



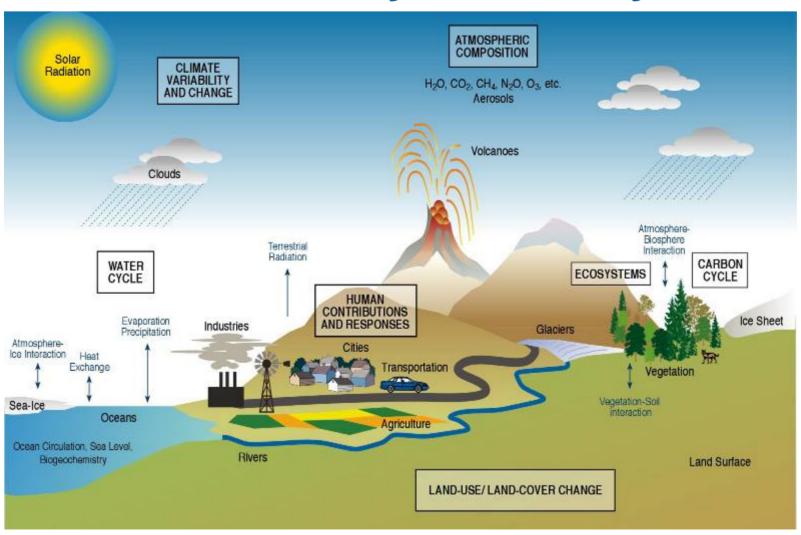
The Global Earth Observation System of Systems (GEOSS)







Our Planet is a System of Systems







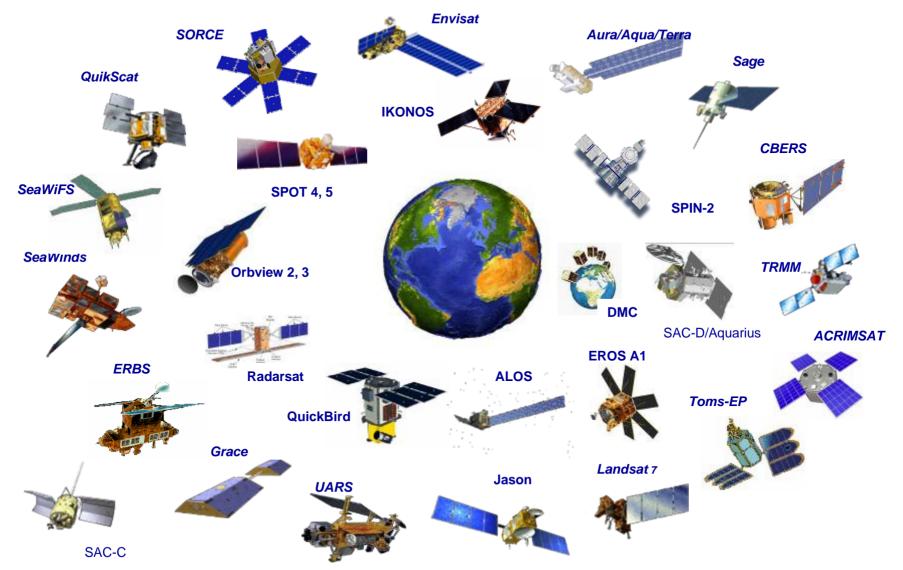
Any Single Problem Requires Many Data Sets

Any Single Data Set Serves Many Applications

... Observation systems should be shared across disciplines





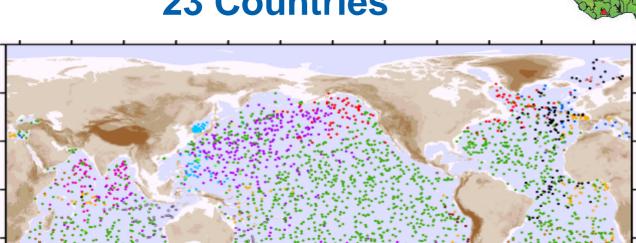






In-Situ Observation Systems

ARGO: Cooperation amongst 23 Countries



AfricaArray Backbone Network

- AF network code part of the FDSN
- 24 BB stations 5/07
- 28 BB stations by 12/07
- 24-bit data loggers
- Variety of BB sensors
- Data recovery 70-80%
- Data retrieval:
- S. Africa daily
- Elsewhere monthly



AFRICA ARRAY: Cooperation between African **GEO** surveys, industry and academia

 Argentina (12) Australia (136)

17th July 2007 2877 Profilers

- Brazil (2) Canada (98)
- Chile (8)
- China (12)
- Costa Rica (1)
- European Union (31) France (172)
 - Germany (126) India (77) Ireland (1)
- Japan (378) Korea, Rep. of (102)
- Mauritius (4) Mexico (1)
- Netherlands (10) New Zealand (7)
- Norway (8) Russian Federation (3)
- Spain (3)
- United Kingdom (92)
- United States (1593)





Existing Observing Systems showImportant Duplications

User Requirements Point to Significant Observation Gaps

... Observation systems should be coordinated and shared internationally





Mankind has become a Geophysical Parameter

Geophysics has become a Political Issue

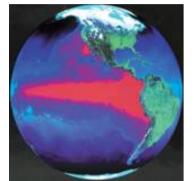
... Earth observations are needed to inform decisions





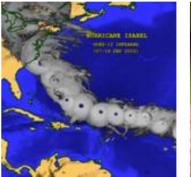
The GEOSS Imperative

- •Some 30% of our economy is directly tied to the environment
- •Scientific understanding and ongoing knowledge of the Earth system is fundamental for well-informed economic decision-making
- Sustained Earth observations are critical
- Systems interoperability and open access to data are fundamental
- A global approach to Earth observations is required















The Group on Earth Observations (GEO)

An Intergovernmental Organization with 77 Members and 56 Participating Organizations







Governments and organizations are collaborating through GEO to –

- Coordinate and Sustain Observation Systems
- Provide Easier & More Open Data Access
- Foster Use through Science, Applications and Capacity Building

... to answer society's need for information decision making













GEO Data Sharing Principles

- Full and Open Exchange of Data ... Recognizing Relevant International Instruments and National Policies and Legislation
- Data and Products at Minimum Time Delay and Minimum Cost
- Free of Charge or Cost of Reproduction for Research and Education









Declaration on Environment and Climate Change

To respond to the growing demand for Earth observation data, we will accelerate efforts within the Global Earth Observation System of Systems (GEOSS), which builds on the work of UN specialized agencies and programs, in priority areas, inter alia, climate change and water resources management, by strengthening observation, prediction and data sharing. We also support capacity building for developing countries in earth observations and promote interoperability and linkage with other partners.



