WFDSS 3.10 / 3.11 Release Notes

(3.10 deployed May 27-28, 2010 / 3.11 deployed July 15-16, 2010)

I. WFDSS Banner

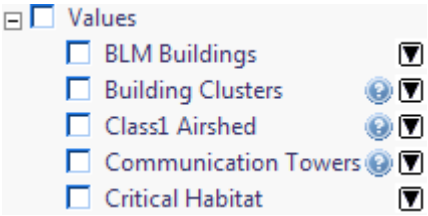
a. The National Preparedness Level link was changed to the Predictive Services Intelligence page (http://www.predictiveservices.nifc.gov/intelligence/intelligence.htm).

b. The Unique Fire Identifier has been appended to the Incident Name whenever the Incident Name appears in the banner.

II. WFDSS Help System

The use of the Help Icon within WFDSS has been expanded. The icon now appears in the banner next to the help link. In addition, it appears elsewhere in the application whenever context sensitive help exists that is more explicit than page level help. For example, each section of the Relative Risk page contains the help icon within the section separator. Click on the icon to display the context sensitive help for a given section.

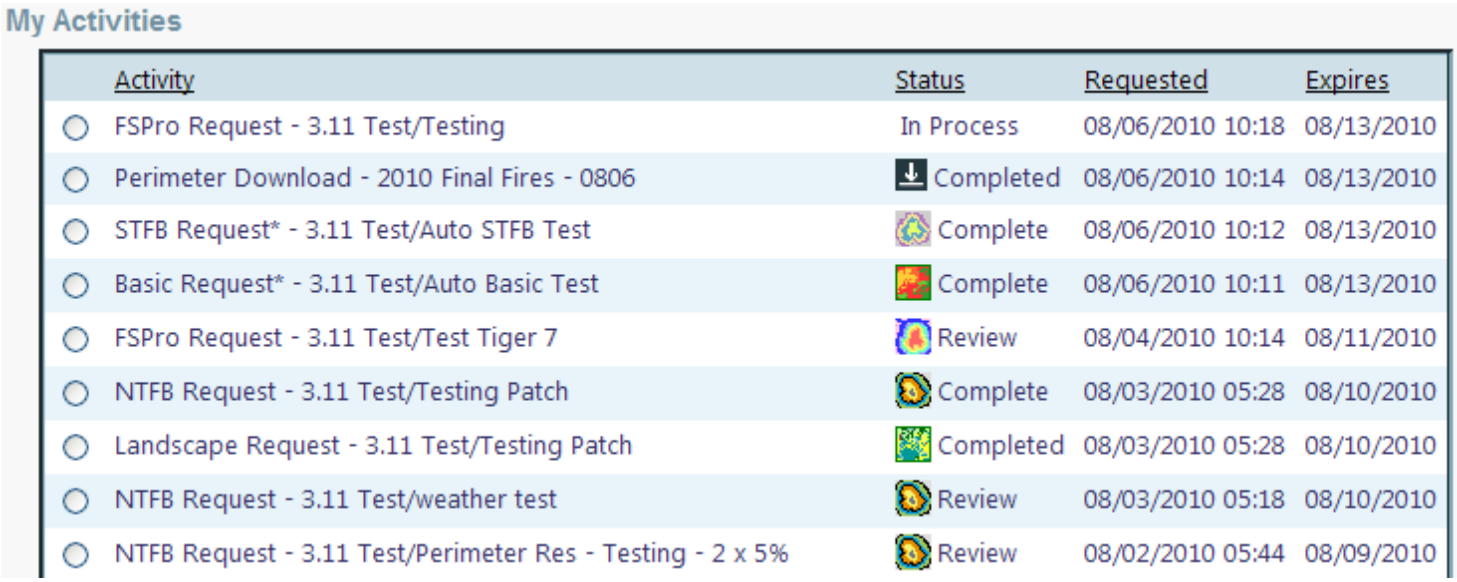
The map layer tree also makes use of the Help Icon. When help exists for a reference layer, the help icon will appear to the right of the reference layer. Help currently exists for the majority of the values layers, the historical fire layer, and the FMU layer. As is the case throughout the application, simply click on the icon to activate the help.



A large amount of page level context sensitive help was added to WFDSS during the 3.10 release cycle. Updates to the help system occur on a frequent basis. Please feel free to submit feedback relative to suggestions for topics where you would like more explicit instructions on using the application as well as areas where you need more technical content.

III. My Home Perspective

a. My Home Page
A ‘My Activities’ list was added to the ‘My Home’ page. The list contains entries for a user’s recent (past 7 days) asynchronous activities.



My Activities

	Activity	Status	Requested	Expires
○	FSPro Request - 3.11 Test/Testing	In Process	08/06/2010 10:18	08/13/2010
○	Perimeter Download - 2010 Final Fires - 0806	Completed	08/06/2010 10:14	08/13/2010
○	STFB Request* - 3.11 Test/Auto STFB Test	Complete	08/06/2010 10:12	08/13/2010
○	Basic Request* - 3.11 Test/Auto Basic Test	Complete	08/06/2010 10:11	08/13/2010
○	FSPro Request - 3.11 Test/Test Tiger 7	Review	08/04/2010 10:14	08/11/2010
○	NTFB Request - 3.11 Test/Testing Patch	Complete	08/03/2010 05:28	08/10/2010
○	Landscape Request - 3.11 Test/Testing Patch	Completed	08/03/2010 05:28	08/10/2010
○	NTFB Request - 3.11 Test/weather test	Review	08/03/2010 05:18	08/10/2010
○	NTFB Request - 3.11 Test/Perimeter Res - Testing - 2 x 5%	Review	08/02/2010 05:44	08/09/2010

If an icon appears in front of the status for a given activity, it serves as a link or action button to access the associated results. There are six asynchronous activities that may appear in the list.

i. Landscape Request
Clicking on the icon takes the user to the View Landscape map.

ii. FSPro Request
Clicking on the icon takes the user to the Analysis Results map.

iii. Basic Request
Clicking on the icon takes the user to the Analysis Results map within the Analysis perspective (regardless of whether the analysis was automated or analyst-assisted).

iv. STFB (Short Term) Request
Clicking on the icon takes the user to the Analysis Results map within the Analysis perspective (regardless of whether the analysis was automated or analyst-assisted).

v. NTFB (Near Term) Request
Clicking on the icon takes the user to the Analysis Results map.

vi. Perimeter Download
Clicking on the icon allows the users to download the shapes associated with the Perimeter Download request made from the Incident List page.

b. System Preferences => Map Layers

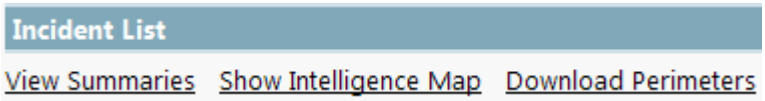
A number of new map layers have been added to the system. Many of these layers need to be enabled from the System Preferences page. Note that new layers can be added to WFDSS outside of a release deployment. Consequently, users should periodically navigate to the System Preferences page to determine if a new layer is available.

The new layers that were added after the 3.9 release and that are listed in your system preferences Map Layers are the following:

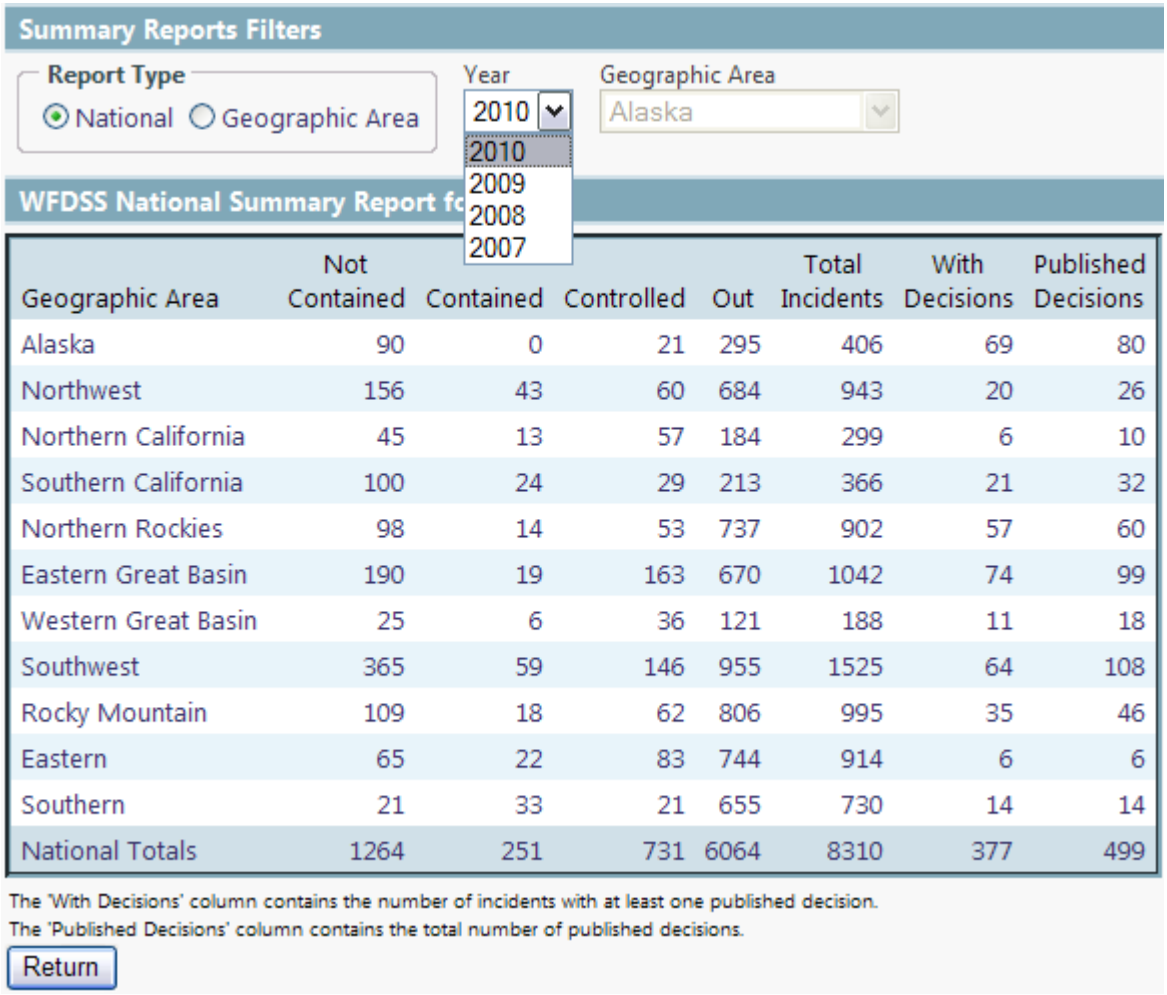
i. Fire Related => Fires 2010 (Most recent fire perimeters within WFDSS that are at least 100 acres in size.)
ii. Values => BLM Buildings
iii. Values => Building Clusters (available for the 11 western states on a county-by-county basis)
iv. Values => Communication Towers
v. Values => Mines
vi. Values => Sage Grouse Key Habitat (broken out from the Critical Habitat layer)
vii. Values => Sage Grouse Occupied (broken out from the Critical Habitat layer)

IV. Summary Reports

A new 'Summary Reports' page is available within the Intelligence perspective. This page provides the user with several options for generating a matrix of incident counts broken down by year, incident status and geographic area. The 'Summary Reports' page can be accessed through a menu option in the left-hand menu of the Intelligence perspective or by clicking on the 'View Summaries' link found at the top of the Incident List.



