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Chapter 1. About this guide

Welcome to the WIMS User's Guide. This guide contains information about how to access and use the Weather Information Management System (WIMS). The guide is organized to help you locate and perform specific WIMS functions quickly and easily.

Before you begin

This guide assumes you have knowledge of the following areas before you begin using WIMS:

- If you are accessing WIMS using a personal computer, you are familiar with the personal computer keyboard, understand WIMS-related concepts, and are familiar with using the Internet to access WIMS.

How to use this guide

Each chapter explains a specific functional area of the WIMS system. You will find an overview of each menu option and the functions that you can perform.

The Contents is organized according to the WIMS Main Menu.

Chapter 1, “About this guide” introduces the WIMS User's Guide, conventions, and update guidelines.

Chapter 2, “About WIMS” introduces WIMS and explains WIMS system components and information flow.

Chapter 3, “Getting started” outlines what you need to access WIMS via the Internet. Chapter 3 also explains WIMS access levels and lists agency information contacts.

Chapter 4, “WIMS basics” explains the WIMS menu hierarchy, how to log on and off the WIMS system, how to use FastPaths and how to perform basic queries.

Chapter 5, “Beyond the basics” explains how to perform wildcard queries, capture data, use query blocks, and recalculate NFDRS indices.

Chapter 6, “Working with Station Information” explains how to create, edit, and display manual and RAWS station information. Chapter 6 also explains how to create, edit, and display Special Interest Groups (SIGs) and Access Control Lists (ACLs).

Chapter 7, "Working with Observations" explains how to create, edit, delete, and display weather observations.

Chapter 8, "Working with Forecasts" explains how to create, edit, delete, and display weather forecasts.

Chapter 9, "Working with NFDRS," explains National Fire Danger Rating System (NFDRS) components and indices, NFDRS reports, and how to create and edit NFDRS components.

Chapter 10, "Working with WIMS Utilities" explains how to set up your WIMS profile, how to use mail, how to use the Shared and Private File Directories, how to list WIMS users, and how to submit billing information.

Appendices are located in the back of this guide to help you locate specific FastPath commands, function keys, acronyms, and NFDRS parameters. The WIMS/ NIFMID Access Request Form is also included. The Glossary lists terms and definitions used in this guide. References are arranged alphabetically and contain sources of information used to complete this guide. The Index lists functions, topics, and corresponding page numbers.

Conventions

This guide uses the following conventions:

- Required input that does not have any set value appears in lower case in bold italic type. For example, to enter a station ID you are instructed to "type the ***number*** of the station you want to create and click return."
- The WIMS FastPath that relates to the current procedure, if available, is located in the heading of every page in upper case. For example, on page xxxx in Chapter 7, "Working with Observations," the text "FastPath: OBS" appears in the heading.
- Fields located in the query block of a WIMS form are highlighted in the form's field definitions. For more information, see Chapter 5, "Beyond the basics."
- Topics of special interest or hints that will help you perform a specific task are shown within horizontal rules.

Update guidelines

Updates to this guide will be issued with accompanying instructions to add, replace, or remove the affected material. The revision date is located at the bottom of each page.

Chapter 2. About WIMS

The Weather Information Management System (WIMS) is a comprehensive system that helps you manage weather information. WIMS replaced the Administrative Forest Fire Information Retrieval and Management System (AFFIRMS) as the host for the National Fire Danger Rating System (NFDRS), incorporating both the 1978 and 1988 fuel models.

The WIMS system consists of two servers – an IBM mainframe and an IBM RISC6000/AIX. The mainframe will host the Oracle database and the AIX machine will be the web/application server. TCP/IP communication protocol will be established between the two servers.

WIMS accesses the National Interagency Fire Management Integrated Database (NIFMID). NIFMID is an ORACLE ® relational database that contains historic fire weather and historic fire record information. WIMS and NIFMID run on the IBM mainframe computer at the USDA National Information Technology Center (NITC) in Kansas City, and are available on a twenty-four hour basis.

WIMS allows you to retrieve weather information by providing:

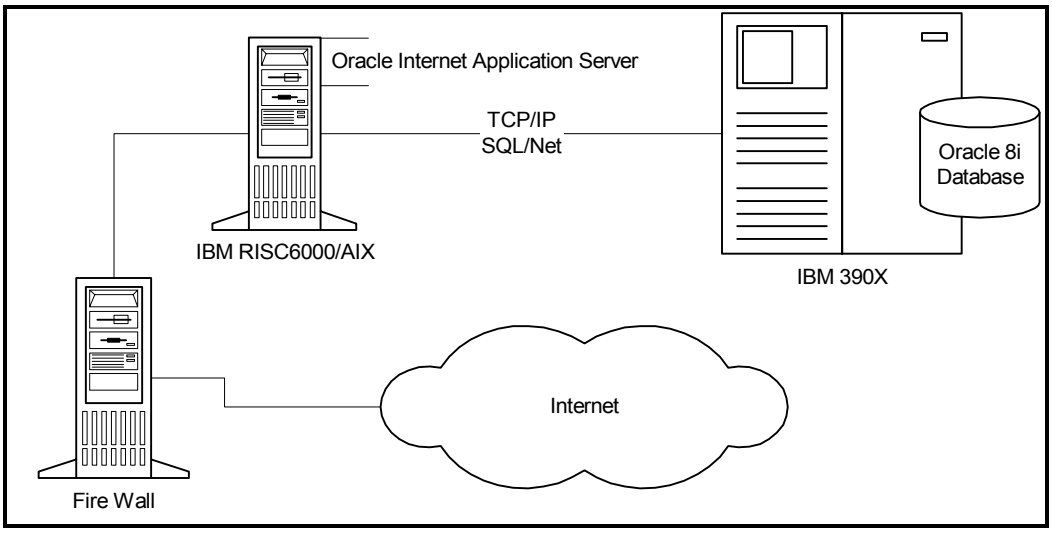
- Timely access to many weather information sources
- Efficient tools for managing data
- Data manipulation and display functions
- Interactive communications environment

For more complete information about NFDRS, see Chapter 9, "Working with NFDRS" and Appendix E," NFDRS technical reference. "

To obtain user support and system administration services

Contact your agency's system administrator. To locate this person, check with your supervisor and/ or computer specialist, or contact the F&AM Fire Applications Helpdesk in Boise at (800) 253-5559 or (208) 387-5290.

WIMS System components and information flow



WIMS receives weather data from four basic sources:

- National Weather Service Telecommunications Gateway (NWSTG)
- Satellite -RAWS Gateway
- Non-satellite -RAWS Gateway
- Directly from manual observations at field locations.

NWS -Telecommunications Gateway (NWSTG)

The NWSTG shares information with other NWS networks such as the AWIPS network.

Satellite RAWS Gateway

- The Satellite RAWS Gateway receives satellite Remote Automatic Weather Station (RAWS) data from the BLM's Automated, Storage, Conversion, and Distribution System (ASCADS) using a preset schedule. RAWS stations identified in the annual BLM/ RAWS operating plan and appropriately cataloged, send RAWS data to WIMS as specified.

Non-satellite -RAWS Gateway

The non-satellite RAWS Gateway receives formatted non-satellite RAWS data from remote weather stations.

Non-satellite RAWS data is downloaded to the Western Regional Climate Center. WIMS began collecting this data on February 26, 1997.

Chapter 3. Getting started

This chapter gives you the information you will need to establish your first WIMS session. Topics include:

- Internet access requirements
- WIMS access levels
- Your WIMS logon ID and WIMS password
- Logging on
- Logging off

Access to WIMS web

You can access WIMS from the Internet.

To communicate with WIMS, use the Internet domain name: http:/famweb.nwcg.gov

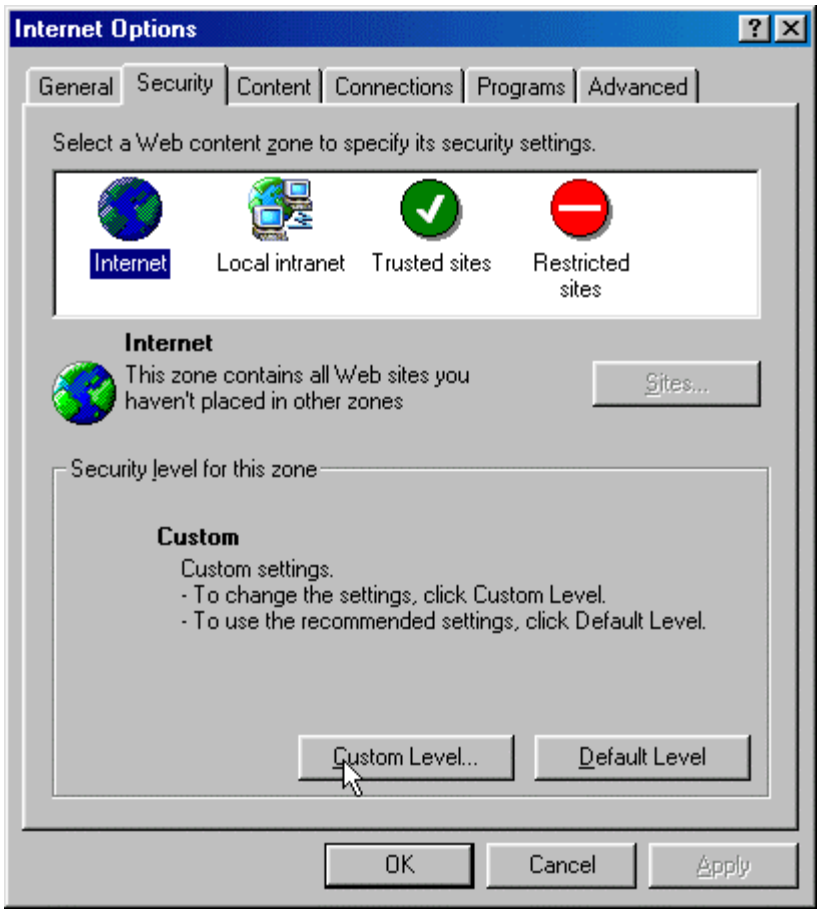
Browser Requirements

You must be running Netscape Navigator 4.7 or Internet Explorer 5.0/5.5 to access WIMS web. You must have Java enabled and you will also need to set your text size to smallest.

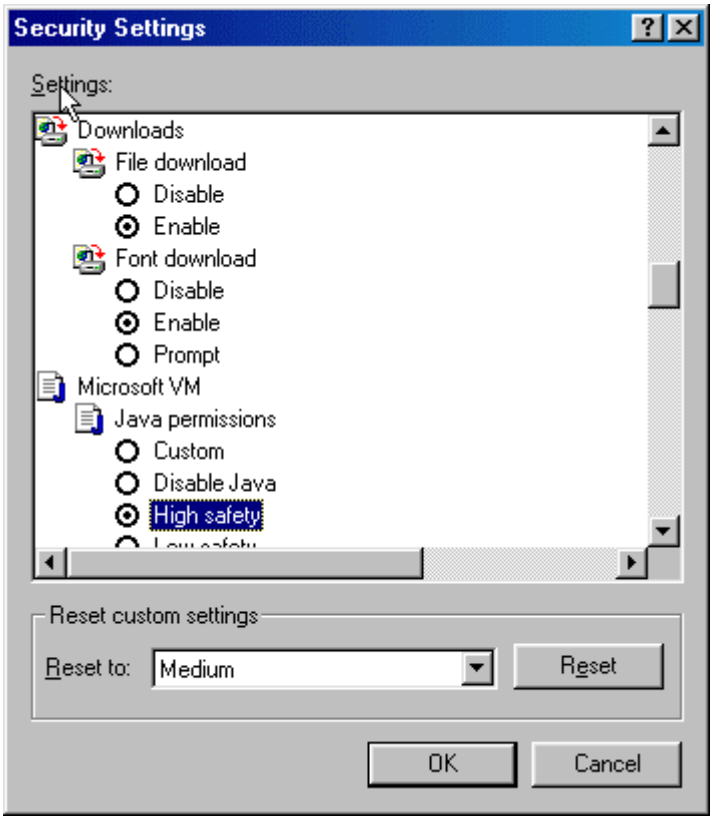
To enable Java on Microsoft Internet Explorer:

Choose Tools from the toolbar and Internet Options from the drop down menu.

From the Internet Options dialog box choose the Security tab and then Custom Level as displayed on the next page.



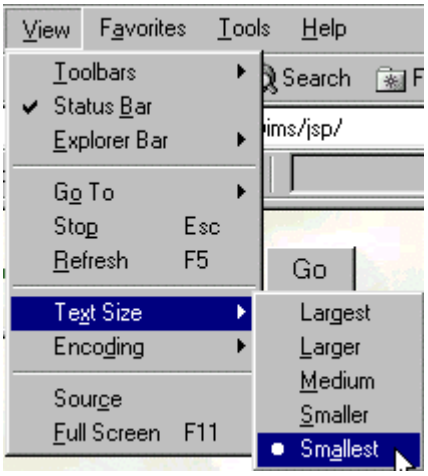
The Security Settings dialog box will display. Scroll through the listed security options to Microsoft VM and make sure that the option Disable Java is not selected.



Any setting other than Disable Java should allow you to run WIMS web.

To change your text size settings in Internet Explorer:

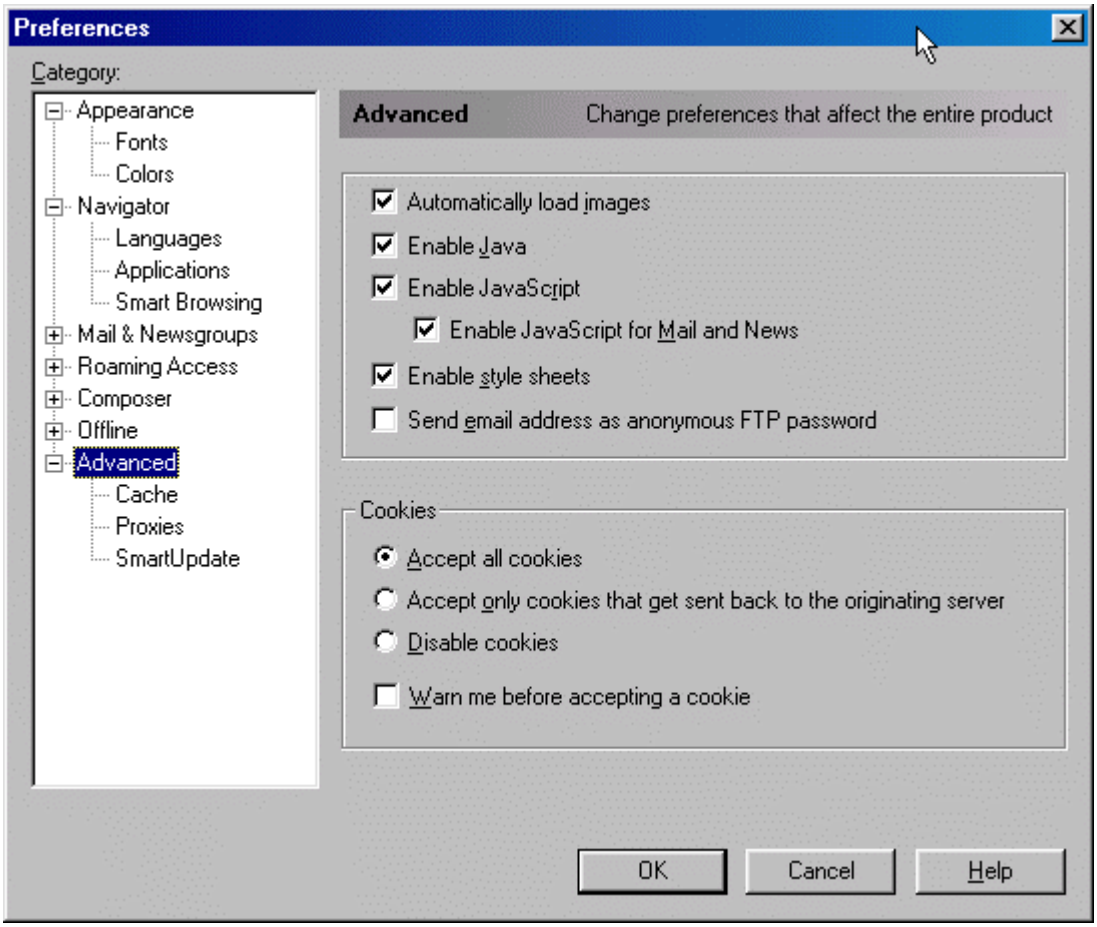
Choose View, Text Size, and then Smallest from your browser's toolbar as shown below.



To enable Java on Netscape Navigator 4.7:

Choose Edit from the toolbar and Preferences from the drop down menu.

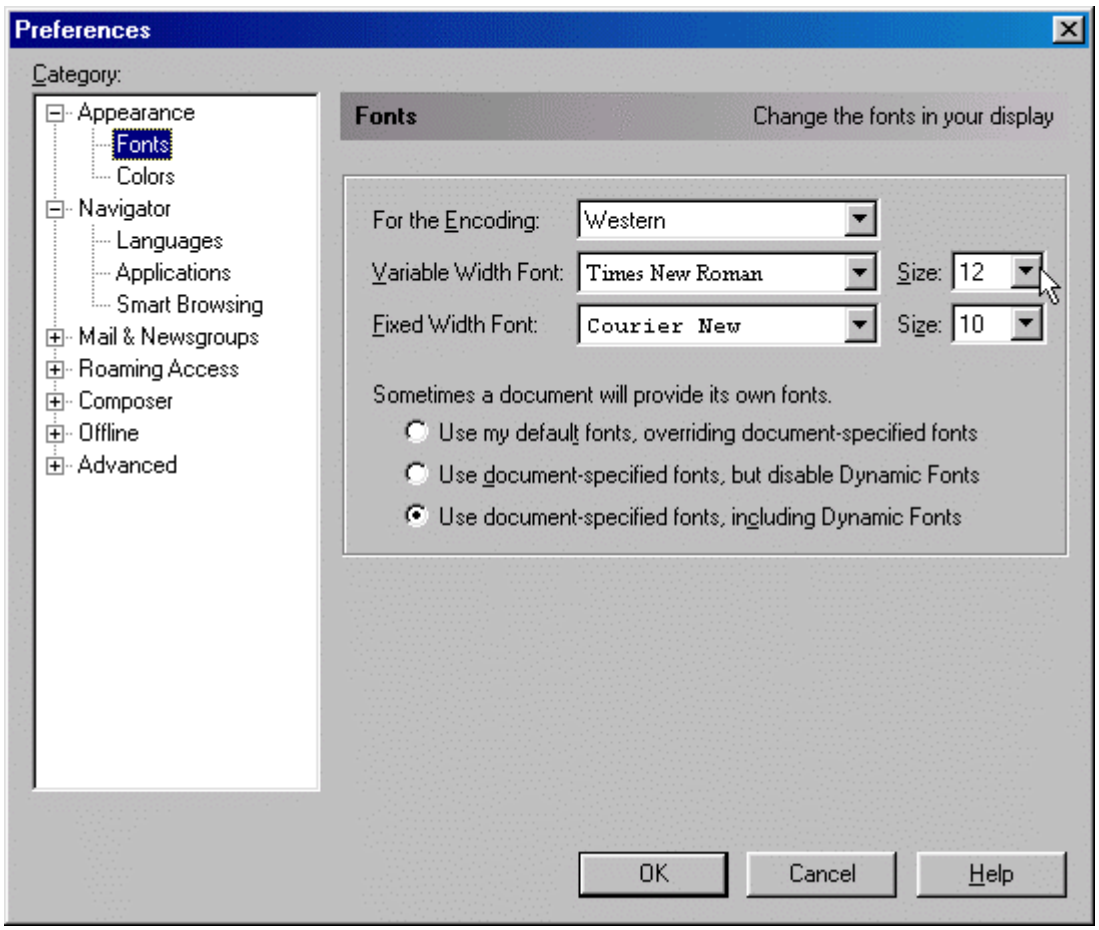
From the Preferences dialog box that appears click Advanced from the Category pane as displayed below. Make sure that Java and JavaScript are enabled.



To change text size on Netscape Navigator 4.7:

Choose Edit from the toolbar and Preferences from the drop down menu.

From the Preferences dialog box click Fonts from the Category pane as displayed below. Make sure that Font size is set no larger than 12 pts.



WIMS access levels

WIMS has three access levels:

- Data Manager - access to all WIMS functions except entering and editing forecasts.
- Data Entry - access to some WIMS functions including entering and editing observations.
- National Weather Service (NWS) - access to all major WIMS functions.

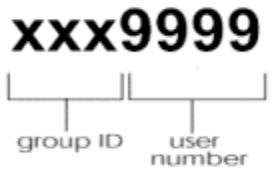
Based on your work duties, you are assigned an access level that allows you to perform only specific functions within WIMS. This WIMS User's Guide explains every menu and form available for all three access levels. In some cases, you must have a specific access level or have that station's ownership to see and use some WIMS menus and forms.

For a list of menu options and access levels, see Appendix A, "Menus, FastPaths, and access levels."

Your WIMS logon ID

Each WIMS logon ID is assigned by an agency security officer or the F&AM Fire Applications Helpdesk and the user access level is tied to the logon ID. It contains accounting information that the WIMS system needs to identify users for billing purposes.

The diagram below identifies the key components of your WIMS logon ID.



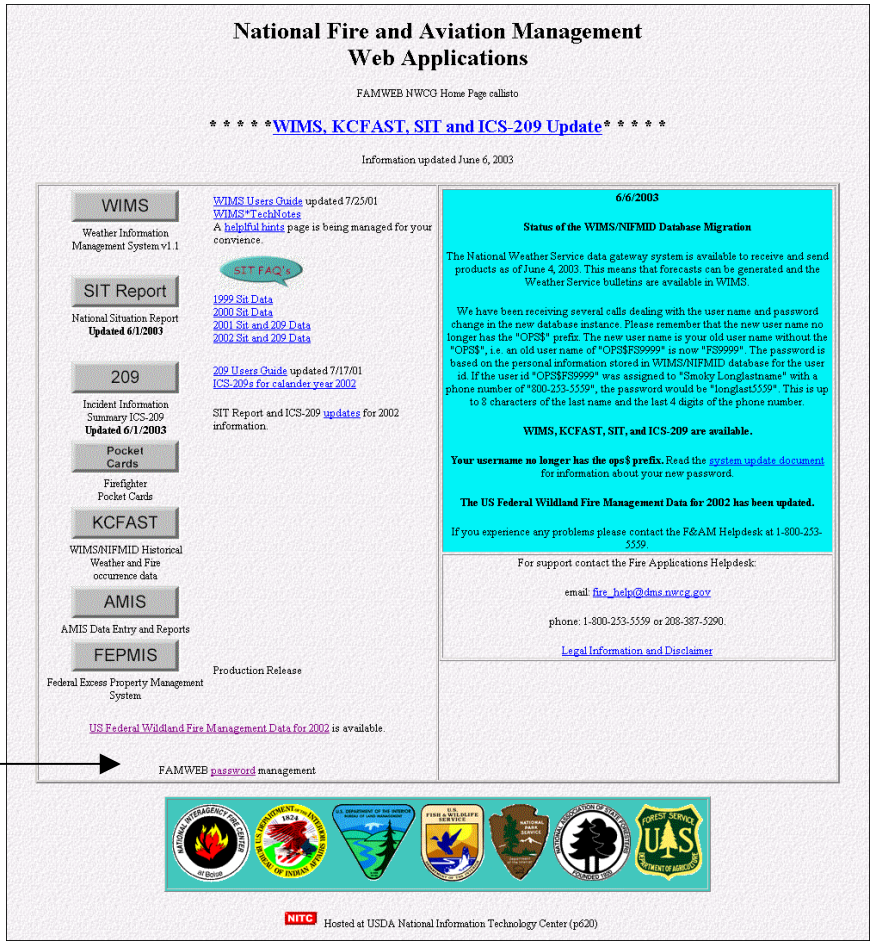
To request access or change your access level complete and submit the forms in Appendix D, " WIMS/ NIFMID forms and instructions. "

Your WIMS password

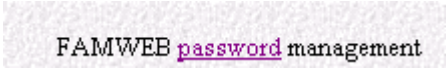
Your WIMS password is linked to your WIMS logon ID. Together, these provide the first layer of security to reduce the possibility of unauthorized access to the WIMS system. The password must contain 6 to 12 characters (a mix of letters and numbers). Make sure a number is not the first character in the password.

To change your WIMS password

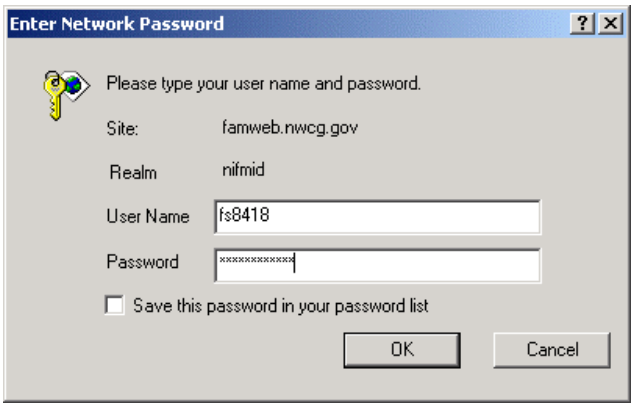
To change your WIMS password logon to the FAMWEB home page http://famweb.nwcg.gov



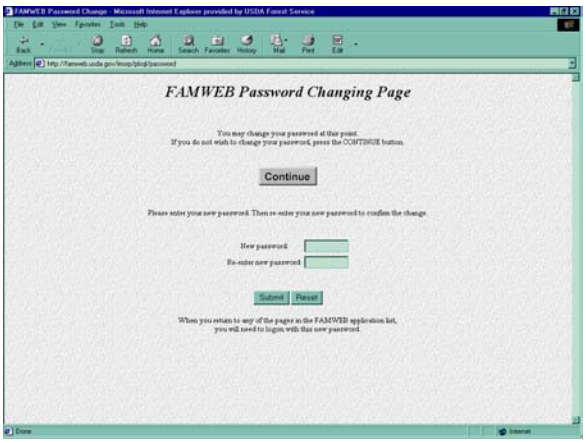
Click on the FAMWEB password management link located below the application buttons.



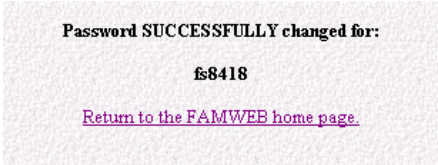
The user will be prompted to enter his/her current logon id and password pair.



The Password change screen will open. The user can click on continue and not change the password, or enter a new password, enter the new password one more time and click on submit.



A successful password screen will display.

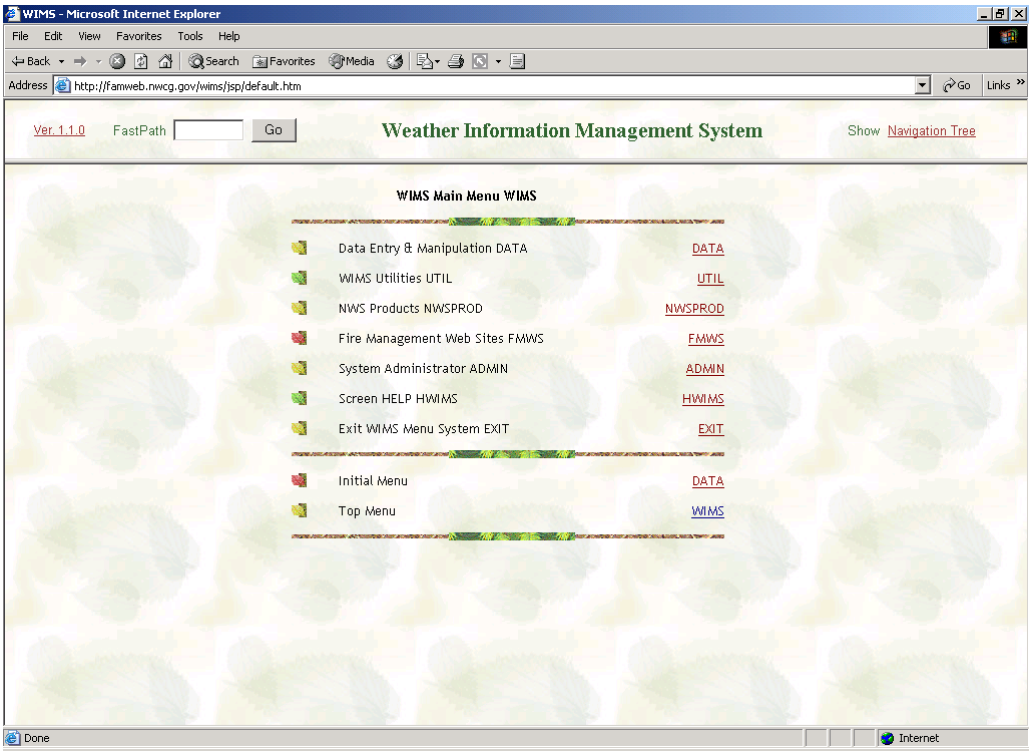


- If you cannot remember your WIMS password or cannot log on, contact your WIMS system administrator, or the F&AM Fire Applications Helpdesk.

Logging on to WIMS

To log on to WIMS

Type the WIMS Web Application URL http://famweb.nwcg.gov into your browser's Address bar click Go, opening The FAMWEB Home page. Click the WIMS button. The user will be prompted to type a valid WIMS logon ID and password in the appropriate fields and click OK. If you have entered your login ID and password correctly and the system is available the WIMS web application will load.



You have now successfully logged on to WIMS. If this is the first time you have logged on, see "Setting up or changing your profile" in Chapter 10, "Working with WIMS Utilities."

During your WIMS session, if you do not perform any functions within 15 minutes you will be logged off automatically. To reestablish your WIMS session, see Appendix F, " Troubleshooting" in the back of this guide.

Logging off

Be sure to exit the WIMS system before closing your browser. To exit the WIMS Web Application System, click Exit from the WIMS main menu, or type EXIT in the FastPath menu. You can log back on from this screen or close your browser window if you are finished with the application.

Accounting, security, and support services

WIMS is a transaction-based system and WIMS access charges are based on the actual work performed by the computer. To minimize your WIMS access charges, limit query, search, and other CPU-intensive functions.

Before you can access WIMS and the NIFMID database, you must establish an accounting code with the National Information Technology Center in Kansas City. This accounting code may be assigned to an individual or group of users and monitors computer usage for billing purposes.

To obtain a NITC-KC accounting code

- Complete and sign the WIMS/ NIFMID NITC-Terms and Conditions form located in Appendix D, " WIMS/ NIFMID forms and instructions."
- Forest Service users can need to contact their Regional Computer Security Staff for a logon id.
- For other Federal users, contact the F&AM Helpdesk.

Federal users must renew the Reimbursement Agreement Form (Form AD-672) every fiscal year.

- For Non-Federal users including state, local, and private users, submit a purchase order to the National Information Technology Center in Kansas City.

Charges are invoiced monthly. Non-Federal users must submit a new purchase order every fiscal year.

To obtain user support and system administration services

Contact your agency's system administrator. To locate this person, check with your supervisor and/or computer specialist.

Your may also contact the F&AM Fire Applications Helpdesk in Boise, Idaho at 1-800-253-5559, or 208-387-5290. The helpdesk receives email at fire_help@dms.nwcg.gov. For after hours support, leave your name and WIMS logon ID, agency name, and a detailed message on the voice mail. If the problem is an emergency follow the voice-mail instructions to page a fire duty officer.

Chapter 4. WIMS basics

This chapter gives you the information you will need to understand and start using the WIMS system. Topics include:

- WIMS system hierarchy
- FastPaths
- WIMS messages
- Getting help

Reviewing and understanding the basic concepts outlined in this chapter will give you a smoother journey through the WIMS system.

WIMS system hierarchy

The WIMS hierarchical menu is organized to help you perform your job. Based on your access level you can access three basic functions from the WIMS Main Menu:

- From the Data Entry & Manipulation menu, you can enter, edit, and display weather observations, station information, and NFDRS indices and components. You can also create, edit, and list Access Control Lists (ACLs), Special Interest Groups (SIGs), and forecast data.
- From the NWSPROD menu, users can access forecast and smoke management information.
- From the WIMS Utilities menu, users can access user lists and individual profile setup.

WIMS hierarchy of menus and forms

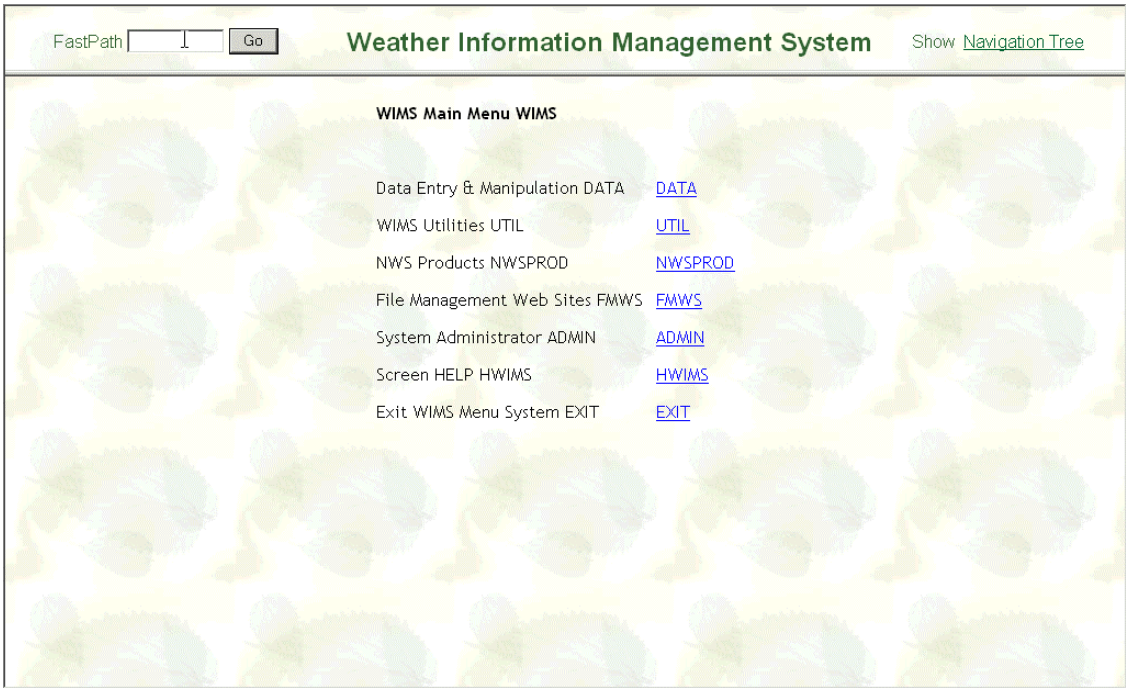
The following table illustrates the WIMS menu structure.

- DATA - Data Entry and Manipulation
  - OBS - Observations
    - NOBS - New Observations
    - EOBS - Edit Observations
    - DOBS - Display Observations
    - DRAWS - Display Remote Automatic Weather Stations
  - FCST - Forecasts
    - DFCST - Display Forecasts
      - DPFCST - Display Point Forecasts
      - DTFCST - Display Trend Forecasts
    - NFCST - New Forecasts
      - NPFCST - New Point Forecasts
      - NTFCST - New Trend Forecasts
    - EFCST - Edit Forecasts
      - EPFCST - Edit Point Forecasts
      - ETFCST - Edit Trend Forecasts
  - STA - Station Information
    - MSTA - Maintain Station
      - NSTA - New Station
      - ESTA - Edit Station
      - LSTA - List Stations
      - DSTA - Delete Stations
      - ENFDR - Display/Edit Default NFDRS Parameters
    - MSIG - Maintain Special Interest Groups
      - NSIG - New Special Interest Groups
      - ESIG - Edit Special Interest Groups
      - DSIG - Delete Special Interest Groups
      - LSIG - List Special Interest Group
      - EAVG - Display/Edit NFDRS Weight Assignments
    - MACL - Maintain Access Control Lists
      - NACL - New Access Control Lists
      - EACL - Edit Access Control Lists
      - DACL - Delete Access Control Lists
      - LACL - List Access Control Lists
  - DNFDR - Display National Fire Danger Rating
    - DIDX - Display Index Format
    - DIDM - Display Index (Moist) Format
    - DMGR - Display Manager Format
    - DSHR - Display Short Format
    - DAVG - Display Weighted Average
    - DABR - Display Abbreviated Format
  - PLST - Data Capture for OBS/FCST/NFDR
- UTIL - Utilities
  - PROFILE - Profile Setup
  - LUSER - WIMS User List
- NWSPROD - NWS Products
  - FWFCST - Fire Weather Forecasts
  - RED FLAG - Red Flag Warnings
  - SPOT - Spot Forecasts
  - SMOKE - Smoke Management Forecasts
  - ONARR - Various Other Narractives
- FMWS - Fire Management Web Sites
  - NIFC - National Interagency Fire Center
  - FAMFAH - F&AM Fire Application Helpdesk
  - WFAS - Wildland Fire Assessment System
  - FWX - Boise NWS FWX
  - WRCC - Western Regional Climate Center
  - NWS - National Weather Service
  - USFSFTP - U.S. Forest Service FTP Site
  - RAWS - Remote Automated Weather Station Homepage

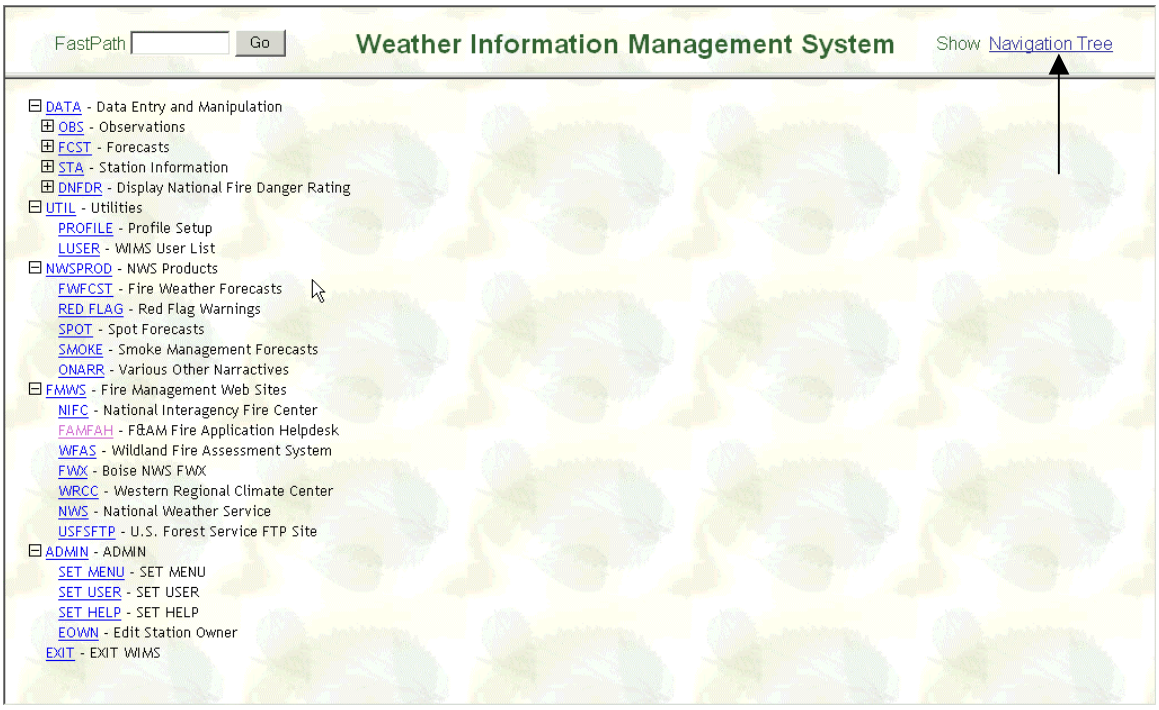
Navigating the WIMS Web Application System

The WIMS Web Application System is a web-based application designed to provide the user with easy access to the WIMS system anywhere a user can access the web. There are essentially three methods for navigating the new WIMS Web Application system. The user can use FastPaths, which remain the same as those in place in the previous system, use the navigation tree, or the links on the menus to move between menus and forms.

The **WIMS Main Menu** displays upon logging in; by clicking the links the user can easily advance through the menus to access the appropriate menu.



Clicking the **Navigation Tree** link in the upper right corner of the browser window displays the navigation tree at any time. It displays available menus and/or forms and the FastPath for each.



The **FastPath** field is displayed in the upper left hand corner of the WIMS browser. Enter a FastPath and click Go to proceed directly to a particular form or menu.

WIMS forms also contain two basic elements:

The title of the WIMS form displays centered near the top of your browser window. Some WIMS title bars also display the FastPath of that form.

The query block contains a group of related fields that you complete to specify a particular WIMS record.

WIMS Web Interface Standard Buttons

WIMS uses several buttons on many forms. These buttons are defined in the table below:

Button	Meaning
Find	Selecting Find will perform a query based on the parameters you have specified in the form.
Reset	Selecting Reset will reset all of the values you have entered on the current form.
Save	Selecting Save will save the values you have entered for the current form.
Setup	Selecting Setup will setup the current form for data entry.

FastPath commands

FastPaths include specific prefixes that are common throughout the WIMS system:

N	New
E	Edit
D	Display
M	Maintain
H	Help
L	List

FastPaths also include specific suffixes:

OBS	Observations
RAWS	Remote Automatic Weather Station
NFDR	National Fire Danger Rating
FCST	Forecasts
ACL	Access Control List
STA	Station
AVG	NFDRS Weighted Averages
SIG	Special Interest Group

You can combine a FastPath prefix with a FastPath suffix to access a specific menu.

For example, from any WIMS menu you can type the FastPath OBS to go to the Observations menu. However, you can bypass the Observations menu and go directly to a specific observations form by typing:

- NOBS to go directly to New Observations
- EOBS to go directly to Edit Observations
- DOBS to go directly to Display Observations

To use a FastPath you must have sufficient access privilege for that menu or form. If you enter a FastPath and you are denied access, the following message displays:

Error: "FastPath" is not a valid module or you are not authorized!

For a list of menu names, FastPath commands, and access levels see Appendix A, "Menus, FastPaths, and Access Levels."

Getting Help

You can receive limited assistance using the current WIMS system help facility, including:

- General WIMS menu and form help

To obtain user support and system administration services

Contact your agency's system administrator. To locate this person, check with your supervisor and/ or computer specialist.

Your may also contact the F&AM Fire Applications Helpdesk in Boise, Idaho at 1-800-253-5559, or 208-387-5290. The helpdesk can also receive email at fire_help@dms.nwcg.gov. If customer support is unavailable, leave your name and WIMS logon ID, agency name, and a detailed message. If your problem is an emergency follow the voice-mail instructions to page a fire duty officer.

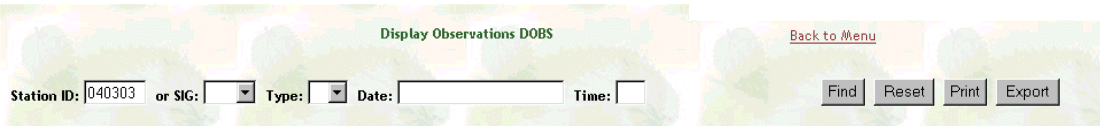
Chapter 5. Beyond the basics

This chapter describes advanced functions available in the WIMS system, including:

- query blocks and query mode
- using wildcards
- capturing data
- recalculating NFDRS indices.

Query blocks and query mode

A query block is a portion of a form that contains a group of related fields used to retrieve records. In the WIMS Web Application System, the query block is the top portion of the form. For example, the top portion of the Display Observations form shows the Station ID, SIG, Type, Date, and Time fields.



In the query form you can enter some or all of the fields in the query block to specify the criteria that WIMS will use to retrieve records. WIMS will retrieve only those records that match all the specified criteria. To initiate the query, you must click find after entering the appropriate search criteria.

Searching by date

Most WIMS Date: fields allow you to locate information by searching for a specific date or by searching using a range of dates. For example:

Format	Description
[blank]	Retrieves records for the last date entered for a single station (no SIGs allowed)
DD-MMM-YY	Retrieves records for the specified date
DD-MMM-YY-DD-MMM-YY	Retrieves records that fall between or are equal to the specified dates *You can also use a space to separate the two dates.*
>DD-MMM-YY	Retrieves records after the specified date (up to

	1,460 records)
<DD-MMM-YY	Retrieves records before the specified date (up to 1,460 records)

Wildcards

A wildcard query is performed in almost the same manner as a keyword search. The difference is using a special character to tell WIMS to find information that generally fits the specified string of characters:

% (percent sign)	Retrieves records that include the specified string of characters
(underscore)	Retrieves records that match the substring of characters in the specified character position.
& (ampersand)	retrieves stations (List Station form only).

You can use wildcards in any query block.

To initiate a custom query on the List Stations form

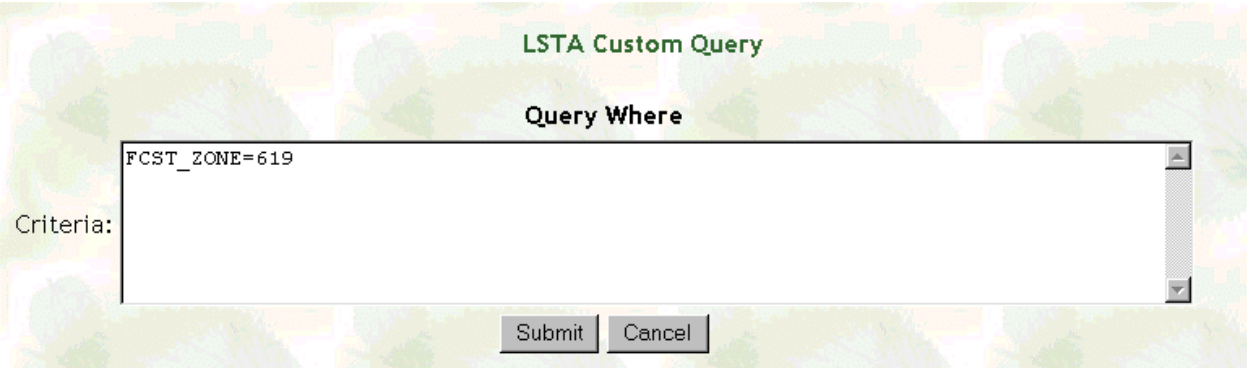
example 1

In this example, you will initiate a query to list stations in forecast zone 619.

For field names and definitions on the List Stations form, see Chapter 6, "Working with station information."

From the List Stations form:

1. In the *Owner* field, type **&** (ampersand), then click **Find**. The LSTA Custom Query pop-up window for this example is shown below.



2. In the **Criteria** text box type **FCST_ZONE=619** and and click **Submit.** The List Stations form shown below displays, listing every station in the forecast zone "619."

List Stations LSTA

Back to Menu

Selection Parameters:

Owner	Station	Nesdis	Station Name	Typ	Obs TM	Agncy
&						

Find Reset

Owner	Station ID	Nesdis ID	Station Name	Typ	Obs TM	Agncy
OPS$FSTRG30	350199	4567899	PYRODONT	4	13	3
OPS$FSTRG52	352915	3245420C	QUAIL2	4	12	1

To initiate a custom query on the List Stations form

example 2

In this next example, you will initiate a query to list all manual NFDRS stations located in the Pacific Standard Time zone for the state of Idaho.

From the LSTA Custom Query pop-up window:

1. At the Criteria text box type **FIPS_STATE=16 AND TIME_ZONE='PST' AND STATION_TYPE=2** and click **Submit**. The Query Where pop-up window for this example is shown on the next page.

LSTA Custom Query

Query Where

Criteria: FIPS_STATE=16 AND TIME_ZONE='PST' AND STATION_TYPE=2

Submit Cancel

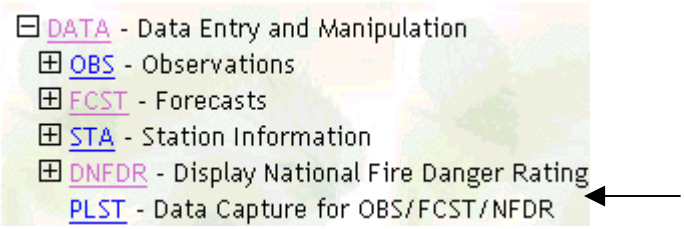
Capturing/Saving query data

WIMS Web Application System data can be saved in two different ways. Any information currently loaded in the browser window can be saved as an HTML file. To save the data currently in your browser select File and then Save As from your browser's tool bar. You will be prompted to choose a destination folder and name the file. Data can also be "captured" from forms that offer the data capture button or from the Data Capture

OBS/FCST/NFDR PLST form.. This form allows you to capture and save data in a simple text format and is described in the following section.

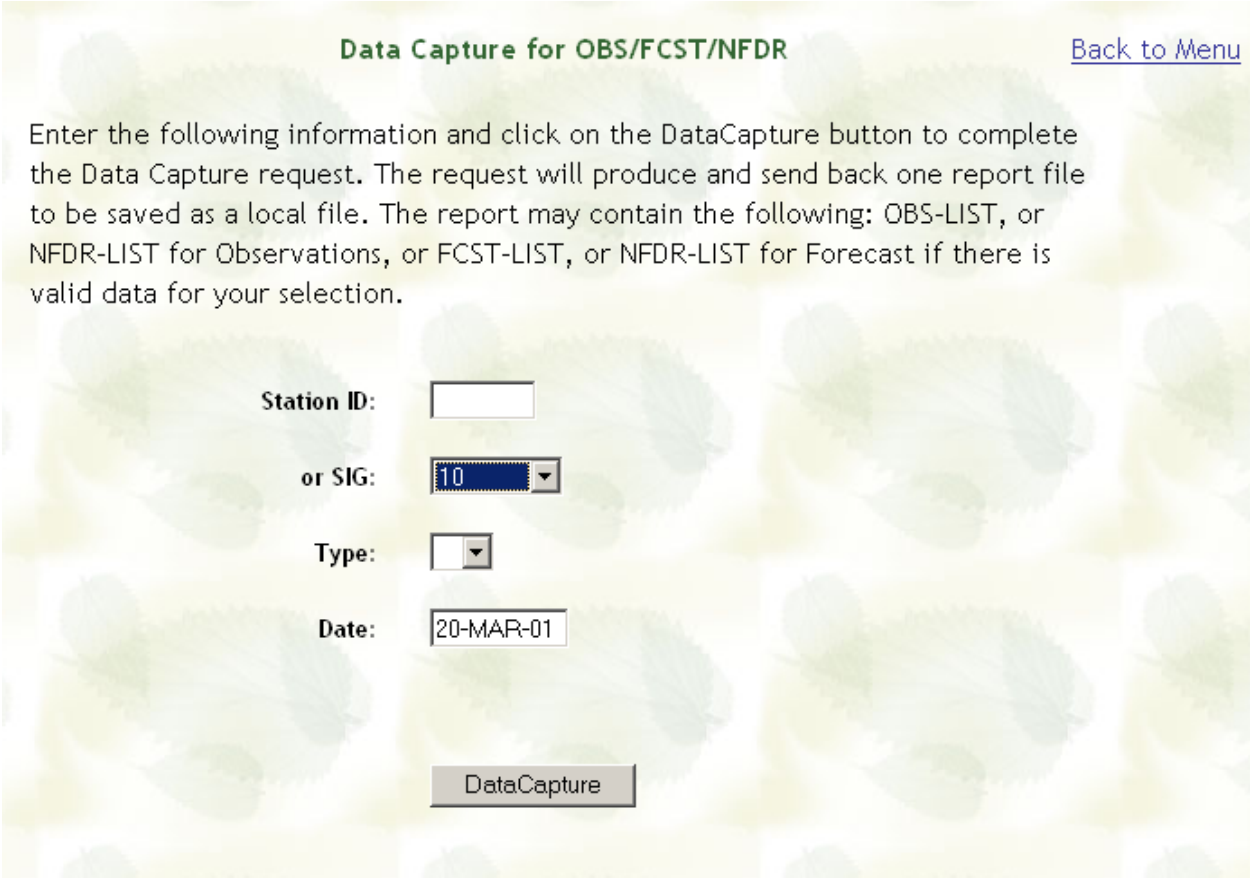
By using the Data Capture for OBS/ FCST/ NFDR form, you can specify search criteria to generate individual reports. The requested data is returned to the browser in a plain text format and you will be promted to save the report.

