

Iowa Academy of Science

The New Bulletin

Volume 2 Number 3 Summer 2006



The Iowa Academy of Science is established to further scientific research and its dissemination, education in the sciences, public understanding of science, and recognition of excellence in these endeavors.

Message from the Executive Director

We hope you enjoy this first online version of the IAS Bulletin. Because the summer months usually involve travel or other activities and we wanted to experiment with an online version of the Bulletin we decided to make this our test case. Please give us your comments so we can gauge the membership's response to this idea. Online publishing does save the Academy the cost of publishing and mailing. It is our intention to publish one Bulletin each year online with the other three being delivered by mail. The summer issue seems to be the best candidate for our online effort.

We are planning a membership drive for 2007 beginning with a fall appeal for new members to join our professional ranks and for schools and students to join the Iowa Junior Academy of Science. That will be followed by a campaign to add institutional and corporate members. It is very important that the Academy increase its membership so we will be asking for your help in the coming weeks.

The Academy would like to thank the Iowa Space Grant Consortium (ISGC) for its continued support of our programs. New support from the ISGC includes a \$6000 grant for each of the next five years to support the Iowa Junior Academy of Science Annual Meeting activities. The Academy is required to at least match that amount each year to build an endowment to support Junior Academy Annual Meeting activities into the future. This includes the current awarding of two \$500 scholarships for graduating seniors and all expense paid trips to the AAAS Annual Meeting for two 9th through 11th grade students.

The ISGC has also provided the Academy with a \$2500 grant to cover start-up costs of a new Academy program. We are currently working with several public and private agencies and organizations to develop a new program to advance the public understanding of science in Iowa. The program's goal is to raise the awareness of the importance of science to Iowans and to encourage Iowa's youth to consider science or science-related careers.

We will be providing more information on Academy programs, both old and new, in our fall issue of the Bulletin to be mailed by the end of September. In the meantime, on behalf of the IAS Board and the IAS office staff, we hope you have had a great summer and are looking forward to the fall season.

Craig Johnson, Executive Director

InnoCentive – Crowd Sourcing for Scientists

InnoCentive is a web-based solutions company that matches scientists to current R&D Challenges. Companies such as Boeing, DuPont, and Procter & Gamble post challenges to the InnoCentive website when their own R&D teams get stuck. At that point anyone registered at the InnoCentive site has an equal opportunity to come up with a solution to the challenge and walk away with that solution's prize (anything from \$10,000-\$100,000 and a nifty bio posted with your solution on the Innocentive website). Join the InnoCentive Community by registering at: <http://www.innocentive.com>. And please let the IAS office know when you become a Winning Solver!



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Saylorville 2006 Weather Talk



"Iowa Skies" kicked off the return of Iowa Academy of Science public education programs at the Saylorville Visitors Center. The program was presented to a very interested audience by IAS Executive Director, Craig Johnson, on Saturday evening August 5th.

The Visitor Center auditorium was filled with photos of the many different cloud forms that grace Iowa's skies. The photos included explanations of how the wind sculpts clouds into many unusual shapes. Attendees were given a simple method to identify clouds despite the seemingly endless variety of cloud types. The 50 minute presentation was followed by a question and answer period.

The Academy hopes to expand its offering of programs to the public as part of our mission to advance the public understanding of science. Presentations at Saylorville are part of an agreement between the IAS and the Army Corps of Engineers. We are looking into making agreements to bring science-related programs to other parts of Iowa.

The expertise available through the IAS membership is unique and offers the Academy the opportunity to educate the public about science in Iowa. Many residents would be interested in hearing about your area of interest. If you have an interest in presenting a program to the public please let us know. We would like to set up IAS sponsored programs in your area.



Jane Haugen receives Gold Star

This spring, Jane Haugen was awarded the Gold Star Award for outstanding teaching presented by KWWL and the RJ McElroy Trust. Jane has been an IAS Member since 1991. She has also received the Izaak Walton League Outstanding Teacher Award (1996), an ESTA for Elementary Science (1999), and the Presidential Awards for Excellence in Mathematics and Science Teaching (2000). She is an active Project WET and GLOBE facilitator for the Iowa Academy of Science and a teacher at Hoover Elementary School in Dubuque. Over the summer Jane participated in the roll-out of Iowa's Science Initiative – Every Learner Inquires. Congratulations Jane!



