



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

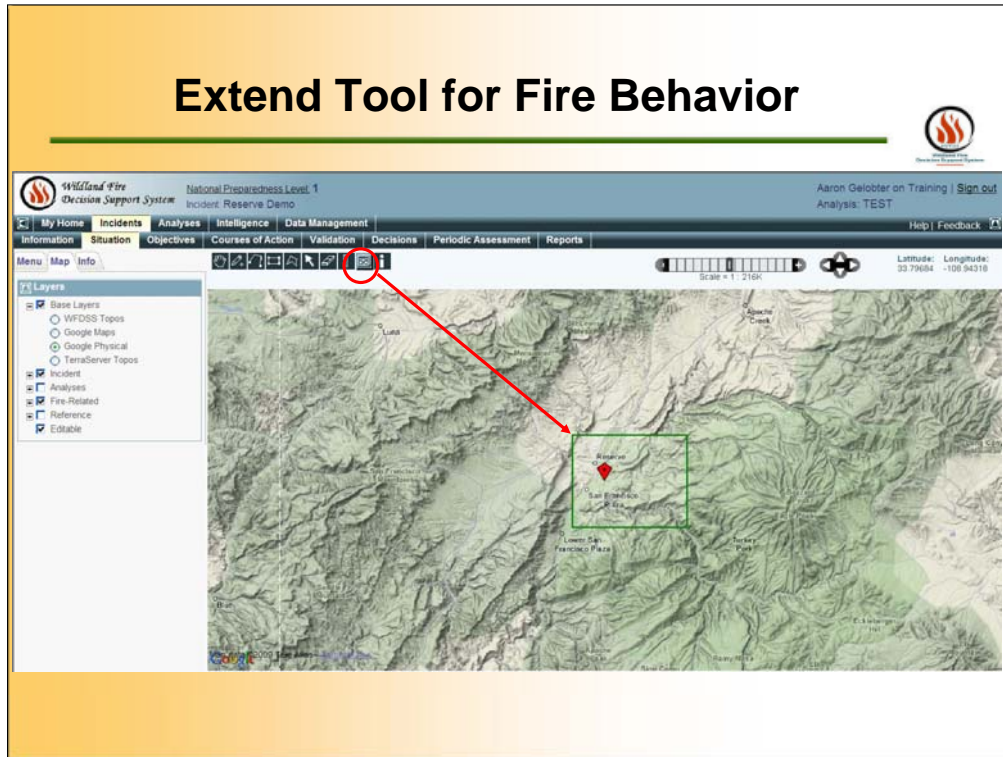
Login into WFDSS – Go to INCIDENT Tab

The screenshot displays the WFDSS interface. At the top, there is a navigation bar with tabs for 'My Home', 'Incidents', 'Analyses', 'Intelligence', and 'Data Management'. The 'Incidents' tab is selected. Below the navigation bar, there is a section for 'Incident List Filter' with a dropdown menu set to 'Webinars Demo'. The main content area shows an 'Incident List' table with the following columns: Incident Name, Owner Name, Geographic Area, Jurisdiction, Acceage, and Start Date. The first row contains the data: Reserve Demo, Gelobter, Aaron, Southwest, USFS, 2.0, and 03/10/2009. A radio button is located to the left of the first row, and the 'Assess Situation' button is highlighted with a red circle. Below the table, there is a pagination control showing 'Page 1 of 1 Rows per Page 20'.

Incident Name	Owner Name	Geographic Area	Jurisdiction	Acceage	Start Date
Reserve Demo	Gelobter, Aaron	Southwest	USFS	2.0	03/10/2009

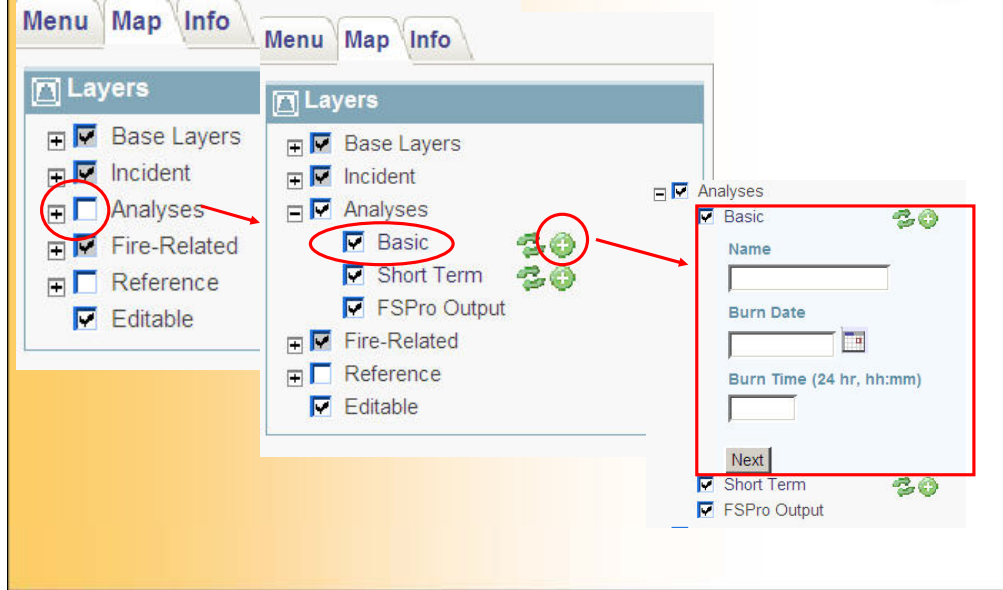
Login into the WFDSS and Click the Incident tab, this is the screen users will see. On this screen, you can sort the Incident List by any of the columns. To get to the Incident of interest, you toggle a radio button (the round circle on the left hand side of the incident list), then click the ASSESS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



