

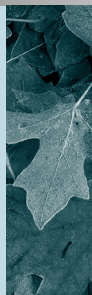


OPPTS Tribal News

Environmental *VOICES*

Office of Prevention, Pesticides,
and Toxic Substances and
Tribal Environmental
News Exchange

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Featuring Pesticides and Toxics Information

The Emergence of Information Technology and Science to Protect Tribal Homelands

James Bryson, EPA Region 1 and Trevor White, Environmental Planner, Passamaquoddy Indian Township

Since the first printing of the *OPPTS Tribal News*, we have seen many articles about Native Americans and the substantial issues concerning environmental pollutants in tribal lands. These chemical pollutants affect subsistence foods, medicinal herbs, homes within tribal communities, and unborn children. This problem spans from the Alaskan Aleuts to Passamaquoddy Indian Township, Maine. The article, "Drumbeat of Mother Earth" featured in the Fall/Winter 1999 issue of *OPPTS Tribal News* states that "...tribal people consider persistent toxic chemicals to be the greatest threat to the long term survival of Native Americans."

In response to these issues, EPA's Tribal Based Environmental Protection Committee has developed Tribal Relational Environmental Numeric Health Database System (TRENHDs), a user-friendly database tracking tool that uses Geographic Interface Systems (GIS) technology.

In this issue of *OPPTS Tribal News*, OPPTS gathered news and data on current technology trends and other GIS programs that provide information on several environmental issues and mapping to assist tribal communities in improving pollution prevention, researching chemicals and toxics released near tribal lands, and initiating community and facility health and safety plans.

continued on page 9



OPPTS Highlights

Dr. Steven K. Galson

This issue features EPA's Office of Research and Development's Tribal Science Council on page 8, and OPPTS also would like to highlight the new OPPTS representative for the newly created Council, Steven K. Galson, M.D., MPH. Dr. Galson is the Director of the Office of Science Coordination and Policy within OPPTS, and in this role, manages the Science Advisory Panel and oversees the Endocrine Disruptor Screening Program within the Agency.

After graduating with a B.S. from the University at Stony Brook, an M.D. from Mt. Sinai School of Medicine, and a M.P.H. from Harvard, Dr. Galson was Board Certified in Preventive Medicine & Public Health and Occupational Medicine. Until June 1997, he was the Chief Medical Officer at the U.S. Department of Energy, where he worked on a wide range of public health issues related to the nuclear weapons complex and advised the Department's Secretary on science. Among many activities as an officer of this nation's public health service, Dr. Galson conducted epidemiologic studies at the National Institute for Occupational Safety and Health, was employed as an environmental health officer at the New York State Health Department, and worked overseas on refugee emergencies. Previously, as the first Scientific Director of EPA's Office of Children's Health Protection, Dr. Galson organized the first national conference on preventable causes of children's cancer. For more information on the Tribal Science Council, please contact Claudia Walters, US EPA, at (202) 564-6762 or walters.claudia@epa.gov.

OPPTS Mission Statement

- ▶ **Protect and improve human health and the environment**
- ▶ **Achieve risk reduction, sustainability, and environmental justice**
- ▶ **Promote safer designs and use of materials, products, and disposal methods through pollution prevention**
- ▶ **Inform and educate the public on the risks associated with pesticides and toxic substances.**

OPPTS has used reasonable measures to ensure that material contained in this newsletter was correct at the time of production. However, OPPTS gives no warranty and accepts no responsibility for the accuracy or completeness of the material. The content of this publication does not necessarily represent the views of the Agency. No official endorsement should be inferred.

From the Editors...

With great pleasure, the Office of Pollution Prevention and Toxics (OPPT) and the Office of Pesticides (OPP) present this Fall/Winter double issue of *OPPTS Tribal News* that focuses on technology trends and geographic information systems (GIS) within tribal communities.

OPPT would also like to remind readers to visit the Tribal Website, which features tribal news and events, along with other tribal publications, and links to other EPA offices, such as AIEO, Water, and Pesticides, and other EPA Regions. Visit us at www.epa.gov/opptintr/tribal.

We hope this issue emphasizes important items of interest and addresses environmental concerns. As always, we encourage you to relay comments, ideas, and concerns about our programs.

— Mary Lauterbach,
OPPT Tribal Coordinator

— Regina Langton,
OPP Tribal Coordinator

OPPTS Tribal News requests interesting success stories about pesticide programs and projects in Indian country from our readers. If you want to share your experience with our readers, please write or send an e-mail to Regina Langton, 1200 Pennsylvania Avenue (MC7506C), Washington, DC 20460, langton.regina@epa.gov.

To be placed on our mailing list, write to: *OPPTS Tribal News*, U.S. EPA, OPPT 1200 Pennsylvania Avenue (7408), Washington, DC 20460, or send an e-mail to lauterbach.mary@epa.gov.

OPPTS Tribal News can be viewed on the Internet at www.epa.gov/opptintr/tribal

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EPA's Special Emphasis Program

EPA has established six Special Emphasis Programs (SEPs) within the Office of Civil Rights (OCR). They include the Federal Women's Program, Hispanic Employment Program, Persons with Disabilities Employment Program, Asian-Pacific Islander Employment Program, American Indian Employment Program, and Black Employment Program. These programs are an essential part of the Agency's Equal Employment Opportunity and Affirmative Employment Program. The U.S. Office of Personnel Management has given Federal agencies wide discretion as to which groups should be represented in an SEP in order to focus on the employment, development, and advancement of members of protected groups in all disciplines.

The National Employment Program Manager for each SEP resides in EPA's OCR. They are: Lucy Arenrin, Federal Women's Employment Program; Mary O'Lone (Acting), Hispanic Employment Program; John Benison, Persons with Disabilities Employment Program; Versha Kumar, Asian Pacific Islander Employment Program; Richard Regan, American Indian Employment Program; and Brenda Fooks-Simon (Acting), Black Employment Program. Collateral duty SEP Managers (SEPMs) within Headquarters and EPA Regions assist the OCR in the implementation of the SEPs, and Agency heads, along with their

managers and supervisors, bear final responsibility for the success of the special programs.

SEPMs and management are jointly responsible for the identification of barriers and solutions to issues regarding the recruitment and advancement of special emphasis groups. SEPMs also work closely with national program managers, fellow collateral duty managers, and other National Employee Councils to coordinate the Agency's national civil rights program. SEPMs often are the Agency's front line contacts with colleges and universities with high enrollments of minorities, women, and people with disabilities. They attempt to familiarize EPA managers with these schools in the areas of technical assistance and recruitment. They also educate women, minorities, and people with disabilities about employment and career development opportunities and familiarize management and other Agency staff of each culture's contribution to the work force and society.

One of the most important teaching roles of the SEPMs is their development and implementation of Agency events that commemorate special observances, such as Women's History Month, National Asian Pacific Heritage Month, and American Indian Heritage Month.

For more information and a complete listing of all Agency SEPMs, please contact Richard

Regan, American Indian Employment Program Manager in EPA's Office of Civil Rights, at (202) 564-7286 or regan.richard@epa.gov.

