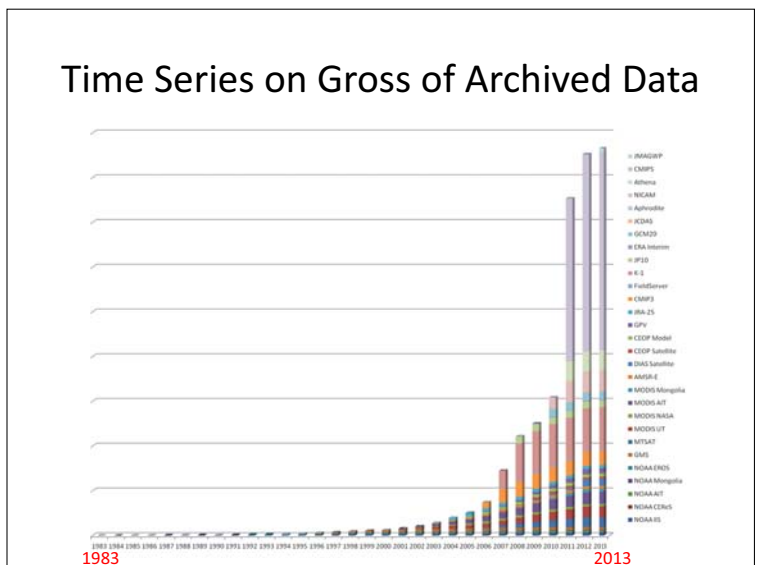
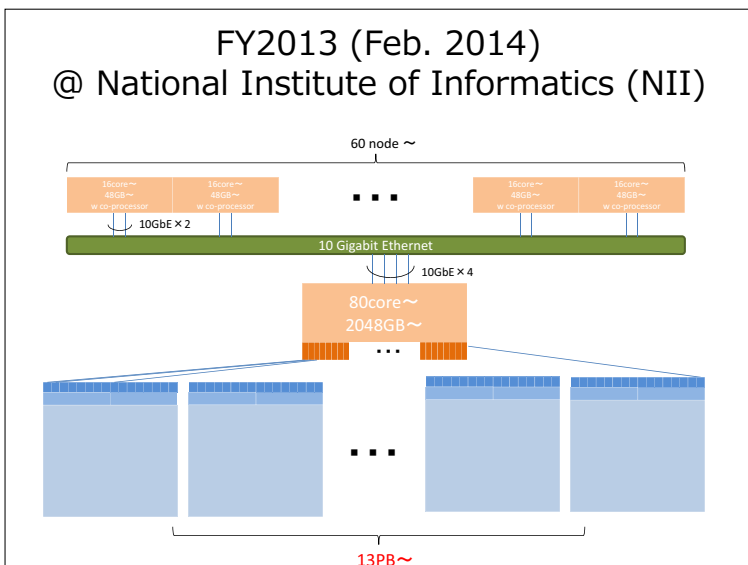
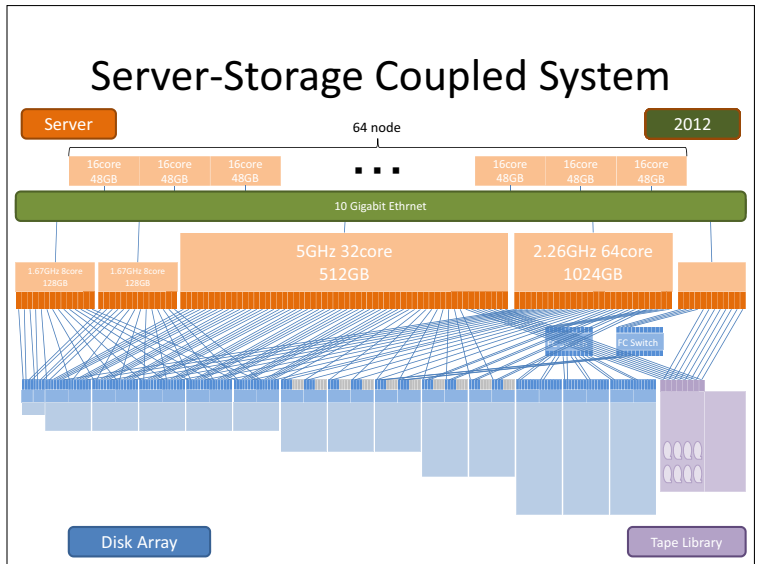
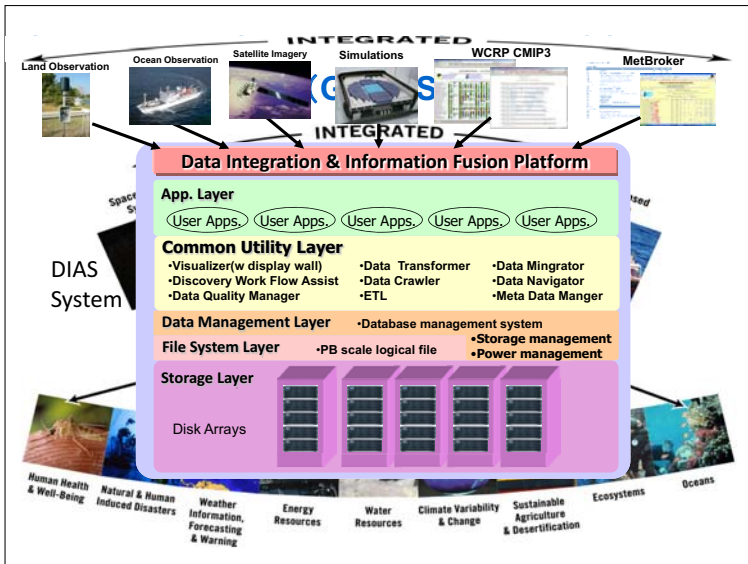


