

TPEA Data Newsletter

August 2006

Number 1



Editor's Note

Welcome to the first EPA Tribal Program Enterprise Architecture (TPEA) Tribal Data Newsletter! Why this newsletter? Because data is now considered key to the progress of tribal programs at the EPA. Data is needed to show that the environment and public health are protected in Indian Country. Data is needed to show that progress is being made for tribal measures in the EPA Strategic Plan. Data is needed to assure compliance with environmental statutes. That is why the collection of data from multiple sources is a priority with the American Indian Environmental Office.

In this quarterly newsletter, we hope to keep you abreast of the kinds of work the TPEA program is doing. We also hope to develop partnerships with some of you who are interested in sharing information and your experiences with data collection and information management. We will try to pass along some tips of our experiences with linking up data systems, and we hope that you will share some of yours.

We are always interested in feedback, so you can call me anytime at 202-564-0287 or email me at liu.ed@epa.gov.

—Edwin Liu, Ph.D.
TPEA Data Newsletter

From the AIEO Director—Program Priorities, FY 06-07

American Indian Environmental Office (AIEO) Strategic Targets

Through 2008, assist all federally recognized tribes in assessing the condition of their environment, building their capacity to implement environmental programs to improve tribal health and environment, and implement programs in Indian country to address environmental issues.

AIEO Key Functions

AIEO coordinates an agency wide effort to protect public health and environment in Indian country. It oversees implementation of the Agency Indian Policy and ensures that EPA business is in compliance with this important policy.

Director's Areas of Emphasis

- Establish and carry out an EPA National Tribal Strategy
- Incorporate subsistence lifeways into EPA decision making
- Enhance collaborative partnerships to ensure a unified approach to program management
- Ensure availability of accurate and comprehensive data to measure results and support quality environmental decisions
- Promote a consistent environmental presence in Indian country

AIEO Director: Carol Jorgensen

For information on AIEO and the EPA Indian Program, please call: (202) 564-0303, or visit: <http://www.epa.gov/indian>

NPDES in Alaska

by Willnetta Ball, AIEO ORISE Intern

The EPA National Pollution Discharge Elimination System (NPDES) regulates discharges to surface waters. Dischargers are assigned NPDES permits, which are tracked in the Permit Compliance System (PCS) database. The NPDES facility information in PCS was overlaid on a coverage of the Alaska Native allotments and a standard Geographic Information Systems (GIS) proximity analysis was performed to identify facilities and allotments that were located within one and ten km of each other.



A close up view of the relationship between allotment parcels and an NPDES discharge facility in southwest Alaska. The NPDES facility is represented as a red dot.

Of the 2330 active NPDES Permits, 22% had latitude and longitude coordinates and could be mapped. When we mapped the NPDES Permit locations on the coverage of Alaska Native allotments, we found that 6% of the NPDES discharges were located within one km of an Alaska Native allotment and 54% of the discharges were within 10 km of an allotment. Thus, some of the NPDES sites appear to be close to Alaska Native allotments.

WREQC - Water Quality data, Wyoming

by Art Shoutis, WREQC

Wind River Environmental Quality Commission (WREQC) is customizing its database to include its very own ecological classification of the Wind River Indian Reservation surface waters, which present incredible spatial and temporal variations.

The database and ecological classification are an integral part of the Criteria and Standards that Wind River is developing. Seasonal water quality



Middle Fork of Popo Agie River—ex. of a foothill, B2, 4th order, winter open stream. Temperature: 30° F; anchor ice forming in the thalweg.

baseline or background data is easily queried, along with ecologically similar sites that will serve as

“reference sites.” An additional site table in the database that is devoted to impairments associated with each site allows us to

easily update and

print our 303d list with a simple query.

WREQC has also developed a NODE with an EPA Network Exchange grant and was successful in converting its water quality data (sites, visits, and chemistry) to XML—an integral part of the database design and NODE.

WREQC has *dynamic* bacteriologic and macroinvertebrate biological data incorporated into the database. This data can be used

- To identify various species
- To acquire information about the sites and seasons of a particular species
- To generate reservation distribution maps, using Geographic Information Systems (GIS)
- To assign a specific water quality physical and/or chemical parameter number or range to a species

