Wildland Fire Decision Support System

Decision Documentation Overview

Wildland Fire Management RD&A
National Interagency Fire Center
Boise, Idaho
June 2, 2009

Decision Documentation

Decision documentation requires the following:

- Developing Objectives
  - ✓Unit Strategic Objectives
  - ✓Unit Management Requirements
- Developing Courses of Action
  - ✓Strategic Direction
  - ✓Incident Objectives
  - ✓Incident Requirements
- Validating the Decision
- Publishing the Decision

First Some WFDSS Terms

- **Fire Management Unit (FMU):** A land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fire regime groups, etc. that set it apart from the characteristics of an adjacent FMU.

- **Strategic Objective:** These are broad statements, specified in land and resource management and fire management plans.

- **Management Requirement:** Are are derived from land and resource management plan and fire management plan standards and guidelines information.

WFDSS Terms (Continue)

- **Incident Objectives:** are objectives specific to the particular incident. They are precise statements that reflect milestones to be accomplished on the incident.
- **Incident Requirements:** are developed by the local unit to provide incident organization direction on the incident by providing a foundation, framework, and limitations/challenges for potential management activities.
- **Strategic Directions:** are a part of the *Course of Action*. They describe the strategic thinking that leads to the management of the incident. From these *Strategic Directions* incident personnel (IMTs) can develop the *Tactical Operations* that will met these strategies.

Examples

- **Fire Management Units (FMU)**

  CASNF FMU 3 – High Country

- **Strategic Objectives**

  Make appropriate suppression response to all wildfires. LRMP – Chapter 4 Forest-wide Standards & Guides Page 58

- **Management Requirements**

  Use of mechanical equipment for Wilderness and Special Management Areas must be Authorized prior to use. LRMP – Chapter 4 Forest-wide Standards & Guides Page 37

Examples

- **Incident Objectives**

  Utilization of existing road and trail systems, changes in vegetation, and natural barriers to minimize the suppression-related impacts on the natural and cultural resources

- **Incident Requirements**

  Assign a qualified archeologist as a resource advisor to this incident where the potentially or actually burning is in areas with a high probability of heritage resource sites.

- **Strategic Direction (Courses of Action)**

  Monitor the eastern and southern progression of the incident.

Objectives and Requirements

LRMP by FMU Established Pre-Incident → Strategic Objectives & Management Requirements

Line Officer's Direction & Resource Specialist's Input → Incident Objectives & Incident Requirements

Line Officer's Direction & Fire Specialist's Input → Courses of Action - Strategic Direction

Once you login into the WFDSS and click the Incident tab, this is the screen you will see. On this screen, you can sort the Incident List by any of the columns. Click DEFINE TEMPORARY FILTER

Define Temporary Incident Filter
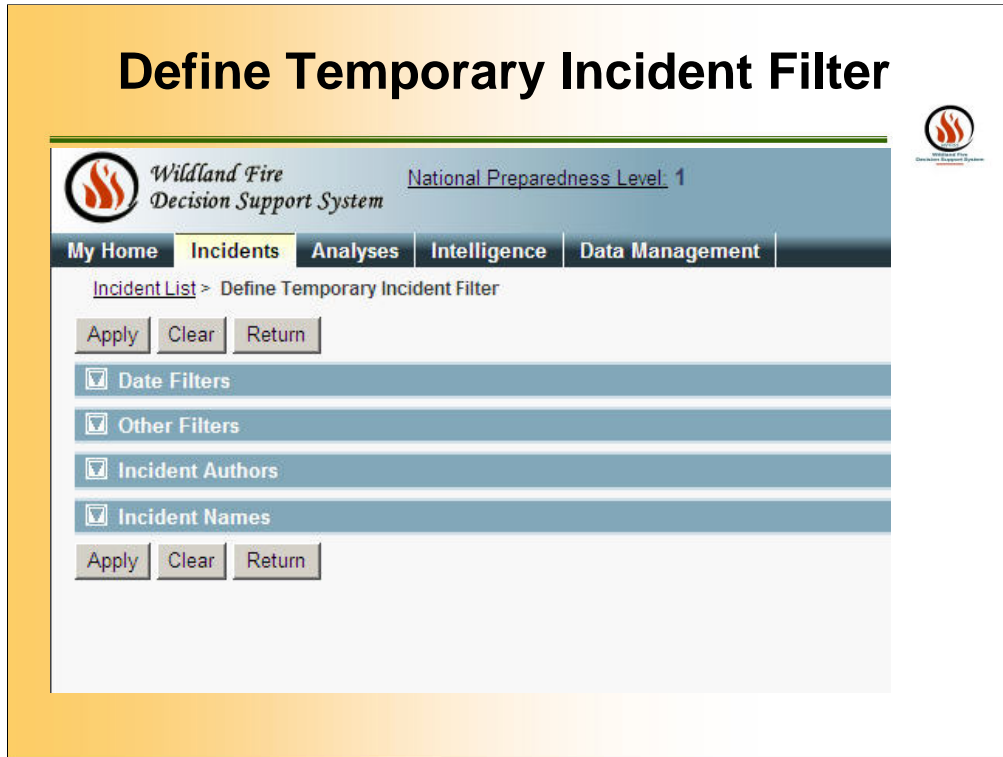
When you click the TEMPORARY FILTER link, then choose four different ways to filter to create an incidents list.

First click CLEAR. Then select which one or all of the filter options. To choose incidents by GA, Incident Name or Incident Author; find what you want in the list, highlight the selection, then click the arrow button to add the selections to the screen to the right of the list. When all selections are made, click APPLY.

Define a Temporary Incident Filter

Here are first two options.

Define a Temporary Incident Filter

Here are the second two options.

