

GIS Implementation: Software and Uses A to Z

AJ Matthews
GIS Technician



Little Traverse Bay Bands of Odawa Indians

GIS

- Geographic Information System
 - Visual Representation
 - Spatial analysis
 - Data Integration



Software Systems

- MapInfo- version 7.8
- ESRI- version 9.0/9.1
 - ArcView
 - Basic package
 - ArcEditor
 - Advanced editing
 - ArcInfo
 - Advanced geoprocessing and data conversion



Enterprise License Agreement

- BIA and ESRI
 - Annual payment
 - Contract- renewed periodically
- GDSC- Geographic Data Service Center
 - <http://www.esri.com/industries/federal/bia>
 - Support
 - Call (303) 231-5120



Enterprise License Agreement

- Provided at no cost
(Federally Recognized Tribes only):
 - Software
 - ArcView \$1,500/\$1,200
 - ArcInfo \$14,000/\$7,100
 - Extensions
 - \$2,500/\$2,000
 - May need several



Enterprise License Agreement

- Training
 - Instructor led
 - http://www.esri.com/industries/federal/bia/forms/faxtrainingbrochure_fy2005.pdf
 - Travel expenses



Training

- On-line
 - Workshops (*Free*)
 - Courses (*Free/\$100*)
 - <http://campus.esri.com/>



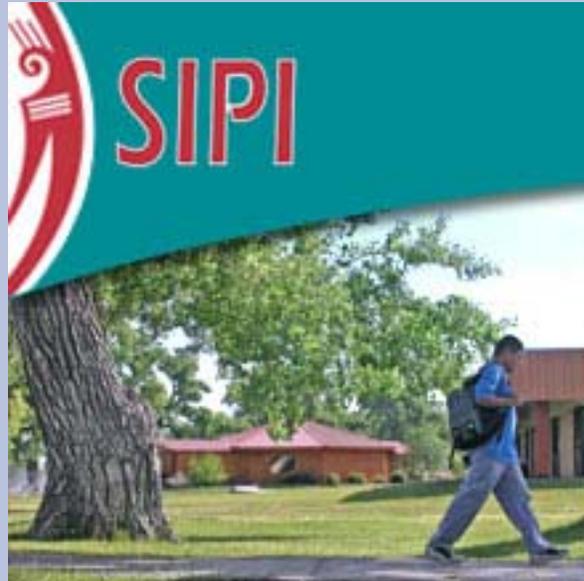
Training

- ESRI
 - Highly effective
 - \$425/\$370 per day!
 - Travel expenses
 - <http://training.esri.com/ilt/schedule/index.cfm>



Training

- Southwestern Indian Polytechnic Institute (SIPI) Albuquerque, NM
 - <http://www.sipi.bia.edu/acadprog/progstudy/divinstr/ate/git/>



Training

- MSU - RSGIS
 - <http://www.rsgis.msu.edu/>
 - \$250-\$500
- UW-Madison LICGF/SIAC
 - <http://www.lic.wisc.edu/training/Schedule.htm>
 - \$200-\$700



Land
Information
and
Computer
Graphics
Facility

Data Acquisition

- Download FREE
 - Michigan- CGI (other state sites)
 - Aerials, Transportation, Hydrology, Political
 - <http://www.mcgi.state.mi.us/mgdl/>
 - ESRI Downloads
 - Geo Community Data Depot (worldwide)
 - <http://data.geocomm.com/>
 - US Fish & Wildlife Service
 - <http://www.fws.gov/data/gishome.html>

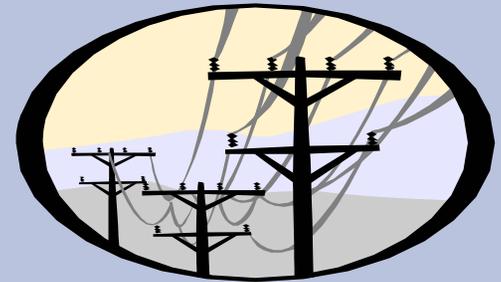
Data Creation

- Make your own!
 - GPS Data
 - Points
 - Lines
 - Polygons
 - Digitize layers
 - Modify existing data
 - Geoprocessing
 - Selection



