StaffNotes

For and about the people of UCAR, NCAR and UOP

Volume 43 Number 8
SEPTEMBER/OCTOBER 2008

Tracking typhoons across the Pacific

A far-flung study examines Pacific cyclones and their U.S. impacts

WHILE MANY AMERICANS gazed anxiously toward the Atlantic Ocean in recent weeks, watching hurricanes stream our way, several dozen staff from EOL and ESSL/MMM kept their eyes on the Pacific. Stationed from Guam to Boulder, they're part of a vast project called T-PARC (THORPEX Pacific Asian Regional Campaign). Organized by the World Weather Research Program of the World Meteorological Organization (WMO), T-PARC involves university, federal, and military participants from more than 10 countries.

The team is studying typhoons across the Northwest Pacific Ocean, from their formation in the tropics and subtropics to their typical demise as they move northward and encounter westerly winds at midlatitudes. The resulting interaction can sometimes affect weather in North America and beyond. The field phase of T-PARC began on August 1 and goes through early November.

"We're running this project across nine time zones," says Jim Moore, who's sharing operational management duties with his EOL colleague Dick Dirks. He adds, "In terms of geographic reach, this is by far the biggest project I've been involved with in my 25 years at UCAR." Equally impressive is the scope of T-PARC's mammoth online field catalog, developed

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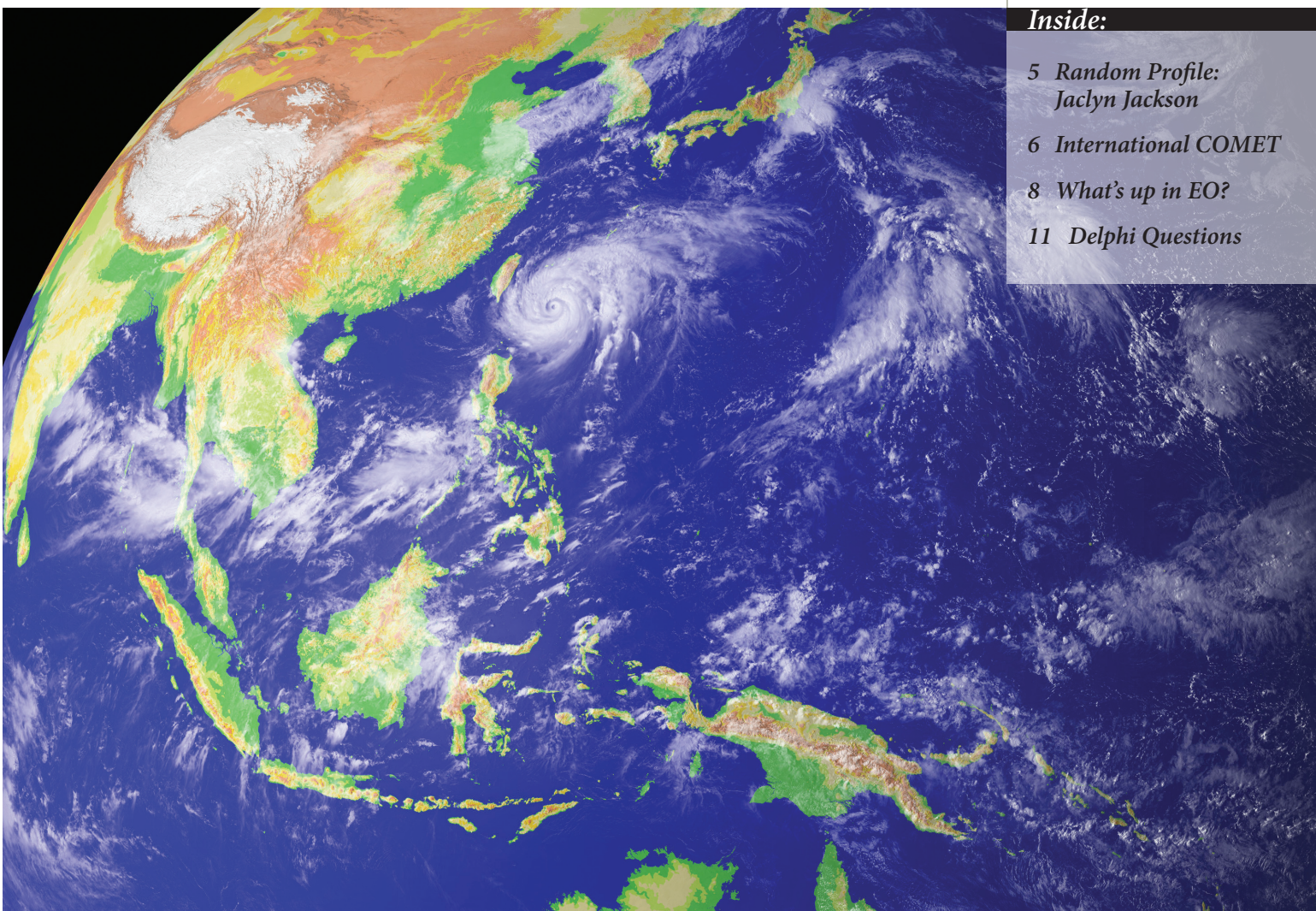
Above: Michael Montgomery (Naval Postgraduate School) joined EOL's Michael Bell (center) and Wen-Chau Lee (right) for a T-PARC flight. (Photo by Tammy Weckwerth.)

Below: The T-PARC study area spans much of the Northwest Pacific Ocean. Several T-PARC aircraft sampled Typhoon Sinlaku, shown here just east of Taiwan on September 11. (MTSAT-1R image courtesy Japan National Institute of Informatics.)



Inside:

More than a dozen UCAR/NCAR staff volunteered at the Green Frontier Fest, a celebration of sustainability sponsored by the City of Denver and other supporters on August 24 at Sculpture Park. A booth organized by OGA and EO featured hands-on science demos, items from the Science Store, information about NCAR and our research, and handouts on Sustainable UCAR's environmental initiatives.

Supercomputing Center one step closer

ON SEPTEMBER 5, NCAR director Eric Barron reported that NSF has given a green light to proceed with the initial design phase of the NCAR Supercomputing Center, to be located outside Cheyenne. NCAR's next step is to issue a request for architecture and engineering services, followed by a request for design proposals. NSF will draw up a formal process for review and approval of the development during its major phases. UCAR/NCAR, NSF, and Wyoming partners will work together to finalize business plans, milestones, and timelines within the framework NSF establishes.

Climate change adaptation on October agenda

CENTER GREEN WILL play host to more than 100 university faculty during the week of October 13–17 for the 2008 UCAR Annual Meetings. Attendees include representatives from UCAR members and affiliates, members of the UCAR Board of Trustees and the President's Advisory Committee on University Relations (PACUR), early career faculty guests, and UCAR/NCAR management. In addition, this year the American Meteorological Society and American Geophysical Union will sponsor the biennial meeting of heads and chairs from university departments and programs in atmospheric and related sciences. This year's Members' Meeting Forum focuses on the UCAR community's role in climate change adaptation and mitigation.
www.ucar.edu/governance/meetings/oct08

UCAR vice president Jack Fellows coordinated the transition document for the new administration and Congress.