2001 National EPA Community Involvement Conference

The fourth annual National EPA Community Involvement Conference will be held June 19-22, 2001 in San Antonio, TX. The conference brings together public participation and community involvement professionals from all EPA programs so that they may share expertise and participate in trainings concerning techniques and approaches used in regional and national community involvement programs. This year's conference is expected to attract more than 300 participants and will include workshops or panel sessions, training sessions, several keynote addresses, evening social activities, and possibly site visits and field trips. For more information, please visit www.epancic.org or contact Cheryl Malina, US EPA, at (202) 564-9496 or malina.cheryl@epa.gov, or Anita Schmidt, US EPA, at (202) 564-9452 or schmidt.anita@epa.gov.

Pesticide Management Plan Team Held Tribal Workshop in Florida

The Tribal Groundwater Protection and Pesticides Management Plan Team presented an advanced workshop from December 11-15, 2000 at the Tradewinds Resort, St. Pete's Island, Florida. This workshop was open only to tribes who received initial orientation workshop training and demonstrated their development of Pesticide Management Plans (PMPs). Approximately 25 tribes have received funding and are actively developing PMPs.

For a number of years, EPA has hosted such workshops focused on groundwater and pesticides management planning for states in order to further communicate and stimulate new ideas. All 50 states have been involved in the PMP development process, and Indian Nations have many similar issues and concerns. The Florida workshop brought tribes together for an advanced, intensive workshop tailored to meet tribal needs. Top scientists from US Geological Survey, NRCS, and the university community provided information and skills to address the unique needs and issues in Indian Country. A continuing focus on the development of tribal legal capacity is also a part of these workshops.

In the coming months, EPA and the Native Ecology Initiative Planning Team will offer additional workshops to provide training for those tribes beginning the initial development of PMPs or undecided tribal communities. A schedule of those workshops will be announced once the Federal Rule on PMPs is finalized. For additional information, please contact Lillian Wilmore, Native Ecology Initiative, at (617) 232-5742 or NAEcology@aol.com.



TPPC members and EPA staff gathered at the Yakama Nation in Washington for the first meeting of the Tribal Pesticide Program Council on September 27-28, 2000. The next meeting will be March 8-9, 2001 in Crystal City, Virginia. For more information on the TPPC or the upcoming meeting, contact Lillian Wilmore, TPPC Coordinator, at (617) 232-5742 or NAEcology@aol.com.

BIA Improves Service Delivery to Tribes

On November 30, 2000 at the BIA National Facility Managers Conference in Albuquerque, NM, BIA's Office of Facilities Management and Construction launched the first version of their Facilities Management Information System (FMIS). The software, which is owned by BIA, is being developed from the requirements of the present users of the existing FACCOM system. Present users consist of BIA and tribal personnel for all levels of the Facilities, Education, Law Enforcement, Safety, Administrative and Environmental programs.

The Windows-based system was developed internally within the BIA Facilities Management program using a combination of three-tier client/server technology with Oracle, Microsoft VB, and Crystal Reports software and development tools. The entire system, which will be completed through a number of version releases, will be a complete asset management system for use by BIA and the tribal entities that contract, grant or compact to operate and manage BIA programs. FMIS provides an information system to manage planning, design, construction, operation, maintenance and repair of buildings, utility systems, equipment, grounds and site features.

In partnership with Anteon Corporation, many innovative links and capabilities that support improved business practices have been included in the design. Principal modules contained in the first version release are Inventory, Deferred Maintenance Backlog, Safety Tracking, Project Management and Budget. Future releases will include Maintenance Work Tickets, Work Planning and Environmental Services. A nation-wide training program is now in place to ensure that field, regional, and Tribal staff have opportunity to be trained on all version releases. Any questions should be directed to the Office of Facilities Management and Construction in Albuquerque, NM by calling (505) 346-6511.

EPA Message “Moving Down the Highway”

On November 7, 2000 EPA kicked off an innovative campaign to encourage safer pesticide use by consumers in urban, minority, and ethnically diverse communities and to promote the services of the National Pesticide Telecommunications Network (NPTN), a comprehensive toll-free hotline providing general pesticide and pesticide safety information. The campaign uses truck-side advertising to display large text and graphics of the EPA Consumer Labeling Initiative’s (CLI) message to “Read the Label First!” and advertise information about NPTN. The initial run of this campaign will cover Eastern states from Connecticut to northern Virginia, and the cities of Los Angeles, San Diego, and Phoenix in the West. Information on NPTN is available at 1-800-858- PEST (7378) and by visiting the NPTN Website at www.ace.orst.edu/info/nptn. Information on the CLI’s “Read the Label First!” message may be obtained by visiting www.epa.gov/opptintr/labeling/campaign.htm.



New Technology Assistance

EDUCAUSE is an organization purposed to facilitate change in higher education by the use of information technology. Their current membership consists of more than 1,700 colleges, universities and education organizations as well as 150 corporations.

One of their projects, Advanced Networking Project with Minority-Serving Institutions (AN-MSI), seeks to assist minority institutions as they develop the infrastructure to become full participants of the Information Age.

This organization and project could be helpful to ongoing recruitment efforts at EPA. For more information about this organization and project, please visit <http://www.educause.edu> and <http://www.anmsi.org>.

Contacting NPTN

NPTN is a cooperative effort between Oregon State University and EPA, provides objective, science-based, and plain-language pesticide information to the general public, and medical and veterinary communities. This toll-free telephone service provides a variety of impartial information about pesticides to anyone in the contiguous United States, Puerto Rico and the Virgin Islands. It handles over 23,000 calls a year on topics ranging from toxicology to pesticide poisonings. Its staff of pesticide professionals includes toxicologists and physicians trained to interpret and understand human health and environmental information about pesticides; answer questions about pesticide label information and safety practices; supply general information on pesticide regulations; make referrals for laboratory analyses, investigation of pesticide incidents, and emergency medical treatment; and confer with physicians to determine appropriate treatments in the event of poisonings.

Call the National Pesticide Telecommunications Network at 1-800-858-7378 Monday through Saturday, 6:30a.m.- 4:30p.m. (Pacific time). The Network can also be contacted at 541-737-0761 (for faxed submissions only), nptn@ace.orst.edu or <http://ace.orst.edu/info/nptn/>.

Tribes Become Part of a New OPPT Technology-based Education Initiative

Georgianne McDonald, US EPA

OPPT has partnered with the Department of Defense Educational Activities, the “school system” for the Nation’s military, and the National Science Teacher’s Association, a professional association of more than 54,000 science educators, to begin a new technology based educational initiative, the Computerized Modeling Systems Project. Because OPPT realizes it must address the educational needs and priorities of tribes, OPPT intends to work with education and tribal coordinators in each of its 10 Regional offices, along with tribal representatives, to distribute products, tools, and materials to tribal community schools. EPA, along with the Agency’s American Indian Environmental Office, plans in the future to place the models in educational centers on several reservations.

