From the office of the department head...

Spring 2014 has been a season of significant changes for Atmospheric and Environmental Sciences at SDSM&T. In April it was announced that the Department of Atmospheric and Environmental Sciences will be eliminated at the end of Fiscal Year 2014 (June 30, 2014). The reason given is that the department teaches a relatively small number of classes with small enrollments, generating much lower tuition and fee revenue compared to other departments on campus. In addition, research funding is in a temporary decline, and is not generating sufficient salary support to cover the portion of faculty effort not devoted to teaching.

The department’s program analyst, Pam Cox, and publications specialist, Connie Crandall, are losing their jobs. The department head position is being eliminated. I will return to being a regular faculty member.

Current Atmospheric and Environmental Sciences (AES) faculty members are being reassigned to other offices and departments on campus and will assume additional teaching and other duties appropriate to their new organizational homes. Darren Clabo is becoming part of the campus Facilities and Risk Management operation. He already has been working in various capacities with Facilities, particularly on issues dealing with winter weather. Donna Kliche will be joining the Department of Mathematics and Computer Science. Lisa Kunza will join the Department of Chemistry and Applied Biology. Adam French and I are joining the Department of Physics, along with Research Scientist John Helsdon. Assignments for Bill Capehart and P.V. Sundareshwar are pending. Paul Smith and Dick Farley remain as volunteers, attached to the Office of Academic Affairs.

The seven current AES faculty members will become the program coordinating committee for the Atmospheric and Environmental Sciences program and will continue to teach their regular AES classes. Bill Capehart, who already is the program coordinator for the interdepartmental AES Ph.D. degree program, will be the program coordinator for both this and the AES M.S. program. He also will manage academic support for the Atmospheric Sciences specialization in the B.S. in Interdisciplinary Sciences degree program. Other AES faculty members will assume duties that have been Pam’s and Connie’s, including account management, purchasing and reimbursement and travel paperwork, webmaster duties, Facebook page maintenance, and so forth.

As we make this transition, we are developing a new graduate course in observations and data analysis to be offered in the fall, involving extensive hands-on work with a variety of instrumentation. We will continue to strengthen our curriculum in scientific computing and numerical modeling, as well, so our graduates will continue to be highly-sought-after for their strong and diverse skills and knowledge. P.V. Sundareshwar rejoins us in the fall following two years of service in the United States Agency for International Development program for West Africa. We continue our ongoing research in stream ecology, biogeochemistry, upward lightning, mesoscale dynamics and convective storm evolution, development of a new storm-penetrating aircraft, fire meteorology, and downscaling global climate model simulation results to regional scales. A new area in which funding is currently being sought is science, technology, engineering and mathematics (STEM) education.

We will appreciate your continuing understanding and support as we transition from a department to a program. We look forward to rebuilding our research program and course enrollments and regaining our status as an academic department.

“There is nothing permanent except change.”
Hericlitus

Dr. Andy Detwiler
Research Updates

A-10 Storm Penetrating Aircraft

Aaron Carmichael, Aaron Ward, and Andy Detwiler travelled to Guthrie, OK, over spring break to visit the shop at Zivko Aeronautics. Zivko is preparing to modify an A-10 “Warthog” for use in convective storm research. The visitors were able to see the aircraft with all of its military gear removed, and discuss with Zivko engineers plans for modifications. Zivko is currently doing the engineering studies needed to get Air Force approval to begin the modifications. It is anticipated that modifications can begin early in 2015.

The A-10 in preparation for modifications.

The travelers also visited the remains of the Institute of Atmospheric Sciences’ armored T-28 research aircraft, currently stored in a hangar at Westheimer Field in Norman, OK. The fuselage, wings, and rear stabilizers are being stored by the National Weather Museum in preparation for assembling into a display. At the hangar Dave Priegnitz, former IAS programmer and radar scientist, joined the group along with Doug Forsyth, director of the museum.

Fundraising to build the National Weather Museum is underway. See http://myweathermuseum.com. A grant from the Ludwick Family Foundation has been obtained to restore the T-28 for display. It will be part of an initial “storefront” or “startup” display, housed in a leased space somewhere in the Norman area. It will be used to promote fundraising for the longer-term goal of a larger permanent facility that will house a large and varied collection of historic weather research gear.

Dave also toured the visitors around the modern National Weather Center on the south side of the University of Oklahoma campus. The university’s School of Meteorology, as well as the National Severe Storms Laboratory, the Storm Prediction Center, the Norman National Weather Service Forecast Office, and other NOAA operations are housed in this building.

