

Regional Haze Planning

Air Quality Trends in the Southwest Forum

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Westward Look Resort ~ Tucson, Arizona

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What is Regional Haze?

- **Haze - impairment in the way most people view distant objects due to the scattering or absorbing of light by various types of particles.**
- **Regional Haze - specific type of visibility impairment due to particles traveling over large distances and varying terrains.**
- **Particles can either be natural or man-made**
- **Visibility impairment is measured in deciviews**

What type of particles contribute to haze?

- 1. Dust (coarse and fine)**
- 2. Sulfates**
- 3. Nitrates**
- 4. Elemental Carbon (e.g, soot)**
- 5. Organic Carbon (e.g., hydrocarbons)**
- 6. Sea Salts**

What sources contribute to these particles?

Natural:

Fire (lit by nature)

Windblown dust

Biogenic

Man-made (Anthropogenic):

Fire (lit by humans)

Mobile (on-road and off-road)

Point (stationary)

Area

Regional Haze Regulations:

Clean Air Act Sections 169 A and B

Federal Rule at 40 CFR 51.300 to 309

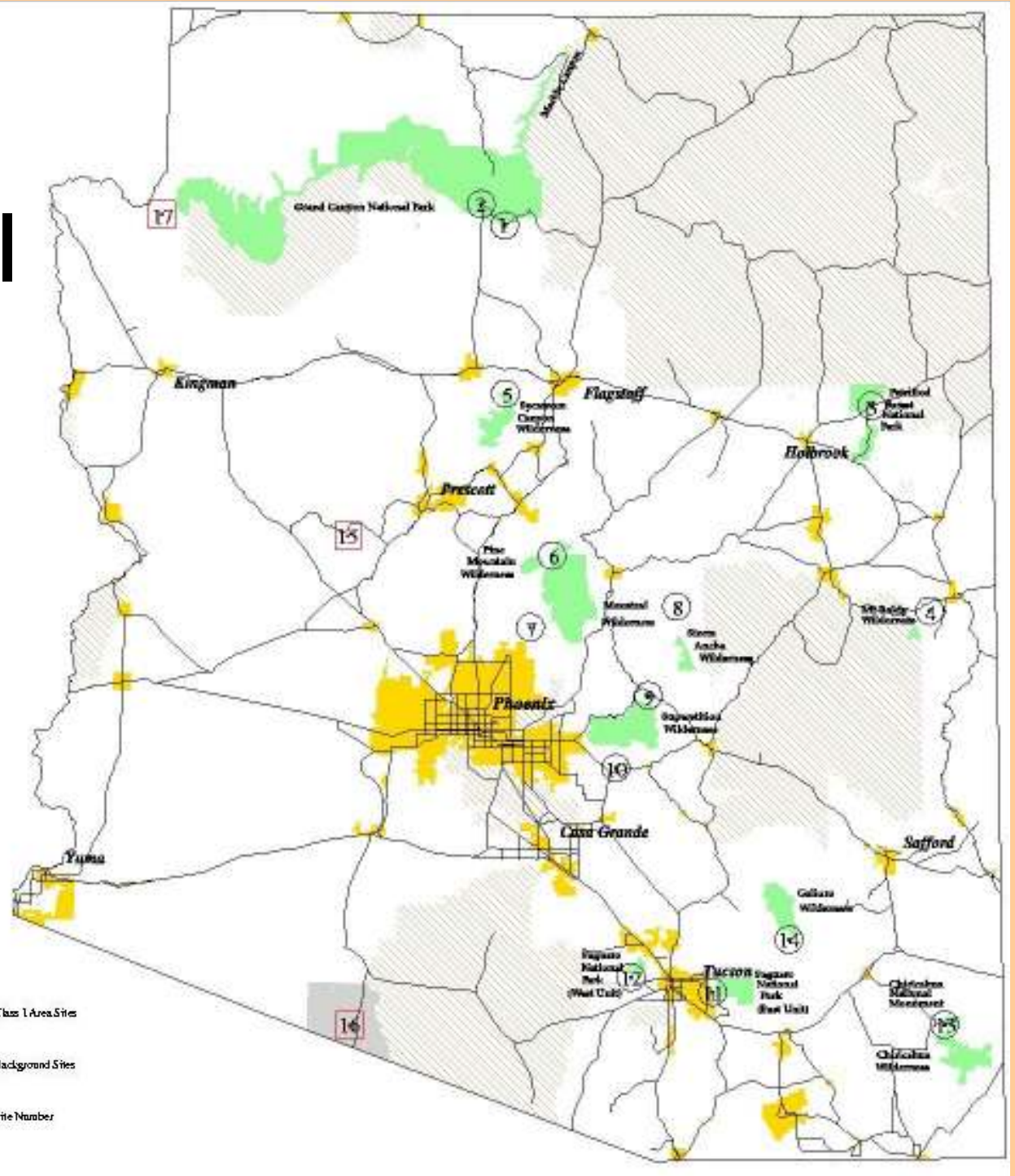
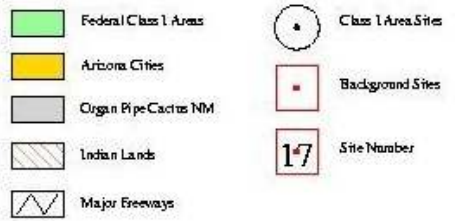
Arizona Revised Statutes 49-458 and 49-458.01

