



International Workshop on Flash Flood Forecasting

13 to 17 March 2006 ☪ Costa Rica



Provisional Programme (09 March 2006)

Day 1: 13 March 2006

08:30 – 09:00 Registration (Registration continues through day 2)

Opening Session

09:00 – 10:30 Inauguration and opening of the workshop (separate agenda)

Welcome remarks by the chief host and conveners of the workshop

Opening remarks

Mr. John J. Kelly, Jr. USAF (Ret.), Deputy Under Secretary for Oceans and Atmosphere, U.S. Department of Commerce

Keynote address

World Meteorological Organization (WMO)

Mr. Hong Yan, Deputy Secretary-General

Opening remarks

Mr. A. Sezin Tokar, Hydrometeorological Hazard Advisor
United States Agency for International Development, Office of Foreign Disaster Assistance (USAID-OFDA)

Flash Floods: Focus on Disaster Reduction

Mr. Dave Zervaas, United Nations International Strategy for Disaster Reduction (UN/ISDR).

10:30 – 11:00 **Coffee Break**

Session 1 **Past, Present and Future**

11:00 – 11:20 Overview of flood-related activities of WMO

Mr. Bruce Stewart, President, WMO Technical Commission on Hydrology (CHy)

11:20 – 11:40 Integrated Flood Management – Challenges and Opportunities

Mr. Gabriel Arduino, Senior Scientific Officer, WMO

11:40 – 12:00 Past and present challenges in flash flood forecasting

Mr. Günter Meon, Leichtweiss Institute for Hydraulic Engineering
Department of Hydrology and Water Resources Management

12:00 – 12:30 Establishment of an All Hazards End-to-End Flash Flood Forecasting System

Mr. Curtis B. Barrett, Hydrometeorological Project Manager, NOAA National Weather Service (NWS) - International Activities Office

12:30 – 14:00 **Lunch**

Session 2 Emerging Technologies

14:00 – 14:20 A Statistical-Distributed Hydrologic model for Flash Flood Forecasting
Mr. Seann Reed, NOAA's National Weather Service (NWS), Office of Hydrologic Development (OHD)

14:20 – 14:40 "Satellite-based short-term thunderstorm forecasting toward flash flood predictions: Recent developments for Mesoamerica in the context of SERVIR"
Mr. John R. Mecikalski, Department of Atmospheric Sciences, University of Alabama

14:40 – 15:00 An Overview of Satellite Based Precipitation Estimation with Respect to Flash Flood Modeling and Forecasting
Mr. Timothy B. Love, Research Meteorologist, RS Information Systems
NOAA's Climate Prediction Center

15:00 – 15:20 Integration of Multiple Precipitation Estimation for Flash Flood Forecasting
Ms. Reginna Cabrera, NOAA National Weather Service (NWS)
Office of Hydrologic Development (OHD) - Hydrology Science and Modeling Branch

15:20 – 15:40 Advances in Predicting Flash Floods
Mr. Angel Aldana, Centro de Estudios y Experimentación de Obras Públicas (CEDEX), Spain

15:40 – 16:10 **Coffee Break**

16:10 – 16:30 Applications of NWP and Radar-based QPF Techniques for Flash Flood and Landslip Warnings in Hong Kong
Mr. Edwin S.T. Lai, Hong Kong Observatory

16:30 – 16:50 Automated Flash Flood Forecasting Systems
Mr. Kevin Stewart, Director, Denver Urban Flood Central District

Session 3 Moderated discussion: Challenges and Opportunities in Flash Flood Forecasting

16:50 – 17:45 Panel discussion on Successful Flash Flood Forecasting Systems in Different Environments and ways for improvements, followed by open discussion

17:45 **Meeting Adjourns**

18:30 – 20:30 Welcome Reception

Session 4 Meteorological and Hydrological Methods of Observation and Forecasting Tools in Support of Flash Flood Forecasting

