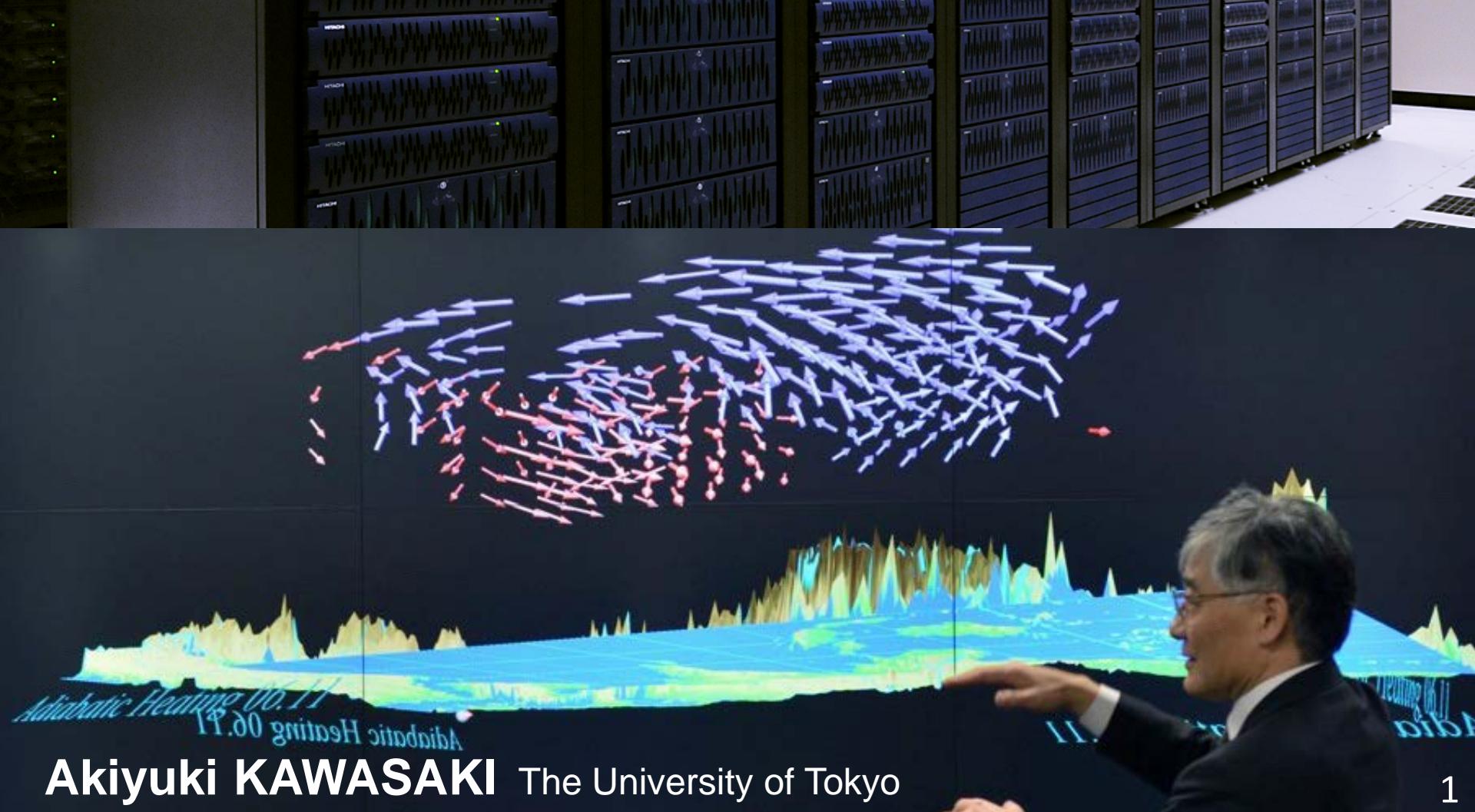


Data Integration and Analysis System (DIAS) as a platform for Asian Water Cycle Initiative (AWCI)



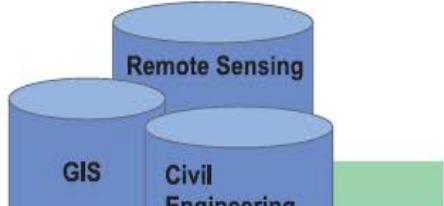
Akiyuki KAWASAKI The University of Tokyo

1. Overview of DIAS

1. AWCI Data Archive System

1. Benefit of the use of DIAS as a platform for AWCI

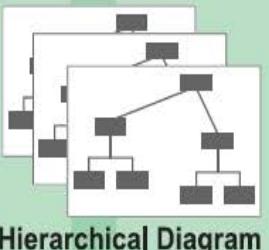
Technical Term Dictionary



Reverse Dictionary

Data model Searching System

UML Metadata XML Schema



App Layer

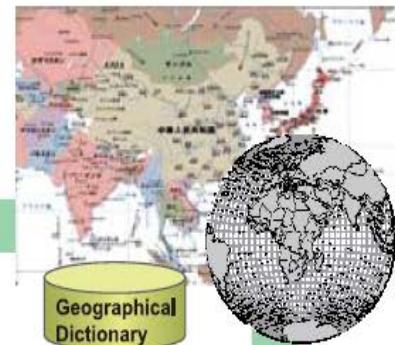
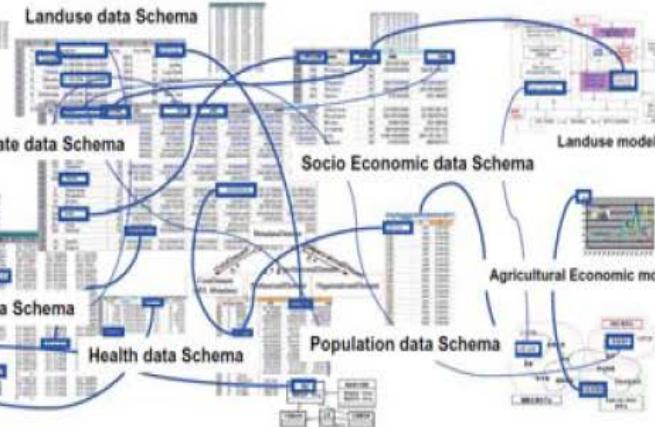
Con Soft