**Arizona Administrative Code at Title 18, Chapter 2, Article 16;
other related rules for fire (Article 6 and Article 15), new
stationary sources (Article 4)**

**2003 Regional Haze State Implementation Plan; revised 2004 for
Pima, Pinal, Maricopa fire rules**

Arizona Class I Areas and Visibility Monitoring Network

- 1. Hance
- 2. Indian Garden
- 3. Petrified Forest
- 4. Greer Water Treatment Plant
- 5. Camp Raymond
- 6. Ike's Backbone
- 7. Humboldt Mountain
- 8. Pleasants Valley Ranger Station
- 9. Tonto National Monument
- 10. Queen Valley Water Tank
- 11. East Unit Research Center
- 12. West Unit Well Site
- 13. NM Entrance Station
- 14. Muleshoe Ranch
- 15. Hillside
- 16. Organ Pipe Cactus NM
- 17. Meadview



Grand Canyon Visibility Transport Commission (GCVTC)

Under Section 40 CFR 51.309, Western States could complete state implementation plan (SIP) by December 2003 using GCVTC Recommendations:

- 1. Clean Air Corridors**
- 2. Stationary Sources (including a Sulfur Dioxide (SO₂) Backstop Trading Program)**
- 3. Smoke Management Plan**
- 4. Pollution Prevention**
- 5. Area Sources/Dust**
- 6. Mobile Sources**

(Arizona, Utah, New Mexico/Albuquerque, Wyoming and Oregon chose this route; Oregon has since pulled out of Section 309)

Western Regional Air Partnership (WRAP)

- **Provides technical support to 14 Western States, 4 EPA regional offices, other agencies, and over 200 tribes through...**

Forums, Committees

Work Groups, and Training

- **Assists with revisions to 2003 Section 309 plans; completion of Section 309(g) and Section 308 plans**
- **Facilitates problem solving, evaluation, and consultation**
- **Sister Regional Planning Organizations (e.g., CENRAP)**
- **Chair of WRAP Board is Governor Napolitano (ADEQ Director Steve Owens is Co-chair designee; Councilman Lloyd Irvine is Tribal Co-chair**
- **Other WRAP interests: green house gases, ozone transport**

Bumps in the Road...

- **Litigation – C.E.E.D. lawsuits**
- **Court decision vacating backstop trading program**
- **Revised federal rule**
- **Best Available Retrofit Technology (BART) eligibility**

BOTTOM LINE: Arizona will resubmit SO₂ backstop trading program with “better than BART” demonstration; BART for NO_x and PM point sources (no trading program at this time).

What's Happening Right Now?

