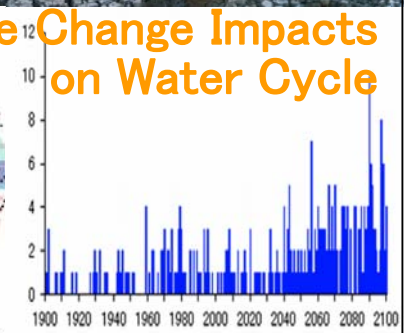
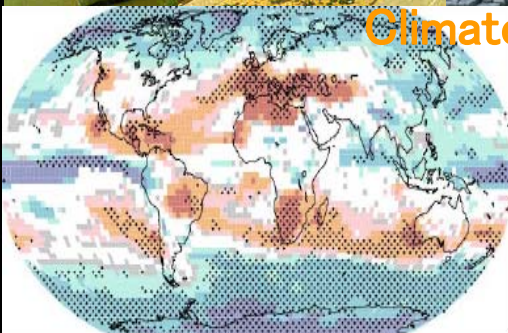
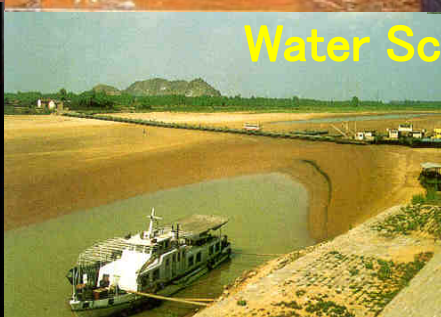
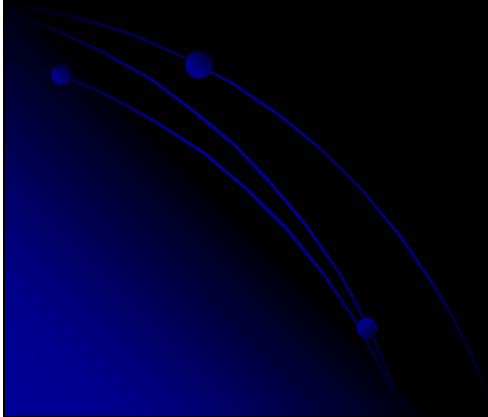
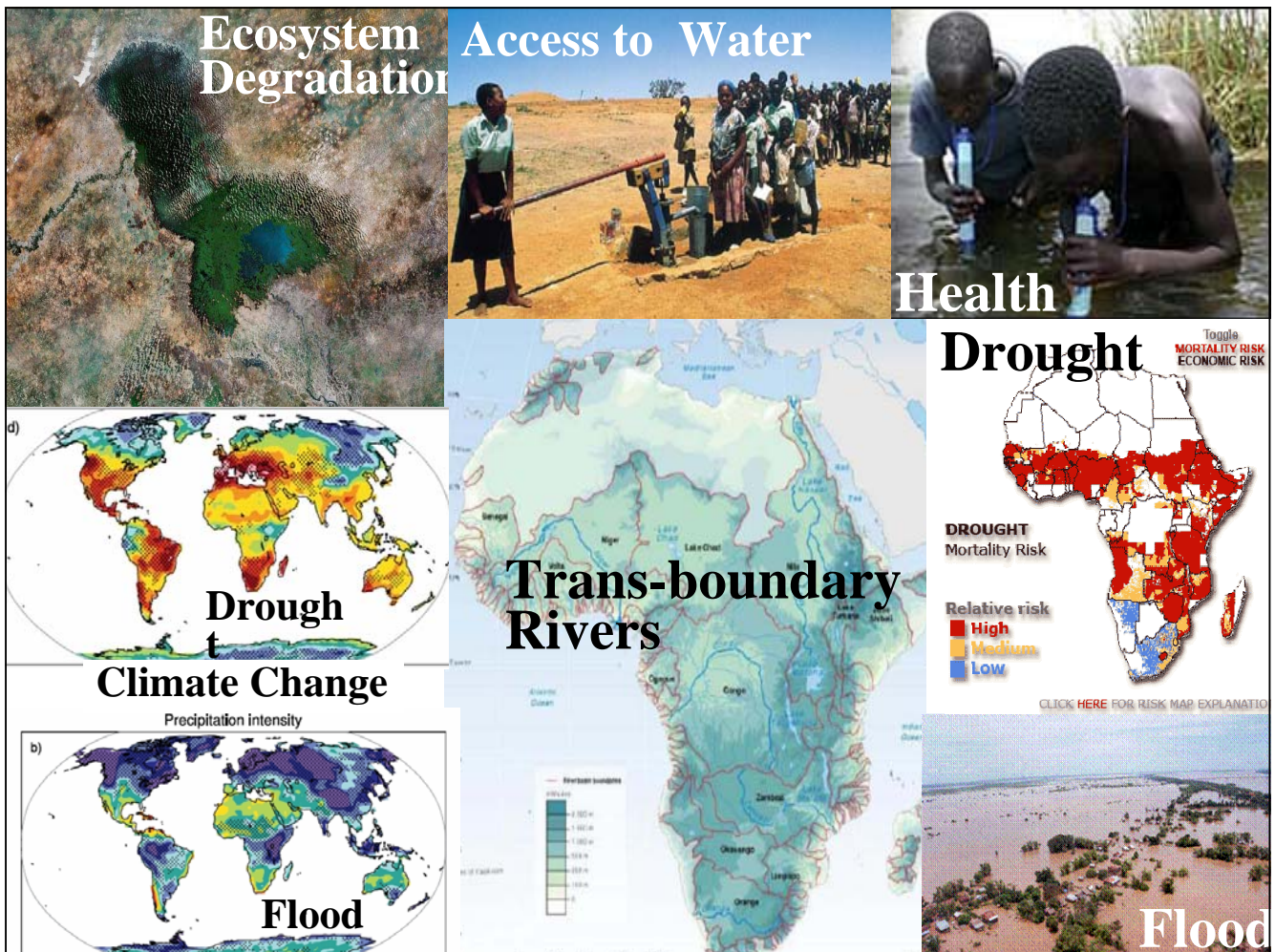