The screenshot displays a software interface for fire behavior analysis. On the left, the 'Analyses' section is expanded to show the 'Basic' analysis type. The 'Name' field contains 'Reserve BFB', the 'Burn Date' is '03/10/2009', and the 'Burn Time (24 hr, hh:mm)' is '10:00'. A red circle highlights the 'Next' button. On the right, the 'Analyses' section is expanded to show the 'Basic' analysis type. The 'Retrieving winds ...' progress bar is visible, and the 'Short Term', 'FSPRO Output', 'Fire-Related', 'Reference', and 'Editable' options are listed.

Click the “Next” Button This will start the retrieval of the winds.

Run the Basic Fire Behavior Model



The screenshot displays the software interface for running a fire behavior model. On the left, the 'Analyses' section is expanded to show 'Basic' analysis. Under 'Basic', the 'Wind Speed' is set to 6 and the 'Wind Direction' is set to 242. Below these inputs are 'Return' and 'Run Model' buttons. The 'Run Model' button is circled in red, and a red arrow points from it to a secondary window on the right. This secondary window shows the 'Analyses' section with 'Basic' analysis selected, and a progress bar labeled 'Initializing model...' with a green bar indicating progress. Below this, 'Short Term' and 'FSPro Output' options are visible but unchecked.

Click the “Run Model” Button this will initialize the Model.

Basic Fire Analyses was Successful



The screenshot displays the Wildland Fire Decision Support System (WFDSS) interface. At the top, a green message bar reads "Basic Fire Analysis Reserve BFB completed successfully". The navigation menu includes "My Home", "Incidents", "Analyses", "Intelligence", "Data Management", "Information", "Situation", "Objectives", "Contingency Planning", "Validation", "Decisions", "Performance Assessment", and "Reports". The "Analyses" menu is expanded, showing "Basic" with a green status icon. The "Layers" panel on the left lists various map layers, including "WFDSS Topos", "Google Maps", "Google Physical", "TerraServer Topos", "Incident", "Analyses", and "Basic". The "Basic" layer is selected, and its properties are shown: Name: Reserve BFB, Burn Date: 03/10/2009, Burn Time (24 hr, h:mm): 1000. The map displays a topographic view of a mountainous area with a green rectangle highlighting the "Reserve BFB" area. The map includes a scale bar (Scale = 1 : 216K) and coordinates (Latitude: 33.71406, Longitude: -108.64311).

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.