For further information, please visit our Web site at <http://www.wreqc.com>

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TPEA Technical Tips

AIEO/R9 Machine to Machine Data Transfer

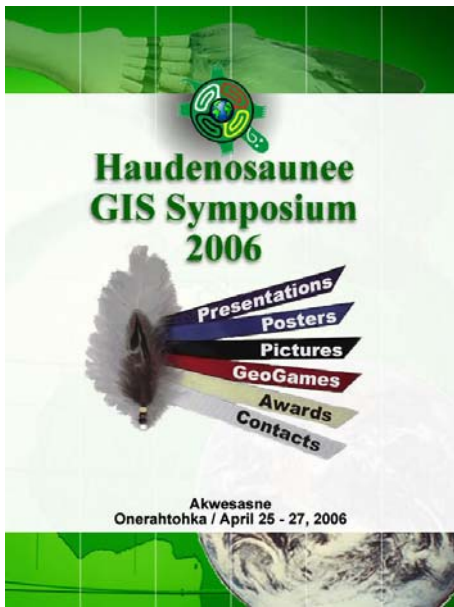
The goal of the TPEA data system is to enter the data once. No more duplication. This is the purpose of a pilot project to link the regional EPA tribal data systems directly to AIEO, machine to machine. Once completed, the protocols will be available for sharing with anyone who wants to perform the same task.

Region 9 Indian Nations Database The R9 Indian Nations database is a Lotus Notes application that contains information on R9 Tribes—tribal leader, environmental contacts, emergency response contacts, grant information and other tribal government information. The database is on the Notes server R9_APPS1/R9/USEPA/US, a Region 9 General Notes Server with the internet host name R9NOTES1.R09.EPA.GOV, physically located at Region 9, and is managed by the Lotus Notes Administrators in San Francisco, California.

AIEO Contacts Database The AIEO database is an Oracle database that contains a variety of environmental information accessed by AIEO applications. The database is part of the Envirofacts data warehouse. It can be accessed by the AIEO Tribal Information Management System (TIMS) application. The EnviroFacts database is managed by EPA National Computing Center (NCC) staff at Research Triangle Park (RTP), North Carolina.

Proposed Data Transfer Solution The proposed data transfer solution is comprised of the following steps:

1. A R9 job will be scheduled to occur on a monthly basis, using a job scheduler.
2. The R9 job will call a Lotus Enterprise Integrator (LEI) data extraction process to extract contacts data from the R9 database, and save it as an Oracle dump file—an xls or xml format would probably be sufficient.
3. The file will be pushed to a fileserver on the EPA network.
4. The EnviroFacts upload process will access the file. In order to accomplish this “pull” access, a minor upgrade to the upload process is required.
5. The EnviroFacts upload process will parse the uploaded data, validate it, and insert it into the AIEO Contacts database.



Above: Haudenosaunee GIS Symposium; right: Robert Simpson, EPA Region 2, receives award from Aimee Benedict, St. Regis Mohawk GIS Director.

Haudenosaunee GIS Symposium, "Rolling out the Great White Mat", April 2006

St. Regis Mohawk

Dealing with backlogged ambient air quality data

by Janice Bryant, OEI

the issue

The St. Regis Mohawk Tribe is an international tribal community located in northern New York as well as in the Quebec and Ontario provinces of Canada. The St. Regis Mohawk Tribe had years of backlogged ambient air quality data and needed a reliable way to electronically share air quality and other environmental data with EPA. Even though the data was being collected, funding

Participants

- St. Regis Mohawk Tribe
- EPA Program Office
- EPA Region II

to staff and maintaining the necessary information technology (IT) assets and Internet connectivity was unavailable.

the solution

Web Services (automated information services conducted over the Internet that simplify the exchange of large amounts of data) that supported affordable data storage, retrieval, and wide tribal access made financial and strategic sense to the tribe. The Environment Division of

Project Goal

Use the Exchange Network to implement AQS flow and maintain the IT resources needed to flow the data.

the St. Regis Mohawk Tribe applied for Exchange

Network grants to train staff and to acquire the necessary IT assets and Internet connectivity to create and use a node on the Exchange Network. Once the data was prepared to fit Exchange Network protocols and uploaded onto the tribe's Exchange Network node, the Environment Division of the St. Regis Mohawk Tribe became the first environmental agency to exchange Air Quality System (AQS) data through the Exchange Network. The AQS database contains ambient air pollution data collected by EPA, state, local, and tribal air pollution control agencies from thousands of monitoring stations.

the benefits

By submitting AQS data quickly and easily through the Exchange Network, the St. Regis Mohawk Tribe is able to effectively use its resources. The infrastructure and software used for the AQS data exchange can also be used to develop other data exchanges (ambient water quality monitoring data and Electronic Discharge Monitoring Reports).

The use of the Exchange Network enables

other tribes and agencies to view and use the tribe's data. Finally, the St. Regis Mohawk Tribe's use of the Exchange Network is a tangible example for other tribes who want to conveniently exchange data with EPA. Ten states are in development for this data exchange, and an additional 12 states are planning to deploy the schema.