Define a Temporary Incident Filter
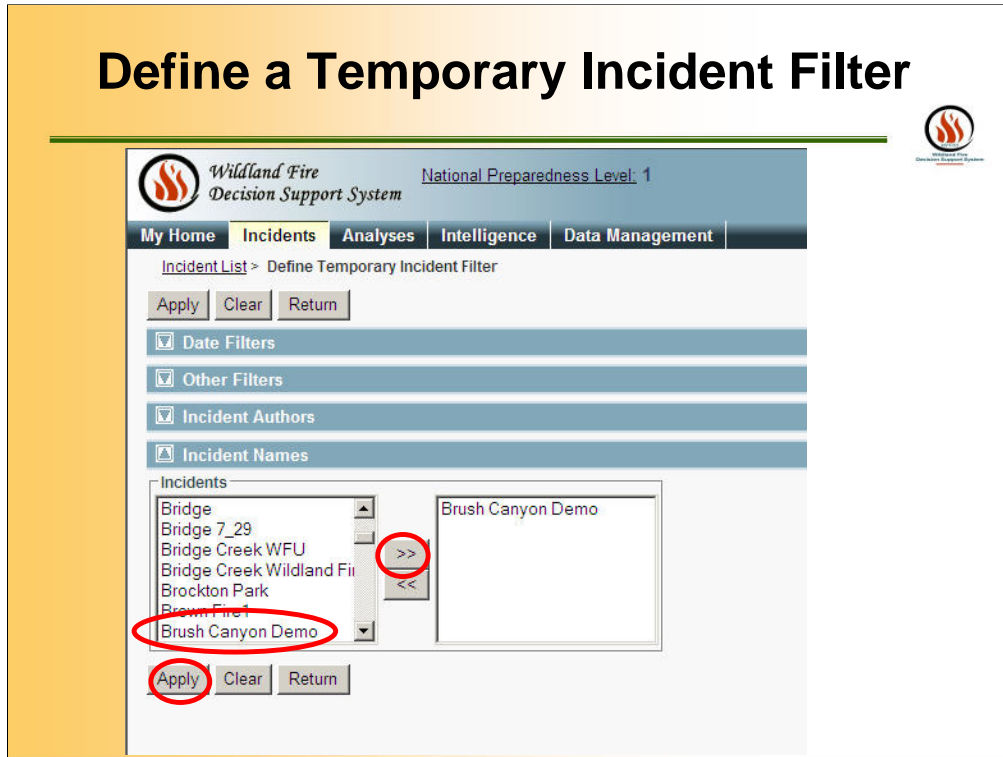
When you click the TEMPORARY INCIDENT FILTER link, then choose which incidents that appear in the list.

First click CLEAR. Then set the filter options. To choose incidents by Incident Name; find what you want in the list, highlight the selection, then click the arrow button to add the selections to the screen to the right of the list. When all selections are made, click APPLY.

Define a Temporary Incident Filter

To get to the Incident of interest, toggle a radio button (the round circle on the left hand side of the incident list), then click the VIEW INFORMATION button.

Continuing with the Submenu for Incidents – INFORMATION Tab

Under the INCIDENT Page, you can access the submenu Pages: Information, Situation, Objectives, Courses of Action, Validation, Decisions, Evaluation, Reports.

Under the INFORMATION tab, you can see the information that is relevant to the fire reports.

Situation Page – Base Layer
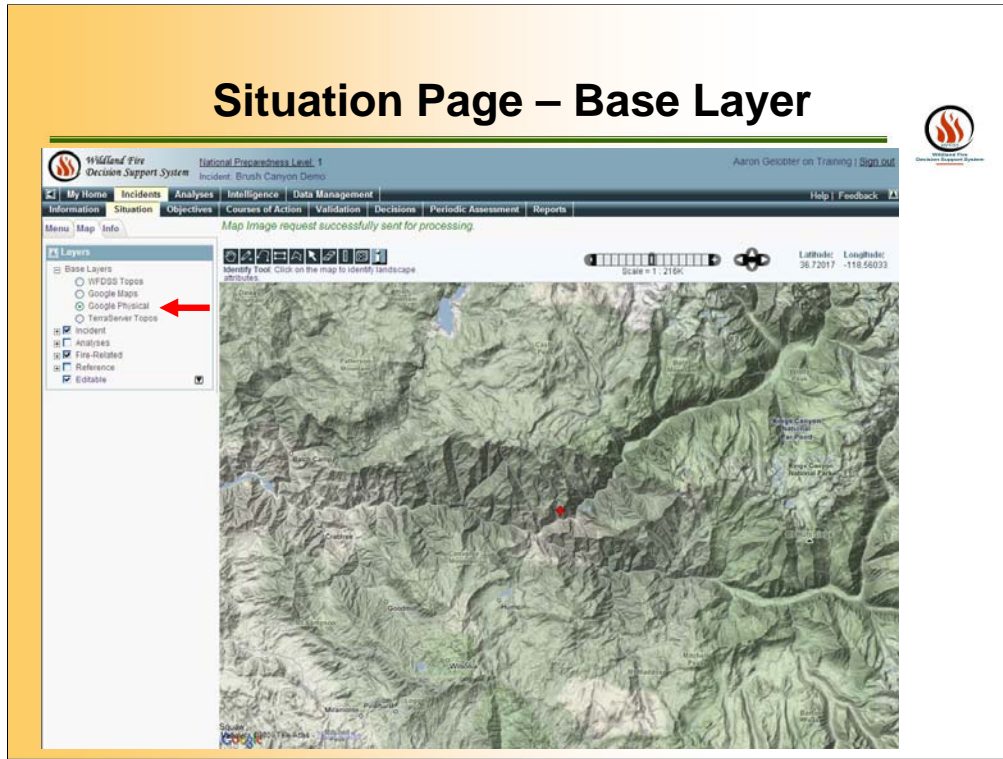
The SITUATION page shows a map of the incident. You have several options to get to this screen. You will have the same features of the ASSESS SITUATION tab and the SITUATION Page.

Examples – 4 Base Layers (Maps)

WFDSS Topos

Google Physical

Google Maps

TerraServer Topos
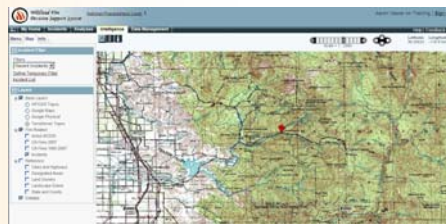
Example of the various base maps.
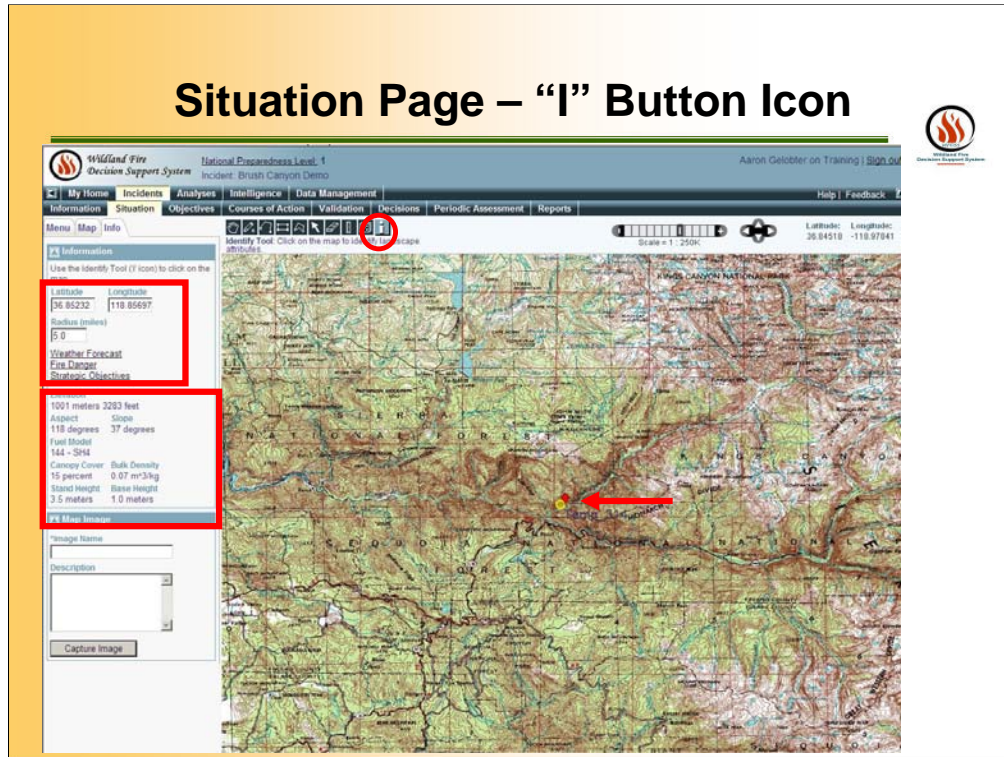
When you click on the SITUATION page, then activate the "i" information button on the
top toolbar. This will allow you to make a temporary mark on the map. From this point,
you will get with LANDFIRE data for the point. It is located on the lower left portion of
the screen. You can also click the links for WEATHER FORECAST, FIRE DANGER and
STRATEGIC OBJECTIVES. The outputs for these links are on the following slides.

