



# DAILY BAMS



2009 Annual Meeting

Issue 5 – Thursday, January 15, 2009

## CCMs Relish New Opportunities to Explain Climate Change

The AMS Certified Consulting Meteorologist (CCM) program has always prided itself in combining knowledge, experience, and entrepreneurial spirit. Now, that breadth of qualifications uniquely positions CCMs to offer professional advice and assistance to businesses, municipalities, and infrastructure managers grappling with issues stemming from climate change.

Wednesday's Second Annual CCM Forum was aimed at Severe Weather Impact Studies, but the session focused not only on mitigating potentially huge losses from hurricanes and flooding but also on coaching clients to explore alternative sources of energy and working to control air pollution.

With global climate change, the field is wide open.

"Each threat represents an opportunity," says new AMS Fellow and CCM, James Giraytys of James Madison University (JMU) in Winchester, Virginia. CCMs, he says, "have a substantial amount of information at our fingertips that can allow our local governments to meet their goals."

As an air quality expert, his passion is to offer assistance on environmental problems that affect local decision making. "There are issues that need to be dealt with that have no funding outside of communities at this time."

When it comes to severe weather, meteorologists are well situated to share their atmospheric expertise with local developers. All CCMs are fun-

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Joseph Pedlosky, WHOI, Woods Hole, MA, delivers the Bernard Haurwitz Lecture.



The night comes to life as AMS members walk past part of the "Night Blooming Garden," one hundred forty-four blue and green LED runway lights arranged in arcs along the sidewalks around the Phoenix Convention Center by the Beliz Brothers. The lights are designed to replicate a night-blooming cereus plant of the Sonoran Desert.

## Hollingsworth, A Leader in NWP, Remembered in Symposium Today

The common thread in memories of Tony Hollingsworth is the enthusiasm he brought to his career and life. As one of the main contributors to the Global Energy and Water Cycle Experiment (GEWEX), he marshaled his great energy for the observations, modeling, and process studies in various continental scale experiments. In particular, he was a cornerstone of the European Centre for Medium-Range Weather Forecasts (ECMWF) from its inception to its rise to become an international standard in numerical weather prediction and services.

Under Hollingsworth's leadership ECMWF developed ex-

tended forecasts of the tropics of unprecedented quality and resolution. This work set the agenda and style for modeling work for the 1980s and beyond. It is for these contributions to the field of forecasting and data assimilation, among others, that Hollingsworth, who passed away in July, will be commemorated today at The Anthony Hollingsworth Symposium.

Hollingsworth began his career with the Irish Meteorological Service in 1965, training to become a certified meteorologist. After training, he took a job as an aviation and general

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Mike Mogil, CCM, looking forward to next week's events in Washington, D.C.:

"I sat down last night and looked at the data for Inauguration Day to check to see if there's any difference between the weather for Republicans and Democrats. And guess what? There is. Mega-difference.... Democrats tend to be sunny, 5 out of 9 years; the Republicans are cloudy 7 out of 9 years. It turns out, though, that the Republicans are warmer, which makes sense because with clouds we have warm advection."



After science, art is the next best form of sanity.

## NEWS FROM THE EXHIBITS

MODEM, manufacturer of upper-air sounding systems and associated radiosondes, is now offering its GPSonde M2K2DC commercially. Several different versions of the associated receiver—

SR2K2—are also available. The fully-coded GPS radiosonde offers digital transmission in 1-second cycles and a 3-hour battery life.

In 2008 Microcom released its new SDI-12 Battery Charger & Multi-Sensor Board (SBCM-



410), an SDI-12 sensor and bus extender. The SBCM also contains three SDI-12 3 wire (power/ground/data) interfaces, which allows for three SDI-12 devices to directly connect to the SBCM SDI-12 BUS. As a sensor the SBCM can forward

the following type of data: relative humidity from an on-board sensor, barometric pressure (from the optional SETRA 276 barometer), solar panel charger voltage from an optional attached panel, battery temperature via attached thermistor, battery voltage, charger current (from an on-board charger circuit), and internal temperature.