Data Fil

Sto Dis

DIAS

Data Integration & Analysis System



Geographical Dictionary

Data Related information Archive System

OWL Association/Link Knowledge

S Sis System

Database Across Searching System



In-situ Observation



Citizen Observation



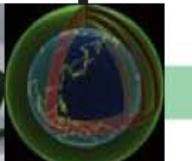
Oceanographic Observation



Satellite Observation



Weather and Climate Model



Operational Information



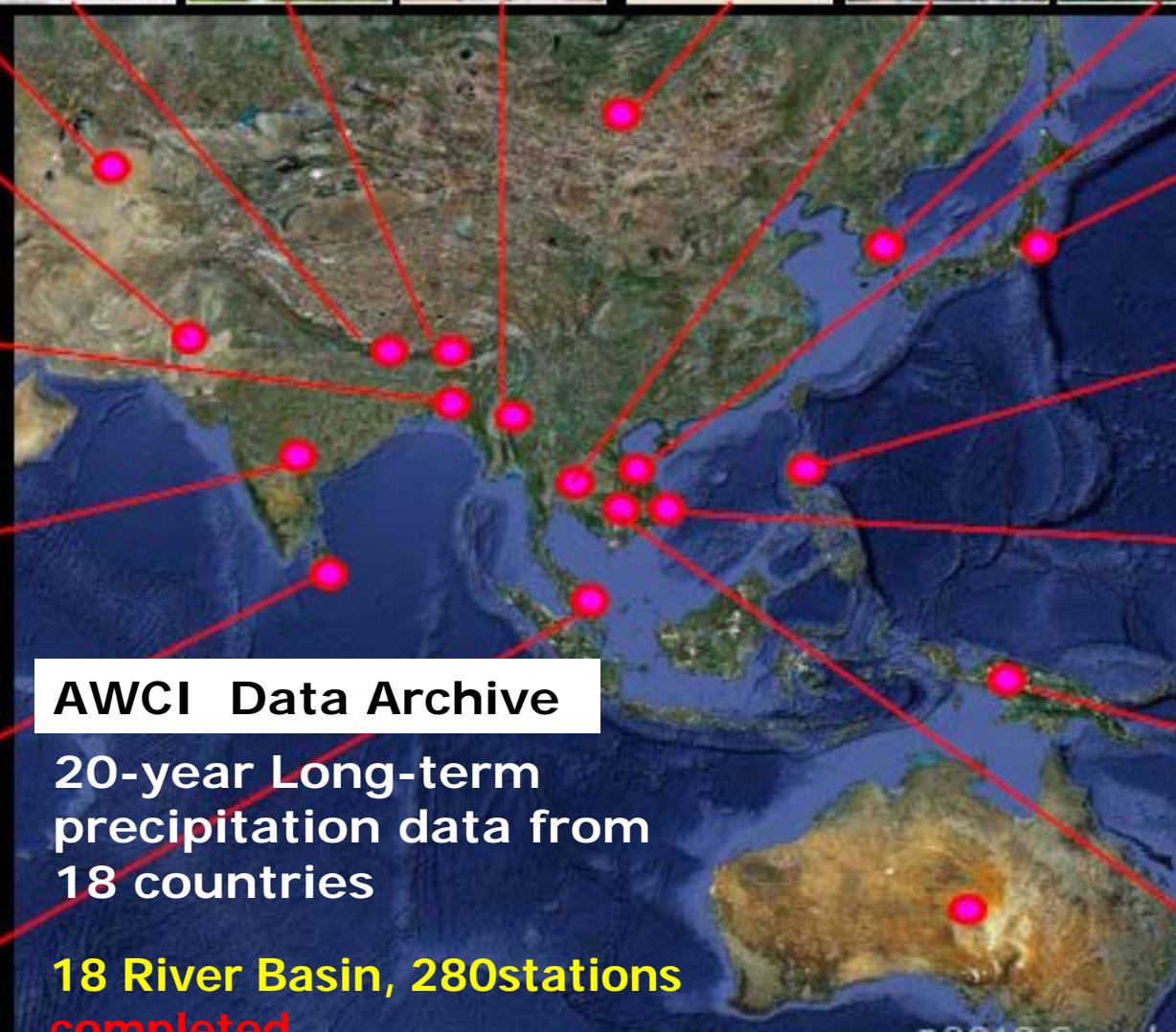
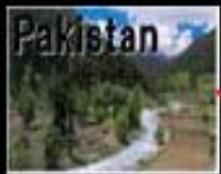
Operational Observation



Operational Information

Extra-Large Volume data from various data and information source

To archive hydro-meteorological dataset, including data loading, QC and metadata registration



AWCI Data Archive

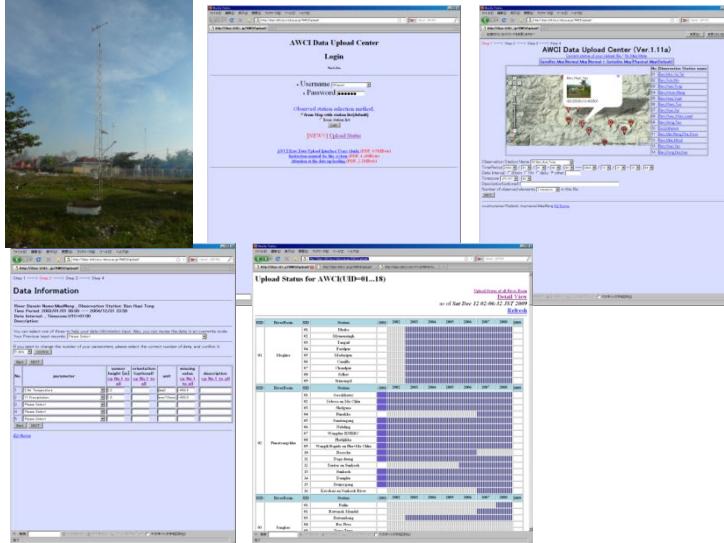
20-year Long-term
precipitation data from
18 countries

18 River Basin, 280stations
completed



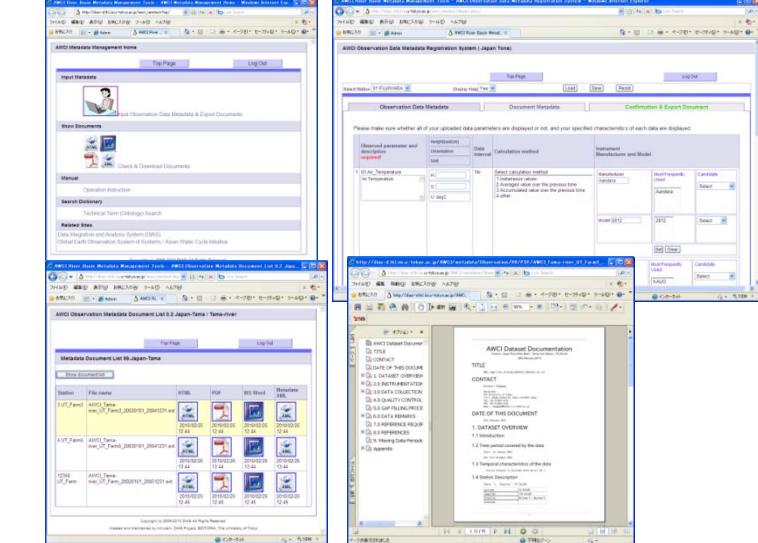
Tool for in-situ data input and management

(1) Data Uploading



The screenshot displays the AWCI Data Upload Center interface. It includes a login page with fields for Username and Password, a map showing the locations of various observation stations, and two detailed data tables. One table is titled 'Data Information' and lists parameters like Air Temperature, Relative Humidity, and Wind Speed. The other table is titled 'Upload Status for AWCI(UID=01-18)' and shows a grid of data points for different parameters over time.

(3) Meta Data Registration

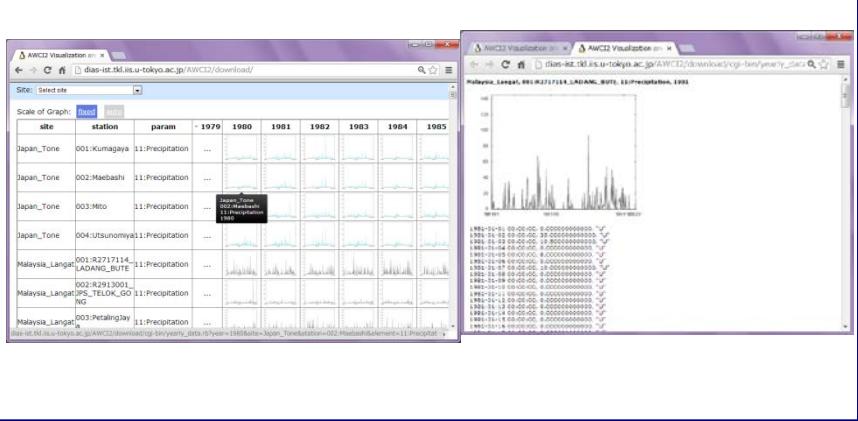


The screenshot shows the AWCI Observation Data Metadata Management Tool. It features several windows: 'AWCI Metadata Management Home' for managing documents and instruments; 'Observation Data Metadata' for defining parameters and calculation methods; 'Document Metadata' for specifying document details; and a large window for 'AWCI Dataset Documentation' which contains a detailed description of the dataset, including its purpose, data source, and validation status.

