

Fire Environment Committee (FENC)

Meeting Oct 14 & 15, 2014 (virtual)

Participants: Ed Delgado (NPSS), Coleen Decker, Tom Spencer (NASF-East), Pete Lahm (SmoC), Mark Fitch, Robyn Heffernan (chair), Larry Van Bussum (NWS), Tami Parkinson (FBS), Paul Schlobohm (PMU), Elaine Waterbury (PMU)

FENC update on JFSP, Mixing Height Letter, RTMA - Heffernan

- The JFSP is advertising a fire weather topic in their current Call For Proposals. Announcement closes Nov 21.

*Weather data are important for many fire and fuels management decisions since fire weather is a critical control on fire behavior and smoke dispersion. But how important is it? How do managers use fire weather information to make decisions? Will managers make different decisions if weather information has more or less uncertainty? If forecasts have a greater degree of confidence, will managers perceive that they have greater flexibility and make different decisions? This task focuses on fire-related decision making and the use and importance of fire weather data. The JFSP Governing Board is specifically interested in resource allocation decisions based, in part, on fire danger forecasts; fuels and wildfire decisions based, in part, on fire behavior predictions; and, decisions related to smoke dispersion predictions. Sensitivity analyses of fire behavior, fire danger, or smoke dispersion models are appropriate to this task, but should be framed within the context of specific decision-making environments. Investigators should connect model sensitivity analyses with sensitivity analyses of managers decisions, including use of social science to assess what fire weather information is needed and used by decision makers. Proposals must address questions from both groups below: * Decision-making - What weather information is used directly or indirectly in fire and fuels management decisions? What is the relative importance of weather information to decision-making? Are there weather information thresholds or tipping points that strongly influence fire and fuels management decisions? * Sensitivity analysis How important or sensitive are the outputs from fire danger, fire behavior and smoke dispersion models to input weather data resolution? What changes in weather values result in the greatest impact to fire danger and fire behavior outputs? Proposals that link results from the sensitivity analysis to specific fire and fuels management decisions are requested. Recommendations regarding future weather data resolution are desired. Results from funded studies are expected to inform future fire weather research priorities, improve fire and fuels management decisions, and to assist with weather station siting and maintenance decisions. Results that identify or evaluate potential thresholds or management trigger points (e.g., go or no-go burning decisions, pre-position decisions in operating plans) are desired.*

- The mixing height letter is a letter that has been jointly prepared between FENC and the SmoC for the NWCG Executive Board to send to the NWS requesting nationally consistent smoke gridded forecast elements (mixing height, transport winds, and ventilation rate). The NWCG PMU will be presenting this to the Executive Board today.
- An agreement between the USFS and NOAA/NCEP has been signed to fund a 2 year project of construction of a 30 year archive of RTMA data. This will include post editing and quality control of the data.

WFIT and IT budget process update – Schlobohm

The two groups that FENC will need to work with for any IT related activity are the Wildland Fire IT (WFIT) Program Board and the Fire Management Board's IT Advisory Board (ITAB). The process is for requests to go to ITAB first, then the WFIT Program Board, and finally to the WFIT Executive Board for approval. If it is a brand new technology, it is best to coordinate with the Data Management Committee and the (new!) Emerging Technology Group. Bottom line is to contact Paul Schlobohm and he will help navigate this process.

Fire Danger Fuel Model changes - Wallace (Heffernan filling in)

NFDRS has remained mostly static for almost 40 years. There have been new advances in the areas of live and dead fuel moisture models that can make improvement on the current system. The proposal is to consolidate the existing 40 fuel models to 4 fuel response types based on existing Fire Behavior Fuel Models: Grass, Brush, Timber, and Slash. The current NFDRS system is too complex and only the most sophisticated users are able to correctly interpret the model. There will be some temporary increases in workload. Fire personnel will be required to complete new analyses to provided updated system breakpoints - because old percentiles and breakpoints will be obsolete. However, this re-analysis would have been required by the field with just the transition to the Nelson (dead fuel moisture) model, Additionally, it is recommended that breakpoints be re-visited yearly as part of the annual preparedness review process. Automation of many operations and daily inputs to the model will decrease work load for dispatchers and managers on a day to day basis.

Timeframe:

2014

September: Approval from NWCG to proceed with changes. (done!)

December: Technical documentation for new system available in draft form.

2015

January: Develop NFDRS 2016 and move to Weather Information Management System (WIMS) testing side. Many of the changes are already in WIMS and FireFamily+, but have simply not been tied together yet.

March: Stand down S-491 classes while developing new classroom version.

July: Develop webinar/self-paced training for prior S-491 students to become familiar with the new system. FireFamily+ updated to include the NFDRS 2016 version.

October: S491 classes resume with emphasis on NFDRS 2016 system.

November: Fire Behavior Subcommittee to review basic Fire behavior class modules focused on NFDRS. Modules will include updated information on live and dead fuel moisture calculations as well as Fire Behavior models utilized in the 2016 NFDRS. PocketCard lessons

2016

January: NFDRS 2016 moved from test side of WIMS to production side of WIMS. (Fully Operational)

Pocket card report and future plans – Wallace (Heffernan filling in)

Desert Research Institute (DRI) has completed a pocket card analysis and develop some recommendations. The FDS and FBS have reviewed these recommendations and have asked the NWCG Executive Board for some time to put together a plan to implement some of the recommended changes.

Advanced Fire Behavior Lessons Learned Unit proposal – Parkinson

Tami is recommending that FENC charter an Advanced Fire Behavior Lessons Learned Unit to develop elements such as technology transfer to the field, items that currently are not being taught, and the soliciting of topics to fire conferences and fire behavior workshops. FENC unanimously agreed.