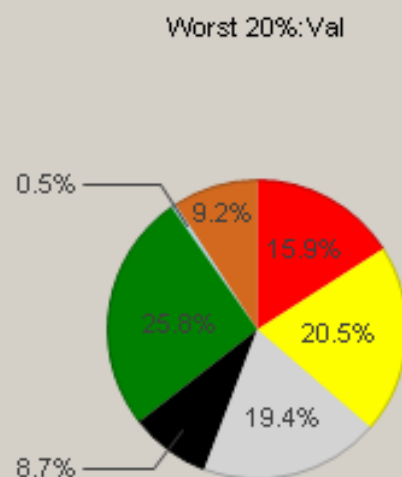
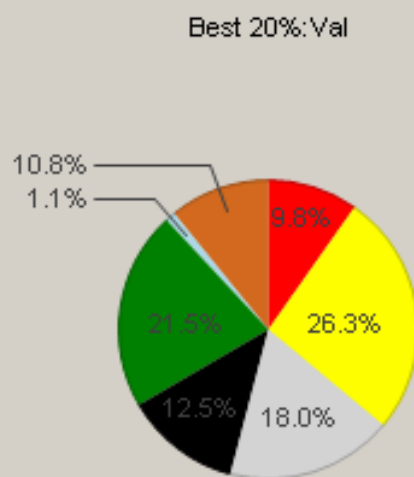
- **Checking for any backsliding at four 2003 C1As**
- **Revising 2003 SIP for resubmittal**
- **SO2 backstop trading program milestones updated to reflect numerous stationary source controls since 2003; sector growth**
- **Stakeholder meetings (January 2007 first)**
- **Technical analyses for eight C1As to determine reasonable progress goals and long-term strategies**

What's Next?

- **BART analysis for all BART-eligible sources (due October 2007).**
- **Reasonable Progress Goals for each C1A; compare to Uniform Rate of Progress (Natural Conditions)**
- **Attribution – what percentage of impairment is tribal, outside the state, outside the country; also “in and near”**
- **Long-term Strategies – control measures, commitments**
- **Consultation with Federal Land Managers (FLMs), tribes, and other states**
- **Template as much of SIP as possible to help with review**
- **Protocols to get ahead of approval issues**

Saguaro National Monument (eastern Wilderness)

