

IFTDSS Workshop

Handout 9: Calculate Minimum Travel Time (IFT-MTT)

1. From the Project Summary page, click on **Create New Run**.

The screenshot displays the IFTDSS 2.0 beta interface. At the top, there is a navigation bar with links for Home, Collaborate, Projects, Data, and Admin. The user is logged in as Huang, ShihMing. The main heading is 'Workshop', and a 'Create New Run' button is highlighted with a red box. Below this is the 'Project Summary' section, which includes an 'Information' panel with fields for Organization Name, Project Start/End Dates, Project Size, Treatment Type, Project Status (Planned), Description, Date Modified (01/15/2013), and Date Created (01/15/2013). To the right is an 'Area of Interest' map showing a satellite view with a red boundary. The map includes a scale bar (2 km, 1 mi) and a resolution of 30.0m x 30.0m. The northeast corner coordinates are Latitude: 38.1515207° and Longitude: -122.5333747°. The southwest corner coordinates are Latitude: 38.1034121° and Longitude: -122.5980415°. The total area is 7,481.78 Acres (30,277,800 m²). Below the map are links for 'Import Landscape data from LANDFIRE', 'Import Fuelbeds from LANDFIRE', and 'Upload Landscape Data Set'. At the bottom, there is a 'Runs' table with columns for Run Name, Pathway, Date Modified, Date Created, and Actions. The table contains one entry: 'Run 1' with the pathway 'Manual treatment location (user-defined treatments...)', modified and created on 01/15/2013. Below the table, there are filter dropdowns for Run Name, Pathway, Date Modified, and Date Created, all set to '(all)'. A 'Create New Run' button is highlighted with a red box at the bottom left of the page.

Information [Edit](#)

Organization Name:
Project Start Date:
Project End Date:
Project Size:
Treatment Type:
Project Status: Planned
Description:
Date Modified: 01/15/2013
Date Created: 01/15/2013

Area of Interest

Northeast corner:
Latitude: 38.1515207°
Longitude: -122.5333747°

Southwest corner:
Latitude: 38.1034121°
Longitude: -122.5980415°

Total Area:
7,481.78 Acres
30,277,800 m²

Resolution: 30.0m x 30.0m

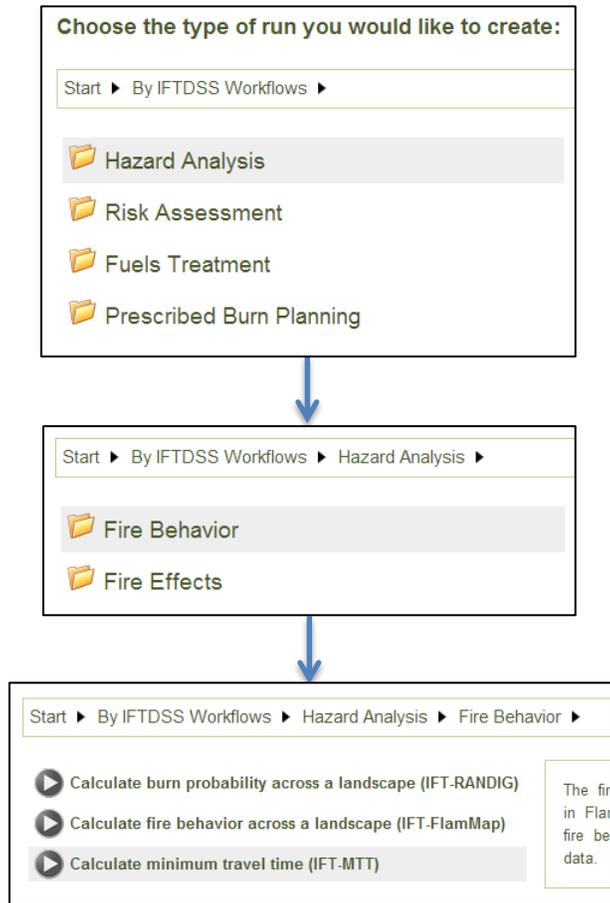
[Import Landscape data from LANDFIRE](#)
[Import Fuelbeds from LANDFIRE](#) [Upload Landscape Data Set](#)

Run Name	Pathway	Date Modified	Date Created	Actions
Run 1	Manual treatment location (user-defined treatments...	01/15/2013	01/15/2013	

Filters: (all) (all) (all) (all)

[Create New Run](#)

2. Select the **Hazard Analysis** workflow, then **Fire Behavior**, and finally the **Calculate minimum travel time (IFT-MTT)** pathway.



