

International Workshop on the Hazardous Winds Associated with Severe Storms

9-11 January 2008

Japan Meteorological Agency, Tokyo, Japan

Agenda

Several severe tornado-related disasters happened in Japan in 2006. Two disastrous events in particular involved a tornado that caused three fatalities in Nobeoka (in the western part of Japan) on 17 September 2006 and one that claimed nine lives in Saroma (in the northern part of Japan) on 7 November 2006. These events focused public attention on severe wind hazards in Japan. In order to best cope with possible severe wind hazards, the Japan Meteorological Agency (JMA) decided to reinforce countermeasures and R&D against such events. To this end, JMA is holding the International Workshop on the Hazardous Winds Associated with Severe Storms at the JMA headquarters in Tokyo, funded by the Ocean Policy Research Foundation of Japan*. The main objectives of this workshop are (1) to share knowledge from the latest research and current operational systems concerning tornadoes and other hazardous winds, (2) to deepen understanding of tornadoes and hazardous winds, and (3) to enhance research activities and meteorological services in the field.

Wednesday, 9 January

- 09:20 – 09:45 Registration
- 09:45 – 09:50 Welcome remarks
- 09:50 – 10:00 Commemorative photograph session

10:00 – 14:30 Overview of Tornadoes and Other Hazardous Wind Phenomena

- Statistical studies - Chairperson: Dr. Joe and Mr. Suzuki

10:00 – 10:40 Tornado climatology of Japan (Prof. Niino)

10:40 – 11:20 Tornado climatology in the United States

(Mr. Burgess and Dr. Wurman)

*** Ocean Policy Research Foundation**

The Ship & Ocean Foundation, a.k.a. the Ocean Policy Research Foundation, was established in 1975. Under support from the Nippon Foundation, this private non-profit organization undertakes activities related to a wide range of maritime issues. As the scope of its activities has expanded, the SOF has recently taken the new name of the *Ocean Policy Research Foundation*. This name better illustrates its current concerns and operations, which involve multi-disciplinary research into ocean-related issues to make practical policy proposals in areas including maritime environment protection and maritime security marine resource preservation. The OPRF is headquartered in Tokyo.

11:20 – 12:00 Tornado climatology of Europe (Dr. Dotzek)

12:00 – 13:10 Lunch break

Chairperson: Dr. Dotzek and Mr. Nakazato

13:10 – 13:50 A tornado climatology of Australia (Dr. Mills)

13:50 – 14:30 The tornado climatology of Canada (Dr. Joe)

14:30 – 17:30 Research on the Mechanism of Tornadoes and Other Hazardous Winds

Chairperson: Dr. Wurman and Dr. Kobayashi

14:30 – 15:10 Tornadoes and other hazardous winds associated with severe storms

(Prof. Bluestein)

15:10 – 15:30 Coffee break

15:30 – 16:10 Tornadogenesis: Our Current Understanding, Operational Considerations,
and Questions to Guide Future Research (Dr. Markowski)

16:10 – 16:50 An Overview of the Verification of the Origins of Rotation in Tornadoes
Experiment- II (VORTEX2) (Dr. Wurman and Dr. Markowski)

16:50 – 17:30 Tornadogenesis in a Numerically-Simulated Supercell Storm

(Prof. Niino)

18:00 – 20:00 Reception

Thursday, 10 January

09:40 – 15:10 Observation and Simulation of Tornadoes and Other Hazardous Winds

Chairperson: Dr. Burgess and Mr. Akaeda

09:40 – 10:20 High-resolution Doppler observation using DOW (Dr. Wurman)

10:20 – 11:00 The Center for Collaborative Adaptive Sensing of the Atmosphere
(CASA) (Dr. Brotzge)

11:00 – 11:30 X-band Polarimetric Radar Network in the Tokyo Metropolitan Area
– X-NET – (Dr. Maki)

11:30 – 12:00 X-NET and tornado observation – Structures of tornadoes observed by
the X-band Doppler radar – (Dr. Kobayashi)

12:00 – 13:10 Lunch break

Chairperson: Prof. Bluestein and Prof. Niino

13:10 – 13:50 Numerical Simulation and Prediction of Supercell Tornadoes (Dr. Xue)

13:50 – 14:20 Numerical simulation of supercells and tornadoes using the
cloud-resolving model (Dr. Tsuboki)

14:20 – 15:00 Numerical simulation of supercells and tornadoes in MRI/JMA
(Dr. Kato/Mr. Mashiko)

15:00 – 15:20 Coffee break

15:20 – 17:30 Operational Applications of Observation and Nowcasting Methods

Chairperson: Dr. Brotzge and Dr. Maki

15:20 – 16:00 Nowcasting Systems in Canada (Dr. Joe)

16:00 – 16:40 The Use of Radar in Tornado and Severe Thunderstorm Warnings in the
United States: Current and Future (Mr. Burgess)

16:40 – 17:30 JMA operational observation plan for tornado detection
(Mr. Akaeda, Mr. Suzuki, and Mr. Sakanashi)

Friday, 11 January

**10:00 – 12:00 Operational Applications of Observation and Nowcasting Methods
(continued)**

Chairperson: Dr. Xue and Dr. Tsuboki

10:00 – 10:40 Beijing 2008 Olympic-FDP and Weather Services: A brief introduction
(Mr. Wang)

10:40 – 11:20 An Ingredients-Based Approach to Operational Tornado forecasts
(Mr. Thompson)

Chairperson: Prof. Bluestein and Prof. Niino

11:20 – 12:00 Discussion and preparation of proposals in international collaboration

12:00 – 13:30 Lunch break

13:30 – 17:20 Public symposium (with English-Japanese consecutive interpretation)

1. Opening remarks

13:30 – 13:40 Purposes of the workshop and the public symposium

2. Keynote lectures

13:40 – 14:40 Hazardous wind research in the United States (Prof. Bluestein)

14:40 – 15:30 Hazardous wind research in Europe (Dr. Dotzek)

15:30 – 15:50 Coffee break

15:50 – 16:20 Hazardous wind research in Japan (Prof. Niino)

16:20 – 16:40 Measures taken by the Japan Meteorological Agency against severe winds
(Mr. Ebihara)

3. Summary of the international workshop and proposals in international collaboration

16:40 – 17:10 Summary of the international workshop (Mr. Suzuki)

17:10 – 17:20 Proposals in international collaboration (Prof. Bluestein and Dr. Niino)

17:20 Closing remarks