PM 2.5 Fused Air Quality Surface Using Downscaling (FAQSD) Files

HRS-CDR Dataset Documentation

Dataset Overview
The Fused Air Quality Surface Using Downscaling (FAQSD) Files is derived from data on PM2.5. The data provides predictions for national-scale annual average concentration of PM2.5 (µg/m3) in the United States using monitoring data and Community Multiscale Air Quality (CMAQ) output. Data are available at census tract level and organized by time (Year: 2002-2014).

Dataset Summary
- Dataset Name: Fused Air Quality Surface Using Downscaling (FAQSD) Files
- Data Source: United States Environmental Protection Agency (EPA)
- Data Source URL: https://www.epa.gov/hesc/rsig-related-downloadable-data-files
- Data Collection Method: Primary data collected by the EPA.
- Years Collected: All data contains measures between 2002 and 2014.
- Geographic Level of Collection: Census tract

Years Available and Temporal Interpolation
None of the Fused Air Quality Surface Using Downscaling (FAQSD) Files have been temporally interpolated.

Geocoding and Spatial Interpolation
None of the Fused Air Quality Surface Using Downscaling (FAQSD) Files have been spatially interpolated.

Dataset Notes: None
Daily predictions are based on the 2010 US Census Tract

Technical Information about Fused Air Quality Surface Using Downscaling

The downscaling fusion model uses both air quality monitoring data from the National Air Monitoring Stations/State and Local Air Monitoring Stations (NAMS/SLAMS) and numerical output from the Models-3/Community Multiscale Air Quality (CMAQ).

The FAQSD model is a Bayesian space-time downscaler model which integrates census-tract level 24-h average monitoring data from the National Air Monitoring Stations and State and Local Air Monitoring Stations (NAMS/SLAMS) with 12 km gridded output from the Models-3/Community Multiscale Air Quality (CMAQ) model. The CMAQ model uses emissions data from the EPA’s National Emissions Inventory and includes model emissions, daily continuous emissions monitoring data for significant point sources, and meteorological data.

There are areas with few or no air monitoring sites. In these areas, it may be difficult to adjust gridded CMAQ output to provide accurate predictions of air quality. For such areas, the bias-adjustments have been made based on the available monitoring data which may be located in areas with different emissions and geography.
For further information on the fused air quality surface using downscaling files, please see following published journal papers:


**Working with HRS Address Data**

**Note to users:** Respondent addresses are carried forward to the next wave and they appear for waves in which the interview may not have occurred. xIWTYPE in the Tracker file indicates whether someone was actually interviewed in that wave, in which case, the address would have been confirmed. If users want to limit analyses to waves in which the R was interviewed keep waves of observations where xIWTYPE = 1. In summary, an address appearing on a given line does not indicate that an interview took place in that wave; it is simply the address that was on record at the time.