

Data Integration and Analysis

Modeling and Prediction

Data Policy and Information Sharing

3 Capacity Building

General Approach

(each WGs Priority Area)

Targets & Needs

Resources & Opportunities

Gap Analysis

Proposed Capacity Building Programs

4 Country Activities

Demonstration River Basin

(1) Background, Targeted Issues and Objectives

(2) River Basin Characteristics

(3) Observation Systems and Data

(4) Models, GIS, Data Integration, Prediction Systems

(5) Schedule

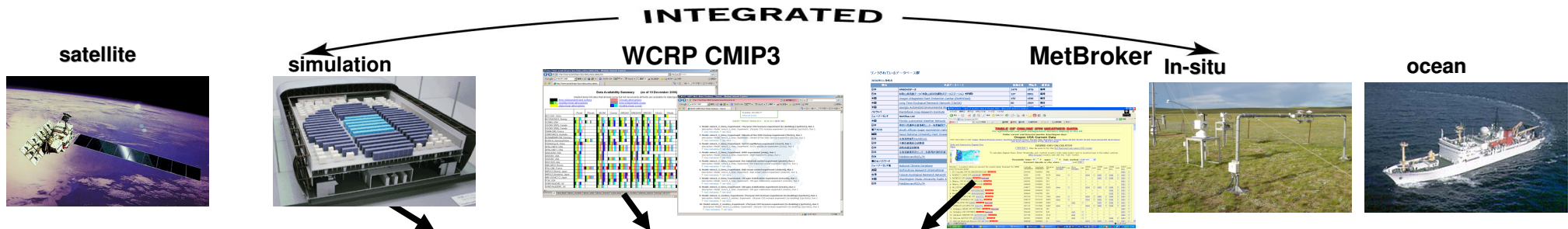
5. Organization and Management

6. Schedule



GEOSS Asian Water Cycle Initiative (AWCI)

Data Integration



A Prototype of Data Integration and Analysis

Application Layer

- User Apps.
- User Apps.
- User Apps.
- User Apps.
- User Apps.

Common Software

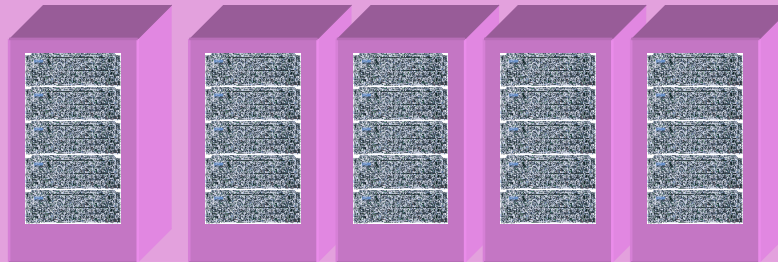
- Visualizer(w display wall)
- Discovery Work Flow Assist
- Data Quality Manager
- Data Transformer
- Data Crawler
- ETL
- Data Manager
- Data Navigator
- Meta Data Manger

