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). 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.

Air Toxics – Carbon Monoxide

During a recent widespread power outage in western Washington state over 100 people were poisoned by carbon monoxide. During the blackout people were using generators and charcoal grills for warmth without proper ventilation. Over 55 people were treated in an hyperbaric chamber, which provides oxygen at higher pressures in order to force oxygen into the blood. Carbon monoxide poisoning is a serious issue that can impact on families at any time.

Carbon monoxide is an odorless, colorless and toxic gas. Because it is impossible to see, taste or smell the toxic fumes, CO can kill you before you are aware it is in your home. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

Any combustion process can be the source of carbon monoxide. Sources can include improperly vented kerosene and gas space heaters; leaking chimneys and furnaces; back-drafting from furnaces, gas water heaters, wood stoves, and fireplaces; gas stoves; generators and other gasoline powered equipment; automobile exhaust from attached garages; and tobacco smoke. Incomplete oxidation during combustion in gas ranges and unvented gas or kerosene heaters may cause high concentrations of CO in indoor air. Worn or poorly adjusted and maintained combustion devices (e.g., boilers, furnaces) can be significant sources, or if the flue is improperly sized, blocked, disconnected, or is leaking. Auto, truck, or bus exhaust from attached garages, nearby roads, or parking areas can also be a source.

At low concentrations carbon monoxide can cause fatigue in healthy people and chest pain in people with heart disease. At higher concentrations carbon monoxide can cause impaired vision and coordination; headaches; dizziness; confusion; nausea. Carbon monoxide is fatal at high concentrations. Acute effects are due to the formation of carboxyhemoglobin in the blood, which inhibits oxygen intake.

The U.S. Consumer Product Safety Commission recommends that every home should have a carbon monoxide (CO) alarm. The commission also urges consumers to have a professional inspection of all fuel- burning appliances -- including furnaces, stoves, fireplaces, clothes dryers, water heaters, and space heaters -- to detect deadly carbon monoxide leaks.

The EEOP staff recommends that every home should have at least one CO alarm that meets the requirements of the most recent Underwriters Laboratories (UL) 2034 standard. If the alarm sounds, immediately leave the area and get fresh air. Get professional assistance to inspect all burning appliances.

During various presentations the EEOP staff emphasizes the importance of protecting yourself and your family from carbon monoxide poisoning. If you have any questions about how to protect yourself from carbon monoxide poisoning contact the EEOP staff.

Air Toxics – Second Hand Smoke

The December issue of this newsletter previously addressed second hand smoke (Volume 2, Issue 2 - December 2006). Smoking bans are increasing around the nation. The trend is now including colleges and universities. According to a report published in the USA Today, 43 campuses from California to New Jersey have gone smoke-free, a trend that is accelerating.

Some smokers are claiming that these additional bans are an "infringement on personal liberties". Balancing smoker rights and non-smoker rights can be a challenge. However, scientific evidence proves that any exposure to second hand smoke is a health problem. Mansel A Nelson, editor of this newsletter, believes that any rights that a smoker has stops at another person's lungs.

Anyone interested in additional details on protecting yourself from second hand smoke can contact the EEOP staff.

Preparation for College - Summer Programs

The EEOP staff encourages all middle school and high school students to consider participating in university summer programs. There are many programs that can benefit students. For specific information on a variety of programs you can join the EEOP listserve. You could also start your search for programs at the following websites.

- http://www.petersons.com/
- http://www.mysummercamps.com/
- http://www.kidscamps.com/

If you want help with finding a summer program that meets your interests, contact the EEOP staff.

Preparation for College - Making the Grade

In a previous EEOP newsletter there was an article about how getting good grades can help you get funding for college through scholarships. Experts say that with good time management and avoiding wasted effort by making sure you understand what the professor or teacher really wants can result in better grades. In an article published in the Washington Post the reporter outlined ways to get good grades.

1. Go to class and take notes yourself. Don't rely on notes from others. You will retain the material better if you go to class and take the notes yourself.

2. Make a big event out of your most-feared academic tasks. A major barrier to good grades is the human instinct to delay big challenges. Don't delay, get started.

3. Speak to your professors (or teachers) frequently. Professors and teachers enjoy talking to their students and appreciate your interest. Regular conversations before and after class, as well as other times of the day can give you important insights into the subject matter and the priorities of the instructor.

4. Don't shy from courses with lots of papers. Some students avoid courses that require lots of writing. However, writing is an important and valuable skill. Courses with an emphasis on papers also allow you to stagger your work load and avoid test overload.

5. Study in an isolated place as early in the day as you can. Leaving your work until late often means your desire for sleep hijacks your concentration. Be sure to take a 10-minute break every hour.

6. Use section meetings to your advantage. Many college classes offer study sessions or section meetings to review material and ask questions. Use them to your advantage. Create study groups with your classmates.

7. Before you start work on a paper, do the analysis in your head. Professors appreciate original ideas. Reflect on your personal experiences and talk to others.

8. Let experts look at drafts of a major paper. If your professor has time, have him/her read your paper. If he/she doesn't have the time to read your paper, at least discuss the major ideas with him/her. You can also share your paper with classmates.

Getting good grades opens doors to additional opportunities. Contact the EEOP staff for more ideas.

Student Contest – Satellite Remote Sensing Data

The Institute for Global Environmental Strategies (IGES) announces the 2007 Thacher Scholars Award. This national competition for secondary school students was founded in honor of former IGES board member Peter Thacher, who died in 1999. Peter Thacher was former deputy executive director of the United Nations Environment Program, NASA advisor, and, at the time of his death, president of the Earth Council Foundation/U.S. He was a leader in promoting the use of satellite remote sensing.

The 2007 Thacher Scholars Award will be awarded to secondary school students (grades 9-12) designing and conducting the best projects using satellite remote sensing of the Earth.

Satellite remote sensing has numerous uses in science research, ranging from climate prediction to archaeology. It can improve our understanding of the Earth system, including interactions among the atmosphere, biosphere, geosphere and hydrosphere. And it can improve the quality of our lives by supporting weather prediction, natural hazards monitoring, transportation, land-use

planning, agriculture, coastal management, public health and emergency response. The Thacher Scholars Award is an excellent opportunity for student-designed investigations using satellite remote sensing data and imagery. For more information and details go to http://www.strategies.org/thacherscholars/.

EEOP Programs – Campus Visits

The EEOP staff sponsored several campus visits this month. Students and teachers from Shonto Preparatory High School learned about renewable energy and built a pico-turbine (small wind turbine). They also met with a professor at Northern Arizona University (NAU) to learn about wind power. Students and teachers from Wingate High School met with several professors to learn about programs on NAU campus. One of the programs they learned about was the Native American Cancer Research Partnership (NACRP). The Wingate students learned how research is being done on issues that impact native communities. They also meet with an admissions counselor to learn about the process for applying to a university for admittance.

Campus visits are a valuable way for students to explore post-secondary options. The EEOP staff recommends that students considering post-secondary opportunities should visit several campuses, visit with staff and faculty, and tour the campus facilities. Going to college is a big decision; you want to make sure to identify a campus that is a good fit.

The EEOP staff is available to assist with organizing campus visits at NAU. If you are interested in a campus visit, contact the EEOP staff.

Future Issues

We are also interested in publishing articles from you. We are interested in articles sharing stories from students, teachers, or tribal professionals influenced by ITEP or EEOP activities.

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.

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.

Mansel A. Nelson
928 523 1496
mansel.nelson@nau.edu

Matthew Zierenberg
928 523 8864
matthew.zierenberg@nau.edu