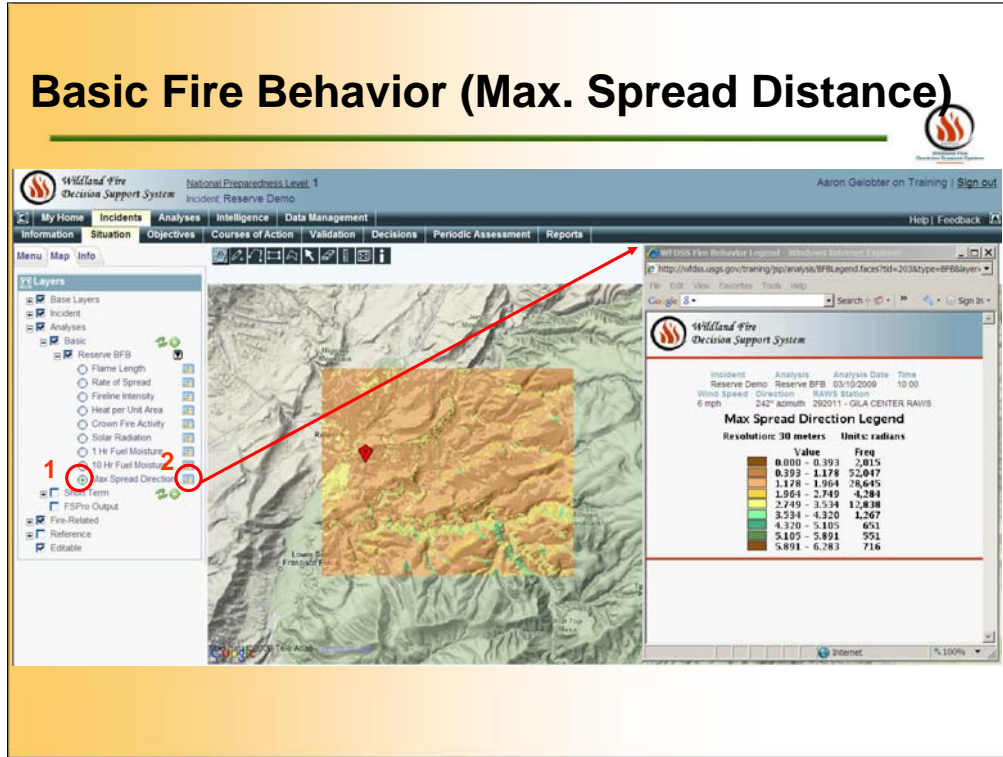
How to View the Basic Fire Behavior



The screenshot illustrates the steps to view basic fire behavior in a software application. It shows a tree view on the left with 'Analyses' expanded to 'Basic', 'Reserve BFB', 'Short Term', and 'FSPro Output'. A red circle highlights a 'Down Arrow' button next to 'Reserve BFB'. The middle panel shows 'Reserve BFB' expanded to show details: 'Analysis Date' (03/10/2009), 'Time' (10:00), 'Wind Speed' (6 mph), 'Direction' (242°), 'RAWS Station' (292011 - GILA CENTER), and 'Resolution' (30 meters). A red circle highlights a 'Plus' sign button next to 'Reserve BFB'. A red arrow points from this 'Plus' sign to the right panel. The right panel shows the 'Reserve BFB' analysis results, including the same metadata as the middle panel, and a list of output options: 'Flame Length', 'Rate of Spread', 'Fireline Intensity', 'Heat per Unit Area', 'Crown Fire Activity', 'Solar Radiation', '1 Hr Fuel Moisture', '10 Hr Fuel Moisture', and 'Max Spread Direction'. Each output option has a 'Plus' sign button next to it. The bottom of the right panel shows 'Short Term' and 'FSPro Output' options.

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

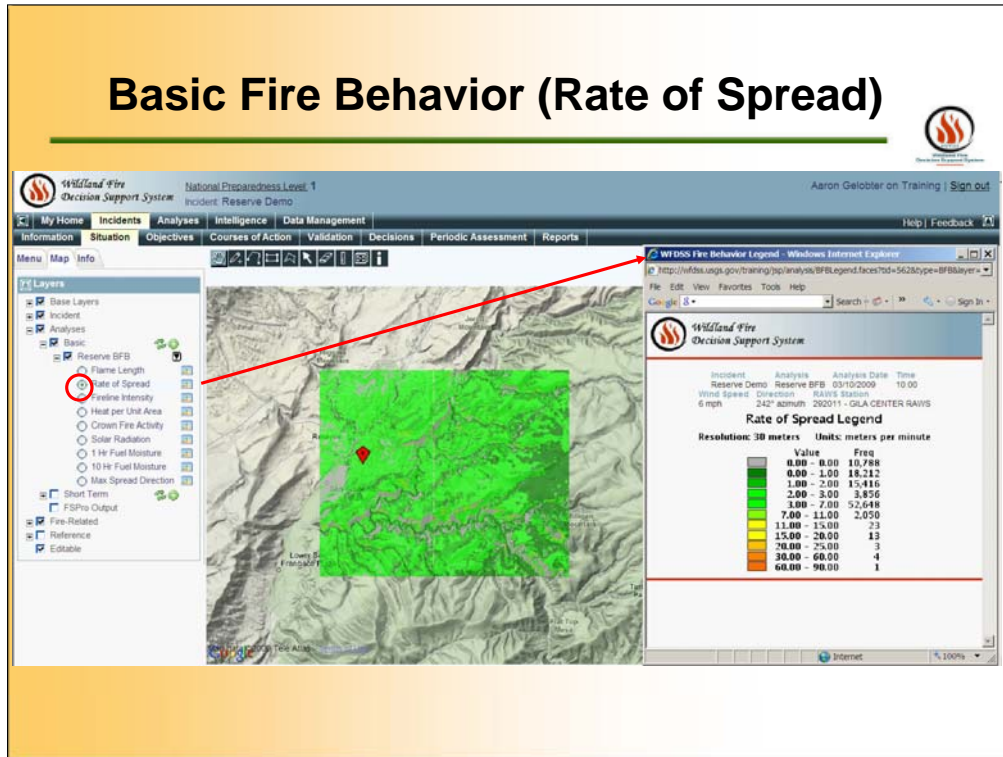
Basic Fire Behavior (Max. Spread Distance)



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).

