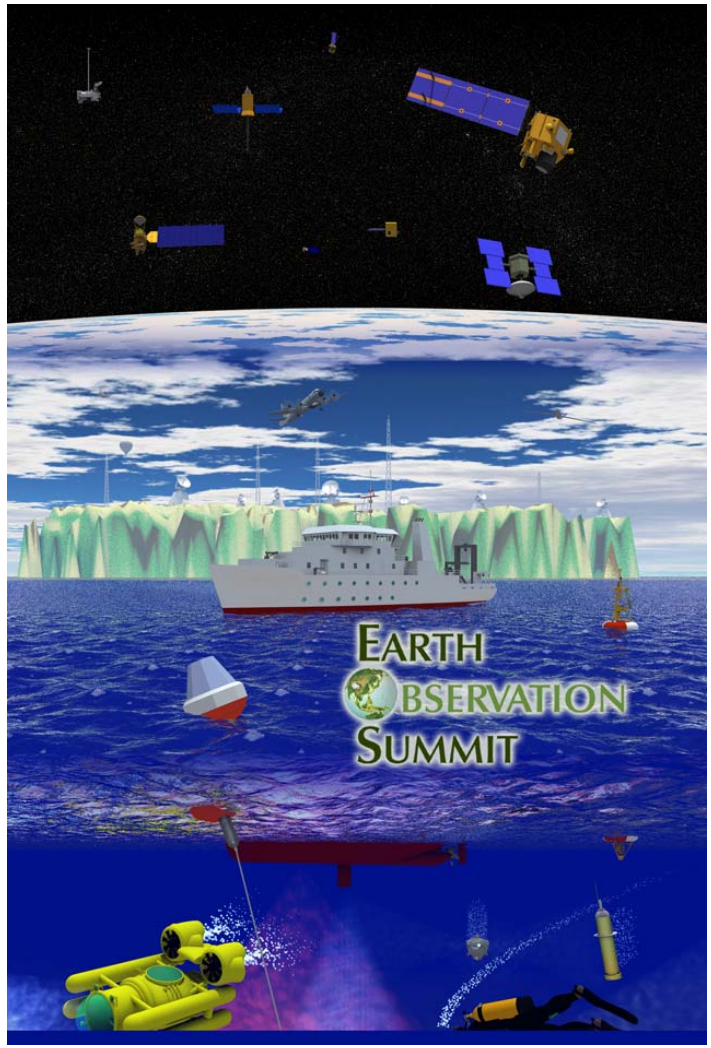


The Way Forward

Earth Observation Summit III

- GEO 6
- 10-year Implementation Plan
- Technical Reference Document
- Communiqué





Key Issues

Governance

Data Policy

Integration

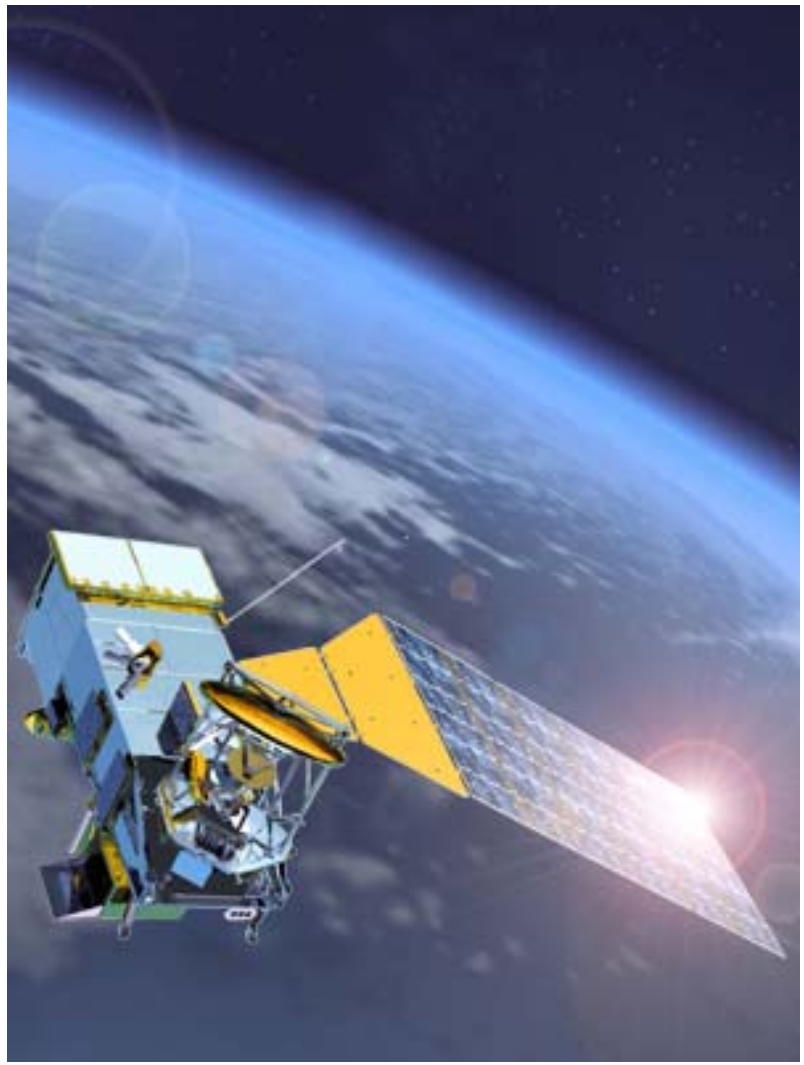
Data Management

Engaging Other Countries

Partnerships

NOAA is Committed to Improving Ties in Western Hemisphere

Continued Access to Data

- NPOESS
- GOES-R

Expand Joint Scientific Activities