

The Group on Earth Observations and its Global Earth Observation System of Systems

**SCIENTIFIC DATA MANAGEMENT (SDM) FOR
GOVERNMENT AGENCIES: WORKSHOP TO IMPROVE SDM
CO-SPONSORED BY CENDI, IWGDD, AND EPA
JUNE 29-JULY 1, 2010**

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Earth Observation Systems Executive
Office of the Science Advisor, USEPA**

Nine GEOSS Societal Benefits

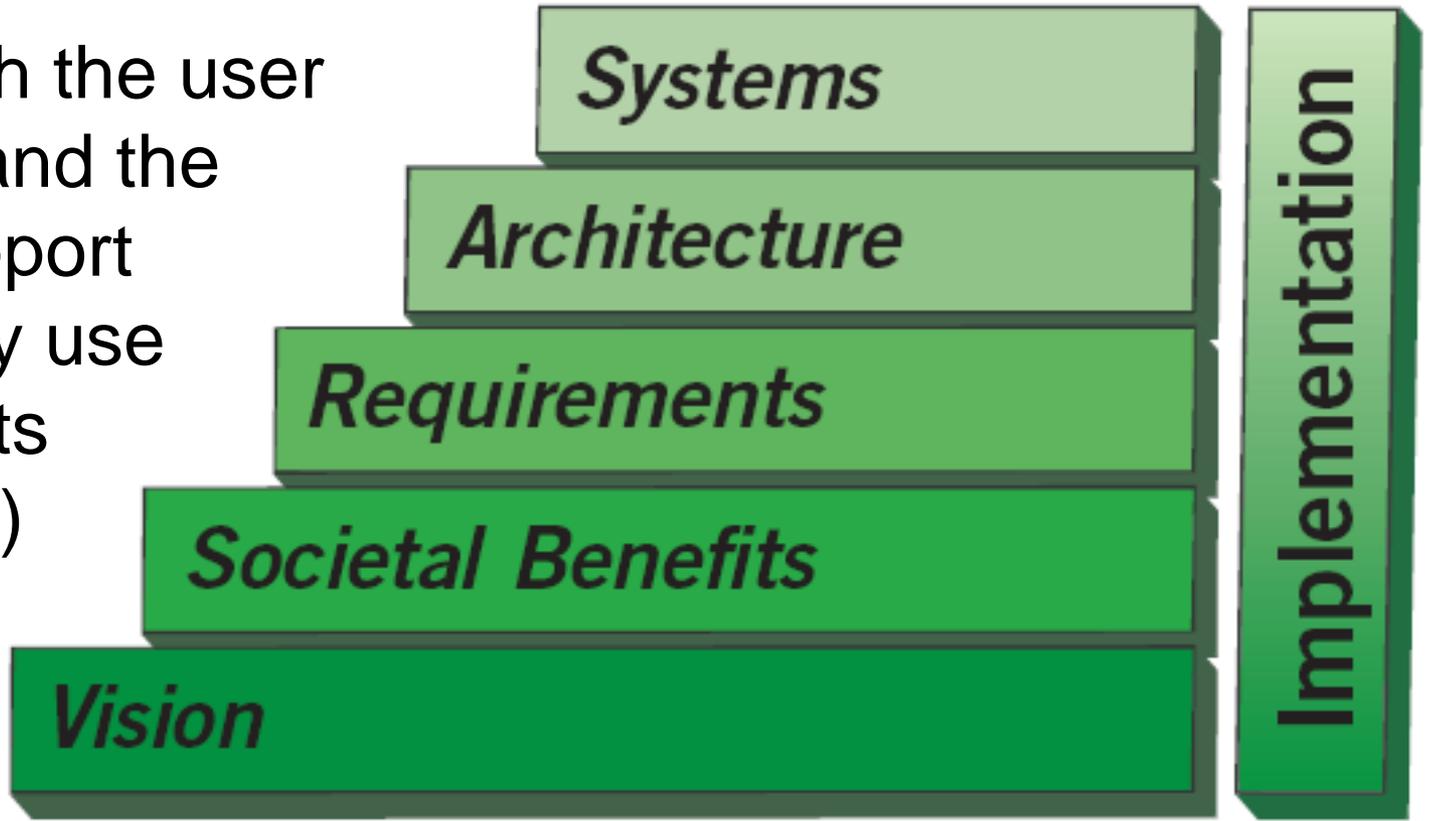
1. **Improve Weather Forecasting**
2. **Reduce Loss of Life and Property from Disasters**
3. **Protect and Monitor Our Ocean Resource**
4. **Understand, Assess, Predict, Mitigate, and Adapt to Climate Variability and Change**
5. **Support Sustainable Agriculture and Forestry, and Combat Land Degradation**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

Vision Statement

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

Approach to Implementing the U.S. Integrated Earth Observation System

Interface with the user
community and the
decision support
systems they use
(requirements
specification)