(2) Quality Controlling



(4) Data Downloading



(1) Data Uploading

Step 1 ----> Step 2 ----> Step 3 ----> Step 4

AWCI2 Data Upload Center (Ver.1.16aw)

[Current status of your Upload file](#) / [No Map Mode](#)

[ROADMAP](#) [SATELLITE](#) [HYBRID](#) [TERRAIN](#)



No.	Observation Station name
01	Sample_Station_1
02	Sample_Station_2
03	Sample_Station_3
04	Sample_Station_4
05	Sample_Station_5
06	Sample_Station_6
07	Sample_Station_7

- Observation Station Name
- Time Period
- Data Interval 30min 1hr daily other
- Timezone
- Description(optional)
- Number of observed elements in this file

[NEXT](#)

(2) Quality Controlling

AWCI QC top - Microsoft Internet Explorer

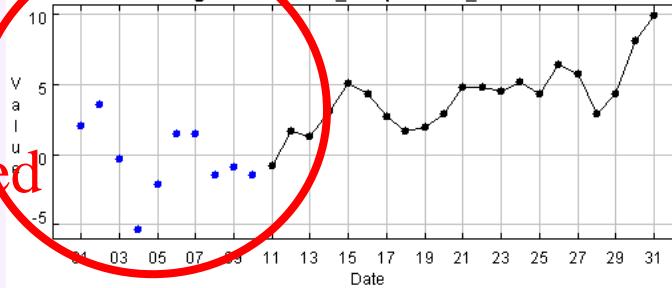
Station(Bonghwa-AWS) > Month-Date(2003-3) >

Obs.Station-Item	Obs. Element	Year-Month
Bonghwa-AWS	Updating Data: 1:Air_Temperature_Ave Reference Data: <input type="checkbox"/> 1:Air_Temperature_Ave <input checked="" type="checkbox"/> 2:Air_Temperature_Max <input checked="" type="checkbox"/> 3:Air_Temperature_Min <input type="checkbox"/> 4:Wind_Speed <input checked="" type="checkbox"/> 5:Relative_Humidity <input checked="" type="checkbox"/> 6:Sunshine_Duration <input type="checkbox"/> allcheck <input type="checkbox"/> allclear	2003-3

Number of each Flags

G(10) I(0) D(0) B(0) C(0) M(0) U(21)

Bonghwa AWS 1:Air_Temperature_Ave 2003-3



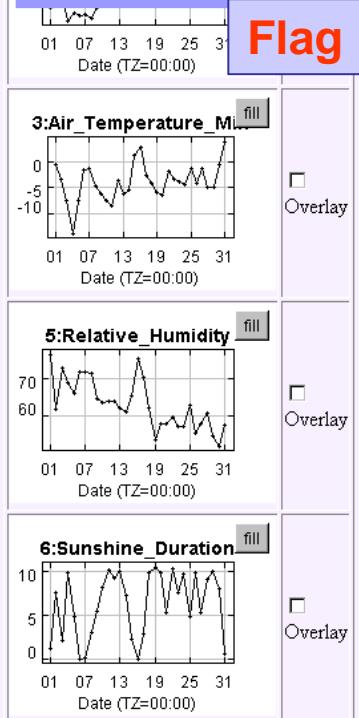
Confirmation(edit data dialog)

Download(Without flag) (GAME-AAN) Download(With flag) (GAME-AAN) Download All(zip-compressed, without flag) (GAME-AAN) Download All(zip-compressed, with flag) (GAME-AAN)

From:	Day: 01	Hour: 00	Minute: 00	Flag/Value	Change to	
To:	10	23	59	Flag: U	Flag: G	Update (Tz=00:00)

G: Good
I: Interpolated
D: Dubious/Questionable
B: Bad
C: Abnormal value
M: Missing
U: Unchecked

Flag Definitions

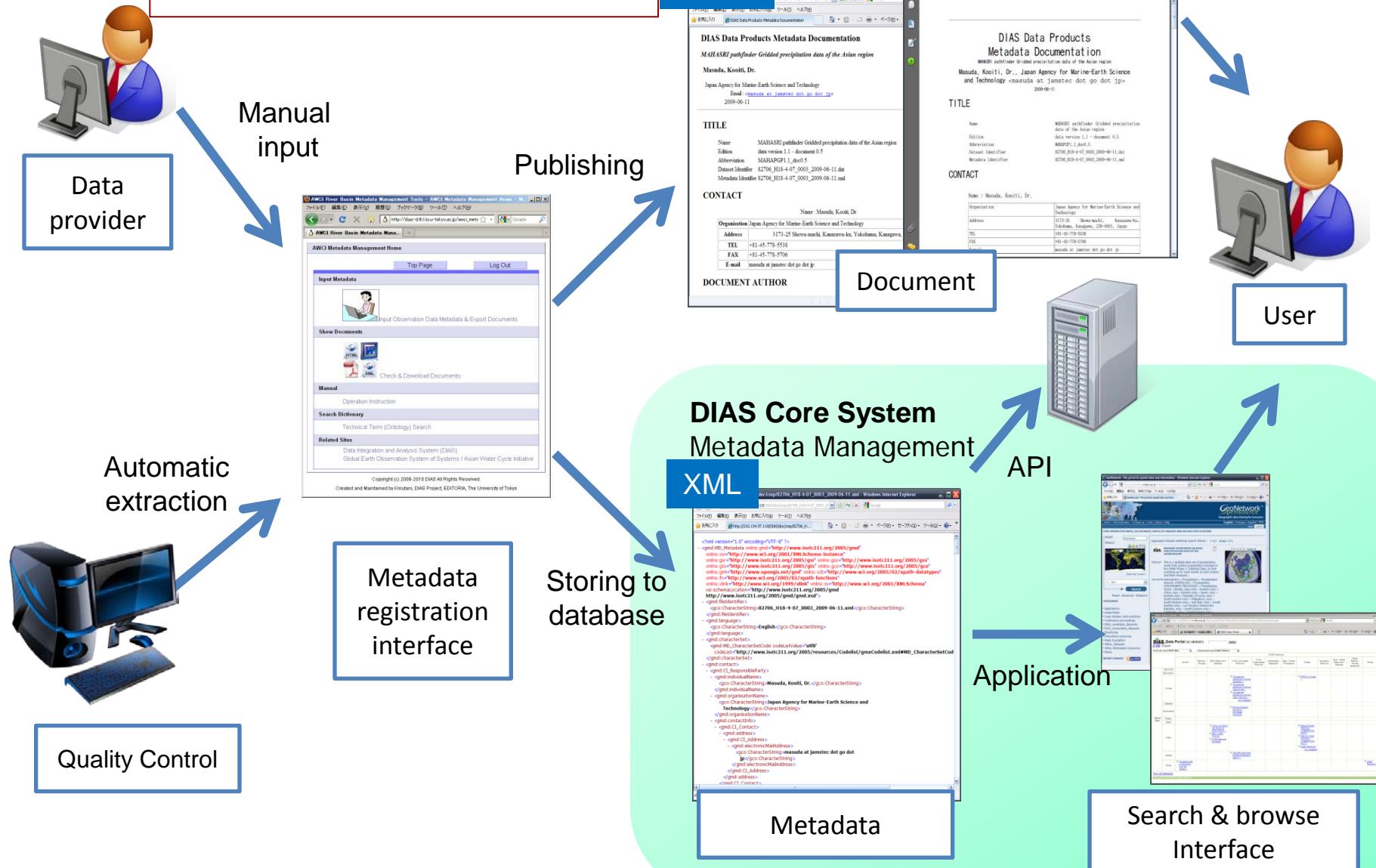


Flag Updated data

Y-Axis: Real Normalized (MaxMin)
 Overlay

(3) Meta Data Registration

Role of Metadata & Dataset Documents



(4) Data Downloading

AWC12 Visualization and ... 

