



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

FEB 26 2007

Ms. Kathryn Watson, Branch Chief
Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46206



Dear Ms. Watson:

As you are probably aware, the U.S. Environmental Protection Agency (EPA) promulgated the federal Regional Haze Rule on July 1, 1999. The federal Regional Haze Rule and the Clean Air Act require consultation between the States and the Federal Land Managers (FLMs) responsible for managing federal Class I areas. This consultation process provides an opportunity for us to work together to achieve a common goal of protecting the visibility of Class I areas.

The Missouri Department of Natural Resources' Air Pollution Control Program and the Arkansas Department of Environmental Quality would like to officially begin this consultation process for the following Class I areas located in Missouri and Arkansas:

- Mingo Wilderness Area (Missouri)
- Hercules Glades Wilderness Area (Missouri)
- Upper Buffalo Wilderness Area (Arkansas)
- Caney Creek Wilderness Area (Arkansas)

To do so, we are requesting your participation in a "kick-off" conference call to initiate this multi-state planning effort. We would like to schedule this conference call in March 2007.

Enclosed is a draft Consultation Plan that includes the objectives, timelines, activities, and technical information to facilitate the consultation. Please review this draft plan so that we can discuss it and consider any changes that might be beneficial on the call. Participants in the central Class I Areas consultation process will include States and Tribes that have been identified by modeling and technical analysis to have an impact on visibility at these four Class I areas. A list of the invitees that have been requested for the consultation is included in the draft plan. Regional Planning Organizations, FLMs and the EPA will also have the opportunity to participate in this process. The Arkansas Department of Environmental Quality may also provide additional information before the consultation call.

Ms. Kathryn Watson
Page Two

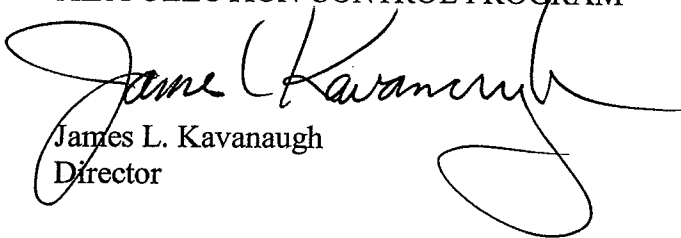
At this time, the modeling analysis shows that we are very close to meeting the reasonable progress goal at the four central Class I areas. It is our hope that through the consultation process we will be able to obtain additional information on the controls currently being implemented or planned by the participating states and tribes, and that we will be able to use that information in the model to demonstrate that we will be able to meet the first progress goal for these areas.

We look forward to working with you on this important effort and request that you please respond to this letter by advising who will be participating in this call for your organization along with their contact information. We will be working with them to develop an agenda and date for the "kick-off" conference call.

If you should have any questions about this letter or the consultation process, please contact either Calvin Ku of the Missouri Department of Natural Resources' Air Pollution Control Program at (573) 751-4817 or Tony Davis of the Arkansas Department of Environmental Quality at (501) 682-0728. Thank you.

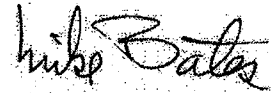
Sincerely,

MISSOURI DEPARTMENT OF NATURAL RESOURCES
AIR POLLUTION CONTROL PROGRAM



James L. Kavanaugh
Director

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY



Mike Bates
Chief - Air Division

Enclosure

JLK/MB:ckt

c: Mr. Daniel R. Schuette, Missouri Department of Natural Resources
Ms. Annette Sharp, CENRAP

UNITED STATES

Central Class I Areas Consultation Plan

Scope

This consultation plan establishes the objectives, activities, and timelines to facilitate stakeholder input for meeting visibility requirements in the federal Regional Haze Rule for the following federal Class I areas:

- Hercules Glades Wilderness Area (Missouri)
- Mingo Wilderness Area (Missouri)
- Caney Creek Wilderness Area (Arkansas)
- Upper Buffalo Wilderness Area (Arkansas)

Background

The U.S. Environmental Protection Agency (EPA) promulgated the federal Regional Haze Rule on July 1, 1999. The federal Regional Haze Rule and the Clean Air Act require consultation between the states, tribes, and the Federal Land Managers (FLM) for managing Class I areas. Since regional haze often results from pollution emitted across broad regions, this multi-state planning effort will help in developing the most cost-effective controls for regional haze. This consultation process will provide a coordinated effort to achieve the federal visibility requirements and aid in developing regional strategies for meeting progress goals.

Plan Objectives

This consultation plan provides state air quality agencies with technical information including emission sources, modeling analysis, and source apportionment for Missouri and Arkansas' Class I areas. These state agencies are being given the opportunity to review this analysis and to participate in consultation to develop plans for meeting regional haze reduction requirements for these Class I areas. Regional Planning Organizations (RPOs), FLMs, and the EPA will also be contacted with the opportunity to participate in the development of actions and control strategies for meeting the federal Regional Haze Rule requirements. This plan includes:

1. Consultation Process
2. Technical Analyses
3. Agency Roles/Responsibilities

1. Consultation Process

Consultation discussion will focus on the primary reasonable progress issues including:

- Source area identifications
- State contribution apportionment
- Emission management strategies

The consultation process will be initiated in early 2007. Draft and final documents will be circulated via email to participating consulting agencies. After the initial kick-off, most consultation discussions will occur through conference calls. However, there will be some instances where a meeting may be desirable (e.g. unresolved issues, complex technical discussions, etc.).

The Missouri Department of Natural Resources' Air Pollution Control Program will work with the Arkansas Department of Environmental Quality and the Central States Regional Air Partnership (CENRAP) to set up conference calls/meetings for the consultation process. Technical documents will be provided for discussion before conference calls or meetings.

Draft and final documents will include supporting materials that describe analytical methods, assumptions, and conclusions that were relied upon in developing the documents. Comments on any draft documents will be requested from the consultation group members.

All consultation activities will be documented, including who participated in consultation discussions and on what dates, outcomes of consultation discussions (issues agreed, disagreed, resolutions) and justification for long term strategy. Each contributing state will be requested to share documentation confirming implementation of emission controls being relied on to meet regional haze Uniform Reasonable Progress (URP) goals.

Documents and consultation logs will be posted on the Missouri Department of Natural Resources' Air Pollution Control Program website for public viewing. All conference call/meeting minutes will also be posted on the agency website. When new documents are posted on the website, the Missouri Department of Natural Resources' Air Pollution Control Program will email all consultation participants to inform them that new information has been posted.

MDNR/ADEQ will work with the FLMs and EPA for consultation through conference calls/meeting. This will include an opportunity for consultation with FLMs in person and at least 60 days prior to holding any public hearing on a state implementation plan as required by federal rule.

Action Items

Participate in kick-off
Comment on the draft consultation plan
Confirm emissions inventory and planned control activities
Develop/share individual state timelines for control implementation
Develop/share control progress
Other actions as needed

Reconciliation of Unresolved Issues

If a contributing state/tribe cannot agree with the lead agency establishing the reasonable progress goal, then certain actions will be taken to resolve the disagreement. These actions are as follows:

- Discuss position and supporting documentation
- If still unresolved, elevate to necessary decision makers
- If still unresolved, document disagreement by describing issue(s) in a letter to the EPA, including regional offices and the Office of Air Quality Planning and Standards

All issues must be addressed and incorporated into the long-term strategy. These outreach efforts will also be documented in the state implementation plan.

Contact Information

Contact information is provided in Attachment A.

Continued Consultation

Consultation between the States and the FLMs will continue as the federal Regional Haze program progresses. The consultation will continue in a similar manner via participation in an RPO. This effort will include development and review of SIP revisions and 5-year progress reports. It will also provide for consideration of any other programs that are implemented and have the potential to contribute to impairment of visibility in Class I areas.

Consultation Timeline

Below, in Table 1, is the consultation process timeline that will be used to achieve milestones for consultation on the federal Regional Haze program.

2. Technical Analyses

In assisting the states/tribes in developing regional haze control strategies for Class I areas within CENRAP states and tribes, CENRAP has contracted Environ/Alpine to conduct the modeling and other technical analyses. Alpine assembled available information that was useful in quantifying the reduction in individual fine particulate aerosol species concentrations needed to satisfy the URP goals. Pertinent "attribution of haze" documents were evaluated. These documents include CENRAP Comprehensive Air Quality Model with extensions (CAMx)/Community Multiscale Air Quality (CMAQ) modeling system visibility modeling results, fine particulate modeling results for the central US, and other technical reports, papers, and analyses bearing directly on the quantification of emissions-source/visibility-receptor impacts at the ten CENRAP Class I and twelve adjoining areas.

Current Regional Haze modeling continues to indicate visibility shortfalls to reaching the necessary URP goals for deciview increments for some of the Central Class I areas in CENRAP. A deciview is a haze index used to quantify incremental changes in visibility perception, where higher deciview values indicate greater levels of visibility impairment. In some of the areas,

Table 1: Consultation Process Timeline

2006 Fall	2006 Winter	2007 Early Spring	2007 Spring	2007 Late Spring	2007 Summer
Develop Baseline and URP Goals	Develop a Consultation Plan	Initiate Collaboration with States	Develop Long Term Strategy (LTS)	Negotiate Changes to LTS	Document Consultation
Back trajectory & Factor analysis	Identify issues for discussion	Consultation log	Follow consultation plan	Emission reduction requirements/ strategies	Who met and when (FLM, RPO, EPA) and discussion
Identify probable area of influence	Review baseline, URP goals, and emissions reduction targets	Discuss URP Goals & contributions assessment	Discuss emissions reduction strategies	Emission budget discrepancies	Consultation outcome Issues agreed, disagreed, resolutions
Apportion state contributions	Develop Action items	Follow consultation plan	Consult with FLM & EPA	Tribal Impacts	Justification of LTS
Develop initial emission cuts to meet 2018 URP Goals	Issues for FLM & EPA input	Consult with FLM & EPA (thru RPO?)	Note areas of irreconcilable disagreement	Additional control strategies	
	Timetable for resolution	Evaluate and identify sources upwind (BART, non-BART, CAMR, other)			

URP goals are expected to be met based on modeling results, but consultation may be necessary to ensure that the emission reductions used in the modeling are actually planned to occur.

Individual Class I Area Characteristics

The Central Class I areas each have individual characteristics. Individual examination of each area elicits a greater understanding of how the Regional Haze problem affects each, and what aspects are of greatest significance.

Hercules Glades

Situated in extreme southwest Missouri, Taney County, Hercules Glades is managed by the United States Department of Agriculture (USDA) Forest Service. The area is 12,315

acres and in some of the most rugged hills of the Missouri Ozarks. The closest urban area is the Springfield/Branson metropolitan statistical area, 40 miles to the west/northwest. *Mingo National Wildlife Refuge*

The Mingo National Wildlife Refuge is managed by the federal Fish and Wildlife Service. The Refuge is situated in the Mississippi Flyway. Only part of it is a Class I area (7,730 acres). Memphis to the south and St. Louis to the north are some of the largest urban areas nearby, although there are a few smaller population centers mostly to the east. Proximity to sources in the Ohio River Valley is a consideration.

Upper Buffalo National Area

The Upper Buffalo Class I area (2,200 acres) is managed by the National Park Service in conjunction with overseeing the Buffalo National River. This area in north central Arkansas is south of Springfield, Missouri and east of Fayetteville and Fort Smith. It is an area of low mountains and largely forested, with bisecting streams.

Caney Creek Class I Area

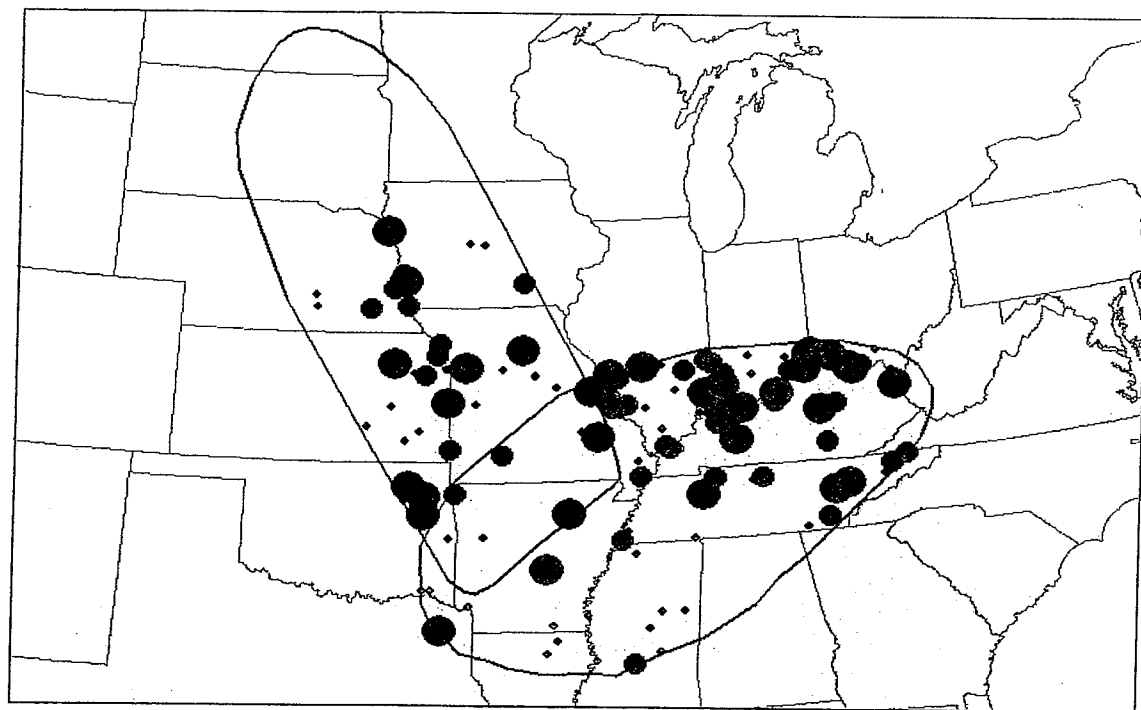
Caney Creek is a 14,460 acre area in the Oachita Mountains of west-southwest Arkansas, the tallest mountain range between the Appalachians and the Rockies. It is south of Fort Smith and west of Little Rock. The area is managed by the USDA Forest Service.

Identification of Source Areas (Areas of Influence)

Source areas must be determined in order to focus the consultation process. That is, locations of significant sources that are likely to affect each Class I area must be identified, and sources within those areas considered for control. Alpine, under its contract to CENRAP, identified Areas of Influence (AOIs), using a variety of data and analyses. In combining the AOI information with emission inventories for the areas, we are able to identify a number of large sources which are of interest.

Figure 1 indicates two Level I AOI's for the Central Class I Areas, one for nitrate (NO_3), and a second grouped collectively for sulfate (SO_4), elemental carbon (EC), organic carbon (OC), coarse mass, and fine soil, along with indicators for sources contained in those areas.

Figure 1 – Alpine AOI's for Central Class I Areas



SO4 AOI Level 1
 NO3 AOI Level 1

NOx Emissions (TPD)

• ≤ 10
 ● 10 - 30
 ● > 30

SO2 Emissions (TPD)

• ≤ 25
 ● 25 - 100
 ● > 100

Attachment B identifies total emissions reductions necessary for level 1 AOI's based on control of sulfate and nitrate species across all four Class I areas. Attachment B also includes inventory tables developed listing possible sources where emissions can be reduced in each state to meet the goals. These emissions provide an overall frame of reference for any reductions in those species.

Contributing States

Source apportionments have recently been conducted on modeling (using Particulate Matter Source Apportionment Technology; PSAT, a source apportionment tool implemented in CAMx) and monitoring data (using positive matrix factorization; PMF/Trajectories) for all four Class I Areas. Attachment C provides both model and monitoring data source apportionment results. These, along with Alpine sulfate AOI's described above have been analyzed in tables in attachment D to determine a list of contributing states for each Class I area.

Methodology

Table 2 and 3 (for illustration) below indicate the overall (average) significant contributing states to decreased visibility due to sulfate and nitrate precursor emissions at the Mingo Site. A decision on whether a given state was a contributor was based on the combined analysis results of the three approaches, i.e., PMF/Trajectories, AOI, and PSAT. If a state is found to be a major contributor in at least 2 of the 3 approaches, it is believed that inclusion of this state is appropriate. All states in red/bold in the Average row are determined to have sources that are significant contributors to decreased visibility. Note that an additional column, Q/D is provided as informational. Q/D in this case was determined by dividing total SO₂ precursor emissions for the state by distance from a state geographic centroid.

Specific to each analysis type, inclusion of a state under the PMF/Trajectories approach depended on the level of probability that an air mass originated from the state during the days of high contribution by sulfate or nitrate sources where the emission impact potential was significant. A state with a high potential of emission impact would be considered a significant contributor.

States were included in the AOI listing if they were part of the level 1 group as determined by Alpine Geophysics. This AOI was based primarily on residence time of air masses, along with evaluation of source emissions of, in this case, nitrate and sulfate.

Lastly, PSAT analysis was determined based on the 2018 Modeled sulfate and nitrate contribution to average extinction for the 20% worst days. Any state with the contribution of 2.0 deciview or higher was identified as a candidate.

Table 2 – Contributing States for the Mingo Wildlife Refuge Area
Sulfate

Q/D*	PMF/ Trajectories		AOI	PSAT	Average
	MN	MN			
MN			MN	MN	MN
SD	SD	SD	SD	SD	SD
WI	WI	WI	WI	WI	WI
IA	IA	IA	IA	IA	IA
NE	NE	NE	NE	NE	NE
KS	KS	KS	KS	KS	KS
MO	MO	MO	MO	MO	MO
IL	IL	IL	IL	IL	IL
IN	IN	IN	IN	IN	IN
OH	OH	OH	OH	OH	OH
MI	MI	MI	MI	MI	MI
KY	KY	KY	KY	KY	KY
TN	TN	TN	TN	TN	TN
AR	AR	AR	AR	AR	AR
OK	OK	OK	OK	OK	OK
TX	TX	TX	TX	TX	TX
LA	LA	LA	LA	LA	LA
MS	MS	MS	MS	MS	MS
AL	AL	AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 3 – Contributing States for the Mingo Wildlife Refuge Area
Nitrate

Q/D*	PMF/ Trajectories		AOI	PSAT	Average
	MN	MN			
MN			MN	MN	MN
SD	SD	SD	SD	SD	SD
WI	WI	WI	WI	WI	WI
IA	IA	IA	IA	IA	IA
NE	NE	NE	NE	NE	NE
KS	KS	KS	KS	KS	KS
MO	MO	MO	MO	MO	MO
IL	IL	IL	IL	IL	IL
IN	IN	IN	IN	IN	IN
OH	OH	OH	OH	OH	OH
MI	MI	MI	MI	MI	MI
KY	KY	KY	KY	KY	KY
TN	TN	TN	TN	TN	TN
AR	AR	AR	AR	AR	AR
OK	OK	OK	OK	OK	OK
TX	TX	TX	TX	TX	TX
LA	LA	LA	LA	LA	LA
MS	MS	MS	MS	MS	MS
AL	AL	AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

State list

Following are lists of the contributing states for Central Class 1 Areas in Missouri and Arkansas based on the analysis described above;

Hercules Glades

Missouri, Illinois, Indiana, Ohio, Kentucky, Tennessee, Arkansas, and Texas

Mingo National Wildlife Refuge

Missouri, Illinois, Indiana, Ohio, Kentucky, Tennessee, Arkansas, and Texas

Upper Buffalo National Area

Iowa, Nebraska, Missouri, Illinois, Indiana, Ohio, Kentucky, Tennessee, Arkansas, Oklahoma, and Texas

Caney Creek Class I Area

Missouri, Illinois, Indiana, Ohio, Kentucky, Tennessee, Arkansas, Oklahoma, and Texas

3. Agency Roles/Responsibilities

The agencies listed in this section are being requested to participate in the consultation process for the federal Regional Haze Rule. Part of this process is the opportunity for States to review the foregoing analysis and the attachments to this plan and provide feedback, and to consider necessary controls available that will assist in meeting the goals prescribed by the regional haze requirements. Federally enforceable measures to control emissions and thereby achieve the URP will be our ultimate measure of success.

