LANDFIRE: Learning from the past, shaping the future of large scale land management

Randy Swaty¹, Sarah Hagen², Kori Blankenship³, Jim Smith³ and Jeannie Patton³, (1)LANDFIRE Project, The Nature Conservancy, Marquette, MI, (2)LANDFIRE Project, The Nature Conservancy, Minneapolis, MN, (3)The Nature Conservancy

Background/Question/Methods

In an effort to map and characterize the vegetation, fire and fuel characteristics of the United States, the LANDFIRE program was chartered by the Wildland Fire Leadership Council. In one of the largest ecological mapping and modeling projects to date, numerous products were created including reference (pre-European Settlement) descriptions and ecological models of the ecosystems of the United States, dozens of spatial datasets including historic ecosystems, historic fire return intervals, current fire behavior/fuel models and existing vegetation type. Additionally, LANDFIRE created GIS and other modeling tools and provides numerous learning opportunities. The datasets and models cross ecological, political and ownership boundaries and are designed for use at broad scales (e.g., national and regional) out-of-the-box. Because LANDFIRE products are comprehensive, free and scientifically credible, they have been used in dozens of projects across the country. Our team worked across sectors, interacting with private industrial, state and federal land management agencies, and academic institutions to use LANDFIRE products fully and appropriately.

Results/Conclusions

Across all sectors of LANDFIRE data use we note the following trends. 1) Many managers do not have experience in mapping, reviewing or interpreting spatial data, applying it at appropriate scales or combining different datasets to answer a particular question. Our experience suggests this is due to curriculum and or experience that is either aimed at ecological theory or small-scale applied restoration, and/or patch dynamics as opposed to landscape ecology. 2) Few students that study terrestrial ecosystems consider their entire range and/or understand their basic ecology such as disturbance regimes past, present and (anticipated) future. We feel that tools such as LANDFIRE offer an opportunity to change this situation quickly as long as the training and desire exists. 3) Most people believe that their data is best for a given landscape sometimes at the exclusion of learning about other datasets. Considering these trends, we suggest ecologists train students in concepts of scale, data interpretation/review and basic ecosystem occurrences and function; challenge themselves to increasingly work with land managers, translating applied research into implementable management action at increasingly larger scales.

conservation management

The Preliminary Program for 98th ESA Annual Meeting (August 4 -- 9, 2013)