3. Give the run a unique name, then click **Next**.

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

MTT - Calculate minimum travel time (IFT-MTT)
Help ▾
Tools ▾

The minimum travel time module calculates two-dimensional fire growth and fire behavior by searching for the set of pathways with minimum spread times for an ignition source, using spatial information of topography and fuels under constant wind and fuel moisture conditions. Users can upload a spatial dataset or define the spatial extent manually. All fire growth calculations across the landscape are performed assuming independence of fire behavior among neighboring cells (e.g., the travel time across a cell does not depend on the behavior in adjacent cells). [Click here](#) for more information about this module

Select Data Set

Available Data Sets: North Novato (copy) (100%) ▾

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.

Select Ignitions Data Set

Import Ignitions (optional): ▾

Select Barriers Data Set

Import Barriers (optional): ▾

Next >

- You are now on the Inputs step. Customize the inputs, then click **Next**.

MTT - Olompali - Calculate minimum travel time (IFT-MTT)
Help ▾
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Properties

Crown Fire Calculation Method: Scott & Reinhardt Method ▾

Fuel Moisture

Parameter	Unit	Simulation #1
1-hr Fuel Moisture	percent	<input type="text" value="8"/>
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="80"/>
Live Woody Fuel Moisture	percent	<input type="text" value="80"/>

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"/>

Simulation Inputs

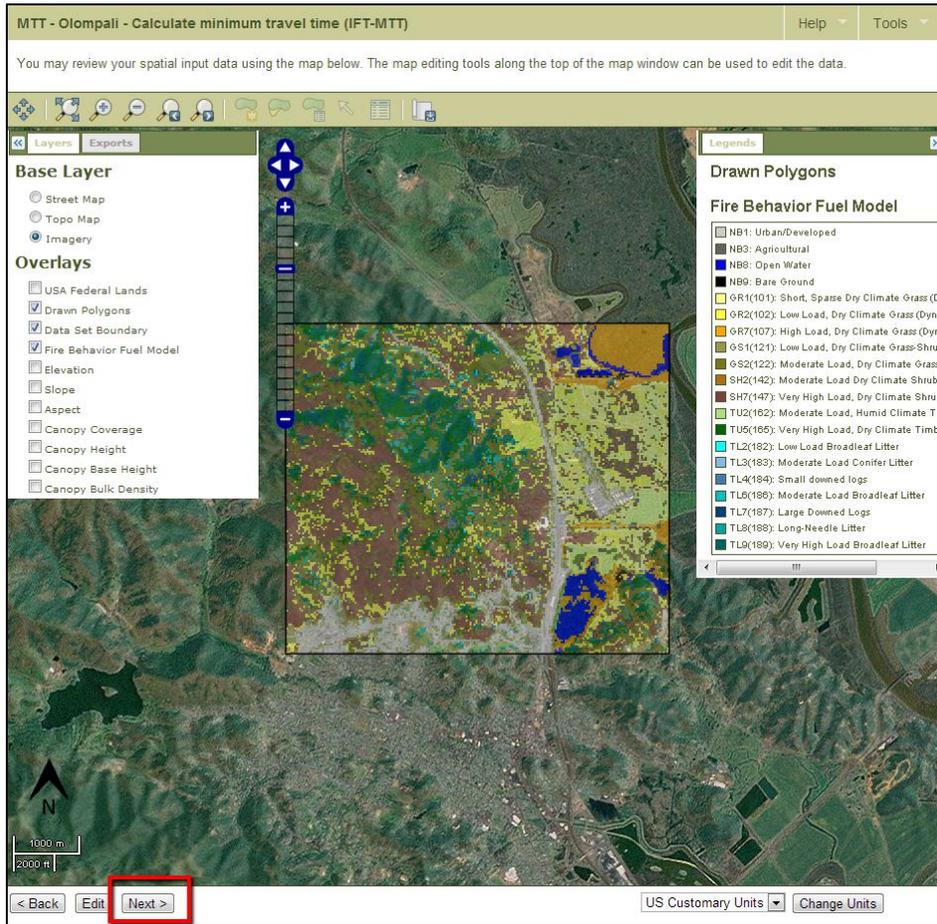
Parameter	Unit	Simulation #1
Duration of the Simulation	min	<input type="text" value="100"/>
Travel Path Interval	ft	<input type="text" value="500"/>
Spot Fire Probability		<input type="text" value="0.00"/>
Fill Barriers		<input type="text" value="Yes"/>