Proposed Roles and/or responsibilities are as follows:

- Missouri Department of Natural Resources' Air Pollution Control Program
 - Co-lead consultation effort for Central Class I areas (Missouri and Arkansas) (i.e. schedule conference calls/meetings, etc. and lead discussions)
 - Evaluate regional haze modeling for reasonable progress
 - Evaluate emissions data
 - Identify air pollutants for Missouri Class I areas
 - Evaluate back trajectory analysis
 - Evaluate probable source area identifications
 - Evaluate state contribution apportionment
 - Share upwind source information (including Best Achievable Retrofit Technology (BART), non-BART, Clean Air Mercury Rule (CAMR), etc.)
 - Determine emission management strategies necessary to meet federal Regional Haze Rule requirements

- Provide detailed description of methods used in the SIP to calculate baseline, natural condition, and uniform rate (including supporting documentation for any methods that are not previously established, documented, or supported)
- Document consultation process
- Arkansas Department of Environmental Quality
 - Co-lead consultation effort for Central Class I areas (Missouri and Arkansas) (i.e. schedule conference calls/meetings, etc. and lead discussions)
 - Evaluate regional haze modeling for reasonable progress
 - Evaluate emissions data
 - Identify air pollutants for Arkansas Class I areas
 - Evaluate back trajectory analysis
 - Evaluate probable source area identifications
 - Evaluate state contribution apportionment
 - Share upwind source information (including BART, non-BART, CAMR, etc.)
 - Determine emission management strategies necessary to meet federal Regional Haze Rule requirements
 - Document consultation process
- Illinois Environmental Protection Agency, Ohio Environmental Protection Agency, Indiana Department of Environmental Management, Kentucky Department of Environmental Protection, Tennessee Department of Environment and Conservation, Oklahoma Division of Environmental Quality, Iowa Department of Natural Resources, Kansas Department of Health and Environment, Texas Commission on Environmental Quality, and Louisiana Department of Environmental Quality
- United Keetoowah Band of Cherokee Indians in Oklahoma, Eastern Shawnee Tribe of Oklahoma, Alabama Coushatta Tribe of Texas, Sac and Fox Nation of Missouri, Kickapoo Tribe in Kansas, Potawatomi Nation
 - Participate in consultation effort for Central Class I areas (Missouri and Arkansas) (i.e. conference calls/meetings, discussions, etc.)
 - Provide feedback on reasonable progress analysis (modeling, emissions data, back trajectory, source area identifications, state contribution apportionment)
 - Share upwind source information (including BART, non-BART, CAMR, etc.)
 - Determine emission management strategies necessary to meet federal Regional Haze Rule requirements
- EPA
 - Participate in consultation effort for Central Class I areas (Missouri and Arkansas) (i.e. conference calls/meetings, discussions, etc.)
 - Provide comments on approvability of consultation plan
 - Provide reconciliation on unresolved issues
- FLMs (US Fish and Wildlife Service, National Park Service and the US DA Forest Service)
 - Participate in consultation effort for Central Class I areas (Missouri and Arkansas) (i.e. conference calls/meetings, discussions, etc.)
 - Provide feedback on reasonable progress analysis (modeling, emissions data, back trajectory, source area identifications, state contribution apportionment)

- Provide feedback on controls necessary to meet federal Regional Haze Rule requirements
- Regional Planning Organization
 - Participate in consultation effort for Central Class I areas (Missouri and Arkansas) (i.e. conference calls/meetings, discussions, etc.)
 - Provide updates and summaries of any work in process (e.g. development of baselines and natural conditions, inventories, modeling efforts and contribution assessments)

Attachment A

Contact Information

States

Mr. Mike Bates, Chief
Arkansas Department of Environmental Quality
Air Division
8001 National Drive
P.O. Box 8913
Little Rock, AR 72219-8913
Phone: (501) 682-0750 Fax: (501) 682-0753
Email: bates@adeq.state.ar.us

Ms. Catharine Fitzsimmons, Director
Iowa Department of Natural Resources
Air Quality Bureau
7900 Hickman, Suite 1
Urbandale, IA 50322
Phone: (515) 281-8034 Fax: (515) 242-5094
Email: catharine.fitzsimmons@dnr.state.ia.us

Ms. Laurel Kroack, Bureau Chief
Illinois Environmental Protection Agency
Bureau of Air
1021 North Grand Avenue East
Springfield, IL 62794
Phone: (217) 785-4140 Fax: (217) 782-2465
Email: laurel.kroack@epa.state.il.us

Ms. Kathryn Watson, Branch Chief
Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46206
Phone: (317) 233-5694 Fax: (317) 233-5967
Email: XXXXXXXXXXXX

Mr. Clark Duffy, Director
Kansas Department of Health and Environment
Bureau of Air and Radiation
1000 South West Jackson, Suite 310
Topeka, KS 66612
Phone: (785) 296-1593 Fax: (785) 296-1545
Email: cduffy@kdhe.state.ks.us

Mr. John Lyons, Director
Kentucky Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601
Phone: (502) 573-3382 Fax: (502) 573-3787
Email: john.lyons@ky.gov

Mr. Michael Vince, Director
Louisiana Department of Environmental Quality
Air Quality Assessment Division
P.O. Box 4314
Baton Rouge, La. 70821-4314
Phone: (225) 219-3485 Fax: (225) 219-3240
Email: michael.vince@la.gov

Mr. James Kavanaugh, Director
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
Phone: (573) 751-4817 Fax: (573) 751-2706
Email: james.kavanaugh@dnr.mo.gov

Mr. Bob Hodanbosi, Chief
Ohio Environmental Protection Agency
Division of Air Pollution Control
122 S, Front Street
Columbus, OH 43215
Phone: (614) 644-2310 Fax: (614) 644-3681
Email: bob.hodanbosi@epa.state.oh.us

Mr. Eddie Terrill, Director
Oklahoma Department of Environmental Quality
Air Quality Division
707 North Robinson
Oklahoma City, OK 73101
Phone: (405) 702-4154 Fax: (405) 702-4101
Email: eddie.terrill@deq.state.ok.us

Mr. Barry Stephens, Director
Tennessee Department of Environmental and Conservation
Division of Air Pollution Control
401 Church Street, 9th Floor
L & C Annex
Nashville, TN 37243
Phone: (615) 532-0554 Fax: (615) 532-0614
Email: barry.stephens1@state.tn.us

Mr. Greg Nudd, Director
Texas Commission on Environmental Quality
Air Quality Division
12100 Park 35 Circle, (MC 206)
Austin, TX 78753
Phone: (512) 239-1247 Fax: (512) 296-6188
Email: gnudd@tceq.state.tx.us

Tribal

Mr. Summer King
United Keetoowah Band of Cherokee Indians in Oklahoma
P.O. Box 746
Tahlequah, OK 74465
Phone: (918) 453-2823 Fax: (918) 453-2838
Email: XXXXXXXXXXXXX

Ms. Lisa Brenneman
Eastern Shawnee Tribe of OK
P.O. Box 350
Seneca, MO 64865
Phone: (918) 666-5151, Ext. 210 Fax: (918) 666-1590
Email: XXXXXXXXXXXXX

Mr. Perry Williams
Alabama Coushatta Tribe of Texas
571 State Park Road 56
Livingston, TX 77351
Phone: (936) 563-1100 Fax: (936) 563-1341
Email: XXXXXXXXXXXXX

Mr. Henry Harjo
Kialegee Tribal Town
P.O. Box 332/106 N Main
Wetumka, Oklahoma 74883
Phone: (405) 452-5501 Fax: (405) 452-3037/3413
Email: XXXXXXXXXXXXX

Mr. Roger Anderson
Absentee Shawnee Tribe
2025 S. Gordon Cooper
Shawnee, Oklahoma 74801
Phone: (405) 273-9966
Email: XXXXXXXXXXXXX

Fax: (405) 273-9865

Mr. Rick Campbell
Sac and Fox Nation of Missouri
RR 1 Box 60
Reserve, KS 66434
Phone: (785) 742-4705
Email: XXXXXXXXXXXXX

Fax: (785) 742-2180

Ms. Annie Freitag
Kickapoo Tribe in Kansas
1107 Goldfinch Road
Horton, KS 66439
Phone: (785) 486-2601
Email: XXXXXXXXXXXXX

Fax: (785) 486-2445

Mr. Arthur Muller
Citizen Potawatomi Nation
1601 S. Gordon Cooper
Shawnee, OK 74801
Phone: (405) 878-4672
Email: amuller@Potawatomi.org

Fax: XXXXXXXXX

Federal Lands

Mr. Tim Allen
U.S. Fish and Wildlife Service
7333 W. Jefferson, Suite 375
Lakewood, CO 80235
Phone: (303) 914-3802
Email: Tim_Allen@fws.gov

Fax: (303) 969-5444

Mr. Bruce Polkowsky
National Park Service
NPS-ARD
P.O. Box 25287
Denver, CO 80225
Phone: (303) 987-6944
Email: Bruce Polkowsky@nps.gov

Fax: (303) 969-2822

Mr. Charles Sams
U.S. Department of Agriculture Forest Service
Eastern Region (R-9)
310 West Wisconsin Avenue, Suite 580
Milwaukee, WI 53203
Phone: (414) 297-3529 Fax: (414) 944-3964
Email: csams@fs.fed.us

Regional Planning Organizations:

Ms. Annette Sharp
Central States Regional Air Partnership (CENRAP)
10005 South Pennsylvania, Street C
Oklahoma City, OK 73159
Phone: (405) 378-7377 Fax: (405) 378-7379
Email: assharp@cenrap.org

Mr. Michael Koerber
Midwest Regional Planning Organization
2250 East Devon Avenue, Suite 250
Des Plaines, Illinois 60018
Phone: (847) 720-7880 Fax: XXXXXXXXX
Email: koerber.ladco.org

Mr. John E Hornback
Visibility Improvement State and Tribal Association of the Southeast (VISTAS)
526 Forest Parkway Ste F
Forest Park, GA 30297-6140
Phone: (404) 361-4000 Fax: XXXXXXXXXXXX
Email: XXXXXXXXXXXX

U.S. Environmental Protection Agency Regions:

Ms. Kay Prince
U.S. Environmental Protection Agency – Region 4
Air Planning Branch
Sam Nunn Atlanta Federal Center
61 Forsyth Street, South West
Atlanta, GA 30303
Phone: 404-562-9900 Fax: (404) XXXXXXXXXXXX
Email: Prince.Kay@epa.gov

Mr. Steve Rothblatt
U.S. Environmental Protection Agency - Region 5
Air and Radiation Division
77 West Jackson Boulevard (A-18J)
Chicago, IL 60604
Phone: 312-886-6555 Fax: (312) XXXXXXXXXX
Email: Rothblatt.Steven@epa.gov

Ms. Becky Weber
U.S. Environmental Protection Agency - Region 6
Air Programs Division
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202
Phone: (214) 665-6656 Fax: (214) XXXXXXXXXX
Email: Weber.Becky@epa.gov

Mr. Joshua Tapp
U.S. Environmental Protection Agency - Region 7
Air Planning Branch
901 N. 5th St.
Kansas City, KS 66101
Phone: (913) 551-7942 Fax: (913) 551-7844
Email: Tapp.Joshua@epa.gov

Attachment B

Table 1. EMISSION REDUCTIONS NEEDED TO MEET THE 2018 RPG
IN CENTRAL CLASS I AREAS

Class I Area	ST	Name	Level 1 AOI		Emissions Reductions Needed (Tons)			
			sulfate/SO ₂	nitrate/NO _x	One pollutant control		Proportionate Controls	
			DV	DV	Sulfate	Nitrate	Sulfate	Nitrate
Big Bend Nat'l	TX	BIBE	-0.004	-0.002	133,000	265,000	82,000	10,000
Boundary Waters	MN	BWCA	-0.006	-0.004	91,000	136,000	39,000	51,000
Breton Island	LA	BRET	-0.002	-0.002	96,000	96,000	70,000	9,000
Caney Creek	AR	CACR	-0.002	-0.002	18,000	12,000	11,000	2,000
Guadalupe Mtn	TX	GUMO	-0.004	-0.01	147,000	59,000	58,000	7,000
Hercules-Glade	MO	HEGL	-0.002	-0.002	200,000	127,000	113,000	23,000
Mingo	MO	MING	-0.002	-0.002	235,000	149,000	118,000	33,000
Upper Buffalo	AR	UPBU	-0.002	-0.002	112,000	71,000	65,000	11,000
Voyageurs	MN	VOYA2	-0.006	-0.004	43,000	65,000	11,000	24,000
Wichita Mtn	OK	WIMO	-0.001	-0.005	368,000	74,000	158,000	22,000

Table 2. SO4 Inventory Tables For Level I AOI Contributing States

(tons/summer day)

PLANT ID	STATE	PLANT NAME	SIC	SIC DESCRIPTION	SO2_TPD	NOX_TPD
4800310	Texas	FULLERTON GAS PLANT	1321	NATURAL GAS LIQUIDS	6.50599	0.00000
484691	Texas	EI DU PONT DE NEMOURS	2869	INDUSTRIAL ORGANIC CHEMICALS,NEC	0.00000	10.33888
470850011	Tennessee	TVA JOHNSONVILLE FOSSIL PLANT	4911	ELECTRIC SERVICES	300.62585	68.40613
470730007	Tennessee	TVA JOHN SEVIER FOSSIL PLANT	4911	ELECTRIC SERVICES	98.99900	28.54810
471650025	Tennessee	TVA GALLATIN FOSSIL PLANT	4911	ELECTRIC SERVICES	94.72930	33.50815
471630003	Tennessee	EASTMAN CHEMICAL COMPANY	2869	INDUSTRIAL ORGANIC CHEMICALS,NEC	66.36360	35.39940
4715700528	Tennessee	ALLEN FOSSIL PLANT	4911	ELECTRIC SERVICES	52.32034	40.03523
471610011	Tennessee	TVA CUMBERLAND FOSSIL PLANT	4911	ELECTRIC SERVICES	45.79200	137.25500
471070012	Tennessee	BOWATER NEWSPRINT & DIRECTORY - CALHOUN	2611	PULP MILLS	25.40730	17.57016
470374703700002	Tennessee	E I DUPONT DE NEMOURS & CO INC	2869	INDUSTRIAL ORGANIC CHEMICALS,NEC	18.74385	0.00000
470630197	Tennessee	LIBERTY FIBERS CORPORATION	2823	CELLULOSIC MAN-MADE FIBERS	14.73094	5.63459
470090008	Tennessee	ALUMINUM COMPANY OF AMERICA - SOUTH PLAN	3334	PRIMARY ALUMINUM	11.24313	0.00000
471050081	Tennessee	A.E. STALEY MANUFACTURING COMPANY	2046	WET CORN MILLING	9.40970	5.27573
4715700475	Tennessee	LUCITE INTERNATIONAL INC.	2819	INDUSTRIAL INORGANIC CHEMICALS	9.39796	0.00000
470710002	Tennessee	PACKAGING CORPORATION OF AMERICA	2631	PAPERBOARD MILLS	8.02611	7.42406
4715700045	Tennessee	CARGILL CORN MILLING	2046	WET CORN MILLING	7.53664	0.00000
470653070	Tennessee	SIGNAL MOUNTAIN CEMENT CO.	3241	CEMENT, HYDRAULIC	7.45430	14.19100
470010020	Tennessee	U.S. DEPARTMENT OF ENERGY Y-12 PLANT	3499	FABRICATED METAL PRODUCTS, NEC	6.45058	0.00000
470850010	Tennessee	INLAND PAPERBOARD & PACKAGING INC.	2679	CONVERTED PAPER PRODUCTS, NEC	6.05144	0.00000
471390004	Tennessee	INTERTRADE HOLDINGS INC.	2819	INDUSTRIAL INORGANIC CHEMICALS	5.12497	0.00000
470730026	Tennessee	AFG INDUSTRIES - GREENLAND PLANT	3211	FLAT GLASS	0.00000	5.53680
471630007	Tennessee	SEAMAN CORPORATION	2295	COATED FABRICS, NOT RUBBERIZED	0.00000	13.59050
40097799	Oklahoma	GRAND RIVER DAM AUTH	4911	ELECTRIC SERVICES	43.79260	38.29550
400891733	Oklahoma	WEYERHAEUSER - VALLIANT	2631	PAPERBOARD MILLS	6.85920	8.73920
40031211	Oklahoma	PUBLIC SVC CO OF OK	4911	ELECTRIC SERVICES	0.00000	8.07136
390310616000000	Ohio	CONESVILLE POWER PLANT	4911	ELECTRIC SERVICES	415.59965	80.90937
390251413100008	Ohio	CINERGY CG&E WC BECKJORD STATION	4931	ELEC & OTHER SERVICES COMBINED	189.03354	48.73621
390010701000060	Ohio	DP&L KILLEN GENERATING STATION	4911	ELECTRIC SERVICES	62.09508	24.70857
391390370020002	Ohio	SHELBY MUNICIPAL LIGHT PLANT	4911	ELECTRIC SERVICES	10.97583	0.00000
390690335010105	Ohio	CAMPBELL SOUP COMPANY	2032	CANNED SPECIALTIES	9.19665	0.00000
390030302002012	Ohio	PREMCO REFINING GROUP	2911	PETROLEUM REFINING	8.63332	5.82966
390611431390903	Ohio	THE PROCTER AND GAMBLE CO.	2841	SOAP AND OTHER DETERGENTS	5.06495	0.00000
3100100042	Nebraska	Whelan Energy Center	4911	ELECTRIC SERVICES	6.04710	0.00000
290990016	Missouri	AMERENUE-RUSH ISLAND PLANT	4911	ELECTRIC SERVICES	61.58000	10.63480
291890010	Missouri	AMERENUE-MERAMEC PLANT	4911	ELECTRIC SERVICES	42.16141	22.98658
291430004	Missouri	ASSOCIATED ELECTRIC COOPERATIVE INC-NEW	4911	ELECTRIC SERVICES	38.72200	98.94600
290990003	Missouri	DOE RUN COMPANY-HERCULANEUM SMELTER	3339	PRIMARY NONFERROUS METALS, NEC	38.52199	0.00000
290830001	Missouri	KANSAS CITY POWER & LIGHT CO-MONTROSE GE	4911	ELECTRIC SERVICES	24.74788	8.80744
290950021	Missouri	TRIGEN ENERGY CORPORATION-GRAND AVENUE S	4911	ELECTRIC SERVICES	23.22464	0.00000
290770005	Missouri	CITY UTILITIES OF SPRINGFIELD MISSOURI-J	4911	ELECTRIC SERVICES	18.58675	19.25697
295100003	Missouri	ANHEUSER-BUSCH INC-ST. LOUIS	2082	MALT BEVERAGES	17.82469	0.00000
291860001	Missouri	MISSISSIPPI LIME COMPANY-MISSISSIPPI LIM	3274	LIME	16.44205	7.57345
290770039	Missouri	CITY UTILITIES OF SPRINGFIELD MISSOURI-S	4911	ELECTRIC SERVICES	11.91107	7.09601
290930009	Missouri	DOE RUN COMPANY-BUICK SMELTER	3339	PRIMARY NONFERROUS METALS, NEC	11.47904	0.00000
291430008	Missouri	NORANDA ALUMINUM INC-NORANDA ALUMINUM IN	3334	PRIMARY ALUMINUM	11.21103	0.00000
291510002	Missouri	CENTRAL ELECTRIC POWER COOPERATIVE-CHAMO	4911	ELECTRIC SERVICES	10.40103	7.95615
291950010	Missouri	MARSHALL MUNICIPAL UTILITIES-MARSHALL MU	4911	ELECTRIC SERVICES	8.36287	0.00000
290190002	Missouri	COLUMBIA MUNICIPAL POWER PLANT-COLUMBIA	4911	ELECTRIC SERVICES	5.23420	0.00000
281212812100036	Mississippi	PURSUE ENERGY CORPORATION THOMASVILLE G	2819	INDUSTRIAL INORGANIC CHEMICALS	33.21600	0.00000
280592805900058	Mississippi	CHEVRON PRODUCTS COMPANY PASCAGOULA REF	2911	PETROLEUM REFINING	15.54386	11.21247
280182801900011	Mississippi	CHOCTAW GENERATION LLP RED HILLS GENERA	4911	ELECTRIC SERVICES	12.12464	0.00000
280232802300031	Mississippi	MAGNOLIA RESOURCES INC PACHUTA HARMONY	1321	NATURAL GAS LIQUIDS	6.16490	0.00000
281372813700025	Mississippi	TRUNKLINE GAS COMPANY INDEPENDENCE COMP	4922	NATURAL GAS TRANSMISSION	0.00000	5.90938
281492814900027	Mississippi	ENTERGY MISSISSIPPI INCBAXTER WILSON PL	4911	ELECTRIC SERVICES	0.00000	21.38220
281512815100048	Mississippi	ENTERGY MISSISSIPPI INC GERALD ANDRUS P	4911	ELECTRIC SERVICES	0.00000	16.13000
220750015	Louisiana	CONOCOPHILLIPS COALLIANCE REFINERY	2911	PETROLEUM REFINING	9.05244	6.99716
220050004	Louisiana	CF INDUSTRIES INC.DONALDSONVILLE NITRO	2873	NITROGENOUS FERTILIZERS	0.00000	9.40132
220710014	Louisiana	ENTERGY NOMICHOUD	4911	ELECTRIC SERVICES	0.00000	12.34510
211772117700006	Kentucky	TVA PARADISE STEAM PLANT	4911	ELECTRIC SERVICES	231.14800	129.45000
210912109100003	Kentucky	WESTERN KY ENERGY CORP COLEMAN STATION	4911	ELECTRIC SERVICES	136.73500	18.52110
210412104100010	Kentucky	KENTUCKY UTILITIES CO GHENT GENERATING S	4911	ELECTRIC SERVICES	128.63700	53.32750
211672116700001	Kentucky	KENTUCKY UTILITIES CO BROWN FACILITY	4911	ELECTRIC SERVICES	126.12264	22.49524
211272112700003	Kentucky	KENTUCKY POWER CO BIG SANDY PLANT	4911	ELECTRIC SERVICES	116.35500	40.56600
211612116100009	Kentucky	EAST KY POWER COOP SPURLOCK ST. MAYSVILL	4911	ELECTRIC SERVICES	114.74800	22.85900
211452114500006	Kentucky	TVA-ENVIRONMENTAL AFFAIRS SHAWNEE PLANT	4911	ELECTRIC SERVICES	93.72150	52.22210
211110127	Kentucky	LOU GAS & ELEC MILL CREEK	4911	ELECTRIC SERVICES	62.90400	40.62600
211992119900005	Kentucky	EAST KY POWER COOP JOHN SHERMAN COOPER P	4911	ELECTRIC SERVICES	60.98100	12.39360
211110126	Kentucky	LOU GAS & ELEC CANE RUN	4911	ELECTRIC SERVICES	41.51100	17.38838
211772117700001	Kentucky	KENTUCKY UTILITIES CO GREEN RIVER STATIO	4911	ELECTRIC SERVICES	36.53400	0.00000
212332123300001-B	Kentucky	WESTERN KY ENERGY CORP REID	4911	ELECTRIC SERVICES	26.99800	0.00000
210492104900003	Kentucky	EAST KY POWER COOP WILLIAM C DALE PLANT	4911	ELECTRIC SERVICES	25.84360	6.17140
211832118300069	Kentucky	WESTERN KY ENERGY CORP WILSON STATION	4911	ELECTRIC SERVICES	24.39500	22.78500
212232122300002	Kentucky	LOUISVILLE GAS & ELECTRIC TRIMBLE CO GEN	4911	ELECTRIC SERVICES	23.13700	14.14800
210592105900027	Kentucky	OWENSBORO MUNICIPAL UTIL ELMER SMITH STA	4911	ELECTRIC SERVICES	19.66360	25.20099