A blueprint for 2009

EIGHT LEADING PROFESSIONAL organizations in the field of weather and climate, including UCAR, have called on the next administration and Congress to better protect the United States from severe weather and climate change. On August 20, they issued "Advice to the New Administration and Congress: Actions to Make Our Nation Resilient to Severe Weather and Climate Change." The presidential campaigns of John McCain and Barack Obama received copies.

The document contains recommendations for reversing declining budgets and providing tools, information, and leadership to decision makers. It emphasizes observations, computing, research and modeling, societal relevance, and leadership and management. The plan is estimated to cost roughly $9 billion above the current federal investments being planned for 2010–2014.
www.ucar.edu/td

Event planning made easy

IN LATE AUGUST, Meeting Maker and Room Reservations were combined by IT into a new system called Room and Resource Scheduler (RRS). The new system offers one-stop shopping for booking conference rooms and is especially efficient for large events. Users who log into RRS can order catering, multimedia services, and other setup options in addition to booking rooms. Rooms can still be booked through Meeting Maker; reservations made through Meeting Maker show up in RRS and vice versa. All available rooms can now be viewed in both applications.
www.fin.ucar.edu

The new Staff Notes

YOU MAY HAVE NOTICED that *Staff Notes* has a brand new look. We hope you like it.

After completing a reader survey earlier this year, we learned that many staff want us to use less paper without eliminating the print version altogether or sacrificing content. In response, we'll be publishing in print less frequently—every other month—to be more environmentally friendly. Because this publication schedule is friendlier to our budget as well, we can now display our photos and visuals in full color.

Between editions, look for "Web only" content on our website at www.ucar.edu/communications/staffnotes. You'll notice ongoing changes to our website over the next few months, as we work to provide fresh content on a continual basis and incorporate more interactive features.

As always, we appreciate reader feedback, story ideas, tips, and photos. Send us a message at staffnotes@ucar.edu or contact editor Nicole Gordon at ext. 8616.

T-PARC *continued from page 1*

and maintained by EOL. It will hold more than a million analyses and predictions from weather forecast models by the time the experiment is done.

Typhoons and hurricanes differ in name only: they're both tropical cyclones, which tend to form in light winds above warm oceans. On average, the Northwest Pacific is the world's most prolific breeding ground for tropical cyclones. Unlike the North Atlantic, it stays warm enough to produce typhoons year round, with the official season running from May to November. Many of these typhoons wreak havoc across the east Asia coastline from Vietnam to Japan.

Typhoons typically recurve to the northeast, pumping huge amounts of moisture and warm air into the North Pacific. This can torque weather patterns downstream across North America in ways that aren't fully understood or well depicted by computer models.

"The practical question is figuring out which storms will create havoc for subsequent downstream weather prediction and which will not," says Chris Davis (ESSL/MMM), one of T-PARC's principal investigators. Chris says the study may help show why some hurricanes and typhoons are able to thrive in the face of wind shear (variations in wind speed and direction with height). Wind shear often tilts and tears apart tropical cyclones, but not always.

"We have many simulations from numerical models that suggest that a tropical cyclone can change its structure so as to mitigate the effects of shear, but we have almost no observations to tell us whether these models are correct," says Chris. "T-PARC will hopefully provide these observations."

All quiet on the western front?

During T-PARC's first few weeks, the study region was abnormally tranquil. The Northwest Pacific saw four named storms in August, whereas the average is between six and seven. Only one August system, Nuri, featured winds above hurricane force (119 kilometers, or 74 miles, per hour). However, the T-PARC crew has made the most of the storms it's seen, with successful flights undertaken from Guam by a P-3 aircraft from the Naval Research Laboratory (NRL) and a C-130 operated by the U.S. Air Force. Other aircraft have flown out of Japan and Taiwan.

T-PARC marks the second major deployment of driftsondes, a sensing system created at NCAR and first used on a large scale for a 2006 African project that studied the earliest stages of Atlantic hurricanes. The driftsonde system includes a three-story-tall balloon that lofts a set of several dozen instrument packages (dropsondes) into the stratosphere, where light easterly winds prevail. Once airborne, a driftsonde can move lazily westward for days (see graphic on page 1). Using a satellite-based communications system, scientists release dropsondes that fall by parachute into regions of meteorological interest, collecting weather data as they descend.

Nine driftsonde systems had been launched by early September from a base on the arid, stark

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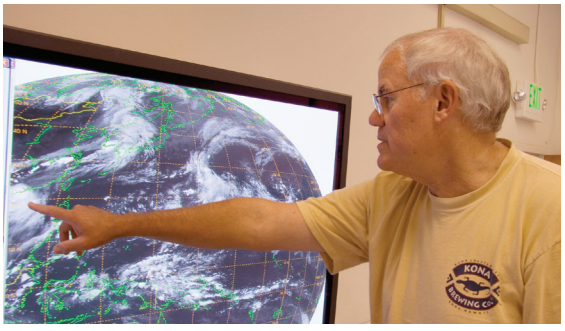

Above: Staff from the French space agency (CNES) prepare for an early-morning T-PARC driftsonde launch on Hawaii's Big Island. Video of a T-PARC launch can be found at www.ucar.edu/staffnotes. (Photo by Hal Cole.)

Left: At the T-PARC operations center, Jim Moore (EOL) analyzes Typhoon Nuri, which struck the Philippines on 19 August. (Photo by Bob Henson.)

Laura Tudor and Errol Korn. (Photo by Wen-Chau Lee.)

southwest end of Hawaii's Big Island. EOL's Terry Hock and colleagues, and the French ballooning specialists on hand to carry out the launches, are pleased at the results thus far. "The project is having its ups and downs," Terry says, "but that's the nature of the balloon business."

Even farther away from home, a group of EOL technicians and scientists has been based in Guam during T-PARC. They're operating the Electra Doppler Radar (ELDORA), built through an NCAR-French collaboration and now installed on and integrated with the NRL P-3. "The radar encountered some problems after it arrived in Guam. However, its performance has been very impressive in the research flights conducted so far," says chief scientist Wen-Chau Lee (EOL).

If there's a home base for the far-flung T-PARC project, it's the operations center on the NRL campus in Monterey. As with most field projects, the "ops center" plays host to daily weather briefings and flight planning discussions. For T-PARC, dozens of participants in Asia, Oceania, North America, and Europe are taking part in the meetings virtually. Through a videoconferencing system called Elluminate, scientists can view briefings, add to the discussion, and even present PowerPoint shows and specialized products from thousands of miles away. "It's great technology that has really made this expansive project possible," says Jim Moore.

The importance of T-PARC goes well beyond typhoons, according to Dave Parsons. He's now on leave from EOL and based in Geneva, Switzerland, where he serves as chief of the World Weather Research Program. A second T-PARC phase led by NOAA will examine winter storms, and there are several other related experiments. T-PARC is part of THORPEX, a ten-year international study to foster improvements in predicting high-impact weather one day to two weeks in advance.

"T-PARC is focused on scale interaction—from how the large-scale environment interacts with convection to form typhoons, to how these typhoons perturb the flow over the western Pacific to generate damaging weather downstream," Dave says. He explains that recurving typhoons can trigger or enhance a train of Rossby waves. These dips in the polar jet stream can persist for days, propagating around the globe and spawning destructive events that can range from floods and fire weather to intense winter storms.

"By helping us understand typhoons as well as their downstream effects, T-PARC will contribute to better forecasts and help make people less vulnerable to many kinds of damaging weather," Dave says.