The three OPPT modeling systems are the Exposure, and Fate Assessment Screening Tool (E-FAST), Chemical Screening Tool for Exposures and Environmental Releases (ChemSTEER), and Risk-Screening Environmental Indicators (RSEI). These models will be integrated with high school science courses (i.e., biology, chemistry, physics, Earth science, and technology) and will be available in a CD format and free on EPA’s Website, providing entry points and a consistent interface for students and for educators. The technology-based educational tools also will enable teachers to use an Internet web browser to download and run the models.

This project will focus on issues that really interest and ultimately affect students in classrooms and outdoors and provide them with real-world problems that are demanding, but within their capabilities. Science curriculums will be project-based, and students must utilize cutting-edge technology that will be built into all instruction, leading to a quality environmental education, the development of analytical skills, the beginning of environmentally conscious attitudes, and ultimately, environmentally responsible behavior. This multi-year project also will include developing the instructional materials for teachers and students, providing professional development workshops, testing and evaluation plans, and implementation of the plan. The project will begin with a small amount of work in 2001, and the partners will continue efforts to obtain additional funding to implement the project in subsequent years. For additional information, please contact Georgianne McDonald, US EPA, Project Manager, at (202) 260-4182.

NIH Links Native Americans to Medical Info on the Web

As computers and the Internet become more widespread across the country, some populations are left out of the digital revolution, including Native Americans. But, for one Indian community in suburban Washington, D.C., this is about to change.

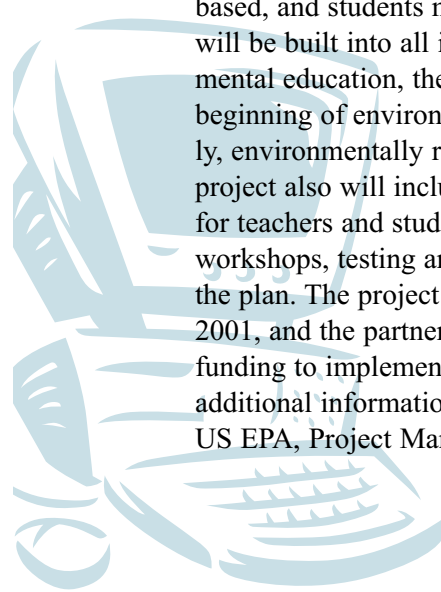
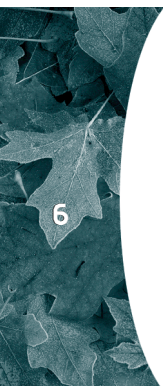
The National Library of Medicine (NLM) and the National Institutes of Health (NIH) Office of the Director are installing a fully equipped computer laboratory with eight computers and high-speed Internet access in the American Indian Cultural Center in Waldorf, Maryland. The Federal commitment includes all hardware, software, Internet connectivity, and training.

Donald A.B. Lindberg, M.D., director of the National Library of Medicine, noted that this is the latest in a series of projects sponsored by NLM to connect underserved populations to health information on the Internet. About 8,000 members of the Piscataway Indian Tribe live in southern Maryland, and health problems in this population include high blood pressure and diabetes. “The NIH has created a number of Websites with a wealth of good consumer health information...and this facility is an important step in reducing health disparities and in improving the health status of an at-risk population by providing information,” said Yvonne Maddox, Ph.D., acting NIH deputy director

The American Indian Cultural Center, which also houses a museum and library, serves as a local venue and serves as a learning laboratory and a community resource not only for information about health, but about employment opportunities and culturally relevant issues.

The American Indian Cultural Center is located at 16816 Country Lane in Waldorf, Maryland and can be reached at (301) 372-1932. For more information, please contact Robert Mehnert or

Kathy Gardner Cravedi, NIH, at (301) 496-6308 or publicinfo@nlm.nih.gov.



OPPTS Tribal Strategic Plan Overview

Susan Wayland, Acting Assistant Administrator and Stephen Johnson, Deputy Assistant Administrator issued memos during Summer 2000, initiating a process for developing an OPPTS Tribal Strategic Plan to allow OPPTS to build a better foundation for implementing its programs in Indian Country in accordance with EPA's Indian Policy. The Plan will identify key goals and objectives for Indian Tribes and will assist OPPTS with future development of tribal programs and EPA's overall Strategic Plan, the basis for planning, budgeting, and accountability in fulfilling the requirements under the Government Performance and Result Act. This effort will also fulfill the recent call by the Deputy Administrator asking that each EPA program office develop distinct tribal strategies.

A workgroup comprised of EPA managers and staff has been established among OPPTS programs and EPA Regions 5 and 8 to coordinate with the other Regions in order to develop the Plan. Tribal input has already been requested from key OPPTS Tribal representatives, including the National Tribal Operations Committee (TOC), the Forum on State and Tribal Toxic Action (FOSTTA) - Tribal Work Group, and the Tribal Pesticides Program Council (TPPC). The workgroup is recommending the following

three-phase process for developing the Strategic Plan in approximately one year:

Phase I. Internal - Drafting Phase (September 2000 - February 2001)

During this phase, the workgroup will consult with key Tribal Representatives from the TOC, FOSTAA Tribal Workgroup, and TPPC. Much broader tribal input also will be requested during Phase II, and the lead Region will inform other Regions about this effort and obtain their initial input. The entire workgroup met and briefed OPPTS administrators before the National Meeting on November 14, 2000. OPPTS program representatives focused on drafting goals and objectives related specifically to their programs during December 2000 - January 2001, and the workgroup met on January 18, 2001 to generate draft strategic goals and objectives for OPPTS.

Phase II. External - Broad Tribal/Stakeholder Input Phase (March - July 2001)

During this phase, the

workgroup will identify up-coming tribal meetings that are potential opportunities to talk with many tribes and send drafts of the strategic goals and objectives to all tribal chairmen and environmental managers, inviting them to discuss strategy perhaps during Regional TOC meetings.

Phase III. Finalization Phase - Response to Comment and Finalization Phase

(August - November 2001)

The final phase will include final internal and external review of the revised Strategic Plan, with broad distribution to tribes and other stakeholders. The workgroup also will respond to any remaining significant issues.

If you have questions or comments or interested in participating, please call Caren Rothstein-Robinson, US EPA, (202) 260-0065 or Mary Lauterbach, US EPA, (202) 260-9563.

Strategic Plan Drafting Team

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Jay Ellenberger
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Key Early Tribal Input

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Seven Star - Tribal
Operations Committee,
Tribal Caucus
Jeff Besougloff,
FOSTTA Tribal
Workgroup
Fred Corey, Tribal
Pesticides Programs
Council

Formation of an EPA Tribal Science Council

Claudia Walters, US EPA

During Administrator Carol Browner's tenure, unprecedented strides have been made in meeting and enhancing EPA's responsibilities to tribal communities. Efforts to improve responsiveness and communication with tribes have been facilitated by the use of the Agency's Strategic Plan structure to guide and facilitate discussion of tribal needs in the Plans' goals. A theme that has emerged repeatedly is the need for more and better science that is relevant and responsive to tribal needs, including not only research, but also data on environmental concentration, monitoring of

"The formation of the TSC is a giant step in the right direction for the Agency. The TSC is an excellent way for EPA to link its activities with the important science needs in tribal communities. I look forward to an active role with this important new group."

