

# AIR TOXICS MONITORING NEWSLETTER

A PUBLICATION OF THE STAPPA/ALAPCO/USEPA AIR TOXICS MONITORING STEERING COMMITTEE

January 2001

## National Air Toxics Monitoring Program

Two major projects are underway as part of the first year of national air toxics monitoring:

1. Pilot monitoring programs in four urban areas and six small city/rural areas; and
2. Analysis of existing (and the new pilot project) air toxics monitoring data.

The U.S. Environmental Protection Agency (USEPA) has made \$3 million in FY2000 money available for these two projects. The status of these projects is summarized below.

**Monitoring Pilot Project.** The pilot project is intended to generate information on the spatial and temporal variability of ambient air toxics concentrations. Ten state/local agencies are participating in the project (see map below).



## Map of Ten Cities in Monitoring Pilot Project

The monitoring is expected to begin in January 2001 for Tampa, Cedar Rapids, Grand Junction, and San Jacinto. The remaining cities will begin in February 2001, except for San Juan, which will begin in March 2001. All sites will provide at least 12 months of data. Sampling and laboratory analysis procedures are being reviewed and standardized among study participants and USEPA representatives to ensure consistency among measurement results. A draft document outlining the measurement procedures has been prepared. Sampling will be conducted on primarily a 1-in-6 day frequency in the four urban areas, and a 1-in-12 day frequency in the six small city/rural areas. Each area will sample for at least 18 "core" VOCs, carbonyls, and metals. The data will be analyzed as part of the air toxics data analysis project.

**Air Toxics Data Analysis Project.** The data analysis project is intended to "mine" the existing data to provide information about the spatial pattern, temporal profile, and general characteristics of air toxics compounds. The project is managed by representatives from LADCO, NESCAUM, and CARB. On November 2, a contract was issued to Battelle Memorial Institute and Sonoma Technology, Inc. to conduct this work. On December 1, Battelle delivered the final technical work plan.

The status of the six tasks in the work plan is as follows:

**Task 1 (Compiling central database, including updating USEPA's air toxics data archive)**  
In mid-October, ICF Consulting delivered an updated version of the data archive. Battelle will prepare a draft "table of contents" for the archive in early January 2001. LADCO will send the table of contents to the appropriate state/local agencies, and will request any concerns/limitations with using these data and identification of any barriers with data submission. Battelle is planning to obtain additional data from a few agencies.

**Task 2 (Assessing quality of existing air toxics data)**  
Battelle will assess the data completeness, examine appropriate quality assurance data and establish data quality ratings, and examine measurement precision. Based on this work, Battelle will provide preliminary recommendations on sampling/analysis methods.

**Task 3 (Preparing data for analysis, including developing a queryable, web-based system)**  
Battelle will develop a simple, workable web-based system which can produce user-requested tabular and graphical summaries of the data. LADCO will host the web site initially.

**Task 4 (Performing interpretative analyses of existing air toxics data)**  
Battelle and Sonoma Technology will perform a number of statistical and graphical analyses to address issues such as sampling frequency, spatial variability, temporal variability, emissions patterns, urbanicity, trace metal composition, compound comparisons, and minimum detection levels (MDLs). The analyses will tentatively focus on the following nine compounds:

VOCs (benzene, 1,3-butadiene, chloroform, tetrachloroethylene)  
Carbonyls (acetaldehyde, formaldehyde)  
Metals (cadmium, chromium, lead)

Battelle will also prepare a short report on recent studies related to assessments of air toxics concentrations.

Task 5 (Updating data archive and data analyses to include data from monitoring pilot project)  
Many of the analyses planned as part of Tasks 2 and 4 will be repeated with pilot city data. The design of the monitoring pilot project will allow several additional analyses, including sampling and analysis precision, sources of variability, MDLs, elemental carbon v. diesel emissions.

Task 6 (Reporting)  
In addition to the various reports identified below, monthly conference calls will be held during which Battelle will review the work completed during the past month, the project budget, and plans for upcoming work.

The current schedule for this project is as follows.

Jan 2001	Deliver draft "table of contents"
April 2001	Deliver updated data archive and initial web-based system
July 2001	Deliver preliminary draft data analysis report and updated web-based system
Aug 2001	Deliver updated draft data analysis report and updated web-based system
Aug 2002	Deliver draft final report and updated web-based system (w/ pilot city data)
Oct 2002	Deliver final report

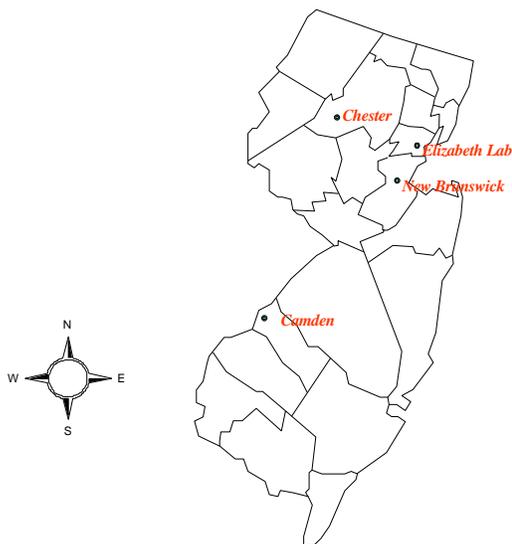
To supplement the primary data analysis work, NESCAUM will manage a small contract to perform pilot-scale, exploratory analyses (i.e., application of air quality modeling to support network design) that may provide further guidance on designing the national monitoring program.

### New Jersey's Air Toxics Monitoring Program

As planning for the national air toxics monitoring network proceeds, several state/local agencies will continue to operate their own air toxics monitoring programs. The State of New Jersey's program is discussed here. (Other state/local programs will be discussed in future versions of the newsletter.)

In July 2000, the New Jersey Department of Environmental Protection received a special appropriation from the state legislature to establish an air toxics monitoring network. The network will consist of four comprehensive, permanent stations in urban, suburban, and rural areas (see map below), and short-term studies to address local issues.

Proposed Permanent Air Toxics Monitoring Sites



The target list of compounds will include all 18 of the "core" compounds from the monitoring pilot project, plus mercury and a number of other compounds identified by reviewing the results of the Cumulative Exposure Project (CEP), emission inventory information, data from the Community Right to Know program, and the results of other studies on air toxics. The permanent sites are scheduled to be fully operational in early 2001, and the special studies should begin in summer 2001. The special studies are expected to include evaluating potential "hot spots" of air toxics identified by the National Air Toxics Assessment and other modeling efforts, evaluating concentrations near heavy concentrations of sources as determined by the state's air toxics inventory, and responding to local concerns or citizen complaints. In most cases, these special studies are expected to last less than one year and focus on a subset of the air toxics being measured at the permanent sites.

For further information on the monitoring pilot project, please contact Sharon Nizich, USEPA, OAQPS, [nizich.sharon@epamail.epa.gov](mailto:nizich.sharon@epamail.epa.gov), 919-541-2825. For further information on the data analysis project, please contact Michael Koerber, LADCO, [koerber@ladco.org](mailto:koerber@ladco.org), 847-296-2181. This newsletter will be issued on a regular (quarterly) basis to provide status reports on air toxics monitoring activities.