May 22, 2006

ENVIRO MATTERS

High-Tech Ozone Detection Leads the Way for Policymaking

May is Clean Air Month. Having lead the way in ozone forecasting, the Maryland Department of the Environment (MDE) pioneered the air quality color code index, the system used nationally today to protect public health. Maryland applies the highest-level technology and best practices to warn our citizens of harmful air pollutants and difficult breathing conditions.This is particularly beneficial for those with compromised or delicate immune systems, or respiratory ailments such as asthma.

Understanding Air Pollution Transport

Did you know that on most bad air days a large pollution cloud hovers over the Baltimore Washington region at 8:00 am with pollution that originated as far away as Ohio and North Carolina? When the sun rises and warms the earth, this cloud combines with local pollution to push ground level pollution to code red levels. As much as 70% of Maryland's air pollution can come from upwind states

Partnering for Better Science and Cleaner Air

Research, such as our ozonesonde (weather balloon) campaigns help us understand air pollution transport. The ozonesonde initiative utilizes various devices for testing physical conditions in the atmosphere. This agency is proud of our partnerships with educational institutions such as Howard University, our ozonesonde launch site in Beltsville, Md. - a research air monitoring site, enabling MDE to tap into resources of scientific and technical experts who are already studying the atmosphere.

An ozonesonde is a collection of instruments launched in a small Styrofoam container. This sensor measures ozone, temperature, relative humidity, pressure, wind speed and wind direction from the surface to a height of approximately 6 miles or higher. The container is attached to a 50-foot string and suspended beneath a free-flying weather balloon and launched during the summer ozone season (May – September) when high pollution episodes are predicted for the Baltimore and Washington metropolitan areas. As the weather balloon ascends into the sky, it collects data and transmits it back to scientists on the ground. Ozonesonde campaigns help us understand the nature and origin of pollutants, and effective control strategies.

Knowledge Drives Clean Air Policy

We equip the policy-makers and local jurisdictions with information to help formulate effective control strategies. This ultimately empowers a multitude of agencies and organizations to live up to the U.S. Environmental Protection Agency's stringent national air quality standards set for ozone and fine particulate matter by addressing local emissions as well as long and short-range transport of air pollutants. It is this type of policy-relevant science that supports compliance with programs, regulations and laws such as the Healthy Air Act, which closely mirrors the control standards in Governor Ehrlich's Clean Power Rule.

Up, Up and Away…

This year's ozonesonde campaign brings new research of measuring low-level jet streams. These are groundbreaking advancements to measure the fast moving stream of air that flows from the south to the north, during the late night and early morning hours under certain meteorological conditions. Monitoring low-level jet stream measurements expands our research on pollution transport from Mid-West states and explores new responsibilities for transporting ozone and ozone precursors into the Maryland region.

MARYLAND

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