

MAHASRI

Monsoon Asian Hydro-
Atmosphere Scientific
Research and Prediction
Initiative

<http://mahasri.cr.chiba-u.ac.jp/>



Jun Matsumoto

Department of Geography, Tokyo Metropolitan University
JAMSTEC/ IORGC

Objective

"To establish hydro-meteorological prediction system, particularly up to seasonal time-scale, through better scientific understanding of Asian monsoon variability".



Long-term Time Schedule

- October, 2006-March, 2010: Research phase I (2006-2007: Build-up new observation systems)
- 2008(-2009): IOP-year (AMY: Asian Monsoon Year)
- 2011-2014: Research phase II
- 2015: Concluding phase

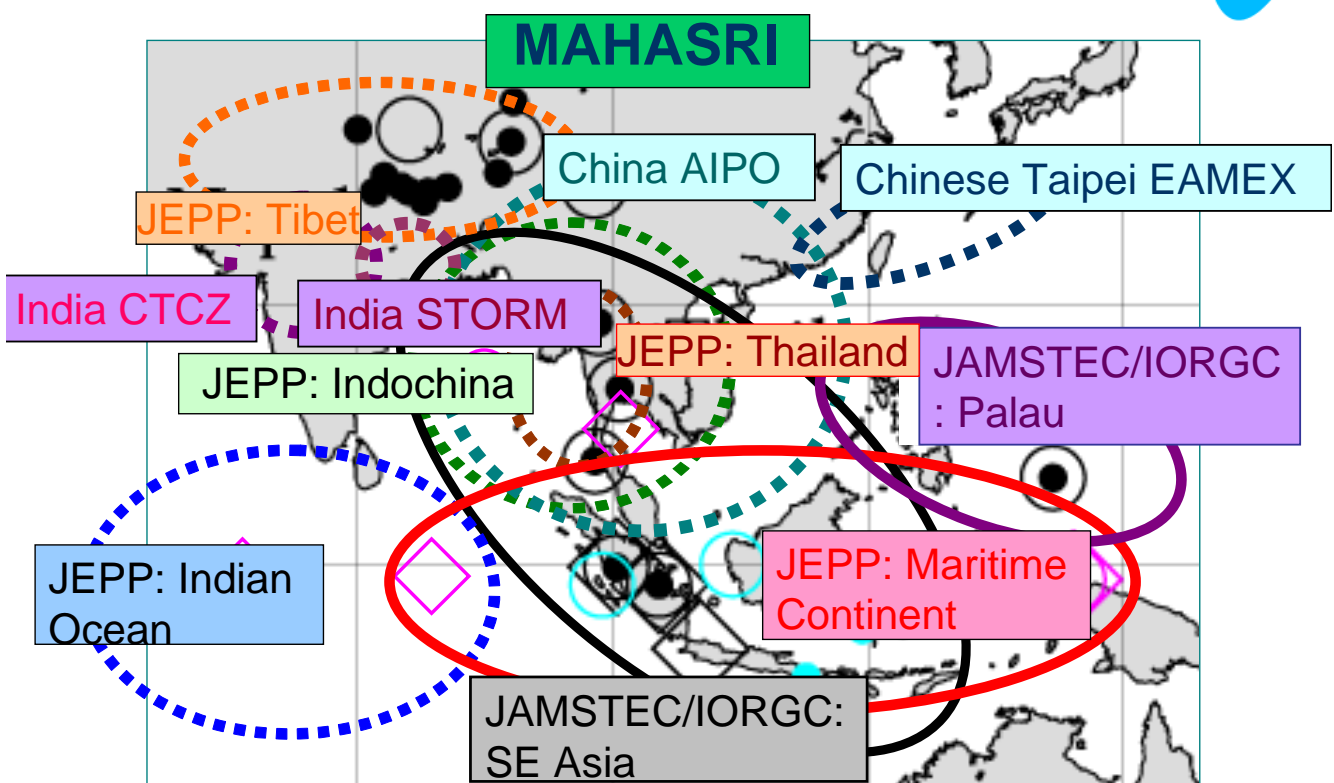
Key Science Issues (1)

- Atmosphere-ocean-land interactions in the Asian monsoon system- **Collaboration with CLIVAR**
- Scale-interactions among diurnal, synoptic, intraseasonal and seasonal variability of Asian monsoon rainfall - **Collaboration with CLIVAR**
- Effect of various-scale orography on monsoon rainfall

Key Science Issues (2)

- Effect of human influences (i.e., aerosols, land-use change, and greenhouse-gas increase) on hydro-meteorological variations in Asian monsoon regions – **Collaboration with MAIRS**

MAHASRI and related Projects



AMY (Asian Monsoon Year) is planned from April 2008 to March 2009

New field observation plan

- **Asian Monsoon Year (AMY)-2008
in collaboration with MAHASRI**

Japan- JEPP, JAMSTEC/IORGC

China- 973AIPO

India- CTCZ

Australia etc. - SPICE

THORPEX-YOTC

Objective of AMY'08

- To improve Asian monsoon predictions, in particular, in intraseasonal and seasonal time scales

