EPA

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Tribal Air News

Inside this issue:

S. Ute's Air Permitting Program gets Approved

Southwest Colorado Tribe is first in nation to operate Clean Air Act program for large sources of air emissions

On March 5, 2012, the U.S. Environmental Protection Agency announced its approval of the Southern Ute Indian Tribe's Title V air permitting program, making the Tribe the first in the nation to operate an EPA-approved Clean Air Act (CAA) program for large sources of air emissions. The Tribe's headquarters are located near Ignacio, Colorado.

The CAA operating permits program allows the Tribe to issue permits and perform inspections at large stationary sources of air emissions on the Reservation, the majority of which are associated with oil and gas production. EPA will continue to work with the Tribe in an oversight capacity, as it does for state permitting programs.

"The assumption of this program is a significant step forward for the Southern Ute Indian Tribe and the environment," said Jim Martin, EPA's Regional Administrator in Denver. "EPA's approval reflects the Tribe's exceptional effort to build the expertise and capacity to manage air quality on the Reservation."

The Tribe's effort to obtain authority to implement the program has been underway for nearly a decade and has involved extensive communication and outreach with industry, the state of Colorado and surrounding communities. Previously, EPA had served as the permitting authority on behalf of the Tribe.

Southern Ute Tribal Chairman Jimmy R. Newton, Jr. commented that, "EPA approval of this program is an achievement that was envisioned by many past tribal leaders and is the culmination of extensive cooperation among the Tribe, EPA, State of Colorado, La Plata County, and oil and gas industry operators. The Tribe looks forward to administering the program in a manner that ensures protection of the Reservation air shed and contributes positively to regional air quality."

CAA operating permits are legally enforceable documents that authorities issue to air pollution sources after the source has begun to operate. This requirement comes from Title V of the CAA, as amended in 1990.

The Southern Ute Indian Tribe is located on the Southern Ute Indian Reservation in southwest Colorado. The Reservation land area includes more than a thousand square miles in La Plata, Archuleta and Montezuma counties.

More on the CAA operating permits program: http://www.epa.gov/oaqps001/permits/

Southern Ute Indian Tribe: http://www.southern-ute.nsn.us/

TRIBAL-FERST: Supporting Sustainable and Healthy American Indian Tribes

The Issue

Tribes face unique and numerous environmental and human health challenges. As tribal leaders work to build and enhance environmental safeguards in their communities, user-friendly, science-based tools may contribute to sustainable solutions. Tribal-focused tools are needed to prioritize environmental issues, understand exposure pathways, and conduct comprehensive impact assessments - all of which are important in decisions to improve public health and the environment.

A Collaborative Approach

The Tribal-Focused Environmental Risk and Sustainability Tool (Tribal-FERST) is a web-based geospatial decision support tool. Tribal-FERST will serve as a research framework to provide tribes with easy access to the best available human health and ecological science.

Tribes and partners throughout the United States, representing a wide range of interests and issues in Indian country, are providing input on the design and content of Tribal-FERST. The United South and Eastern Tribes (USET) is partnering with EPA to develop the Tribal-FERST guidance document and connect its water quality exchange database and data transfer network with Tribal-FERST.

The Pleasant Point Passamaquoddy Tribe of Maine is currently piloting Tribal-FERST as part of its sustainable and healthy community effort. This collaboration draws together tribal members, EPA, and the Tribe's sustainable community planning consultants, in order to make informed environmental and economic decisions about solid waste, sea level rise, and subsistence diet. At the same time, the Pleasant Point Passamaquoddy Tribe will provide input to improve Tribal-FERST and make it a more robust and user-friendly tool. Tribal-FERST will be enhanced through information collected and lessons learned in this and other pilot studies, making it broadly applicable for other tribes as well.

- A tribal environmental data table providing quantitative information to support risk prioritization.
- Decision-making guides integrating traditional ecological knowledge and "peer-reviewed" or "current" science.
- A geospatial mapping component
- Access to best practices and guidance for addressing risks.
- Links to other tools relevant to tribal environmental decision-making.

Sample Tribal-FERST map showing the extent of fish consumption advisories for the lands of the Pleasant Point Passamaquoddy Tribe of Maine

Developing Innovative Solutions for Sustainability

In Tribal-FERST, users will be able to follow step-by-step guidance for identifying priority issues, compiling data, ranking and addressing risks, and assessing impacts of actions taken. At each step, relevant information will be provided, such as:

- Fact sheets and reports about environmental issues of concern.