To access the DATA CAPTURE FOR OBS/ FCST/ NFDR form



In the FastPath: field, type PLST and click **Go**. The PLST form is returned to your browser.

PLST form



PLST field definitions

Field	Description and action to be taken
Station ID: (station number) - or -	Enter the number of the station for the data you want to capture. - or -
SIG Name: (Special Interest Group name)	Enter the name of the SIG for the data you want to capture.
Type: (observation type)	Enter the type of observation.
Date: (observation date)	Enter the date the observation was recorded.
OBS: (number of observations)	Displays the number of records captured by WIMS for observations.
OBS-NFDR: (number of NFDRS observations)	Displays the number of records captured by WIMS for Observations that contain NFDRS data.
FCST: (number of forecasts)	Displays the number of records captured by WIMS for forecasts.
FCST-NFDR: (number of NFDRS forecasts)	Displays the number of records captured by WIMS for forecasts that contain NFDRS data.

To capture data for an observation

From the DATA CAPTURE FOR OBS/ FCST/ NFDR form:

1. In the Station ID field, type the station number of the station for the new observation or in the SIG field, type the Special Interest Group name.

2. The obsevation type is an optional field available from a dropdown a on the PLST form. Enter the observation type if you would like to make use of this feature.

3. In the Date field, type the date the observation was recorded and submit the query. The results will be returned to your browser and can be saved as an html file.

To capture specific search criteria into a report

Suppose you want to capture an NFDRS Index (DIDX) report for station "052704." You specify a date range from May 01, 2001 to May 15, 2001 and want to capture only regular (Type= O) observations.

1. In the Option/ FastPath: field, type DIDX and click Go.

2. Complete the desired fields in the query block as shown below, then click Data Capture.

Available forms for capturing or saving data

The following table specifies the WIMS Web Application forms from which data can be captured:

To capture:	Access:	FASTPATH:
Observation data	Display Observation form	DOBS
point forecast data	Display Point Forecast form	DPFCST
trend forecast data	Display Trend Forecast form	DTFCST
station information	Display/ Edit General Station Information form or the List Stations form.	ESTA or LSTA
default NFDRS parameters	Display/ Edit Default Parameters form	ENFDR
NFDRS parameters		
Index format	Display NFDR (Index) form	DIDX
moisture format	Display NFDR Moisture (Index) form	DIDM
manager's format	Display NFDR (Manager) form	DMGR
short format	Display NFDR (Short) form	DSHR
abbreviated format	Display NFDR (Abbrv) form	DABR
weighted averages	Display NFDRS Weighted Averages	DAVG

Any pertinent WIMS information can be saved at any point in your session by using the Save As option from the File menu on your browser's tool bar.

Recalculating NFDRS indices

You must be owner of the station or authorized on the Access Control List to edit any observation for that station.

If you change field values of an observation or carryover NFDRS parameters, you should recalculate any related NFDRS index:

- For edits that you perform on today's observations, WIMS automatically recalculates the NFDRS indices when you submit the operation.
- For edits that you perform on either observations or NFDRS parameters for a previous date, you must tell WIMS to recalculate a range of NFDRS indices from the date they represented or were effective.
- Edits to NFDRS parameters automatically become effective the day they are performed.
- You can access the NFDRS menu by choosing **ENRR** from the FastPath menu.

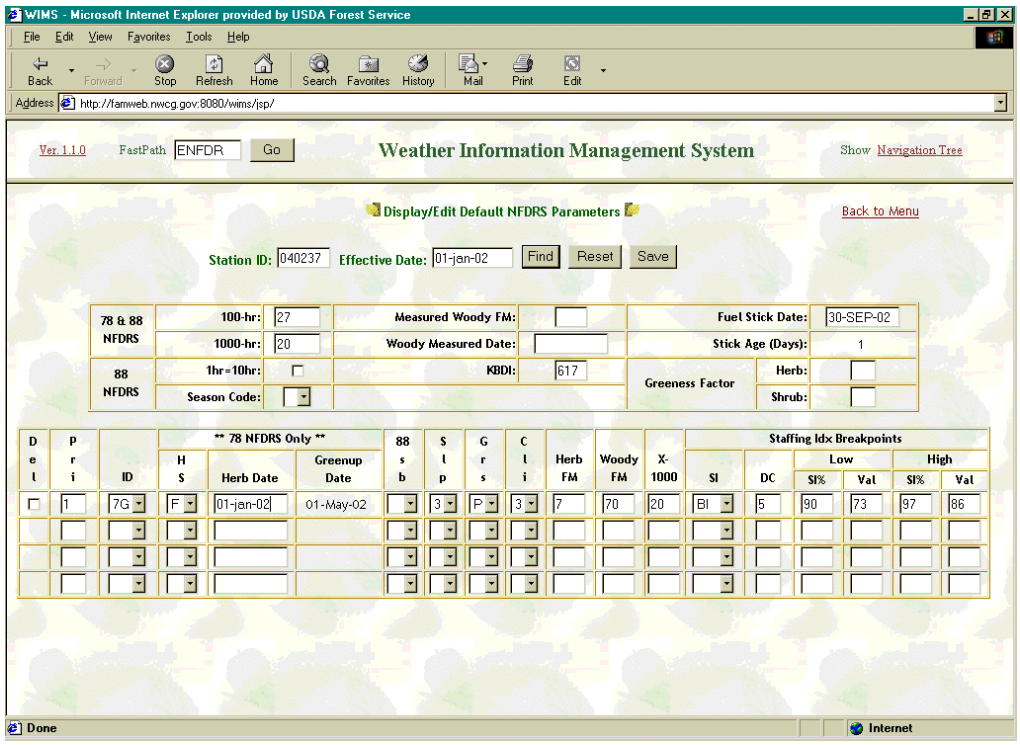
Recalculate NFDRS indices whenever those values are in question. Usually, review at least 30 days of weather observations to determine if there are any trends of questionable NFDRS indices. Reviewing observations that are seven days old or less to determine this trend is generally not sufficient.

To recalculate NFDRS indices

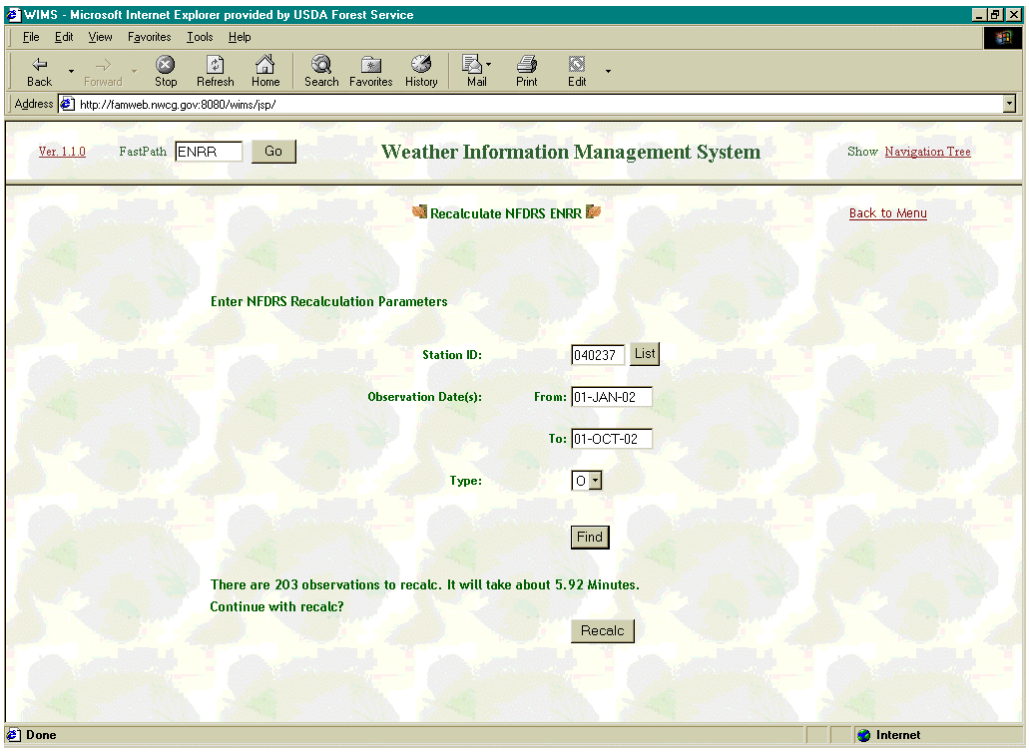
1 The NFDRS Recalc process involves several steps. The ENFDR and ENRR forms are used, as well as the DIDX and/or DIDM forms for data verification. Recalcs are done to reset the NFDRS indices. In order for the recalc process to work correctly the station needs to be frozen, recalced, greened, and recalced again. The steps are outlined below.

2 Using the FastPath ENFDR make the appropriate edits to the NFDR parameters , save and exit. Make sure the changes are made for the appropriate date. This date is the effective date for the changes to take place.

In this example the effective date is January 1, 2002. The Herbaceous State is set to "F" for frozen and the Herb Date is set to January 01, 2002. The changes are saved by clicking the Save button.



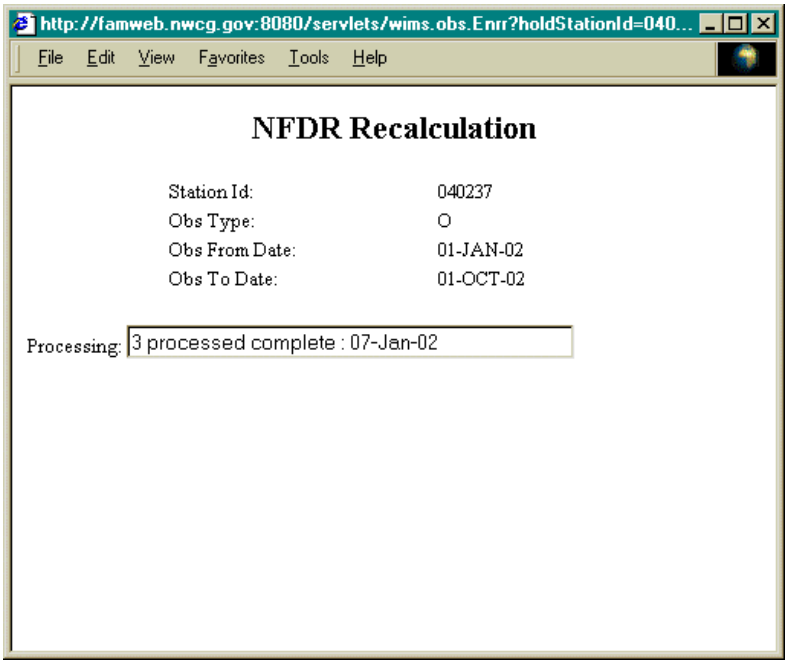
1 Using the FastPath ENRR to open the Recalculate NFDRS screen. Enter the NFDRS Recalculation Parameters on the Recalculate NFDRS form as shown below. When you have chosen the stations and dates for which you would like to recalculate NFDRS, click **Find**. The number of observations to be recalculated will be displayed along with the approximate time the process will take. Make sure the From Date is the same as the effective date used in the ENFDR screen and click the **Recalc** button to start the process.



*To see a list of the stations for which you can recalculate NFDRS click the **List** button. A popup window will display listing the stations for which you can recalculate NFDRS.*

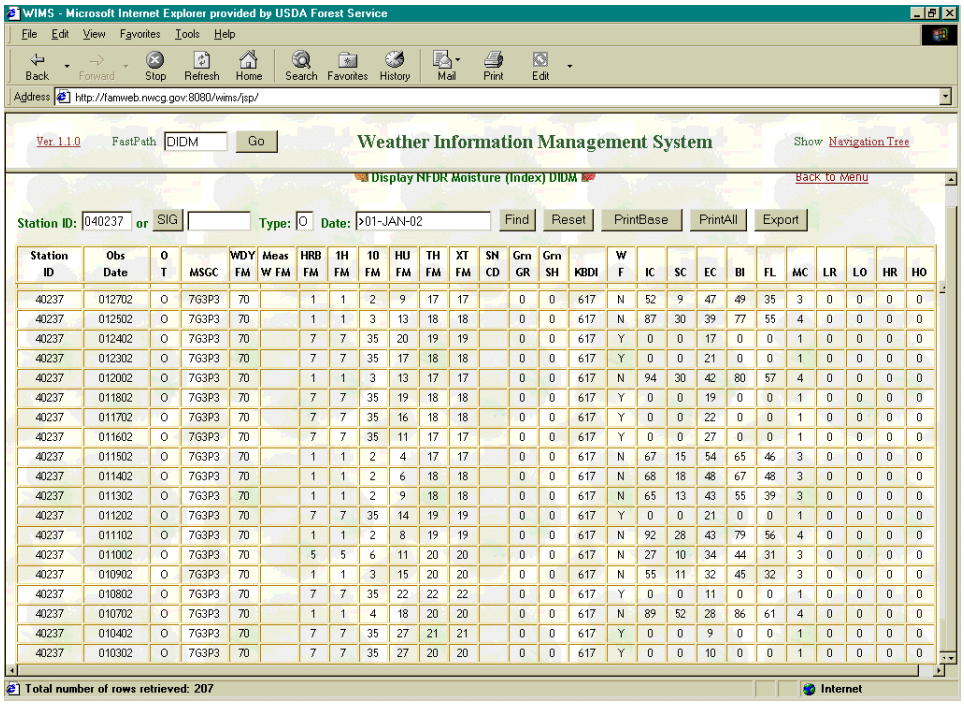
The form will re-display with the time required to complete the operation.

2 To continue the operation click **Recalc**.



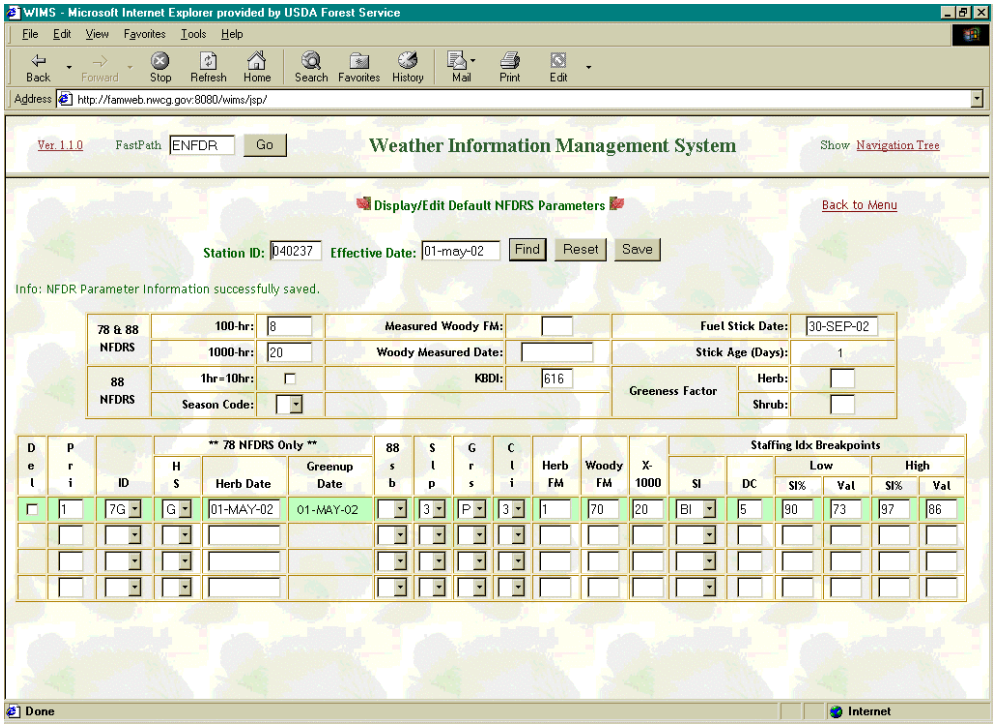
The NFDR Recalculation pop-up window displays showing the status of the recalculation and displays the number of records that have been processed. When the NFDR Recalculation is completed click the Close button to return to WIMS.

5. After the Recalc process is complete it is a good idea to view the DIDM or DIDX form to verify the desired changes have taken effect. The station in this example was frozen. The following DIDM shows that the station is frozen. The Woody FM is set at the default for the climate class in the station catalog. The Herbaceous FM is equal to the 1HR FM.



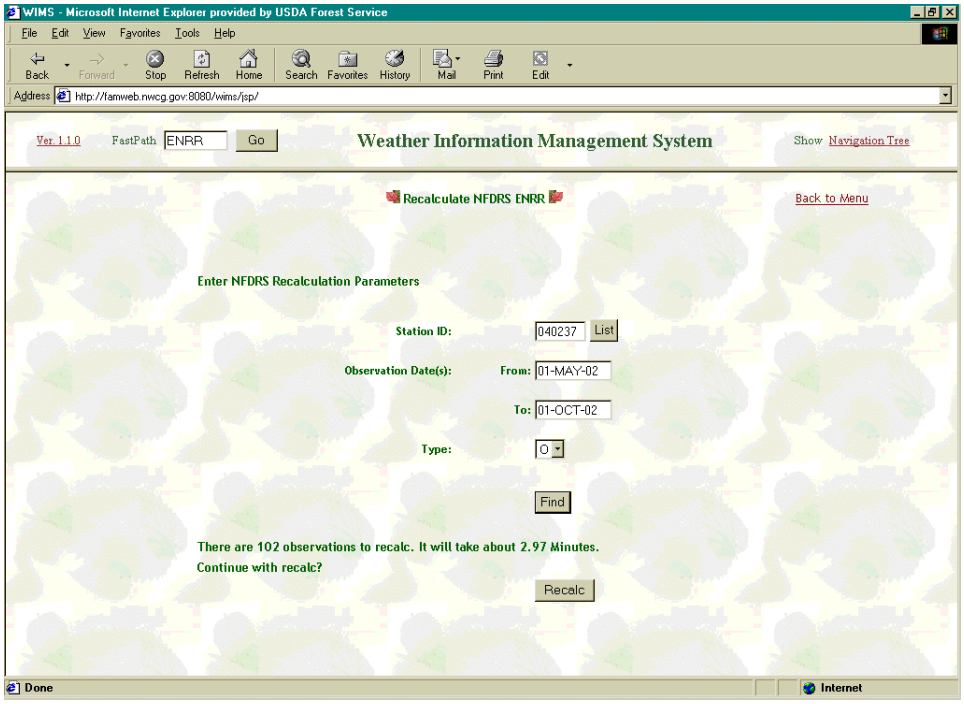
Station ID	Obs Date	O T	MSGC	WDY FM	Meas W FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XT FM	SN CD	Grn GR	Grn SH	KBDI	W F	IC	SC	EC	BI	FL	MC	LR	LO	HR	HO
40237	012702	O	7G3P3	70		1	1	2	9	17	17		0	0	617	N	52	9	47	49	35	3	0	0	0	0
40237	012502	O	7G3P3	70		1	1	3	13	18	18		0	0	617	N	87	30	39	77	55	4	0	0	0	0
40237	012402	O	7G3P3	70		7	7	35	20	19	19		0	0	617	Y	0	0	17	0	0	1	0	0	0	0
40237	012302	O	7G3P3	70		7	7	35	17	18	18		0	0	617	Y	0	0	21	0	0	1	0	0	0	0
40237	012002	O	7G3P3	70		1	1	3	13	17	17		0	0	617	N	94	30	42	80	57	4	0	0	0	0
40237	011802	O	7G3P3	70		7	7	35	19	18	18		0	0	617	Y	0	0	19	0	0	1	0	0	0	0
40237	011702	O	7G3P3	70		7	7	35	16	18	18		0	0	617	Y	0	0	22	0	0	1	0	0	0	0
40237	011602	O	7G3P3	70		7	7	35	11	17	17		0	0	617	Y	0	0	27	0	0	1	0	0	0	0
40237	011502	O	7G3P3	70		1	1	2	4	17	17		0	0	617	N	67	15	54	65	46	3	0	0	0	0
40237	011402	O	7G3P3	70		1	1	2	6	18	18		0	0	617	N	68	18	48	67	48	3	0	0	0	0
40237	011302	O	7G3P3	70		1	1	2	9	18	18		0	0	617	N	65	13	43	55	39	3	0	0	0	0
40237	011202	O	7G3P3	70		7	7	35	14	19	19		0	0	617	Y	0	0	21	0	0	1	0	0	0	0
40237	011102	O	7G3P3	70		1	1	2	8	19	19		0	0	617	N	92	28	43	79	56	4	0	0	0	0
40237	011002	O	7G3P3	70		5	5	6	11	20	20		0	0	617	N	27	10	34	44	31	3	0	0	0	0
40237	010902	O	7G3P3	70		1	1	3	15	20	20		0	0	617	N	55	11	32	45	32	3	0	0	0	0
40237	010802	O	7G3P3	70		7	7	35	22	22	22		0	0	617	Y	0	0	11	0	0	1	0	0	0	0
40237	010702	O	7G3P3	70		1	1	4	18	20	20		0	0	617	N	89	52	28	86	61	4	0	0	0	0
40237	010402	O	7G3P3	70		7	7	35	27	21	21		0	0	617	Y	0	0	9	0	0	1	0	0	0	0
40237	010302	O	7G3P3	70		7	7	35	27	20	20		0	0	617	Y	0	0	10	0	0	1	0	0	0	0

6. The station now needs to be set to greenup. Using the FastPath ENFDR edit the NFDR parameters to make the needed changes.



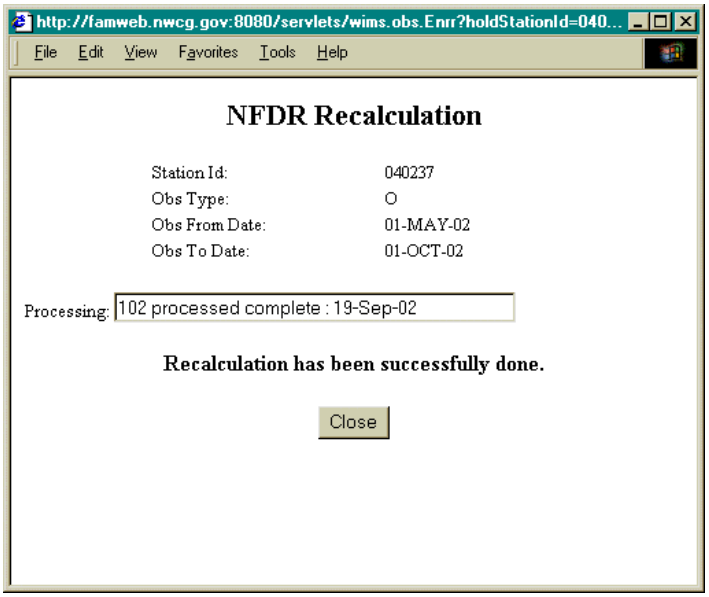
The effective date in this case is 01-May-02, the date the station was put into greenup. Enter the Herbaceous State of G for Greenup, and the Herb Date of 01-May-02 for the Greenup date. Click Save to keep the changes. Notice the highlighted line, showing the changes have been successfully saved.

7. Using the FastPath ENRR open the Recalculation Screen again. Notice that the From Date is the same as the Effective Date.

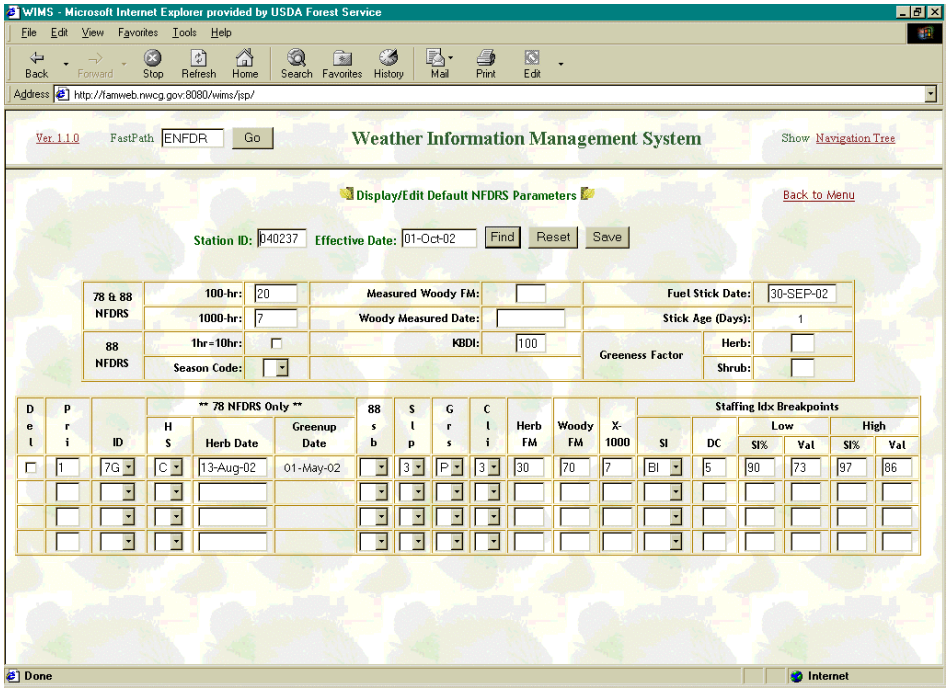


Click the **Recalc** button to start the recalculation process.

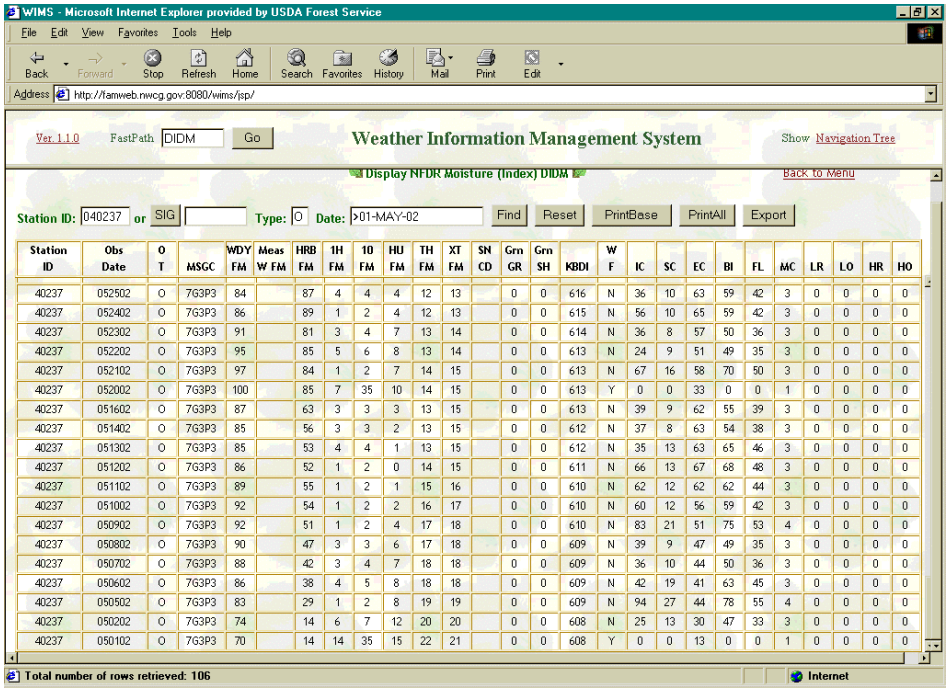
8. The NFDR Recalc window will open and show the progress.



9. Verify the changes took by viewing the ENFDR screen. Notice that the Greenup Date show 01-May-02, but the Herbaceous State is a C for cured and the Herb Date is 13-Aug-02.



10. To further verify the successful recalculation of the station view the DIDM form. The greenup process should be apparent by viewing the Woody FM and the Herbaceous FM starting on 01-May-02, the greenup date.



Station ID	Obs Date	O T	MSGC	WDY FM	Meas W FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XT FM	SN CD	Grn GR	Grn SH	KBDI	W F	IC	SC	EC	BI	FL	MC	LR	LO	HR	HO
40237	052502	O	7G3P3	84		87	4	4	4	12	13		0	0	616	N	36	10	63	59	42	3	0	0	0	0
40237	052402	O	7G3P3	86		89	1	2	4	12	13		0	0	615	N	56	10	65	59	42	3	0	0	0	0
40237	052302	O	7G3P3	91		81	3	4	7	13	14		0	0	614	N	36	8	57	50	36	3	0	0	0	0
40237	052202	O	7G3P3	95		85	5	6	8	13	14		0	0	613	N	24	9	51	49	35	3	0	0	0	0
40237	052102	O	7G3P3	97		84	1	2	7	14	15		0	0	613	N	67	16	58	70	50	3	0	0	0	0
40237	052002	O	7G3P3	100		85	7	35	10	14	15		0	0	613	Y	0	0	33	0	0	1	0	0	0	0
40237	051602	O	7G3P3	87		63	3	3	3	13	15		0	0	613	N	39	9	62	55	39	3	0	0	0	0
40237	051402	O	7G3P3	85		56	3	3	2	13	15		0	0	612	N	37	8	63	54	38	3	0	0	0	0
40237	051302	O	7G3P3	85		53	4	4	1	13	15		0	0	612	N	35	13	63	65	46	3	0	0	0	0
40237	051202	O	7G3P3	86		52	1	2	0	14	15		0	0	611	N	66	13	67	68	48	3	0	0	0	0
40237	051102	O	7G3P3	89		55	1	2	1	15	16		0	0	610	N	62	12	62	62	44	3	0	0	0	0
40237	051002	O	7G3P3	92		54	1	2	2	16	17		0	0	610	N	60	12	56	59	42	3	0	0	0	0
40237	050902	O	7G3P3	92		51	1	2	4	17	18		0	0	610	N	83	21	51	75	53	4	0	0	0	0
40237	050802	O	7G3P3	90		47	3	3	6	17	18		0	0	609	N	39	9	47	49	35	3	0	0	0	0
40237	050702	O	7G3P3	88		42	3	4	7	18	18		0	0	609	N	36	10	44	50	36	3	0	0	0	0
40237	050602	O	7G3P3	86		38	4	5	8	18	18		0	0	609	N	42	19	41	63	45	3	0	0	0	0
40237	050502	O	7G3P3	83		29	1	2	8	19	19		0	0	609	N	94	27	44	78	55	4	0	0	0	0
40237	050202	O	7G3P3	74		14	6	7	12	20	20		0	0	608	N	25	13	30	47	33	3	0	0	0	0
40237	050102	O	7G3P3	70		14	14	35	15	22	21		0	0	608	Y	0	0	13	0	0	1	0	0	0	0

Chapter 6. Working with Station Information *STA*

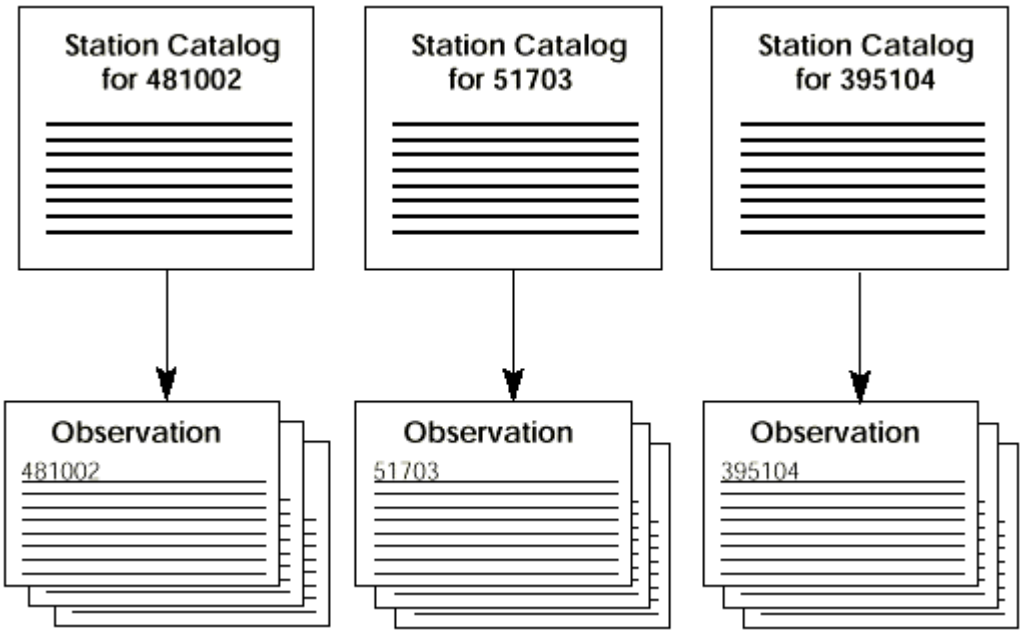
This chapter gives you the information you will need to enter and manipulate station information, Special Interest Group (SIGs), and Access Control Lists (ACLs).

The menu options and functions you will be able to access depends on your access level, and tasks described in this chapter are not available to everyone. For more information about access levels, see Appendix A, “Menus, FastPaths, and access levels.“

Station Information

A station gathers weather observations for a specific location on the earth. Weather observations are transmitted to WIMS from approximately 900 satellite remote stations, 30 radio remote stations, and by approximately 800 manual stations located throughout the Nation.

Before weather observations can be entered for a particular station, the station number and any associated station information must be stored in WIMS as a station catalog.

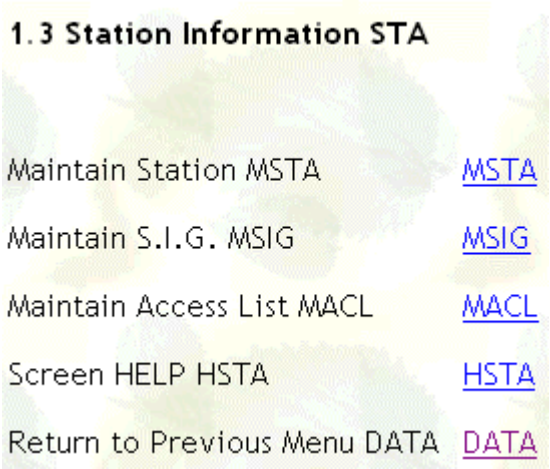


When you enter an observation, you only need to enter the station number or SIG. Since WIMS accesses the station catalog for station information, you do not need to reenter it for each observation. This saves you time and effort by not having to repeatedly enter station information for every observation.

To delete a station, please contact F&AM Fire Applications Helpdesk at 1-800-253-5999 or send a short message to fire_help@dms.nwgq.gov.

Accessing the Station Information menu

To access Station information click Data Entry and Manipulation then Station Information on the submenu that appears. You can also access the Station Information menu using the FastPath form by typing STA and clicking Go.



The Station Information menu allows you to:

- Maintain station information
- Maintain a SIG
- Maintain an ACL.

To access the Station Information menu

You can go directly to any of the Station Information menus by typing the FastPath command:

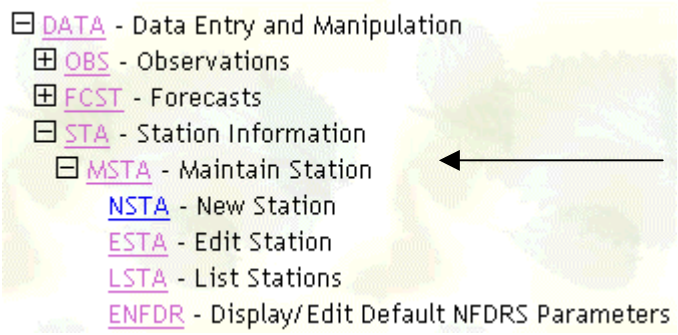
- **MSTA**, to display the Maintain Station menu
- **MSIG**, to display the Maintain S. I. G. menu
- **MACL**, to display the Maintain Access List menu.

Accessing the Maintain Station Information menu

The Maintain Station Information menu allows you to:

- Create a new manual or RAWS station
- Edit an existing station
- List existing stations
- Edit NFDR parameters.

To access the Maintain Station menu



In the Option/ FastPath: field, type MSTA and click Go.

Remember, you can skip this menu by typing the FastPath command:

- **NSTA**, to display the Create General Station Information menu
- **ESTA**, to display the Display/ Edit General Station Information menu
- **LSTA**, to display the List Stations form
- **ENFDR**, to display the Display/ Edit Default NFDRS Parameters.

Only a WIMS system administrator can delete a station from the station catalog.

Creating a new station

To create a new station type NSTA in the Option/FastPath command line, or click New Station from the Maintain Station menu.

To create a new station you will need the following information:

- Station ID
- Site description
- FIPS information, including county and state codes
- Latitude and longitude of the station location

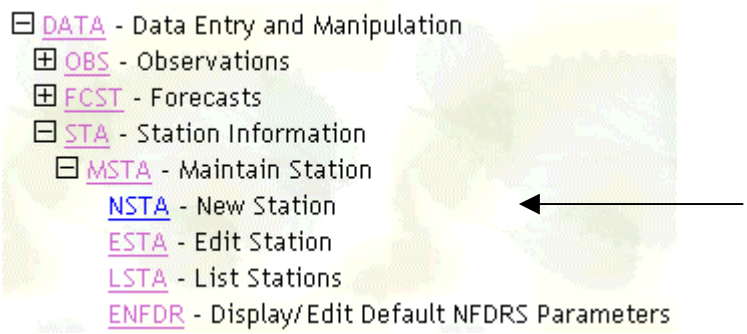
- Station type and name
- Access Control List
- Unit conversion codes
- Other station information
- Station owner and owner's WIMS logon ID

Depending on the type of station you create, you will complete up to three forms:

- Create General Station Information
- Create Default NFDRS Parameters
- Create Automated Sensor Station Information.

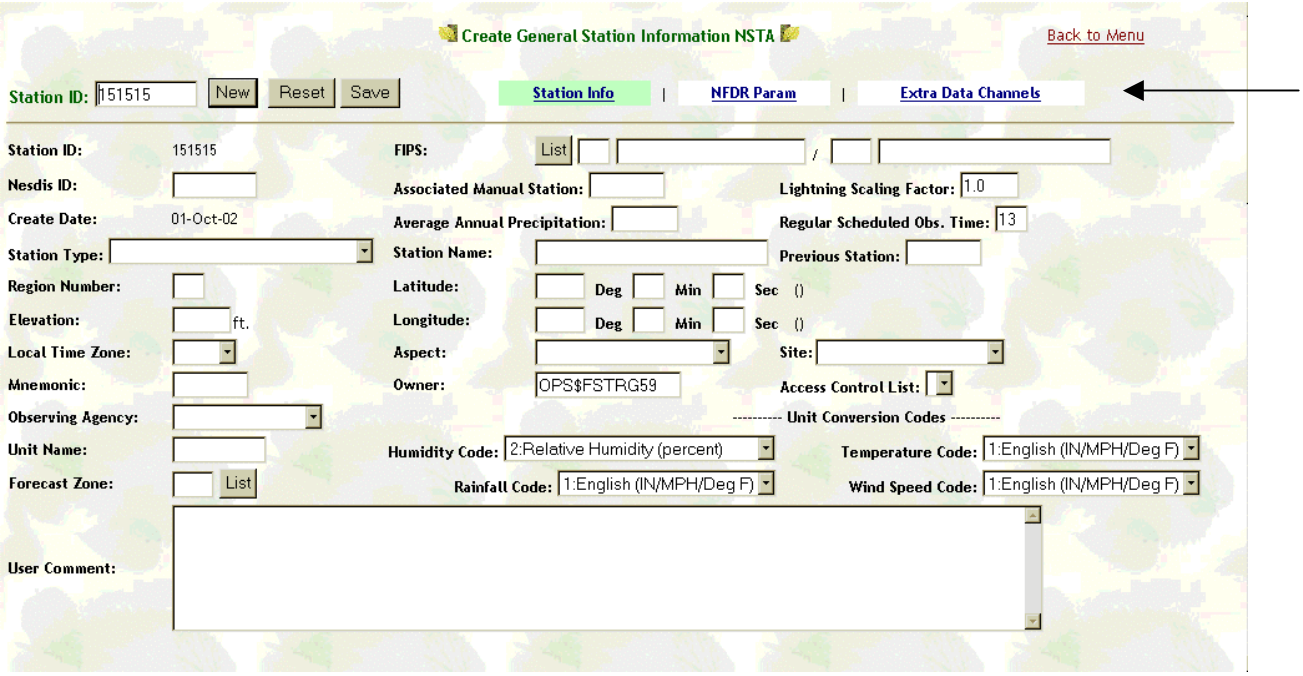
You must have the WIMS Data Manager access level to create a new station.

To access the Create General Station Information form



In the Option/ FastPath: field, type NSTA. The Create General Station Information screen will open.

Enter the new Station ID and click New. The NSTA form will open to the first of three screens. To move between the screens click on the links to the right of the save button.



General Station Information field definitions table

Use the field definitions listed below to complete General Station Information form.

Field	Description and action to be taken
Station ID (Station number) *Required Field*	The Station ID, a six-digit number is assigned by the local NWS office. Enter the number of the station you want to create: As a general rule of thumb: • The first two digits represent the state. • The next two digits represent the county. • The last two digits represent the weather station. *This numbering scheme is the preferred method but is not enforced after fiscal year 1995. Contact your local NWS office for the Station ID you should assign to the new station.*
FIPS (FIPS code) *Required Field*	Using ANSI standards, this field automatically displays the county code, county name, state code and state name, based on the station ID. *If this numbering scheme is not enforced, you must enter the county and state codes.*

Field	Description and action to be taken
Associated Manual Station (Associated station number -optional)	Enter the station ID of any associated manual station. *This field is valid for type 4-NFDRS RAWS stations only, to retrieve data from the associated manual station that the RAWS station does not collect.*
NESDIS ID (RAWS station number)	Enter the number that identifies the Remote Automatic Weather Station, as issued by NOAA-NESDIS. Contact your agency RAWS coordinator for NESDIS Ids. *This field is valid for RAWS satellite telemetered stations only.*
Lightning Scaling Factor (Lightning factor)	The default entry is 1.0. The field may be left with the default entry or blank.
Create Date/ Last Modified (Station creation date)	This field displays the creation date of the new station or the date of the last modification, in the format DD-MMM-YY. *This field is a computer-generated field.*
Average Annual Precipitation *Required Field*	Enter the amount in inches, of the average annual precipitation, based on past records or NWS information. *You must specify the Average Annual Precipitation in the station catalog to obtain an accurate Keetch-Byram Drought Index (KDBI) value.*
Station Type *Required Field*	Enter the type of station: **Type** **Description** 1 Manual (non-NFDRS) 2 Manual (NFDRS) 3 RAWS (satellite, non-NFDRS) 4 RAWS (satellite, NFDRS) 5 RAWS (non-satellite, non-NFDRS) 6 RAWS (non-satellite, NFDRS) 7 Historic Non-Active 8 Dummy 9 Unknown.
Station Name	Enter the name of the station, up to 20 characters.
Latitude (Latitude location) *Required Field*	Enter the latitude location of the station, in degrees, minutes, and seconds.
Longitude	Enter the longitude location of the station, in

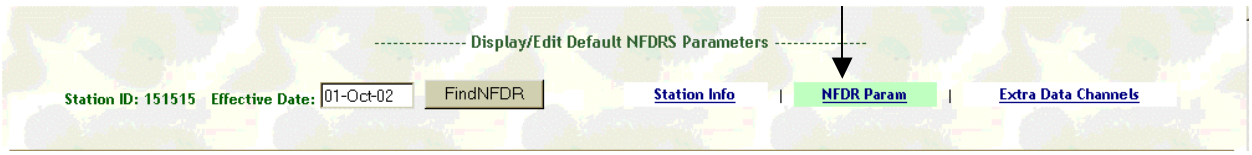
Field	Description and action to be taken
(Longitude location) *Required Field*	degrees, minutes, and seconds.
Region Number (Station region number)	Enter the USDA Forest Service Region number (1, 2, 3, 4, 5, 6, 8, 9, 10) where the station is located. Enter the number even if the station is run by an agency other than the Forest Service.
Aspect (Aspect class code)	Enter the aspect class code to identify the cardinal direction of the slope where the station is situated: **Code** **Description** **0** Flat/ None 1 Northeast 2 East 3 Southeast 4 South 180° 5 Southwest 6 West 7 Northwest 8 North
Elevation (Station elevation) Required Field	Enter the station's elevation, in feet above sea level.
Site (Station site location)	Enter the site code that best describes the station location: **Code** **Description** 1 Valley bottom or flat 2 Midslope 3 Ridge or peak top.
Local Time Zone (Standard time zone code)	Enter the local standard time zone code: **Code** **Description**

Field	Description and action to be taken
	AST Atlantic Standard Time BST Bering Standard Time CST Central Standard Time EST Eastern Standard Time GMT Greenwich Mean Time HST Hawaiian Standard Time MST Mountain Standard Time NST Newfoundland Standard Time PST Pacific Standard Time YST Yukon Standard Time
Previous Station (Previous station number)	Enter the number of the previous station, if applicable. If a station was not moved or changed from manual to RAWS you can identify it, or if the number changed you can cross reference the historic data.
Mnemonic	Enter the assigned station mnemonic, up to 6 characters, to name the site. *See Unit Identifiers (PMS 931)*
Unit Name (Unit name)	Enter the name of the station or the name of the unit responsible for the station.
Owner (Owner's WIMS logon ID)	Enter the WIMS logon ID of the person who owns the station.
Observing Agency (Responsible observing Agency) Required Field	Enter the code that corresponds to the agency responsible for the station: **Code** **Description** 1 USDA FS 2 USDI BLM 3 USDI NPS 4 USDA BIA 5 State 6 Local Government 7 PVT/Commercial 8 Other Federal 9 Unknown
Access Control List (Related ACL)	Enter the name of the Access Control List for the station, if any.

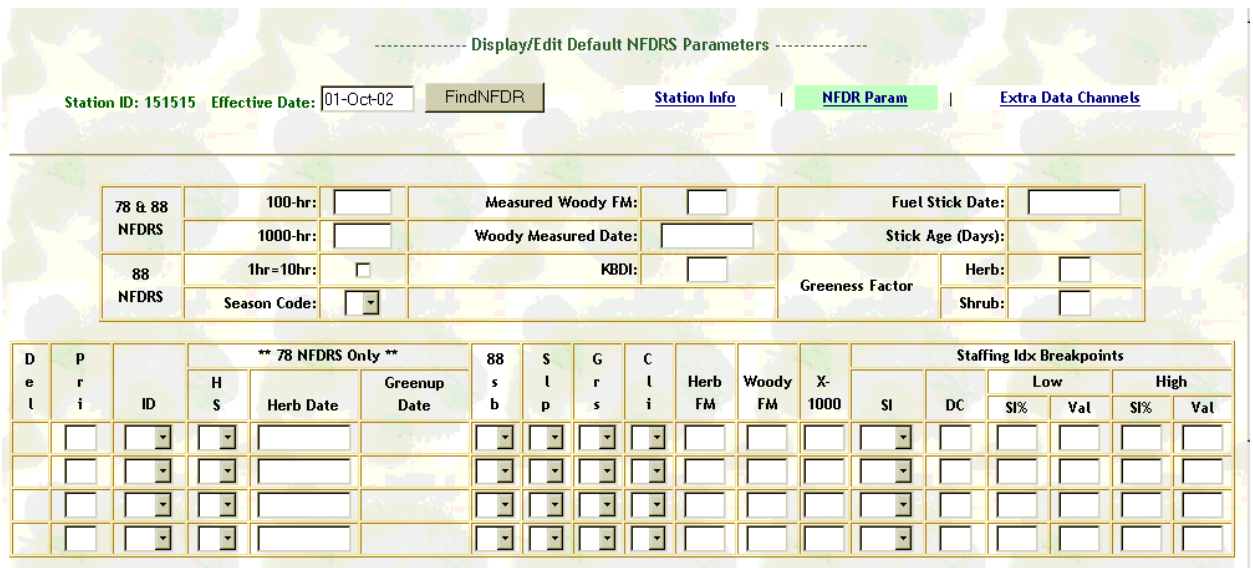
Field	Description and action to be taken
Regular Scheduled Observation Time	Using the 24-hour clock, enter the local time to the nearest hour when observations are recorded: *WIMS truncates the time to the hour. The Standard Observation Time is " 13" (1: 00 pm).*
Humidity Code: (Type of humidity measurement)	Enter the humidity code that WIMS is to expect for Observations: Wet-Bulb Temperature (deg. F) Relative Humidity (percent) Dewpoint Temperature (deg. F) Wet-Bulb Temperature (deg. C) RESERVED --DO NOT USE Dewpoint Temperature (deg. C). *The default Humidity Code for a manual station is " 1" (Wet-Bulb). If you will be measuring relative humidity in the station's observations and forecasts, you must set the Humidity Code to " 2" (Relative Humidity). RAWS stations default to Humidity Code " 2".*
Temperature Code: (Type of temperature measurement)	Enter the temperature code to identify the measurement system: **Code Description** English (IN / MPH / Degrees F) Metric (MM / KPH / Degrees C).
Forecast Zone	Enter the NWS fire weather forecast zone number. *WIMS validates this field. For example, " 415" identifies the NWS forecast zone for the Grand Teton station. To obtain forecast indices and components, this field is required. This can be left blank a forest zone is not required to request zone through the local NWS office.*
Rainfall Code: (Type of rainfall measurement)	Enter the rainfall code to identify the measurement system: **Code Description** 1 English (IN / MPH / Degrees F) Metric (MM / KPH / Degrees C).
Wind Speed Code: (Type of wind speed measurement)	Enter the wind speed code to identify the measurement system: **Code Description**

Field	Description and action to be taken
	1 English (IN / MPH / Degrees F) 2 Metric (MM / KPH / Degrees C).
User Comment	Enter any additional station information and/ or comments.

After the General Station Information has been completed click on the **NFDR Parameter Link.**



The Display/Edit Default NFDRS Parameters screen will open.



