LANDFIRE

LESSONS LEARNED: Issue 1

Local Experts Draft Reference Models for the North Central Rocky Mountains

Nearly 30 ecologists and fire managers from the USFS, BLM, BIA, TNC and USGS met in Missoula, Montana June 14-18, 2004 to contribute their expertise to the LANDFIRE project (see box at right). Participants brought their knowledge about ecosystem structure, succession and response to fire and other disturbances from across Montana, Idaho and Wyoming, and devoted the week to documenting their ecological understanding within quantitative ecological models.

During the structured workshop facilitated by The Nature Conservancy and USFS Missoula Fire Sciences Lab, participants were briefed on the history and objectives of the LANDFIRE project, and trained in the use of quantitative ecological modeling software. Experts were assisted in the development of models that represent the best available data and knowledge on the structure and function of dominant potential natural vegetation types in the North Central Rocky Mountain zone (see map, below). Most models were presented for peer review during the workshop, and have been transferred to TNCs western LANDFIRE modeling lead for quality control and further peer review.

> **LANDFIRE** is a wildland fire, ecosystem, and fuel assessment-mapping project designed to generate consistent, comprehensive, landscape-scale maps of vegetation, fire, and fuel characteristics for the United States. It responds to agency and partner needs for data to support fire management planning, prioritization of fuel treatments, collaboration, community and firefighter protection and effective resource allocation. It is a collaborative $40 million 5-year partnership between the USDA Forest Service, Department of the Interior and The Nature Conservancy . For more information, please visit www.landfire.gov.

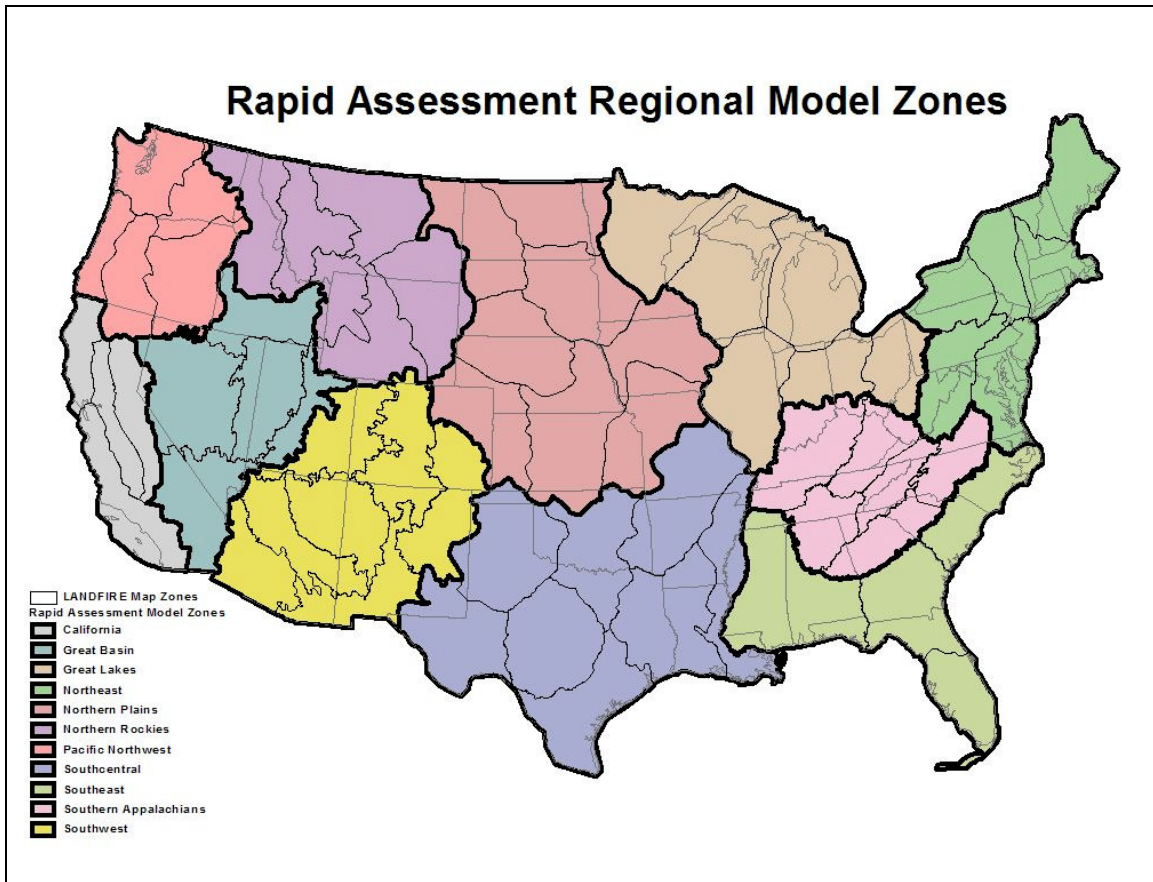### An Iterative Approach Toward Sound Science and Partner Engagement

