



2016 Fire Weather Meeting Notes December 5th Duluth, MN Notes by: Bill Leatham and Geoff Grochocinski

The 2016 season was more active for fire weather especially across the northern half of the state, but not as active across the southern half of the state. There were two main active periods which were in the spring. The first was from April 1st to April 15th and the second from May 1st to May 25th. Despite being a more active fire weather year, 2016 was wetter than normal.

Review of the 2016 Fire Weather Season (Mike Greisinger - NWS Chanhassen)

Overall 2016 can be described as a very wet year. It was an active fire weather season across the northern half of the state, but not across the southern half of the state. There was a total of 13 Red Flag days across the state of Minnesota. All of these days fell during the spring months of April and May with the two active fire weather periods of April 1st to April 15th and May 1st to May 25th. The spring season was followed by a wetter than normal summer with temperatures that were near to above normal. The fall was warm and wet statewide which resulted in quiet fire weather.

Review of the 2016 Fire Season & 2017 Fire outlook (BJ Glesener - Minnesota DNR)

The number of wildfires were about half of normal (total of 1412), but the number of acres burned due to wildfires was relatively low. In addition, there were 531 prescribed burns this year, which is high because it was so wet this year. MNICS was at a planning level of three to four mostly in April and May, but never hit five. For the majority of the year MNICS was at a planning level of two. This year there were 6 large wildfires and 4 hazards that MNICS was involved in. The 6 large wildfires were the Lyons, Lake Hattie, Skibo, Foss Lake, Hut Two and Taylor Road fires. All significant fires had Fine Fuel Moisture Codes (FFMC) in the high to extreme categories with a range was between 89.1 to 94.0. Fire Weather Index values were in the high to very high category with a range between 14.7 to 28.8. All of these fires were fine fuel driven. The two hazards that were noted were the July 5th and the July 21st blow down events. In the locations where the blowdown occurred future fires will be a concern due to fuel loading.

Based on the 2017 outlook BJ expects that we may see an earlier start to the fire weather season if we have drying in March. He expects there will be 3-5 large fires and we may see the initiation of the next Drought Cycle. BJ also looked at Fire Family Plus Comparisons using the 1000 hour fuels and found a few analog years. He found 1990 and 1999 were the closest comparisons to the 1000 hour fuels at this point. He felt more strongly that the upcoming season would be similar to 1991 than 2000.

Climate Outlook for 2017 (Mike Greisinger - NWS Chanhassen)

We have transitioned since the winter of 2016 from a strong El Niño to a neutral/weak La Niña. This winter and coming spring should remain in a neutral/weak La Niña. This tends to bring Minnesota cooler temperatures for the winter; however it will likely be closer to normal, but much colder in comparison to the 2015-2016 winter. There tends to be near normal precipitation, but for this year more snowfall, especially in comparison to last winter. Based on the Climate Prediction Center (CPC) outlook, temperatures are expected to be cooler than normal across the western Great Lakes and wetter across the northern half of the state. The big concern for the NWS will be spring river flooding due to the wetness of this past year.

New SPOT page (Mike Greisinger - NWS Chanhassen)

The new Spot webpage is operational. Please note when submitting a spot request that the “incident type” is defaulted to “wildfire” rather than “prescribed fire,” so individuals submitting please change the selection to prescribed burn unless indeed a wildfire. The NWS forecaster will give the highest priority to any wildfire spot forecast submissions, so please avoid communicating unnecessary alarm to your NWS meteorologists. There were several questions about the new page and the legacy page: 1. How long is a SPOT on the default page? 2. Is there a way to set up a filter on the SPOT page? 3. Where can you view previous year's SPOTs (outside the system)?

John Wetenkamp from the La Crosse NWS office mentioned that if users have weather elements that they would like added to the SPOT page to pass it along. One element users mentioned would be useful to have is the lightning activity level (LAL). Other elements that were mentioned were the Air Quality Index (AQI) and Air Quality Dispersion Index (ADI). This information is not yet in the NWS forecast system (GFE). Daniel Dix is working on getting the AQI into GFE. If user's need this information then they should put in the remarks that smoke management is an issue, make sure users are asking for what they need. More Hysplit requests are being received with the new SPOT page. Trent Wickman from the USFS mentioned that smoke management must understand the model input and output. He suggests that users run it on their own after understanding how it works.