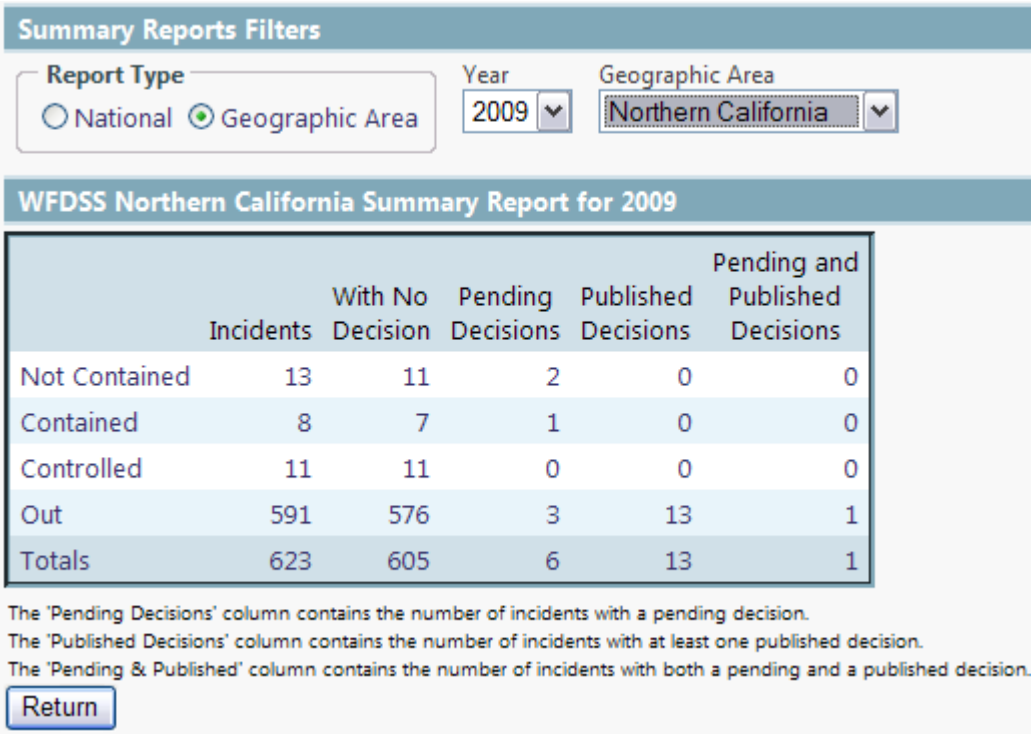
The current year's national summary is displayed when the page is first entered.



Geographic Area	Not Contained	Contained	Controlled	Out	Total Incidents	With Decisions	Published Decisions
Alaska	90	0	21	295	406	69	80
Northwest	156	43	60	684	943	20	26
Northern California	45	13	57	184	299	6	10
Southern California	100	24	29	213	366	21	32
Northern Rockies	98	14	53	737	902	57	60
Eastern Great Basin	190	19	163	670	1042	74	99
Western Great Basin	25	6	36	121	188	11	18
Southwest	365	59	146	955	1525	64	108
Rocky Mountain	109	18	62	806	995	35	46
Eastern	65	22	83	744	914	6	6
Southern	21	33	21	655	730	14	14
National Totals	1264	251	731	6064	8310	377	499

The national summary displays incident status counts for each Geographic Area for a given year. In addition, the number of incidents with published decisions as well as the total number of published decisions is included for each Geographic Area. The contents of the page will automatically update when a new year is selected from the dropdown year list.

The user can also choose to break down the incident decision status for a given Geographic Area by clicking the Geographic Area radio button and then selecting the desired Geographic Area. As is the case when a year is selected, the contents of the page will automatically update.



	Incidents	With No Decision	Pending Decisions	Published Decisions	Pending and Published Decisions
Not Contained	13	11	2	0	0
Contained	8	7	1	0	0
Controlled	11	11	0	0	0
Out	591	576	3	13	1
Totals	623	605	6	13	1

The Geographic Area summary report is a cross of incident status with decision status for a given Geographic Area and a given year. The count of incidents in each row should always equal the sum of the incidents with no decision, those with a pending decision, and those with at least one published decision minus the number of incidents with both a pending and published decision.

V. Incident Information

A number of nomenclature changes were made to the Incident Information page in the 3.9 release of WFDSS. However, these changes were not applied throughout the application. This oversight was corrected in the 3.10 release. The changes made to the Incident Information page in the 3.9 release are listed in the table that follows.

Label Prior to 3.9	WFDSS 3.9 Label
North Latitude	Point of Origin Latitude
West Longitude	Point of Origin Longitude
Fire Number	Unique Fire Identifier
Year	Calendar Year
4 to 6 digit num	Local Number
Unit Name	Responsible Unit Name at Point of Origin
Incident Start Date	Discovery Date
Incident Start Time	Discovery Time
Affected Jurisdiction(s)	Responsible Agency(s)

The 3.10 modifications relating to these nomenclature changes are listed below.

a. The Jurisdictions and Start Date column headers were changed to Resp Agency and Discovery, respectively. In addition, Fire Identifier and Status columns were added to the Incident List. Ascending sort order for the status column is by fire progression – that is, Not Contained, Contained, Controlled, and Out.

Incident Name	Fire Identifier	Owner Name	Geographic Area	Resp Agency	Acreage	Discovery	Status
MITRY	2010-AZCRD-100374		Southwest	BLM	0.1	05/30/2010	Out 05/30/10
Springs	2010-AZSCA-000064		Southwest	BIA	0.1	05/30/2010	Controlled 05/30/10
Saddle	2010-AZPHD-000369		Southwest	BLM	0.6	05/30/2010	Controlled 05/30/10
PIR	2010-AZPHD-000371		Southwest	BLM	0.1	05/30/2010	Controlled 05/30/10
Thief	2010-AZPNF-100357	Coleman, Jennifer	Southwest	USFS	0.1	05/30/2010	Contained 05/30/10
Lobo	2010-NMCIF-000167		Southwest	USFS	0.2	05/30/2010	Not Contained

b. When defining an Incident List or Intelligence Map filter, Start Date was changed to Discovery Date and Jurisdiction was changed to Responsible Agency.

c. Within the Incident Information report, Jurisdiction(s) was changed to Responsible Agency(s), Unit Name was changed to Responsible Unit Name, Fire Number was changed to Unique Fire Identifier, and Incident Start was changed to Incident Discovery. In addition, the time zones occurring after the Discovery, Contained, Controlled, and Out times were removed as these are assumed to be entered as local times.

d. The incident information included in the various KML files produced within WFDSS was updated to be consistent with the 3.9 changes.

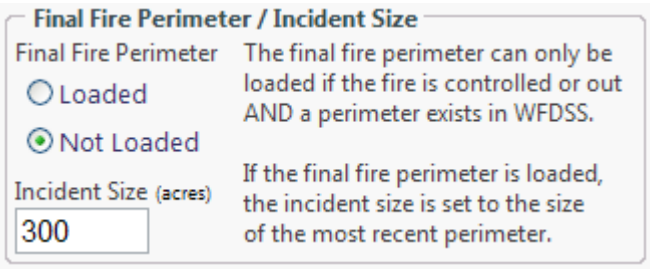
Incident Information

NAME	VALUE
Incident Name	Bootleg
Unique Fire Identifier	2010-AZSCA-000056
Latitude	33.3486 N
Longitude	110.4532 W
Geographic Area	Southwest
Responsible Agency(s)	BIA
Responsible Unit Name	San Carlos Agency
Fire Code	FEY1
Incident Discovery	05/27/2010 23:55
Contained	05/28/2010 01:15
Controlled	05/28/2010 07:55
Out	05/29/2010 13:45
Incident Cause	Human
Nationally Significant	No
Incident Size	2.0 acres
Owner Name(s)	
Dispatcher Name	Charley, Marlene

VI. Fire Perimeters

a. Final Fire Perimeters and Incident Size

Prior to the 3.10 release, incident editors and dispatchers could upload final fire perimeters into a separate 'final fire layer' within WFDSS. The 'final fire layer' no longer exists within WFDSS. Instead, it is part of the WFDSS perimeter layer. To inform the system that a final fire perimeter has been loaded for an incident, an incident editor (or dispatcher) must check the Loaded Final Fire Perimeter radio button.



The final fire perimeter Loaded / Not Loaded radio buttons and Incident Size input field are grouped together because once a user specifies that a final fire perimeter has been loaded, the user can no longer edit the Incident Size field. Instead, the Incident Size is set to the size of the most recent fire perimeter that has been loaded for the incident.

The business rules associated with the radio button group and Incident Size field are as follows:

i. The Loaded radio button cannot be selected unless a fire perimeter exists for the incident.
ii. The Loaded radio button cannot be selected unless the incident has been controlled or declared out.
iii. If the Loaded radio button is set, the incident is not out, and the controlled date is deleted, the Loaded radio button will automatically be unset.
iv. When the Loaded radio button is selected, the Incident Size is set to the size of the most recent fire perimeter (as determined by the effective date and time of the perimeter).
v. When the Loaded radio button is selected, the Incident Size cannot be directly edited.
vi. When the Loaded radio button is selected and a new 'most recent' fire perimeter is loaded, the Incident Size will be updated to the size of the new 'most recent' fire perimeter.
vii. When the Loaded radio button is selected and the 'most recent' fire perimeter for the incident is deleted, the Incident Size will be updated to the size of the 'most recent' fire perimeter that remains within the incident. If no fire perimeter remains, the Loaded radio button will be unset.

The purpose of specifying that a final fire perimeter is loaded is not simply to have the incident size agree with the size of the most recent fire perimeter within the system. In addition, a 'Fires 2010' layer is available within the application that displays the most