The Tribal-FERST geospatial mapping component will enable the user to view and overlay demographic information with publicly available data, including environmental concentrations, human exposures, health risks, ecosystem services, sustainability indicators, and sources of pollution. In the future, tribes will have the option to overlay locally collected data and determine whether or not to make it publicly available.

Continued on Page 3

Tribal-FERST Continued

Continued from Page 2

The planned products from Tribal-FERST include:

- A methodology to build capacity and match tribal issues with the best available science.
- A user-friendly, science-based tribal environmental decision support tool.
- A national tribal environmental data inventory to inform and populate Tribal-FERST.
- Results from phased pilot projects, providing answers to questions of tribal interest for priority environmental issues and best practices.

Benefits of Tribal-FERST

Tribal-FERST is being built in partnership with tribes, with support from EPA scientists. The tool is intended to empower tribes by providing access to relevant science that can be used to develop sustainable, cost-effective solutions for reducing environmental exposures and health risks. Using this web-based geospatial decision support tool, tribes may employ a holistic approach to address environmental concerns and plan for the future. This project directly supports the EPA Administrator's priority to build strong tribal partnerships[1] and EPA's commitment to protect tribal lands.

Reference:
[1] L. Jackson, (January 12, 2010). Seven priorities for EPA's future. [Memorandum]. Retrieved from http://blog.epa.gov/administrator/2010/01/12/seven-priorities-for-epas-future/

EPA/ORD Leads:
Kenneth Bailey, M.En.
513-569-7841
Bailey.Ken@epa.gov
Valerie Zartarian, Ph.D.
617-918-1541
Zartarian.Valerie@epa.gov
Andrew Geller, Ph.D.
919-541-4208
Geller.Andrew@epa.gov
Monica Rodia
202-564-8322
Rodia.Monica@epa.gov

Greenhouse Gas Emissions Data Released

By Brian Cook, OAP

For the first time, comprehensive greenhouse gas (GHG) emissions data reported directly from large facilities and suppliers across the country are now easily accessible to the public through EPA's Greenhouse Gas Reporting Program (GHGRP). The 2010 GHG data released on January 11, 2012, include public information from facilities in nine industry groups that directly emit large quantities of GHGs as well as suppliers of certain fossil fuels.

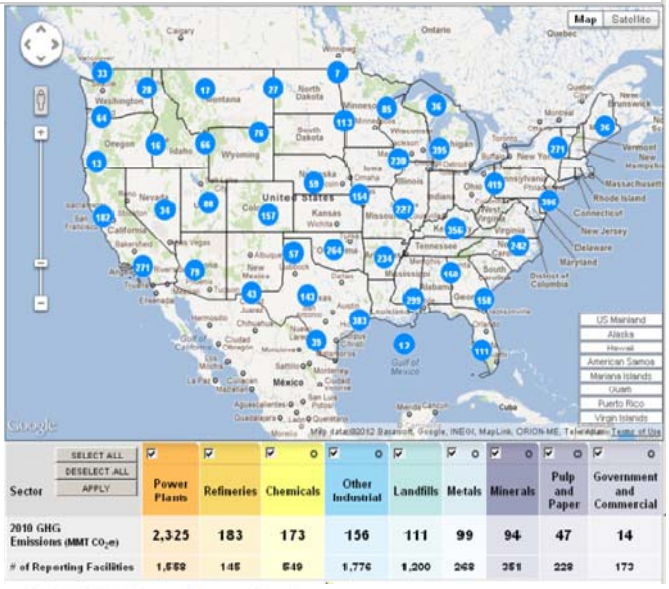
Using EPA's online data publication tool, anyone can view and sort GHG data for calendar year 2010 submitted by over 6,700 facilities across the United States. Users can view the data in a variety of ways—including by facility, location, industrial sector, and the type of GHG emitted.

Communities can use this information to identify nearby sources of GHGs, while business can use the data to compare and track emissions. GHGRP data can also inform local and tribal governments' decision-making processes.

