

IFTDSS Workshop

Handout 5: Hazard Analysis – Calculate Fire Behavior Across a Landscape (IFT-FlamMap)

1. On the Project Summary page, select **Create New Run**.

The screenshot displays the IFTDSS Portland Workshop interface. At the top, there are navigation tabs for Home, Collaborate, Projects, and Data, and a user login status: Logged in as Banwell, Erin. The main heading is "IFTDSS Portland Workshop" with a "Create New Run" button highlighted in a red box.

Project Summary Help

Information Edit

Organization Name:
Project Start Date:
Project End Date:
Project Size:
Treatment Type:
Project Status: Planned
Description:
Date Modified: 12/02/2012
Date Created: 12/02/2012

Area of Interest



Northeast corner:
Latitude: 38.2283047°
Longitude: -122.6637947°

Southwest corner:
Latitude: 38.1891157°
Longitude: -122.7151747°

Total Area:
4,837.07 Acres
19,575,000 m²

Resolution: 30.0m x 30.0m

[Import Landscape data from LANDFIRE](#)
[Import Fuelbeds from LANDFIRE](#) [Upload Landscape Data Set](#)

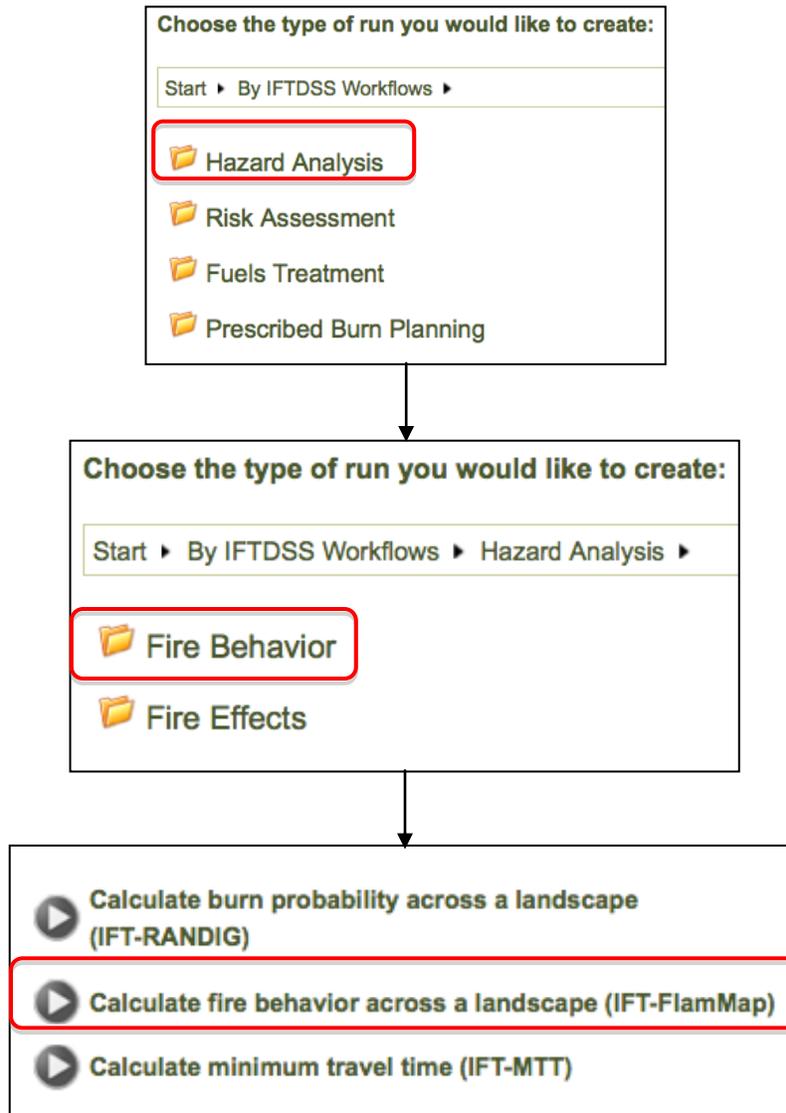
Runs

Run Name	Pathway	Date Modified	Date Created	Actions
No data available in table				

Filters: (all) (all) (all)

[Create New Run](#)

2. Select **Hazard Analysis**, then **Fire Behavior**, then **Calculate fire behavior across a landscape (IFT-FlamMap)**.



3. Name your run and select **Next**.

Create New Run: Calculate fire behavior across a landscape (IFT-FlamMap)

Run Name:

North:

West: East:

South:

The extent of the box in the map window shows the project area that you have selected for this run. To change the area for this run, use the Draw Box tool to select a smaller area within the box shown in the map window.