Water Vulnerability in the World

- **Root Problems**

Many of the wars of the 20th century were about oil, but wars of the 21st century will be over water."
– I. Serageldin World Bank Vice President





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- **Climate Change Impacts by IPCC AR4**

Africa: By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress.

Asia: By the 2050s, freshwater availability in Central, South, East and South-East Asia, particularly in large river basins, is projected to decrease.

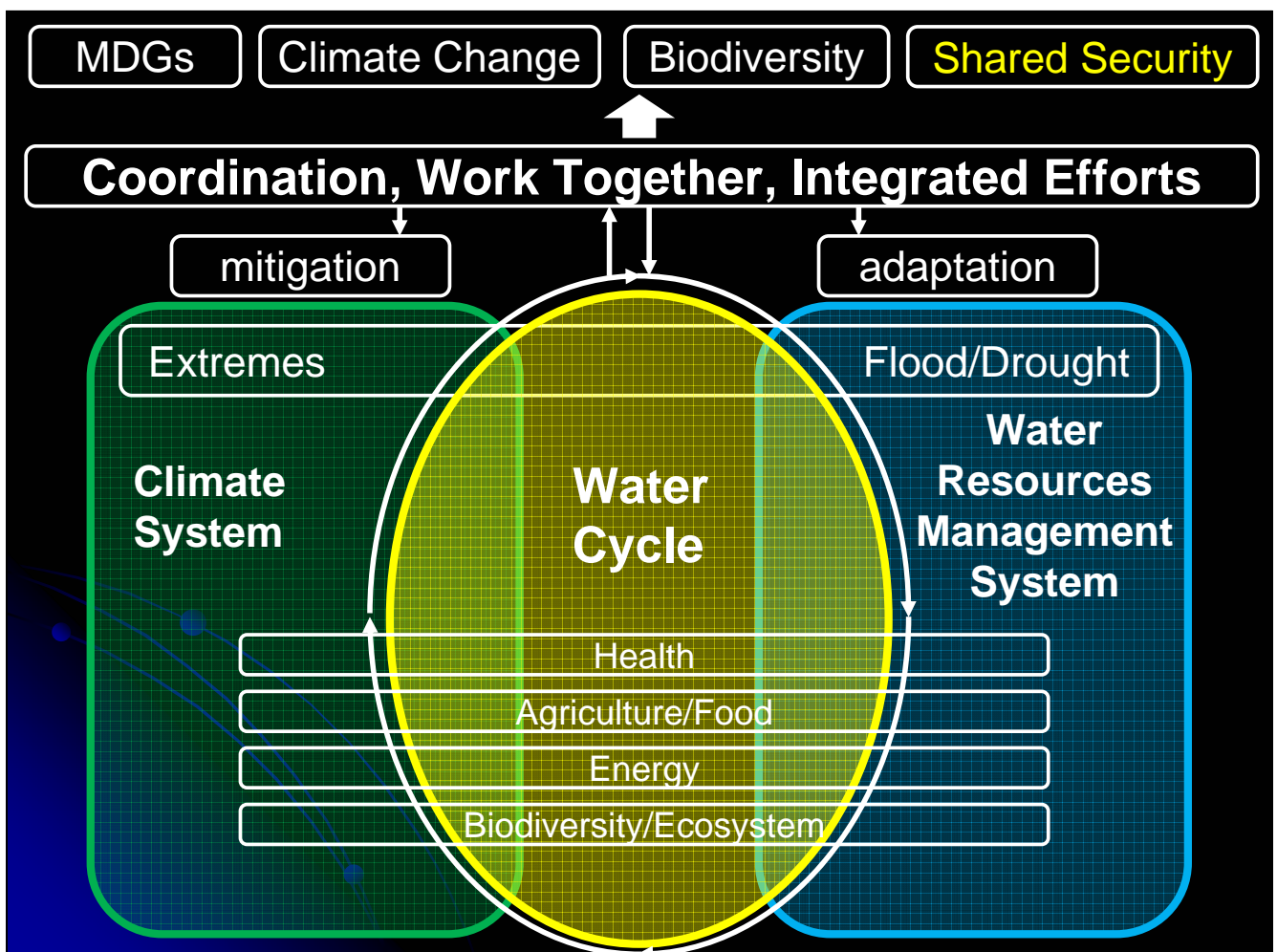
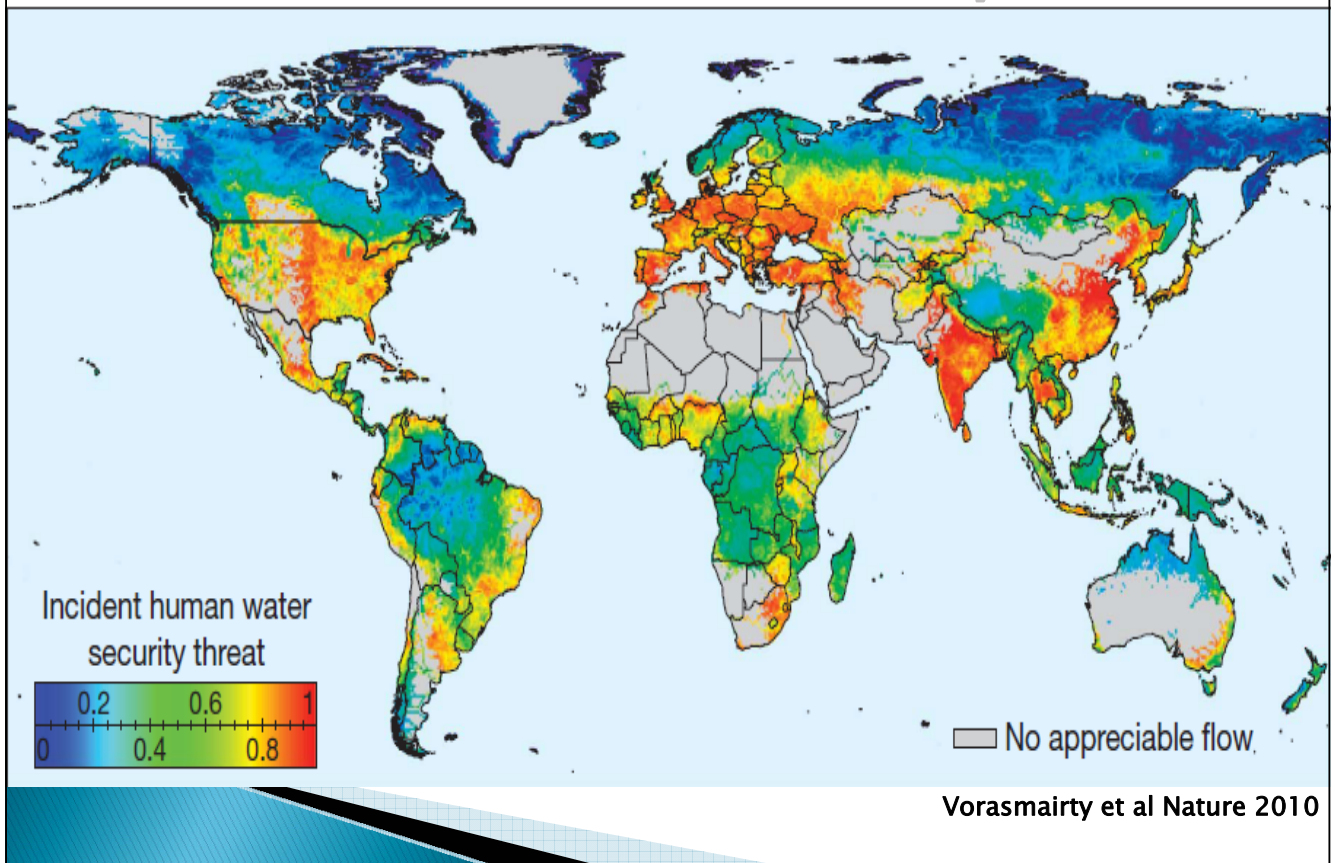
Australia and New Zealand: By 2030, water security problems are projected to intensify in southern and eastern Australia and, in New Zealand, in Northland and some eastern regions.

