



# Hot Air from EEOP – A Newsletter

Environmental Education Outreach Program (EEOP)  
Volume 3, Issue 1 (October 2007)

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). The EEOP staff created this newsletter for K-16 students, educators, and tribal professionals that are interested in learning more about environmental issues with an emphasis on air quality. This first issue of this school year is going to focus on educational services available from the EEOP staff.

## **Indoor Air Quality (IAQ) Building Assessments**

The EEOP program has IAQ Kits and staff available to work with students and teachers to complete an IAQ assessment of their school building. The instruments in the IAQ Kit facilitate air quality measurements such as carbon dioxide, radon, carbon monoxide, relative humidity, air movement, surface temperature, and moisture. The staff will also help students and teachers use the USEPA IAQ Tools for Schools kit to identify potential air quality issues in the building.

There are three key components of the IAQ Building Assessments:

- Science education - students learn basic scientific principles about air and air pollution.
- Science - students are doing science by taking basic scientific measurements on air quality and interpreting the information collected.
- Student learning and health - students will make recommendations that will improve the health of all building occupants and improve the conditions for learning.

The data and observations collected during the IAQ Building Assessment will be provided to the school administration for their information and action. This is an educational program, not a regulatory program. Only the school staff receives the assessment reports.

The building assessments can be done in a variety of formats. An important requirement is that teachers and students from the school district be involved in the assessment; the EEOP staff does not do the assessment for your school, the EEOP staff helps the teachers and students do the assessment.

## **Engineering Outreach Program (EOP)**

The EEOP program has Engineering Education Kits and staff available to work with students and teachers to increase awareness of opportunities in engineering. Although engineering is applied science, mathematics, and technology, many students are not aware of the career opportunities for this fascinating field. The purpose of the Engineering Outreach Program is to increase awareness of engineering as a potential career and help students understand how they can prepare for an exciting and rewarding career in engineering.

The EEOP staff is available to work with teachers and students to develop an understanding of engineering and to encourage students to consider engineering as a career option.

### Wildlife In Native Schools

The EEOP staff will be working with the US Forest Service Rocky Mountain Research Station with a focus of “More Children in the Woods”. During forest visits to the Fort Valley Research Forest (near NAU campus) students will be introduced to forest management, ecology, wildlife and environmental issues through hands on activities. Topic areas will focus on forest management, biodiversity, land stewardship, wildlife management, basic ecological principles, related career opportunities, and the effects of good or poor air, water, and soil quality on ecosystems.

Middle schools and high schools from Northern Arizona will be invited to participate in this program. Transportation scholarships are available to the schools outside the Flagstaff city limits.

### American Indian Mobile Educational Resources (AIMER)

The AIMER classroom is a mobile computer laboratory that is used to teach concepts of physics, astronomy, and engineering to K-12 students. The EEOP staff will be available to conduct hands on classroom presentations on topics such as:

- Telescopes, how do they work
- Basic principles of rocketry
- Constellations and their origins
- Stars and different types of light
- Scientific method
- Planetary movements

Community Star Parties allow the community members to get involved in the AIMER program. Star Party participants will have an opportunity to view stars, planets, and moons through several different telescopes.

### Water Education and Outreach

The purpose of the Water Education and Outreach Program is to increase hydrological literacy and spark interest of students in hydrological careers. The EEOP staff will provide learning activities and demonstrations of various water curriculums, including GLOBE and Project WET. Some lessons and activities available are:

- Water quality
- Ground water
- Drought and water conservation
- Water cycle
- Watershed protection

We are currently experiencing a drought in the Southwest. We want all citizens to be aware of the issues associated with the drought and help with protection and management of our water resources.

The EEOP staff also has water education supplies available on a loan basis.