ACTION: Robyn and Tami to work with Elaine on how to formalize this group under FENC.

NWS Metrics presentation – Heffernan

Robyn prototyped a fire danger impact based performance metric this past year in coordination with the FDS. Robyn showed the monetary value of NWS NFDRS forecasts for 2 locations. The next steps are to run the prototype in semi-real time next summer for the same 2 locations.

NWS Update – Heffernan

- Spot forecast program update was tested internally to the NWS with favorable results. The project timeline is to open testing to external customers by February 2015.
- Haines Index will be available in the next month or so as an experimental NWS grid. The experimental period should run for a year.
- Continuity of Excellence Exercise (in-person IMET training) will take place again in Boise this spring for approximately 1/3 of the IMET cadre. Virtual training will be held for the remaining IMETs.

Emerging Technologies Group Mobile Technology – Parkinson

No charter for this group yet under the WFIT group. The Mobile Technology Group does have their charter signed by WFIT. A weather calculator mobile application is currently being tested.

ACTION: Robyn to write letter of support for mobile applications on behalf of FENC and/or NWS.

FENC Subcommittee Updates

Predictive Services Subcommittee

- Fall meeting Nov 18-20 in Boise, ID
- Intel still working on modifications to the Sit209 program
- Mets are working on changes to the 7-Day product as well as incorporating AWIPS II Thin Client changes, and the new NFDRS fuel models.
- New meteorologist in EGB – Nanette. She is doing a job share with Shelby Law.
- Jeremy is working on an analysis for defining significant fires.

Fire Behavior

- Released Field Reference Guide with YouTube videos.
- Developing training on the Canadian Fire Danger Rating System
- Reviewed DRI pocket card research/recommendations.
- Would like to work on a synthesis of extreme fire behavior stories including qualitative micro-stories of significant events.

- Reviewed the online S290 as the Core Curriculum Oversight Group
- Developed position papers regarding development of Section Chief position and including the qualifications for LTANs and FBANs.
- Zeke is hosting a conference in AK regarding the Canadian Fire Behavior System
- John Saltenberger is working on the interactive cloud chart with QR code.

NWCG PMU Update – Waterbury

- Emailed out a summary of changes to the NWCG glossary. There will be a fall review of new terms / edits with a new version published in Feb/Mar 2015.
- Redesign of the NWCG website
 - o Working on master roster spreadsheet
 - o Format – same look and feel for every subcommittee page
 - o Products will be listed in the NWCG master list
- Budget
 - o Non-IT budget requests will be due in April
 - o IT requests will likely be due this winter sometime
- NWCG All-Chair meeting is Feb 10-12 in Boise, ID

Air Resource Advisor Update – Lahm

- Focus for wildland fires through use of Air Resource Advisors:
 - o Smoke impacts to public health and safety
 - o Transportation safety (roads & aviation for public & personnel)
 - o Fire personnel smoke exposure (on-fireline, ICP, Base Camp)
- Improving how Air Quality considered on incidents and decisions (risks, exposure, options)
- Addressing public and fire personnel health & safety
- Supporting partners addressing public health and safety concerns
- National Effort
 - o Cadre of Air Resource Advisors (THSP-ARA) Developed
 - o Two Training Sessions Held – Trainee Program
 - o Training will be held in Spring 2015
 - o Range of Skills in 24 ARA, 12 trainees
 - o FS, BLM, FWS, NPS, NRCS, AD-Contractor, EPA?, States: GA, NC, FL
 - o Coordination/dispatch by Program Manager
 - o Dispatches: 2011- handful, 2012-13, 2013-25, 2014-39
 - o Requests: IC, other on IMT, FS Regions, National Forests, National Parks, State Forestry
 - o Assignments: Incident Level, Forest, State Level Program Efforts, Agency Admins. ,Area Command , GACC, Regional Wildfire Decision Support Centers

SmoC Update – Lahm

- Ozone NAAQS mapping and rule concerns
- ARA Tracking and operational wildfire issues
- Every 2-week call cycle

- Smoke Management Guide (getting close)
- Weather, Fuels, Communications chapters
- RXB2 qualifications – RX410 requirements with FMC
- How to address Personnel Exposure Issues
- 2014 WFSTAR Video – Smoke: Knowing the Risks
- https://www.youtube.com/watch?v=0gqTbJSQL_U
- Draft Wildland Fire Personnel Smoke Exposure Guidebook from NWCG Smoke Committee
- http://www.nifc.gov/wfstar/modules/medical/smoke2014/smoke_exposure_guidebook.pdf
- New Monitoring Equipment - Community Systems
- Monitoring Cache Issues and EPA AirNow Data Flow

FENC strategic direction review & next steps – Heffernan/All

Review Goals:

Systems Integration: Requirements for fire environment data are defined to influence efficient consolidation of applications (fire weather, fire danger, fire behavior) that inform fire management decisions.

Decision Science: Human factors that influence the acceptance, interpretation, and analysis of fire environment data are identified and understood. Strategies are developed to facilitate communication, situational awareness, and dynamic resource allocation.

Technology Transfer: Fire Environment applications and training information use the best available science.

ACTION: Larry to create first draft of the requirements for fire environment data.

ACTION: Robyn and Tami to develop a first draft of a technology transfer process for modeling.

Conference calls are the first Wed of the month at 11am MT.

Next call is Wed, Nov 5th at 11am MT.

Spring FENC meeting is March 9-13, 2015 in Boise, ID at the Water Resources building.

ACTION: Larry to make reservations at the Water Resources building.