

Introduction of the Field Research Division of ARL
Presented at the ARL Laboratory Review May 3, 2011

Hi. I'm Kirk Clawson. I'm the director of the NOAA Air Resources Laboratory Field Research Division. It is my distinct pleasure to introduce to you the staff, facilities, and capabilities of the division in this brief video presentation.

The Field Research Division is located in southeastern Idaho, in the city of Idaho Falls. Idaho Falls is considered by many to be the western gateway to Yellowstone National Park. Grand Teton National Park is also nearby with the Tetons clearly visible on sunny days. These and other venues provide a multitude of outdoor activities for FRD employees.

Idaho Falls is the headquarters of the U.S. Dept. of Energy's Idaho National Laboratory. The INL is where the world's first usable amount of electricity was generated from nuclear power. Both the INL and the Field Research Division came into being in 1949 and the histories of both are linked together.

Under a memorandum of agreement, the INL and the Field Research Division collaborate in boundary layer measurements and research, with a focus on toxic and radiological material dispersion in the atmosphere. The expertise of the division's dispersion meteorologists is used in the INL's emergency operations center during drills, exercises, and actual emergencies. A 35-station mesonet that covers 10,000 square miles forms the most important part of the division's dispersion modeling effort. Outreach activities with the collaboration of the INL, local schools, the Shoshone-Bannock Tribes, and the State of Idaho, among others, provide real-time meteorological data and information in 6 kiosks that are located in high-use public areas such as the John's Hole boat dock and forebay in Idaho Falls.

The division headquarters, located next to Interstate 15, provides ample office space for our current staff of 10 full-time employees. We also have a high-bay work area, {pause} electronic equipment repair and construction facilities, laboratory space, metal shop, and storage facilities.

And speaking of our staff, they are our most important asset. The division staff is comprised of highly talented meteorologists, physicists, engineers, and technicians. Field projects often require more hands than the full-time staff can provide, and this provides employment and learning opportunities for several student interns from the two local universities. Current and former employees have helped to make the division what it is today. Among the accolades we have received are U.S. Dept. of Commerce gold, silver, and bronze metals.

We focus on regional and national research priorities, but our work is known internationally. We designed and built from scratch, and now maintain and operate a world-class atmospheric tracer field study capability for the testing and improvement of dispersion models. Our capability includes tracer dissemination, tracer collection, real-time tracer measurement, {pause} and tracer analysis equipment. Our work has resulted in a number of dispersion model

improvements and recommendations, including first responder guidelines for responding to toxic plumes.

We design and build instrumentation and data collection devices, integrating both software and hardware systems. One example is the Extreme Turbulence Probe, or ET Probe as it is affectionately known. We designed and built the ET Probe and have deployed it along the Atlantic and Gulf coasts of the U.S. to help improve hurricane forecast models. In one field deployment, Hurricane Ivan crossed almost directly over the probe and we successfully measured peak winds and associated turbulence in excess of 110 miles per hour. Another example is the smart balloon, which is a constant altitude balloon capable of keeping a payload of meteorological and air quality instruments and communications equipment aloft for days and even weeks at a time. In one deployment, the balloon remained aloft as it floated from Long Island all the way across the Atlantic Ocean to Morocco, where we finally lost track of it.

I have a lot more I could talk about, but my time is up. I invite you to stop by the office any time you are in the area and I'll be happy to personally show you around.