NFDRS Parameter Definitions

Field	Description and action to be taken
100-hr: (100-hour timelag fuel moisture model) 78 & 88 NFDRS	The calculated moisture content, in percent, of dead fuels in the 1 to 3-inch diameter class, for the primary fuel model (priority 1). *WIMS automatically enters a default value based on the selected climate class.*
1000-hr:	The calculated moisture content, in percent, of dead fuels in the 3 to 8-inch diameter class, for

Field	Description and action to be taken
(1000-hour timelag fuel moisture model) 78 & 88 NFDRS	the primary fuel model (priority 1). *WIMS automatically enters a default value based on the selected climate class.*
Measured Woody FM: (Woody fuel moisture) 78 & 88 NFDRS	Enter the locally measured woody fuel moisture for the station. *This information is optional.*
Woody Measured Date: (Woody fuel moisture date) 78 & 88 NFDRS	Enter the date the woody fuel moisture was measured, in the format DD-MMM-YY. For manned stations.
KBDI: (Keetch-Byram drought index) 78 & 88 NFDRS	Enter the current Keetch-Byram drought index startup value for the area, from " 0" (saturated) to " 800" (maximum drought). *To receive an accurate KBDI value for both 78 and 88 fuel models, you must enter the Average Annual Precipitation amount in the station's catalog.*
Fuel Stick Date (Fuel stick installation date)	Enter the date the fuel sticks were installed or changed, in the format DD-MMM-YY. *Fuel Stick Date is used for historical purposes only. The fuel stick aging routine has been disabled for automated stations, but remains active for manual stations.*
Stick Age (Days) (Stick age in days)	Displays the number of days since the fuel stick was changed. The fuel stick aging routine has been disabled for automated (RAWS) stations. If possible change the fuel sticks every 30 days.
1hr=10hr (10hr fuel moisture used as 1hr fuel moisture, for 1988 fuel models only).	Enter either "Y" or "N" to indicate if the computed or weighted 10hr fuel is used as the 1hr fuel.
Season Code (Station season code, for 1988 fuel models only)	Enter the appropriate season code: **Code** **Description** 1 Winter 2 Spring 3 Summer 4 Fall

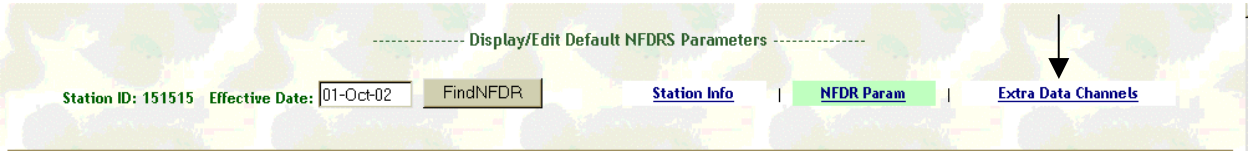
Field	Description and action to be taken
Greenness Factor – Herbaceous (Herbaceous greenness factor, for 1988 fuel models only)	Enter the current herbaceous factor for the station, from "0" (dead/dormant) to "20" (maximum greenness).
Greenness Factor – Shrub (Shrub greenness factor, for 1988 fuel models only)	Enter the current shrub factor for the station, from "0" (dead/dormant) to "20" (maximum greenness).
Pri (Priority rating)	Displays the priority rating of the fuel model(s). *If you enter more than one fuel model, WIMS automatically increments the priority rating for the next fuel model.*
ID (Fuel model ID)	Enter the prefix and fuel model code to identify the fuel model and version of NFDRS you are using for this station: **Prefix Version** 7 1978 NFDRS fuel model 8 1988 NFDRS fuel model. **Code Description** A Annual Grasses B Mature brush C Open pine with grass D Southern rough E Hardwood litter (fall) F Intermountain west brush G West coast conifers H Short needle conifers I Heavy slash J Medium slash K Light slash L Perennial grasses N Saw/ marsh grasses O High pocosin P Southern long-needle pine Q Alaska black spruce R Hardwood litter (summer) S Tundra T Sagebrush with grass U Western long-leaf pine. *For example, " 7A" identifies the 1978 NFDRS*

Field	Description and action to be taken
	Annual Grasses fuel model ID; " 8N" identifies the 1988 NFDRS Saw/ marsh grasses fuel model ID.
H S (Herbaceous vegetation stage code, for 1978 fuel models only)	Enter the herbaceous vegetation stage code to describe the General condition of the herbaceous vegetation in the area: **Code Description** C Cured F Frozen G Green P Pre-Green T Transition. *For the initial station catalog entry, you must specify either a " G, " " F, " or " P. " "P" is the default.* *For more information about herbaceous vegetation stage codes, see " x1000, Annual, and Perennial herbaceous fuel moisture models" and " Setting the Greenup date for a station" in Appendix E, " NFDRS technical reference. "*
Herb Date (Herbaceous vegetation stage code date, for 1978 fuel models only)	Enter the date associated with the current herbaceous vegetation stage code, in the format DD-MMM-YY.
Greenup Date (Herbaceous fuel Greenup date)	Displays the associated herb date for the last Green Vegetation stage code " G".
Sb (Prevalent shrub cover, for 1988 fuel models only)	Enter the code for the prevalent type of shrub cover: **Code Description** D Deciduous E Evergreen.
Slp (Average slope)	Enter the code that represents the average percent slope of the area: **Code Description** 1 0-25 percent 2 26-40 percent 3 41-55 percent 4 56-75 percent 5 Over 75 percent.
Grs (Prevalent grass)	Enter the code for the prevalent type of grass in the area: **Code Description**

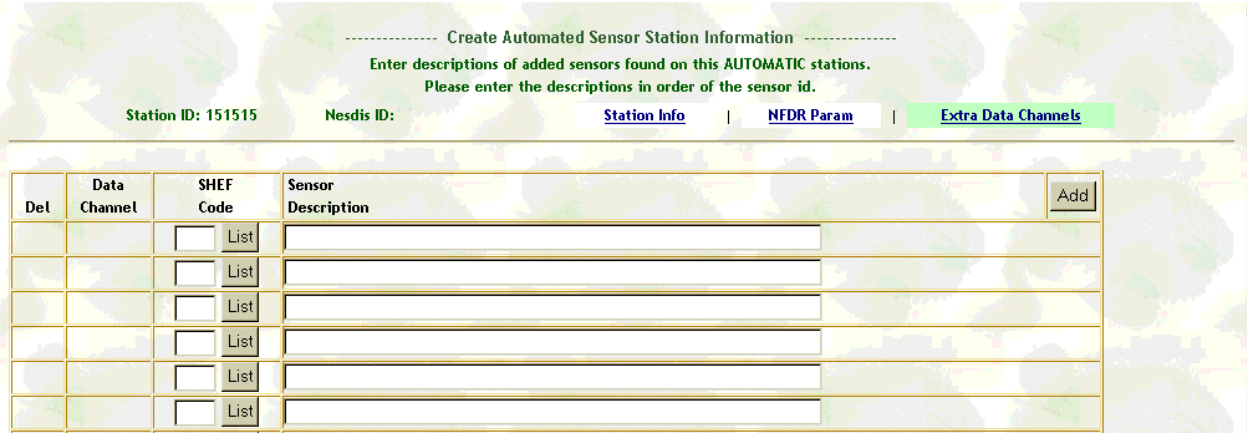
Field	Description and action to be taken
	A Annual P Perennial.
Cli (Climate class)	Enter the code that best represents the climate in the area: **Code Description** 1 Arid-Desert & Steppe 2 Subhumid-Dry season 3 Subhumid-Adeq Rain 4 Wet-Rain Forest.
Herb FM (Herbaceous fuel moisture)	Represents the calculated herbaceous fuel moisture content. WIMS automatically enters a default value based on the selected climate class. For the 1978 NFDRS fuel model, the maximum herbaceous fuel moisture content is 250 percent.
Woody FM (Woody fuel moisture)	Represents the calculated woody fuel moisture content. *WIMS automatically enters a default value based on the selected climate class. For the 1978 NFDRS fuel model, the maximum woody fuel moisture content is 200 percent.*
X-1000 (Live fuel moisture recovery value)	Relates the response of the live herbaceous fuel moisture model to the 1000-hour time lag fuel moisture value. *WIMS automatically enters the default value based on the default 1000-hour value.*
SI (Staffing index)	For each fuel model, enter the index code that identifies the NFDRS component that forms the basis for staffing: **Code Description** BI Burning Index EC Energy Release Comp IC Ignition Component KB Keetch_ Byram Drought Index
DC (Number of display classes)	Enter the number of staffing classes, ranging from 3 to 9, for that staffing index.
Low SI% (Low staffing index percentile)	Enter the low staffing index percentile for the staffing index, to help guide staffing levels.

Field	Description and action to be taken
	This value normally represents the upper limit of the " high" fire danger class. For FS stations, the default value is "90. " For BLM stations the default value is " 80. "
Low Val (Low value staffing index) Enter the value of the staffing index at the " low" fire danger class.	Enter the value of the staffing index at the "low" fire danger class.
High SI% (High staffing index percentile)	Enter the high staffing index percentile for the staffing index, to help guide staffing levels. This value normally represents the upper limit of the "very high" fire danger class. For FS stations, the default value is "97." For BLM stations the default value is "95."
High Val (High value staffing index)	Enter the value of the staffing index at the " high" fire danger class. *This value is never lower than the low value staffing index.*
Startup Greenness Factors: Herb: (Herbaceous greenness factor, for 1988 fuel models only)	Enter the current herbaceous factor for the station, from " 0" (dead) to " 20" (maximum greenness). *These change through the season.*
Startup Greenness Factors: Shrub: (Shrub greenness factor, for 1988 fuel models only)	Enter the current shrub greenness factor for the station, from " 0" (dormant) to " 20" (maximum greenness).

After entering the default NFDRS Parameters click the Extra Data Channels.



The Create Automated Sensor Station Information screen will display.



WIMS displays the Create Automated Sensor Station Information form when you create a RAWS station, including:

- **Type 3**: non-NFDRS, satellite RAWS station
- **Type 4:** NFDRS, satellite RAWS station
- **Type 5**: non-NFDRS, non-satellite RAWS station
- **Type 6**: NFDRS, non-satellite RAWS station.

The Shef Codes for the eight standard sensors installed on every RAWS station are already accounted for. Any additional date channels added to the station will be automatically updated in WIMS through ASCADS.

To save the new RAWS station, click add. The user will be returned to Create General Information Screen. Click **Save** to save the station information in WIMS.

Displaying/ editing station information

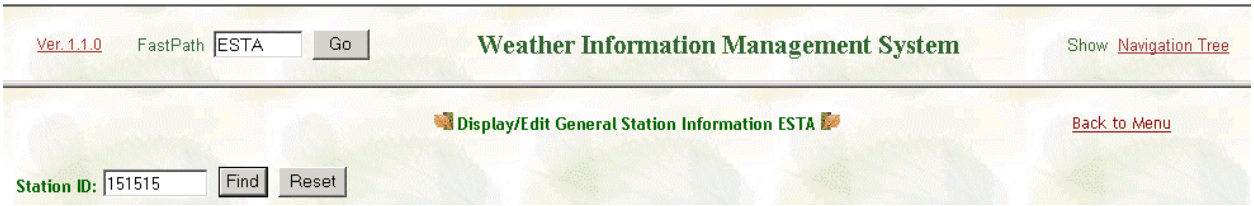
Periodically, you may need to display or edit the station catalog to:

- Confirm values or change general station information
- Add or delete sensors to a RAWS station.

Although anyone can display a station, only the station's owner or the WIMS logon IDs identified in that station's ACL can edit station information.

To access the Display/ Edit General Station Information form

In the Option/ FastPath: field, type ESTA and click Go



Enter the station number and click **Find**.

Display/Edit General Station Information ESTA

Display/Edit General Station Information ESTA

Back to Menu

Station ID: 151515 Find Reset Save

Station Info | NFDR Param | Extra Data Channels

Station ID:	151515	FIPS:	41 OREGON / 025 Harney		
Nesdis ID:	12121212	Associated Manual Station:		Lightning Scaling Factor:	1
Last Modified Date:	02-Oct-02	Average Annual Precipitation:	13	Regular Scheduled Obs. Time:	13
Station Type:	4:RAWS (SAT NFDRS)	Station Name:	SMOKEY'S TEST	Previous Station:	
Region Number:	6	Latitude:	45 Deg 44 Min 0 Sec (45.7330)		
Elevation:	4500 ft.	Longitude:	112 Deg 18 Min 0 Sec (112.30)		
Local Time Zone:	PST	Aspect:	0: Flat/None (FL/0)	Site:	1: Valley bottom or flat
Mnemonic:	OCF	Owner:	OPS$FSTRG59	Access Control List:	
Observing Agency:	1 USDA FS			--------- Unit Conversion Codes ---------	
Unit Name:	MINE	Humidity Code:	2:Relative Humidity (percent)	Temperature Code:	1:English (IN/MPH/Deg F)
Forecast Zone:	List	Rainfall Code:	1:English (IN/MPH/Deg F)	Wind Speed Code:	1:English (IN/MPH/Deg F)
User Comment:					

From the Display/ Edit General Station Information form:

In the Station ID field, type the number of the station to be displayed and add, edit, and delete station information from the Display/ Edit General Station Information form.

Display/Edit Default NFDRS Parameters

---------- Display/Edit Default NFDRS Parameters ----------

Station ID: 151515 Effective Date: 02-Oct-02 FindNFDR

Station Info | NFDR Param | Extra Data Channels

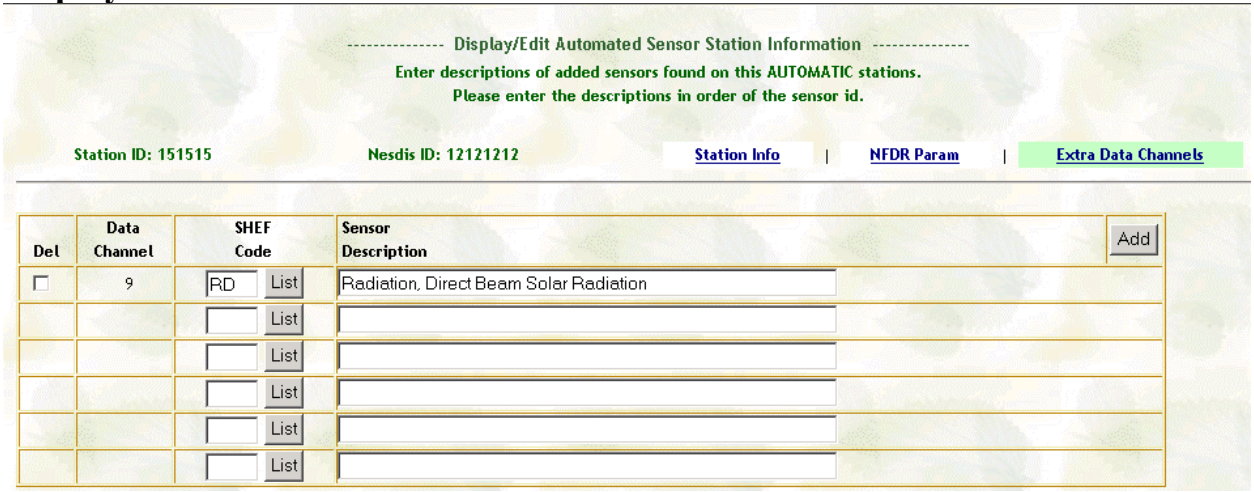
78 & 88 NFDRS	100-hr:	15	Measured Woody FM:		Fuel Stick Date:		
	1000-hr:	20	Woody Measured Date:		Stick Age (Days):		
88 NFDRS	1hr=10hr:	☐	KBDI:	100	Greeness Factor	Herb:	
	Season Code:					Shrub:	

Del	Pri	ID	** 78 NFDRS Only ** HS	Herb Date	Greenup Date	88 sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints SI	DC	Low SI%	Low Val	High SI%	High Val
☐	1	7C	F	02-Oct-02			2	P	2	30	60	20	EC	6	90	45	97	60

Add, edit, and delete the Default NFDRS Parameters in the second section of the form.

It is recommended that any changes made to the NFDRS Parameters be done using the FastPath ENFDR.

Display/Edit Automated Sensor Station Information



The third section of the form allows you to edit the Automated Sensor Station Information form. Add, edit, and delete sensor station information from the Display/ Edit Automated Sensor Station Information form.

To save the changes you made to the station information, click Save.

To obtain access to edit station information of a specific station number

If you are not the station owner and need to edit the station, contact the station's owner identified in the Owner field on the Display/ Edit General Station Information form and request to be added to the station's ACL.

List Stations

The List Stations form allows you to quickly list station information using search criteria that you specify. From this form you can create a customized list:

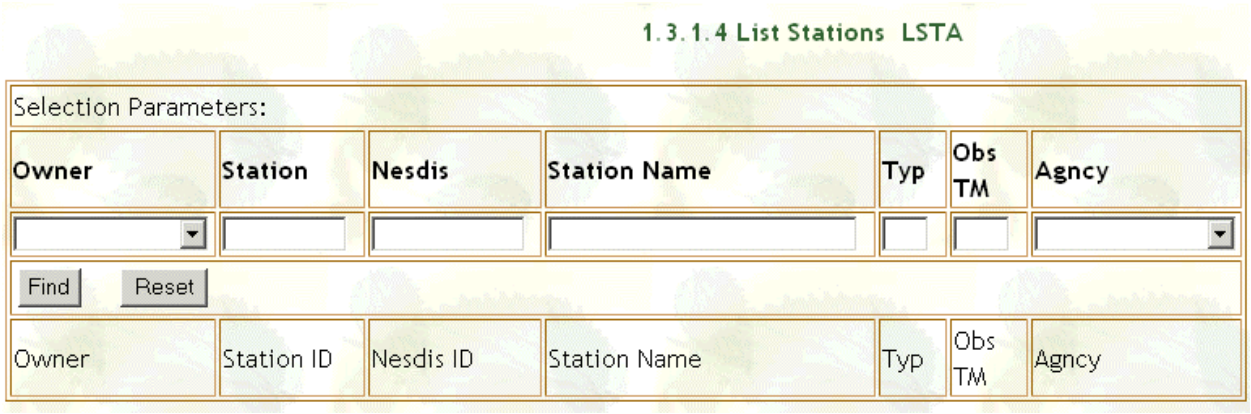
- Listing station numbers of a specific owner
- Listing all station numbers of a specific agency
- Listing all station numbers of a specific owner for a specific observation time.

Using varied search criteria, you can create many different specialized reports.

To access the List Stations form

In the Option/ FastPath: field, type LSTA and click Go.

LSTA form



The query block on the List Stations form includes the following fields:

- Owner
- Typ
- Station
- Obs TM
- Nesdis
- Agncy
- Station

For more information about query blocks and performing wildcard queries, see Chapter 5, "Beyond the basics."

To list all Forest Service stations

From the List Stations form:

From the dropdown menu Agncy field, then click USDA FS.

The List Stations form redisplays, listing all Forest Service station numbers.

To list stations by owner

From the List Stations form:

In the Owner dropdown menu, click the owner's WIMS logon ID of the station(s) you want to list.

The owner's WIMS logon ID must be prefixed with " OPS$ ". For example, a valid WIMS logon ID is " OPS$FSS2305".

After entering all search parameters, click submit.

If you want to specify other search parameters to narrow your search, enter them in the appropriate fields and click submit.

The List Stations form redisplays, listing the stations that match the WIMS logon ID you specified.

Editing NFDRS parameters

The Display/ Edit Default NFDRS Parameters form allows you to display and edit any existing NFDRS parameters, including:

- Modify the fuel moisture values currently being used to calculate NFDRS outputs
- Enter station season codes for 1988 NFDRS fuel models
- Enter herbaceous vegetation stage code for 1978 NFDRS fuel models
- Greenup a station.

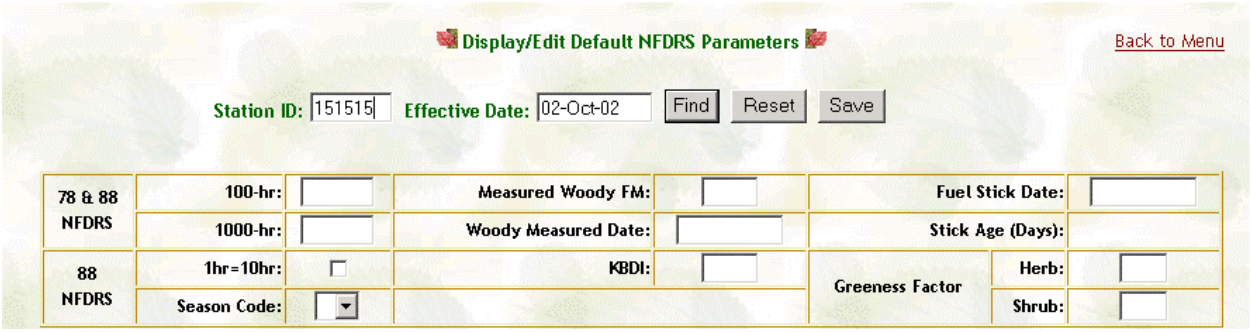
Modifying fuel moisture values can significantly affect the NFDRS outputs. Any changes should be coordinated with agency fire-danger rating experts. For more information about how to adjust the herbaceous stage of a station, see Appendix E, " NFDRS technical reference. "

You cannot edit NFDRS parameters from the ESTA form. You must be the owner of the station or be identified on the station's ACL to edit default NFDRS parameters. If you are not the owner of the station and do not have access authorization on the ACL for that station, contact the station's owner identified in the Owner field on the Display/ Edit General Station Information form and request to be added to the station's ACL.

To access the Display/ Edit Default NFDRS Parameters form

In the Option/ FastPath field, type ENFDR and click Go.

ENFDR form



To display or edit default NFDRS parameters for a station

From the Display/ Edit Default NFDRS Parameters form:

In the Station ID: enter the station number.

In the Effective Date: field, type the effective date the changes are to take place and then click find to display the NFDRS parameters for a station.

Display/Edit Default NFDRS Parameters

Back to Menu

Station ID: 151515 Effective Date: 02-Oct-02 Find Reset Save

78 & 88 NFDRS	100-hr:	15	Measured Woody FM:		Fuel Stick Date:		01-OCT-02
	1000-hr:	20	Woody Measured Date:		Stick Age (Days):		1
88 NFDRS	1hr=10hr:	☐	KBDI:	100	Greeness Factor	Herb:	
	Season Code:					Shrub:	

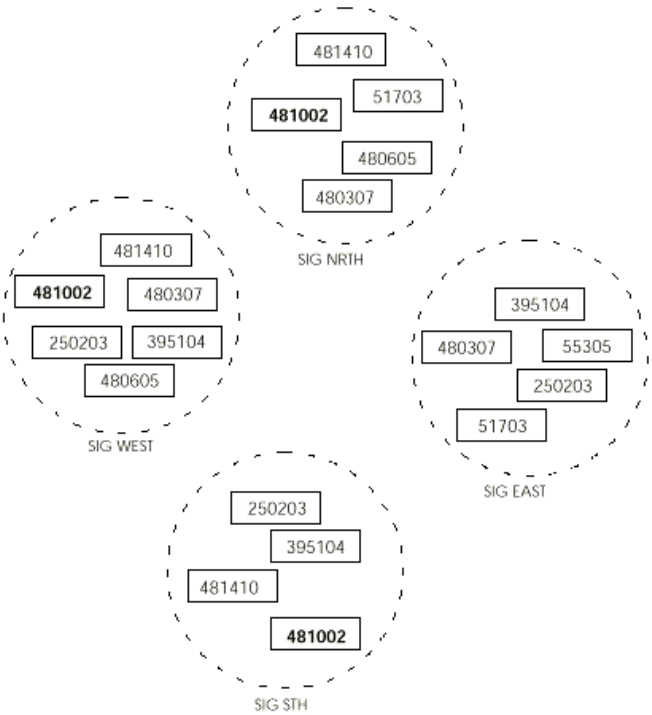
Del	Pri	ID	** 78 NFDRS Only **			88sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints					
			HS	Herb Date	Greenup Date								SI	DC	Low		High	
															SI%	Val	SI%	Val
☐	1	7C	F	02-Oct-02			2	P	2	30	60	20	EC	6	90	45	97	60

To change any NFDRS parameters that display, edit the appropriate fields in the form, as instructed in the NFDRS parameters table. To save the changes you made to the default NFDRS parameters, click **Save**. A message will be returned to the browser indicating that the operation was succesful.

Special Interest Groups (SIGs)

Stations in different geographical locations, regions, or administrative boundaries can be grouped together to form a SIG. Using a SIG, you can easily edit or display weather observations or calculated NFDRS indices for the same group of stations.

If a station number is of particular interest to many WIMS users, it can exist in many different SIGs. As shown in the example below, station number 481002, " School House Park, " belongs to SIGs " NRTH, " " WEST, " and " STH. " It does not belong to SIG " EAST. "



Once you create a SIG you do not need to remember each individual station number. Instead, you only need to remember the SIG name. Once you create a SIG it is Private, and can only be maintained and used by you.

Public SIGs are groupings of NWS stations in designated fire weather forecast zones. These are available for everyone's use.

WIMS automatically creates and maintains Fire Weather Forecast Zone SIGs when the Forecast Zone field is completed on the Create General Station Information form.

Public SIGs are named using numbers, while Private SIGs are named using characters and numbers. For more information about locating existing SIGs, see " Listing SIGs" later in this chapter.

Accessing the Maintain S. I. G. menu

The Maintain S. I. G. menu allows you to:

- Create a new SIG
- Edit a SIG
- Delete a SIG
- List SIGs
- Assign NFDR weighted averages to a SIG.

To access the Maintain S. I. G. menu

In the Option/ FastPath: field, type MSIG and click Go.

Remember, you can skip this menu by typing the FastPath command:

- NSIG, to display the Create a Special Interest Group form
- ESIG, to display the Display/ Edit a Special Interest Group form
- DSIG, to display the Delete Special Interest Groups form
- LSIG, to display the List of Special Interest Groups form
- EAVG, to display the Display/ Edit NFDRS Weight Assignments form

Creating a new SIG

Determine the need for a new SIG before you create one. As a guideline, define a SIG whenever you need to repeatedly gather or display information from five or more different station numbers.

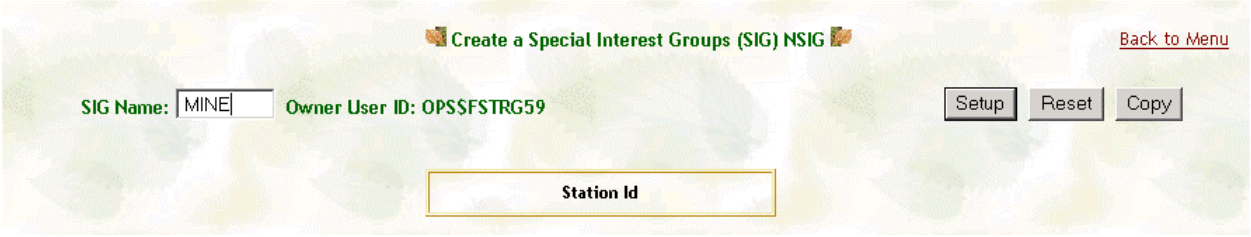
You can use up to four characters to name your SIG and the first character must be alphabetic. Once you create it, your WIMS logon ID displays as the "Owner User ID" of the SIG.

If creating SIGs for editing daily observation data, make your editing process more convenient by grouping similar station types together into one SIG. For example, create one SIG that identifies RAWS (satellite) stations and another SIG that identifies manual (non-satellite) stations.

To access the Create a Special Interest Group form

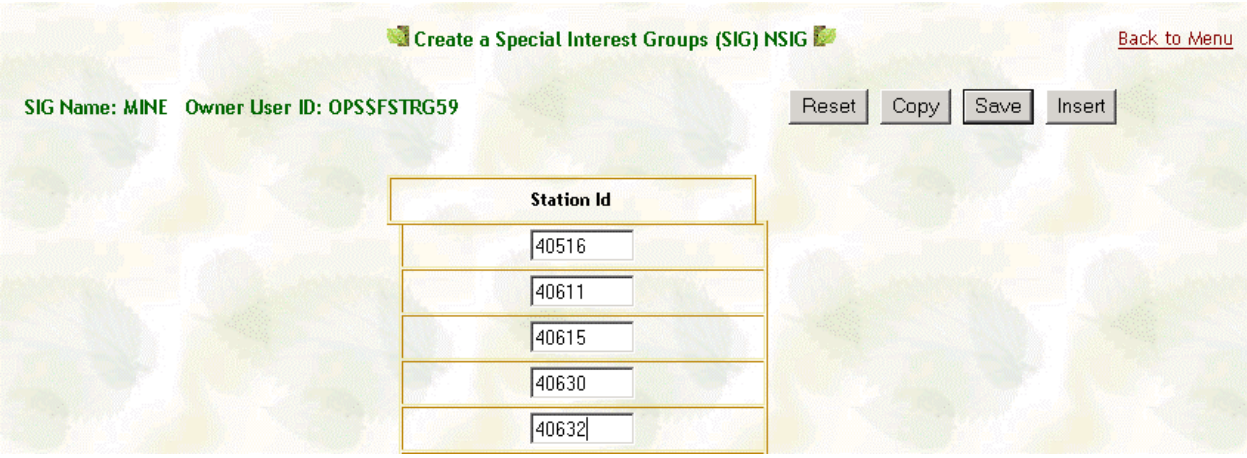
In the Option/ FastPath: field, type NSIG and click Go.

NSIG form



Enter the name of the SIG to be created and click **Setup**.

The first character of the new SIG name must be alphabetic.



Enter the Station Id's to be included in the SIG. Click **Save**.

The Station Id's will be highlighted and a message will display confirming the creation of the SIG.

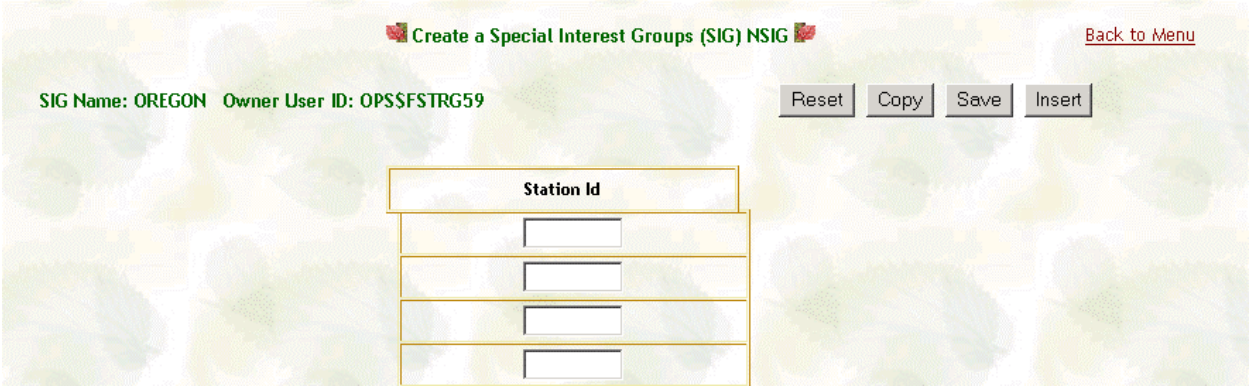
Copy a SIG

You can copy a SIG from another user.

In the Option/ FastPath: field, type NSIG and click Go.

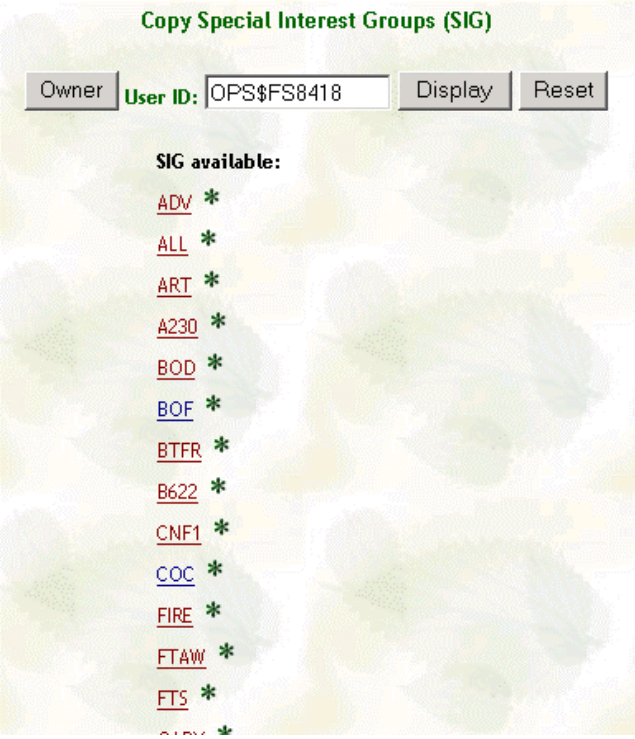
The Create a Special Interest Groups (SIG) NSIG screen will display.

Enter the name of the SIG to be created and click **Setup**.

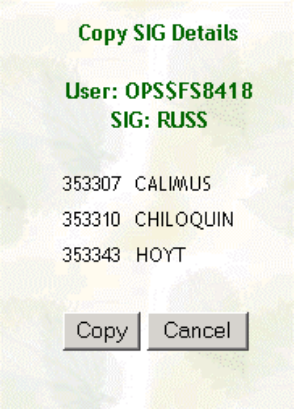


The screen will display boxes for Station Id's to be entered. Click **Copy**.

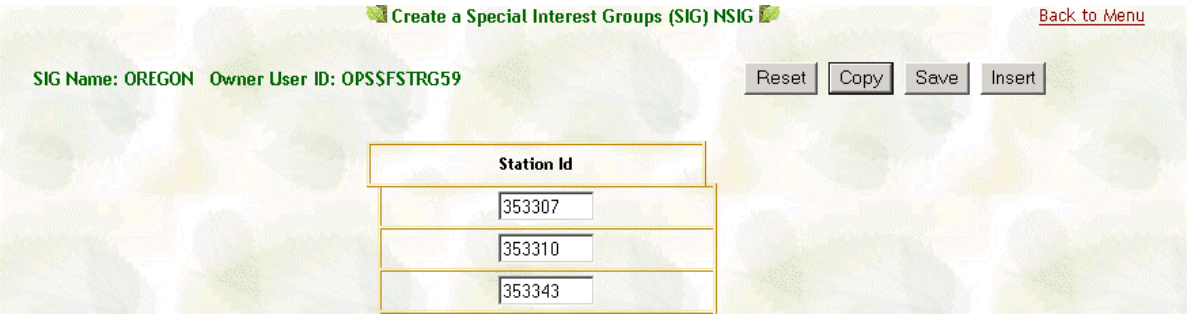
Enter the User ID of the person from whom you want to copy of SIG. Click **Display**.



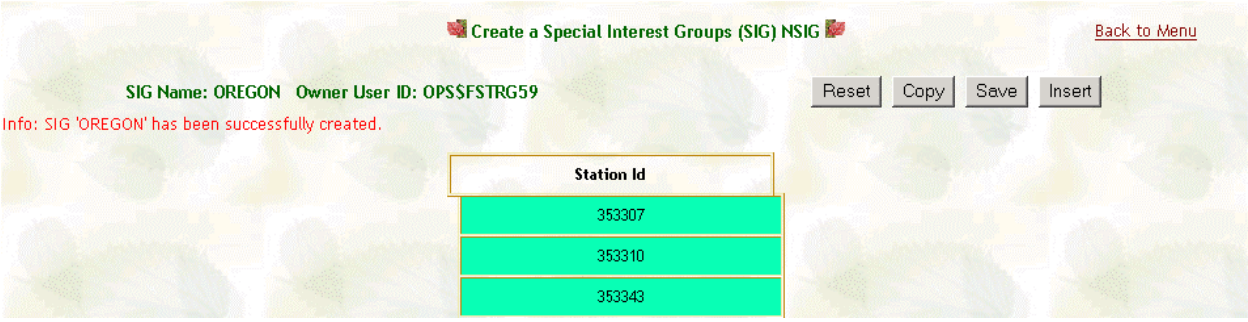
The screen will return a list of all of the SIGs. Click on the desired SIG name.



A box will open showing the stations in the desired SIG. Click **Copy** to copy the SIG.



The Station ID boxes are filled with the station ids from the copied SIG. Click **Save**.



The Station ID boxes will be highlighted and a message will display showing the successful creation of the SIG.

Editing a SIG

You can add and delete station numbers from a SIG that you previously created.

To access the Display/ Edit a Special Interest Group form

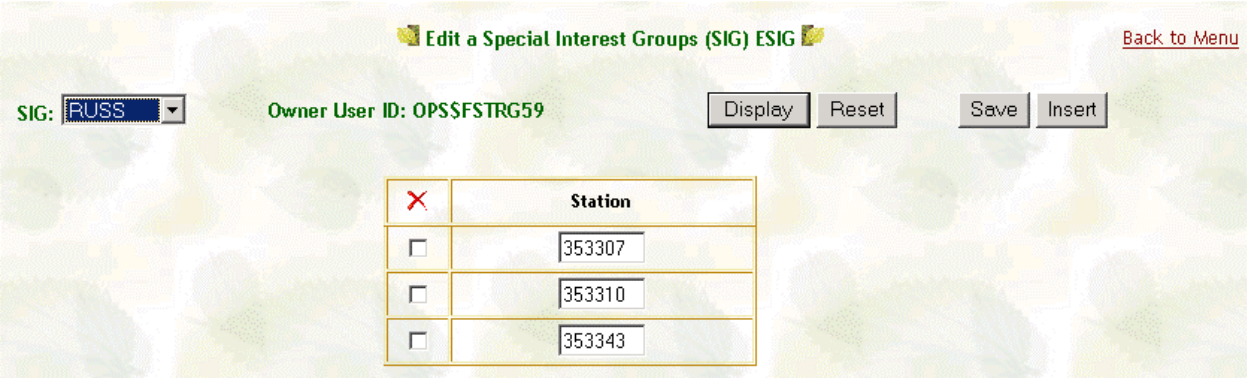
In the Option/ FastPath: field, type ESIG and click Go.

The Edit a Special Interest Groups (SIG) ESIG form will display.

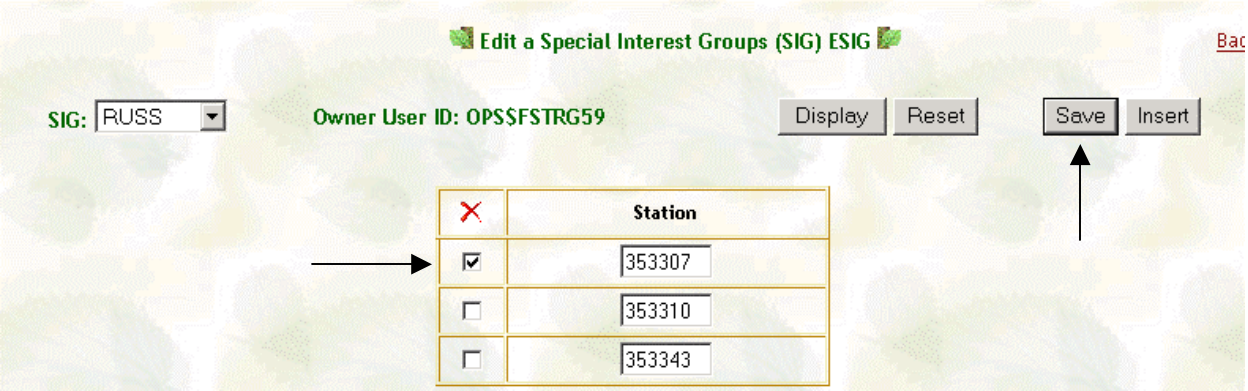
Click the drop down arrow to open the list of SIGs.

Click the name of the desired SIG.

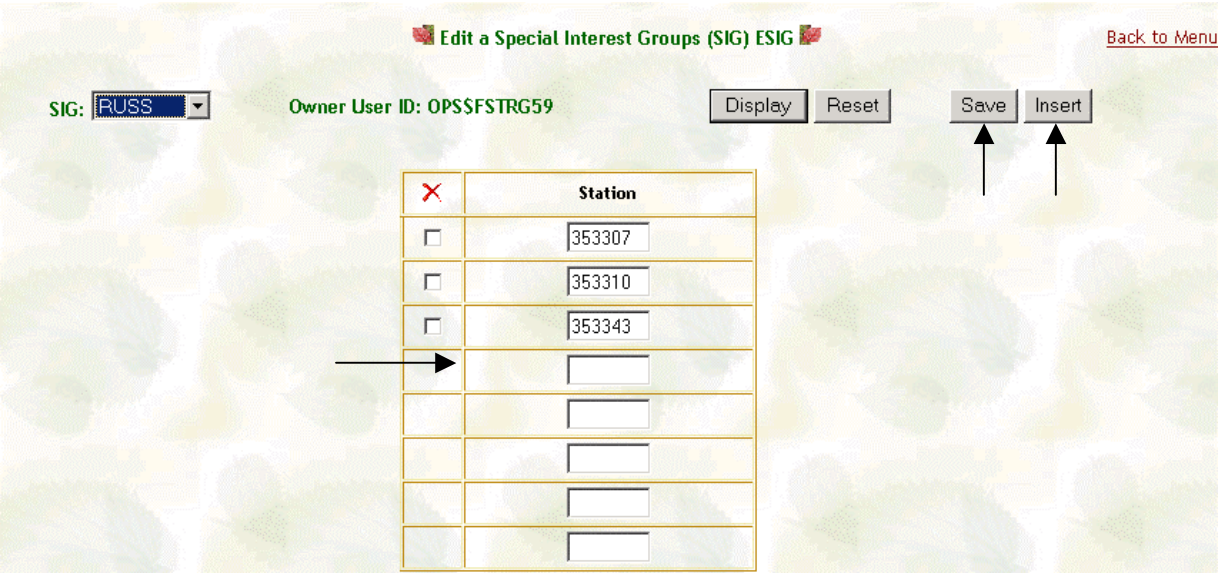
The desired name will display in the dropdown box. Click **Display**.



The form will display all of the stations currently in the SIG.



To delete a station of the SIG, click in the box under the red X next to the desired station. Click on Save to save the changes.



To insert more stations into the SIG, click on the **Insert** button. The form will display input boxes for additional stations to be entered. After entering the additional stations click **Save** to keep the changes.

Deleting a SIG

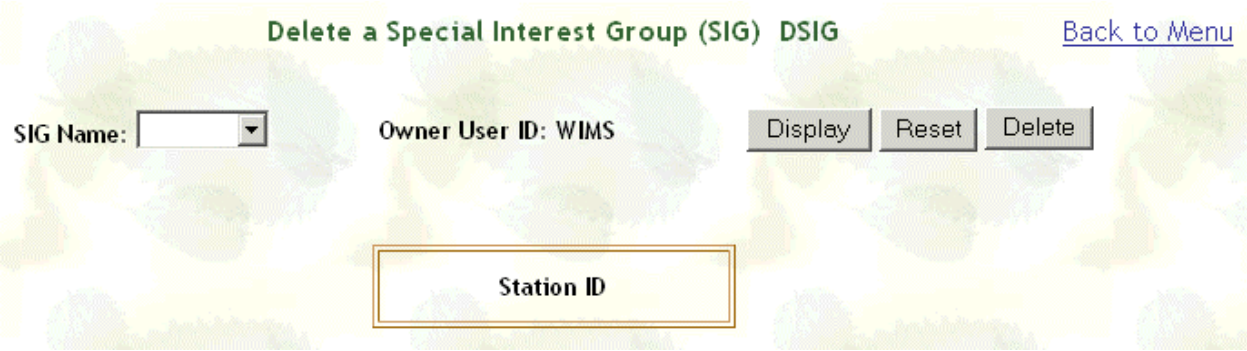
Deleting SIGs that are no longer needed or used should be part of your periodic housecleaning. Storing only those SIGs that you frequently use will keep your WIMS storage costs down.

To ensure you do not inadvertently delete anything you do not want to, there is no FastPath command to delete a SIG.

To access the Delete a Special Interest Group form

In the Option/ FastPath field type 3 and click Go.

Delete a Special Interest Group form



To delete an existing SIG

From the Delete SIG menu:

1 In the SIG Name: field, type the Special Interest Group name and click Display to list the Station Ids that are part of the SIG.

If you want to delete specific station numbers from the SIG without deleting the entire SIG, see " Editing a SIG" earlier in this chapter.

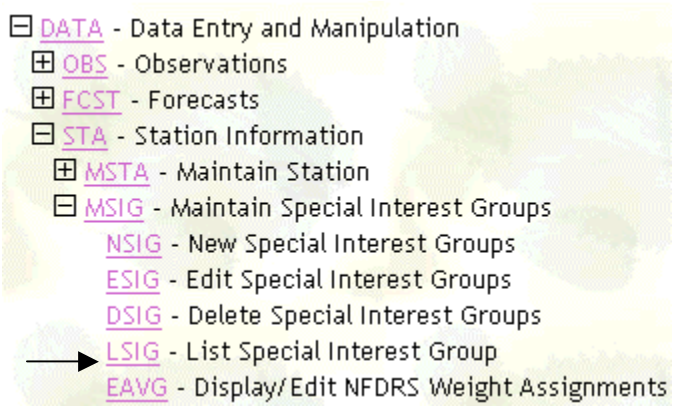
2 Verify the Special Interest Group name you are deleting by reviewing the information carefully.

3 To delete the SIG, click Delete. A message will be returned to the browser indicating the successful completion of the operation.

Listing SIGs

The List of Special Interest Groups form allows you to quickly locate SIGs that you or another WIMS user owns.

To access the List of Special Interest Groups form



In the Option/ FastPath: field, type LSIG and click Go.

LSIG form

To list existing SIGs and their stations

From the List of Special Interest Groups form:

1 Choose the owner ID of the SIGs you would like to display and click Display.

The List of Special Interest Groups redisplays, listing all SIGs to the SIG owner.

2 To list stations for that SIG, click the name of the SIG.

The Display/ Edit a Special Interest Group form displays, listing the current station numbers for the SIG you selected.

From here, it may look like you can edit the SIG that appears on the Display/ Edit a Special Interest Group form. You cannot. WIMS does not save any changes you make to the SIG from the FastPath LSIG. To make changes to an existing SIG, see " Editing a SIG" earlier in this chapter.

3 To return to the List of Special Interest Groups form, click the back button on your browser.

Assigning NFDRS weighted averages to stations in your SIG

The Display/ Edit NFDRS Weight Assignments form allows you to assign weightings to individual station numbers within a SIG to calculate weighted average values for certain NFDRS indices. These NFDRS weights indicate the percentage or degree of influence of the station relative to other stations within the SIG.

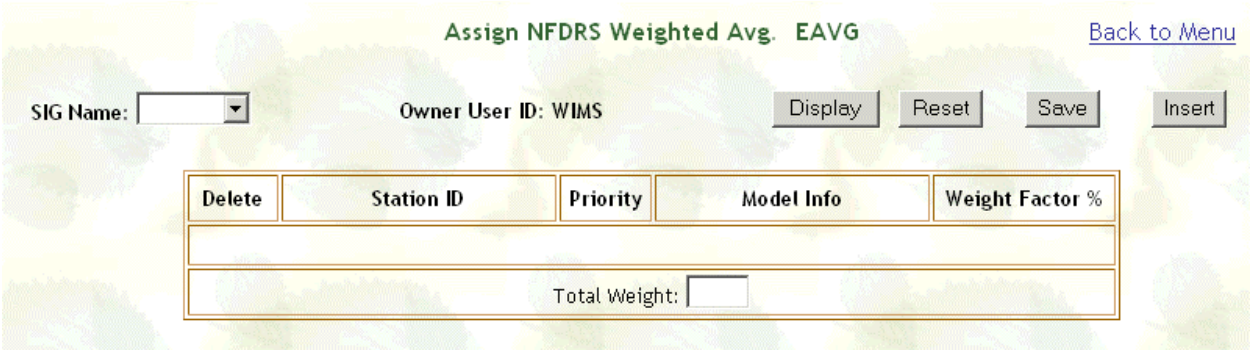
NFDRS weights are based on local experience, and include other factors such as:

- The total area that each station represents
- Resource values
- Historic fire occurrences
- Public use patterns
- Degree of importance to local managers.

To access the Display/ Edit NFDRS Weight Assignments form

In the Option/ FastPath: field, type EAVG and click Go.

EAVG form



EAVG field definitions

Use the field definitions below to complete the EAVG form. Fields in the query block are shaded.

Field	Description and action to be taken
SIG Name: (Special Interest Group name)	Enter the name of the SIG you want to assign weighted averages to.
Station ID (Station number)	Displays the number of each station in the SIG.
Priority (Priority rating)	Enter the priority number of the fuel model you want to use in the weighted average calculations. *WIMS assumes you want to use the primary fuel model for each station number within the SIG. Currently, WIMS only recognizes priority " 1" fuel models.*
Model Info (Fuel model ID)	Displays the fuel model, slope class, grass type, and climate class for the selected fuel model.
Weight Factor % (Weight factor percentage)	Enter the weight factor percentage that represents the influence this fuel model has in the calculation. *For example, enter " 25" to specify a weight factor of 25%.* *Weight factor percentage should include such factors as total percentage area represented by the station, resource values, historic fire occurrence, and public-use patterns.*
Total weight (Total weight factor percentage)	Displays the total weight factor percentage. *To save your NFDRS weight assignments, the total of all assigned weight factor percentages must*

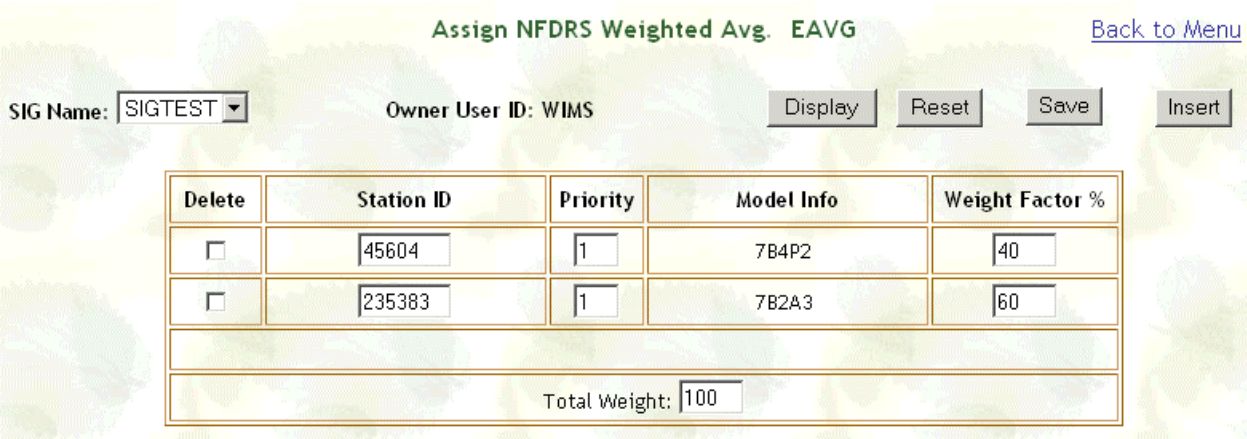
Field	Description and action to be taken
	equal 100 percent.

To assign weightings to your existing SIG

From the Display/ Edit NFDRS Weight Assignments form:

1 From the SIG Name dropdown menu, type the Special Interest Group name and click Display.

The Display/ Edit NFDRS Weight Assignments form redisplays. For example, the screen below shows the station numbers, priorities, weight factors, and model information for SIG "SIGTEST."



2 Edit the appropriate fields in the form, as instructed on the previous pages, click Save when you are finished editing.

3 If weight factors do not total 100 percent an error message will be returned to the browser.

When you copy SIGs, any weight assignments are copied with the station.

The total weight field calculates an interim total weight percentage.

To reassign a weight factor percentage to a station

From the Display/ Edit NFDRS Weight Assignments form:

1 From the SIG Name dropdown menu, select the appropriate the Special Interest Group name and click Display.

The Display/ Edit NFDRS Weight Assignments form redisplays, listing every station number, station fuel model priority, fuel model information, and station weight factor percentage for the SIG you selected.