GHGRP data for direct emitters show that in 2010:

- Power plants were the largest stationary sources of direct emissions with 2,324 million metric tons of carbon dioxide equivalent (mmtCO2e), followed by petroleum refineries with emissions of 183 mmtCO2e.
- 100 facilities each reported emissions over 7 mmtCO2e, including 96 power plants, two iron and steel mills and two refineries.

ONLINE GHG DATA PUBLICATION TOOL



EPA ghgdata

Continued on Page 4

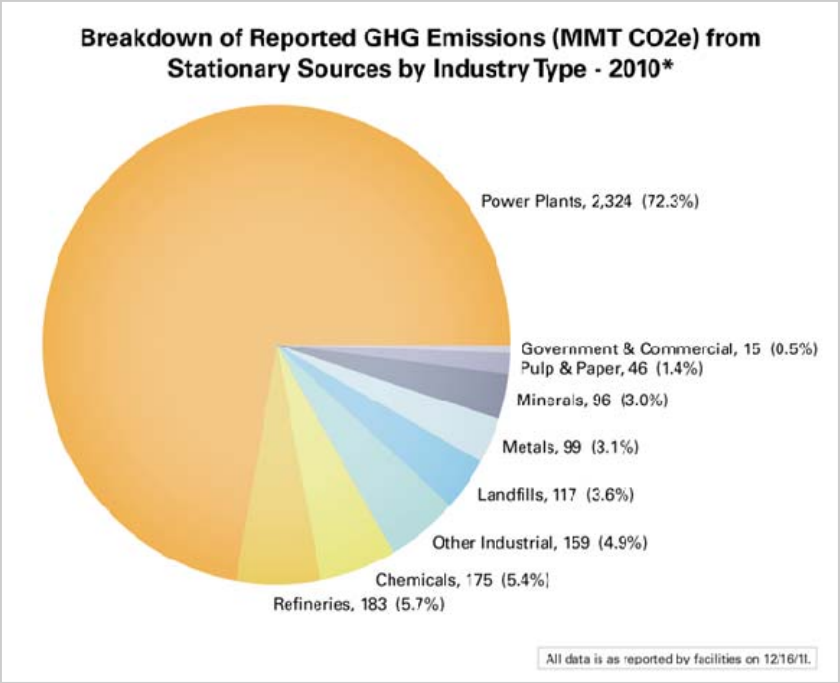
GHG Emissions Data Released Continued

Continued from Page 3

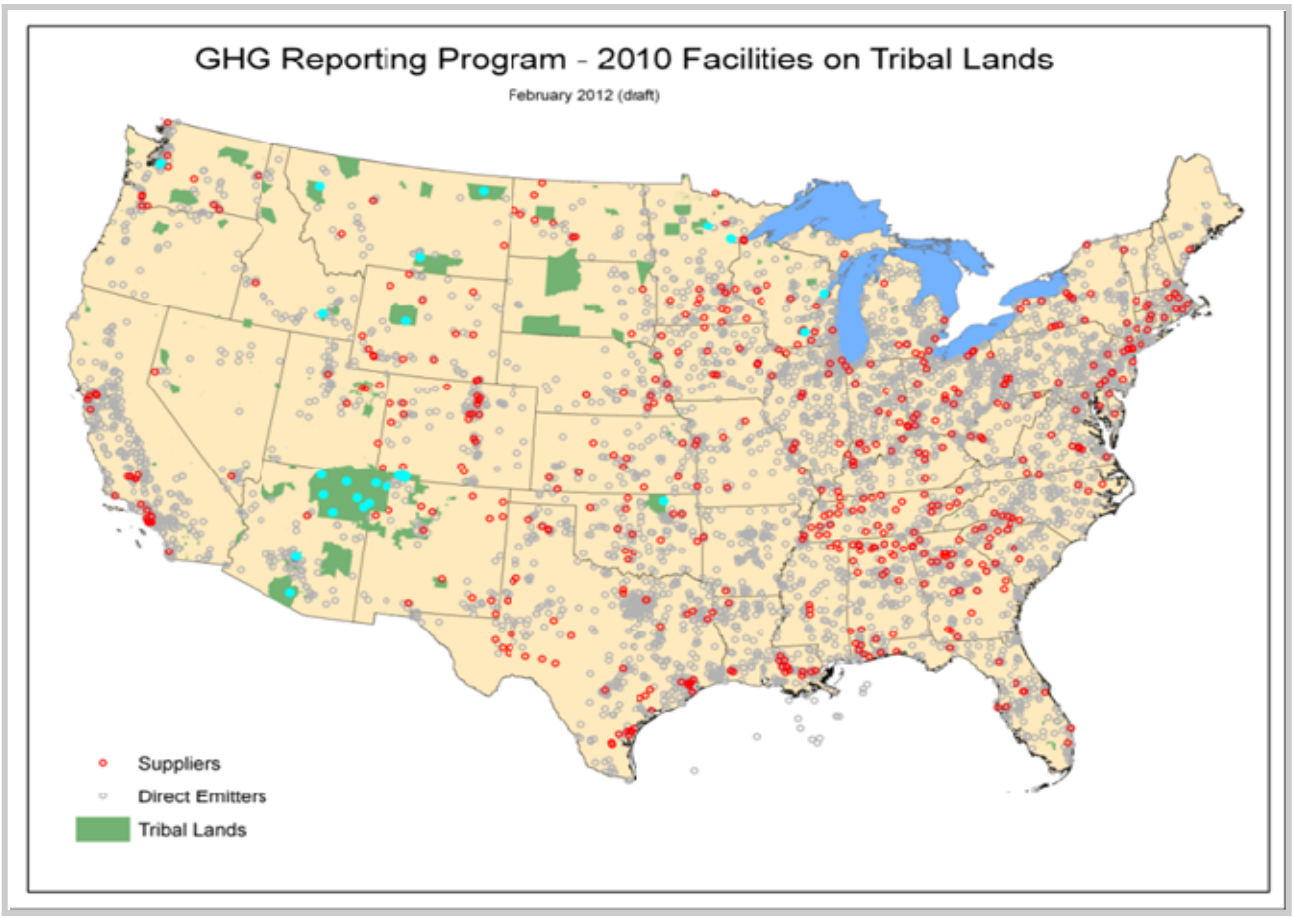
- More than 20 facilities and suppliers in Indian county reported emissions for calendar year 2010.

Facilities subject to the GHGRP are currently in the process of reporting emissions data to EPA for calendar year 2011. For this second reporting year, twelve additional industries will begin reporting their emissions, broadening the scope of the data and providing greater clarity to the overall U.S. GHG emissions picture.

As the collection of yearly GHGRP data grows, EPA will be able to better examine long-term trends in GHG emissions from large U.S. emitters, determining where improvements are being achieved and identifying areas for improvement.



EPA's GHG Reporting Program Data and Data Publication Tool is available at http://epa.gov/climatechange/emissions/ghgdata/.



Blackfeet Nation and Wood Burning Stoves

By Ron Schiller, Region 8

The Blackfeet Indian Reservation sits in northwest Montana, framed by the Canadian border to the north, the Great Plains to the south and east, and the Rocky Mountains to the west. Some residents of the Blackfeet Nation wanted to find an inexpensive and easy way to dispose of their household