Wildland Fire Decision Support System

Basic and Short-Term Fire Behavior Models

Wildland Fire Management RD&A
National Interagency Fire Center
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Basic and Short-Term Fire Behavior Models

Demonstrate the steps for:

- Create a Basic Fire Behavior Analyses
  - ✓View Output
  - ✓View Reports
- Create a Short-Term Fire Behavior Analyses
  - ✓View Output
 - ✓View Reports
- Delete either a BFB or STFB Analyses

Login into WFDSS – Go to INCIDENT Tab

Login into the WFDSS and Click the Incident tab, this is the screen users will see. On this screen, you can sort the Incident List by any of the columns. To get to the Incident of interest, you toggle a radio button (the round circle on the left hand side of the incident list), then click the ASSESS SITUATION button.

Extend Tool for Fire Behavior
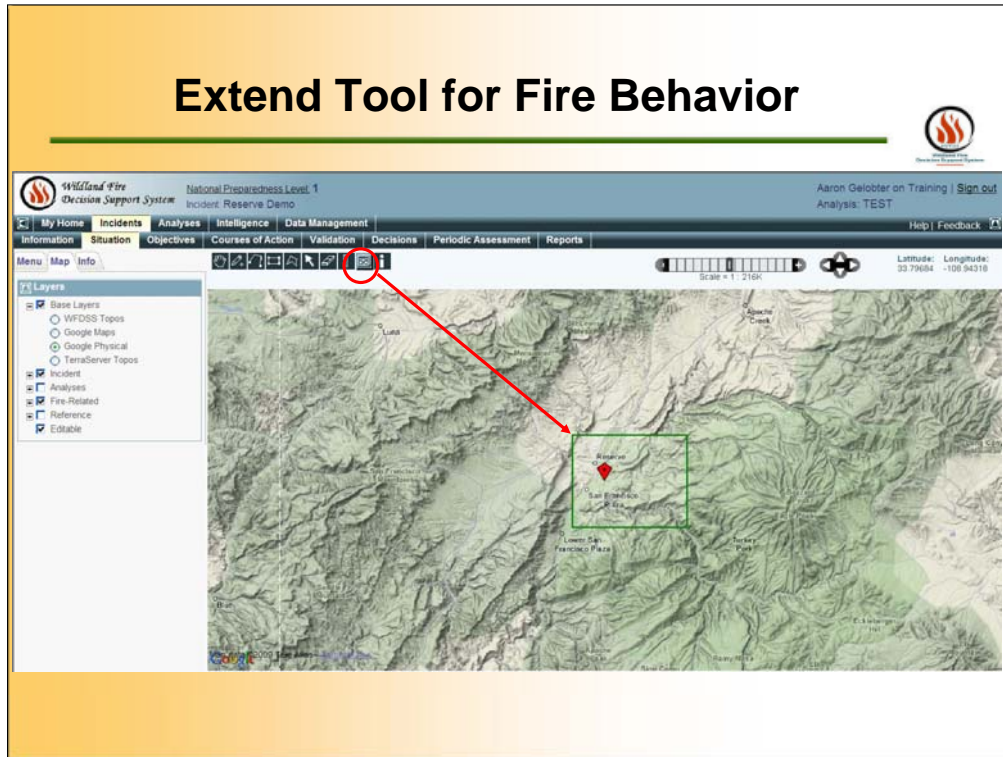
When you Click the SITUATION tab, than can now activate the "LCP EXTENT" button on the top toolbar. This will allow you to draw a green box on the map. Within this area, your fire behavior analyses will occur. The outputs to this area can be viewed on the ANALYSES Tab on the following slides.