Charlie Summers and Andy Detwiler travelled to Guthrie Oklahoma during the first week of April to meet with a review panel advising the National Science Foundation on the development of the A-10 “Warthog” into a storm research aircraft. Summers provided input to the meeting based on his unique experience of flying storm research missions in the Institute of Atmospheric Sciences’ armored T-28 for more than 12 years.


The new Storm Penetrating aircraft on the runway at Guthrie, Oklahoma.
Alumni news...

**Jason Goehring** (M.S.-ATM’05), in a recent e-mail, wrote:

My wife, Dawn, and I have three children, Jay born August 2010, Dena born November 2011 and Derek born April 2013.

Since attaining my MS in 2005 I have been working for Weather Modification, Inc. (WMI). From 2005 to Spring 2010, I worked on the Alberta (Canada) Hail Suppression Project during the summer months and the Wyoming Weather Modification Pilot Program (WWMPP) during the winter. In 2010, I quit WMI full time and moved back home to farm with my parents. Our farm is located along the central ND/SD border. We grow barley, wheat, oats, soybeans, and corn and raise holstein heifers for a dairy. I continue to work for WMI on the WWMPP during the winter months remotely from my home.

The WWMPP will be finishing up in April 2014. The winter of 2013-2014 was the 9th year of the project, with ground generator operations in three mountain ranges. Two of the ranges, the Medicine Bow and Sierra Madre, have been paired in a randomized experiment for the last 7 years with NCAR evaluating the seeding activity. Final reports for the program are due in December 2014. This program has attracted much attention from the scientific community and it’s hoped that the results of the study will be beneficial for weather modification activities.

**Jay Searles** (M.S.-ATM’92), in a recent correspondence, updated us on his career. He is currently at State College, PA, and is involved in a different approach to weather forecasting using a membership basis for personalized weather forecasts for the State College and Philadelphia, PA areas. Check it out at [http://weatherranger.com](http://weatherranger.com).

**Dan McKemy** (MS-ATM’12) will be transferring from his position as a meteorologist/programmer at the National Weather Center in Norman, OK to a position with the National Weather Service office here in Rapid City.

**Dr. Bull Bennett** (AES PhD ’05) was a lead author on part of the Third National Climate Assessment recently released in Washington. Authors of the assessment convened before both houses of the U.S. Congress on May 7, 2014. Dr. Bennett is currently president of Kiksapa Consulting, LLC.

**Ryan Lueck** (MS-AES’14), will begin work in June as a meteorologist intern with the National Weather Service in Aberdeen, SD.

...and not quite alumni news

**Cody Moldan**, (B.S.I.S.-ATM) current M.S. student in AES, has received word that he will begin a job with the National Weather Service in North Platte, NE in late July. Cody earned his BSIS-ATM here at the School of Mines in 2013 and entered the M.S. program last fall.

“We make a living by what we get, but we make a life by what we give.”

(Winston Churchill)
Travel

One of the most rewarding experiences for our faculty and students is attending an annual meeting or conference. These meetings allow our faculty and students to network with other professionals in our scientific field. It is especially important for our masters’ degree students, as it is an opportunity to circulate their resumes to possible employers and to serve as ambassadors for our department in recruiting new students.

American Geophysical Union (AGU) Annual Meeting

Ryan Lueck and Alana Ballweber (both 2014 M.S. grads) attended the AGU annual meeting at San Francisco, California in December of 2013. Ryan presented a poster entitled “Dual-Polarization Radar Observations of Upward Lightning-Producing Storms”. Alana’s oral presentation was presented on her thesis research “A Spatial and Temporal Analysis of Triggered Upward Lightning.” Ryan and Alana have been part of the UPLIGHTS project, under the direction of Dr. John Helsdon.

American Meteorological Society (AMS) Annual Meeting

Several students and two faculty members attended the AMS Annual Meeting in Atlanta, Georgia in February, 2014. The meeting included several symposiums on meteorologically-related topics, as well as student gatherings.

- Erin Walter presented her topic “An Analysis of Dryline Structure and Propagation Influenced by the Black Hills” at the 26th Conference on Weather Analysis and Forecasting. Kenny Miller spoke on “The Evolution from Squall Lines to Individual Supercells” at the Severe Weather Symposium. Erin and Kenny are both doing their research under the direction of Dr. Adam French. Dr. French presented a poster on “The Impact of Squall Line-generated Environmental Perturbations on Isolated Convective Storms.”