Navigate Map Draw Box Selected area: 7,563.62 acres

4. The LANDFIRE data set you acquired will be selected as your data set. Select **Next**.

Select Data Set

Available Data Sets:

Percentages next to data set names indicate the percent that the data set covers the selected run area. Data sets below 100% coverage will display a smaller area of data than the selected run area.

A copy of the data set that you select will be made for this run. Changes to the original data set will not affect the data in this run. If you would like to re-import the selected data set into this run, return to this step later and click the Edit button.

5. Now, you are on the Inputs step. Customize the IFT-FlamMap inputs and select **Next**.

Configure Inputs Review Landscape Data Outputs Classify Classified Outputs Run S ▶

Novato Hazard Analysis - Calculate fire behavior across a landscape (IFT-FlamMap) Help Tools

Properties

Crown Fire Calculation Method

Generate Gridded Winds

Fuel Moisture

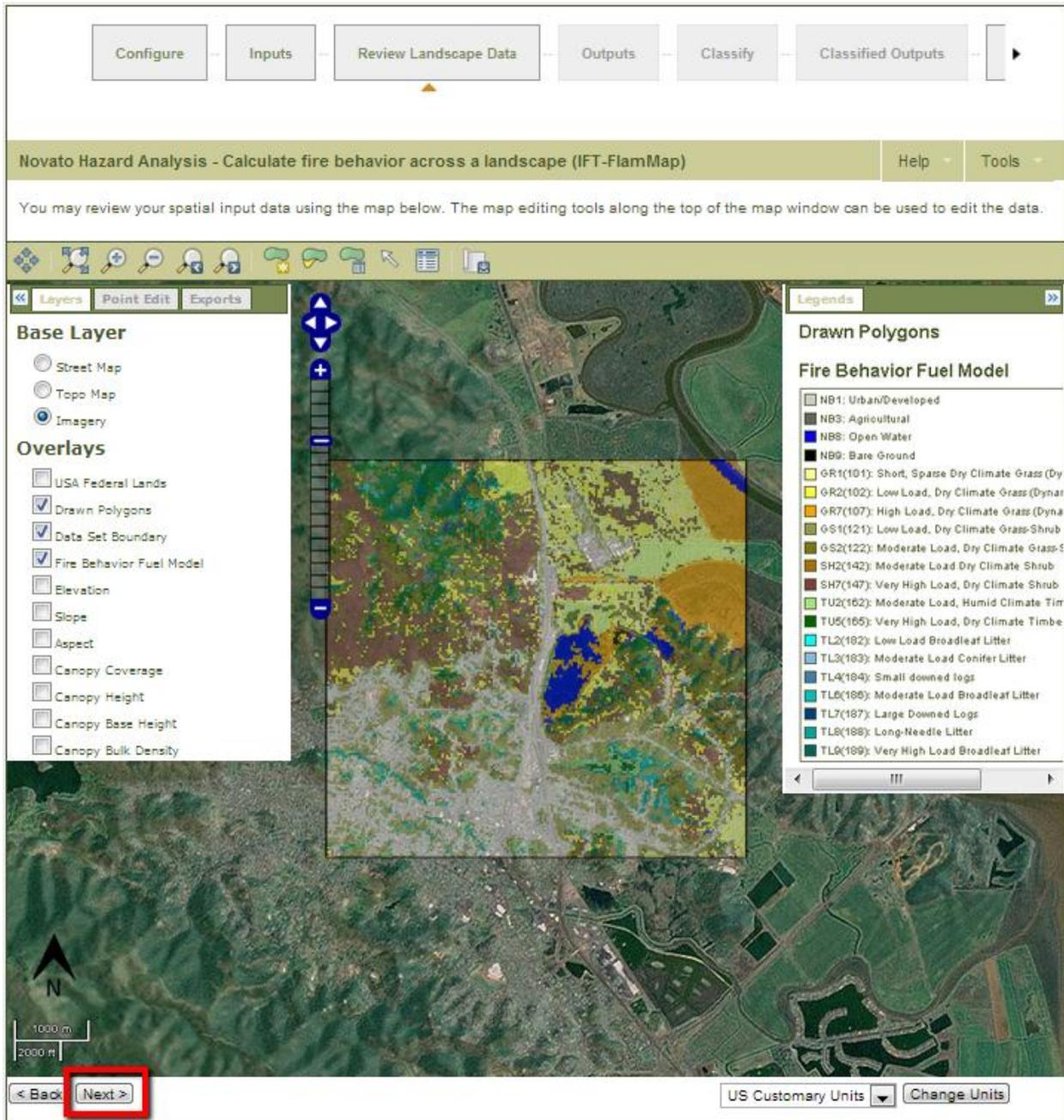
Parameter	Unit	Simulation #1
1-hr Fuel Moisture	percent	<input type="text" value="6"/>
10-hr Fuel Moisture	percent	<input type="text" value="7"/>
100-hr Fuel Moisture	percent	<input type="text" value="8"/>
Live Herbaceous Fuel Moisture	percent	<input type="text" value="60"/>
Live Woody Fuel Moisture	percent	<input type="text" value="90"/>

Weather

Parameter	Unit	Simulation #1
Wind Direction	deg	<input type="text" value="290"/>
20-ft Wind Speed	mi/h	<input type="text" value="15.00"/>

< Back **Next >** US Customary Units Change Units

- Now, you can review your spatial landscape data using the Overlays panel on the left. After reviewing your data, select **Next**.