2 Edit the Weight Factor % field for the station number you want to reassign.

3 To save the new NFDRS weighted averages for the stations, click Save.

Access Control Lists (ACLs)

Usually, more than one person needs access to edit or enter weather station data. WIMS controls user access to a station and privileges by the ACL. An ACL tells WIMS which WIMS logon IDs have the authority to:

- Edit station information
- Enter observations
- Edit observations.

You must have the WIMS Data Manager access level to perform any Access Control List functions. If you do not have this access level, WIMS will not accept FastPath commands to these functions. You cannot edit or delete another owner's ACL. Station owners automatically have all the above authorities, and therefore do not need to be specified in the ACL. Once created, ACLs can be referenced in the station catalog.

Recommendation: Give full access to Regional, area, state, or agency NFDRS tech specialists. One ACL can apply to more than one station.

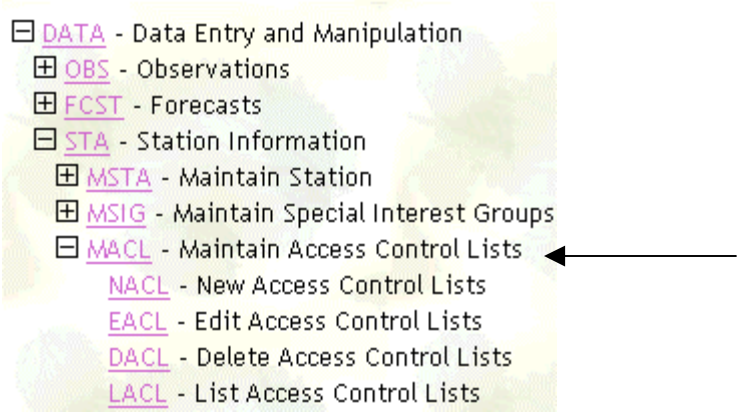
Accessing the Maintain Access List menu

You must have the WIMS Data Manager access level to perform any Access Control List functions. If you do not have this access level WIMS will not accept FastPath commands to these functions. You cannot edit or delete another owner's ACL.

The Maintain Access List menu allows you to:

- Create a new ACL
- Edit your existing ACL
- Delete your existing ACL
- List ACLs.

To access the Maintain Access Control Lists menu



In the Option/ FastPath: field, type MACL and click Go.

Remember, you can skip this menu by typing the FastPath command:

- NACL, to display the Create an Access Control List
- EACL, to display the Edit an Access Control List.

To obtain access to Maintain Access Control List functions contact your local WIMS system administrator, or the FAMWEB Helpdesk.

Creating a new ACL

ACLs allow you to identify and control station access for specific WIMS logon IDs.

You must have the WIMS Data Manager access level to create an ACL. If you do not have this access level, WIMS will not accept FastPath commands to this function.

To access the Create an Access Control List form

In the Option/ FastPath: field, type NACL and click Go.

NACL form

Access Control List field definitions

Use the field definitions listed below to complete ACL forms in this chapter. Fields in the query block are shaded.

Field	Description and action to be taken
Access List Name (Access Control List name)	Enter the name of the ACL, up to 12 characters, including digits and special characters.
Owner User ID (WIMS logon ID)	Displays your WIMS logon ID.
User ID (WIMS logon ID)	Enter the WIMS logon ID of each person included in the ACL.
Station Edit (Edit station's information access)	Checking this category allows the user to: Allows the user to edit station information, change Station ownership and/ or the ACL *Use discretion when allowing others to edit station information.*
Observations Enter (Enter station's observations access)	Checking this category allows the user to enter observations
Observations Edit (Edit station's observations access)	Checking this category allows the user to edit and/ or delete observations

To create a new ACL

From the Create an Access Control List form:

1. In the Access List Name field, type the Access Control List name and click Setup.
2. In the User ID dropdown menus that display, select the WIMS logon IDs of the people you want to add to the ACL.
3. Complete the remaining user access designation fields as instructed on the previous pages by checking the privileges required.

4 To save the changes you made to the ACL, click Setup. If the operation completes successfully you will be returned to the NACL form.

You can now reference this ACL in the station catalog.

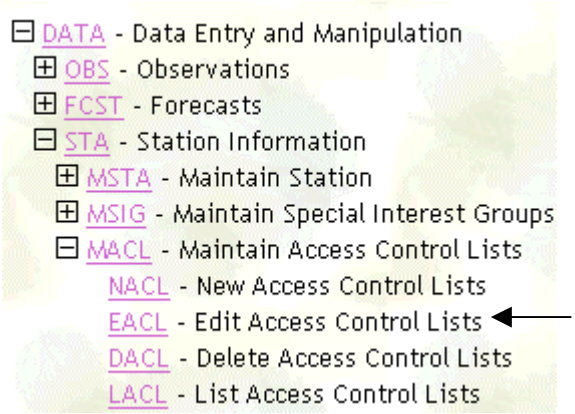
If a station's ownership changes, the new owner must create a new ACL for that station.

Editing an ACL

You can add, delete, and change access designations for existing WIMS logon IDs for any ACL that you have previously created.

You must have the WIMS Data Manager access level to edit an ACL. If you do not have this access level, WIMS will not accept FastPath commands to this function. You can only edit ACLs that you own.

To access the Edit an Access Control List form



In the Option/ FastPath: field, type EACL and click Go.

EACL form

To edit an ACL

From the Edit an Access Control List form:

1. From the Access List Name dropdown menu, select the Access Control List name and click display.

The Edit an Access Control List form redisplays, listing all WIMS logon IDs for that ACL.

2 Add and/ or delete WIMS logon IDs and change access designations for WIMS logon IDs in the ACL.

3 To save the changes you made to the ACL, click Save.

Deleting an ACL

Deleting ACLs that you no longer need or use should be part of your periodic housecleaning. Storing only those ACLs that are needed for station access authorization will keep your WIMS storage costs down.

You must have the WIMS Data Manager access level to delete an ACL. To ensure you do not inadvertently delete anything you do not want to, there is no FastPath command to delete an existing ACL.

To access Delete Access Control Lists

Delete an ACL form

To delete an ACL

From the Delete an Access Control List form:

1. In the Access List Name dropdown, Select the Access Control List name and click Display.
2. To be sure that you are deleting the correct ACL, review the ACL carefully.
3. To delete the ACL, click Delete.

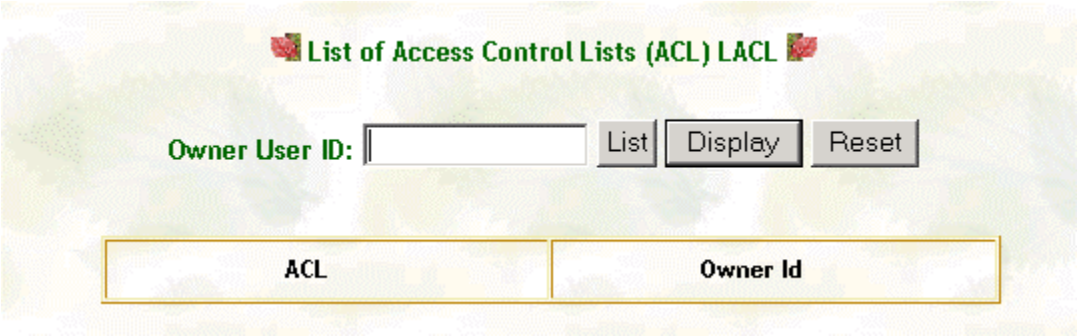
Listing ACLs

The List of Access Control Lists form allows you to quickly identify ACLs that you or another WIMS user owns.

To access the List Access Control Lists form

In the Option/ FastPath: field, type LACL and click Go.

LACL form



To list the ACLs of an owner

From the List of Access Control Lists form:

1 Select the Owner User ID to display ACLs for and click Display.

The List of Access Control Lists form redisplays, listing all ACLs defined by the owner of the list.

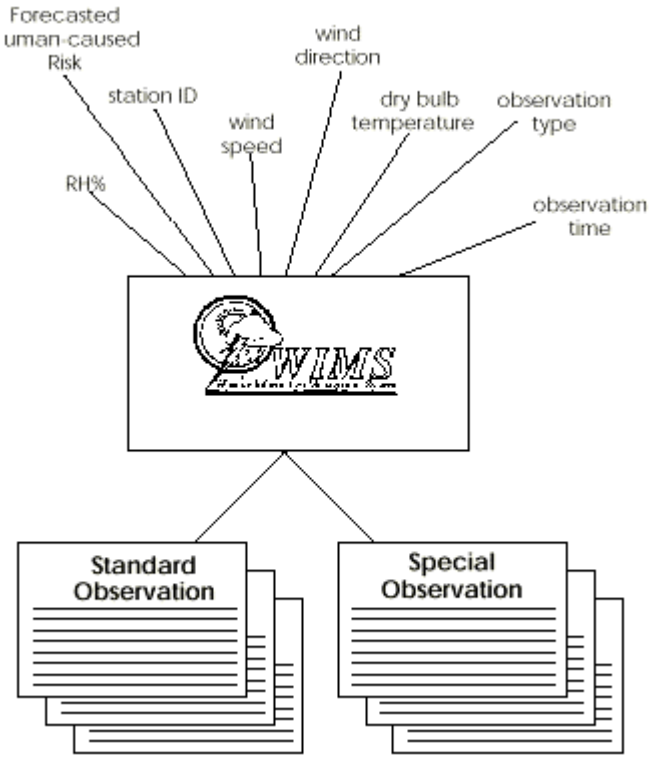
From here, it may look like you can edit the ACL that appears on the Edit an Access Control List form. You cannot. WIMS does not save any changes you make to the ACL from the FastPath LACL. To make changes to an ACL that you own, see " Editing an ACL" earlier in this chapter.

Chapter 7. Working with Observations *OBS*

This chapter gives you the information you will need to display, enter, and edit weather observations. You must be the station's owner or have authorization to create and edit observations.

Observations

Weather observations are gathered from a nationwide network of manual and remotely operated stations. These observations provide specific information to fire, land management and research personnel.



For more information about the menus and forms available to your access level, see Appendix A, " Menus, FastPaths, and access levels" in the back of this guide.

WIMS stores and maintains weather information in two basic categories:

- Current weather information is stored and maintained as a standard or special weather observation.
- Future weather information is stored and maintained as a weather forecast.

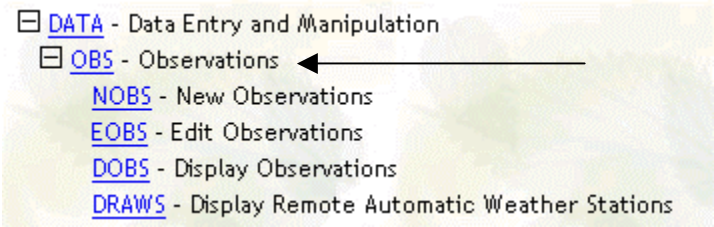
For more information about forecasts, see Chapter 8, " Working with Forecasts. "

Accessing the Observations menu

The Observations menu allows you to:

- Create a new NFDRS or special observation
- Input missed historical observations
- Edit an existing observation
- Change a RAWS observation to a regular or special observation
- Display an existing observation
- Display RAWS data.

To access the Observations menu



In the Option/ FastPath: field, type OBS and click Go.

Remember, you can skip this menu by typing the FASTPATH command:

- **NOBS**, to display the Create Observation form
- **EOBS**, to display the Edit Observation form
- **DOBS**, to display the Display Observation form
- **DRAWS**, to display the Remote Automatic Weather Station Display (RAWS) form.

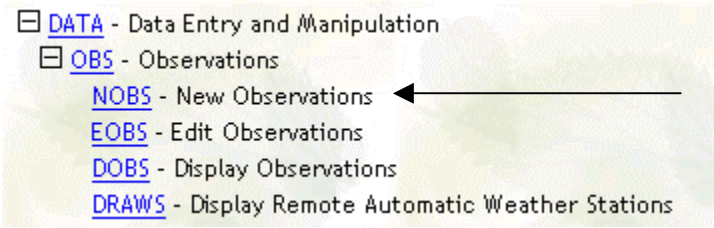
Entering a new observation

You can enter regular and special observations by station number or Special Interest Group (SIG). RAWS observations are posted automatically to WIMS. Use the Edit Observations form to change a RAWS observation to a regular or special observation.

For more information about Special Interest Groups, see Chapter 6, " Working with Station Information. "
For more information about RAWS observations, see "Displaying RAWS data" later in this chapter.

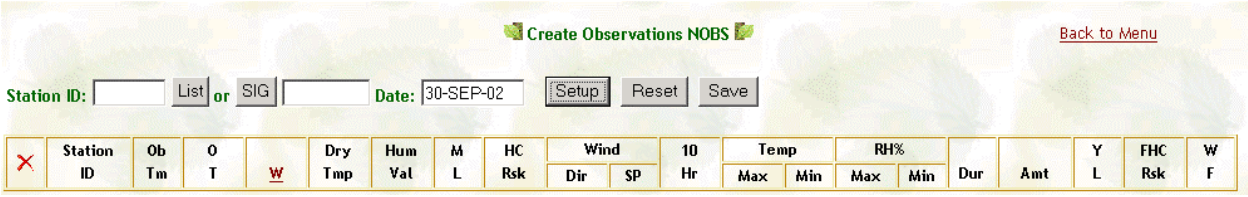
To enter a new observation you must be the station's owner or have Access Control List authorization. For more information, see "Access Control Lists (ACLs) " in Chapter 6, "Working with Station Information. "

To access the Create Observation form



In the Option/ FastPath: field, type NOBS and click Go.

NOBS form

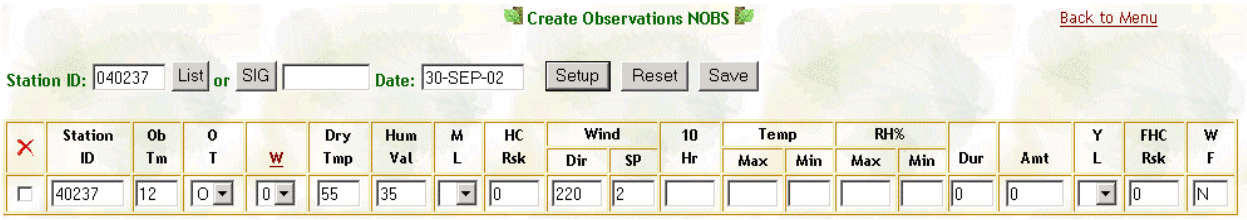


The Create Observation (NOBS) form will display with showing today's date. Change the date if necessary, in the Station ID field, type the number of the station for the new observation, use the List button to select the desired station id, or in the SIG field type the Special Interest Group name and click **Setup**.

Observations are generally only created for Type 2 stations (Manual Stations).

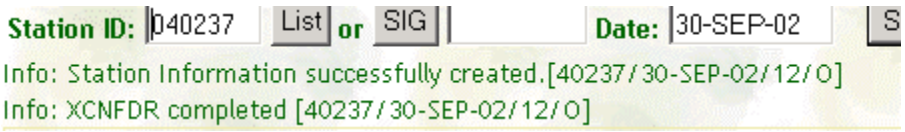
If you are not authorized to enter observations for a station, that station number does not display on the Create Observations form.

Create a new observation



Required entries include the W (State of the Weather), Dry Tmp (Dry Bulb Temperature), Hum Val (Humidity Value), Wind Direction and Wind Speed, Duration (Precipitation Duration) and AMT (Precipitation Amount). In the ML (Morning Lightning) and YL Yesterdays Lightning) columns no entry is required. These columns are no longer being used in the calculation. In the columns HC RSK (Human Cause Risk) and FHC Risk (Forecasted Human Cause Risk) enter a zero. These columns are no longer being used in the calculations, but an entry is required to save the observation. Verify the WF (Wet Flag). If the State of the Weather is 0, 1, 2, or 3, the WF should be N. If the State of the Weather is 5, 6, or 7 The Wet Flag should be Y. For State of the Weather 8 and 9 the Wet Flag should generally be set to N. Click **Save** to save the edits.

To save the new observation click Save.



A confirmation message stating the observation is successfully saved. Observations can be entered for another station or for stations within a SIG.

Observation field definitions

Use the field definitions listed below to complete observation-related forms in this chapter. Fields in the query block are shaded.

Field	Description and action to be taken
Station ID (Station number)	Displays the number of the station(s).
Ob Tm (Observation time)	Using the 24-hour clock, displays the local standard time of the observation: *WIMS truncates the time to the hour. The default observation time is "13" (1:00 pm). The observation time is stored in the Station Information Screen (ESTA).*
O T (Observation type)	Displays the type of observation: **Type** **Description** O Standard observation S Special observation R RAWS observation F Forecasted observation
W (State of the weather -required)	Enter the code for the state of the weather: **Code** **Description** 0 Clear (0.0 -0.1) 1 Scattered clouds (0.2 -0.5) 2 Broken clouds (0.6 -0.9) 3 Overcast (100% obscured) 4 Foggy 5 Drizzling 6 Raining 7 Snow/ sleet 8 Showering 9 Thunderstorms in progress. *This field must not be blank.* *Remember to enter the appropriate state of the weather code for accurate NFDRS indices. SOW 5, 6, and 7 will set the Wet Fuels Flag to "Y".*
Dry Tmp (Dry bulb temperature)	Displays the observed dry bulb temperature in degrees. *Fahrenheit or Celsius is specified in the Temperature Code field in the station catalog.*

Field	Description and action to be taken
Hum Val (Measured humidity)	Displays the measured humidity, if available. *Based on the station catalog, this field identifies: wet bulb temperature, dew point temperature, and relative humidity.*
M L (Morning's lightning -required)	*This field is no longer used in the NFDRS calculations and may be left blank.*
HC Rsk (Human-caused risk)	*This field is no longer used in the NFDRS calculations; enter a "0" (zero).*
Wind Dir (Wind direction)	Displays the direction where the wind is blowing from, in degrees: **Code** — **Equivalent wind direction in degrees** NNE 23 NE 45 ENE 68 E 90 ESE 113 SE 135 SSE 158 S 180 SSW 203 SW 225 WSW 248 W 270 WNW 293 NW 315 NNW 338 N 360 FL 0
Wind Sp (Wind speed)	Displays the observed average ten-minute wind speed.
10 Hr (Ten-hour fuel stick moisture content) Measured (weighted) values only. Do not enter calculated value.	Displays the measured ten-hour fuel stick moisture content. *If the Wet Fuels field is set to " Y" the default ten-hour fuel stick moisture content is " 35".* *For a RAWS station without an associated manual station, WIMS calculates this value.*
Temp Max	Displays the maximum temperature observed in the

Field	Description and action to be taken
(24-hour maximum temperature)	last 24 hours of observation time. *The maximum temperature must be equal to or higher than the dry bulb temperature (Dry Tmp field) at observation time.*
Temp Min (24-hour minimum temperature)	Displays the minimum temperature observed in the last 24 hours. *The minimum temperature must be equal to or lower than the dry bulb temperature (Dry Tmp field) at observation time.*
RH% Max (Maximum observed relative humidity percentile)	Enter the maximum relative humidity observed in the last 24 hours, a value from 1 to 100. *The maximum relative humidity must be equal to or higher than the reported or calculated relative humidity at observation time.*
RH% Min (Minimum observed relative humidity percentile)	Displays the minimum relative humidity observed in the last 24 hours, a value from 1 to 100. *The minimum relative humidity must be equal to or lower than the reported or calculated relative humidity at observation time.*
Dur (Precipitation duration)	Displays the duration of precipitation in hours, as observed in the last 24 hours.
Amt (Precipitation amount)	Displays the cumulative precipitation amount observed in the last 24 hours, in the format 9.99, or " T" for trace.
Y L (Yesterday's lightning -required)	*This field is no longer used in the NFDRS calculations and may be left blank.*
FHC Rsk (Forecasted human-caused risk)	*This field is no longer used in the NFDRS calculation. Enter a "0" (zero).*
W F (Wet fuels)	Displays the state of the fuel for the observation time. • Y - indicates wet fuels • N - indicates dry fuels. *If the state of the weather code (WF field) is 5, 6, or 7 the Wet Fuels field defaults to " Y. " For more information about wet fuel descriptions, see Appendix E, " NFDRS technical reference. "*

NFDRS indices are calculated for any NFDRS-type stations (type "2", "4 " and "6").

To enter new observations for stations defined in a SIG

Suppose you want to enter new observations for stations that are defined as the Special Interest Group " SMPL. " " SMPL" contains the stations numbered "*xxxxxx*", "*xxxxxx* " and "*xxxxxx*." You are on the Access Control List and are authorized to enter observations for these station numbers. In this example, you will enter new observations for station numbers for the station numbers of your choosing."

From the Create Observation form:

1. In the SIG: field select SMPL from the dropdown menu and then click Setup.
2. For station number "*xxxxxx*," complete the Create Observation form as shown as before.
3. To skip entries for a station simply leave the fields for that station blank when you save your changes.
4. When finished, click Save to save the new observation.

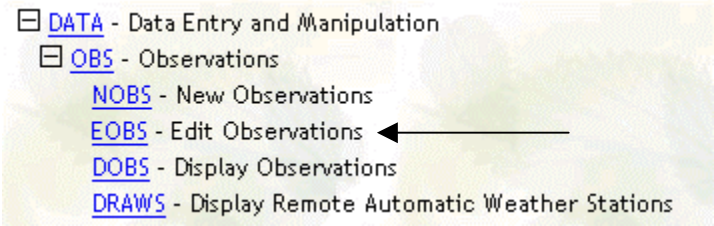
Editing an observation

The Edit Observation form allows you to:

- Edit RAWS observations for automated stations
- Edit previously entered observations
- Correct erroneous information for archived historical weather information.

You must have access authority to edit an observation. You can only have one Regular observation (Type= O) per day.

To access the Edit Observation form



In the Option/ FastPath: field, type EOBS and click Go.

EOBS form

To edit an observation:

In the Station ID, enter the station id or click the List button and choose the desired station or in the SIG field type the Special Interest Group name. In the Type field, enter an "R" for to display a RAWS observation. The Date field will default to the current day's date. A different date can be entered if desired. In the Time field enter the desired observation time. See the Station Information Screen (ESTA). Click the **Find** button to locate the desired observation.

The Edit Observation form redisplays, listing the station number, observation time, observation type, and observation information.

If you are not authorized to edit observations for a station number, an error message is returned to the browser:

Edit Observations EOBS

Back to Menu

Station ID: 353307 List or SIG Type: R Date: 01-AUG-02 Time: Find Reset Save

Station ID	Ob Tm	O T	W	Dry Tmp	RH%	M L	HC Rsk	Wind Dir	Wind SP	10 Hr	Temp Max	Temp Min	RH% Max	RH% Min	Dur	Amt	Y L	FHC Rsk	W F
353307	13	O	0	76	17		0	248	11		79	57	32	14	0	0		0	N

Change the OT (Obs Type) from "R" to "O", enter the State of the Weather in the "W" column. Entries in the ML (Morning Lightning) and YL (Yesterdays Lightning) columns are not required. In the columns HC RSK (Human Cause Risk) and FHC RSK (Forecasted Human Cause Risk) enter a zero. These columns are no longer being used in the calculations, but an entry is required to save the observation. Verify the WF (Wet Flag). If the State of the Weather is 0, 1, 2, or 3, the WF should be N. If the State of the Weather is 5, 6, or 7, the Wet Flag should be Y. For State of the Weather 8 and 9 the Wet Flag should generally be set to N. Click **Save** to save the edits.

Edit Observations EOBS

Back to Menu

Station ID: 353307 List or SIG Type: R Date: 01-AUG-02 Time: 13 Find Reset Save

Info: XCNFDR completed [353307/01-Aug-02/13/O]

Station ID	Ob Tm	O T	W	Dry Tmp	RH%	M L	HC Rsk	Wind Dir	Wind SP	10 Hr	Temp Max	Temp Min	RH% Max	RH% Min	Dur	Amt	Y L	FHC Rsk	W F
353307	13	O	0	76	17		0	248	11		79	57	32	14	0	0		0	N

Info: Observation successfully saved.[353307/01-Aug-02/13/O]

A confirmation message will display and the observation will be highlighted.

Remember observations must be entered daily for NFDRS and NWS forecasts to be produced.

Displaying an observation

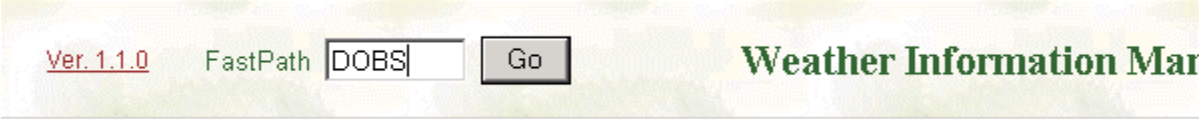
The Display Observation form allows you to display observations from manual and RAWS stations. From this form you can jump to the Edit Observation form.

Any WIMS user can display observation data for any station.

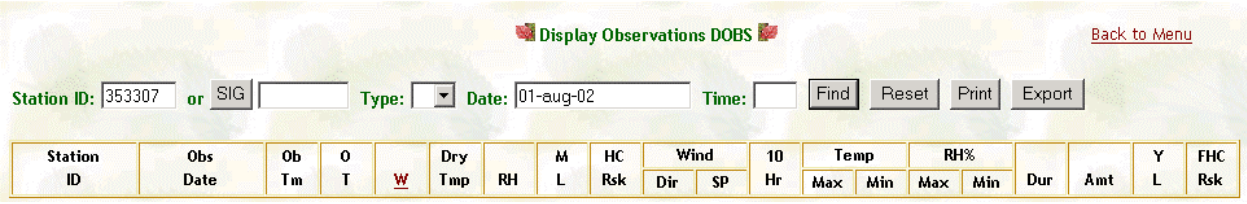
To access the Display Observation form

- DATA - Data Entry and Manipulation
  - OBS - Observations
    - NOBS - New Observations
    - EOBS - Edit Observations
    - DOBS - Display Observations ←
    - DRAWS - Display Remote Automatic Weather Stations

In the Option/ FastPath: field, type DOBS and click Go.



DOBS form



To display an observation

From the Display Observation form:

In the Station ID field, type the number of the station for the observation, or In the SIG field, type the Special Interest Group name. This is the minimum data required to display observations to narrow your search further continue to steps 2 through 4.

In the Type: enter the observation type (R, O, F, S).

You can leave this field blank and get all observation types.

In the Date: enter the observation date (and/or date range). The date is averaged by day starting with the day's first observation.

In the Time: enter the observation time.

You can leave this field blank.

Click Find to locate the desired observations. The Display Observation form redisplays, listing the station number, observation time, observation type, and all observations previously recorded for that station number.

Display Observations DOBS

Back to Menu

Station ID: 353307 or SIG Type: Date: 01-AUG-02 Time: Find Reset Print Export

Station ID	Obs Date	Ob Tm	O T	W	Dry Tmp	RH	M L	HC Rsk	Wind Dir	Wind SP	10 Hr	Temp Max	Temp Min	RH% Max	RH% Min	Dur	Amt	Y L	FHC Rsk
353307	01-Aug-02	0	R		59	15	0	0	57	13		79	53	47	14	0	0	0	0
353307	01-Aug-02	1	R		59	15	0	0	50	14		79	53	47	14	0	0	0	0
353307	01-Aug-02	2	R		58	16	0	0	47	10		79	53	47	14	0	0	0	0
353307	01-Aug-02	3	R		57	15	0	0	56	7		79	53	47	14	0	0	0	0
353307	01-Aug-02	4	R		60	15	0	0	134	4		79	53	47	14	0	0	0	0
353307	01-Aug-02	5	R		60	16	0	0	144	7		79	53	47	14	0	0	0	0
353307	01-Aug-02	6	R		60	17	0	0	169	10		79	54	47	14	0	0	0	0
353307	01-Aug-02	7	R		61	18	0	0	159	10		79	55	47	14	0	0	0	0
353307	01-Aug-02	8	R		64	20	0	0	179	8		79	57	43	14	0	0	0	0
353307	01-Aug-02	9	R		67	22	0	0	204	7		79	57	43	14	0	0	0	0
353307	01-Aug-02	10	R		69	24	0	0	193	8		79	57	39	14	0	0	0	0
353307	01-Aug-02	11	R		74	23	0	0	215	7		79	57	32	14	0	0	0	0
353307	01-Aug-02	12	R		77	20	0	0	233	8		79	57	32	14	0	0	0	0
353307	01-Aug-02	13	O	0	76	17		0	248	11		79	57	32	14	0	0		0
353307	01-Aug-02	14	R		77	17	0	0	252	11		79	57	32	14	0	0	0	0
353307	01-Aug-02	15	R		78	15	0	0	248	12		79	57	32	14	0	0	0	0

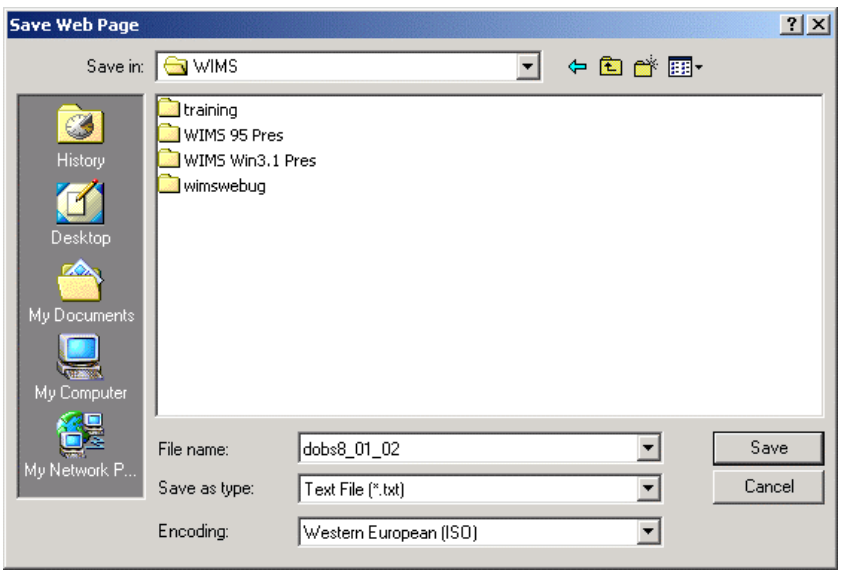
Total number of rows retrieved: 24 Internet

To save the observations click the Print button. The data will be displayed on the screen.

File Edit View Favorites Tools Help

Station ID	Name	Obs Date	Obs Tm	Obs Typ	S W	Dry Tmp	RH	M L	HC Rsk	Wnd Dir	Wnd Sp	10 Hr	Tmp Max	Tmp Min	RH% Max	RH% Min	Dur	Amt	Y L	FHC Rsk
353307	CALIMUS	01-Aug-02	0	R		59	15	0	0	57	13		79	53	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	1	R		59	15	0	0	50	14		79	53	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	2	R		58	16	0	0	47	10		79	53	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	3	R		57	15	0	0	56	7		79	53	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	4	R		60	15	0	0	134	4		79	53	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	5	R		60	16	0	0	144	7		79	53	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	6	R		60	17	0	0	169	10		79	54	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	7	R		61	18	0	0	159	10		79	55	47	14	0	0	0	0
353307	CALIMUS	01-Aug-02	8	R		64	20	0	0	179	8		79	57	43	14	0	0	0	0
353307	CALIMUS	01-Aug-02	9	R		67	22	0	0	204	7		79	57	43	14	0	0	0	0
353307	CALIMUS	01-Aug-02	10	R		69	24	0	0	193	8		79	57	39	14	0	0	0	0
353307	CALIMUS	01-Aug-02	11	R		74	23	0	0	215	7		79	57	32	14	0	0	0	0
353307	CALIMUS	01-Aug-02	12	R		77	20	0	0	233	8		79	57	32	14	0	0	0	0
353307	CALIMUS	01-Aug-02	13	0	0	76	17		0	248	11		79	57	32	14	0	0		0
353307	CALIMUS	01-Aug-02	14	R		77	17	0	0	252	11		79	57	32	14	0	0	0	0
353307	CALIMUS	01-Aug-02	15	R		78	15	0	0	248	12		79	57	32	14	0	0	0	0

The data will be displayed on the screen. Click File and Print. To save to Notepad, click File and Save As. The following window will open. Select the desired directory to save the observations to the hard drive. Make sure to change the file type to .txt.



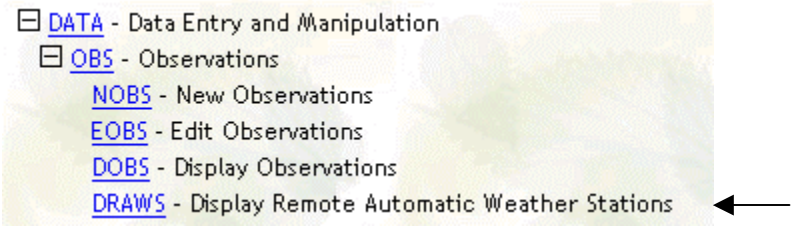
Displaying RAWS data

The Remote Automatic Weather Station Display (RAWS) form allows you to display RAWS observations for a single RAWS station or for all RAWS stations within a SIG.

If a public SIG is specified, manual stations associated with that SIG also display on this form.

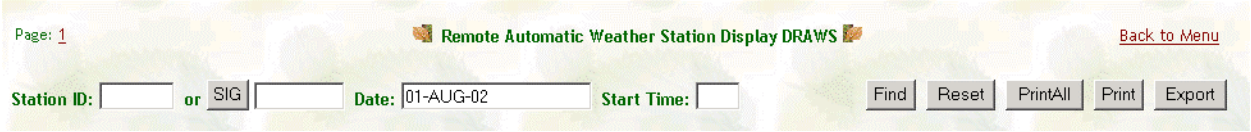
If you have " Edit Observation" Access Control List authorization and want to calculate NFDRS indices for a RAWS observation, see " Calculating NFDRS indices for a RAWS observation" in Chapter 9, " Working with NFDRS. "

To access the Remote Automatic Weather Station Display (RAWS) form



In the Option/ FastPath field, type DRAWS and click Go.

DRAWS form



Enter the Station ID or the SIG and the desired date and click **Find**. The results will display in the botton window. The DRAWS screen contains two information screens. The first screen will display the information collected from the 8 standard sensors on the station. For stations with additional sensors the 9th sensor will also display on the in the first screen.

Ver. 1.1.0 FastPath DRAWS Go **Weather Information Management System** Show Navigation Tree

Page: 1 2 **Remote Automatic Weather Station Display DRAWS** Back to Menu

Station ID: 353307 or SIG **Date:** 01-AUG-02 **Start Time:** Find Reset PrintAll Print Export

Station OID	Obs Date	Obs HH	Obs MM	O T	Dry Tmp	RH	Wind Dir	Wind Sp	Temp Max	Temp Min	RH% Max	RH% Min	RGauge	Hrly Prcp	BVlt	BPress	Fuel Temp
353307	01-Aug-02	23	0	R	54	33	346	13	78	54	33	13	6.67	0.0	13.1	30.2	53
353307	01-Aug-02	22	0	R	56	31	338	14	78	56	33	13	6.67	0.0	13.1	30.2	55
353307	01-Aug-02	21	0	R	58	33	338	14	78	57	33	13	6.67	0.0	13.1	30.2	57
353307	01-Aug-02	20	0	R	59	28	316	14	78	57	32	13	6.67	0.0	13.2	30.2	58
353307	01-Aug-02	19	0	R	63	27	269	13	78	57	32	13	6.67	0.0	13.2	30.2	63
353307	01-Aug-02	18	0	R	66	18	281	14	78	57	32	13	6.67	0.0	13.4	30.2	68
353307	01-Aug-02	17	0	R	71	17	281	13	78	57	32	13	6.67	0.0	14	30.2	77
353307	01-Aug-02	16	0	R	77	13	249	13	79	57	32	13	6.67	0.0	13.9	30.2	88
353307	01-Aug-02	15	0	R	78	15	248	12	79	57	32	14	6.67	0.0	13.9	30.2	95
353307	01-Aug-02	14	0	R	77	17	252	11	79	57	32	14	6.67	0.0	13.9	30.2	97
353307	01-Aug-02	13	0	O	76	17	248	11	79	57	32	14	6.67	0.0	13.9	30.2	99
353307	01-Aug-02	12	0	R	77	20	233	8	79	57	32	14	6.67	0.0	13.9	30.2	103
353307	01-Aug-02	11	0	R	74	23	215	7	79	57	32	14	6.67	0.0	13.9	30.2	106
353307	01-Aug-02	10	0	R	69	24	193	8	79	57	39	14	6.67	0.0	14	30.2	100
353307	01-Aug-02	9	0	R	67	22	204	7	79	57	43	14	6.67	0.0	14	30.2	91
353307	01-Aug-02	8	0	R	64	20	179	8	79	57	43	14	6.67	0.0	14	30.2	82
353307	01-Aug-02	7	0	R	61	18	159	10	79	55	47	14	6.67	0.0	13.5	30.2	69
353307	01-Aug-02	6	0	R	60	17	169	10	79	54	47	14	6.67	0.0	13	30.2	55

Total number of rows retrieved: 24; #### BLM Boise RAWS data is currently at 09-MAY-02 02:22:25 GMT #### Internet

DRAWS Column Definitions (First Screen):

Field	Description and action to be taken
Station ID: (Station number)	The unique six digit numeric identifier assigned to each station by the NWS.
Date: (Observation date)	The date of the observation
Obs HH MM	The time of the observation. In the RAWS screen the hour and minutes will be displayed. In the DOBS screen only the hour will be displayed.
OT (Observation Types)	WIMS recognizes four type of observations or outputs from which the user can choose. These are: O – Observed weather data or calculated NFDRS indices R – Raw weather data from automated stations S – Special observations (observations or indices based on other than standard observations) F – Forecasted indices generated from data forecasted by the NWS.

Field	Description and action to be taken
Dry Tmp (Dry bulb temperature)	Displays the observed dry bulb temperature, in degrees at the time of the observation. *Fahrenheit or Celsius is specified in the Temperature Code: field in the station catalog.*
RH (Relative humidity)	Displays the relative humidity at the time of the observation.
Wind Dir (Wind direction)	Displays the wind direction in degrees at the time of the observation.
Wind Sp (Wind speed)	Displays the observed ten-minute wind speed at the time of the observation.
Temp Max (24-hour maximum temperature)	The maximum temperature taken during the 24 hour period, for example 1300 on Tuesday to 1259 on Wednesday.
Temp Min (24-hour minimum temperature)	The minimum temperature taken during the 24 hour period, for example 1300 on Tuesday to 1259 on Wednesday.
RH% Max (Maximum relative humidity percentile)	The maximum Relative Humidity Percentile taken during the 24 hour period, for example 1300 0n Tuesday to 1259 on Wednesday.
RH% Min (Minimum relative humidity percentile)	The minimum Relative Humidity Percentile taken during the 24 hour period, for example 1300 0n Tuesday to 1259 on Wednesday.
RGauge (Rain gauge)	Displays the measured amount of rainfall. This is a cumulative total and reset when the tipping bucket on the station is reset.
Hrly Precip (Hourly precipitation)	Displays the hourly amount of precipitation measured during the last 24 hours.
BVlt (Battery voltage)	Displays the voltage of the battery in the RAWS station.
BPress (Barometric pressure)	Displays the barometric pressure measured in the last 24 hours.

Page: 1 2 Remote Automatic Weather Station Display DRAWS Back to Menu

Station ID: 353307 or SIG Date: 01-AUG-02 Start Time: Find Reset PrintAll Print Export

Station OID	Obs Date	Obs HH	Obs MM	RAWS Sensor Data UX	UG	MM	PC
353307	01-Aug-02	23	0	340	19	6	-3
353307	01-Aug-02	22	0	348	21	6	-4
353307	01-Aug-02	21	0	332	24	5	-5
353307	01-Aug-02	20	0	157	19	6	-4
353307	01-Aug-02	19	0	291	22	5	19
353307	01-Aug-02	18	0	292	25	5	86
353307	01-Aug-02	17	0	265	26	6	142
353307	01-Aug-02	16	0	275	29	6	335
353307	01-Aug-02	15	0	251	25	6	765
353307	01-Aug-02	14	0	191	23	6	880
353307	01-Aug-02	13	0	235	24	6	951
353307	01-Aug-02	12	0	183	19	6	993
353307	01-Aug-02	11	0	236	12	6	935
353307	01-Aug-02	10	0	184	13	6	834
353307	01-Aug-02	9	0	205	14	6	699
353307	01-Aug-02	8	0	159	11	6	522
353307	01-Aug-02	7	0	175	12	6	323
353307	01-Aug-02	6	0	168	12	6	144

Total number of rows retrieved: 24; #### BLM Boise RAWS data is currently at 09-MAY-02 02:22:25 GMT #### Internet

The second DRAWS screen will display data collected from any additional sensors on the station. Additional sensors can vary from station to station.

Ver. 1.1.0 FastPath DRAWS Go **Weather Information Management System** Show Navigation Tree

Page: 1 2 **Remote Automatic Weather Station Display DRAWS** Back to Menu

Station ID: 353307 **or** SIG **Date:** 01-AUG-02 **Start Time:** Find Reset PrintAll Print Export

Station OID	Obs Date	Obs HH	Obs MM	O T	Dry Tmp	RH	Wind Dir	Wind Sp	Temp Max	Temp Min	RH% Max	RH% Min	RGauge	Hrly Prcp	BVlt	BPress	Fuel Temp
353307	01-Aug-02	23	0	R	54	33	346	13	78	54	33	13	6.67	0.0	13.1	30.2	53
353307	01-Aug-02	22	0	R	56	31	338	14	78	56	33	13	6.67	0.0	13.1	30.2	55
353307	01-Aug-02	21	0	R	58	33	338	14	78	57	33	13	6.67	0.0	13.1	30.2	57
353307	01-Aug-02	20	0	R	59	28	316	14	78	57	32	13	6.67	0.0	13.2	30.2	58
353307	01-Aug-02	19	0	R	63	27	269	13	78	57	32	13	6.67	0.0	13.2	30.2	63
353307	01-Aug-02	18	0	R	66	18	281	14	78	57	32	13	6.67	0.0	13.4	30.2	68
353307	01-Aug-02	17	0	R	71	17	281	13	78	57	32	13	6.67	0.0	14	30.2	77
353307	01-Aug-02	16	0	R	77	13	249	13	79	57	32	13	6.67	0.0	13.9	30.2	88
353307	01-Aug-02	15	0	R	78	15	248	12	79	57	32	14	6.67	0.0	13.9	30.2	95
353307	01-Aug-02	14	0	R	77	17	252	11	79	57	32	14	6.67	0.0	13.9	30.2	97
353307	01-Aug-02	13	0	O	76	17	248	11	79	57	32	14	6.67	0.0	13.9	30.2	99
353307	01-Aug-02	12	0	R	77	20	233	8	79	57	32	14	6.67	0.0	13.9	30.2	103
353307	01-Aug-02	11	0	R	74	23	215	7	79	57	32	14	6.67	0.0	13.9	30.2	106
353307	01-Aug-02	10	0	R	69	24	193	8	79	57	39	14	6.67	0.0	14	30.2	100
353307	01-Aug-02	9	0	R	67	22	204	7	79	57	43	14	6.67	0.0	14	30.2	91
353307	01-Aug-02	8	0	R	64	20	179	8	79	57	43	14	6.67	0.0	14	30.2	82
353307	01-Aug-02	7	0	R	61	18	159	10	79	55	47	14	6.67	0.0	13.5	30.2	69
353307	01-Aug-02	6	0	R	60	17	169	10	79	54	47	14	6.67	0.0	13	30.2	55

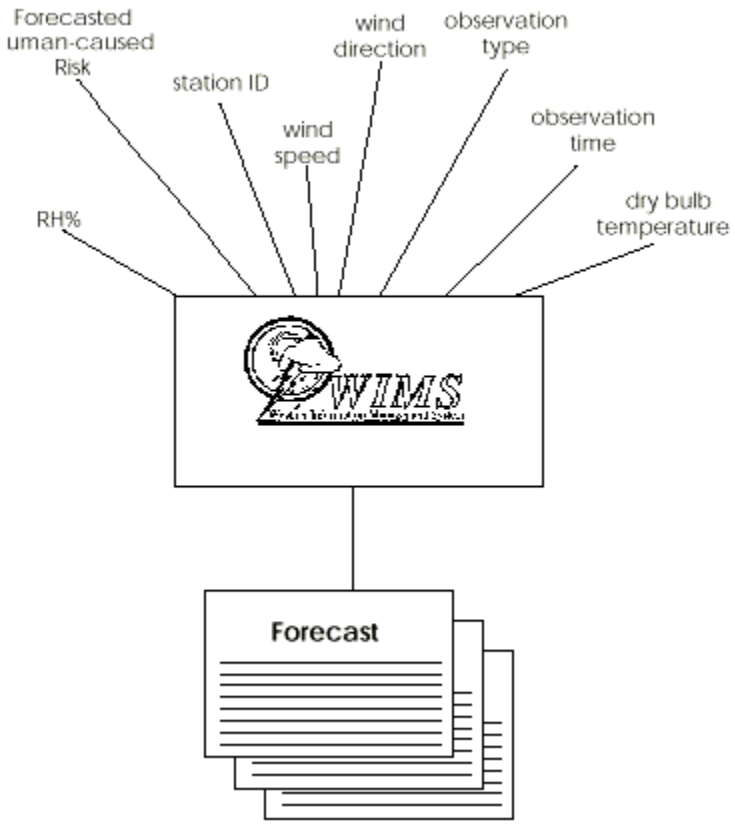
Total number of rows retrieved: 24; #### BLM Boise RAWS data is currently at 09-MAY-02 02:22:25 GMT #### Internet

The DRAWS screen is a very valuable screen for trouble shooting station sensor problems. For example, look at the Wind Dir column. Are the values changing or showing the same direction for a number of hours? If the same value is showing for a number of hours or days, the Wind Dir sensor on the station is probably not functioning correctly. Using this screen is an easy way to monitor station performance.

Chapter 8. Working with Forecasts FCST

This chapter gives you the information you will need to display, create, and edit forecasts. You must have the NWS-User access level to create and edit forecasts.

Forecasts



The NWS produces both a narrative description of weather forecasts and forecasts of weather parameters. WIMS stores narrative forecasts in the Shared File Directory. Forecasted weather parameters are issued as either absolute values for the next day or trends from the current day. WIMS stores forecasted weather parameters as either point or trend forecasts.

- A point forecast is a site specific weather forecast for a SIG or station.
- A trend forecast generates point forecasts by trending today's observed weather for stations within a public SIG.

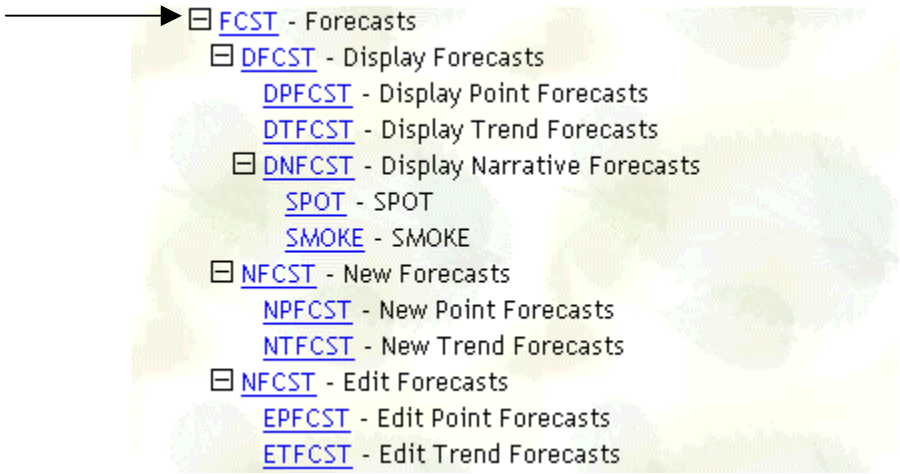
Accessing the Forecasts menu

The Forecasts menu allows you to:

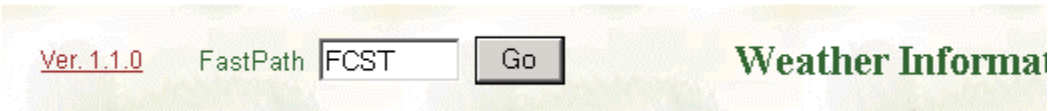
- Display trend forecasts
- Display point forecasts.

For more information about options available to the NWS-User access level, see "Creating and editing forecasts –for NWS users only," later in this chapter.

To access the Forecasts menu



In the Option/FastPath: field, type FCST and click Go.



Remember, you can skip this menu by typing the FastPath command:

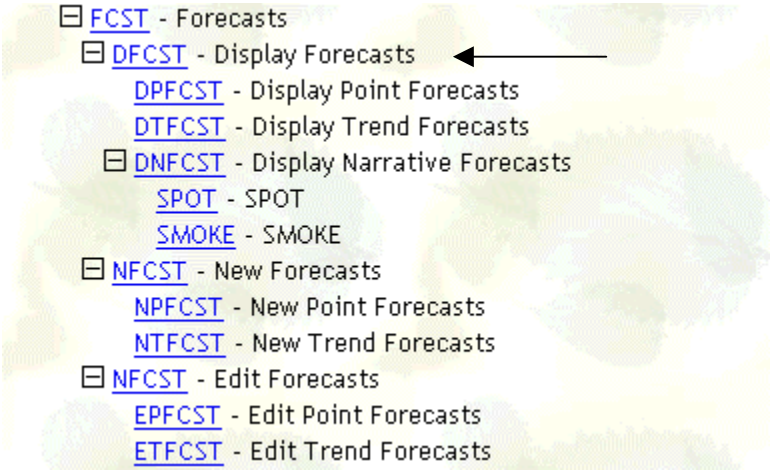
- DFCST, to access the Display Forecasts menu.
- NFCST, to create new or edit forecasts

Accessing the Display Forecasts menu

The Display Forecasts menu allows you to:

- Display point forecasts
- Display trend forecasts
- Display other narrative forecasts.

To access the Display Forecasts menu



In the Option/ FastPath field, type DFCST and click Go.

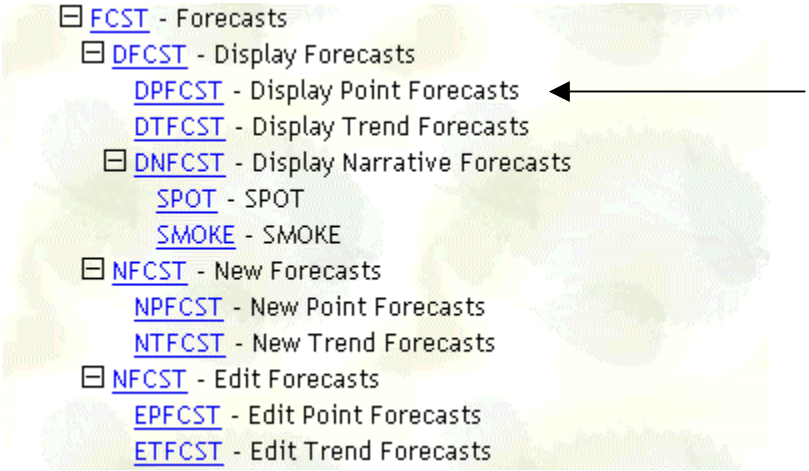
Remember, you can skip this menu by typing the FastPath command:

- DPFCST, to access the Display Point Forecast form
- DTFCST, to access the Display Trend Forecast form
- DNFCST, to access the Narrative Forecasts menu.