THE SPECTRUM OF USERS

From observations

Earth observations &
earth system models

Data-to-Information
archiving & services

Decision support tool
development

Decision making

Assessment of benefits



Earth system scientists
and modelers

Earth system service
providers

Environmental process
modelers & researchers

Environmental managers

Public officials, advocacy
groups and the Public

To societal benefits

User Requirements for Earth Observations

Generally well documented

Earth observations &
earth system models

Data-to-Information
archiving & services

Decision support tool
development

Decision making

Assessment of benefits



Earth system scientists
and modelers

Earth system service
providers

Environmental process
modelers & researchers

Policy Makers &
Environmental managers

Public officials, advocacy
groups and the Public

Less able to document needs

A Generic Community of Practice

The Public &
Public Officials



THE SPECTRUM OF USERS

From observations

Earth observations &
earth system models

Data-to-Information
archiving & services

Decision support tool
development

Decision making

Assessment of benefits

To societal benefits

Requirements well known

Earth system scientists
and modelers

Earth system service
providers

Environmental process
modelers & researchers

Policy Makers &
Environmental managers

Public officials, advocacy
groups and the Public

Not aware that observational
Requirements are even needed

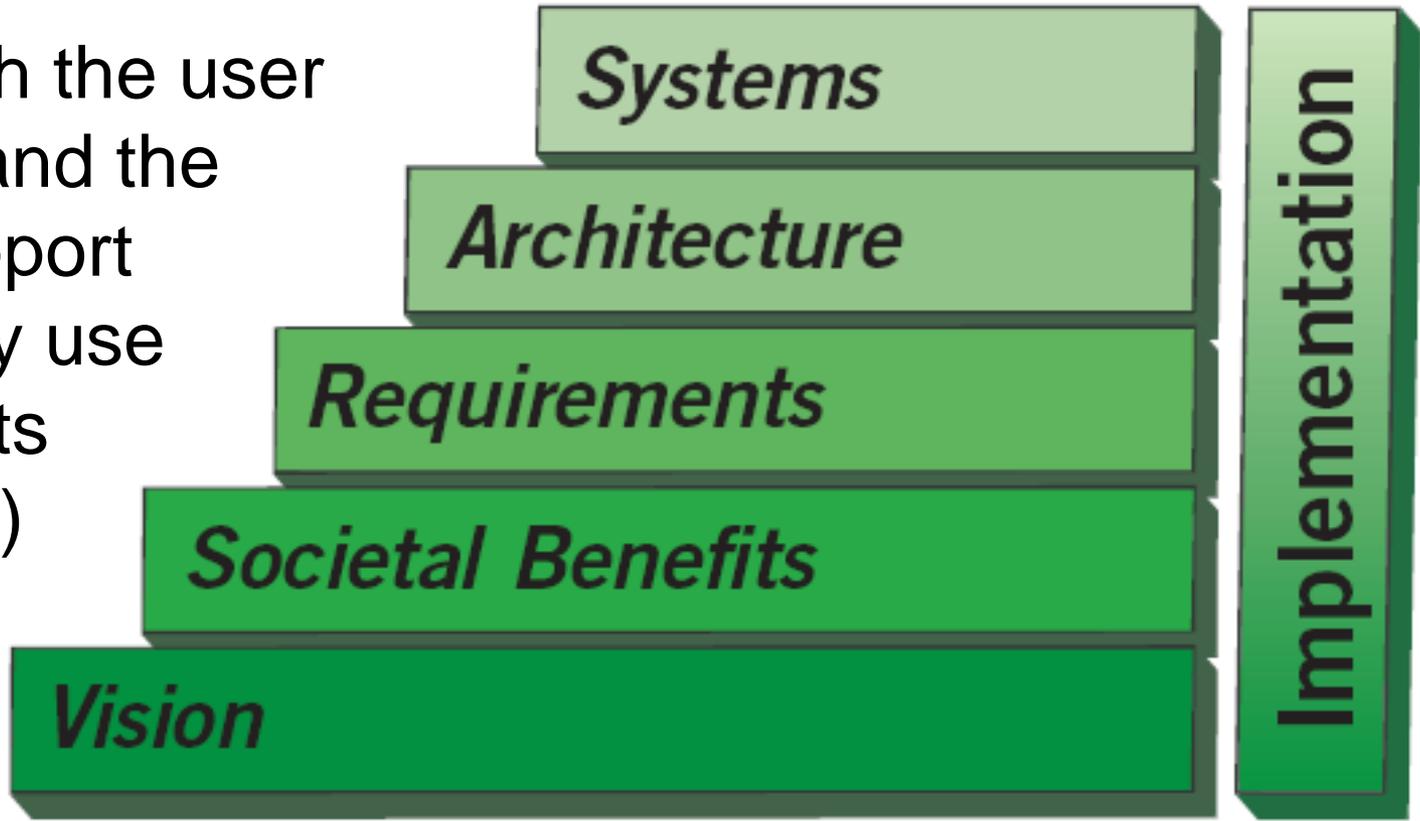
NOVICE USERS

The “Novice” User

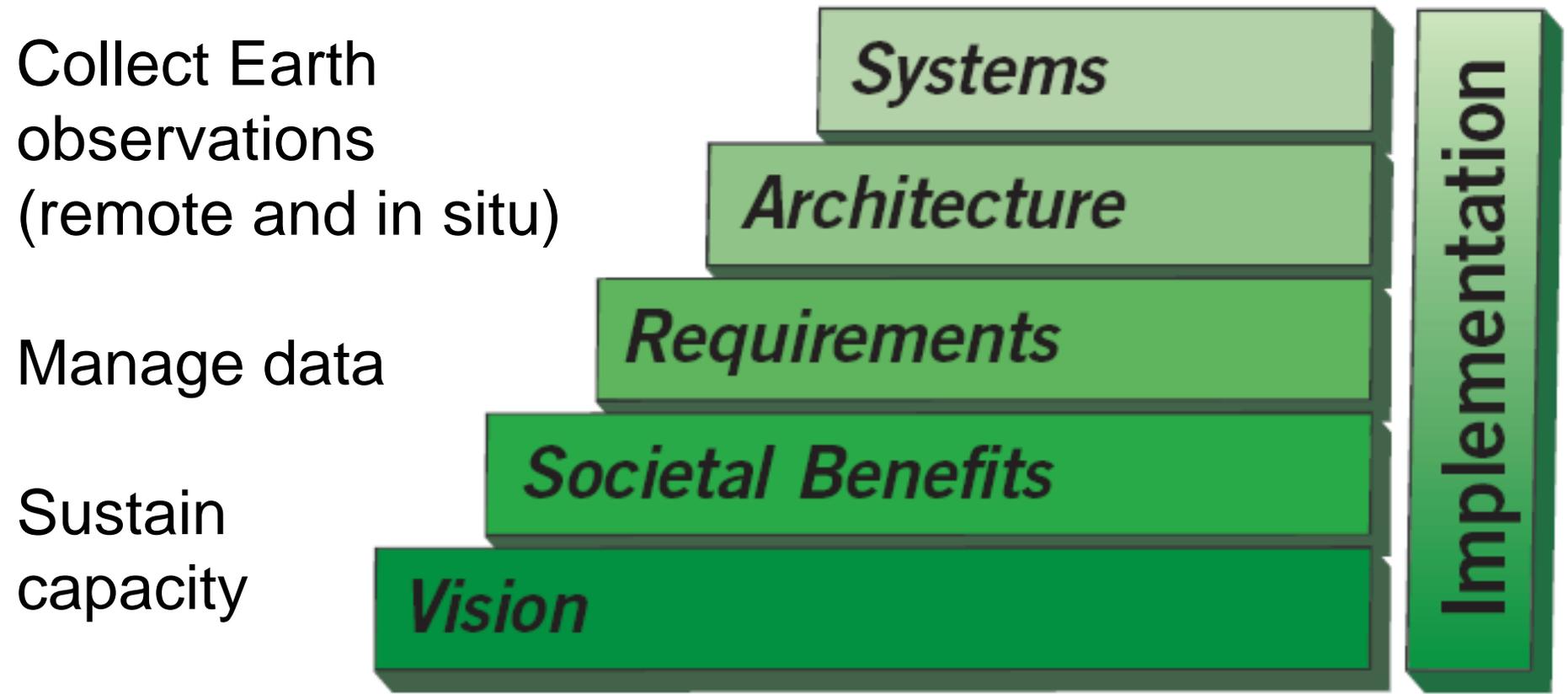
- science-to-policy analysts, decision makers, public officials, & the public
- working/interested in specific issues that fall within one or more SBAs
- not SOA- or GEOSS-experienced
- looking for any and all observational data relevant to their issues
- want to **easily** find it and **view it**

Approach to Implementing the U.S. Integrated Earth Observation System

Interface with the user
community and the
decision support
systems they use
(requirements
specification)