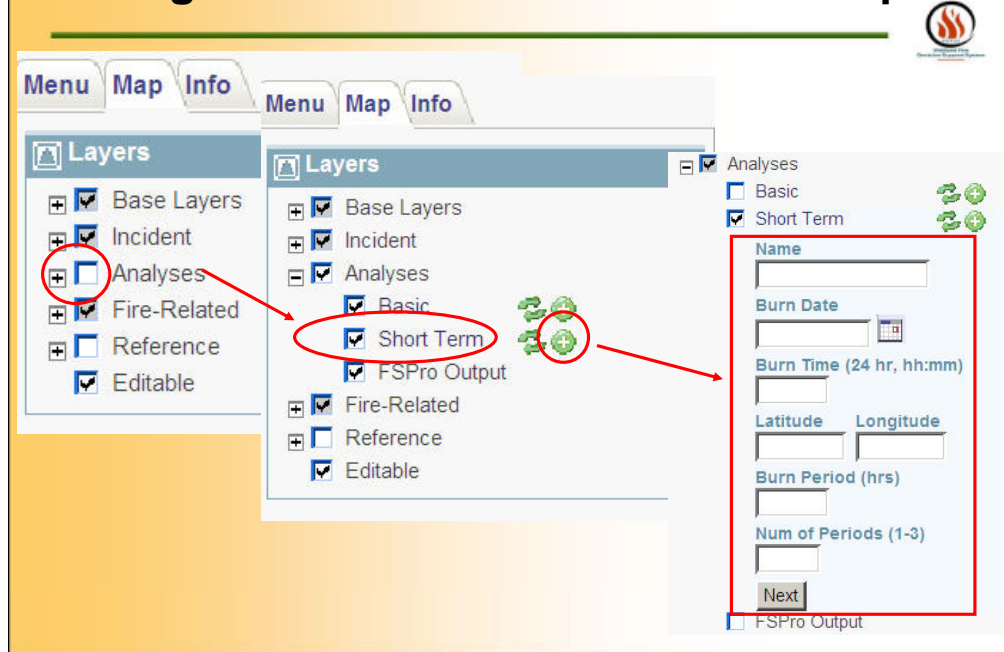
Click the information button to the right of the analyses (2) to view the legend. The example on this slide is the the “Max. Spread Direction” within the “LCP Extent” area that was selected earlier.

Basic Fire Behavior (Rate of Spread)



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.

Short-Term Fire Behavior (Wind)



Analyses

- Basic
- Short Term

Name: Reserve STFB3

Burn Date: 03/10/2009

Burn Time (24 hr, hh:mm): 1000

Latitude: 33.70149 Longitude: 108.74817

Burn Period (hrs): 8

Num of Periods (1-3): 3

Next

FSPro Output

Analyses

- Basic
- Short Term

Wind Speed: 6

Wind Direction: 242

Return Run Model

FSPro Output

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

Run the Short-Term Fire Behavior Model



The screenshot displays the software interface for running the Short-Term Fire Behavior Model. The interface is divided into two main sections. The left section contains the following elements:

- Analyses:** A tree view with 'Analyses' checked, 'Basic' unchecked, and 'Short Term' checked. There are two green circular icons with arrows to the right of the 'Short Term' option.
- Wind Speed:** A text input field containing the value '6'.
- Wind Direction:** A text input field containing the value '242'.
- Buttons:** A 'Return' button and a 'Run Model' button. The 'Run Model' button is circled in red.
- FSPPro Output:** An unchecked checkbox.

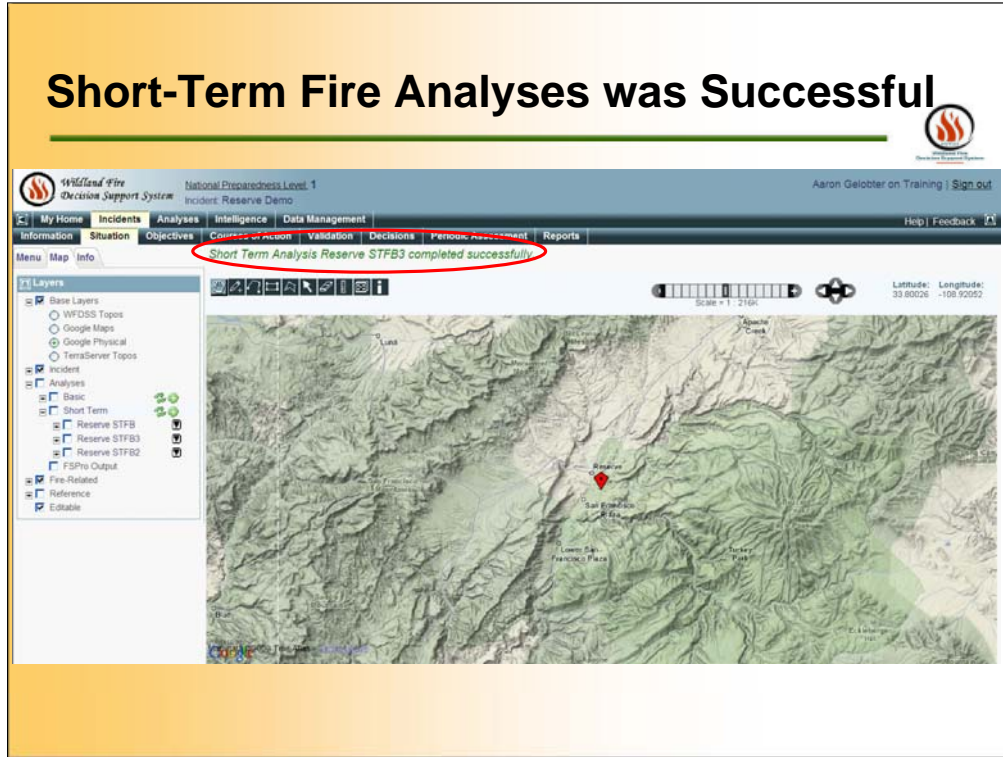
The right section shows a preview or status of the model run:

