"Back to the Future"
Innovation in Forward Looking Hazard Modelling

Technical Session

2014 Understanding Risk Forum, June 30 - July 4, 2014, London, UK

Date: 2 July 2014
Location: ExCeL London, ICC Capital Suite, East Wing, level 3 (room: tbd)
Time: 11:00am – 12:30pm
Session Lead: Dr Maryam Golnaraghi, Chief Disaster Risk Reduction Programme, World Meteorological Organization (WMO)

Session Panellists

Name	Title and Institutional Affiliation	Topic
Mr Paul Davies	Chief Meteorologist UK Met Office United Kingdom	Latest Progress with Meteorological Hazard Modelling
Dr Yuri Simanov	Senior Researcher on Hydrological Forecasts Hydrometeorological Centre of Russia Russian Federation	Latest Tools and Methodologies for Flood Modelling
Dr Andrew Burton	Chief Tropical Cyclone Forecasting Severe Weather Section The Australian Bureau of Meteorology Australia	Tropical Cyclone Modelling
Dr Roger Pulwarty	Director of the National Integrated Drought Information System Director of Climate and Societal Interactions Division Chief at the NOAA Climate Program and Earth System Research Laboratory National Oceanic and Atmospheric Administration (NOAA) United States of America	Drought Modelling and Management
Dr Kevin Horsburgh	Head of the Marine Physics and Ocean Climate (MPOC) Research Group National Oceanography Centre Natural Environment Research Council United Kingdom	High Wave, Storm Surge and Coastal Inundation Modelling

Session Abstract:
Hydro-meteorological related disasters comprise about 88 per cent of all disaster events, causing 72 % of all economic losses and 36 % of fatalities. The IPCC Fifth Assessment Report projects that the severity, intensity and frequency of hydro-meteorological hazards such as droughts, floods, and tropical cyclones are increasing due to human-induced climate change. Changing characteristics of these hazards are posing challenges in emergency preparedness, risk management, as well as with longer-term strategic planning and investments in critical infrastructure and economic sectors.

A fundamental requirement for risk analysis is quantification of hazard characteristics. Traditionally, statistical analyses of hazard characteristics have been used. However, with consideration for the changing patterns of hydro-meteorological hazards, statistical analysis based on historical data should be supplemented with forward-looking modelling tools that enable us to measure changes in the characteristics of hazards at various time scales. During this session, leading international experts will describe and discuss latest technologies in hazard modelling, WMO activities in establishing international guidelines and standards, as well as issues related to accessibility and availability of hazard information.