- Aaron Ward and Aaron Carmichael gave a poster presentation on “Effective Operation of a Storm-Penetrating Aircraft” at the Fourth Aviation, Range, and Aerospace Meteorology Special Symposium at the AMS meeting. They are working under the direction of Dr. Andy Detwiler on the A-10 Storm Penetrating Aircraft project.

- Darren Clabo presented a poster “Forecasting Thunderstorm Outflow Boundaries: Impacts and Implications for Wildland Firefighting” at the 26th Conference on Weather Analysis and Forecasting at the AMS meeting.

18th Annual Severe Storms and Doppler Radar Conference

Alana Ballweber and Kenneth Miller attended the 18th Annual Severe Storms and Doppler Radar Conference in Ankeny, Iowa, March 27-29, 2014. The conference was sponsored by the Central Iowa Chapter of the National Weather Association. Alana’s presentation at the conference was “A Spatial and Temporal Analysis of Triggered Upward Lightning,” on research work she is conducting for a project by Dr. John Helsdon and Mr. Tom Warner. Kenny presented “The Evolution from Squall Lines to Isolated Supercells,” his research work under the direction of Dr. Adam French. Alana received a special award (see related article on page 8).

Western South Dakota Hydrology Conference

Several faculty and students in our department attended the Western SD Hydrology Conference, held in the Rapid City Civic Center on April 9, 2014. Brianne Gerber, Jorel Torres, Julie McGeary, Jaime Haueter, and Russell Marlow each presented posters regarding their research work:

- Gerber/Capehart: “Verification of a Heavy Precipitation Event Using the SDSM&T Real-Time WRF Forecasting System”

- Torres/Kliche: “Snow Measurements in Rapid City using a Parsivel Instrument”

- Haueter/Kunza: “Comparing Nutrient Demands and Metabolism in Two Lake Outlet Streams Containing Didymosphenia geminata in Grand Teton National Park”

- McGeary/Kunza: “Impacts of D. geminata on Benthic Macro-invertebrate Abundance, Biomass and Secondary Production in Rapid Creek, S.D.” (See article on pg. 8 regarding the award Julie received for her presentation.)

- Marlow/Kunza: “Benthic Macro-invertebrate Diet Selection in Rapid Creek, South Dakota.”
Students visit Doppler Radar Tower

Students in Dr. Adam French’s Radar Meteorology class took a tour of the Doppler radar site near New Underwood, S.D., in early April, 2014. They had a chance to see the inner workings of the large white dome that is visible for quite a distance.

South Dakota Academy of Sciences

The 99th annual meeting of the South Dakota Academy of Sciences was held in Rapid City March 28 and 29, 2014. Dr. Lisa Kunza presented a poster “An Examination of the Impacts of *Didymosphenia geminata* on Food Web Dynamics in Rapid Creek.” Alum Kathy Haselhorst gave an oral presentation entitled “Remembering Weather Events: What makes the Weather Memorable?” Several faculty and students also attended the meeting. Dr. Andy Detwiler served as a co-chair for the meeting this year.

Students Brianne Gerber, Ryan Lueck, Connor Nelson, and Jorel Torres presented on their research at the Northern Plains Convective Storms Symposium held on the campus of the University of North Dakota in Grand Forks on May 19 – 20. Their audience included scientists and students from several universities as well as National Weather Service staff from several offices in the region.

Connor Nelson attended the pre-season ground school for the North Dakota Cloud Modification Project held in Bismarck on May 27-28. He learned about the coordination of cloud seeding missions involving multiple aircraft. He also consulted with North Dakota Atmospheric Resources Board meteorologist Mark Schneider on setting up and using the Thunderstorm Identification, Tracking, Analysis and Nowcasting (TITAN) software package for mission coordination. Connor also attended a TITAN training session conducted by the Research Applications Laboratory at the National Center for Atmospheric Research in Boulder on June 3-5. His efforts on these trips supported ongoing work at SDSM&T on the storm-penetrating A-10 project.

Speaking of Radar...

Dr. Paul Smith participated in a DOE/EU Radar Calibration Workshop in Washington, DC on March 9, 2014.

Future travel items:

Bill Capehart, along with students Trisha Gabbert, Brianne Gerber, Parker Norton, and Alex Schaefer, will be attending the Weather Research and Forecasting Model Users’ Workshop at the National Center for Atmospheric Research in Boulder on June 23-27.