GLOBE ONE Posters go to Thailand

For the past three years students in Black Hawk County GLOBE Schools have been involved in the pilot project: GLOBE ONE. They have worked face-to-face, by email, and video conference with scientists from each GLOBE investigation area. The scientists have conducted research and the students have too. February 10th was the official finale of GLOBE ONE. Nine scientists from New Hampshire, Alaska and places in between met with 174 students to share their the results of their research and to celebrate the end of the program. The students' used the Iowa Junior Academy of Science Poster Template to design their posters and presentations. The posters and presentations are available at: <http://www.globe.gov/fsl/globeone/symposium.pl>.

The GLOBE Program Office selected the posters from Mrs. Carmen DeVoe's 4th grade class (St. Edward Elementary, Waterloo), Mrs. Marita Schoeder's 2nd grade class (I.C. St. Joes, Gilbertville), and Mrs. Carol Boyce's student Courtney Richman (Orange Elementary, Waterloo) for presentation at the 10th Annual GLOBE Conference in Phuket, Thailand. Congratulations to these fine young scientists!



GLOBE PROGRAM UPDATE

In 1994 the GLOBE Program was introduced to the world. The vision a daunting one: to partner scientists, teachers and students across the globe and provide a world-wide database of scientific measurements that would be publicly available for investigating the Earth's systems. Twelve years later, students in 109 countries and collecting data on all 7 continents have built a database of more than 15 million measurements. The GLOBE Student Database is a part of the DLESE Library and is accessible to scientists, students, and the public through the GLOBE Program website and NASA's World Wind.

The Iowa Academy of Science joined GLOBE as the Iowa Teacher Professional Development Partner in 1999. Today, Iowa has more than 350 GLOBE Teachers who engage their students in real science by contributing local data to scientist investigations of atmosphere, soils, hydrology, land cover, and seasons. Iowa schools have contributed more than 250,000 points of data. Iowa's GLOBE Schools can be proud of our state's contributions to GLOBE.

The International GLOBE Conference in Thailand, July 2006 marked a new milestone for the GLOBE community as the new Integrated Earth System Science Programs (IESSPs) were announced. The IESSPs, funded by the National Science Foundation, replace the GLOBE Science PI teams. All of the resources currently available on the GLOBE website will remain available to GLOBE Schools and the support offered by the Iowa Academy of Science Office will also remain the same. What will change is that Iowa schools will have new scientists to interact with and new science projects to become involved with. Iowa Scientists are also invited to become involved. A short summary of each new IESSP is provided in the box on this page.

More new programs from GLOBE

Former GLOBE students from 6 continents have come together to support GLOBE. Now in college or beyond, these past GLOBE participants aren't willing to let their connections to GLOBE become history. They have formed the GLOBE Alumni, an international organization dedicated to supporting GLOBE and former GLOBE students. In Czech Republic and Estonia GLOBE Alumni have become Trainers and assist GLOBE schools to get equipment and enter data. USA GLOBE Alumni are looking for new members. Contact Marcy if you know of students who would like to join.

Student Analysis of Data Driving Learning about the Earth (SADDLE)

Principal Investigator: Dr. Daniel Edelson

Co-Investigators: Dr. David Maidment, Dr. Kemi Jona

Performing Institution: Northwestern University

Web Link to Existing Project Information: www.geode.northwestern.edu/globe

Monitoring Seasons through Global Learning Communities (MSTGLC)

Principal Investigator: Dr. Elena Sparrow

Co-Investigators: Dr. Jessica Robin, Dr. Leslie Gordon, Dr. David Verbyla, Dr. Elissa Levine, Dr. Martin Jeffries

Performing Institution: University of Alaska, Fairbanks

Web Link to Existing IARC Information: www.iarc.uaf.edu

Investigating the Carbon Cycle in Terrestrial Ecosystems (ICCTE)

Principal Investigator: Dr. Scott Ollinger

Co-Investigators: Dr. Mary Martin, Dr. Rob Braswell, Dr. Jana Albrechtova, Dr. Annette Schloss

Performing Institution: University New Hampshire

Web Link to Existing NACP Information: www.nacarbon.org/nacp/

From Local to Extreme Environments (FLEXE)