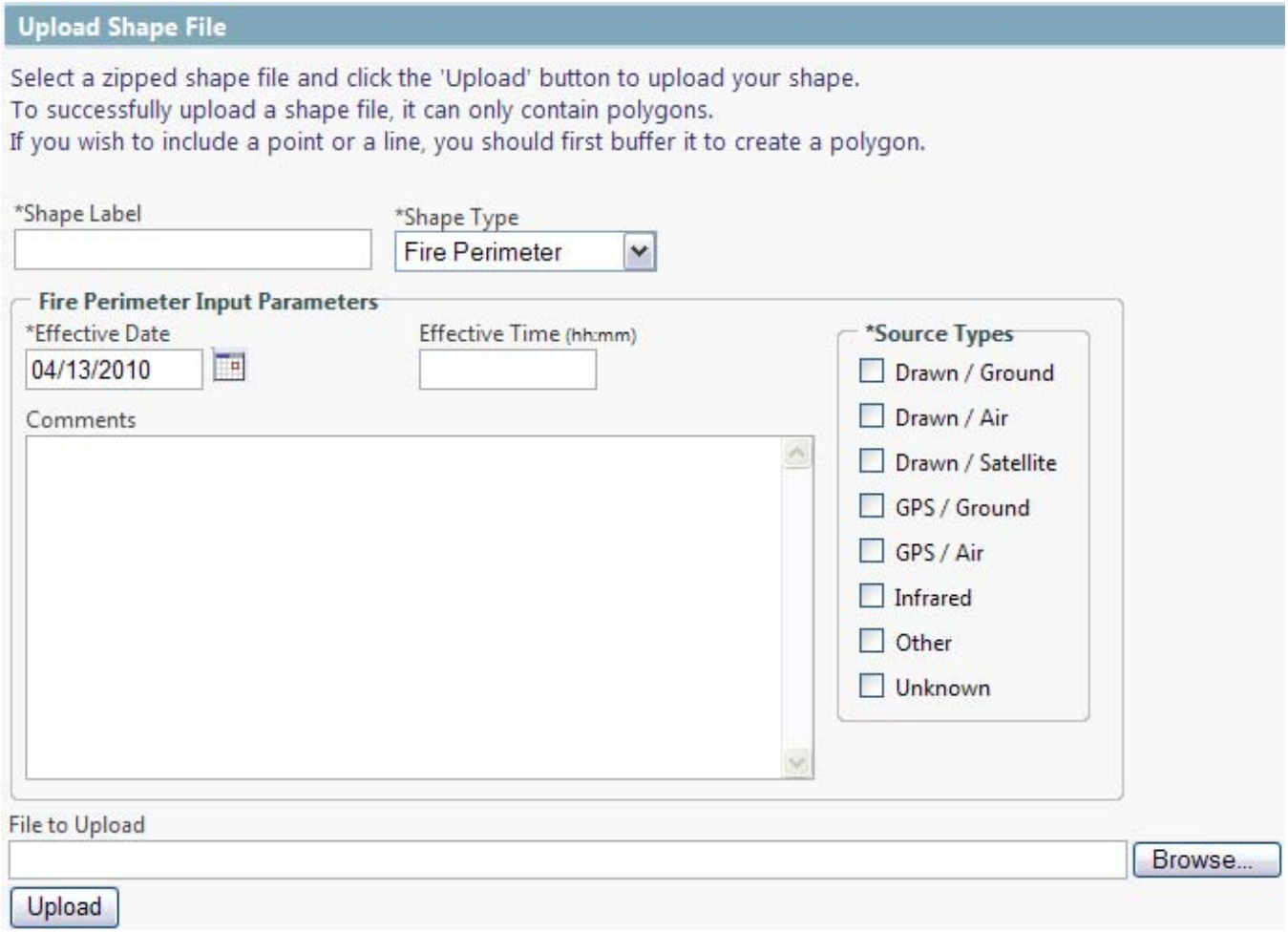
recent fire perimeter for each incident (provided that it is at least 100 acres in size). Within this layer, perimeters that are specified as 'Final' are outlined in black while 'non-final' perimeters are outlined in red. Furthermore, a download capability has been added to the incident list page to allow users to download the final fire (or most recent) perimeters that exist for the incidents within the incident list.

b. Fire Perimeter Creation

There are three methods available to users for adding a perimeter to an incident –

- A perimeter can be uploaded from the Shape Upload page.
- A perimeter can be created from the Situation Assessment map
- A perimeter can be copied from a reference layer using the Feature Copy functionality.

In all three of these instances, two new fire perimeter attributes – Source Types and Comments – can be entered by the user. At least one source type must be checked in order to enter a fire perimeter into WFDSS, but multiple source types may be checked. Comments are optional.



c. Downloading Fire Perimeters

There are three methods available to users for downloading perimeters –

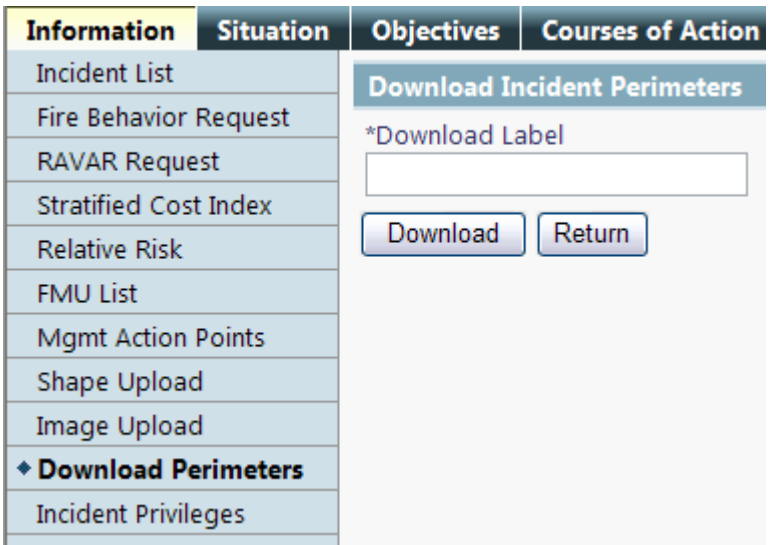
- An individual perimeter can be downloaded from a map.
- The set of perimeters for an incident can be downloaded from the Incident perspective. The incident must have a valid unique fire identifier.
- The most recent perimeters or the final fire perimeters associated with the incidents included in the incident list can be downloaded from the Incident List page. In order for the perimeter to be included in the shape file, its incident must have a valid unique fire identifier.

In all three instances, the attributes included in the downloaded perimeter shape file are the following:

Attribute	**Type**	**Size**	**Description**
INCIDENT	Text	64	Incident Name
FIRE_YEAR	Text	4	Fire Year
UNIT_ID	Text	6	Unit Identifier (includes state abbreviation but no dash, e.g., CORMP)
LOCAL_NUM	Text	6	Six digit local identifier zero-padded on the left to guarantee a length of 6 characters
AGENCY	Text	10	Agency abbreviation of responsible agency based upon the agency associated with the Unit ID
DATE_CUR	Date		Date as to when the perimeter was current
TIME_CUR	Text	5	Time of day (24-hour) as to when the perimeter was current (e.g., 16:30)
MAP_METHOD	Text	80	Comma-delimited list of map method(s) checked when the perimeter was uploaded, copied, or created within WFDSS
COMMENTS	Text	254	Comments entered when the perimeter was uploaded, copied, or created within WFDSS
GIS_ACRES	Double	11,1	Size of shape in acres
USER_NAME	Text	50	First and last name of the WFDSS user who uploaded, copied, or created the perimeter within WFDSS

i. Downloading Perimeters for an Incident

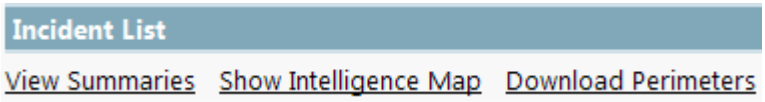
A 'Download Perimeters' option was added to the Incident perspective left-hand menu. When selected, this option allows the user to enter a 'Download Label' for labeling the incident perimeter shape file. As was previously mentioned, the



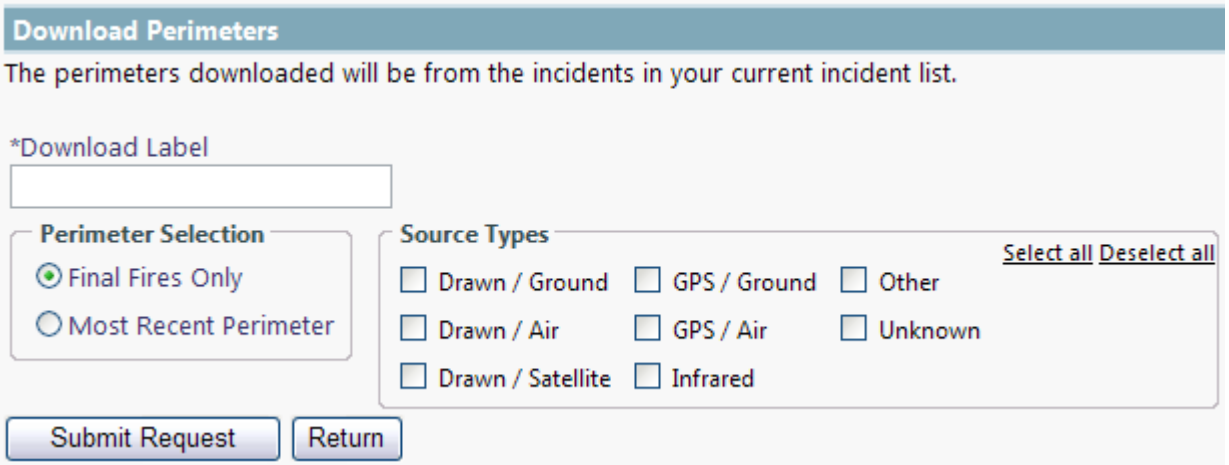
incident must have a valid unique fire identifier (fire year, unit identifier, and local number) in order for the perimeter shape file to be created. After entering the desired label, the user should click on the Download button to complete the download of the incident perimeter shape file.

ii. Downloading Perimeters from the Incident List

Use the 'Download Perimeters' link to download perimeters associated with the incidents contained in your incident list. Remember to apply the desired incident



filter prior to clicking on the link. As was previously mentioned, perimeters will not be downloaded for incidents in the list that do not have a valid unique fire identifier (fire year, unit identifier, and local number). Clicking on the link navigates the user to a 'Download Perimeters' page.

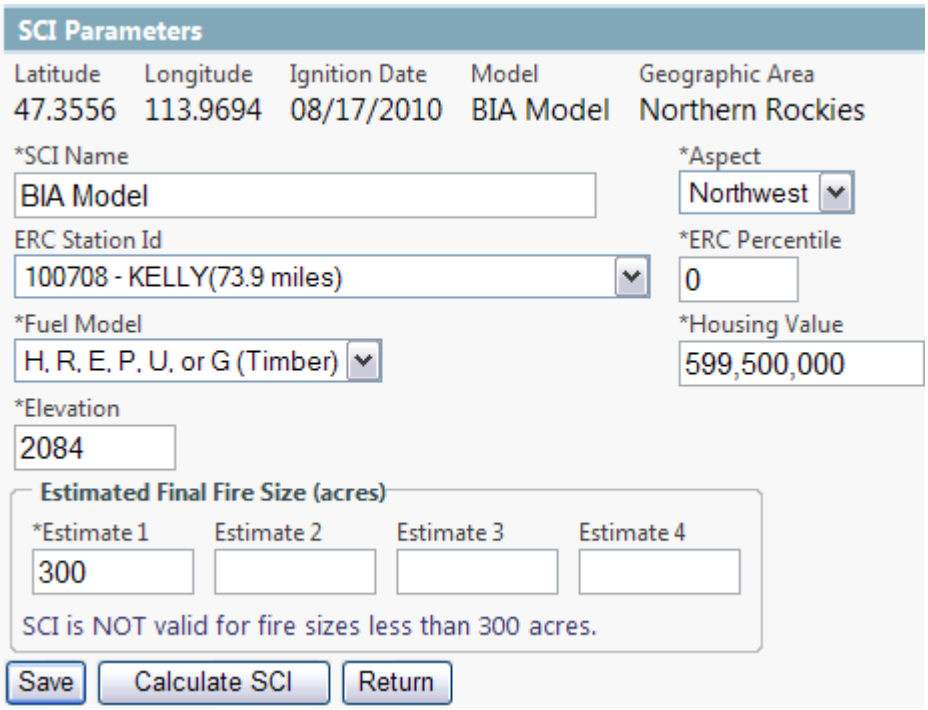


The 'Download Perimeters' page allows the user to specify the type of perimeters that should be included in the shape file. That is, they can choose to download only the 'Final' fire perimeters that exist for incidents in the list or they can choose to download the most recent perimeter that exists for each incident in the list. In addition, the user has the option to further filter the downloaded perimeters by source type. For example, the user could check the Infrared checkbox if they were only interested in downloading infrared fire perimeters. If multiple source type boxes are checked, perimeters will be included if any of the checked source types match.

