CEOS Water Portal Status Update

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Introduction

- CEOS Water Portal is ;
  - A web based portal system evolved from ”Distributed Data Integration System Prototype for CEOP”
  - To provide access to a whole variety of hydrological data and water relevant data scattered over the world
  - To retrieve data from distributed data centers on-the-fly (by OPeNDAP etc.) and let users download and see rendered image/plot
- The Portal is **NOT** a system for data distribution.
- The Portal is aimed to become a system that enables data integration.

Concept

Data Integration

- Multiple types of data are available such as;
  - In-situ data
  - Satellite data
  - Model output data
- The portal provides multiple functionalities and services to perform data integration.

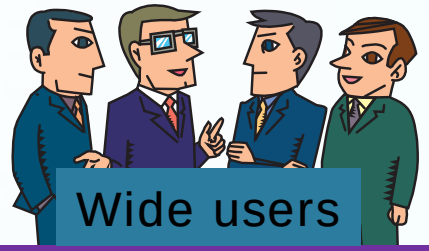
Portal System Concept

- Provide users “Easy to Access” service.
- Users include;
  - Scientists in hydrological domain
  - Non-researchers or operational users who are dealing with those data in their work

Problems of Current Approach

Distributed data center

- In-situ hydrological data (CEOP)
- In-situ hydrological data (AWCI)
- MODEL output (CEOP)
- MODEL output (CMIP3)
- Satellite data (CEOP, AWCI)
- Satellite data (NASA)
- Precipitation (NOAA/GPCC)
- River discharge (GRDC)



Wide users

Ex: decision makers of Watershed Management

DEM data

input

User's model (ex. WEB-DHM)

Scientists

Model output

analysis

comparison

Not easy to provide useful information

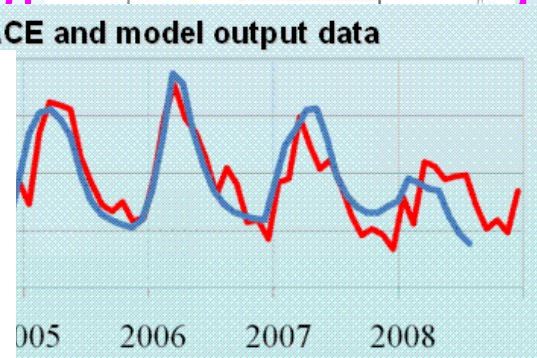
Not easy to find data and convert data

Useful information

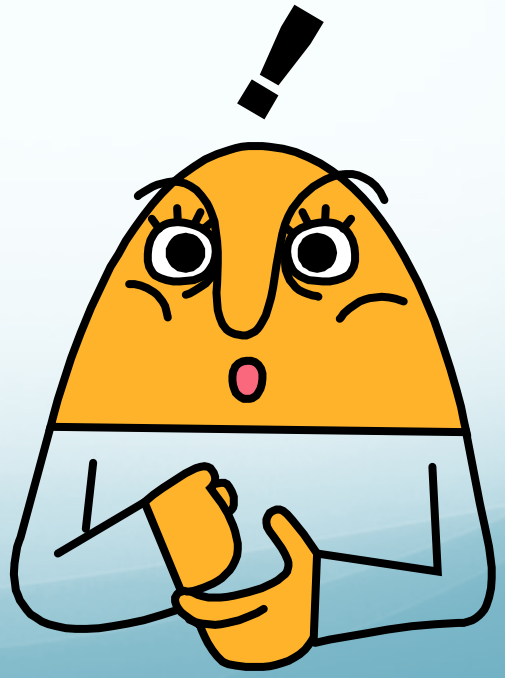
Not easy to compare with ot

Not easy

Find data
Convert data
Compare with other model data
Provide useful information to wide users



Water Portal makes it easier and more efficient to settle those problems.