Passing the dropsonde

Like an observational baton, the dropsondes launched from aircraft by NCAR staff are being passed to a new generation. Errol Korn, who has managed dropsonde deployment for EOL field projects since 1996, is retiring next February. At T-PARC, he's been training Laura Tudor, the three-year EOL technician who will step into Errol's well-traveled shoes.

The job is trickier than it may look, says Errol. "Launching a perfectly functioning sonde, from a proven airplane with a perfect dropsonde system and an optimally installed launch tube, on a regular and reasonably spacious drop schedule, is not too hard. Unfortunately, rarely do these all come together."

Calculations show that dropsondes can experience up to 100 times the force of gravity as they leave an aircraft. Operators need to carefully execute pre-launch preparations to avoid compromising a drop, often while checking on the status and quality of data coming in from the last drop and perhaps debugging or otherwise fixing a problematic drop.

"Add to this the fog of confusion that comes after many hours of turbulent flight in a noisy research aircraft, and it becomes a challenge to keep sharp and focused," says EOL's Dean Lauritsen.

The current GPS-based dropsonde was first designed at NCAR in the early 1990s with support from NOAA and the German Aerospace Research Establishment. Thousands have been deployed on field projects as well as by NOAA and U.S. Air Force "hurricane hunters" in the Atlantic. EOL is now updating the current system and planning a next-generation version suitable for high-altitude aircraft, including NCAR's Gulfstream-V.

"Errol has developed unique knowledge about the care and feeding of our dropsonde system," says Dean. "He is certainly the most knowledgeable operator among all of the organizations that deploy dropsondes. T-PARC is giving Laura an excellent opportunity to 'learn by doing' under field-project conditions. We're excited to have her join our group, and we know that the training from Errol will bring her up to speed quickly."

In early September, Laura reported only one frustration: "Things here are going well. The P-3 crew is great. We just need some weather to chase!"

On the Web

T-PARC: www.eol.ucar.edu/deployment/field-deployments/field-projects/t-parc

Video of driftsonde balloon launch: www.ucar.edu/communications/staffnotes

Every other month, Staff Notes spotlights a staff member selected from the phone directory. This month we profile Jaclyn Jackson in ESSL/ACD.

Jaclyn Jackson
ESSL/ACD

SN: You've been part of ACD for about a year and a half. Tell me about your job.

Jaclyn: I'm an administrative assistant. I help whoever comes my way. I usually arrange a lot of travel. I set up seminars and meetings, and do other miscellaneous administrative things.

SN: What do you like best about your job?

Jaclyn: I like learning about the scientists' projects. I set up a lot of travel for them to go to different places, so it's interesting to see why they're going there. I've worked on a lot of travel for ARCTAS [Arctic Research on the Composition of the Troposphere from Aircraft and Satellites], and I'm closing up a big workshop held in Sweden. Maybe one day they'll take me with.

> *"Travel can be challenging when workshops include participants from other states—it can be difficult to get ahold of the participants to help arrange the trip and to close out the trip."*

SN: Sounds like you like to travel.

Jaclyn: I love traveling.

SN: Let's come back to that later. What is most challenging about your job?

Jaclyn: Travel can be challenging when workshops include participants from other states—it can be difficult to get ahold of the participants to help arrange the trip and to close out the trip.

SN: How did you come to work at NCAR?

Jaclyn: My husband, David Allbee, works at Jeffco as an electronics technician, so he kept me informed of job openings. NCAR is a very good organization to work for, so I'm grateful I got the job. I hope to grow with the organization and be one of those people who gets to celebrate their years here.

SN: Tell me about your life outside work.

Jaclyn: I don't have much of one right now [laughing]. We have two daughters: a three-year-old, Cayla, and Madysen, who's one. There's so much running around with the girls that I guess you could say they are my life outside work. They are definitely handfuls. My parents live in Littleton, so they watch the girls sometimes. When we don't have the girls around, we sleep, kick back, relax, and enjoy the quiet time.

SN: How about pets?

Jaclyn: Two dogs—Karma, a coonhound, and Hailey, a vizsla. They're female, so my husband is surrounded by girls. We had two cats, but my parents now have them. With two kids and two dogs and a husband, it was too much to handle. I'll stick with the dogs for now, who tend to be handfuls themselves sometimes, but I eventually hope to have many more animals.

SN: You obviously like animals.

Jaclyn: I studied zoology at Colorado State University. I thought I was going to go to vet school, but then I worked at a vet clinic for a bit and didn't care for it too much. I really like animals but would rather just keep it at that.

SN: What are some of your other interests?

Jaclyn: I love to travel and would like to start that up again. I traveled a lot in high school—Greece, Turkey, Australia, and Africa. The trips were through school. I wasn't an exchange student but went for summer trips, which were never long enough.

SN: Where would you like to go on your next trip?

Jaclyn: Probably Italy first, because my husband lived there for three years. But I want to go anywhere and everywhere. It would be so much fun.

SN: You mentioned that your parents live in Littleton. Did you grow up in Colorado?

Jaclyn: I did—I was born in Colorado, moved around a lot with my family, to New Jersey and California to name a few places, and have been back in Colorado since third grade.

COMET'S INTERNATIONAL REACH

MODULES, COURSES HELP TRAIN SCIENTISTS AROUND THE WORLD

FOREIGN VISITORS ARE hardly a rarity at NCAR and UOP, but it's not every day that a meeting draws 27 participants from 24 countries. COMET's international hydrometeorological analysis and forecasting course, held June 9–27, brought scientists from every region covered by the World Meteorological Organization (WMO) to Boulder to learn more about the weather and hydrology behind floods and other water-related hazards.

"This class was a major collaborative effort between the WMO, NOAA, and UCAR," says coordinator Matt Kelsch. Although most of the attendees had leading roles in the hydrological services of their respective countries, some had never traveled overseas before.

This summer's course is one example of how COMET's international activities are taking on a higher profile. Throughout its 18-year history, COMET's main mission has been to train operational forecasters through residence courses and distance learning materials (modules offered online and on DVD). Its early efforts were aimed largely at U.S. forecasters, but with the success of its materials, other countries are now calling on COMET to adapt modules and courses for their own needs or to generate new products from scratch.

Few if any nations are positioned to develop a group quite like COMET, whose staff of 37 includes instructional designers, graphic artists, software developers, staff scientists (primarily meteorologists), and an audiovisual engineer.

"Our number of international projects has doubled in the last three or four years," says Pat Parrish. Originally an instructional designer, Pat was recently named COMET's international projects manager, a new position signaling increased demand. "Part of my role is business development—taking leads and turning them into more substantial projects," says Pat. For example, Australia's Bureau of Meteorology has provided a small base contribution to COMET for years. This year they signed a larger contract for a module on fog prediction in the Melbourne region, with a focus on aviation.

For many years, COMET director Tim Spangler was the program's main link to international activities.

"This work's been very interesting and very rewarding, but it does require patience," says Tim. He has long served on WMO committees and other bodies aimed at strengthening meteorology education and training around the world, gradually laying the groundwork for COMET's current status as a global go-to center for high-quality modules and courses.

Translations are making COMET's storehouse of online training modules accessible to a much wider audience through the MetEd website (meted.ucar.edu). Primarily thanks to David Russi, the program's full-time translator, COMET now has more than 50 modules available in Spanish. In addition, 15 modules are now in French, and plans are in the works to translate additional modules into Russian and Portuguese. In all, MetEd now has more than 13,000 international users from more than 200 countries—almost every nation on Earth.