Site: Japan_Tone Period: Year/Month 1901 1 - 2000 12

Station:
 001:Kumagaya 002:Maebashi 003:Mito 004:Utsunomiya

A mail will be sent with a link to the zipped dataset file.
 Mail to:

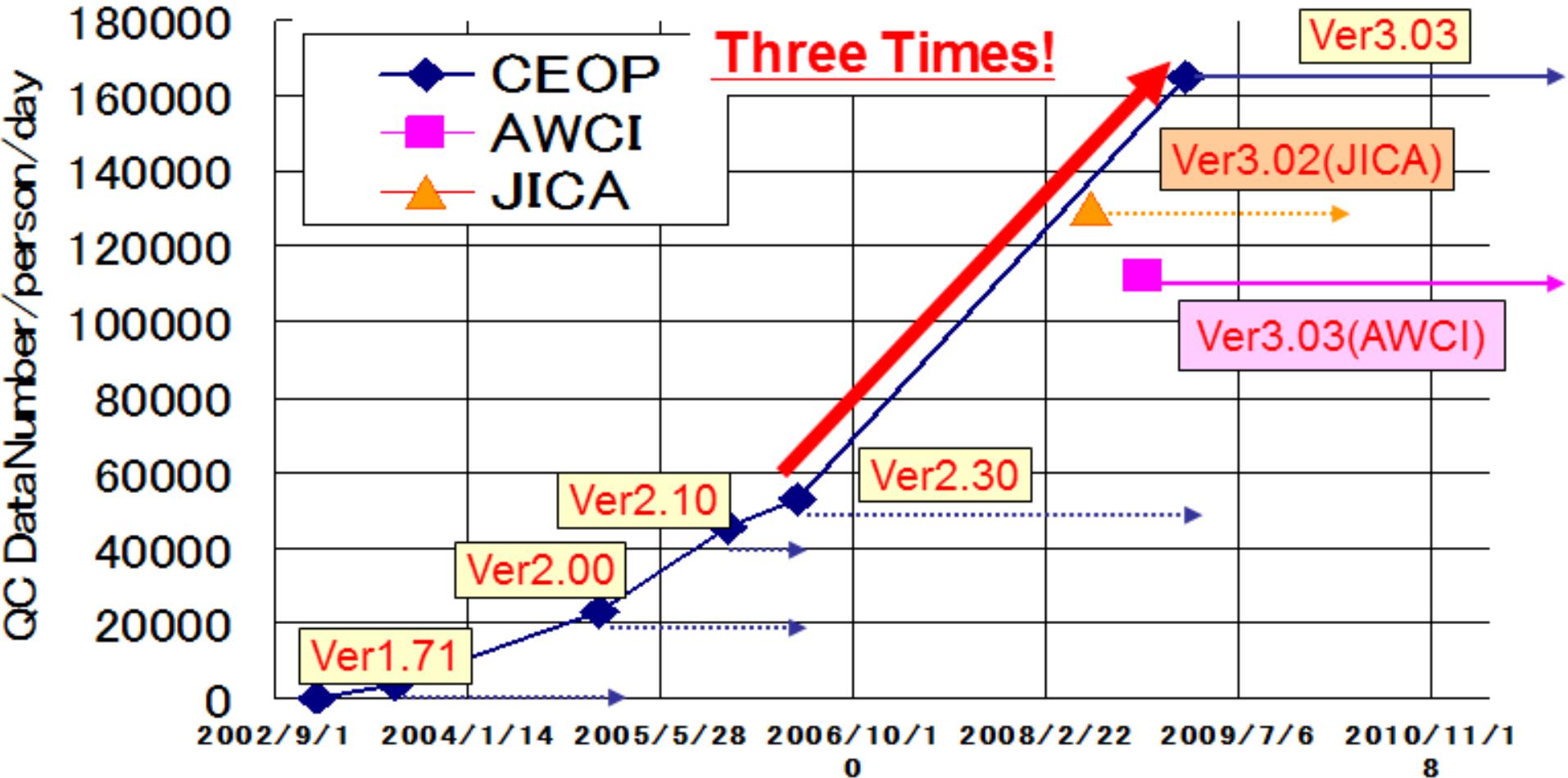
Scale of Graph:

site	station	param	- 1979	1980	1981	1982	1983	1984	1985
Japan_Tone	001:Kumagaya	11:Precipitation							
Japan_Tone	002:Maebashi	11:Precipitation							
Japan_Tone	003:Mito	11:Precipitation							
Japan_Tone	004:Utsunomiya	11:Precipitation							
Malaysia_Lenggong	001:R2717114	11:Precipitation							

Click here to select all stations for downloading.

Or choose to download data for a single station.

Effect of the System !

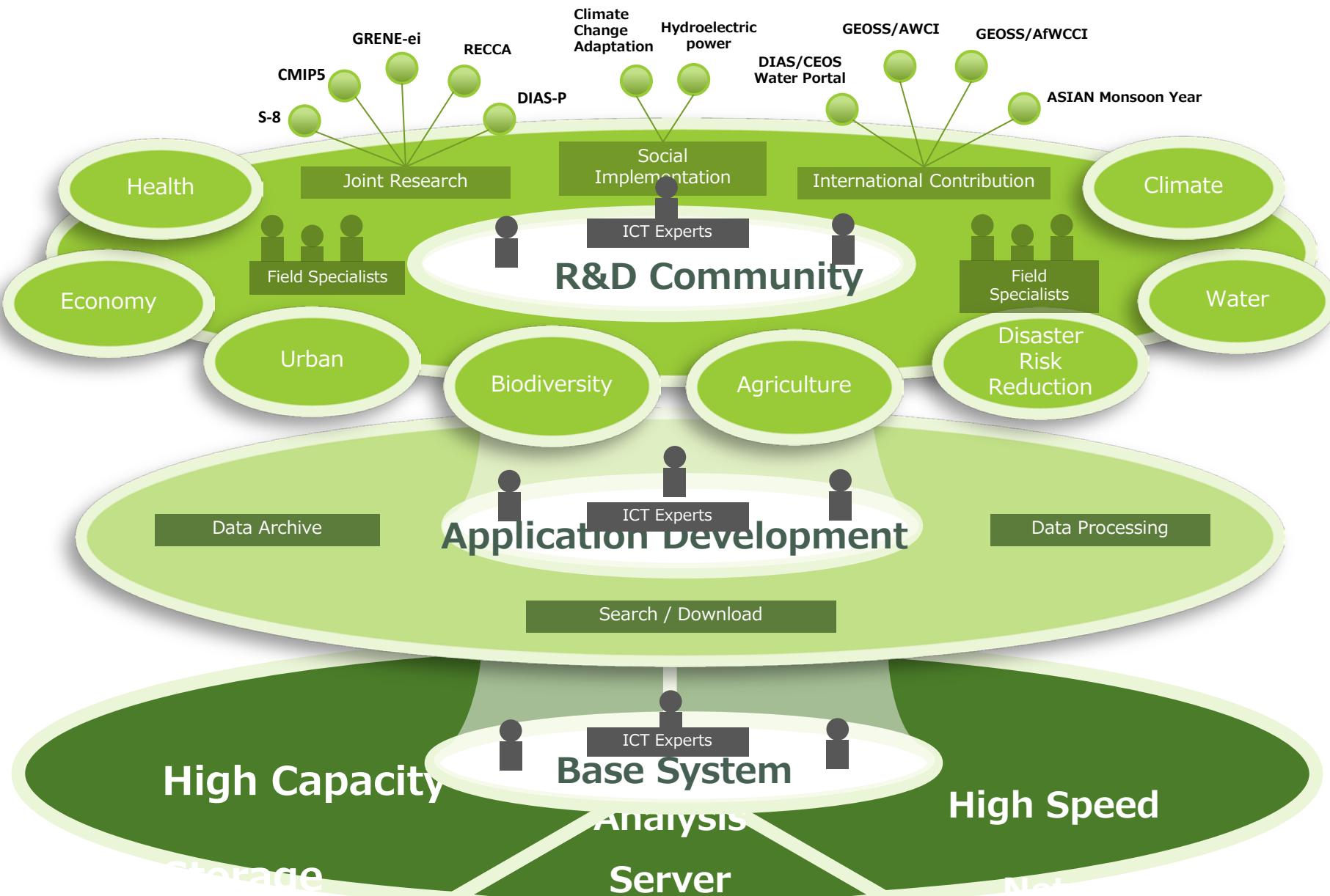


1. Overview of DIAS

1. AWCI Data Archive System

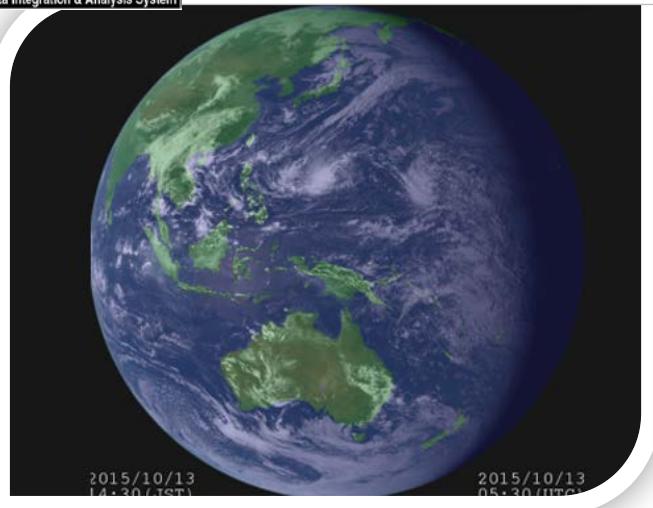
1. Benefit of the use of DIAS as a platform for AWCI

DIAS: Structure

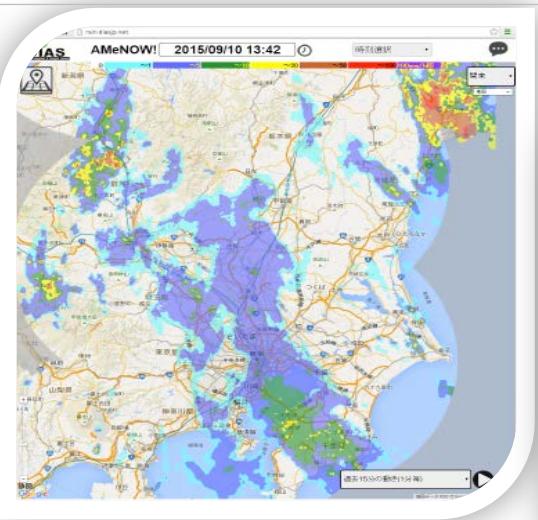


35 Applications and tools

< <http://www.diasjp.net/en> >



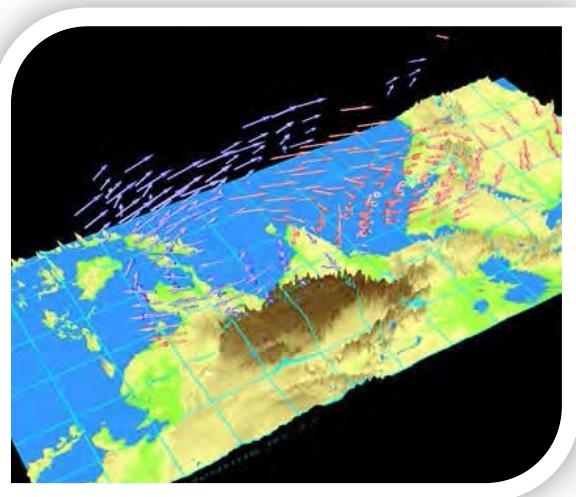
Himawari 8 (GMS) Real-time Visualization Tool



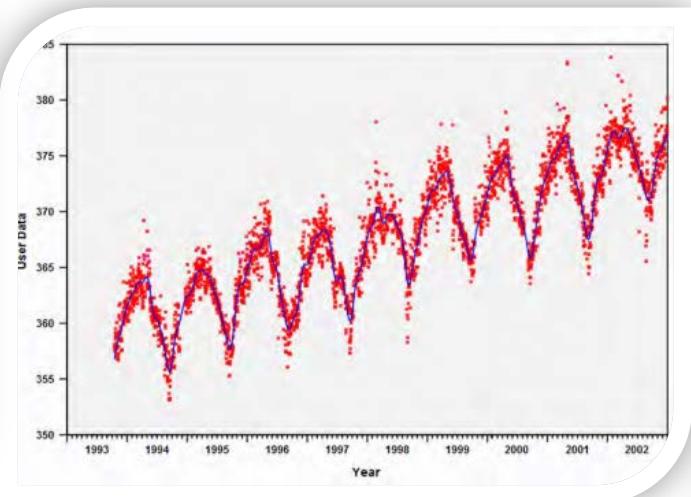
Radar Rain Real-time Visualization Tool



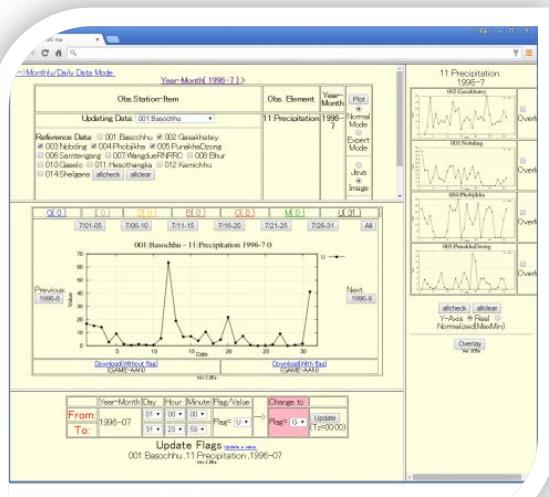
Simulation Model for Rice-Weather relations



3D Visualization Tool

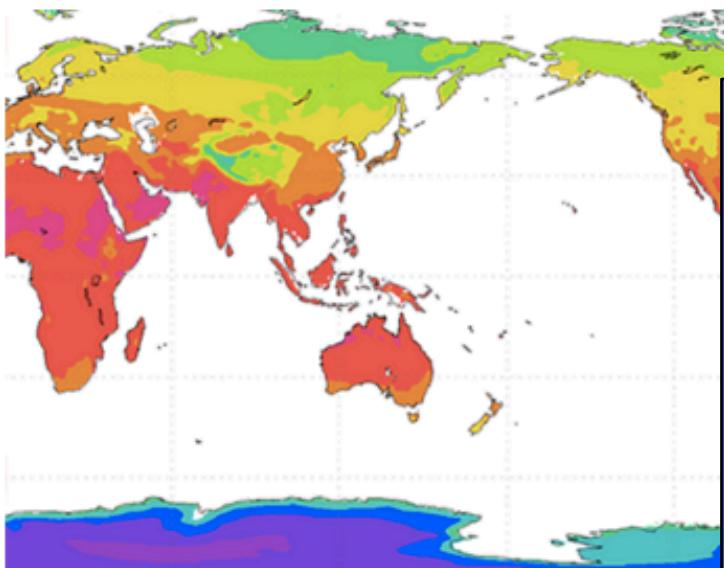


Earth Observation data Analysis Tool



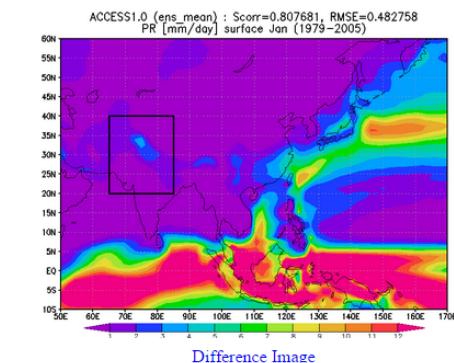
In-situ data Quality Control Tool 13

CMIP5 Data Analysis System

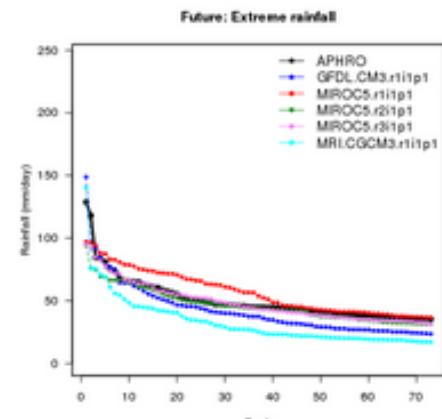
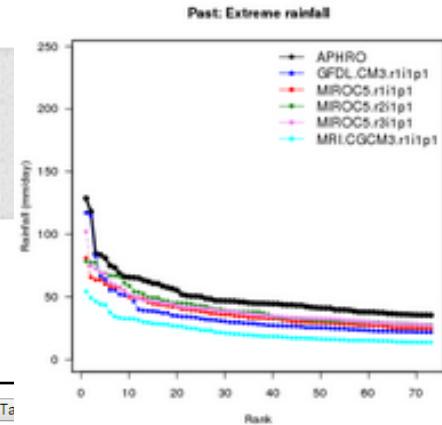
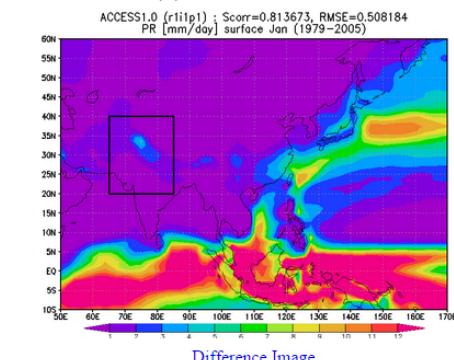


CMIP5 (10 models / 66 ensemble members): [Open in New Tab](#)

ACCESS1.0



Ensemble member (3)



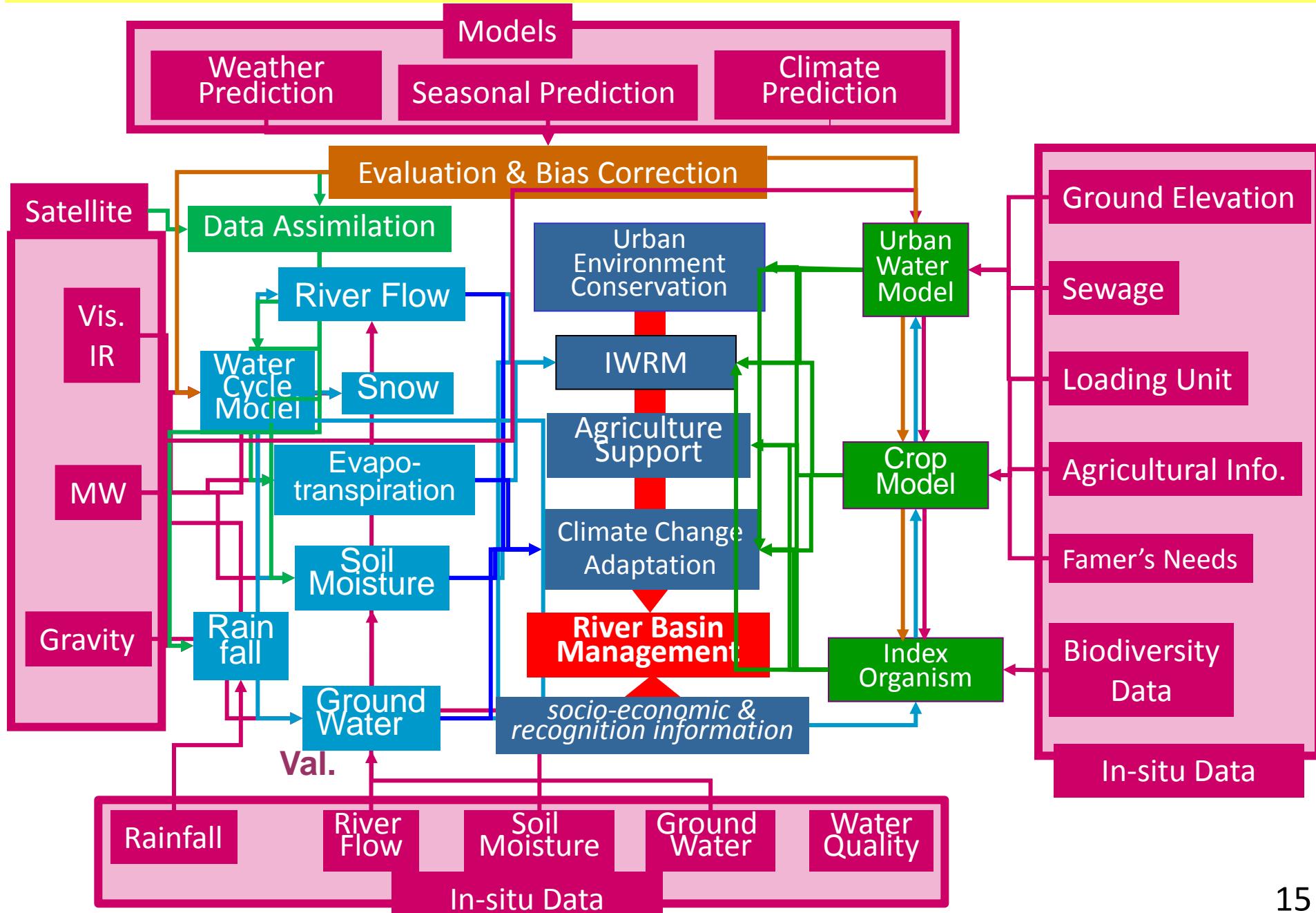
This system is comprised of a set of tools that provide the Intercomparison Project Phase 5 (CMIP5), which has wide-reanalysis data as reference data for comparison with CMIP5, reproducibility of climate models.