Data from NASA's Aura and Terra satellites showed that emissions restrictions in preparation for the Olympic Games in Beijing had a significant effect on air pollution levels. Worried about frequent episodes of poor air quality in the city and its surroundings,

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## Climate Change Program to Listen to Your Comments

Evaluating the government's research on global climate change is best achieved by receiving the input of its users. Today you have a chance to participate in this process. At the "Climate Change Science Program Listening Session" (12:15 p.m., Room 125B), provide your opinions on the direction of the U.S. Climate Change Science Program (CCSP), which supports research on the interactions of natural and human-induced changes in the global environment and their implications for society.

Since its inception, the CCSP has, in collaboration with several other national and

international science programs, documented and characterized several important aspects of the sources, abundances, and lifetimes of greenhouse gases; mounted extensive space-based monitoring systems for global monitoring of climate and ecosystem parameters; begun to address the complex issues of various aerosol species that may significantly influence climate parameters; advanced the understanding of the global water and carbon cycles; and developed several approaches to computer modeling of the global climate.

The session will start with a short presentation about CCSP, followed by an open forum

where participants can provide comments. The discussion will focus on research gaps, observational/measurement needs, unmet modeling opportunities, federal information management and communication, links between research and decision making, and the structure of a potential federal climate program.

After the meeting, comments will be provided to several CCSP strategic planners. They will also be posted on the CCSP Web site ([climatescience.gov](http://climatescience.gov)). Those who cannot attend the session are encouraged to send their comments on these topics to Anne Waple in the CCSP office ([awaple@climatescience.gov](mailto:awaple@climatescience.gov)).



AMS Executive Director Keith Seitter, left, and AMS President Walt Dabberdt, right, receive a gift from Phoenix Convention Center Director Jay Green on Monday following the Presidential Forum. AMS was recognized for being the first organization to host a convention in the North Building of the newly expanded convention center.

## Hollingsworth Set the Agenda for Improved Forecasts

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forecaster at Shannon Airport. A few years later he came to the United States, earning a doctorate of meteorology and Ph.D. from MIT. In 1971, Hollingsworth joined the U.K. Universities Atmospheric Modeling Group at the University of Reading as a research fellow but soon wanted something other than academia and applied at the ECMWF, where he was offered a job in 1975.

From 1976 to July 2003, Hollingsworth worked on virtually every aspect of numerical weather prediction models. One of the things his colleagues most admired was his eagerness to use new types of observations to improve the initial conditions of NWP models. He did not distinguish between "research" and "observational" satellite data, believing that not only could the research observations improve operational

forecasts but that the impact of these data on the model results provided valuable information to the researchers about the characteristics and quality of the data. During this time, appointed as deputy director, Hollingsworth made many personal contributions to the NWP that led to major improvements to the ECMWF global forecasts.

The later years of his professional life Hollingsworth established a European capability for atmospheric environmental monitoring and prediction based on improved four-dimensional data-assimilation methods. For this work he was received the 1999 Jule Charney Award from the AMS.

Hollingsworth founded and led the multipartner Global Monitoring for Environment and Security (GMES) project, which is concerned with global and regional Earth-system

monitoring using satellite and in situ observations. Hollingsworth was also an important player on a wider international stage, fostering extensive collaboration with the European Organisation for the Exploitation of Meteorological Satellites, the European Space Agency, and space agencies worldwide. He also worked in support of the World Climate Research Programme, the Global Climate Observing System, the U.S. National Academy of Sciences, and AMS.

Along with his enthusiasm, Hollingsworth had an excellent understanding not only of the science but science management. His colleagues agree that not only did they lose a valuable friend and colleague, but the wider weather community lost a great scientist. Although Hollingsworth was keen to continue contributing, what he left behind is of immense value for the scientific community.

## RECYCLE YOUR PROGRAMS

Recycling barrels are located throughout the convention center. If you do not wish to keep your meeting program, please be sure to deposit it into one of the many recycling barrels that are provided or into one of the large wheeled bins located next to the registration desk.



## DAILY BAMS

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## NEWS FROM THE EXHIBITS

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Chinese officials were successful in reducing nitrogen dioxide (NO<sub>2</sub>)—a byproduct of fossil fuel combustion—by restricting traffic.

NO<sub>2</sub> levels were cut nearly in half, according to research presented last month by sci-

entists from Goddard Space Flight Center. The satellite-borne sensors also detected a 20% drop in carbon monoxide levels. Furthermore, pollutant levels recovered to normal quickly after traffic restrictions ended, after the Olympics.