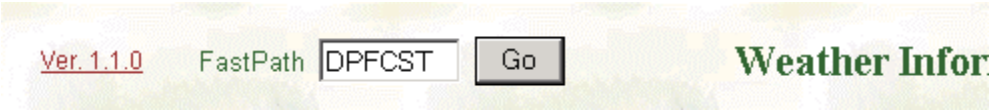
Displaying a point forecast

Point forecasts contain forecasted weather information for a specific station or for all stations within a SIG.

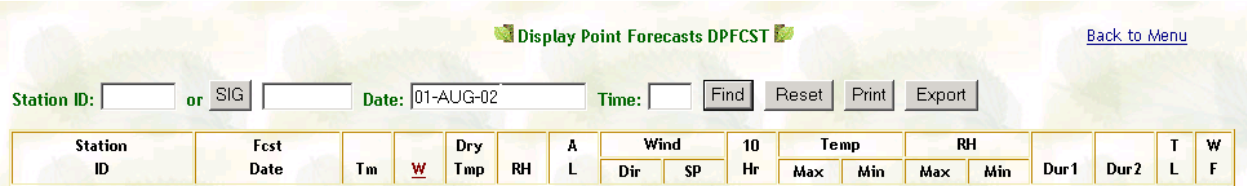
To access the Display Point Forecast form



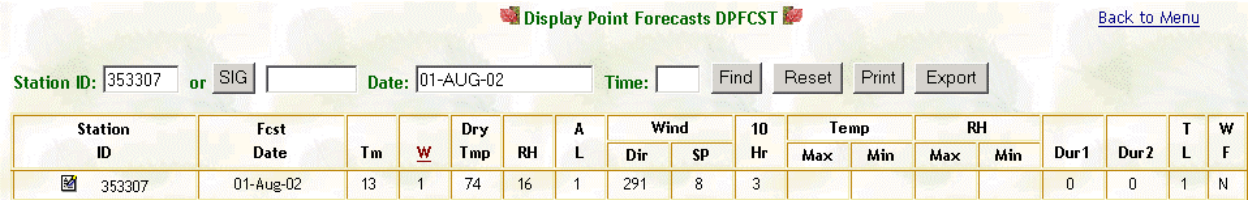
In the Option/ FastPath: field, type DPFCST and click Go.



DPFCST form



The DPFCST form opens with tomorrow's date. Enter the Station ID or the SIG and click the **Find** button.



Point forecast form field definitions Use the field definitions listed below to complete point forecast forms. Fields in the query block are shaded.

Display Forecast Field Definitions

Field	Description and action to be taken
Station ID: (Station number) -or-	Enter the number of the station you want to display. -or-
SIG: (Special Interest Group name) Enter the name of the SIG you want to display.	
Date: (Forecast date)	Enter the forecast date, in the format DD-MMM-YY. *You may also enter a date range. For more information, see " Searching by date" in Chapter 5, " Beyond the basics. "* *The default date is tomorrow's date (today's forecast).*
Time: (Forecast time)	Using the 24-hour clock, enter the beginning local time of the forecast: Code Time Code Time 00 midnight 01 1: 00 am 02 2: 00 am 03 3: 00 am 04 4: 00 am 05 5: 00 am 06 6: 00 am 07 7: 00 am 08 8: 00 am 09 9: 00 am 10 10: 00 am 11 11: 00 am 12 12 noon 13 1: 00 pm 14 2: 00 pm 15 3: 00 pm 16 4: 00 pm 17 5: 00 pm 18 6: 00 pm 19 7: 00 pm 20 8: 00 pm

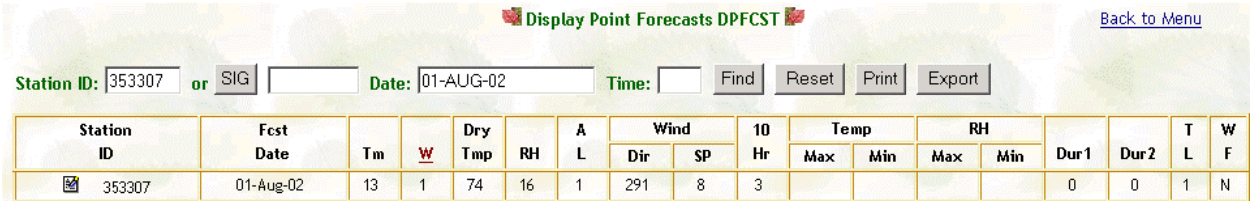
Field	Description and action to be taken
	21 9: 00 pm 22 10: 00 pm 23 11: 00 pm. *WIMS truncates the time to the hour. The Standard Observation Time is " 13" (1: 00 pm).*
Station ID (Station number)	Displays the number of the station.
Fcst Date (Forecast date)	Displays the forecast date, in the format DD-MMM-YY.
Tm (Forecast time)	Displays the forecast time to the nearest hour.
W (State of the weather)	Displays the code for the state of the weather: 0 Clear 1 Scattered clouds 2 Broken clouds 3 Overcast 4 Foggy 5 Drizzling 6 Raining 7 Snow/ sleet 8 Showering 9 Thunderstorms in progress.
Dry Tmp (Dry bulb temperature)	Displays the forecasted dry bulb temperature in degrees. *Fahrenheit or Celsius is specified in the Temperature Code: field in the station catalog.*
RH% (Forecasted relative humidity percentile)	Displays the forecasted relative humidity percentile.
A L (Forecasted afternoon's lightning)	Displays the forecasted lightning activity from 1300-2400 hours. Level: Code Description 1 No thunderstorms or building cumulus clouds 2 Infrequent lightning, few building cumulus 3 Occasional lightning, scattered cumulus 4 Frequent lightning, cumulus to 1/ 3 area

Field	Description and action to be taken
	5 Frequent and intense lightning, cumulus 6 Common dry lightning, low lightning flash rate, scattered towering cumulus.
Wind Dir (Wind direction)	Displays the forecasted wind direction in degrees: Code Wind direction in degree NNE 23 NE 45 ENE 68 E 90 ESE 113 SE 135 SSE 158 S 180 SSW 203 SW 225 WSW 248 W 270 WNW 293 NW 315 NNW 338 N 360 FL 0
Wind Sp (Wind speed)	Displays the forecasted ten-minute wind speed.
10 Hr (Ten-hour fuel stick moisture content)	Displays the forecasted ten-hour fuel stick moisture content. *For a RAWS station, this field displays a forecasted value based on WIMS calculation for that station's 10-hour fuel stick moisture content.*
Temp Max (24-hour forecasted maximum temperature)	Displays the maximum forecasted temperature for the next 24 hours.
Temp Min (24-hour forecasted minimum temperature)	Displays the minimum forecasted temperature for the next 24 hours.
RH% Max (Maximum forecasted relative humidity percentile)	Displays the maximum forecasted relative humidity percentile for the next 24 hours.
RH% Min (Minimum forecasted relative humidity percentile)	Displays the minimum forecasted relative humidity percentile for the next 24 hours.

Field	Description and action to be taken
Dur1 (first 16 hours of forecasted precipitation)	Displays the forecasted duration of precipitation, in hours, from 1: 00 pm to 5: 00 am (1300 to 0500).
Dur2 (Next 8 hours of forecasted precipitation)	Displays the forecasted duration of precipitation, in hours, from 5: 00 am to 1: 00 pm. (0500 to 1300).
T L (Today's forecasted lightning)	Displays today's lightning activity level, from midnight to midnight: Code Description 1 No thunderstorms or building cumulus clouds 2 Infrequent lightning, few building cumulus 3 Occasional lightning, scattered cumulus 4 Frequent lightning, cumulus to 1/ 3 area 5 Frequent and intense lightning, cumulus common 6 Dry lightning, low lightning flash rate, scattered towering cumulus, with virga.
W F (Wet fuels)	Displays the forecasted state of the fuel: • Y, indicates wet fuels • N indicates dry fuels. *If the state of the weather code (W field) is 5, 6, or 7 the Wet Fuels field is set to " Y. " For more information about wet fuel descriptions, see Appendix E, " NFDRS technical reference. "*

Print the Point forecast

Click on the **Print** button.



Station ID	Fcst Date	Tm	W	Dry Tmp	RH	A L	Wind Dir	Wind SP	10 Hr	Temp Max	Temp Min	RH Max	RH Min	Dur1	Dur2	T L	W F
353307	01-Aug-02	13	1	74	16	1	291	8	3					0	0	1	N

A Window will open with the forecast displayed. To print click on File, Print. To save to a document, click File, Save and save the forecast as a text document.

File Edit View Favorites Tools Help

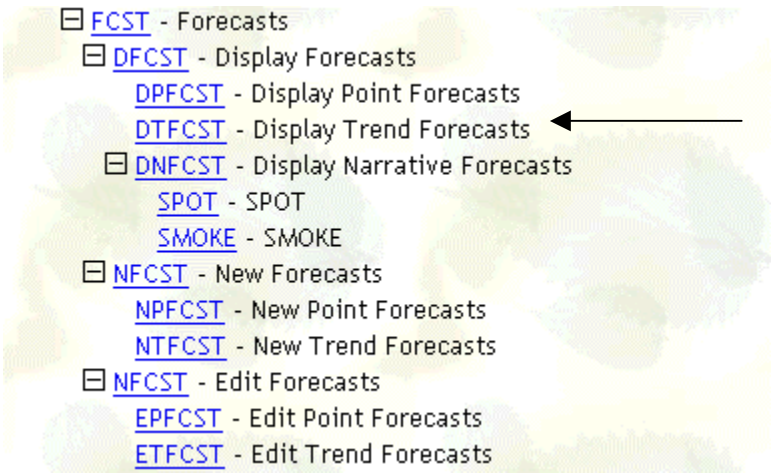
Station ID	Name	Fcst Valid Date	Tm	W	Tmp	RH	L	Dir	SP	Hr	Max	Min	Max	Min	Dur1	Dur2	T L	W F
			Dry				A	Wind		10	Temp		RH					
353307	CALIMUS	01-Aug-02	13	1	74	16	1	291	8	3					0	0	1	N

Displaying a trend forecast

Trend forecasts contain forecasted weather information for a specific station and/ or for stations within a SIG.

Trend Forecasts are limited to public SIGs only and are named by the NWS, using the fire weather zone.

To access the Display Trend Forecast form



In the Option/ FastPath field, type DTFCST and click Go.

Display Trend Forecasts DTFCST

Back to Menu

SIG 637 Date: 01-AUG-02 Time: Find Reset Print Export

SIG Name	Fcst Date	Tm	W	Dry Tmp	RH	A L	Wind SP	10 Hr	Temp Max	Temp Min	RH Max	RH Min	Dur1	Dur2	T L	W F
637	01-Aug-02	13	1	-3	0	1	0	0					0	0	1	N

DTFCST form

Trend forecast form field definitions Use the field definitions listed below to complete trend forecast forms. Fields in the query block are shaded.

Field	Description and action to be taken
SIG: (Public Special Interest Group name)	Enter the name of the public SIG you want to display. For example, enter 637 to display fire weather zone" 637. "
Date: (Forecast date)	Enter the forecast date, in the format DD-MMM-YY.
Time: (Forecast time)	Using the 24-hour clock, displays the last 24-hourly observations, beginning with the standard observation time " 13" (1: 00 pm): Code Time 00 midnight 01 1: 00 am 02 2: 00 am 03 3: 00 am 04 4: 00 am 05 5: 00 am 06 6: 00 am 07 7: 00 am 08 8: 00 am 09 9: 00 am 10 10: 00 am 11 11: 00 am 12 12 noon 13 1: 00 pm 14 2: 00 pm 15 3: 00 pm 16 4: 00 pm 17 5: 00 pm

Field	Description and action to be taken
	18 6: 00 pm 19 7: 00 pm 20 8: 00 pm 21 9: 00 pm 22 10: 00 pm 23 11: 00 pm. *WIMS truncates the time to the hour.*
SIG Name (Special Interest Group name)	Displays the name of the SIG in the Trend Forecast.
Valid Date (valid forecast date)	Displays the valid date of the Trend Forecast, in the format DD-MMM-YY.
Valid Time (Valid forecast time)	Displays the valid local time of the Trend Forecast: Code Time 00 midnight 01 1: 00 am 02 2: 00 am 03 3: 00 am 04 4: 00 am 05 5: 00 am 06 6: 00 am 07 7: 00 am 08 8: 00 am 09 9: 00 am 10 10: 00 am 11 11: 00 am 12 12 noon 13 1: 00 pm 14 2: 00 pm 15 3: 00 pm 16 4: 00 pm 17 5: 00 pm 18 6: 00 pm 19 7: 00 pm 20 8: 00 pm 21 9: 00 pm 22 10: 00 pm 23 11: 00 pm.

Field	Description and action to be taken
	WIMS truncates the time to the hour.
W (state of the weather)	Displays the code for the state of the weather: Code Description 0 clear 1 scattered clouds 2 broken clouds 3 overcast 4 foggy 5 drizzling 6 raining 7 snow/ sleet 8 showering 9 thunderstorms in progress.
Dry Tmp (dry bulb temperature)	Displays the forecasted dry bulb temperature in degrees. *Fahrenheit or Celsius is specified in the Temperature Code: field in the station catalog.*
RH% (forecasted relative humidity percentile)	Displays the forecasted relative humidity percentile.
A L (forecasted afternoon's lightning)	Displays the forecasted afternoon lightning activity level: Code Description 1 no thunderstorms or building cumulus clouds 2 infrequent lightning, few building cumulus 3 occasional lightning, scattered cumulus 4 frequent lightning, cumulus to 1/ 3 area 5 frequent and intense lightning, cumulus common 6 dry lightning, low lightning flash rate, scattered towering cumulus, with virga.
Wind Sp (wind speed)	Displays the forecasted ten-minute wind speed.
10 Hr (ten-hour fuel stick moisture content)	Displays the forecasted ten-hour fuel stick moisture content. *For type 4 and type 6 stations, this field displays a forecasted 10-hour value based on the calculated 10-hour fuel stick moisture content as adjusted by*

Field	Description and action to be taken
	the trend forecast.
Temp Max (24-hour forecasted maximum temperature)	Displays the maximum forecasted temperature for the next 24 hour.
Temp Min (24-hour forecasted minimum temperature)	Displays the minimum forecasted temperature for the next 24 hour.
RH% Max (maximum forecasted relative humidity percentile)	Displays the maximum forecasted relative humidity percentile for the next 24 hour.
RH% Min (minimum forecasted relative humidity percentile)	Displays the minimum forecasted relative humidity percentile for the next 24 hour.
Dur1 (first 16 hours of forecasted precipitation)	Displays the forecasted duration of precipitation, in hours, from 1: 00 pm to 5: 00 am (1300 to 0500).
Dur2 (next 8 hours of forecasted precipitation)	Displays the forecasted duration of precipitation, in hours, from 5: 00 am to 1: 00 pm. (0500 to 1300).
T L (today's forecasted lightning)	Displays today's lightning activity level, from midnight to midnight: Code Description 1 no thunderstorms 2 few building cumulus 3 scattered cumulus 4 cumulus to 1/ 3 area 5 cumulus common 6 scattered towering cumulus.
W F (wet fuels)	Displays the forecasted state of the fuel: • Y, indicates wet fuels • N, indicates dry fuels. *If the state of the weather code (W field) is 5, 6, or 7 the Wet Fuels field is set to "Y" For more information about wet fuel descriptions, see Appendix E, "NFDRS technical reference."*

To display a trend forecast

From the Display Trend Forecast form:

1 In the SIG: field type the public Special Interest Group name, in the Date: field type the forecast date in the Time field, type the forecast time and Click find.

The Display Trend Forecast form redisplays listing the SIG, valid forecast date and time, and other forecast information for that SIG.

Creating and editing forecasts -for NWS users only

If you have NWS-user authorization, you can also:

- enter new point forecasts
- enter new trend forecasts
- edit point forecasts
- edit trend forecasts.

These menu options and FastPaths automatically display on the Forecasts menu if you have the NWS-user authorization. For more information, see Chapter 4, " WIMS basics."

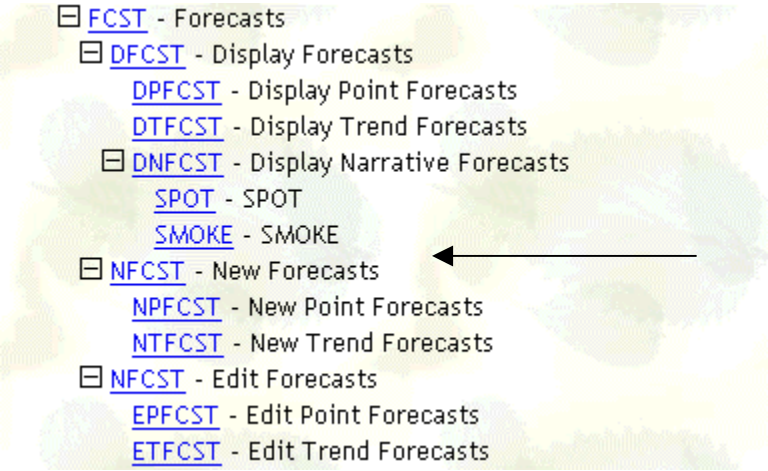
NWS point and trend forecasts are usually received via the NWS-Gateway.

Accessing the New Forecasts menu

The New Forecasts menu allows you to:

- enter a point forecast
- enter a trend forecast.

To access the New Forecasts menu



In the Option/ FastPath: field, type NFCST and Click Go.

Remember, you can skip this menu by typing the FastPath command:

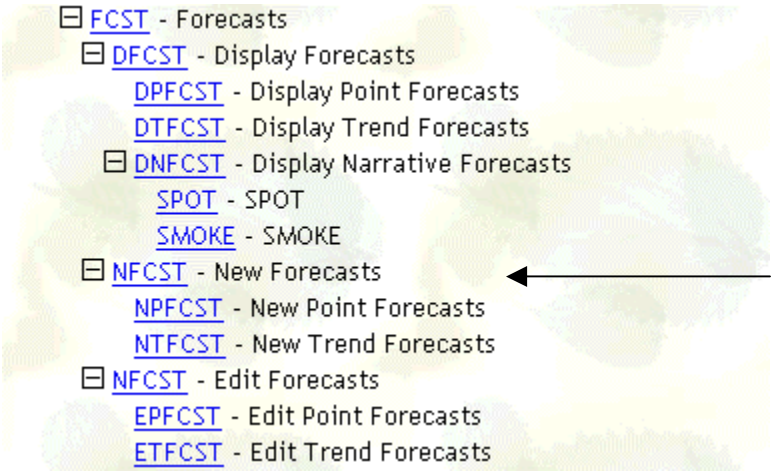
- NPFCST, to access the Create Point Forecast form
- NTFCST, to access the Create Trend Forecast form.

Entering a point forecast

The Create Point Forecast form allows you to enter forecasted weather information for:

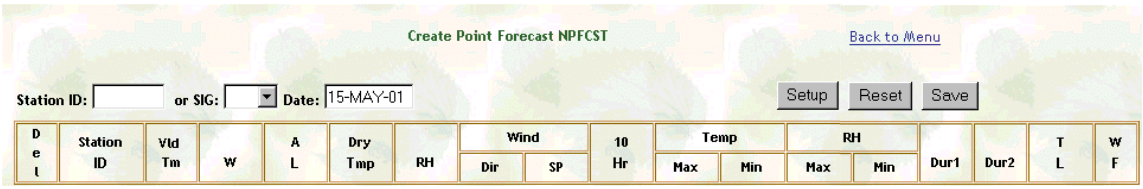
- a specific station
- all stations within a SIG.

To access the Create Point Forecast form



In the Option/ FastPath: field, type NPFCST and Click Go.

NPFCST form



To enter a point forecast

From the Create Point Forecast form:

1 In the Station ID: field, type the number of the station for the point forecast you want to enter and Click Setup. or In the SIG: field, type the public Special Interest Group name and Click Go.

To further refine your entry:

2 In the Date: field, type the forecast date.

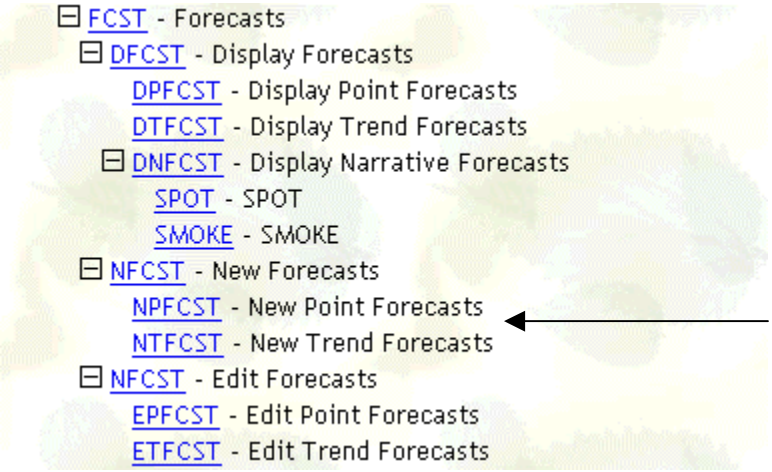
The Create Point Forecast form redisplays listing the station or SIG, forecast date, and valid forecast time for that point forecast.

3 Using the preceding field descriptions, enter the new point forecast. Click Save.

Entering a trend forecast

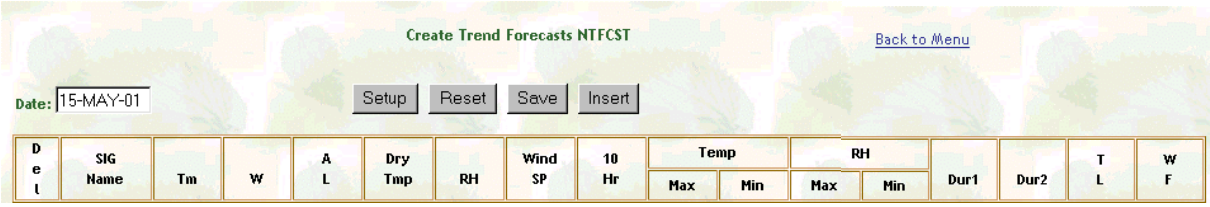
Trend Forecasts are limited to public SIGs only. You must have the NWS-User access level to create forecasts.

To access the Create Trend Forecast form



In the Option/ FastPath: field, type NTFCST and Click Go.

NTFCST form



To enter a trend forecast

1. In the SIG: field, type the public Special Interest Group name.
2. Using the field descriptions enter the new trend forecast. Click Setup.
3. To save the new trend forecast, Click Save.

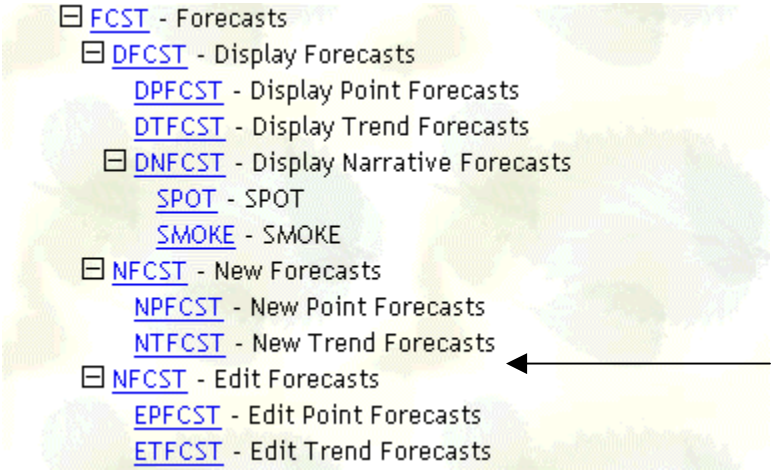
Accessing the Edit Forecasts menu

The Edit Forecasts menu allows you to:

- edit a point forecast
- edit a trend forecast.

You must have the NWS-User access level to edit forecasts.

To access the Edit Forecasts menu



In the Option/ FastPath: field, type EFCST and Click Go.

Remember, you can skip this menu by typing the FastPath command:

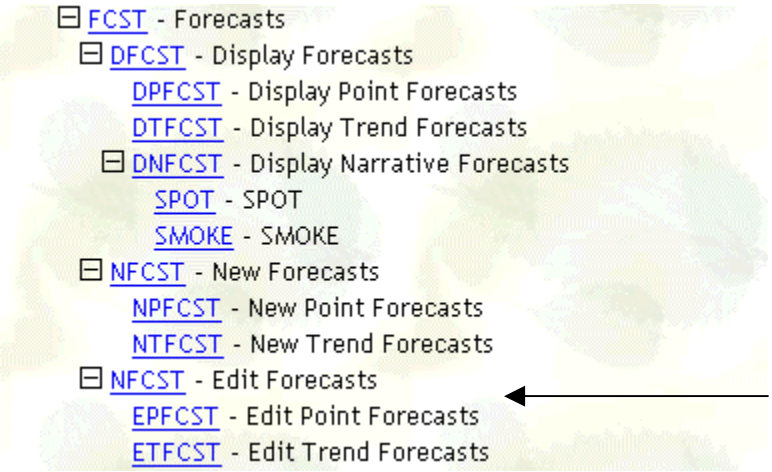
- EPFCST, to access the Edit Point Forecast form
- ETFCST, to access the Edit Trend Forecast form.

Editing a point forecast

The Edit Point Forecast form allows you to edit forecasted weather information for:

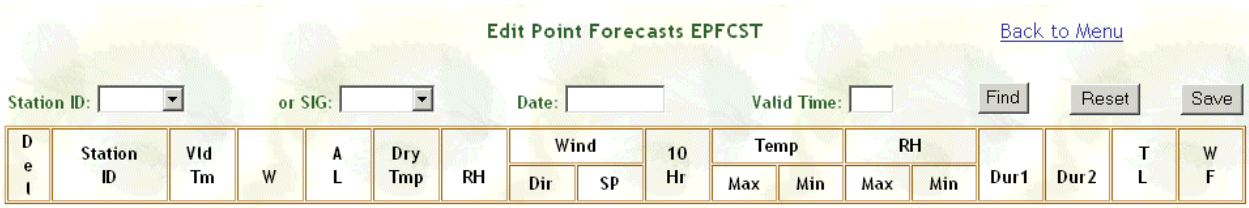
- a specific station
- all stations within a SIG.

To access the Edit Point Forecast form



In the Option/ FastPath: field, type EPFCST and Click Go.

EPFCST form



To edit a point forecast

From the Edit Point Forecast form:

1 In the Station ID: field, type the number of the station for the point forecast you want to display, or In the SIG: field, type the Special Interest Group name and Click Find.

To further refine your search:

2 In the Date: field, type the forecast date and Click Find.

3 In the Valid Time: field, type the forecast time and Click Find.

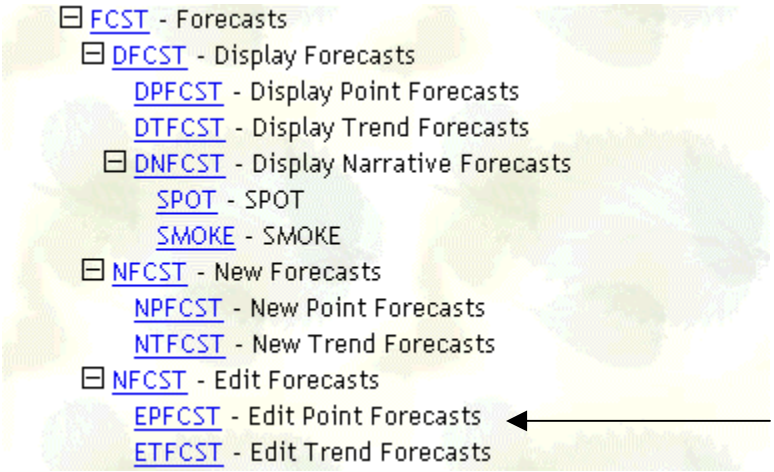
The Edit Point Forecast form redisplays, listing the station or SIG, forecast date, and other forecast information for that point forecast.

4 Using the field descriptions above edit the values for the point forecast. To save the changes you made to the point forecast, Click Save.

Editing a trend forecast

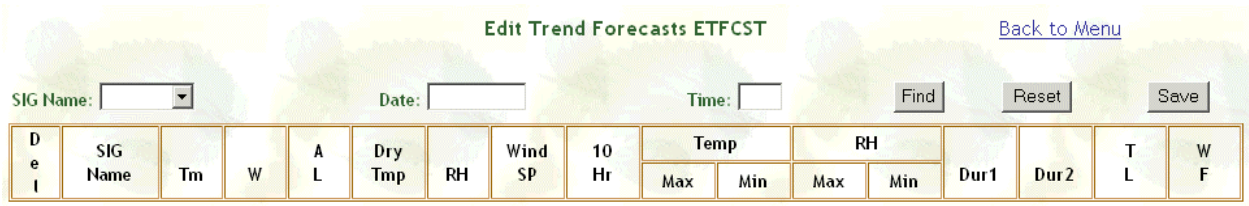
Trend Forecasts are limited to public SIGs only. You must have the NWS-User access level to edit forecasts.

To access the Edit Trend Forecast form



In the Option/ FastPath: field, type ETFCST and Click Go.

ETFCST form



To edit a trend forecast

1. In the SIG: field, type the Special Interest Group name. To further narrow the display proceed to steps 2 and 3. When you are satisfied with your query click Find.
2. In the Date field, type the forecast date.
3. In the Valid Time field, type the forecast time.

The Edit Trend Forecast form redisplays listing the SIG, forecast date, and other forecast information for that trend forecast.

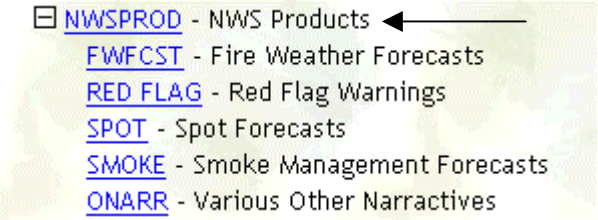
4. Using the preceding field descriptions edit the values for the trend forecast.
5. To save the changes you made to the trend forecast, Click Save.

Accessing National Weather Service Products

The NWS products menu allows you to display:

- Fire Weather Forecasts
- Red Flag Warnings
- Spot Forecasts
- Smoke Management Forecasts
- Other Narrative Forecasts.

To access the NWS products menu



In the Option/ FastPath: field, type NWSPROD and Click Go.

Remember, you can skip this menu by typing the FastPath command:

- FWFCST, to display the Shared File Directory containing Fire Weather Forecasts
- RED FLAG, to display the Shared File Directory containing Red Flag warnings

- SPOT, to display the Shared File Directory containing spot forecasts
- SMOKE, to display the Shared File Directory containing smoke management forecasts
- ONARR, to display other narrative forecasts

Fire Weather Forecasts

Fire Weather Forecasts are issued twice daily by the NWS fire weather forecast office and contain:

- discussion of weather activity for the area
- overall forecast for each zone.

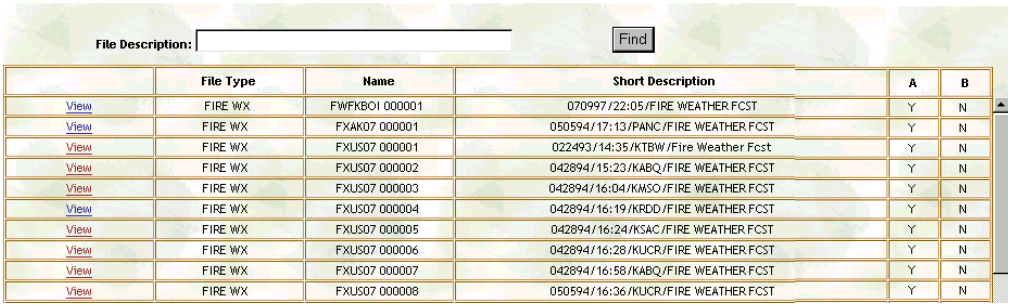
Fire Weather Forecasts remain in WIMS for three days.

To display Fire Weather Forecasts

In the Option/ FastPath: field, type FWFCST and Click Go.

The Shared File Directory Listing displays, listing all Fire Weather Forecasts currently available.

Fire Weather Forescasts Form



File Description: Find

	File Type	Name	Short Description	A	B
View	FIRE WX	FWFKBOI 000001	070997/22:05/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXAK07 000001	050594/17:13/PANC/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000001	022493/14:35/KTBW/Fire Weather Fcst	Y	N
View	FIRE WX	FXUS07 000002	042894/15:23/KABQ/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000003	042894/16:04/KMSO/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000004	042894/16:19/KRDD/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000005	042894/16:24/KSAC/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000006	042894/16:28/KUCR/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000007	042894/16:58/KABQ/FIRE WEATHER FCST	Y	N
View	FIRE WX	FXUS07 000008	050594/16:36/KUCR/FIRE WEATHER FCST	Y	N

Red Flag Warnings

Red Flag Warnings outline specific areas where the forecasted fire weather conditions show imminent fire danger.

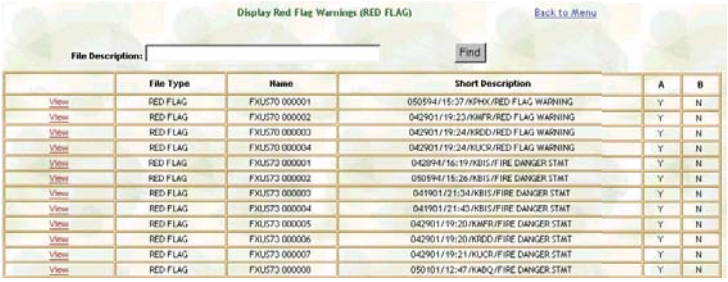
To display Red Flag Warnings

In the Option/ FastPath: field, type RED FLAG and Click Go.

The Shared File Directory Listing displays, listing Red Flag Warnings for today's date and for the previous three days.

Red Flag Warnings remain in WIMS for three days

Red Flag Form



	File Type	Name	Short Description	A	B
View	RED FLAG	FXUS70 000001	050594/15:37/KPHX/RED FLAG WARNING	Y	N
View	RED FLAG	FXUS70 000002	042901/19:23/KMFR/RED FLAG WARNING	Y	N
View	RED FLAG	FXUS70 000003	042901/19:24/KRDD/RED FLAG WARNING	Y	N
View	RED FLAG	FXUS70 000004	042901/19:24/KUCR/RED FLAG WARNING	Y	N
View	RED FLAG	FXUS73 000001	042894/16:19/KBIS/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000002	050594/15:26/KBIS/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000003	041901/21:34/KBIS/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000004	041901/21:45/KBIS/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000005	042901/19:20/KMFR/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000006	042901/19:20/KRDD/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000007	042901/19:21/KUCR/FIRE DANGER STMT	Y	N
View	RED FLAG	FXUS73 000000	050101/12:47/KABQ/FIRE DANGER STMT	Y	N

Spot Forecasts

Issued by the NWS as requested by the user, Spot Forecasts contain weather information for a specific location and include:

- specific forecast location information
- discussion of weather activity
- overall forecast, forecasted temperature, and forecasted humidity.

WIMS stores spot forecasts from the last three days.

To display Spot Forecasts

In the Option/ FastPath: field, type SPOT and Click Go.

The Shared File Directory Listing displays, listing all Spot Forecasts currently available.

SPOT Form

Display SPOT Forecasts (SPOT) Back to Menu

	File Type	Name	Short Description	A	B
View	SPOT	FXUS71 000001	042894/15:34/KEAT/SUPPR (SPOT) FCST	Y	N
View	SPOT	FXUS71 000002	042894/16:03/KMSO/SUPPR (SPOT) FCST	Y	N
View	SPOT	FXUS71 000003	042894/16:46/KSLE/SUPPR (SPOT) FCST	Y	N
View	SPOT	FXUS71 000004	042894/17:34/KMSO/SUPPR (SPOT) FCST	Y	N
View	SPOT	FXUS71 000005	050594/15:25/KSLE/SUPPR (SPOT) FCST	Y	N
View	SPOT	FXUS71 000006	050594/17:10/KEAT/SUPPR (SPOT) FCST	Y	N

Smoke Management Forecasts

Issued by state meteorologists, Smoke Management Forecasts display wind and airflow forecast information for prescribed burn purposes.

You must have the NWS-User access level to enter smoke management forecasts from state meteorologists into WIMS.For more information, see Chapter 4, " WIMS basics."

To display Smoke Management Forecasts

In the Option/ FastPath: field, type SMOKE and Click Go.

The Shared File Directory Listing displays, listing all smoke management forecasts currently available.

SMOKE Form

Display Smoke Management Forecasts (SMOKE) Back to Menu

File Description: Find

	File Type	Name	Short Description	A	B
View	SMOKE MGMT	FKUS06 000001	042894/16:03/KTBW/SMOKE MANAGEMENT	Y	N
View	SMOKE MGMT	FKUS06 000002	050594/15:35/KTBW/SMOKE MANAGEMENT	Y	N
View	SMOKE MGMT	FKUS6 000001	042701/21:56/KMFR/SMOKE MANAGEMENT	Y	N
View	SMOKE MGMT	FKUS6 000002	042701/21:57/KMFR/SMOKE MANAGEMENT	Y	N
View	SMOKE MGMT	FKUS6 000003	042901/19:30/KMFR/SMOKE MANAGEMENT	Y	N
View	SMOKE MGMT	FKUS6 000004	042901/19:31/KMFR/SMOKE MANAGEMENT	Y	N
View	SMOKE MGMT	FKUS6 000005	042901/19:34/KMFR/SMOKE MANAGEMENT	Y	N

Other narrative forecasts

Other narrative forecasts include all other forecast information.

To display other narrative forecasts

In the Option/ FastPath: field, type ONARR and Click Go.

The Shared File Directory Listing displays, listing all other narrative forecasts currently available.

ONARR Form

Display Other Narrative Forecasts (ONARR) Back to Menu

File Description: Find

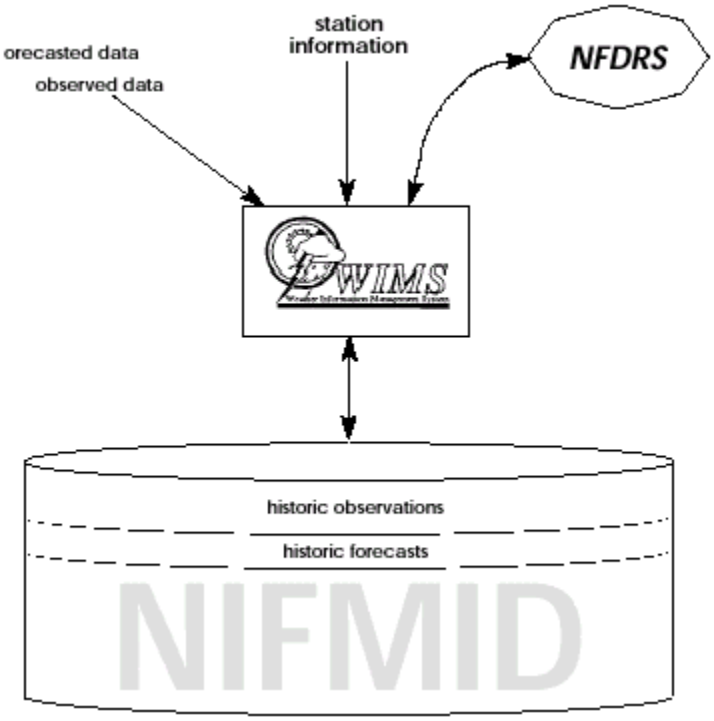
	File Type	Name	Short Description	A	B
View	OTHER C	FZAK61 0W 000001	022593/13:51/PAJN/AK MARINE FORECAS	Y	N
View	OTHER C	FZAK64 0W 000001	022593/13:36/PANC/AK MARINE FORECAS	Y	N
View	OTHER	RAWSTST 000001	RAWS TEST DATA	Y	N

Chapter 9. Working with NFDRS

This chapter gives you the information you will need to display National Fire Danger Rating System (NFDRS) reports.

The menu options and functions that you will be able to access depends on your access level. Not all tasks described in this chapter are available to everyone. For more information about access levels see Appendix A, " Menus, FastPaths, and access levels."

The National Fire Danger Rating System



NFDRS provides information about current and predicted fire danger conditions on a broad scale. Using mathematical models, WIMS calculates NFDRS components and indices from observed and forecasted weather data. The WIMS database stores historical forecasts for approximately 18 months.

Using WIMS, you can obtain NFDRS information in a variety of forms, either by station number or by SIG.

For a detailed description about NFDRS components and indices, see Appendix E, " NFDRS technical reference. "

Displaying NFDRS forms

NFDRS information can be displayed in the following formats:

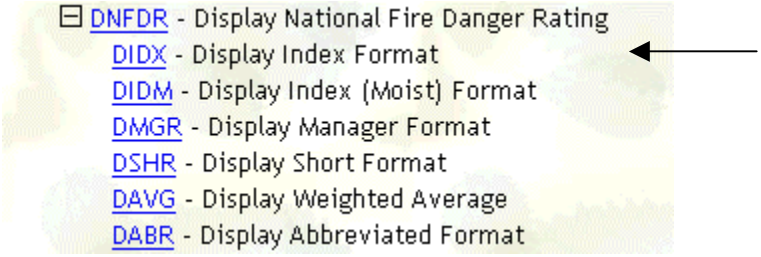
- The Index (DIDX) form displays key fire weather variables and NFDRS indices.
- The Display Moisture Index (DIDM) form displays the calculated NFDRS moisture variables for a list of observations.
- The Manager's (DMGR) form displays several fire weather variables and lists many NFDRS indices.
- The Short (DSHR) form displays precipitation amount, duration data, SC (spread component), and adjective fire danger rating
- The Abbreviated (DABR) form displays the 1000-hr fuel moisture, as well as the NFDRS components and indices for regular, special, and forecast observations. The Lightning and Human Risk variables are no longer being used.
- The Weighted Averages (DAVG) form displays weighted NFDRS outputs for a SIG.

Accessing National Fire Danger Rating menu

The National Fire Danger Rating menu allows you to display NFDRS information in a variety of formats.

To access the National Fire Danger Rating menu

In the Option/ FastPath field, type DNFDR and click Go.



Remember, you can skip this menu by typing the FASTPATH command:

- DIDX, to access the Display NFDR (Index) form
- DIDM, to access the Display Moisture (Index) Format
- DMGR, to access the Display NFDR (Manager) form

- DSHR, to access the Display NFDR (Short) form
- DABR, to access the Display NFDR (Abbrv) form
- DAVG, to access the Display NFDRS Weighted Averages form.

NFDRS field descriptions

Use the field descriptions listed below to specify the query block for the NFDRS form you want to display.

Field	Description and action to be taken
Station ID: (Station number) -or -	Enter the number of the NFDRS station you want to display. -or -
SIG: (Special Interest Group name)	Enter the name of the SIG you want to display.
Type: (NFDRS observation type)	Enter the type of NFDRS observation: • O, for a regular NFDRS observation • S, for a special NFDRS observation • F, for a forecast NFDRS observation. *The default Type is " O. " This field may also be left blank, resulting in a display for all types of observations.*
Date: (NFDRS observation date)	Enter the NFDRS observation date, in the format DD-MMM-YY. *You may also enter a date range. For more information, see "Searching by date" in Chapter 5, " Beyond the basics."* *The default Date is today's date.*

To retrieve tomorrow's (forecasted) NFDRS indices for today's observations

1. In the Option/ FastPath field, type the FASTPATH of the form you want to display and click Go.
2. In the Station ID field, type the number of the station you want to display, or In the SIG: field, type the Special Interest Group name.
3. In the Type field, type F.
4. In the Date field, type *tomorrow's* NFDRS observation date and click Find.

The observation for today's date will show forecasted indices by using tomorrow's date in the date field.

The NFDRS report displays, listing today's forecasted NFDRS indices for the station or SIG you specified.

Calculating NFDRS indices for a RAWS observation

For NFDRS indices to be calculated, you must first edit the RAWS observation from Type= R to either a Type= O or a Type= S.

There are two basic steps to display a RAWS observation:

1. Edit the observation type field of the RAWS observation to either "O" or "S" to display a RAWS observation using one of the NFDRS forms.
2. Specify the form you want to review.

When editing a RAWS observation, you must enter the observed state of the weather. Morning Lightning and Yesterday's Lightning are no longer being used. Enter a zero into Human Cause Risk and Forecasted Human Cause Risk.

To edit a RAWS observation

1. In the Option/ FastPath field, type EOBS and click Go.

The Edit Observation form displays.

For an example of this form, see " EOBS form" in Chapter 7, " Working with Observations. "

2. In the Station ID field, type the station number of the RAWS station you want to display.
3. Complete the remaining fields in the form, as instructed on in the preceding pages and submit the form.

The Remote Automatic Weather Station Display form redisplays, listing the RAWS station information that you specified.

4. Select the desired RAWS observation from the dropdown menu.

You must have access authority to edit a station. You can only have one regular observation (Type= O) per day. To edit the RAWS observation, change the observation type from Regular (Type= O) to Special (Type= S).

5. Verify and edit, if necessary, the W, HC Rsk, and FHC Rsk fields, click Save

State of the Weather (W field), HC Rsk and FHC Rsk are required fields. WIMS will not save changes to the RAWS observation if these fields are blank.

HC Risk and FHC Risk fields (human-caused risk and forecasted human-caused risk) are no longer used in the calculations, entering a 0 will satisfy the entry in the field. These fields along with Morning Lightning and Yesterday's Lightning will be removed in a future version of WIMS.

To display an edited RAWS observation in an NFDRS index form

1. Enter the FASTPATH of the form you want to display and click Go.
2. Verify that the station information fields are correct for the RAWS station you want to display and click Find.

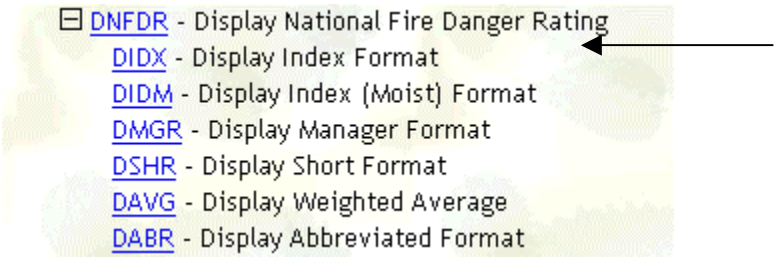
The NFDRS report that you specified redisplays, listing the RAWS observation you specified.

Displaying the Index form

The Display NFDR (Index) form allows you to display key fire weather variables for regular and special observations and forecasts. Some key fields listed on the indexed form include:

- Fuel Model
- Moisture Contents
- Wind Speed
- Ignition Component
- Spread Component
- Energy Release Component
- Burning Index
- Fire Load Index
- Staffing Level
- Adjective Fire Danger Rating
- Keetch-Byram Drought Index.

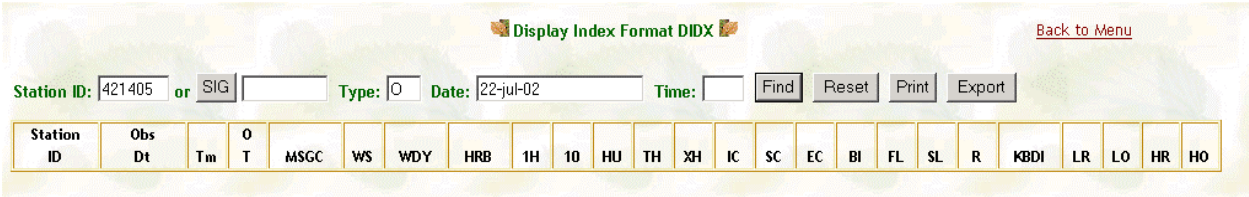
To access the Display NFDR (Index) form

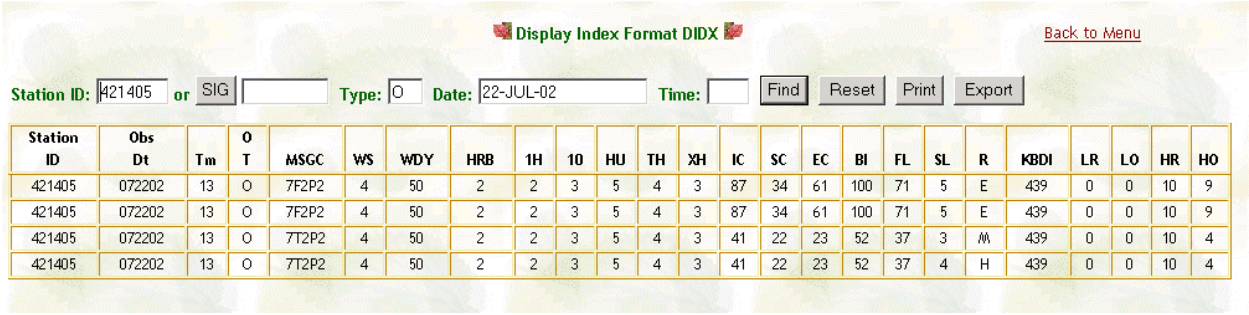


In the Option/ FastPath: field, type DIDX and click Go.

Index (DIDX) form

Enter the station number, the desired observation type, and the desired date, then click Find.





Station ID	Obs Dt	Tm	O T	MSGC	WS	WDY	HRB	1H	10	HU	TH	XH	IC	SC	EC	BI	FL	SL	R	KBDI	LR	LO	HR	HO
421405	072202	13	O	7F2P2	4	50	2	2	3	5	4	3	87	34	61	100	71	5	E	439	0	0	10	9
421405	072202	13	O	7F2P2	4	50	2	2	3	5	4	3	87	34	61	100	71	5	E	439	0	0	10	9
421405	072202	13	O	7T2P2	4	50	2	2	3	5	4	3	41	22	23	52	37	3	M	439	0	0	10	4
421405	072202	13	O	7T2P2	4	50	2	2	3	5	4	3	41	22	23	52	37	4	H	439	0	0	10	4

Index (DIDX) field definitions

Field	Brief description
MSGC	Fuel Model, Slope class, Grass type, and Climate class
WS	Wind Speed (ten-minute average measured at 20 feet)
WDY	Calculated live woody fuel moisture
HRB	Calculated herbaceous moisture content
1H	Calculated one-hour timelag fuel moisture content
10	Measured or calculated 10-hour timelag fuel moisture content
HU	Calculated 100-hour timelag fuel moisture content
TH	Calculated 1000-hour timelag fuel moisture content
IC	Ignition Component
SC	Spread Component
EC	Energy Release Component
BI	Burning Index

Field	Brief description
FL	Fire Load Index
SL	Staffing Level
R	Rating (adjective fire danger rating)
KBDI	Keetch-Byram Drought Index
x1000	Live fuel moisture recovery value
LR	Lightning Risk
LO	Lightning-caused fire Occurrence Index
HR	Human-Caused Risk
HO	Human-caused fire Occurrence index
MC	Staffing index -also known as Manning Class

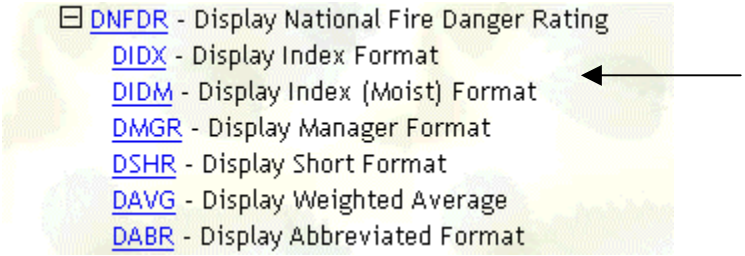
Displaying the Moisture Index form

The Display Moisture (Index) form allows you to track and compare key NFDRS carry over values for a list of observations, including the x1000 live fuel moisture recovery value, and the wet flag setting for wet flag setting for those days.