## Air Quality Education

Air pollution comes from many different sources such as factories, power plants, dry cleaners, cars, buses, trucks, windblown dust, and wildfires. Air pollution can threaten the health of human beings, trees, lakes, crops, and animals, as well as damage the ozone layer and buildings. Air pollution also can cause haze, reducing visibility in national parks and wilderness areas. The EEOP staff is available to work with students, educators, and tribal professionals to create more awareness of the career opportunities in protecting human health and ecosystems from air pollution. Some lessons and activities available are:

- Air quality and the Global Positioning System (GPS)
- Protection of air quality by reducing the demand for fossil fuel power plants
- Global warming and climate change

## Communications

The EEOP staff offers a variety of communications. The EEOP website was recently updated and we are expanding the information available via the website. We also have a listserv for sharing information on internships, programs, scholarships, as well as EEOP services and projects. If you would like to join the listserv send an email to [mansel.nelson@nau.edu](mailto:mansel.nelson@nau.edu).

## Service Requests

The EEOP staff looks forward to serving your school and students. Please use the Service Request form attached to this newsletter. In order to best use our limited resources we offer the following guidelines:

- Please plan in advance. Occasionally we may be able to respond within a week or two of your request, but generally we need several weeks or even months advance notice.
- To facilitate communications, we appreciate being able to use email, however we may also suggest a conference call to work out the details of our visit.
- The EEOP staff should NOT be left in the classroom to supervise students without a teacher present from the school. We want to work with both students and teachers.
- In general, our services are available at no cost to schools that serve Native American students, however for some projects we may ask for a cost share from the school.
- With occasional exceptions, we prefer that you NOT combine classes for our presentations and projects. We generally prefer working with smaller groups.
- If significant travel is required to get to your school, we need to schedule several presentations to justify the travel time and expenses.
- Information about your school and classes will help us prepare for your group. The purpose of the Service Request form is to help us deliver better services for your students.

## Summary of Programs and Services Available

Program	Region	Grade Levels	Locations
Indoor Air Quality (IAQ) Building Assessments	National	preK to 5 (with assistance from older students in the community) 6 to 12 Tribal Colleges	School Site
Engineering Outreach Program (EOP)	Arizona	Middle School High School	School Site NAU Campus

Wildlife in Native Schools	Arizona	Middle School High School Community Events	NAU Campus
American Indian Mobile Educational Resources (AIMER)	Arizona New Mexico	Elementary Schools Middle Schools High Schools Community Events	School Site NAU Campus Community Site
Water Education and Outreach	Southwest	Elementary Schools Middle Schools High Schools	School Site NAU Campus Field Trips
Air Quality Education	National	Elementary Schools Middle Schools High Schools	School Site NAU Campus

The EEOP staff is interested in providing services at your school site or on the NAU campus. When groups visit the NAU campus it gives us an opportunity to involve other NAU staff and faculty in our programs. The staff can schedule visits during the week or on a Saturday.

### Arizona Foundation for Resource Education (AFRE)

This academic year, teachers will earn professional development hours while they explore Arizona through AFRE's nine, free Azventure Expeditionary Learning Series events. Areas of focus include geology, water history and management, forestry, and the role and future of honeybees, which are threatened by "colony collapse disorder." A special "Photo Journey" event will incorporate geology, ecology and natural history content as teachers learn to create their own classroom educational products using the latest technologies. The Arizona Foundation for Resource Education also is offering five free classroom-style events to provide teachers with the knowledge and skills they need to create high-performing classrooms. This academic year's topics include "green power" and air quality. For more information visit [www.afre.org](http://www.afre.org).

### Future Issues

We are interested in articles sharing stories from students, teachers, or tribal professionals influenced by ITEP or EEOP activities. In the next issue we will highlight services available to educators and tribal environmental professionals. We will also provide information about our internship programs.

### 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.

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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## Service Request

The more information you are able to provide, the better we will be able to serve you and your students. **FAX to 928 523 1275 or email to mansel.nelson@nau.edu**

Dates Requested (Range of dates works better)	
Contact Name	
Email	
School Name	
School Mailing Address	
School Physical Location	
Phone @ school	
Phone @ home (optional)	
Cell phone (optional)	

### Services and Programs Requested

Indoor Air Quality (IAQ) Building Assessments
Engineering Outreach Program (EOP)
Wildlife in Native Schools
American Indian Mobile Educational Resources (AIMER)
Water Education and Outreach
Air Quality Education
Other (Describe)

### Describe the classes or groups

Period	Start Time	End Time	Grade Level	Subject	Number of Students
1					
2					
3					
4					
5					
6					
7					

Additional Comments: