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CHEROKEE NATION®

Tribal Case Study: Cherokee Nation Clean Air Program CAA 103 Funding

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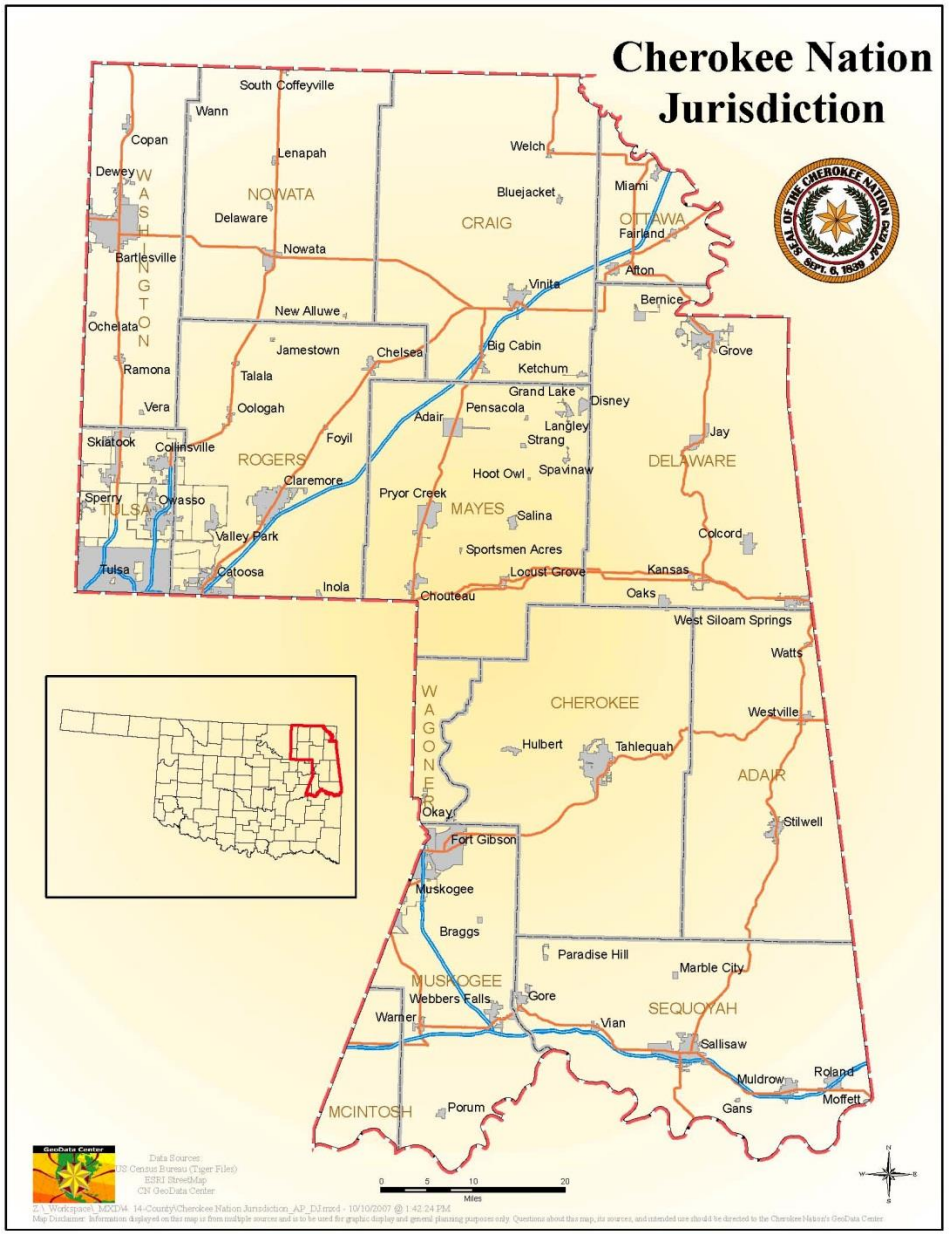
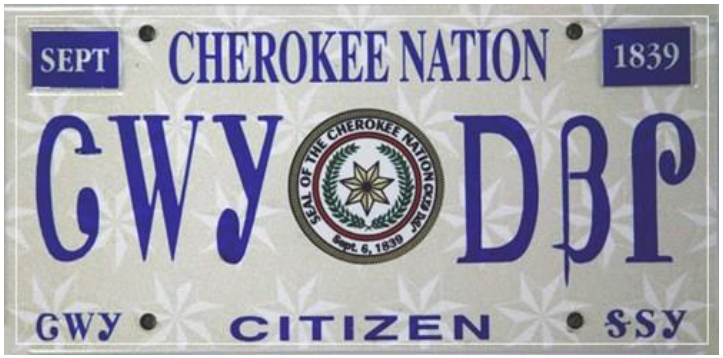
Cherokee Nation Environmental Programs
Tahlequah, OK

- Cherokee Nation has 385,000 + citizens, with 143,706 living within the CN reservation (as of June 2020)
- The Cherokee Nation reservation is comprised of 14 counties in northeastern Oklahoma (six full and eight partial counties)
- Total area of 6,950 square miles





Osiyo
VOICES OF THE
CHEROKEE
PEOPLE

CHEROKEE NATION
Businesses

CHEROKEE NATION
FISH AND
WILDLIFE
ASSOCIATION

Largest tribal outpatient health facility in U.S. opening first phase to patients

CHEROKEE PHOENIX

The Cherokee Nation is committed to protecting our inherent sovereignty, preserving and promoting Cherokee culture, language and values, and improving the quality of life for the next seven generations of Cherokee Nation citizens.

CNEP Office

The Secretary of Natural Resources provides oversight to Cherokee Nation Environmental Programs (CNEP). CNEP administers a variety of programs and services related to the preservation and conservation of our air, land, water, and animal & plant life.

- GAP
- Brownfields
- Clean Air
- Clean Water 106
- UST
- Solid Waste
- Superfund
- Radon
- ASTM site assessment – Phase I
- NEPA
- Pesticides
- Lead-based Paint Inspection/Certification

"To protect, preserve and restore in a sustainable manner our Nation's naturally diverse ecosystems for the health and benefit of future generations."

An Overview of the Cherokee Nation Clean Air Program

- The Clean Air Program began in 1996 with a §103 project grant.
- Cherokee Nation received treatment in the same manner as a state under section 301(d) of the Clean Air Act in 2009.
- TAS was granted for purposes of grant funding at a reduced matching share under section 105 and notice and opportunity to comment on proposed major source air operating permits as an "affected state" under section 505(a)(2).

An Overview of the Cherokee Nation Clean Air Program

- The network consists of five monitoring stations – four fixed locations and one mobile monitoring station

- All stations monitor ozone and meteorological parameters; a few monitor other pollutants, such as CO, SO_2, NO_2 and particulate matter.

- The Cherokee Nation participates in four EPA national program initiatives:

    - **Clean Air Status and Trends Network (CASTNET)** – evaluates long-term trends in ambient concentrations and dry deposition estimates

An Overview of the Cherokee Nation Clean Air Program

- **Interagency Monitoring of Protected Visual Environments (IMPROVE)** – tracks changes in visibility
- **Mercury Deposition Network (MDN)** – measures mercury in precipitation
- **Ammonia Monitoring Network (AMoN)** – measures ammonia gas concentrations via passive sampling

The Cherokee Nation has also established an NCore site at its rural CASTNet site near Stilwell.