Data Acquisition

- Available for purchase
 - ESRI Packages
 - Streets
 - Complete Data Set (TIGER)
 - Demographic Data
 - Consultants
 - Utility Information
 - CADD Drawings



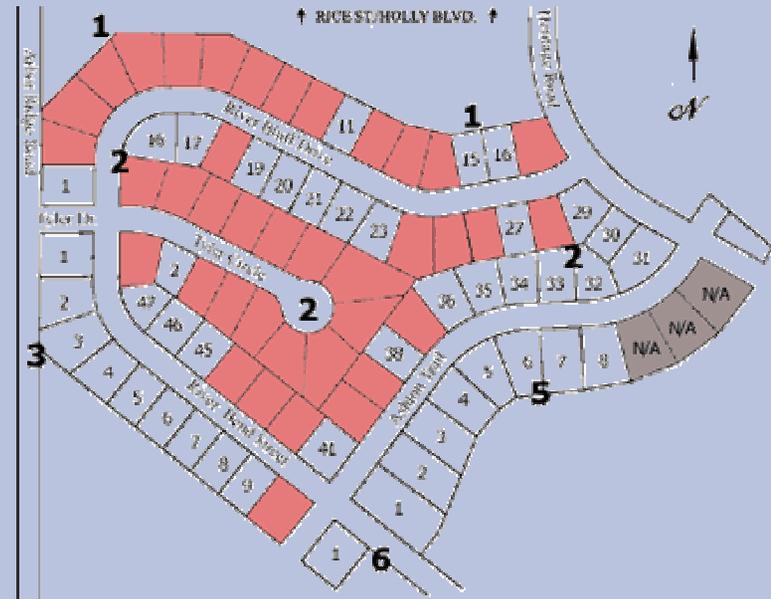
Data Management

- Central Location
- Well Organized!
- Avidly Updated



Potential Uses

- All Tribal Operations
 - Housing
 - New Housing Locations
 - Current Housing Tracking



Potential Uses

- All Tribal Operations
 - Enterprise
 - Prime Locations
 - Monitor Usage



Potential Uses

- All Tribal Operations
 - Enrollment
 - Membership Location
 - Tribal Participation



