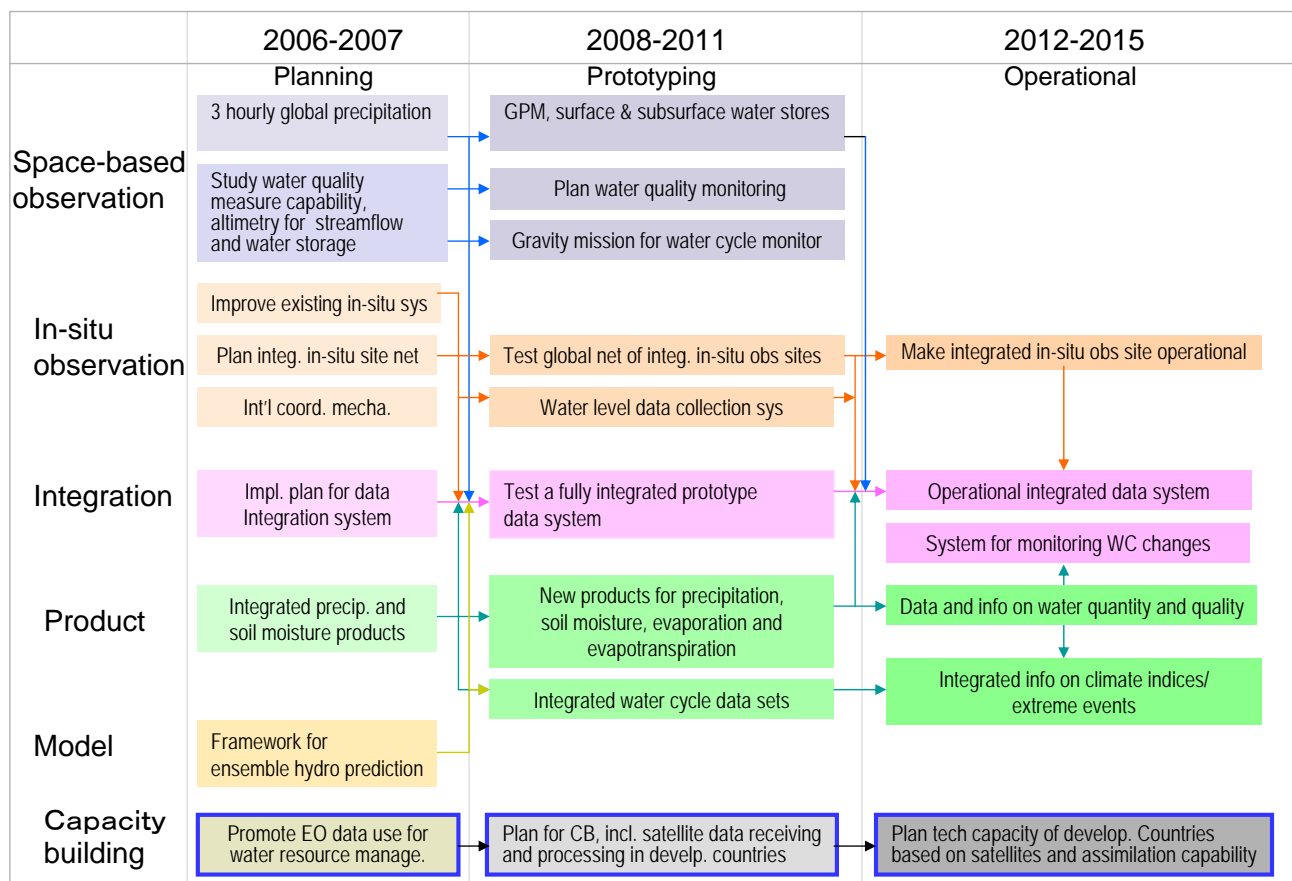


AWCI Capacity Building

December 2, 2007

Japan Aerospace Exploration Agency
Chu Ishida

GEOSS 10 Year IP Water Societal Benefit Area

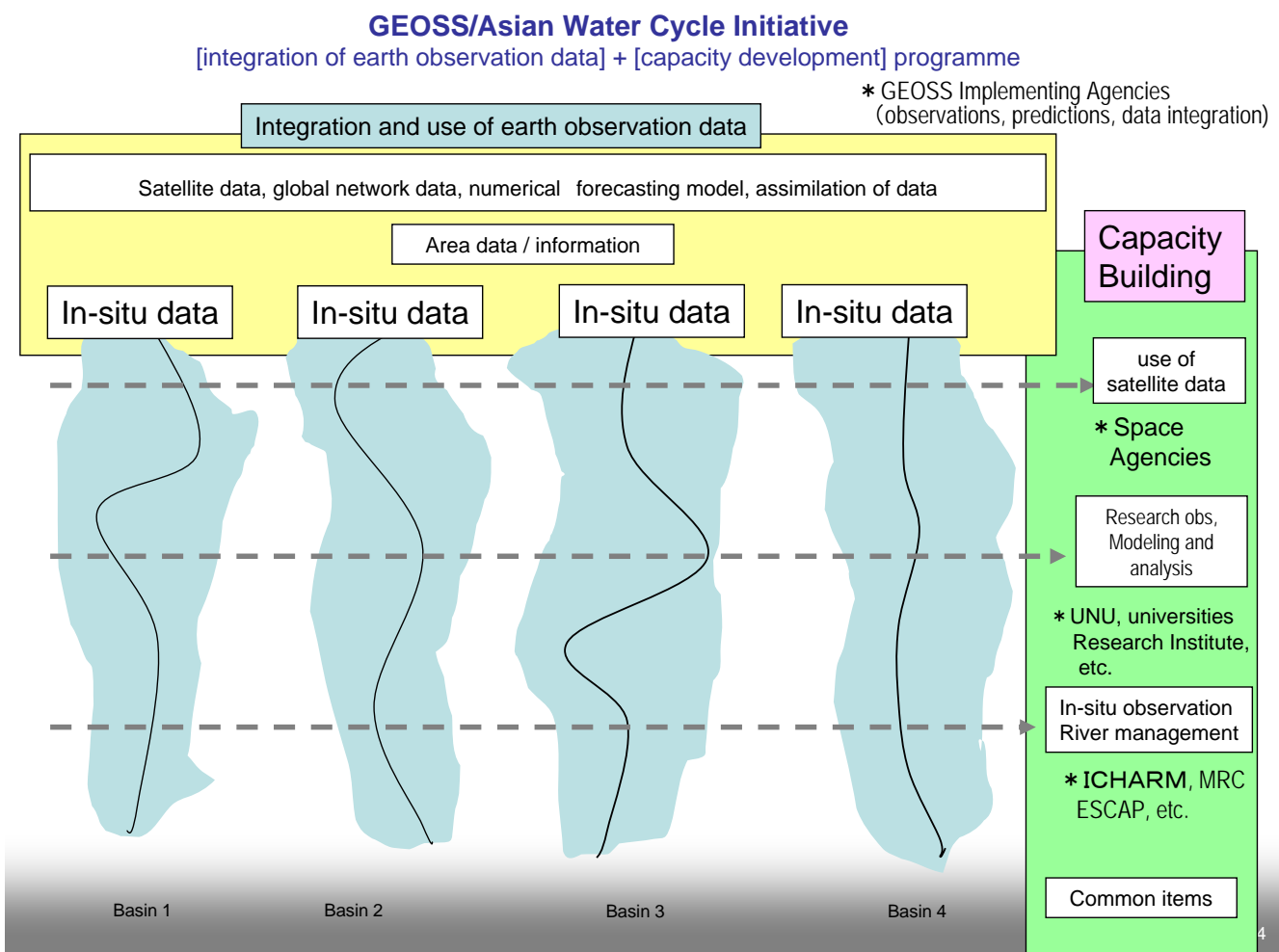


WA-06-06: Workshops for Water Resource Management (completed)

Promote best practices in Earth observation application for integrated water resource management in developing countries by supporting a series of workshops in South America, Asia, Africa, and a Small Island nation.

WA-06-07: Capacity Building Program for Water Resource (ongoing)

Initiate capacity building programs to develop tools for using Earth observations in support of water management, and to show the value of Earth observations generally in water resource management. The program will be initiated in Latin America and will then be extended to Asia and Africa.