Dr. Paul Smith will be visiting the Swedish Meteorological and Hydrological Institute June 23-24 to give a seminar about the drop-sampling statistics work that he and Dr. Donna Kliche and Dr. Roger Johnson are doing, and to discuss radar calibration procedures.

Aaron Ward (MS-AES ’14) has been invited to join the Cloud Microphysical Data Analysis Workshop to be held at the Massachusetts Institute of Technology on July 5-6. He will join faculty members Donna Kliche and Andy Detwiler at the workshop. Following the workshop, all three also will attend the American Meteorological Society’s International Cloud Physics Conference that will take place in Boston on July 7-11.

Dr. Kunza and graduate students Jaime Haueter, Russell Marlow, and Julie McGearry will head to Grand Teton National Park in July and August to compare nutrient cycling and metabolism in two lake outlet streams that contain *Didymo* (a.k.a. rock snot).
SDSM&T Weather Club Activities

The SDSM&T Weather Club remains very active, both on campus as well as in the Rapid City area community. In March, several of the club members volunteered as judges for the North Middle School Science Fair. Several students also gave presentations on lightning and hail at Rapid City Central High School.

Erin Walter, Alana Ballweber, and Jacey Wipf taught students at Central High School about lightning and hail.

Connor Nelson, Jorel Torres, Alana Ballweber, Jacey Wipf, and Brianne Gerber served as volunteer judges at the North Middle School Science Fair.

Students help prepare blankets for newborns

Alana Ballweber, Jacey Wipf, and Shelby Allen, members of the SDSM&T Weather Club, recently helped tie baby blankets as part of a campus project to benefit the Children’s Miracle Network through the Rapid City Regional Hospital Foundation. Others on campus that participated were the Women’s Golf Team, Lambda Chi Alpha, and Women in Professional Development.

SD School of Mines has been designated one of the U.S.’s “Top 10 State Universities by Salary Potential” in a report released by PayScale, who specializes in global online compensation data.

- We have a small teacher to student ratio.
- Graduates from SDSM&T are very sought after in the marketplace because of the quality of the education they receive here.
- Our faculty are highly regarded.
- Research opportunities are plentiful.
- We have a close-knit community.
- Our students are among the best and the brightest.
- We produce leaders.

Why Attend SDSM&T?
October 2013 Blizzard Panel Discussion

On April 8, the SDSM&T Weather Club and the Black Hills Chapter of the American Meteorological Society hosted a panel discussion about the epic snowstorm of October 4, 2013. Participating as panel members were Dustin Willet, of Pennington County Emergency Management; Katie Pojorlie and Dave Barber, of the National Weather Service; Glynda Rahn, from Black Hills Power; Justin Fanfarilli, meteorologist at KOTA TV; Silvia Christen, of the S.D. Stockgrowers Association, and Dr. Adam Wiechmann, S.D. staff veterinarian. A silent auction was held to benefit the Rancher Relief Fund, with $300 raised for the fund. Students collected items for the auction from WaTiki Water Park, Eileen’s Colossal Cookies, Reptile Gardens, Runnings, SDSM&T Bookstore, Scheel’s, Starbucks, Great Harvest Bread Company, Rushmore Honda, Tractor Supply, Chili’s, Family Thrift Center, and Carmike Cinemas. Several members of the local media were present, and discussions continued with the panel members after the program concluded.

“I have discovered that the world over, unusual weather prevails at all times of the year.”

Edgar Rice Burroughs
Outstanding!

We may be a small group, but good things come in small packages, as can be seen by the recognition our department garners both on-campus and off.

Ballweber Wins Samaras Award

Alana Ballweber received the first annual “Tim Samaras Award for Best Student Presentation” from Chris Karsten for her oral presentation on research on upward lighting at the 18th Annual Severe Storms and Doppler Radar Conference in Ankeny, Iowa, March 27-29, 2014. Alana received a $200 cash award. The oral presentations were evaluated on the importance and potential impact of the research they convey, their visual appearance, design, and level of understanding conveyed in the presentation slides.

SDSM&T Weather Club receives Community Service Award

The South Dakota Board of Regents awards special recognition for outstanding academic, community, and organizational work at each state university campus. In the spring of 2014, our Weather Club was honored for their efforts in community service. Shown below are Alana Ballweber (outgoing president), and newly-elected officers Jacey Wipf (secretary), Jorel Torres (vice president), and Connor Nelson (treasurer), at the 2014 Leadership Hall of Fame Induction and Awards Reception held April 13, 2014 at the Surbeck Center.

McGeary wins 2nd place in poster contest

Julie McGeary, M.S. student in AES, received a second place award for her poster at the Western S.D. Hydrology Conference, held in Rapid City on April 9, 2014. Julie’s poster was entitled “Impacts of D. geminata on Benthic Macro-invertebrate Abundance, Biomass and Secondary Production in Rapid Creek, S.D.” Julie started in the spring semester and is conducting her research work under the guidance of Dr. Lisa Kunza. Congratulations, Julie!

Honors Convocation Awards

At the April Honors Convocation, two of our students were presented awards. Alana Ballweber received a third place award for outstanding graduate student. Cody Moldan was the recipient of the Harold and Laura Orville Fellowship for academic year 2013-2014 (see related story in this newsletter).
Traditions of Excellence Award

The Career Service Council at SDSM&T announced that Pam Cox, our Program Assistant in AES, received the TEA award for March 2014. This award is given to an employee who has performed their duties at a high level or above and beyond expectations, who has taken the initiative to promote the concept of successful job completion, and has promoted a positive working relationship with students, faculty and staff.

Comments from her nomination package: “She has a special place in her heart toward our graduate and undergraduate students (‘her kids’ as she says). They know they can come to her with any concerns and she will gladly listen and help in any way she can. Pam goes over and above what is expected to encourage them in their studies and to finish their degree work. She monitors our accounts faithfully, and makes sure we manage our resources wisely. Pam is the ‘go to’ person for faculty and students when forms need to be filed, paperwork needs to be pushed, or something else administrative needs to be done. She knows how to get things done on this campus. She is also a ready volunteer for many campus activities.”

Congratulations, Pam!

Going to NASA!

Jorel Torres, first-year master’s degree student from Denver, Colorado, will be heading to Goddard Space Flight Center in Maryland for a 10-week summer internship working with Dr. Ali Tokay. He was awarded $5,000 in a grant through the South Dakota Space Grant Consortium to work on Dr. Tokay’s project, entitled “Evaluating the Operational Rainfall Products using Independent Rain Gauges.” Jorel has been working with Dr. Donna Kliche here at SDSM&T on a similar project involving snow-size measurements.

Erin Walter, (M.S.-AES 2014) will be starting a 16-week internship in August at the Goddard Space Flight Center in Greenbelt, MD. She will be working with Dr. Kwo-Sen Kuo on a project entitled “Characterize Precipitation Events using Multiple Datasets in a Distributed Analysis System”. Dr. Kuo is a former research scientist with our department.

Trisha Gabbert Awarded International Association of Wildland Fire Scholarship

Trisha Gabbert, MS student in the AES program, is the recipient of a $3,000 scholarship from the International Association of Wildland Fire Scholarship Program. The IAWF awards two graduate-level scholarships to MS or PhD students (one at each degree level) studying wildland fire or wildland fire-related topics. Student-submitted essays are evaluated by an international panel of fire science experts. The IAWF has been presenting this award annually to members of the fire science community since 2007. For more information about this award and past winners, please visit their website at http://www.iawfonline.org/scholarships.php.

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Congratulations, Pam!

Jace Wipf receives NAWMC scholarship

Jace Wipf, first-year AES student from Vermillion, SD, received a $1500 scholarship from the North American Weather Modification Council. Jace graduated with honors in May 2013 from the BSIS-ATM program at SDSM&T, and entered the master’s program in the fall. Her current research is on modeling the impacts of an isolated supercell on a nearby squall line, under the direction of Dr. Adam French. One of Jace’s current goals is to find ways to improve numerical weather prediction models for better forecasts. Jace attended the NAWMC fall meeting and tour held in Grand Junction, Colorado, in September of 2013 as a special guest of the Council.
Harold and Laura Orville Fellowship

Update...

Harry and Laura Orville started this fund at the SDSM&T Foundation with their personal investment of $25,000 in 1998. They never stopped giving, and now Laura continues a commitment to give routinely toward Harry’s goal.

- In 2003, Dr. Orville suggested we invite others to invest in creating this fund that will forever serve the program.
- At the time of Harry’s passing in June 2011 the endowment balance was $60,000 plus it had paid out $20,000 total, distributed to eleven graduate students (one per year) to help them pay for college.
- In FY14, 15 donors gave $21,816. Since its inception, 61 individuals and companies have made gifts to the fund.