If you use Water Portal

Distributed data center

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Water Portal (JAXA)

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information

Easy access to data like one stop shopping

Agricultural drought

If you use Water Portal

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Water Portal (JAXA)

DEM data

input

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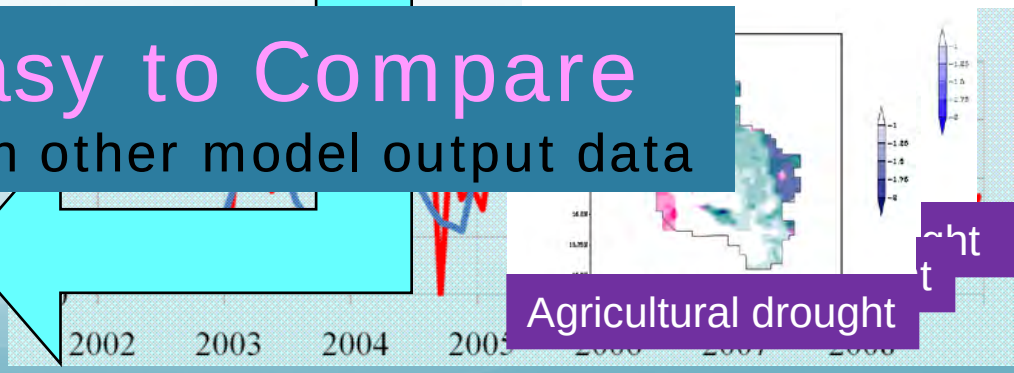
analysis

Useful information

Easy to Compare

with other model output data



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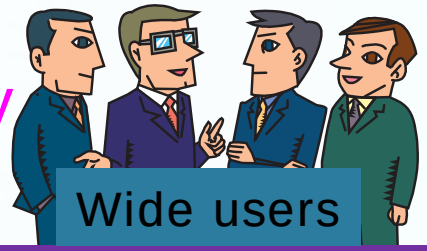
Water Portal (JAXA)

Get useful information easily



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Ex: decision makers of Watershed Management

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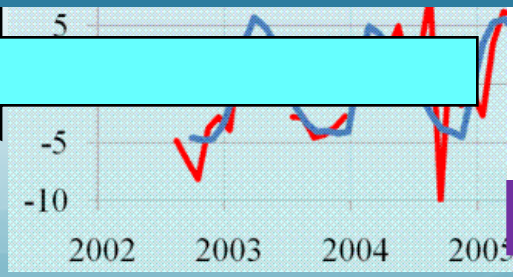
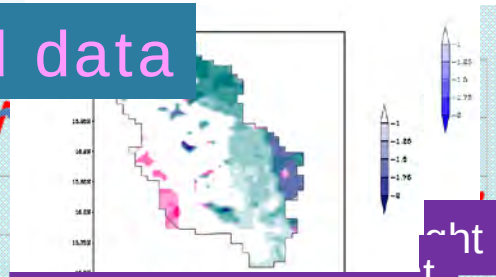
Feed back analyzed data





Agricultural drought

Distributed data center

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In-situ hydrological data (AWCI)

MODEL output

(CEOP, AWCI)

Satellite data (NASA)

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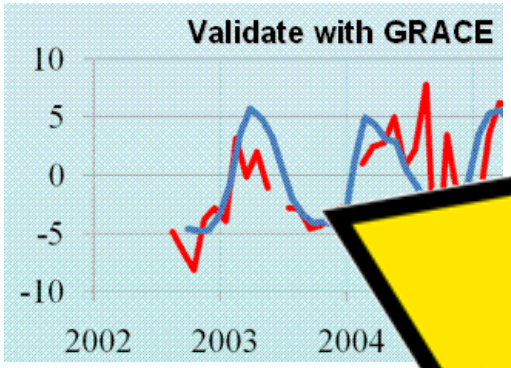
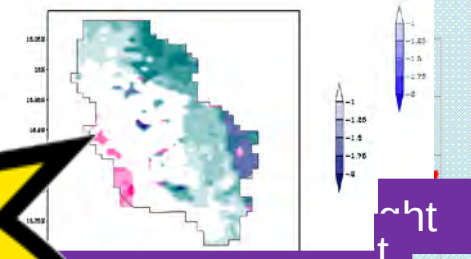
Useful information