Table 3. NO3 Inventory Tables For Level I AOI Contributing States

(tons/summer day)

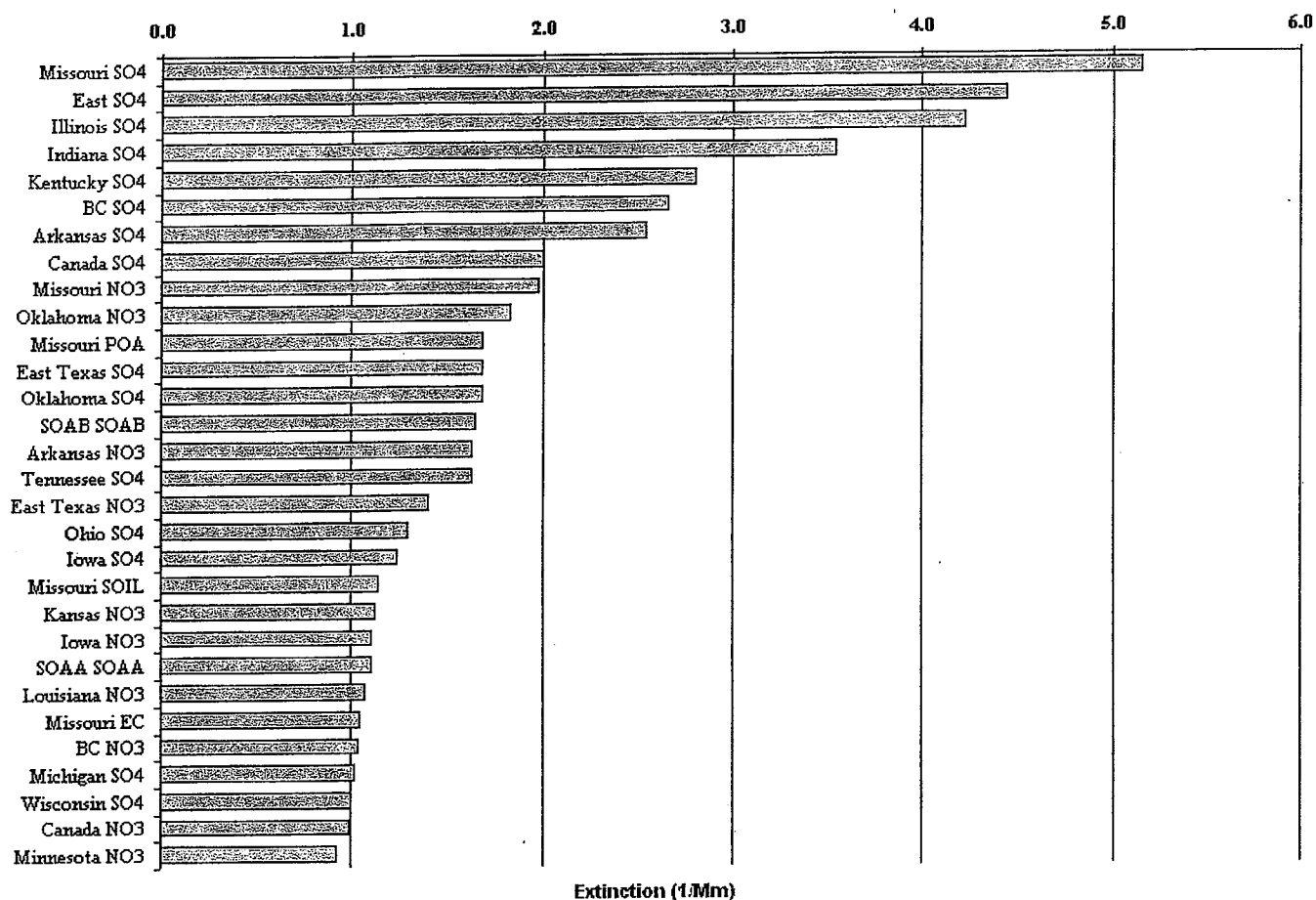
Plant ID	STATE	PLANT NAME	SIC	SIC DESCRIPTION	NOX_TPD	SO2_TPD
40131212	Oklahoma	PUBLIC SVC CO OF OK	4911	ELECTRIC SERVICES	50.98726	100.50654
401011209	Oklahoma	OG&E	4911	ELECTRIC SERVICES	50.35082	78.30093
40097799	Oklahoma	GRAND RIVER DAM AUTH	4911	ELECTRIC SERVICES	38.29550	43.79260
40143639	Oklahoma	VISTEON TULSA FIELD PLT	3211	FLAT GLASS	6.83041	0.00000
40101643	Oklahoma	FORT JAMES OPERATING CO	2621	PAPER MILLS EXC BUILDING PAPER	5.45118	6.43248
40131166	Oklahoma	LAFARGE BDLG MATERIALS	3241	CEMENT, HYDRAULIC	5.36456	6.48181
4007911	Oklahoma	AES SHADY POINT LLC	4911	ELECTRIC SERVICES	0.00000	16.77580
311090005	Nebraska	NPPD Sheldon Station	4911	ELECTRIC SERVICES	22.06600	16.02900
3113100036	Nebraska	OPPD Nebraska City Station	4911	ELECTRIC SERVICES	19.00005	30.02221
310550002	Nebraska	Omaha Public Power District - North Omah	4911	ELECTRIC SERVICES	16.69760	32.90430
3102500002	Nebraska	Ash Grove Cement Co	3241	CEMENT, HYDRAULIC	10.15431	13.17575
3100100042	Nebraska	Whelan Energy Center	4911	ELECTRIC SERVICES	0.00000	6.04710
3107900606	Nebraska	Platte Generating Station	4911	ELECTRIC SERVICES	0.00000	6.27660
291750001	Missouri	ASSOCIATED ELECTRIC COOPERATIVE INC-THOM	4911	ELECTRIC SERVICES	38.53500	35.04050
290950031	Missouri	AQUILA INC-SIBLEY GENERATING STATION	4911	ELECTRIC SERVICES	32.55300	31.17500
290970001	Missouri	EMPIRE DISTRICT ELECTRIC CO-ASBURY PLANT	4911	ELECTRIC SERVICES	21.33100	15.26500
290770005	Missouri	CITY UTILITIES OF SPRINGFIELD MISSOURI-J	4911	ELECTRIC SERVICES	19.25697	18.58675
291650007	Missouri	KANSAS CITY POWER & LIGHT CO-IATAN GENER	4911	ELECTRIC SERVICES	18.34496	37.06906
290210004	Missouri	AQUILA INC-LAKE ROAD PLANT	4911	ELECTRIC SERVICES	12.39498	10.36408
290830001	Missouri	KANSAS CITY POWER & LIGHT CO-MONTROSE GE	4911	ELECTRIC SERVICES	8.80744	24.74788
291510002	Missouri	CENTRAL ELECTRIC POWER COOPERATIVE-CHAMO	4911	ELECTRIC SERVICES	7.95615	10.40103
290770039	Missouri	CITY UTILITIES OF SPRINGFIELD MISSOURI-S	4911	ELECTRIC SERVICES	7.09601	11.91107
290950022	Missouri	KANSAS CITY POWER & LIGHT CO-HAWTHORN ST	4911	ELECTRIC SERVICES	5.53993	8.89822
290190002	Missouri	COLUMBIA MUNICIPAL POWER PLANT-COLUMBIA	4911	ELECTRIC SERVICES	0.00000	5.23420
290190004	Missouri	UNIVERSITY OF MISSOURI - COLUMBIA-POWER	4911	ELECTRIC SERVICES	0.00000	34.08629
290470096	Missouri	INDEPENDENCE POWER AND LIGHT-MISSOURI CI	4911	ELECTRIC SERVICES	0.00000	16.42886
290930008	Missouri	DOE RUN COMPANY-GLOVER SMELTER	3339	PRIMARY NONFERROUS METALS, NEC	0.00000	128.82087
290930009	Missouri	DOE RUN COMPANY-BUICK SMELTER	3339	PRIMARY NONFERROUS METALS, NEC	0.00000	11.47904
290950021	Missouri	TRIGEN ENERGY CORPORATION-GRAND AVENUE S	4911	ELECTRIC SERVICES	0.00000	23.22464
290950050	Missouri	INDEPENDENCE POWER AND LIGHT-BLUE VALLEY	4911	ELECTRIC SERVICES	0.00000	16.31967
291950010	Missouri	MARSHALL MUNICIPAL UTILITIES-MARSHALL MU	4911	ELECTRIC SERVICES	0.00000	8.36287
201070005	Kansas	KANSAS CITY POWER & LIGHT CO.	4911	ELECTRIC SERVICES	107.52207	71.32573
201490001	Kansas	WESTAR ENERGY INC.	4911	ELECTRIC SERVICES	75.33946	167.18284
200450014	Kansas	WESTAR ENERGY INC.	4911	ELECTRIC SERVICES	16.77377	25.03380
202090008	Kansas	BOARD OF PUBLIC UTILITIES - NEARMAN	4911	ELECTRIC SERVICES	9.45550	20.95800
202090048	Kansas	BOARD OF PUBLIC UTILITIES - QUINDARO	4911	ELECTRIC SERVICES	9.00230	10.32060
201770030	Kansas	WESTAR ENERGY INC.	4911	ELECTRIC SERVICES	8.97410	19.17812
200150004	Kansas	FRONTIER EL DORADO REFINING COMPANY	2911	PETROLEUM REFINING	6.48527	0.00000
201110007	Kansas	PANHANDLE EASTERN PIPE LINE COMPANY	4922	NATURAL GAS TRANSMISSION	5.99508	0.00000
201330001	Kansas	ASH GROVE CEMENT COMPANY	3241	CEMENT, HYDRAULIC	5.81100	0.00000
202057022	Kansas	LAFARGE MIDWEST INC.	3241	CEMENT, HYDRAULIC	5.73203	6.35085
201210015	Kansas	PANHANDLE EASTERN PIPE LINE COMPANY	4922	NATURAL GAS TRANSMISSION	5.12310	0.00000
200210002	Kansas	EMPIRE DISTRICT ELECTRIC COMPANY (THE)	4911	ELECTRIC SERVICES	0.00000	9.32330
1915578-01-026	Iowa	MIDAMERICAN ENERGY CO. - COUNCIL BLUFFS	4911	ELECTRIC SERVICES	32.06380	49.21420
1919397-04-010	Iowa	MIDAMERICAN ENERGY CO. - GEORGE NEAL NOR	4911	ELECTRIC SERVICES	30.01136	59.63300
1919397-04-011	Iowa	MIDAMERICAN ENERGY CO. - GEORGE NEAL SOU	4911	ELECTRIC SERVICES	21.21000	40.52000
1917990-07-001	Iowa	IPL - OTTUMWA GENERATING STATION	4911	ELECTRIC SERVICES	19.83300	37.82200
1901508-03-004	Iowa	NORTHERN NATURAL GAS CO. - OGDEN COMPRES	4922	NATURAL GAS TRANSMISSION	5.17890	0.00000
1916985-01-007	Iowa	IOWA STATE UNIVERSITY ISU HEATING PLANT	8221	COLLEGES AND UNIVERSITIES, NEC	0.00000	5.64581
1917968-09-001	Iowa	CARGILL INC. - EDDYVILLE	2046	WET CORN MILLING	0.00000	6.08014
050630506300042	Arkansas	ENTERGY ARK-INDEPENDENCE	4911	ELECTRIC SERVICES	46.64000	72.93600
050070500700107	Arkansas	SWEP-FLINT CREEK POWER PLANT	4911	ELECTRIC SERVICES	15.50800	33.27100
050830508300088	Arkansas	CENTERPOINT ENERGY-DUNN COMPRESSOR	4922	NATURAL GAS TRANSMISSION	5.46066	0.00000
050630506300036	Arkansas	EASTMAN CHEMICAL COMPANY-ARK EASTMAN DIV	2869	INDUSTRIAL ORGANIC CHEMICALS,NEC	0.00000	17.27739

Attachment C – Source Apportionment Analysis

Source Apportionment for the Hercules Glades Class I Area

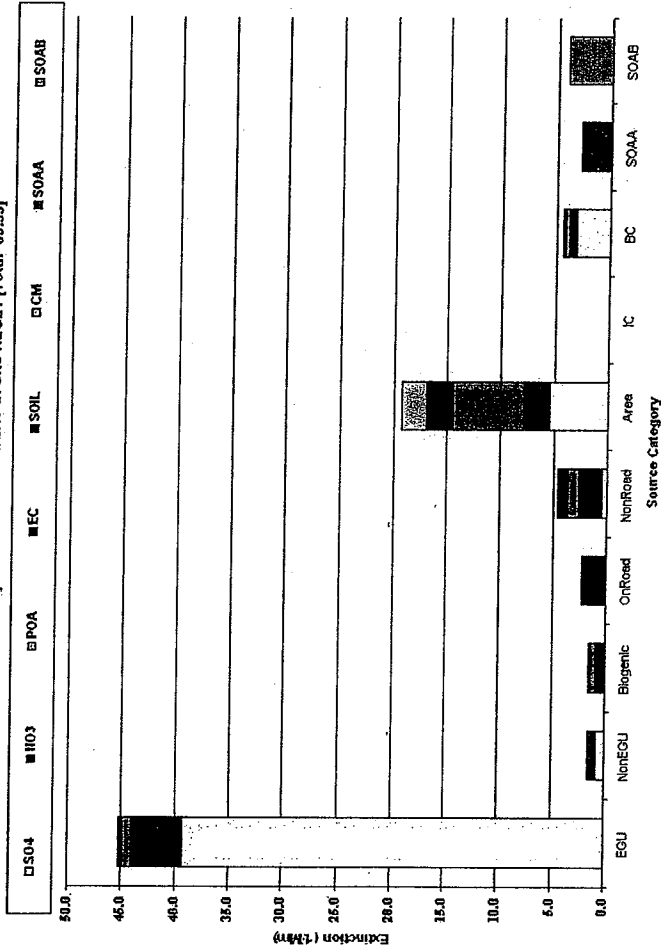
PSAT Model Source Apportionment

CENRAP PSAT Modeled W20% 2018 BEXT at Site HEGL1 [Total= 73.59]

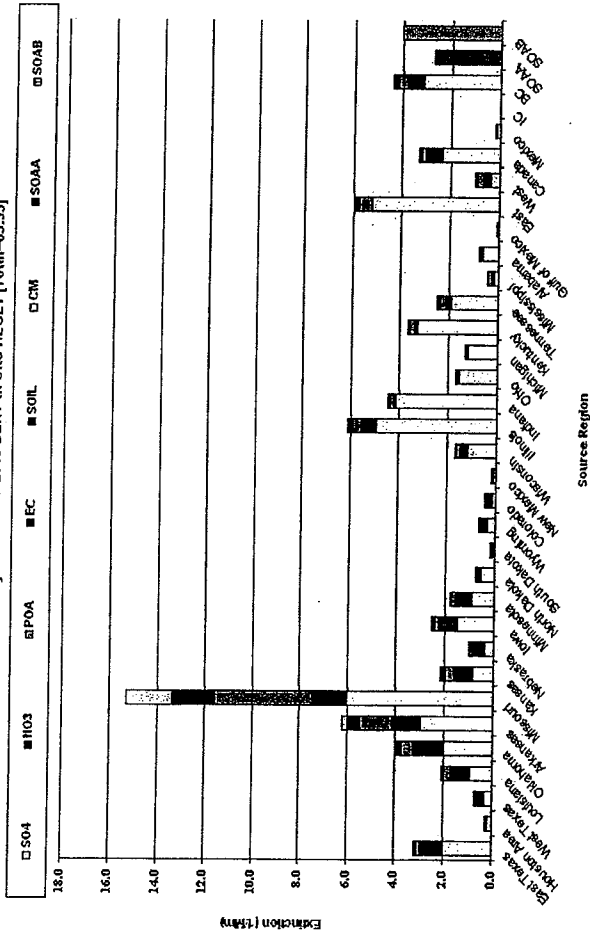


Hercules Glades Projected 2018 – Worst 20%

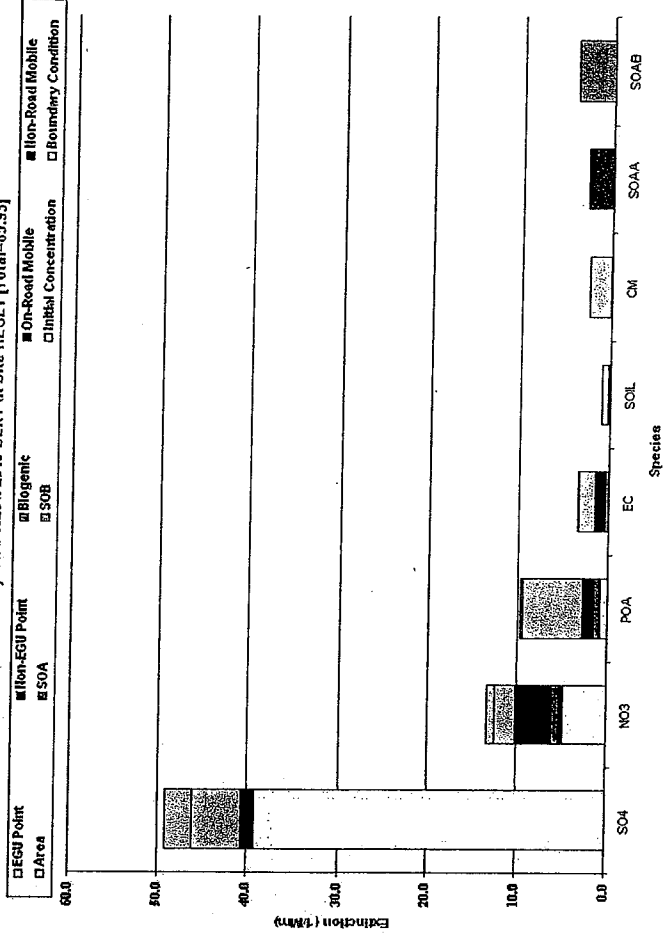
CENRAP PSAT Projected W20% 2018 BEXT at Site HEGL1 [Total=85.93]



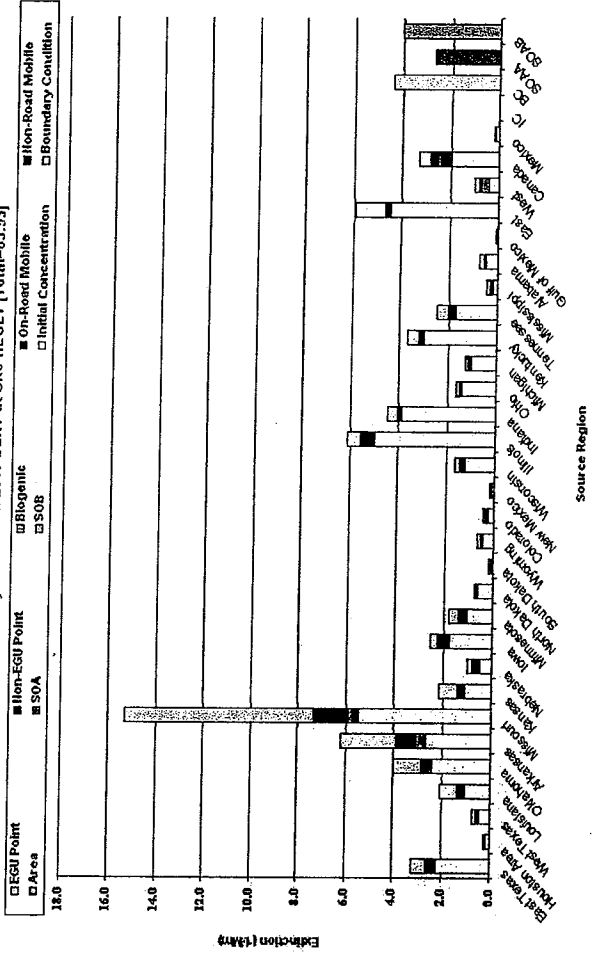
CENRAP PSAT Projected W20% 2018 BEXT at Site HEGL1 [Total=85.93]



CENRAP PSAT Projected W20% 2018 BEXT at Site HEGL1 [Total=85.93]

