Initial Summary of Preliminary 1999 Fine Particulate Matter ($PM_{2.5}$) Monitoring Data

Preliminary data from the $PM_{2.5}$ monitoring network are now available for 1999. These data are significant because they represent the first year of data from the new nationwide network of $PM_{2.5}$ monitors. The attached maps indicate location-specific air quality concentration levels for $PM_{2.5}$, as well as the relative completeness of the data. However, **several important caveats below** should be applied to these data:

- EPA regulations require three consecutive years of data before an area can be designated as attainment or nonattainment for particulate matter. The data represented on these maps reflect up to one year's worth of air quality monitoring. In numerous cases, data for the entire year are not available. Since $PM_{2.5}$ levels can vary from year to year it is not appropriate to use the data on these maps to determine whether individual areas will or will not ultimately meet the air quality standards for $PM_{2.5}$.

- The data used to develop the maps represent information provided to EPA by the states through EPA's Aerometric Information Retrieval System (AIRS) as of July 12, 2000. Monitoring sites in many states had relatively incomplete data, as reflected in the size of the colored circles on the maps. The larger circles indicate more complete data are available and smaller circles indicate only limited data are available. No data are presented for one state, New Hampshire, since it had no reported $PM_{2.5}$ data in AIRS as of July 12, 2000.

- Also some of the data in the AIRS data base have been "flagged" by the states that provided the data. States use these flags to convey concerns about the potential validity of the data in question. EPA has not yet determined how to address the individual issues raised by the various qualifier flags. So for the purposes of the maps, flagged data indicating possible equipment or procedural problems in data collection were not included. For example, on the maps EPA excluded more than one third of the data from South Dakota, Tennessee and Mississippi, and all of the data from Massachusetts.

- EPA cautions against interpreting air quality levels in locations with relatively incomplete data. As of July 12, 2000, approximately 60 percent of sites reported valid data for all 4 quarters, but only 46 percent had the minimum number of samples needed for compliance determinations (i.e., at least 11 samples per quarter).

Background

- Monitors in this network report a 24-hour average $PM_{2.5}$ concentration, measured in micrograms per cubic meter ($\mu g/m^3$) of ambient air, for each successful day of monitoring.

- State and local air pollution agencies continually submit and update the data to EPA's Aerometric Information Retrieval System (AIRS) (http://www.epa.gov/airsdata).

- AIRS data downloaded on July 12, 2000, were used to generate air quality concentration maps for this initial summary. The maps reflect data from 999 monitors as of that date. There are currently more than 1,050 compliance monitors for $PM_{2.5}$ in the United States.

- In the future, additional analyses of this $PM_{2.5}$ data will be made available in conjunction with the ongoing review of the national ambient air quality standards (NAAQS) for PM.