Situation Page – Weather Forecast

You can also click the links for WEATHER FORECAST.

Situation Page – Fire Danger

You can see the FIRE DANGER is shown as the ERC-G graph for the closets RAWS (remote automated weather station). Output is similar to FireFamily+ application outputs.

Situation Page – Strategic Objectives

You can also click the links for STRATEGIC OJECTIVES to view them by FMUs.

Situation Page – Planning Area

The SITUATION page allows users to view a map of the incident along with various information. The first being the PLANNING AREA, which has defined the area of interest.

Situation Page – Values Inventory

You can see VALUES INVENTORY INFORMATION for the Planning Area. As more spatial data is available, the list will be longer. (This is temporary unavailable on the Training Site)

Situation Page – Fire History
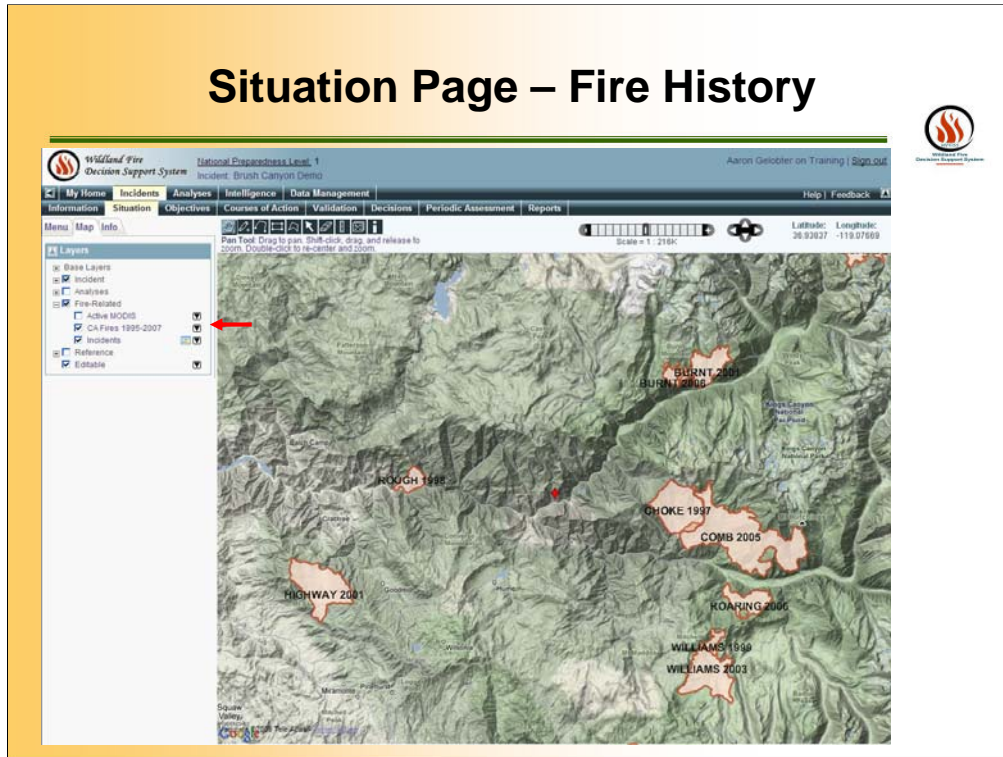
You can also click the links for FIRE-RELATED information with various layer the user defines such as the fire history layer.

Situation Page – Designated Areas
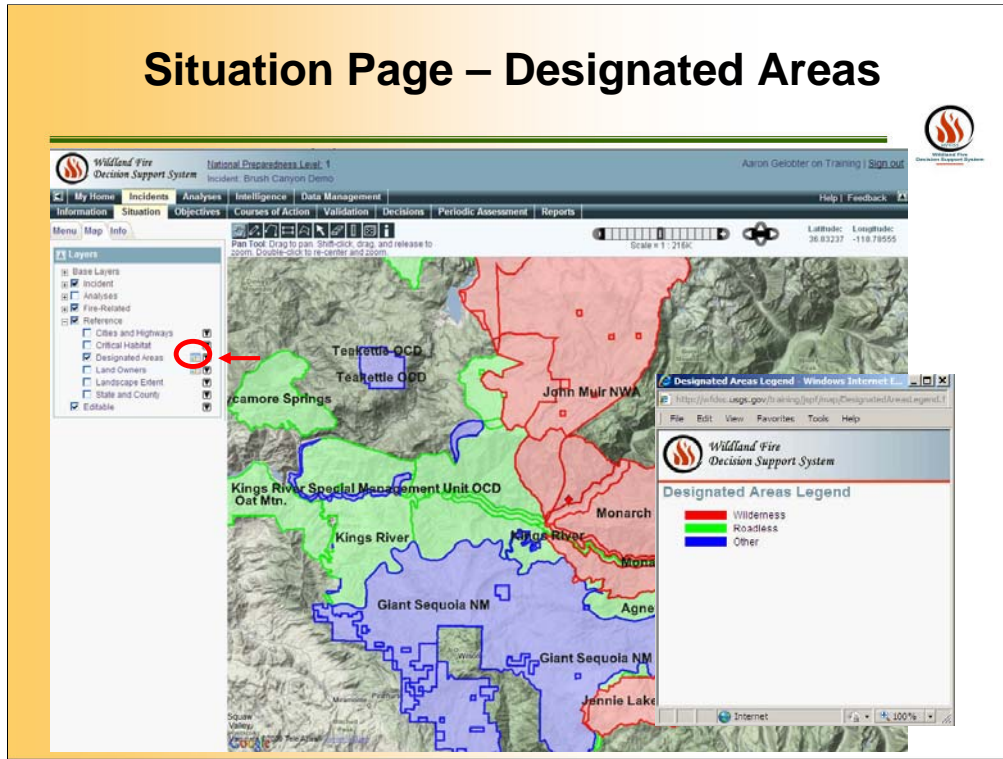
You can also click the links for DESIGNATED AREA to view the Land and Resource Areas, such as Wilderness, Wildlife Areas, etc.