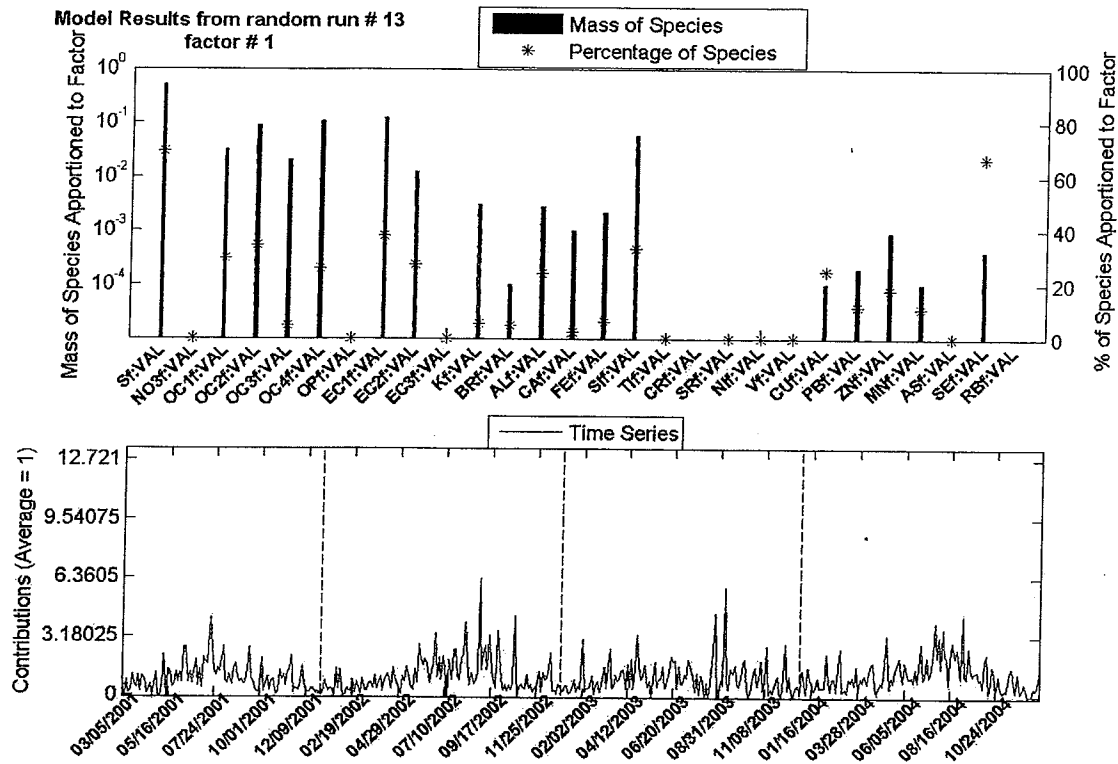


CENRAP PSAT Projected W20% 2018 BEXT at Site HEGL1 [Total=85.93]

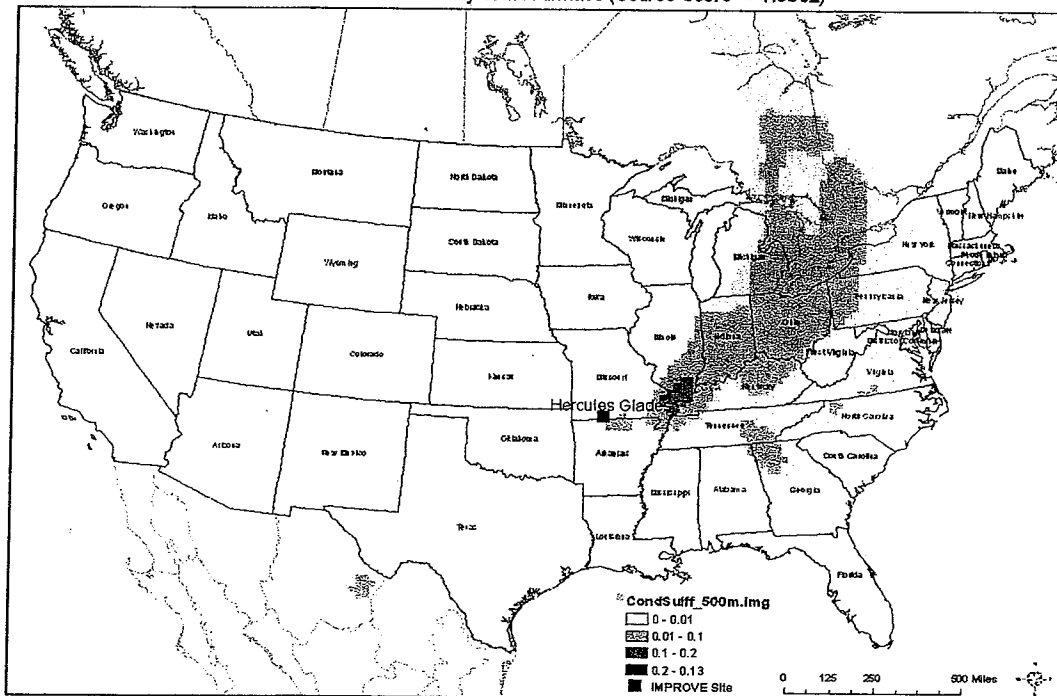


Monitoring Data Source Apportionment

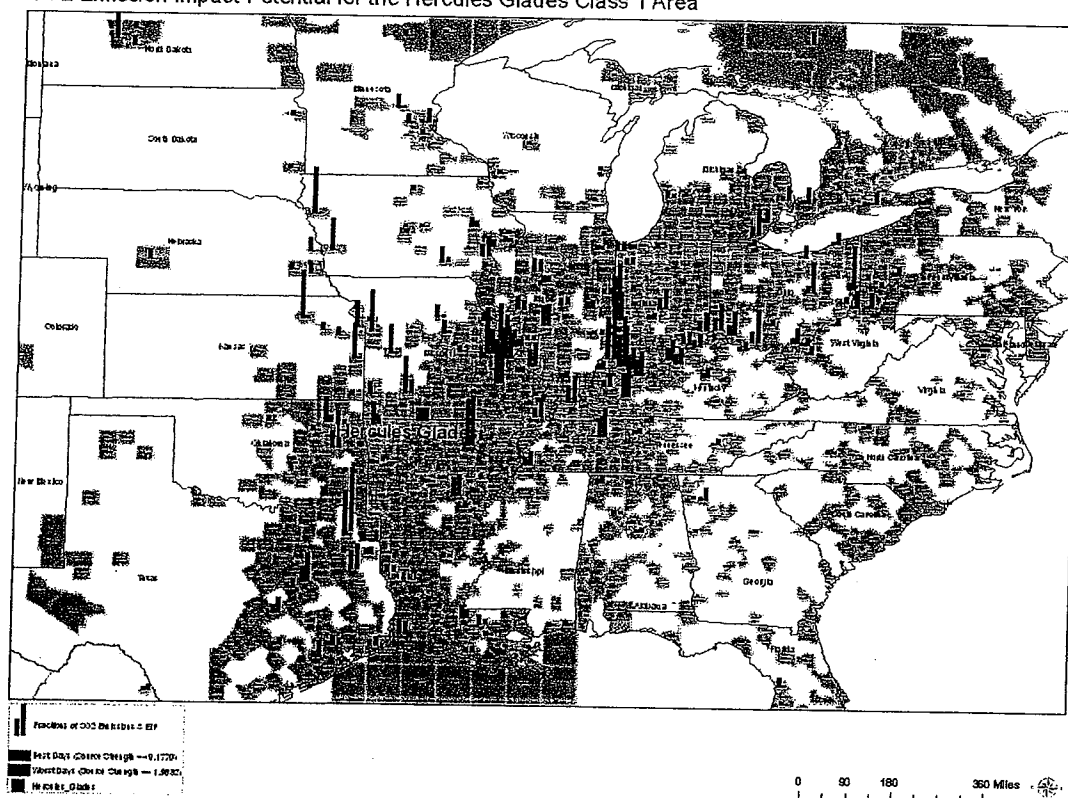
The Coal Combustion Factor at the Hercules Glades Class I Area



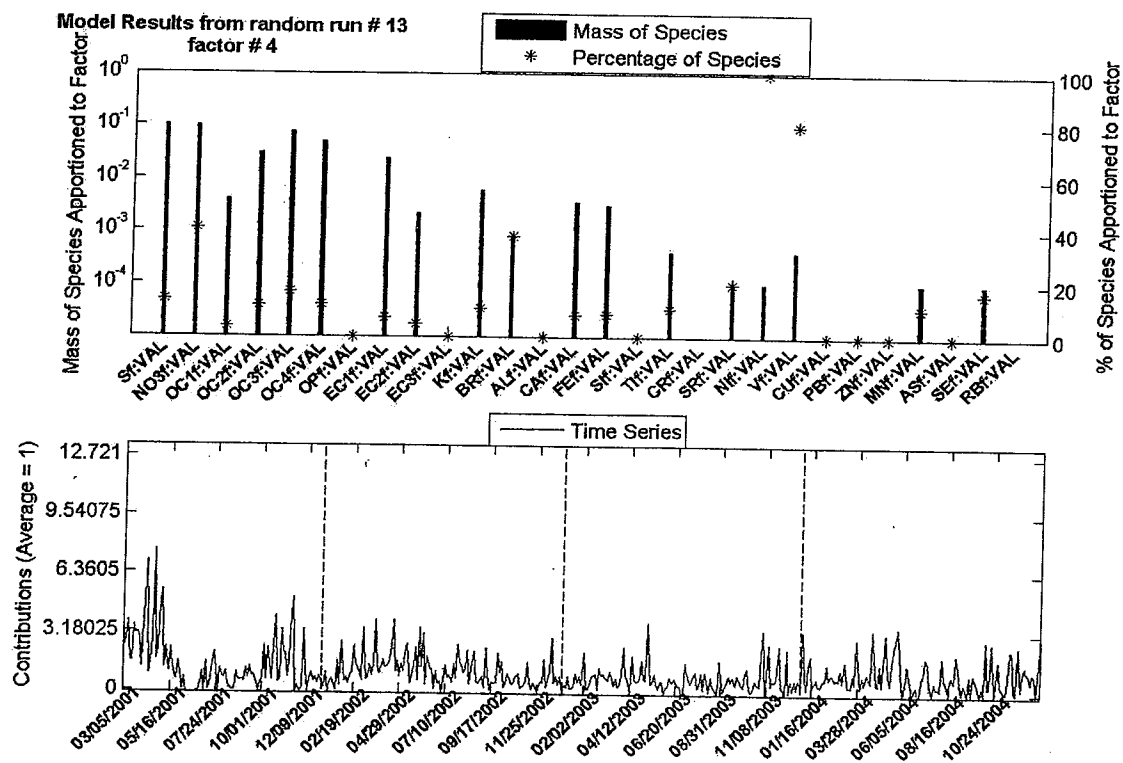
Possible Source Area of the Identified Coal Combustion Factor at the Hercules Glades Class I Area
Incremental Probability of the Airmass (Source Score ≥ 1.9832)



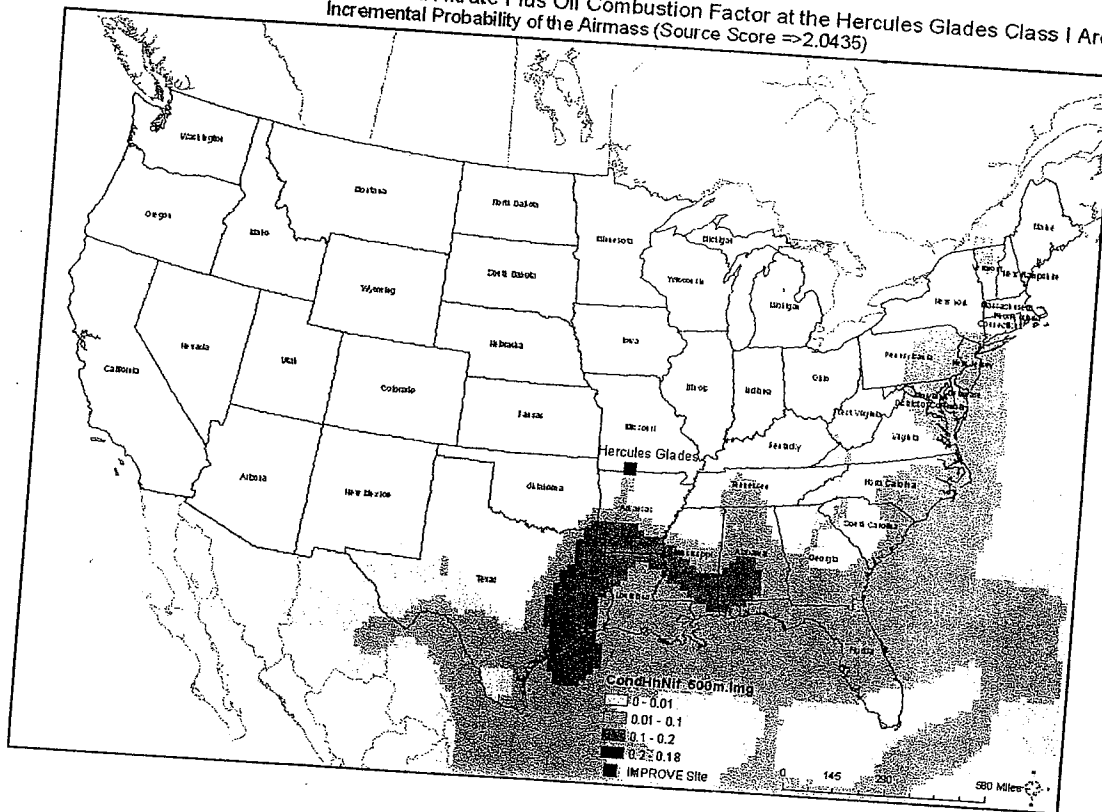
SO2 Emission Impact Potential for the Hercules Glades Class 1 Area



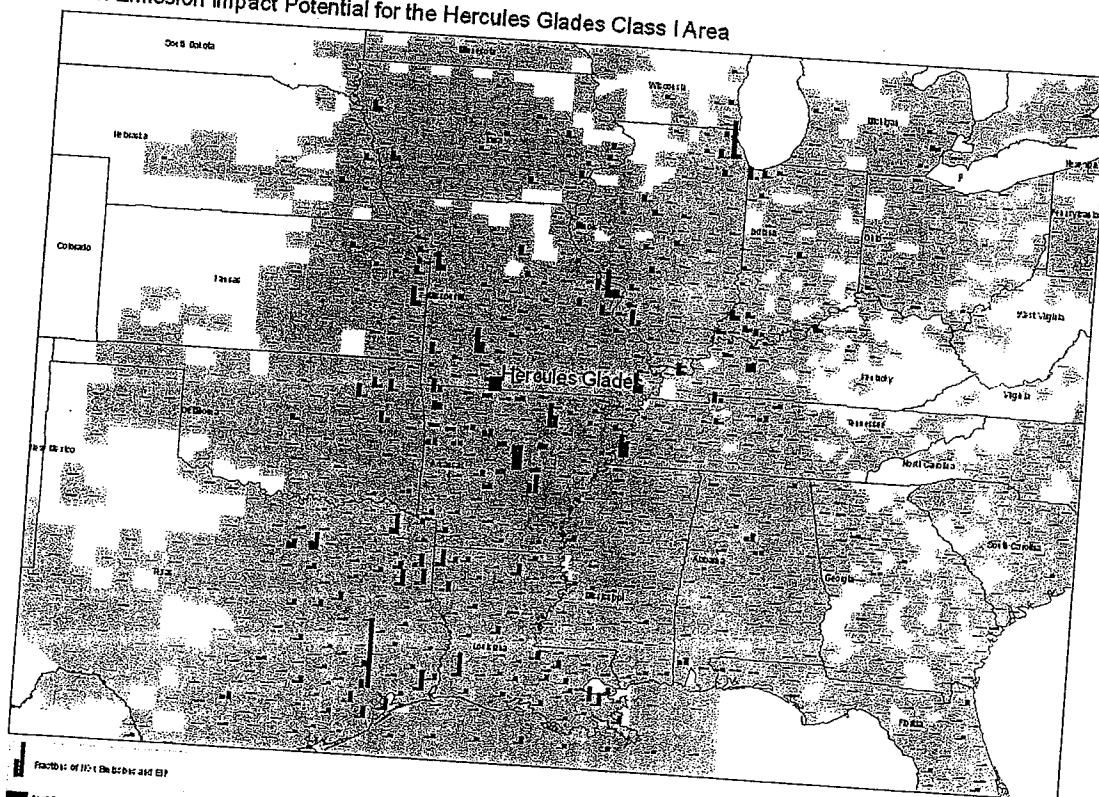
The Secondary Nitrate plus Oil Combustion Factor at the Hercules Glades Class I Area



Possible Source Area of the Identified Nitrate Plus Oil Combustion Factor at the Hercules Glades Class I Area
Incremental Probability of the Airmass (Source Score \Rightarrow 2.0435)



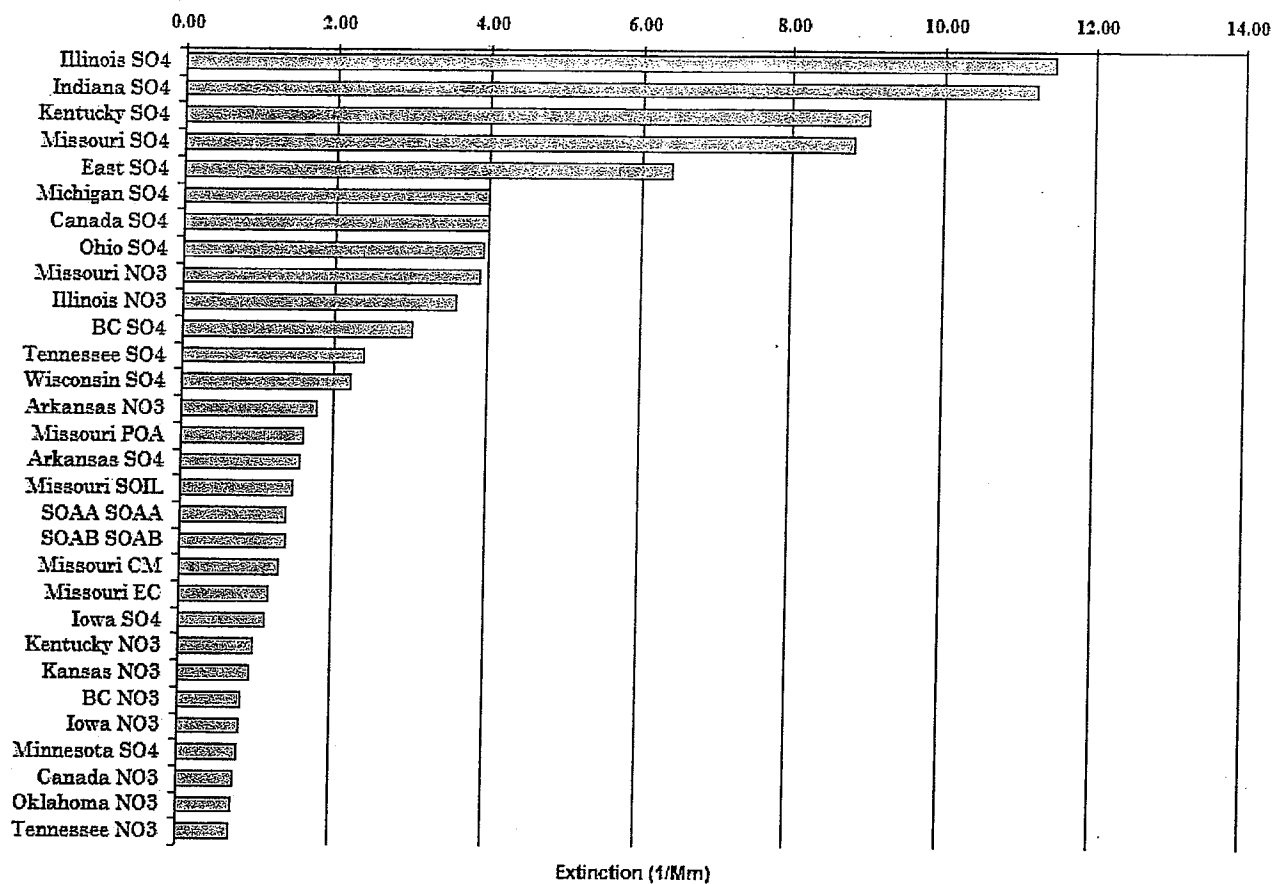
NOx Emission Impact Potential for the Hercules Glades Class I Area



