

AMERICAN METEOROLOGICAL SOCIETY – JANUARY 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.

Effects of Twenty-First-Century Climate Change on the Amazon Rain Forest. A paper in the February issue of the American Meteorological Society's *Journal of Climate* focuses on understanding how climate change due to increasing levels of greenhouse gases in the atmosphere may effect the Amazon vegetation. The coupled regional model simulation done by researchers at Cornell University projects a 70% reduction in the extent of the Amazon rain forest by the end of the twenty-first century (2081–2100) and a large eastward expansion of the caatinga vegetation (mixed shrubland and grasses). Rain forest vegetation disappears entirely from Bolivia, Paraguay, and Argentina, and most of Brazil and Peru. Rain forest in Columbia is largely maintained, as all of the surviving rain forest is concentrated close to the equator. These changes in vegetation are due to reductions in annual mean rainfall and a modification of the seasonal cycle of rainfall that increases the length of the dry season over much of tropical and subtropical South America. For more information contact the authors Kerry H. Cook and Edward K. Vizy at khc6@cornell.edu and ekv3@cornell.edu For a copy of the paper contact Stephanie Kenitzer.

Investigating Public Perceptions of and Responses to Hurricane Rita Forecasts. Hurricane Rita made landfall near the Texas–Louisiana border in September 2005, causing major damage and disruption. As Rita approached the Gulf Coast, uncertainties in the storm's track and intensity forecasts, combined with the aftermath of Hurricane Katrina, led to major evacuations along the Texas coast and significant traffic jams in the broader Houston area. A study in the December issue of the AMS *Weather and Forecasting* investigates the societal impacts of Hurricane Rita and its forecasts through a face-to-face survey with 120 Texas Gulf Coast residents. The survey explored respondents' evacuation decisions prior to Hurricane Rita, their perceptions of hurricane risk, and their use of and opinions on Hurricane Rita forecasts. For a copy of the paper contact Stephanie Kenitzer.

The Where and When of Tornado Fatalities in the United States from 1880 to 2005. The December issue of *Weather and Forecasting* also contained a spatial and temporal analysis of tornado Fatalities in the United States from 1880–2005 in order to assess region-specific vulnerabilities. The analysis reveal that most tornado fatalities occur in the lower–Arkansas, Tennessee, and lower–Mississippi River valleys of the southeastern United States—a region outside of traditional “tornado alley.” Analysis of variables including tornado frequency, land cover, mobile home density, population density, and nocturnal tornado probabilities demonstrates that the relative maximum of fatalities in the Deep South and minimum in the Great Plains may be due to the unique juxtaposition of both physical and social vulnerabilities. The spatial distribution of these killer tornadoes

suggests that the above the national average mobile home density in the Southeast may be a key reason for the fatality maximum found in this area. A demographic analysis of fatalities during the latter part of the database record illustrates that the middle aged and elderly are at a much greater risk than are younger people during these events. For a copy of the paper contact Stephanie Kenitzer. You can also see a release online at <http://www.niu.edu/PubAffairs/RELEASES/2008/feb/tornado.shtml>

Climate Change and Air Pollution. The next AMS Environmental Science Seminar is tentatively scheduled for February 27, 2008 on Climate Change and Air Pollution. Stay tuned to the web for details and info on seminars you might have missed <http://www.ametsoc.org/seminar>

Weather Modification, Forest Meteorology, and Hurricanes – AMS Upcoming Specialty Meetings. The AMS is hosting and co-hosting a series of specialty meetings in the coming months that will cover everything from planned and inadvertent weather modification to hurricanes. Check out these conferences: 17th Conference on Planned and Inadvertent Weather Modification, cosponsored by the AMS and the Weather Modification Association, April 21-25, 2008 at the Westin Westminster in Westminster, Colorado (<http://www.ametsoc.org/MEET/fainst/200817wmodwma.html>) The 28th Conference on Agricultural and Forest Meteorology and the 18th Conference on Atmospheric BioGeosciences, the 28th Conference on Hurricanes and Tropical Meteorology Conference, all held simultaneously at the Wyndham Orlando Resort in Orlando, 28 April - 2 May 2008 in Orlando, FL. (<http://www.ametsoc.org/MEET/fainst/200828Hurricane.html>)

Want to know what's in the AMS Journals? The AMS publishes 9 peer-reviewed journals. You can get details about each of these journals online including an RSS feed to table of contents, sign up to receive email notification when the journals are posted online and more. See <http://www.ametsoc.org/pubs/index.html>

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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