Initiating the Basic Fire Behavior Inputs
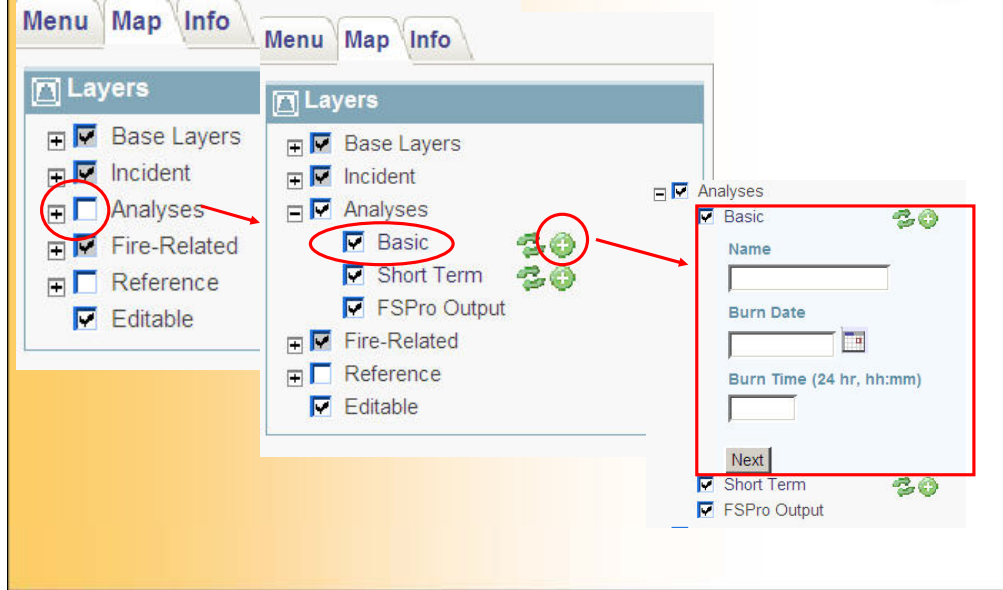
Click the "Plus" sign next to ANALYSES on the map tab.

Then the "Green Plus" sign to reach the input box.

In the input, fill in the NAME (name of the analysis), BURN DATE (date of analysis, typically today's date) and BURN TIME (time of day the burn will start), this enables the application to obtain forecast data for the date and time of concern. As we all know, fires burn differently at 1000 hrs than they do at 1400 hrs).

Basic Fire Behavior Retrieving Winds

Click the "Next" Button This will start the retrieval of the winds.

Run the Basic Fire Behavior Model

Click the "Run Model" Button this will initialize the Model.

Basic Fire Analyses was Successful

Green message at top of screen shows success. If it is red, it didn't go through.
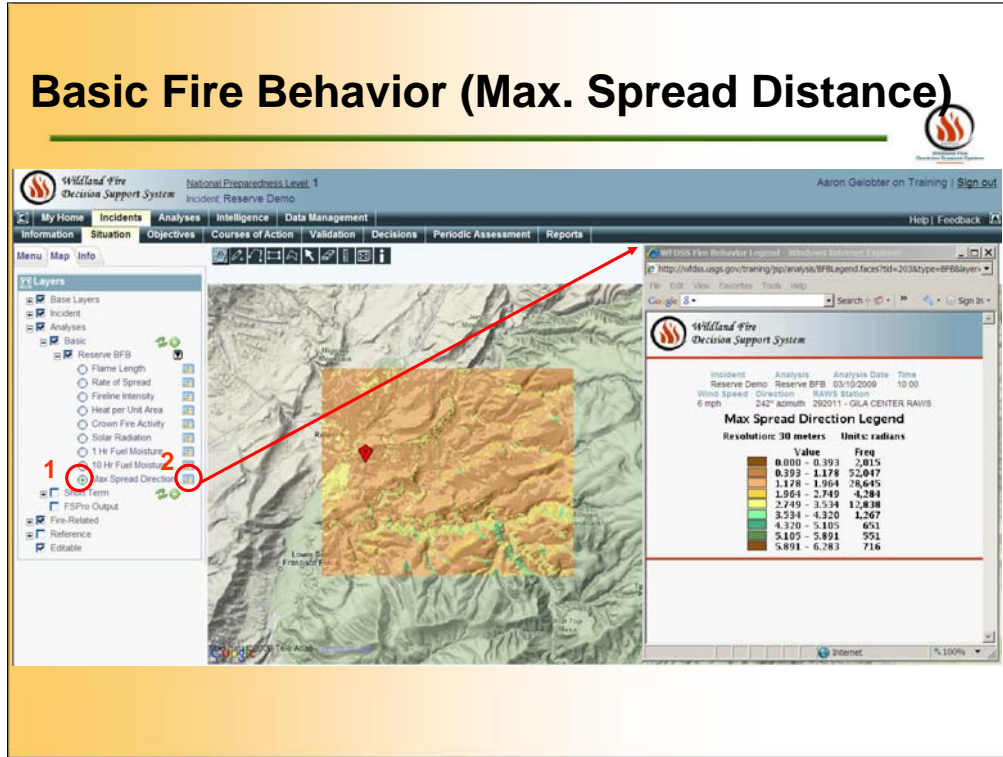Usually folks forget to draw the extent with the LCP EXTENT tool.