Europe: Negative impacts will include increased risk of inland flash floods and more frequent coastal flooding and increased erosion.

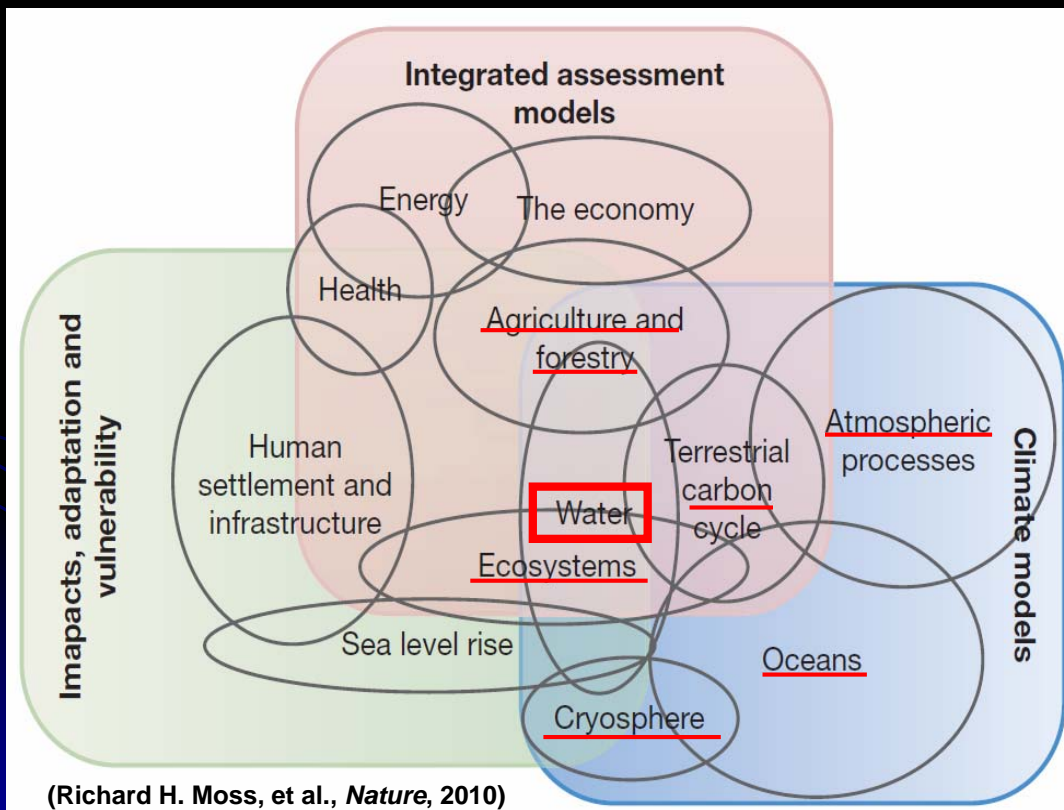
Latin America: Changes in precipitation patterns and the disappearance of glaciers are projected to significantly affect water availability for human consumption, agriculture and energy generation.