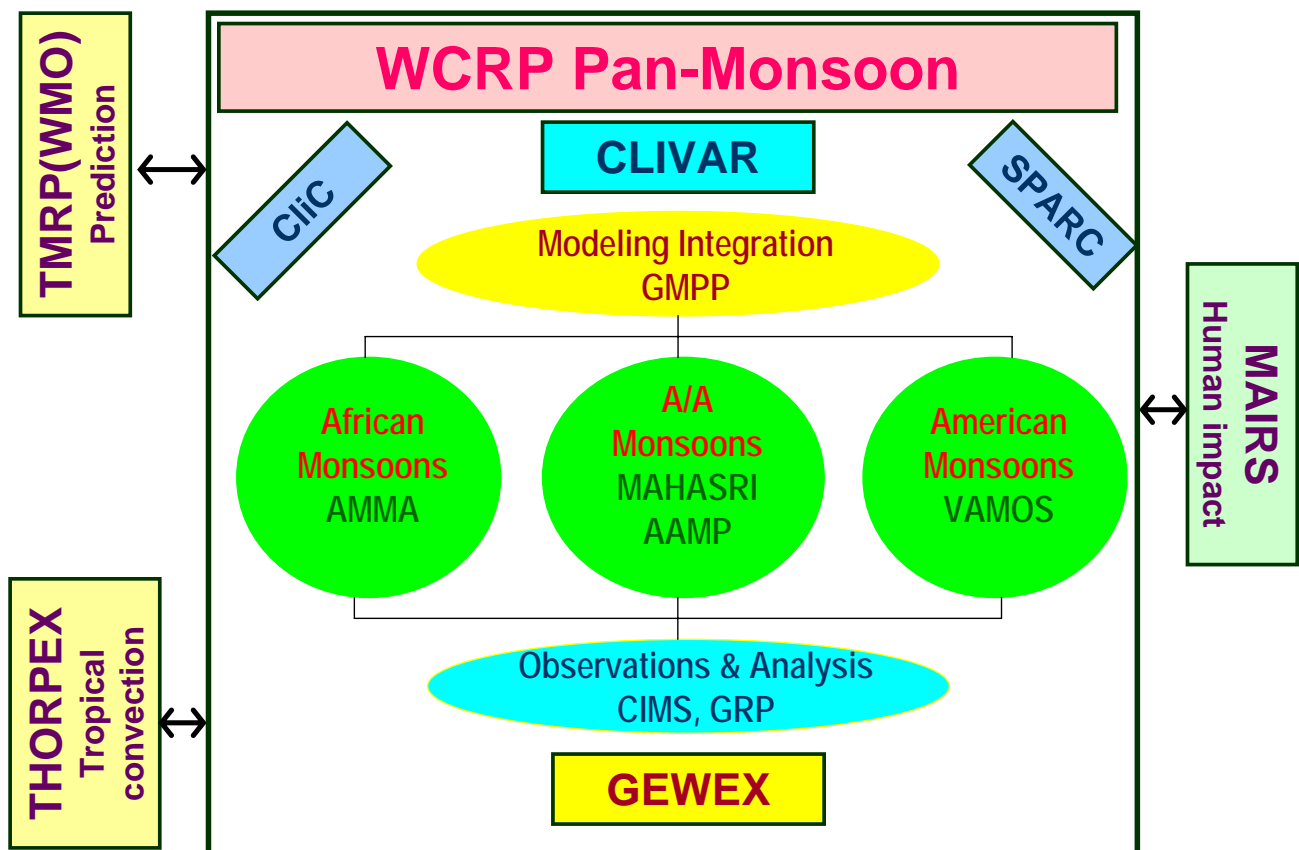
To attain its goal....

- Clarify multi-scale interactions among diurnal, synoptic and intraseasonal variations of Asian monsoon
- Clarify land surface processes related with Asian monsoon variability
- Clarify the role of aerosol on Asian monsoon variability

Strategy for a project of projects

1. Data needs from whom and purpose, e.g. process study, validation, intercomparison, etc.
 - Space agencies: Reference site/monsoonal region products
 - NWPCs: MOLTS, 3D prediction (global-, meso-scales)
 - Global data centers: radiation, precipitation, river
 - AWCI: river basin characteristics and stream flow
2. Data infrastructure need purpose
 - Meta data registry
 - Data quality check, format conversion
 - Data explore, visualization, mining, integration, dissemination
3. Climate region/cross-cutting science commonality which can be shared with whom.
 - monsoon, semi-arid, clod, high-mountain
 - WEBS, Aerosol, Extreme (flood & drought), Isotope, HAP
4. Needs for up-scaling and down-scaling
 - Up-scaling by using satellite data and model outputs
 - Down-scaling by using data assimilation and models
5. Needs for pilot demonstrations
 - AMY08, Pan-WCRP Monsoon, IPY
6. Clarification of limitations.

WCRP Pan-Monsoon activities



The 1st Asian Water Cycle Symposium

*The University of Tokyo, Tokyo
Japan, 2-4 November 2005*



GEO Secretary
UNESCO
UNEP
WMO
IGOS
Mekong Committee

Bangladesh
China
Indonesia
India
Japan
Korea
Laos

Malaysia
Mongolia
Pakistan
Philippine
Sri Lanka
Thailand
Vietnam

The Asian Water Cycle Initiative (AWCI) International Task Team (ITT) Working Session



Bangladesh 3
Cambodia 1
Indonesia 1
Japan 2

Lao PDR 1
Myanmar 1
Nepal 1
Pakistan 1

Philippines 1
Sri Lanka 2
Uzbekistan 1
Vietnam 2

Rama Gardens Hotel, Bangkok, Thailand
September 26, 2006

International Workshop on Capacity Building in Asia "Earth Observations in the service of Water Management"

September 26-28, 2006, Bangkok

Co-hosted by GEO, IGWCO, JAXA, Univ. of Tokyo, AIT, UNU, WMO, WCRP, UNESCAP, ICHARM



The 2nd Asian Water Cycle Symposium

The University of Tokyo, Tokyo

January 9-10, 2007



29 Countries and 176 participant

Parallel Session(2)

Resolving the climate change and water cycle



GEOSS/Asian Water Cycle Initiative

[integration of earth observation data] + [capacity development] programme

* GEOSS Implementing Agencies
(observations, predictions, data integration)