Click the "Down Arrow" button, then the "Plus" sign to reach the output.

You can also click the Analysis Layer, then the Basic (Fire Behavior) and activate the analysis "Reserve BFB" to view the various fire behavior outputs (1).

Click the information button to the right of the analyses (2) to view the legend. The example on this slide is the the "Max. Spread Direction" within the "LCP Extent" area that was selected earlier.
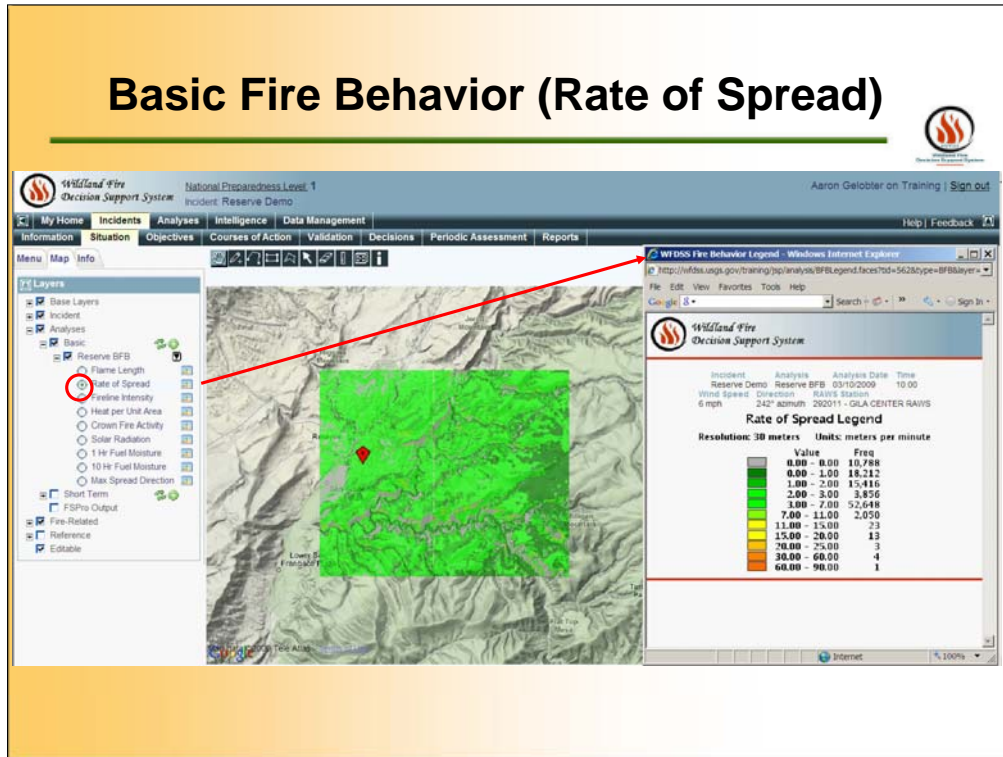
You can also click the Analyses Layer, then the Basic (Fire Behavior) and activate the analyses "Reserve BFB" to view the various fire behavior outputs by Clicking the information button to the right of the analyses (in the red circle) to view the legend. The example on this slide is the the "Rate of Spread" within the "LCP EXTENT" area that was selected earlier.