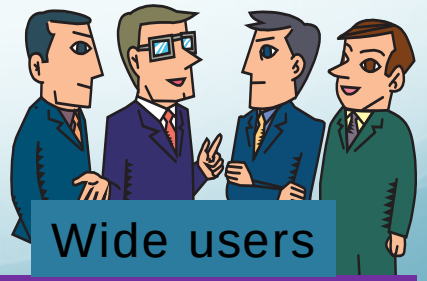




ltural drought

tists

Easy access & integrate data
Communication is encouraged



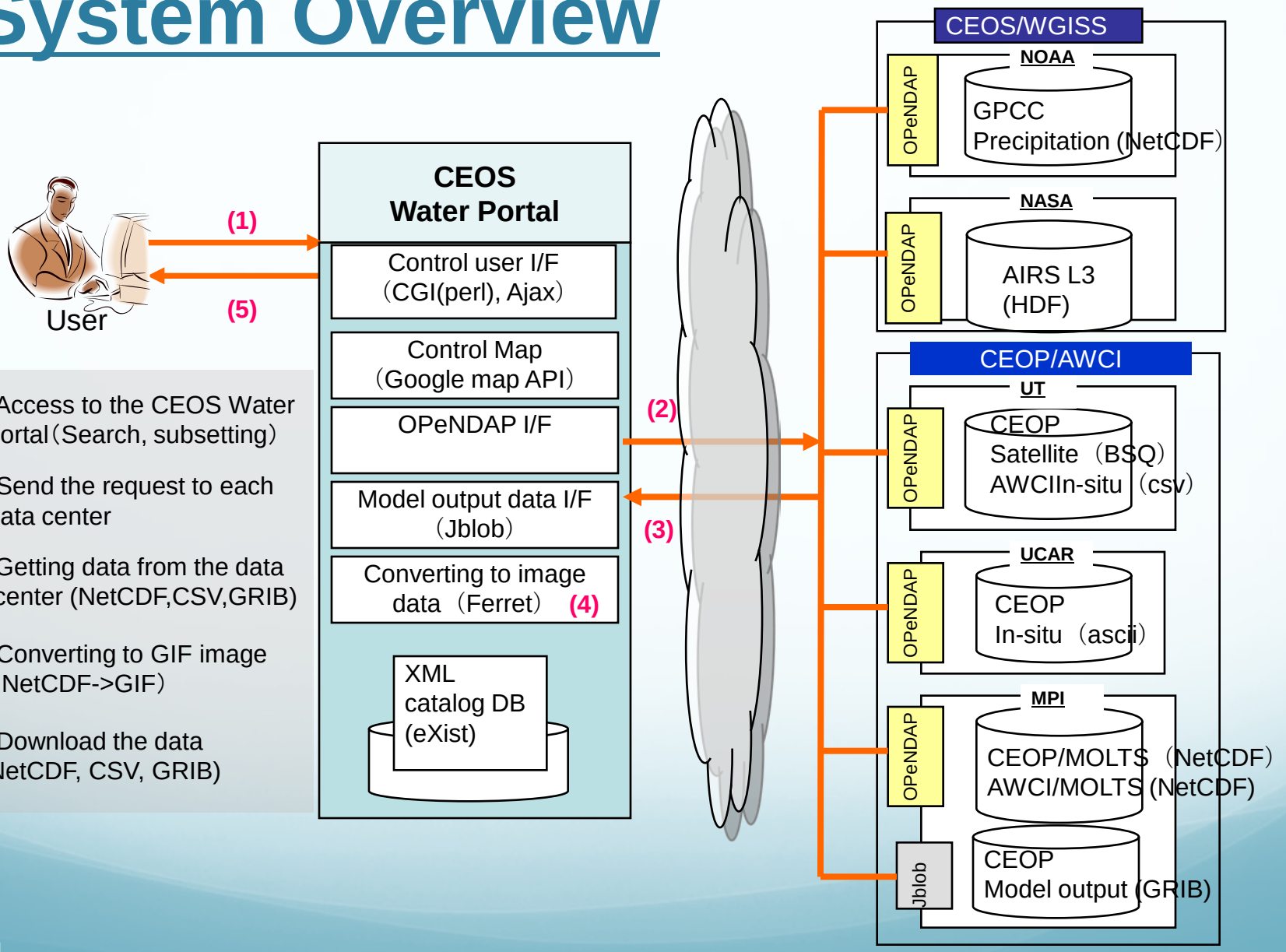
Wide users

Ex: decision makers of Watershed Management

Main Features of the Portal

Data Integration (in-situ, satellite, and model output)	(1) Data Archive Centers in remote locations are connected using standard data access protocol (OPeNDAP) (2) Single user interface - Spatial Data Integration - Temporal Data Integration - Consistent data variable names
Functions to facilitate Easy Access	(1) Different types of search features : Category, Map, etc. (2) Select data by - time range (start time / stop time) - CEOP Reference Site, Station name - height or depth - variable name (3) View data (plot and