Cherokee Nation Clean Air Program

CHEROKEE NATION

"Monitoring Tribal Community Air Quality"

Site ID: C4
AQSID: 40-001-9009
Site Name: Stilwell

Site ID: C5
AQSID: 40-071-2010
Site Name: Newkirk

Site ID: C6
AQSID: 40-097-9014
Site Name: Pryor

Site ID: C13
AQSID: 40-135-9021
Site Name: Roland

Inter-Tribal Environmental Council

- ITEC consortium formed in October 1992
- 20 Tribes signed the original MOU
- ITEC currently provides services to 45 Tribes and Pueblos in Oklahoma, New Mexico, Texas, and Louisiana.

https://itec.cherokee.org/

“To protect the health of Native Americans, their natural resources, and their environment as it relates to air, land, and water.”

How does the air program participate?

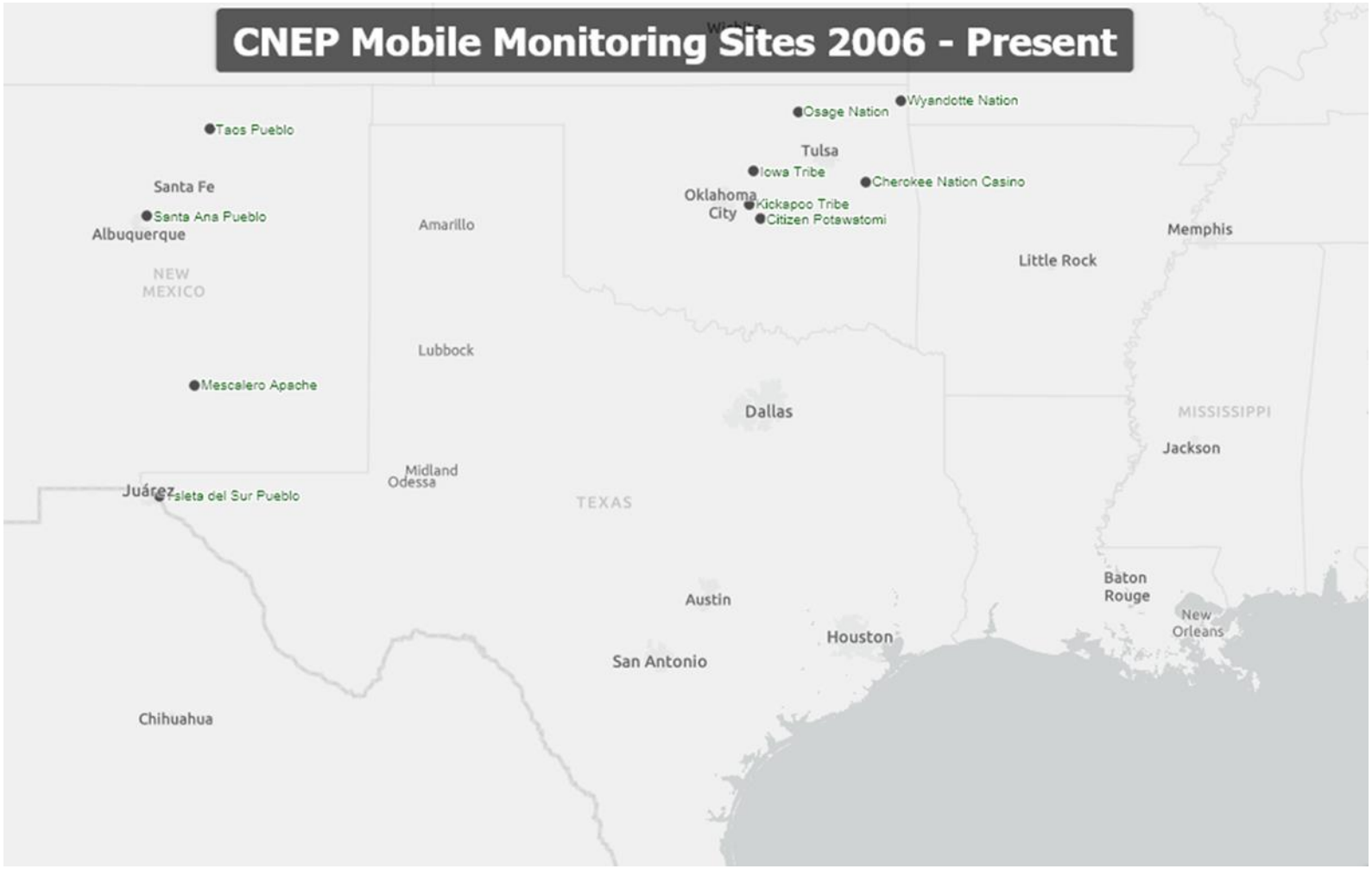
- Baseline assessments
- Technical assistance
- Air Quality System (AQS) data entry support