Situation Page – Land Owners

You can also click the links for LAND OWNERS to view the land status.

Situation Page – Basic Fire Behavior

When you click on the SITUATION page, than can now activate the "EXTEND" button on the top toolbar. This will allow you to make a temporary mark on the map. Within this area, your fire behavior analyses will occur. The outputs to this area can be viewed on the ANALYSES page on the following slides.

Situation Page – BFB (Outputs)
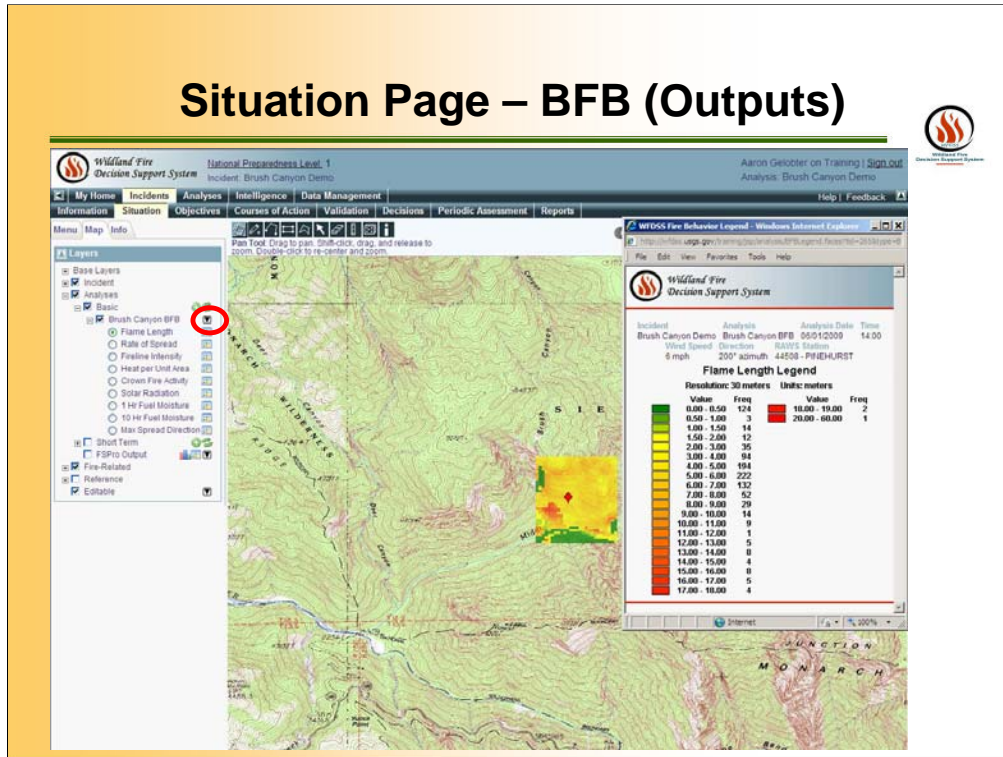
Click the Analyses Layer, then the Basic (Fire Behavior) and activate the analyses "Brush Canyon Demo BFB". To view the various fire behavior outputs click the black arrow button to the right of the analyses (in the red circle). This will expand the menu of fire behavior outputs. The example on this slide is the "Flame Length" with in the "LCP Extend" area that was selected earlier. To view the legend, click the color pallet button to the right of each Basic Fire Behavior layer.

Situation Page – STFB (Arrival Time)
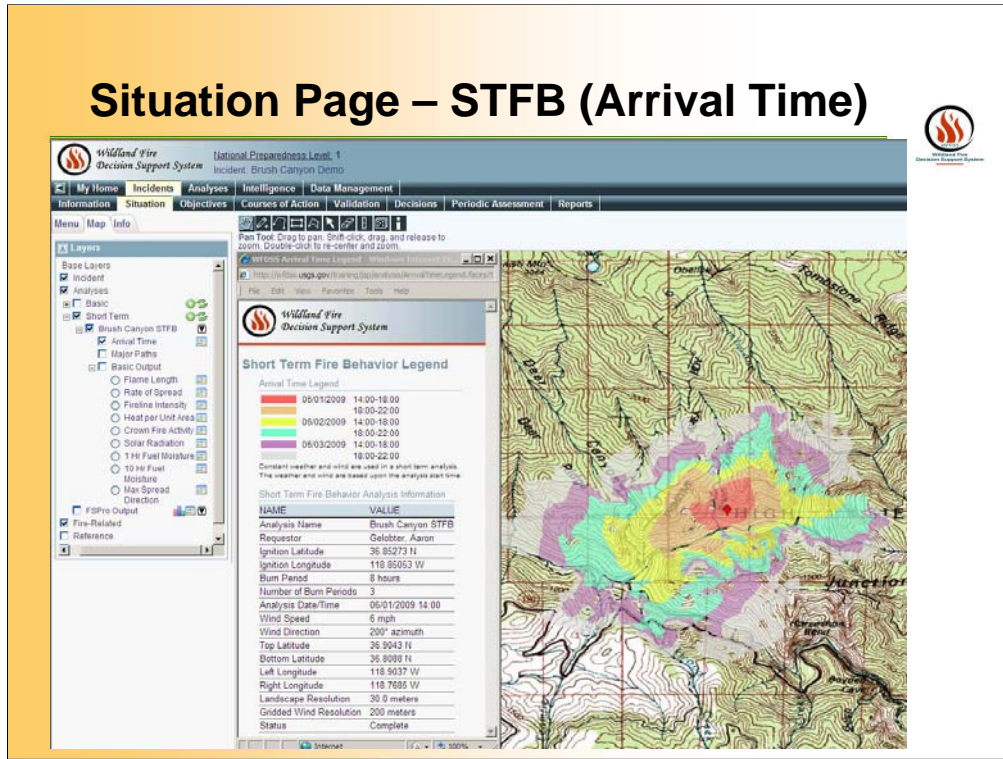
You can also click the Analyses Layer, then the Short Term (Fire Behavior) and activate the analyses "Brush Canyon Demo STFB" to view the various fire behavior outputs by Clicking the information button to the right of the analyses, similar to the Basic Fire Behavior. The example on this slide is the the "Arrival Time".