- Analyses:** A smaller version of the tree view, with 'Analyses' checked, 'Basic' unchecked, and 'Short Term' checked. There are two green circular icons with arrows to the right of the 'Short Term' option.
- Initializing model ...:** A progress bar with three green segments, indicating the model is in the process of initializing.
- FSPPro Output:** An unchecked checkbox.

A red arrow points from the 'Run Model' button in the left section to the 'Initializing model ...' progress bar in the right section.

Click the “Run Model” Button this will start the Model run.

Short-Term 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.

How to View the Short-Term Fire Behavior

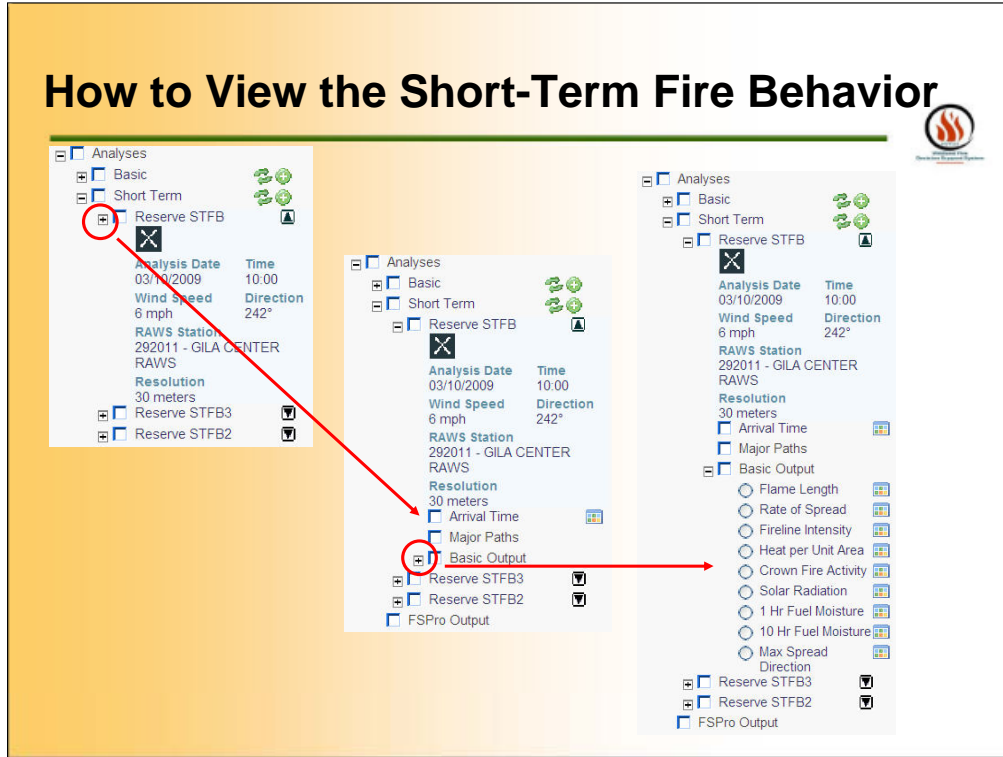


The screenshot shows a software interface with a tree view on the left and a detailed view on the right. The tree view is expanded to show 'Analyses' > 'Short Term' > 'Reserve STFB'. A red circle highlights a 'Down Arrow' icon next to 'Reserve STFB'. A red arrow points from this icon to the detailed view on the right. The detailed view shows the following information:

Analysis Date	03/10/2009	Time	10:00
Wind Speed	6 mph	Direction	242°
RAWS Station 292011 - GILA CENTER RAWS			
Resolution 30 meters			
<input type="checkbox"/> Reserve STFB3		<input type="checkbox"/>	
<input type="checkbox"/> Reserve STFB2		<input type="checkbox"/>	