Mobile monitor

The CNEP operators a mobile monitor for use by tribes in Region 6. Mobile parameters monitored include:

- Ozone
- PM10 & PM2.5 (TEOM 1405-D)
- Met (Temperature, RH, WS & WD)

- The mobile monitor has been operational since 2006.
- Data from the monitor is uploaded hourly into AirNow.
- Data is entered into AQS quarterly (non-regulatory).
- The station is typically deployed at each site for one year.



The current monitoring location is with the Muscogee (Creek) Nation – since July 2020

Independent Auditing Services

- Clean Air Staff provides independent auditing services using certified equipment and standards.
- These services are provided to participating tribes at no cost.
- The ITEC Clean Air Staff is currently performs audits for the Quapaw Nation and Kaw Nation.

We have tasks in our air grant specifically for ITEC-related work; the air program does not use any GAP funds.

Programmatic responsibilities

- Submit grant application
- Submit purchase orders for new fiscal year
- Submit QAPP (every two years or if significant changes)
- QMP (every year, one for CNEP office)
- SOPs
- Level I checks (every two weeks, mobile every month)
- Quarterly checks/maintenance
- Certifying standards (every year)
- Certifying ozone primary standard every year (every year)
- Verifying transfer standards (every quarter)
- Independent audits (every quarter)
- AQS submittal: raw data, QA data, zero/span (every quarter)
- Data certification (annually)
- Quarterly reports
- Monthly reports (internal)
- Consumable inventory
- Gas cylinder inventory

And everyone's favorite, "other duties as assigned".

Developing our grant proposal

- **Who is involved?**
  - I am the primary author, but I depend on my team to provide an estimate of supplies, as well as what new equipment we may potentially need
  - We have a Grants Development team that must review all applications and they submit the application via grants.gov

- **Length of time**
  - Because our application must be reviewed by Grants Development, we must have everything completed a couple of weeks before it is due to EPA
  - I could probably complete in a week if that's all I was doing, but let's be realistic ☺

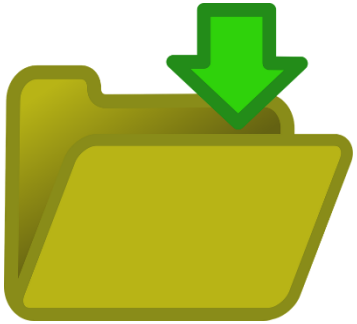
- **Research?**
  - I keep an ongoing file on the public drive
  - Grants Development provides updated IDC and fringe rates and demographics
  - Get updated quotes for supplies and as well as quotes for equipment (for an estimate only, we still have to go through the bid process if over $5,000)

Developing our grant proposal

- **Share drafts with TAC?**
  - Will ask some general questions
  - In Region 6, we submit proposal first and then negotiate from there for the final grant submittal

- **How do we ensure we meet our deliverables?**
  - Be realistic!
  - Allow time for training if you are new to air
  - Allow time for paperwork (AQS setup, ordering equipment, etc.)
  - Be aware of due dates (data submittal, data certification, QAPPs, etc.)