North America: Warming in western mountains is projected to cause decreased snowpack, more winter flooding and reduced summer flows, exacerbating competition for over-allocated water resources.

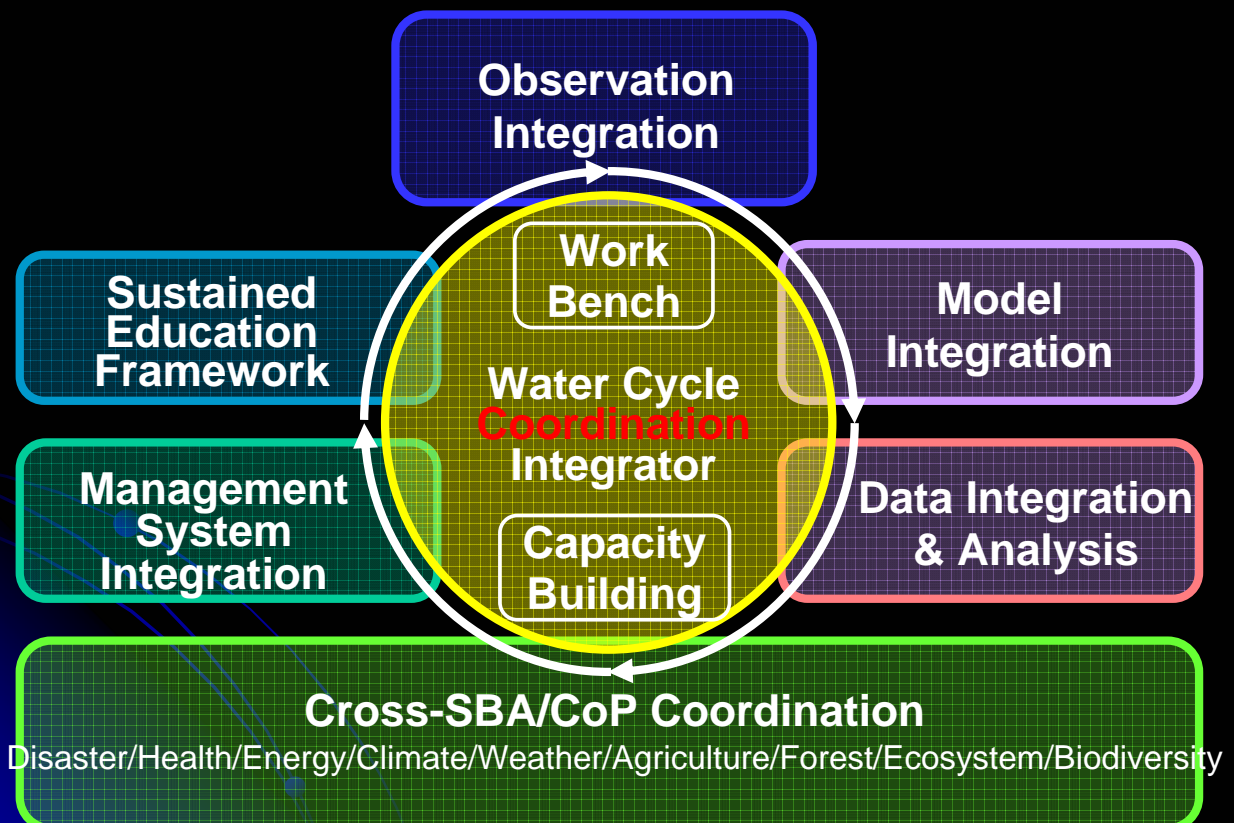
Global Water Availability Risk



CEOS Leadership on Integrated Satellite Observation of Water Cycle
in Coordinating with
Atmosphere, Ocean, Cryosphere, Ecosystem, Carbon, Agriculture & Forestry



Integrated & Coordinated Approach





Jan. 2009 The 1st GEOSS African Water Cycle Symposium in Tunis
 •Sharing water-related issues and need in Africa
 •Preparing a task team

Questionnaire Survey

Sept. 2009 The 1st Task Team Meeting in Geneva
 •Summary Report
 •Identifying Task Team Action Items
 •Regular Conference Call for Task Team Management