— *Dr. Steven Galson, OPPTS Representative for TSC*

human and ecological conditions, technical support, training and education, and improved access to information and communication.

In discussions with the Tribal Caucus, Dr. Norine Noonan, Assistant Administrator of EPA's Office of Research and Development, proposed to establish a Tribal Science Council (TSC) to provide a mechanism for a more systematic and thorough consideration of these

tribal science needs and the Agency's ability to address the highest priorities with either short-term or long-term activities and goals.

Both the Agency and tribes have actively pursued the formation of the Agency TSC. The Agency also has designated representatives from EPA Regions 1, 2, and 6 through 10 to serve on the Council, along with staff from EPA's Offices of Research & Development; Air & Radiation; Solid Waste and Emergency Response; Environmental Information; Prevention, Pesticides, and Toxic Substances; Water; Policy and Environmental Innovations, and the American Indian Environmental Office.

The Tribal Caucus also has identified several tribal representatives to work with Agency representatives in developing the TSC design. Once the design is complete, the Tribal Caucus expects to designate permanent tribal representatives to serve on the Council.

The Agency and tribal representatives held their initial joint meeting on November 30, 2000 at the Miccosukee Reservation in Florida. Participants agreed on the following major points that the TSC could address:

- Approach issues collectively across the Agency in an integrated manner,
- Address subsistence, cultural and traditional lifestyle issues not currently being addressed,
- Provide a venue to exchange

"It has been a personal, as well as a professional goal, to develop a National Tribal Science Council within EPA. This initiative will provide an opportunity for tribal governments to manage their environment in a way that provides for religious, cultural, and traditional values within the context of sound science...to bring their science and research along side the rest of the country and...to be officially recognized for their contributions to the fields of science and technology."

— *Margaret Cook, Gila River Indian Community*

information between tribes and EPA, and across different program offices and Regions, and

- Provide tribes with access to EPA science, such as databases, models, guidance, and technical assistance.

The group also is in the process of developing a mission statement that provides a common view of the TSC. For more information on the Tribal Science Council, please contact Claudia Walters, US EPA, at (202) 564-6762 or walters.claudia@epa.gov.

Tribal Representatives Developing the TSC

Margaret Cook, Gila River Indian Community
Derrith Moore, Navajo Nation EPA
Steve Terry, Miccosukee Tribe of Indians of Florida
Larry Wawronowicz, Lac du Flambeau Band of Lake Superior Chippewa Indians
Rhonda Azure, Turtle Mountain Tribe
Reggie Ward, Quinault Tribe

Geographic Information Systems (GIS) and EPA's Role

Heidi Paulsen, US EPA

Geographic Information Systems (GIS) provide valuable information and insight on environmental quality issues. GIS allow us to overlay various data sets and provide a map of the result. It can show two- or three-dimensional data, such as depth of ground water, on a one-dimensional surface, and the ability to layer enhances the usefulness of the map by increasing the amount of information that can be stored and shown.



EPA's Office of Environmental Information (OEI), the Agency's main source of National GIS information, provides GIS information and support to communities throughout the country. The National Technology Services Division (NTSD), located in Research Triangle Park, North Carolina, is part of the GIS team and provides technical support for GIS research. NTSD also offers customized support for developing and deploying GIS applications for individual projects.

Utilizing GIS to access and combine several different data sets can assist the user in showing relationships between the multiple variables. For example, a map could be generated to show contamination sites that are prone to flooding and possibly pose a serious risk to nearby populated places. Finding such a relationship can be valuable in planning for risk reduction and clean up efforts. Seeing the information on a map also allows us to visualize the spatial relationships between at-risks communities.

The Internet has greatly increased the ability to provide GIS resources and data to other governmental agencies, tribes, and the general public. OEI's Internet site provides information on several GIS programs that combine EPA data sets with mapping data of tribal lands, including EPA's EnviroMapper site that contains data on issues including air quality, drinking, surface and groundwater, and hazardous wastes, located at <http://www.epa.gov/enviro/html/em/>.

For more information about EPA's services provided by NTSD, please contact Tim Richards, US EPA, at (919) 541-5307, richards.tim@epa.gov or Heidi Paulsen, US EPA, at (919) 541-1834, paulsen.heidi@epa.gov. For more general information about GIS, visit the U.S. Geological Survey Website at www.usgs.gov/research/gis/title.html, or the Cyburbia at <http://cyburbia.ap.buffalo.edu/cgi-bin/pairc/gis>.

Pest Management Programs for Schools

Use of Integrated Pest Management (IPM) principles and practices in schools is a growing trend in communities throughout the country. IPM programs focus on pest prevention by using effective, least-toxic methods that are practical to apply and cost-effective to operate. EPA promotes IPM through documents such as the *IPM for Schools: A How-to Manual*. Because IPM is a decision-making process and not a recipe, IPM programs can take into account the wide spectrum of pest problems and the diversity of people involved. IPM methods help pest control operators and other members of an IPM team to design flexible, site-specific pest management plans scaled to the severity of the problems and the level of resources available.

The *IPM for Schools: A How-to Manual* is available in portable document format on the Internet and provides a full discussion of IPM concepts pertaining to schools to establish IPM policies, pest control contract guidelines, and other administrative systems designed to institutionalize IPM. The manual also covers IPM strategies for 14 of the most common pest or problem sites in US schools, provides a step-by-step guide for implementing school IPM programs, and includes a discussion of the psychological and institutional barriers to IPM.

For more information, visit www.epa.gov/region09/toxic/pest/school/index.html or please contact Mary Grisier, EPA Region 9, at (415) 744-1095 or grisier.mary@epa.gov.



GIS and Technological Models

Pollution Prevention and Toxics

GIS with ITEC and the Cherokee Nation

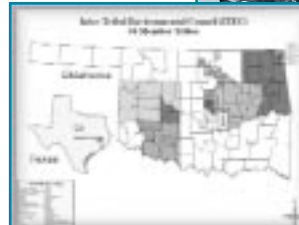
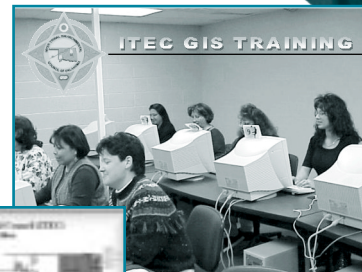
Ryan Callison, Cherokee Nation

In 1997-1999, through a cooperative agreement with EPA's Region 6 and assistance from the Bureau of Indian Affairs, the Cherokee Nation's Office of Environmental Services (OES) and the Inter-Tribal Environmental Council (ITEC) digitized tribal trust and individual trust lands into a Geographical Information System (GIS) database. The three-year project identified "Indian Country" in the state of Oklahoma so that jurisdiction and authority can be delineated between the tribes and the state.