view values on the screen) (4) Compare MOLTS data and In-situ Data in a single chart (5) Download data (NetCDF, ascii)

System Overview



(1) Access to the CEOS Water portal（Search, subsetting）

(2) Send the request to each data center

(3) Getting data from the data center (NetCDF,CSV,GRIB)

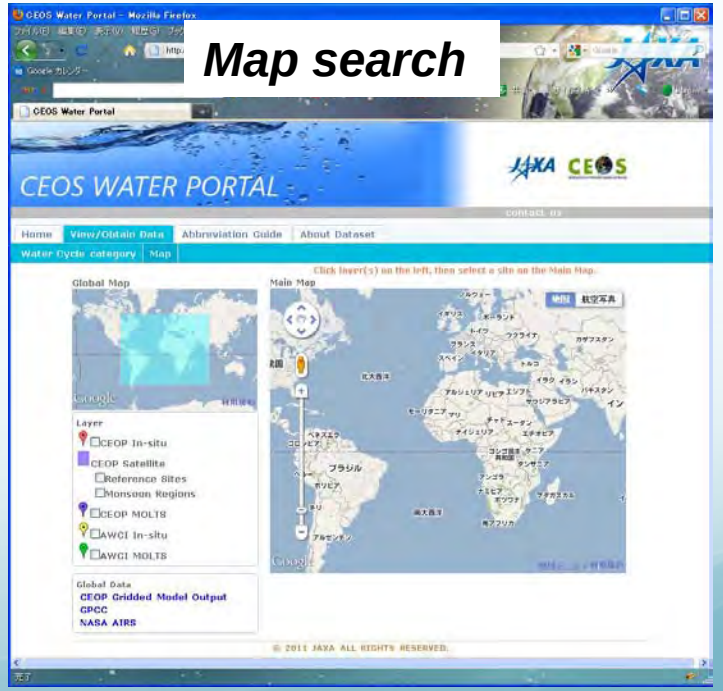
(4) Converting to GIF image （NetCDF->GIF）

(5) Download the data (NetCDF, CSV, GRIB)

Release Announcement

- Alpha version now available
  With limited data and functionality, the system is now publicly available at : ***http://waterportal.restec.or.jp/***

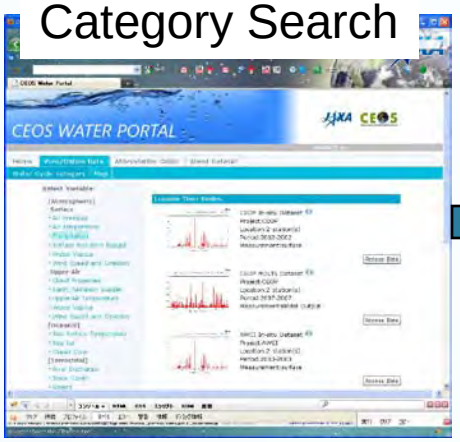
  The development is ongoing.



CEOS Water portal (1/2)

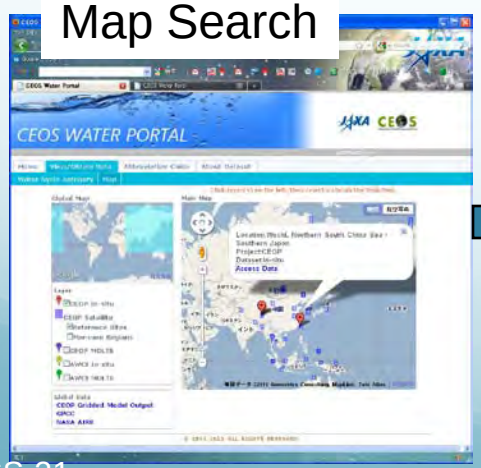
1. Choose either of the two types of search