AWCI/ICG meeting

Bali, Sep 30, 2007

- International Coordination Group (ICG) discussed a draft AWCI Implementation Plan and agreed on the content and schedule.
- Each country presented a demonstration project idea for AWCI and capacity building requirements.
- Two page template for a demonstration river basin were requested as basis of individual basin IP.
 - 1) Background, targeted issues and objectives
 - 2) River basin characteristics
 - 3) Observation system
 - 4) Models, GIS, data availability
 - 5) Schedule

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AWCI Implementation Plan as discussed in Bali ICG, Sep 2007

1. Objectives
2. Convergence of Observation
 - Data Integration and Analysis
 - Modeling and Prediction
 - Data Policy and Information Sharing
- 3 Capacity Building
 - General Approach (*each WG 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

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Follow-up activities, proposals

- Prof. Herath/UNU, kindly developed the Capacity Building Frame Work for AWCII
- He also developed Flood WG demonstration project structure.
 - Real time flood forecasting
 - Flood scenario development
- Four proposals to the APN 2007 Annual Regional Call for Proposals (ARCP) were developed.
- Questionare on capacity development priority was prepared by Prof. Herath.

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Capacity Building needs and proposals

Country	Areas			Capacity Building needs	Capacity Building proposals
	Flood	Drought	WQ		
Bangladesh	X		X	RS data, On-site monitoring sys, Software, Training, Info dissemination sys	
Bhutan	X			Flood Forecasting and Early Warning Systems at regional, national and local levels	
Cambodia	X	X	X	Training and skill development on Flood forecasting and warning	
China	X	X	X	Flood and drought forecasting	
Indonesia	X	X			Flood and drought risk map generation
Lao PDR	X			Training (DB management, GIS, watershed management, etc)	Strengthen data collection for flooding in Sebangfai River
Mongolia		X		Data quality check, data sharing, new models	
Myanmar	X			Technology transfer for flash flood forecasting, high spatial satellite RS data	Flash flood forecasting in Shwegyin Basin
Philippines	X			Training on use radar and satellite images in rainfall estimation and forecasting Access to output of GCMs Integration of in-situ and satellite data in flood and drought monitoring Flood hazard mapping Climate change scenario building	Pampanga river basin
Sri Lanka				CB for policy makers, professionals and implementation officers, technical support staff, end users of water resources	
Thailand	X	X		Data assimilation Climatic model for long range forecast Radar interpretation Meteorological early warning system	
Vietnam	X	X	X	Technical transfer of forecasting models and methods Transform satellite data into information Training of GIS and mapping	Proposal of demonstration projects -Flood forecasting: Huong river basin -Water quality: Huong river basin -Drought forecasting: Sough-Central region

Source: GEOSS/AWCII AP Symposium, Jan 2007

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Capacity Building Resources in Asia Pacific

Capacity Building Provisions							January 12, 2007
Program	Policy Maker/Administrator		Experts/Practitioner		Scientists/Researchers		Remarks
	Data to Info	Info to Appli	Data/Product access	Info to Appli	Data/Product access	Info to Appli	
CEOP	Data/Product access		Data/Product access		Data/Product access	Q/C	
			Workshop		Workshop		
GWSP					Training&research workshop for young scientist		
		Web-based teaching packages	Web-based teaching packages		Devlop new university curricula		
UNU			Tools -flood inundation modeling -flood loss estimation -rainfall downscaling and forecasting		Tools -flood inundation modeling -flood loss estimation -rainfall downscaling and forecasting		
			Training program		Training program		
ICHARM	Global Flood Alart System(GFAS)		GFAS		GFAS		
			Integrated Flood Analysis System (IFAS)		IFAS		
			Training coures -Flood hazard mapping -River and dam engineering		Training coures -Flood hazard mapping -River and dam engineering		
			Aftercare program		Aftercare program		
					Master course on flood mitigation		
MRC	Intrgated Capacity Building Program -Training in project management -Training in Information Management and Communication -Training in Environmental Program -Junior Riparian Professional Program -Strengthening Core Activities of MRC -Research Coordination -Gender Mainstreaming		Regional/national trainings/workshops -River basin planning -Watershed management -Project management -Water quality analysis -Flood hazard mapping -Flood emergency management -Mediation of trans-boundary conflict issues -Mathematical Modelling -Satellite rainfall estimation		Regional/national trainings/workshops -River basin planning -Watershed management -Project management -Water quality analysis -Flood hazard mapping -Flood emergency management -Mediation of trans-boundary conflict issues -Mathematical Modelling -Satellite rainfall estimation		
China	Flood and Drought Management system Training		Flood and Drought Management system Training		Flood and Drought Management system Training		
Heihe RiverBasin			Data&Product access		Data/Product access		
JACCO							
PUB					WG and Projects		
JAXA/AIT					Mini-projects		
JAXA/AIT	Caravan training		Caravan training		Caravan training		
JAXA			ALOS Pilot Project		ALOS Pilot Project		Thailand, Indonesia
	Sentinel Asia		Sentinel Asia		Sentinel Asia		
MAIRS			enhanced observation		enhanced observation		
			Regional model develo		Regional model develo		

