



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 and educators that are interested to learn more about environmental issues with a focus on air quality. There is also information and articles directed towards tribal environmental professionals.

Air Quality – Clean Air Act Amendment of 1990

The Clean Air Act has resulted in many air quality improvements. The first Clean Air Act was created in 1963. Since 1963 several amendments have been implemented. The 1990 Clean Air Act amendments give the state and tribes more control over setting their air pollution standard as long as that standard meets the basic minimum federal standard. The amendment was designed to address three major threats to the environment and human health, including acid rain, urban air pollution, and toxic air emissions. In addition, the amendment addresses reducing interstate and international pollution since air pollution does not recognize political boundaries.

One of the key provisions of the 1990 amendment is the Tribal Authority Rule (TAR), which authorizes tribal governments to establish air quality management programs for their reservations in a manner similar to states. The rule establishes a flexible approach to air quality management. In cooperation with the USEPA, tribes make decisions about how they will implement an air program. Tribes are not required to implement all the provisions of the Clean Air Act (CAA). Where tribes decide to not carry out their own program, the EPA will develop federal programs to ensure adequate protection of air quality for tribal lands.

The Clean Air Act (CAA) recognizes tribal sovereignty over reservation lands and offers tribal governments the opportunity to be full partners with EPA in regulating the air quality on their reservations. However, many tribes don't have the resources to implement an air quality program. One important resource needed is trained staff to implement a program. Programs like the American Indian Air Quality Training Program (AIAQTP) are designed to help address this issue by providing training for tribal staff. One of the goals of another program, the Environmental Education Outreach Program (EEOP), is to increase the level of science and technology education for tribal students. Students with scientific knowledge and understanding can move into important tribal agency positions that involve air quality protection. Additional information on these programs can be found at <http://www.nau.edu/itep/>.

Clean air is an important element of Native American culture, contributing to the health and quality of life for tribal members. For many tribes, nature and scenic landscapes are sacred - reductions in visibility caused by air pollution are an affront to their heritage. For others, the economic health of the reservation depends upon local industries, such as tourism, hunting, and fishing that rely on clean air. An air regulatory program can help to ensure that air quality on a reservation remains clean and healthy.

Knowledge of air pollution, its sources, and its impacts on people and the environment is needed in order to effectively address air quality problems on a reservation. Understanding the nature of an area's air pollution problem requires a basic knowledge of pollution formation principles. Fundamentally, air pollution is caused by the build-up of harmful gases and particles in the air. This build-up is a function of two things: 1 – the amount of pollution released into the air, and 2 – the dispersion (or concentration) of the pollutants.

Despite the progress made with the Clean Air Act (CAA), pollution still impacts on some communities. According to the Environmental Protection Agency (EPA), millions of Americans still live in communities with unhealthy air. For example, mercury emissions are still a serious problem. Mercury contaminates lakes, streams, and other water bodies which concentrate in fish. When consumed by pregnant women or children, mercury can interfere with the development and function of the central nervous system. Mercury can also lead to poor performance on tests on attention and language, impaired memory, impaired visual and motor function. For more information on the mercury issues you are encouraged to download an ITEP Native Voices newsletter on mercury, which can be found at <http://www4.nau.edu/itep/about/assets/docs/NVSpring2004.pdf>

This is the fourth in a series of articles on air quality. Previous EEOP Newsletter issues provided information on the history of air quality, indoor air pollution, and global warming. You can find these previous issues on the EEOP website. Next month we will review an air quality curriculum available for K-12 educators called Project AIRE. For more information on air quality visit the EEOP website at <http://www.nau.edu/eeop/>.

GLOBE Training for Teachers in the Four Corners Region

The EEOP staff will be conducting a Global Learning and Observation to Benefit the Environment (GLOBE) workshop at Monument Valley High School in Monument Valley, Utah on April 6th. The focus will be on atmosphere measurements and water quality measurements. If you would like to attend, you can download the registration form on the EEOP website http://www4.nau.edu/eeop/eeop_workshops.html

GLOBE is a hands-on, school-based science and science education program that unites students, teachers, and scientists in study and research about the dynamics of the Earth's environment. Data from the student research is shared with other students and is used by scientists around the world. For more information about GLOBE, visit the GLOBE website at <http://www.globe.gov/>.