- Now you are on the Outputs step. Review the spatial fire behavior overlays and the landscape data, and then click **Next**.

Configure Inputs Review Landscape Data **Outputs** Classify Classified Outputs

Novato Hazard Analysis - Calculate fire behavior across a landscape (IFT-FlamMap) Help Tools

Layers Point Info Exports

Base Layer

- Street Map
- Topo Map
- Imagery

Overlays

- USA Federal Lands
- Data Set Boundary
- Flame Length
- Rate of Spread
- Fireline Intensity
- Heat Per Unit Area
- Crown Fire Activity
- Mid-Flame Wind Speed
- Horizontal Movement Rate
- Direction of Maximum Spread
- Fire Behavior Fuel Model
- Elevation
- Slope
- Aspect
- Canopy Coverage
- Canopy Height
- Canopy Base Height
- Canopy Bulk Density

Legends

Flame Length

ft

0
0.00 to 1.08
1.08 to 2.20
2.20 to 3.28
3.28 to 4.36
4.36 to 5.48
5.48 to 6.56
6.56 to 7.64
7.64 to 8.76
8.76 to 9.84
9.84 to 11.48
11.48 to 13.12
13.12 to 16.40
16.40 to 19.68
19.68 to 32.81
> 32.81

< Back **Next >**

US Customary Units Change Units

8. In the Classify step, you can classify output parameters, including flame length, rate of spread, fireline intensity, and heat per unit area, into different classes and group outputs into relative categories.
 - a. Under the Classify Parameters heading, specify the minimum value for each class of each parameter. The four classes are Low, Medium, High, and Very High. The minimum value for the Low class of each parameter is zero by default and is not displayed in the form.

Configure --
 Inputs --
 Review Landscape Data --
 Outputs --
 Classify --
 Classified Outputs --
 ▶

Novato Hazard Analysis - Calculate fire behavior across a landscape (IFT-FlamMap)

Help ▾
 Tools ▾

Specify the MINIMUM value for each class of each parameter. The minimum value for the Low class of each parameter is zero and not displayed on the form.

Classify Parameters

Parameter	Unit	Simulation #1
Medium Flame Length	ft	<input type="text" value="4.00"/>
High Flame Length	ft	<input type="text" value="8.00"/>
Very High Flame Length	ft	<input type="text" value="11.00"/>
Medium Rate of Spread	chains/hr	<input type="text" value="20.00"/>
High Rate of Spread	chains/hr	<input type="text" value="90.00"/>
Very High Rate of Spread	chains/hr	<input type="text" value="150.00"/>
Medium Fireline Intensity	Btu/ft/s	<input type="text" value="100.00"/>
High Fireline Intensity	Btu/ft/s	<input type="text" value="500.00"/>
Very High Fireline Intensity	Btu/ft/s	<input type="text" value="1,000.00"/>
Medium Heat Per Unit Area	Btu/ft²	<input type="text" value="100.00"/>
High Heat Per Unit Area	Btu/ft²	<input type="text" value="500.00"/>
Very High Heat Per Unit Area	Btu/ft²	<input type="text" value="1,000.00"/>

Input the minimum value for each class of each parameter

- b. In the Classify step, you can also set the relative category percentage breakdown for flame length, rate of spread, fireline intensity, and heat per unit area. There are five relative categories for each parameter: Lowest, Low, Medium, High, and Highest. The percentage values need to add up to 100. Click **Next** on the bottom of the screen after all relative category percentages are set.

Relative Flame Length Category Percentage	
Lowest Flame Length	<input type="text" value="50"/>
Low Flame Length	<input type="text" value="25"/>
Medium Flame Length	<input type="text" value="10"/>
High Flame Length	<input type="text" value="10"/>
Highest Flame Length	<input type="text" value="5"/>