Initiating the Short-Term Fire Behavior Inputs
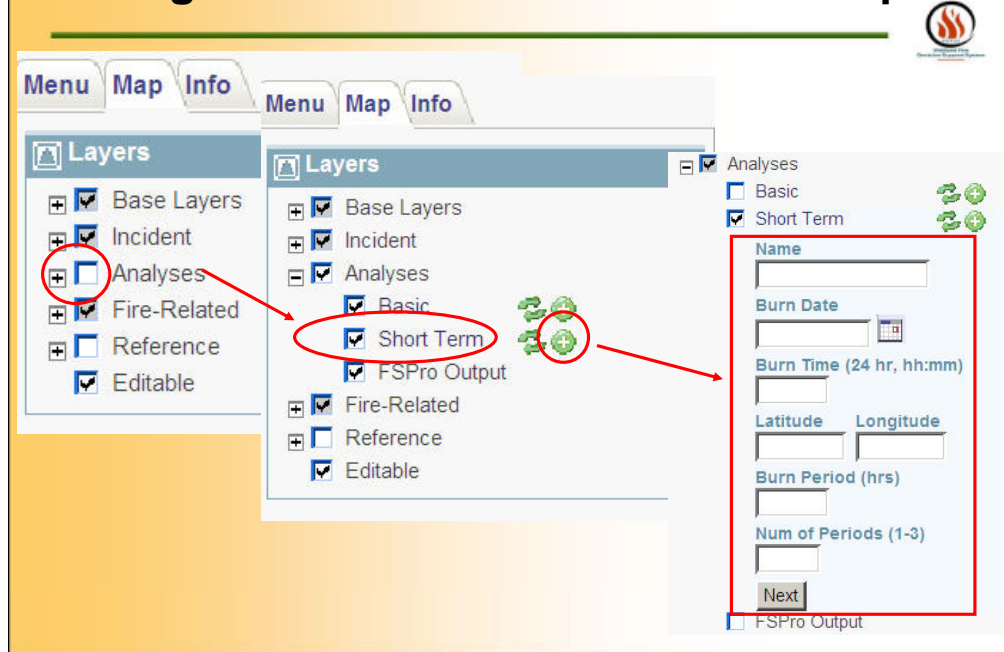
Click the "Plus" sign then the "Green Plus" sign next to Short-Term (Short-Term fire behavior) to reach the input box.

In the input:

Fill in the **NAME** (users need to name the analysis), **BURN DATE** (date which the burn is being modeled on, typically current date), **BURN TIME** (the time of day active burning begins), **LAT/LONG** (coordinates of the ignition point. This is the point where fire growth modeling will begin), **BURN PERIOD** (expected number of hours per day that the fire will grow in significant size) and **NUMBER OF PERIODS** (the number of days that will be simulated fire growth starting at the specified BURN TIME and grown for the specified BURN PERIOD per day).

Click the "Next" Button to initialize the model.

After filling in the input, click "Next" to start the wind retrieval process.

Run the Short-Term Fire Behavior Model

Click the "Run Model" Button this will start the Model run.

Green message at top of screen shows success. If it is red, it didn't go through. Usually folks forget to draw the extent with the LCP EXTENT tool.
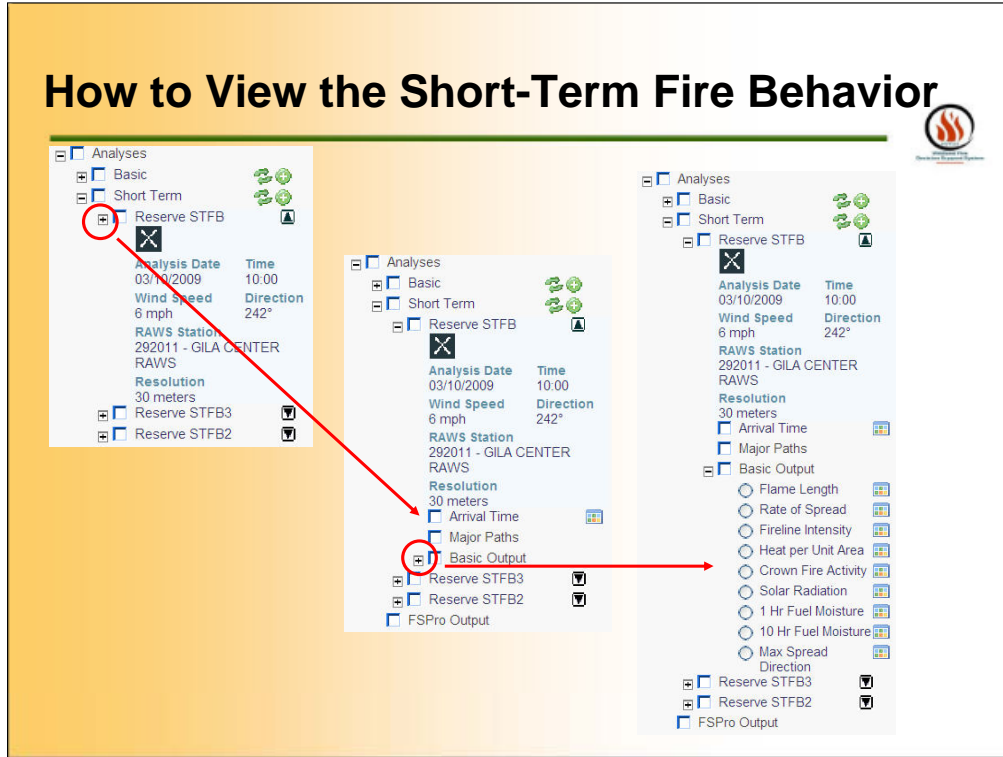
Click the "Down Arrow" button to view the analysis information.

