



## Hot Air from EEOP – A 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). The EEOP staff created this newsletter for K-16 students, educators, and tribal professionals that are interested in learning more about environmental issues.

### **DUE NOW - Student Summer Internship (SSI) – Need Host Sites**

The TEEOP staff is recruiting host sites for the 2009 Student Summer Internship (SSI) program. For all of those interested in hosting a summer intern, please visit our website to apply. The sooner we receive the project proposal the better visibility we can offer your organization. We are interested in helping environmental agencies in Indian Country do air quality monitoring, data analysis, emissions inventories, and develop community air quality outreach programs. Regional EPA offices, state environmental offices, tribal environmental agencies, and others are eligible to apply.

Successful host site applications will outline an appropriate air quality project for the intern. The project should go beyond general secretarial/clerical support but be feasible for a student with a ten week time line. An outstanding application will describe the activities in which the student will be involved and provide a brief work-plan.

If you have questions about the internship program, contact the EEOP staff.

### **DUE SOON - Student Summer Internship (SSI) – Need Interns**

The EEOP staff is actively recruiting interns for Summer 2009. The deadline for student intern applications is Feb 15<sup>th</sup>. There is an online application that should be completed, followed by several additional documents that can be mailed to the EEOP office. When completing the online application, please use good sentence structure and good grammar. All the documents submitted will be evaluated to create a picture of your communications abilities.

After the 15<sup>th</sup>, the EEOP staff will begin the process of placing an intern with each of the selected host sites. The EEOP staff will select the potential host sites and then match several interns to each host site based on student skills and interests. The staff at the host sites will interview the interns and select the intern of their choice.

If you would like more information about the Student Summer Internship (SSI) program please contact the EEOP staff or visit the EEOP website.

## **Asthma Update**

A study completed by ASU Phoenix Long-term Ecological Research project reveals that metropolitan Phoenix ranks in the top five US cities for asthma-related deaths. Approximately 8% of the Phoenix population has asthma. Furthermore research conducted in a low-income Latino neighborhood found that 16% of children under 19 years old had been diagnosed by a doctor as having asthma; this is twice the national average.

Sara Grineski mapped the incidence of children's asthma hospitalizations by zip code and found that clusters of high-hospitalization rates were located in the center of the metropolitan area and along the freeways. These areas correspond with concentrations of industries with high emissions levels and concentrations of minority populations.

She used mathematical models to analyze what factors best predicted asthma hospitalizations. An analysis of socio-demographic factors only found that areas with lower social class and higher proportions of African Americans had significantly higher rates of uncontrolled asthma. However, the most important predictor of asthma hospitalizations was a composite pollution measure of three criteria pollutants: nitrous oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), and carbon monoxide (CO). Areas high in these criteria pollutants positively predicted areas of high hospitalization rates.

According to a news release by the Arizona Department of Environmental Quality, a new health study released by Arizona State University found that asthma attacks and symptoms in children increased significantly on days that Phoenix had more air pollution.

The recently released study confirms that asthma attacks and asthma symptoms increase nearly 14% on days with elevated levels of particulate matter pollution. The Arizona Department of Environmental Quality uses particulate matter levels to decide when to issue high pollution advisories and the Maricopa County Air Quality Department uses the same information to determine the No Burn Day restrictions.

The City of Phoenix and Maricopa County, as well as several tribes in the Phoenix area, monitor particulate matter pollution that is 10 microns in diameter or smaller. Studies by the Environmental Protection Agency (EPA) suggest the greatest health threat is from particulate matter that is 2.5 microns or smaller. Sources of particulate matter include dust from leaf blowers, windblown dust from agricultural fields, smoke and soot from fireplaces and outdoor burning, and diesel exhaust and other vehicle emissions.

"No one really knows what causes asthma in children, but we do know that air pollution can trigger asthma attacks and increase the risk of respiratory problems in children," ADEQ director Steve Owens said in a statement. "This study shows the connection between poor air quality and asthma attacks in children and underscores the importance of taking action to reduce particulate pollution in the Valley."

Asthma triggers can also be found indoors, even when outdoor air pollution levels are considered safe. The EEOP staff is interested in helping tribal communities (particularly schools) address asthma issues. Contact a member of the EEOP staff for more information.

## **Starting an Environmental Club**

Starting an environmental club at school is a great way for students to take care of the Earth and help their community, while learning about some of the most important issues facing the world in the 21<sup>st</sup> century.

Earth Team, a nonprofit environmental network for teens, teachers, and youth leaders, offers tips on how to start an environmental club. Their website provides practical advice and ideas for forming an environmental club. <http://www.earthteam.net/>

Once the core membership and adult sponsor have been established, the Earth Team website suggests all sitting down together to decide on the club's vision and to brainstorm about possible activities or projects to undertake. There is an Environmental Protection Agency (EPA) website with ideas for projects that can be done by students in an environmental clubs. [www.epa.gov/students/](http://www.epa.gov/students/)

The EEOP staff are available to assist with the development of an environmental club in tribal communities. For more information, contact a member of the EEOP staff.

## **Carbon Monoxide**

Now that we are in the winter heating season, let's get the word out to everyone about safety in using fuel-burning appliances. Carbon monoxide is a colorless, odorless poisonous gas that is produced during combustion. All operating fuel-burning appliances are a potential source for deadly levels of carbon monoxide.

Mild carbon monoxide poisoning causes headache, nausea, vomiting, drowsiness, and poor coordination. Most people who develop mild carbon monoxide poisoning recover quickly when moved into fresh air. Moderate or severe carbon monoxide poisoning causes confusion, unconsciousness, chest pain, shortness of breath, and coma.

One reason carbon monoxide is dangerous because a person may not recognize drowsiness as a symptom of poisoning. Consequently, someone with mild poisoning can go to sleep and continue to breathe the carbon monoxide until severe poisoning or death occurs. Some people with long-standing, mild carbon monoxide poisoning caused by furnaces or heaters may mistake their symptoms for other conditions, such as the flu or other viral infections.

Regular maintenance of fuel-burning appliances is important. Be sure that flues and chimneys are connected and in good condition and not blocked. Also make sure there is an adequate air supply to the appliance. Carbon monoxide alarms should be installed in every home. Even with regular maintenance, a fuel-burning appliance can malfunction. A carbon monoxide alarm provides life-protecting early warning.

The EEOP staff is available to give presentations on carbon monoxide and they have air monitors that will detect carbon monoxide.

## **Curriculum Resources for Teachers - Exploring the Environment**

The "Classroom of the Future" and "Exploring the Environment" are a collaboration between NASA and Jesuit Wheeling University, and they are responsible for a website that offers teachers unique ways to teach students about weather systems. The activities are for grades 5-12, and each activity indicates the applicable grade level, though most lean toward the upper grades.

The homepage has a jigsaw puzzle graphic with pieces interlocking that compromise the topics, their grade ranges, whether they are an activity or lesson, and whether they are "Basic", "Comprehensive" or "Advanced". Each of the lessons involves a situation that students must solve. Some of the lessons include "Florida Everglades", "Water Quality", and "Tropical Poison". <http://www.cotf.edu/ete/modules/modules.html>

The EEOP staff is available to help teachers implement a weather monitoring program. For more information about EEOP services, contact a member of the EEOP staff.

### **Communications**

The EEOP staff offers a variety of communications. The EEOP website provides information about programs. We also have a list-serve for sharing information on internships, programs, scholarships, as well as EEOP services and projects. If you would like to join the list-serve send an email to [mansel.nelson@nau.edu](mailto:mansel.nelson@nau.edu).

### **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 one of the EEOP staff will discuss grant writing for educators.

### **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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