HOW TO USE

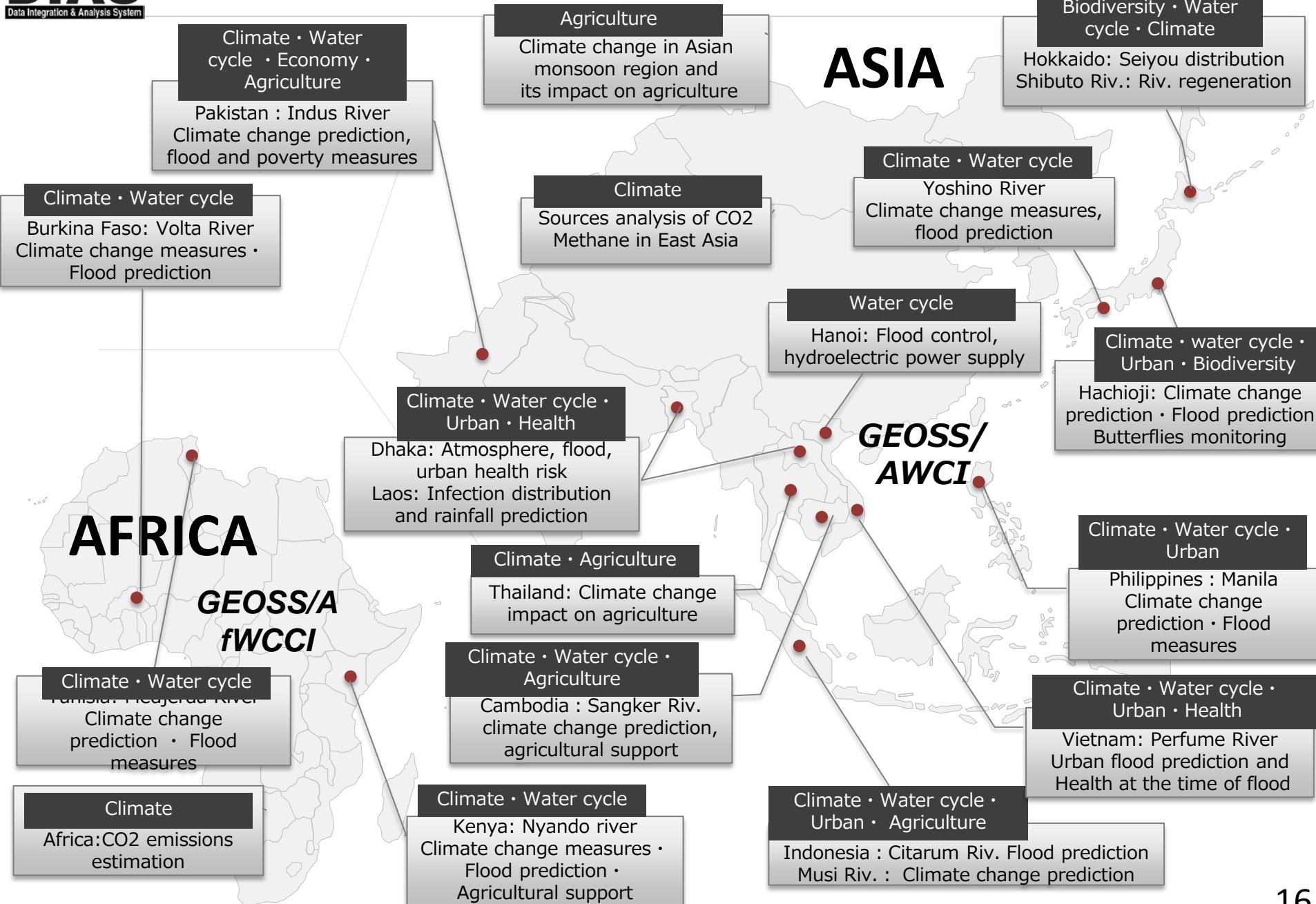
A common web application account is necessary.

Please contact the DIAS Office for details.

Water Cycle Integrator (model)



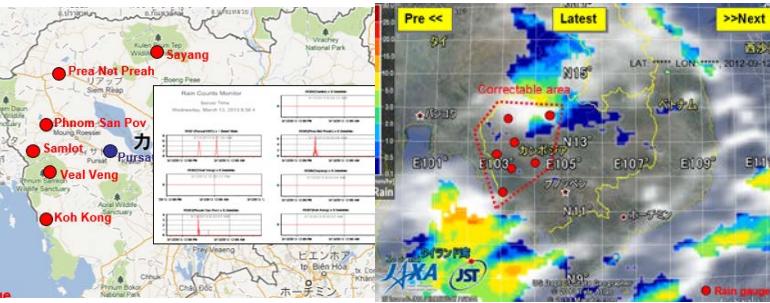
On-going projects and practices



Water-Climate-Agriculture Workbench in Cambodia



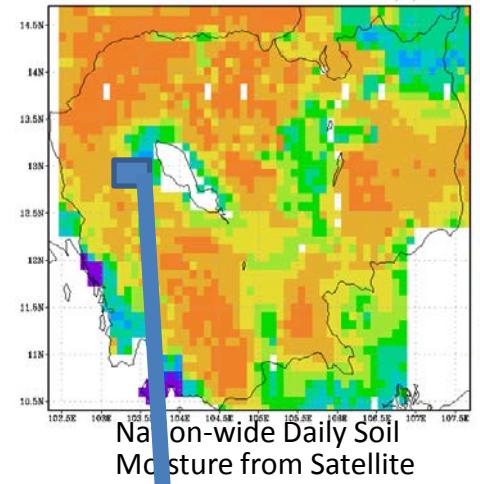
Stakeholder Meeting



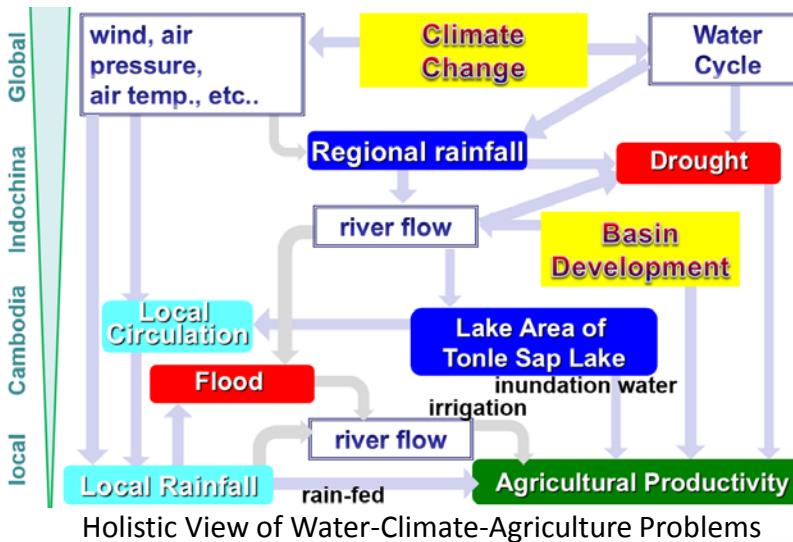
Real-time Rain Gauge → Satellite Data Correction
→ Wide Data Dissemination