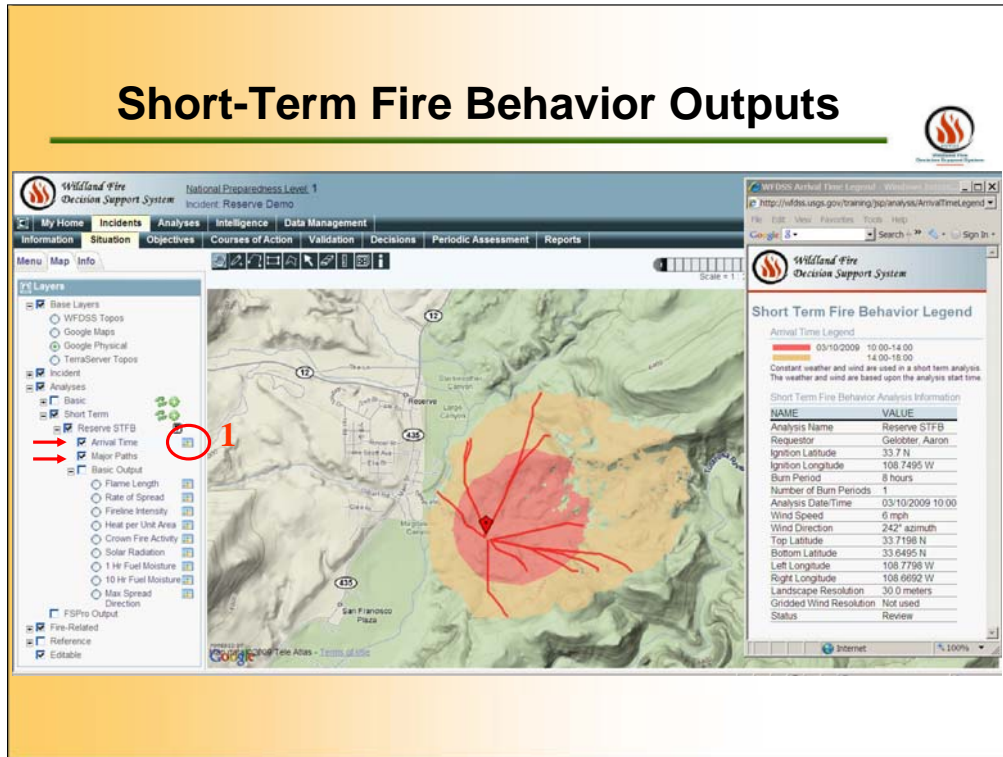
Click the “Down Arrow” button to view the analysis information.

How to View the Short-Term Fire Behavior



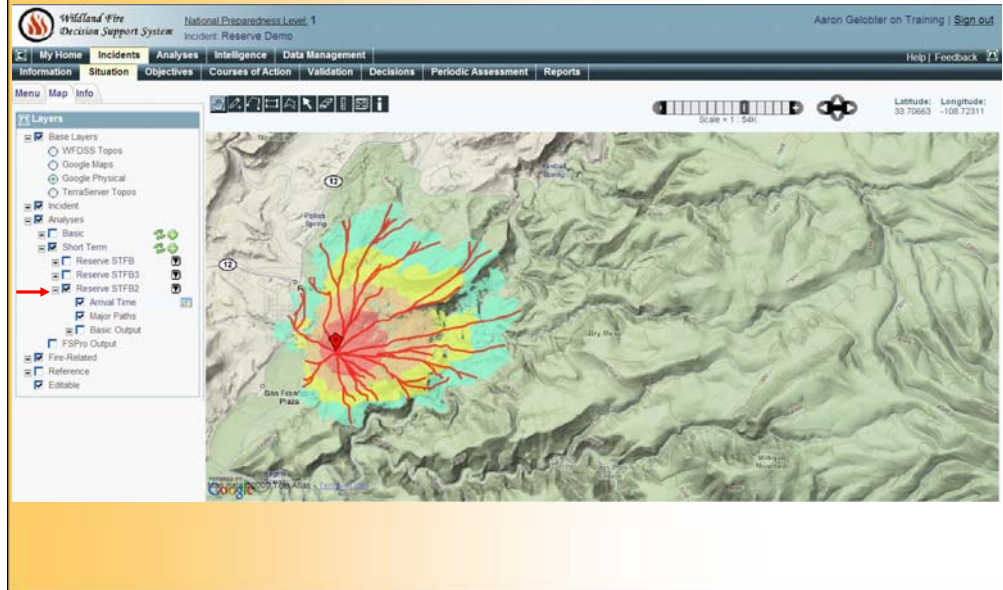
Click the “Plus” sign to reach the ARRIVAL TIME, MAJOR PATHS and BASIC OUTPUTS. Click the BASIC OUTPUT “Plus” sign to reach the fire behavior elements.