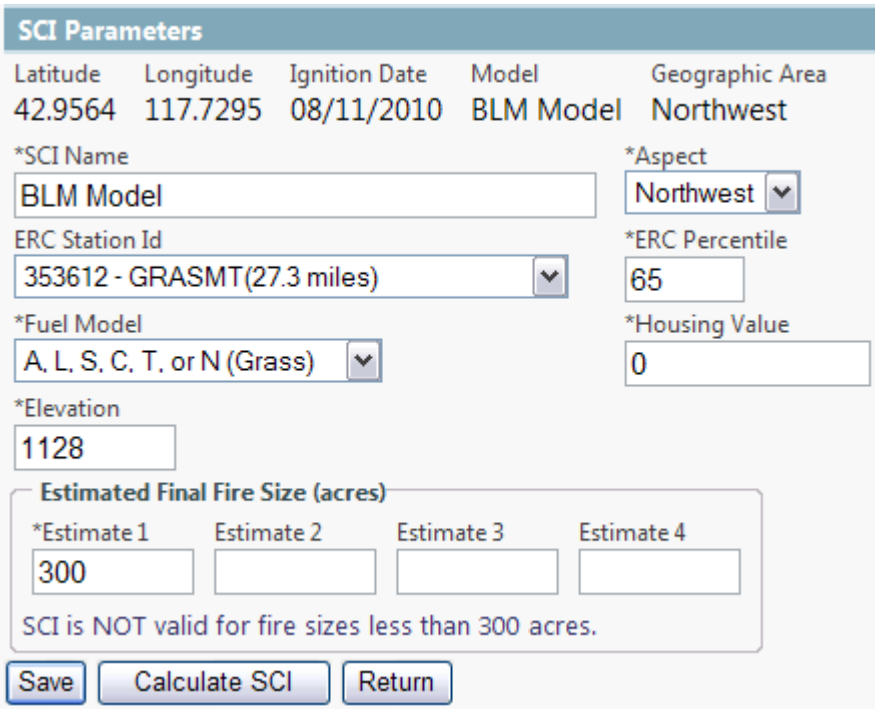
VII. Stratified Cost Index (SCI) Models

a. Two major changes to the Stratified Cost Index were included in the 3.10 release of WFDSS. The existing USDA Forest Service SCI models were updated for the 2010 fire season and SCI models were added for the BIA, BLM, FWS, and NPS. It is still the case that these models are only intended for use within the continental United States. WFDSS uses the Unit ID specified as part of the Unique Fire Identifier to determine which SCI Model should be used. Note that in every model, 'Alternative n' was changed to 'Estimate n' to make it clear that these are fire size estimates and not alternatives.

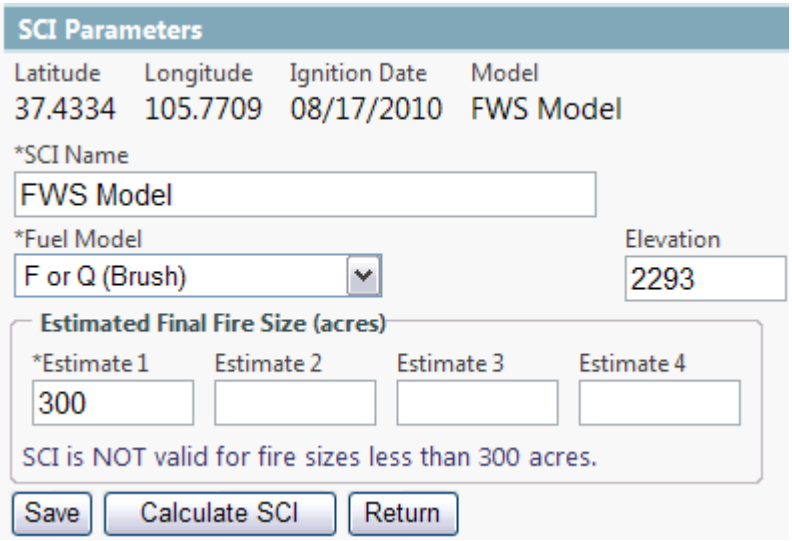
b. BIA SCI Model



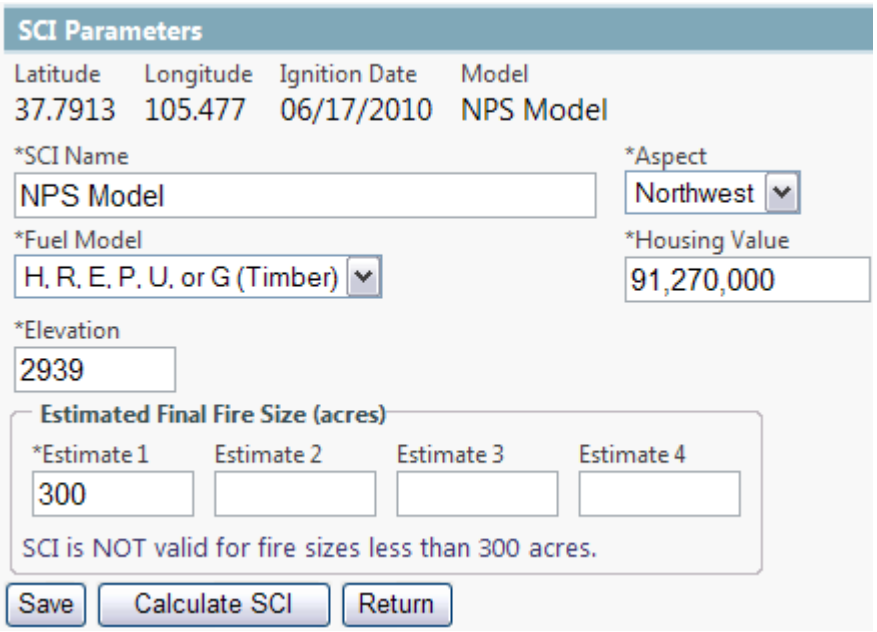
c. BLM SCI Model



d. FWS SCI Model



e. NPS SCI Model

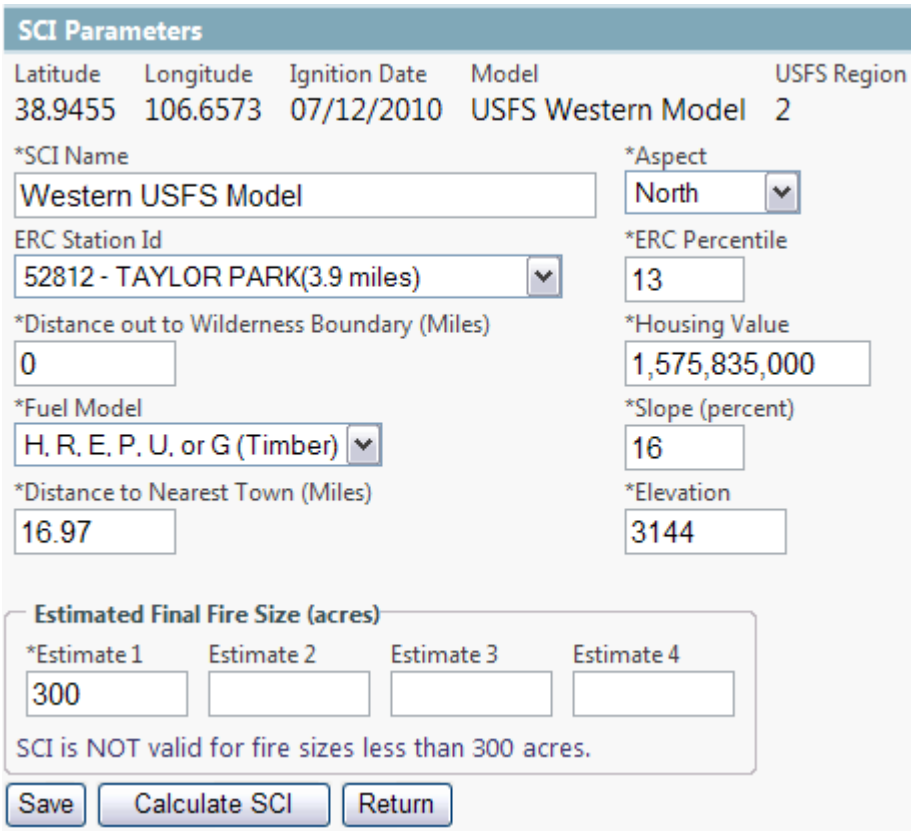


f. USDA Forest Service SCI Models

The principal change made to the USDA Forest Service SCI models is that the Fire Intensity Level is no longer included in the regression models. Since the Fire Intensity Level was calculated from a Basic analysis centered about the incident ignition, the USFS SCI models were previously asynchronous. That is, the user requested an SCI model for an incident and the user needed to return to the SCI list at a later point in time to determine if the model was successfully created. Since this was the only value calculated from the Basic analysis and it is no longer included in the model, the process is no longer asynchronous. Consequently, when a user clicks on the 'Create' SCI button they are taken directly to the SCI Information page to complete the SCI and calculate the SCI values.

Another change is that the Distance to Nearest Town and Elevation fields are required for both the eastern and western USFS models. In 2009, they were only required for the eastern model.

Western USFS SCI Model



Eastern USFS SCI Model

Wildland Fire
Decision Support System

SCI Parameters

Latitude	Longitude	Ignition Date	Model	USFS Region
37.0376	83.3917	07/17/2010	USFS Eastern Model	8

*SCI Name: Eastern USFS Model

*ERC Percentile: 72

ERC Station Id: 157201 - PEABODY(12.5 miles)

*Housing Value: 962,542,500

*Distance out to Wilderness Boundary (Miles): 0

*Elevation: 429

*Fuel Model: H, R, E, P, U, or G (Timber)

Estimated Final Fire Size (acres)

*Estimate 1	Estimate 2	Estimate 3	Estimate 4
300			

SCI is NOT valid for fire sizes less than 300 acres.

Save | Calculate SCI | Return

VIII. Map Layers

During the 3.10 and 3.11 release cycles, a number of map layers were either added to WFDSS or became visible within WFDSS for the first time. The following table summarizes the new layers.

Layer Name	Parent Folder	New	System Prefs	Values Inventory	Feature Info	Layer Type	Symbol(s)
BLM Buildings	Values	Yes	Yes	Yes	Yes	Point	
Building Clusters	Values	No	Yes	Yes	No	Point	
Communication Towers	Values	No	Yes	Yes	No	Point	
FMU	Reference	No	No	No	Yes	Polygon	
Fires 2010	Fire Related	Yes	Yes	No	No	Polygon	
Mines	Values	Yes	Yes	Yes	Yes	Point	
RAWS Stations	Fire Related	Yes	No	No	No	Point	
Sage Grouse Key Habitat	Values	No	Yes	Yes	No	Polygon	
Sage Grouse Occupied	Values	No	Yes	Yes	No	Polygon	

The **New** column indicates whether the map layer was added to WFDSS after the 3.9 release.
The **System Prefs** column indicates if the layer is enabled from the My Home => System Preferences page.
The **Values Inventory** column indicates if the layer can be queried for Values Inventory and Values at Risk.
The **Features Info** column indicates whether the layer can be queried using the Features Information function.

a. BLM Buildings
This layer only contains building locations and does not include campgrounds or other structural infrastructure maintained by the BLM. The data source for this layer is http://www.geocommunicator.gov/GeoComm/index.shtm. BLM building counts based upon this layer will be included in Values Inventory and Values at Risk.

b. Building Clusters
The Building Cluster layer has data for portions of 11 western states (AZ, NM, CA, UT, NV, WY, CO, ID, OR, WA, MT). Data exists at the county level and its currency varies on a county by county basis as well. This layer previously existed within WFDSS but was not visible on the maps.

