



## EEOP Newsletter

Environmental Education Outreach Program (EEOP)  
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Web version @  
<http://www.nau.edu/eeop/newsletter>

### **The Newsletter**

This newsletter is a service of the Institute for Tribal Environmental Professionals (ITEP) Environmental Education Outreach Program (EEOP). We've created this newsletter specifically for K-16 students, educators, and tribal professionals that are interested in learning more about environmental issues with a focus on air quality. The newsletter will also contain information about EEOP programs and activities.

### **Summer Scholars 2006: Helping Us Breathe Easier.**

Summer Scholars 2006 will focus on Indoor Air Quality (IAQ) and the impact of poor air quality on human health. Summer Scholars participants will learn about issues such as radon, carbon monoxide poisoning, asthma triggers, and air quality monitoring. The participants will also be working with professionals and scientists in the field of IAQ. Field trips will include doing an IAQ assessment of a school and a visit to an IAQ lab. The program involves both students and educators from selected schools.

The Summer Scholars program is a week-long on-campus program that provides students with a pre-college experience. Summer Scholars emphasizes the application of mathematics, science, and technology to current environmental issues. The program also encourages students to pursue post-secondary opportunities, such as an air quality scientist or engineer. Over the course of the one-week on-campus workshop, students will become familiar with IAQ issues and will gain an understanding of how they can become involved with these environmental issues affecting their communities.

In addition to student participants, the Summer Scholars program provides educators a one-week demonstration and orientation to Problem Based Learning. The program also demonstrates various environmental curriculums and teaching techniques that they can use in their classrooms. Educators are encouraged to use the curriculums in their teaching during the academic year.

One of the goals of Summer Scholars 2006 is to incorporate service learning into the curriculum. The Summer Scholars participants will receive training and materials on how to conduct IAQ assessments at their schools. With the support of the EEOP staff and equipment loans from EEOP, the Summer Scholars participants will conduct IAQ assessments. The information from these assessments will be provided to the building principal.

If you would like to learn more about the Summer Scholars program visit the EEOP website or contact Matthew Zierenberg at [matthew.zierenberg@nau.edu](mailto:matthew.zierenberg@nau.edu) or 928 523 8864.

## **Indoor Air Quality – Short Internship Program (IAQ-SIP)**

In addition to Summer Scholars, the EEOP staff will be coordinating with local tribal environmental offices and other agencies, to host students interested in participating in the Indoor Air Quality - Short Internship Program (IAQ-SIP). A tribal environmental professional from each tribe is invited to submit Short Internship Program (SIP) applications via the EEOP website. The Tribal Environmental Professionals selected for the IAQ-SIP will select three high school students from their tribe and have each of them complete a SIP application. The students and professionals will spend two or three days on Northern Arizona University (NAU) campus learning about Indoor Air Quality (IAQ). Following the on campus training program, the tribal environmental professionals will work with the students to complete an air quality assessment of a tribal building.

The IAQ-SIP will cover the travel and lodging costs of the tribal environmental professionals. The IAQ-SIP will cover a portion of the student travel and lodging costs and a salary for the students while they complete the air quality assessment of a tribal building. The tribes are invited to provide a cost share of \$250 per student (total of \$750) and to continue paying the salary of the tribal environmental professional while they participate in the IAQ-SIP program.

With the support of the EEOP staff and equipment loans from EEOP, the IAQ-SIP participants will conduct IAQ assessments of a tribal building.

If you would like to learn more about the IAQ-SIP visit the EEOP website or contact Matthew Zierenberg at [matthew.zierenberg@nau.edu](mailto:matthew.zierenberg@nau.edu) or 928 523 8864.

## **Air Quality Curriculums – A Resource for Educators**

There are a variety of curriculum resources available to educators and tribal professionals that want engaging activities that can be used in various settings. These curriculum resources provide guidelines on activities that will enhance understanding of air quality concepts. The curriculums also provide good background information for the instructor. For additional assistance in implementing these curriculums contact the EEOP staff.

### **Project AIRE**

The Environmental Protection Agency (EPA) distributes Project AIRE (Air Information Resources for Educators) via the EPA website. This curriculum was developed to focus the attention of elementary, junior high, and high school students on air pollution issues. The units in this package encourage students to think more critically and creatively about air pollution problems and the alternatives for resolving them. Topics covered include: air quality, rainforests, radon, the creation of environmental laws, the greenhouse effect and ozone. The curriculum is available via the EPA website.

<http://www.epa.gov/region01/students/teacher/airqual.html>

### **Environmental Resource Guides**

Air and Waste Management Association (A&WMA) has eleven print volumes of environmental education lessons/activities called the Environmental Resource Guides (ERGs). There are four Air Quality ERGs and four Nonpoint Source Pollution Prevention ERGs in English. They are divided by

class level using common U.S. classifications: grades K-2, 3-5, 6-8, and 9-12. The oldest lessons found in the Air Quality ERG for grades 6-8 are being revised and updated.