The ITEC Clean Air Program was developed to assist ITEC member tribes with digitizing tribal land bases, conducting air source inventories and ambient air monitoring. The first program task was to digitize the ITEC member tribes' tribal trust lands by utilizing Realty Department's land information records and Bureau of Indian Affairs' land index records. Digitized tribal land databases and respective public domain databases were then put into a GIS format to map each ITEC member tribes' trust lands, land grid, county boundaries, roads, hydrology, railroads, EPA site locations, and oil and gas wells. Once the tribal land layer (database information) was developed, the state of Oklahoma's air emission inventory and other public domain layers were input to begin the initial assessment of an air emissions inventory for individual tribes.

ITEC currently has over 25 gigabytes of GIS data available for tribes in Oklahoma, including US Geological Survey Digital Raster Graphics and Digital Orthophotoquads, Oil & Gas well information, Tribal Trust Land Data, Geology Data, Watershed data, Digital Elevation Models, Toxics Release Information, Leaking Underground Storage Tanks sites, Hazardous/Solid Waste Information, ITEC Tribal Jurisdictional Boundaries, Rural Water District Data, and Hazardous Air Pollution Sites.

With their high-tech training facilities, the ITEC staff has trained over 300 tribal participants—24 of the 34 ITEC member tribes—on the uses and benefits of GIS. Participants have acquired the basic concepts and advanced features of GIS software to aid in their tribal project work. Along with the ability to analyze geographic and tabular data to create presentation-quality maps and charts for environmental projects, participants were also introduced to the GIS Graphical User Interface and other uses of GIS. Global Positioning System training is also provided to the ITEC member tribes to introduce participants to the use of global positioning hardware and software for planning, acquiring, post processing, and updating GIS coverages. Other GIS related



trainings have included "Creation of Geospatial Metadata" for tribes and organizations

that create their own GIS data.

Thirty of the ITEC member tribes have mapped their tribal trust lands using the ITEC GIS system, creating the first ever-statewide map of "Indian Country." The ITEC GIS System has provided over 500 presentation quality maps to ITEC members, State and Federal Agencies, members of Oklahoma Communities, and Academic Institutions. Tribes interested in creating GIS data layers for their tribal land or reservation can email ITEC at rcallison@cherokee.org for detailed information on system and database design. Copies of the ITEC System design and Quality Assurance manuals also are available. For more information about GIS technology or other ITEC programs please visit the ITEC website at <http://www.itecmembers.org>.

The iHope Initiative: Hope Powered by the Internet

“iHope,” as it is referred by the Native American Broad Band high speed networking consortium at Shiprock, NM, is beginning to change the health, economic, and educational status of the Dine’ (Navajo) people in northwest New Mexico.

It all began in November 1998 when NASA asked the Northern Navajo Medical Center in Shiprock, NM to participate in the demonstration of a next generation telemedicine application, which was under development by NASA Ames Bioinformatics Center. The intent of NASA was to prove this futuristic technology and demonstrate its usefulness in rural and remote earth locations prior to deploying the application to locations in space, including the international space station. Shiprock and NASA quickly determined that this bandwidth intensive application would require a different network solution than the existing fractional T-1 frame relay circuit at Shiprock and agreed that satellite transmission would be the only acceptable solution. Experts from the Glenn Research Center traveled to Shiprock to build and support a temporary satellite downlink from PanAm Sat., which provided 32 MBps of bandwidth at Shiprock. On May 4, 1999, NASA, the Northern Navajo Medical Center, Stanford University Medical Center, Salinas Valley Memorial Hospital, and the Cleveland



President Kelsey Begaye speaks to his audience at the Shiprock Boys and Girls Club at Shiprock, NM.

Clinic successfully demonstrated the Virtual Collaborative Clinic by streaming high quality three-dimensional healthcare images simultaneously between all the participating sites. In addition to proving the Internet’s power in healthcare, the demonstration brought to light the fact that broad band high speed networking solutions were required for rural areas and Indian reservations to benefit from advanced telemedicine applications.

The Northern Navajo Medical Center began approaching local federal and tribal organizations to determine if a cooperative agreement could be reached where those involved would share both the bandwidth and the costs associated with their dormant Integrated Services Digital Network (ISDN) line. The ISDN line would support the DS-3, which is the equivalent of 28 full T-1 lines. In April 2000, the Native American Broad Band High Speed Networking (NABBHSN) Consortium was created to bring together the Northern Navajo Medical Center, the Navajo Nation, Dine College,

Shiprock Boys and Girls Club, Dzilth-Na-O-Dith-Hle BIA School, and the Central Consolidated School District to develop a memorandum of agreement with the General Services Administration and a charter to govern their activities.

The NABBHSN Consortium, since its inception, continues to look at potential solutions for all of the Navajo reservation and located a dormant Department of the Interior tower on Mount Taylor near Grants, New Mexico. The consortium also invited the Zuni Pueblo to discuss the possibility of utilizing a portion of the wireless broadband connection to meet their specific needs. Future developments include the deployment of a mobile health care unit, installation of a mini-access studio at Shiprock, further development of the next generation telemedicine effort, and the establishment of a computer training and connection center to utilize the broadband solutions provided by the NABBHSN.

Today, the NABBHSN includes the Navajo tribe, the Zuni Pueblo tribe, and the six founding tribal and federal organizations. Membership continues to increase as others learn cost savings and the immediate delivery of this wireless approach. For additional information, please contact Tom Duran at (505) 368-6608 or tom.duran@shiprock.ihs.gov.

Community-Based Air Screening Tool and Resources Website

Daniel Robison, US EPA

Located within OPPT is the Community Assistance Technical Team, a small group of environmental scientists dedicated to designing tools to help communities understand and improve their environment. The team was founded on the idea that communities need assistance to understand and use environmental data. The community assistance work started with a pilot project in Baltimore, MD that focused on community air quality priorities, including, trash, illegal dumping, abandoned housing, economic development, parks and surface water quality, and community health. Based on the experiences in Baltimore, the technical team then decided to formally begin developing tools in the form of how-to-manuals, coupled with data, information, and computerized models. The team is now in the final stages of writing the first manual for Air Screening.

The manual has been designed for urban areas, but it can be used by any community that has concerns about their air. The manual follows a four-step process. The essential first step is the formation of a community partnership that shares the work, communicates results to the public, and implements change. A typical partnership is

composed of local community members and leaders, small business owners, representatives from industry and local environmental groups, and other interested parties. By partnering with all segments of the community, there is stronger support for the project.

The second step involves creating an inventory of all air emissions, from major factories, refineries, and incinerators to neighborhood gas stations and auto-body shops. Once the source inventory is complete, the manual will lead a community through a risk-based screening process to identify any sources of concern. With this information in hand, the community can set priorities and develop an effective plan to improve local air quality.

The air screening manual will be available on-line and in hardcopy for community use in Spring 2001. The Community Assistance Technical Team also plans to develop more materials, expanding into areas such as solid waste and water. For more information on tools and resources for communities (including software, hotlines, fact sheets, federal programs, and grants) developed by OPPT, visit www.epa.gov/opptintr/cbep. If you have any questions about the manual, Website materials, or community assessments, please feel free to contact Hank Topper, US EPA, at (202) 260-6750 or topper.henry@epa.gov.



