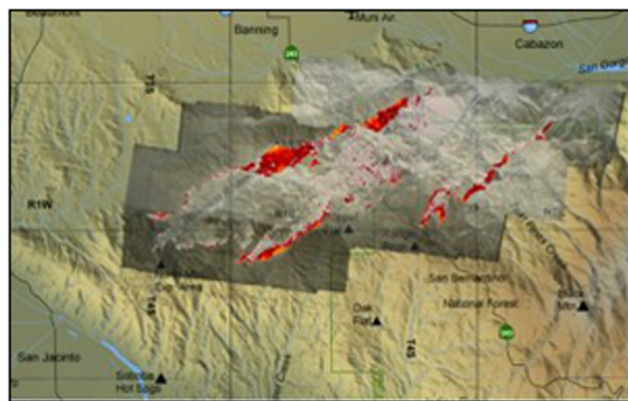


## Vets Battling Blazes Pt. III

Michael Archer | March 25, 2010

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In our third installment of this series on US Forest Service, we examine the Research and Development Labs. Over 500 Forest Service researchers, including a number of world-renowned scientists, work in a range of biological, physical, and social science fields to deal with invasive insects, degraded river ecosystems, and sustainable ways to harvest forest products. This aspect of USFS sets it apart from almost every other fire agency in the world. Instead of fighting fires directly, these world-class labs provide the information and technology for firefighters on the line to employ to better prevent and suppress wildfires, saving lives and property that would otherwise be lost to blazes across the country.



(This is the 2006 Esperanza Fire, Riverside County, Calif. Color-coded surface temperatures, which reflect fire intensity, are shown as imaged by the Forest Service's FireMapper™ thermal-imaging radiometer. A moderate Santa Ana wind is driving the fire to the southwest through light fuels and chaparral – courtesy [USFS Pacific Southwest Research Station](#).)

"Research and Development is a separate branch of USFS, and is the largest natural resource research organization in the world," explains Dave Tippets, Public Affairs Officer for the Rocky Mountain Research Station. "It's a small part of the Forest Service, but it's the largest entity dedicated to better understanding natural resource problems anywhere."

"Our Fire Sciences Lab in Missoula is the largest laboratory in the world dedicated to better understanding wildland fire," said Tippets. "There's also important fire research being done at labs in Riverside, California, and Seattle, Washington, and it's important to realize that lots of fire ecology research is done at forestry science laboratories not labeled as fire labs."

"Two National Engineering Technology Centers stand out related to fire," he continued. "San Dimas Development and Technology Center in California and Missoula Development and Technology Center in Montana do a lot of the equipment development, like protective gear for firefighters and wildland engine design. There's also the Geospatial Services and Technology Center and Remote Sensing Applications

### ABOUT MICHAEL ARCHER



Michael Archer is a wildfire consultant and writer. He has written articles for *Home and Fire Magazine*, *Wildland Firefighter Magazine*, and other publications, lectured to many groups about fire issues, been quoted by Associated Press and USA Today reporters, and also appeared on cable and network TV discussing wildfire issues. Currently, he is acting as webmaster and technical consultant to Wildfire Research Network ([www.wildfireresearch.org](http://www.wildfireresearch.org)), a Los Angeles-based citizens' action group that promotes firefighting issues involving the Wildland-Urban Interface (WUI).

His "Firebombers Incorporated" series of novels gives readers an intriguing "what-if" scenario on how 21st century technology could modernize the wildland firefighting force. His novel "Firestorm," received excellent reviews from *Writers Digest*, *The Nashville News*, *The VVA Veteran* (Vietnam Veterans of America's magazine) and firefighting professionals across the United States. His company, Firebomber Publications, donates 50 percent of net profits to organizations that support the families of injured and fallen firefighters.



You can visit his website at: [www.firebomberpublications.com](http://www.firebomberpublications.com)

Firestorm can be purchased at [Amazon.com](http://Amazon.com)

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Center in Salt Lake City."

"We have a lot going on with NASA and NOAA using satellite technology", Tippetts added. "We have a cooperative program going on with Spain and Israel using satellites in a remote-sensing project. Our scientists investigating smoke and atmospheric chemistry have partnered with NASA for many years."

Okay, so suppose you want to get into R&D, but you don't have an advanced degree, what do you do? "The USFS labs are in towns where there's a university, so if there are service members who want to go back to college, these jobs are perfect for both undergrads and graduates," explained Dave Evans, an R&D intern who is active in the Army National Guard. "I've basically financed my whole undergrad and my master's degree without having to borrow any money at all, even though I'm married and have 3 kids!"

"The research branch of the agency is highly technical, and the central position is the research scientist", Mike Amacher, a Soil Scientist based in Utah, stated. "There are a number of professional series support positions which are not research scientists but they do more technical stuff than the laboratory and field technicians do."

What if you want to be outdoors, but not fighting a wildfire? "The part of R&D that hires the most entry-level seasonal and temporary employees who actually go out into the woods to gather information about trees and natural ecosystems is the Forest Inventory and Analysis Program," explained Tippetts. "So if someone is looking for a Forest Service job where they get lots of exercise, clean air, and see a lot of country, the FIA program might be a good choice."

"We use aircraft, so any aircraft or helicopter experience would be useful", added Dan Neary, a Navy vet who is a Soil Scientist with USFS. "We use satellites, too, so a good understanding of downloading satellite data and dealing with remote sensing data would be quite valuable, because we use satellite data to get a landscape-scale effect of fires."

There is a strong connection between USFS R&D and the military. "Some of the technology that they're developing now that crosses over from the military is use of unmanned aerial vehicles, and there's also recon with manned aircraft," said Tippetts, who was able to name several R&D personnel who had served in conflicts going back as far as World War II.

"Technology changes very quickly, and the civilian agencies, such as the Forest Service, can benefit by advances in some military technology," added Phil Riggan, a Soil Scientist at Pacific Southwest Research Station who works extensively with remote sensing instruments from the air. "For instance, the specialized thermal imager we use for fire mapping is based on military night-vision equipment."

So if you're considering a fire service career, don't forget to include USFS R&D in your list. Who knows, you could end up working in some of the best labs in the world. For more information, visit <http://www.fs.fed.us/research>.



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