Click the "Plus" sign to reach the ARRIVAL TIME, MAJOR PATHS and BASIC OUTPUTS. Click the BASIC OUTPUT "Plus" sign to reach the fire behavior elements.
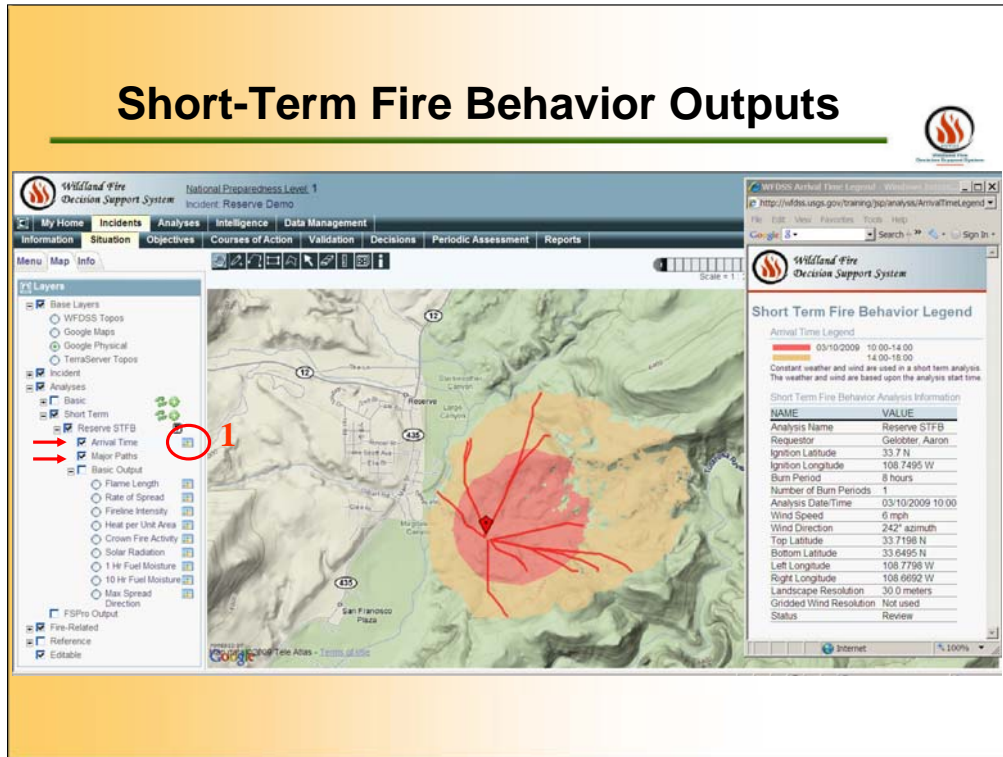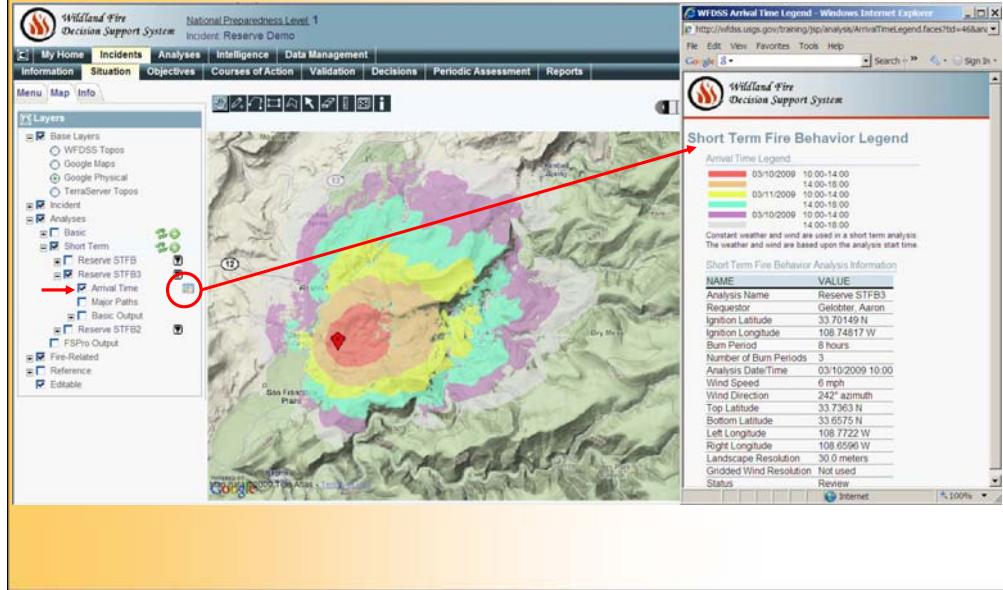
This is example of the Short-Term Fire Behavior – ARRIVAL TIME AND MAJOR PATH. (1) Click the color pallet information button to view the legend for the ARRIVAL TIME.
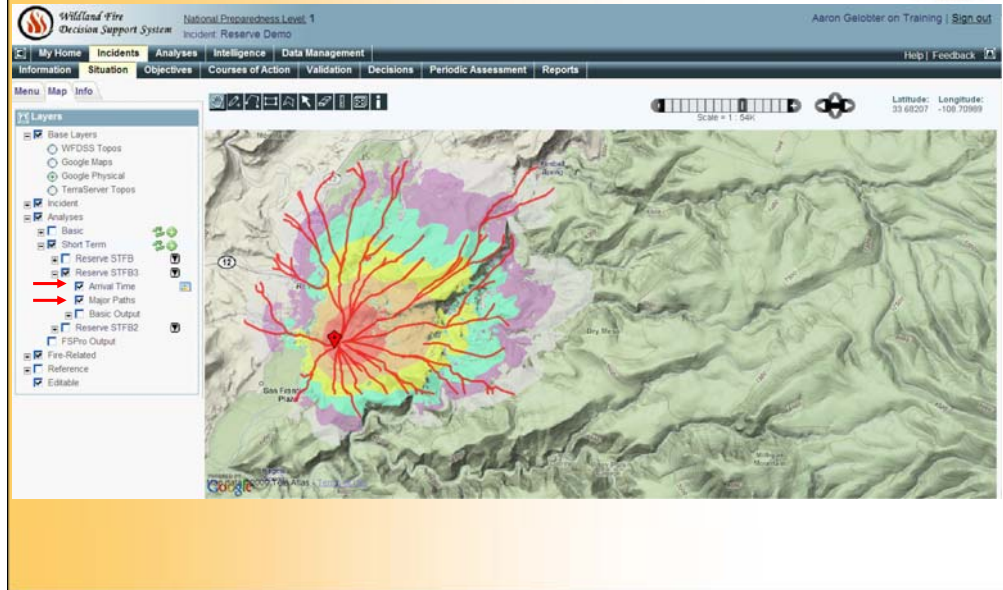
Short-Term Fire Behavior (2 Day Run)
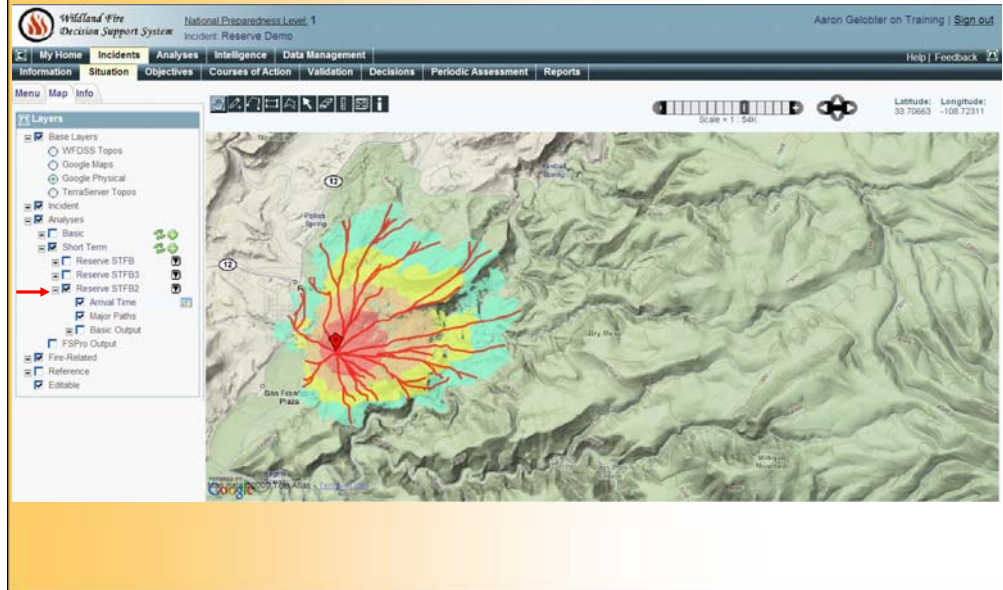
