



# First Steering Committee Meeting of the Mekong River Commission Flash Flood Guidance (MRCFFG) System

## Overview and Objectives



**WMO OMM**

World Meteorological Organization

Organisation météorologique mondiale

# Flash Floods vs Riverine Flooding

## *Riverine Flooding:*

- is caused by heavy rainfall (and/or snow melt) over long periods e.g., days, leading to rising water levels and flooding as the flood wave takes days to move down river.

## *Flash Flood:*

- is a flood of short duration with a relatively high peak discharge usually having less than 6 hours between the occurrence of the rainfall and the peak.

# Flash Floods in Perspective

- “Recent findings of the WMO country-level survey where of the 139 countries, 105 indicated that flash floods were among the top two most important hazards around the world and require special attention”.
- “On the average, these events kill more people worldwide than any other [weather-related] natural disaster -in an average year, flash floods kill over 5,000 unsuspecting people and cause millions of dollars of property damage”(WMO 2008).

# Background of the FFGS Project

- The WMO Congress XV in 2007 approved the implementation of the Flash Flood Guidance System (FFGS) project with global coverage:
  - developed by the Commission for Hydrology (CHy) jointly with the Commission for Basic System (CBS) in collaboration with the US National Weather Service (NWS), the US Hydrologic Research Center and USAID/OFDA.

# Goal of the FFGS project with Global Coverage

- Contribute towards reducing the vulnerability of regions around the World to hydrometeorological hazards, specifically *flash floods*, by:
  - strengthening national and regional capacities to develop timely and accurate flash flood warnings; and
  - developing and implementing the regional Flash Flood Guidance (FFG) System.

# What is the Flash Flood Guidance System?

- FFGS is designed to produce flash flood early warning products to provide guidance to the forecasters in issuance of flash flood warnings by using several hydro-meteorological models, incorporating local and global hydro-meteorological, geomorphological, and topographical historical data as well as satellite data, in-situ observations, and Numerical Weather Prediction (NWP) Quantitative Precipitation Forecasts (QPF), allowing users to access the products and data through an internet-based user interface.

# Rational for the Selection of HRC Flash Flood Guidance Concept

- Based on the best available scientific and technological background on flash floods;
- Proven concept in many regional implementations;
- Robust and stable system;
- Adaptable to various regional and local conditions (environmental, institutional, technical); and
- Dedicated capacity building components.

## Main Objectives of the PSC meeting

- Present and discuss the needs for flash flood forecasting in Cambodia, Lao PDR, Myanmar, Thailand, and Viet Nam, including flash flood forecasting and early warning system; dissemination procedures, and protocols for warning populations at risk; and coordination among MRC, the National Meteorological and Hydrological Services, and the Disaster Management Agencies;
- Overview of the roles and responsibilities of the Regional Centre and NMHSs;



## Main Objectives of the PSC meeting

- Overview of the MRCFFG products and present case studies on the flash flood event occurrences; and
- Decide how to move forward to promote use of the MRCFFG products in operation by the national agencies that are responsible for issuance flash flood warnings.

# Expected Outcomes of the Meeting

- Understanding of needs for the local, regional, and international cooperation among related institutions and organizations to reduce the adverse effects of flash floods;
- Understanding of the flash flood guidance system concept, its implementation, and data requirements among participants;
- Achieve a commitment by all participants to actively engage in the regional and national implementation of the project for the benefits of the region; and
- Basic agreement on a path forward for project and its implementation.

# Collaboration with National Disaster Management (DMA) Agencies

- Roles of the National Disaster Management Agencies (DMA) are very important to mitigate the adverse effects of flash floods;
- Closer collaboration is needed between NMHSs and DMAs to understand needs of the DMAs and how best to disseminate understandable warning messages to them in a timely manner;
- Training workshops with forecasters and DMA staff;
  - Provide training to understand the warning messages,
  - Develop operational procedures for use by DMAs, and
  - Finalize dissemination and communication procedures.



# Items to be Addressed in this Meeting

- Capabilities of the participating NMHSs on flash flood/flood forecasting and early warning system and available infrastructures;
- Roles and Responsibilities of the Regional Centre and participating NMHSs;
- Overview of MRCFFG products;
- How to prepare flash flood warnings;
- Case studies;
- Advances in FFG System
- The Severe Weather Forecast Demonstration Project;
- Recommendations and decisions.

# Thank you

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