The Moisture Index form makes it easy to compare:

- Calculated against measured woody fuel moisture content, if available
- Fuel moistures for the 1-hour, 10-hour, 100-hour, 1000-hour indices and the x1000 live fuel moisture recovery value on a daily basis
- Track the increase/decrease of the live fuel moisture values

To access the Display Moisture (Index) form



In the Option/ FastPath field, type DIDM and clcik Go.

Moisture (DIDM) form

Display NFDR Moisture (Index) DIDM

Back to Menu

Station ID: or SIG: Type: Date: Find Reset

Station ID	Obs Date	O T	MSGC	WDY FM	MEAS W FM	HRB FM	IHR FM	10H FM	100 FM	1000 FM	x1000 FM	SN CD	GREEN		KBDI	W F
													GR	SH		

Station ID	Obs Date	O T	MSGC	WDY FM	Meas W FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XT FM	SN CD	Grn GR	Grn SH	KBDI	W F
40218	052602	O	7G3P2	142		153	4	4	8	18	18		0	0	89	N
40218	052502	O	7G3P2	145		157	3	4	9	18	18		0	0	82	N
40218	052402	O	7G3P2	147		162	3	4	11	19	19		0	0	74	N
40218	052302	O	7G3P2	150		166	3	4	13	19	19		0	0	67	N
40218	052202	O	7G3P2	152		170	4	6	14	19	19		0	0	63	N
40218	052102	O	7G3P2	157		175	8	9	15	20	20		0	0	61	N
40218	052002	O	7G3P2	161		179	13	35	15	20	20		0	0	60	Y
40218	051402	O	7G3P2	138		144	4	4	7	18	18		0	0	58	N
40218	051302	O	7G3P2	135		138	4	4	7	19	19		0	0	54	N
40218	051202	O	7G3P2	132		133	3	4	8	19	19		0	0	46	N
40218	051102	O	7G3P2	128		126	3	4	9	20	20		0	0	40	N
40218	051002	O	7G3P2	124		117	4	5	8	20	20		0	0	36	N
40218	050902	O	7G3P2	122		114	3	4	9	21	21		0	0	33	N
40218	050802	O	7G3P2	119		107	1	3	10	22	22		0	0	29	N
40218	050702	O	7G3P2	111		94	3	5	12	23	23		0	0	26	N
40218	050602	O	7G3P2	104		82	4	6	15	23	23		0	0	22	N
40218	050502	O	7G3P2	96		68	4	6	17	24	24		0	0	18	N
40218	050202	O	7G3P2	69		21	5	7	20	24	24		0	0	12	N
40218	050102	O	7G3P2	60		13	13	35	23	25	25		0	0	8	Y

Moisture (DIDM) field definitions

Field	Brief description
MSGC	Fuel Model, Slope class, Grass type, and Climate class
WDY	FM calculated live woody fuel moisture content
MEAS W FM	Measured live woody fuel moisture content
HRB FM	Calculated herbaceous fuel moisture content
1 HR FM	Calculated one-hour timelag fuel moisture content
10H FM	Measured or calculated 10-hour timelag fuel moisture content
100 FM	Calculated 100-hour timelag fuel moisture content

1000 FM	Calculated 1000-hour timelag fuel moisture content
X1000 FM	Calculated live fuel moisture recovery value
SN CD	Season code (for 1988 fuel models only)
GREEN GR	Greenness factor -herbaceous (for 1988 fuel models only)
GREEN SH	Greenness factor -shrub (for 1988 fuel models only)
KBDI	Keetch-Bryam Drought Index
W F	Wet Fuels

For more information about NFDRS components, see Appendix E,“ NFDRS technical reference.“

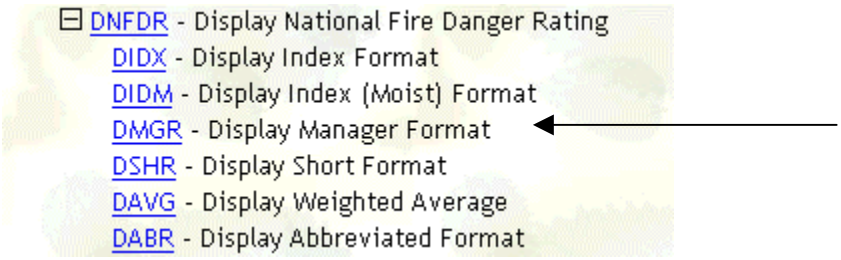
Displaying the Manager's form

The Display NFDR (Manager) form allows you to display several fire weather variables for regular and special observations and forecasts, including a partial list of NFDRS information.

In addition to some of the key fields displayed on the index form, the manager's form also lists:

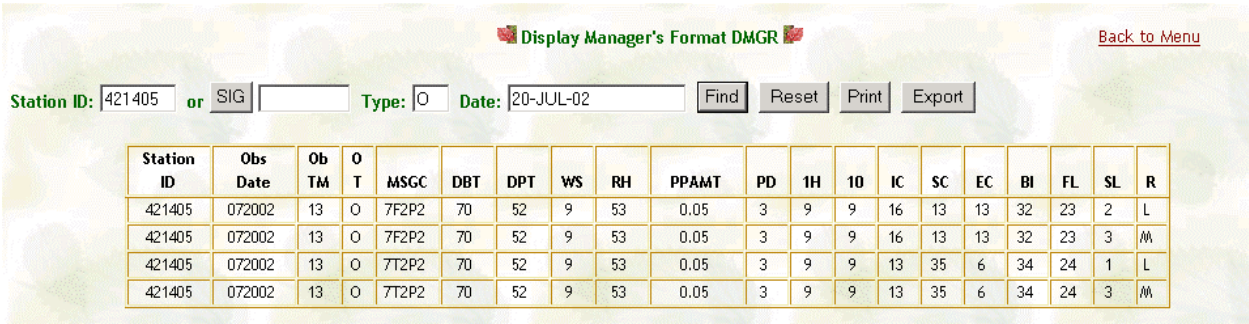
- Dry Bulb Temperature
- Dew Point Temperature
- Relative Humidity
- Total precipitation
- Accumulated hours of precipitation.

To access the Display NFDR (Manager) form



In the Option/ FastPath field, type DMGR and click Go.

Manager's (DMGR) form



Station ID	Obs Date	Ob TM	O T	MSGC	DBT	DPT	WS	RH	PPAMT	PD	1H	10	IC	SC	EC	BI	FL	SL	R
421405	072002	13	O	7F2P2	70	52	9	53	0.05	3	9	9	16	13	13	32	23	2	L
421405	072002	13	O	7F2P2	70	52	9	53	0.05	3	9	9	16	13	13	32	23	3	M
421405	072002	13	O	7T2P2	70	52	9	53	0.05	3	9	9	13	35	6	34	24	1	L
421405	072002	13	O	7T2P2	70	52	9	53	0.05	3	9	9	13	35	6	34	24	3	M

Manager's (DMGR) field definitions

Field	Brief description
MSGC	Fuel Model, Slope class, Grass type, and Climate class
DBT	Dry Bulb Temperature
DPT	Dew Point Temperature
WS	Wind Speed
RH	Relative Humidity
PPAMT	Precipitation Amount (24-hour)
PD	Precipitation Duration (24-hour)
1H	Calculated one-hour timelag fuel moisture content
10	Measured or calculated 10-hour timelag fuel moisture content
IC	Ignition Component
SC	Spread Component
EC	Energy Release Component
BI	Burning Index
FL	Fire Load Index
SL	Staffing Level
R	Rating (adjective fire danger rating)

For more information about NFDRS components, see Appendix E, "NFDRS technical reference."

Displaying the Short form

The Display NFDR (Short) form allows you to query and display several fire weather variables for regular and special observations and forecasts.

The short form includes station information for:

- Fuel Model/ Slope class/ Grass type/ Climate class
- Total precipitation
- Accumulated hours of precipitation
- Staffing Level
- Adjective fire danger rating.

To access the Display NFDR (Short) form

In the Option/ FastPath: field, type DSHR and click Go.

Short (DSHR) form

Display Short Format DSHR

Station ID: 421405 or SIG Type: O Date: 20-JUL-02 Find Reset Print Export

Station ID	Obs Date	Ob TM	O T	MSGC	PPAMT	PD	SL	R
421405	072002	13	O	7F2P2	0.05	3	2	L
421405	072002	13	O	7F2P2	0.05	3	3	M
421405	072002	13	O	7T2P2	0.05	3	1	L
421405	072002	13	O	7T2P2	0.05	3	3	M

Short (DSHR) field definitions

Field	Brief description
MSGC	Fuel Model, Slope class, Grass type, and Climate class
PPAMT	Precipitation Amount (24-hour)
PD	Precipitation Duration (24-hour)
SL	Staffing Level
R	Rating (adjective fire danger rating)

Displaying the Weighted Averages form

Using NFDRS Weighted Average calculations, the Display NFDRS Weighted Averages (DAVG) form combines NFDRS indices from individual stations within a SIG into a single index.

Care must be used when comparing inputs from different fuel models.

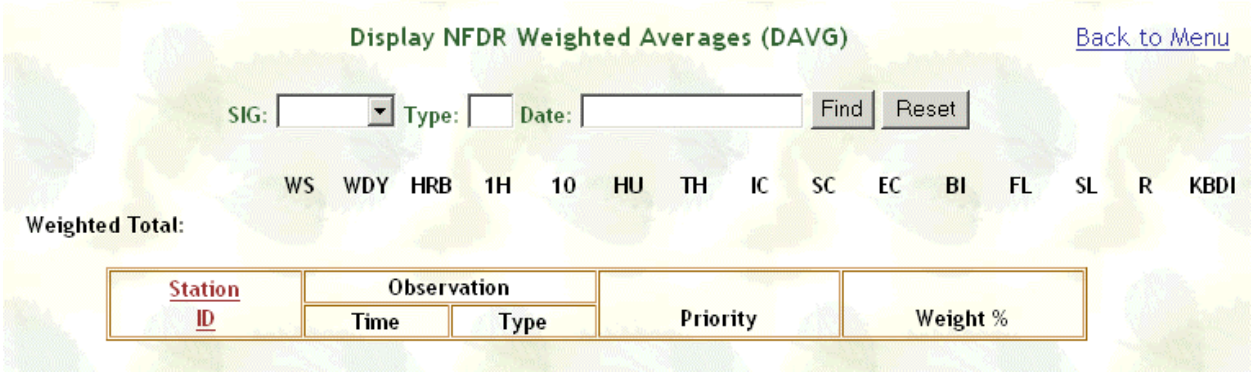
A component weight is a value between 01 and 99 that represents the influence it has in the calculation. The total component weight for individual stations within a SIG must equal 100. The component weight can include factors such as the percent of the total area represented by the station, resource values, historic fire occurrence, and public use patterns.

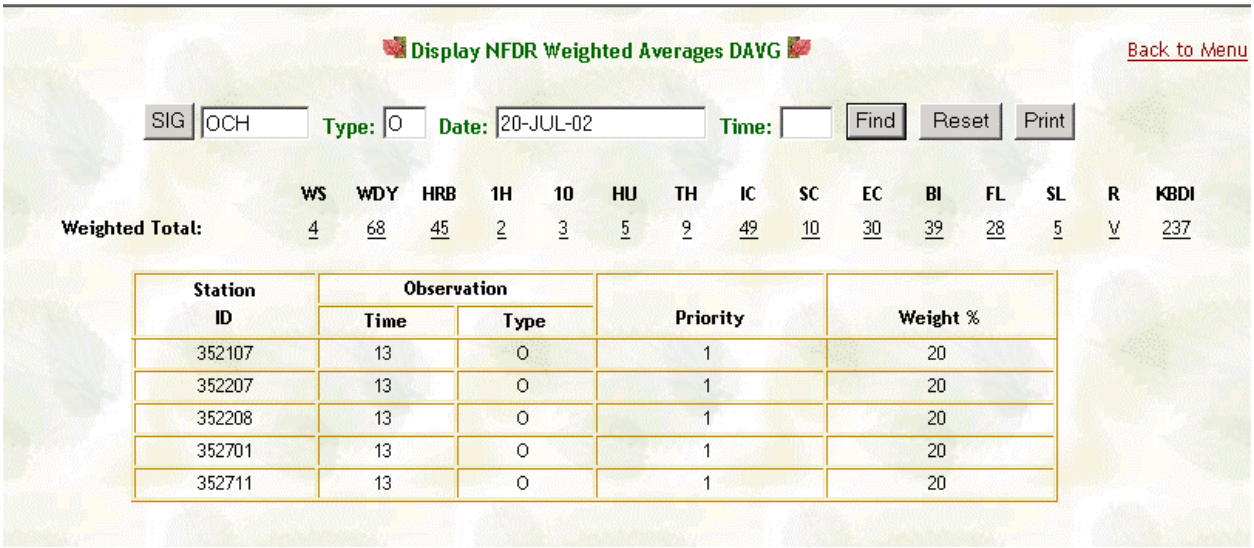
Use the Edit Weighted Averages (EAVG) form to assign weights to stations within your SIG. For more information, see " Assigning NFDR weighted averages to your SIG, " in Chapter 6, "Working with Station Information."

To access the Display NFDRS Weighted Averages (DAVG) form

In the Option/ FastPath: field, type DAVG and click Go.

Weighted Averages (DAVG) form





Weighted Averages (DAVG) field definitions

Field	Brief description
WS	Wind Speed
WDY	Calculated live woody fuel moisture
HRB	Calculated herbaceous moisture content
1H	Calculated one-hour timelag fuel moisture content
10	Measured or calculated 10-hour timelag fuel moisture content
HU	Calculated 100-hour timelag fuel moisture content
TH	Calculated 1000-hour timelag fuel moisture content
IC	Ignition Component
SC	Spread Component
EC	Energy Release Component
BI	Burning Index
FL	Fire Load Index
SL	Staffing Level
R	Rating (adjective fire danger rating)
KBDI	Keetch-Byram Drought Index

When you display the Weighted Averages (DAVG) form, WIMS leaves Ignition Component (IC), Spread Component (SC), and Energy Release Component (EC) blank if the priority 1 fuel model for each station is not the same.

How WIMS handles IFPL calculations

The DAVG function in WIMS also calculates Industrial Fire Precaution Level (IFPL) values for stations cataloged in USFS Region 6.

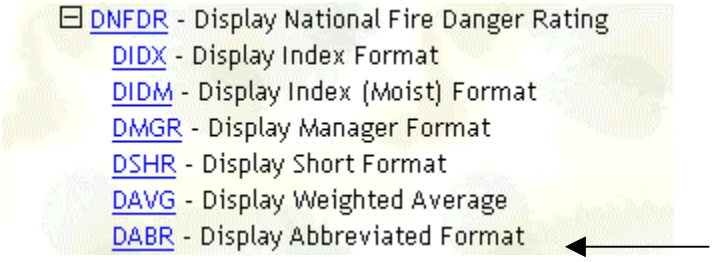
Displaying the Abbreviated form

The Display Abbreviated (DABR) form allows you to query and display an abbreviated version of the Index form for regular and special observations and forecasts. Some key fields listed on the abbreviated form include:

- Lightning Risk
- Ignition Component
- Spread Component
- Energy Release Component
- Burning Index
- Fire Load Index

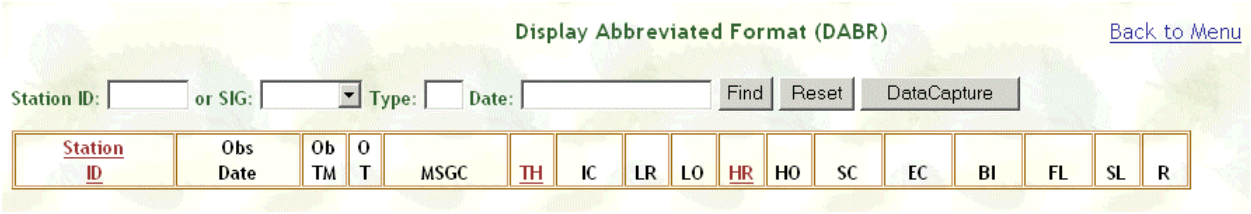
- Staffing Level
- Adjective Fire Danger Rating.

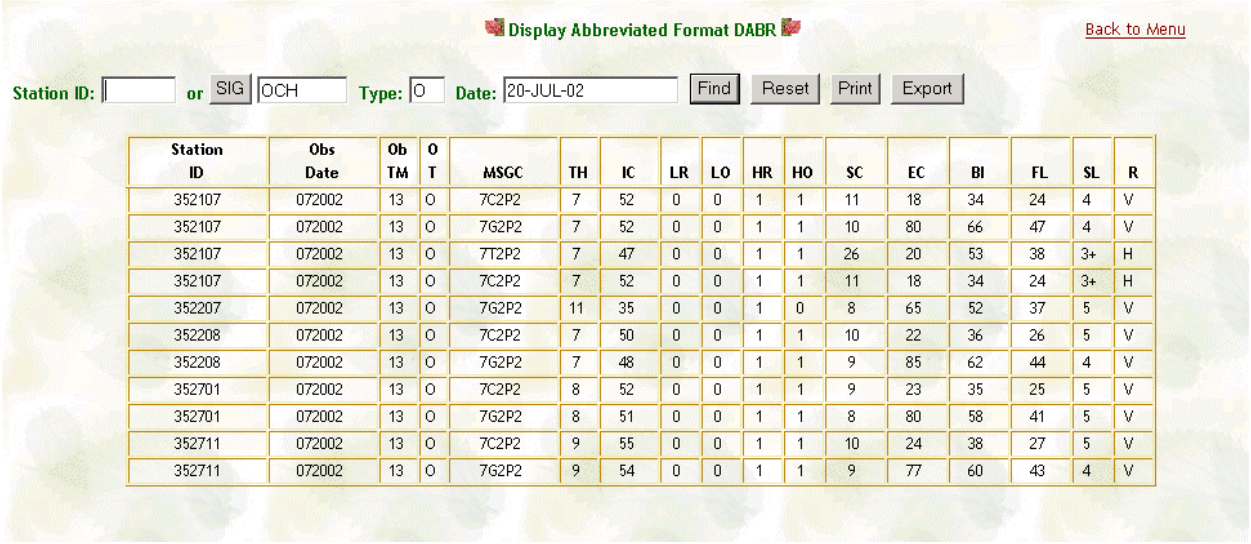
To access the Display NFDR (Abbrv) form



In the Option/ FastPath field, type DABR and click Go.

Abbreviated (DABR) form





Station ID	Obs Date	Ob TM	O T	MSGC	TH	IC	LR	LO	HR	HO	SC	EC	BI	FL	SL	R
352107	072002	13	O	7C2P2	7	52	0	0	1	1	11	18	34	24	4	V
352107	072002	13	O	7G2P2	7	52	0	0	1	1	10	80	66	47	4	V
352107	072002	13	O	7T2P2	7	47	0	0	1	1	26	20	53	38	3+	H
352107	072002	13	O	7C2P2	7	52	0	0	1	1	11	18	34	24	3+	H
352207	072002	13	O	7G2P2	11	35	0	0	1	0	8	65	52	37	5	V
352208	072002	13	O	7C2P2	7	50	0	0	1	1	10	22	36	26	5	V
352208	072002	13	O	7G2P2	7	48	0	0	1	1	9	85	62	44	4	V
352701	072002	13	O	7C2P2	8	52	0	0	1	1	9	23	35	25	5	V
352701	072002	13	O	7G2P2	8	51	0	0	1	1	8	80	58	41	5	V
352711	072002	13	O	7C2P2	9	55	0	0	1	1	10	24	38	27	5	V
352711	072002	13	O	7G2P2	9	54	0	0	1	1	9	77	60	43	4	V

Abbreviated (DABR) field definitions

Field	Brief description
MSGC	Fuel Model, Slope class, Grass type, and Climate class
TH	Calculated 1000-hour timelag fuel moisture content
IC	Ignition Component
LR	Lightning Risk
LO	Lightning-caused fire Occurrence Index
HR	Human-Caused Risk
HO	Human-caused Fire Occurrence index
SC	Spread Component
EC	Energy Release Component
BI	Burning Index
FL	Fire Load Index
SL	Staffing Level
R	Rating (adjective fire danger rating)

Chapter 10. Working with WIMS Utilities UTIL

This chapter gives you the information you will need to access and use WIMS Utilities and other related functions.

WIMS Utilities

The WIMS Utilities menu contains options to tailor your WIMS profile.

Accessing WIMS Utilities menu options

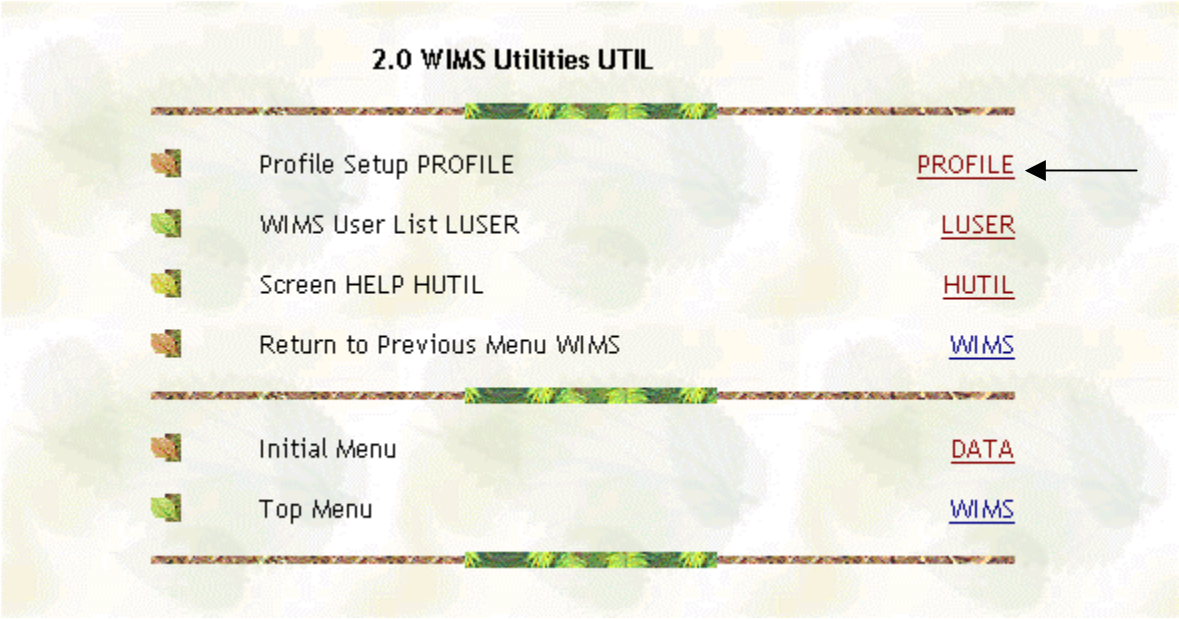
WIMS Utilities allow you to:

- Set up and change your profile
- Access the WIMS User List

To access the WIMS Utilities menu

In the Option/ FastPath: field, type UTIL and click Go.

The Utilities Menu will display.



Remember, you can skip this menu by typing the FASTPATH command:

- PROFILE, to display the User Profile Change Form
- LUSER, to display the WIMS User List

Setting up or changing your profile

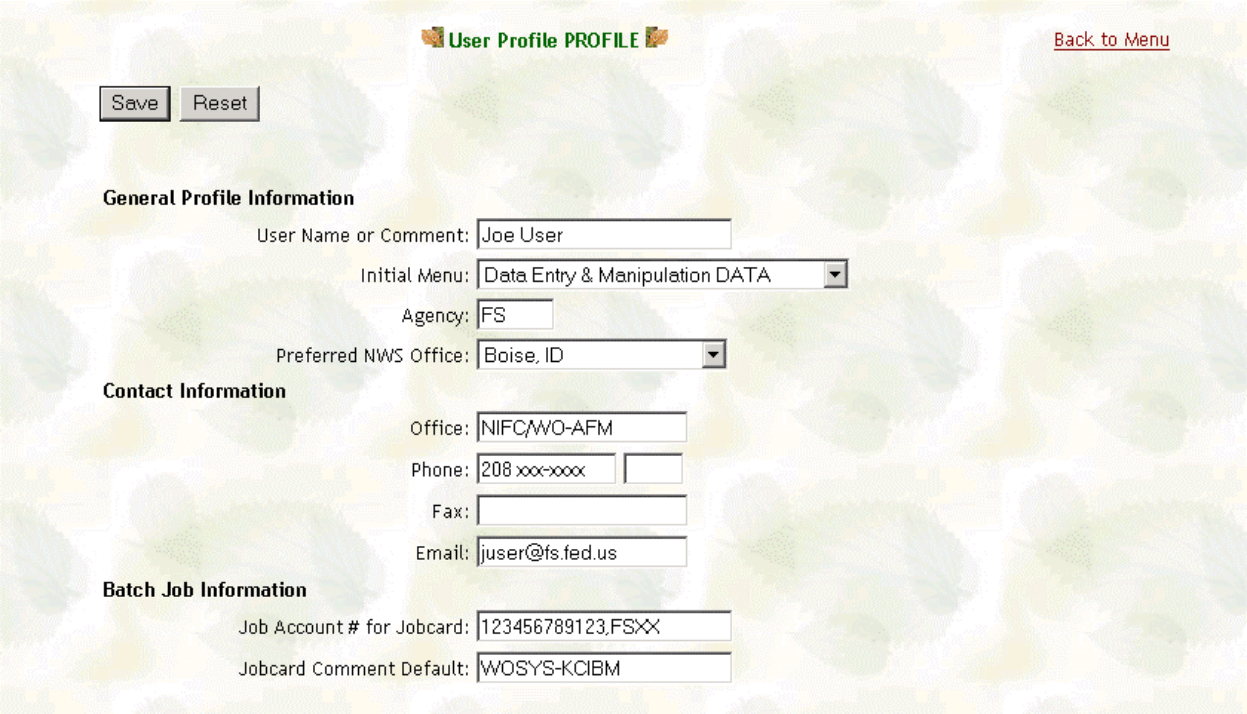
Each time you log on, WIMS accesses your profile and determines:

- Your name and agency
- The initial WIMS menu to display after you log on
- Your specific job accounting information
- Your office telephone numbers

To set up and change your profile, you must access the User Profile Change Form.

To access the User Profile Change Form

In the Option/ FastPath field, click Go.



PROFILE field definitions

Use the field definitions listed below to complete the User Profile Change Form.

Field	Description and action to be taken
User Name or Comment (Full name)	Enter your first and last name, up to 30 characters.
Initial Menu (WIMS menu name)	Enter the FASTPATH name of the WIMS menu you wish to display after you log on, up to ten characters. *For example, DFCST in this field displays the Display Forecasts menu. Leave this field blank to display the WIMS Main Menu. You must enter a WIMS menu name.*
Agency (Home agency)	Enter the name of your agency, up to five characters.
Preferred NWS Office (Home office code)	Enter the code for your local National Weather Service office, up to four characters. *Leave this field blank if you have no preferred NWS office.*
Office (Office name)	Enter the name of the office where you can be contacted, up to 20 characters.
Phone	Enter the area code and your telephone number of

Field	Description and action to be taken
	your office, up to 15 characters and/ or numbers.
Fax	Enter the area code and your fax telephone number of your office, up to 12 characters.
Email (Electronic mail address)	Enter your electronic mail address, up to 16 characters.
Job Account # for Jobcard (NITC-KC account number)	Enter your NITC-KC account number, followed by your job account code, up to 17 characters. *For more information about your job account number, contact your local WIMS system administrator.*
Jobcard Comment Default	No longer being used.

Changing you profile

1. In the Option/ FastPath field, click Go.

The User Profile Change Form displays, listing your current profile defaults.

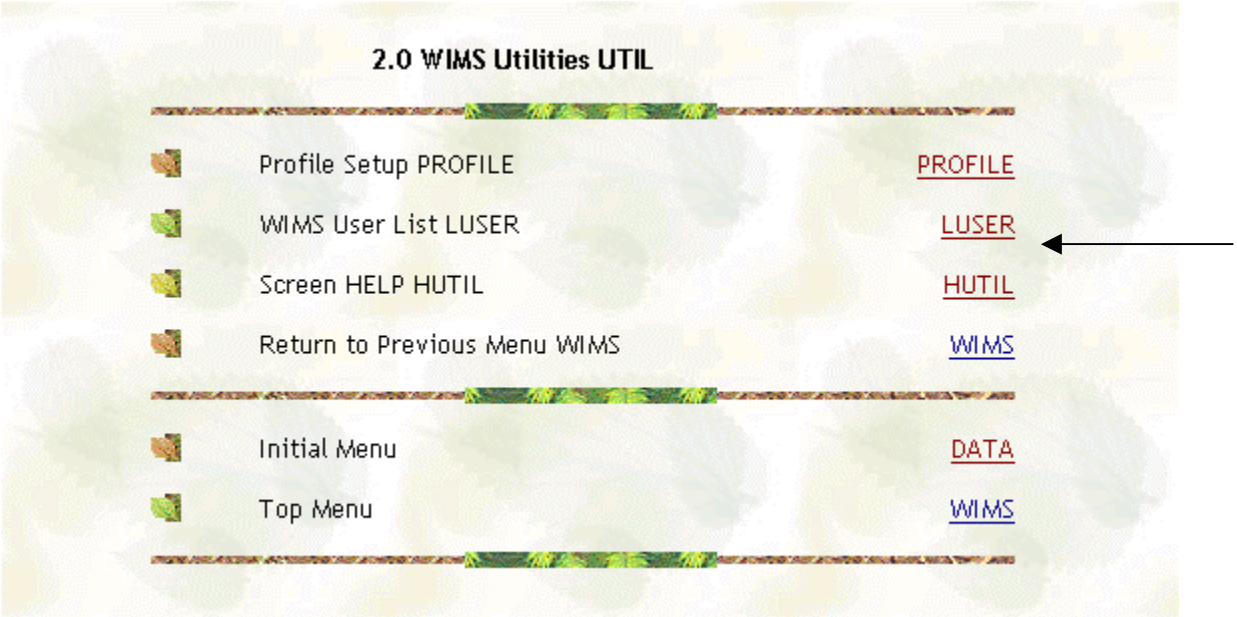
2. Change the appropriate fields in the form and click Save to save your changes to your profile.

Accessing the WIMS User List

The WIMS User List provides a listing of:

- WIMS logon IDs and WIMS user names
- Current telephone numbers and telephone extensions.

To access the WIMS User List



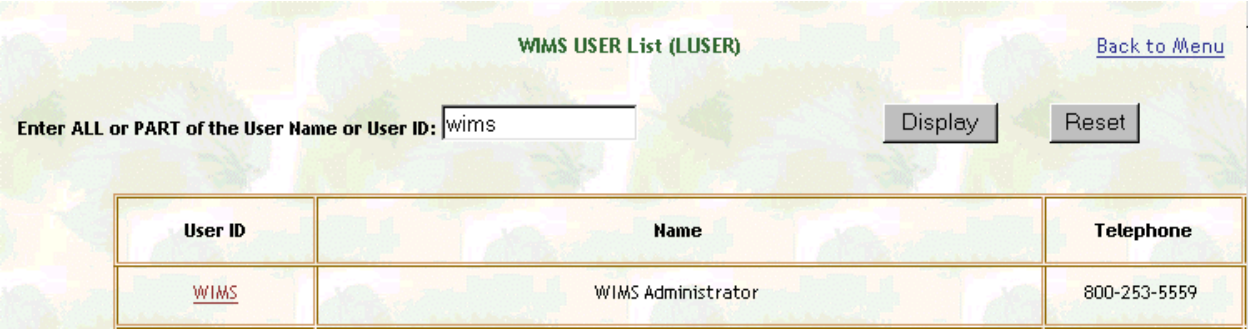
In the Option/ FastPath: field, type LUSER and Go.

LUSER field definitions

Use the field definitions listed below to complete the WIMS User List form. Fields in the query block are shaded.

Field	Description and action to be taken
Enter ALL or PART of the User Name or User ID	Enter the first or last name of the WIMS user or the WIMS logon ID you want to locate. *For example, entering John displays a list of all WIMS users who have either a first or last name that contain the characters "John."*
User ID (WIMS logon ID)	Displays the WIMS logon ID.
Name	Displays the complete name of the WIMS user.
Telephone	Displays the telephone number of the WIMS user.
Ext	Displays the telephone number extension of the WIMS user.

LUSER form



Listing specific groups

If you know the WIMS abbreviation for a specific group or organization, you can search for and obtain a list of the WIMS logon IDs within that group. For example, WIMS uses the following abbreviations:

- FS, for the USDA Forest Service
- FWS, for the USDI Fish and Wildlife Service
- NPS, for the USDI National Park Service
- NWS, for the National Weather Service

To narrow your search for a specific group of WIMS logon IDs, include the WIMS prefix with the group ID. The example below shows you how to obtain a list of WIMS logon ID's for the USDI National Park Service.

From the WIMS User List form:

Type NPS in the User Name/User ID and click Display.

The WIMS User List displays a list of WIMS logon IDs that contain the Group ID "NPS."

Appendix A. Menus, FastPaths, and access levels

The following table describes the access privileges accorded various users of the WIMS system.

X = available

@ = must own or have privilege to access

Function	Data Manager	Data Entry	NWS User
WIMS Main Menu WIMS	X	X	X
Data Entry & Manipulation DATA	X	X	X
Observations Menu OBS	X	X	X
New Observations NOBS	@	@	@
Edit Observations EOBS	@	@	@
Display Observations DOBS	X	X	X
Display RAWS Data DRAWS	X	X	X
Forecasts FCST	X	X	X
Display Forecasts DFCST	X	X	X
Display Point Forecasts DPFCST	X	X	X
Display Trend Forecasts DTFCST	X	X	X
Display Narrative Forecasts DNFCST	X	X	X
NIFC Logistics/ Situation DNIFC	X	X	X
Fire Weather Forecasts FWFCST	X	X	X
Red Flag Warnings RED FLAG	X	X	X

Function	Data Manager	Data Entry	NWS User
Spot Forecasts SPOT	X	X	X
Smoke Mgt Forecasts SMOKE	X	X	X
Other Narrative Forecasts DNARR	X	X	X
New Forecasts EFCST	X	X	@
New Point Forecasts NPFCST	X	X	@
New Trend Forecasts NTFCST	X	X	@
Edit Forecasts EFCST	X	X	@
Edit Point Forecasts EPFCST	X	X	@
Edit Trend Forecasts ETFCST	X	X	@
Station Information STA	X	X	X
Maintain Station MSTA	X	X	X
New Station NSTA	X	X	X
View/ Edit Station ESTA	@	@	
Delete Station	@		
List Station LSTA	X	X	X
Edit NFDR Parameters ENFDR	@	@	
Maintain S. I. G. MSIG	X	X	X
New S. I. G. NSIG	X	X	X
Edit S. I. G. ESIG	X	X	X
Delete S. I. G.	X	X	X
List S. I. G. s LSIG	X	X	
Assign NFDRS Weighted Avg EAVG	X		
Maintain Access List MACL	X	X	
New Access Control List NACL	X	X	

Function	Data Manager	Data Entry	NWS User
Edit Access Control List EACL	X	X	
Delete Access Control List	X	X	
List ACLs LACL		X	X
Natl Fire Danger Rating DNFDR	X	X	X
Display Index Format DIDX	X	X	X
Display Moisture Index Format DIDM	X	X	X
Display Manager's Format DMGR	X	X	X
Display Short Format DSHR	X	X	X
Display Abbreviated Format DABR	X	X	X
Display Weighted Averages DAVG X X X Data Capture OBS/ FCST/ NFDR PLST	X	X	X
Weather & Fire Services FIRE	X	X	X
WIMS Utilities UTIL	X	X	X
Profile Setup	X	X	X
NDVI Greenness Data NDVI	X	X	X
Narrative Forecasts DNFCST	X	X	X
NIFC Logistics/ Situation DNIFC	X	X	X
Fire Weather Forecasts FWFCST	X	X	X
Red Flag Warnings RED FLAG	X	X	X
Spot Forecasts SPOT	X	X	X
Smoke Mgt Forecasts SMOKE	X	X	X

Function	Data Manager	Data Entry	NWS User
Other Narrative Forecasts DNARR	X	X	X
WFAS Products WFAS	X	X	X

APPENDIX B SPECIFIC FIELD GLOSSARY

10-Hr TL Fuel Moisture

The moisture content of the 10-hour time lag fuel. Desired Entry to improve Fuel Moisture computations. If an observed 10-Hr TL Fuel Moisture is not available, then it will be calculated internally by the system. Otherwise, the entered value will be corrected for the age of the fuel stick.

1-HOUR Timelag Fuel Moisture (1-h TL FM)

The moisture content of the 1-hour timelag fuels.

100-HOUR Timelag Fuel Moisture (100-h TL FM)

The moisture content of the 100-hour time lag fuel.

1000-HOUR Timelag Fuel Moisture (1000-h TL FM)

The moisture content or the 1,000-hour timelag fuels.

Access Control List

List of users with the access that they are allowed for a particular station, i.e., edit, delete, enter obs, edit obs.

Agency Codes

1	USDA FS	Forest Service
2	USDA BLM	Bureau of Land Management
3	USDI NPS	National Park Service
4	USDI BIA	Bureau of Indian Affairs
5	State	State Agencies
6	Local Govt	City, County, Special District
7	PVT/COMMRL	Private or Commercial
8	OTH Federal	Other Federal Agencies
9	UNKNOWN	Unknown

Associated Manual Station

This is a previously cataloged manual station used to acquire human risk and lightning information when using the Edit Existing OBS on RAWS stations. This station must not only exist it can not be a station type RAWS (4). Not all RAWS stations have Associated Stations.

Aspect

0	N	North	360
1	NE	Northeast	45
2	E	East	90
3	SE	Southeast	135
4	S	South	180
5	SW	Southwest	225
6	W	West	270
7	NW	Northwest	315
8	FL	Flat/None	0

Indicates the direction in which the station faces with any of the wind systems.

Burning Index (BI)

A number related to the contribution of fire behavior to the effort of containing a fire.

See INT-169 – The 1978 National Fire Danger Rating System: Technical Documentation for more information

Climate Class

1	Arid-Desert & Steppe
2	Subhumid-Dry season
3	Subhumid-Adequate rain

4	Wet-Rain Forest

Co-Owner

Kansas City ID OPS$FS10728, OPS$NPS001 etc. If you give co-owner access they can manipulate data, edit & delete your catalogs, observations, etc.

Dew Point

The temperature at which a parcel of air being cooled reaches saturation (100 percent relative humidity).

Display Classes

Enter a one-digit number of display classes (3-9) for Staffing Index used by owning agency. NFDRS provides seven ratings for the use of the fire manager.

Any one of the seven may be used as the basis for determining the display class or readiness level of the suppression organization. The Forest Service uses the 90th and 97th percentile Burning Index values for each station's fuel models to determine Display Classes. These percentile values are determined from a statisitical analysis of historical fire weather observations. These values provide the criteria for ranking the relative severity of the burning conditions on a given day. The Bureau of Land Management uses the 80th and 95th percentiles of the BI. The 90th and 97th values are used to generate a table of values against which the Staffing Index for each model can be compared. There are always 10 such test values, corresponding to a nine-class system (nine classes plus zero).

Dry Bulb Temperature/Temperature Codes

Mandatory - This is the current temperature in degrees. The initial catalog determines whether (F) or (C). Temperature Codes <1> degrees F <2> degrees C

Elevation

Mandatory - Feet above sea level, one to five-digits.

Energy Release Component (ERC)

A number related to the available energy (Btu) per unit area (square foot) within the flaming front at the head of a fire.

See INT-169 The 1978 National Fire Danger Rating System: Technical Documentation for more information.

Fire Load Index (FLI)

A rating of the maximum effort required to contain all probable fires occurring within a rating area during the rating period. 0-100

See INT-169 The 1978 National Fire Danger Rating System: Technical Documentation for more information.

Forecast Zone

Weather Forecast Zone - A three-digit number (001-999) assigned and used by the National Weather Service to designate the fire-weather/land management forecast zone. The first digit usually corresponds with the Forest Service Region number (for example 503 is a fire weather zone in California).

Forest Name

Use three-letter ICS unit ID codes for all agencies units.

Fuel Model

You must enter at least 1 fuel model per catalog. If more than 1, the first one listed is the one used to calculate the indices.

A one-letter code for the fuel model (A to U only)

ID	Model Name
A	Annual Grass
B	Mature Chaparral
C	Open Timber/Grass
D	Southern Rough
E	Hardwoods (winter)
F	Intermediate Brush
G	Closed, short-needle conifer (heavy dead)
H	Closed, short-needle conifer (normal dead)
I	Heavy Slash
J	Medium Slash
K	Light Slash
L	Perennial Grass

N	Sawgrass
O	Pocosin
P	Southern Plantation
Q	Asaskan Black spruce
R	Hardwoods (summer)
S	Alaskan Tundra
T	Sagebrush Grass

Fuel Stick Install Date

Date on which fuel stick was installed or changed.

Grass Type

"A" for Annual

"P" for Perennial

Herbaceous-Vegetation Stage

One of: (2) Green, (4) Cured, or (5) Frozen.

Enter GREEN each time the herbaceous plants react to improved growing conditions. This is usually once a year in the spring. Several times a year are possible in desert climates. The program greens up the model's living fuels at a rate set by the CLIMATE CLASS. One, 2 , 3,or 4 weeks will be used. The choice will correspond to climates 1, 2, 3, or 4. Enter FROZEN when cold temperatures kill herbaceous plants and force woody fuels into dormancy. Enter CURED when the program does not kill the herbaceous plants on a timetable matching phenological curing. It is also used to signal the death of herbaceous plants due to cold temperatures when the temperature is not low enough to effect woody plants. (See FROZEN above.)

NOTE: The station actually has two Herbaceous stages: User input and program determined condition.

Herb Date (Format is DD-MON-YR)

The actual date at which the herbaceous vegetation condition representing the fuel model(s) for a particular station reaches that stage, i.e., green, cured, or frozen.

Human Risk

Mandatory - A numerical rating of the potential occurrence of human-caused fires. Calculated for local area. Rating may change on weekends and holidays.

Human Risk is no longer being used in the NFDR calculations. An entry is required, enter 1.

Human Risk - Forecasted

Mandatory on Regular Observation entry. Do not enter on Special Observation or Archive data.

Human Risk – Forecasted is no longer being used in the NFDR calculations. An entry is required, enter 1.

Humidity Entry & Code

Mandatory - Determined on initial catalog entry or Update Station at any time.

Manual stations - Wet bulb temperature or dewpoint temperature.

RAWS stations - Relative humidity.

The humidity entry identifies the type of moisture variable which is expected in Observations, Special, or Archived weather data from that specific station.

Humidity Code:

A 1-digit number indicating the moisture variable to be entered.

1 - Wet-bulb temperature (Deg.F)

2 - Relative Humidity (percent)

3 - Dewpoint temperature (Deg.F)

4 - Wet-bulb temperature (Deg.C)

5 - Dewpoint temperature (Deg.C) winds will be recorded in meters/minute

Ignition Component (IC)

A rating of the probability that a firebrand will cause a fire requiring suppression action.

See INT-169 The 1978 National Fire Danger Rating System: Technical Documentation for more information.

Lightning Activity Level

Enter the lightning activity level that best describes the lightning situation in the vicinity of the weather station.

Lightning Activity Level is no longer being used in the NFDR calculations. The field can be left blank.

Lightning Fire Occurrence Index (LOI)

A numerical rating of the potential occurrence of lightning-caused fires.

Lightning Fire Occurrence Index (LOI) is no longer being used in the NFDR calculations. The field can be left blank.

Lightning Scaling Factor

Legal values may range from 0.01 through 5.0 with 1.0 as the default value.

Lightning Scaling Factor is no longer being used in the NFDR calculations. The field can be left blank.

Latitude/Longitude

Mandatory - The station location is used to calculate changing day length, computer graphics, and for fire behavior interpolation of the standard observation to other locations and times of day. The correct format is Degrees/Minutes/Seconds.

Maximum Relative Humidity

Desired Entry - Maximum recorded relative humidity in past 24 hour period to 100%.

Minimum Relative Humidity

Desired Entry - Minimum relative humidity observed in past 24 hour period.

NESDIS ID

This is an eight digit (letter & number) identification number assigned by NOAA/NESDIS that becomes the RAWS (Remote Automatic Weather Station) identification number, i.e 324564E0.

NFDR Date

Enter the Date (DD-MON-YR).

NFDR TYPE

O - Observation

F - Forecast

S - Special

Observation Date

This will normally default to the current date. May be changed.

Observation Time

A two-digit number indicating to the nearest hour the time at which the station normally takes fire weather observations (for example, 13 for 1300 hours). The time-of-observation entered in OBS and Update will be required to be within 2 hours of this standard observation time. Remember, Standard Time, NOT Daylight Savings Time. This is the observation that will be in the NIFMID.

Observation Type

O - Standard

S - Special

R - RAWS (any automatic station)

Observed Maximum Temperature

This is the maximum temperature observed in the last 24 hours.

Observed Minimum Temperature

This is the minimum temperature observed in the last 24 hours.

Observing Agency

A one-digit code indicating the agency responsible for station operation. Use the following table:

1 - Forest Service

2 - Bureau of Land Management

3 - National Park Service

4 - Bureau of Indian Affairs

5 - State Agency

6 - City of County Agencies or Special Districts

7 - Private or Commercial

8 - Other Federal Agencies (such as DOD, NWS, and FAA)

9 - Unknown

Precipitation Amount

Mandatory – The actual measured amount in either inches/millimeters (from station catalog). (If 0 precipitation then 0 duration) If amount is less than 0.005 enter "T" (trace), and you must enter at least 1 in duration.

Rainfall Code:

<1> Inches (in) <2> Millimeters (mm)

Precipitation Duration

Mandatory - Actual number of hours of precipitation in past 24 hour period. (If 0 precipitation amount then 0 precipitation duration) If amount is less than 0.005 enter "T" (trace),and you must enter at least 1 in duration.

Don't use "–" to indicate wet fuels. Use Y in Wet Indicator field.

Previous Station

This is to provide continuity or historical information. If a station was moved or changed from manual to RAWS you can identify it, or a number changed, you can cross reference the stations.

Region Number

The USDA Forest Service Region number (1, 2, 3, 4, 5, 6, 8, 9, or 10). Enter the number even if the station is run by an agency other than the Forest Service.

Relative Humidity (RH)

The ratio of the actual amount or water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage .

Season Code 88 NFDRS only

1 Winter

2 Spring

3 Summer

4 Fall

Sensor Description

Enter a description of any additional sensors or data that is collected. Enter these in the order if the ID. Example: Peak Hourly Gusts, Water Temperature sensors, soil moisture & temperature, solar radiation, Max/Min RH, Max/Min Temp, 10 hour fuel moisture, etc.

Must be entered in Platform sequence: 1 = A, 2 = B etc.

SHEF Codes – Standard Hydrologic Exchange Format

Parameters 1 - 8 MUST occur in the following order; 9-16 have no established order, however, NESDIS may establish one in the future.

Do not enter 1-8 in the extra data fields.

1 PC Precipation

2 US Wind Speed

3 UD Wind Direction

4 TA Atmospheric Temperature

5 MT Fuel Temperature

6 XR Relative Humidity

7 VB Battery Voltage

8 PA Atmospheric Pressure

---

9 MF Fuel Moisture

10 UX Wind Gust Direction

11 UG Wind Gust Speed

12 TX Atmospheric Temperature Maximum

13 TN Atmospheric Temperature Minimum

14 XS Relative humidity Maximum

15 XQ Relative Humidity Minimum

16 RD Solar Radiation – Direct Beam

Sig Name - (S)pecial (I)nterest (G)roup

Forecast Zone SIG's are ALWAYS numerical and coincide to the forecast zone in which they reside, i.e., 102 (Region 1) or 620 (Region 6) Private SIG's MUST begin with an alpha character, i.e. S620, SISQ, etc. User specific 4 character name.

- Display data from several stations.
- Relate stations
- Define SIG's of fire danger rating stations that fulfill a particular need.
- Allow inclusion of stations not owned or co-owned.
- May not conform to any one geographical or political boundary, i.e., different agencies or regions.

Site

A one-digit indicator for type of site:

1 - Valley bottom or flat

2 - Midslope

3 - Ridge or peak top

Slope Class

A one digit number representing slope percent.

1 - 0-25

2 - 26-40

3 - 41-55

4 - 56-75

5 - greater than 75

Spread Components (SC)

A rating of the forward rate of spread of a head fire.

See INT-169 – The 1978 National Fire Danger Rating System: Technical Documentation for more information.

Staffing Index

Staffing Index used by owning agency. The SI is the abbreviation of the NFDRS component or index on which the staffing guides of the suppression organization are based.

Abbreviation	Staffing Index (SI)
Bi	Burning Index
EC	Energy Release Component
FL	Fire Load Index
IC	Ignition Component
KB	Keetch-Byram Drought Index
LO	Lightning-caused Occurrence Index
MO	Human-caused Occurrence Index
SC	Spread Component

Staffing Index - Low Percentile

Enter 80, 90, or appropriate low percentile.

The Bureau of Land Management uses the 80th and 95th percentiles of the Burning Index and the Forest Service uses the 90th and 97th percentiles. If your agency staffs on an index different than the BI, enter the appropriate percentile for that component or index.

Staffing Index - High Percentile

Enter 95, 97 or appropriate high percentile.

The Bureau of Land Management uses the 80th and 95th percentiles of the Burning Index and the Forest Service uses the 90th and 97th percentiles. If your agency staffs on an index different than the BI, enter the appropriate percentile for that component or index.

Staffing Index - Low Value

Enter the low value for the low percentile, i.e., if you are using 90th percentile and the value is 44, enter 44. If you are using the 80th percentile and the value is 23, enter 23.

Staffing Index - High Value

Enter the high value for the high percentile, i.e., if you are using the 97th percentile and the value is 55, enter 55. If you are using the 95th and the value is 35, enter 35.

State of Weather

0 - Clear, less than 1/10 cloud cover

1 - Scattered clouds, 1/10 - 5/10 cloud cover

2 - Broken clouds, 6/10 - 9/10 cloud cover

3 - Overcast, 10/10 cloud cover

4 - Fog

5 - Drizzle

6 - Rain

7 - Snow or sleet

8 - Showers

9 - Thunderstorms

5, 6, and 7 cause all indices to be set to zero because generalized precipitation over the protection unit is assumed. 8 and 9 assume localized precipitation and will not zero indices.

Station ID

Contact your local fire-weather forecaster for a station number. Identifies the cataloged station. The first two digits identify the state, the second two digits identify the county, the last two digits identify the local area within a state and county. Stations with the last two digits ranging from 90 to 99 are NOT archived and are known as dummy stations.

Mandatory - 6-digit numerical identifier. Contact your local National Weather

Station Type

A one-digit indicator for type of station.