trash. Many of the residents who own wood burning stoves thought that burning their trash in their wood stoves seemed to be a great way to get rid of their garbage. Unfortunately, the residents didn't realize that by burning household trash (hazardous waste) containing plastics, junk mail, paper board, clothing and other items in stoves that were designed to burn wood, they were polluting both the indoor and outdoor air with toxic smoke. By burning these hazardous materials, dioxins are being emitted into the air we breath.

Tony Sinclair, the Air Program Manager for the Blackfeet Nation, understood that this practice endangered the health of all residents of the Reservation and could not be continued. He worked for several months with the Blackfeet Tribal Council to pass a resolution that would regulate emissions from residential wood stoves. On January 10, 2012, the Council unanimously approved a Domestic Wood Burning Stove Emissions Standard of 4.5 grams per hour for non-catalytic stoves and 2.5 grams per hour for catalytic stoves. The Resolution also states that the opacity of the exhaust can not exceed 20 percent. When burning seasoned wood, the opacity is about 15 percent and when trash or wet wood is burned, the opacity can reach 60 percent. This is very easy to see and makes enforcement easier. Mr. Sinclair is now educating tribal members on the importance of not burning trash in their stoves. His mission is to stop the burning of trash with both education and enforcement. He hopes that in the future, there will be a wood stove change out program to assist tribal members with replacing their old wood stoves with more efficient, cleaner ones. For more information go to the EPA's Burn Wise website at www.epa.gov/burnwise.