Situation Page – STFB (Major Path)
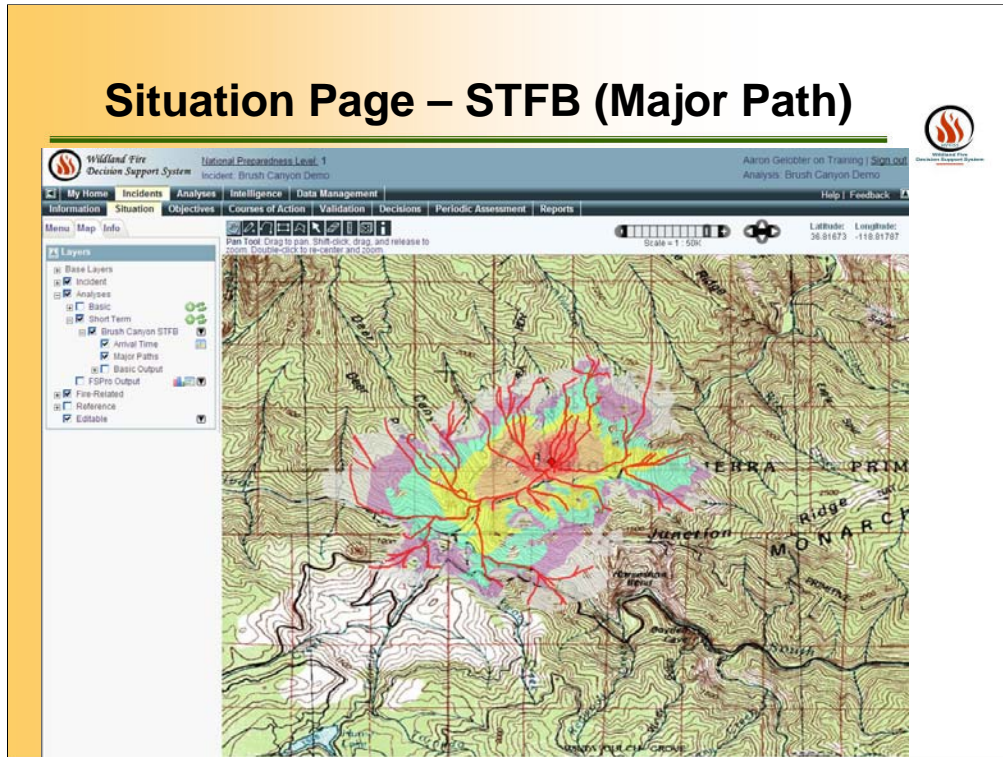
You can also click the Analyses Layer, then the Short Term (Fire Behavior) and activate the analyses "Brush Canyon Demo STFB" to view the various fire behavior outputs by Clicking the information button to the right of the analyses, similar to the Basic Fire Behavior. The example on this slide is the the "Major Path".

Situation Page – STFB (Outputs)
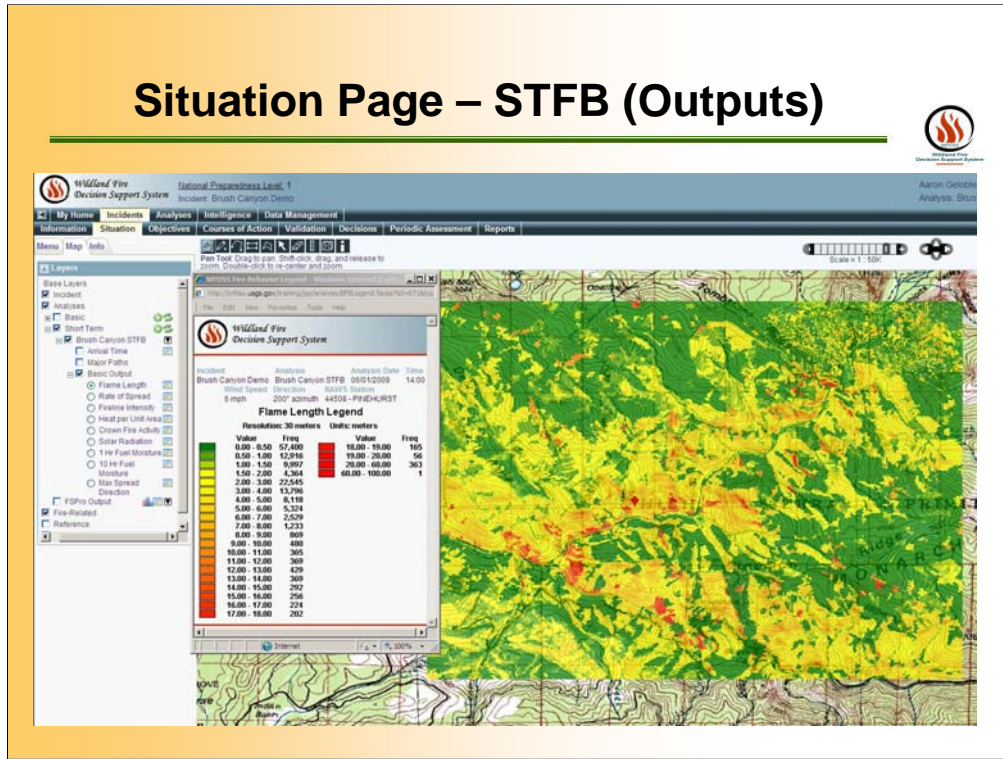
You can also click the Analyses Layer, then the Short Term (Fire Behavior) and activate the analyses "Brush Canyon Demo STFB" to view the various fire behavior outputs by Clicking the information button to the right of the analyses, similar to the Basic Fire Behavior.