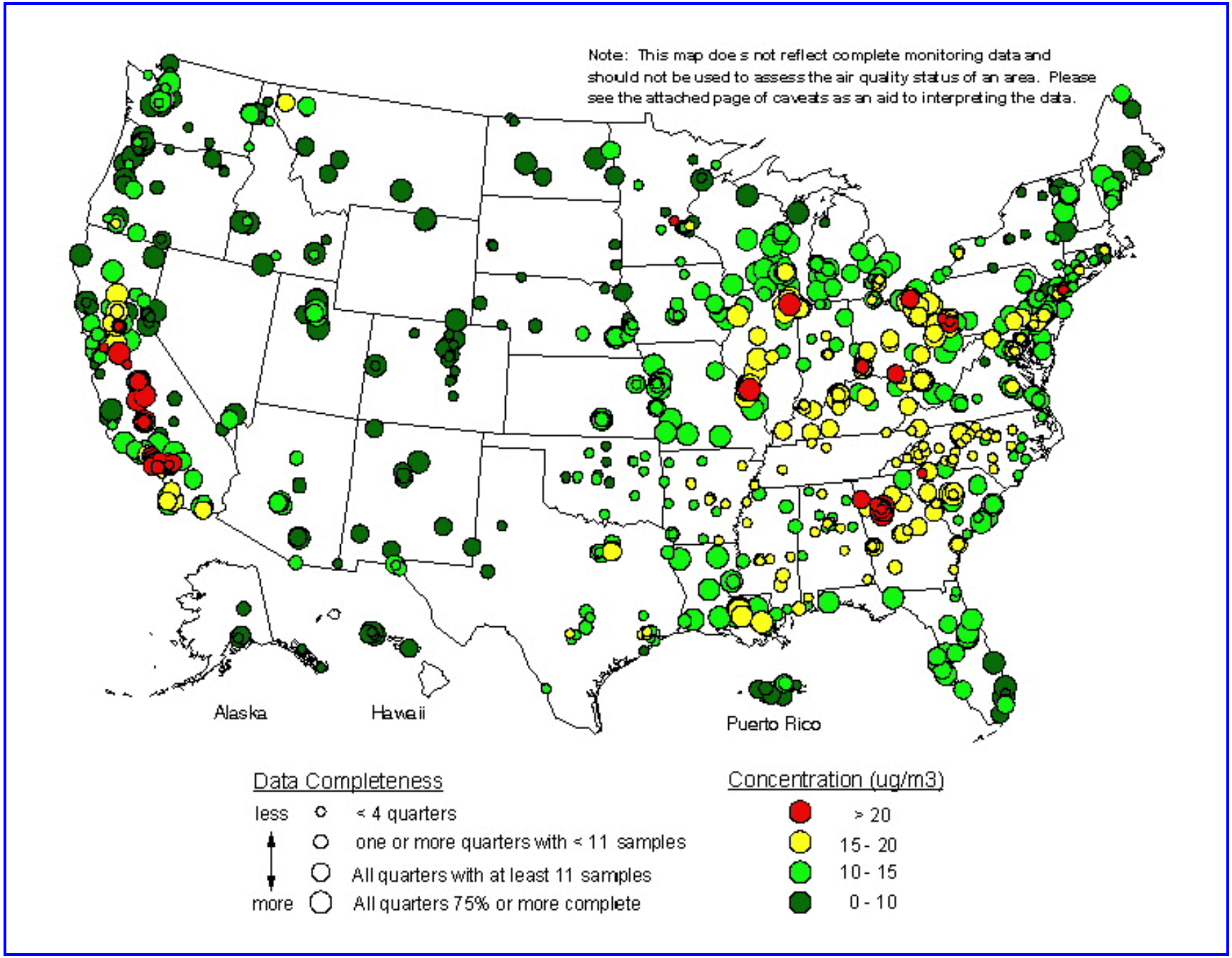

Figure 1. 1999 annual mean $PM_{2.5}$ concentrations (calculated as the mean of each quarterly mean).
Source: U.S. EPA AIRS data base, July 12, 2000.

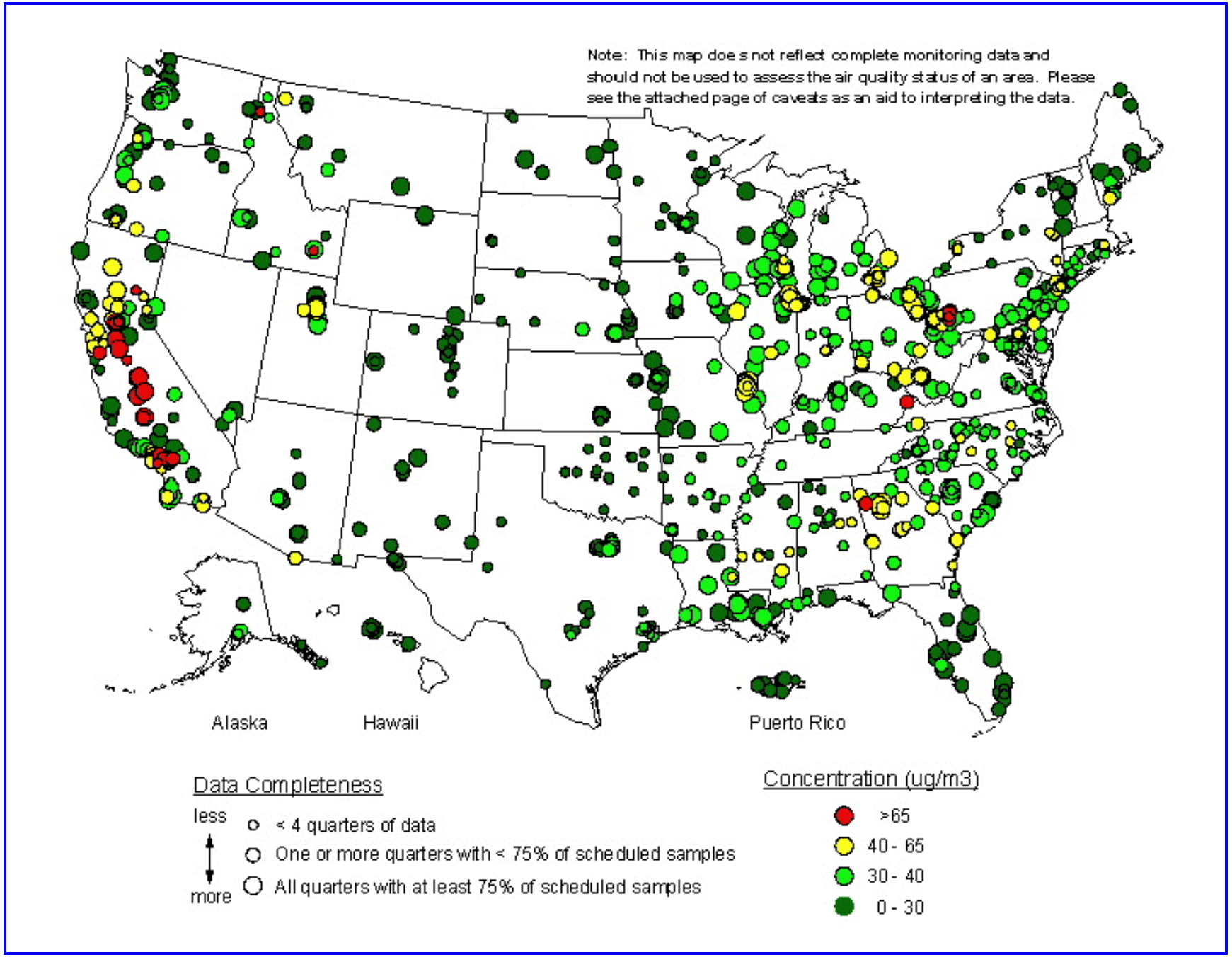

Figure 2. 1999 98th percentile 24-hour average $PM_{2.5}$ concentrations.
Source: U.S. EPA AIRS data base, July 12, 2000.