<< Back

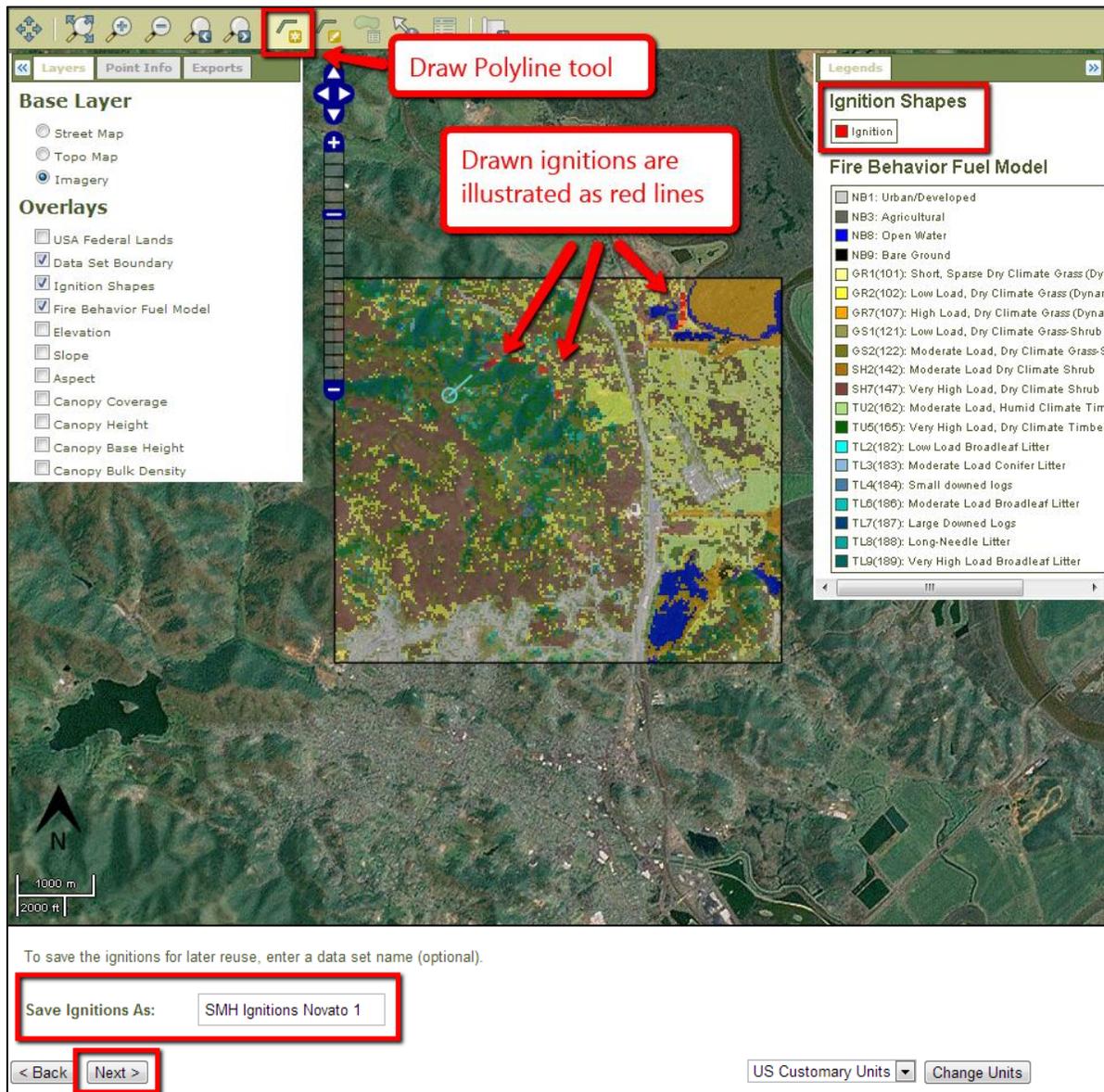
Next >

US Customary Units ▾
Change Units

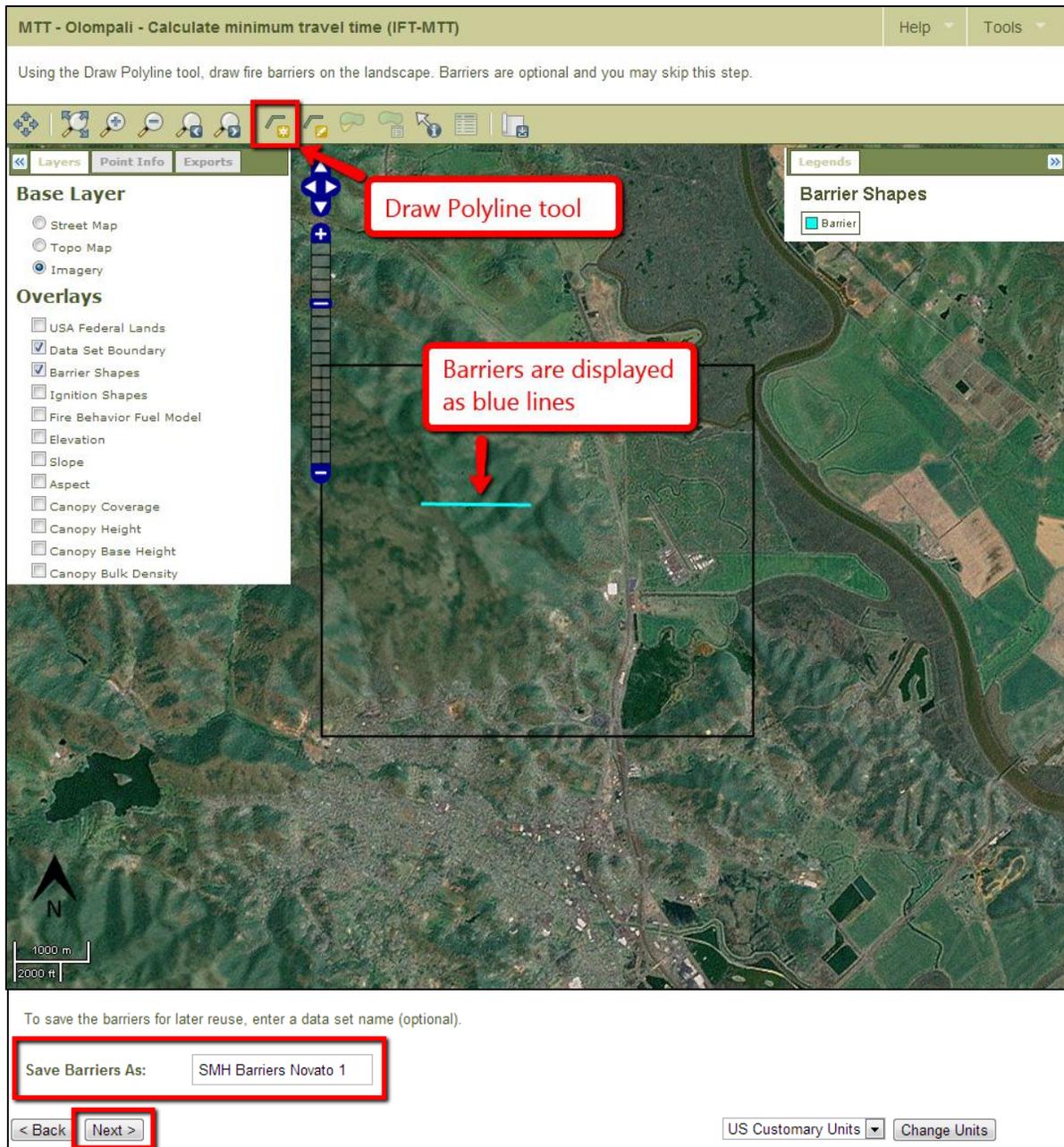
- Now you can review your spatial landscape data using the Overlays panel on the left. After reviewing your data, select **Next**.