Verification of the success of pollution controls was made possible by the regional yet high-resolution data generated by the Netherlands-supplied Ozone

Monitoring Instrument (OMI) on Aura and the Measurement of Pollution in the Troposphere (MOPITT) instrument on Terra. **Northrop Grumman**, manufacturer of Aura, has a long heritage building Earth-observing satellites and sensors, starting with *Explorer VI*, the first satellite to take a picture of the Earth from space. It is currently building the next-generation low-Earth orbit operational satellite system.

Tracking the response of the animal kingdom to climate change and environmental catastrophes is getting a lot easier with unmanned aircraft. Researchers at the University of Alaska, Fairbanks and **NOAA** are counting seals in the Bering Sea using a **Boeing Insitu** unmanned aircraft (Boeing purchased Insitu last summer.)

The unmanned aircraft

system, or UAS for short, was launched off the *Oscar Dyson*, a National Oceanic and Atmospheric Administra-



## CCMs Have Many Ways to Provide Environmental Assistance

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damentally trained to know how hurricanes and severe storms work. Supplying details on the local risk is just the type of advice the engineering community isn't equipped to provide.

CCM Lee E. Branscome, president of Climatological Consulting Corporation in Palm Beach Gardens, Florida, highlighted the extraordinary potential price tags of landfalling U.S. hurricanes. Katrina. Wilma. Ike. Charley. These recent storms are the types of multibillion-dollar disasters that Branscome aims to blunt, even a little, by simply providing meteorological experience to the developers and architects as they design new structures.

"Meteorologists, particularly CCMs, who have experience in hurricanes should be the ones advising engineers and construction companies to build better buildings," Branscome says. "Proper orientation of a building ... shape of a building ... landscaping around a building. With hurricanes, exposure is everything."

Impact studies that look at regional responses to climate

change offer special challenges that the CCM community is already beginning to face. Future climate scenarios created in simulations for the Intergovernmental Panel on Climate Change (IPCC) can inform regional analyses. But, CCM panelists Arthur Mizzi, head of the air quality group with Walsh Environmental Scientists and Engineers, LLC, in Boulder, Colorado, and John Henz, atmospheric science group leader for HDR Engineering, Inc., in Denver, say these simulations can be used correctly as well as incorrectly.

Anyone can apply and express reasonable need to access the IPCC simulations, Henz notes. Not everyone, however, has the knowledge to interpret the results properly for regional use, despite expectations from clients.

"The public has a different perception of climate change than we have," Giraytys says. "We need to change that perception, and that is a huge, huge task."

But conflict, just like threats, also brings opportunity, Branscome remarks. CCMs note an expansion of the interface between

meteorologists and engineers despite the differences between these professions. Bringing in other stakeholders, Henz says, connects diverse expertise to solve complex problems.

"It's amazing what can happen when meteorologists, engineers, emergency responders, and local planners get together and work at something," says Henz. "It's very exciting!"



Tim Doyle, Gill Instruments Ltd, right, discusses a new WindObserver ultrasonic anemometer designed to remain ice free in most freezing weather conditions with Sebastien Bigorre, WHOI, Woods Hole, MA, during the Exhibit Hall Reception.

## New Name for Industry Group Reflects Emerging Opportunities

The Commercial Weather Services Association changed its name to the American Weather and Climate Industry Association (AWCIA) at its 20th anniversary membership meeting this week in Phoenix. The meeting was held in conjunction with the AMS Annual Meeting.

Members of AWCIA have a history of pioneering weather sensing technology and forecasting as well as of advancing the communication of weather information to the public media, business, and government. The renaming of the group occurred in a new environment of collaboration between industry and NOAA and recognized the additional need to develop similar relationships, technologies, and services in the climate arena.

"This action reflects the conviction of the membership... that an emerging critical issue facing both scientists and the public today is understanding and dealing with climate change," said Steven Root, president of the AWCIA and of WeatherBank, Inc.

After sharing a panel with National Weather Service director Jack Hayes at an AMS Town Hall session this week, Barry Myers, CEO of AccuWeather, Inc., said, "NOAA and NWS now recognize the broad nature of the weather industry and the important emerging climate mission, and that helped to support a change in name. The American public will now also better understand the role of companies in the weather and climate industry."