Situation Page – FSPro Results
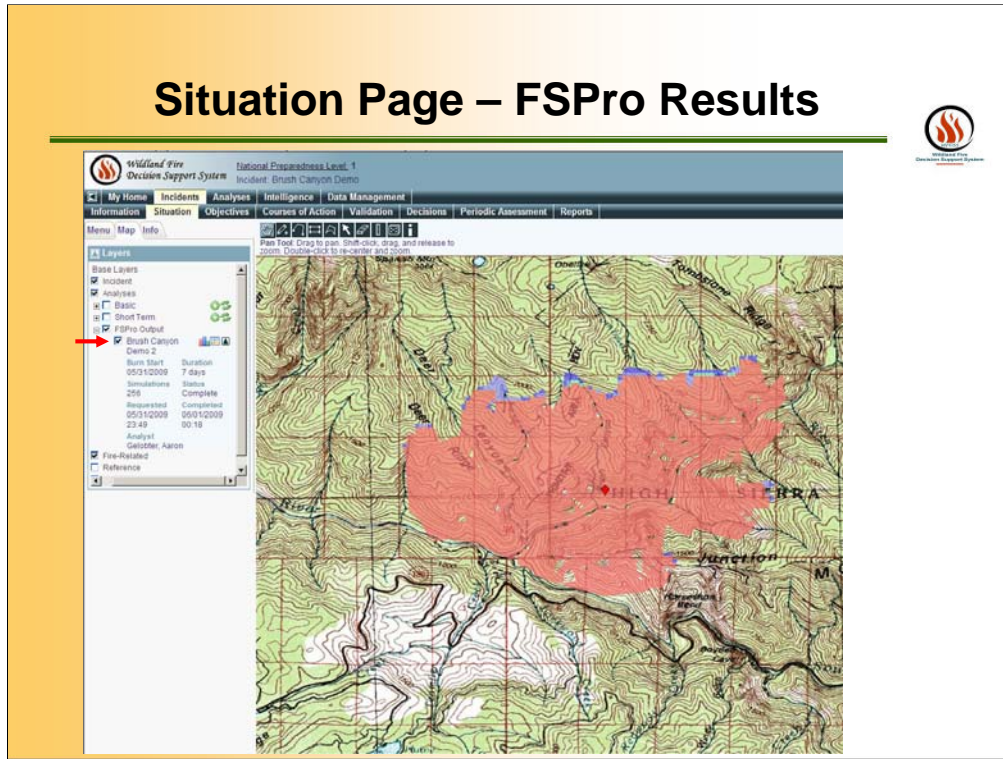
You can also click the Analyses Layer, then the RESULT and activate the a "FSPro Run" with in the "Extended" area that was selected earlier.

Situation Page – FSPro Results
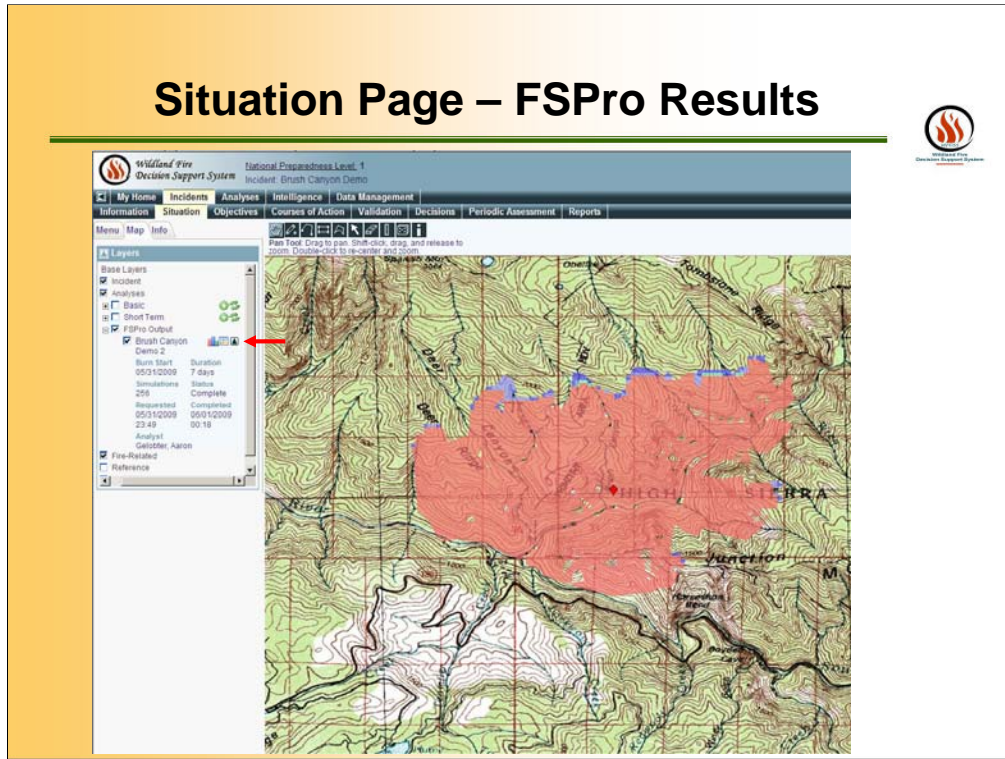
Click the black arrow button to the right of the FSPro layer. This will expand the left menu pane to reveal information about the FSPro run.
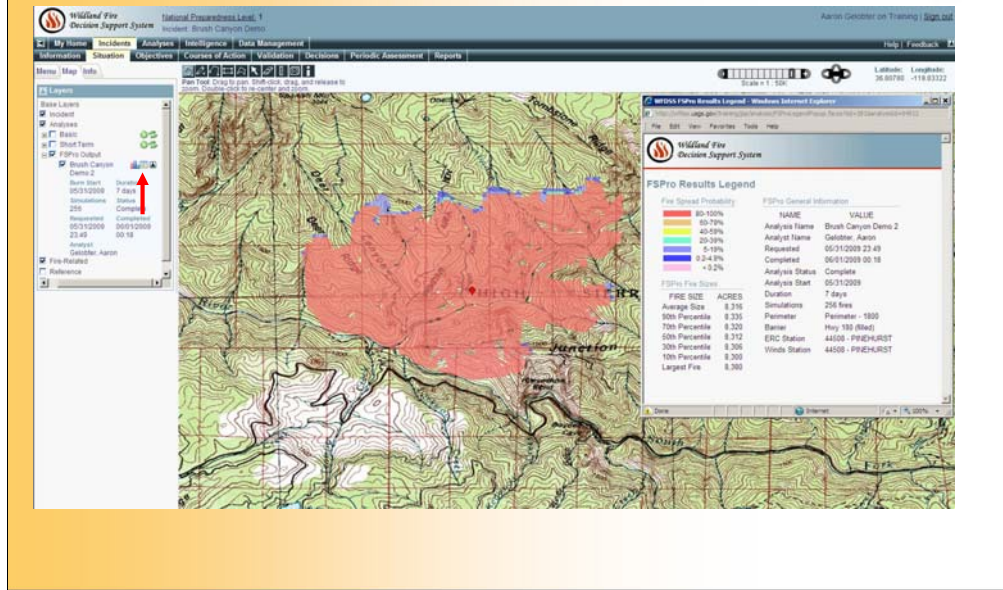
Click the middle color pallet button to reveal the FSPro Results Legend.

