

AMERICAN METEOROLOGICAL SOCIETY – APRIL SCIENCE HIGHLIGHTS

Following are story ideas and tips about upcoming AMS meetings, papers in our peer-reviewed journals, and other happenings in the atmospheric and related sciences community.

Flood Fatalities in the United States. A study in the March issue of the AMS' *Journal of Applied Meteorology and Climatology* compiles a nationwide database of flood fatalities for the contiguous United States from 1959 to 2005. Assembled data include the location of fatalities, age and gender of victims, activity and/or setting of fatalities, and the type of flood events responsible for each fatality report. Analysis of these data reveals that a majority of fatalities are caused by flash floods; that people between the ages of 10 and 29 and over 60 years of age are found to be more vulnerable to floods; and that human behavior contributes to flood fatality occurrences. These results also suggest that future structural modifications of flood control designs (e.g., culverts and bridges) may not reduce the number of fatalities nationwide. For a copy of the paper contact Stephanie Kenitzer.

Tornado Warnings, Lead Times, and Tornado Casualties. A paper in the April issue of the AMS' *Weather and Forecasting* explores the conventional wisdom that holds that improved tornado warnings will reduce tornado casualties, because longer lead times on warnings provide extra opportunities to alert residents who can then take precautions. The researchers from Austin College and University of Texas – Pan American examined the relationship between warnings and casualties by using a dataset of tornadoes in the contiguous United States between 1986 and 2002. They asked two questions: Does a warning issued on a tornado reduce the resulting number of fatalities and injuries? Do longer lead times reduce casualties? They found that warnings have had a significant and consistent effect on tornado injuries, with a reduction of over 40% at some lead time intervals. The results for fatalities are mixed. An increase in lead time up to about 15 minutes reduces fatalities, while lead times longer than 15 minutes increase fatalities compared with no warning. The results for fatalities and injuries both indicate that the effectiveness of warnings declines when lead times exceed 15 minutes. This may occur because residents discount warnings with long lead times. That is, if a tornado does not begin shortly after a warning is issued, people might dismiss the warning as a false alarm. For a copy of the paper contact Stephanie Kenitzer.

Comparison Models to Determine the Risk of Tropical Cyclone Landfall

Powerful tropical cyclones are among the most devastating of natural phenomena, and there is intensive effort to predict their landfall rate along coastlines. Such predictions are needed, for example, by insurance companies to set insurance rates and by governments to establish building codes. A paper in the February issue of the AMS' *Journal of Applied Meteorology and Climatology* takes a closer look at two different models to estimate future landfall rates on a segment of coastline – a “local model” and a “track model.” The “local model” is built solely on historical landfall events on the coastline segment of interest. The “track model” simulates entire tropical cyclone tracks from

genesis to end using historical data over the full North Atlantic Basin. The researchers' results justify the use of track models over local models for landfall risk assessment on regional and smaller scales. Over much of the North Atlantic coastline the track model is genuinely better at predicting landfall rates than a local model, according to their findings. For a copy of the paper, contact Stephanie Kenitzer.

More on Hurricanes - Climatological Hurricane Landfall Probability for the United States. Another paper in the February issue of the AMS' *Journal of Applied Meteorology and Climatology* examines the historical record of hurricanes and tropical storms in the Atlantic Ocean basin to determine the eventual landfall probability for the U.S. coastline based on the complete tracks of those storms. For example, if a tropical cyclone is near the island of Puerto Rico, which portions (if any) of the U.S. coastline are most at risk of eventual landfall? The researcher, Brian Brettschneider of Texas State University, San Marcos, calculated probabilities and mapped them for four individual states, and for the United States as a whole. In addition, an average length of time until landfall is calculated for the entire Atlantic basin based on the complete period of record. For a copy of the paper, contact Stephanie Kenitzer.

Press Briefing: The State of the Science of Weather Modification. The AMS will host a "state-of-the-science" press briefing on weather modification on Tuesday, April 22 at 10 a.m. MST from the 17th Conference on Planned and Inadvertent Weather Modification. Reporters are invited to attend the conference or participate in the press briefing via telephone by dialing 877-358-8255, Conference ID 1112855. The conference, cosponsored by the AMS and the Weather Modification Association, will be held April 21-25, 2008 at the Westin Westminster in Westminster, Colorado. Topics range from geo-engineering to atmospheric heating. There will be sessions about recent weather modification projects around the world. The complete program is online at http://ams.confex.com/ams/17WModWMA/techprogram/programexpanded_492.htm Additional details are at <http://www.ametsoc.org/MEET/fainst/200817wmodwma.html>

Hurricane and Tropical Meteorology Conference Starts April 28 in Orlando. The AMS 28th Conference on Hurricanes and Tropical Meteorology starts Monday, April 28 at the Wyndham Orlando Resort in Orlando. Media are invited to attend the scientific sessions and interview the experts about the latest research and science in this field. All media should register in advance by contacting Stephanie Kenitzer at (425) 432-2192 or Kenitzer@ametsoc.org Hurricane season officially starts on 1 June 2008. For program details see <http://www.ametsoc.org/MEET/fainst/200828Hurricane.html>

Reminder - AMS Journalism Award Deadline Just a Week Away. Nominations for the AMS *Award for Distinguished Science Journalism in the Atmospheric and Related Sciences* are now being accepted. The nomination form is online at http://www.ametsoc.org/awards/sciencejournalism_NominationForm.pdf and is due by 1 May 2008. Self-nomination is accepted.

With more than 12,000 members, the AMS (<http://www.ametsoc.org>) is the nation's leading professional society for those involved in the atmospheric and related sciences.

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