This is example of the Short-Term Fire Behavior – ARRIVAL TIME AND MAJOR PATH with a 2 Period Run.
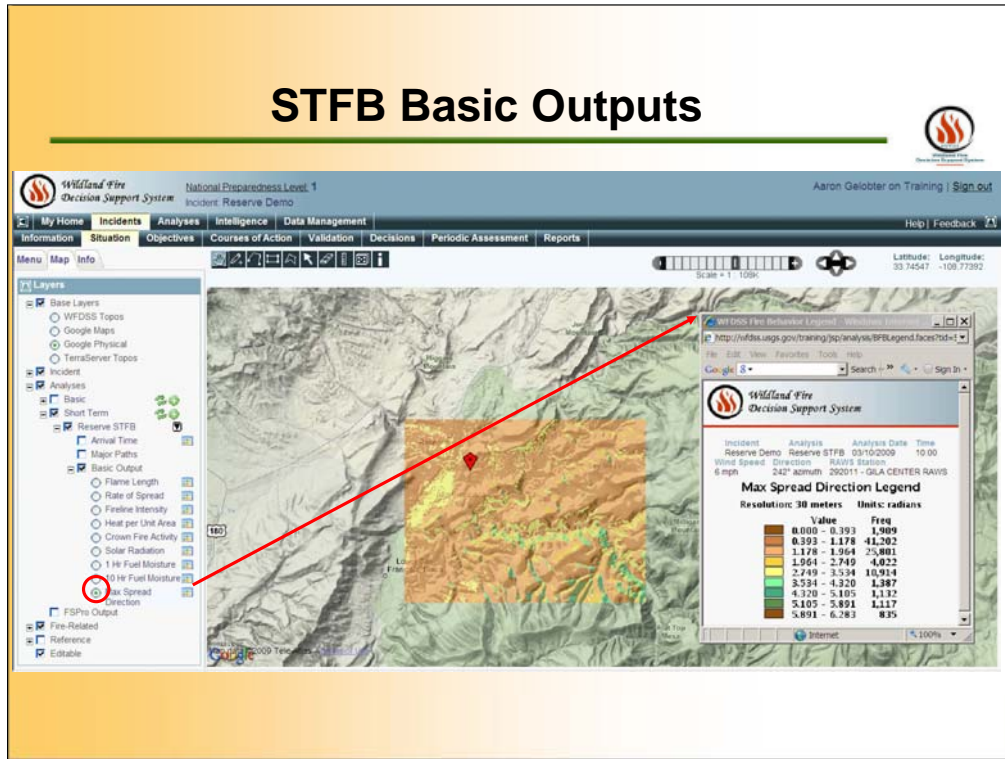
Short-Term Fire Behavior (3 Day Run)

This is example of the Short-Term Fire Behavior – ARRIVAL TIME with a 3 Period Run and STFB LEGEND.

This is example of the Short-Term Fire Behavior – ARRIVAL TIME AND MAJOR PATH with a 3 Period Run and STFB LEGEND.

STFB Basic Outputs

Click the STFB and activate the analyses "Reserve STFB" to view the various fire behavior outputs by Clicking the information button to the right of the analyses (in the red circle). The example on this slide is the the "Max. Spread Direction" within the "Extended" area that was selected earlier.

Viewing the report. The STFB and Basic analyses progress can be viewed from the ANALYSES Tab.

To review an ANALYSES Report, you toggles a radio button (the round circle on the left hand side of the incident list), they need to click the VIEW REPORT button.

Viewing the report shows the basic assumptions and inputs of the model.

Click the "X" button to delete an analysis.

Questions