NOAA Earth System Research Laboratory
Boulder, Colorado USA

Observing System Design, Simulation, and Demonstration

ERSL Research Theme Presentations

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(w/ Nikki Privé)

6 June 2007

ESRL Integrating Research Themes

Understanding atmospheric mechanisms that drive the Earth's climate.

- Aerosols: Climate
- Carbon Cycle Science
- Radiative Forcing of Climate by Non-CO2 Atmospheric Gases
- Surface and Planetary Boundary Layer Processes

Assuring the continuing health and restoration of atmospheric resources.

- Aerosols: Air Quality
- Stratospheric Ozone Layer Recovery
- Tropospheric Ozone and Air Quality

Improving predictions through expanded climate and weather products.

- The Weather-Climate Connection
- Climate and Water Systems
- Regional and Local-scale Assimilation and Modeling
- Global Weather Assimilation and Modeling
- Hydrometeorlogical Testbed (HMT)

Advancing national research capabilities.

- Building a Service-based Grid Computing Infrastructure
- Information Systems
- Observing System Design, Simulation, and Demonstration

http://www.esrl.noaa.gov/

Observing System Design, Simulation, and Demonstration

6 June 2007 Presentations:

I. Observation Simulation System Experiment (OSSE)
   Yuanfu Xie, GSD

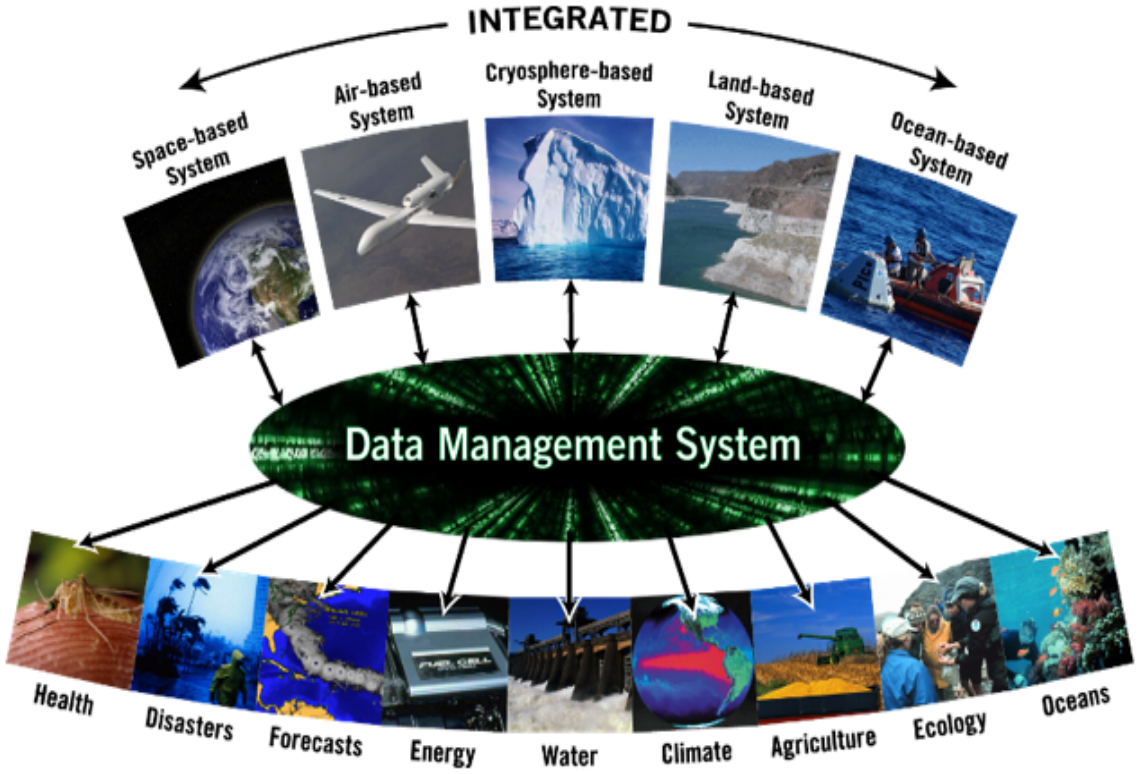
II. NOAA and UAS
   Sara Summers, GSD

III. NOAA's Hydrometerological Testbed "HMT"
   Timothy Schneider, PSD

Discussion
Posters

Observing Systems

Global Earth Observation System of Systems



Observing System Questions

What is observing system design, simulation, and demonstration?

Why are observing systems important?

What are the benefits for society?

What observing systems do we currently have in place?

What are the data gaps?