Data Management Layer •DBMS

File System Layer •Storage Management System •Power management System

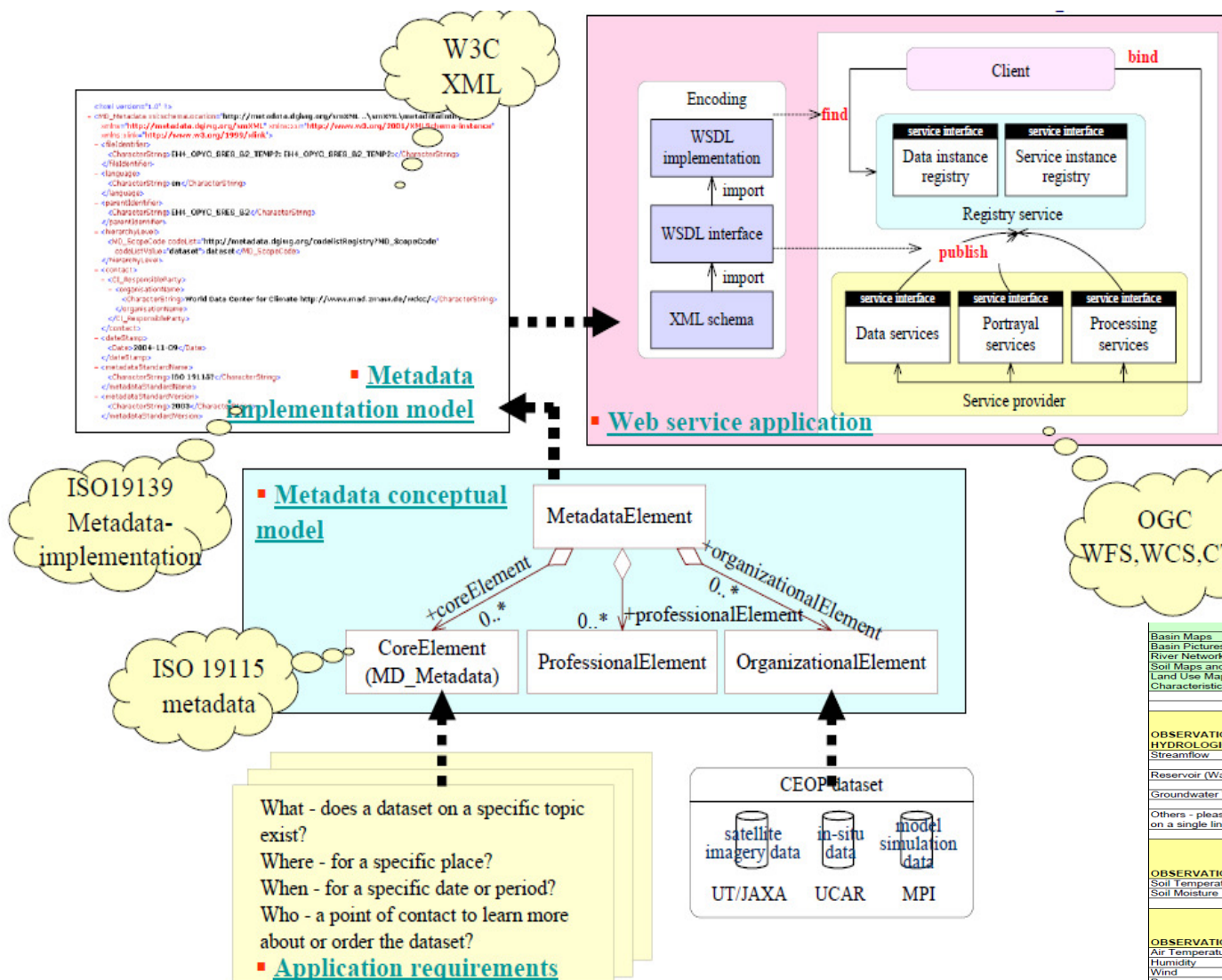
Storage Layer

Disk Array



GEOSS Asian Water Cycle Initiative (AWCI)

Interoperability Arrangement



Completed by
WCRP/CEOP

- Mata Data for**
- Satellite Data
 - Reference Site Data
 - Model Output

On-going

River Basin Mata Data

	digital form (D) or "paper" form(P) or not available (N)			
Basin Maps				
Basin Pictures				
River Network Maps				
Soil Maps and Soil Characteristics				
Land Use Maps and Vegetation Characteristics				
OBSERVATION DATA - HYDROLOGICAL	Available (A)/ Not available (N)	Number of observation stations in the basin	Duration of observation (since when)	Frequency of observation
Streamflow				
Reservoir (Water level, Outflow)				
Groundwater Table				
Others - please specify (each data type on a single line)				
OBSERVATION DATA - SUB-SURFACE	Available (A)/ Not available (N)	Number of observation stations in the basin	Duration of observation (since when)	Frequency of observation
Soil Temperature				
Soil Moisture				
OBSERVATION DATA - SURFACE	Available (A)/ Not available (N)	Number of observation stations in the basin	Duration of observation (since when)	Frequency of observation
Air Temperature				
Humidity				
Wind				
Pressure				
Precipitation				
Snow				
Skin Temperature				
Upward Shortwave Radiation				
Downward Shortwave Radiation				

GEOSS Asian Water Cycle Initiative (AWCI)

Observation Convergence

Convergence of Satellite Observations

The 1st Opportunity for Global and Comprehensive Data Sets and the Beginning of the 21C
 New Generation Satellite
 TRMM, TERRA, AQUA, ADEOS-II, ENVISAT, ALOS