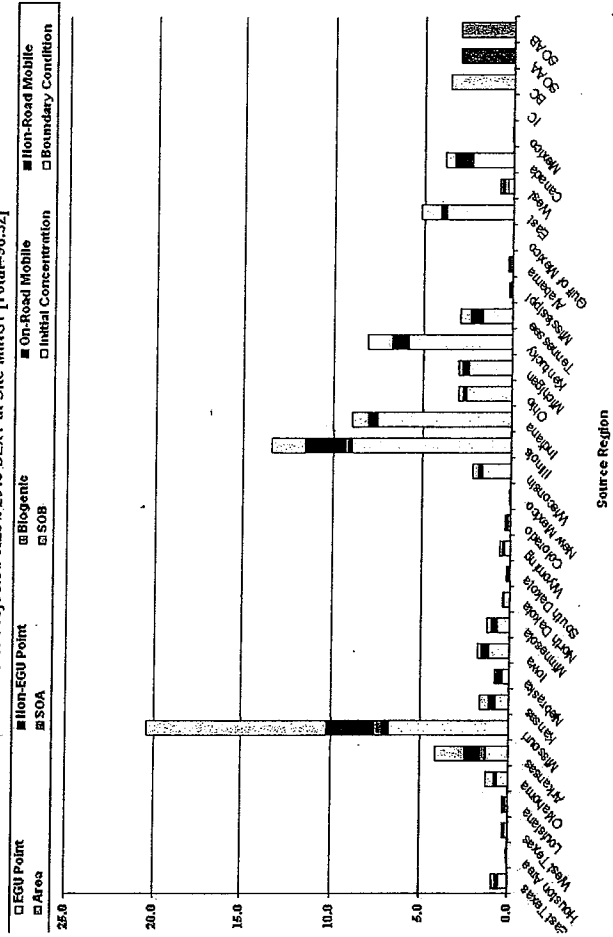
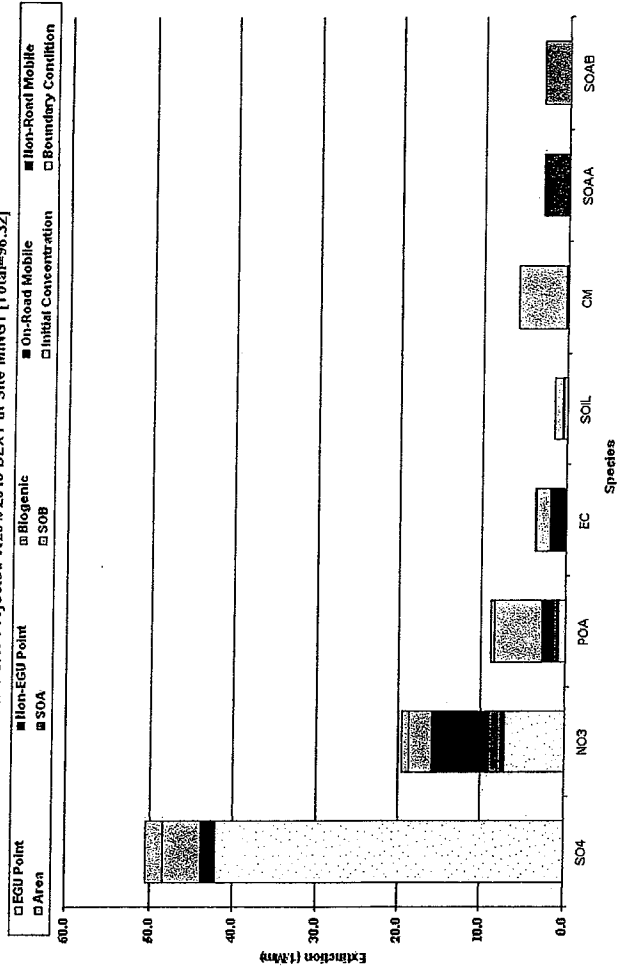
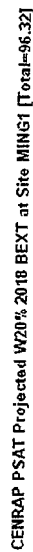
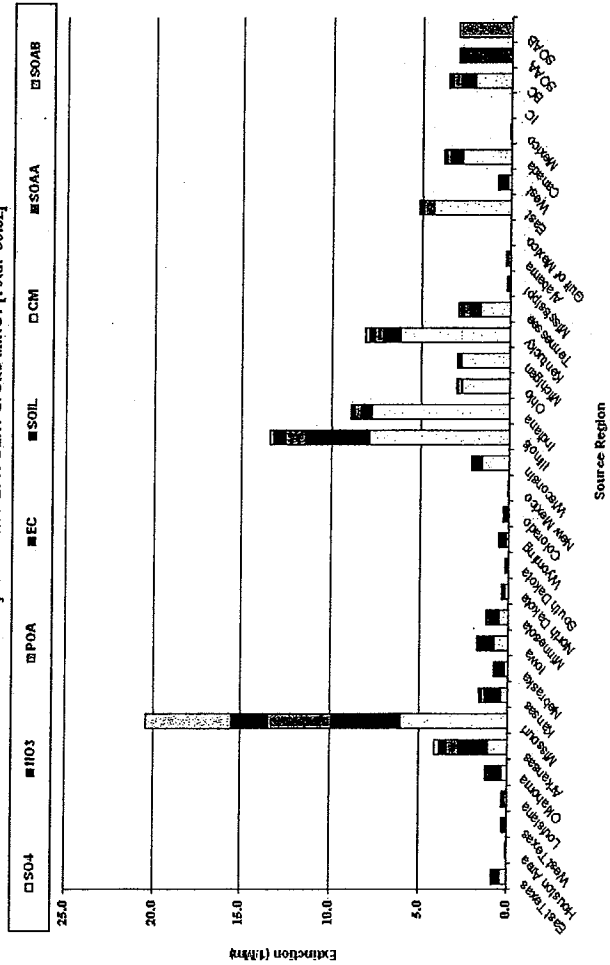
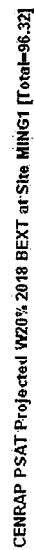
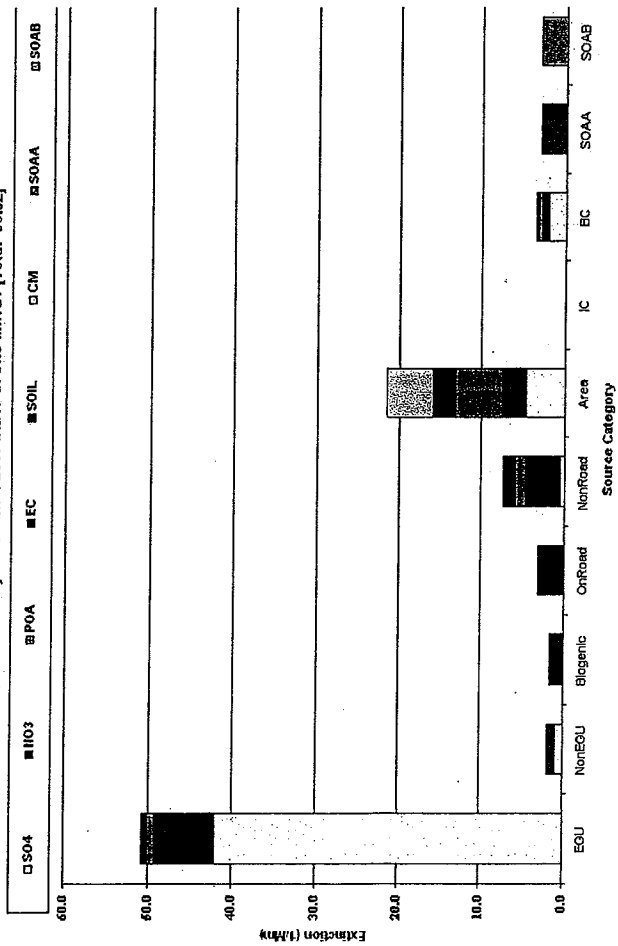
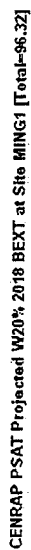
Source Apportionment for the Mingo Class I Area

PSAT Model Source Apportionment

CENRAP PSAT 2018 Extinction (Source Regions by Species) at Site MING1 [Total=108.19]

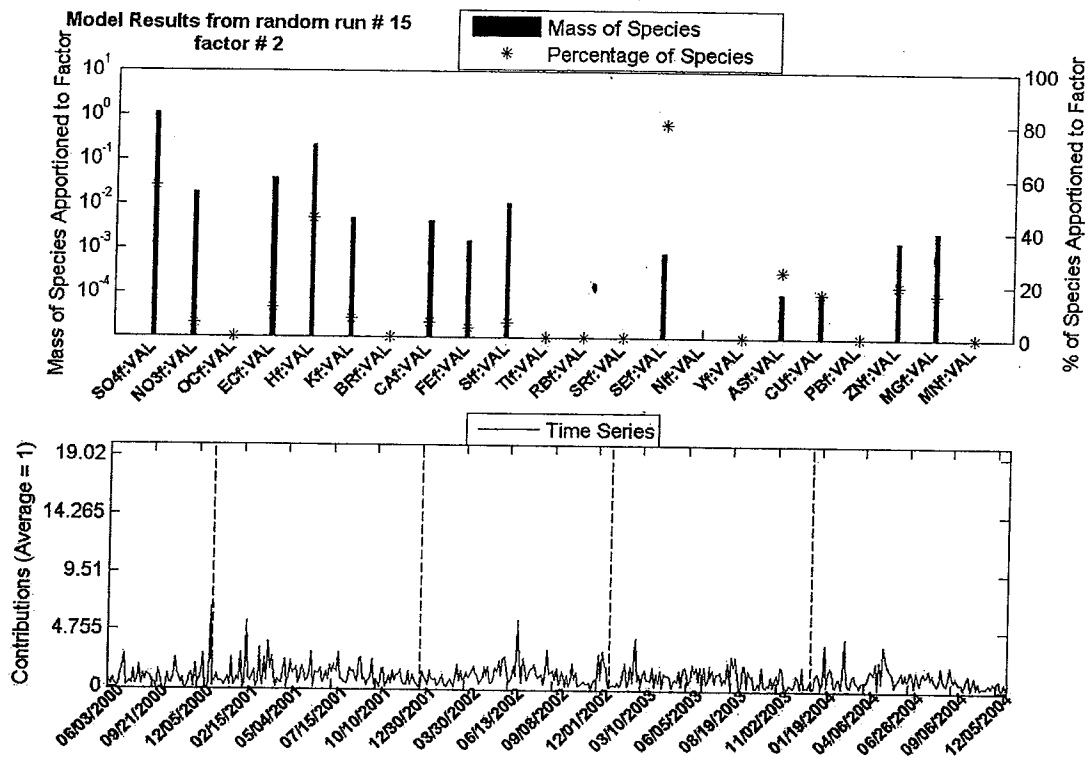


Mingo Projected 2018 – Worst 20%

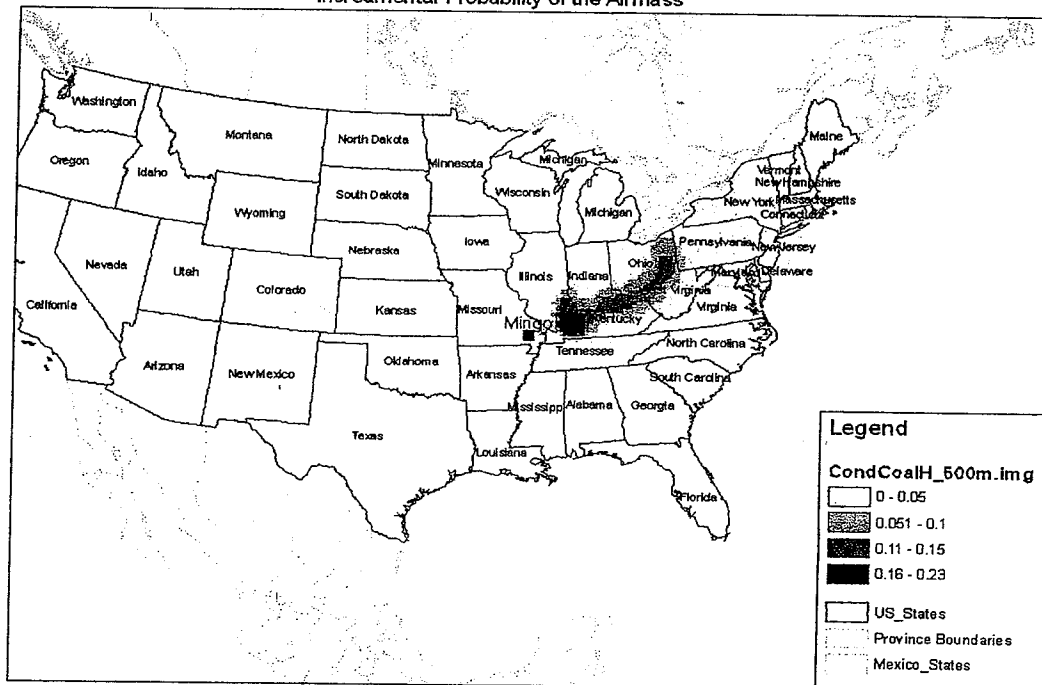


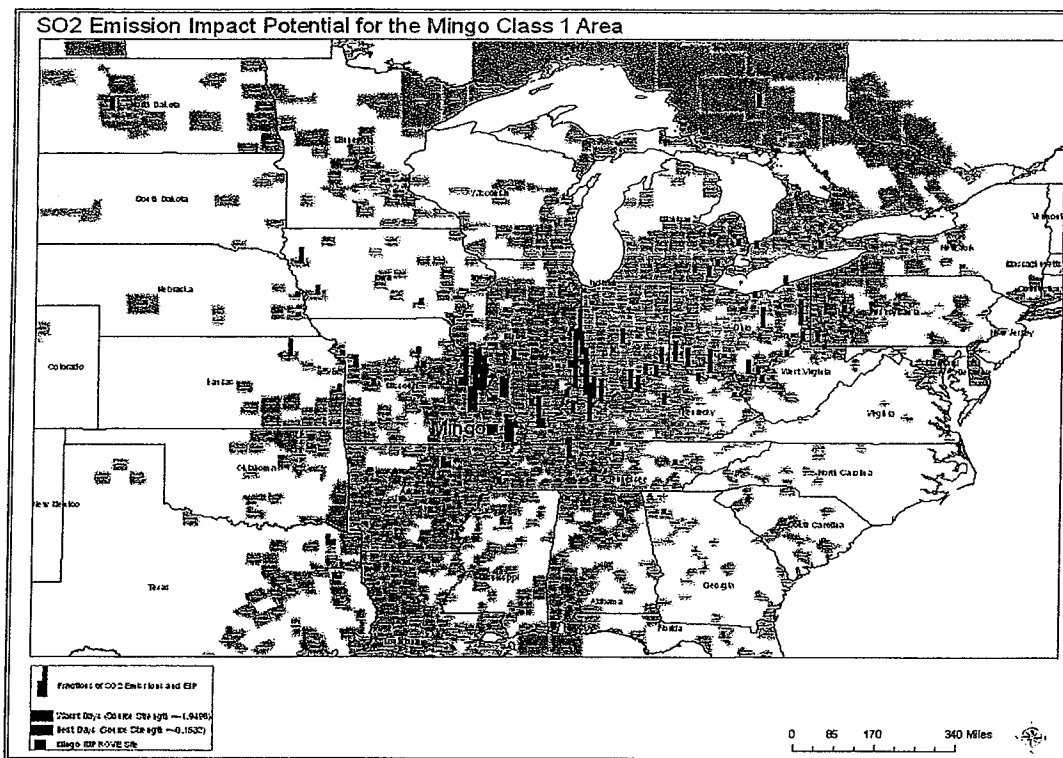
Monitoring Data Source Apportionment

The Coal Combustion Factor at the Mingo Class I Area

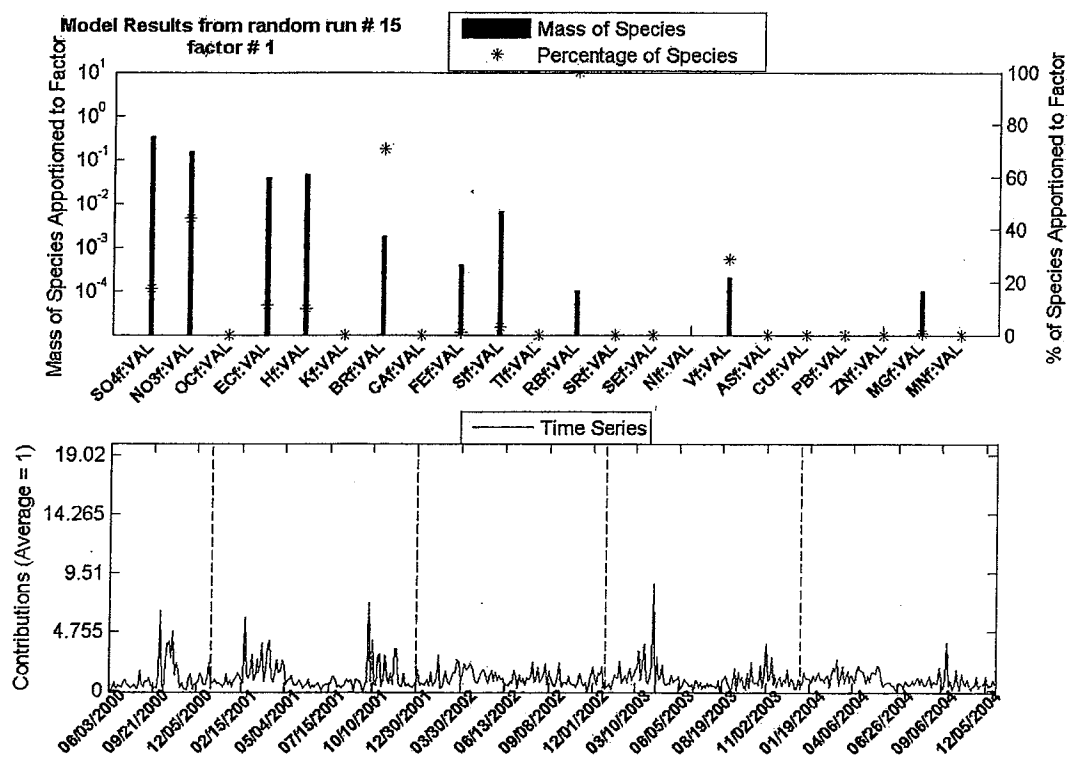


Possible Source Areas of the Identified Sulfate/Coal Combustion Factor at Mingo
Incremental Probability of the Air Mass

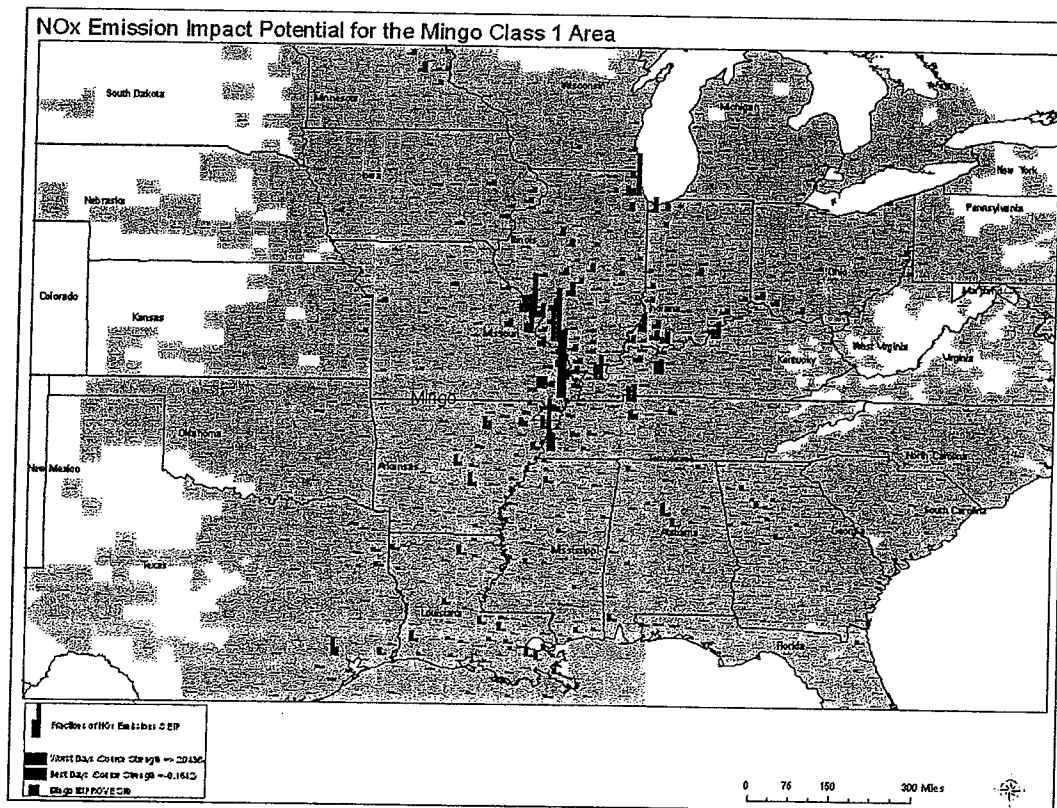
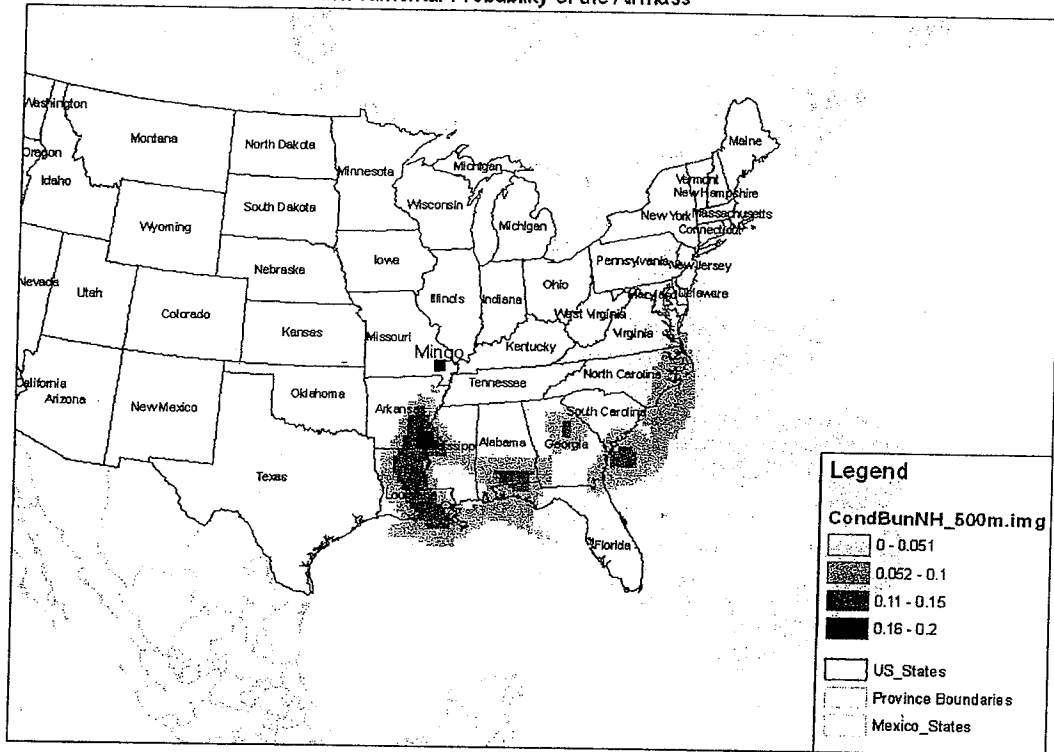




