

# 2<sup>nd</sup> Asia Water Cycle Symposium (AWCS)

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## *Medium Term Flood Forecasts in Mekong River Commission & Possible Cooperation*

*Presented by*

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# Mekong River Basin

## The Mekong River Basin

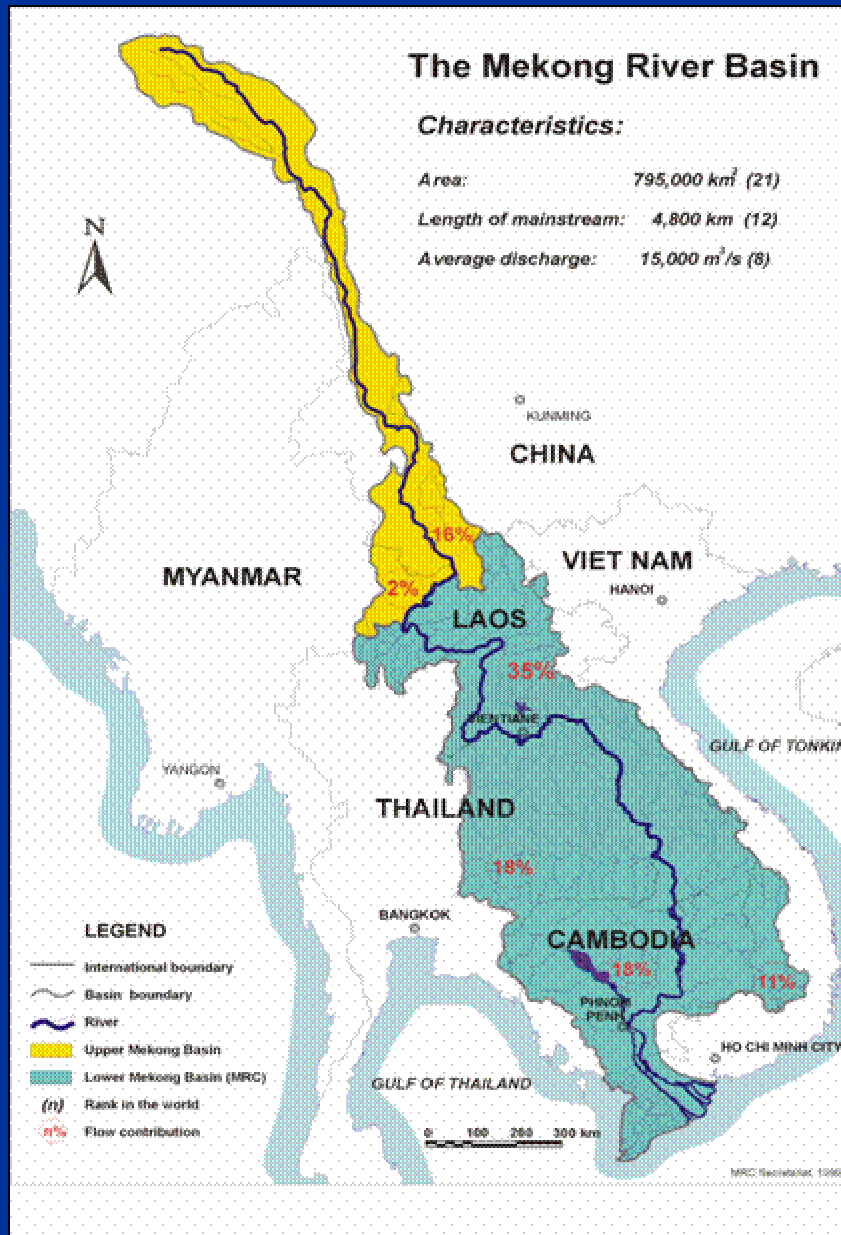
### Characteristics:

Area: 795,000 km<sup>2</sup> (21)

Length of mainstream: 4,800 km (12)

Average discharge: 15,000 m<sup>3</sup>/s (8)

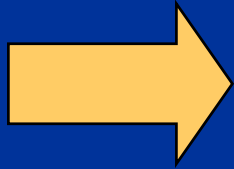
- Catchment area: 795,000 km<sup>2</sup> (21)
- Lower Mekong basin: 606,000 km<sup>2</sup>
- Length of mainstream: 4,800 km (12)
- Volume: 475 billion m<sup>3</sup> (8)