Operational satellite
 GOES, GMS, METEOSAT
 NOAA, DMSF, FY-1C

Atmospheric Heating

AIRS, HIRS, AMSU-A/B

Cloud micro physics

MODIS, GLI, CERES, AIRS, HIRS, AMSU-A/B, HSB

Diurnal Cycle

TRMM, TERRA/ADEOS-II + AQUA

Heat & Moisture Fluxes

Precipitation

PR, TMI, AMSR, AMSRE

AMSR, AMSRE
 MODIS, GLI

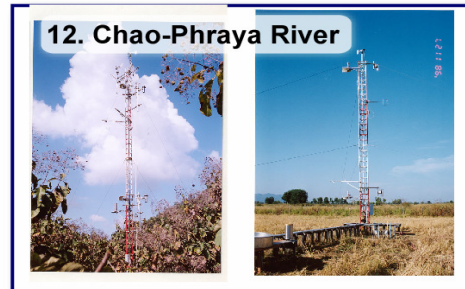
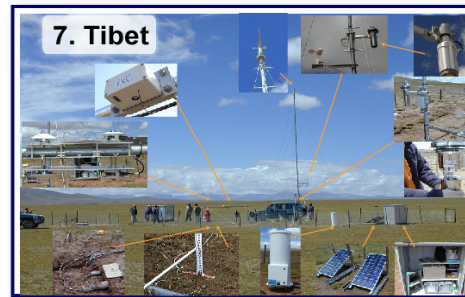
Snow

Dry **River discharge**

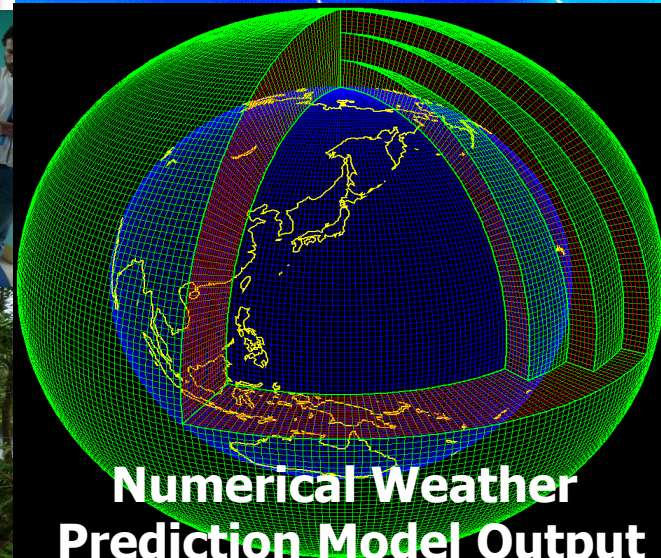
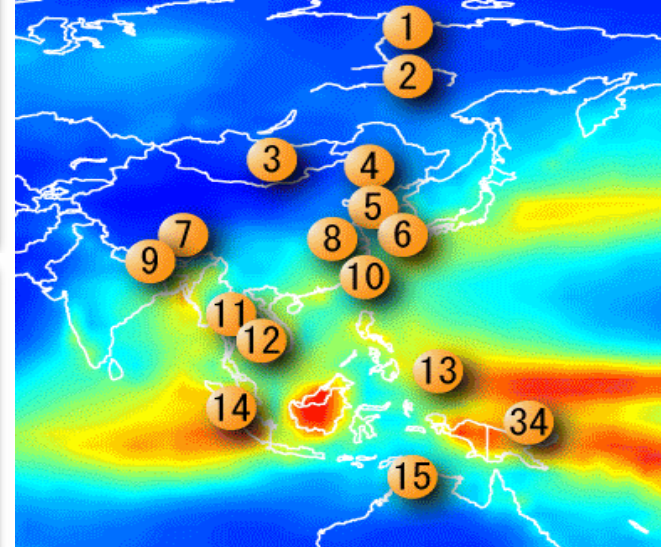
Vegetation
 TMI
 AMSR, AMSRE
 MODIS, GLI, ETM, ASTER

Sub-grid scale heterogeneity:

