

News from Savannah River National Laboratory

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Media Contact: Lana Cox
Savannah River National Laboratory
803.725.4396
lane.cox@srnl.doe.gov

DOE Media Contact: Bill Taylor
803.952.8564
bill.taylor@srs.gov

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SRNL Forecasters - Not Just Your Average Weather Man

AIKEN, S.C. (December 31, 2014) – In the middle of laboratories filled with nuclear chemicals and specialized equipment for radioactive materials sits a little-known but highly respected group of experts. The Savannah River National Laboratory's Atmospheric Technology Group (ATG) does much more than predict the wind and rain. These highly specialized meteorologists use atmospheric modeling so sophisticated, they can determine everything from the potential fallout from nuclear testing to contaminant predictions from industrial accidents.

"The Atmospheric Technologies Group develops and applies computer models that forecast how contaminants spread in the atmosphere," explained ATG Manager Chuck Hunter. "The results of this work are used to help guide emergency response organizations and health organizations, as well as help keep an eye on international activities."

According to Hunter, work performed by ATG is vital in interpreting atmospheric activity downwind of suspected nuclear sources. "In many applications, ATG's model predictions are used to confirm how much radioactivity is released from a known nuclear facility, or determine the origin of radioactivity if the characteristics are not consistent with known sources. Unknown sources could be anything from a new facility to activities associated with a nuclear device."

The ATG's modeling and assessment capabilities aren't just limited to radiochemicals. SRNL has been called in to assist in a variety of major national and international events



Operations in the SRNL Atmospheric Technologies Center



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including a 2005 chlorine release from a ruptured railcar in South Carolina, modeling of radioactivity released from the Fukushima nuclear power plant event in 2011, and modeling of an ash cloud from an Icelandic volcano eruption which crippled European air travel. If the right equipment is in place, the ATG's modeling system is also able to pinpoint if methamphetamine is being manufactured in a particular neighborhood.

"It's our goal to make sure people are informed so that the best decisions can be made during a time of crisis," said Hunter. "Regardless of whether it is an accidental spill or an intentional effort to cause harm, we provide the technical basis to help protect the public. Model predictions are an essential element as we forecast regionally and internationally to keep people out of harm's way."

The Savannah River National Laboratory (SRNL) is a multi-program applied research and development laboratory for the U.S. Department of Energy. SRNL applies state-of-the-art science and engineering to provide practical, high-value, cost-effective solutions for our nation's environmental cleanup, nuclear security and clean energy challenges. Visit us on the web at <http://srnl.doe.gov>

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