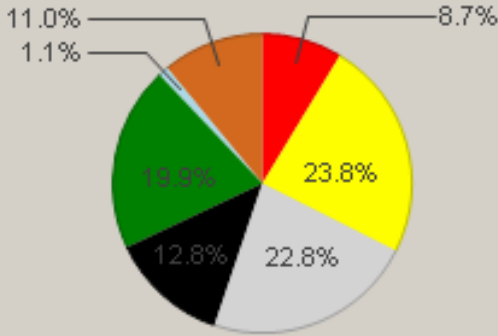
SAGU1



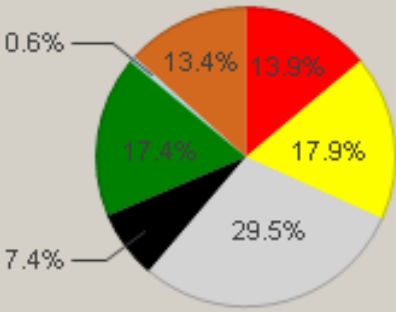
Saguaro Wilderness Area West

SAWE1

Best 20%:Val

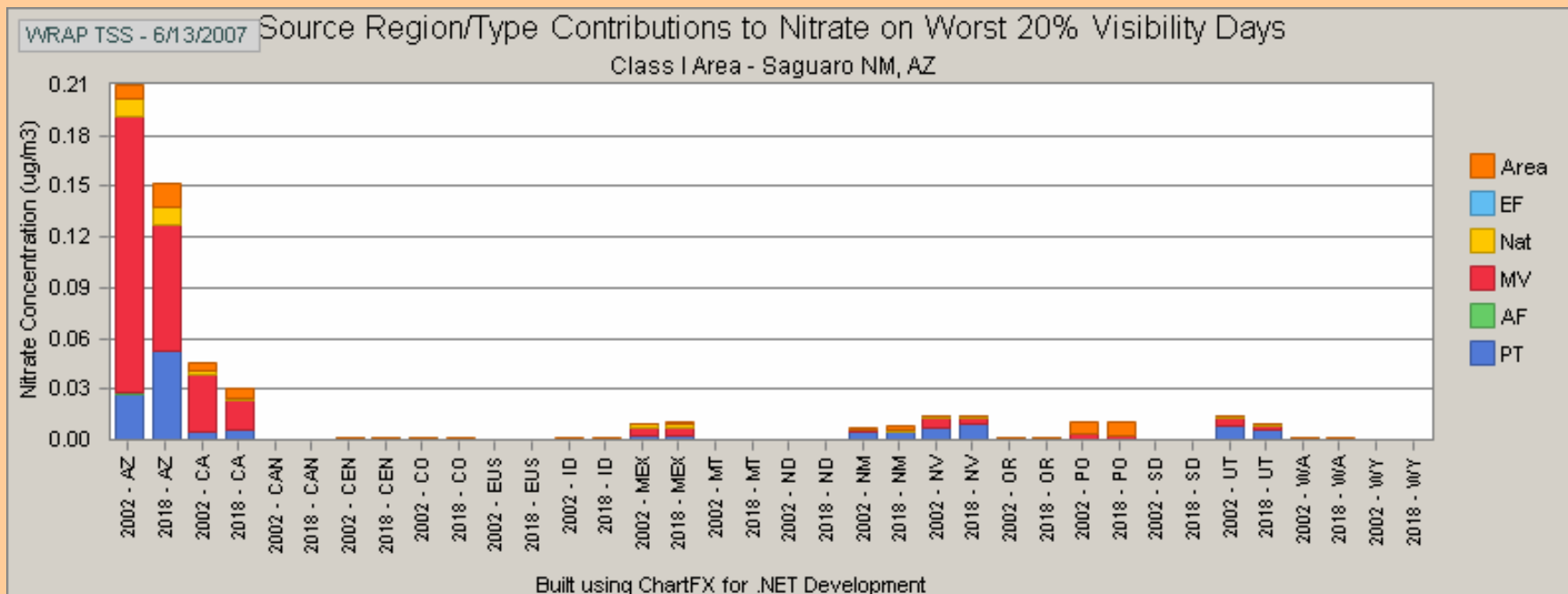
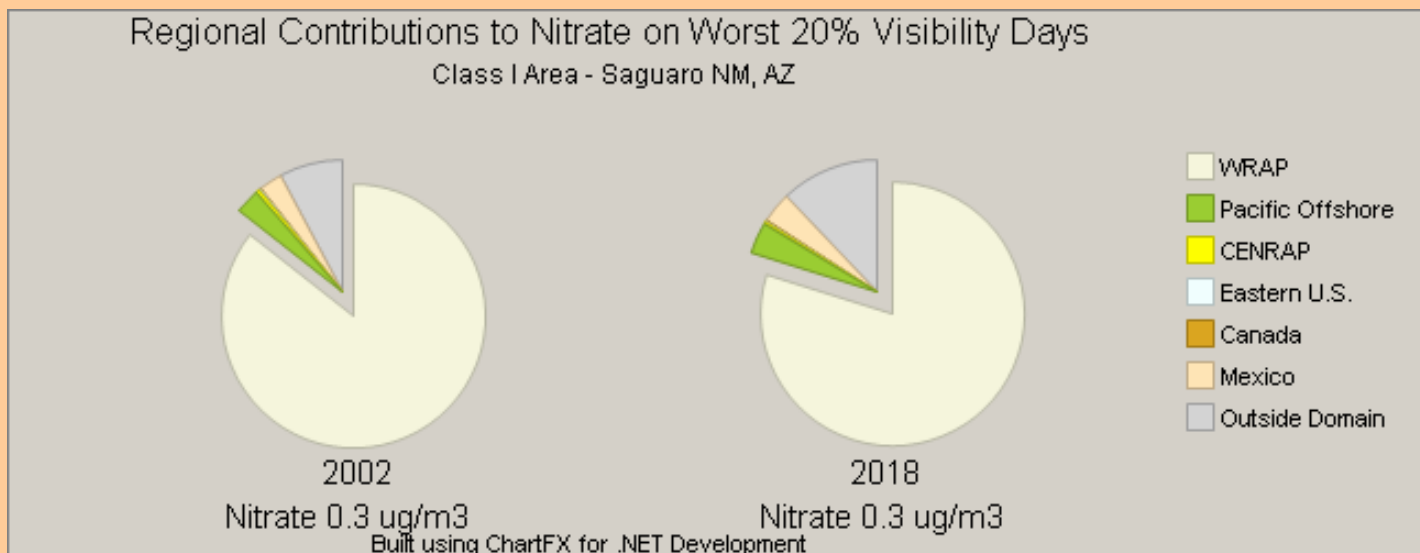


