

CAFMS Newsletter



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Past, Present, and Future of the Monitoring Trends in Burn Severity (MTBS) Project.

Join Us as Josh Picotte presents a Webinar on April 8th at 2:00 EST



Josh Picotte Fire Specialist with the USGS

Beginning in 2006, the Monitoring Trends in Burn Severity (MTBS) program has generated over 17,000 Landsat-based maps and assessments of wildland and prescribed fires that occurred in the United States since 1984. These products support local, regional, and national assessments of fire effects, emissions, risks, regimes, and post fire fuels inventories. Currently, MTBS relies upon state and federal fire occurrence data (FOD) to guide Landsat scene selection. Analysts manually review Landsat low resolution browse images to select the best scenes to assess each fire. This process is labor intensive and the FOD suffers from spatial and omission errors. To address these issues, we developed a process to automatically identify burned areas on Landsat imagery. From these burned/no burn (BNB) classifications we create fire perimeters and label them with a start date. BNB images are created using CUBIST derived models that use MTBS training data to classify burned areas in Landsat scenes. Hazard Mapping System (HMS) fire detection data is incorporated by using a series of geospatial queries in PostgreSQL to assign fire start dates to the burn perimeter based its proximity to the HMS fire detection. Subsequent automated processes 1) use the fire start date to determine and order many candidate Landsat pre- and post-fire scenes, 2) clip the Landsat scenes to the area around fire perimeter, and 3) bundle all the clipped imagery into easily viewable package. These high resolution image clips are reviewed by analysts to determine the best pre- and post-fire scenes. Successive automated procedures will create differenced Normalized Burn Ratio (dNBR), relativized dNBR (RdNBR), and thresholded burn severity images. These outputs will then be reviewed by analysts to determine their validity. Overall, these automations will enable MTBS to map more fires.

Discussing the relationships between fire management and the quality of habitat for bats: A workshop for scientists and land managers

Mark your calendars for this event on April 30th and May 1st, 2014, at Mammoth Cave National Park, Kentucky. The primary focus of this workshop will be a synthesis of research funded through the Joint Fire Science Program (JFSP #10-1-06-1). Results will be presented in a multi-trophic context that that will be relevant for stewards and scientists alike across the Appalachians and Oak Woodlands Consortia.

Prescribed fires in mixed-oak forests are hypothesized to have positive effects on foraging and roosting habitat that may outweigh the risks to forest bats from smoke and heat exposures during fires. Published data on fire and bat foraging habitat are few for this ecosystem, however, particularly for the critical periods before and after hibernation. This project has focused on testing hypotheses about the relationships between fire's effects on insect prey availability and canopy structure and their relationship to bats' selection of foraging areas during the pre- and post-hibernation periods at Mammoth Cave National Park (MCNP) in Kentucky. Habitat quality pre- and post-hibernation is critical because bats must go into hibernation with sufficient fat reserves and they often leave hibernation in poor condition. Bat condition may become even more important with the arrival of the White-nose Syndrome (WNS), which was detected at MCNP during the winter of 2012-2013.

Studies have been ongoing at MCNP since fall of 2010, resulting in a data set that is comprehensive in its coverage of forest vegetation, insect herbivores, and bats prior to and concurrent with the arrival of WNS a this burned landscape. This study has elucidated relationships between bats and forest vegetation, with data suggesting that varied bat species (including the Indiana bat and other *Myotis* species) are responsive to forest canopy conditions in ways that are directly relatable to fire management prescriptions. These models of activity patterns across a burned landscape will be discussed in relation to prey consumption patterns and measurements of insect abundance and diversity. Discussion will also encompass the applications of LiDAR-mapping efforts for other management applications, as well as describe multi-year effects of prescribed fire and herbivory on oak seedlings.

For More Details and to Register visit:

www.CAFMS.org

**This is a free
workshop offered by
CAFMS we are limited
to 100 people!**



Attend Workshop 9 hosted by the Southern Blue Ridge Fire Learning Network!

We invite you to attend the 9th annual workshop of the SBR FLN May 20-22, 2014 in Cashiers, North Carolina.

The theme of the workshop is “Managing Lands with Multiple Objectives: How Does Fire Fit In?” The program features two day-long sessions and a field trip to the Jocassee Gorges area of South Carolina. Topics covered will include an overview of the Southern Blue Ridge Escarpment, fire effects monitoring, and wildlife response to fire. Attendance is open to anyone and attendees typically come from state and federal agencies, non-profits, and academia. Registration is free; however you must register by May 1st to reserve your spot. For further details, including a draft agenda, instructions for registering, and information on accommodations, please visit our website at <http://sbrflnworkshop9.weebly.com/>. For questions regarding the workshop please contact Helen Mohr at helen@cafms.org or 864-656-4744. Thanks and we hope to see you in May!



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Find us on twitter @APfirescience or find us on Facebook by searching Consortium of Appalachian Fire Managers and Scientists.

Join CAFMS:

The consortium is for all land managers and researchers in the region who deal with any aspect of fire. To join, simply provide us with some contact information at the web site listed below.

<https://spreadsheets.google.com/viewform?formkey=dDNiUnFrYzNNVU00dkxka1hKM2p0cFE6MQ>

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