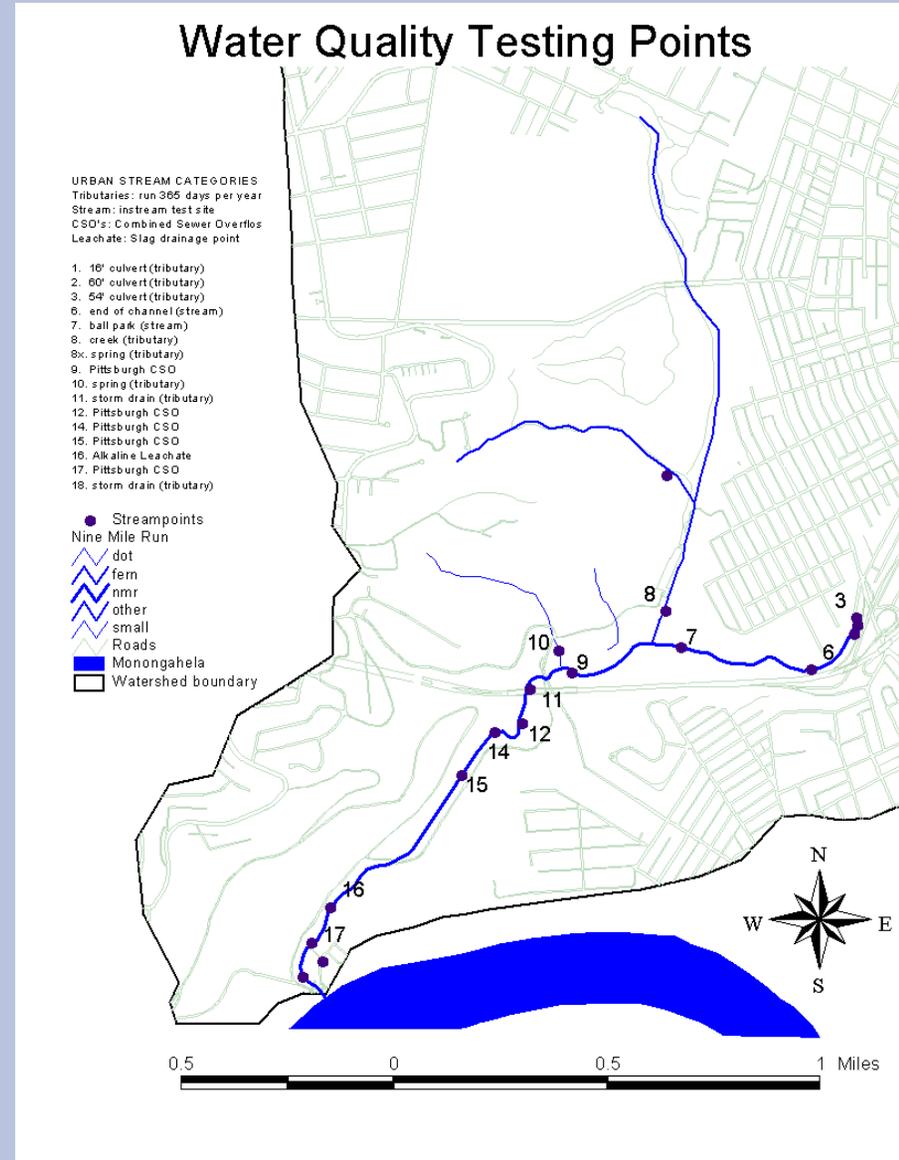
Potential Uses

- All Tribal Operations
 - Education
 - School Locations
 - Education Level Analysis



