

NARSTO and Regional Cooperation in North America



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

Jake Hales, NARSTO Management Coordinator
jake@cgenv.com

- What is NARSTO?
- What are NARSTO's Driving Forces?
- What are NARSTO's Activities?
- Why is NARSTO Interested in Hemispheric Transport?



<http://www.cgenv.com/Narsto>



What is NARSTO?

NARSTO is a public/private partnership, whose membership spans government, the utilities, industry, and academe throughout Mexico, the United States, and Canada. **Its primary mission is to coordinate and enhance policy-relevant scientific research and assessment of tropospheric pollution behavior.** NARSTO's activities provide input for science-based decision-making and determination of workable, efficient, and effective strategies for local and regional air-pollution management.



<http://www.cgenv.com/Narsto>



NARSTO Membership



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

Participating Partners

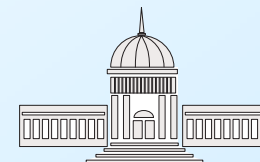


Universities

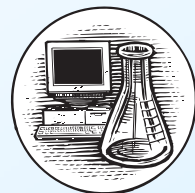
Sponsoring Partners



Industry



Government
Agencies



Private Labs

Affiliated Partners



<http://www.cgenv.com/Narsto>

Currently 84 members

NARSTO Membership, Cont'd: A New Entry



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

"The Red:"

Red de Investigación y Desarrollo sobre Calidad
del Aire en Grandes Ciudades

under:

The United States-Mexico Foundation for Science
(Fundación México-Estados Unidos para la Ciencia - "FUMEC")



<http://www.cgenv.com/Narsto>



Some NARSTO Activities

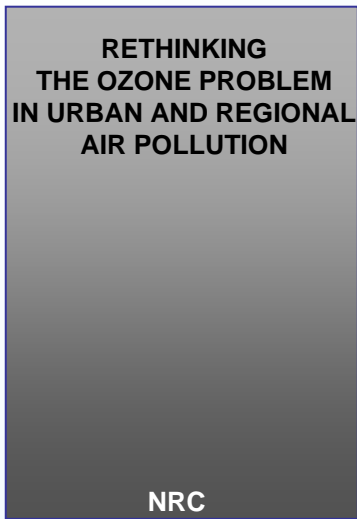
- Quality Assurance and Data Center (Ongoing)
- Mexico Fine-Particle Science Conference (Oct. 2000)
- Model Intercomparison (Ongoing)
- Reactivity Research Working Group (Ongoing)
- Comprehensive Field Studies: Several; e.g.,
 - Texas 2000 (Houston; Summer 2000)
 - California Ozone Study (Central Valley; Summer 2000)
 - California Regional Particulate Air Quality Study (Central Valley; 2000 -2001)
 - Pacific 2001 (Summer 2001)
- Tropospheric Ozone Assessment (July 2000)
- Fine-Particle Assessment (Dec. 2002)



NARSTO Tropospheric Ozone Assessment: Origins



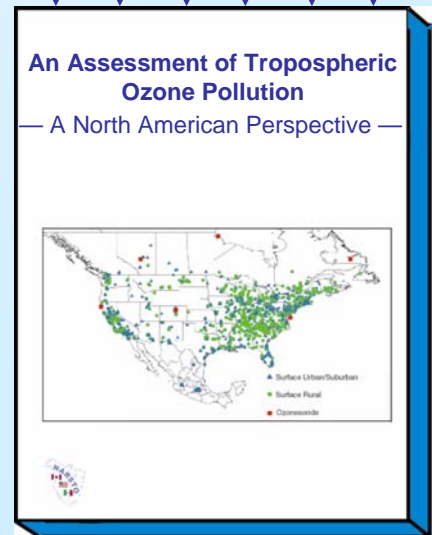
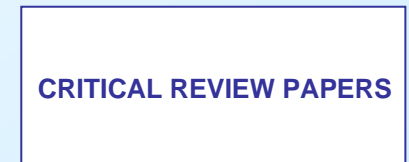
Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001



1991



1995



2000



<http://www.cgenv.com/Narsto>

Why an Ozone Assessment Now?