Each ERG includes approximately 15 lessons with clearly stated educational objectives, background information, hands-on activities, and extension activities that can be integrated into general science, language arts, math, social studies, and other subjects. The ERG series is designed to develop critical thinking skills including observation, comparison, analysis, and problem solving. Each of the lesson plans found in the ERGs have been written and field-tested by classroom teachers. In addition, the content has been extensively reviewed for technical accuracy by A&WMA

<http://www.awma.org/education/eeandpublicoutreach.asp>

### **Air Defenders**

Wisconsin Environmental Health Association developed Air Defenders in response to concerns about the increase of asthma in Wisconsin. The Air Defenders is a community educational resource on open burning, air quality and respiratory health. It's designed to help health officials and other community educators, as well as teachers, create fun and valuable hands-on classroom lessons for students. "Air Defenders: The Quest for Clean Air" is an interdisciplinary, multi-media educational program and web site for students 10 years of age and up. Students earn their Air Defender badge while pursuing their quest to clean the air and protect community health. Air Defenders learn through activities in science, health education, and music lessons that meet U.S. and Wisconsin academic standards. These lessons develop critical thinking with a focus on finding solutions for home and farm waste disposal, exploring the physics and chemistry of waste incineration and open burning, and on the related issues of air quality and human respiratory health.

<http://www.airdefenders.org/>

### **Air Quality Education and Outreach for Tribal Professionals**

An Air Quality Education and Outreach course is scheduled to start July 24, 2006. The four-day course will be conducted in Portland, Oregon. The course is designed to help tribal professionals prepare to conduct air quality education and outreach in their communities. Participants will learn about a variety of air quality activities that enhance learning about important air quality concepts. If you are a tribal professional interested in learning more about the course, please contact Mansel at [mansel.nelson@nau.edu](mailto:mansel.nelson@nau.edu) or 928 523 1496.

### **Spotlight – Nick Axtell**

In the spotlight this month is Nick Axtell. Nick, a former ITEP Student Summer Intern, is now a tribal professional. At our request he is sharing his story.

*I have been employed with the Fond du Lac Band of Lake Superior Chippewa for since March 17, 2003 as the Air Program Coordinator. Working for the Tribe has been a great learning experience. I am enrolled at the White Earth Reservation in Minnesota, but I grew up 12 miles from the Fond du Lac Reservation and my family has strong ties to the area.*

*I attended school at the University of Minnesota Duluth (UMD) in the Chemical Engineering Program, when I served as an ITEP summer intern for 2001. I came across the ITEP internship program by accident. I was attending an American Indian Science and Engineering Society Conference when I met Alexis Baca Spry at the career fair. She encouraged me to fill out an application, and I was later accepted into the program.*

*I was placed at the American Indian Environmental Office in Washington DC under the direction of Ed Liu. It was a great experience, and the staff in the office made me feel right at home. There was a bit of culture shock living in DC for the summer since I had grown up in a small town of 130 people in northern Minnesota. After my initial adjustment period, I met a lot of great people and had a wonderful time with my internship. I would definitely do it again, given the opportunity.*

*After my internship, I had a research job in college doing biosorption and bioremediation tests with aquatic plants through an Undergraduate Research Opportunity grant with one of my professors, Dr. Steve Sternberg. Directly after college, I was employed by the UMD Medical School as a Program Coordinator for a grant fellowship aimed at involving more Native Americans in the biomedical research field. While working in the med school an old professor of mine forwarded me the job description for my present job. The rest, as they say, is history.*

The EEOP staff is interested in spotlighting environmental science or engineering students or tribal environmental professionals. We are particularly interested in hearing from Tribal Professionals that participated in the ITEP internship program. Please contact Mansel at [mansel.nelson@nau.edu](mailto:mansel.nelson@nau.edu) or 928 523 1496.

## **Future Issues**

In the next issue we will revisit Indoor Air Quality (IAQ) and discuss the importance of good air quality in our schools. We will also review additional air quality curriculums available for educators or tribal professionals. For more information on air quality visit the EEOP website at <http://www.nau.edu/eeop/> or contact Mansel at [mansel.nelson@nau.edu](mailto:mansel.nelson@nau.edu) or 928 523 1496/1275.

## **Credits and Contacts**

The US Environmental Protection Agency (USEPA) Office of Air and Radiation provides part of the funding to make this newsletter possible. The newsletter is disseminated on various list serves, however, if you would like to join the newsletter list serve, contact [mansel.nelson@nau.edu](mailto:mansel.nelson@nau.edu).

Our staff looks forward to providing new services and developing new programs, as well as continuing existing programs. We especially look forward to hearing from you. So please visit our website at <http://www.nau.edu/eeop/> or contact us via telephone or email.

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