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FOR IMMEDIATE RELEASE
10 April 2007

AMERICAN METEOROLOGICAL SOCIETY – APRIL SCIENCE HIGHLIGHTS

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

Clouds, Sea Ice and the Southern Ocean. The Southern Ocean around Antarctica is a large region of potential importance for global climate change. This region is seasonally covered by sea ice with variable thickness and variable snow cover. The sea ice at its maximum extent occupies an area of ocean larger than the Antarctic continent, but about 85% of the ice melts away by the end of summer each year. The Southern Ocean is also one of the cloudiest regions on earth, so its solar energy budget is affected by variations of both clouds and sea ice. Compared with other areas of the world, knowledge of clouds is sparse over the Antarctic region, particularly over the ocean. A paper in the March 15 issue of the *AMS Journal of Climate* takes a closer look at the role of clouds and sea ice and the Southern Ocean's solar energy budget. For a copy of the paper contact Stephanie Kenitzer.

When It Rains on Snow. It happens like clockwork. Each spring it rains, and the rain falls on snow across many higher and some lower elevations contributing to spring run off and spring flooding. A study, published in the March issue of the *Bulletin of the American Meteorological Society*, of more than 4,300 sites in the western United States from 1949 through 2003 shows that rain-on-snow events are a relatively common occurrence with nearly 3,400 stations reporting such an event. These types of events happen most often in the Pacific Northwest and less frequently in the interior West. Rain-on-snow happens most often in the early fall when temperatures tend to fluctuate and in the late spring/early summer when snowpack is still present but temperatures increase and spring rains begin. The data also shows that rain-on-snow events are becoming less frequent as a result of temperature changes across the globe which is impacting precipitation and temperature patterns in the U.S. What does it all mean, well that is yet to be determined. But this first indepth study of rain-on-snow events gives scientists further data to improve flood forecasts and assessments of flood risks. For a copy of the paper see <http://ams.allenpress.com/perlserv/?request=get-toc&issn=1520-0477&volume=88&issue=3>

Flying Across the Poles Watch out for Solar Storms. Better forecasts of space weather events and better use of those forecasts by the aviation industry could lead to safer operations and hundreds of thousands of dollars in savings for airlines, according to a new report by the American Meteorological Society and SolarMetrics. The report, "Integrating Space Weather Observations & Forecasts into Aviation Operations," is the outcome of a two-day workshop last fall among aviation and space weather experts. Conditions and activity that takes place on the sun and in the solar wind are known to have an influence on the performance and reliability of navigation satellites and ground-based communication systems frequently used by the aviation industry. Solar activity could result in degradation or loss of High Frequency radio transmission and satellite navigation signals; navigation systems disruptions; and radiation hazards to humans and avionics, especially in the polar regions, which are now becoming more popular aviation routes due to the tremendous cost savings they provide. The report is online at <http://www.ametsoc.org/atmospolicy/spacewxworkshop.html>

Managing Climate Change and the Energy Challenge. The next AMS Environmental Seminar will focus on the complex topic of climate change and the energy challenge. Some of the questions to be addressed at this evening are: What is the scale of effort that is likely required to address the energy challenges posed by climate change? Have we, as a society, been successful in the past in organizing grand-scale programs to address critical issues of enormous scale? What are the suite of technologies and lifestyle changes that are likely to be essential components of an energy conversion program that effectively addresses the most serious threats and consequences of climate change? The grand challenges posed by unchecked greenhouse gas emissions will, no doubt, take considerable time and effort to deal with. What are likely to be some of the most effective strategies that can be deployed in the near- and mid-term? How critical is energy conservation in such a plan? Is it reasonable to assume that technological advances alone, in the absence of fundamental changes in our lifestyles and perspectives, are sufficient to tackle the problem at hand? The speakers are Dr. Marty Hoffert, Professor Emeritus of Physics, New York University, New York; Dr. Ken Caldeira, of the Department of Global Ecology, Carnegie Institution, and Professor (by courtesy) in the Stanford University Department of Geological and Environmental Sciences, Stanford; and Dr. Joseph Romm, Executive Director of the Center for Energy and Climate Solutions, former Acting Assistant Secretary, Office of Energy Efficiency and Renewable Energy, and former Principal Deputy Assistant Secretary, U.S. Department of Energy, Washington, DC. The Seminar will take place on Monday, April 16 from 12-2 p.m. in the Dirksen Senate Office Building, Room 106. For more information see <http://www.ametsoc.org/atmospolicy/EnvironmentalScienceSeminarSeries.html>

Award Deadline Coming Up. There is still time to submit your entry for the AMS Science Journalism Award. The deadline is May 1, 2007. The entry deadline for the AMS Award for Distinguished Science Journalism in the Atmospheric and Related Sciences is May 1, 2007. The award aims to recognize outstanding science reporting and writing of scientific discoveries, principles, advances, and impacts in all media outlets including radio, television, newspaper, magazine and Internet. The terms of reference and nomination details are online at <http://www.ametsoc.org/awards/index.html> or contact Stephanie Kenitzer.

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