OPPT's Exposure Assessment Tools and Models

Georgianne McDonald and Catherine Fehrenbacher, US EPA

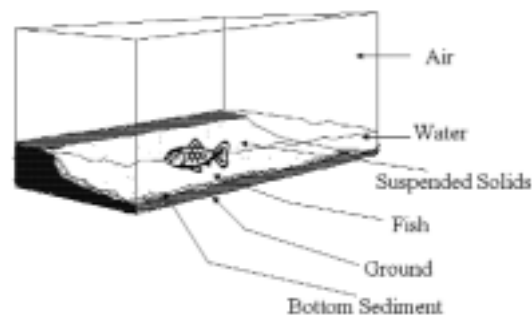
OPPT has developed several exposure assessment methods, databases, and predictive models to help understand what happens to chemicals when they are used and released to the environment, and how workers, the general public, and the aquatic ecosystem may be exposed to chemicals. These tools may be helpful to tribes in setting priorities for analysis and monitoring, evaluating potential exposures to chemicals in the environment and during use of products in and around the home, evaluating community exposures, and opportunities for preventing pollution. While measured data is preferable to the use of models, models can be helpful when data is not available or needs to be supplemented. OPPT is committed to providing tools, information, education, training, and technical assistance to help communities and tribes understand and use environmental data and environmental risk assessment. The tools are currently designed for scientists and engineers, but EPA has partnered with other Agencies and educators who have an interest in adapting the tools for use in middle school and high school science classes.

OPPT's models use a combination of assessments to evaluate chemical risks in a tiered approach to establish priorities, screen chemicals to eliminate

those not likely to be of concern, and evaluate exposures in a risk assessment context.

The Exposure, Fate Assessment Screening Tool (E-FAST) and Geographical Exposure Modeling System (GEMS) are two suites of models which include a broad range of capabilities. E-FAST provides screening-level estimates of chemicals released to air, surface water, landfills, and from consumer products, and potential inhalation and ingestion dose rates resulting from these releases. A beta version of E-FAST is available, and Version 1.0 will be made available upon completion of the final external peer review.

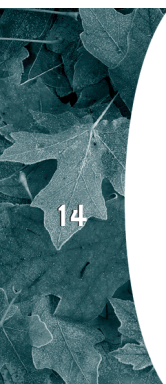
The Geographical Exposure Modeling System (GEMS) brings together in one system, several higher tier EPA environmental fate and transport models and some of the environmental, population, and spatial data needed to run them. GEMS is particularly helpful because it includes models and data for ambient air, surface water, soil, and ground water, and it makes the models much easier to use than their stand-alone counterparts. It includes graphics and GIS capabilities for analyzing and displaying data and environmental modeling results and has



Exposure routes in the workplace, home, community, and environment.

the capability of retrieving data from EPA Oracle databases, such as Toxic Release Inventory data. GEMS is still under development, and OPPT is planning to release Internet GEMS (IGEMS) in Spring 2001.

The Exposure Assessment Tools and Models website at www.epa.gov/oppt/exposure is an excellent resource for information on exposure assessment, specialized priority setting, and screening level and higher tier tools. You can also download available documentation, obtain one-page descriptions and Q&A factsheets for each model, and access the new online Introductory Computer Based Training (CBT) for E-FAST.



American Indian Lands Environmental Support Project

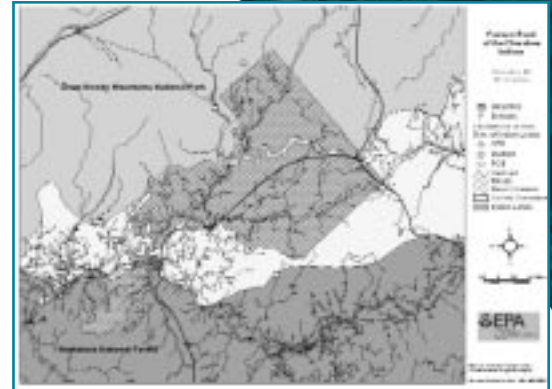
Catherine Fox, EPA Region 4

American Indian Lands Environmental Support Project (AILESP) is a geographic information system (GIS)-based project designed to integrate and assess current multi-media point-source releases and potential impacts of contaminants, and recent compliance and enforcement histories for facilities located on and near—within 5 km—Indian lands nation-wide, including Alaska. The project is especially significant because it is the first time that information of this type has been compiled and evaluated at the national level to gain a better understanding of permitted point-source and toxic chemical releases in Indian Country. EPA Headquarters, all EPA Regions with tribal lands, and nine tribes—St. Regis Mohawk, Red Lake, San Carlos Apache, Omaha Tribe of Nebraska, Cheyenne River Sioux, Tuscararora Nation, Shoshone-Bannock, Southern Ute Tribe and Penobscot Nation—were involved in the creation of AILESP several years ago. Since then, the AILESP database, ArcView project, and User's Guide have been made available on the Internet at <http://es.epa.gov/oeca/ailesp/index.html>. The Website has received thousands of hits over the past few years, and available information has been downloaded by numerous tribes and federal and state agencies for project planning purposes at the

national, regional, and reservation-scale.

Federal, commercial, and municipal facilities listed in the database were identified using the Facility Indexing System, while recent enforcement and compliance information and multi-media release and contaminant storage data were compiled using the AIRS Facility Subsystem, Permit Compliance System, Toxics Release Inventory System, and Biennial Storage System. In addition to facility-specific data, aquatic impact monitoring data, such as stream reaches with fish consumption advisories, contaminated fish tissues, and contaminated sediments were included in the AILESP database. In the most recent update of the database in November 1999, census data, CERCLIS NPL sites, mining data, air non-attainment areas for criteria pollutants, and safe drinking water information system (SDWIS) sites also were added.

Evaluation of the AILESP v.2.1 database at that time indicated that 1,645 facilities were located on tribal lands, and 6,982 facilities were located within five kilometers of tribal areas nation-wide and in all ten EPA Regions. Six percent of these facilities have water permits, 11% have air permits, 68% have RCRA permits, and 15% have multiple permits for water, air, and land releases. Research also indicated that sewerage systems, crude



petroleum and natural gas, industrial buildings and warehouses, nonresidential construction, and gold ores form the largest percentage of facilities that release chemicals to the air and water on and near tribal lands. Additional information, such as facility-specific chemical discharge and compliance and enforcement information, is available upon request.

The AILESP database has been used in many ways to assist in policy making at the national level and to help identify vulnerable areas in need of additional resources to protect the environment and public health. The AILESP database, GIS project, and User's Guide can be downloaded from the Internet at <http://es.epa.gov/oeca/ailesp/index.html>, and more information may be obtained by contacting Catherine Fox at U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, GA 30303-8909, 404-562-9634, and fox.catherine@epa.gov.