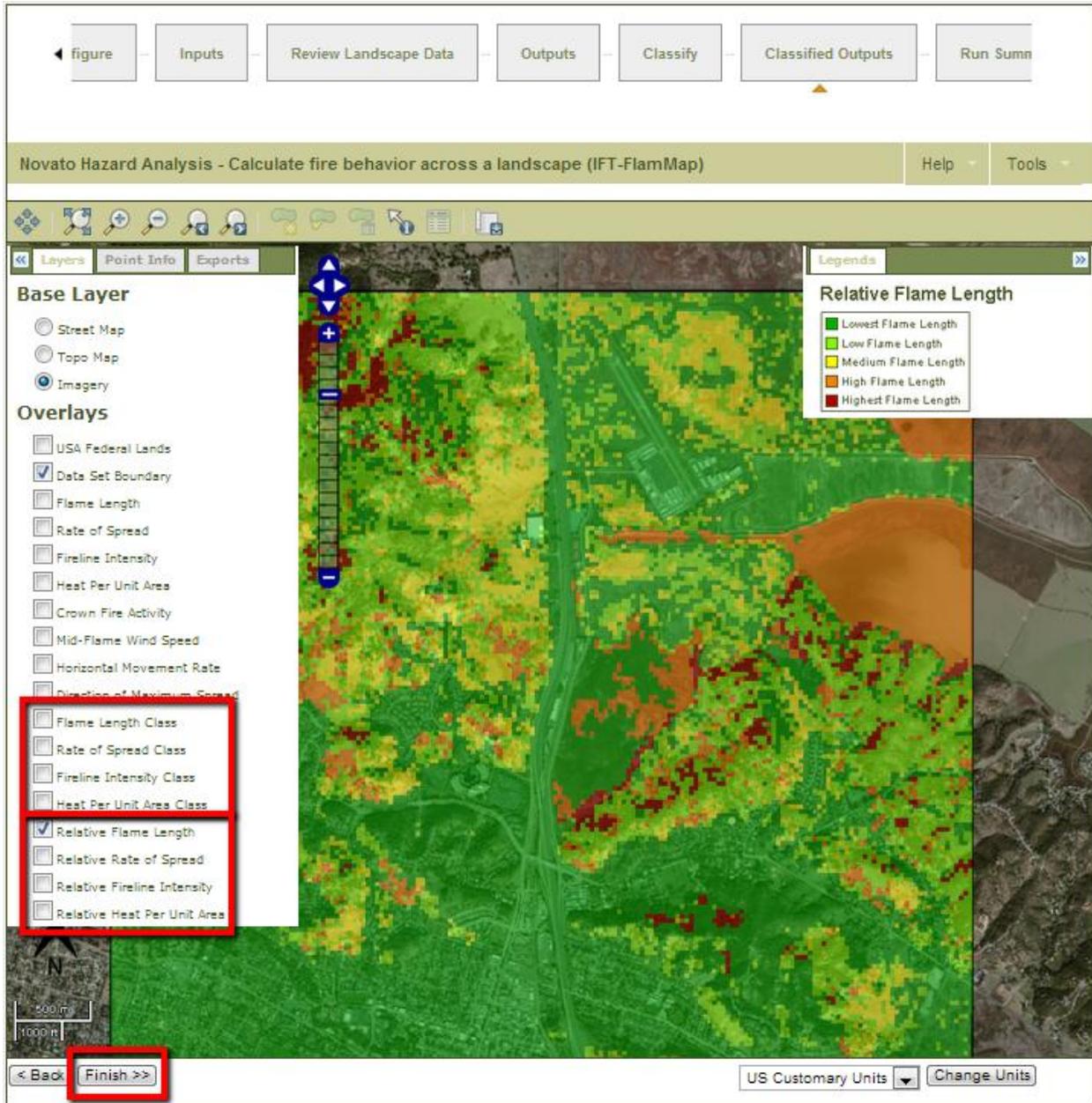
Relative Rate of Spread Category Percentage	
Lowest Rate of Spread	<input type="text" value="50"/>
Low Rate of Spread	<input type="text" value="25"/>
Medium Rate of Spread	<input type="text" value="10"/>
High Rate of Spread	<input type="text" value="10"/>
Highest Rate of Spread	<input type="text" value="5"/>

Relative Fireline Intensity Category Percentage	
Lowest Fireline Intensity	<input type="text" value="50"/>
Low Fireline Intensity	<input type="text" value="25"/>
Medium Fireline Intensity	<input type="text" value="10"/>
High Fireline Intensity	<input type="text" value="10"/>
Highest Fireline Intensity	<input type="text" value="5"/>

Percentage Heat Per Unit Area by Relative Category	
Lowest Heat Per Unit Area	<input type="text" value="50"/>
Low Heat Per Unit Area	<input type="text" value="25"/>
Medium Heat Per Unit Area	<input type="text" value="10"/>
High Heat Per Unit Area	<input type="text" value="10"/>
Highest Heat Per Unit Area	<input type="text" value="5"/>

US Customary Units

- Now, you are on the Classified Outputs screen. You can review outputs in classes and relative categories, in addition to the raw FlamMap outputs. Use the Overlays panel on the left side of the map to view different outputs.



- Click **Finish** to end the run and go to the Run Summary page.