Short-Term Fire Behavior Outputs



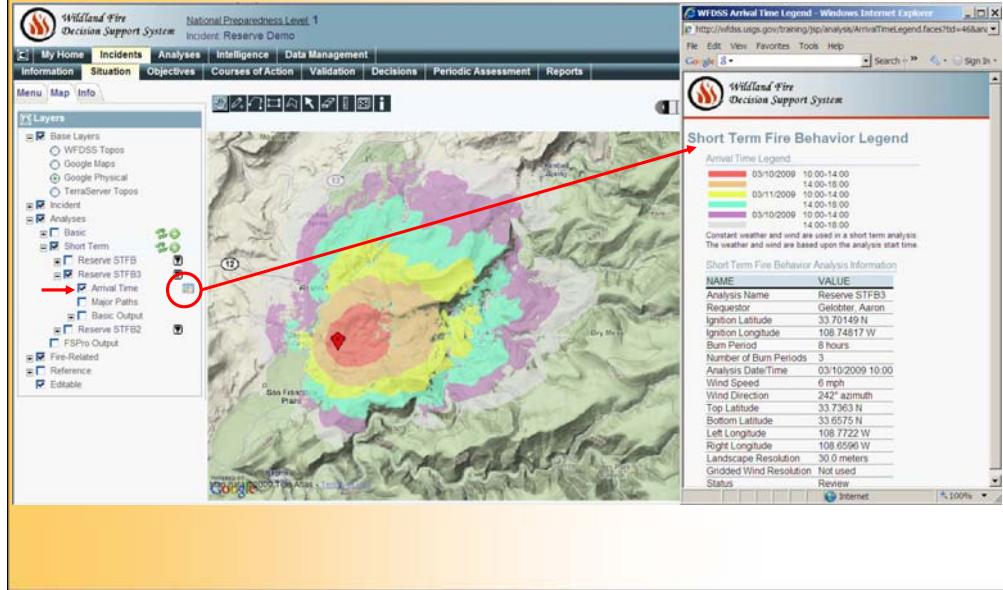
This is example of the Short-Term Fire Behavior – ARRIVAL TIME AND MAJOR PATH. (1) Click the color pallet information button to view the legend for the ARRIVAL TIME.

Short-Term Fire Behavior (2 Day Run)



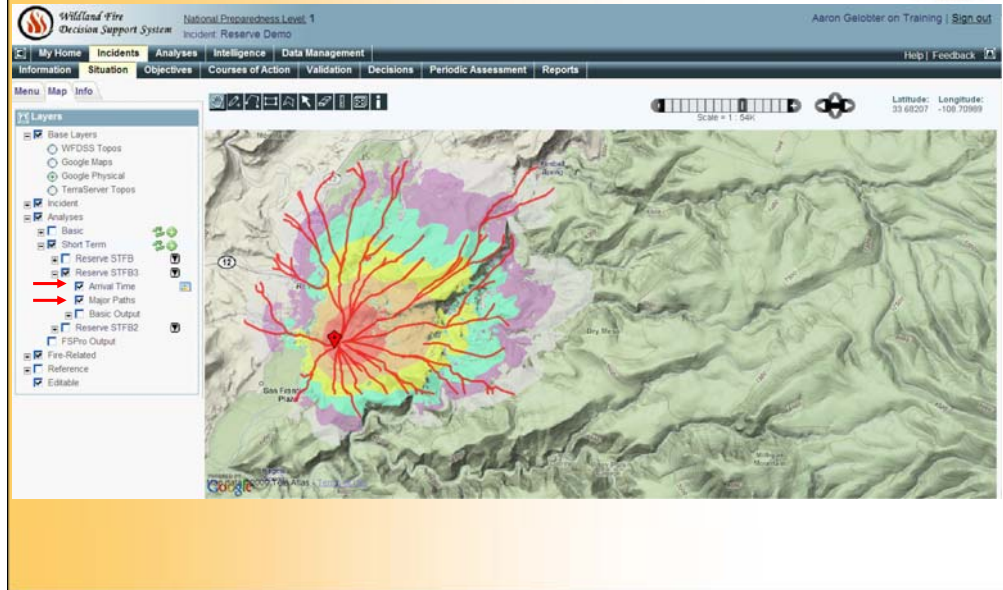
This is example of the Short-Term Fire Behavior – ARRIVAL TIME AND MAJOR PATH with a 2 Period Run.

Short-Term Fire Behavior (3 Day Run)