The Nitrate plus Spring Burning Factor at the Mingo Class I Area



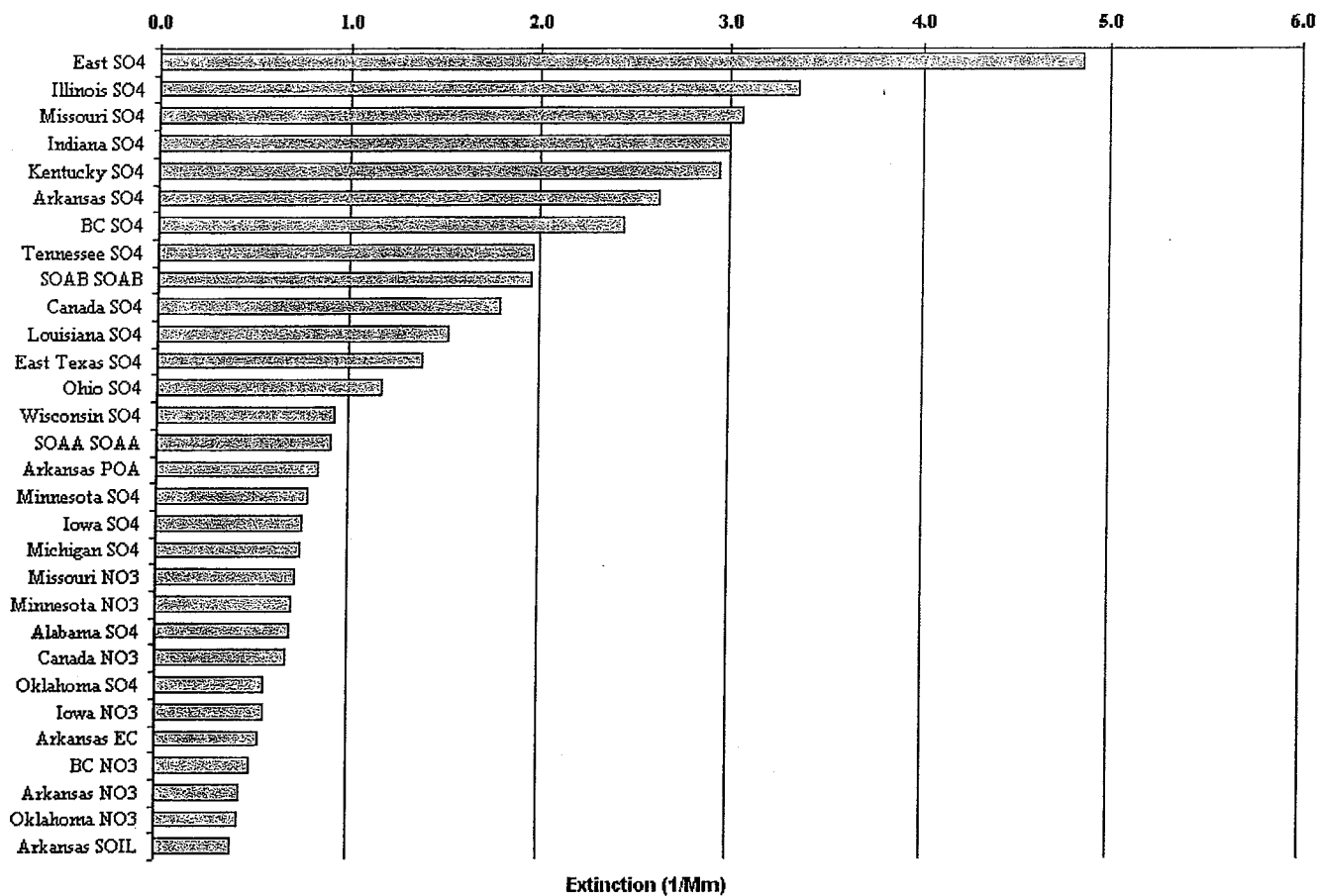
Possible Source Areas of the Identified Burning and Nitrate Factor at Mingo
Incremental Probability of the Airmass



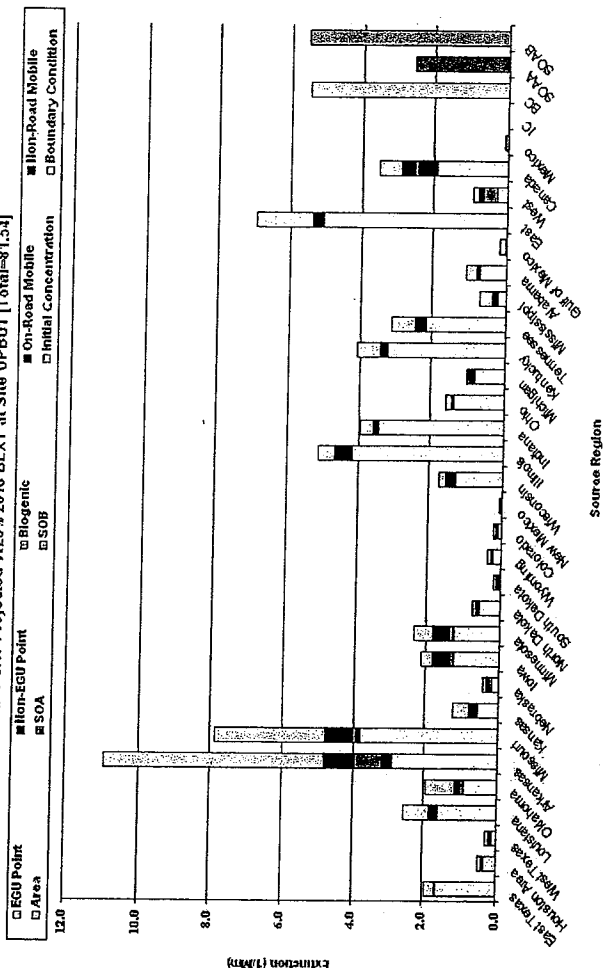
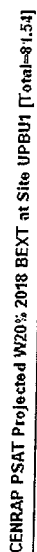
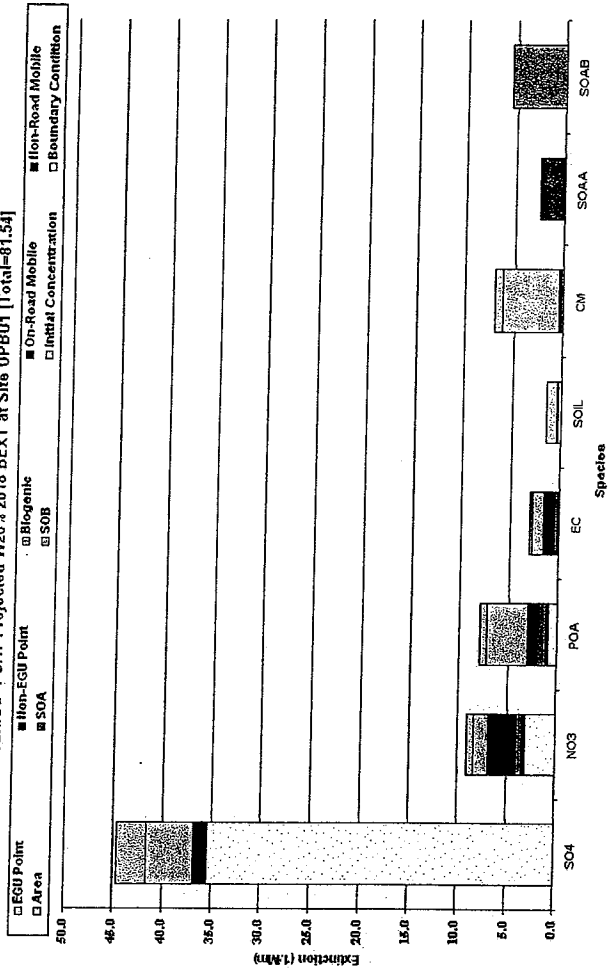
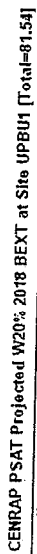
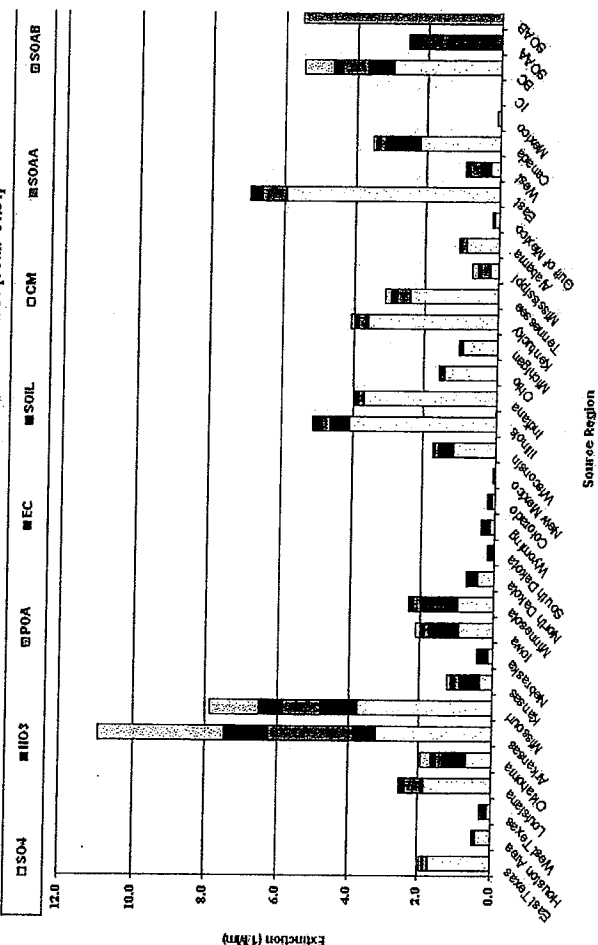
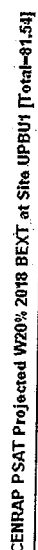
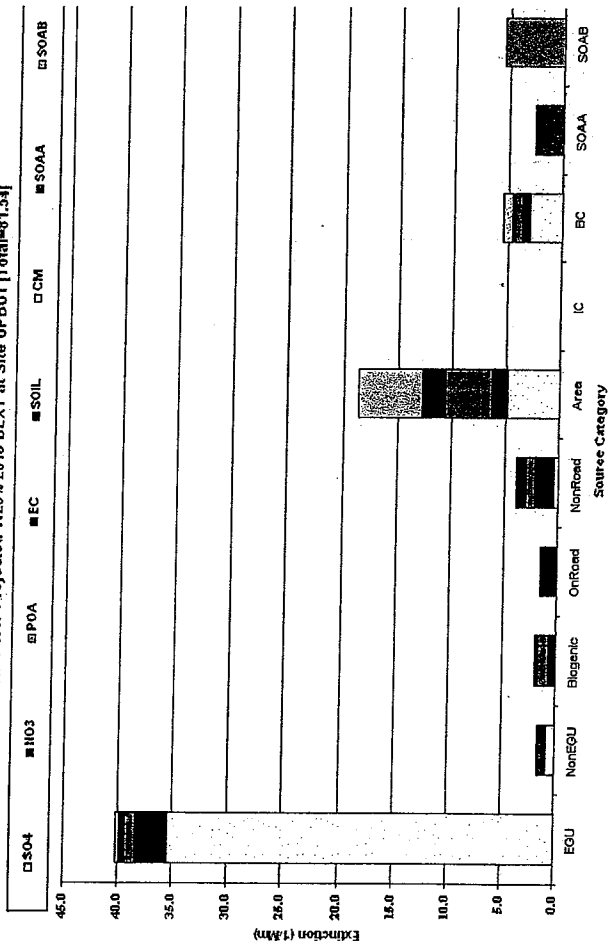
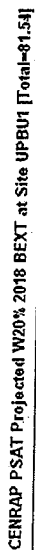
Source Apportionment for the Upper Buffalo Class I Area

PSAT Model Source Apportionment

CENRAP PSAT Modeled W20% 2018 BEXT at Site UPBUI [Total=52.49]

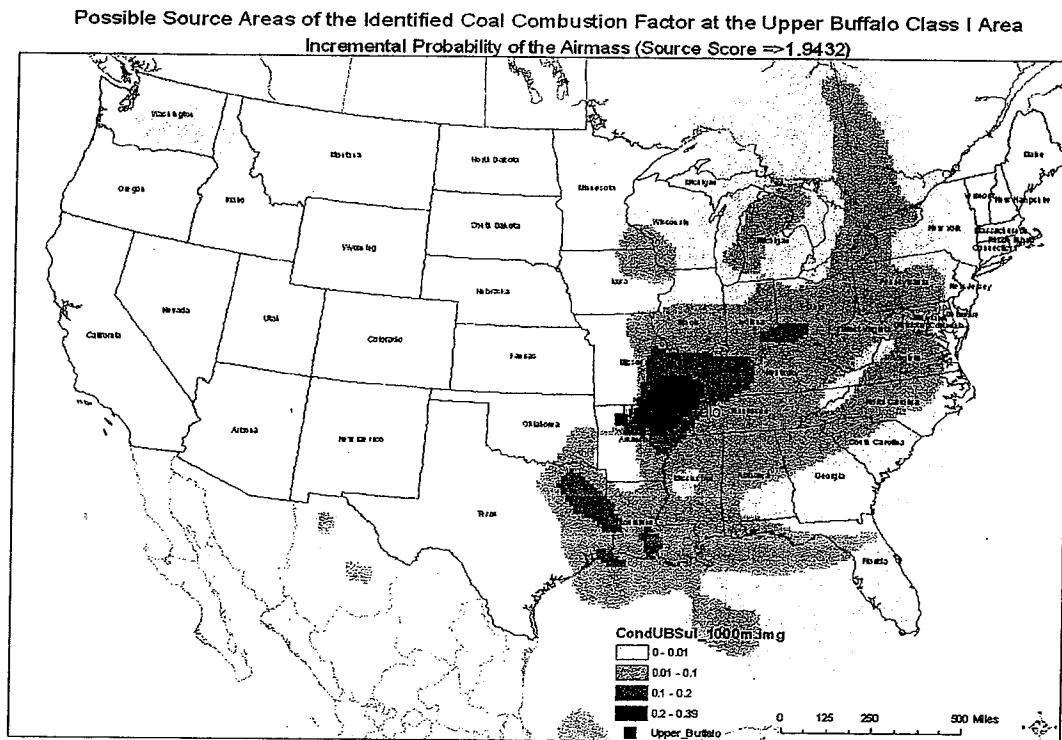
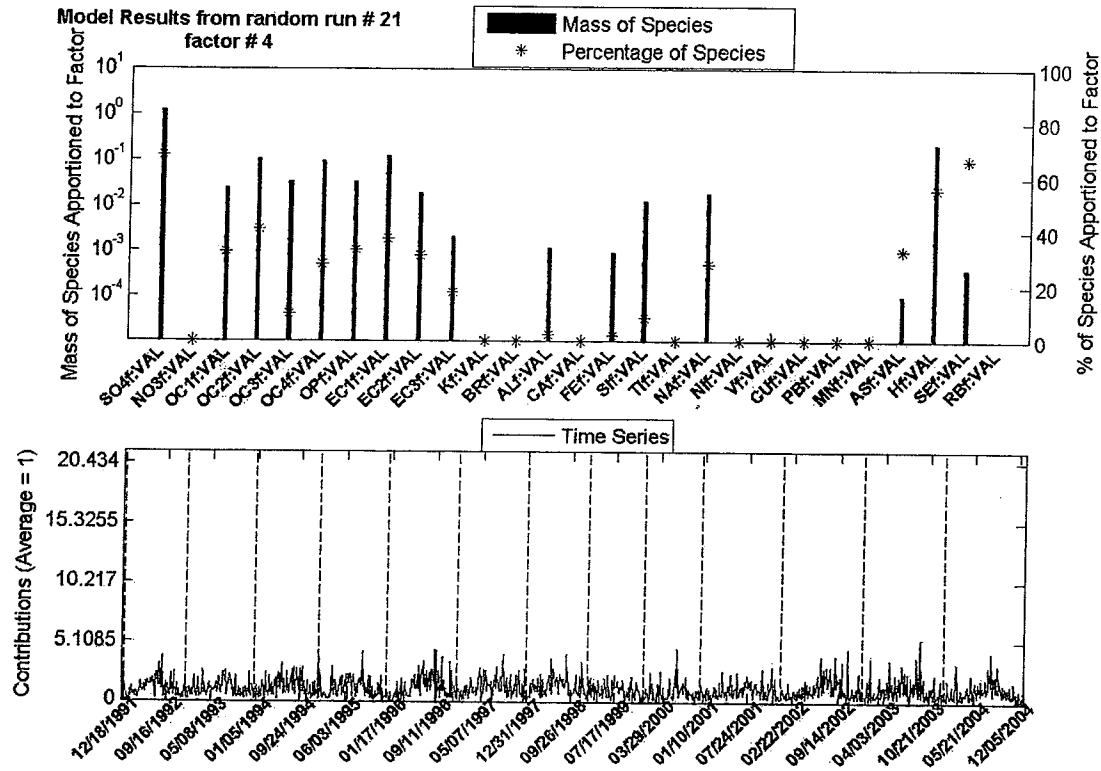


Upper Buffalo Projected 2018 – Worst 20%

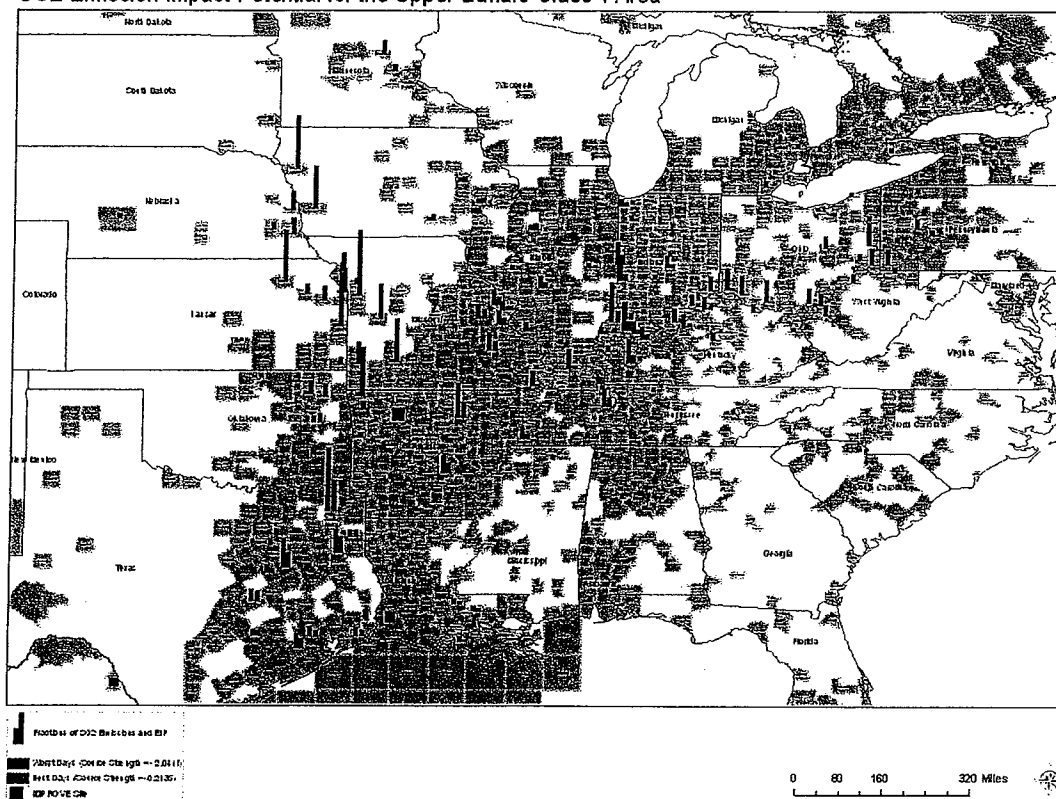


Monitoring Data Source Apportionment

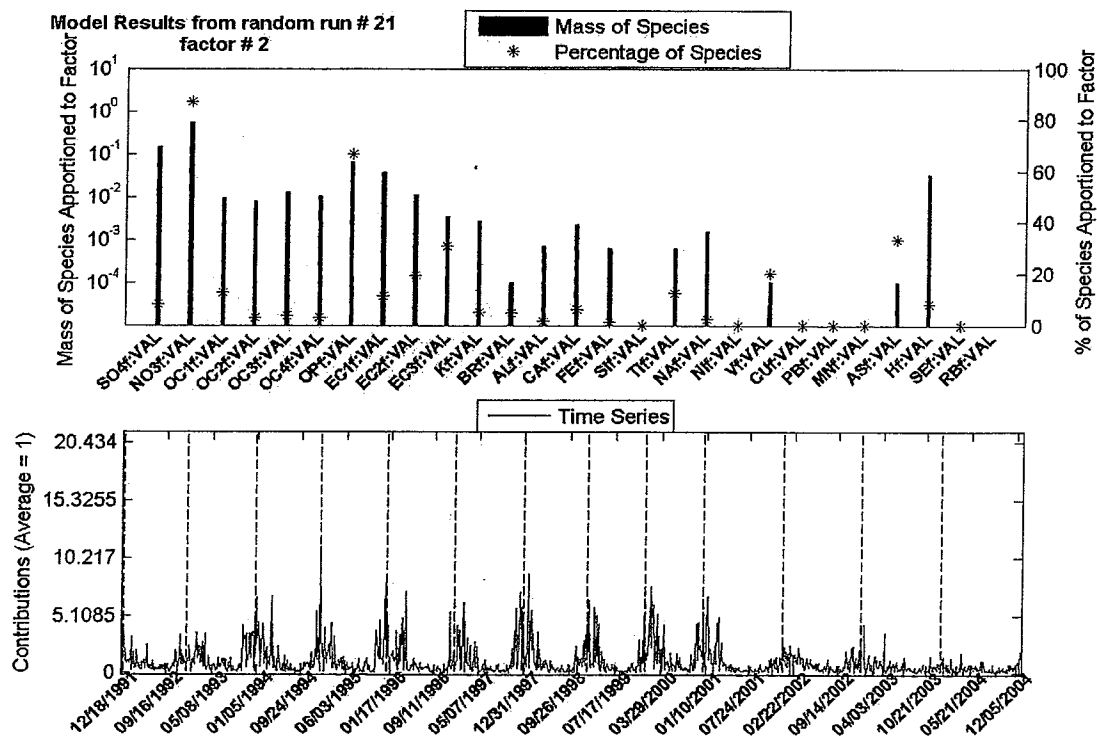
The Coal Combustion Factor at the Upper Buffalo Class I Area