Project Benefits

- St. Regis Mohawk Tribe can now
- Enable other Network partners to submit AQS data via the Exchange Network
 - Develop infrastructure to quickly and easily submit information electronically

CAPs and HAPs Emissions on Tribal Lands

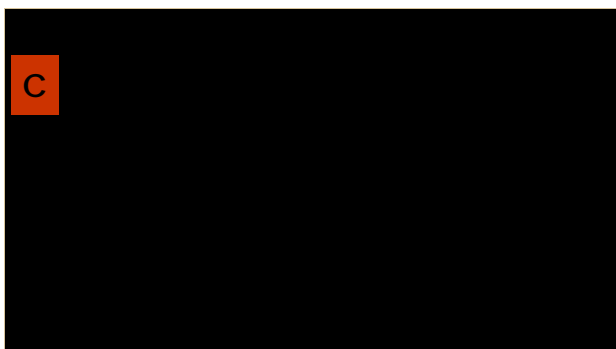
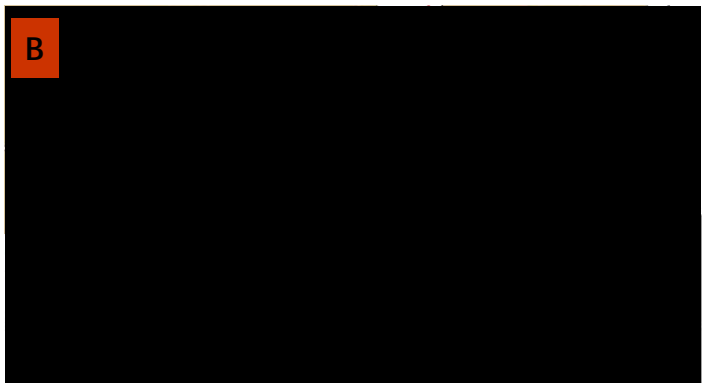
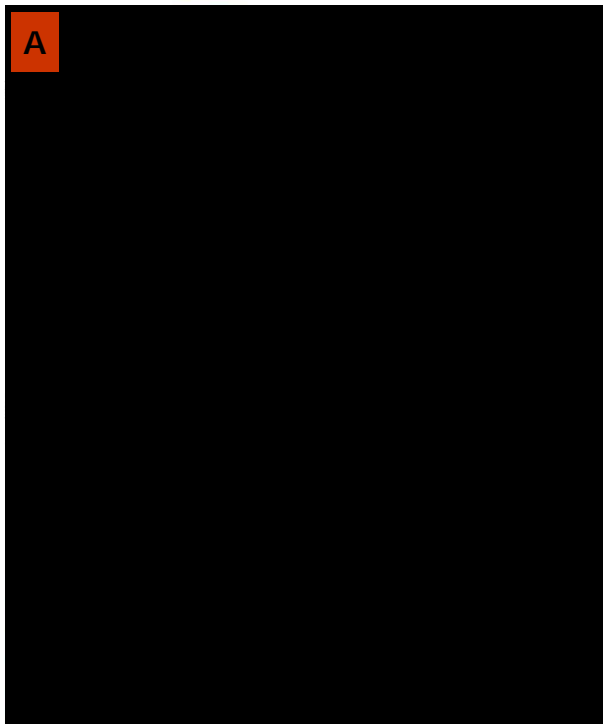
by Kristin Weidner, AIEO
NNMES Fellow

AIEO is compiling a report on the emissions of Criteria Air Pollutants (CAPs) and Hazardous Air Pollutants (HAPs) in the vicinity of tribal lands. The data comes from the National Emissions Inventory (NEI), a publicly available EPA database. This report aims to compare emissions on tribal lands to emissions in the United States as a whole. Though some tribes have conducted individual assessments, due to the difficulty of assessing mobile source emissions on tribal lands nationwide, point source emissions are the focus.

To calculate emissions on tribal lands, point source facilities for HAPs and CAPs on and within ten km of tribal boundaries were geographically extracted using GIS techniques. HAPs and CAPs emissions data for these facilities as well as facilities in all the counties in the United States were downloaded from the US EPA National Emissions Inventory. Statistical analysis is currently being performed to analyze the significant factors that predict emissions in a given area, and to compare air pollution emissions levels on tribal lands to national emissions levels. This report is to be completed in August/September of 2006.

*For addition information on NEI, please visit
<http://www.epa.gov/ttn/chief/net>*

Three examples of Tribal Land and HAPs and CAPS Facilities within a 10 km buffer



PUBLIC TPEA SITES

TPEA has two sites that are open to the public:

Tribal Windows to the Environment

<http://iaspub.epa.gov/tims/twe.html>

This site gives you a link to EnviroMapper for Tribes, which is a GIS application that lists regulated facilities in the ZIP codes that overlap with tribes.

Tribal Contacts Database

https://iasint.rtpnc.epa.gov/TIMS/contact_ro.html

This site gives you names and addresses of tribal leaders and tribal environmental directors, as well as mailing addresses that can be printed as labels.