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

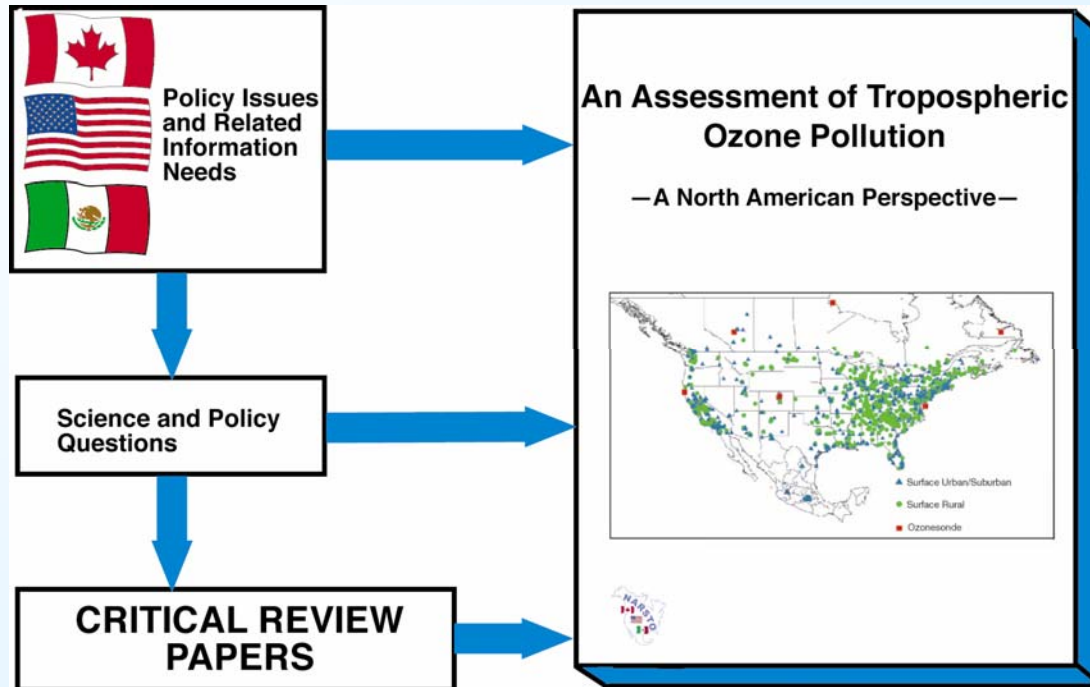
- The Surface-Level Ozone Pollution Problem Persists.
- New and Emerging Policies Create the Need for Scientific Input.
- A Continental Perspective on the Ozone Problem is Emerging.
- Scientific Understanding, Measurements, and Interpretive Techniques Have Advanced.
- These Advances Have Implications for Policy.