- 09:00 – 09:30 Flash flood forecasting model of Lake Managua, Nicaragua using existing meteorological observations and water level observations of Lake Managua.
Mr. Kari Ahti, Senior meteorologist, Finnish Meteorological Institute
- 09:30 – 10:00 Use of QPE Flashflood Forecasting: some experiences on the Cuareim River
Mr. Daniel Vila, Instituto Nacional del Agua (INA), Argentina
- 10:00 – 10:30 The Hydro-Estimator and Hydro-Nowcaster: Satellite-Based Flash Flood Forecasting Tools
Mr. Bob Kuliogowski, NOAA NOAA/NESDIS/Center for Satellite Applications and Research (STAR)
- 10:30 – 11:00 **Coffee Break**
- 11:00 – 11:30 Central America Flash Flood Guidance Early Warning System
Mr. Konstantine Georgakakos, Hydrologic Research Center (HRC), U.S.
- 11:30 – 12:00 Experience and challenges on using the Central America Flash Flood Guidance in Costa Rica
Ms. R. Alfaro, Instituto Meteorológico Nacional, IMN, Costa Rica
- 12:00 – 12:20 Development of equipment for community-based flash flood early warning in the Caribbean region
Mr. Hidetomi Oi, Japan International Cooperation Agency (JICA)
- 12:20 – 12:45 Data Infrastructure for Wide-Area Hydrologic Modeling
Messrs. Gregory J. Husak, Guleid Artan, University of California, Santa Barbara, US Geological Survey
- 12:45 – 13:45 **Lunch**
- 13:45 – 14:10 Components of an operational flash flood warning system
Mr. Curtis B. Barrett, NOAA's National Weather Service (NWS)

Session 5 Vendor presentations (1)

- 14:10 - 14:30 Online transmission of water level, discharge and rainfall during flash floods via satellite
Mr. Wolfgang Zasche, SEBA Hydrometrie, Germany
- 14:30 – 14:50 Hydrometeorology and Polarimetric Radar: How can Polarimetric Radar aid the Forecast of Flash Flooding?
Mr. Stagliano, James J. Jr., Ph.D. Enterprise Electronics Corporation, U.S.A.
- 14:50 – 15:10 The HydroMet Decision Support System: New Applications in Hydrology
Mr. Conway, J.W. Weather Decision Technologies, Inc. U.S.A.

- 15:10 – 15:30 Local and Real Time Alarm Dissemination for Early Warning Purposes
Mr. Luis H. Gomez, Siap+Micros Sarl, Italy
- 15:30 – 15:50 Multi-Telemetry Loggers and Flash Flood Warnings
Messrs. Tom Keefer, Ted Soto, SUTRON Corp. U.S.A.
- 15:50 – 16:15 **Coffee Break**
- Session 6** **Moderated discussion: Challenges and Opportunities in Flash Flood Forecasting in Developing Countries**
- 16:15 – 17:00 Open discussion on current shortfalls, opportunities and applicability of flash flood forecasting approaches and technologies
- 17:00 **Meeting Adjourns**

Day 3: 15 March 2006

- Session 7** **Sediment Disasters as a Result of Flash Floods**
- 09:00 – 09:20 The Joint National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) and the United States Geological Survey (USGS) Debris Flow Warning Systems
Mr. Pedro Restrepo, NOAA National Weather Service (NWS)
Office of Hydrologic Development (OHD)
- 09:20 – 09:40 Flash floods, sediment transport and debris flow in steep mountain catchments
Mr. Manfred Spreafico, Director Swiss Hydrological Service, Switzerland
- 09:40 – 10:00 Flash Floods and Debris Flows as a Result of Glacier Lake Outburst Floods
Mr. Karma Chhophel, Hydromet Services Division, Department of Energy
Ministry of Trade and Industry, Bhutan
- 10:00 – 10:20 Ice jams and their hydrological implications
Mr. Sergej Borsch, Federal Service for Hydrometeorology and Environmental Monitoring Russian Federation
- 10:20 – 10:45 **Coffee Break**
- 10:45 – 11:30 Moderated discussion on achievements and challenges in sediment disaster warnings
- Session 8** **Disaster Mitigation, Preparedness & Response**
- 11:30 – 11:50 Proposed regional flash flood warning system for South Africa
Mr. Eugene R. Poolman, Senior Manager Forecasting and Research
South African Weather Service
- 11:50 – 12:10 Flash Flood Forecasting on a Tropical Small Island – Trinidad
Mr. Glendell De Souza, Science and Technology Officer, Office of the PR of the BCT