## ***Short-term Forecasts (1-5 days) & Need for Medium-term Forecasts (6-15 days)***

- *SSARR (Streamflow Synthesis and Reservoir Regulation) model is outdated;*
- *Available data from the ground observations are limited: 23 water level and 23 rainfall data from along the main stream;*
- *Satellite rainfall data from NOAA (7-day forecasted rainfall) 100 km X 100 km Resolution (used as input for flood forecasting) are of uncertain accuracy;*
- *Current forecasting system in the member countries can also produce the short-term forecasts with appropriate accuracy;*

*Continued....*



***Added Value for MRC is to Produce the Medium Forecasts, which Requires:***

- *The development of a more transparent and robust model;*
- *The collection of more ground based rainfall and water level data;*
- *The development of the correlation between the forecast satellite and observed rainfall data.*

# Existing Observed Data Networks



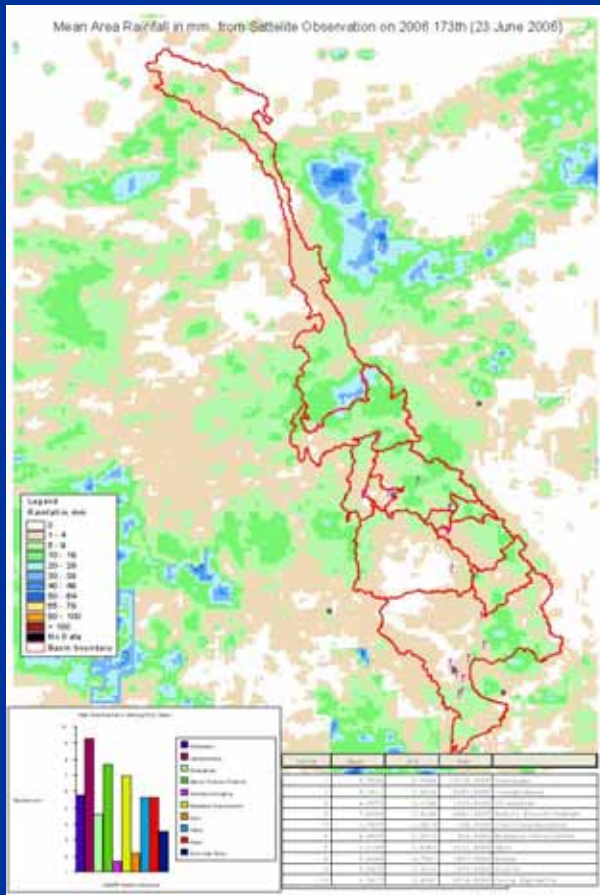
*From the Line Agencies of Member States:*

- *Nearly 500 rainfall stations, and;*
- *Over 240 water level stations*

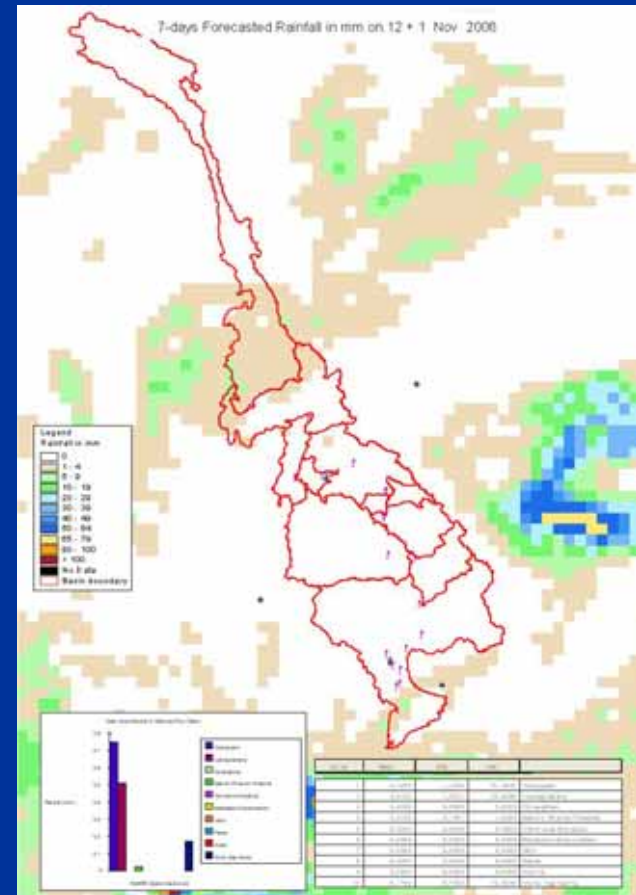
*However, only a very small percentage are real time or near real time and, thus, available for flood forecasting*