Principal Investigator: Liz Goehring

Co-Investigators: Dr. Donna Blackman, Eric Simms, Dr. Bill Carlsen,

Performing Institution: Pennsylvania State University

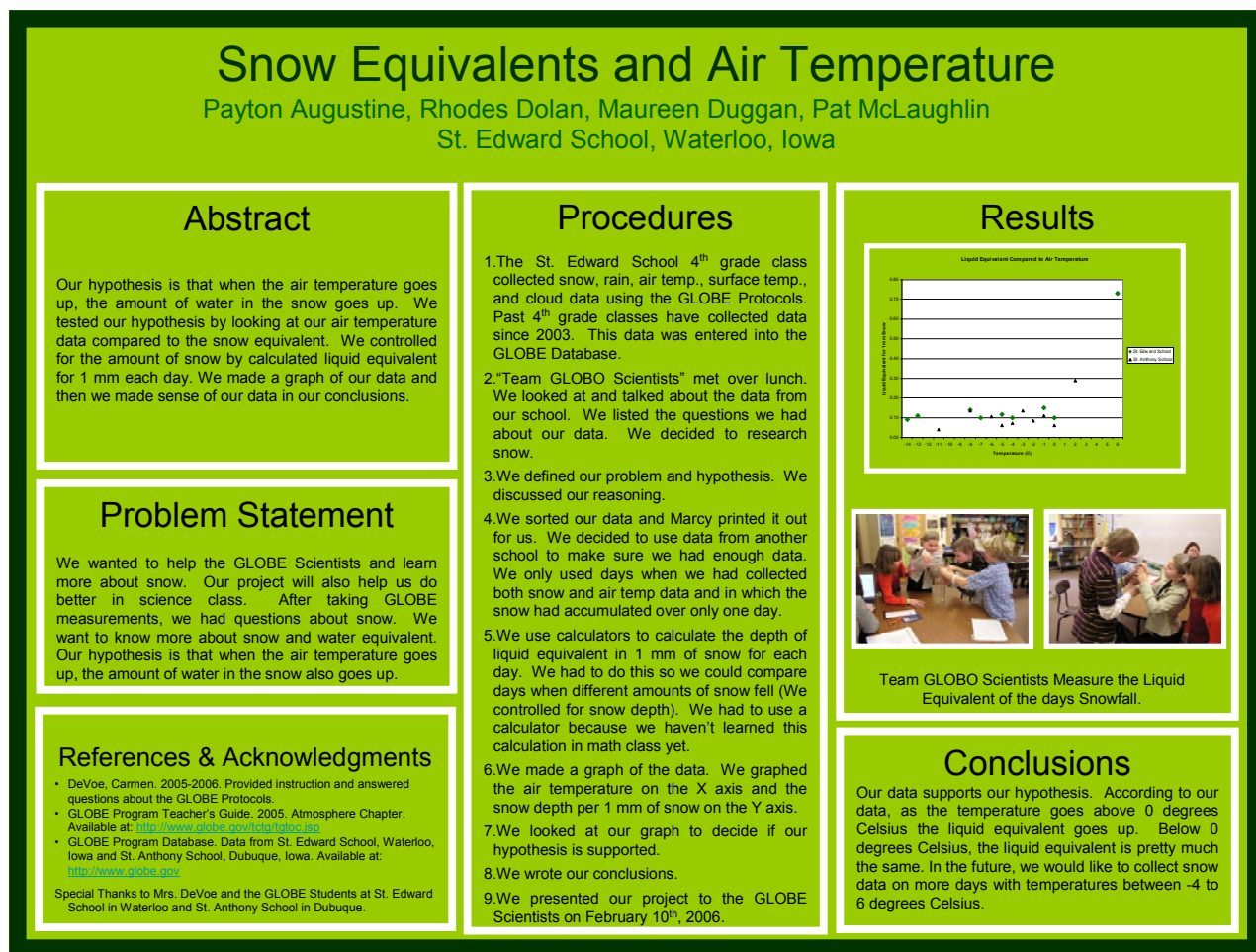
Dr. Catherine Williams, Dr. Charles Fisher

Web Link to Existing Ridge 2000 Information: www.ridge2000.org

Elementary GLOBE is designed to introduce K-4 students to the study of Earth System Science (ESS). Elementary GLOBE forms an instructional unit comprised of five modules that address ESS and interrelated subjects including weather, hydrology, phenology, and soils. Each Elementary GLOBE module contains a science based storybook, classroom learning activities that complement the science content covered in each book, and teacher's notes. The storybooks explore a component of the Earth system and the associated classroom learning activities provide students with a meaningful introduction to technology, a basic understanding of the methods of inquiry, and connections to math and literacy skills.