<http://www.cgenv.com/Narsto>



Assessment Structure

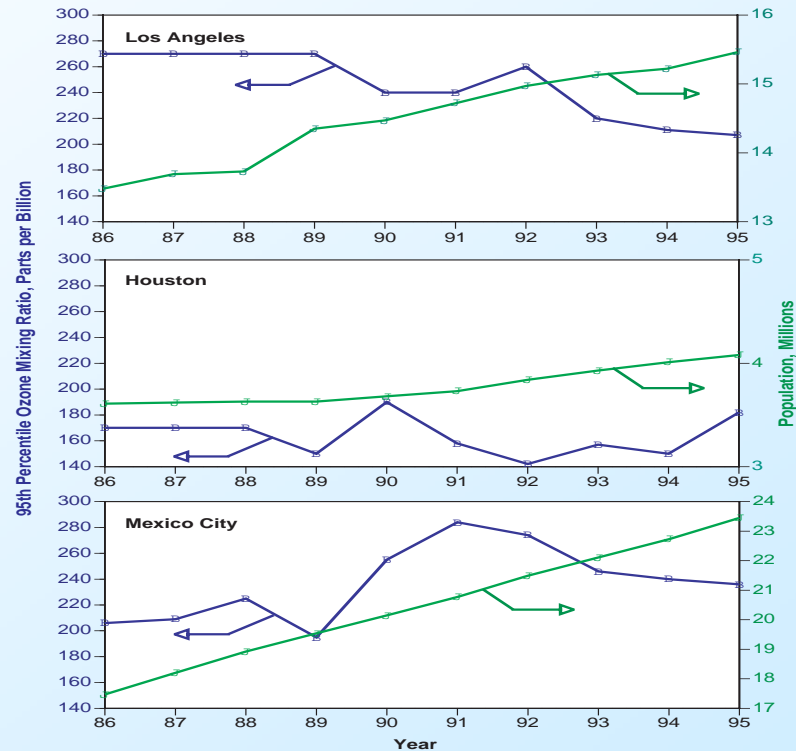


Concentrations, Emissions, and Trends #1



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

- O₃ concentration trends appear to be declining, or at least holding constant in *most* urban areas of North America, despite rapid population increases in many of these areas.



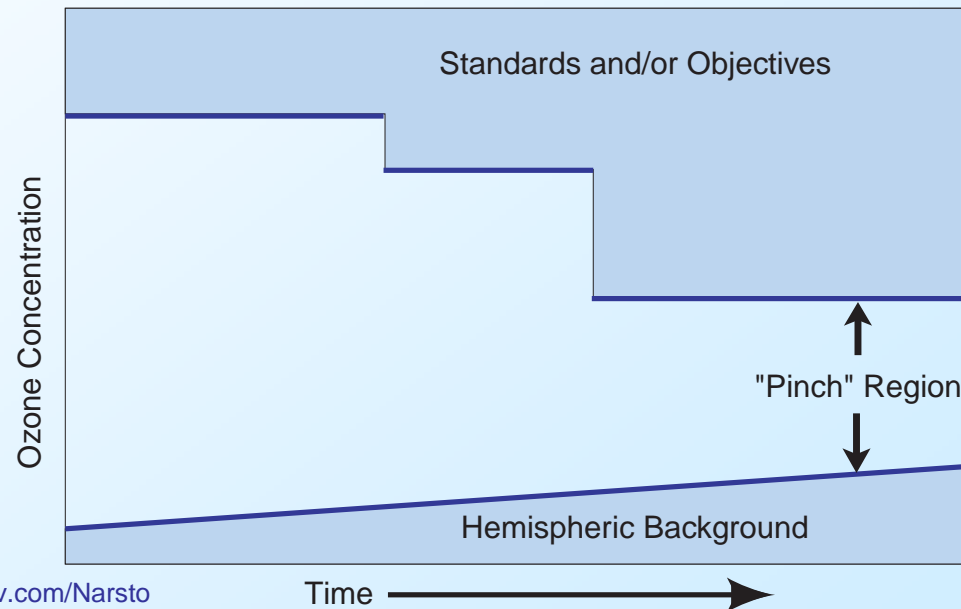
<http://www.cgenv.com/Narsto>

Concentrations, Emissions, and Trends #2



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

- As O_3 standards or objectives are set to lower concentrations, they come closer to background concentrations arising from natural sources and/or numerous, distant, and unidentified anthropogenic contributions. These factors combine with increased population and human activity to add to the challenge for achieving desired air quality.
- Lower concentrations and longer averaging periods in O_3 standards and objectives will require expansion and improvement in the scientific and technical infrastructure intended to support the policymaking process.



<http://www.cgenv.com/Narsto>

Implications for U.S. Air-Quality Management

Global Air Quality, NRC, 2001



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001

"To what extent will the US be in control of its own air quality in the coming decades? . . . evidence does point to the plausibility of a scenario in which non-US emissions and changing climatic conditions could significantly affect the air quality in some regions of the US.

This concern will become even more pressing with the application of National Ambient Air-Quality Standards (NAAQS) that were issued by EPA in 1997. The longer averaging time and lower concentration of the new standard means that background ozone will play an increasingly important role in determining whether or not an area is in compliance with the NAAQS."