Development of the Web-based System

Masaki YASUKAWA, Masaru KITSUREGAWA
 Institute of Industrial Science,
 the University of Tokyo

Data Integration & Analysis System (DIAS)



Web Based System for Real-Time Monitoring in Cambodia

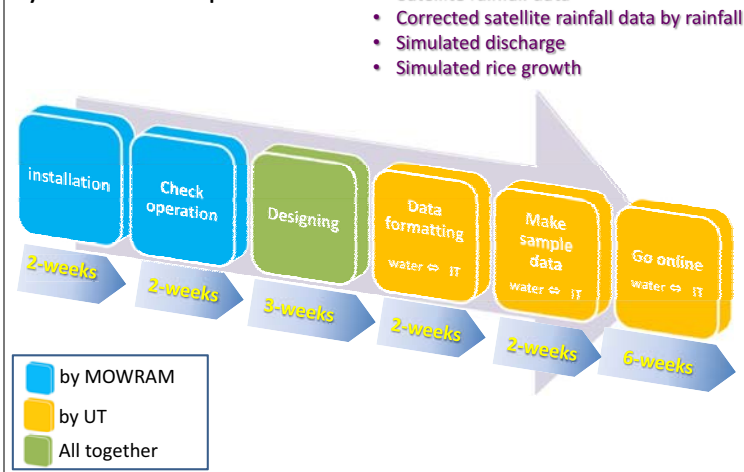
- Monitoring data (rain-gauge, GSMaP, rice simulation output) in Cambodia is archived on DIAS
- Various applications (data transfer, format conversion and data viewer) are developed
- Web-Based System on DIAS
- Data is archived from March 2013
- This system is operating from June 2013

Development of the Web-based System (for Monitoring Data in Cambodia)

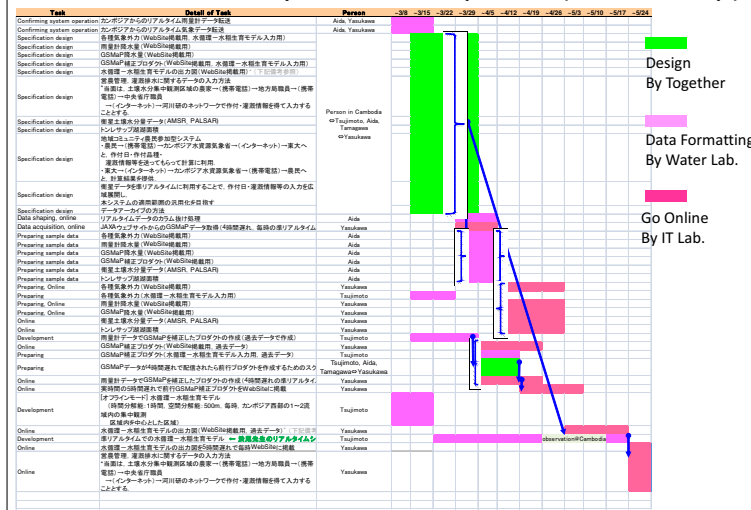
Rain-gauge Data (In-situ)	Original data (6 stations: every 1 minute, 43,200 records/month/station, 1 station: every 10 minutes, 4,320 records/month/station) Totalizing data (every {10 minutes, 1 hour, 24 hours, 10 days, 30 days, 1 year})
Weather Data (In-situ, AWS)	Original data (1 station: every 10 minutes elements: wind speed, wind direction, air temperature, humidity, air pressure, soil temperature, soil moisture, soil heat flux, etc.) Average data (every {10 minutes, 1 hour, 24 hours})
GSMaP Data	Original data (Cambodia area, hourly, resolution:0.1deg., CSV format) Corrected data (float type, BSQ format, 720 data/month, 9MB/month)
Output Data of Rice Simulation	Area: Sangker River, Resolution:500m, Hourly, float type BSQ format, Elements: dry matter production[g/m^2], DVI, water demand [mm], root zone soil moisture, LAI Data size: 12GB/h/each-water-supply (rain-fed, irrigation, dam)

