



Second Steering Committee Meeting of the Central Asia Region Flash Flood Guidance (CARFFG) System

Overview and Objectives of the meeting



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 Second Steering Committee Meeting of the CARFFG Project

- Present and discuss development and implementation status of the CARFFG project; review its products, giving special attention to the snow products; how to use them in preparation of flash flood watches, warnings, and alerts; introduce advances in FFG System; discuss the linkages with the other regional projects such as SWFDP-CA and WB projects; and
- Discuss and possible agree on the Step 4 and 5 training schedule.



Expected Outcomes of the Meeting

- Understanding of concept of operation of CARFFG System in issuance timely and accurate flash flood warnings;
- Understanding of the Advances in FFG system such as multi NWP model ingestion, landslide susceptibility mapping, urban flooding EWS, and Riverine Routing;
- Agree on a timeline for the Step-4 training toward qualification of WMO certificate; and
- Possible agree on specific activities such as inclusion of “mudflow” susceptibility mapping in CARFFGS to be proposed the World Bank for funding within the scope of its CA project entitled “Strengthening Early Warning of Maintain Hazards in CA region”.



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

- Development and implementation status of the CARFFG project;
- Overview of CARFFG System products;
- Forecasters Console and Dashboard;
- Operational concept of FFG System for issuance of flash flood warnings;
- Hands-on exercises of past flash flood events;
- Snow accumulation and depletion;
- Possible cooperation with the WB for the mitigation of mountain hazards in the region;
- Review of COSMO modeling for the region; and
- Recommendations and decisions.



Thank you

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