Worst 20%:Val

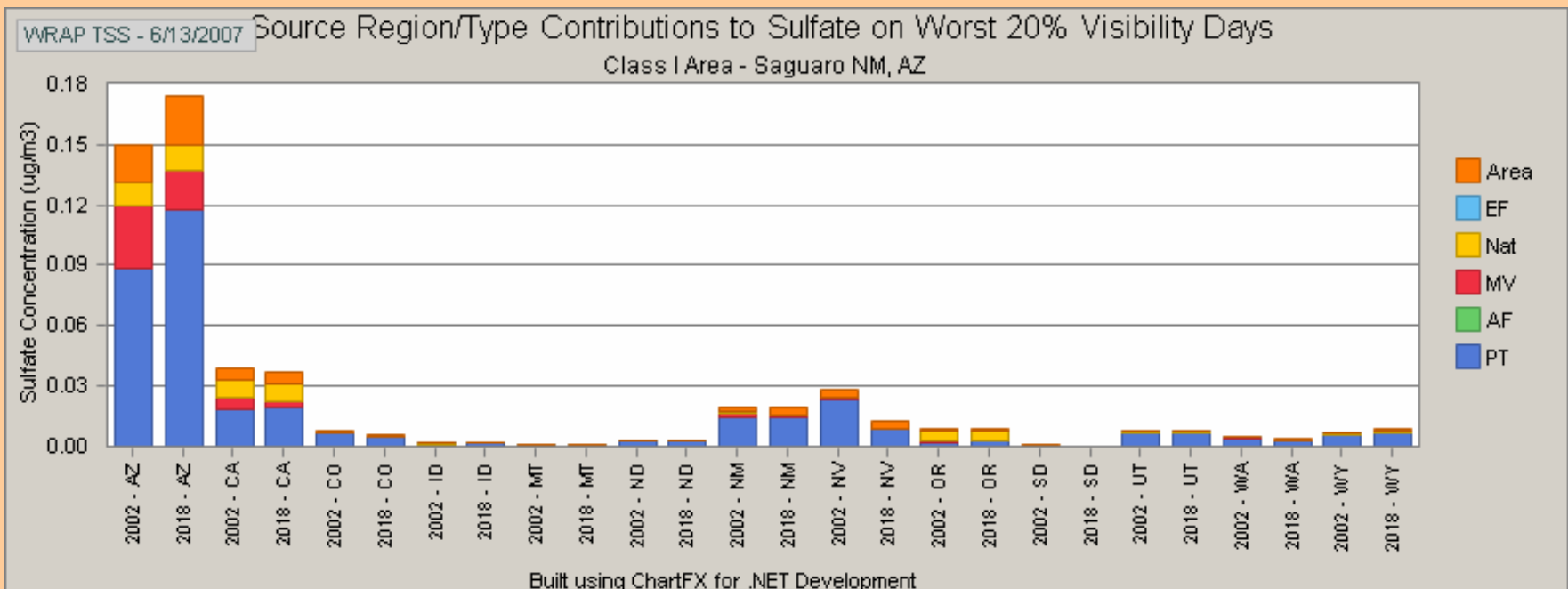
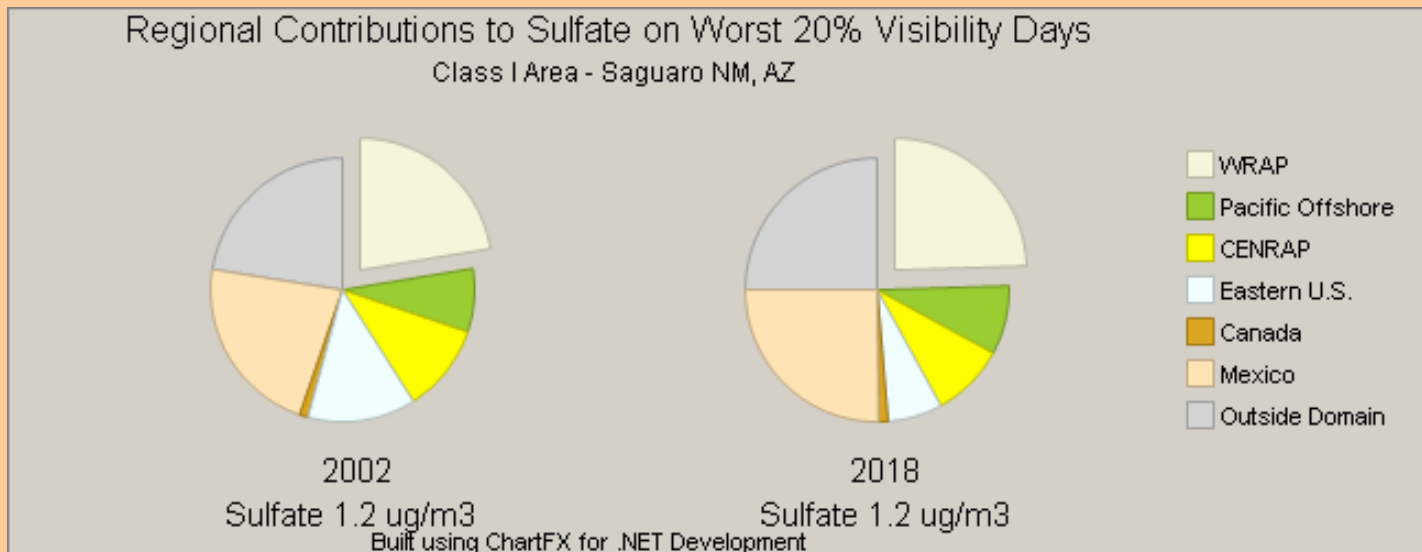