What new systems are needed?

What is NOAA's role?

The purpose of GEOSS is to achieve comprehensive, coordinated and sustained observations of the Earth system, in order to improve monitoring of the state of the Earth, increase understanding of Earth processes, and enhance prediction of the behavior of the Earth system.

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What are the benefits to society?

- Improve Weather Forecasting
- Reduce Loss of Life and Property from Disasters
- Protect and Monitor Our Ocean Resource
- Understand, Assess, Predict, Mitigate and Adapt to Climate Variability and Change
- Support Sustainable Agriculture and Forestry and Combat Land Degradation
- Understand the Effect of Environmental Factors on Human Health and Well-Being
- Develop the Capacity to Make Ecological Forecasts
- Protect and Monitor Water Resources
- Monitor and Manage Energy Resources

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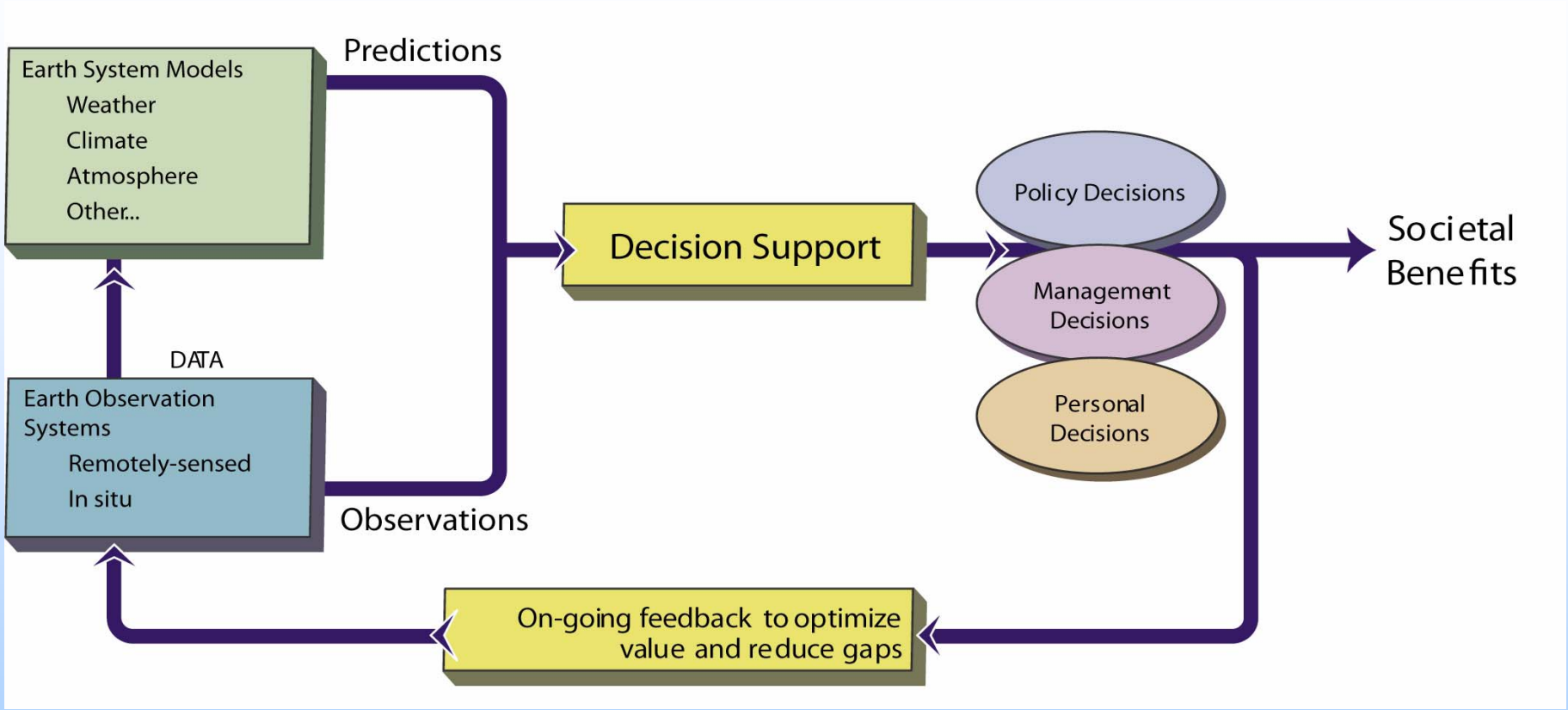
Linking Earth Observations to Societal Benefits



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

http://usgeo.gov/docs/EOCStrategic_Plan.pdf

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

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