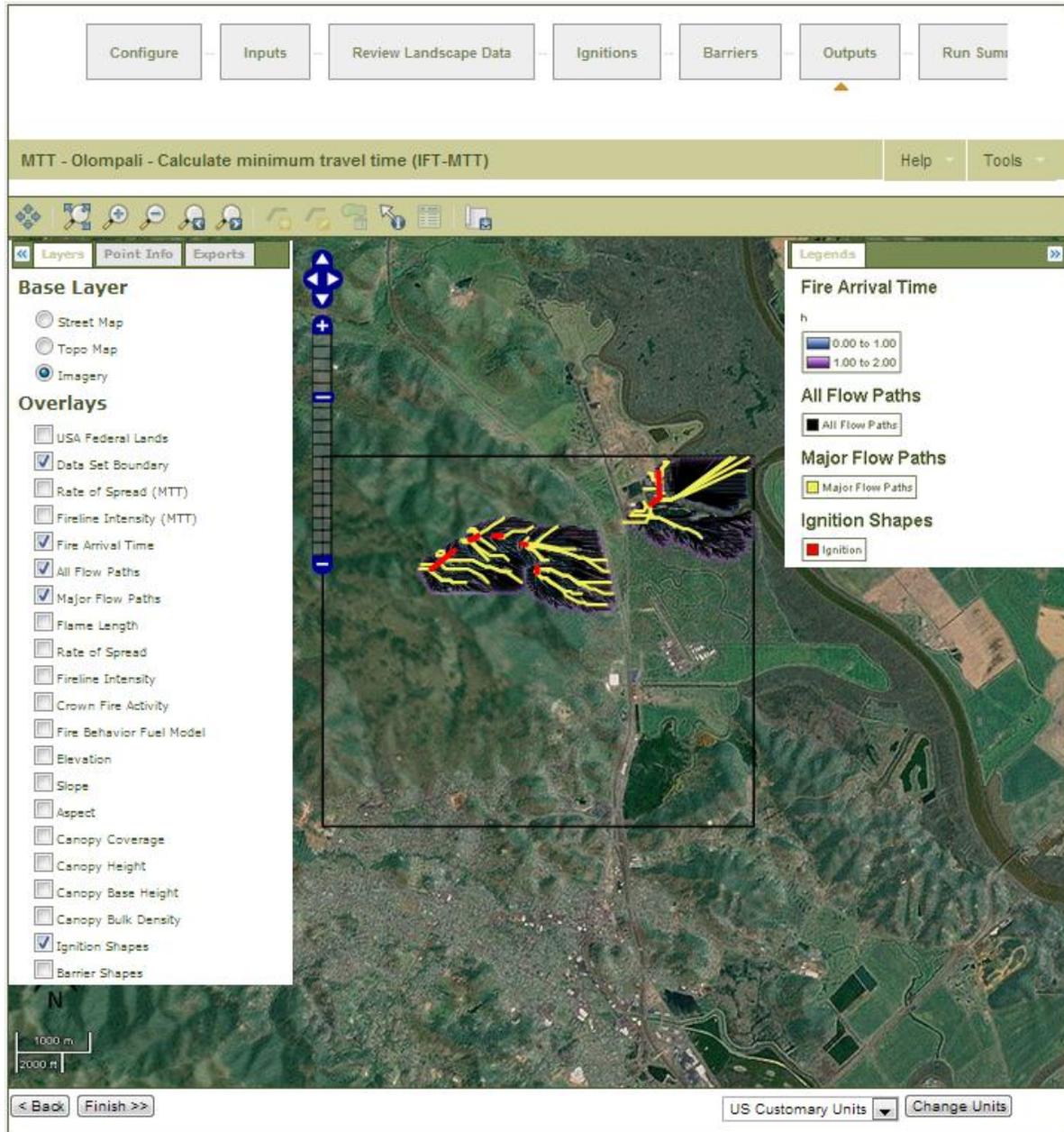
7. On the Ignitions step, draw at least one ignition on your landscape using the **Draw Polyline** tool.
 - a. To draw a line, select the **Draw Polyline** tool, click on the map once, move to a different point, and click again. Continue clicking until you are done drawing the ignition. Double-click to finalize and create the polyline.
 - b. You can draw multiple ignitions across the landscape. For a point ignition, just draw a very short line.
 - c. When all ignitions are drawn, you can save the ignitions by assigning them a name in the **Save Ignitions As:** space below the map. After saving the ignitions, you can use them in different IFT-MTT runs. Select **Next** to save ignitions and continue.



- Now you are on the Barriers step. Use the same method you used for drawing ignitions to draw barriers. Barriers are optional; you may skip this step. When all barriers are drawn, you can save the barriers by assigning them a name in the **Save Barriers As:** space below the map. After saving the barriers, you can use them in different IFT-MTT runs. Select **Next** to save barriers and continue.



9. On the Outputs step, you can review MTT outputs, including fire arrival time and flow paths, as well as fire behaviors.



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