

PSD Projects - AERMOD Modeling

Meteorological Data Selection Guidance

DAQ has developed new procedures for the selection of meteorological data files to be used in AERMOD modeling for PSD permitting projects. The new procedures include selecting an appropriate meteorological data site for the project using the county-by-county list of approved NWS meteorological data sites located on the DAQ website, <http://daq.state.nc.us/permits/mets/metdata.shtml>, determining the surface roughness characteristic for the facility/project site, and then choosing the meteorological data file subset that best represents the surface roughness of the facility/project site.

For each NWS meteorological data site, DAQ has processed three meteorological data files (subsets) assuming a surface roughness of 1.0 (high), 0.5 (medium), and 0.05 (low), respectively. The appropriate meteorological data file subset to use is then selected based on the surface roughness of the facility/project site which can be determined using the AERSURFACE preprocessor. To guide you in running the AERSURFACE program, DAQ has provided a list of inputs below; a sample input file and the NC GeoTIFF file are also located at the DAQ website link provided above.

AERSURFACE inputs:

Datum: NAD83

Study radius (km) for surface roughness: 1.0

Vary by Sector? N

Airport? N

Continuous snow cover? N

Surface moisture?

Average, Arid region? N

Month/Season assignments? Default

For sites located near state boundaries, the use of seamless NLCD data may be the only option for successfully applying AERSURFACE. Please contact DAQ if you need assistance with a site that is within 10 km of the state boundary.