Philip Mote, state climatologist of Washington, on his colleagues' views on global warming:

"Some state climatologists have Ph.D.'s in some aspect of climate science and are cranking out papers; some come from a very different background in hydrology or agricultural economics or whatever. So there's this great diversity of perspectives and we see that when we ask them, 'Do you believe that humans are influencing global climate in a significant way?' Some say 'yes,' some say 'no,' and some say 'I don't know.'"

## Don't Miss Arizona Science Center!

A Special Offer for AMS Attendees

## Thursday's Highlights

### Exhibit Hall Raffle

3:00-3:30 p.m.

Hall 4

Enter the Exhibit Hall after 3:00 p.m. this afternoon and be eligible to win one of the many prizes donated by our exhibitors. Hand your name badge to an AMS staffer as you enter the hall as it is your entry into the drawing. Winners must be present to claim their prize.

### See a Movie!

8:00 a.m.-5:30 p.m.

Room 231C

It's been a long week. So why not relax for a spell and watch some captivating videos about weather, storms, climate and the environment? Topics such as clouds, blizzards, tsunamis, hurricanes, and more will be featured in today's showings.

tion ship, last October. Scientists collected data in remote locales with relative ease. The UAS can fly up to 20 hours at a given time and through inclement weather conditions, and it carries high-resolution video equipment. Biologists can then find the seals and fit them with radio transmitters.

NOAA scientists hope to use the aircraft technology to study four species of ice-associated

seals in Alaska's Bering Sea in the spring of 2009. The seals can be tracked over the ever-changing sea ice in flights that last longer and cover a broader range than manned helicopter flights.

ADSS (Advanced Distributed Sensor Systems) is preparing for the release of its new VisPod™ for measuring horizontal visibility (up to 7 miles) and current weather. VisPod can measure rain, mist,

and sleet as often as every 5 minutes. Battery life allows 30-days operation on a 15-minute reporting cycle. An optional solar panel (or an AC adaptor) can extend operations indefinitely. Defrosting capabilities and wireless communication are also options for the compact, rugged station, which weighs less than 13 pounds. Production is expected by mid-2009 after qualifications this spring.

The new version of REM-

TECH's portable phased-array PA0 Sodar measures vertical profiles of wind speed, direction, thermal stratification, and turbulence parameters up to 1200 meters, more than doubling the average range of the previous model. The unit is designed for easy connection to computers running Linux and can be powered by solar panels or car battery.

The next deadline for post-doc

research awards from the National Research Council is February 1. These awards include stipends ranging from at least \$42,000 to \$72,000 (plus some expenses and benefits) for recent Ph.D. recipients and applies to independent research at laboratories run by NOAA, the EPA, the Naval Postgraduate School, and others U.S. governmental agencies.



Allyson Williams, 2, Mesa, Az., takes in the scorpion sculpture at the public plaza located near the southeast entrance of the North Building. "Social Invertebrates," by Tom Otterness, comprises three large, whimsical bronze sculptures of desert creatures, enlarged to human scale. The creatures include a millipede with a hat and shoes, a walking stick in high heels, and a scorpion holding two small men in top hats tugging at a bag of money.



Three-year-old Abigail Vanasdall, Peoria, Az., uses cotton to make the three main cloud groups—cumulus, stratus, and cirrus—at the Bishop DuBourg High School booth during WeatherFest.



(L to R) Jong-Chul Ha, Korea Meteorological Administration, Sang-Woo Kim, Seoul National University, and JiYoung Kim, Korea Meteorological Administration, share the morning coffee break as they hoist their Starbucks.



The Exhibits Hall is a popular destination for AMS attendees.



Student volunteer Jonny Malloy, 20, Arizona State University meteorology program, takes in "The Earth Dreaming," by Isaiah Zagar, a colorful mural of tile mosaics which creates Phoenix and Arizona-inspired imagery.



Roy Priest, right, Global Science & Technology, Inc., discusses the GATR inflatable antenna with Frank Defina, Vaisala, Inc., as Defina takes a peek inside the unit at booth #102 in the Exhibit Hall.