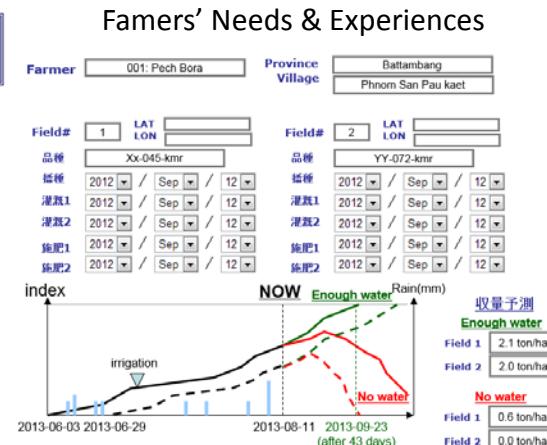
Farmers' Needs & Experiences



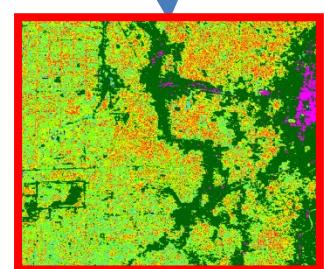
Nation-wide Daily Soil Moisture from Satellite



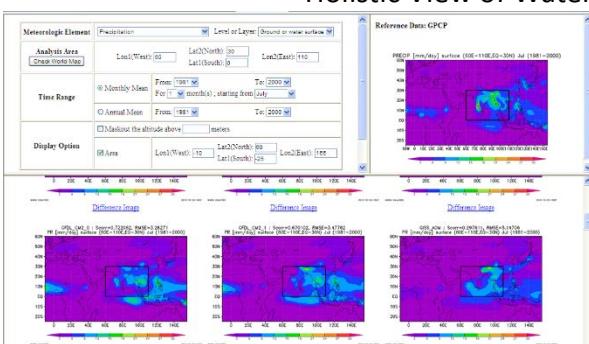
Holistic View of Water-Climate-Agriculture Problems



Water Cycle-Rice Production Coupled Model



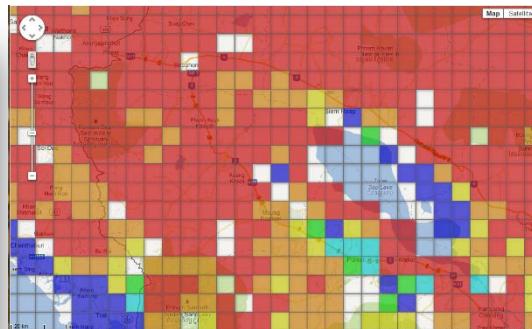
Local Information



Climate Change Analysis Tools

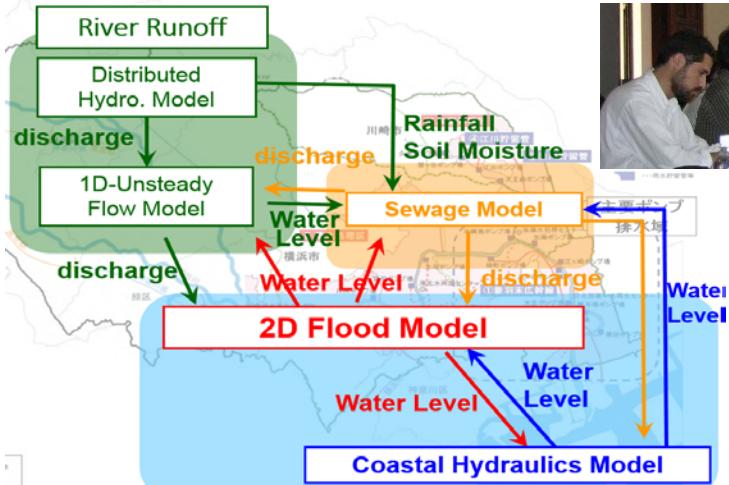


OJT for Local Practitioners

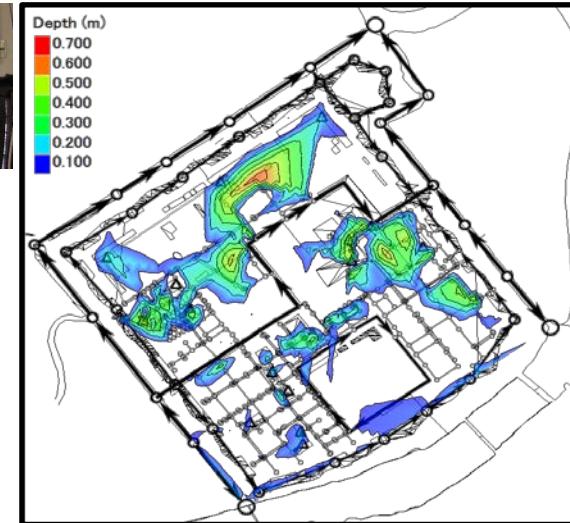


Rice Production Monitoring

Integration of River-Sewage-Public Health in Hue, Viet Nam



Stakeholder Meeting for Co-design



risks of infection from exposure to pathogens



EXPOSURE ASSESSMENT



HAZARD IDENTIFICATION



DOSE RESPONSE



RISK CHARACTERIZATION

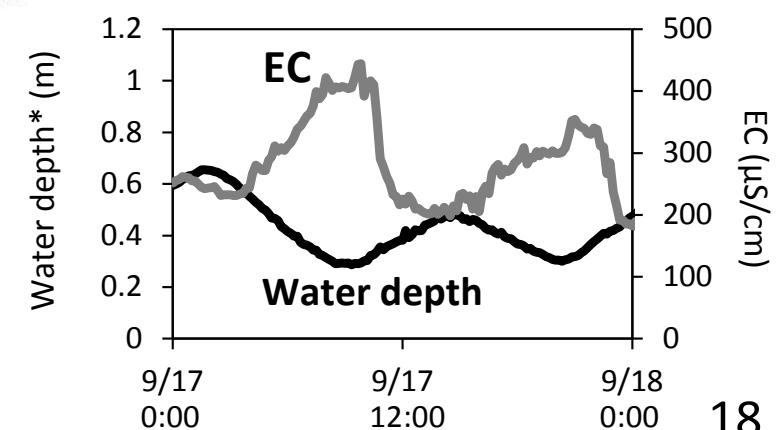


RISK MANAGEMENT

inundation affected by river flood and sea tide.

water quality:
stagnant or diluted by
river water.

Inundation depth (cm)	Non-adults		Adults	
	Exposure Pathway	Exposure Duration	Exposure Pathway	Exposure Duration
10 - 50	Indirect ingestion	< 20% of time outdoor spent in contact with water	Indirect ingestion	< 25% of time outdoor spent in contact with water
50 - 100	Direct ingestion	< 40% of time outdoor spent in contact with water	Indirect ingestion	< 50% of time outdoor spent in contact with water
100 - 200	Direct ingestion	< 60% of time outdoor spent in contact with water	Direct ingestion	< 75% of time outdoor spent in contact with water
> 200	Direct ingestion	< 80% of time outdoor spent in contact with water	Direct ingestion	< 100% of time outdoor spent in contact with water





For Massive and Diverse Data

DIAS is an engine for creating scientific knowledge and public benefit through integrating and analyzing diverse data and collaborating across various fields of application.

DIAS System



Research Area



Climate/Weather



Water



Urban



Disaster Risk Management



Agriculture



Biodiversity



Health



Economy

News

03 DIAS-GRENE-ei final report session and workshop

Events

DIAS-GRENE-ei environmental information integration program final report session and

Testimonials



"We have entered the period of Big Data, which recognizes the