1 Non-NFDRS Manual

2 NFDRS Manual

3 Non-NFDRS RAWS

4 NFDRS RAWS

5 NFDRS RAWS Non-satellite, Non-NFDRS

6 NFDRS RAWS Non-satellite, NFDRS

7 Historic, Non-active

8 Dummy

9 Unknown

Station Neumonic

An entry of one to twenty alphabetical characters. Use the Unit Identifier identified for each unit.

See Unit Identifiers, PMS 931 for more information.

Time Zone

The standard time zone in which the station is located AST (Atlantic Standard Time), AKST (Alaska Standard Time), BST Bering Standard Time, CST (Central Standard Time), EST (Eastern Standard Time), GMT (Greenwich Mean Time), HST (Hawaiian Standard Time)

Unit Name

Enter the name of the Unit that owns the station, for instance, Boise NF.

User Comments

Optional Entry - Field is NOT archived. Comments will remain with record while in WIMS but are lost when transferred to NFWDL. May be used to send a type of local interest information in codes or format of your choice, for example, cumulus cloud build-up status, altimeter setting, comments to local weather office, etc.

User Identification

This is the default Kansas City ID, i.e., OPS$FS10728 or OPS$NPS001 etc.

Wet Fuels Indicator

Yes or No - This is to indicate whether there is precipitation or fuels are wet at observation time. Also if snow or ice cover the sticks, but no precipitation has fallen that day enter Yes. Indices will be set to 0.

Wind Direction/Wind Direction Codes

Not Required (Recommended) (If it is NOT entered a M (missing) must be input. Wind direction may be entered in regular 8-point form, in 16-point two-digit form, in degrees-of-the-compass, 3-digit form, or in 16-point letter codes. All of the following will give the same wind direction: 1, 02, 045, NE. (The direction is stored and archived as eight-point.)

A zero or M must be entered for Wind Direction if a zero is entered for Wind Speed.

Wind Direction Codes:

<1> 16-point letter

<2> 3-digit degrees

<3> 8-point 1-digit

<4> 16-point 2-digit

Wind Speed/Wind Speed Codes

Mandatory - Actual measured speed.

Wind Speed Codes

<1> English (mph)

<2> Metric (kph)

Woody Moisture Content

A numeric value representing the live woody fuel moisture which is measured and recorded for a particular weather station. The entered value will be used to guide the calculations for the next 30 days. If another measurement is not made within that period and the parameters updated, the program will compute the moisture internally without considering the old measured value. Minimum value is 50., Maximum value is 250.

Programs and Information

AUTOMATIC CALCULATION OF NFDR FOR OBSERVATIONS

NFDR components and indices are calculated and stored automatically whenever official observations are entered in WIMS. The official observation is the observation recorded at the standard observation time (1300). This applies to both manual and automatic (RAWS) observations. If NFDR are not recalculated when the official observation is updated, the user can request to display (recalculate) an NFDR output for any station for any time.

NFDR outputs are calculated and stored when the official observation is entered for days in the past. Care must be taken to enter missing data from the oldest data first to the most recent data to ensure calculation of each day's NFDR output is dependent on the carryover values from the previous day. If data from the previous day is missing then default carryover values are used.

AUTOMATIC CALCULATION OF NFDR FORECASTS

NFDR outputs are calculated and stored automatically whenever the official forecast is recorded for a station. The official forecast is the 1300 -hour forecast for the next day. When an official trend forecast is entered, all point forecasts in the zone are recalculated and stored. NFDR is not recalculated when point or trend forecasts are updated.

AUTOMATIC STORAGE OF NFDR

A single NFDR record is stored for each station for 60 days in the WIMS database. An indicator is stored to identify whether the NFDR was calculated from an observation or a forecast. The observation has precedence. If an official observation is present, NFDR is calculated from a forecast and stored only in the absence of an official observation for that station.

Appendix C. Acronyms

Appendix C contains a list of commonly-used acronyms mentioned in the WIMS User's Guide.

Acronym	Name
ACL	Access Control List
AFOS	Automated Field Operations & Services
ARS	USDA Agriculture Research Service
ASCADS	Automated, Storage, Conversion, and Distribution System
ASOS	Automated Surface Observing System
AWIPS	Advanced Weather Interactive Processing System
BIA	USDI Bureau of Indian Affairs
BI	Burning Index
BLM	USDI Bureau of Land Management
CICS	Customer Information Control System
CDAF	Climatic Data Access Facility
CIRRUS	Climate Interactive Rapid Retrieval Users System
DAPS	Data Collection System Automated Processing System
DBA	Database Administrator
DCP	Data Collection Platform
DEM	Digital Elevation Model
ERC (EC)	Energy Release Component
FIPS	Federal Information Processing Standard
FLI (FL)	Fire Load Index
FM	Fuel Moisture
FOTG	Field Office Technical Guide
FS	USDA Forest Service
FTS	Forest Technology Systems Inc.
FWP	Fire Weather Plus
FWS	USDI Fish and Wildlife Service
GIS	Geographic Information Systems
GOES	Geostationary Operational Environmental Satellite
HAZMAT	Hazardous Material
GOES-Next	Next-Generation Geostationary Operational

	Environmental Satellites
IAMS	Initial Attack Management System
IC	Ignition Component
IFPL	Industrial Fire Precaution Level
KCCC	National Computer Center -Kansas City
KC-IBM	National Computer Center -Kansas City
KBDI	Keetch-Byram Drought Index
LAL	Lightning Activity Level
LID	Logon ID
LOI (LO)	Lightning-caused Occurrence Index
LR	Lightning Risk
MAR	Modernization and Restructuring
MCOI (HO)	Human-caused Occurrence Index
MCR (HR)	Human-caused Risk
MOU	Memorandum of Understanding
FDWT	Fire Danger Working Team
NARTC	National Advanced Resources Technology Center
NCC	National Computer Center (see NITC)
NCC-KC	National Computer Center -Kansas City
NCDC	National Climatic Data Center
NESDIS	National Environmental Satellite Data Information Service
NEXRAD	Next-Generation Weather Radar
NFDR	National Fire Danger Rating
NFDRS	National Fire Danger Rating System
NIFMID	National Interagency Fire Management Integrated Database
NIFC	National Interagency Fire Center
NITC	National Information Technology Center (formerly known as NCC)
NMC	National Meteorologic Center
NOAA	National Oceanic and Atmospheric Administration
NPS USDI	National Park Service
NRCS	Natural Resources Conservation Service (previously SCS)
NWCG	National Wildfire Coordinating Group
PSW	Pacific Southwest
RAWS	Remote Automatic Weather Station

RCC	Regional Climate Center
RDBMS	Relational Database Management System
REMS	Remote Environmental Monitoring Station
RFC	River Forecast Center
RH	Relative Humidity
RMF& RES	Rocky Mountain Forest and Range Experiment Station
RWU	Research Work Unit
SAF	Society of American Foresters
SAO	Surface Aviation Observations
SC	Spread Component
SCS USDA	Soil Conservation Service. See NRCS
SHEF	Standard Hydrological Exchange Format
SI	Staffing Index
SIG	Special Interest Group
SL	Staffing Level
SNOTEL	Snow Telemetry
SOW	State of the Weather
SQL	Structured Query Language
STN-ID	Station Identification
WFAS	Wildland Fire Assessment System
WIMS	Weather Information Management System
WO	Washington Office
WRCC	Western Regional Climate Center
WSFO	Weather Service Forecast Office
1-h TL FM	one-hour Timelag Fuel Moisture
10-h TL FM	ten-hour Timelag Fuel Moisture
100-h TL FM	one hundred-hour Timelag Fuel Moisture
1000-h TL FM	one thousand-hour Timelag Fuel Moisture
x1000	live fuel moisture recovery value

Appendix D. WIMS/ NIFMID forms and instructions

Anyone wishing to access WIMS and/ or NIFMID must complete the WIMS/ NIFMID Access Request Form. Use the form to:

- request new National Information Technology Center (NITC) accounting codes
- request WIMS/ NIFMID logon IDs
- obtain access to WIMS/ NIFMID, using existing NITC logon IDs and/ or accounting codes.

Additionally, attach any new/ modified Reimbursement Agreement Forms (AD-672) or Purchase Orders (including a signed NITC-Terms and Conditions form) and any requests.

Send the completed package to:

National Interagency Fire Center

USDA -Forest Service

3833 S. Development Avenue

Boise, ID 83705

Attn: National Information Systems Team

Alternately, you can send these requests electronically:

e-mail: fire_help@dms.nwcg.gov

Fax: (208) 387-5292

Please allow two to three weeks to process each request. For Forest Service users, send the requests to your designated Regional/ Station NITC-Access Administrators. They will establish the requested logon IDs and Accounting Codes and, once complete, will forward the information to the National Information Systems Staff.

WIMS/ NIFMID National Information Technology Center (NITC)

Requestor background information:

Contact Name:

Agency:

Unit:

Phone: ( )

E-Mail Address:

Mail Address:

City:

State:

Zip Code:

Accounting code requests:

Please establish new NITC accounting codes for the following:

Contact Person	Agency	Unit	Phone Number	Account Description

Attach a signed NITC-Terms and Conditions document, and any new/ modified Reimbursement Agreement(s) (FormAD-672) and/ or Purchase Orders for the current fiscal year.

Logon ID (LID) requests:

Please establish new WIMS/ NIFMID LIDs for the following:

User Name	Account Type	Agency	Unit	Phone Number	Accounting Code

For Account Type use: DM= Data Manager, DE= Data Entry, S= Seasonal. Also specify start/ stop time periods for Seasonal LIDs.

Application Access Requests: Please establish access for the following existing NITC Logon IDs

User Name	Account Type	Agency	Unit	Phone Number	NITC	LID	Accounting Code

Send to:

National Interagency Fire Center USDA -Forest Service

3833 S. Development Avenue Boise, ID 83705-5354

Attn: National Information Systems Team 319

Completing the WIMS/ NIFMID National Information Technology Center Access Request Form

For each user, attach the following to the " WIMS/ NIFMID National Information Technology Center Access Request Form": an " NITC-Terms and Conditions" form, signed by the authorized User-Representative and the authorized ITC-Representative.

Please note any existing " NITC-Terms and Conditions" forms next to the name of the contact person. any new or modified Reimbursement Agreement form(s) any Purchase Orders for the current fiscal year.

Reimbursement agreements and Purchase Orders between the requesting agency and NITC must be renewed every iscal year.

Field Description and action to be taken

Requestor background information: Complete the following fields:

Contact Name: Enter the name of the contact person coordinating the request.

Agency: Enter the agency of the contact person coordinating the request.

Unit: Enter the unit of the contact person coordinating the request.

Phone: Enter the telephone number of the contact person coordinating the request.

E-Mail Address: Enter e-mail address of the contact person coordinating the request.

Mail Address: Enter the street address of the contact person coordinating the request. City:, State: and Zip Code: Enter the city, state, and zip code of the contact person coordinating the request.

Accounting code requests: Every user must have access to an Accounting Code to access WIMS and/ or NIFMID. For each user, complete the following fields:

User Name:Enter the name of the user requesting the new Accounting Code.

Agency:Enter the agency of the user requesting the new Accounting Code.

Unit: Enter the home unit of the user requesting the new Accounting Code.

Phone Number Enter the telephone number of the user requesting the new Accounting Code.

Account Description Enter a brief description of the primary use of the account. For example, enter "WIMS," "NIFMID", "WIMS/ NIFMID," or "FIRE."

Logon ID (LID) requests: Every user must have access to a NITC Logon ID to access WIMS and/ or NIFMID.

If you already have an NITC-Logon ID, do not request a new one. Skip sections #2 and #3, and complete section #4.

For each user, complete the following fields:

User Name: Enter the name of the user requesting the new Logon ID.

Account Type: Enter the type of WIMS/ NIFMID access: Data Manager, for full access Data Entry, for limited access Seasonal, for limited access with a limited duration. Seasonal IDs are assigned to the full-time employee responsible for the seasonal employee, and are activated for the time period specified.

Unit: Enter the home unit of the user requesting the new Logon ID.

Phone: Number Enter the telephone number of the user requesting the new Accounting Code.

Accounting Code Enter the existing NITC-Accounting Code, if available, of the person requesting the new Logon ID.

Logon IDs can share accounting codes, but permission must be granted by the owner of the Accounting Code. NITC

Accounting Codes for WIMS/ NIFMID charges may also be shared between agencies. For example, between the National Weather Service and Forest Service.

Application Access Requests: Use this section to obtain access to WIMS/ NIFMID when the user wishes to use an existing NITC Accounting Code and Logon ID.

For each user, complete the following fields:

User Name: Enter the name of the user requesting access.

Account Type: Enter the type of WIMS/ NIFMID access: Data Manager, for full access Data Entry, for limited access Seasonal, for limited access with a limited duration.

Unit: Enter the home unit of the user requesting access.

Phone Number: Enter the telephone number of the user requesting access.

NITC LID: Enter the existing NITC Logon ID of the user requesting access.

If the user already has a National Finance Center (NFC) user ID, enter the ID in this field, indicating it is an NFC user ID. NITC will attempt to assign this ID as the NITC Logon ID.

Accounting Code: Enter the existing NITC-Accounting Code, if available, of the person requesting the new logon ID.

Logon IDs can share accounting codes, but permission must be granted by the owner of the Accounting Code.

WIMS/ NIFMID NITC-Terms and Conditions

April, 1996

Purpose

This is an agreement between the United States Department of Agriculture National

Information Technology Center and _____ to detail responsibilities between the above, and the USDA, Office of Information Resource Management (OIRM), and the National Finance Center (NFC) in regard to the financial accountability for services rendered by the National Information Technology Center. The term "User" is defined as any organization or individual indicated above requesting electronic access to the NITC. The term " Sponsoring Agency" shall refer to the USDA, Forest Service.

Requirements

User

1. Complete and return the NITC-Terms and Conditions Form (with authorized signature) for signature by NITC-official.

2. Invoices will be generated at the National Finance Center (NFC), New Orleans, LA based upon data submitted by the NITC. For inquiries about invoice amount or other problems with your account, contact Kathryn West of the NITC, Resource Management Staff at (816) 926-2719.

3. Invoices are due net 30-days from the invoice data. Interest charges of 15% will be assessed on the balance open beyond 30-days.

4. Accounts past-due more than 60-days will have their access authorization revoked. Reinstatement can be made through the sponsoring agency only after invoices have been paid in full. Users may be subject to a reinstatement fee.

5. Users will be able to access WIMS/ NIFMID 24-hours a day, 7-days a week with the exception of scheduled down-time and/ or system failure. The user will be responsible for any telephone charges incurred in accessing the NITC. The sponsoring agency may provide toll-free access at its discretion.

6 Users will furnish annually a Reimbursement Agreement Form (AD-672) or a valid Purchase Order stating the maximum amount of charges not to be exceeded. The user will also provide the necessary accounting information to be referenced on the monthly bill. Purchase Orders and/ or Reimbursement Agreements should specify a fiscal year or not to exceed 1-year, whichever comes first. Purchase Orders should show consignee as:

USDA, National Information Technology Center

8930 Ward Parkway

Kansas City, MO 64141 323

1 Users will review and/ or modify the amount of their Purchase Orders or Reimbursement Agreement Forms (AD-672) as appropriate to stay within the maximum limit specified until the designated time period has expired.

National Information Technology Center

1 Process WIMS/ NIFMID LID-requests from the Sponsoring Agency for the User.

2 Process financial documents and prepare necessary billing information on a monthly basis.

3 Provide the NFC monthly billing information provided by the user on the Reimbursement Agreement (AD-672) or Purchase Order.

4 Monitor the monthly billing status reports in relationship to the authorized amount on the Reimbursement Agreement (AD-672) or Purchase Order. When billing exceeds 85% of the authorized amount, NITC will notify in writing the account contact person and make adjustments as necessary. Accounts that have exceeded their funding authorization will have their access authorization revoked if not modified by a subsequent Reimbursement Agreement (AD-672) or Purchase Order within 30-days.

5 Accounts deemed uncollectible will be turned over to the U. S. Department of the Treasury for collection.

The following authorized agency representative(s) do hereby agree to honor all the terms and conditions identified in this document.

x_____

Authorized User-Representative

x_____

Authorized NITC-Representative

Name: _____

Title: _____

Date: _____

Name: _____

Title: _____

Date: _____

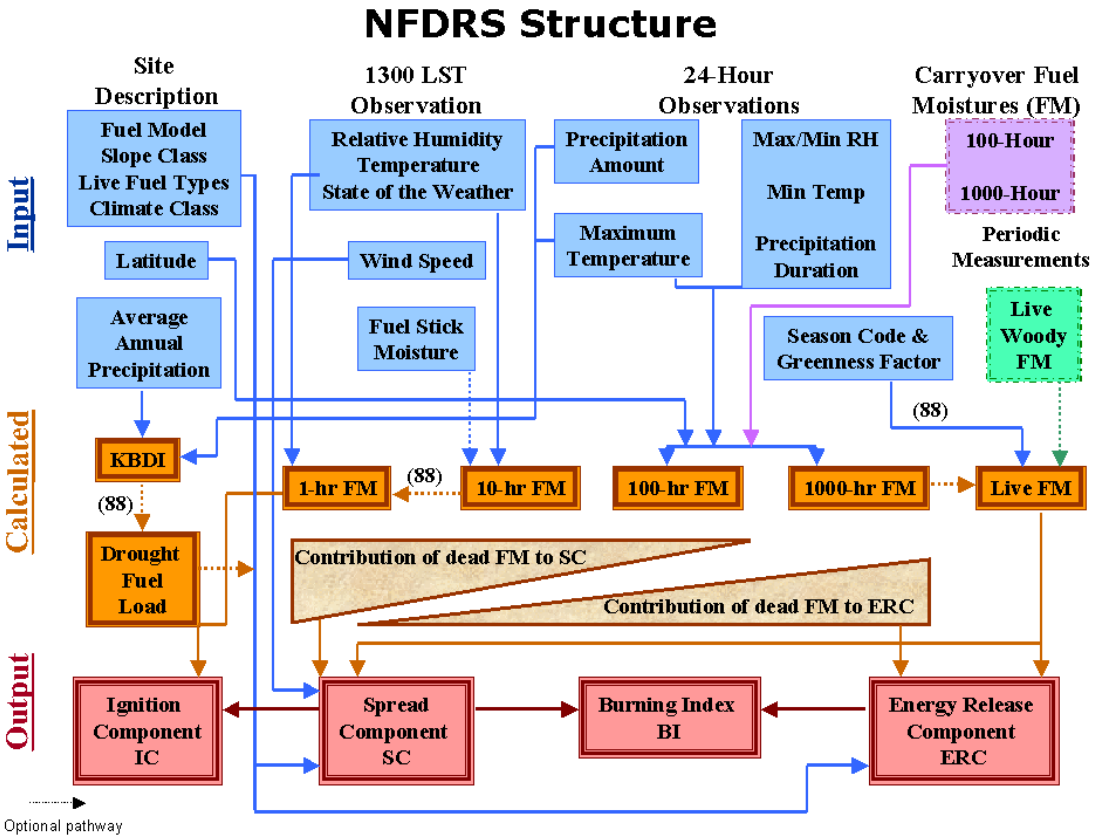
Appendix E. NFDRS technical reference

Use this appendix as a reference for National Fire-Danger Rating System (NFDRS) technical information. Topics in this appendix include:

- U. S. NFDRS structure ¨ NFDRS weighted averages
- Adjective (Public) Fire Danger -Rating Staffing Level
- Lightning Activity Levels recalculating NFDRS indices
- Live fuels NFDRS climate classes
- Standard Shef code descriptions.

U. S. NFDRS structure

The diagram below shows the NFDRS structure for both the 1978 and 1988 fuel models.



The shaded wedges show the contribution of dead fuel moisture to Spread Component (SC) and Energy Release Component (ERC). Based on either the 1978 or 1988 fuel model, the dashed lines show optional paths through the NFDRS system.

NFDRS technical reference

The NFDRS weighted averages function combines data from selected fire weather stations and produces an integrated fire danger rating for a geographic area. The fire manager must:

- Select each station to represent the area
- Determine the station-weighting factor (the influence of each station on the weighted area fire danger).

The weighting factors of the stations within the area must total 100 percent.

The station weighting factor is based on the fire manager's local experience, including:

- Percent of the total area represented by each station
- Resource values
- Historic fire occurrence
- Public use patterns.

Based on the Create Default NFDRS Parameters form, WIMS uses the Priority 1 fuel model for weighting factors. To change to a different fuel model, you must first select it by entering that fuel model's assigned priority using the Display/ Edit Default NFDRS Parameters form.

A fuel model must appear in the station catalog before you can use it to calculate weighted average values for a SIG.

How WIMS redistributes NFDRS weight assignments

To compensate for stations missing NFDRS indices, WIMS redistributes the related weight assignments to the stations that have those NFDRS indices.

Remember, the Edit Weighted Averages (EAVG) report is used to assign weights to stations within any SIG you own.

For example, the station numbers listed below have the following NFDRS weight assignments:

Station Number	Weight Factor %
505091	10
505092	15

505093	25
505094	30
505095	20
	100%

If station " 505092" is missing data, WIMS redistributes the weight assignments to the remaining stations as follows:

505091 = 100 * (10 / (10 + 25 + 30 + 20)) = 12

505093 = 100 * (25 / (10 + 25 + 30 + 20)) = 29

505094 = 100 * (30 / (10 + 25 + 30 + 20)) = 35

505095 = 100 * (20 / (10 + 25 + 30 + 20)) = 24

100 %

If stations " 505093" and " 505094" are missing data, WIMS redistributes the weight assignments to the remaining stations as follows:

505091 = 100 * (10 / (10 + 15 + 20)) = 22

505092 = 100 * (15 / (10 + 15 + 20)) = 33

505095 = 100 * (20 / (10 + 15 + 20)) = 45

100 %

How WIMS determines IFPL calculations for USFS Region 6

USFS Region 6 uses the Industrial Fire Precaution Level (IFPL) system to regulate activities to minimize risks associated with industrial operations. Industrial operation restrictions increase as IFPL values increase. WIMS calculates daily Precaution Values (PV) using one of the equations below:

West of the Cascades (assumes Fuel Model G)

$$PV = \left({ERC}/{22} \right) + \left({(IC-5)}/{20} \right)$$

If PV > 3, then

$$PV = 3.0 + 2\left(PV - 3.0\right)$$

East of the Cascades (assumes Fuel Model C)

$$PV = \left({ERC}/{4} \right) + \left({(IC-45)}/{10} \right)$$

Southwest Oregon, Siskiyou Mountains (assumes Fuel Model F)

$$PV = \left({ERC}/{6} \right) + \left({(IC-45)}/{10} \right)$$

These IFPL equations are based on NFDRS parameters associated with historic industrial fire occurrence in the Pacific Northwest and have no applicability outside this area.

IFPL Class	Corresponding Precaution Value
1	At or below 1.999
2	2.000 -2.9999
3	3.000 -3.9999
4	4.000 and above

How WIMS handles weighted variables, components, indices, and values

The NFDRS weighted averages function calculates a weighted arithmetic average for:

- Wind Speed (WS)
- Woody Fuel Moisture (WDY)
- Herbaceous Fuel Moisture (Herb FM)
- One-hour Timelag Fuel Moisture (1H)
- 10-hour Timelag Fuel Moisture (10)
- 100-hour Timelag Fuel Moisture (HU)
- 1000-hour Timelag Fuel Moisture (TH)
- Ignition Component (IC)
- Spread Component (SC)
- Energy Release Component (EC)
- Burning Index (BI)
- Fire Load Index (FL)
- Keetch-Byram Drought Index (KBDI).

To obtain a weighted Ignition Component (IC) for stations A, B, and C -an example

The example below shows sample weighting factors for stations A, B, and C.

Station Weighting	Factor (W)	IC (W)	(IC)/ 100 AVG IC
A	22	38	8.36
B	44	47	20.68
C	34	58	19.72
	100		48.76 round 49

When averaging different fuel models, do not attempt to use the weighted average Energy Release Component (EC), Burning Index (BI), and Fire Load Index (FL). These values should be expressed as a range of values using the specific fuel model values found in the related NFDRS reports.

How WIMS determines the weighted staffing level

Before WIMS calculates the weighted Staffing Level, the staffing class must be determined using the nine-class system. WIMS identifies the breakpoint percentiles that drive the staffing class calculations for each fuel model in the station catalog. Using the outputs from different fuel models, WIMS then generates a weighted staffing level from the different fuel models and WIMS assigns a class factor according to the schedule below:

Staffing class	**(x)**	**Class factor (m)***
0	0	0
1-	1.25	1.19
1+	1.75	1.68
2-	2.25	2.37
2+	2.75	3.36
3-	3.25	4.76
3+	3.75	6.73
4-	4.25	9.51
4+	4.75	13.43
5	5.25	19.03

*Ln m= (x) Ln2

The example below shows how WIMS determines the weighted staffing level (SL):

Station	Wt. Factor (w)	Staff. Class	Class Factor (m)	(m) (w)/ 100
A	22	2-	2.37	.52
B	44	3+	6.73	2.96
C	34	4-	9.51	3.23
	100			6.71

As shown below, the shaded area shows how the 6.71 value translates to a weighted staffing class:

Staffing class	**(m) (w)/ 100**
0	0-0.99
1-	1.00-1.40
1+	1.41-1.99
2-	2.00-2.82
2+	2.83-3.99
3-	4.00-5.65
3+	5.66-7.99
4-	8.00-11.30
4+	11.31-15.99
5	Greater or equal to 16.00

The weighted staffing class is 3+ (3 high). The actual staffing level (SL field) on the Display NFDRS Weighted Averages form is then based on the number of display classes (DC) identified in the station catalog. If the station catalog shows " 5" display classes (staffing levels), a " 3" would display in the SL field. If the station catalog shows " 6" display classes, a " 3+ " would display in the SL field.

WIMS displays only the nine point Staffing classes, from 1-to 5. WIMS does not display the weighted staffing class " 0".

Adjective (Public) Fire-Danger Rating

In March 1974, Forest Service, BLM, and State Forestry representatives established a standard fire-danger rating for public information.

Most fire protection organizations use this adjective class only for public information. Staffing level (SL) is used for in-house fire readiness and dispatch information.

Using the weighted average IC, the weighted SL, and the adjective fire-danger matrix, WIMS determines the weighted adjective fire-danger rating

(R) for public use within a geographic area. Adjective fire-danger is expressed as one of five levels:

- Low (L)
- Moderate (M)
- High (H)
- Very High (V)
- Extreme (E).

The table below shows the adjective fire-danger for IC and SL:

Staffing level (SL)	**Adjective fire-danger (R)**				
0	0	0	0	0	0
1-, 1, 1+	L	L	L	M	M
2-, 2, 2+	L	M	M	M	H
3-, 3, 3+	M	M	H	H	V
4-, 4, 4+	M	H	V	V	E
5	H	V	V	E	E
Ignition component (IC)	0-20	21-45	46-65	66-80	81-100

The zero value is shown to address those cases where a staffing level of " 0" is calculated by WIMS. This occurs when the wet fuels flag (WF) is set to " Y" during an Observed (Type= O), Special (Type= S), or Forecast (Type= F) observation.

To determine the historic occurrence of the adjective fire-danger

Using the Fire Family Plus program, analyze the historic weather data housed in the NIFMID database.

The following table contains the narrative descriptions and color-codes for the five adjective fire-danger classes:

Fire-Danger Class	Color code Description
Low Green	Fuels do not ignite readily from small firebrands, although a more intense heat source, such as lightning, may start many fires in duff or punky wood. Fires in open cured grassland may burn freely a few hours after rain, but woods fires spread slowly by

	creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.
Moderate Blue	Fires can start from most accidental causes, but with the exception of lightning fires in some areas, the number of starts is generally low. Fires in open cured grassland will burn briskly and spread rapidly on windy days. Woods fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious, and control is relatively easy.
High Yellow	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High-intensity burning may develop on slopes, or in concentrations of fine fuel. Fires may become serious and their control difficult, unless they are hit hard and fast while small Very High
Orange	Fires start easily from all causes, and immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics; such as long-distance spotting and fire whirlwinds, when they burn into heavier fuels. Direct attack at the head of such fires is rarely possible after they have been burning more than a few minutes.
Extreme Red	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious.

	Development into high-intensity burning will usually be faster and occur from smaller fires than in the very high danger class. Direct attack is rarely possible, and may be dangerous except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessons.

Remember, adjective fire-danger is for public information only. It has no direct connection to fire behavior.

Staffing Level

Staffing Level is the bottom line of fire-danger rating. Using a specified staffing index, WIMS determines the staffing class or readiness level of the suppression organization. The SI field on the Create NFDRS Parameters form allows you to specify which of those eight staffing indices WIMS must use to calculate the fire-danger rating:

Staffing index	Name
BI	Burning Index
EC	Energy Release Component
FL	Fire Load Index
IC	Ignition Component
KB	Keetch-Byram Drought Index
LO	Lightning-caused Occurrence
MO	Human-caused Occurrence
SC	Spread Component

The Forest Service presently uses the 90th (SI-low) percentile and 97th (SI-high) percentile values for each station's fuel models to determine the staffing class. The Bureau of Land Management uses the 80th and 95th percentile values. FIREFAMILY PLUS, WIMS is used to determine these percentile values from a statistical analysis of historical fire weather observations, and

provides criteria for ranking the relative severity of the fire danger on a given day.

WIMS generates a table of test values of SI-low percentile and SI-high percentile values that are identified in the station catalog to compare the Staffing Index for each model. There are always ten such test values, corresponding to the nine-class system (nine classes plus zero).

The actual number of staffing classes used by an administrative unit may be any value from 3 to 9. For this reason, WIMS always computes the staffing class based on the nine-class system, but displays the staffing class based on the completed DC field (number of display classes) in the station catalog.

Breakpoints for the staffing class in the nine-class system are listed below:

Computed class level	Upper value for class
0	SI = 0
1	SI-low¤8
2	SI-low¤4
3	SI-low¤(3/ 8)
4	SI-low¤2
5	SI-low¤(3/4)
6	SI-low
7	(SI-low + SI-high) ¤2
8	SI-high
9	More than SI-high

To determine which nine-class staffing class designator appears for a specific staffing class

Desired number of staffing level classes	Displayed staffing class									
3	0	1	1	1	1	1	1	4	4	5
4	0	1	1	1	1	3	3	4	4	5
5	0	1	1	2	2	3	3	4	4	5
6	0	1	1	2	2	3-	3+	4	4	5
7	0	1	1	2	2	3-	3+	4-	4+	5
8	0	1	1	2-	2+	3-	3+	4-	4+	5
9	0	1-	1+	2-	2+	3-	3+	4-	4+	5
Staffing class designator	0	1	2	3	4	5	6	7	8	9

1 In the first column, locate the Desired number of staffing level classes that your administrative unit employs, a value from 3 to 9.

2 Follow that row across to the Displayed staffing class for the corresponding Staffing class designator.

Lightning Occurrence Index

Lightning Occurrence (LO) is meant to account for fires set by lightning on the day being rated and for fires set the previous day not yet discovered that must be considered in the rated day's fire business (holdover fires).

Three Lightning Occurrence Indices are calculated each day:

- Yesterday's Lightning Occurrence Index uses the LO from two days ago, yesterday's Ignition Component, and the Lightning Activity Level reported today to characterize the lightning situation that occurred yesterday (from midnight to midnight).
- Today's Lightning Occurrence Index uses yesterday's recalculated LO, today's predicted Lightning Activity Level, and observed Ignition Component.
- Tomorrow's Lightning Occurrence Index uses today's preliminary LO and tomorrow's predicted Lightning Activity Level and Ignition Component.

Several Lightning Activity Levels (LALs) are reported from the Create Observation or Edit Observation form, or are included by the fire weather forecaster in point or trend forecasts. Lightning Risk (LR) is calculated from the appropriate LAL and the lightning risk scaling factor identified in the station catalog.

How WIMS obtains yesterday's lightning risk

The YL field (yesterday's lightning) on the Create Observation and the Edit Observation forms best describes the lightning occurrence from midnight to midnight the previous day. YL replaces the LAL used to calculate yesterday's preliminary LO in yesterday's fire weather record, and eventually becomes part of the archived weather data in NIFMID and used by FIRDAT.

How WIMS obtains today's Lightning Risk (LAL)

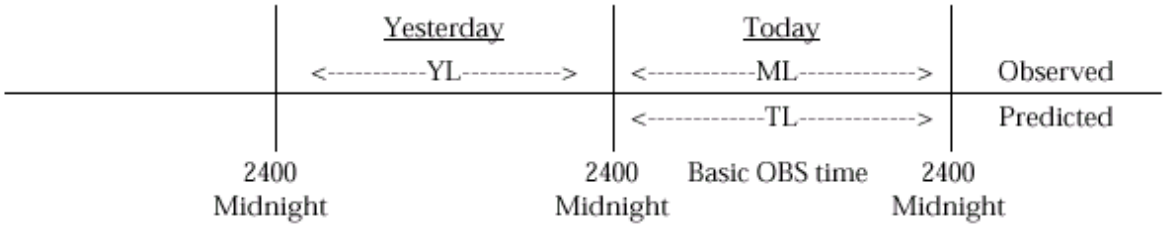
To estimate today's Lightning Activity Level, WIMS uses LAL to determine the current day's lightning risk during the processing of this afternoon's fire weather observation. During the basic observation time (1300 local standard time) two LALs are available:

1 The LAL predicted on yesterday's fire weather forecast for today is called Tomorrow's Lightning (TL).

2 The LAL that describes the Lightning Occurrence experiences between midnight last night and the basic observation time today is reported in the

ML field (Morning's Lighting) of the Create Observation and the Edit Observation forms.

WIMS chooses the higher of these two LALs. This value is replaced in the fire weather record by Yesterday's Lightning (YL) that will be reported tomorrow.



Where:

- YL is the observed LAL for yesterday.
- ML is the observed LAL today since midnight.
- TL is the LAL predicted yesterday for all of today.

How WIMS obtains today's lightning risk for predicting tomorrow's Fire Load Index

After the current day's fire weather observation becomes available, WIMS makes a second estimate of the LAL for the current day and selects the higher of:

- The ML reported in the fire weather observation
- The LAL predicted for the period from midnight of the current day and the basic observation time.

This second estimate is called the Afternoon's Lightning (AL). To recalculate the Lightning Occurrence Index for today, WIMS uses AL, the Ignition Component (IC) from the observation, and the Lightning Occurrence Index (LOI) from yesterday. This updated LOI is used to predict tomorrow's LOI.

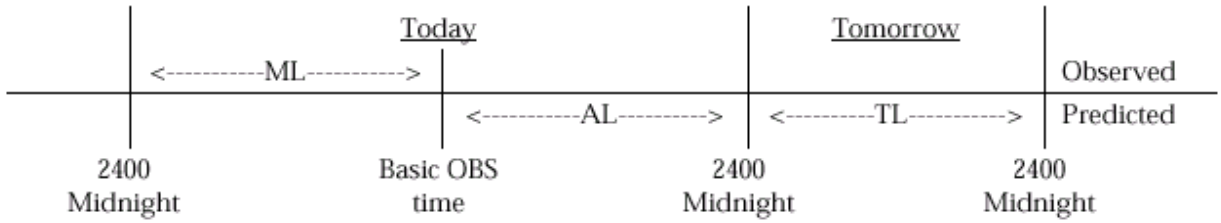
How WIMS obtains tomorrow's lightning risk for predicting tomorrow's Fire Load Index

The WIMS danger rating processor uses the value in the TL field on the Point or Trend Forecast form to determine tomorrow's lightning risk.

1. The LAL predicted on yesterday's fire weather forecast for today is called tomorrow's lightning (TL).

2. The LAL that describes the lightning occurrence experiences between midnight last night and the basic observation time today is reported in the

ML field (morning's lightning) of the Create Observation and Edit Observation forms.



where:

- ML is the observed LAL today since midnight.
- AL is the predicted LAL for the remainder of today (basic
- Observation time to midnight) for today's forecast.
- TL is the LAL predicted yesterday for all of today.

For more information, refer to Deeming, John E, Robert E. Burgan, and Jack D. Cohen. 1978. " The National Fire-Danger Rating System. "

More about recalculating NFDRS indices

The recalculate function in WIMS allows you to recalculate NFDRS indices day-by-day, for any range of dates you specify. You should recalculate NFDRS indices any time you add new information into the station catalog and/ or enter or edit observation data.

When adding missing weather observations or changing NFDRS parameters to existing observations, you should understand the affect of this new information on today's NFDRS index values:

- New information that is less than seven days old will have the greatest effect on today's NFDRS index values.
- New information older than seven days will not generally affect these values.
- If you add a significant number of missing observations within the last 45 days, be sure to recalculate the NFDRS indices.

Exception: The 1000-hour timelag fuel moisture content value may be affected by some changes for up to 55 days. Calculation of the 1000-hour timelag fuel moisture value is greatly affected by long durations of precipitation.

To handle missing data

1. Enter the missing weather observations using the Create Observation from (FASTPATH: NOBS).

2 Using the procedure outlined in "Recalculating NFDRS indices" in Chapter 5, " Beyond the basics, " recalculate the NFDRS indices from the date of the oldest entered observation to the current day.

To handle an NFDRS parameter change

Use this procedure to adjust herbaceous conditions codes, and 100-hour and 1000-hour and the X-1000 timelag fuel moisture contents.

1 Using the Edit NFDRS Parameters form (FASTPATH: ENFDR), edit the appropriate NFDRS parameters as outlined in "Editing NFDRS parameters" in Chapter 9, "Working with NFDRS."

2 Using the procedure outlined in "Recalculating NFDRS indices" in Chapter 5, "Beyond the basics," recalculate the NFDRS indices.

Live fuels

The moisture content of living fuels is controlled by the physiological processes of the plant. The two live fuels that make up the 1978 NFDRS fuel classes include:

- Herbaceous plants
- Woody shrubs.

Herbaceous plants

Herbaceous plants do not develop persistent woody tissues and include grasses, forbs, and ferns. Herbaceous plants are divided into annual and perennial types. When the live fuel moisture falls below 30 percent, herbaceous plants are considered cured and the moisture content defaults to that of the 1-hour timelag fuels.

For 1978 NFDRS fuel classes, the maximum herbaceous fuel moisture content is 250 percent.

Woody shrubs

During the growing season, perennial woody shrubs are allowed a maximum moisture content of 200 percent. The woody shrub fuel moisture model does not allow the estimated shrub moisture content to fall so low that the shrubs must be considered dead. These plants are considered dormant when the moisture content falls to the default woody fuel moisture set by the climate class.

For the 1978 NFDRS fuel model, the maximum woody fuel moisture content is 200 percent.

Live fuel moisture models

Live fuels act as either a heat sink or heat source. Live fuels become a heat source when their moisture content drops enough to allow desiccation and ignition during dead fuel combustion. If their moisture content remains above a critical level, live fuels act as a heat sink.

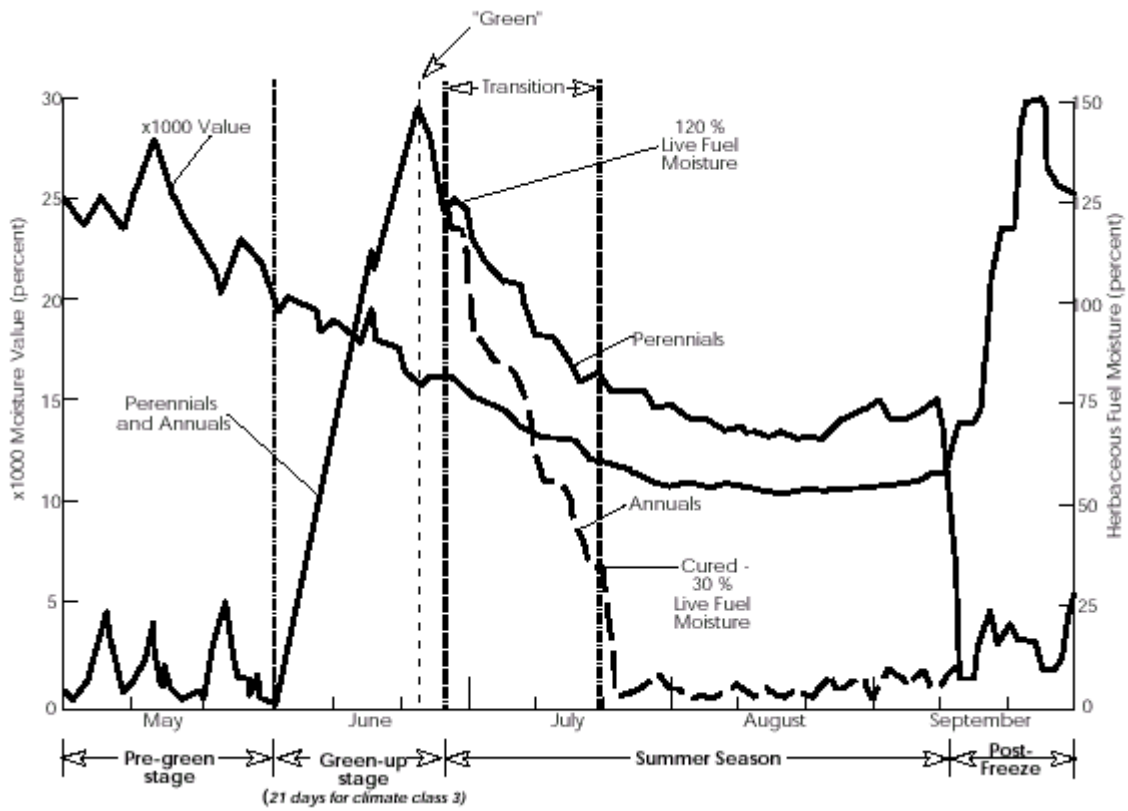
The live fuel model broadly approximates the moisture content of living herbaceous plants and the leaves and twigs of small woody shrubs. Maximum live fuel moistures at 25 percent 1000-hour timelag fuel moisture are 250 percent for herbaceous fuels and 200 percent for live woody shrubs.

Herbaceous plants are considered cured at 30 percent moisture content, while woody plants are considered dormant if their moisture content drops to 50 percent.

A dynamic live fuel moisture algorithm simulates greening and curing of herbaceous fuels by transferring fuel load between the live herbaceous class and the 1-hour timelag class as the herbaceous fuel moisture levels occur between 30 and 120 percent during the growing season.

x1000, Annual, and Perennial herbaceous fuel moisture models

The diagram below shows the relationship between the x1000 value and the annual and perennial herbaceous moisture models.



As shown above, when the greenup date is set for a station there is a dramatic change in the Perennial and Annual herbaceous fuel moisture models. During the first part of this Transition period, the Annual and Perennial herbaceous fuel moisture models lose moisture at the same rate until they reach 120 percent. From 120 to 30 percent, the Annual herbaceous fuel moisture decreases faster than Perennial herbaceous fuel moisture.

Greeness factors during dry periods

The table below shows some suggested greenness factors in relation to KBDI values:

KBDI value	Greenness Factor	KBDI value	Greenness Factor
0-200	20	401-420	9
201-220	19	421-440	8
221-240	18	441-460	7
241-260	17	461-480	6
261-280	16	481-500	5
281-300	15	501-520	4
301-320	14	521-540	3
321-340	13	541-560	2
341-360	12	561-580	1
361-380	11	581+	0
381-400	10		

Setting the Greenup date for a station

The stage of herbaceous vegetation controls two sets of fuel moistures:

- Herbaceous fuel moisture is affected by transition (H S field = T) and cured (H S field= C) stages. Unless frozen, perennial herbaceous fuels can recover from a cured stage after receiving moisture.
- Woody fuel moisture is affected by a frozen (H S field = F) state. Woody fuels must be frozen prior to Greenup.

The Greenup Date field on the Display/ Edit Default NFDRS Parameters form (FASTPATH: ENFDR) identifies the date at the start of Greenup. The Herb Date field reflects the date the last change was made to the H S field (herbaceous vegetation stage code). Determine the value of the HS field on the Display/ Edit Default NFDRS Parameters form, and then follow the procedure on the next page.

For more information about editing NFDRS parameters, see "Editing NFDRS parameters" in Chapter 6, " Working with Station Information."

To "Greenup" a station

From the Display/ Edit Default NFDRS Parameters form (FASTPATH: ENFDR):

- If the herbaceous vegetation is still cured from last year (HS field= C), change it to pregreen (HS field= P) or frozen (HS field= F) for at least one day. After at least one day, change it to green (HS field= G).

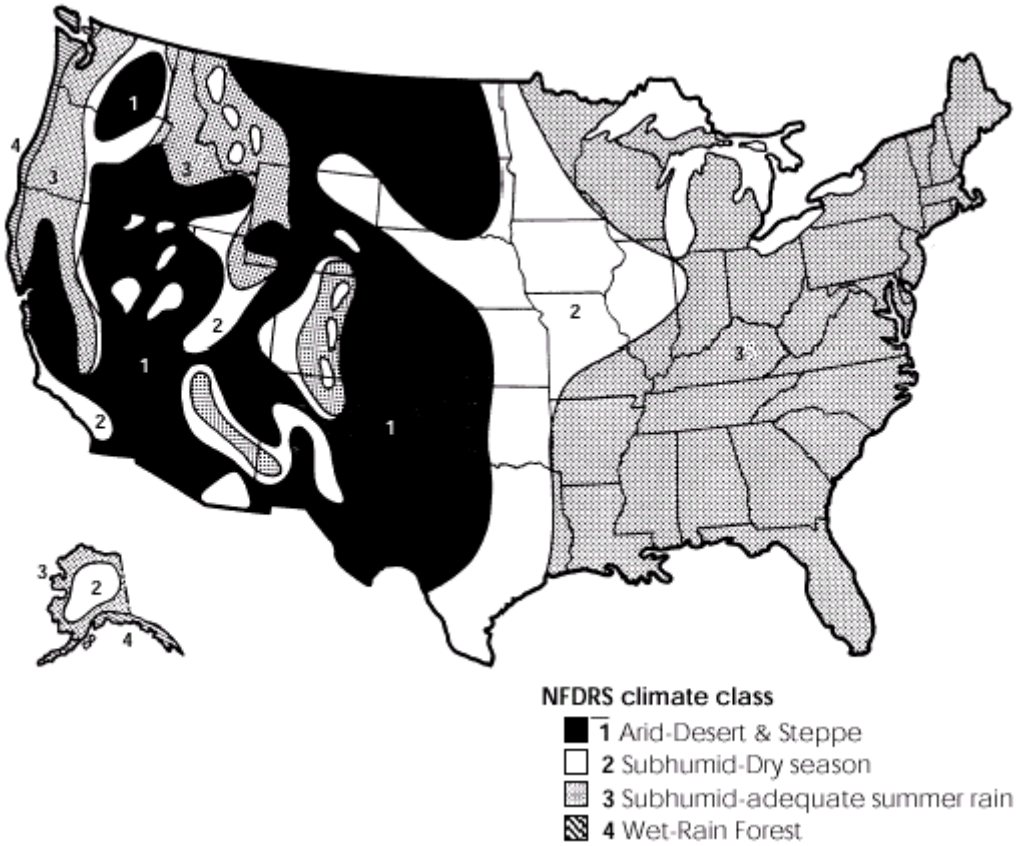
Changing the H S field to pregreen helps you work with the NFDRS model and prepare the weather station for the upcoming season.

- If the herbaceous vegetation is frozen (HS field= F), change it to green (HS field= G).
- If the herbaceous vegetation is in transition (HS field= T), you need to green (HS field= G), change it to pregreen (HS field= P), or frozen (HS field= F) for at least one day, and then change it to green (HS field= G).
- In the Herb Date field, enter the date of Greenup; the Greenup date, herb date and effective date must be the same. When you save this WIMS copies the date in the Herb Date field to the Greenup Date field. To force another greenup, you must reset the HS field to "G"

Changing the herbaceous vegetation to pregreen (HS field= P) resets the x1000 live fuel moisture recovery value to the current 1000-hour fuel timelag fuel moisture. Changing it to pregreen (HS field= P) is recommended, but optional.

NFDRS climate classes

The map of the United States below depicts the general locations of the NFDRS climate classes.



Climate class is valid for NFDRS stations (type 2, type 4, and type 6), and accounts for different plant adaptability to different moisture regimes and their response to rainfall anomalies. During a period without rain, plants adapted to a wet climate lose moisture faster than plants adapted to a dry climate.

Climate class affects several NFDRS parameters that influence live fuel moisture, including:

- Beginning 1000-hour fuel moisture
- Minimum live woody moisture
- Curing rate of herbaceous plants, for moistures between 120 and 30 percent
- Days in Greenup period, for 1978 NFDRS.

Standard Shef codes

The eight codes listed in the shaded area are standard measurements taken by every RAWS station. Do not enter any of these standard eight Shef codes as additional sensors. For more information, see "Entering RAWS station information" in Chapter 6, "Working with Station Information."