Capacity Building Needs vs. Resources Matrix

		Bangladesh		Bhutan	Cambodia	China	Indonesia	Lao PDR	Mongolia	Myanmar	Philippines		Sri Lanka	Thailand												
		RS date	On-site monitoring	Software	Training	Information dissemination sys	Flood forecasting and EWS	Flood forecasting and warning	Flood and drought forecasting	Flood and drought risk map	Flood	Flood and drought forecasting	Remote sensing application	Drought	Flash flood forecast	radar and sat data use traini	Access to GCM output	in-situ and sat data integrati	Flood hazard map	Climate change scenario	Capacity building	Data assimilation	Climate model for long range forecast	Radar interpretation	Meteorological EWS	
CEOP	data integration service	2	2	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0
	QC service	2	2	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0
GWSP	Global DB(Digital Atlas, Dam)	1	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	training &research workshop	0	0	0	1	0	1	1	1	1	1	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0
	University curricula	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Web-based teaching package	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2
UNU	flood inundation modelling	0	0	1	1	0	2	2	2	2	2	2	0	1	2	0	0	0	2	0	0	1	0	2	0	2
	loss estimation	0	0	0	1	0	1	1	1	1	1	0	1	1	0	0	0	1	0	0	1	0	1	0	0	1
	rainfall downscaling and forecast	0	0	0	1	0	2	2	2	2	2	2	0	1	2	0	0	0	2	0	0	1	2	2	2	2
ICHARM	Global Flood Alert System	2	0	0	0	0	2	2	2	2	2	2	0	2	0	0	0	2	0	0	0	0	0	0	0	1
	flood hazard map training	0	0	0	2	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	2	0	0	0	1
	river and dam engineering training	0	0	0	2	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	2	0	0	0	0
	Master course on flood mitigation	0	0	0	2	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	2	0	0	0	0	1
MRC	river basin management training	0	0	0	2	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	2	0	0	0	0	1
	water quality analysis training	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
	flood hazard mapping training	0	0	0	2	0	2	2	2	2	2	0	0	2	0	0	0	2	0	0	2	0	0	0	1	2
	flood emergency management training	0	0	0	2	0	2	2	2	2	2	0	0	2	0	0	0	2	0	0	2	0	0	0	0	0
	mathematical modelling training	0	0	0	2	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	2	0	0	2	0	0
	satellite rain estimation training	0	0	0	2	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	2	0	0	2	0	2
China	flood and drought management system	0	0	0	1	1	1	1	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	2
	training	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	1	
	data&product access	1	1	0	2	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	2	1	0	2	
PUB	WGs and projects	0	0	0	1	0	1	1	1	1	1	0	1	1	0	0	0	1	0	0	1	1	1	1	0	0
JAXA/AIT	Mini-projects	2	2	1	2	0	2	2	2	2	2	2	1	2	0	0	0	2	2	0	2	0	0	0	1	2
	Sentinel Asia	1	0	0	2	2	2	2	2	2	2	1	0	2	0	0	0	2	2	0	2	0	0	0	0	0
MAIRS	Enhanced observation	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	1	0	2	2	2	2
	regional model development	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	

Legend: 3: being applied 2: applicable 1: potentially applicable 0: not applicable
 Source: GEOSS/AWCI AP Symposium, Jan 2007, AWCI ICG meeting, Sep 2007



Next steps for AWCI Capacity Building

- Draft AWCI Implementation Plan was developed with inputs from the country representatives.
- Review and revision should be made for finalization and adoption of the document.
- Implementation should start from 2008.
- GEOSS Asia Pacific Symposium (March 2008, Tokyo) should be an occasion to confirm readiness (or progress) of the implementation.