  Give yourself time to manage your data! There is a lot involved, but there are also some great resources for assistance (TAMS Center, ITEP training, other airheads!)



http://www7.nau.edu/itep/main/tams/Home/
http://www7.nau.edu/itep/main/tams/Tools/tools_aqs
https://www7.nau.edu/itep/main/Resources/res_aq

Grant funding – 103 versus 105

- 103 – no match required

- 105 –The tribes approved for awards under Section 105 are required to provide a minimum 40% match unless approved for treatment in a manner similar to a state (TAS), in which case a reduced match of 5% is required for the first two years of funding. If funding continues after two years, then the required match is raised to 10%. The required match may be waived (0%) if a tribe successfully demonstrates financial hardship [40 CFR 35.575(a)].

- Only a 105 can be rolled into a PPG

Advice for other tribes using funds to develop an air program

What are some of our challenges that you may face as well?

- Fringe rate doesn't reflect "true" fringe rate
- IDC rate always changes after we receive our award
- Make sure bonuses are reflecting in hourly rate
- How do we determine what equipment may need to be replaced?
- When to repair and when to replace equipment
- Need to have a plan for attrition (this is a big one)
- Citizens request sampling that we cannot provide

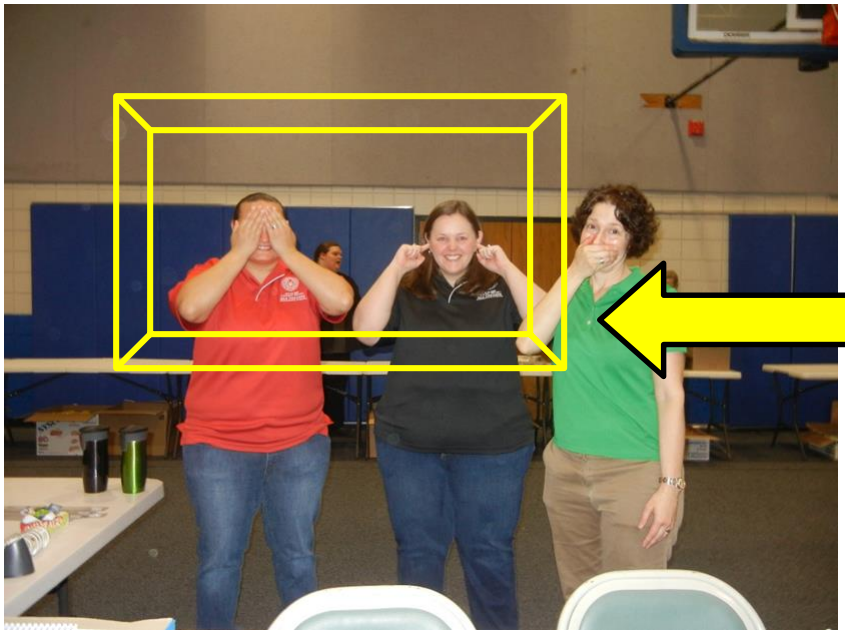
Advice for other tribes using funds to develop an air program

- Funding sources – there may be additional sources other than 103/105 (Exchange Network, Community Air Toxics Monitoring, etc.)
  http://www.tribalexchangenetwork.org/
  https://www.epa.gov/amtic/community-scale-air-toxics-ambient-monitoring-csatam
- Check out equipment loans from the TAMS Center so you can get some experience using monitors
- May consider starting with an emission inventory (EI) first
- Write detailed SOPs and keep them updated!
- Take good notes and keep your project officer informed of any changes!