Much of the support for these translations, and for this summer's international hydrology course, has come from the NWS Office of International Activities, a long-time sponsor. The office is working with COMET to offer international guides for tsunami and flash flood warning systems. Another major sponsor is EUMETSAT, the European Organisation for the Exploitation of Meteorological Satellites. COMET has already produced two modules for EUMETSAT, with others now in the pipeline.

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Right: Evaluating regional river models in this summer's COMET international hydrometeorology course are Jean Claude Ntonga (Cameroon), Otilia Baciu (Romania), Marius-Victor Birsan (Romania), Snezhanka Balabanova (Bulgaria), and Mira Kobold (Slovenia). The course's 27 students came from all six regions of the World Meteorological Organization: Africa, Asia, Europe, North America/Caribbean, South America, and Southwest Pacific.

Below: Pat Parrish.

NCAR's new deputy director: Maura Hagan

IN EARLY AUGUST, ASP director Maura Hagan was named deputy director of NCAR. She replaces Larry Winter, who held the position for five years before moving to IMAGe to pursue research in hydrology and applied mathematics.

"It's my privilege to serve NCAR in this new capacity," Maura says. "I aspire to be a strong advocate for science and to promote opportunities for both visitors and staff across our institution."

Maura's appointment makes her the highest-ranked woman in the history of NCAR's management. She'll continue to lead ASP while taking on her new role in the director's office. By combining the two positions, NCAR will "save considerable administrative costs, allowing us to focus more of NCAR's tight resources on our scientific mission," notes NCAR director Eric Barron.

A space physicist, Maura has focused her research on the physics of the middle and upper atmosphere, particularly atmospheric tides and their effects throughout the atmosphere. She came to NCAR in 1990 as an HAO visiting scientist with CEDAR (Coupling, Energetics and Dynamics of Atmospheric Regions). One of her major accomplishments was helping develop the Global Scale Wave Model, a numerical model of planetary waves and solar tides in Earth's atmosphere.

In 2003, Maura was named a senior scientist, and in 2005 she took the helm of ASP, where she encourages the development of postdoctoral fellows and early-career scientists.

"Maura is well respected within NCAR and by the external community," Eric says. "Her experience on the NCAR Director's Committee gives her broad insight into the breadth of NCAR's activities, and as ASP director she is acutely aware of the importance of early-career scientists, science education, diversity, and broad community outreach for our future. All of these qualities ensure effective leadership of NCAR."

For more about Maura's research and career path, visit www.ucar.edu/news/people/Hagan.

COMET *continued from page 6*

Despite its global reach, COMET's strongest foreign ties are with a next-door neighbor. The Meteorological Service of Canada (MSC) has been a major supporter of COMET throughout this decade, funding a number of residence courses and modules that cover North America as a whole and Canada in particular. MSC lost most of its own education and training group to a nationwide restructuring and budget cut in the 1990s.

This year's rash of tropical activity across the Bahamas and Caribbean—including Hurricane Ike's destructive pass across the low-lying Turks and Caicos islands—points to the need for accessible training and education on hurricane safety. COMET's award-winning "Hurricane Strike!" module, designed for a broad audience of students and nontechnical users, was a big hit, says Tim, "but it's for people who can flee inland. The reality is that many people live on islands." With this in mind, COMET is in the final stages of securing funding for a new module tentatively named "Island Strike!"

COMET's international bridge building could have some unexpected benefits beyond scientific training. One of this summer's hydrometeorology students wrote, "I learned a couple of new things, met many interesting people, and repaired my opinion of Americans. . . In general you are optimistic, communicative, helpful, and easy people."

What's up at the UCAR Office of Education and Outreach?

Roberta Johnson
DIRECTOR, EO

We all know about the excellent research activities underway across UCAR/NCAR. Not only are our scientists on the forefront of research, but we also provide support for models and facilities that serve the UCAR community. Perhaps less well known to some staff are our institution's strengths in education and outreach, through which our science is shared with educators, learners, and the public. Numerous groups within UCAR/NCAR/UOP contribute to the organization's education and outreach mission, goals, and objectives. Below, I'll provide an update on a few of EO's specific activities. EO also works to represent and promote UCAR education and outreach programs across the institution and advocates for geoscience education on the national and international levels.

Onsite visitors

Many staff have undoubtedly noticed groups of K–12 students touring the Mesa Lab during the school year and visits by vacationers during the summer months, or been aware of the highly visible public events at the lab. These activities are central to our Public Visitor and Exhibits Programs, which form a cornerstone of EO.

Approximately 80,000 people visit the Mesa Lab annually, ranging from early elementary student groups to scientific delegations and policymakers. Nearly 14,000 students tour the lab annually and participate in hands-on science education activities in our classroom. A lucky subset has the opportunity to visit the Visualization Lab, thanks to collaboration with CISL staff.

Many UCAR staff have also assisted at our annual public event each fall, Super Science Saturday (see page 15). The audience for this event has continued to grow in recent years, reaching about 5,000 in 2007. Super Science Saturday features dynamic science demonstrations, hands-on activities for young people, and opportunities to connect with scientists at the lab and remote locations (including a live link to the Antarctic last year). Susan Foster on our staff does a great job leading a committed team of educators that makes these programs and events possible.

Climate change education

As we all know, the recognition that climate change is real and is already happening has increasingly taken hold with the public. In response, K–12 teachers are eager to learn more about the subject and how to share it with their students. EO has placed an emphasis on climate and global change education since its inception, initiating two-week Climate and Global Change workshops at NCAR offered each year from 2002 to 2005 for 20 teachers drawn from national pools of applicants (with support from NCAR and participation from numerous scientists and staff).

Beginning in 2006, we began work to transform the workshop to a distance learning format, so that more teachers would have the opportunity to benefit from the program. We now offer a set of three online Climate Discovery courses (see below for link): An Introduction to Earth's Climate, Earth System Science—A Climate Change Perspective, and Understanding Climate Change Today. These courses are offered multiple times each year, with graduate recertification credit available for teachers through the Colorado School of Mines.

We are delighted with how well the distance learning approach is working for course participants, as well as with their enthusiasm for the courses and the ability to reach significantly larger numbers of teachers with this in-depth professional development experience. Sandra Henderson on our staff is doing a great job managing this powerful program.

Professional development

EO also offers dozens of professional development workshops for educators at multiple venues. Our workshops are a significant portion of geoscience offerings available at National Science Teachers Association conferences, which draw thousands of science educators from across the country. We also give workshops at numerous other venues annually, ranging from the Geophysical Information for Teachers workshop at American Geophysical Union meetings to state-based professional development opportunities.

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On the Web

NCAR Online Education: ecourses.ncar.ucar.edu
Windows to the Universe: www.windows.ucar.edu
EO Strategic Plan: eo.ucar.edu/stratplan/EO_strat_plan_2007.pdf

Left: Dengue fever is an acute infection caused by four dengue virus serotypes and transmitted by Aedes species mosquitoes. (Image courtesy U.S. Department of Agriculture.)

» Dengue fever heads north

RESEARCH BY MARY HAYDEN (ASP/ISSE) underscores the risk of dengue fever and the growing threat of dengue hemorrhagic fever (DHF) in the Rio Grande Valley between far south Texas and northeast Mexico. Dengue fever is an acute infection caused by four dengue virus serotypes and transmitted by Aedes species mosquitoes. Any of the four serotypes can cause dengue fever; a person infected with two or more serotypes is at increased risk for the potentially fatal DHF.

