



World Conference on Disaster Reduction
18-22 January 2005, Kobe, Hyogo, Japan

THEMATIC SESSIONS

Cluster 2:

Risk identification, assessment, monitoring and early warning

Session 2.3

Reducing Risks Through Effective Early Warnings of Severe Weather Hazards

Date: 20 January 2005

Time: 12h15-14h15

Venue: Kikusui room

Objectives:

To stimulate the development and/or strengthening of national, regional and international early warning systems and more effective dissemination of early warnings to reduce the risks due to hazardous severe weather events.

Organizers:

Mr Katsuhiro ABE: World Meteorological Organization (WMO) and
Mr John GAYNOR: National Weather Service (NWS)/National Oceanic and Atmospheric Administration (NOAA)

Session Chair:

Dr. Zoltan TOTH: National Weather Service (NWS)/National Oceanic and Atmospheric Administration (NOAA)

SESSION 2.3

REDUCING RISKS THROUGH EFFECTIVE EARLY WARNINGS OF SEVERE WEATHER HAZARDS

- **OBSERVATION:**

- Gap exist between providers and users of weather forecast information
 - Only fraction of available & relevant forecast information is used properly

- **ASSUMPTIONS:**

- Bridging gap can bring significant benefits in
 - Preparedness for severe weather
 - Emergency response to severe weather conditions
- Gap can be bridged only through dialogue between two sides

- **GOAL OF SESSION:**

Contribute to international strategy for disaster reduction through better utilization of weather forecast information

- **TASKS:**

- Exchange information
 - Review relevant procedures on two (provider & user) sides
- Engage the two sides in a dialogue
- Identify critical issues for successfully bridging the gap
- Suggest new initiatives or partnerships to ensure success

ORGANIZATION OF SESSION

OPENING REMARKS (5 minutes, Chair)

PRESENTATIONS (15 minutes each)

- Z. Toth General description of weather forecast process
Emphasis on forecast uncertainty
- K. Mylne Probabilistic forecast products
For better use of all available inform. about future weather
- J.M.R. Torres Tropical cyclone forecasting
How forecast uncertainty can be conveyed to users
- M.A. Miyan Tropical cyclone disaster mitigation
What are the critical aspects of weather forecasts
- K. Hiroki Examples for use of weather forecasts in emergency response
How probabilistic forecasts can be utilized

PANEL DISCUSSION (25 minutes)

CLOSING REMARKS (5 minutes, Chair)

PANEL DISCUSSION (25 minutes)

FACILITATOR:	Dr. Colin Depradine	(Barbados)
PANEL MEMBERS:	Mr. Ken Mylne	(United Kingdom)
	Dr. J.M. Rubiera Torres	(Cuba)
	Dr. M. Aimullah Miyan	(Bangladesh)
	Dr. Kenzo Hiroki	(Japan)
	Dr. Max Mayfield	(United States of America)

QUESTIONS/COMMENTS FROM THE AUDIENCE

DISCUSSION TOPICS/QUESTIONS

- a) *What type of meteorological information* do Emergency Managers (EM) need?
- b) What are the *priorities for tropical storm forecasts* used by EM in different regions?
- c) What are the *best ways to use/apply weather forecast* information by EM?
- d) How can EM most *effectively use probabilistic information*?

- e) What institutional or other support should the international community provide to improve emergency response to tropical storms in developing countries?

- f) How can we share good practices and other meteorological information among EMs at the local, national, regional and global levels?

REDUCING RISKS THROUGH EFFECTIVE EARLY WARNINGS OF SEVERE WEATHER HAZARDS

CONCLUSION / CLOSING REMARKS

- Critical new information on **forecast uncertainty** exposed – How to
 - Assess?
 - Communicate?
 - Use this new information?
- Examples for use of probabilistic forecasts reviewed
 - Tropical storms and floods
- Need **objective methods** at all levels to support decisions
 - Dispel myths about, and aversion to probabilistic forecasts
- **New role for human forecaster**/meteorologist
 - Tendency for forecasts to be prepared objectively
 - Human's role shifts from making to interpreting and communicating forecasts
- **Establish** joint provider/user **working bodies** for developing new
 - Forecast format/products
 - User application methods
- Find ways of distributing/**introducing new methods** to less developed users
- Major themes in 10-year **THORPEX** research program
 - **Prevention and Mitigation of Disasters related to Weather, Climate and Water**