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- SAWE1|ammSO4f_bext
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- SAWE1|ECf_bext
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- SAWE1|SeaSalt_bext
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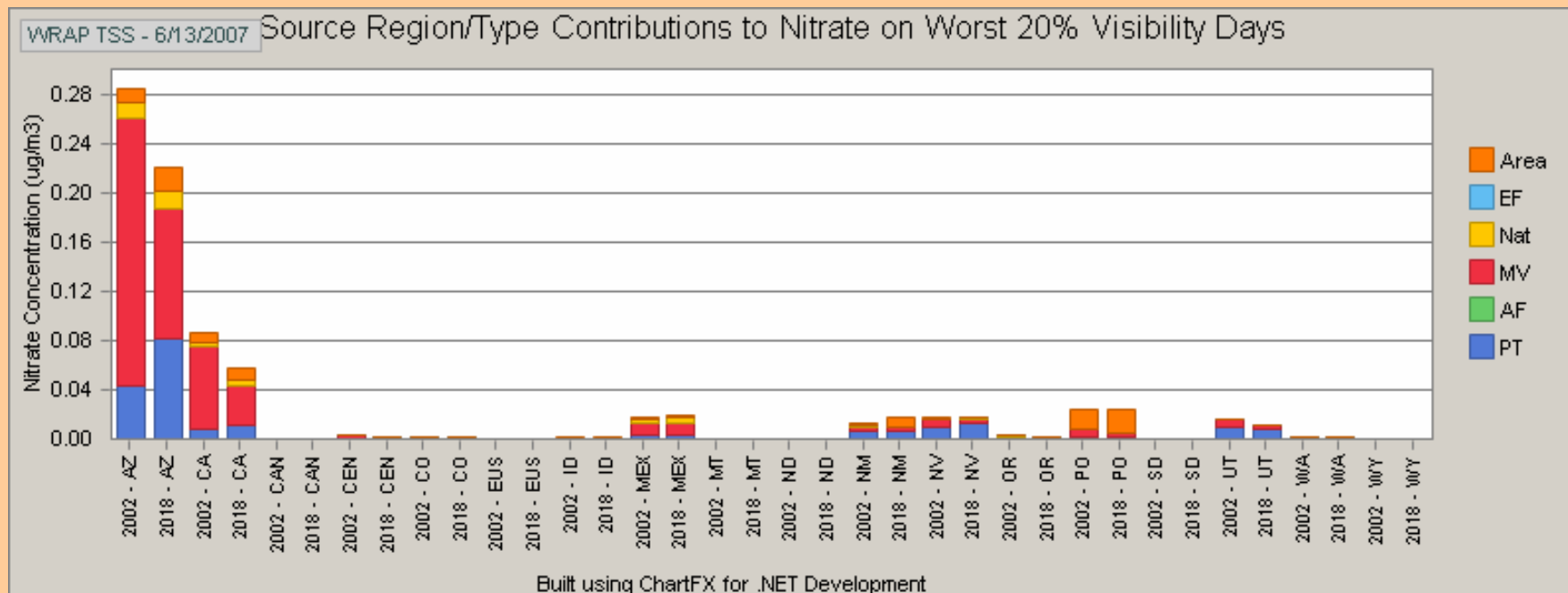
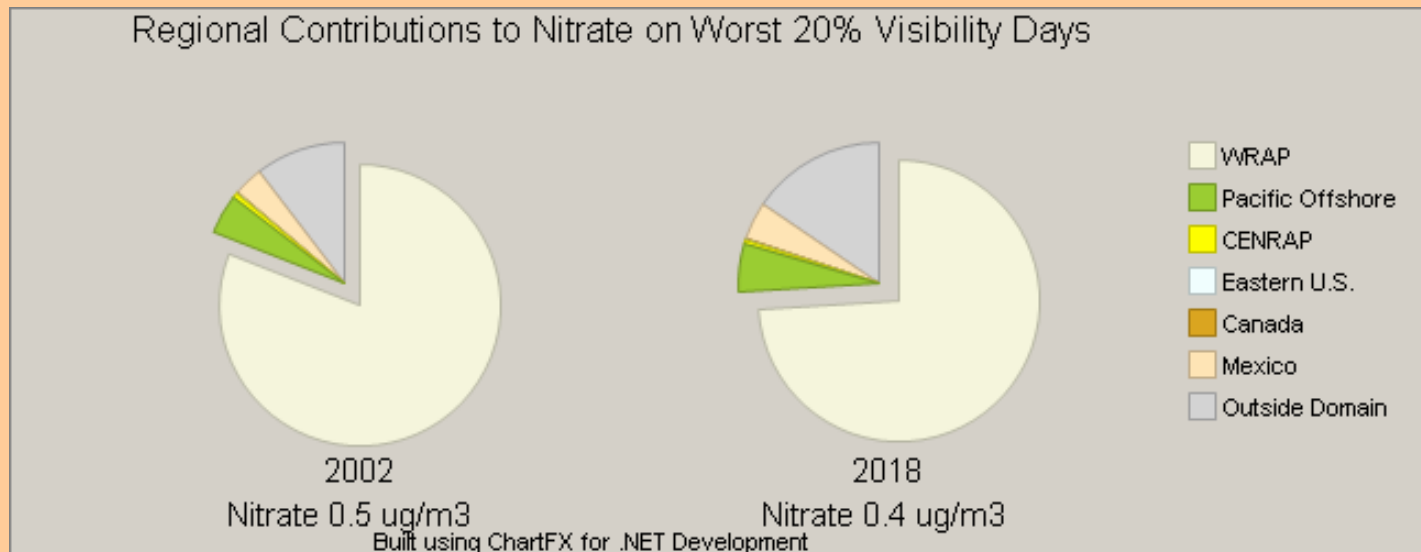
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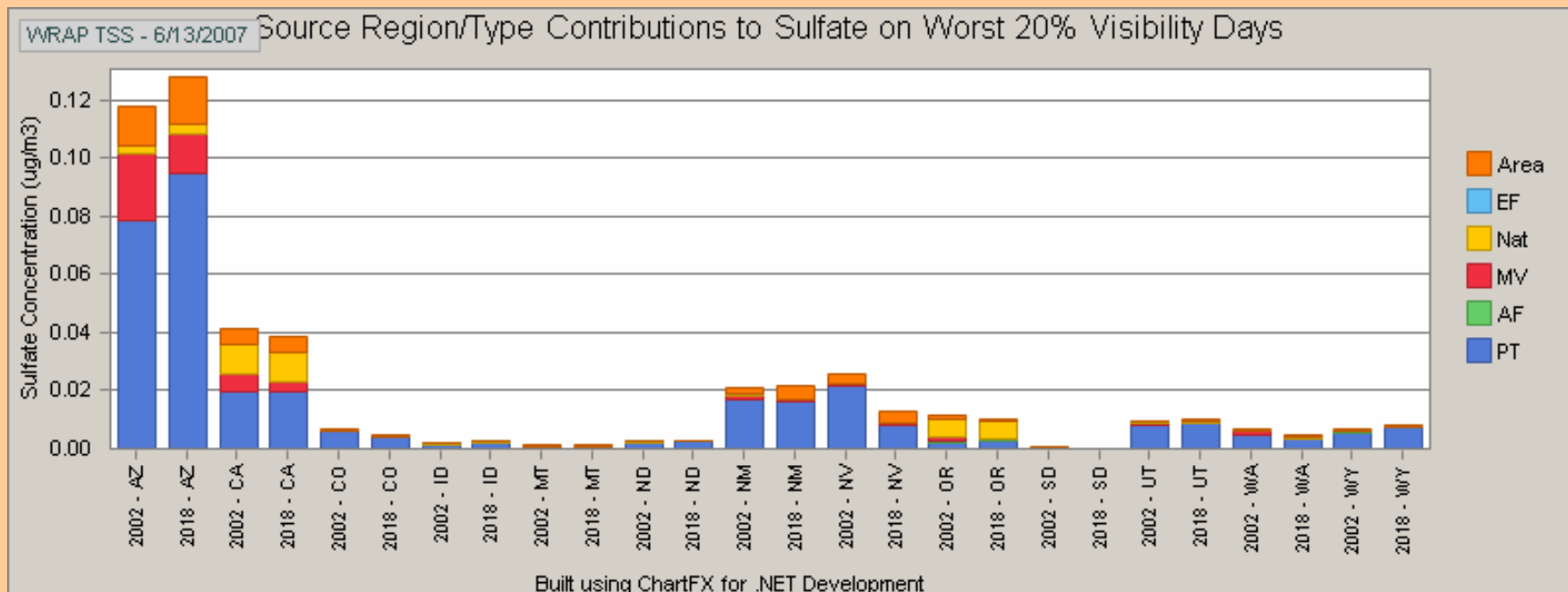