MODIS/GLI + ASTER/ETM
 AMSR/AMSRE/TMI + ASAR/PALSAR

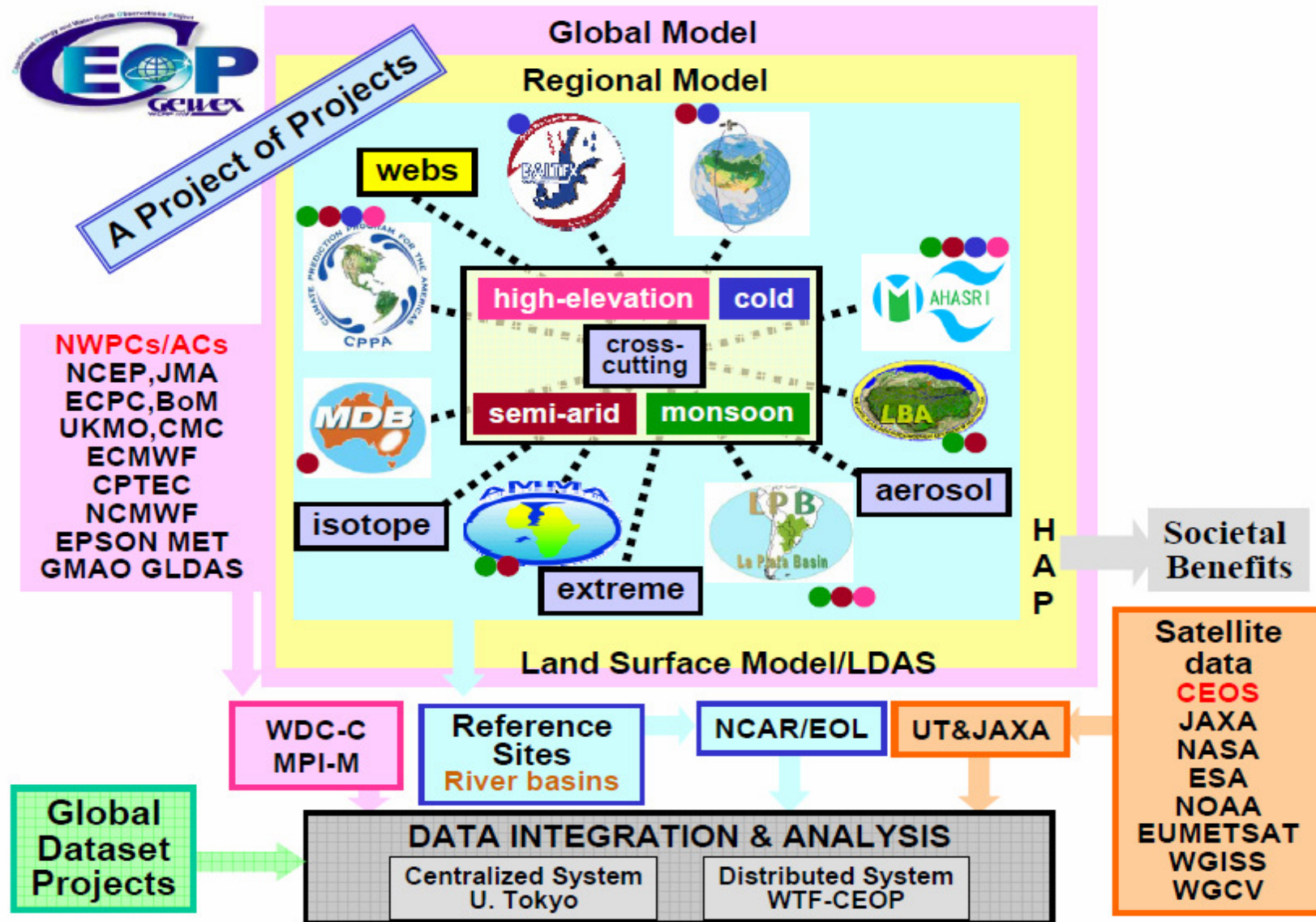


In-situ Reference Sites



GEOS Asian Water Cycle Initiative (AWCI)

Interactions & Supports





3rd AWCI Symposium in Beppu, Ooita, Japan

2-4, December, 2007

2 Dec.: Capacity Building

3 Dec., Morning: Capacity Building

3 Dec., Afternoon: Open Forum

4 Dec., Morning: Country Report

4 Dec., Afternoon: Implementation Plan Approval

Sep. 30: Input Due

Oct. 15: First Rough Draft to ICG members

Oct. 30: Due to Comments by ICG members

Nov. 10: Second Draft