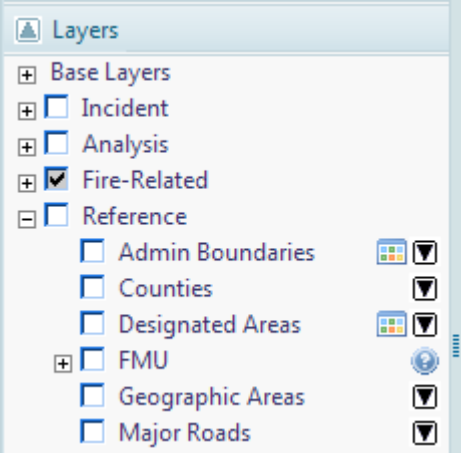
Two symbols exist for this layer – a red square ( ) and a red square with a white plus sign in the center ( ). The second symbol (grouping) indicates that the symbol represents more than one building cluster. If the map is zoomed in closer than 20K to 1, the grouping symbol indicates that there are two or more building clusters with identical locations (rarely occurs).

One important note is that this is a building cluster layer as opposed to a building layer. In general, the location of the building cluster is approximately the center of the improved property. On a large ranch, this may not be near the structures on the property.

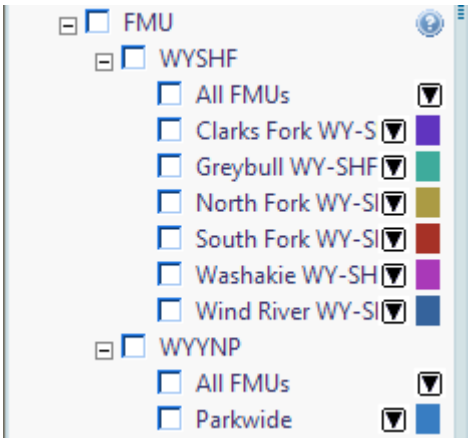
c. Communication Towers
The communication tower layer is a national layer that previously existed within WFDSS but was not visible on the maps.

Two symbols exist for this layer – a tower ( ) and a tower with a plus sign ( ). The second symbol (grouping) indicates that the symbol represents more than one tower. If the map is zoomed in closer than 20K to 1, the grouping symbol indicates that there are two or more towers with identical locations (frequent occurrence).

d. FMUs
The FMU layer is visible from every map page except for the Intelligence map. The FMUs that are displayed in the layer switcher are based upon the window view port that existed when the FMU layer was expanded. To refresh the contents of the FMU layer sub-tree after panning or zooming, simply collapse and re-expand the FMU item in the layer switcher tree.



Collapsed FMU sub-tree



Expanded FMU sub-tree

There are two levels beneath FMU – the first sub-level contains the units within close proximity to the viewport. Note that in this context unit refers to units that exist within the FMU shape file as opposed to the complete set of units within WFDSS. The second sub-level contains the list of FMUs that exist in the shape file for the unit. An FMU appears regardless of its status (Never Activated, Activated, or Inactive) provided that it exists within the shape file provided for the given unit.

When a unit is expanded, the first entry beneath the unit is 'All FMUs'. When this item is selected, all the FMUs for the given unit are displayed on the map. It is only possible to display all the FMUs for one unit at a given point in time. That is, if all the FMUs are being displayed for WYSHF and the user clicks the checkbox in front of 'All FMUs' for WYYNP, the FMUs for WYYNP will be displayed and the FMUs for WYSHF will be

turned off. When all the FMUs for a unit are being displayed, no border is used for the FMUs.

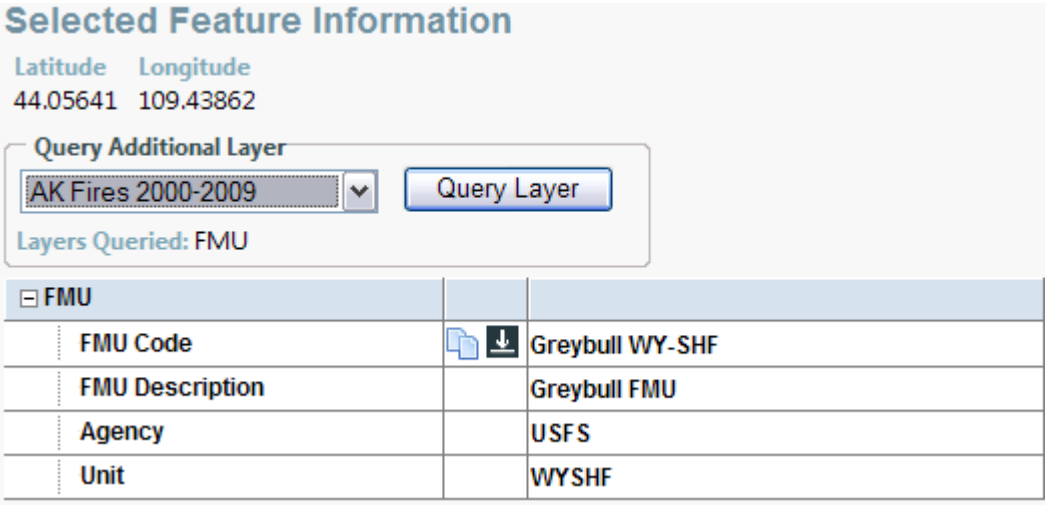
As was previously mentioned, the entries that follow ‘All FMUs’ in the second sub-level of the FMU tree are the FMUs that exist in the shape file for the unit. The color used to display an FMU on the map is displayed to the far right of the FMU name. Note that the color is the color you will see on the map when the FMU layer is fully opaque.

As is the case with ‘All FMUs’, it is only possible to display one FMU at a given point in time. That is, if ‘Greybull WY-SHF’ is being displayed and the user clicks the checkbox in front of ‘Washakie WY-SHF’, ‘Greybull WY-SHF’ will automatically be turned off. However, it is possible to display both ‘All FMUs’ and an individual FMU at the same time. And unlike ‘All FMUs’, a black border is used when an individual FMU is turned on. In this way, it is possible to highlight a single FMU on top of ‘All FMUs’. The map that follows demonstrates this.

Example of a single FMU displayed on top of All FMUs

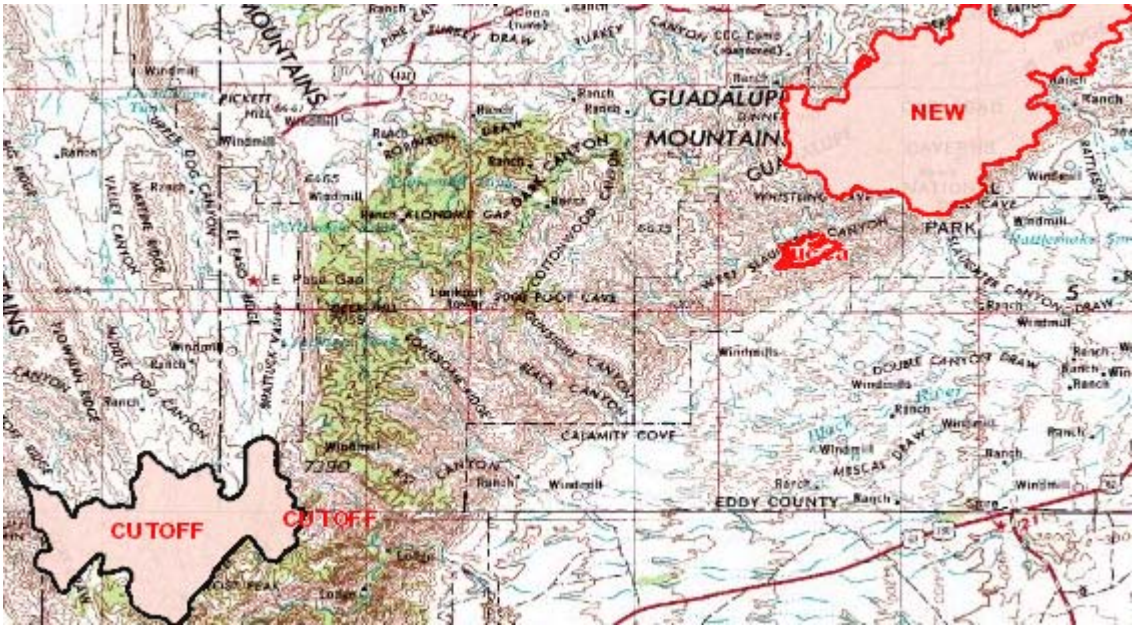
One other note relative to the display of FMUs is that Feature Information is enabled for the FMU layer. As a result, users can identify the FMU Code, Description, Agency, and Unit for an FMU by clicking on the map and using the Feature Information link available

on the Info sub-tab of the left-hand menu. This also allows you to download or copy an individual FMU. One word of caution is that some FMUs contain a large number of individual polygons (hundreds or even thousands). It will not be possible to copy complex FMUs into WFDSS.



e. Fires 2010

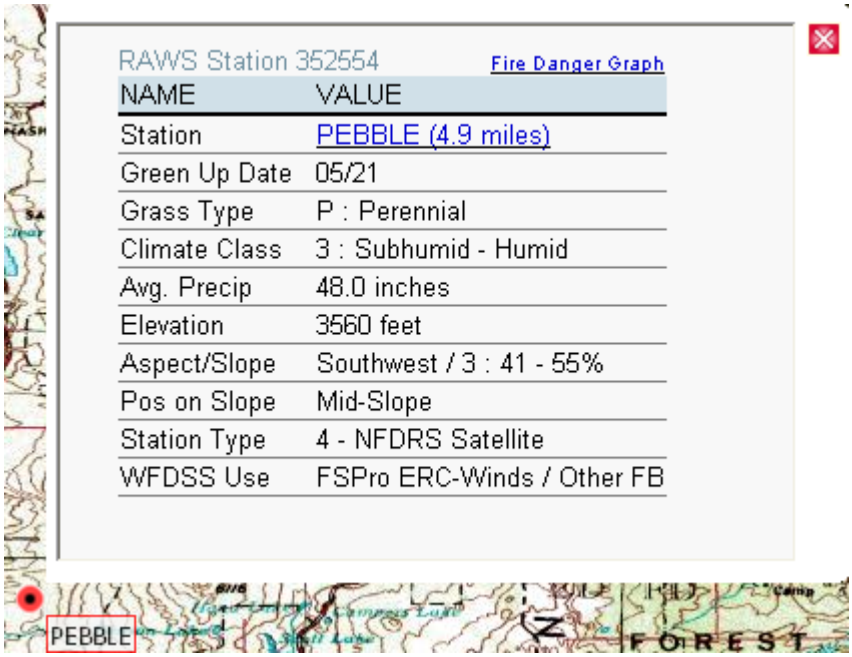
The Fires 2010 layer displays the 'most recent' fire perimeters entered into WFDSS for 2010 incidents provided that the perimeter is at least 100 acres in size. Most recent, in this context, is defined as the perimeter with the most recent effective date. Perimeters that are designated as the final perimeter for an incident have a black border; otherwise they will have a red border.



f. Mines

This national layer contains mine locations. Counts based upon this layer will be included in Values Inventory and Values at Risk.

g. RAWS Stations
The RAWS Stations layer displays RAWS stations that could potentially be used within WFDSS for fire behavior modeling. Users can click on either the RAWS symbol or the adjacent label to display a popup window containing information regarding the station.



The last row in the RAWS popup window indicates if the station can be used for FSPro ERC classes, FSPro Winds, and / or Other Fire Behavior. The window will contain a link to the Fire Danger Rating graph provided that one exists (ten years of data must exist in order for WFDSS to generate a graph for a station). In addition, if the station name appears as a link, users may click on the name to display the MesoWest information for the station.

h. Sage Grouse Key Habitat / Sage Grouse Occupied Habitat
The Sage Grouse Habitat data layer, previously existing within the Critical Habitat layer, was broken out into two separate layers to allow the system to differentiate between key habitat (red) and occupied habitat (green).