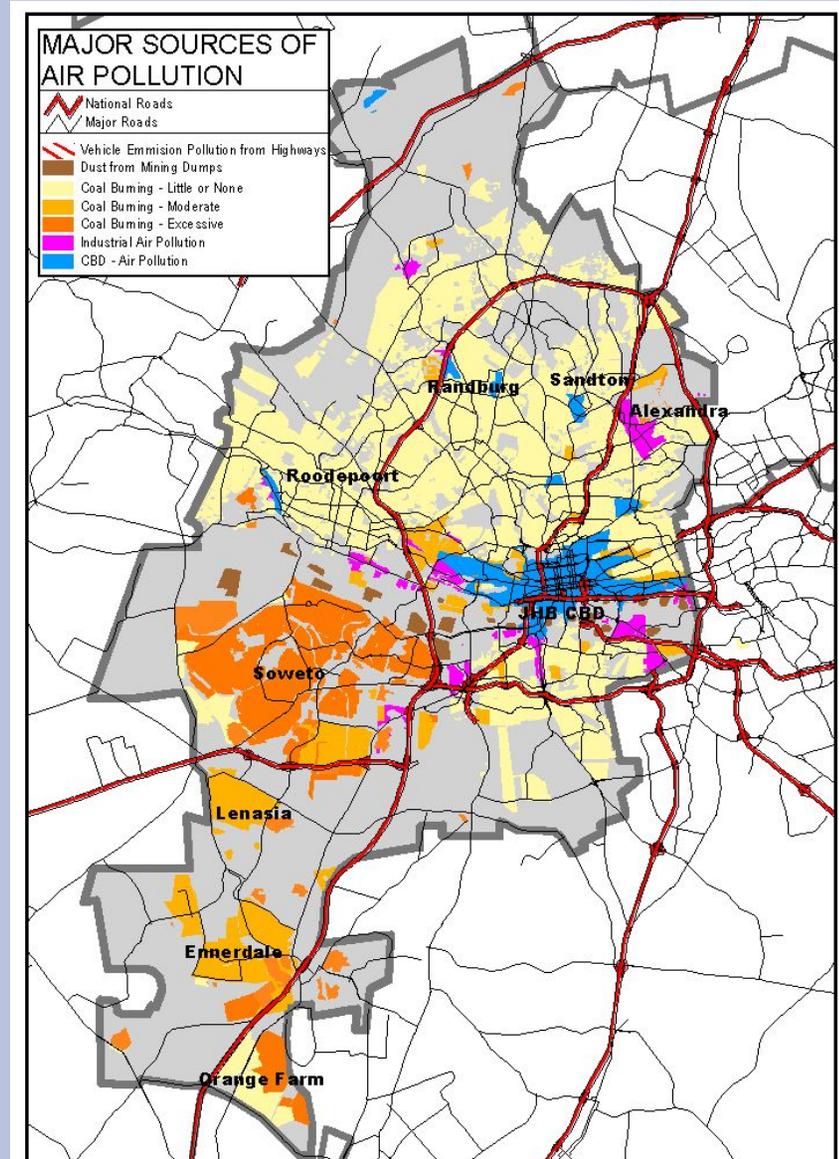
Potential Uses

- Environmental!
 - Water Quality
 - Monitoring Locations
 - Data Management



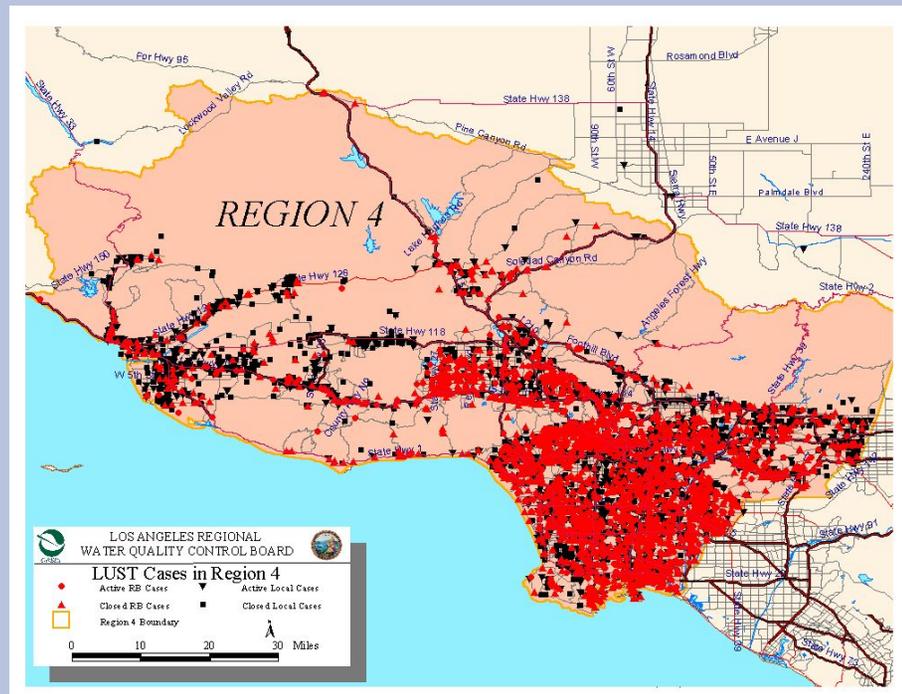
Potential Uses

- Air Quality
 - Point Sources
 - Pollution Dispersion



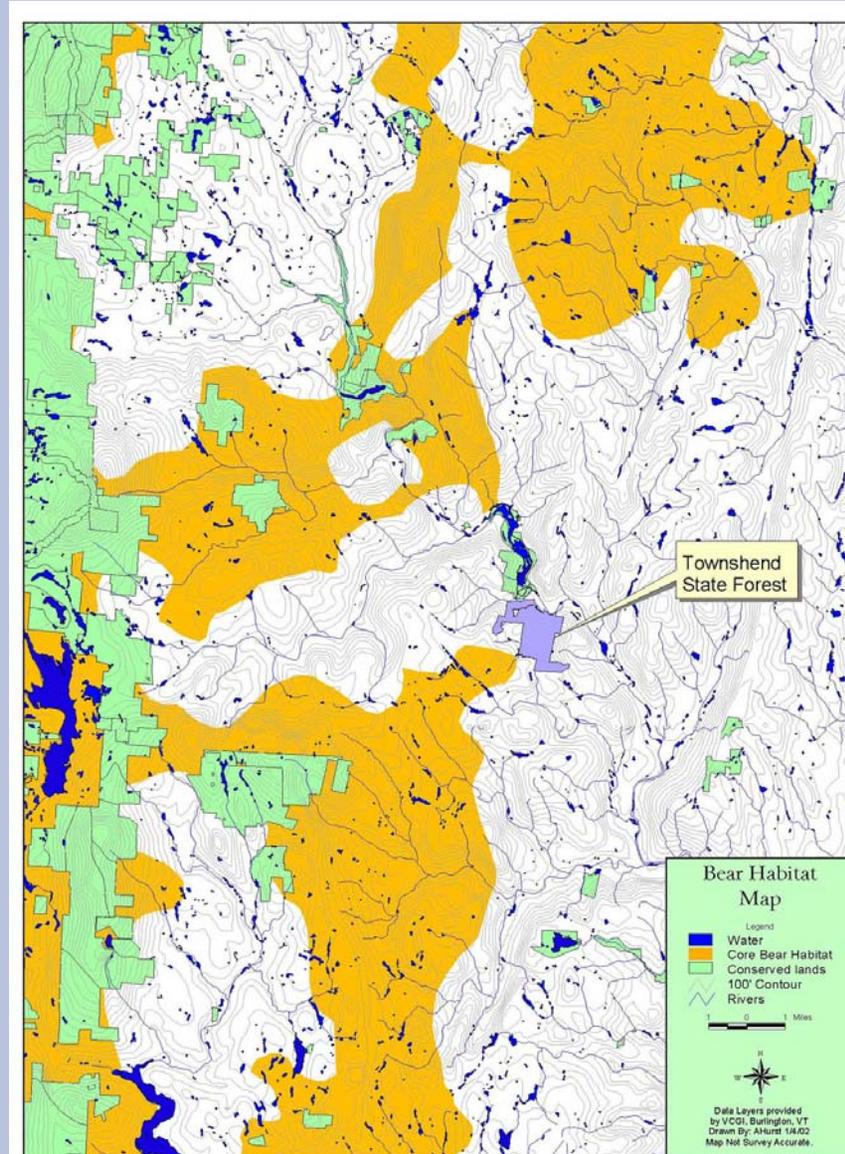