# Other Data Sources

- WMO, NOAA, MM5, TRMM
- MRC programs: ANHIP & HYCOS



Observed rainfall data from satellite imagery



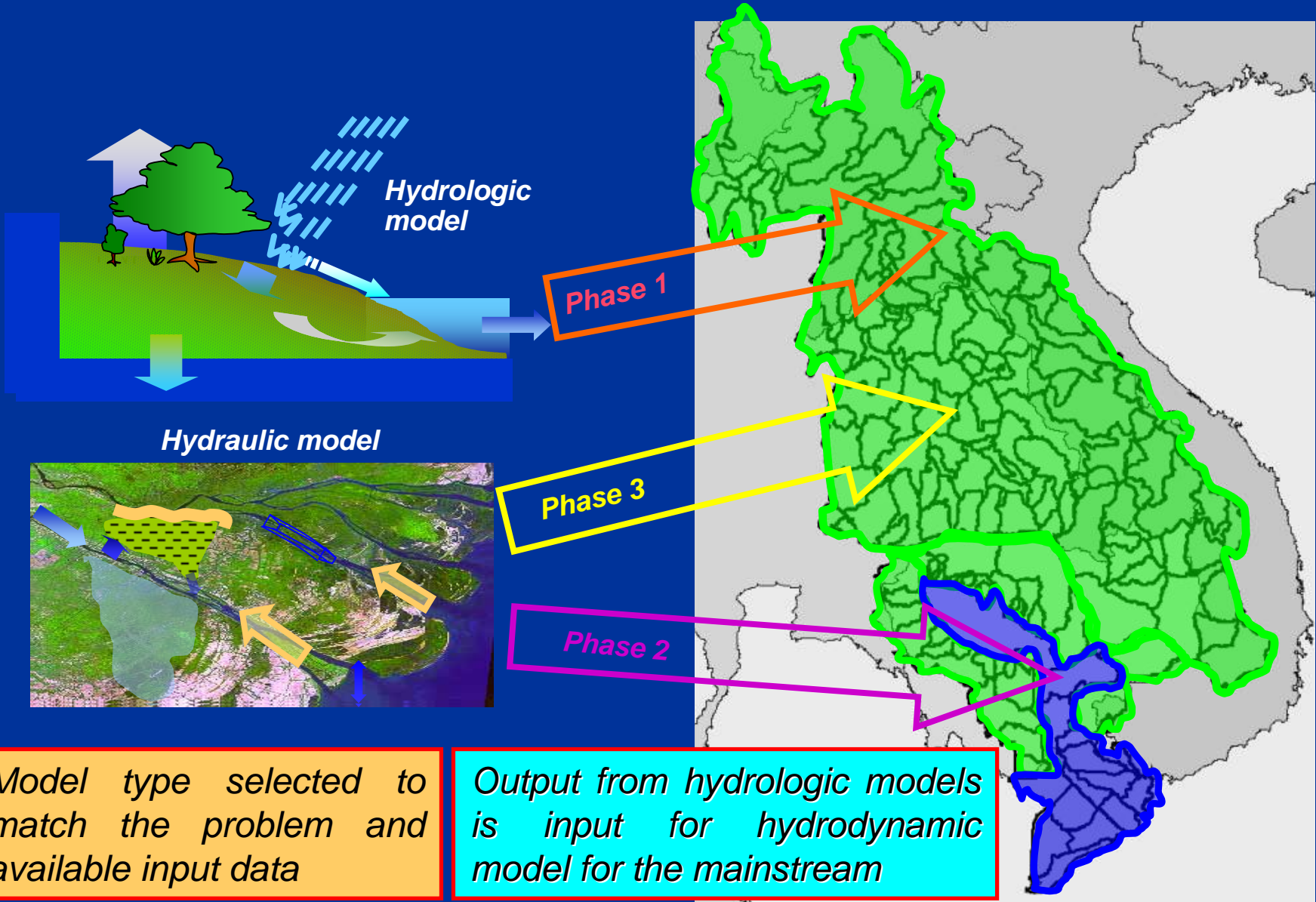
Forecast rain from numerical weather models

## **Steps for Development of the Medium-term Forecasts**

- *Set up of the database at MRC for real time or near real time data from available stations in the member countries (2007) and rainfall forecast (2008);*
- *Development & calibration/verification of the model (2007-2008);*
- *Application of the model for forecasts (end of 2008);*



# Steps for Model Development & Calibration





# Possible Cooperation

- *Experience/knowledge sharing in development of the flood forecasting system as well as the application of the satellite data for flood management and mitigation;*
- *Experience/knowledge sharing in flood hazard mapping through the short training course and workshops/conferences;*
- *Sharing of the available related data;*
- *Cooperation with weather services for further improvement of weather (rainfall) forecast.*

***Thank you very much  
for your attention***