IX. Analysis

a. Asterisk for Automated Analyses
An asterisk is appended to the analysis type in the analysis list if the analysis was automated. Note that automated analyses are invoked from the Situation Assessment map and are only available for Basic and Short Term analyses.

Basic and Short Term analysis information on the maps and in the reports also includes an ‘Automated’ row.

b. Maximum Cell Count for Landscape Files
Due to resource limitations (memory) associated with running some of the fire behavior models, a landscape size restriction has been imposed. The size restriction is based upon the number of cells in the landscape file as opposed to the overall extent. Thus, if a user encounters the size restriction they have two options for reducing the number of cells in the file – they can reduce the extent or they can increase the landscape resolution.

The size limitation for FSPro analyses is currently configured to be 2,500,000 cells.

The size limitation for Basic and Short Term analyses is 1,000,000 cells if gridded winds are used; otherwise, the limitation is 2,500,000 cells.

A cell-count size limitation is not required for Near Term analyses as a large landscape file size does not require a significant amount of additional memory.

Super analysts are allowed to ignore the size restriction but they should do so with caution as the analyses may fail.

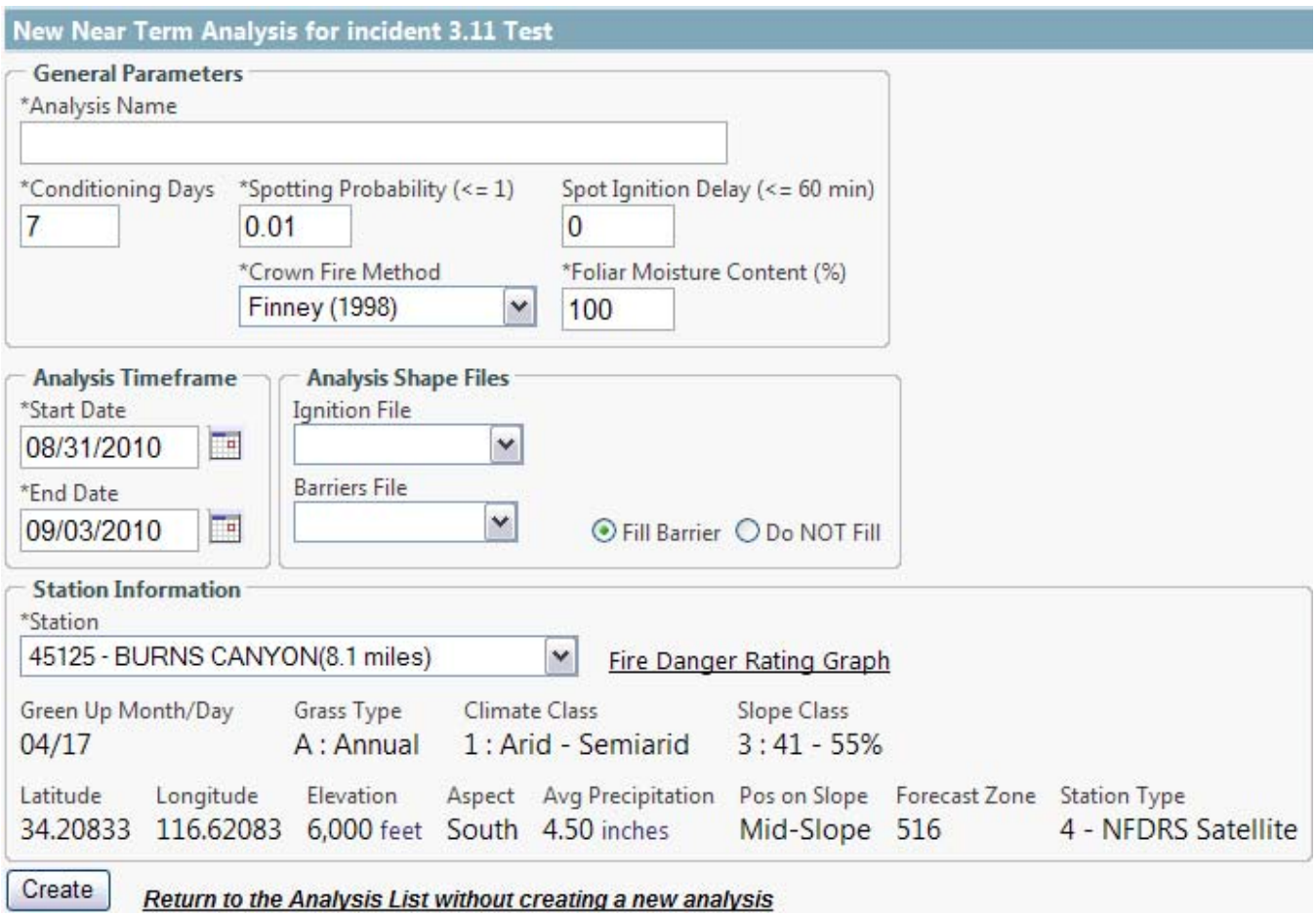
c. Identify Tool on the Analysis Results Map
The Identify Tool was changed on the Analysis Results map to function as the tool behaves on the View Landscape map. That is, the identify tool queries the landscape file used for the analysis when the identify tool is used within the extent of the landscape file. If the identify tool is used outside of the extent, the identify tool queries the landscape data source used to generate the landscape file for the analysis.

X. Near Term Fire Behavior

An alpha version of Near Term Fire Behavior (NTFB) was included with the 3.11 release of WFDSS. Near Term Fire Behavior is a fire behavior and growth simulator based upon the same model that is used for FARSITE. For the initial release, Near Term fire behavior is only enabled for users with Super Analyst privileges and is only available within the Analysis perspective.

a. NTFB Creation

A Near Term Fire Behavior analysis can be created by a Super Analyst from the analysis list provided that an incident is displayed in the banner. (One method to get an incident name to display in the banner is to select the desired incident from the Incident List and then click the View Analyses button.)



i. *Analysis Name* is a required field when creating a new Near Term analysis.

ii. *Conditioning Days* is the number of days used to condition the initial fuel moistures used for the analysis.

iii. *Spotting Probability* is a value between 0.00 and 1.00. We recommend avoiding values greater than 0.10 for this version of NTFB.

iv. *Spot Ignition Delay* is the number of minutes before a spot ignition begins to spread.

v. Two *Crown Fire Methods* are available (Finney and Scott/Reinhardt).

vi. *Foliar Moisture Content* is a factor in the canopy ignition process as surface fire transitions to crown fire. It is defined as the weight of the moisture content divided by the 'dry weight' of the foliage times 100 percent. Values between 70 and 130 percent are accepted for fire behavior modeling purposes.

vii. *Analysis Start Date* and *End Date* determine the number of burn periods created for the analysis. Note that forecast data is required for dates in the future. Consequently, the *End Date* can be no more than 5 or 6 days from today.

viii. The *Ignition* file is required to run an analysis but is not required at the time the analysis is created since the ignition may not exist.

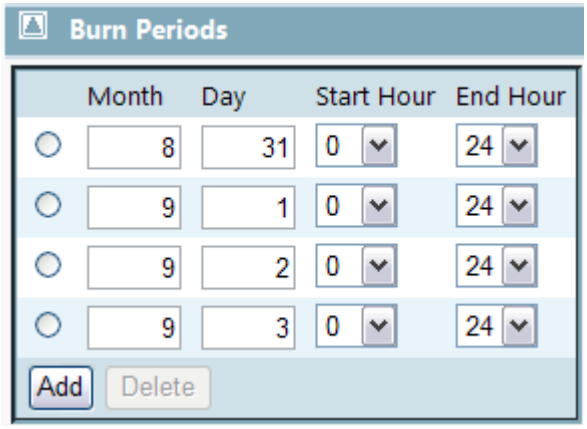
ix. The *Barrier* file is optional.

x. The *RAWS Station* needs to have observations from the beginning of the conditioning period. Note that this is one day plus the number of *Conditioning Days* prior to the analysis *Start Date*.

b. Copying a NTFB Analysis
Copying an existing NTFB analysis is an alternate method for creating an analysis for an incident (provided, of course, that a NTFB analysis exists.)

c. NTFB Input Parameters
The Near Term Analysis Information page is very similar to the Basic and Short Term analysis information pages in that it is broken up into 5 expandable / collapsible sections. The last three sections (Initial Fuel Moistures, Weather Information, and Wind Information) are identical to those used for Basic and Short Term fire behavior. Similarly, the left-hand menus for Near Term and Short Term analyses are identical in appearance as well as functionality (with the exception of the Near Term Information and Short Term Information menu items). Consequently, the last three sections of the NTFB Information page and the functionality of the left-hand menu will not be covered in the release notes.

The General Information section is identical to the 'New Near Term Analysis' page except that the Analysis Start Date and End Date fields do not exist. The date fields are used to initialize the Burn Period section of the Near Term Analysis Information page. A Burn Period is defined by a Month, Day, Start Hour, and End Hour. Burning occurs from the Start Hour until the beginning of the End Hour. Thus, to specify a burn period from 10:00 am until 8:00 pm, an analyst should select 10 for the Start Hour and 20 for the end hour. It is permissible to skip days as well as to have multiple burn periods within the same day, but neither of these occur very



frequently in practice.

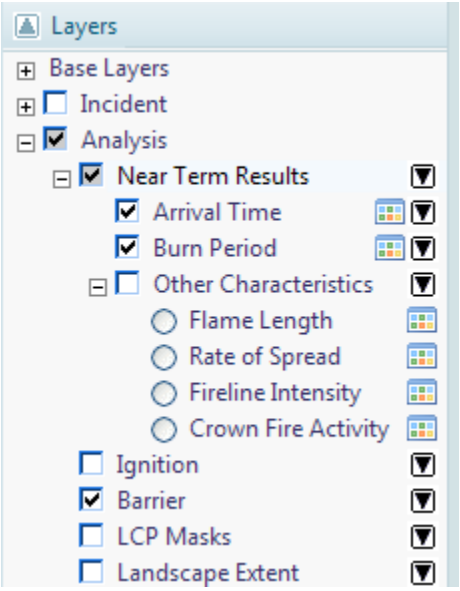
For users familiar with FARSITE, one final note regarding burn periods is that a time step of 60 minutes is always used for NTFB analyses. Furthermore, several other parameters available within FARSITE are not editable within the WFDSS NTFB implementation. Two of these, the distance and perimeter resolutions, are set relative to the value used for the landscape resolution. The distance resolution is always set to the value of the landscape resolution. The perimeter resolution was originally set to the value of the landscape resolution and later changed to be twice the value of the landscape resolution. In the next release of WFDSS, the perimeter resolution will be set to the maximum of the landscape resolution and 60 meters.

A new NTFB parameter was introduced (after the initial deployment) to reduce the amount of time required to run the analysis when excessive spotting occurs. The 'Minimum Spotting Distance' parameter is non-editable but is displayed in the NTFB report. Spots that occur less than the 'Minimum Spotting Distance' from the current fire perimeter are ignored. This parameter is set to the same value as the landscape resolution.