Potential Uses

- Solid Waste
 - Recycling Locations
 - UST and LUST Management



Potential Uses

- Wild Life
 - Habitat Modeling
 - Population Tracking



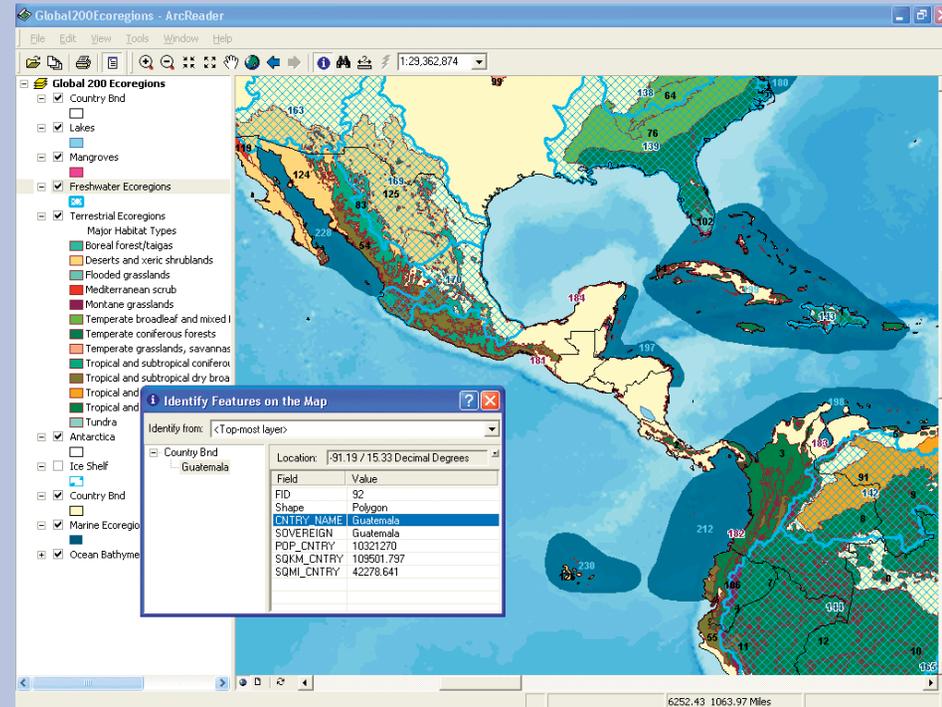
Outreach

- Potential Users
 - Obtain licenses
 - Hold internal training
 - Provide support



