

# Getting Started

Welcome to  
IFT-DSS Version 0.3.0

# IFT-DSS currently supports

- Prescribed burn planning for a point location and fuel consumption estimates
- Strategic planning spatial analysis

At any time, you can return to a previous screen by closing an active Run window.

For additional help on FlamMap and Consume, please refer to the help links within the IFT-DSS.

Follow these steps to get started



# Step 1: Create a user account

**Joint Fire Science Program**

**Interagency Fuels Treatment Decision Support System  
Version 0.3.0**

**PROTECTING COMMUNITIES & ENVIRONMENTS**  
Fuels Management Committee

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Welcome to the Interagency Fuels Treatment Decision Support System (IFT-DSS) Proof of Concept [Version 0.3](#). IFT-DSS is a web-based, service oriented architecture framework that organizes previously existing software tools to make fuels treatment planning and analysis more effective and efficient. For background information about the Joint Fire Science Program (JFSP) Software Tools and Systems study, please visit [http://frames.nbii.gov/ifsp/sts\\_study](http://frames.nbii.gov/ifsp/sts_study).

IFT-DSS provides stakeholders with the opportunity to experience the system as it is being developed and gives you the opportunity to provide early feedback concerning system functionality. Since it is a proof of concept system, what is available is a limited set of functionality designed to demonstrate what can be accomplished. IFT-DSS currently will allow you to perform a prescribed burn analysis using the FlamMap model to calculate fire behavior variables for a single point location, calculate fuel consumption using CONSUME, and perform a strategic landscape-level analysis of fire behavior and hazard using FlamMap. Please create an account below and test drive the system.

If you have any issues using the system or if you have suggestions for improvements, please click on the IFT-DSS feedback link in the upper right hand corner of any screen.

**Log In**

User Name:

Password:

[Password Retrieval](#)

Select **Create Account** in the Log In window

# Step 1: Create a user account

**Enter Test Code**

Enter Test Code:

Having Trouble? Please contact [IFT-DSS feedback](#)

Enter "testdrive" and click **OK**



Interagency Fuels Treatment  
Decision Support System  
Version 0.3.0



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**Create Account**

User Name: \*

Password: \*

Email: \*

First Name: \*

Last Name: \*

Title:

Address:

Zip:

Telephone:

Organization:

\* Required Fields

Click the link above to view the Getting Started Guide

Fill in the boxes to create an account

# Step 2: Log in to the IFT-DSS

**Joint Fire Science Program**

**Interagency Fuels Treatment Decision Support System**  
Version 0.3.0

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**Options**

- [Manage Projects](#)
- [Search](#)
- [My Profile](#)
- [User List](#)
- [Log out](#)

**My Bio**

I am the Manager of the Environmental Data Analysis group at STI and the IFT-DSS Project Manager. I have been with STI since 1996. My primary duties are project management and the use of technology-based tools to display, develop, and analyze environmental data. I am currently involved in several projects that require the development of software systems to support environmental decision-making, including the design and implementation of the IFT-DSS for the Joint Fire Science Program and a Fire and Fuels Application for the Fire and Environmental Applications Team within the U.S. Forest Service.

After you log in to the system, the Home page appears.

## From here you can

- Manage projects
- View/edit your user profile
- View a list of other IFT-DSS users
- Log out of the system

# Step 3: Create a new project

Joint Fire Science Program

Interagency Fuels Treatment Decision Support System Version 0.3.0

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**Options**

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A **project** is an analysis with a specific objective (e.g., prescribed burn planning analysis or strategic planning analysis).

This Getting Started Guide will walk you through the steps for

- performing a prescribed burn planning analysis
- estimating natural fuel consumption
- performing a strategic planning analysis

# Step 3: Create a new project

Joint Fire Science Program

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Project List

Active Projects | Archived Projects

Select	Name	Author	Duration	Date Created	# Runs
<input type="checkbox"/>	Rx Burn Planning - Unit 1	Tami Funk	2010	2010-05-25	4
<input type="checkbox"/>	Strategic Planning - Landscape	Tami Funk	2010	2010-05-25	1

3a

1

3b

Manage Runs Edit New Delete Archive  Select All

First, select **New** to create a new project

Second, enter information about your project in the Project Details screen and click the **Save** button

Third, check the new project's **Select** box and click **Manage Runs** to open the Run List screen

2

Project Details

Project Name:

Description:

Date Created: 06-01-2010

Duration:

Location:

Use Landscape Data (required for spatial analysis)

\* Required Fields

2

# Step 4: Create a new run

Select **New** to open the Run Details screen

The screenshot displays the IFT-DSS interface. At the top, there is a logo for the 'Joint Fire Science Program' and the text 'Interagency Fuels Treatment Decision Support System Version 0.3.0'. To the right is the logo for 'PROTECTING COMMUNITIES & ENVIRONMENTS' with the text 'Fuels Management Committee'. Below the header is a navigation menu with 'Home', 'Profile', 'Projects', 'Runs', 'About', and 'What's New'. The main content area is titled 'Run List > Rx Burn Planning - Unit 1' and contains a table with the following data:

Select	Project Name	Run Name	Objective	Action Graph	Location	Date Created
<input type="checkbox"/>	Rx Burn Planning - Unit 1	Burn unit 1 fuel consumption	Prescribed Burn Planning	Consume	Mariposa burn unit 1	2010-05-25
<input type="checkbox"/>	Rx Burn Planning - Unit 1	Unit 1 13 fuel models	Prescribed Burn Planning	FlamMap SFB all Fuel Models	Mariposa burn unit 1	2010-05-25
<input type="checkbox"/>	Rx Burn Planning - Unit 1	Unit 1 standard units	Prescribed Burn Planning	FlamMap SFB (U.S. Units)	Mariposa burn unit 1	2010-05-25
<input type="checkbox"/>	Rx Burn Planning - Unit 1	Rx burn unit 1 - typical - FlamMap	Prescribed Burn Planning	FlamMap SFB		2010-05-25

At the bottom of the table, there is a toolbar with buttons for 'Edit', 'New', 'Compare', 'Copy', 'Delete', and 'Select All'. A red arrow points to the 'New' button, which is circled in red.

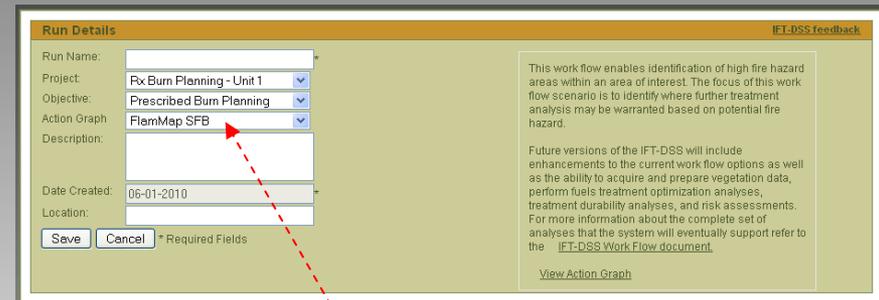
## Step 4: Create a new run

- Enter information about the run
- Select the analysis objective
- Choose the action graph

The action graph indicates the model(s) to be used for the analysis. The three action graph options for a non-spatial analysis in this version of IFT-DSS are

- **FlamMap SFB** (surface fire behavior) – runs FlamMap for a point location and five fuel models
- **FlamMap SFB all fuel models** – runs FlamMap SFB for a point location and 13 fuel models
- **Consume** – runs the natural consumption algorithm in Consume 3.0

Future versions of the IFT-DSS will contain more options (models) for modeling fire behavior.



The screenshot shows the 'Run Details' form in the IFT-DSS application. The form includes fields for Run Name, Project (Rx Burn Planning - Unit 1), Objective (Prescribed Burn Planning), Action Graph (FlamMap SFB), Description, Date Created (06-01-2010), and Location. There are Save and Cancel buttons, and a note that some fields are required. On the right side, there is a 'View Action Graph' link and a paragraph of text explaining the workflow's purpose and future enhancements.

NOTE: **FlamMap SFB** is selected for this run.

# Step 5: Input landscape and moisture values

When a run is saved, an action graph (top) and data input screen (bottom) appear. The action graph shows the process flow and inputs required by FlamMap to model SFB (i.e., settings, landscape, and moisture parameters). The color coding indicates where you are in the modeling process.

## Landscape and moisture input screen for FlamMap SFB

**Action graph**

```

    graph LR
      Settings[Settings] --> FlamMapSFB((FlamMap SFB))
      Environment[Environment] --> FlamMapSFB
      FlamMapSFB --> SFBOutput[Surface Fire Behavior Output]
  
```

**Data input screen**

IFT-DSS feedback [On-Line Help](#) [Action Graph Legend](#)

Fuel Model:	FM1: Short	FM2: Timb	FM3: tall gr	FM8: comp	FM10: timb	Category
Elevation:	1949	1949	2408	2418	2534	Feet
Slope:	7	7	19	7	9	%
Aspect:	327	327	347	177	216	Degrees
Canopy Coverage:	0	0	10	10	60	%
Canopy Height:	0	0	10	190	200	Feet
Canopy Base Height:	0	0	0	100	10	Feet
Canopy Bulk Density:	0	0	0.1	0.09	0.26	Kilograms / meter <sup>3</sup>
One Hour Moisture:	6	9	12	6	3	%
Ten Hour Moisture:	7	10	13	7	4	%
Hundred Hour Moisture:	8	11	14	8	5	%
Live Herb Moisture:	60	90	120	30	60	%
Live Woody Moisture:	90	120	150	60	90	%

**Click On-Line Help for FlamMap information**

**Default data values**

Import CSV:   Export CSV:  View:

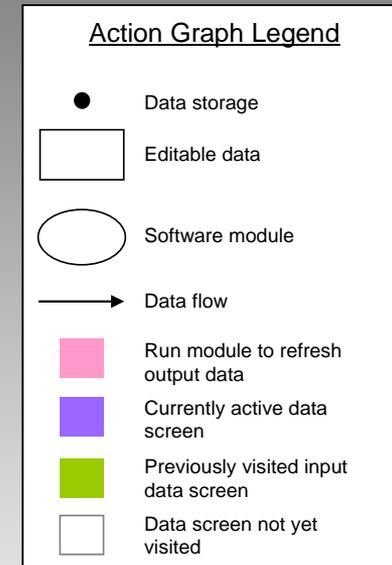
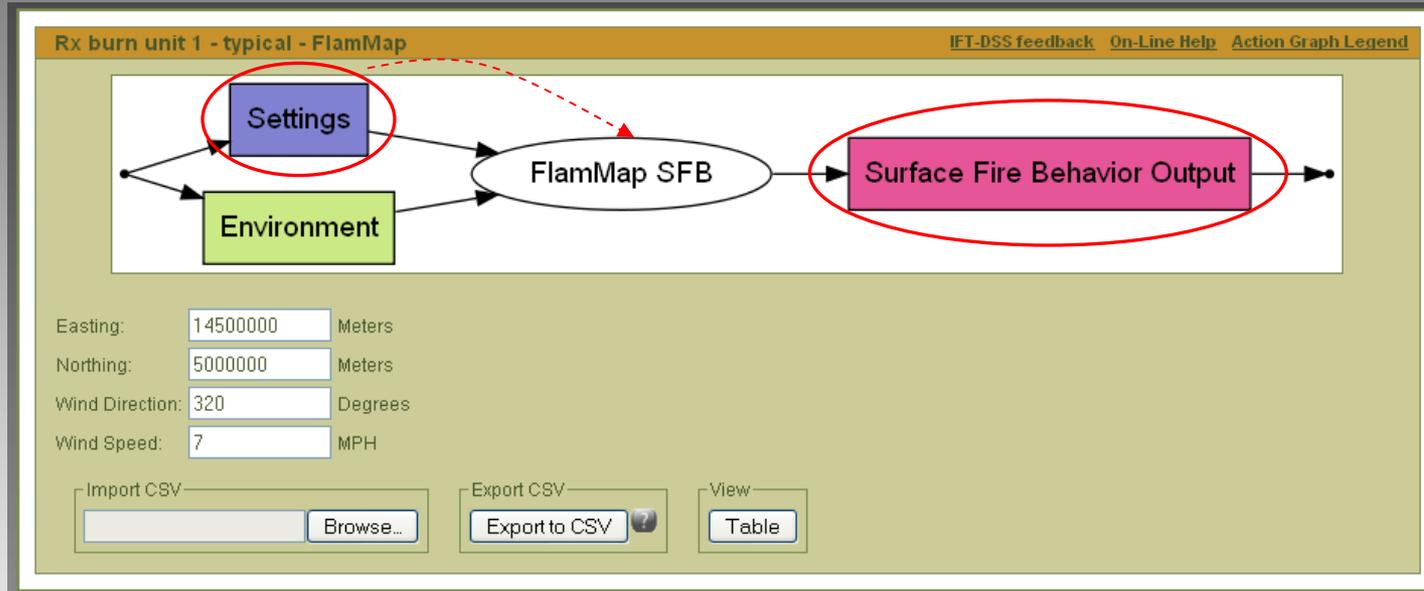
**Option to toggle Graph or Table view**

### Action Graph Legend

- Data storage
- Editable data
- Software module
- Data flow
- Run module to refresh output data
- Currently active data screen
- Previously visited input data screen
- Data screen not yet visited

# Step 6: Input wind speed and direction, and then run FlamMap

## Wind and location input screen for FlamMap SFB

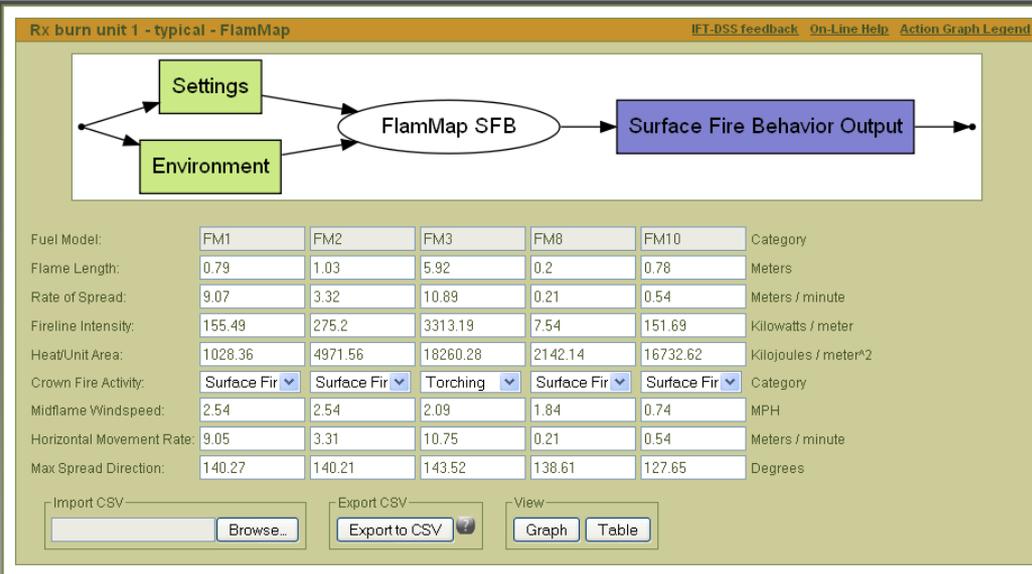


After the wind speed and direction values are entered, click the **FlamMap SFB** oval to execute the FlamMap model.

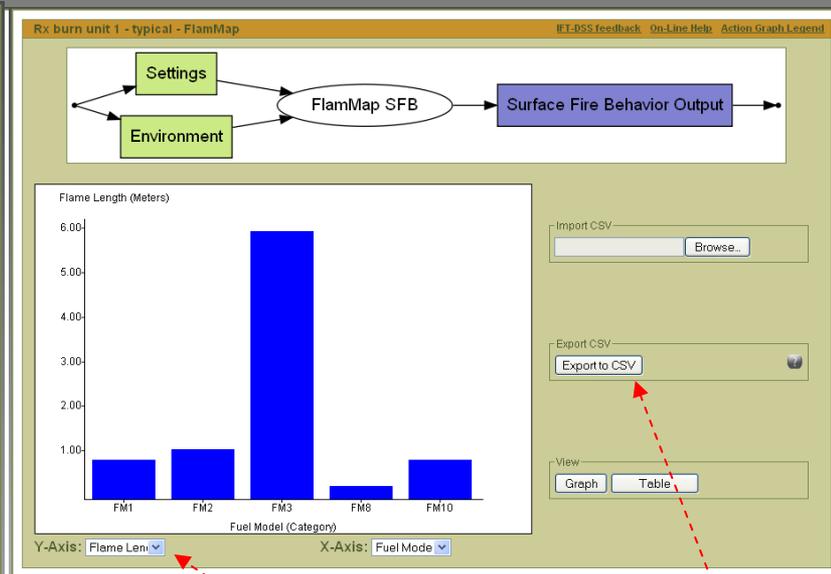
# Step 7: View and export FlamMap output

## FlamMap output table

## FlamMap output graph



Fuel Model:	FM1	FM2	FM3	FM8	FM10	Category
Flame Length:	0.79	1.03	5.92	0.2	0.78	Meters
Rate of Spread:	9.07	3.32	10.89	0.21	0.54	Meters / minute
Fireline Intensity:	155.49	275.2	3313.19	7.54	151.69	Kilowatts / meter
Heat/Unit Area:	1028.36	4971.56	18260.28	2142.14	16732.62	Kilojoules / meter^2
Crown Fire Activity:	Surface Fir	Surface Fir	Torching	Surface Fir	Surface Fir	Category
Midflame Windspeed:	2.54	2.54	2.09	1.84	0.74	MPH
Horizontal Movement Rate:	9.05	3.31	10.75	0.21	0.54	Meters / minute
Max Spread Direction:	140.27	140.21	143.52	138.61	127.65	Degrees



Flame Length (Meters)

Fuel Model (Category)	Flame Length (Meters)
FM1	0.79
FM2	1.03
FM3	5.92
FM8	0.2
FM10	0.78

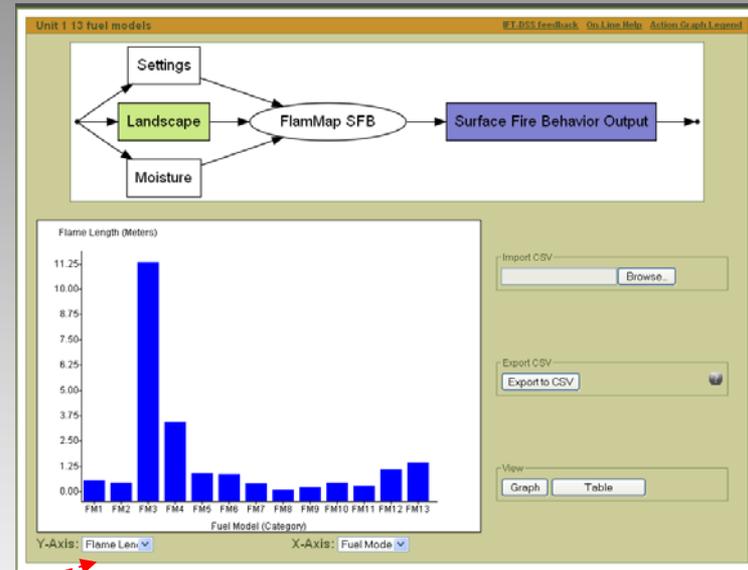
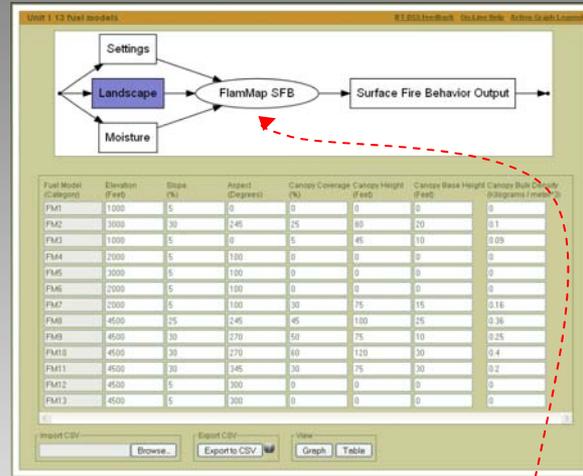
- View FlamMap fire behavior outputs in tabular or graphical format
- New in this version of IFT-DSS is the ability to perform multiple runs and view the output in different windows
- When you are done, you can save your input data and FlamMap output data to a .csv file that can be viewed directly in Excel

You can view different fire behavior outputs on the Y-Axis by clicking the drop-down menu

# The following screens will show you how to

- Use FlamMap SFB for all fuel models
- Run Consume 3.0 to estimate natural fuel consumption

# Using FlamMap SFB for 13 fuel models

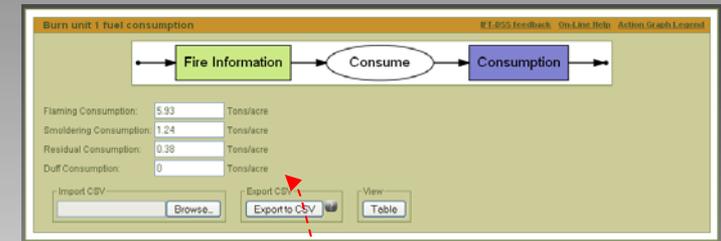
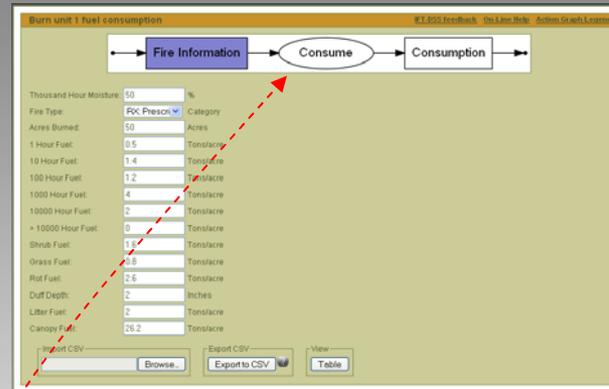


**STEP 1:**  
Return to the Run screen and begin a new run. In the Run Details window, select **FlamMap SFB all fuel models**. Click the **Save** button.

**STEP 2:**  
Enter landscape, moisture, and wind settings. Click the **FlamMap SFB** oval to run FlamMap.

**STEP 3:**  
View the FlamMap SFB output for the 13 fuel models in either graphical or tabular format. You can show different output data on the Y-Axis of the graph by clicking the drop-down menu.

# Running Consume 3.0 to estimate fuel consumption



**STEP 1:**  
Return to the Run screen and begin a new run. In the Run Details window, select **Consume** and click the **Save** button.

**STEP 2:**  
Enter the following data into the Consume input screen

- fuel moisture
- type of fire
- acres burned
- fuel information

Click the **Consume** oval to run Consume 3.0.

**STEP 3:**  
View the fuel consumption output from the Consume model.

*Note that the Consume 3.0 natural consumption module is currently being accessed by the IFT-DSS via a web service call to the BlueSky Smoke Modeling Framework. Future versions of the IFT-DSS will include all Consume 3.0 modules as well as the FCCS and FEPS developed by the Fire and Environmental Research Applications (FERA) Team.*

The following screens will show you how to use FlamMap SFB and Landscape (.LCP) data to perform a strategic analysis of fire hazard.

The objective of the strategic analysis is to quickly identify areas within a landscape that may warrant fuel treatment.

# Performing a strategic analysis using landscape data



The 'Project Details' window is shown with the following fields and options:

- Project Name: Strategic Planning 5
- Description: (empty)
- Date Created: 06-21-2010
- Duration: (empty)
- Location: (empty)
- Buttons: Save, Cancel, \* Required Fields
- Dataset Name: (empty)
- Files currently in dataset: There are currently no files in this dataset.
- Add a .LCP file: (empty) Browse...
- Add a .PRJ file: (empty) Browse...
- \*A .LCP file and a .PRJ file are required for a complete dataset.
- [Download data from LANDFIRE](#)

## STEP 1:

Return to the Project screen and begin a new project. In the Project Details window, upload a landscape data file (.LCP) and name your dataset. First, browse to your landscape data file (.LCP) and click **Open**. Then browse to the landscape projection file (.PRJ) and click open. Now your landscape data are loaded into the system.

The 'Run Details' window is shown with the following fields and options:

- Run Name: Strategic planning
- Project: Strategic Planning - Landscap
- Objective: Strategic Planning
- Action Graph: Spatial FlamMap SFB
- Description: (empty)
- Date Created: 06-01-2010
- Location: (empty)
- Buttons: Save, Cancel, \* Required Fields
- Objective description: The objective of the strategic planning scenario is to identify high fire hazard areas within a landscape to identify where treatment analysis may be warranted based on potential fire hazard. Future versions of the IFT-DSS will include enhancements to the current workflow options as well as the ability to acquire and prepare vegetation data, perform fuels treatment optimization analyses, treatment durability analyses, and risk assessments. For more information about the complete set of analyses that the system will eventually support refer to the [IFT-DSS Work Flow document](#).
- [View Action Graph](#)

## STEP 2:

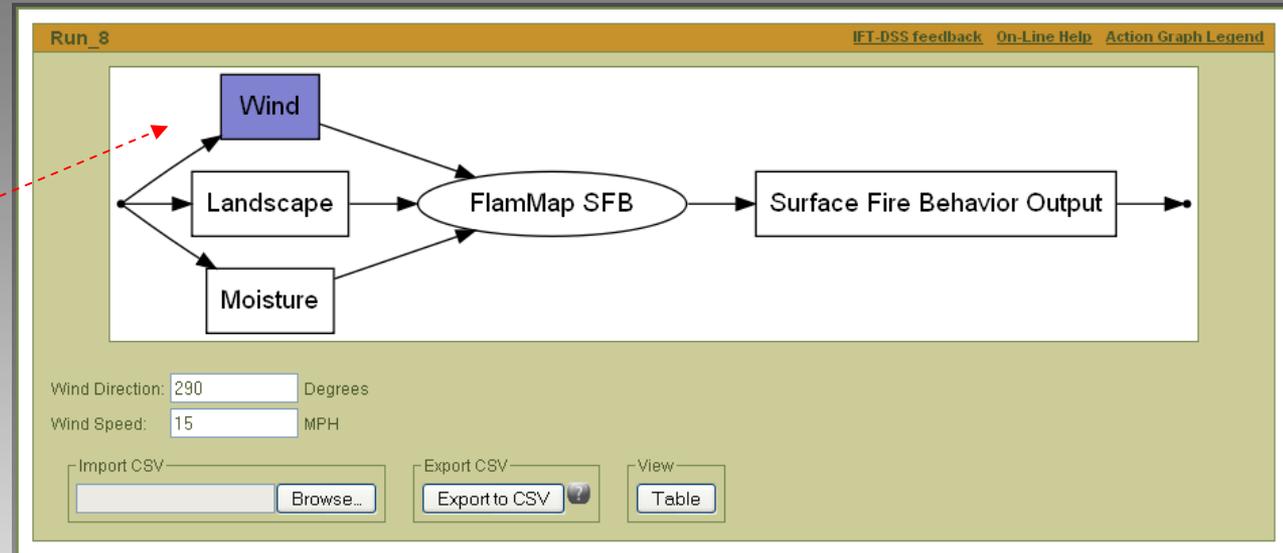
Create a new run. Select **Strategic Planning** in the Objective drop-down menu and **Spatial FlamMap SFB** in the Action Graph menu. Finally, click **Save**.

# Performing a strategic analysis using landscape data

## STEP 3:

Enter wind direction and speed inputs. The action graph and data input screens (lower half of page) are dynamically linked. Click the **Wind**, **Landscape**, and **Moisture** boxes in the action graph to enter FlamMap input data.

Click the **FlamMap SFB** oval in the action graph to run the FlamMap model.

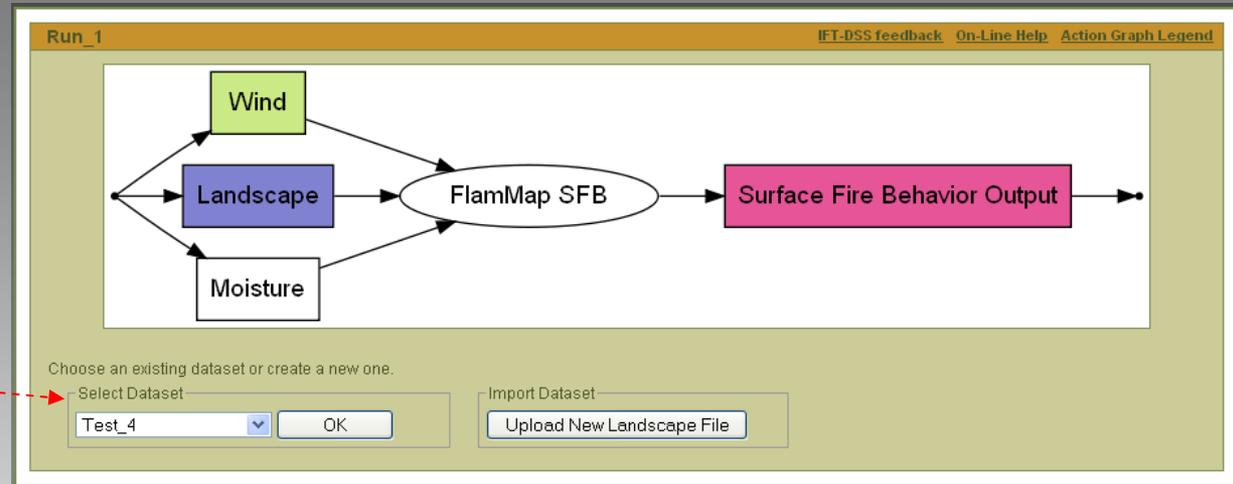


# Performing a strategic analysis using landscape data

## STEP 4:

Click on the Landscape box to upload or select the data you would like to use for the Run. The action graph and data input screens (lower half of page) are dynamically linked. Click the **Wind**, **Landscape**, and **Moisture** boxes in the action graph to enter FlamMap input data.

Click the **FlamMap SFB** oval in the action graph to run the FlamMap model.



# Performing a strategic analysis using landscape data

The screenshot displays the IFT-DSS software interface. At the top, the title bar reads "Run\_1" and includes links for "IFT-DSS feedback", "On-Line Help", and "Action Graph Legend". The main area is divided into two sections. The upper section is an action graph with a flow: three input boxes labeled "Wind" (green), "Landscape" (blue), and "Moisture" (white) all point to a central oval labeled "FlamMap SFB". An arrow from this oval points to a pink rectangular box labeled "Surface Fire Behavior Output". The lower section is a map viewer showing a satellite-style map with a cyan-colored polygon overlaid on a terrain. To the left of the map is a legend titled "Base Layer" and "Overlays". The "Base Layer" includes "Google Hybrid" (selected). The "Overlays" list includes "Elevation", "Slope", "Aspect", "Fuel models" (checked), "Canopy cover", "Canopy height" (with a red triangle icon), "Canopy base height", and "Canopy bulk density". A "View Map Legend" button is circled in red in the top right corner of the map viewer. Below the map is an "Export KML" section with an "Export to KML" button. A red dashed line originates from the "FlamMap SFB" oval in the action graph and points to the "View Map Legend" button.

## STEP 5:

View your landscape input data in the map viewer window. The action graph and map viewer are dynamically linked. Click the **Wind**, **Landscape**, and **Moisture** boxes in the action graph to enter FlamMap input data.

Click the **FlamMap SFB** oval in the action graph to run the FlamMap model.

Click here to view the map legend

# Performing a strategic analysis using landscape data

The screenshot shows a software interface titled "Run\_1" with a top navigation bar containing "IFT-DSS feedback", "On-Line Help", and "Action Graph Legend". The main area is divided into two sections. The upper section is an action graph with a flow from left to right. It starts with three input boxes: "Wind" (green), "Landscape" (green), and "Moisture" (blue). Arrows from "Wind" and "Landscape" point to a central oval labeled "FlamMap SFB". An arrow from "Moisture" also points to this oval. From the "FlamMap SFB" oval, an arrow points to a pink rectangular box labeled "Surface Fire Behavior Output", which then has an arrow pointing out of the graph area.

The lower section is a data table with the following structure:

Fuel Model (Category)	One Hour Moisture (%)	Ten Hour Moisture (%)	Hundred Hour Moisture (%)	Live Herb Moisture (%)	Live Woody Moisture (%)
FM1	3	4	5	30	60
FM2	3	4	5	30	60
FM3	3	4	5	30	60
FM4	3	4	5	30	60
FM5	3	4	5	30	60
FM6	3	4	5	30	60
FM7	3	4	5	30	60
FM8	3	4	5	30	60
FM9	3	4	5	30	60
FM10	3	4	5	30	60
FM11	3	4	5	30	60
FM12	3	4	5	30	60
FM13	3	4	5	30	60

At the bottom of the interface, there are three main sections: "Import CSV" with a "Browse..." button; "Export CSV" with an "Export to CSV" button; and "View" with "Graph" and "Table" buttons.

## STEP 6:

Click on the Moisture box to enter moisture input data.

Click the **FlamMap SFB** oval in the action graph to run the FlamMap model.

# Performing a strategic analysis using landscape data

The screenshot displays the IFT-DSS software interface. At the top, a navigation bar includes "Run\_1", "IFT-DSS feedback", "On-Line Help", and "Action Graph Legend". The main area features a workflow diagram with three input boxes labeled "Wind", "Landscape", and "Moisture" on the left. Arrows from these boxes converge on a central oval labeled "FlamMap SFB". An arrow from this oval points to a rectangular box on the right labeled "Surface Fire Behavior Output". Below the diagram is a map viewer window titled "View Map Legend". It shows a satellite map with a yellow and orange fire behavior overlay. To the left of the map is a legend titled "Base Layer" with "Google Hybrid" selected. Under "Overlays", several options are listed with checkboxes: "Fireline Intensity" (checked), "Max Spread Direction", "Midflame Windspeed", "Rate of Spread", "Crown Fire Activity", "Horizontal Movement Rate", "Flame Length", and "Heat per Unit Area". At the bottom left of the map viewer is an "Export KML" section with an "Export to KML" button. Navigation controls like a compass and zoom are visible on the left side of the map, and a hand icon is on the right.

## STEP 7:

View the FlamMap SFB output data in the map viewer window.

You may export the input and output map layers to Google Earth (or another KML viewer) by clicking the **Export to KML** button.

Thank You for Visiting IFT-DSS!

Please send us your comments and feedback

[IFT-DSSfeedback@sonomatech.com](mailto:IFT-DSSfeedback@sonomatech.com)