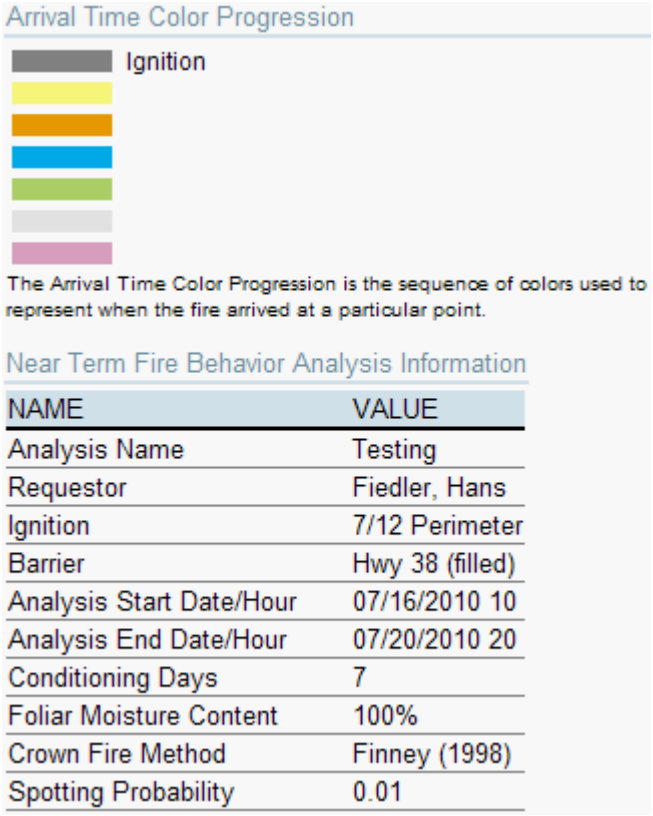
The default value used for the NTFB landscape resolution is currently 60 meters. Experience gained after the initial release of NTFB suggests that 30 meters should be used for NTFB except in unusual circumstances. Consequently, we recommend that analysts change the landscape resolution to 30 meters when running Near Term Fire Behavior. The default value will be changed to 30 meters in the next release of WFDSS.

d. NTFB Results

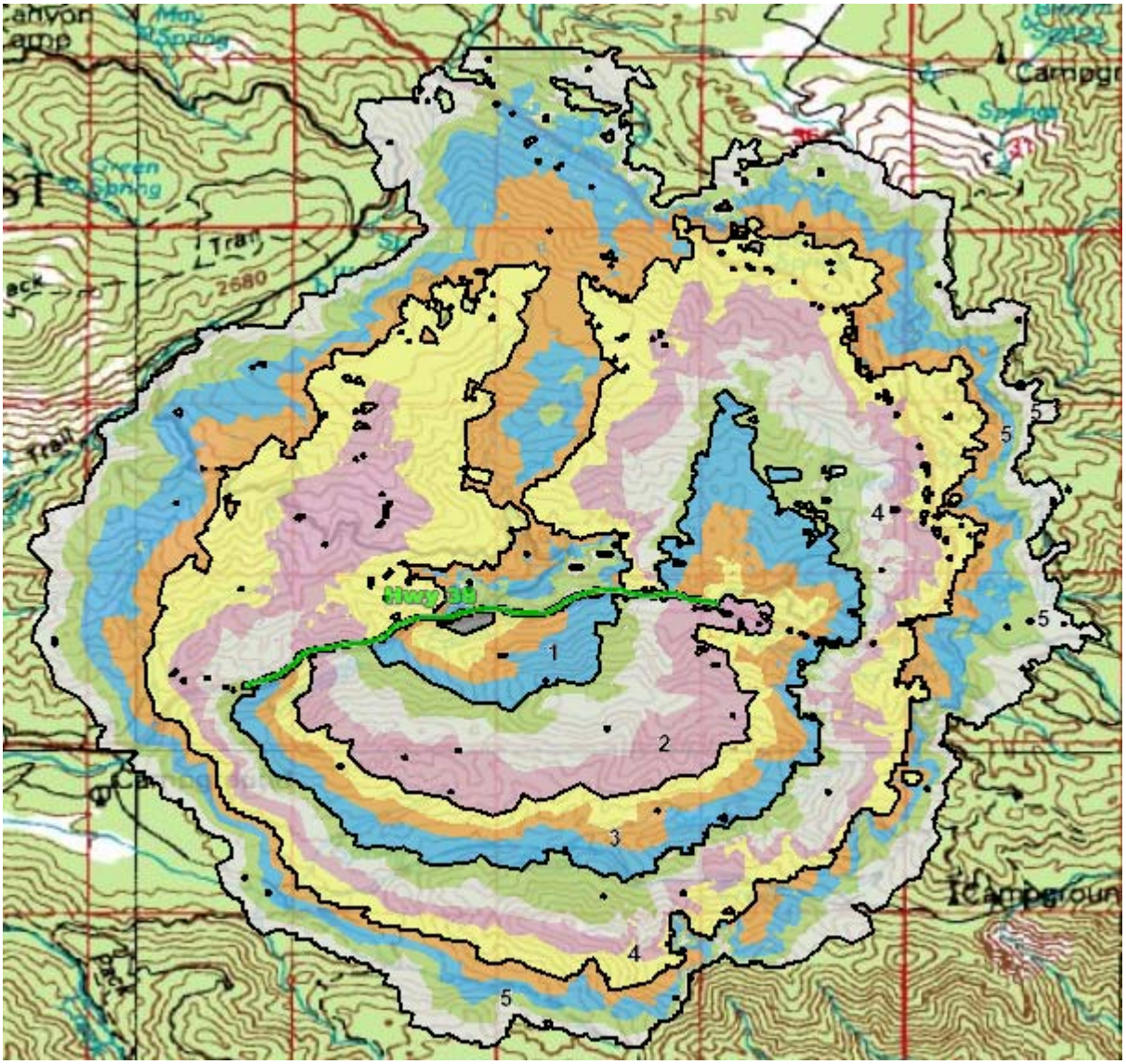
The Near Term Fire Behavior results consist of Arrival Time shapes and Burn Period perimeters as well as images for four other characteristics associated with the fire behavior. Note that only one of the four fire behavior characteristics (Flame Length, Rate of Spread, Fireline Intensity, and Crown Fire Activity) can be displayed at a time. The layer switcher in the left-hand menu allows users to control which results are displayed, the relative order of the layers on the map, and the transparency of each layer. In addition, legends are available for the six output layers. As is the case when displaying other analysis results, the analysis ignition, barrier (if one was used), landscape masks (if any were used), and the landscape extent can be displayed as well.



The Arrival Time shapes are displayed using color progression intervals. In the current release, each color represents up to 3 hours of modeled fire spread over the analyst-defined duration. When the total hours in a burn period are not divisible by 3, the duration of that period's final interval is truncated. If more than 6 progression intervals are required, the sequence of colors is repeated. If the model does not burn any pixels during a progression interval, that color is discarded and the next color is utilized for the next interval. As was previously mentioned, the model is run using a time step of 1 hour even though the results are displayed using 3 hour progression intervals. In the next release, the user will be able to interactively change the duration of the color progression interval while viewing the results.



NAME	VALUE
Analysis Name	Testing
Requestor	Fiedler, Hans
Ignition	7/12 Perimeter
Barrier	Hwy 38 (filled)
Analysis Start Date/Hour	07/16/2010 10
Analysis End Date/Hour	07/20/2010 20
Conditioning Days	7
Foliar Moisture Content	100%
Crown Fire Method	Finney (1998)
Spotting Probability	0.01



The first three burn periods were 9 hours in duration while the last two periods were 12 hours in length.

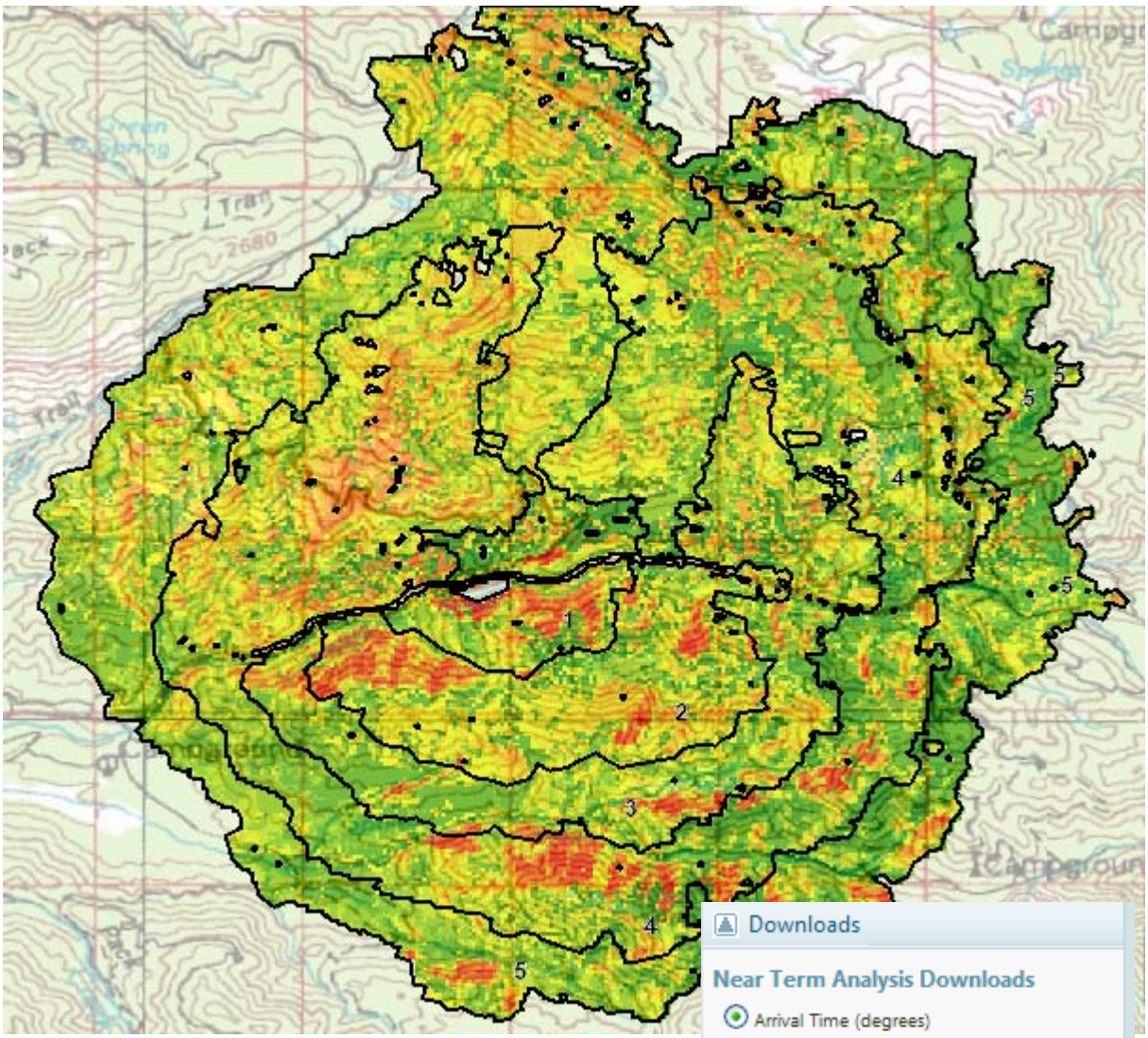
Perimeters are produced for the end of each burn period. A perimeter is also generated for the ignition shape. When the burn period perimeters are displayed on the map, the burn periods are numbered sequentially. The burn period legend (displayed at the right) allows users to correlate the arrival time associated with the color progression intervals.