SunWise®
a program that radiates good ideas
A Partnership Program of the U.S. Environmental Protection Agency

The SunWise Program is a health and environmental education program that aims to teach children and their caregivers how to protect themselves from overexposure to the sun. Through the use of classroom, school, and community components, SunWise develops sustained sun-safe behaviors.

SunWise was launched in 2000 and is currently taught in over 29,000 schools in all 50 states, Washington DC, and the territories. The program has demonstrated effectiveness at raising awareness and changing behaviors related to sun safety. SunWise has also been shown to prevent skin cancer cases and save public health costs.

To learn more about the SunWise Program, please visit www.epa.gov/sunsise.

National Tribal Forum

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by Greg Green, OAQPS

It was a very hot day in Tulsa, Oklahoma for the start of this year's National Tribal Forum (NTF) on Air Quality. The conference was held May 21-24, 2012, at the Cherokee Nation's Hard Rock Hotel and Casino. Sponsoring conferences such as the NTF helps the EPA staff gain a better understanding of the unique issues and concerns affecting tribes all across the nation. It provides an opportunity for the EPA to convey to the tribes the interest we have in partnering with them to protect and maintain their environmental and cultural interests.

NTF is a joint effort between the Institute for Tribal Environment Professionals (ITEP) and the National Tribal Air Association (NTAA). The annual conference is a forum for environmental professionals from tribes, EPA, state/local/federal agencies, and other interested parties to meet, share knowledge and learn from one another how to improve air quality and public health. There were roughly 170 tribes registered.

The event included information and training sessions, tribe-to-tribe sharing, education outreach projects and many other sessions that enhanced both learning and networking opportunities.

On the first day of the conference, which was a training day, the EPA staff conducted an interactive session on the Office of Air and Radiation (OAR) Tribal Consultation Plan. This was an opportunity for the EPA staff to hear from the tribes about their interest and concerns regarding consultation. On the second day of the conference, Gina McCarthy, EPA Assistant Administrator for Air and Radiation, opened the event as the keynote speaker. Gina and Deputy Assistant Administrator for Air and Radiation Janet McCabe both took time out of their busy schedules and participated for most of the day. They shared information about the NAAQS Designations Guidance for Indian Country, Reciprocating Internal Combustion Engines, and the Proposed Carbon Pollution Standards for New Power Plants. Janet and I discussed air quality program and priorities on a federal inter-Agency panel. Throughout the conference, the EPA staff conducted sessions on policy and regulations such as the Tribal Minor New Source Review Rule and other recent or upcoming rules; ways of improving indoor and outdoor air quality through initiatives such as the residential wood smoke program; eligibility determinations or "Treatment as a State" as it relates to tribal air programs and activities; and improving AIRNow Maps through the use of satellite data from NASA. Our staff was kept busy but everyone did an excellent job.

The NTF also included a memorial to our own Angel McCormack, who passed away the week before the conference. The memorial included a special tribal drum tribute and a silent auction with all proceeds going to her children. In addition, several of our staff were able to visit Tar Creek, a Superfund site located on tribal lands, which includes former lead-zinc mines with lead amounts so high that the federal government conducted a complete buy-out of the Picher and Commerce communities located in the area. For more information, please see the article on the Tragedy at Tar Creek.

In Memoriam

Angel McCormack
Nez Perce Tribe
February 17, 1970—May 17, 2012

New Faces in OAQPS

Michael Koerber is the Associate Director for Policy in EPA's Office of Air Quality Planning and Standards (OAQPS). OAQPS is responsible for managing the United States' ambient air quality and air toxics programs. As Associate Director, Mike works closely with senior EPA staff to help formulate policy, establish guidelines and protocols, provide consultation and advice, prepare reports, and assess progress on programs that OAQPS manages.

Prior to joining EPA, Mike worked for a multi-state organization representing states in the Great Lakes region (the Lake Michigan Air Directors Consortium or LADCO.) LADCO provides technical assessments for and assistance to its members on regional air quality problems, and provides a forum for its members to discuss policy issues. Mike served as LADCO's Executive Director for 15 years and its Technical Director for 6 years.