Iowa's Science Initiative is *Every Student Inquires*. The new GLOBE Interactive Inquiry Tutorial will help teachers engage their students in inquiry based science. It will allow students to learn all about what makes a researchable question, how to identify variables and controls, how to graph data, and even how to build their Iowa Academy of Science Annual **Meeting or INTEL International Science Fair poster!**

For more information about GLOBE contact:
Marcy Seavey 319-273-7486 or
iowawet@sunny.uni.edu



St. Edward Elementary GLOBE Poster, one of those selected for display at the International GLOBE Conference.

EDUCATION AND THE ENVIRONMENT: PARTNERS FOR CHANGE

Schools from Florida to Washington are using environmental education to find creative ways to address both state and national standards and performance pressures. They're demonstrating that important and engaging environmental themes can breathe life into academics while meeting the requirements of the *No Child Left Behind Act 2001*.

Environmental education and education reform share many of the same goals, as exemplified in "Partners for Change," a richly descriptive article that illustrates how environmental education can bring about systemic change.

Visit the website listed below to read about four exemplary schools, working in especially effective partnerships with non-formal education organizations that are realizing lofty education goals—with the backing of teachers, administrators, and state education department officials. See how interdisciplinary, hands-on, project based learning is replacing traditional, compartmentalized instruction at Clay County High School (Kentucky), Gove Elementary School (Florida), Hollywood Elementary School (Maryland), and Komachin Middle School (Washington).

http://eetap.org/media/pdf/PartnersFINAL_4_5_06.pdf

Red Oak Middle School – A Model of for success!

"Red Oak Middle School learners will be engaged in experiences that use local natural community surroundings as a context for standards-based instruction."

Red Oak Middle School teachers participated in the Iowa Department of Education's 2002 Environment as an Integrating Context (EIC) Institute. Since the institute, Red Oak has redesigned 6th-7th grade science and social science to engage students in using the local environment as a context for learning the content and developing the skills tested on the Iowa Test of Basic Skills (ITBS). The EIC Model™ Instructional Unit the team created – "Tie a Blue Ribbon Around Red Oak Creek"—involves students looking at the local creek, gathering data on its characteristics and asking the important questions that their data bring to light. Students place their understanding about their local waterways in a historical context when, in World History, they compare their creeks and rivers to those that fed ancient civilizations, and discuss the importance of water and human control of it. Red Oak is just one of many Iowa schools using or developing EIC programs to improve student learning.

Key elements of an EIC Program include:

1. Systems Thinking
2. Community-based Investigations
3. Integrated, Interdisciplinary Instruction
4. Collaborative Instruction
5. Learner-centered, Constructivist Approaches
6. Cooperative and Independent Learning
7. Assessment of Learning

UPCOMING PROGRAMS

Iowa Association of Community College Biology Teachers Fall 2006 Conference

September 22 & 23, 2006

Western Iowa Tech Community College

Aerolab Workshop

September 23rd, 2006

The Putnam Museum, Davenport

ISTS Fall Conference

Wednesday, October 18th, 2006

Crowne Plasa Conference Center

Iowa Water Summit

118th IAS Annual Meeting

April 27th-29th 2007

Central College, Pella

GLOBE-at Night 2007 Campaign

March 8th-21st, 2007

Contact the IAS Office for more information about any of these programs.

Corrections to IAS Donations from last issue:

Paul Horick name was omitted. Paul donated \$100 to IAS in 2005. A. W. Guzick should have been listed in the \$250-\$499 donation category for 2005.



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Article Submission: The deadline for submission of articles for Vol. 2 #4 is September 1, 2006. Articles must be pre-approved. For more information contact Craig Johnson, IAS Executive Director, at ias@uni.edu

Advertising Rates: Full page, single issue \$160; Half page, single issue \$60, two consecutive issues \$100; Business Card (3.5"x 2.0"), single issue \$30, two consecutive issues \$50. For more information or to submit an advertisement, contact iascience@uni.edu

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