EPA's RSEI Tool for Community-based Assessment

Steven Hassur, US EPA

Over the past 10 years, OPPT has been developing a screening-level tool to evaluate releases of toxic chemicals to the environment and their potential risk-related impact on chronic human health. The Risk-Screening Environmental Indicators (RSEI) tool, a user-friendly, PC-based application, considers not only the pounds of chemicals released, but also their relative toxicity, the degree to which people are potentially exposed to these chemicals, and the estimated size of the exposed general population. RSEI examines chemical releases annually reported to the Toxics Release Inventory (TRI) and is being adapted to consider non-TRI chemicals, facilities, and emissions sources. The RSEI model, designed for a broad audience, ranging from citizens to scientists, calculates risk-related scores that can be used to examine trends, rank and prioritize chemicals and industry sectors for strategic planning, conduct risk-related targeting, support community-based environmental protection projects, and aid the investigation of environmental justice issues.

EPA began distributing RSEI

to the public in July 1999, and in early 2001 will be releasing Version 2.0 of the model, capable of assessing air releases and water releases from a risk-related perspective. All TRI releases can be assessed from a hazard-based perspective, considering release quantity and toxicity. Results can be viewed at many levels of aggregation, including state, county, city, and zip code. RSEI enables users to display results as maps, tables, and graphs or to create new databases and spreadsheets. The diversity—age, gender, race and income—of the U.S. population and yearly demographic changes in population density also are reflected in the model, and appropriate exposure factors are applied to relevant subpopulations. Communities and Native Americans living on and near tribal lands or in other areas are assessed by the model, and RSEI can evaluate the risk-related impacts from TRI facilities in proximity to these areas.

RSEI can be used to quickly evaluate, in a comparative way, some of the potentially important issues regarding chronic health impacts from TRI releases, and by doing this, allows communities to focus on

sources of risk, collect further data, and perform additional assessments to better plan risk reduction efforts that can improve their health and well being. RSEI is being adapted to better address environmental justice issues and to perform risk-related disparate impact analyses.

For additional information, please see the RSEI Home Page at www.epa.gov/oppt/env_ind or contact Steve Hassur, US EPA, at (202) 260-1735, Rich Engler, US EPA, at (202) 260-6700, or Nick Bouwes, US EPA, at (202) 260-1622. A new member of the RSEI Project Team, Cody Rice, will join staff in conducting training on RSEI Version 2.0 in the next several months, for which a special invitation will be extended to state and tribal representatives.

The CD-ROM containing RSEI Version 1.0 can be ordered from the TSCA Assistance Information Service by calling (202) 554-1404, and the “updater” for Version 1.02 is available on the RSEI Home Page at www.epa.gov/oppt/env_ind, along with caveats and strengths/limitations of the model.

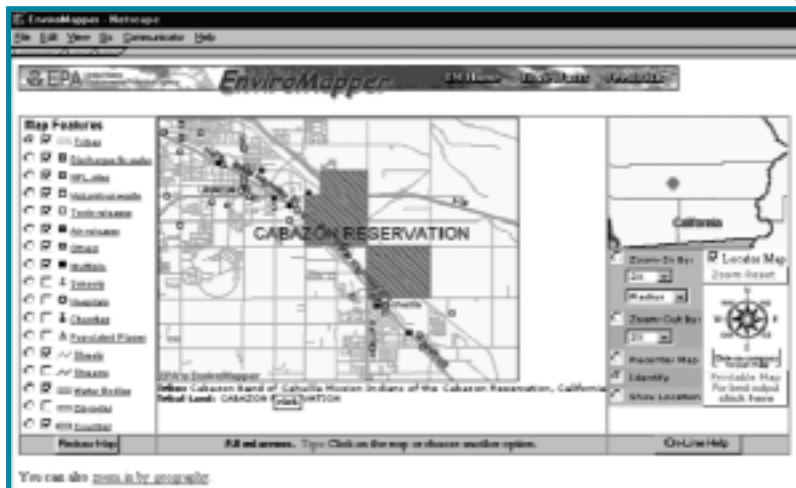
AIEO Indian Country Baseline Assessment Project

Purpose of the Baseline Assessment Project?

The purpose of the Baseline Assessment Project is to gain a more complete picture of environmental conditions in Indian country to improve EPA's effectiveness at protecting human health and the environment. EPA's American Indian Environmental Office (AIEO) will use federal data—in existing federal databases or repositories such as Envirofacts—and data submitted as deliverables to EPA under federal grants to create environmental profiles of tribal communities. The Baseline Assessment focuses on data that describe water, air, land, and biological resources and the impacts of pollutants on those resources. AIEO plans to complete approximately 200 tribal environmental profiles by September 30, 2001.

Importance of the Project to tribes?

- Tribal governments will have access to federal environmental data relevant to their tribe. Upon request, EPA will be able to provide custom reports to tribes for use in their environmental management and planning process.
- In the future, the Baseline Assessment Project will provide a framework for the environmental information gathered by EPA. By working with tribal governments, EPA will use this



framework to identify threats to public health and the environment in Indian country, target resources, provide empirical data to support Congressional budget requests, and track environmental progress as required by the Government Performance and Results Act (GPRA) of 1993.

Boundaries used in the Project?

The baseline assessment project will use the same boundaries that have been developed for Bureau of Indian Affairs (BIA) and its regional offices. EPA realizes that tribal boundaries are very important to tribes, and that some tribes often use boundaries that differ from BIA's files. The Baseline Assessment Project also will allow EPA to provide custom analyses for tribes using boundaries of their choice.

Baseline Assessment Products?

In the past, tribes have criticized the federal government for extracting information from or about tribal communities without making the results readily accessible, or consulting with tribes about the accuracy of the information and whether the information addressed tribal concerns. Through the Baseline Assessment, EPA will produce *Tribal Environmental Profiles* that summarize current federal environmental data on a tribe-by-tribe basis. All tribes will have the opportunity to review and comment on their draft profile.

EPA also is integrating *Data Management Systems* that will measure the effec-

Continued on page 18

Genetically Modified Corn Found in Food Supply

Sasha Sicks, US EPA

Recently it was discovered that some corn products contained traces of StarLink corn, one of several different varieties of *Bacillus thuringiensis* (Bt) plant-pesticides—plants genetically engineered to produce the Bt toxin. In 1998, EPA registered StarLink corn for use in animal feed, but not for human consumption.

The discovery of StarLink corn in the food supply resulted in the voluntary cancellation of StarLink's registration by Aventis CropScience, the manufacturer. Since then, EPA has worked closely with the U.S. Department of Agriculture and the Food and Drug Administration to remove all possible StarLink corn from the food supply and ensure that no more StarLink is used in food products. Because the current presence of StarLink corn is very small, EPA believes that it poses minimal human health risks.

The active protein in StarLink corn, called Cry9C, differs from other Bt varieties in that it has characteristics similar to known allergens. Scientists discovered these characteristics in screening for allergenicity, but were unable to determine whether Cry9C is an allergen. Because toxicity studies revealed that StarLink corn does not harm animals, and Cry9C does not transfer to meat, poultry or dairy products when consumed by animals, EPA registered StarLink corn for use in animal feed. The Agency, however, did not allow StarLink corn to be used in products for human consumption because EPA still needed to investigate the question of allergenicity.