Mike also worked for the EPA regional office in Chicago for 12 years. His duties included helping to develop a federal ozone control plan for the Chicago area, performing air quality analyses, preparing technical support for regulatory actions, and serving as regional expert on air quality modeling.

Mike has a Master's of Science degree in Meteorology from the Pennsylvania State University and a Bachelor of Science degree in Environmental Engineering from the University of Illinois-Chicago.

Mike states that, "I've appreciated being able to work with tribes in the Midwest over the past several years on air issues and really look forward to working with others across the country. New opportunities, new challenges and, hopefully, new friends."

We welcome **Adam Baumgart-Getz** to the Community and Tribal Programs Group in OAQPS.

Since 2009, Adam was a geographer for the U.S. Geological Survey (USGS) in New Orleans before coming to OAQPS. Collaborating with the U.S. Army Corps of Engineers, he assessed the potential ecological impacts of proposed river diversions. He also initiated a project with USGS and the state of Louisiana examining the relationship between resource use and land loss in coastal Louisiana. The purpose of this work was to identify whether proposed restoration projects would have disproportionate impacts on any populations, as well as identifying factors influencing a community's resilience (Traditional Ecological Knowledge, growth patterns, human capacity, etc).

Adam received a Ph.D. in Natural Resource Social Science from Purdue University. His dissertation examined what factors influenced long-term voluntary compliance of agricultural best management practices. He also has a Master's of Science degree in aquatic ecology and an Master's of Public Administration degree in environmental modeling (primarily statistical models to assess policy). Before graduate school, Adam was a community organizer working on environmental justice in The Bronx and a Peace Corps volunteer in the Dominican Republic.

Tragedy at Tar Creek

By Yvonne Johnson, OAQPS

The Tar Creek Superfund site is located in Picher and Cardin, Oklahoma. Much of the Tar Creek site is in the Quapaw Tribe of Oklahoma territories about an hour north of Tulsa. Tar Creek is part of a Tri-State mining district, covering 1,188 square miles in northeast Oklahoma, southwest Missouri and southeast Kansas. The first mining activities took place there in 1850. By 1926, the area had become the world's largest source of lead and zinc and the population had soared to almost 20,000. During World War I, the region supplied 45 percent of the lead and 50 percent of the zinc used by the United States. Between 1908 and 1950, the entire Tri-State Mining Region generated over 1 billion dollars. However, by the 1960s all mining had ceased due to environmental impacts. The area is punctured with approximately 480 mine shafts and 30,000 drill holes.

The by product of all this mining is called "chat." Chat is a term for fragments of siliceous rock, limestone, and dolomite. Today, chat is often added to concrete and asphalt to improve traction on highways. On the Tar Creek site, there are over 75 million tons of chat sitting in large piles, some as high as a 13-story building. Seepage from mining operations has likely contaminated the area. A 1982 study showed that lead and cadmium levels in the underground aquifer were five times the standards for drinking water. In 1983, the site was designated a Superfund site and the following year the cleanup began. However, a 1996 study showed that 35 percent of the children in this area had blood lead concentrations above the federal threshold and that the miscarriage rate was over 24 percent. In 2006, money was allocated to a relocation program, due to the immediate health hazards of those still living in the area. Today, the Tar Creek area is essentially deserted, with the exception of a couple of families who refused to relocate. The towns of Picher and Cardin have been abolished. Most houses have been destroyed but the school building remains with its mascot, a gorilla, still keeping watch. Cleanup continues, but it will take at least 40 years to remove all of the contaminated land and to remediate the area. One problem is what to do with the enormous piles of chat. Another problem is funding.

During the recent National Tribal Forum, both Laura McKelvey and I visited the site. I must say it was

Contaminated Stream

Picher-Cardin High School Mascot

Remnants of a Neighborhood
Notice a Chat Pile in the Background

Continued on Page 9

Tragedy at Tar Creek Continued

Continued from Page 8

Tour Group Walking to Top of Chat Pile

Former Supply Store

Lead-Zinc Miners were Seeking

quite overwhelming. First, the sizes of the chat piles are amazing. Second, to see paved roads and even a school with its mascot still standing out front, but to see no houses or people was unnerving. Third, to think about not only the damage to human health and quality of life but to the environment and animals is amazing. While there, we saw rust colored water coming from holes in the ground, and we saw evidence of large sinkholes. At Tar Creek, we saw one lone frog. Because of little vegetation, dust is everywhere. While we were there, a water truck came through about every 30 minutes to water down the roads to minimize the amount of dust in the air. Utilizing water trucks is an effective practice for controlling particulate matter. As an EPA employee, visiting Tar Creek reminded me how important our work to help all communities have clean water to drink, clean air to breathe, healthy food to eat and safe places for children to play outside truly is.