Shef code	Sensor description
PC	Precipitation, accumulation
US	Wind speed
UD	Wind direction
TA	Atmospheric temperature (dry bulb)
MT	Fuel temperature (wood probe)
XR	Relative humidity
VB	Battery voltage
PA	Atmospheric pressure
MF	Fuel moisture
UX	Wind direction, peak gust
UG	Wind speed, peak gust
TX	Atmospheric temperature maximum
TN	Atmospheric temperature minimum
XS	relative humidity maximum
XQ	relative humidity minimum
AF	surface frost intensity
AH	soil heat
AM	surface dew intensity
AW	air quality
AS	soil deformation
AT	time below critical temperature (25 DF, -3.9 DC)
AU	time below critical temperature (32 DF, 0 DC)
AQ	leaf wetness
CB	volcano fault creep
CE	volcano seismic data
CG	Volcanic gases
CH	Volcanic helium
CM	volcano crustal magnetic field
CP	volcano core pressure
CQ	earthquake prediction
CS	volcano crustal strain

CT	volcano crustal tilt
CU	volcano crustal uplift
CV	volcano geomagnetic field variations
CW	volcano soil tension
CX	glaciological data
DD	data motion (non-physical elements)
DE	data environmental (non-physical elements)
DT	data turbulence (non-physical elements)
DY	data activity (non-physical elements)
EA	evapotranspiration potential
EC	evaporation, event counter
ED	evaporation, pan depth
EM	evapotranspiration amount
ER	evaporation rate
ET	evapotranspiration total
EV	evaporation, lake (computed)
GD	frost depth, depth of frost penetration
GR	frost report, structure
GS	ground state
GT	frost, depth of surface frost thawed
HO	paroscientic (press trans)
H1	water log (press trans)
H2	Druck (press trans)
H3	Travis (press trans)
H4	Thomas (shaft enc)
H5	Valcom (shaft enc)
H6	Handar (shaft enc)
H7	Sutron (shaft enc)
H8	Affra (accoustic)
H9	Stevens (pulse gen)
HA	(V) height of reading
HB	depth of reading below surface
HC	height, ceiling
HD	height, head
HE (V)	height, regulating gate
HF	elevation, project powerhouse forebay
HG	height, river stage

HH (V)	height, of reading
HI	stage trend indicator
HJ (V)	height, spillway gate
HK	height, lake above a specified datum
HL	elevation, natural lake
HM	height of tide
HN	height river stage (daily min.)
HP	elevation, pool
HQ	river, stream, canal flow velocity
HR	elevation, lake or reservoir rule curve
HS	elevation, spillway forebay
HT	elevation, project tailwater stage
HU	gage height
HV	discharge flow
HW	height, spillway tailwater
HX (S)	height, river stage
HY (S)	height, river stage at 7 am
HZ	elevation, freezing level
IC	ice cover, river
IE	extent of ice from reporting area
IF	Freezing ice (ref. by voltage)
IG	icing rate
IM	ice movement
IO	extent of open water from reporting area
IR	ice report
IS	ice stress
IT	ice thickness
LA	lake surface area
LC	lake storage volume change
LS	lake storage (volume)
LV	liquid water vapor prof sensed by radiom
MC	condensation nuclei
MI	Moisture, soil index or API
ML	Moisture, lower zone storage
MM	fuel moisture, wood
MO	soil conductivity

MS (V)	Moisture, soil (amount)
MU	Moisture, upper zone storage
MW	Moisture, soil, percent by weight
MX	fuel mixture -10 hour
NG	total of gate openings (DAM)
NN	(V) number of spillway gates reported
NO	size OG gate opening (DAM)
PP	precipitation, actual increment
PR	precipitation rate
PT	precipitation, type
PY (S)	precipitation, increment end at 7 am
QA	discharge, adjust storag e @ project only
QB	discharge, instantaneous (REFS)
QC	runoff volume
QD	discharge, canal diversion
QG	discharge from power generation
QI	discharge, inflow
QL	discharge, rule curve
QM	discharge, preproject conditions in basn
QN (S)	discharge, minimum flow
QP	discharge, pumping
QR	discharge, river
QS	discharge, spillway
QT	discharge, computed total project outflow
QU	discharge, controlled by regulating outl
QV	cumulative volume increment
QX (S)	discharge, maximum flow
QY	discharge, river at 7 am
RA	radiation, albedo
RC	radiation, total sky cover

RD	radiation, direct beam solar radiation
RG	radiation, gamma
RI	radiation, accumulated incoming solar
RL	radiation, longwave
RM	radiation, electron density in ionosphere
RO	radiation, outgoing solar
RP	radiation, sunshine percent of possible
RR	radiation, partial flow rate
RS	radiation, sky
RT	radiation, sunshine hours
RV	radiation, flow rate air
RZ	radiation, global
SA	snow, areal extend of basin snow cover
SD	snow, depth
SE	snow, pillow ground temperature
SF	snow, depth (new snowfall)
SG	snow, pillow temperature underground
SI	snow, water content in inches of water
SL	snow, elevation of snow line
SR	snow, snow report
SS	snow, density
ST	snow, temperature
SW	snow, water equivalent
TB	temperature, delta
TC	temperature, degree days of cooling
TD	temperature, dew point
TE	temperature, sea water
TF	temperature, degree days of freezing
TG	temperature, underground
TH	temperature, degree days of heating
TM	temperature, air (wet bulb)
TO	temperature, observed ATT temp in degrees F
TP	temperature, pan water

TR	temperature, mean
TS	temperature, bare soil
TW	temperature, water
TY	temperature, surface
UA	wind, average wind speed
UC	wind, accumulated wind travel
UE	wind, average wind direction
UI	wind, run in accumulated miles
UL	wind, travel length accumulated over duration
UM	wind, speed min. (mi. hr. m/ sec)
UP	wind, speed (peak)
UR	wind, reference for wind direction
UT	wind, sigma theta dir. measured in degs
UW	wind, general
VC	generation, surplus cap of units on line
VE	generation, energy total
VG	generation, pumped water, power produced
VH	generation, time
VJ	generation, energy prod. from pumped water
VK	generation, energy store in reservoir
VL	generation, storage (natural flow only)
VM	generation, losses due to spill & other
VP	generation, pumping use, power used
VQ	generation, pumping use, total energy used
VR	generation, stored in reserve flow
VS	generation, station load, energy used
VT	generation, power total
VU	generation, status
VW	generation, station load, power used
WA	water, dissolved nitrogen & argon
WB	water, oxidation reduction potential
WC	water, conductance
WD	water, percentage of dissolved oxygen
WE	water, sea level
WG	water, dissolved total gases, pressure
WH	water, dissolved hydrogen sulfide
WI	water, depth of inst. BLW water level

WL	water, suspended sediment
WO	water, dissolved oxygen
WP	water, pH
WQ	water, quality
WS	water, salinity
WT	water, turbidity
WV	water, velocity
WW	water, Wwll level
WX	water, percentage of saturation
XA	upper air meteorological data
XC	total sky cover
XF	Fog
XG	lightning, number of strikes per grid box
XL	lightning, point strike
XM	Carbon monoxide
XO	ozone measurements
XP	weather, past
XT	tropopause
XU	humidity, absolute
XV	weather, visibility
XW	weather, present
XX	WMO code FM13 IX ship
XY	hurricane radar data
YA	instrument testing
YB	pressure readings from Weirs
YD	dust flux
YI	instrument temperature
YK	strain temperature
YL	transmissonmeters
YM	magnetosphere measurements
YU	DCP serial number
YW	soil heat flux
YY	DCP status (internal params of DCP)
ZA	Test DCP (test purposes only)
ZF	forward radiated power (DCP)
ZR	reflected radiated power (DCP)
ZS	DCP status number

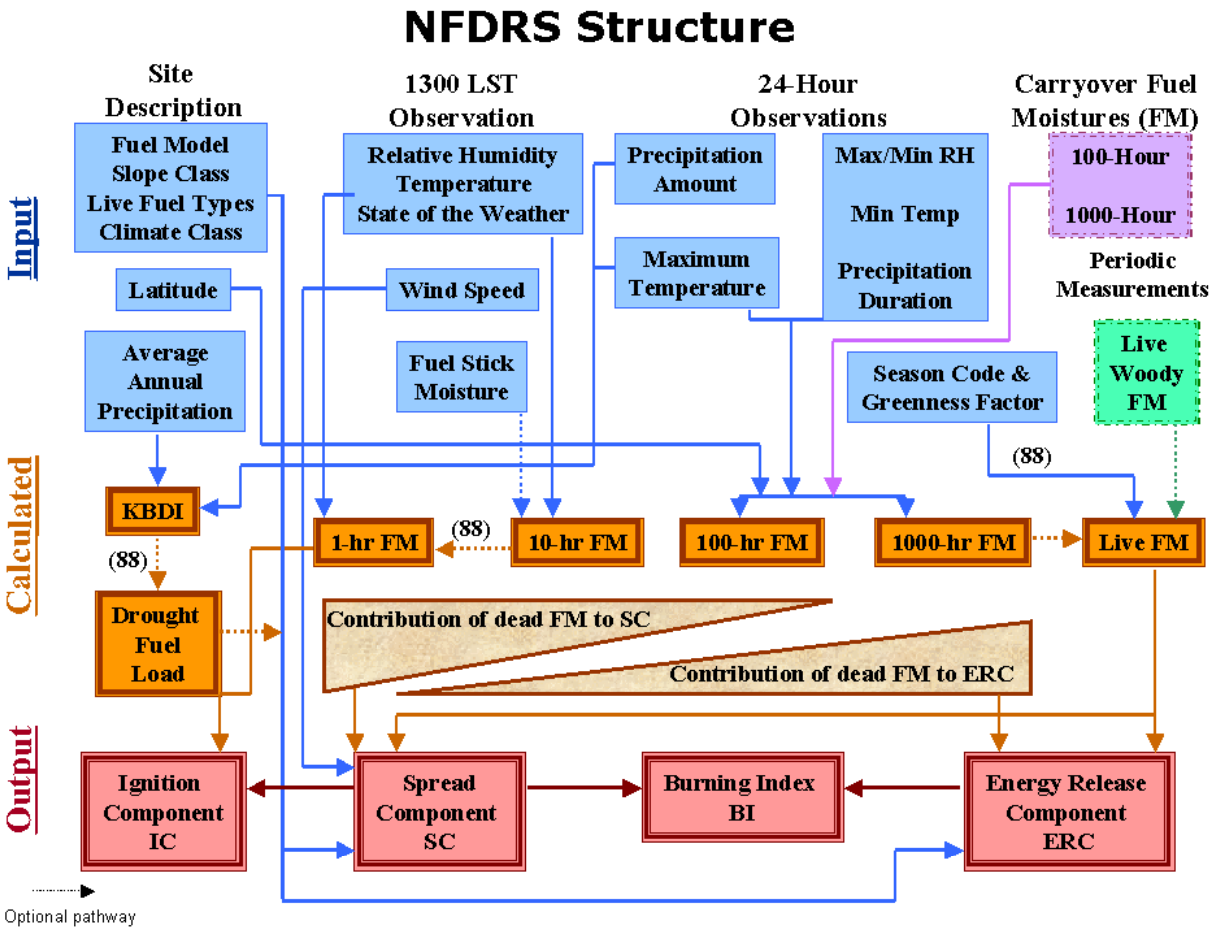
ZT	internal temperature (DCP)
ZL	error log
ZZ	WMO code FMM63 IX bathy

Appendix F. Detailed NFDRS inputs into WIMS

The WIMS User Guide demonstrates how to use the FastPaths, how to create a new station, how to enter and edit observations, how to recalculate a station and what the various screens are displaying.

With that in mind, this appendix gives detailed information and examples for using WIMS to produce valid NFDRS outputs.

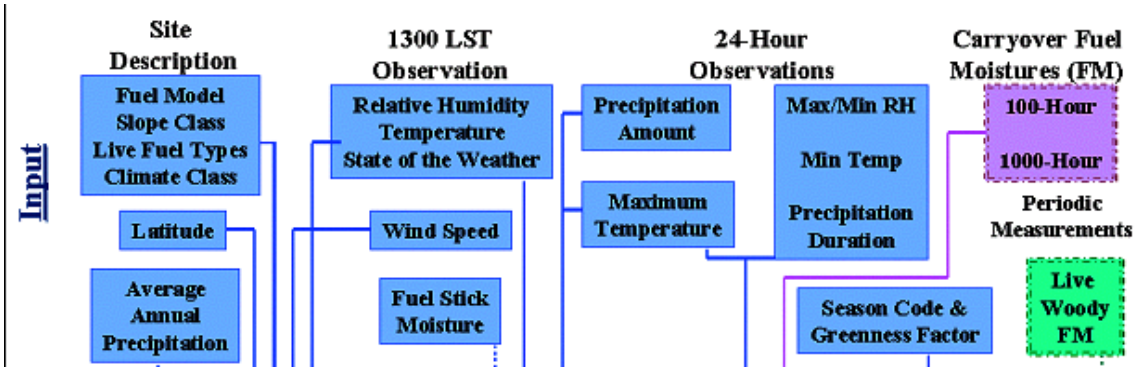
The NFDRS Structure Chart illustrates how each piece of data is used in the NFDRS calculations. This appendix will explore each piece of the Structure Chart and how and where WIMS fits into the process.



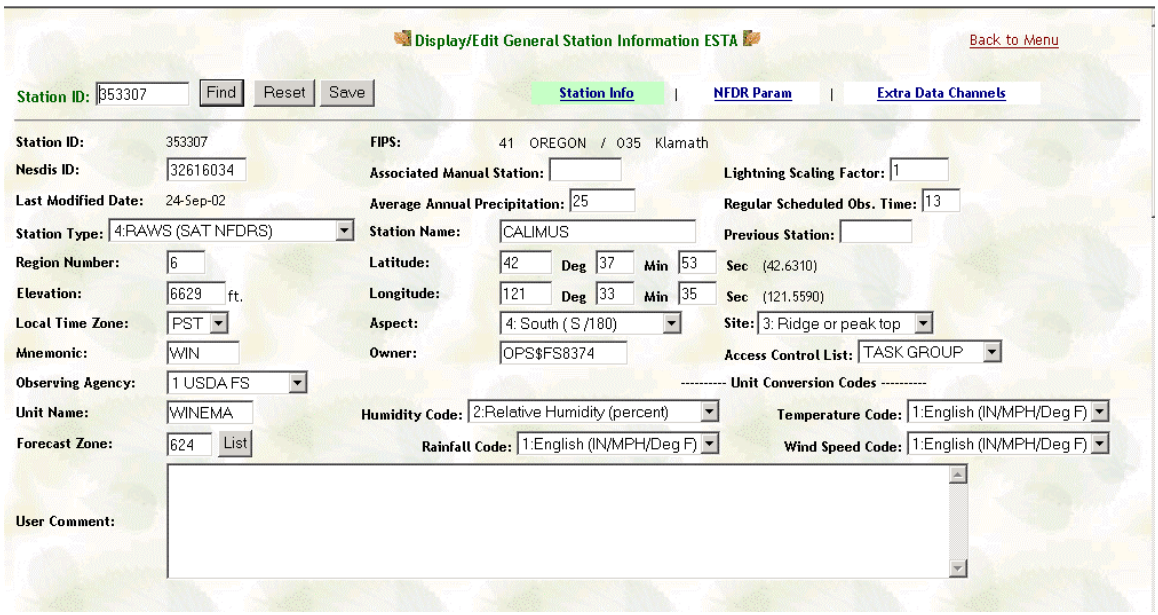
The NFDRS Structure chart is broken into three sections Input, Calculated and Output. Each section of the Structure Chart will be looked at in depth showing the ties to WIMS.

INPUT

Site Description



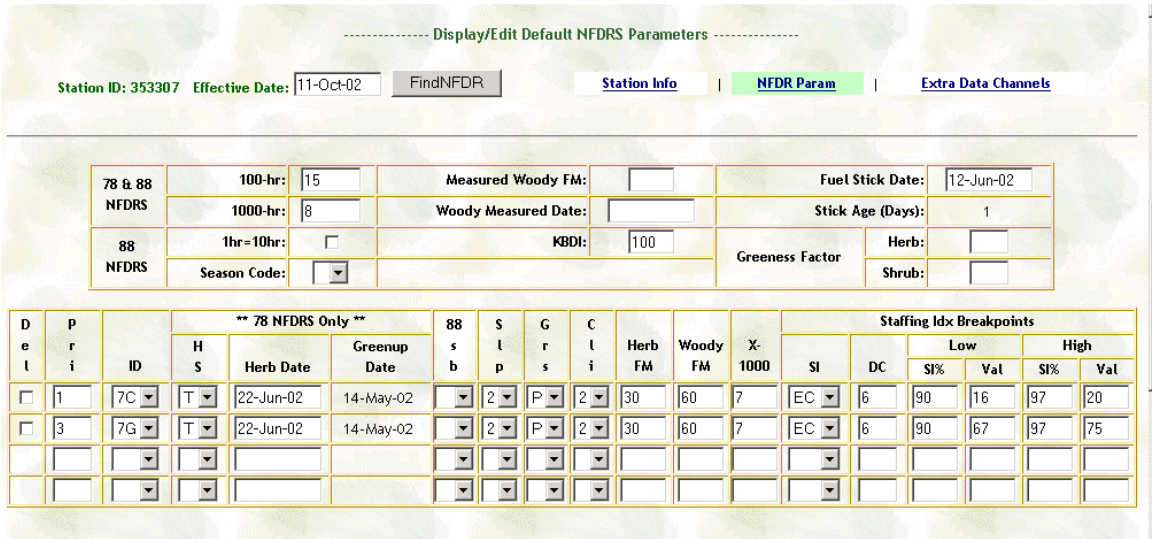
The site description information contains generally constant values based on the location of the weather station, but more importantly, describing the fire danger rating area. For example, slope class represents the topography of the area in which initiating fires are of concern. One station may represent the gentle foothills surrounding a town site while another might represent higher elevation mountainous terrain. Information contained in the Site Description is derived from the Station Catalog (NSTA or ESTA). The Station Catalog is made up of three types of information, the Station Information, the NFDRS Parameters and the extra data channels.



Specific NFDRS Structure (Inputs) entered into the Station Information screen include:

Field	**Description and action to be taken**
Latitude Longitude	This is the latitude at the weather station. This is used with the calendar date to calculate day length to establish the length of fuel drying period. The latitude and longitude also provide the required information for WFAS (Wildland Fire Assessment System) to plot the location of the weather station on the map. *Latitude and longitude are required entries in the station catalog.*
Average Annual Precipitation	The Average Annual precipitation at the weather station is used to calculate Keetch-Byram Drought Index (KBDI). NFDRS cannot calculate KBDI without this catalog value. *Average Annual Precipitation is a required entry in the station catalog.*

Fuel Model, slope class, live fuel types and climate class are also in the Site Description. These items can be found in the station catalog (ESTA) in the Edit NFDR parameters screen or by using the FastPath ENFDR.



Specific NFDRS Structure (Inputs) found in the NFDRS Parameters include:

Field	Description and action to be taken
Fuel Model (ID)	This field identifies the fuel model set(s) being used for danger-rating calculations. The NFDRS processor will accommodate both the 1978 and 1988 fuel models. A 7 or 8 is added to the alphabetic fuel model to designate the set of fuel models being utilized; for example 7C would indicate the 1978 version of fuel model C and 8G would indicate the 1988 version of fuel model G. The 1978 and 1988 fuel model sets may be run simultaneously on the same station. There are differences in the inputs, the outputs, and how the danger rating processor deals with live fuel moisture between the 1978 and 1988 fuel models. More classes of fuels are passed between the live and dead categories in the 1988 fuel models than the 1978 fuel models. The 1988 fuel models account for seasonal midflame wind speed changes based upon vegetation and reduced burning potential after periods of precipitation at other than scheduled observation time. *Review USDA-Forest Service Research paper SE-273 for more detailed information on the differences between the 1978 and 1988 fuel models.* *See Gaining and Understanding of the National Fire Danger Rating System PMS 932 for more detailed information.*

Field	**Description and action to be taken**
Climate Class (Cli)	The purpose of understating climate, as it relates to NFDRS, is to select the proper seasonal response of fuel moisture prediction models to environmental conditions. Latitude, elevation and time of year can affect these conditions; all of which are factors of climate. A climate class must be specified for each fire-danger rating area. Although the Unites States can be divided into many climatic zones, the NFDRS has adopted four climate classes (from C.W. Thornewaite's "The Climates of North America according to a New Classification", Geographic Review) judged adequate for the purpose of rating fire danger, these include:

NFDRS Climate Class	**Thornewait Humidty Province**	**Characteristic Vegetation**	**Regions**
1	Arid	Desert (sparse grass and scattered shrubs)	Sonoran deserts of western New Mexico, southwest Arizona, southern Nevada, and western Utah; and the Mojave Desert of California.
1	Semiarid	Steppe (short grass and shrubs)	Short grass prairies of the Great Basin; the sage brush steppes and pinyon-juniper woodlands of Wyoming, Montana, Idaho, Utah, Arizona, Washington, and Oregon; and the grass steppes of the central California valley.
2	Subhumid (rainfall deficient in summer)	Savanna (grasslands, dense brush and open conifer forests)	The Alaska interior; the chaparral of Colorado, Arizona, New Mexico, and Sierra Neveda foothills, and Southern California; oak woodland of California; ponderosa pine woodlands of the West; and mountain valleys of the Northern and Central Rockies.
3	Subhumid (rainfall adequate in all seasons)	Savanna (grasslands and open hardwood forests)	Blue stem prairies and blue oak-hickory savanna of Iowa, Missouri, and Illinois.
3	Humid	Forests	Almost the entire eastern U.S., and those higher elevations in the West that support forests.
4	Wet	Rain forest (redwoods and spruce-cedar-hemlock)	Costs of Northern California, Oregon, Washington, and southern Alaska.

Climate class is used to define the different linear drying rates for annuals, perennials, and woody plants. However, within a particular climate class, a single drying rate is assumed for live woody plants throughout a growing season. In the live herbaceous plants, the drying rate varies in two stages: The GREEN stage (1978 models) or summer season (1988 models) where the herbaceous fuel moisture exceeds 120 percent, and transition stage (1978 models) or the Fall season (1988 models) where the herbaceous moisture ranges from 30 to 120 percent. In the GREEN stage/Summer season annuals and perennials dry at the same rate, but in the transition stage/Fall season annuals exhibit faster drying rates than perennials.

- The length of the Greenup was scaled to the climate class because plants growing in drier climates typically respond quicker to favorable growing conditions than do plants in wetter climates.

The rules for selecting a climate class are flexible. The objective is to select the climate class that best fits the live fuel moisture conditions in the rating area. Adjustments of climate class are allowed during the course of the fire season if the observed live fuel characteristics deviate from the model. for example, if NFDRS is drying the live fuels too rapidly, go to the next lower climate class, namely 2 from

Conversely, if NFDRS is not drying the live fuels rapidly enough, use the next higher climate class, for instance a 4 instead of a 3. The reason for this is due to the fact that plants adapted to moist environments lose moisture faster during drought than those from dry environments. If temperature patterns over a fire season are not typical or the normal climate pattern for an area, NFDRS permits the option of bypassing the models and allow direct entry of live moisture values.

One method of selecting the proper climate class is through FireFamily Plus runs for key stations using several climate classes. Select the climate class that produces the best fit between the predicated and observed fuel conditions.

The following default values are set when a station is created or set to Pregreen:

Cli	Herb FM	Woody FM	X-1000	100-hr	1000-hr
1	30	50	15	10	15
2	30	60	20	15	20
3	30	70	25	20	25
4	30	80	30	25	30

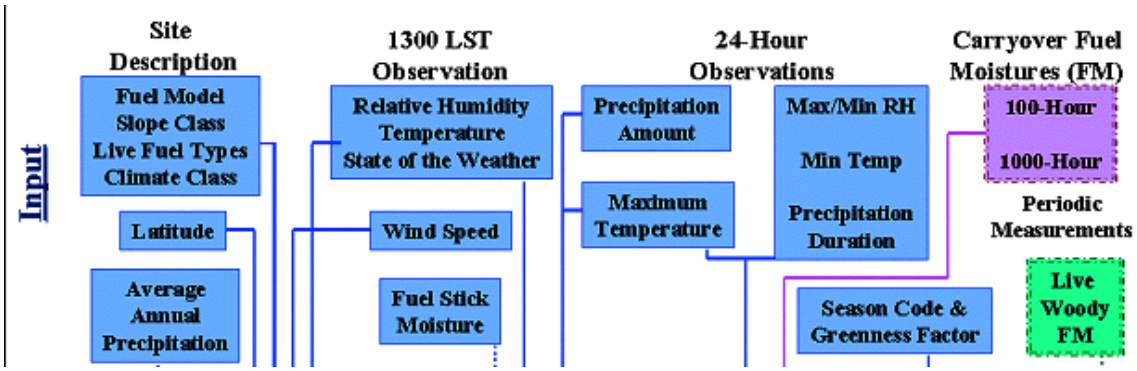
See Gaining and Understanding of the National Fire Danger Rating System PMS 932 for more detailed information.

See The 1978 National Fire-Danger Rating System: Technical Documentation for more detailed information.

Field	Description and action to be taken
Live Fuel Types (GRS) Sb (88)	Herbaceous and/or woody vegetation type is chosen through the fuel model selected. Herbaceous vegetation eventually cures and becomes fine dead fuel (potentially boosting fire danger) while some or all of the woody vegetation will reach a low dormant, but not dead fuel value. Herbaceous – select "A" annual or "P" perennial in the station catalog information set. Annual vegetation cures more rapidly than perennial. Wood – if '88 models are selected then select evergreen or deciduous from within the station catalog information set. Evergreen vegetation does not add fuel to the dead fuel load while deciduous woody fuel contributes a load representing leaves to the dead fuel load. *Note: Fuel Model A must be given an annual designation and Fuel Model L must be given a perennial designation.* *See Gaining and Understanding of the National Fire Danger Rating System PMS 932 for more information.*

Field	Description and action to be taken
Slope Class (Slp)	There are 5 slope classes. The slope class is selected to represent the topography of the base area where initial attack is commonly made, not necessarily describing weather station site topography. Class / Slope % 1 / 0 – 25 2 / 26 - 40 3 / 41 - 55 4 / 56 - 75 5 / greater than 75 Slope classes were created in such a way that the effect of the slope class selected doubles the effect of slope in the spread equation from one class to the next in the calculations. *See Gaining and Understanding of the National Fire Danger Rating System PMS 932 for more information.*

Observations



Ideally weather is observed at 1300 local standard time to represent the "worst case" weather situation. The cumulative observations from the previous 24-hour period ending 1300 LST are collected from some elements, such as maximum and minimum temperature and relative humidity. However, weather may actually be taken much earlier than the time of actual worst case conditions. Examples: Automatic stations that do not transmit hourly observations may report as early as 11:59. That observation will show up as an 1100 obs in WIMS. Actual worst-case weather typically occurs in the late afternoon. The time needed to transmit observations requires some observations to be sent in very early for stations on a 3-hour schedule.

Station ID	Ob Tm	O T	W	Dry Tmp	RH%	M L	HC Rsk	Wind Dir	Wind SP	10 Hr	Temp Max	Temp Min	RH% Max	RH% Min	Dur	Amt	Y L	FHC Rsk	W F
353307	13	O	0	49	43	1	1	323	8		69	42	62	19	0	0	1	1	N

1300 LST Observation

Field	**Description**
State of the Weather (W)	State of the weather, a measure of cloudiness, is an input with far reaching effects that is used to adjust fuel moisture values as they are calculated within the weather station shelter to match more closely the actual fuel moisture values within the fuel bed on the ground. State of the Weather Codes: 0 – Clear, less than 1/10 cloud cover 1 – Scattered clouds, 1/10 to 5/10 cloud cover 2 – Broken clouds, 6/10 to 9/10 cloud cover 3 – Overcast – more than 9/10 cloud cover 4 – Fog 5 – Drizzle or misty 6 – Rain 7 – Snow or sleet 8 – Showers 9 – Thunderstorms

Effects of state of the weather on NFDRS.

Corrections are made to the measured temperature and relative humidity to adjust it to reflect the fuel values on the surface of the ground and exposed to the weather.

Effects of State of the Weather – Sunny (0, 1, 2, 3)

SOW	Temperature	RH Adjustment Factor
0	+ 25 degrees	X .75
1	+19 degrees	X .83
2	+ 12 degrees	X .92
3	+ 5 degrees	X 1.00

1. The temperature adjustment is added to the observed temperature value.
2. The observed relative humidity is multiplied by the RH adjustment factor.

Effects of State of the Weather – Foggy (4)

1. State of the weather 4, foggy, will raise fuel moisture and decrease indices and components.

Effects of State of the Weather – Wet (5, 6, 7)

1. SC, BI, and IC are set to zero.
2. 1-hr fuel moisture is set to 35
3. 10-hr fuel moisture is set at 35 (or the measured value is used if snow and ice have been removed.
4. 100-hr and 1000-hr fuel moistures are calculated as usual if it is snowing or raining but not thawing.
   i. If thawing is occurring, the 100-hr and 1000-hr fuel moistures are calculated with precipitation duration listed as the duration of the thawing and maximum and minimum RH reported as 100%.
   ii. If it is snowing or fuels are ice covered, fuel moistures are calculated with precipitation duration = 0 and maximum and minimum RH = 100%.

Effects of State of the Weather 8 or 9

1. State of the weather categories 8 and 9 do not set fuels to wet condition so an observer must manually set the wet flag to Yes IF showers were present in the are that would have the wet fuels.

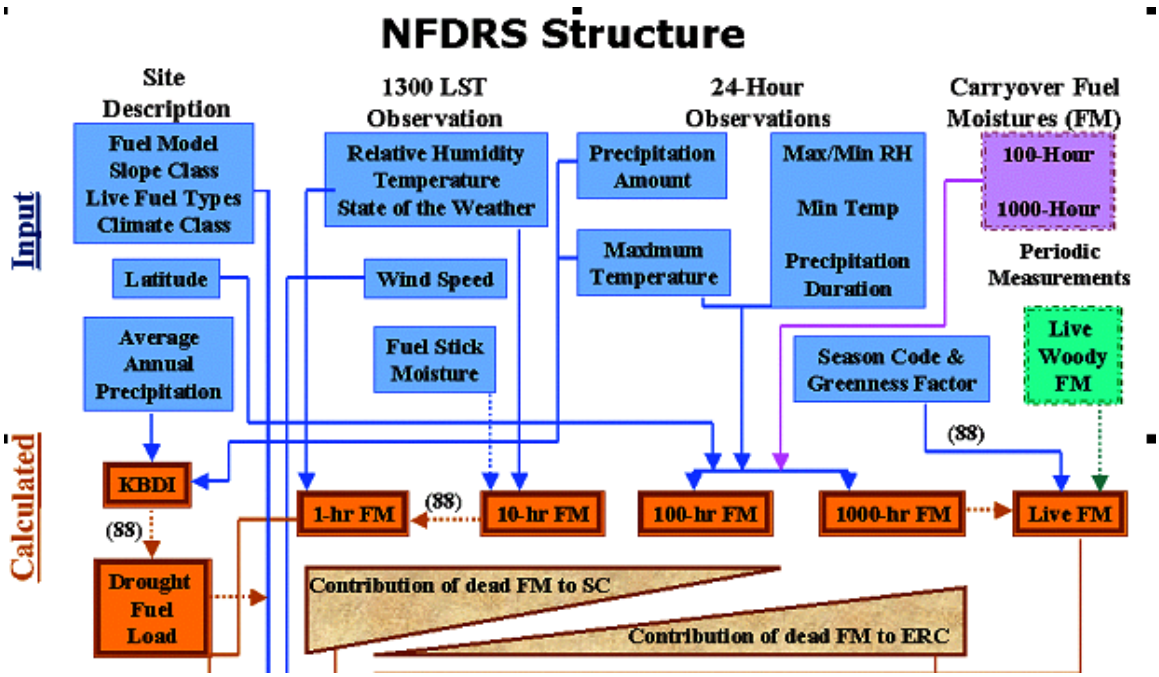
Dry Temp	The 1300 dry temp reading is a direct input into the 1 HR Fuel Moisture.
RH	The 1300 RH reading is a direct input into the 1 HR Fuel Moisture.
Wind Speed (Wind SP)	1. Wind Speed is a direct input to the primary driver of Spread Component. 2. Wind speed is in indirect input to Ignition Component and Burning Index through Spread Component.
Fuel Stick Moisture	If a fuel stick moisture value is present it inputs into the 10-hr fuel moisture. If the fuel stick moisture value is not present the 10-hr fuel moisture is a calculation.

24-Hour Observations

Field	**Description and Action to be taken**
Min/Max RH Min/Max Temp Precip Duration	Maximum and minimum temperature, maximum and minimum relative humidity, and precipitation duration are used in calculating fuel moisture contents for larger fuels and live fuels. The temperature and relative humidity extremes establish the maximum and minimum EMC (Equilibrium Moisture Content) values the fuels experience each day. Day length is used to weight the values toward dry or moist conditions depending on the time of year. Because large fuels gain more moisture during prolonged light rain than sudden thunderstorm downbursts, precipitation duration is used rather than amount in calculating large fuel moisture content.
Precipitation Amount	The 24 hour precipitation amount is a direct input into KBDI.

Carryover Fuel Moistures

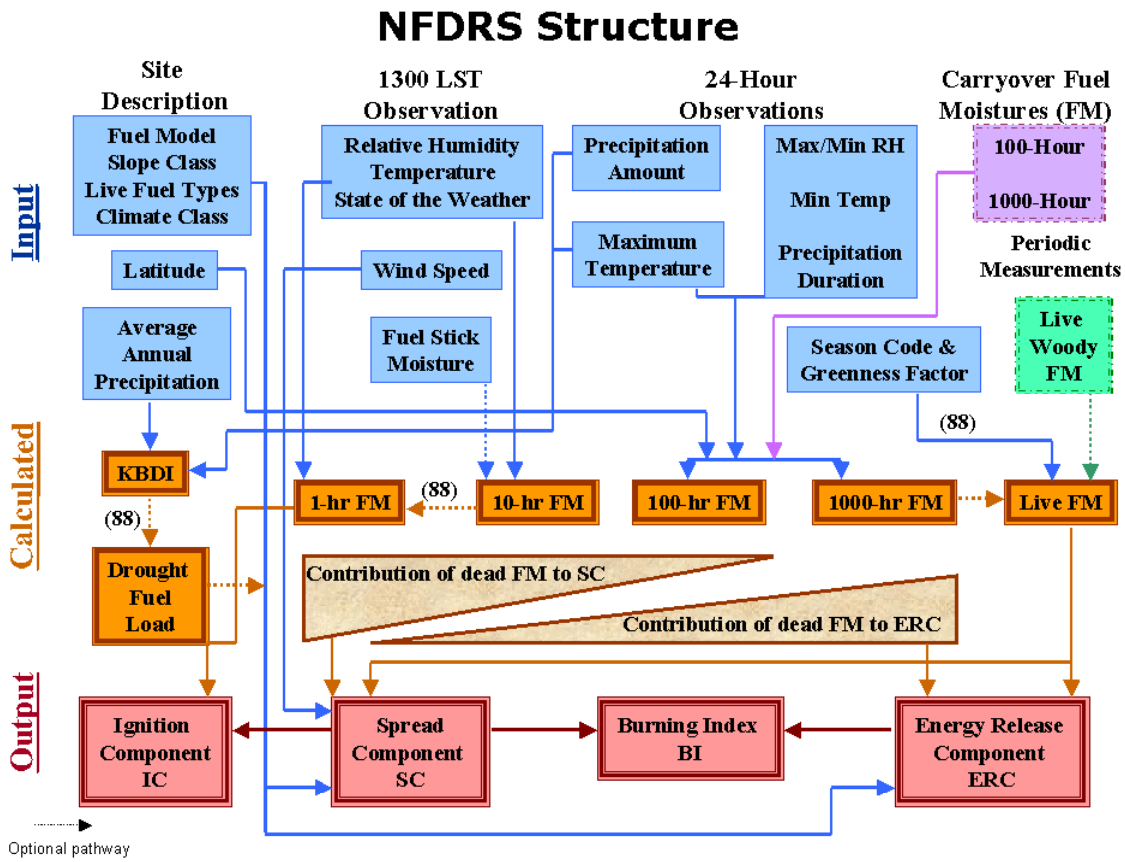
Field	
100 HR 1000 HR	Carryover fuel moisture values or periodic live woody fuel moisture (FM) – provided information to calculate current large fuel moisture values and to assess live fuel moisture content, either directly or through calculation.



Calculated Values

The calculated portion of the NFDRS Structure chart contains the intermediate calculated fuel moisture values. There are three parts: Dead Fuel Moisture, Live Fuel Moisture and KBDI.

1. Dead Fuel Moisture or the 1-hr, 10-hr, 100-hr and 1000-hr fuel moistures. These values are expressed as percent moisture content based on the dry weight of the fuel. Notice that the 1300 LST observation and the 24-hour observation feed into each of the dead fuel moisture calculations.
2. Live Fuel Moisture – calculated specifically to represent annual, perennial, or woody vegetation as noted, either through the selection of the fuel model or the selection of switches within the station catalog (i.e. Season Code and Greenness Factor for the 1988 NDRS.)
3. KBDI is a stand-along index that is used to adjust 1988 drought fuel load. KBDI uses Average Annual Precipitation, Maximum Temperature and Precipitation Amount for the calculation. Even though the KBDI adjusts the 1988 NFDRS drought fuel load, it is calculated on the 1978 NFDRS as well.



Outputs

The Output section of the NFDRS Structure chart is the components or simply the outputs that are based in fire behavior description, but expressed in the broader context of fire danger rating.

1. Spread Component (SC) – Displays a value numerically equivalent to the predicted forward rate of spread of a head fire in feet per minute. The SC is a function of fuel model characteristics, live fuel moistures, the 0 to 3 inch dead fuel moisture (heavily weighted to the 1-hour timelag fuels), wind speed and slope class.
    a. A SC of 31 indicates 31 feet per minute, which is almost equivalent to 31 chains per hour.
    b. The SC is very sensitive to fuel model characteristics – loading, compaction, particle size (fineness), heat of combustion and mineral content.
    c. The SC is highly variable due to the effects of relative humidity, wind and live fuel moisture.

2. Ignition Component (IC) – Displays the probability of a firebrand causing an ignition requiring a suppression action. The IC consists of two parts: (1) the probability that a firebrand will produce a successful start in dead fine fuels, and (2) the probability that a reportable fire will occur, give an ignition. It is calculated from the probability of ignition, which is a function of the fire fuel moisture and fuel temperature; the SC which is a function of fuel model, fuel moistures, slope class and wind speed, the fuel model dependent maximum probable spread which is a fuel model dependent variable.
    a. The probability of ignition can range from 0 in cool damp conditions, to 100 in dry windy conditions with abundant fine dead fuels.
    b. The ignition component will default to "0" when state of the weather codes "5", "6", or "7" are entered in the observation.
    c. The ignition component in danger-rating is <u>different</u> than the one used in fire behavior.
3. Burning Index (BI) – Displays a number related to the contribution of fire behavior to the effort of containing a fire. The value is a function of the SC and the Energy Release Component.
    a. The burning index has been scaled such that a BI value of 55 would indicate a predicted flame length of 5.5 feet.
    b. If the fuels are wet or covered by snow or ice at observation time, the BI is set to zero.
4. Energy Release Component (EC) – Displays a number related to the available energy (Btu) per unit area (square foot) within the flaming front at the head rate of a fire. The EC is derived from predictions of the rate of heat release per unit area during flaming combustion and the duration of the flaming which are a function of the fuel model, the live fuel moistures and the 1000-hour timelag fuel moisture.
    a. One unit value of energy release is equivalent to 25 BTU of available energy per square foot.
    b. The EC is very sensitive to the fuel model characteristics – loading, compaction, particle size, heat of combustion and mineral content.
    c. Day to day variability is good as the value is not affected by wind speed.
    d. The condition of the larger fuels has a greater influence on the component than the finer fuels.

Managing the NFDRS Model – 1978 Version

After the station has been established in WIMS, the user must supply daily weather observations to use NFDRS. In order to have meaningful outputs the user must manage the model. In other words, the user must enter NFDR parameters into WIMS to produce meaningful outputs.

1978 models Greenup Process

30-45 days prior to greenup enter a "P" for pregreen into the Herbaceous State (HS). Enter observations everyday for 30 to 45 days to establish the carryover values (100-hr and 1000-hr fuel moistures).

To set the station to Pregreen select FastPath ENFDR. Enter the desired Station ID and the desired date. In the HS (Herbaceous State) box select the "P" for pregreen. Enter the desired date (the current date) and click Save.

Del	Pri	ID	** 78 NFDRS Only **			88sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints					
			HS	Herb Date	Greenup Date								SI	DC	Low		High	
															SI%	Val	SI%	Val
☐	1	7G	P	15-FEB-02			3	P	2	11	60	39	BI	5	90	61	97	70

When a station is set to Pregreen, the default values for the herbaceous, woody, 100-hr and 1000-hr are automatically established. The default values are determined by the climate class.

Cli	Herb FM	Woody FM	100-hr	1000-hr
1	30	50	10	15
2	30	60	15	20
3	30	60	20	25
4	30	80	25	30

The 1-hr and 10-hr should be equal in the Pregreen stage.

To verify a station is in Pregreen, view the DIDM or the DIDX. Notice in this view of the DIDM that the HRB FM, 1H fm, and 10 FM are the same. The Wdy FM remains at 60. The HU FM and TH FM are fluctuating depending on any precipitation amounts. The WF (Wet Flag) shows any precipitation (Y=Yes, N=No).

Station ID	Obs Date	O T	MSGC	WDY FM	Meas W FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XT FM	SN CD	Grn GR	Grn SH	KBDI	W F
40218	030702	O	7G3P2	60		13	13	35	23	36	36		0	0	38	Y
40218	030602	O	7G3P2	60		16	16	35	23	35	35		0	0	39	Y
40218	030502	O	7G3P2	60		10	10	12	19	34	34		0	0	38	N
40218	030402	O	7G3P2	60		5	5	7	22	35	35		0	0	35	N
40218	030202	O	7G3P2	60		9	9	35	26	35	35		0	0	33	Y
40218	030102	O	7G3P2	60		9	9	35	22	35	35		0	0	32	Y
40218	022802	O	7G3P2	60		2	2	5	17	34	34		0	0	31	N
40218	022702	O	7G3P2	60		3	3	6	19	35	35		0	0	27	N
40218	022602	O	7G3P2	60		6	6	8	21	36	36		0	0	24	N
40218	022502	O	7G3P2	60		5	5	8	23	37	37		0	0	22	N
40218	022402	O	7G3P2	60		7	7	11	26	37	37		0	0	20	N
40218	022202	O	7G3P2	60		16	16	35	30	38	38		0	0	19	Y
40218	022102	O	7G3P2	60		16	16	35	28	37	37		0	0	17	Y
40218	022002	O	7G3P2	60		18	18	35	25	36	36		0	0	16	Y
40218	021902	O	7G3P2	60		26	26	35	21	35	35		0	0	82	Y
40218	021802	O	7G3P2	60		8	8	10	17	34	34		0	0	86	N
40218	021702	O	7G3P2	60		10	10	12	17	34	34		0	0	85	N
40218	021602	O	7G3P2	60		7	7	9	18	36	36		0	0	84	N
40218	021502	O	7G3P2	60		5	5	7	21	37	37		0	0	82	N

To set the station to Greenup, use the FastPath ENFDR.
Set the HS (Herbaceous State) to "G" and change the Herb Date to the current date. Click Save to retain the changes. The Greenup Date will display after the changes are Saved.

Del	Pri	ID	** 78 NFDRS Only **			88 sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints					
			HS	Herb Date	Greenup Date								SI	DC	Low SI%	Low Val	High SI%	High Val
☐	1	7G	G	01-MAY-02	01-MAY-02		3	P	2	19	60	22	BI	5	90	61	97	70

To verify a station is in Greenup, view the DIDM or the DIDX. Notice in this view of the DIDM that the 1H fm and 10 FM are starting to differ. The WDY FM and HRB FM are starting to raise. The HU FM and TH FM are fluctuating depending on any precipitation amounts. The WF (Wet Flag) shows any precipitation (Y=Yes, N=No). The HRB FM can rise to 250% if the conditions warrant. Remember the length of greenup depends on the climate class.

Station ID	Obs Date	O T	MSGC	WDY FM	Meas W FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XT FM	SN CD	Grn GR	Grn SH	KBDI	W F
40218	052602	O	7G3P2	142		153	4	4	8	18	18		0	0	89	N
40218	052502	O	7G3P2	145		157	3	4	9	18	18		0	0	82	N
40218	052402	O	7G3P2	147		162	3	4	11	19	19		0	0	74	N
40218	052302	O	7G3P2	150		166	3	4	13	19	19		0	0	67	N
40218	052202	O	7G3P2	152		170	4	6	14	19	19		0	0	63	N
40218	052102	O	7G3P2	157		175	8	9	15	20	20		0	0	61	N
40218	052002	O	7G3P2	161		179	13	35	15	20	20		0	0	60	Y
40218	051402	O	7G3P2	138		144	4	4	7	18	18		0	0	58	N
40218	051302	O	7G3P2	135		138	4	4	7	19	19		0	0	54	N
40218	051202	O	7G3P2	132		133	3	4	8	19	19		0	0	46	N
40218	051102	O	7G3P2	128		126	3	4	9	20	20		0	0	40	N
40218	051002	O	7G3P2	124		117	4	5	8	20	20		0	0	36	N
40218	050902	O	7G3P2	122		114	3	4	9	21	21		0	0	33	N
40218	050802	O	7G3P2	119		107	1	3	10	22	22		0	0	29	N
40218	050702	O	7G3P2	111		94	3	5	12	23	23		0	0	26	N
40218	050602	O	7G3P2	104		82	4	6	15	23	23		0	0	22	N
40218	050502	O	7G3P2	96		68	4	6	17	24	24		0	0	18	N
40218	050202	O	7G3P2	69		21	5	7	20	24	24		0	0	12	N
40218	050102	O	7G3P2	60		13	13	35	23	25	25		0	0	8	Y

Transition

Transition occurs when the HRB FM falls below 120%. The system automatically changes the HS (Herbaceous State) in the ENFDR screen and records the date when the station went into transition. The station will remain in Transition until the HRB FM reaches 30%. At this time the station changes to Cured.

Del	Pri	ID	** 78 NFDRS Only **			88sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints					
			HS	Herb Date	Greenup Date								SI	DC	Low SI%	Low Val	High SI%	High Val
☐	1	7G	T	07-Jun-02	01-May-02		3	P	2	30	60	9	BI	5	90	61	97	70

Station ID	Obs Date	O T	MSGC	WDY FM	Meas W FM	HRB FM	1H FM	10 FM	HU FM	TH FM	XT FM	SN CD	Grn GR	Grn SH	KBDI	W F
40218	061002	O	7G3P2	115		111	4	4	8	15	15		0	0	139	N
40218	060902	O	7G3P2	118		115	4	5	8	15	15		0	0	135	N
40218	060802	O	7G3P2	120		117	4	4	7	15	15		0	0	133	N
40218	060702	O	7G3P2	122		119	4	4	7	16	16		0	0	129	N
40218	060502	O	7G3P2	124		122	4	4	7	16	16		0	0	124	N

Cured

Cured occurs when the HRB FM falls below 30%. The system automatically changes the HS (Herbaceous State) in the ENFDR screen and records the date when the station went into Cured. The station will remain in Cured until the station is manually set into Frozen or Pregreen. It is not recommended to go from Cured to Greenup without first setting the station into Frozen or Pregreen.

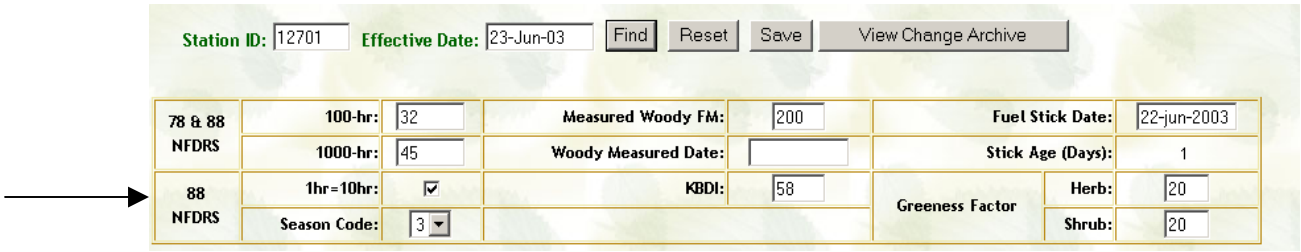
Del	Pri	ID	** 78 NFDRS Only **			88 sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints					
			HS	Herb Date	Greenup Date								SI	DC	Low		High	
															SI%	Val	SI%	Val
☐	1	7G	C	05-Aug-02	01-May-02		3	P	2	30	60	9	BI	5	90	61	97	70

Station ID	Obs Date	OT	MSGC	WDY FM	MEAS W FM	HRB FM	IHR FM	10H FM	100 FM	1000 FM	x1000 FM	SN CD	Grn GR	Grn SH	KBDI	WF
<?> 101708	080802	O	7G3P3	50		30	4	4	5	7	8		0	0	537	N
<?> 101708	080702	O	7G3P3	50		30	4	4	5	7	7		0	0	535	N
<?> 101708	080602	O	7G3P3	50		30	4	4	5	7	7		0	0	533	N
<?> 101708	080502	O	7G3P3	50		30	4	4	5	7	8		0	0	531	N
<?> 101708	080402	O	7G3P3	50		31	4	4	4	7	8		0	0	528	N
<?> 101708	080302	O	7G3P3	50		32	3	3	4	7	8		0	0	524	N
<?> 101708	080202	O	7G3P3	50		33	2	2	4	7	8		0	0	521	N
<?> 101708	080102	O	7G3P3	50		34	2	2	4	8	8		0	0	517	N

Managing the NFDRS Model – 1988 Version

The 1978 Version of NDRS tends to over estimate fire danger in the fall and after rainfall, causing problems for humid regions and areas with split fire seasons in the United States. The 1988 Version of NFDRS was developed to accommodate those areas with the following key points in mind.

- Improve the ability of NFDRS to respond to drought in humid environments.
- Improve system flexibility to reflect greening and curing of live fuels.
- Correct the problem of overrating fire danger in the fall.
- Correct the problem of overrating fire danger after rainfall.
- Adjust fuel models to better predict fire danger in humid environments.



The 88 NFDRS needed items are located in the 88 NFDRS area.

KBDI

- KBDI is used as an independent output to register the deep drying in duff and litter on a scale of 0 (totally saturated soil) to 800 (as dry as possible).
- KBDI is used to modify the available dead fuel load, thus increasing ERC and BI NFDRS output values as KBDI increased, simulating the addition fuel load that burns in the flaming front as deep dryings occurs through a dry season.

Daily weather inputs required for KBDI to function correctly are Maximum dry bulb temperature and the last 24 hours of rainfall. Average Annual Rainfall is also a required input. Average Annual Rainfall is entered in the station catalog.

For more information see A Drought Index for Fore Fire Control. Southeastern Forest Exp. Sta., USDA Forest Service, Research Paper SE-38.

Season Codes

- 1 – Winter – use when herbaceous fuels are cured and shrubs are dormant. Greenness factors should be set to 0.
- 2 – Spring – use when herbaceous plants and/or shrubs begin a season's growth. Continue to use Spring until the herbaceous plants complete the spring growth flush. Greenness factors should be raised gradually from 0 to a maximum of 20.
- 3 – Summer – use when growth flush is complete until shrubs begin to show signs of fall curing. Greenness factors should fluctuate gradually, dependant on the relative greenness of the vegetation.
- 4 – Fall – use when deciduous shrubs being to lose their leaves or evergreens enter dormancy. As fall progresses, greenness factors should gradually be reduced.

Greenness Factors

- Greenness factors are set dependant on the relative greenness of herbaceous and wood vegetation.
    - Greenness factors range from 0 – dormant to 20 – maximum greenness.
    - Avoid large changes

        - Increase/decrease gradually.
        - Greenness Factors may remain constant for several days.
        - Generally increase in Spring.
        - Fluctuate in Summer.
        - Decrease in Fall.
    - Spring Greenness Factors
        - Herb and shrub greenness factors do not have to be equal.
        - Increase greenness factors according to the rate of green up for critical species.
    - Summer Greenness Factors
        - Fluctuate greenness factors according to the plants response to the environment.
            - Annuals vs. perennials
        - Avoid large changes
    - Fall Greenness Factors
        - Greenness factors should slowly decrease to follow curing.
    - Winter Greenness Factors
        - Use when the herbaceous plants or shrubs are dormant.

<u>1hr = 10hr Fuel Moistures</u>

- 1hr = 10hr
    - This can be set on te ENFDR screen
    - If selected, 1hr will always equal 10hr
        - Use if conifer needles/hardwood leaves are present
        - Do not select this option if modeling grasses.
    - If not selected, 1hr will equal 10hr the day of, and day after a precipitation event.
- Consider using if the 1978 system has overrated fire danger in the past.

Del	Pri	ID	** 78 NFDRS Only **			88sb	Slp	Grs	Cli	Herb FM	Woody FM	X-1000	Staffing Idx Breakpoints					
			HS	Herb Date	Greenup Date								SI	DC	Low		High	
															SI%	Val	SI%	Val
☐	1	8E				D	2	P	3	250	200	45	BI	6	90	40	97	51
☐	2	8R				D	2	P	3	250	200	45	BI	6	90	35	97	45

<u>Selecting Deciduous or Evergreen Shrubs</u> – select an "E" for evergreen or "D" for deciduous.

- Deciduous shrubs will increase the fuel loading in an E Fuel Model during the Fall season code.
- This will also effect the wind reduction factor.

Year round Maintenance of Date

- Remember to "freeze" the station once during the year. Set the Season Code to 1 - Winter for 1 day.
- Change the Season Codes with the vegetation. Do not tie to calendar dates.
- Monitor vegetation and slowly change the greenness factors accordingly.
- Monitor and validate the NFDRS outputs.

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