Your Tribe may go with a different approach…

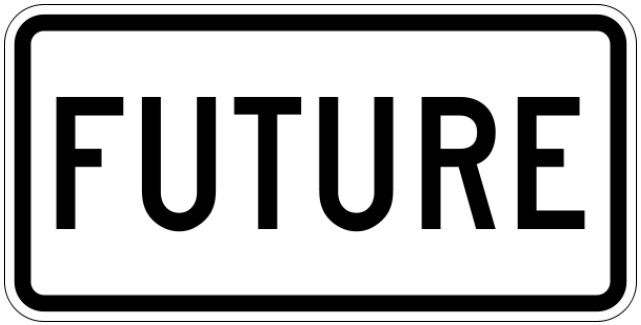
- **Data management** – Proprietary software, free software (Tribal Data Toolbox!)
- **Data analysis** – you may work very closely with your epidemiologist/health services, or you may do forecasting for burns, etc.
- **Outreach** – may be much more personalized
- **Emission Inventory** - may be confined to your reservation and much more thorough, or you may have an interest in a particular source (mining, etc.)
- **Tribal Implementation Plan (TIP)** - you may be interested in enforcement and permitting

What 2-3 factors contribute to our program's success?



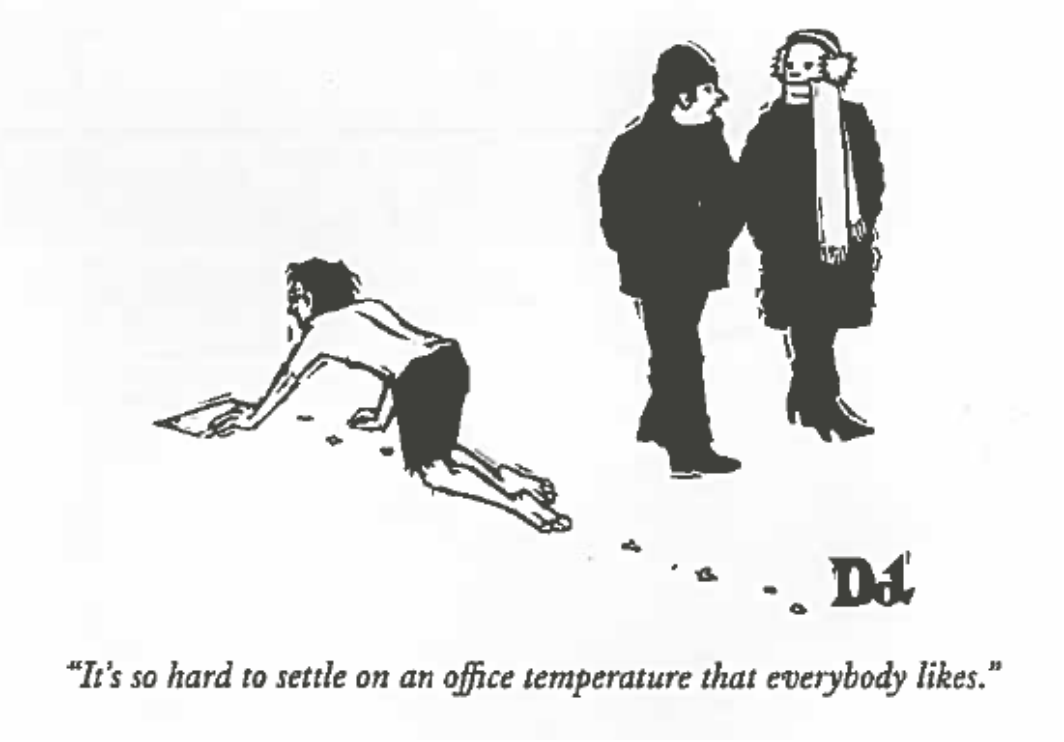
The top two!

Also, we get a lot of support from the CNEP office and our Secretary of Natural Resources, as well as the Environmental Protection Commission (EPC).



goals?

- How do we best maintain what we have?
- Seriously look at creating a tech position
- Is there a new location where regulatory monitoring may be warranted?
- Can we make our data more publicly accessible/useable?



"It's so hard to settle on an office temperature that everybody likes."

Contact information:

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https://itec.cherokee.org/Programs/Clean-Air-Program