Situation Page – FSPro Results
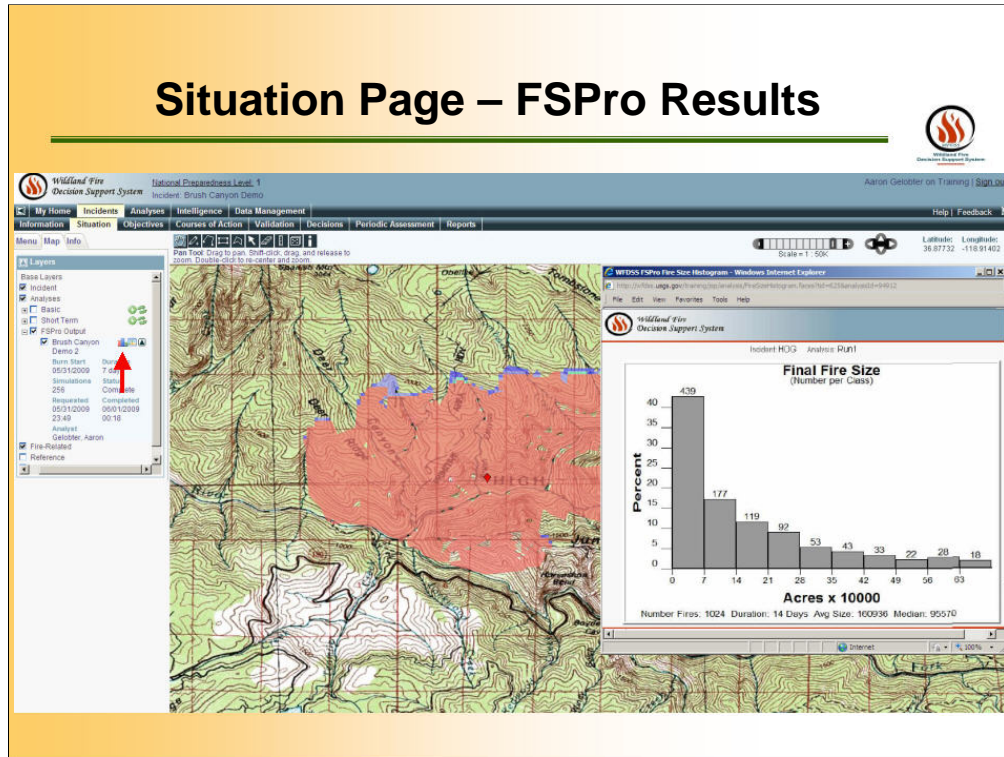
Click the colored bar graph icon to show the Fire size histogram for the fires that were run through the FSPro simulation. The fire size distribution summary and histogram provide no information on the exact fire size to expect for the modeled period. They provide only the range of modeled fire sizes in relation to the total number of fires during the simulation. In this example, using fire size distribution summary and the histogram, we can see that the average fire size was 160,936 acres and the median fire size was 95,570 acres. We can also tell that the largest fire was 691,804 acres. The histogram shows us that nearly half of the fires run through the simulation were less than 7000 acres.

Situation Page – Strategic Objectives

Situation Page – FMU List

Situation Page – Unit Selection

Users will be able to view which FMUs are associated with the Incident under this tab. If other FMUs were available, Users could add them to the incident at this point.

Situation Page –"Add FMU…"

Users will be able to Add FMU to Incident FMUs.

Situation Page – FMU Assigned

Objectives Page – Create Incident Objective

Click **Create Incident Objective**. The Create Incident Objective page appears.

Objectives Page – Insert Text

Enter a Description of the objective. Be as specific as possible. Click **Save**. A message appears saying that the objective has been added. When finished entering objectives, click **Return**. The Objectives/Requirements list reappears with the newly added objectives at the top of the list.

Objectives Page – "Paste from Word"

From a pre-existing Word Document, use the Paste from Word tool. Be as specific as possible. Click **Save**. A message appears saying that the objective has been added.   When finished entering objectives, click **Return**. The Objectives/Requirements list reappears with the newly added objectives at the top of the list.

Objectives Page – Save

SAVE!

Objectives Page – Created

RETURN

Objectives Page – Create Incident Requirement

Click **Create Incident Requirement**. The Create Incident Requirement page appears.

Objectives Page – Insert Text

From a pre-existing Word Document, use the Paste from Word tool. Be as specific as possible. Click **Save**. A message appears saying that the requirement has been added.   When finished entering requirement, click **Return**. The Objectives/Requirements list reappears with the newly added objectives at the top of the list.

Objectives Page – Save

Save

Objectives Page – Delete, Edit, or Include

To include the incident objective and/or incident requirement in your decision report, select the requirement from the list, then click **Include**.

Until the decision is published, you can edit requirements even if they have been included in the decision.

Objectives Page – Include

The "No" changes to "Yes" the Objective is included.

Objectives Page – Include

The "No" changes to "Yes" the Requirement is included.

Courses of Action Page – Preloaded Strategic Direction

Click **Create Strategic Direction**. The Create Strategic Direction page appears.

Courses of Action Page – Type in Text

Enter a Strategic Direction. Be as specific as possible. Remember, this information will appear in the decision action report, then click Save.

Courses of Action Page – Created

Click **Save**. A message appears saying that the strategic direction has been added.

Courses of Action Page – Delete, Edit, or Include

To include a Strategic Direction in the decision, select the Strategic Directions, then click **Include**. To exclude a Strategic Direction in the decision, select the Strategic Directions, then click **Exclude**. Until the decision is reviewed, you can edit Strategic Directions even if they have been included in the decision.

Courses of Action PAGE – Estimated Cost

Validation – Courses of Action

Before a Decision can be reviewed, the STRATEGIC OBJECTIVES needs to be validated. Click either YES or NO, If No Users will be required to enter a COMMENT. A yes answer is optional. Users should include information on resource availability, fire behavior models, and estimated costs.

Validation – Courses of Action

Decisions Page – Create a Decision

Select the **Decisions** page. The Decisions List appears. If no pending decision exists, click **Create**. A pending decision appears in the list.

Decisions Page – Created

After a Decision is created but not yet published, users can EDIT the content of the decision.

Pre-loaded in the Decision Content from the Incident Content. Click the Down Arrow to view.

Decisions Page – Objectives are Displayed

Pre-loaded in the Decision Content from the Incident Content.

Decisions Page – Information is Displayed

Pre-loaded in the Decision Content from the Incident Content.

Pre-loaded in the Decision Content from the Incident Content.

Decisions Page – Course of Action

Pre-loaded in the Decision Content from the Incident Content.

Decisions Page – WFDSS Content Tool

Review the content contained in the decision document. To add text from the Validation folder, navigate to the folder containing the text, highlight the folder, click the Insert WFDSS Content (Red Circle) icon to add it to the decision document. Save frequently (click the Save icon on the Editor toolbar).

Decisions Page – "Save Button"

Save!