Endemic to the tropics, dengue has been moving into the southern United States, perhaps due to climatic as well as human factors. Over the last several years, Mary has led a NOAA-funded study to examine how climate and human variables affect the risk of dengue fever along the U.S.–Mexico border in Arizona. In late 2005, the nation's first-ever outbreak of DHF struck the Lower Rio Grande Valley. Shortly afterward, Mary and her colleagues surveyed households in Brownsville, Texas, and Matamoros, Mexico, and found that nearly 40% of Brownsville residents had been infected with at least one dengue serotype.

The study recommended strengthening dengue surveillance, monitoring virus strains, and providing early warning of outbreaks. It also noted practices that can help avoid mosquito infestations, including the use of repellent and the proper storage or disposal of waste tires and other objects that might capture standing water.

Mary says the next steps for the researchers are further household surveys in the region to better characterize risk by assessing indoor and outdoor mosquito populations. "We also hope to use NCAR's High-Resolution Data Assimilation System to better understand how weather and climate relate to seasonal mosquito abundance," she says.

» Ozone and the "weekend effect"

RESEARCH FROM MIRAGE (Megacities Impacts on Regional and Global Environments), a field campaign held in Mexico City in 2006, is coming to fruition as scientists begin to publish their findings. "Weekly patterns of Mexico City's surface concentrations of CO, NO_x, PM_{10} and O_3 during 1986–2007," published online in *Atmospheric Chemistry and Physics* on September 5, details the "weekend effect" in Mexico City and its implications for local air pollution.

"Surface pollutant concentrations in Mexico City show a distinct pattern of weekly variations," write authors Sherry Stephens, Sasha Madronich, and Fei Wu (ESSL/ACD), in conjunction with colleagues in Mexico. The study found that carbon monoxide, nitrogen oxides, and small particulates are less prevalent on Saturdays and especially Sundays, due to less driving and other pollution-generating activity on weekends than during the week. This effect has been observed in other large metropolitan areas as well.

> *Surface pollutant concentrations in Mexico City show a distinct pattern of weekly variations.*

However, ozone in Mexico City doesn't follow this weekend pattern. As expected, ozone increased though the morning and noon hours each day as volatile organic compounds (VOCs) interacted with sunlight. Each night, ozone levels dropped back. The strength of the afternoon ozone peaks changed little from day to day, though, despite the enhanced VOCs and nitrogen oxides present during the week as opposed to weekends. The ACD team showed why: on weekdays, the enhanced nitrogen oxides apparently removed sunlight-generated radicals that would have otherwise helped produce ozone. On weekends, the presence of more radicals was counterbalanced by fewer VOCs, so ozone production stayed relatively constant.

The study, which was supported by NCAR and the Mexican government, concludes that efforts to reduce ozone in Mexico City should focus on cutting back VOCs rather than nitrogen oxides.

In Mexico City, the weekend brings fewer cars to the road, which means less carbon monoxide, nitrogen oxides, and small particulates polluting the air. This effect has also been observed in other large metropolitan areas.

» Down-to-earth predictions

IN A POTENTIAL BOON FOR agriculture, a NASA-funded effort that involves RAL and the private

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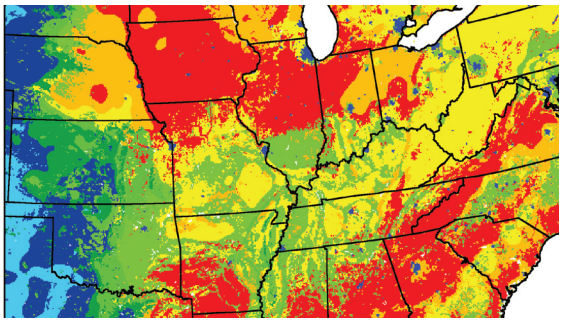
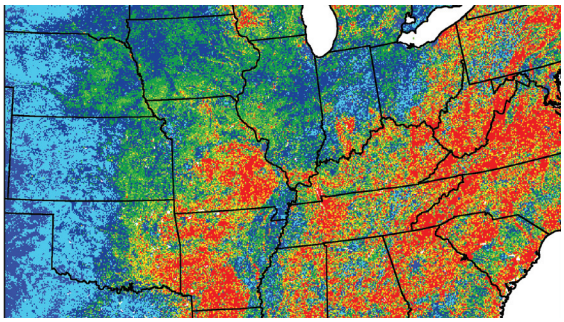
RESEARCH *continued from page 9*





Forecasts of soil temperature tend to improve when a climatological index of leaf area (left, for a typical July 1) is replaced by a more detailed index derived from satellite data (right, for the period around July 1, 2006). (Images courtesy Kevin Manning.)

firm DTN/Meteorlogix has produced one of the world's most accurate systems for predicting soil temperature up to two days in advance. Since the project began in 2006, the typical 48-hour error in soil temperatures has been reduced by about 10% at a depth of 2 inches (5 centimeters) and by around 50% at a depth of 4 in (10 cm), as compared to prior results from the NCAR-based High-Resolution Land Data Assimilation System (HRLDAS).

Led by Bill Myers and Fei Chen, the RAL team includes Ying Zhang, Seth Linden, and Kevin Manning. They are combining HRLDAS and the Noah Land Surface Model with several weather prediction models optimized by NCAR's Dynamic Integrated ForeCast system. Much of the forecast improvement has come from expanding the number of nodes (soil depths tracked by HRLDAS) from four to six, and from enhancing the parameterization of surface-atmosphere exchange processes.

The team has also incorporated new high-resolution data sets derived from NASA's Moderate Resolution Imaging Spectroradiometer. These data give a more timely and accurate picture of the seasonal ebb and flow of U.S. vegetation, which affects the amount of radiation entering and leaving the ground and the amount of water entering the air from plants.

The soil forecasts are generated each night at NCAR and sent to DTN, the nation's largest agricultural weather provider. DTN uses the forecasts as background in producing text products and phone briefings for the firm's 60,000-plus clients. Eventually, a user-friendly version of the forecasts could go directly to clients. After this year's growing season, the RAL team will work on further improvements to the forecast system—particularly for soil moisture, where the challenge is more daunting than for soil temperature.

Researchers in ESSL/CGD have produced a new analysis of the exchanges of heat, momentum, and moisture between the oceans and atmosphere.

» Between air and sea

ESSL/CGD DIRECTOR Bill Large and CGD colleague Steve Yeager have produced a new analysis of the exchanges of heat, momentum, and moisture between the oceans and atmosphere that should help climate modelers better assess variability on several time scales. In a paper for *Climate Dynamics* published online in August, they calculated all the air-sea flux components for the period 1984 through 2006, and some components from as far back as 1948.

Bill and Steve corrected global long-term data sets from several sources—including the National Centers for Environmental Prediction reanalysis, the International Satellite Cloud Climatology Project, and NASA's rainfall-measuring missions—by comparing them to a variety of short-term and regional data sources. With these revisions, they obtained generally higher global winds, lower average atmospheric humidity, less solar radiation in the tropics, and more consistent rainfall than in the original products.

The study also found wide interdecadal variations in the worldwide exchange of heat between air and sea. The global averages ranged from 7.3 watts per square meter (1977–1986) to −0.3 W/m^2 (1997–2006), with positive numbers indicating a net downward flux. "Events such as El Niño are reflected in the data as a reduced downward heat flux, because the warmer tropical ocean takes less heat from the atmosphere," says Bill.