Category Search



2. Choose a variable and location

Map Search



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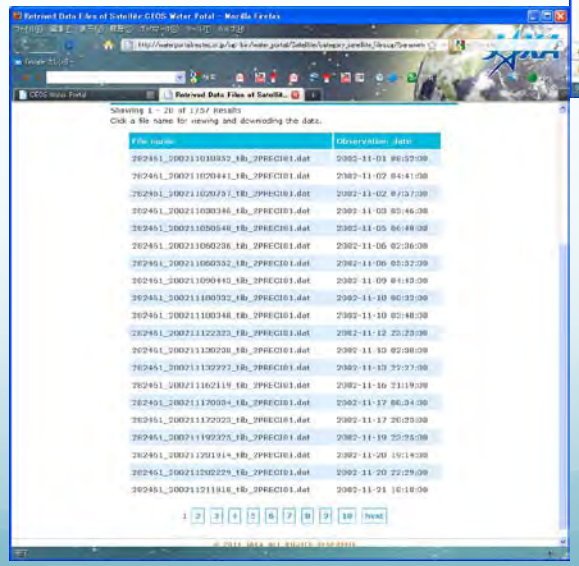
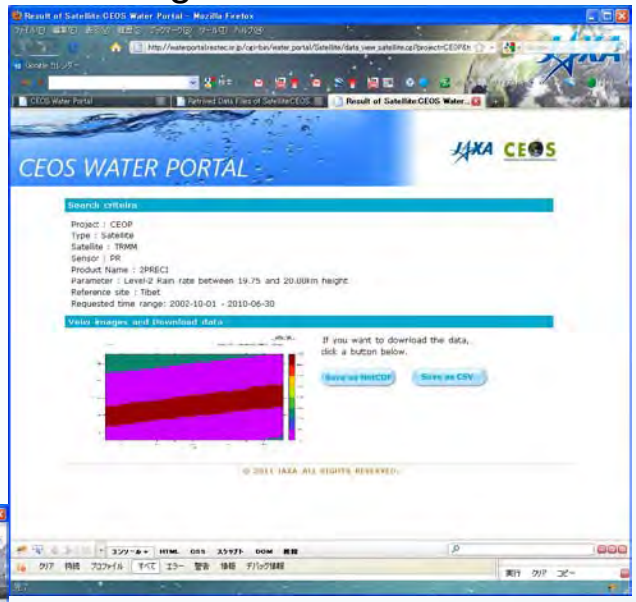
CEOS Water portal (2/2)