Outreach

- Baseline Availability
 - Frequent requests
 - Reservation Boundary
 - Enterprise Locations
 - Service Locations
 - ArcReader
 - Adobe
 - Lower skill level



Outreach

- Tribal Community

- Handouts

- Website

- Common maps

- Map requests

The screenshot displays the 'Safe City' website for the St. Louis Metropolitan Police Department. The interface includes a navigation bar with 'Home', 'Crime Map', 'Thanks To', and 'Help' buttons. Below the navigation bar, there are map controls: 'ZOOM IN', 'ZOOM OUT', 'PAN', 'IDENTIFY', 'FULL EXTENT', 'LEGEND', 'CLEAR', and 'PRINT'. The main map area shows a street grid with various incident markers. A legend window is open on the right side, titled 'Legend - Microsoft ...', and lists the following categories and symbols:

- Police Incidents
 - Weapons (Green triangle)
 - Drugs (Red triangle)
 - Liquor Law Violations (Yellow triangle)
 - Prostitution (Blue triangle)
 - DWI (Purple triangle)
 - Peace Disturbances (Light blue triangle)
 - Curfew Violations (Dark blue triangle)

On the left side of the interface, there are sections for 'Police Incidents' and 'Service Calls'. The 'Police Incidents' section includes links for 'Crimes Against Persons', 'Crimes Against Property', and 'Crimes Against the State', along with checkboxes for 'Weapons', 'Drugs', 'Liquor Law Violations', 'Prostitution', and 'DWI'. The 'Service Calls' section includes checkboxes for 'Assist Citizen' and 'False Alarms', and links for 'Traffic Related', 'Suspicious Activity', 'Health And Safety Issues', 'Disturbances', and a '+' sign. At the bottom of the map area, it says 'Map created by SLMPD - Copyright (C) 1992-2001'.

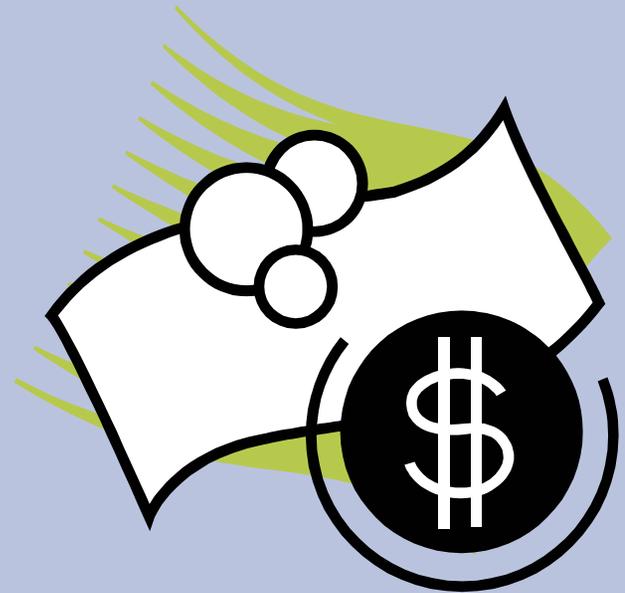
Outreach

- General Promotion
 - Newsletter
 - Awards/Achievements
 - New developments
 - Brochure
 - Current projects
 - Available services
 - Youth education
 - GPS workshop
 - Mapping basics



Funding....

- Tribe?
- EPA
 - Technology Grant
 - GAP/106
- Misc. Foundations
- ESRI
- Coastal Zones



Attainable GIS

- Free software/training
- Endless uses
- Valuable product
- GIS is a must!



Questions?



AJ Matthews

GIS Technician

Little Traverse Bay Bands of Odawa

amatthews@LTBBOdawa-nsn.gov

Ph: (231) 242-1576