Burn Periods

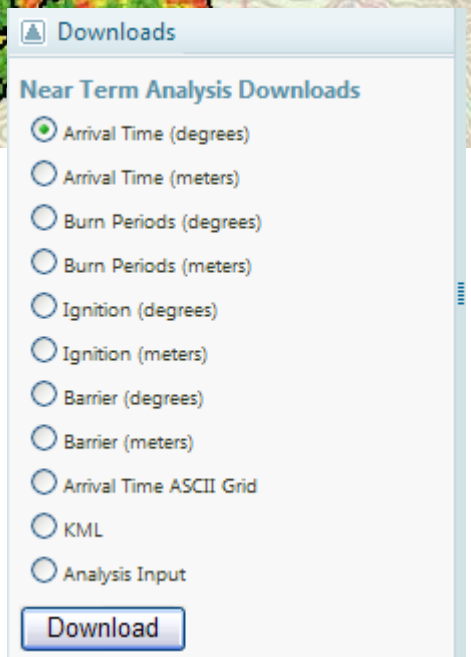
Period	Date	Start Hour	End Hour
1	07/16/2010	10	19
2	07/17/2010	10	19
3	07/18/2010	10	19
4	07/19/2010	8	20
5	07/20/2010	8	20

The related fire behavior characteristics (Flame Length, Rate of Spread, Fireline Intensity, and Crown Fire Activity) are based upon the time that the individual pixels burned. Consequently, the extent of the fire behavior characteristic images is the same as

the NTFB arrival time shapes. The legends generated for the other characteristics are consistent with the corresponding legends generated for Basic and Short Term fire behavior. Thus, a red pixel in a NTFB Flame Length image has the exact same meaning as a red pixel on a Basic or Short Term Flame Length image.



Flame Length image –in this image, the burn period perimeters are displayed on top of the image.



In addition to the visual display of the NTFB input (ignition, barriers, and landscape masks) and results, there are a number of files that can be downloaded for use outside of WFDSS. The arrival time shapes, burn period perimeters, analysis ignition, and analysis barriers can be downloaded in decimal degrees (NAD83) or in the localized

Albers Equal Area projection (meters). One word of caution is that the format (attributes) of the arrival time shape files is going to change in the next release.

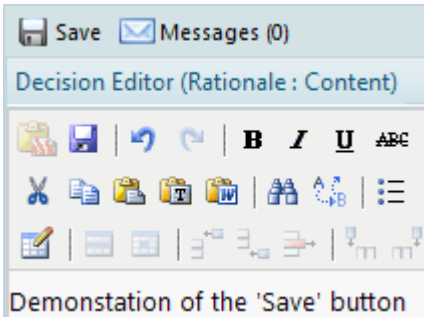
The arrival time ASCII grid file can also be downloaded. Each value in the ASCII grid file is the hour in which the cell burned relative to the start of the analysis. -1 is used for cells that did not burn and 0 is used for the ignition cells. The ASCII grid file is in the localized projection used for the analysis.

KML output is available for use within Google Earth. Analysis metadata is currently not included in the KML file although incident metadata is.

One last item included in the download list is the Analysis Input file used to run the NTFB model. This option only appears in the list for Super Analysts as the input files are WFDSS specific. Consequently, they have limited use outside of WFDSS.

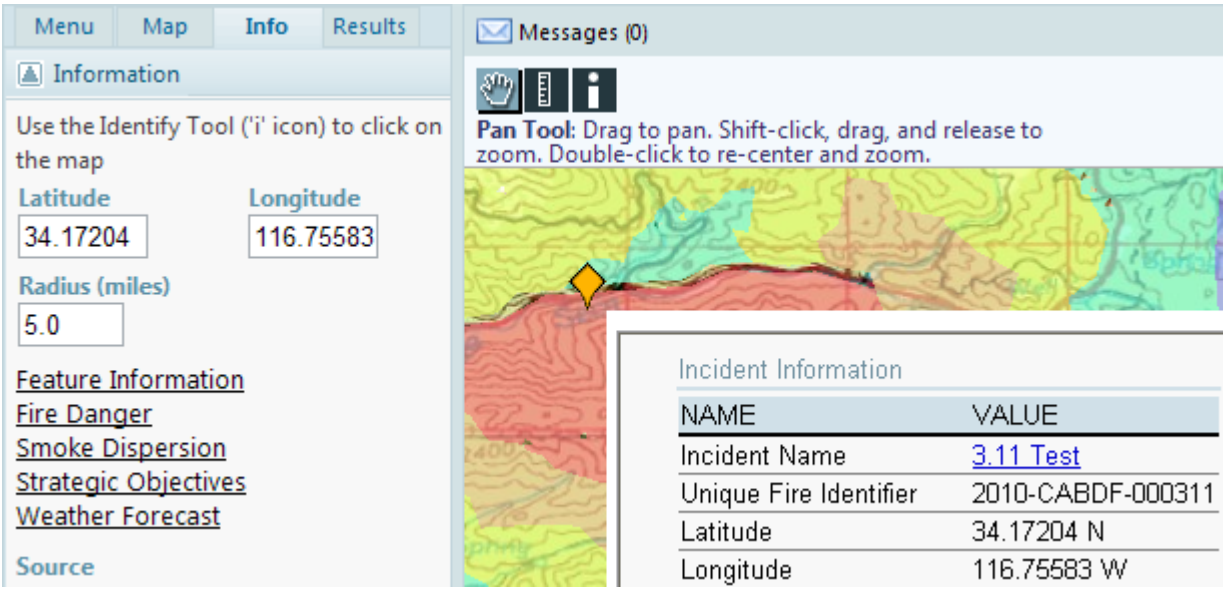
XI. Miscellaneous

a. Save Button on Decision / Report Edit Pages
A 'Save Button' was added to the top of the decision and report editing pages. The original save icon still exists as the second icon in the top row of the editor tools, but the new button was added to make 'Save' more obvious. Both the 'Save Button' and save icon should become enabled when content is modified. However, there is a defect related to this in which it is sometimes necessary to move the cursor in order to activate the Save button and icon. Clicking the mouse in one of the panes is typically sufficient to activate the Save functionality if it has yet to be enabled. Note that the save button and icon will not activate if content was not modified.



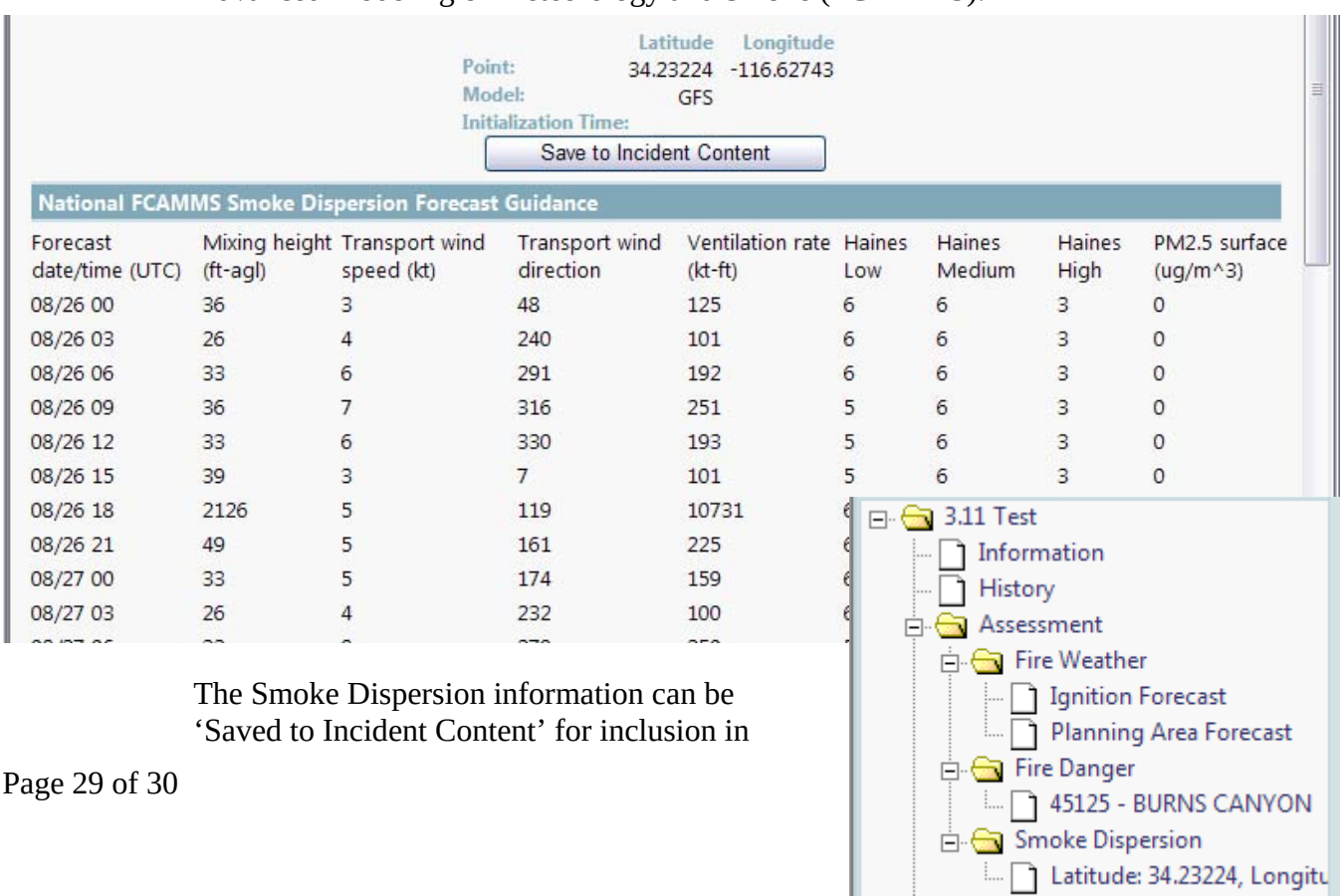
Demonstation of the 'Save' button

b. Initialization of the Information Panel on the Map Pages
On the Intelligence map, the latitude and longitude fields are initialized to the middle of the map as it first appears. On the remaining maps, the latitude and longitude fields are initialized to the incident ignition point.



c. DRI Smoke Dispersion

A 'Smoke Dispersion' link was added to the Information panel on the map pages. Use the Identify tool ( ) to set the Latitude and Longitude and then click on the 'Smoke Dispersion' link to display a popup window containing the 'National FCAMMS Smoke Dispersion Forecast Guidance' table. This table contains a localized text summary of atmospheric conditions affecting smoke and is produced by the Fire Consortium for the Advanced Modeling of Meteorology and Smoke (FCAMMS).



Forecast date/time (UTC)	Mixing height (ft-agl)	Transport wind speed (kt)	Transport wind direction	Ventilation rate (kt-ft)	Haines Low	Haines Medium	Haines High	PM2.5 surface (ug/m^3)
08/26 00	36	3	48	125	6	6	3	0
08/26 03	26	4	240	101	6	6	3	0
08/26 06	33	6	291	192	6	6	3	0
08/26 09	36	7	316	251	5	6	3	0
08/26 12	33	6	330	193	5	6	3	0
08/26 15	39	3	7	101	5	6	3	0
08/26 18	2126	5	119	10731	6			
08/26 21	49	5	161	225	6			
08/27 00	33	5	174	159	6			
08/27 03	26	4	232	100	6			

The Smoke Dispersion information can be 'Saved to Incident Content' for inclusion in

incident decisions and reports (in the same manner as Fire Danger Rating graphs can be saved). In order to save the content, a user must have incident editing privileges for the incident. In addition, the link must have been activated from a map associated with the desired incident (Situation Assessment map or an analysis map). Once saved, the content is accessible from the WFDSS content tree in the Smoke Dispersion sub-folder of the Assessment folder.