The new flux data were designed to serve as a consistent, balanced forcing for ocean and sea-ice models, but they will also allow scientists to better assess how accurately global models are depicting climate variability from year to year and decade to decade. The research was supported by a NOAA grant and NSF.

Q [QUESTION 590 • RECEIVED 06.30.08]
I APPRECIATE MANAGEMENT'S EFFORTS to deal with the budget shortfall this year by delaying the annual pay raises, and I realize that the budget for next fiscal year is unlikely to be known with certainty until after the new administration takes office in January. However, I am concerned that the recently determined pay raises do not include a cost-of-living adjustment that compensates for the actual inflation in the past year, which has been about 4% since our last pay raise in June 2007. (See www.inflationdata.com/Inflation/Consumer_Price_Index/HistoricalCPI.aspx.)

How does UCAR determine the annual cost-of-living adjustment, and how does this relate to the Consumer Price Index? Does UCAR intend to prorate the cost-of-living adjustment this year to compensate for 16 months of inflation (June 2007 to October 2008), or just 12 months?

A In order to answer your question completely, it is helpful to first give some background on how UCAR determines its annual range movement and merit increases, and the difference between these and a cost-of-living adjustment.

UCAR's pay policy does not include an annual cost-of-living adjustment (COLA). A cost-of-living adjustment would be an identical pay raise either as a flat rate or as a percentage of salary given to all eligible employees. For example, under a COLA plan, all employees would get a 3% pay adjustment based on the cost of living. Most organizations do not use COLAs; those that do typically use the Consumer Price Index (CPI). The projected CPI at the time salary increases for 2008 were determined was 2.2% (U.S.) or 3.1% (Denver Metro).

Like most organizations, UCAR has a merit pay system, and this is consistent with our compensation philosophy. Merit increases are adjustments to an employee's pay based on performance. While UCAR management does consider cost-of-living indices when making pay increase decisions, we do not have a formal cost-of-living adjustment built into our salary increases. Merit increases are determined by salary market data and what other companies are projecting to pay their employees in the upcoming year. HR makes recommendations based on this data to both the President's Council and the Personnel Committee of the Board each year. For this year the merit increase budget was 4%.

As you note, UCAR has experienced a budget shortfall this year. On January 17, UCAR president Rick Anthes sent out an e-mail message to all employees describing the projected size of the budget shortfall for FY08 and the steps UCAR management was taking to mitigate its impact. Rick noted in his letter, "The four-month delay in salary increases and associated increase in benefits will save about $1 million across all of UCAR and could save a significant number of jobs at NCAR and in other UCAR programs."

Since the merit increase delay was implemented as a cost-saving measure, we are unable to prorate the merit increases back to June. Merit increases will be effective on October 5. [RESPONSE TO QUESTION 590 • RECEIVED 07.11.08 FROM DELAINE ORENDORFF, COMPENSATION AND HR MANAGER]

Q [QUESTION 591 • RECEIVED 07.17.08]
I UNDERSTAND THAT there were significant financial pressures for delaying the annual salary increase from June 1 to October 5 to address the Omnibus Bill, and that the salary increase range movement was adjusted accordingly, from 2.5% to 2.8%, to account for those extra months the raise will cover. However, economic conditions have changed in ways that would have been difficult to foresee when these percents were calculated. According to the Department of Labor, inflation is currently growing at its fastest pace in 27 years.

In terms of buying power, the UCAR 2.8% range movement simply isn't enough to keep up with the inflation the country is experiencing, specifically in the energy and food expenditures categories. Extrapolating from the last three months ending in June 2008, the compound annual rate of these special indices is 53.6% and 8.5%, respectively, according to the Consumer Price Index (www.bls.gov/news.release/cpi.nr0.htm).

In conclusion, I feel the cost-of-living increase we will receive in October simply does not match inflation and presents a financial hardship to me, my family, and to those I supervise. I understand that budgetary pressures have not subsided, but is there anything that UCAR can do?

A There are a couple of misconceptions and issues in your question that need to be addressed. I think the overriding issue you raise is that the cost of living is going up a lot and salary range movements for 2008 are lower than inflation. You also ask what UCAR can do to help employees.

Three things are happening in 2008: raises have been delayed until October, the salary ranges increased by 2.8%, and the salary budget was approved at 4%.

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Management weighs in on budget concerns

On August 8, UCAR president Richard Anthes and NCAR director Eric Barron released a statement in the wake of media and community interest generated by NCAR's recent program cutbacks and overall budget situation. For more information, read "Budget stress at NCAR: Management weighs in" (*UCAR Quarterly*, summer 2008).

www.ucar.edu/communications/quarterly/summer08/budget.jsp

DELPHI *continued from page 11*

Marc Genty, Delphi Coordinator

The delay is to save money for the FY08 budget. The 4% salary increase budget is higher than in previous years (the budget in FY07 was 3.5%).

The salary budget is driven by the average pay and increases projected by other organizations with similar jobs. UCAR has a policy of paying market-competitive wages and has processes to manage pay, including salary structures (ranges). Salary structure or range movement adjustments are different than cost-of-living adjustments. A cost-of-living adjustment would be an identical pay raise either as a flat rate or as a percentage of salary given to all eligible employees, and based on the rate of inflation. For example, under a COLA plan, all employees might get a 3% pay adjustment based on the cost of living. Most organizations do not use COLAs; those that do, typically use the Consumer Price Index (CPI). The projected CPI at the time salary increases for 2008 were determined was 2.2% (U.S.) or 3.1% (Denver Metro).

Range movement adjustments reflect approximate changes in labor rates, which are based on supply and demand in the labor market. UCAR uses salary structures as frameworks for managing employees' pay. Each job is evaluated using market data. The job is then assigned to a salary range where the market point represents the median paid by other employers for comparable jobs.

To keep the salary range structure(s) aligned with the market averages, the market point (formerly midpoint) is adjusted on an annual basis. Human Resources reviews projections from national and local salary survey sources to determine the adjustment required to keep the structure current. Each year these sources survey the market to determine anticipated adjustments to salary structures for a wide range of organizations.

For exempt (salaried) positions, the projected national market average adjustment for 2008 is 2.8%, which is how the 2.8% range adjustment for UCAR was arrived at. UCAR management reviewed these projections and historical adjustments, and believes that a 2.8% increase in all midpoints, exempt and nonexempt, is required to maintain UCAR's alignment to market pay.

To answer the second part of your question, is there anything UCAR can do? UCAR has many policies and benefits to assist our employees.

The transportation website outlines ways employees can save through the use of UCAR shuttles, the Blue Bike program, and the RTD Eco Pass. More information on these programs is available at www.fin.ucar.edu/sustainability/transportation.html.

Our Work and Family Policy 6-12 includes flexible work alternatives such as flextime, Flexiplace, and compressed work weeks. The link to this policy is www.fin.ucar.edu/polpro/section6/6-12.html.

However, we must remember that UCAR is a 24/7 operation. UCAR staff can negotiate alternate work arrangements with their supervisors if their jobs are compatible with flexible schedules. Supervisors are encouraged to be flexible, but the bottom line is that we have obligations to our funders and our customers.

