

US EPA ARCHIVE DOCUMENT

Ground-Level Ozone Concentrations Based on Satellite Observations and Surface Monitoring in Support of US-Mexico Border 2012 Program Environmental Health Decisions

Summary:

Environmental health risks at the US-Mexico Border Region have been attributed to increased development, industrial and population growth, the rising number of old vehicles on the road, and topographic and meteorological conditions. Approximately three million US and Mexican citizens live in counties where ozone concentrations exceed the health-based air quality standard. This project will support the implementation of Border 2012 - a 10-year, results-oriented environmental program through which the US and Mexico can pursue solutions for improving the environmental conditions along the border. Insights on the geographical pattern/movement of ozone maxima in the US-Mexico border will provide valuable knowledge to decision makers in addition to the traditional data from ground monitors. The project will continue EPA's active research collaboration with NASA and key stakeholders in ensuring that satellite retrievals of lower atmospheric ozone are effectively used for practical environmental health decisions. Specifically, the project will

- assess the usability of lower tropospheric ozone data from the current satellite sensors in combination with existing surface monitoring data (in two border counties) to predict the extent of regional ozone pollution, severity, and episodes;
- assist the state and local decision making officials in defining and characterizing ozone-related environmental health issues where satellite data can be applied; and
- develop a support tool to aid environmental health decisions by making effective use of both satellite-derived data and the existing monitoring data.

The work will be performed through existing interagency agreements and contracts. The project team will also leverage existing resources and support amongst US and Mexican stakeholders to maximize project success. A report will be published on the utility of the satellite data and surface monitoring data in conjunction with the decision support tool for border environmental health decisions. The report will recommend practical applications for the NASA remote sensing products evaluated in this study. The report will be shared with decision makers and interested parties through existing agency and collaborators' information channels/systems.

Pilot Project Period: January 5, 2006 - September 30, 2007

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Key Collaborating institutions: EPA, SEMARNAT, SCERP, University of California at Berkley, NASA, California Institute of Technology, PAHO