

USDA Forest Service Air Quality Research Update

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Topics

- CSREES Research Database
- Critical Loads National Map (draft)
- OFCM National Fire Weather Needs Assessment

CSREES Research Database

- Updated this month
- Forty-five projects reported
- Topics include a focus on smoke, carbon, deposition, and ozone

Critical Loads National Map (draft)

- Simple mass-balance approach
- 'First cut' map, needs refinement
- Working to improve and include surface waters
- Author: Steve McNulty – Southern Research Station

Simple CL National Map Overview

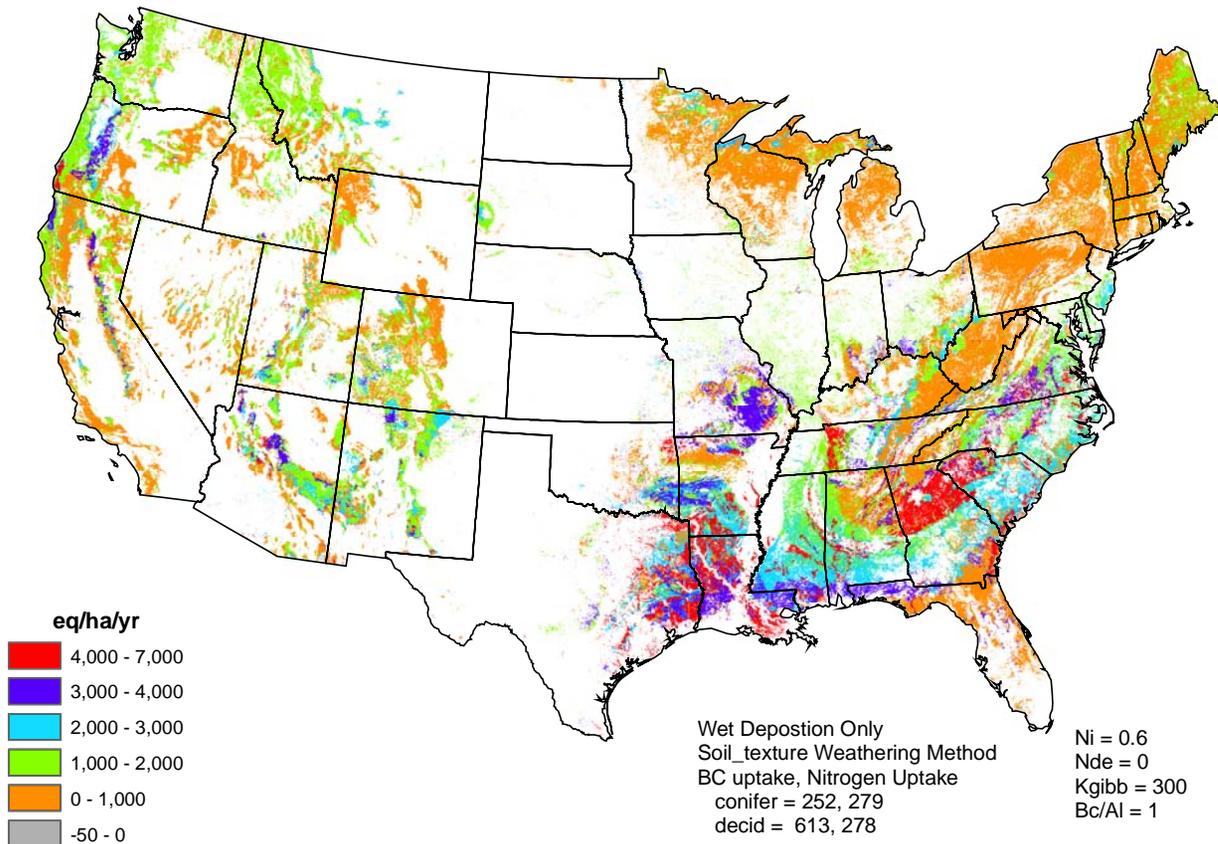
(from Steve McNulty, Southern Research Station)

- Data
- Simple Mass Balance Equation
- Critical Loads
- Exceedance
- Data Needs

Critical Loads (nitrogen and sulfur only)