Decisions Page – Saved

Decisions Page – Inserting Image

Review the content contained in the decision document. To add images from the incident folder, navigate to the folder containing the image, select the image, click the Insert WFDSS Content (Red Circle) icon to add it to the decision document. Save frequently (click the Save icon on the Editor toolbar).
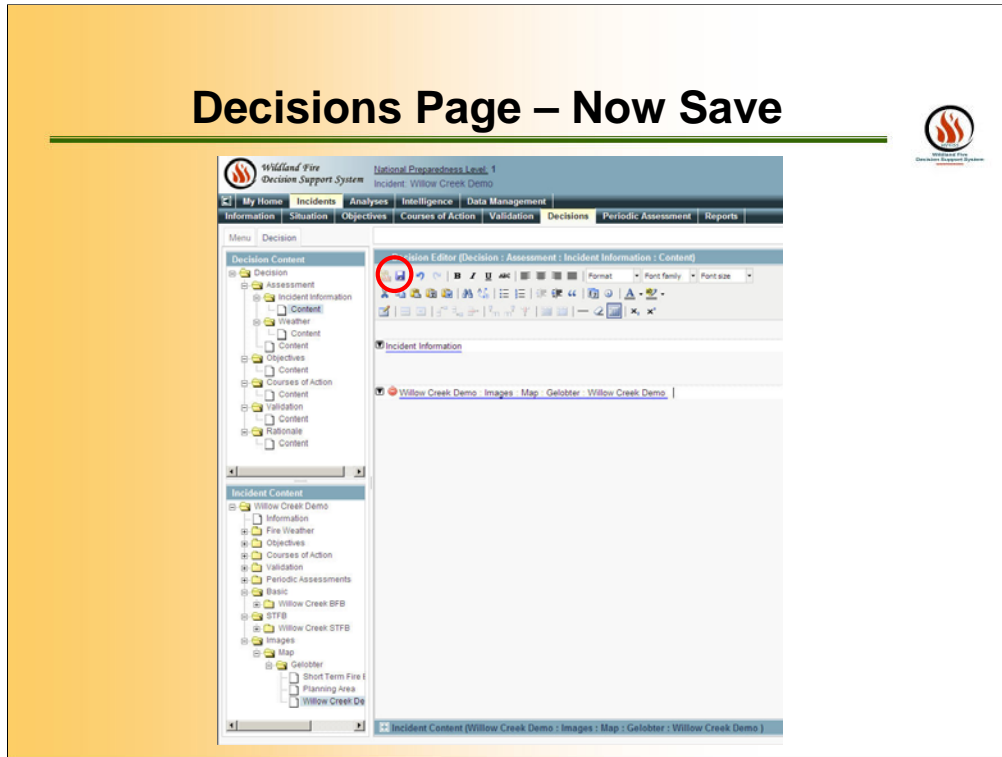
Make sure you save your work each time you paste content into the DECISION
CONTENT. Click the SAVE tool. (circled in RED – the symbol of the antique
floppy disk we are used to from WORD).

Decisions Page – Saved

Saved

Decisions Page – View Image

Decisions Page – View Text

Decisions Page – Type in Text

Enter a Rationale for the decision. Expand the Decision tree view and scroll down to the Rationale folder. Click Content. The Decision Editor changes to the Rationale page.   Enter/edit the content as needed. Save.

Once you are done editing make sure to "CHECK-IN" the documents.

Decisions Page – "Available"

Decisions Page – Edit by Section

Several users will be allowed to edit different portions of the decision at the same time. For example, a user could be editing the Course Of Action while another user is Editing the Assessment portion of the decision document.

Decisions Page – Edit "Objectives"

Decisions Page – Objectives Section

Under Red Circle #1 use the radio button to select the sub-part to be edited. Red Circle #2 shows that the decision is LOCKED during editing. Also CHECK-IN after editing is completed (Red Circle #3)

Decisions Page – Available

Now ready for a REVIEW, by clicking the "Review Request" Button. This will only show after decision has been Validated and REVIEWERS and APPROVERS have been designated. We will get to granting Incident Privileges shortly. To make sure Decision Requirements are complete, Click the VIEW INFORMATION button.

Decisions Page – Requirements must be Completed

Users can navigate to this screen by selecting View Information on the previous slide. The Decision can not be reviewed because the of the items need to be completed under the "Requirements That Must Be Completed Before An Incident Decision Can Be Review" screen.

Decisions Page – Approver Privileges

Click INCIDENT PRIVILEGE button to select a REVIEWER. NOTE
REVIEWERS can have EDIT privileges granted; however, they can not have
APPROVER privileges.

Decisions Page – Filter for a Name

Decisions Page – Edit & Approve Privileges

Click INCIDENT PRIVILEGE button to select APPROVER(s) for the decision document. APPROVERS also need to be granted EDIT privileges on this screen. This will enable the APPROVER(s) to complete the PERIODIC ASSESSMENT Page.

Decisions Page – Reviewer Privileges

Decisions Page – Edit & Reviewer Privileges

Decisions Page – Review Request

Click REQUEST REVIEW button to begin the process of review and approval.

Decisions Page – Submit Request

All requirements are met for the Approval, Click Submit Request.

Submission sent to the Reviewer and on to the Approver.

Decisions Page – Review

The REVIEWER or APPROVER will needed to click on REVIEW. As you can see the parts of the decision is LOCKED and the Pending Decision is REVIEWABLE – meaning it is waiting for decision.

Decisions Page – Reviewing

The Review Incident Decision screen will appear once a REVIEWER or APPROVER clicks the REVIEW button. Click either APPROVE DECISION or REJECT DECISION. If REJECTED you will be required to enter a COMMENT. Under APPROVED DECISION you will NOT be able to comment. If you are the APPROVER, you will need to fill out the Periodic Assessment.

Decisions Page – Rejected

Example if you Reject the Decision.

Decisions Page – Rejected

Decisions Page – Rejected

Decisions Page – Review

Decisions Page – Approve Decision

Decisions Page – Published

Users can review the status of the decision.

Periodic Assessment Page – Number of Days

Select the **Periodic Assessment** page. The Periodic Assessment page appears. Set the number of days until the next assessment.

Periodic Assessment Page – Valid

If you want an email reminder, mark the checkbox for email reminders. Determine whether the current decision is still valid. Click **Current Decision Still Valid**, if this is true. The Periodic Assessment List is updated. If the current decision is no longer valid, enter a comment, then click **New Decision Required**. The Periodic Assessment list is updated. The situation requires a change in the level of oversight, significant changes to resource requirements, or increased costs require escalation to the next level of authority.

Periodic Assessment Page – Save

Objectives and Requirements – Activated

You will be able to view INCIDENT and MANAGEMENT REQUIREMENTS associated with this Incident under this page.

Courses of Action – Activated

You will be able to view the status of the COURSE OF ACTIONS under this page.

View Decision History

Users will be able to view COMPLETED DECISION history under this tab. Throughout the course of the incident, users can view the history of the decisions made on the incident and the changes in the Course of Action.

View Completed Decision Document

You will be able to view COMPLETED DECISION document under this tab.

Reports Page – View Full Report

Use the VIEW FULL REPORT tab to view all analyses and information created throughout the course of the incident.

Reports Page – Content

Example of a part of one Report.

Reports Page – Content

Example of a part of one Report.

The End