3. Specify additional criteria (e.g. Band or Height) and time range

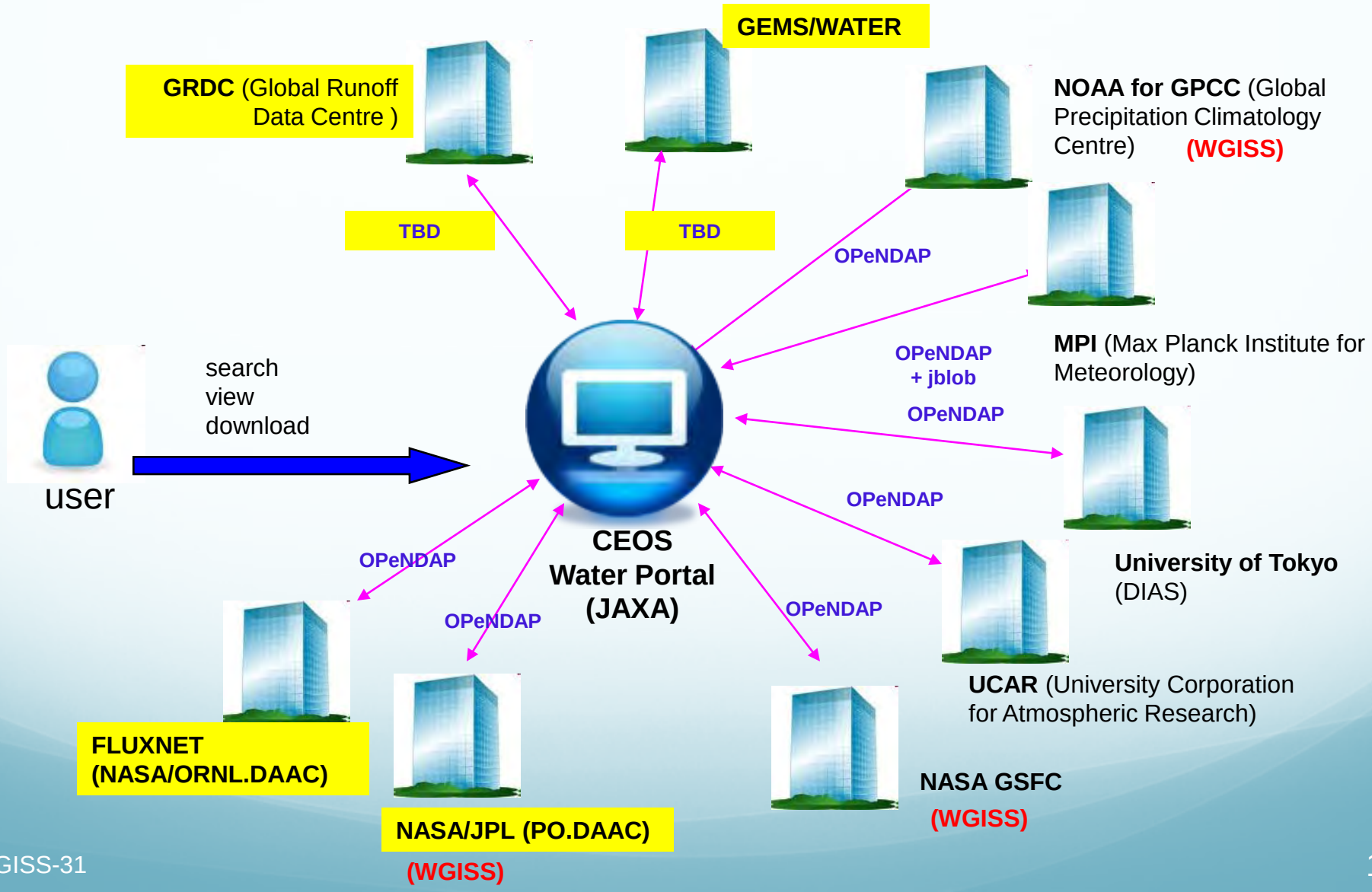
4. Choose a file (Satellite or MOLTS data only)



5. View image and download the data



Data Partners



Data Partners List

Listed below is current data partners.

Data Partners	Data Types	Server Locations	Interface Methods
CEOP	Satellite	University of Tokyo (Japan)	OPeNDAP
	Model(MOLTS)	MPI (Germany)	OPeNDAP
	Model(Gridded)	MPI (Germany)	jblob
	In-situ	UCAR (USA)	OPeNDAP
AWCI	Model(MOLTS)	MPI (Germany)	OPeNDAP
	In-situ	University of Tokyo (Japan)	OPeNDAP
	GIS	University of Tokyo (Japan)	TBD
NASA	Satellite	NASA (GSFC)	OPeNDAP
NOAA (GPCC)	In-situ	NOAA (USA)	OPeNDAP

Candidate Data Partners

Coordination with these agencies is foreseen.

Data Partners	Data Types	Server Locations	Interface Methods
GRDC*1	In-situ		TBD
GEMS/Water*2	In-situ		TBD
NASA	Satellite (GRACE Level 3)	NASA/JPL (PO.DAAC)	OPeNDAP
NASA (FLUXNET)	In-situ (FLUX data)	NASA (ORNL DAAC)	OPeNDAP