- 12:10 – 13:15 **Lunch**
- 13:15 – 13:40 Cases of Flash Floods in Mexico
Mr. Martín Jiménez Espinosa, Centro Nacional de Prevención de Desastres de la Secretaría de Gobernación, México
- 13:40 – 14:00 Flashflood hazard mapping and warning systems
Mr. Oskar D. Cruz, WF Specialist/Hydrologist,
Flood Forecasting Branch, Philippine Atmospheric
Geophysical and Astronomical Services Administration (PAGASA)
- Session 9 Disaster Prevention and Communication**
- 14:00 – 14:20 Warning the population at risk – Experiences in Japan -
Mr. Kazu Fukami, Chief, Public Works Research Institute (PWRI), Japan
- 14:20 – 14:40 Using RANET telecommunication and information transfer for flash flood forecasting
Mr. Kelly Sponberg, NOAA's National Weather Service (NWS)
- 14:40 – 15:00 Emergency Managers Weather Information Network. (EMWIN)
Mr. Edward Cormier, Chief, Operations Support, Performance and Data Management
Branch, NOAA
- 15:00 – 15:20 Disaster preparedness and communication with local communities
Ms. Gift Mafuleka, Principal Mitigation and Disaster Management
Humanitarian Officer, National Meteorological Centre, Malawi
- 15:20 – 15:40 Making the Last Mile in Reaching the Users
Ms. Cheryl L. Anderson, UH Social Science Research Institute, Honolulu
- 15:40 – 16:00 **Coffee Break**
- Session 10 Vendor presentations (2)**
- 16:00 – 16:20 Laser-based enhanced precipitation identifier and new generation of present weather
sensors
Mr. K. Nemeth, OTT, GmbH, Germany
- 16:20 – 16:40 MUSIC - Multi-Sensor Precipitation Measurements Integration, Calibration and Flood
Forecasting. A European funded Research Project.
Mr. Claudius Marschalik, SELEX Sistemi Integrati GmbH, Gematronik Weather Radar
Systems, Germany/Italy
- 16:40 – 17:00 Integrated hydro-meteorological observation solutions.
Ms. Irma Ylikangas, VAISALA Corp., Finland
- 17:00 – 17:20 Early Warning System: Real-time Weather Monitoring and Flood Warning Approach
Mr. Clarisa Martinez, Meteorology Business Manager, TELVENT SA, Madrid, Spain
- 17:20 **Meeting Adjourns**

Day 4: 16 March 2006

Session 11 Role of Institutions for Improved Flash Flood Forecasting

- 09:00 – 09:20 Institutional Issues as Key to improve Flash Flood Forecasting Effectiveness
Mr. Shaukat Ali Awan, Chief Meteorologist, Flood Forecasting Division
Pakistan Meteorological Department, Pakistan
- 09:20 – 09:40 Collaboration between meteorological and hydrological services in the provision of improved flash flood forecasting
Mr. Sazedul Karim Chowdhury, National Project Director, Bangladesh Water Development Board, Bangladesh
- 09:40 – 10:00 Approaches and experiences in institutional coordination in flash flood forecasting and warning in France
Mr. Max Reyal, Deputy Regional Director, Meteo France, West Indies
- 10:00 – 10:20 Institutional aspects of the Hydrological Warning system in the Del Plata Basin
Ms. Dora Goniadzki, Directora, Sistema de Información y Alerta Hidrológico en la Cuenca del Plata, Instituto Nacional del Agua, Argentina

10:20 – 10:45 **Coffee Break**

Session 12 Moderated Discussion: Integrated Flash Flood Forecasting Systems – Approaches, Experiences and Institutional Coordination

- 10:45 – 10:50 Flash Flood Forecasting as an Element of Multi Hazards Warning Systems
Mr. Wolfgang Grabs, Chief, Water Resources Division, WMO
- 10:50 – 11:30 Panel and facilitated open discussion to enhance communication and information flow between National Hydrological and Meteorological Services, disaster prevention and management authorities and the general public
Breaking the barriers between operational and hydrologists and meteorologists

Session 13 Facilitating the establishment of, regional and bilateral cooperative arrangements for the establishment/improvement of flood forecasting services and disaster reduction

- 11:30 – 11:40 Mechanisms to forge global partnerships and regional cooperation,
Mr. Wolfgang Grabs, Chief, Water Resources Division, WMO
- 11:40 – 12:00 Hydrometeorological hazards and vulnerabilities of high mountain populations
Challenges and opportunities for regional cooperation
Mr. Mats Eriksson, International Centre for Integrated Mountain Development (ICIMOD), Nepal
- 12:00 – 12:20 Management issues in the planning and implementation of flood forecasting and disaster reduction projects in an international river basin
Mr. Chusit Apirumankul, Mekong River Commission (MRC), Lao PDR
- 12:20 – 13:30 **Lunch**