If you have any questions about the workshop or want to learn more about GLOBE, contact Matthew Zierenberg at matthew.zierenberg@nau.edu or 928 523 8864.

Water Education for Teachers in the Four Corners Region

The EEOP staff is conducting two water education workshops. The first workshop, which will be on water quality, will be held in Chinle, AZ on March 23rd. The second workshop, which will address uranium mining issues, will be held in Crownpoint, NM on May 2d. Each teacher attending will receive water education curriculum. We have funding for either substitute teachers or teacher stipends for each workshop. You will find a flyer and a registration form for each workshop at http://www.nau.edu/eeop/eeop_workshops.html.

If you have any questions about the workshops or want to learn more about the EEOP water education program, contact Mansel A. Nelson at mansel.nelson@nau.edu or Christine DeCarlo at 928 523 1496.

Air Quality Education and Outreach for Tribal Professionals

The EEOP staff conducted an Air Quality Education and Outreach training course for Air Quality Tribal Professionals at Haskell University, January 31st through February 3rd. The purpose of the training course is to prepare tribal professionals to conduct education and outreach activities in their respective communities. The course provides an overview of many approaches for conducting outreach. Examples include PowerPoint presentations, poster presentations, and learning activities.

During one presentation participants reviewed the EPA publication called "*Community Culture and the Environment - A Guide to Understanding a Sense of Place*". This publication provides tools and methods for understanding the human dimension of environmental protection. It is designed to provide leaders in the environmental field a means for better understanding community values and processes as they relate to environmental issues, thus resulting in more effective partnerships and approaches to solving environmental problems.

The EEOP staff provided an overview of several air quality curriculums during the course. There are many learning activities available for teaching important concepts in air quality. Tribal professionals can adapt these learning activities for use in their communities. Participants received a couple curriculums and information on how to obtain additional curriculums. During the course several activities helped illustrate learning activities from the various curriculums. One curriculum, available via an EPA website, is Project AIRE, which can be downloaded at <http://www.epa.gov/NE/students/teacher/aire.html>.

Participants also learn about a global warming curriculum that provides applications of science to real-life conditions. The curriculum explores global warming in a wide variety of formats, from hands-on science activities and experiments to a simulation game, analysis of articles, a story about an island threatened by rising sea levels, and a world conference on global warming. The curriculum guide has two major aims: to present the scientific theories and evidence behind the phenomenon of global warming, and to help people see environmental problems from different points of view. More information on the curriculum is available at <http://www.lawrencehalloffscience.org/gems/GEM322.html>.

Another Air Quality Education and Outreach course is scheduled to start May 16th. The four-day course will be conducted on the Northern Arizona University (NAU) campus. If you are a Tribal Professional that wants to attend the course, please contact Mansel at mansel.nelson@nau.edu or 928 523 1496.

Summer Scholars 2006

The EEOP staff is starting the planning process for Summer Scholars 2006. Summer Scholars provides Native American students a one-week, on-campus pre-college residential experience. Middle and high school participants explore environmental issues, improve their technological skills, and build mentoring relationships with college student assistant instructors.

The theme for Summer Scholars 2005 was global warming. Students participated in field trips, learning activities, and Problem Based Learning (PBL) sessions. At the end of the week students prepared recommendations on how to address the issue of global warming. Additional information on Summer Scholars can be found at <http://www4.nau.edu/eeop/summerscholars/index.html>.

Summer Scholars is a collaborative effort between EEOP and the sponsoring school districts. School districts interested in developing a Summer Scholars Program for their students are invited to contact Matthew at matthew.zierenberg@nau.edu or 928 523 8864.

Spotlight

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 or 928 523 1496.

Credits and Contacts

The US Environmental Protection Agency (USEPA) Office of Air and Radiation provides part of the funding to make this newsletter possible. Contact us with your ideas for future issues of the newsletter at mansel.nelson@nau.edu.

The newsletter is disseminated on various list serves. If you would like to join the newsletter list serve, contact 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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