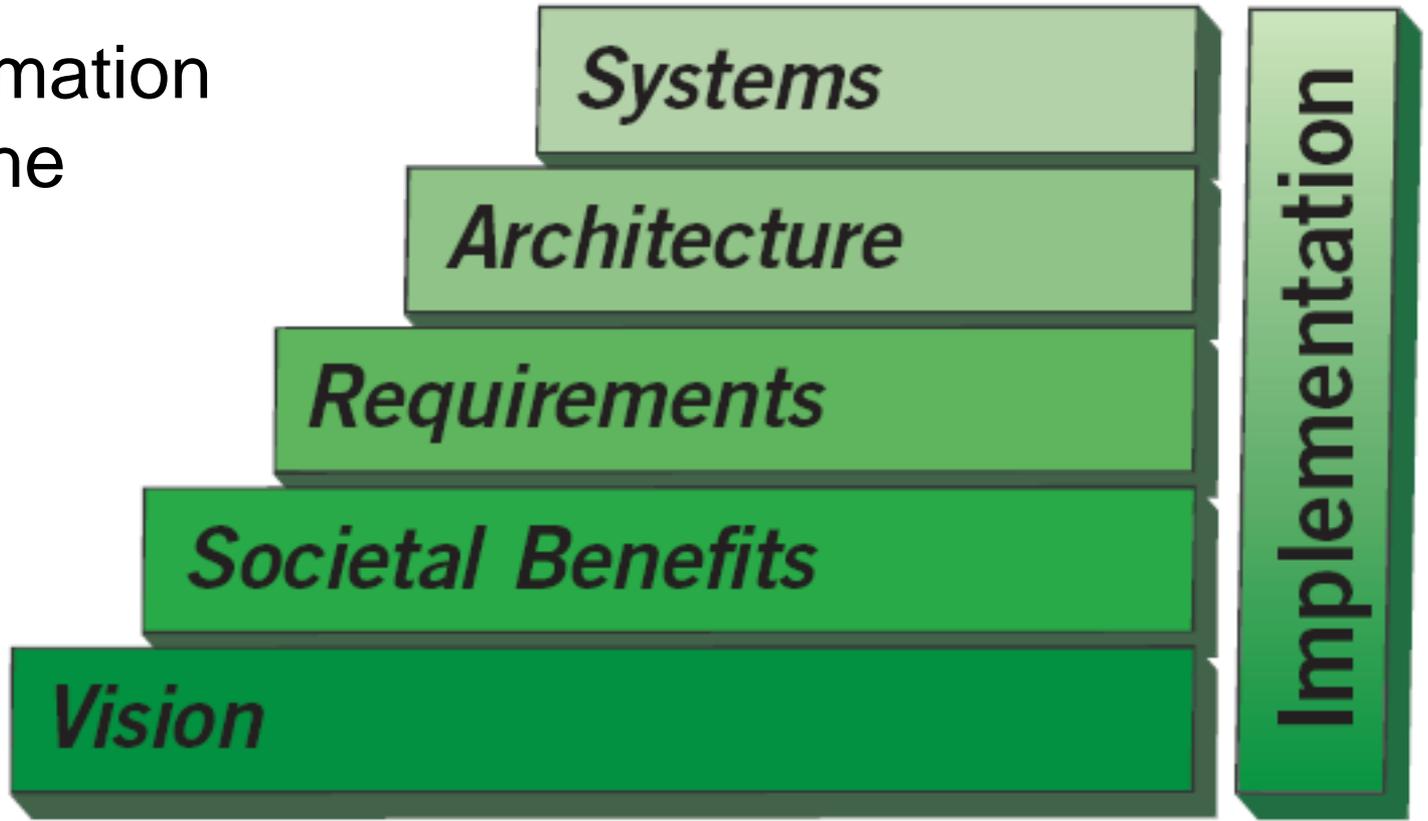


*Approach to Implementing the U.S.
Integrated Earth Observation System*

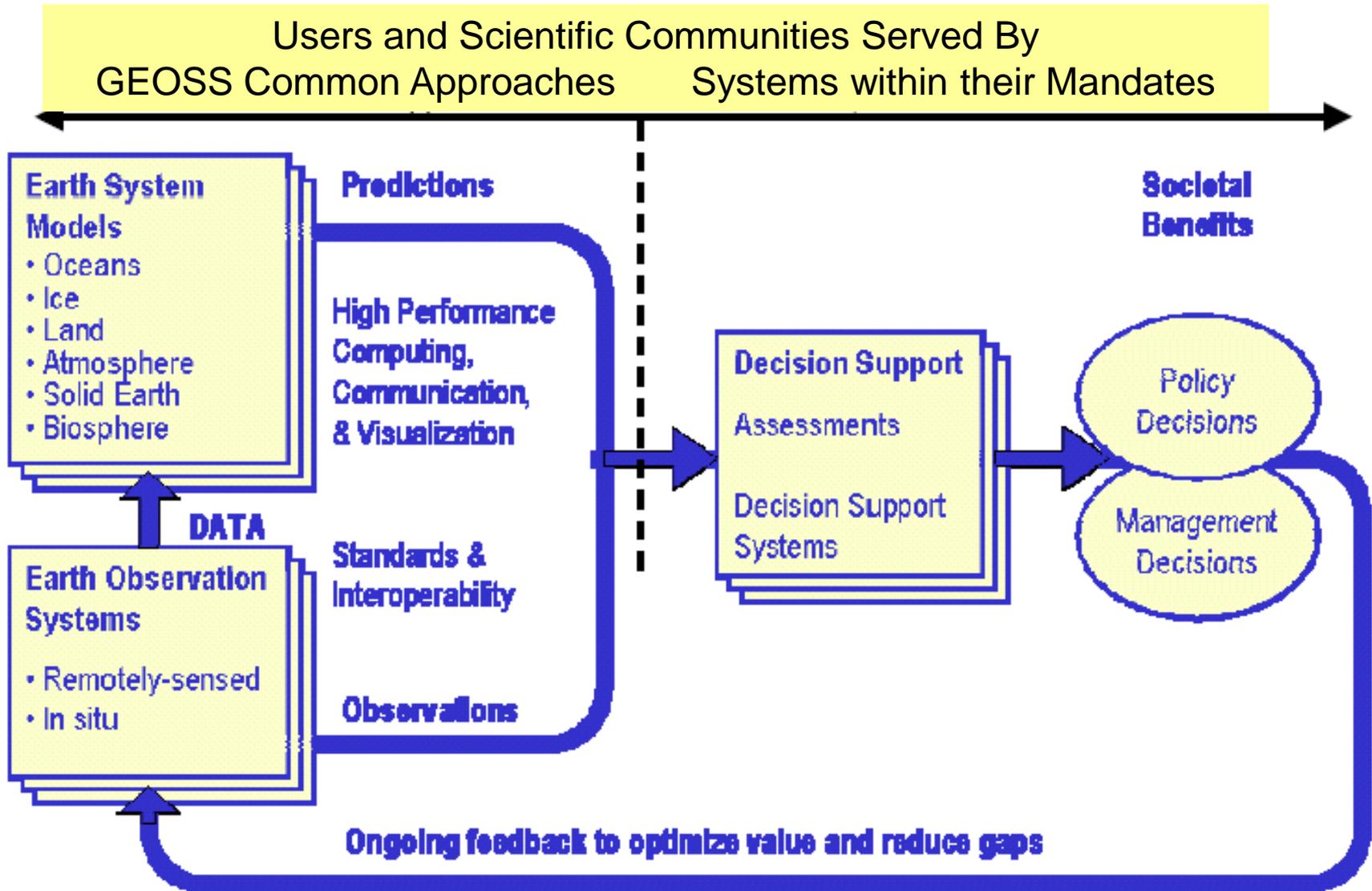


Approach to Implementing the U.S. Integrated Earth Observation System

Deliver information
(tailored to the
needs of
the user
community)

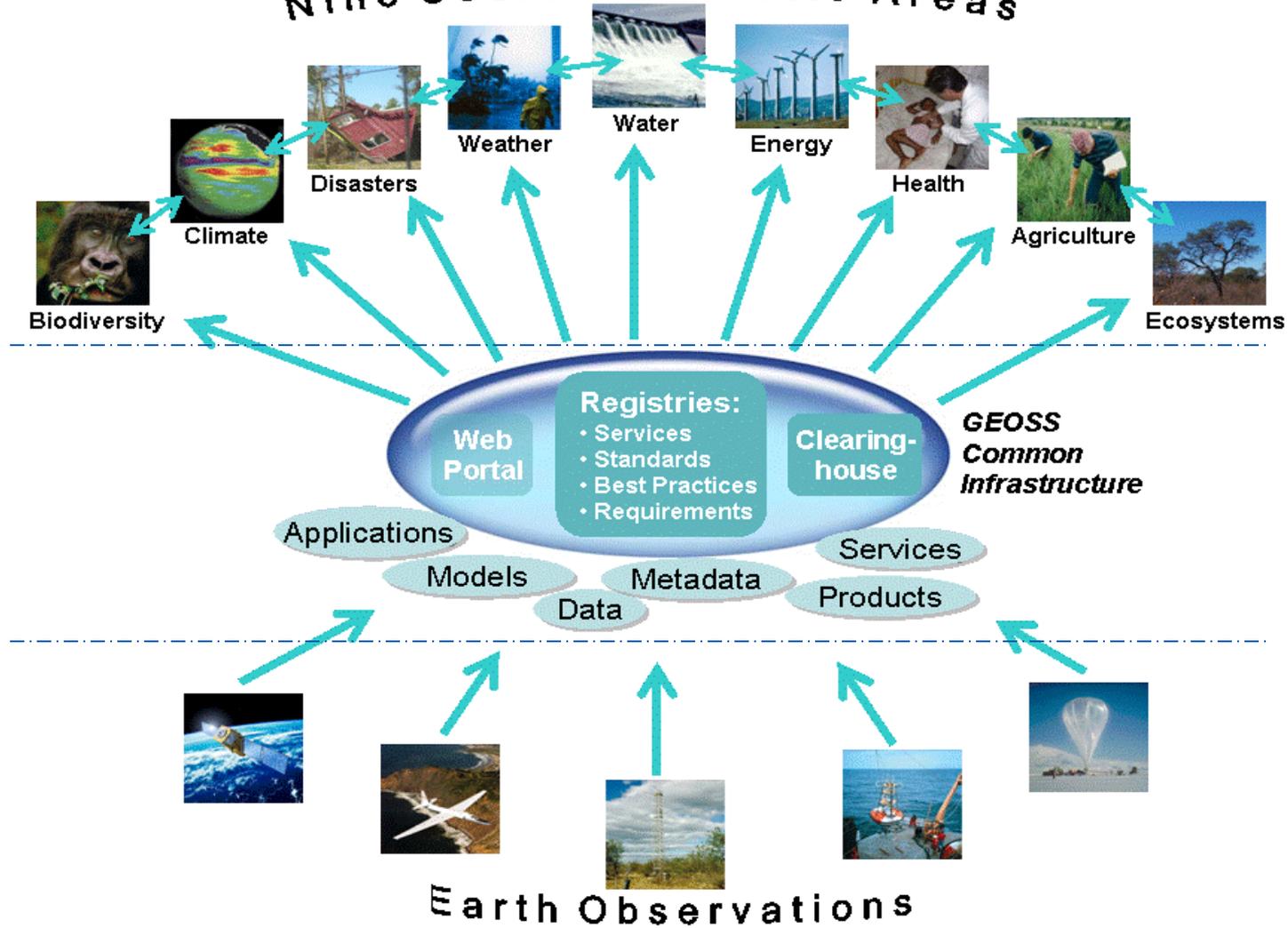


The *GEOSS* Architecture



GEOSS Common

Nine Societal Benefit Areas



How do you agree on Interoperability?

Jose Achache
GEOSS Director

IGARSS06 Denver
GEOSS Architecture
Workshop

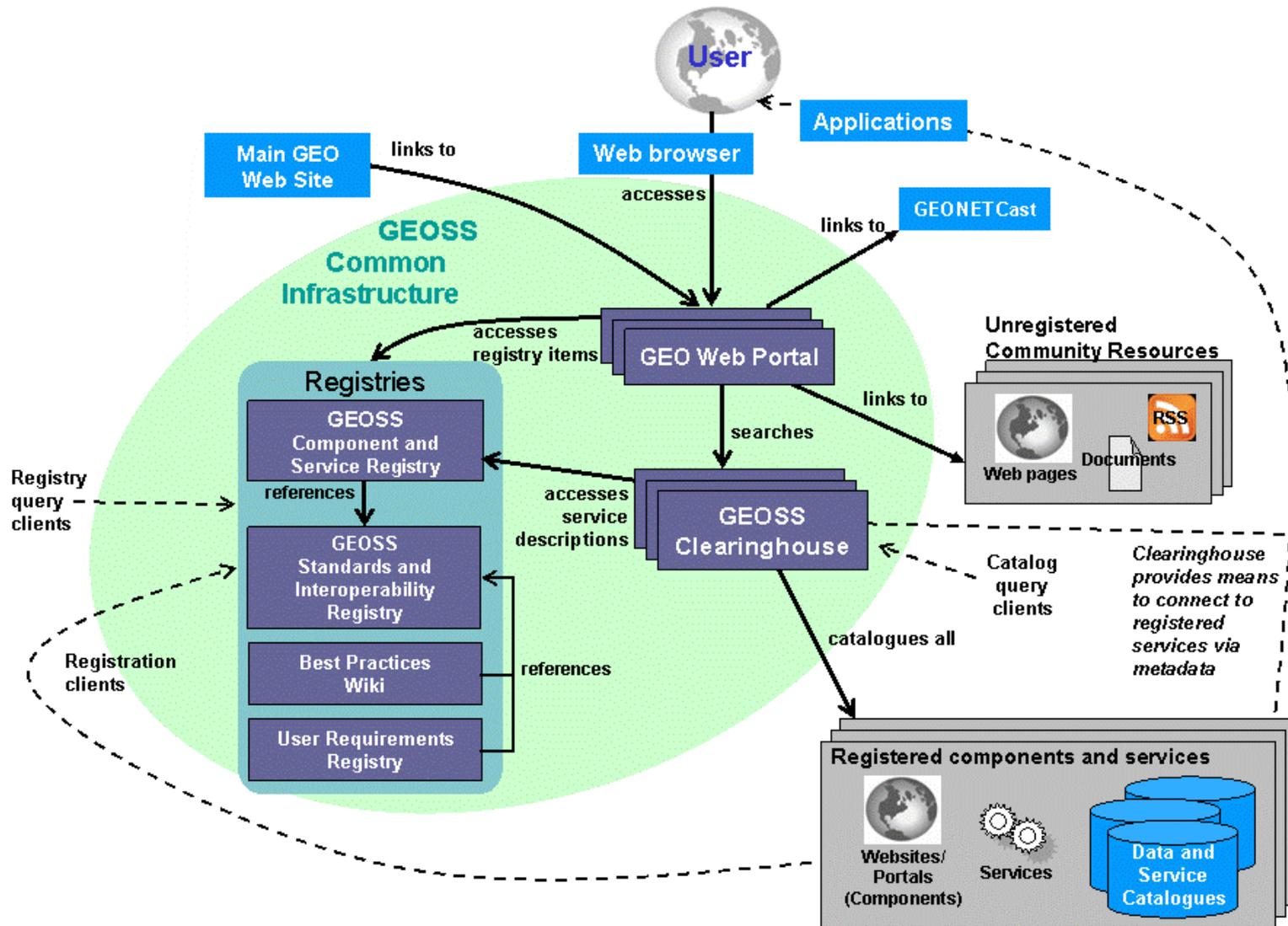


The slide features the GEO logo and 'Group for Earth Observing' at the top left, and 'GEOSS Architecture' at the top right. The main title is 'Interoperability Arrangements'. Below it is a quote: *"What few things must be the same so that everything else can be different?"* attributed to Eliot Christian. To the right of the quote is a colorful illustration of drafting tools including a compass, pencil, eraser, and ruler on a blueprint.

