Huge air pollution study under way in California

By John Antczak - Associated Press Writer
In the Merced Sun-Star, Contra Costa Times and other papers, Saturday, May 29, 2010

LOS ANGELES -- Instrument-laden aircraft and a research ship equipped to sniff the atmosphere and ocean have joined land-based monitoring stations in a huge field study of air pollution and climate change in California.

The goal of the $20 million state and federal project is to understand the origin of pollutants and greenhouse gases, where they go and what becomes of them as an integrated air-quality and climate-change issue.

"Many chemicals that change climate are also air pollutants and the chemistry that makes them are the same, and the atmosphere doesn't care which issue we are dealing with," said A.R. Ravishankara, chemical sciences director at the National Oceanic and Atmospheric Administration's Earth System Research Laboratory.

Called CalNex - shorthand for the nexus between air quality and climate - the study is using about $15 million worth of hardware and expertise from NOAA and $5 million from the state, according to the California Air Resources Board.

"The CalNex project is kind of a pollution researcher's equivalent of a D-Day campaign by land, air and sea," said CARB Chairman Mary D. Nichols.

Years in planning, the effort is employing a four-engine NOAA WP-3D Orion aircraft - best known as a "hurricane hunter" - three smaller twin-engine planes and the 274-foot research vessel Atlantis from Woods Hole Oceanographic Institute in Massachusetts.

Two land-based "super sites" for air monitoring have been set up at the California Institute of Technology in Pasadena and at Arvin in the southern end of the agricultural San Joaquin Valley.

"It's a humongous amount of expertise and instrumentation that have been brought to a focus on California," Ravishankara said in an interview in the Port of Los Angeles, where Atlantis was about to set out to sea for a run up the coast to work in San Francisco Bay and along Northern California.

Atlantis has been outfitted with an air-intake snout on a boom near the bow that feeds samples of the atmosphere to equipment-jammed laboratories in cargo-style containers. A float device with an aerator can be lowered over the side to capture minute particles released into the atmosphere as bubbles break, simulating what happens naturally all over the world every time the wind whips up a whitecap or a wave breaks.

The ship's scientists have worked off Southern California and in the port for two weeks, sometimes with the WP-3D, said the chief scientist, Patricia A. Quinn of NOAA's Pacific Marine Environmental Laboratory.

Emissions from well over 300 ships have been measured, and in one focus study aided by the Danish shipping line Maersk, the WP-3D sampled emissions from an arriving ship while it was still well out at sea then again after it switched to low-sulfur fuel within 25 miles of the port, Quinn said.

Another coordinated study with the aircraft looked at how pollutants get mixed up with clouds and affect their lifetime and extent. Instruments looked up at the clouds from the surface while the aircraft flew below, through and above them.

"We've also been really fortunate in seeing several instances of outflow at nighttime as the pollutants come offshore, mix with the marine air and get transformed into something different and then pushed back on shore," Quinn said.

The Air Resources Board believes the study's data will help it evaluate emission trends and develop methods for evaluating the effectiveness of various strategies as it seeks to comply with federal clean air standards.

Nichols cited examples of pragmatic questions facing the agency.

"We need to know why some of the measures we've been taking to reduce ground-level ozone aren't working as well in the San Joaquin Valley as well as they do in Los Angeles," she said. "We're looking for ways to actually verify that the forests that we're trying to set aside to offset industrial greenhouse gas emissions really are capturing and storing carbon as promised."

Calif. bill links air pollution fines to inflation

The Associated Press
In the Modesto Bee, San Francisco Chronicle and other papers, Friday, May 28, 2010

SACRAMENTO, Calif. -- Penalties imposed on companies that pollute California's air would increase at the rate of inflation under a bill approved by the state Senate.

Democratic Sen. Mark Leno of San Francisco says fines imposed by the state Air Resources Board have not increased in 30 years. He says that means the deterrent effect has diminished.

Leno's bill, SB1433, would require the board to start adjusting penalties next year. California would follow the example of the U.S. Environmental Protection Agency, which already ties its fines to inflation.

The measure is supported by environmental groups and opposed by the California Chamber of Commerce.

It passed the Senate Friday on a 21-7 vote and now heads to the Assembly.