Remnants of an Old Mine

Remnants of a Neighborhood
Notice the Water Truck in the Left Background

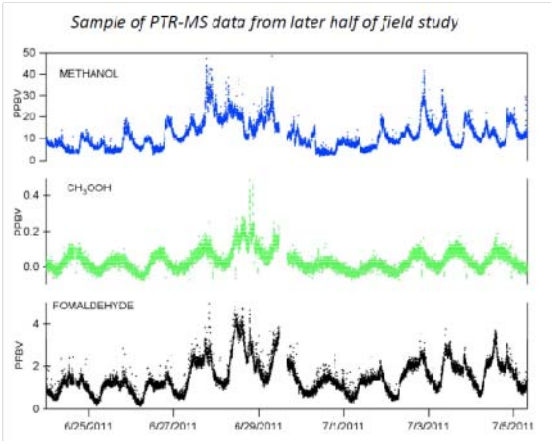
FaST Program at Nez Perce

By Kayla Warden, Nez Perce

In 2011, the Nez Perce Tribe, Environmental Restoration and Waste Management Division's (ERWM) Air Quality Program, participated in a U.S. Department of Energy Faculty Student Teams (FaST) Program research project. Two Northwest Indian College (NWIC) students, Etta Axtell and Kayla Warden, and Tom Jobson from Washington State University, Laboratory for Atmospheric Research (WSU-LAR), comprised the research team.

An EPA-funded 2006 study showed high levels of formaldehyde (>10 parts per billion by volume (ppbv)) within the northern boundaries of the Nez Perce Reservation from 24-hour composite samples. Potential formaldehyde sources are direct emissions from a local paper mill or secondary production. The FaST project's goal was to gather additional data to address this issue.

The FaST team used Proton Transfer Reaction Mass Spectrometry (PTR-MS) to continuously measure formaldehyde and 25 other VOCs to determine temporal variability and identify the source of formaldehyde. High resolution data (every minute) allowed statistical relationships between trace gages and meteorological variables to be developed to aid source identification. This project took place during the hot summer months to increase the probability of measurable formaldehyde and acetaldehyde concentrations. The instrument was set up at the J. Herman Reuben Building located in Lapwai, Idaho.



The highest observed formaldehyde level (~5ppbv) was significantly less than the levels measured in the 2006 study; it displayed a diurnal pattern consistent with photochemical origin, and correlated with temperature. Methanol was high (5-50 ppbv), and could be a source of secondary formaldehyde production via:

$$HO + CH3OH \rightarrow CH2OH + H2O$$

$$CH2OH + O2 \rightarrow HO2 + HCHO$$

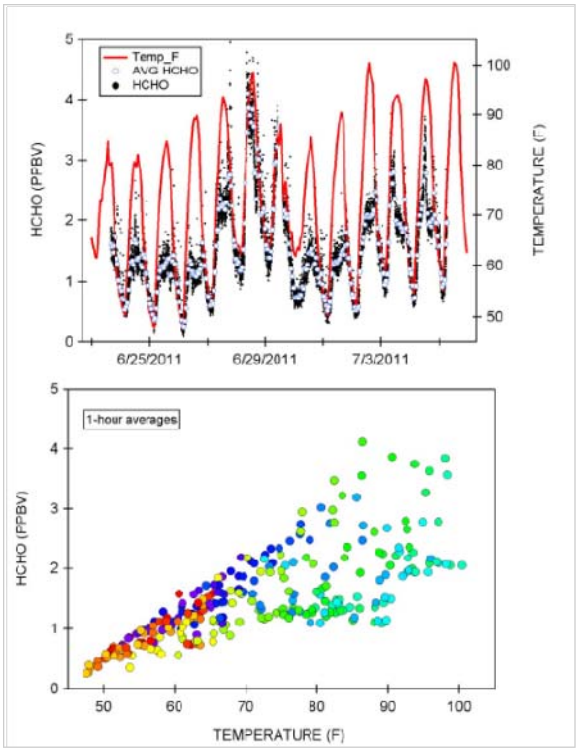
The 2011 FaST project was very successful. It was a great learning experience for the students. We strengthened our working relationship with the WSU-LAR, and we learned more about air toxics on the Reservation. The Tribe's ERWM Air Quality Program gained more information to help contribute to the understanding of the high levels of formaldehyde observed in the 2006 study. This will aid in the development of future grant applications that can support additional research.