These models (see box at right), developed for vegetation types such as plains grassland, Wyoming sagebrush, ponderosa pine-Douglas-fir forest, and spruce-fir forest, will be used first to complete a Rapid Assessment of Fire Regime Condition Class (FRCC) across the U.S. This Rapid Assessment builds on previous efforts that mapped FRCC at a coarse ($1km^2$) resolution (Schmidt et al. 2002). For the mid- to coarse scale Rapid Assessment, reference conditions (in most cases representing historical conditions prior to extensive fire exclusion and ecosystem alteration by European settlers) for each potential natural vegetation type will be compared to current conditions to calculate and map FRCC (Hann et al. 2004). This national FRCC map will be used for regional to national strategic planning, broad ecological assessments and resource allocation.
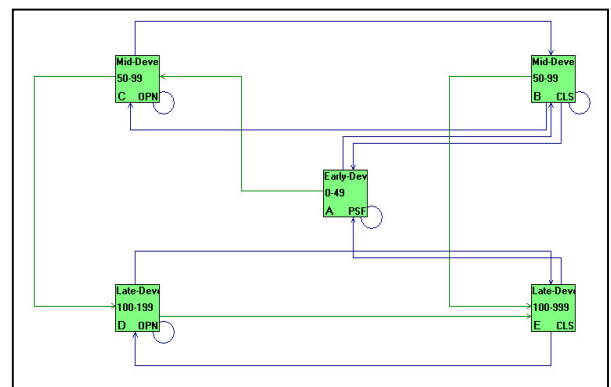
A typical state-transition model. Each green box represents a vegetation class made up of characteristic vegetation composition and structure. Each arrow represents a transition from one class to another based on vegetation growth (succession) or disturbance (e.g., fire or other).

Over the next 5 years, models developed for the North Central Rockies, as well as similar models from other zones, will be refined, peer-reviewed by a broader group of experts, and used for finer resolution LANDFIRE mapping at 30m^2 resolution.

Not only will this iterative approach serve to incorporate the best available science into the LANDFIRE project, but it will also ensure engagement of a broad constituency of end users who have a stake in the development of LANDFIRE data, and are familiar with its application value as it becomes available.

Rapid Assessment Regional Model Zones

☐ LANDFIRE Map Zones
Rapid Assessment Model Zones
☐ California
☐ Great Basin
☐ Great Lakes
☐ Northeast
☐ Northern Plains
☐ Northern Rockies
☐ Pacific Northwest
☐ Southcentral
☐ Southeast
☐ Southern Appalachians
☐ Southwest

References Cited

Hann, Wendel J. et al. 2004. Interagency Fire Regime Condition Class Guidebook. Available at: www.frcc.gov.

Schmidt, Kirsten M., Menakis, James P., Hardy, Colin C., Hann, Wendel J., and Bunnell, David L. 2002. Development of coarse-scale spatial data for wildland fire and fuel management. General Technical Report RMRS-GTR-87. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 41 p. Available at: www.fs.fed.us/fire/fuelman.

For more information:

Ayn Shlisky	Jim Menakis	Kelly Pohl
TNC-LANDFIRE Lead	Rapid Assessment Lead	Western U.S. Modeling Lead
TNC Fire Initiative	USFS Missoula Fire Science Lab	TNC Fire Initiative
ashlisky@tnc.org 720-974-7063	jmenakis@fs.fed.us 406-329-4958	kpohl@tnc.org 720-974-7059