



NATIONAL WILDFIRE COORDINATING GROUP

NWCG Memorandum No. 14-018

Date: 21 November 2014

TO: NWCG Member Agencies

FROM: Dan Smith, Chair, NWCG Executive Board

A handwritten signature in black ink that reads "Dan Smith".

SUBJECT: National Fire Danger Rating System Updates

At the September 17th NWCG Executive Board meeting, three changes to the United States National Fire Danger Rating System (NFDRS) were tentatively approved. These changes will result in a major simplification of the NFDRS, yet retain the core usefulness of the system. If the results of a final evaluation by the NWCG Fire Danger Subcommittee are positive, the changes will be formalized. We expect this to occur in 2016. The purpose of this memorandum is to provide early information in anticipation of this change.

The changes are:

1. Incorporate the Growing Season Index (GSI) to compute live fuel moistures. The GSI will provide a significantly better live fuel moisture model using elements from a standard fire weather observation. It also requires no constant human intervention yet accurately reflects within season and season-to-season live fuel conditions.
2. Incorporate the Nelson Model to compute fine dead fuel moisture. The Nelson Model will provide a better fine dead fuel moisture model that accurately models diurnal fine dead fuel moistures using elements from hourly fire weather observations. In addition, it requires no daily human intervention for state of weather and fuels wet entries.
3. Reduce the number of fuel models in the NFDRS. This reduction eliminates the '78 vs '88 fuel model distinction/confusion. Changing from 40 to four NFDRS fuel models will not produce a reduction in model accuracy or outputs. Simplifying the fuel models used in NFDRS will also increase the ability of field personnel to understand and apply fire danger information.

With over 40 years of data and experience with the existing system, new fuel moisture models allow for significant improvements, while eliminating much of the daily interaction with the system. The updates were not developed overnight. They have been tested across the country and compared against the existing models for a number of years with good results.

Implementing these changes will result in a major simplification of the NFDRS. Many unused system components will be safely removed, while the core usefulness and functionality of the system will remain essentially unchanged. The NFDRS will be easier to use and understand, and training such as that offered in S-491 and other modules will be simplified. While the underpinnings of the system will change significantly, it is important to emphasize that outputs will be the same.

An education and outreach plan is currently being developed to facilitate a smooth transition to the new system.

Please distribute this memo and attached briefing paper to stakeholders in your geographic area, including personnel from your agency administrator and fire management program staffs, geographic area coordination centers, local dispatch units, incident management teams, and crew organizations.

A powerpoint, narrated by the Fire Danger Subcommittee Chair Jon Wallace, has been developed that further explains the case for change. It is available on the NWCG site at <http://www.nwcg.gov/>.

If you have any questions, please contact the Fire Danger Subcommittee at FWHQ_NWCG_firedanger@fws.gov.

Attachment: NFDRS Briefing Paper

cc: John Wallace (Chair, Fire Danger Subcommittee), Robyn Heffernan (Chair, Fire Environment Committee), NWCG Committee Chairs, NWCG Program Management Unit (PMU)