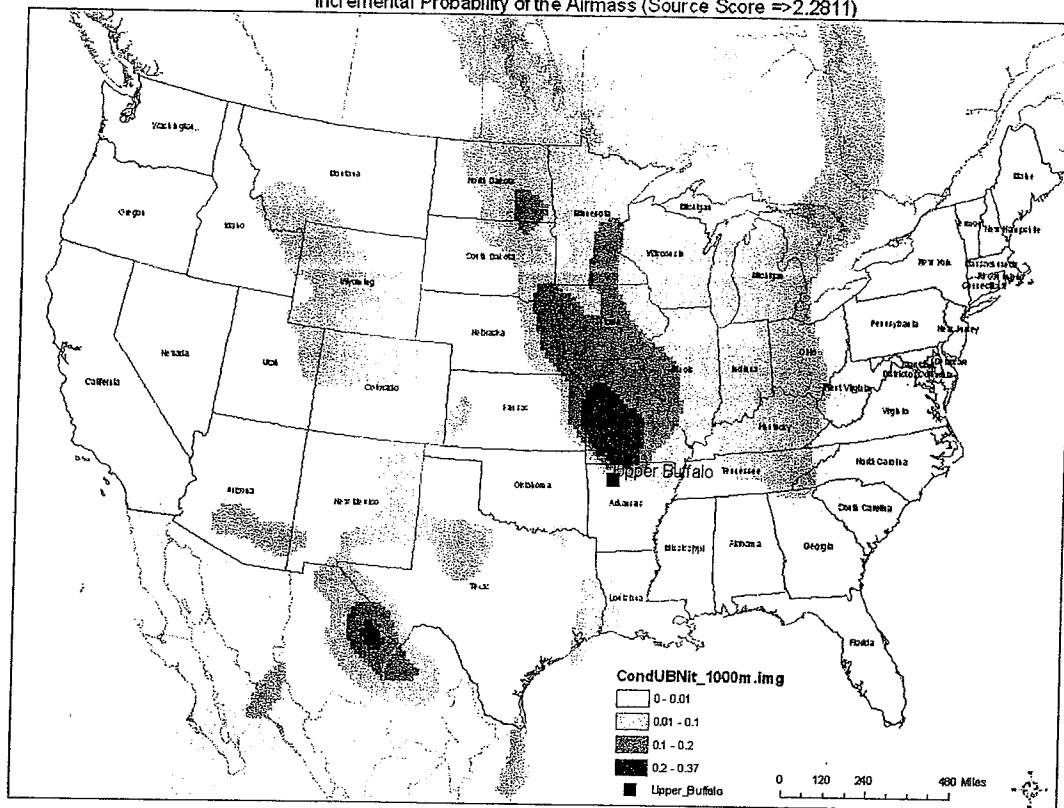
SO2 Emission Impact Potential for the Upper Buffalo Class 1 Area



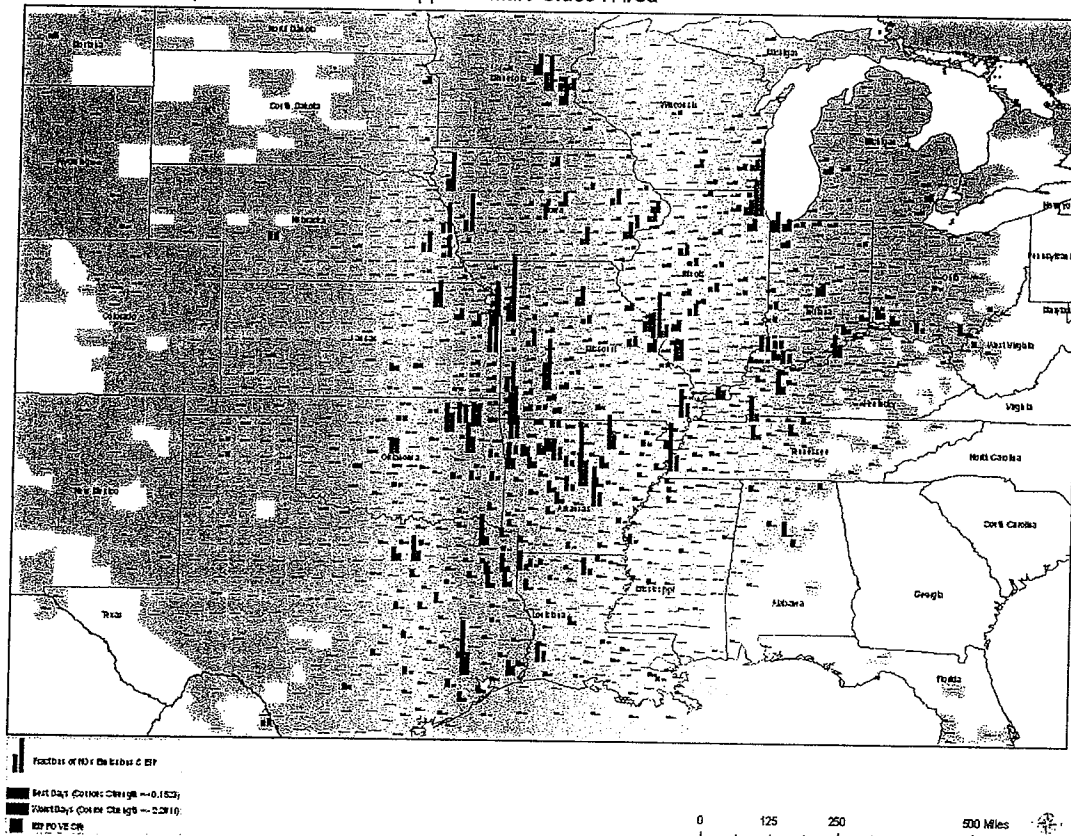
The Secondary Nitrate Factor at the Upper Buffalo Class I Area



Possible Source Areas of the Identified Secondary Nitrate Factor at the Upper Buffalo Class I Area
Incremental Probability of the Airmass (Source Score =>2.2811)



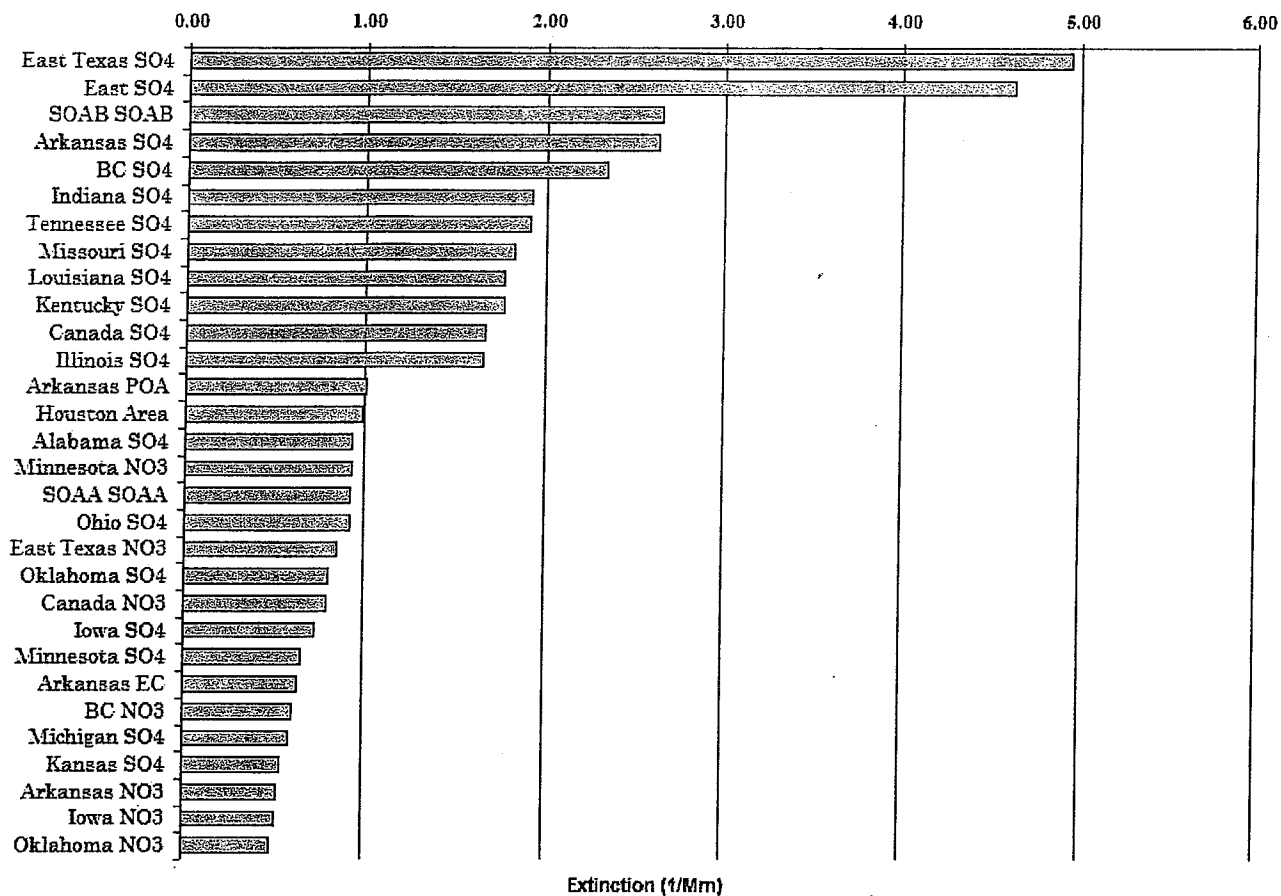
NOx Emission Impact Potential for the Upper Buffalo Class I Area



Source Apportionment for the Caney Creek Class I Area

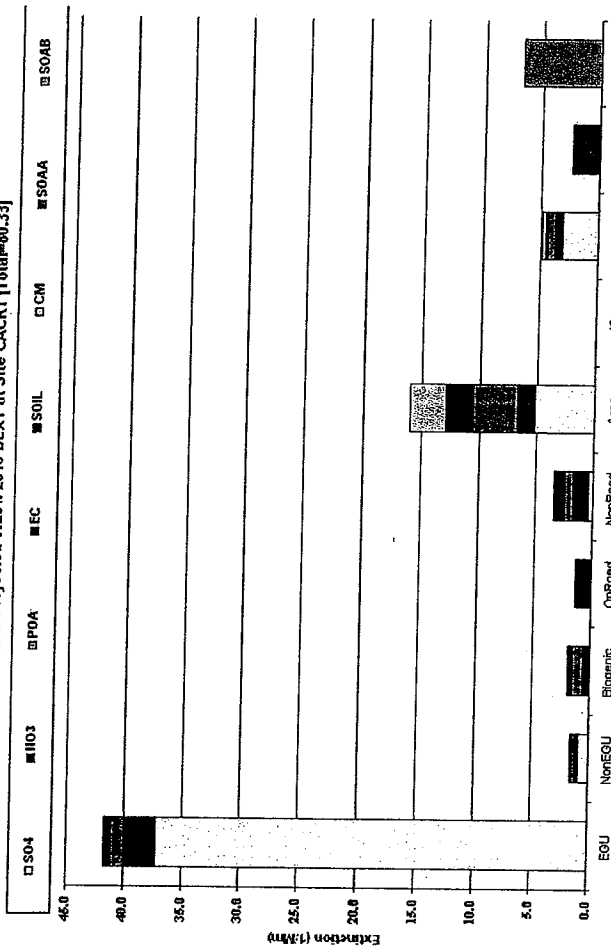
PSAT Model Source Apportionment

CENRAP PSAT 2018 Extinction (Source Regions by Species) at Site CACR1 [Total=53.88]

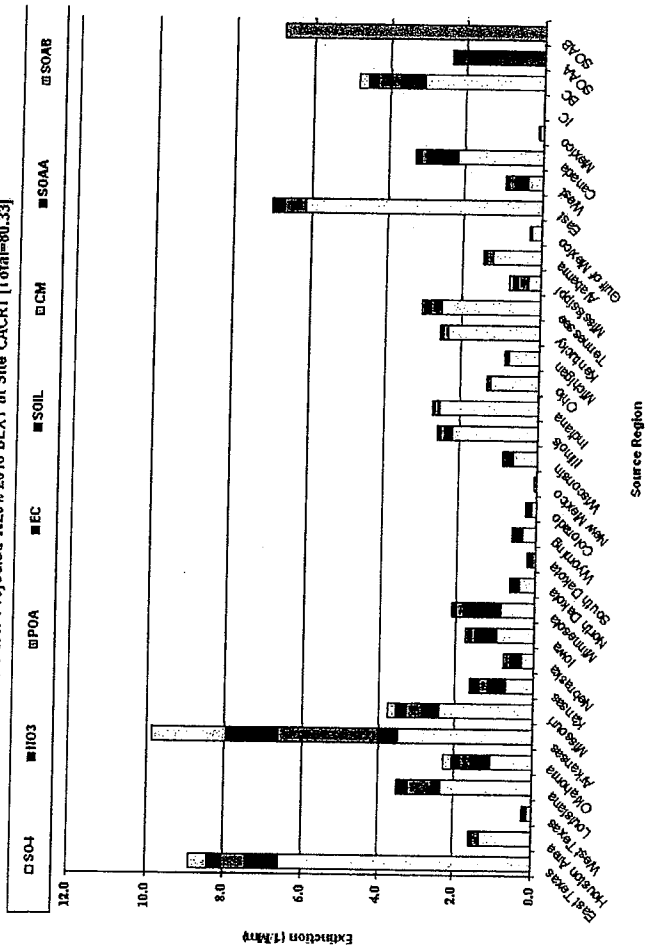


Caney Creek Projected 2018 - Worst 20%

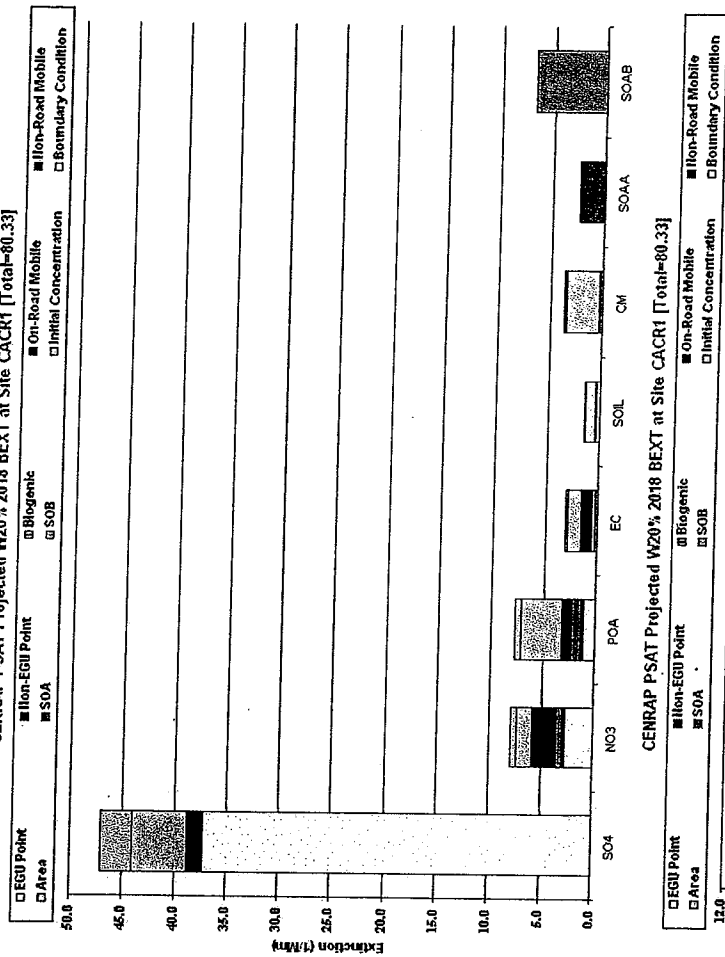
CENRAP PSAT Projected W20% 2018 BEXT at Site CACR1 [Total=80.33]



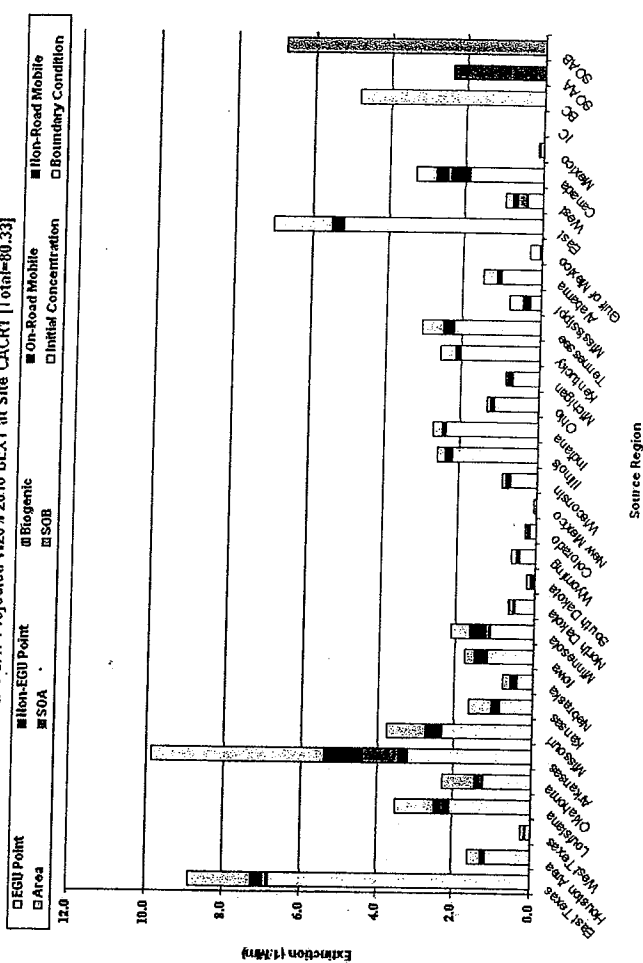
CENRAP PSAT Projected W20% 2018 BEXT at Site CACR1 [Total=80.33]



CENRAP PSAT Projected W20% 2018 BEXT at Site CACR1 [Total=80.33]

