SUMMER IN THE FIELD: Third in a Series

During "fire season," LANDFIRE users do more than talk the talk, they walk the walk by putting scenario planning to work and refining data and products in dynamic ways. Before we return to regular Bulletins in September, we're mailing the final post card in the summer series highlighting LANDFIRE in the field. This month we're talking with Jordan Long, a remote sensing scientist with Stinger Ghaffarian Technologies (SGT, Inc.), Technical Support Services Contractor to the US Geological Survey Earth Resources Observation and Science (EROS) Center in Sioux Falls, South Dakota.

Jordan's primary focus with LANDFIRE is remote sensing of vegetation mapping. However, he brings more than that to the table -- his specialties also include environmental analysis, impact assessment, monitoring and modeling, geography, geographic information systems, and cartography. He earned both Bachelors and Masters degrees in science from South Dakota State University and was awarded the NASA South Dakota Space Grant Consortium graduate fellowship and the USGS EROS graduate scholarship.

Jordan Long

Field work at Clear Creek, Idaho, site

In The Field ...

... with remote sensing scientist Jordan Long

How did you become involved in LANDFIRE?

I was offered an exciting opportunity to join the LANDFIRE program as a Remote Sensing Scientist this past year, with the aim of applying my remote sensing knowledge and programming skills to improve LANDFIRE vegetation, fire, and fuel characteristic products.

You're part of the LANDFIRE Remap team. Why is remapping

important, and how will it affect existing and future LANDFIRE products?

Recent LANDFIRE vegetation characteristic products are mapped using baseline information from the original LANDFIRE mapping effort that used LANDSAT data from circa 2001. Although major disturbances are typically detected in the LANDFIRE disturbance mapping process, not all land cover changes are captured, resulting in map inaccuracies in the vegetation products. Remap gives us the opportunity to evaluate past mapping effort methods as well as explore and incorporate state-of-the-science technologies (e.g., Landsat 8 and Lidar) and methodologies to produce geospatial products that are reflective of current ground conditions. The new baseline data products will be essential for accurately updating LANDFIRE in the future.

You took a field trip to Clear Creek in north-central Idaho this summer. Tell us why it was important.

The Clear Creek field trip allowed our team to collect field information on vegetation characteristics (e.g., canopy cover, canopy height, and existing vegetation type) for the initial LANDFIRE remap prototype study area. The collected field information was used to evaluate land cover products derived from several mapping approaches. These findings helped us better understand which satellite compositing approaches and classification methods are most accurately mapping vegetation characteristics in the Clear Creek remap study area.

In your view, what do users want most from LANDFIRE and how will that affect LANDFIRE's continual evolution?

I think that users want accurate, consistent, and reliable geospatial data that are as current as possible. With that said, I think LANDFIRE will continually adapt and evolve to incorporate emerging technologies and methodologies to improve the quality of the geospatial products it delivers to users in a timely manner.

Learn more

- Giri, Chandra and Jordan Long. 2014. Land Cover Characterization and Mapping of South America for the Year 2010 Using Landsat 30 m Satellite Data. *Remote Sensing* 6(10): 9494-9510.
- Long, Jordan, Chandra Giri, Jurgenne Primavera and Mandar Trivedi. 2016. Damage and recovery assessment of the Philippines' mangroves following Super Typhoon Haiyan**.** *Marine Pollution Bulletin* 19(2): 734–743.
- Pengra, Bruce, Jordan Long. Devendra Dahal, Stephen Stehman and Thomas R. Loveland. 2015. A global reference database from very high resolution commercial satellite data and methodology for application to Landsat derived 30 m continuous field tree cover data. *Remote Sensing of Environment* 165: 234-248.
- Wylie, Bruce, Matthew Rigge, Brian Brisco, Kevin Murnaghan, Jennifer Rover and Jordan Long. 2014. Effects of Disturbance and Climate Change on Ecosystem Performance in the Yukon River Basin Boreal Forest. *Remote Sensing* 6(10): 9145-9169.
- Additional articles
- Contact Jordan directly