

The last part of testing the HYSPLIT installation will be how we will be using the CAPTEX data in this tutorial. Remember the CAPTEX data was an experiment, the Cross Appalachian Tracer EXperiment, that was conducted many years ago.

However these data are still valuable, for testing models and evaluating their performance. In particular, we will be using these data as a sort of ground truth reference for many the examples in many of the sections. You can read about the experiment in the report, which is provided in the captex directory of the tutorial.

There were seven releases, seven tracer releases, we will be actually working only with the second release, release number two, which occurred on September 25th, where 201 kg of an inert chemical were released. There was a sampling network across the northeastern United States, covering the states of Pennsylvania, New York, Ohio, as well as southern Canada,

and a few stations in New England as well. Most of the tracer releases occurred from Dayton, Ohio. There was one that occurred ..., or two actually occurred from Sudbury, Ontario.

For doing the calculation, we will be using gridded meteorological data from the North American Regional Reanalysis. You can read about these types of meteorological archives. They represent sort of the best quality data that can be found. It's a synthesis of observations and model interpolation, if you will, to a regular grid in latitude, longitude, and height, so these three dimensional meteorological fields provide the underlying input data for doing the trajectory and dispersion calculations.

The CAPTEX experiments, in particular release number two, this is an animation from HYSPLIT of the tracer plume, that was released from Dayton Ohio, and the

numbers here represent the average air concentration that was measured over the three-day period over which air samples were collected. The concentration units are in pico-grams per cubic meter. Pico is 10 to the minus 12 th. The concentrations were measured in either three-hour or six-hour average durations and we will be using those data for many of the subsequent tutorial sections.