Archive of Real-time Monitoring Data in Cambodia

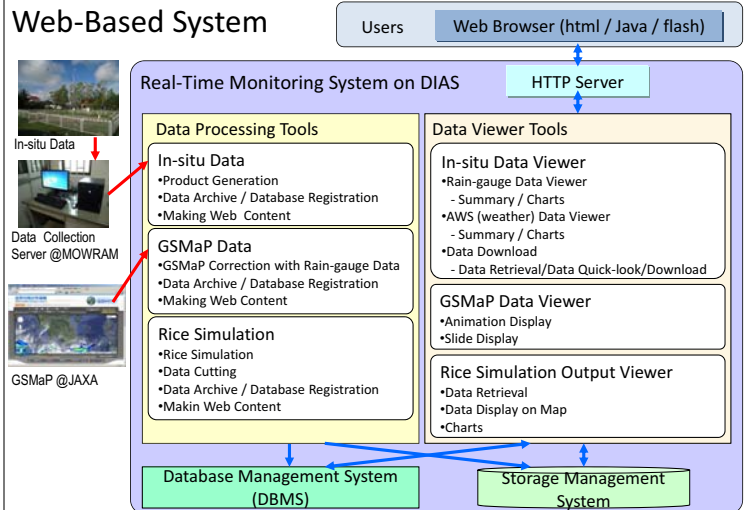
Schedule Flow for System Development



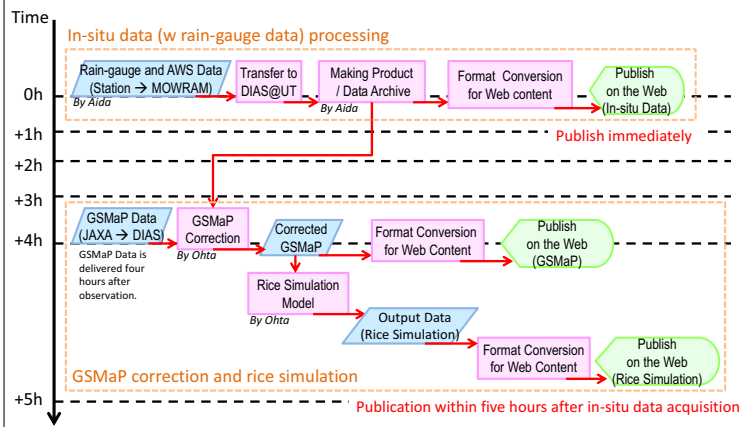
Schedule Flow for System Development (in UT Group)



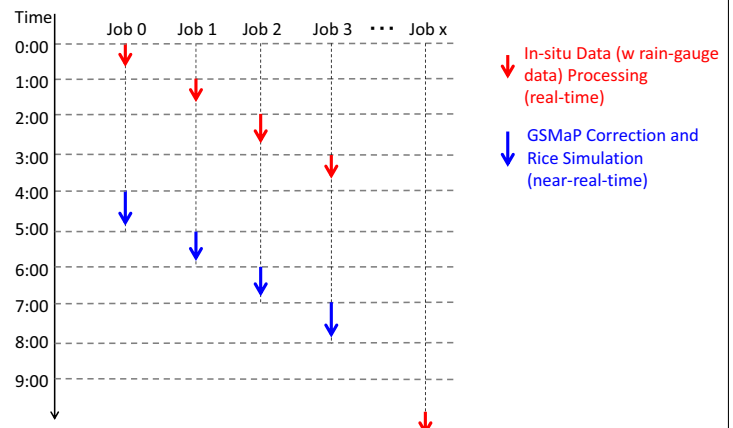
Architecture of Web-Based System



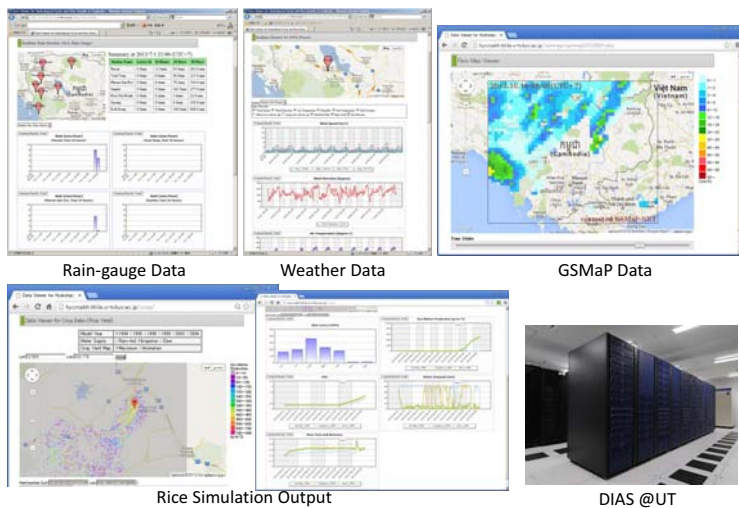
Real-Time Processing Flow for Monitoring Data in Cambodia



Real-Time Processing Flow (hourly processing)



Data Viewer Tools



Summary

- Development of the Web based system
 - Tools for preparation of web content
 - Data transfer / format conversion
 - Data viewer tools
 - In-situ data (rain-gauge, AWS)
 - Corrected GSMaP
 - Rice simulation output

In future,

- Improvement and enhancement of the system by needs
 - Ex.
 - Variety of data
 - Function of tools