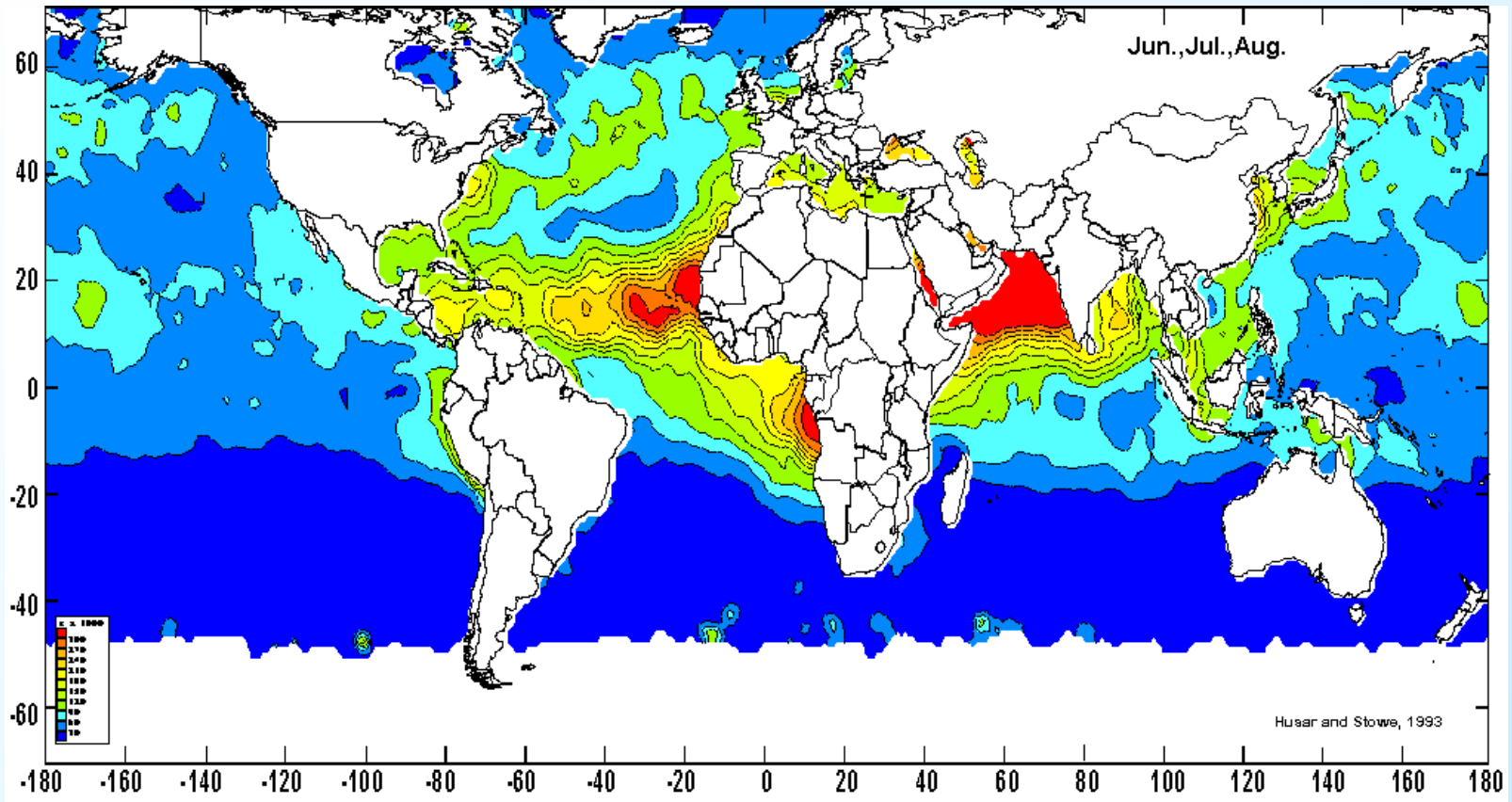


<http://www.cgenv.com/Narsto>

Aerosols and NARSTO's Fine-Particle Assessment



Photooxidants,
Particles, and Haze
across the Arctic and
North Atlantic
CIESIN 2001



<http://www.cgenv.com/Narsto>



Bottom Line

- What is the North American Continent Doing to Itself?
- What is the Rest of the Hemisphere Doing to the North American Continent?
- What is the North American Continent Doing to the Rest of the Hemisphere?