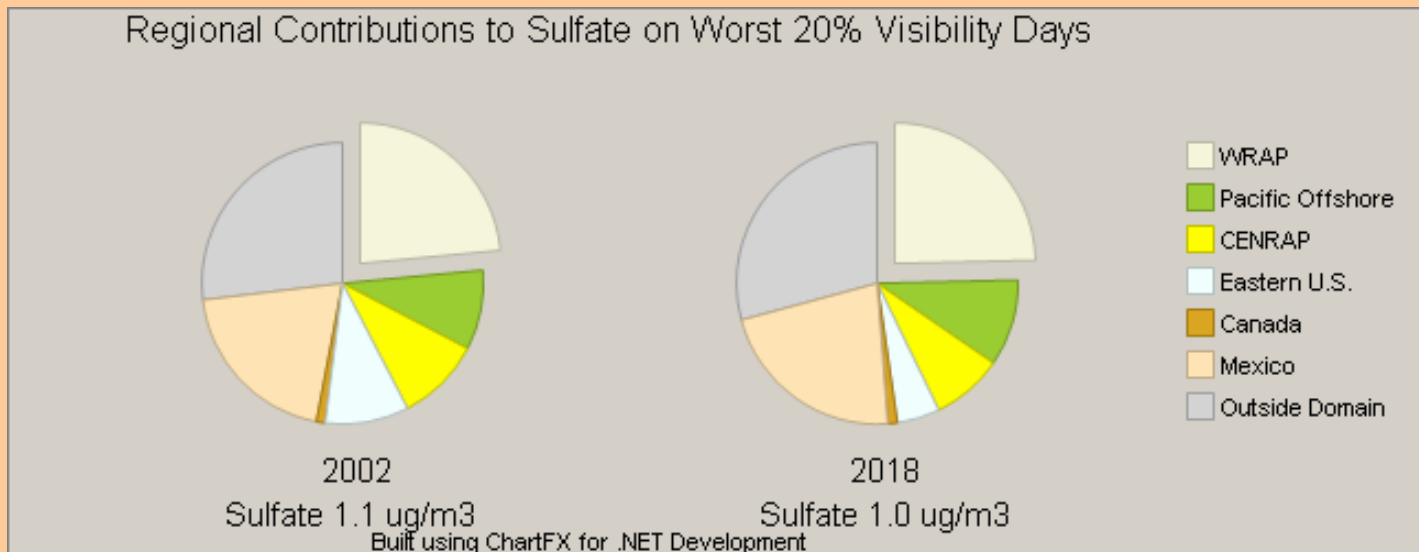
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West



West



What does this mean for Saguaro; most C1As?

Class I Area will not meet its 2018 uniform rate of progress (reasonable progress goals not yet set)

Application of BART for point sources will not decrease emissions that much

More controls, especially for NO_x, may be necessary (NO_x trading?), and coarse mass (dust) trends need more research

Science will continue to improve by 2013 SIPs; analyses will continue (funding needed).

Where to get more information:

Western Regional Air Partnership:

<http://www.wrapair.org/>

IMPROVE:

<http://vista.cira.colostate.edu/improve/>

VIEWS:

<http://vista.cira.colostate.edu/views/>

ADEQ Website:

<http://www.azdeq.gov/environ/air/haze/index.html>