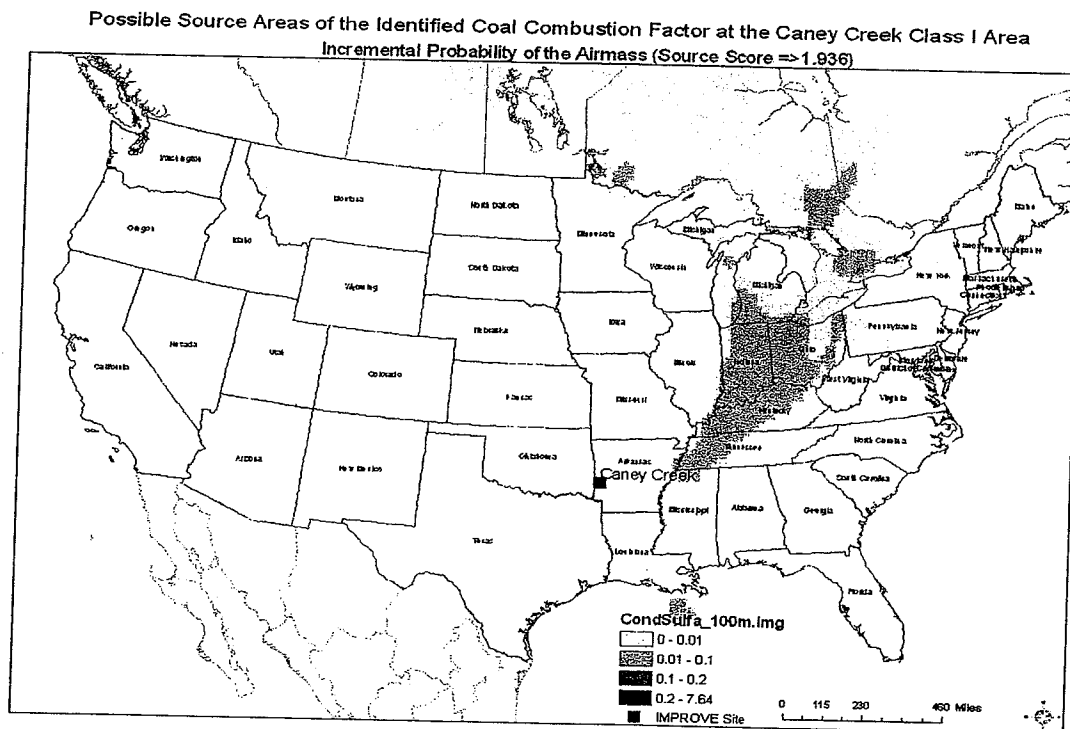
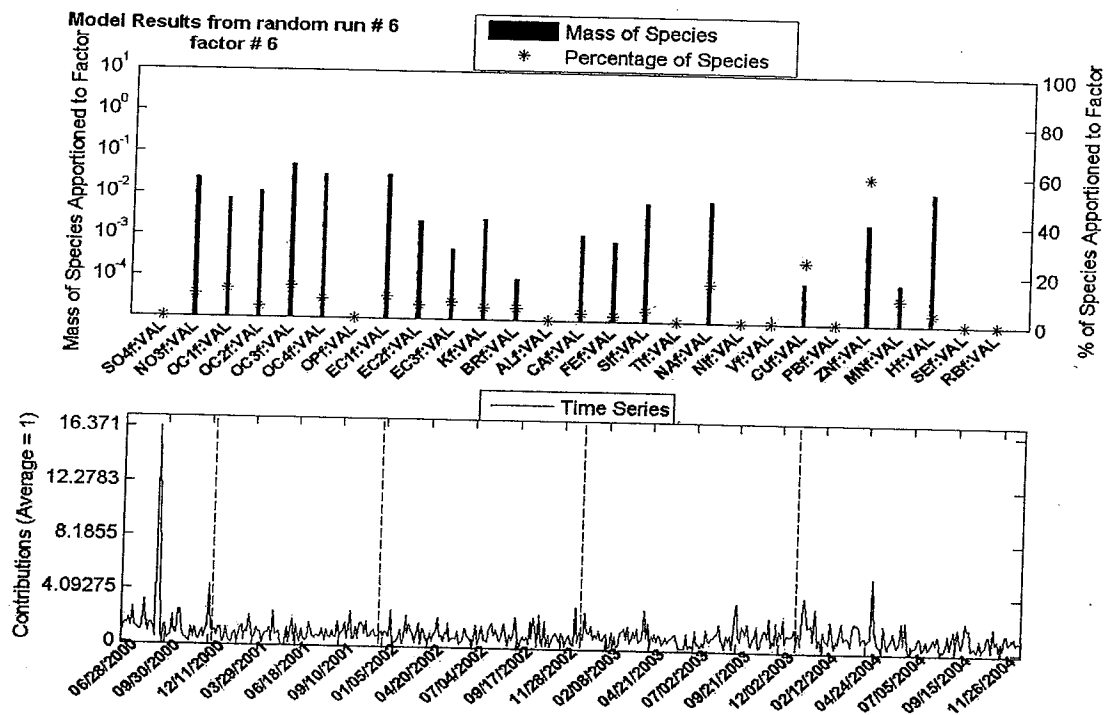


CENRAP PSAT Projected W20% 2018 BEXT at Site CACR1 [Total=80.33]

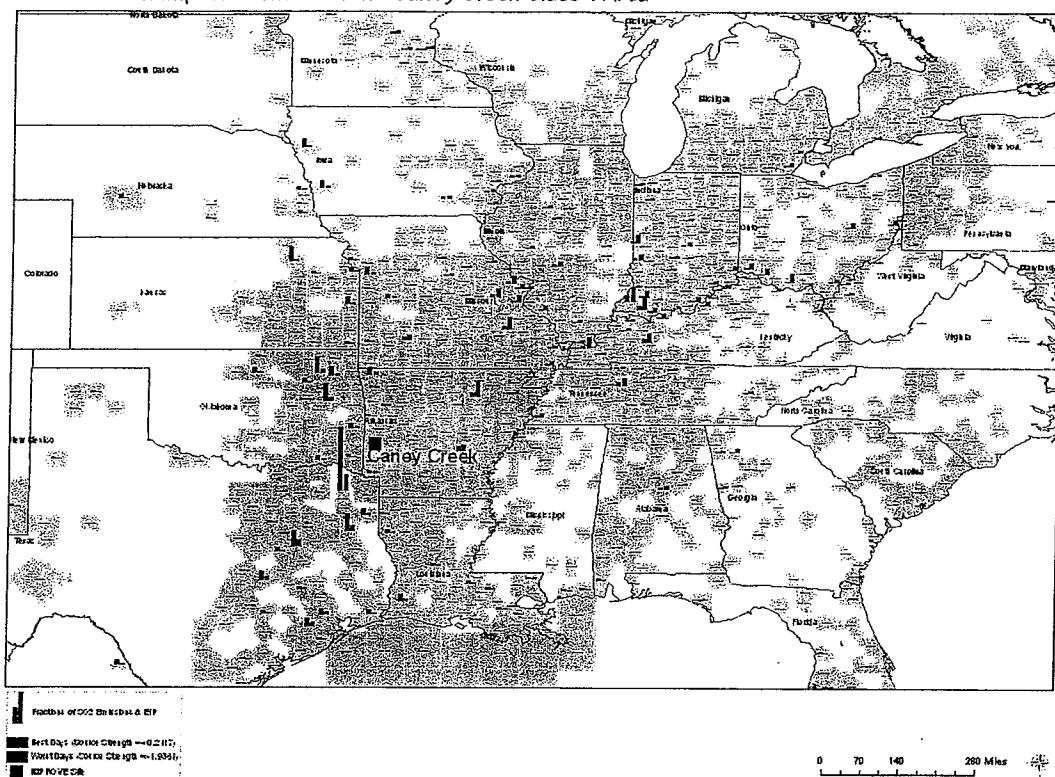


Monitoring Data Source Apportionment

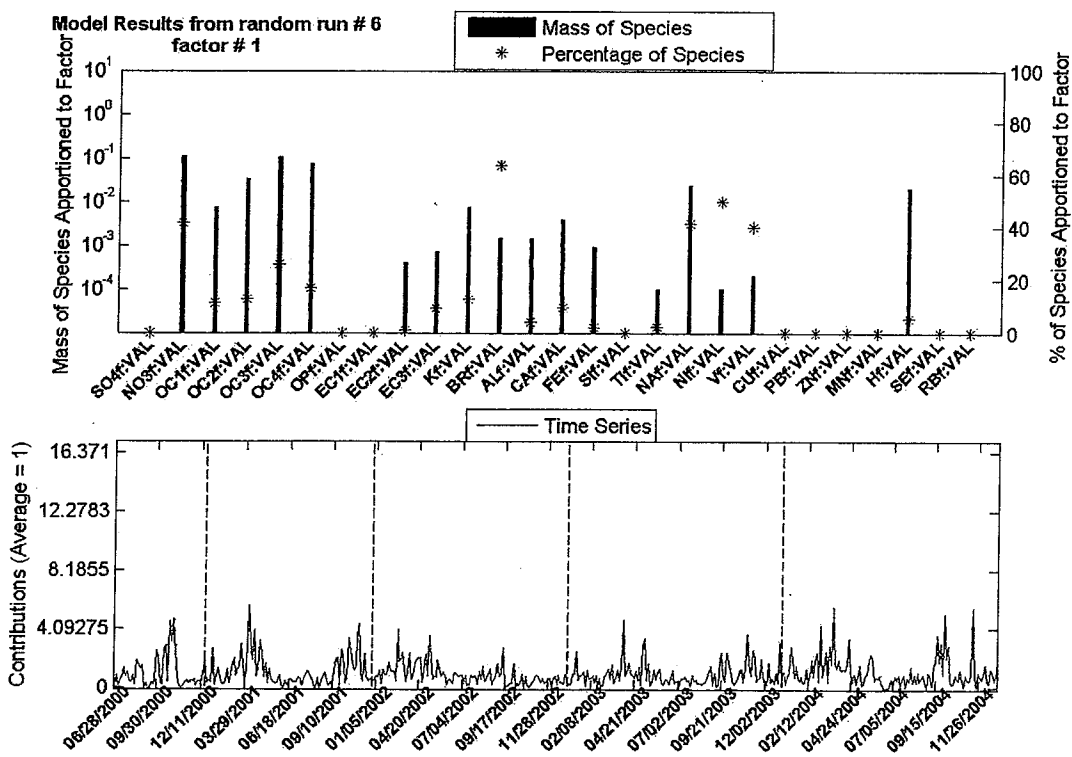
The Coal Combustion Factor at the Caney Creek Class I Area



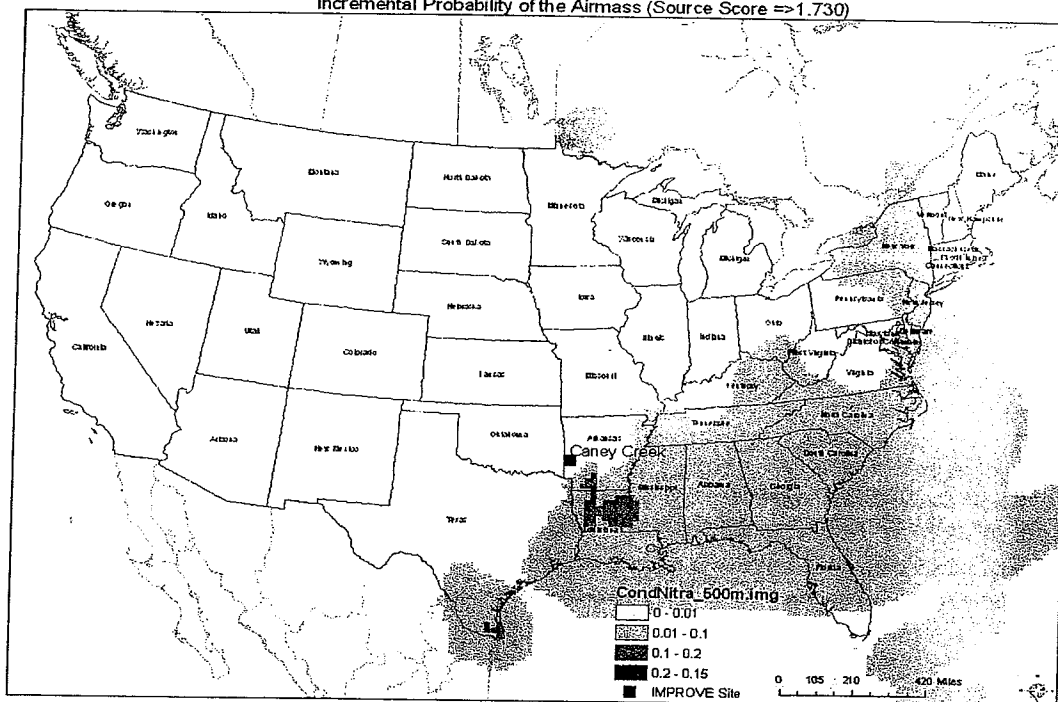
SO2 Emission Impact Potential for the Caney Creek Class 1 Area



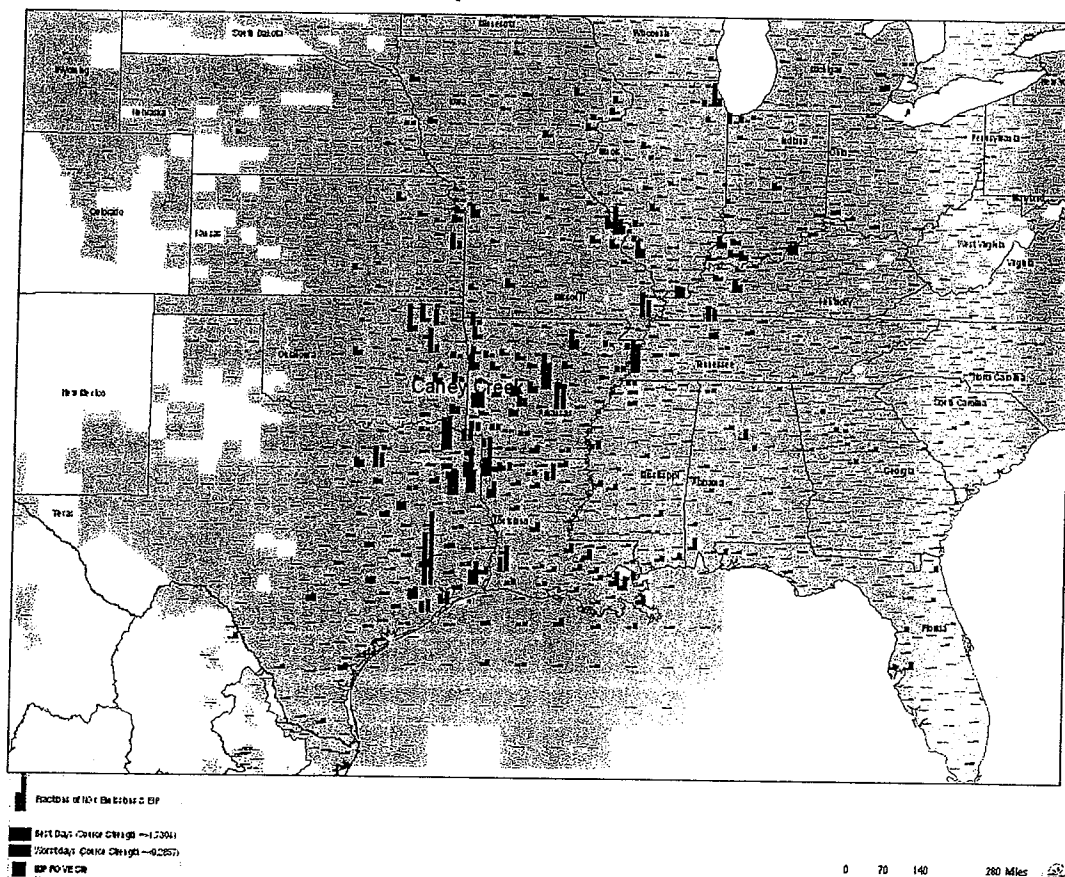
The Secondary Nitrate plus Oil Combustion Factor at the Caney Creek Class I Area



Possible Source Areas of the Identified Nitrate Plus Oil Combustion Factor at the Caney Creek Class I Area
Incremental Probability of the Airmass (Source Score \Rightarrow 1.730)



NOx Emission Impact Potential for the Caney Creek Class 1 Area



Attachment D

Table 1 – Contributing States for Hercules Glades Sulfate

Q/D*	PMF/		Average
	Trajectories	AOI	PSAT
MN	MN	MN	MN
SD	SD	SD	SD
WI	WI	WI	WI
IA	IA	IA	IA
NE	NE	NE	NE
KS	KS	KS	KS
MO	MO	MO	MO
IL	IL	IL	IL
IN	IN	IN	IN
OH	OH	OH	OH
MI	MI	MI	MI
KY	KY	KY	KY
TN	TN	TN	TN
AR	AR	AR	AR
OK	OK	OK	OK
TX	TX	TX	TX
LA	LA	LA	LA
MS	MS	MS	MS
AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 2 – Contributing States for Hercules Glades Nitrate

Q/D*	PMF/		Average
	Trajectories	AOI	PSAT
MN	MN	MN	MN
SD	SD	SD	SD
WI	WI	WI	WI
IA	IA	IA	IA
NE	NE	NE	NE
KS	KS	KS	KS
MO	MO	MO	MO
IL	IL	IL	IL
IN	IN	IN	IN
OH	OH	OH	OH
MI	MI	MI	MI
KY	KY	KY	KY
TN	TN	TN	TN
AR	AR	AR	AR
OK	OK	OK	OK
TX	TX	TX	TX
LA	LA	LA	LA
MS	MS	MS	MS
AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 3 – Contributing States for the Mingo Wildlife Refuge Area
Sulfate

Q/D*	PMF/ Trajectories		AOI	PSAT		Average
	MN	SD	MN	MN	SD	MN
SD	SD	WI	SD	WI	SD	SD
WI	WI	IA	WI	IA	WI	WI
IA	IA	NE	IA	NE	IA	IA
NE	NE	KS	NE	KS	NE	NE
KS	KS	MO	KS	MO	KS	KS
MO	MO	IL	MO	IL	MO	MO
IL	IL	IN	IL	IN	IL	IL
IN	IN	OH	IN	OH	IN	IN
OH	OH	MI	OH	MI	OH	OH
MI	MI	KY	MI	KY	MI	MI
KY	KY	TN	KY	TN	KY	KY
TN	TN	AR	TN	AR	TN	TN
AR	AR	OK	AR	OK	AR	AR
OK	OK	TX	OK	TX	OK	OK
TX	TX	LA	TX	LA	TX	TX
LA	LA	MS	LA	MS	LA	LA
MS	MS	AL	MS	AL	MS	MS
AL	AL		AL		AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 4 – Contributing States for the Mingo Wildlife Refuge Area
Nitrate

Q/D*	PMF/ Trajectories		AOI	PSAT		Average
	MN	SD	MN	MN	SD	MN
SD	SD	WI	SD	WI	SD	SD
WI	WI	IA	WI	IA	WI	WI
IA	IA	NE	IA	NE	IA	IA
NE	NE	KS	NE	KS	NE	NE
KS	KS	MO	KS	MO	KS	KS
MO	MO	IL	MO	IL	MO	MO
IL	IL	IN	IL	IN	IL	IL
IN	IN	OH	IN	OH	IN	IN
OH	OH	MI	OH	MI	OH	OH
MI	MI	KY	MI	KY	MI	MI
KY	KY	TN	KY	TN	KY	KY
TN	TN	AR	TN	AR	TN	TN
AR	AR	OK	AR	OK	AR	AR
OK	OK	TX	OK	TX	OK	OK
TX	TX	LA	TX	TX	TX	TX
LA	LA	MS	LA	LA	LA	LA
MS	MS	AL	MS	MS	MS	MS
AL	AL		AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 5 -- Contributing States for the Upper Buffalo National Area
Sulfate

Q/D*	PMF/ Trajectories		AOI	PSAT		Average
	MN	MN		MN	MN	
MN			MN			MN
SD	SD	SD	SD	SD	SD	SD
WI	WI	WI	WI	WI	WI	WI
IA	IA	IA	IA	IA	IA	IA
NE	NE	NE	NE	NE	NE	NE
KS	KS	KS	KS	KS	KS	KS
MO	MO	MO	MO	MO	MO	MO
IL	IL	IL	IL	IL	IL	IL
IN	IN	IN	IN	IN	IN	IN
OH	OH	OH	OH	OH	OH	OH
MI	MI	MI	MI	MI	MI	MI
KY	KY	KY	KY	KY	KY	KY
TN	TN	TN	TN	TN	TN	TN
AR	AR	AR	AR	AR	AR	AR
OK	OK	OK	OK	OK	OK	OK
TX	TX	TX	TX	TX	TX	TX
LA	LA	LA	LA	LA	LA	LA
MS	MS	MS	MS	MS	MS	MS
AL	AL	AL	AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 6 -- Contributing States for the Upper Buffalo National Area
Nitrate

Q/D*	PMF/ Trajectories		AOI	PSAT		Average
	MN	MN		MN	MN	
MN			MN			MN
SD	SD	SD	SD	SD	SD	SD
WI	WI	WI	WI	WI	WI	WI
IA	IA	IA	IA	IA	IA	IA
NE	NE	NE	NE	NE	NE	NE
KS	KS	KS	KS	KS	KS	KS
MO	MO	MO	MO	MO	MO	MO
IL	IL	IL	IL	IL	IL	IL
IN	IN	IN	IN	IN	IN	IN
OH	OH	OH	OH	OH	OH	OH
MI	MI	MI	MI	MI	MI	MI
KY	KY	KY	KY	KY	KY	KY
TN	TN	TN	TN	TN	TN	TN
AR	AR	AR	AR	AR	AR	AR
OK	OK	OK	OK	OK	OK	OK
TX	TX	TX	TX	TX	TX	TX
LA	LA	LA	LA	LA	LA	LA
MS	MS	MS	MS	MS	MS	MS
AL	AL	AL	AL	AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 7 – Contributing States for the Caney Creek Area Sulfate

Q/D*	PMF/		PSAT	AOI	Average
	Trajectories		MN	MN	MN
MN	MN		MN	MN	MN
SD	SD		SD	SD	SD
WI	WI		WI	WI	WI
IA	IA		IA	IA	IA
NE	NE		NE	NE	NE
KS	KS		KS	KS	KS
MO	MO		MO	MO	MO
IL	IL		IL	IL	IL
IN	IN		IN	IN	IN
OH	OH		OH	OH	OH
MI	MI		MI	MI	MI
KY	KY		KY	KY	KY
TN	TN		TN	TN	TN
AR	AR		AR	AR	AR
OK	OK		OK	OK	OK
TX	TX		TX	TX	TX
LA	LA		LA	LA	LA
MS	MS		MS	MS	MS
AL	AL		AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

Table 8 – Contributing States for the Caney Creek Area Nitrate

Q/D*	PMF/		PSAT	AOI	Average
	Trajectories		MN	MN	MN
MN	MN		MN	MN	MN
SD	SD		SD	SD	SD
WI	WI		WI	WI	WI
IA	IA		IA	IA	IA
NE	NE		NE	NE	NE
KS	KS		KS	KS	KS
MO	MO		MO	MO	MO
IL	IL		IL	IL	IL
IN	IN		IN	IN	IN
OH	OH		OH	OH	OH
MI	MI		MI	MI	MI
KY	KY		KY	KY	KY
TN	TN		TN	TN	TN
AR	AR		AR	AR	AR
OK	OK		OK	OK	OK
TX	TX		TX	TX	TX
LA	LA		LA	LA	LA
MS	MS		MS	MS	MS
AL	AL		AL	AL	AL

*Informational

State in Red/Bold = Major Contributing States