Andrew Dye:

http://www4.saforah.org/andy/igarss06/20060731_Plenary/index3.htm

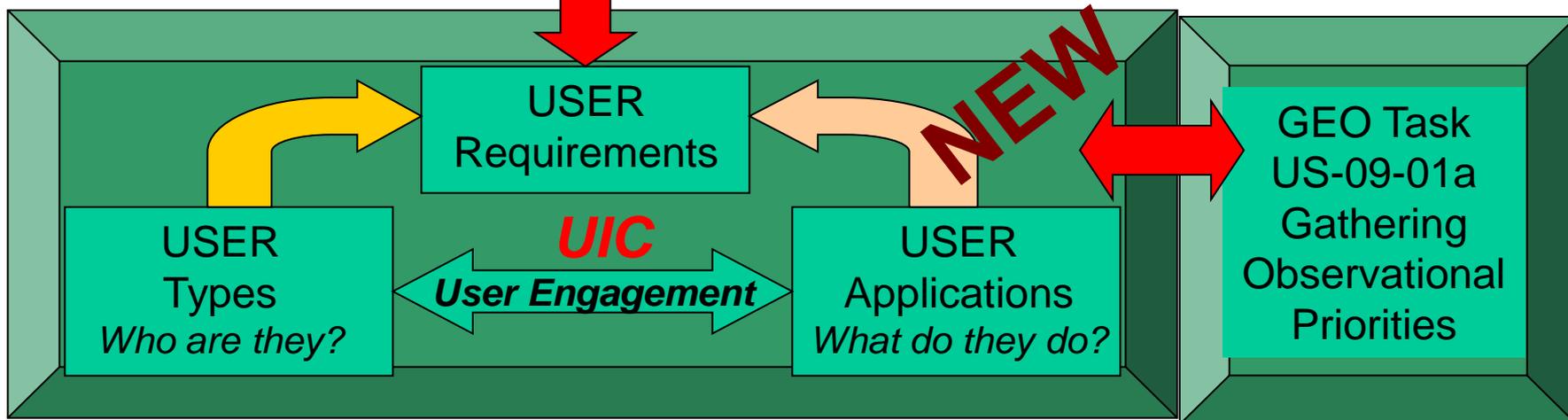
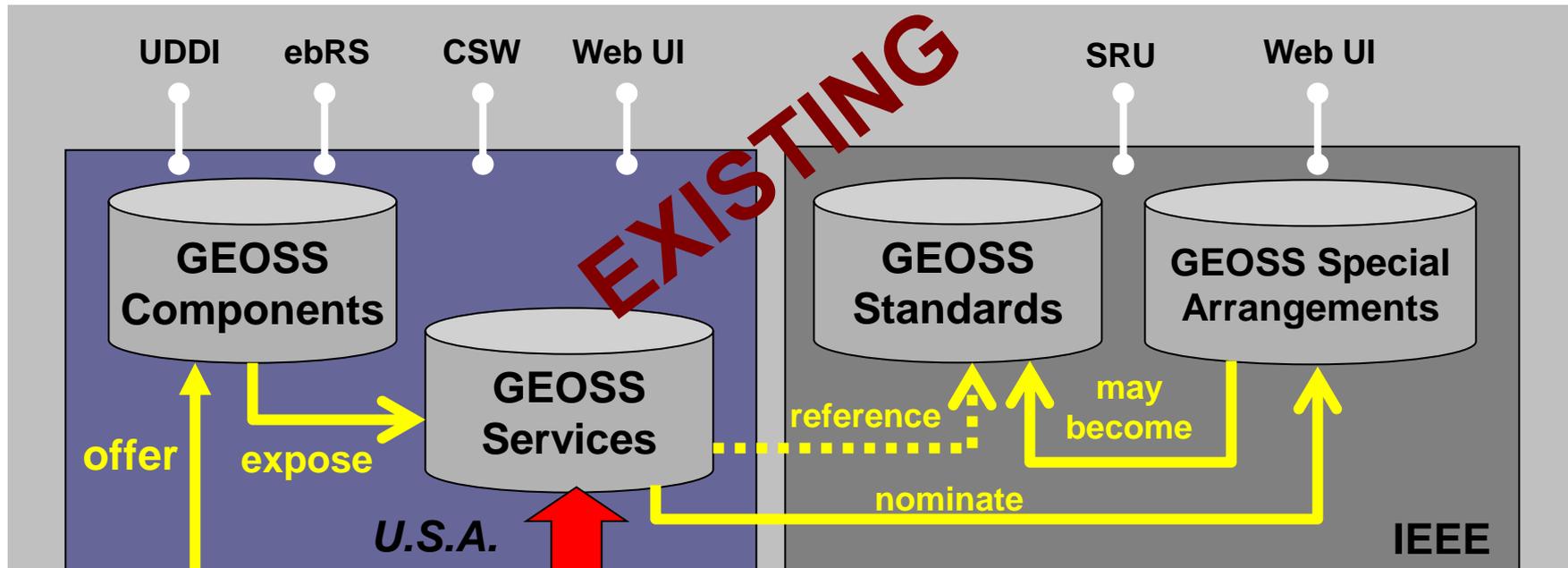
GEOSS Common Infrastructure



