Running Near Term Fire Behavior in Alaska

At present National Digital Forecast Data for Alaska is not automatically pulled into WFDSS. This necessitates additional steps to run Near Term Fire Behavior (NTFB) in Alaska. This issue should be fixed by the beginning of 2012.

In essence you are manipulating the model by using start and end dates in the past to get the model to populate the wind and weather tables from archived data so you can later edit that data with forecast data. You can't add or delete lines as you can in FSPro.

Your end date will need to be 2 days prior to the last observation on the particular RAWS used. By clicking on the "Fire Danger Rating Graph" next to the RAWS name you can see the "Last Observation" date in the lower left of the popup window. NTFB uses one day after the simulation end date for conditioning purposes, thus the need to go back prior to the last observation. If you get *FAILURE: Unable to retrieve acceptable conditioning data for XX/XX/XXXX 00:00* you have not gone back far enough. You will find time of day may affect this, if it is late afternoon you may even get away with going back one day. Your start date can be 4 days prior to your end date.

The National Weather Service will provide 5 days of digital forecasted data, with the one day needed at the end of the simulation for conditioning, thus you can obtain 4 days of forecasted fire spread. A trick to reduce your data editing work load is to reduce conditioning days. Conditioning Days are those days the model will use to condition fuels prior to beginning the simulation. Most of the critical conditioning occurs on the last day prior to the start date. "Conditioning Days" can be set to one or two days to reduce your data editing work load.

Below is the link to National Digital Forecast Data Weather. You will need to change the latitude and longitude in the URL to match your particular fire. Be sure to keep the negative (–) in front of your longitude, or who knows where you will end up.

http://forecast.weather.gov/MapClick.php?lat=64.58639&lon=-151.98583&site=mso&smap=1&unit=0&lg=en&FcstType=digital

This site displays 48 hours of data at a time. By changing the "48-Hour Period Starting" drop down, you can obtain five days of data. Or you can use the Forward 2 Days button at the right.
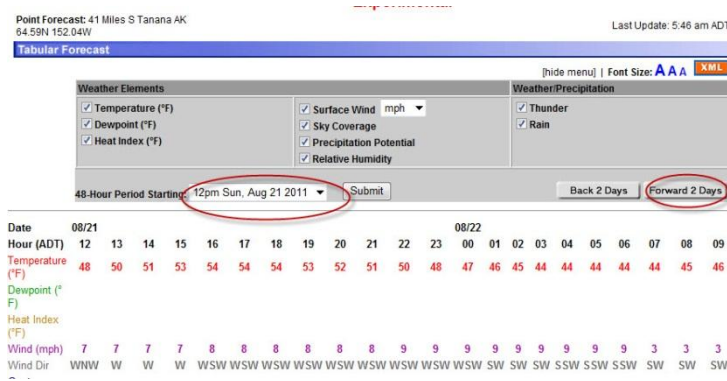
Note: Wind data is given as hourly however the forecast holds winds constant for three hour blocks.

Now you will edit the weather table by inserting the forecasted data into the last 5 lines or however ever many days you have selected to run in your simulation. You will move the existing data back in time (up) on the table for conditioning purposes and delete the earliest days of data that will no longer be needed. This data entry must all be done manually. The wind is much more labor intensive due to hourly data. A trick is to only edit the wind data for the burn period hours. The model will not use the other data outside the specified burn period. I find it best to clear all the cells you will edit of data before entering new data, this helps you see where you are at and not get lost.

The dates for start and end as well as the dates in the wind and weather tables become phony dates, you are now projecting fire spread into the future 4 days or less based on forecasted weather.