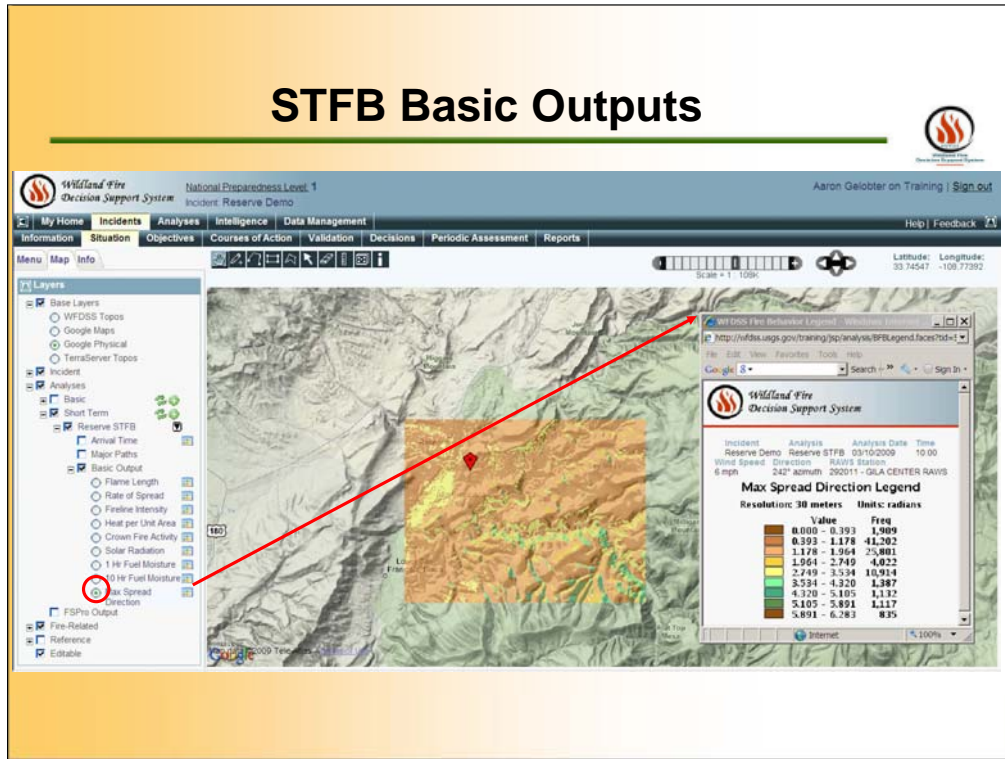
This is example of the Short-Term Fire Behavior – ARRIVAL TIME with a 3 Period Run and STFB LEGEND.

STFB (3 Days w/ Major Path)



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.

Analyses in Process – Report



Wildland Fire Decision Support System National Preparedness Level 1
Incident: Reserve Demo

My Home Incidents **Analyses** Intelligence Data Management

Analysis List Filter
Filters: Webinars Demo Define Temporary Filter Define New Filter

Analysis List
Generate Analysis List KML Set Analysis List Preferences

View Information View Results View Report Set Priority

Incident / Analysis Name	Type	Geographic Area	Status	Pri	Owner	Analyst	Request Date	Completion Date
Reserve Demo / Reserve BFB	Basic	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 16:22	
Reserve Demo / Reserve BFB2	Basic	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 17:27	
Reserve Demo / Reserve STFB	STFB	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 16:53	
Reserve Demo / Reserve STFB2	STFB	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 17:36	
Reserve Demo / Reserve STFB3	STFB	Southwest	In Process (initializing)		Gelobter, Aaron	Gelobter, Aaron	03/10/09 17:51	

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

Analyses – Fire Behavior

Wildland Fire Decision Support System National Preparedness Level: 1
Incident: Reserve Demo

My Home Incidents **Analyses** Intelligence Data Management

Analysis List Filter
Filters: Webinars Demo Define Temporary Filter Define New Filter

Analysis List
Generate Analysis List KML Set Analysis List Preferences

View Information View Results **View Report** Set Priority

Incident / Analysis Name	Type	Geographic Area	Status	Pri	Owner	Analyst	Request Date	Completion Date
<input type="radio"/> Reserve Demo / Reserve BFB	Basic	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 18:21	
<input type="radio"/> Reserve Demo / Reserve STFB	STFB	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 16:53	
<input type="radio"/> Reserve Demo / Reserve STFB2	STFB	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 17:38	
<input checked="" type="radio"/> Reserve Demo / Reserve STFB3	STFB	Southwest	Review	7	Gelobter, Aaron	Gelobter, Aaron	03/10/09 17:51	

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

Analyses - Report



Wildland Fire Decision Support System National Preparedness Level 1
Incident: Reserve Demo

[My Home](#) [Incidents](#) [Analyses](#) [Intelligence](#) [Data Management](#)

Analysis Report

Incident Information [Return](#)

Incident Information

NAME	VALUE
Incident Name	Reserve Demo
Latitude	33.70035 N
Longitude	108.74954 W
Geographic Area	Southwest
Jurisdiction(s)	USFS
Unit Name	Gila National Forest
Fire Number	NM-GNF-00000
Fire Code	P3TEST
Incident Start	Mar 10, 2009 14:26
Contained	
Controlled	
Out	
Incident Cause	Unknown
Nationally Significant	No
Incident Size	2.0 acres
Owner Name	Gelobter, Aaron

Analysis Information [Return](#)

Short Term Fire Behavior Analysis Information

NAME	VALUE
Analysis Name	Reserve STFB3
Requestor	Gelobter, Aaron
Ignition Latitude	33.70149 N
Ignition Longitude	108.74817 W

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