Success!

Today the balance of the Orville Graduate Fellowship is $167,764 plus $33,300 pledged to come over these next four years, bringing us to the first goal of $200,000. This $200,000 endowment is expected to provide an $8,000 award (4% of principal) annually. Dr. Orville knew how important this would be for the program. Endowment funding is even more important in these times as other sources of funding to support students become more limited.

2013-14 Fellowship Awarded

Mr. Cody Moldan, New Ulm, MN, was the recipient of the Orville Fellowship for the academic year 2013-14. Cody graduated from the BSIS-ATM program at SDSM&T in May of 2013 and joined the master’s degree program in the fall semester.

Cody, Laura Orville, and Andy Detwiler at the 2014 Honors Convocation.

You Can Help!

Harold and Laura Orville Graduate Fellowship

In 1998, Dr. Harry Orville and his wife, Laura, established the Harold and Laura Orville Graduate Fellowship. His dream of having $1 million in endowed funding to support students in the Department began with a “phase one” goal of $200,000, starting with their personal $25,000 investment.

This endowment fund has supplied a portion of support to twelve entering or current graduate students in atmospheric sciences or an environmental field.

The fund balance is at $167,764 and the current campaign is aiming for the Phase One goal of $200,000. There are several ways you can contribute to this fellowship fund.

Please contact the SDSM&T Foundation at 1-800-211-7591 (toll free); locally at 605-394-2623; or visit the website at http://foundation.sdsmt.edu.
Faculty and staff

**Andrew G. Detwiler, Professor**
PhD, Meteorology, State University of New York-Albany. Dr. Detwiler’s areas of expertise include airborne meteorology measurements, atmospheric physics, and atmospheric electricity.

**William J. Capehart, Assoc. Prof.**
PhD, Meteorology, Pennsylvania State University. Dr. Capehart’s expertise lies in hydrometeorology, regional climate modeling, and the modeling and remote sensing of surface processes.

**Darren Clabo, State Fire Meteorologist**
MS, Atmospheric Science, South Dakota School of Mines and Technology. Mr. Clabo serves as the state wildland fire meteorologist in support of the state wildland fire crews during the fire season. His areas of interest lie in fire, radar, and mesoscale meteorology. He also is an instructor in Atmospheric Sciences during the academic year.

**John H. Helsdon, Jr., Professor Emeritus, Research Scientist**
PhD, Atmospheric Science, State University of New York at Albany. Dr. Helsdon, a professor emeritus with the department, is still active in lightning research. His other areas of interest and expertise include thunderstorm electrical modeling and cloud physics.

**Mark R. Hjelmfelt, Professor Emeritus, Research Scientist**
PhD, Meteorology, University of Chicago. Although retired from active teaching, Dr. Hjelmfelt is still conducting research for a special project. His past areas of work include mesoscale and radar meteorology, severe storms, and cloud physics.

**Donna V. Kliche, Associate Professor**
PhD, Atmospheric and Environmental Sciences, South Dakota School of Mines and Technology. Dr. Kliche’s areas of expertise include microphysics of clouds, atmospheric physics, and scientific analysis of airborne meteorological measurements and surface precipitation data.

**Pallaoor V. Sundareshwar, State Carbon Scientist**
PhD, Biology, University of South Carolina. Dr. PV’s areas of expertise involve biogeochemistry, wetland and systems ecology, water quality, coastal zone ecology and management, and global change. In addition to being the state carbon scientist, Dr. Sundareshwar is an associate professor in the Atmospheric Sciences program.

**Adam French, Assistant Professor**
PhD, Atmospheric Science, North Carolina State University. Dr. French’s areas of expertise are the dynamics of convective storms, mesoscale meteorology, numerical modeling, and forecasting.

**Paul L. Smith, Professor Emeritus**
PhD, Electrical Engineering, Carnegie Institute of Technology. Although retired, Dr. Smith continues to support the program in many ways. His area of expertise is radar meteorology.

**Lisa Kunza, Assistant Professor**
PhD, Ecology, University of Wyoming. Dr. Kunza’s research focuses on aquatic ecology, biogeochemistry, physiology, and outreach.

**Retirement**
Mr. Dick Farley, who was on staff as a research scientist for over 35 years, retired in 2013. He will, however, continue working with the program on a volunteer basis.

**Recent publications**
Please check the story starting on page 4 about the various conferences attended and presentations given this past academic year. Following is a list of recently published works.