On October 25, 2000, Aventis submitted to the Agency new information on potential allergenicity of the Cry9C protein with its request to allow any presence of StarLink corn to remain in the food supply. EPA's Scientific Advisory Panel (SAP) is considering Aventis' submission and will ensure that the decision concerning Aventis' petition is based on sound science and protects public health. For more information on the submission or SAP report, please visit www.epa.gov/scipoly/sap/#november. For more information on EPA's biotechnology program, including recent actions related to StarLink corn, visit www.epa.gov/pesticides/biopesticides.

AIEO Indian Country Baseline Assessment Project, continued from page 17

tiveness of EPA programs in Indian country and assist EPA in identifying resource needs and justifying budget requests. This system will be able to answer questions like, "How clean is the water? What has EPA done about it?"

Access to the data?

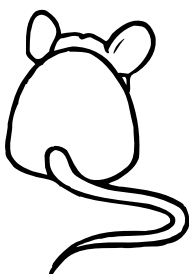
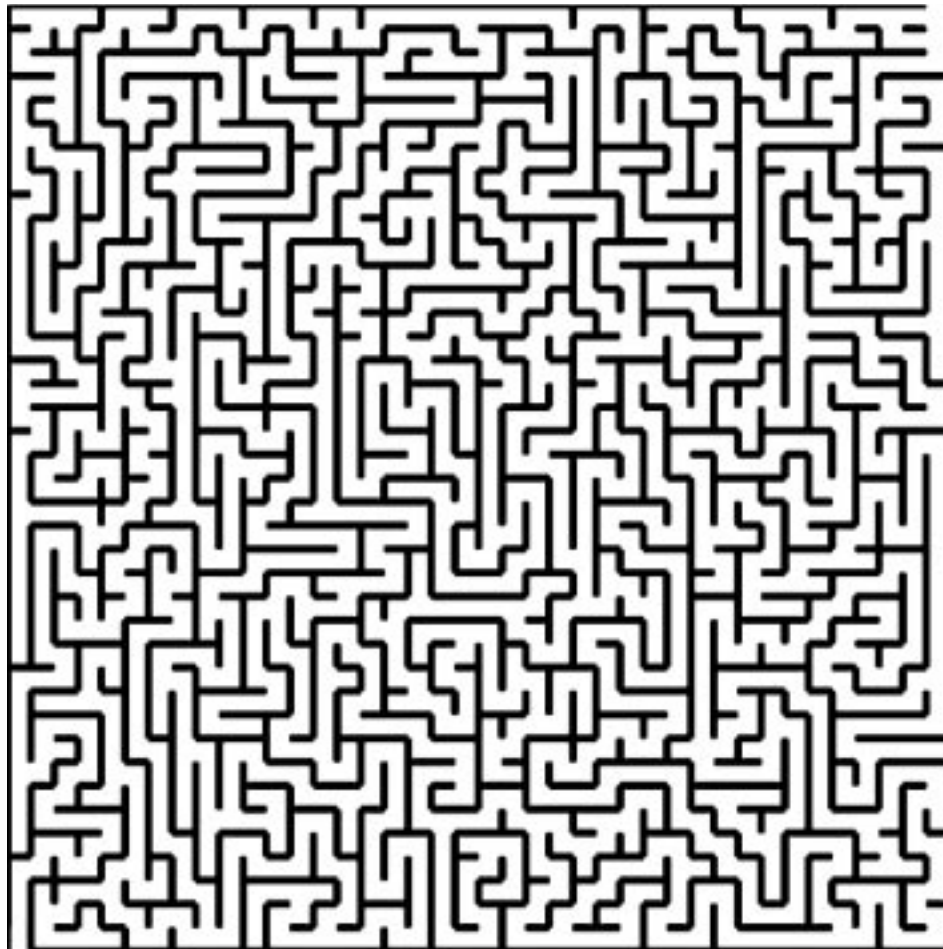
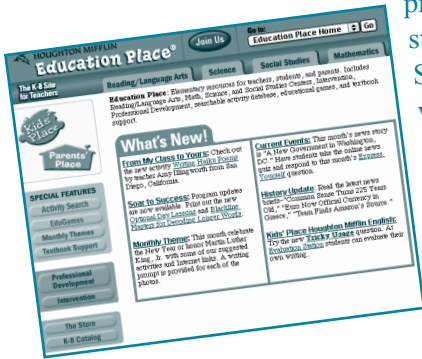
EPA is sensitive to tribal concerns regarding public access to tribal environmental data. Currently, all the information being collected by the Baseline Assessment is federal in origin and is open to public domain, with certain statutory exceptions. However, if a tribe chooses to provide EPA with additional information as part of the Baseline Assessment Project, EPA cannot guarantee that this information would not be released if EPA is ordered to do so pursuant to the Freedom of Information Act. The issue of privacy of environmental information is important for EPA, and a work group made up of AIEO, EPA's Office of Environmental Information, and representatives of EPA's Tribal Caucus has been formed to address privacy issues. If you are interested in participating in this work group, please contact Tonya Fish at (202) 260-0769 or fish.tonya@epa.gov.

Contacts for more information?

Ed Liu, US EPA, (202) 260-987, liu.ed@epa.gov, and Tonya Fish, US EPA, (202) 260-0769, fish.tonya@epa.gov.

Kids' Page

The Internet not only provides resources and information used by researchers and scientists, but also is a great learning tool for our children. Websites like Education Place provide elementary resources and learning tools for teachers, students, and parents in Reading/Language Arts, Math, Science, and Social Studies. By visiting Education Place at www.eduplace.com, you will find searchable activity databases, textbook support, and loads of fun educational games and activities, including Wacky Web Tales, Brain Teasers, and GeoNet. For now, tease your brain with the challenging maze below!!



Mark Your Calendars!

February 2001

19-22

Affiliated Tribes of Northwest Indians

Winter Conference

Portland, Oregon
Cindy Darcy, (202) 824-8921

March 2001

8-9

Tribal Pesticides Program Council Meeting

Crystal City, Virginia
Lillian Wilmore, (617) 232-5742

12-16

Fundamentals of Air Pollution Technology Institute of Tribal Environmental Professionals

Flagstaff, Arizona
Christy Nations, (202) 523-7792

27-30

Data Management

Institute of Tribal Environmental Professionals

Flagstaff, Arizona
Christy Nations, (202) 523-7792

April 2001

9-11

National Indian Gaming Association

Annual Meeting and Trade Show

Albuquerque, New Mexico
Cindy Darcy, (202) 824-8921

22-26

National Tribal Environmental Council

National Conference, Miccosukkee Tribe

Miami, Florida
(505) 242-2175

EPA Websites and Hot Lines

EPA	www.epa.gov
OPP	www.epa.gov/pesticides/
OPPT	www.epa.gov/opptintr
Pollution Prevention	www.epa.gov/opptintr/p2home
American Indian Environmental Office	www.epa.gov/indian
Asbestos Ombudsman Hotline	1-800-368-5888
EPCRA Hotline	1-800-535-0202
Lead Hotline	1-800-532-3394
National Pesticide Telecommunication (NPTN) Hotline	www.ace.orst.edu/info/nptn 1-800-858-7378
TSCA Hotline	202-554-1404