National Fire Danger Rating System (NFDRS) (BJ Glesinger- Minnesota DNR)

A new NFDRS is coming this year, which will be running parallel with the old NFDRS this year (beginning this spring). Expect the old NFDRS to become defunct in 2018 (no specific date at this point). This moves towards an automated way of calculating things. Due to this, new solar radiation instruments will be added onto the RAWS sites. This will help in the calculation for the live and dead fuel moisture models. There is a new live fuel moisture model coming, which helps figure out the timing of green up and curing using the Growing Season Index (GSI). The GSI combines minimum temperatures, day length and vapor pressure in its calculation. In addition, moving away from the Fosberg model to the Nelson model. As of right now there are 40 different fuel types in NFDRS and with the new system it goes down to 5 groups. The groups are Grass/Shrubs (W), Grass (V), Brush (X), Timber (Y) and Slash (Z). Minnesota consists mainly of groups V, Y and Z. The automation of NFDRS will help eliminate missing data and more easily apply to gridded weather. It will be much simpler and move toward the Canadian system, but will have an impact on S-491 training.

Future of the National Weather Service and IDSS (Geoffrey Grochocinski - NWS Duluth)

The NWS has been facing financial and staffing challenges since the Great Recession and in part due to Congressional gridlock in the following years. At the same time, the NWS is under pressure to offer more and more detail and service than ever before. The NWS leadership decided it may be time for major changes. A consulting company was hired a couple years ago to conduct a major study of the NWS's organizational structure and goals, and some results became available early in the year. Then, the NWS came out with some vague plans for the future this past summer and fall. It sounds like the NWS wants to move away from the standard NWS staffing, which has been in place since the 1990s, which has fairly uniform staffing at each office. The plan is to shift meteorologists around to beef up offices with greater needs (taking into account population base, transient population, our partners' needs, typical weather challenges, etc.), which may come at the expense of NWS offices with lower population bases. For the state of Minnesota, this may mean beefing up the staffing at the Twin Cities office at the expense of its surrounding offices (Duluth, Grand Forks, Aberdeen, Sioux Falls, and La Crosse). Another staffing plan is to move away from all offices being open 24/7, and our partners should note that we currently do a lot of fire weather forecasting in the wee hours of the morning, on the night shift. How the staffing changes may affect our fire weather forecast services remains to be seen, pending more details from the NWS leadership. The NWS plans to start testing their plans this year and next year, and if things go well, follow through with these plans nationwide over the next several years. Please stay tuned for more information when it becomes available!

Fire Weather Forecast (FWF) Mid Morning Update (Bill Leatham - NWS Duluth)

NWS Duluth brought up an idea of whether or not a routine FWF forecast update in the mid to late morning would be beneficial to users. The general feeling was to avoid a routine updates since current non-routine updates imply more significant forecast changes (and catch the attention of users), while routine updates could lead to users avoiding reading every update. However, many noted that there is more confidence placed in the most up to date forecast. If there are changes to the FWF (for a non-routine issuance) users ask that the NWS highlights the changes at the top of the FWF discussion. If there is a significant fire weather day they would prefer to have an update by 9 AM. Many rely on both the FWF discussion and the AFD. If forecasters have low confidence on a SPOT forecast the users appreciate the phone calls from forecasters.

Additional notes:

- Amanda Graning left the NWS this fall. She will be available for teaching courses, Rx burns and for Wildfires as a contractor through MNDNR. For additional information Amanda should be contacted.
- Question was asked if RFW should automatically be issued with RH values $\leq 15\%$ even with winds below the RFW criteria (sustained at 20 mph). The recommendation was not to do this mainly because RFW's shutdown Rx burning across the southern half of the state. Was suggested to check how many days RH is below 15% across MN. Lastly, it is suggested to handle this situation with a special weather statement explaining there are critical conditions. The NWS asked BJ, the main contact for any RFW decisions, if he would like a heads up when we are getting or forecasting RH below 15%, and he said he appreciated that.
- Fire Weather Watches discussed - good to issue as it gives planners a heads up to shut down burning. Most significantly it helps with setting up staffing, planning and readiness for an active day. Question asked on how liberally to issue a watch and BJ said it all depends on the confidence a forecaster may have. If forecasters are confident of low RH values, but less certain on winds they would prefer to see a watch that leads to no warning versus having to issue a RFW last minute.