WMO Workshop, Public Event

All day Friday, 21 January, Room 301

- **Closing remarks by organizers**

**Prevention and Mitigation of
Disasters related to
Weather, Climate and Water**
*WMO Workshop
(Public Event)*

*All day Friday, 21 January, Room 301
With THORPEX event in the morning*

WHAT IS IT?	25 years after GARP, its successor, THORPEX was established in May 2003 by the Fourteenth World Meteorological Congress (Resolution 12) as a ten-year international global atmospheric research and development programme under the auspices of the WMO Commission for Atmospheric Sciences (CAS). THORPEX is a component programme of the WMO World Weather Research Programme (WWRP).		
WHY?	<p>To reduce and mitigate natural disasters by transforming timely and accurate weather forecasts⁽¹⁾ into specific and definite information in support of decisions⁽²⁾ that produce the desired societal and economic outcomes⁽³⁾.</p> <ol style="list-style-type: none"> 1) Extending the range of skilful weather forecasts to time scales of value in decision-making (up to 14 days) using probabilistic ensemble forecast techniques; 2) Developing accurate and timely weather warnings in a form that can be readily used in decision-making support tools; 3) Assessing the impact of weather forecasts and associated outcomes on the development of mitigation strategies to minimise the impact of natural hazards. 		
WHAT WILL IT DO?	<p>THORPEX will conduct a series of regional and global projects including various experiments on targeted satellite and in-situ observations⁽¹⁾, data assimilation⁽²⁾, numerical weather prediction systems⁽³⁾ and demonstrations of social and economic outcomes⁽⁴⁾.</p> <ol style="list-style-type: none"> 1) Advance the knowledge of global-to-regional influences on the initiation, evolution, and predictability of high-impact weather; Design the strategy for interactive forecasting and targeted observations thus contributing to the process of evolving the WMO Global Observing System (GOS) which is recognized as a core component of future Global Earth Observation System of Systems (GEOSS); 2) Create and evaluate systems for the assimilation of targeted observations from satellites and in-situ measurements; 3) Accelerate improvements of the accuracy of weather forecasts; test and demonstrate effectiveness of a multinational multi-model multi-analysis global ensemble forecasting system; 4) Improve and demonstrate decision support tools, which utilise advanced forecasting products, in the most representative social and economic sectors. 		
WHERE?	Globally focusing specifically on the extra-tropical and tropical Pacific and Atlantic, the Pacific-Indian Ocean warm pool, and Polar regions.		
WHO WILL PARTICIPATE AND BENEFIT?	National Meteorological and Hydrological Services (NMHSs' operational forecast and research entities and consumers of products and services) as well as academic institutions of WMO Members including developing and least developed countries; international organizations (ECMWF, EUMETNET, etc.), initiatives (International Polar Year 2007-2008, GEOSS) and other contributors.		
HOW IS IT ORGANIZED?	The CAS International Core Steering Committee (ICSC) and International Science Steering Committee (ISSC) lead THORPEX in coordination with the CAS Science Steering Committee for the WWRP, joint CAS/JSC Working Group on Numerical Experimentation (WGNE), and the WMO Commission for Basic Systems (CBS). North American, European and Asian Regional Committees coordinate regional activities.		
CONTACT	<table border="0"> <tr> <td data-bbox="1083 1286 1429 1413"> <p>Dr. Elena B. Manaenkova Director, Atmospheric Research and Environment Programme Department Tel: +41(0) 22 730 8212 Fax: +41(0) 22 730 8049 EManaenkova@wmo.int</p> </td> <td data-bbox="1429 1286 1926 1413"> <p>World Meteorological Organization 7 bis, avenue de la Paix Case Postale 2300 CH-1211 Geneve 2 Suisse</p> </td> </tr> </table>	<p>Dr. Elena B. Manaenkova Director, Atmospheric Research and Environment Programme Department Tel: +41(0) 22 730 8212 Fax: +41(0) 22 730 8049 EManaenkova@wmo.int</p>	<p>World Meteorological Organization 7 bis, avenue de la Paix Case Postale 2300 CH-1211 Geneve 2 Suisse</p>
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