[RESPONSE TO QUESTION 591 • RECEIVED 07.29.08 FROM DELAINE ORDENDORFF, COMPENSATION AND HR MANAGER, AND BOB ROESCH, DIRECTOR OF HUMAN RESOURCES]

Q [QUESTION 592 • RECEIVED 07.18.08] I HAVE NOTICED IN THE NEWS a lot of talk about companies going to compressed work weeks, four-day work weeks, and telecommuting to allow their employees to save some money on gas. UCAR has this compressed work week (Flexiplace) listed as an option in its work and family procedures. I am wondering if Flexiplace will become a better known and more frequently used option by UCAR employees?

A UCAR has many policies and benefits to assist our employees. Our Work and Family Policy 6-12 includes flexible work alternatives such as flextime, Flexiplace, and a compressed work week. The link to this policy is www.fin.ucar.edu/polpro/section6/6-12.html.

The transportation website outlines ways employees can save through the use of UCAR shuttles, the Blue Bike program, and RTD's Eco Pass program. More information on these programs is available at www.fin.ucar.edu/sustainability/transportation.html.

However, we must remember that UCAR is a 24/7 operation. UCAR staff can negotiate alternate work arrangements with their supervisors if their jobs are compatible with flexible schedules. Supervisors are encouraged to be flexible, but the bottom line is that we have obligations to our funders and our customers.

[DELPHI RESPONSE TO QUESTION 592 • RECEIVED 07.29.08 FROM BOB ROESCH, DIRECTOR OF HUMAN RESOURCES]

Q [FOLLOW-UP QUESTION TO 592 • RECEIVED 07.31.08] I UNDERSTAND THE bottom line of obligations to our funders and customers. I am sure this is the bottom line for most companies, but it seems that other companies are making sure that supervisors are offering alternatives and making these alternatives known. If this question and answer are published, then more employees will know that these options exist; otherwise I am guessing not too many people will know about these policies. Additionally, few supervisors are using these options, and hourly employees apparently don't get the Flexiplace option.

Secondly, the alternative transportation options seem to be mainly for people who live close to UCAR. Those of us who do not live where we can ride a bike, or who have kids to drop off, have to drive. We could take the bus, but if we don't live near easy bus routes, we are looking at an additional hour plus to get in. A compressed week or telecommuting could be possible solutions. Operating remotely still allows UCAR's 24/7 operations to continue; just because on some days some people will not be at UCAR does not mean that everyone will be gone.

What I am asking (which really was not answered from the original question) is: will these options become better known and used more frequently by UCAR employees (hourly ones, too)?

A There are a couple of issues here. One is communication of the policies and another is whether these flexible options are available to everyone.

There have been articles in *Staff Notes* regarding UCAR's Work and Family Policy 6-12, which includes flexible work alternatives such as flextime, Flexiplace, and compressed work weeks, over the past few years. (For example, see the September 2005 issue at www.ucar.edu/communications/staffnotes/0509/family.html.) We can ask the Communications staff to write another article letting employees know that these benefits are available. In addition, the policies are online for employees and supervisors to refer to at any time.

UCAR staff can negotiate alternate work arrangements with their supervisors if their jobs are compatible with flexible schedules. The key phrase here is "if their jobs are compatible." Some jobs will require employees to be here for an eight-hour day, or core business hours, and others will have more flexibility.

In addition to these issues, UCAR has to comply with the Federal Labor Standards Act. This act determines whether an employee's position is exempt or non-exempt. If the job is non-exempt (hourly), then UCAR is required to pay overtime after 40 hours worked in any given work week. It is difficult to track exact hours when employees are working from home, which makes Flexiplace a difficult option for non-exempt (hourly) staff. If the job allows it, however, employees can work a flextime schedule of 10 hours per day, four days per week, and take one day off. Individual situations like this can be discussed with the appropriate HR representative.

[DELPHI RESPONSE TO QUESTION 592 • RECEIVED 09.08.08 FROM BOB ROESCH, DIRECTOR OF HUMAN RESOURCES]

Q [QUESTION 593 • RECEIVED 07.30.08] IS THERE ANY SUPERVISION OF, or checking up on, the custodians after they have cleaned? I ask because it is apparent that no cleaning of bathroom floors or toilets has been done for the last two days. The two bathrooms I use most often have the same hair and paper scraps on the floor and the same stains on the toilet seats.

This is not only unsanitary, it is embarrassing because one of these bathrooms gets traffic from visitors. Are the other bathrooms getting cleaned properly? Who checks? Do you wait until someone complains? This is not the first time I have had to complain about the lack of cleaning. It is apparent the company that was hired to do the job of keeping our plant clean cannot be trusted to do so.

My solution is to hire custodians to work here permanently and give them a decent wage and benefits. I imagine if the custodians had pride of place, they might actually take care to do a good job and we wouldn't have to wonder if the bathroom has been cleaned when we use it next.

Thank you for the opportunity to bring this problem to light.

A This question includes three separate issues, requiring separate responses. The first issue concerns supervision of the custodians and inspection of their work. As employees of the contractor, janitorial personnel are supervised by the contractor's site manager and night supervisor. These two positions are also responsible for inspections and audits of the cleaned areas within UCAR facilities. In addition to inspections by the contractor, each building has a "custodial liaison." Liaisons are volunteer UCAR employees who monitor the condition of each building and advise Maintenance of issues or deficiencies. We include input from the liaisons in our oversight of the contractor's performance.

The second issue is a complaint about substandard cleaning of washrooms within a UCAR facility. Each washroom should be thoroughly cleaned and stocked nightly, and serviced again once per business day by a custodian at each site. UCAR personnel who observe any deficiency in cleaning (in a washroom or elsewhere) are encouraged to contact Maintenance at ext. 1120 or custodial@ucar.edu. Maintenance dispatches janitorial personnel to immediately remedy any urgent problem, and we track all deficiency reports as part of our oversight of the contractor's performance.

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DELPHI *continued from page 13*

Please contact Dave Maddy, Maintenance manager, at ext. 1134 or maddy@ucar.edu with any questions or comments on these issues.

The third item involves the custodians' status as contracted rather than UCAR employees. UCAR did have a full time, in-house custodial staff at one time. The decision to use contracted custodial services has resulted in better service than we experienced previously at a considerable reduction in cost. It is unfortunate that you have experienced less-than-acceptable performance from our contracted services. When problems are brought to our attention, we always make an effort to respond as quickly as possible to correct any of the services we provide to the organization.

Please contact John Pereira, director of Physical Plant Services, at ext. 1128 or pereira@ucar.edu with any questions or comments on this issue.

Thank you for your question. [RESPONSE TO QUESTION 593 • RECEIVED 08.07.08 FROM JOHN PEREIRA, DIRECTOR OF PHYSICAL PLANT SERVICES]

Q [QUESTION 594 • RECEIVED 07.31.08]
IN MID-FEBRUARY WE LEARNED that Physical Plant Services (PPS) was planning to remove a large nest on the southeast corner of the third floor of FL2. We wrote to PPS, alerting it to the fact that we had a pair of nesting great horned owls, and strongly requested that it leave the nest alone. We received the following response:

"We have absolutely no intention of evicting any residents from the nest on the south face of FL2. We do hope to remove the nest eventually, for numerous reasons [note: no reasons were given], but certainly not while it's occupied. [We] had no idea that an owl family had taken up residence. [Our] visit earlier was simply reconnaissance. We'll have to rent a rather tall lift to reach and remove the nest, and had been tentatively planning to do so next month. Since the lift is pretty expensive, we were surveying the nest and area in advance to avoid any surprises or delays once it arrived. Having been properly surprised earlier today, we'll stand by indefinitely on the rental and removal of the nest."