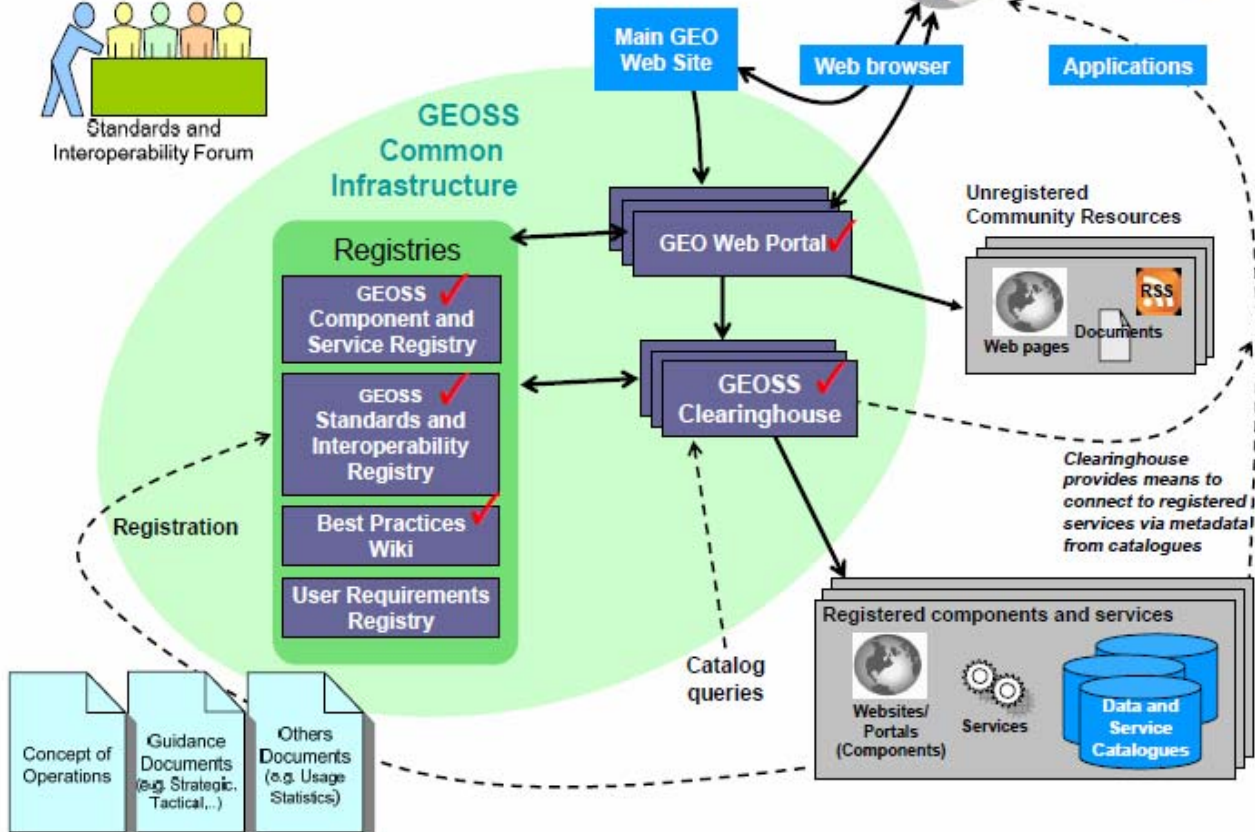
Political Backing
 AMCOW, AU

Feb. 2011 The 2nd GEOSS African Water Cycle Symposium
 Issues, Gaps, Needs, Potentials, Benefits, Framework, Vision;
 "Coordination"
 → documentation

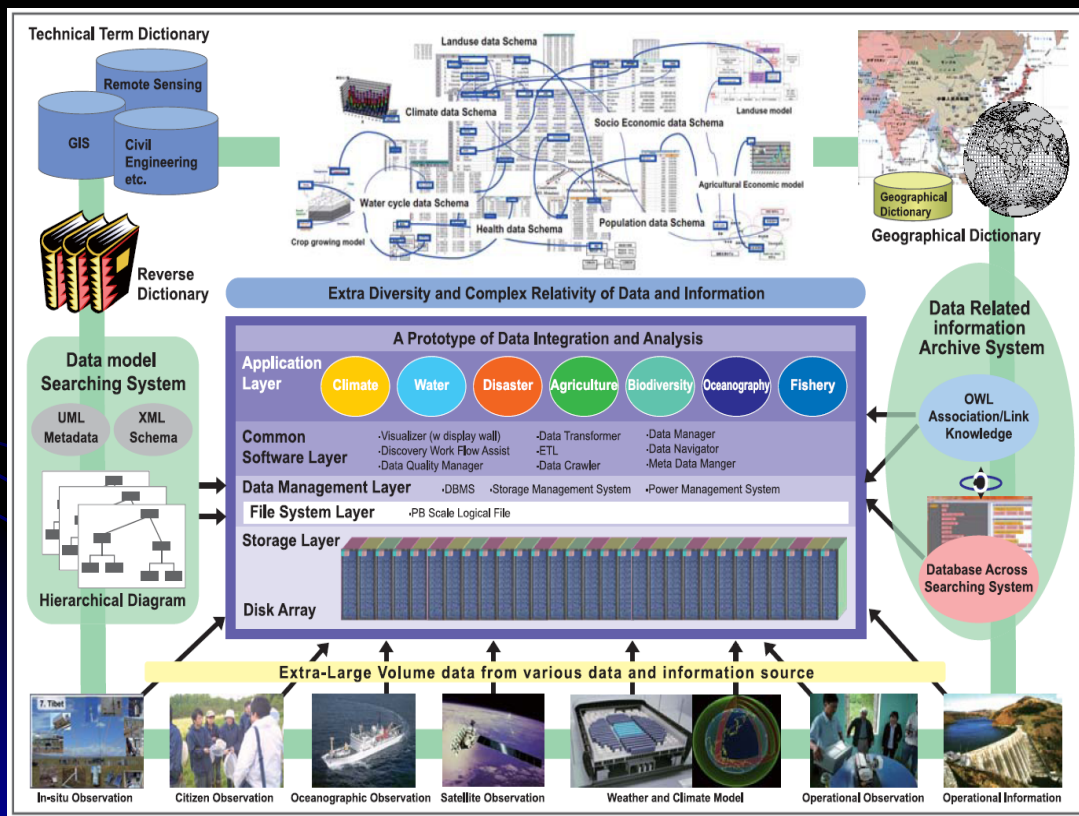
Sharing ideas and planning for working together
 → Workshops focusing a RB Authority and an RB Initiative

The 3rd GEOSS African Water Cycle Symposium
 for discussing an Implementation Plan

May, 2012 Rio +20



Data Integration and Analysis System (DIAS) Japan's Contribution to GEOSS



CEOS Leadership on Data Integration and Analysis: WGISS Water Community of Practice Portal