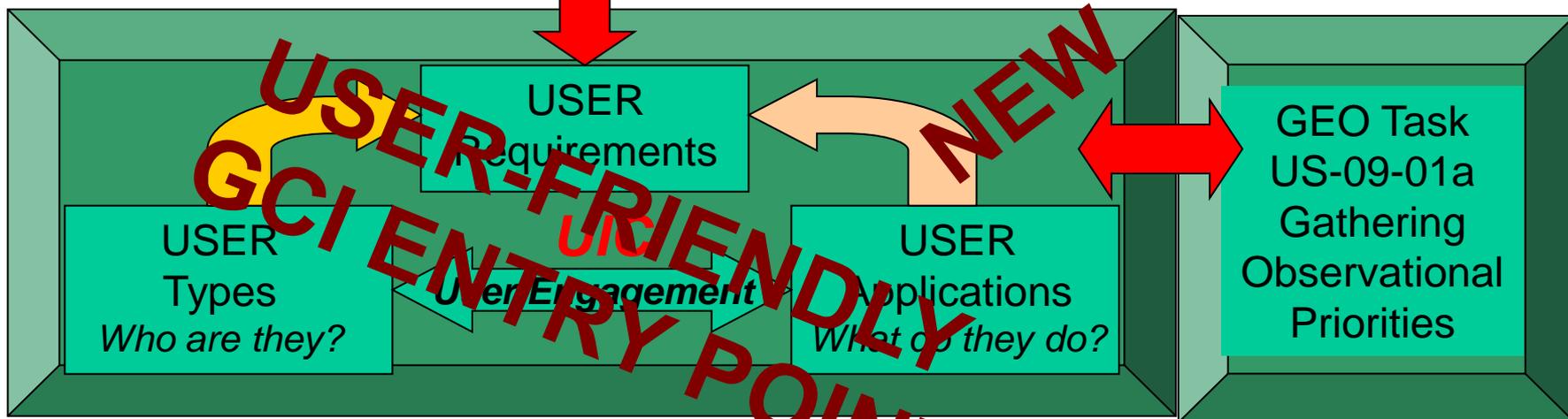
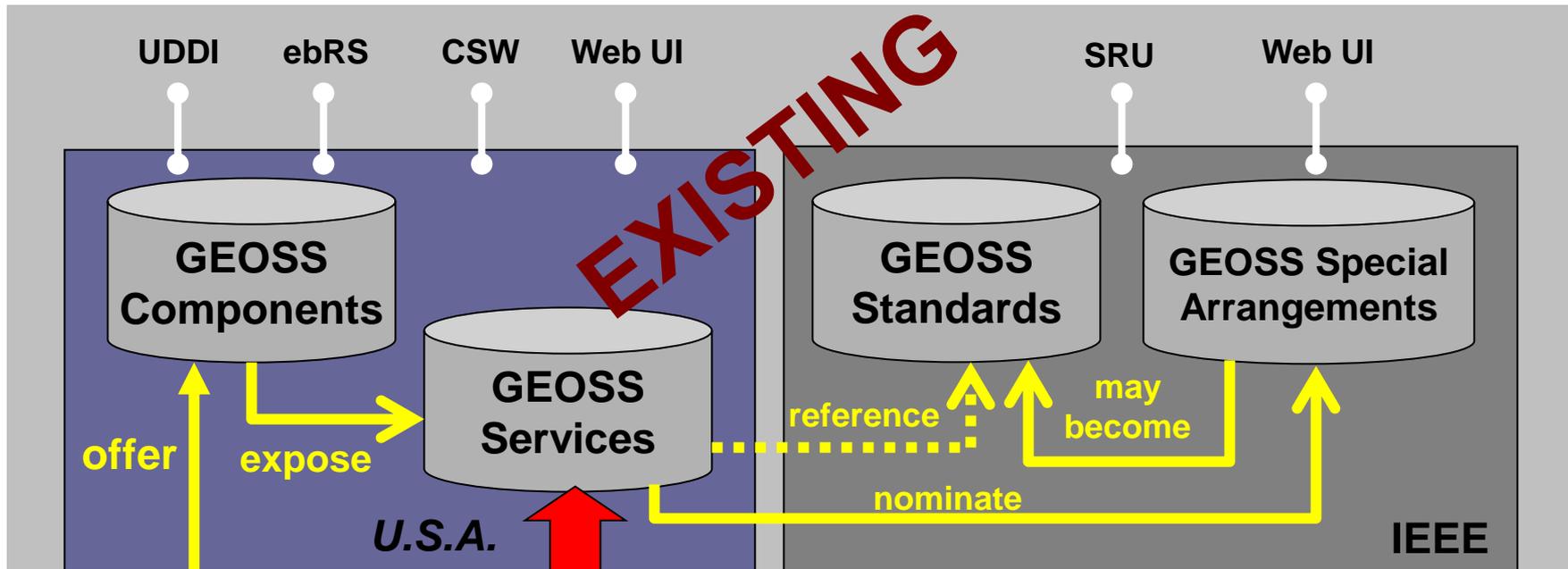
GCI Consolidated Requirements Document

- These requirements apply to all GCI Components (GEOSS Registries, Clearinghouse, Wiki, and GEO Web Portal).
- It is an evolving document.
- It addresses many of the same issues about databases that have been discussed this week.

GEOSS Registries



USER ENGAGEMENT Registries



It's All About

- Decision Making, towards Societal Benefits
- Understanding “Decision Support”
- Building User Communities. . . Supports DMs
- Engaging the “Novice” User
- A User-friendly “engaging” DB entry points
- An Information Delivery System > Maps/GIS
- Interoperability also based on Ontologies
- Regular usability testing and feedback