DATA ANALYSIS

The Ohio EPA operates and maintains at the present time 153 air monitoring sites in the state of Ohio. These monitoring sites are operated by 9 local air agencies and 5 district offices in the state. The monitoring activities of the local air agencies are overseen by the Air Quality & Analysis Unit of the Ohio EPA. The monitoring stations sample ambient air for six U.S. EPA criteria pollutants and various meteorological parameters. The criteria pollutants are PM10 (particulate matter), SO2, CO, O3, NO2, and Pb (Lead). In 1999, DAPC began monitoring for fine particulates (PM 2.5).

Samples are collected on an hourly basis for all of the criteria pollutants except particulate matter (PM10, PM 2.5) and lead. Particulate matter and lead are monitored on a 24 hour basis with samples collected on various sample frequencies such as every day, every other day, or the most typical frequency of every sixth day. A few monitoring stations do sample PM10 concentrations on an hourly basis.

The monitoring conducted at most of the stations in Ohio is automated electronically. The data collected is compiled daily using data loggers. This data can be retrieved by a central computer (RADS) located at the air pollution control laboratories located in Columbus. Once a month the data around the state is transmitted electronically to the RADS central computer in Columbus. The data is then processed, given an initial review, and sent to OEPA central office Data & Systems computers.

At the monitoring sites that are not electronically automated, the data collected is coded onto forms and submitted to the Air Monitoring Group of the Division of Air Pollution Control (DAPC). This data is reviewed and then keypunched into a file along with the RADS data that is transmitted to the U.S. EPA National Computer Center at Research Triangle Park, NC.

Once a month all of the ambient air monitoring data collected in Ohio is updated to the U.S. EPA Aerometric Information Retrieval System (AIRS). This is the computerized database that contains ambient air monitoring data for the entire country. This monthly update contains not only the data collected from the state monitoring network but also data collected by industry that are required to monitor as part of their Permits to Operate or by Director's Findings and Orders.

Before the official monthly update is executed, the monitoring data is stored in an AIRS screening file for processing and editing. A series of edit functions are performed by the AIRS software to assure that each field of a data record has the appropriate value. Statistical tests are also executed to identify any unusual sample values that might require further investigation as to their validity. Visual checks of the data are also done to examine types of data that are not considered by the AIRS editing processes. As a final check, a printout of the monthly data update is forwarded to the local air agencies and district offices for identification of data input errors. All of this helps to assure the validity of the data.

Each year the air monitoring data is summarized and published in a report prepared by the Air Monitoring Group of DAPC. This report is called the **Ohio EPA Annual Air Quality Report** (PDF, Acrobat Reader 5.0 or higher required). The report contains figures, maps and graphs that present key statistical air quality concentrations as well as air quality trends. A copy of the report can also be obtained by sending an e-mail to Dave Ambrose.

Also retrievals can be requested for pollutant concentrations at any site or any area in the state or across the nation by calling Dave Ambrose at (614) 644-3620 or Gary Engler at (614) 644-3623. Finally a report that presents air quality trends in the last twenty years for Ohio can be obtained by sending an e-mail to Gary Engler.

The trends report in WordPerfect 8 andQuattro-Pro version 8 format is available from the Ohio EPA, DAPC as file trnds00.zip (60 kb). The trends report in Microsoft Office XP format (Word and Excel) is available as trnd00ms.zip (42 kb).