On either the evening of July 23 or early in the morning on July 24, the nest was destroyed with no warning and no chance to talk about this further. We can only assume PPS did indeed take the threatened action, although a call to them to verify this has not been returned.

Thousands of people watched this beautiful pair of owls nest and successfully raise two babies. People of all ages, including may groups of schoolchildren, visited in person, and we know that many, many more logged on to the owl cam multiple times a day to watch the babies hatch, grow, and ultimately fly away. After their departure, the nest became home to sparrows who built their own nest within the sticks. They were hopping around sadly looking for their nest the day it was destroyed.

We would like an explanation as to why this decision was made and why the action was carried out in secrecy during off-hours. We would also like to know to whom we should direct the public's phone calls and e-mails this fall/winter when people begin to anticipate the return of the great horned owls to NCAR.

A Removal of the nest had been in Maintenance's work order system for some time, and was put on hold while the nest was occupied by owls. Because the nest was not anchored to the building, and was estimated to weigh in excess of 40 pounds, it was considered a hazard to the health and safety of employees and visitors using the front entrance of FL2. The nest was observed for any additional inhabitants or eggs. Sparrows or house finches were observed feeding on the insects that were feeding on the feces and remains of small animals that were left behind by the owls. The outstanding work order was completed during normal work hours by maintenance staff working from the roof of FL2.

A call was made to the PPS employee quoted in this question, who was on vacation at the time. Upon the PPS employee's return, this person responded to the caller's phone mail message on August 4, and left a phone mail message for the caller, whose message indicated that they were on vacation. A message was left for the caller, and as of the date of this response, the caller has not responded to the message from PPS.

Please contact John Pereira, director of PPS, at ext. 1128 or pereira@ucar.edu with any questions or comments. [RESPONSE TO QUESTION 594 • RECEIVED 08.11.08 FROM JOHN PEREIRA, DIRECTOR OF PHYSICAL PLANT SERVICES]

Q [QUESTION 595 • RECEIVED 08.01.08]
AS TIGHT AS THE BUDGETS are supposed to be, how can the NCAR Library constantly buy so many new books? There are almost daily postings of new books purchased.

A The NCAR Library, like other divisions within UCAR/NCAR, is also faced with difficult budget decisions at this time. Because of this, we are very careful with the money allocated to us and continually strive to revise our buying to reflect the research direction of the organization.

In our effort to give our users timely information in difficult budget times, we subscribe to Books 24x7, a service which provides new books online, available at all times, in many areas of technology, computer science, and math. When a new title is added to Books 24x7, it is announced to alert researchers. These titles are all part of our subscription; there are no extra costs.

In addition, we have just completed our annual library journal evaluation. This very

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GUEST COLUMN *continued from page 8*

Because of our efforts to provide geoscience educational resources in both English and Spanish, we have also been invited to present workshops in Mexico, Chile, and Argentina. In total, we reach about 3,000 teachers annually through face-to-face professional development activities.

Windows to the Universe

Another of our flagship programs is Windows to the Universe (W2U). This project, consisting of a highly popular education and outreach website and a supporting professional development program, brings the Earth and space sciences to a global audience of the public, students, and educators. The website comprises more than 8,000 interlinked webpages available at three levels of content (upper elementary, middle school/general public, and high school students) in English and Spanish, with an abundance of integrated classroom activities and interactives.

With more than 20 million users annually, W2U is a great place to bring our science to the attention to learners and educators. Just now, the group is completing work on the bilingual portal to share science from the upcoming VOCALS (VAMOS Ocean-Cloud-Atmosphere-Land Study) field campaign taking place in Chile.

Atmospheric Science Literacy Framework

We've also been working closely with the science and education communities since November to develop the Framework for Atmospheric Science Literacy, with support from the NSF Geoscience Education Program. With the assistance of John Snow, dean of the College of Geosciences at the University of Oklahoma, we are now almost ready to go to press. The framework will guide educators and the public on the major ideas and concepts that constitute literacy in atmospheric science. Armed with this understanding, people will have the basis to communicate about the atmosphere in a meaningful way and will be equipped to make informed and responsible decisions about activities that impact the atmosphere.

There's so much more to share. In the coming months we'll keep you posted on our upcoming citizen science campaigns (Project BudBurst and the Great World Wide Star Count), as well as the Bilingual Science Teachers Annual Research Symposium (BSTARS). Please get in touch with me at rmjohnsn@ucar.edu if you are interested in participating in our education and outreach activities, or would like to work with us to develop education and outreach activities associated with your research. We're here to help!

Super Science Saturday.

Super Science Saturday around the corner

Super Science Saturday returns to the Mesa Lab on October 25 from 10:00 a.m. to 4:00 p.m. This Halloween-themed annual event for students, parents, and teachers features hands-on science, live demonstrations by NCAR science wizards, weather and climate quizzes, a poetry workshop, climate dance, and much more. The theme this year is Amazing Energy. The event is free and open to the public. For more information, visit www.ucar.edu/outreach/sss/schedule.html.

DELPHI *continued from page 14*

thorough process was done with valued input from our users and will help the Library refine our current journals to offer NCAR researchers the best materials in their fields of study.

We have also instituted procedures to review and delete outdated items. We are reducing duplicate hard-copy subscriptions. We are moving to increase our relevant online offerings, which are available to all researchers across the organization. We work hard to get materials we do not own to users through our interlibrary loan process in the most cost-effective way.

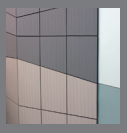
We do still add relevant new books to the library collection in our core areas of study. These titles are announced every Thursday in Today@UCAR. We value comments and suggestions from UCAR/NCAR researchers and welcome questions. [RESPONSE TO QUESTION 595 • RECEIVED 08.04.08 FROM TERRY MURRAY, MANAGER OF LIBRARY OPERATIONS]

take a look

BAD WEATHER torpedoed the annual Up-the-Hill Race on September 12, but the "Slow Poker" component of the relay race proceeded indoors. The Most Fun-Spirited Award went to the NCAR Directorate's "Texas Hold 'Em" team, which included Veda Emmett, Rachel Hauser, and Eric Barron (left to right). At far right is Katie Pohl from the F&A "Hill Rollers," which snatched third place from MMM's "Three of an M" after a post-party audit. For the full scoop, plus more photos and video, see www.ucar.edu/communications/staffnotes.

TAKE ANOTHER LOOK ONLINE: www.ucar.edu/communications/staffnotes

A new laboratory at the University of Manchester has been named Latham Laboratories in honor of NCAR scientist John Latham.



Think you recognize this place? Hint: it's somewhere at Foothills Lab. Find the answer online at our new feature, Secret Site.

A new model will link societal factors with the physical science of climate change.

Staff Notes is published bimonthly by the Communications office of the University Corporation for Atmospheric Research
P.O. Box 3000
Boulder, Colorado 80307-3000.

UCAR operates the National Center for Atmospheric Research and the UCAR Office of Programs with support from the National Science Foundation and other sponsors.

Editor: Nicole Gordon
Copy editor: Bob Henson
Design: studiosignorella.com
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Photography: Carlye Calvin

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Printed on recycled paper.