Note: The FaST program is now the Visiting Faculty Program (VFP), http://science.energy.gov/wdts/vfp/.

Acknowledgements:

Angel McCormack, EPA-OAQPS mentor, Nez Perce;

Shelly Pressley, WSU-LAR; and Rochelle Troyano, former NWIC professor



Initiative to Promote Energy Efficiency/Renewable Energy

By Chris Stoneman, OAQPS

On July 3, 2012, EPA's Assistant Administrator for Air and Radiation, Gina McCarthy, released a manual that will help tribal air quality planners incorporate energy efficiency and renewable energy (EE/RE) policies and programs into Tribal Implementation Plans. EE/RE strategies have the potential to lower demand for fossil fuel driven power and, thus, reduce air emissions from power plants. The "Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs into State and Tribal Implementation Plans" serves as a comprehensive guide to existing EPA guidance on the topic and can be found at: http://www.epa.gov/airquality/eere/.

Now is a great time to account for EE/RE strategies in Indian country. First, over the past 5 to 10 years neighboring states have substantially increased their commitment to EE/RE policies and programs. This should provide a benefit for downwind tribal areas. Second, over the past 5 to 10 years EE/RE activity on tribal lands has grown. Since 2002, the Department of Energy's Tribal Energy Program has invested over $30 million in 129 tribal energy projects across the country. The program offers financial and technical assistance to Indian tribes to help them evaluate and develop their RE resources and reduce their energy consumption through EE. In addition, in 2009 and 2010, EPA awarded $20 million in competitive grants to help tribal and local governments establish and implement climate change initiatives, which included implementing EE/RE projects to avoid or displace fossil fuel-fired generation. Six tribal communities received grants under the program.

Third, the air quality co-benefits of EE/RE policies and programs will also help communities meet and maintain the National Ambient Air Quality Standards. Finally, we know more about how to quantify air quality impacts of EE/RE strategies and are better positioned to evaluate and account for the potential emissions reductions benefits of those strategies.

We designed the roadmap manual to be accessible to a range of audiences, featuring a main body combined with detailed appendices. It is intended to be a "living" document, and we will update it as we gain new insights through our outreach efforts.

As a companion to the manual, we have developed: 1) online training modules on the electric energy system (including EE/RE); 2) a tool for quantifying the emissions benefits of EE; and 3) energy savings information for existing state EE/RE policies.

For questions or for more information, please contact Chris Stoneman of the EPA's Office of Air Quality Planning and Standards at (919) 541-0823 or Robyn DeYoung of the EPA's Office of Atmospheric Programs at (202) 343-9080.

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U.S. EPA OAQPS
109 TW ALEXANDER DR, C304-3
DURHAM, NC 27711

Phone: 919-541-3650
Fax: 919-541-0942
Email: chappell.regina@epa.gov

TRIBAL AIR NEWS

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EPA United States Environmental Protection Agency

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www.epa.gov/oar/tribal

Tribal Air Training

Date	Training	Location
Oct 10—12	Dataloggers	Las Vegas, NV
Oct 16—19	Introduction to Tribal Air Quality	Flagstaff, AZ
Dec 4—7	Tribal Participation in the SIP Process	Flagstaff, AZ
Jan 8—11	Treatment as a State (TAS) & Tribal Implementation Plan (TIP)	Seattle Area
Jan 14—18	Air Quality Computations	Flagstaff, AZ
Jan 29—31	GIS for Air Quality	Las Vegas, NV
Feb 25—Mar 1	Air Pollution Technology	Las Vegas, NV

http://www4.nau.edu/itep/air/training_aq.asp