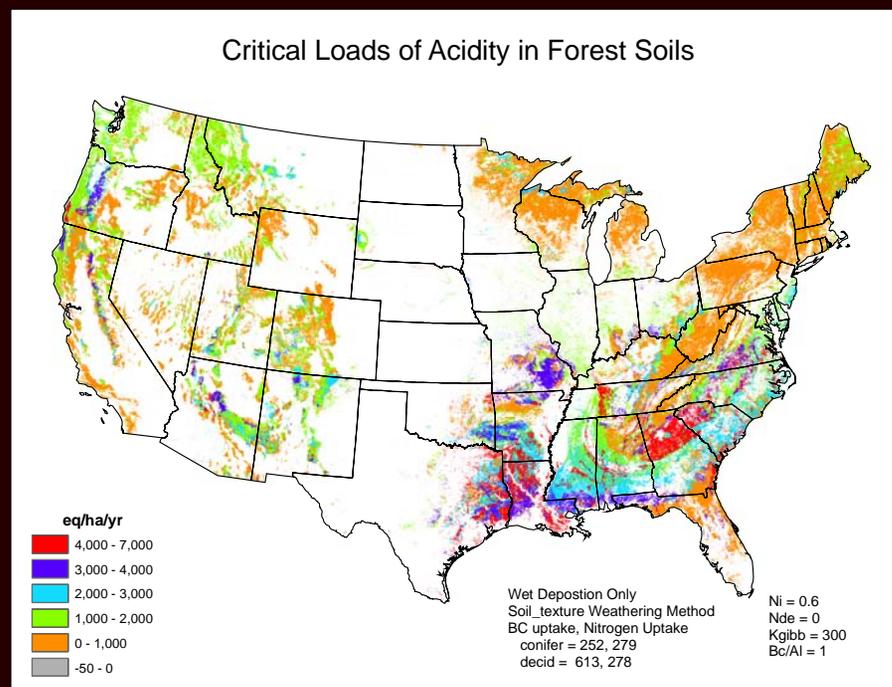
Reference: Steve McNulty

Critical Loads of Acidity in Forest Soils



Critical Loads and Levels Data Needs

- To effectively develop critical loads and levels for USDA Forest Service clients we need data on:
 - Wet and dry nitrogen and sulfur deposition amounts
 - Tree base cation Uptake
 - Tree nitrogen Uptake
 - Threshold limits for key species
 - Soils structure and chemistry
 - Base geology/acid neutralizing capacity
 - Basic freshwater chemistry and surface water body physical features
 - Ozone concentration information (passive and active monitors)
 - Tree crown condition and leaf chemistry



While some information will need to be collected, much of this information is currently available (FIA/FHM, EPA, LTER/Experimental Forests)

National Wildland Fire Weather Needs Assessment: Office of the Federal Coordinator for Meteorology

Co- Chairs:

Dr. Allen Riebau, USDA/FS
Eli Jacks, NWS

Background



- By June 1, 2006 in Texas, wildland fires have claimed 11 lives, destroyed 440 homes, and burned over 5 million acres

- In 2003, wildland fires in Southern California claimed 22 lives, destroyed 3,600 homes, burned 740,000 acres of land, and caused over \$2 billion in property damage

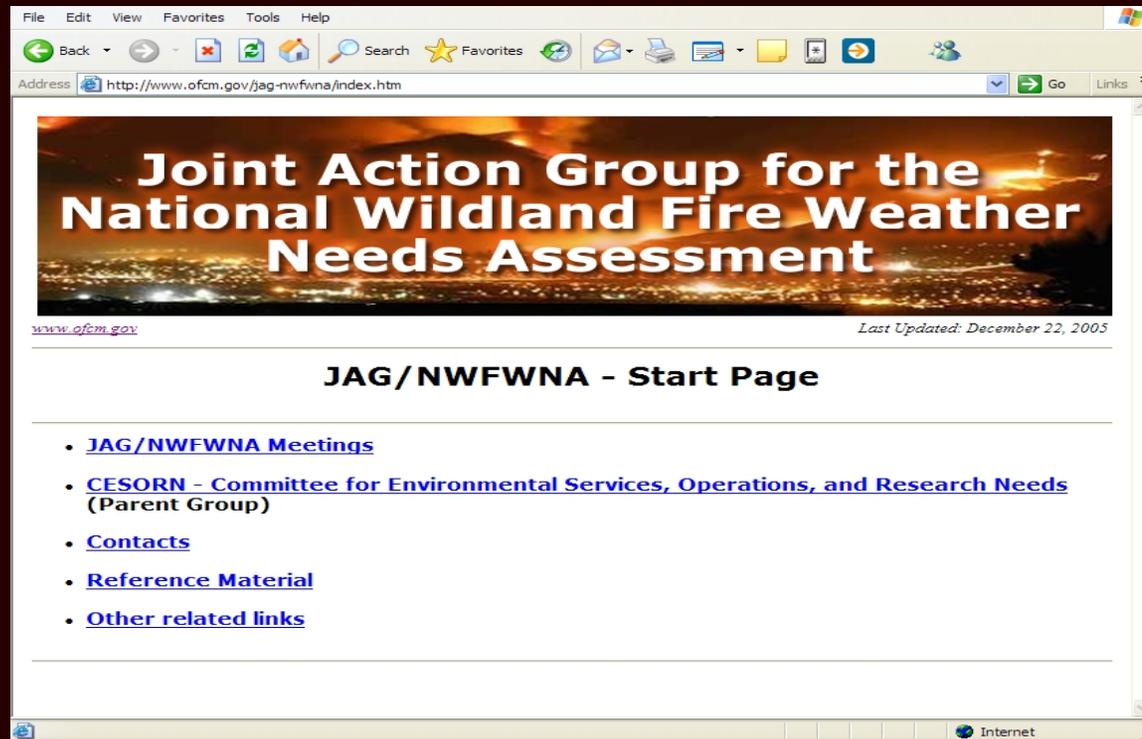


Goals

- Conduct a comprehensive review and assessment of weather, climate, and smoke needs of providers and users in their wildland fire and fuels management activities
- Assess the capabilities of the provider agencies to ensure that needed weather and climate information is available to fire managers and other users
- Ultimately, raise the critical nature of fire weather to a new level of community awareness

JAG/NWFWNA Web Site

<http://www.ofcm.gov/jag-nwfwna/index.htm>



Thanks!

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