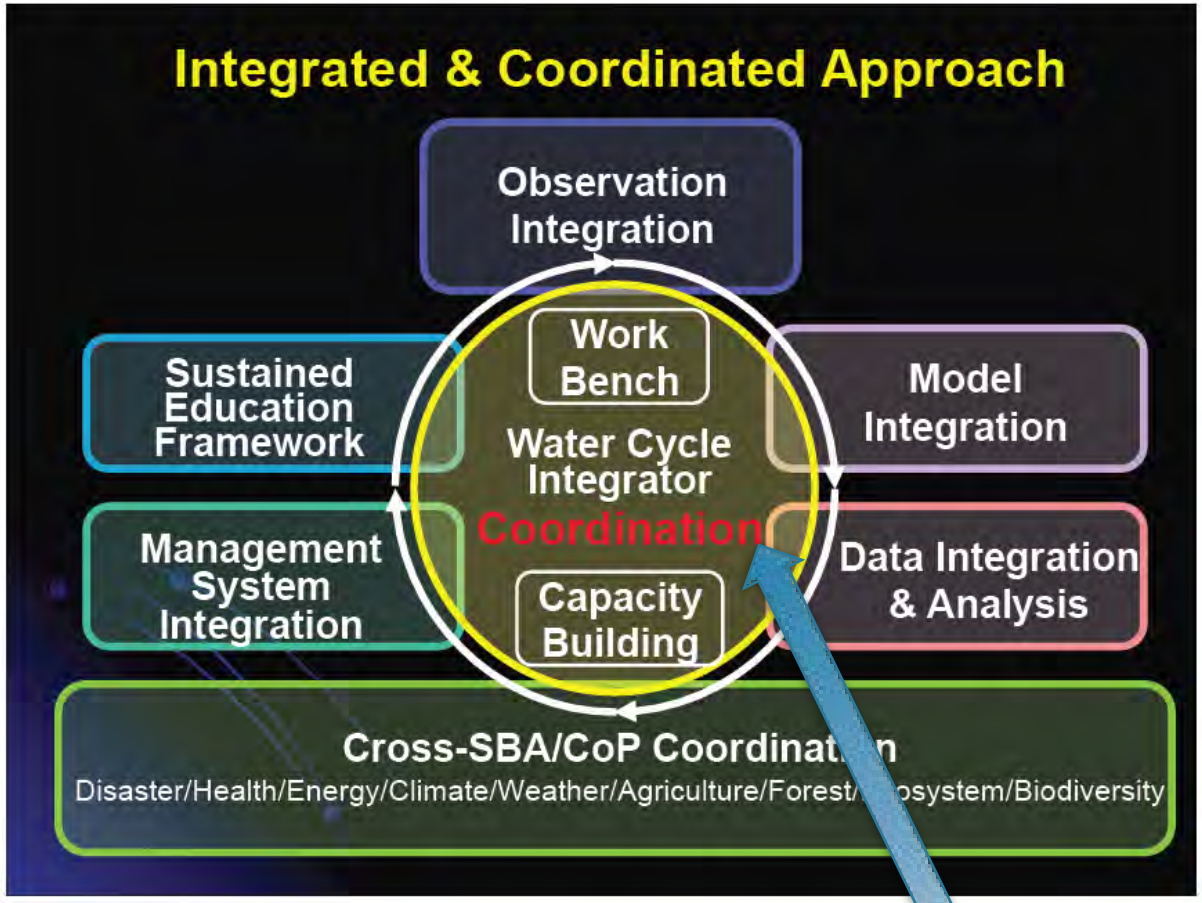
*1 : http://www.bafg.de/GRDC/EN/Home/homepage__node.html
*2 : http://www.gemstat.org/

Data request

We would like to cooperate with NASA to have these data incorporated to meet users request.

- GRACE Level 3 data (NASA/JPL (PO.DAAC) OPeNDAP Server)
- Flux data (NASA/ORNL.DAAC OPeNDAP Server)

Water Cycle Integrator (Currently proposed to GEO)



Water Portal can contribute this “Coordination”.

Future Plan

1. Contribution to GEO

- Work plan (2009-2011) Task WA-08-01 (already offered to CEO)
- Work plan (2012-2015, Version0, Under Technical Review) Task DS-05, “Water Cylce Integrator”.

2. New Data vs New Functions

- We are open to new data center collaboration (within budget !).
- The balance to be considered, based on the coordination with data center collaboration “candidates”.
- Adding the new function for more integrating the data and encouraging the communication among the users.

3. Collaboration with other “portal(s)”

- CEOS Precipitation Constellation (PC) portal