NATIONAL INTERAGENCY FIRE MANAGEMENT

INTEGRATED DATABASE (NIFMID)

TECHNICAL GUIDE

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Abstract: The National Interagency Fire Management Integrated Database (NIFMID) stores data on fire weather observations and wildland fire occurrence data. Weather data is collected from federal, state, and local fire management agencies from throughout the United States. Fire occurrence data includes Forest Service fire reports from 1970 to the present.

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CONVENTIONS USED IN THIS GUIDE

An asterisk (*) after a column name indicates that the code is defined in another table. The definition text usually states which table is linked to the column.

The table owner and exact table name appear just above the table column definitions.

Columns that must contain valid information (not null) indicate that fact with "Yes" in the Req? column.

In the Type and Size column, data type VARCHAR2 is abbreviated VC2 and NUMBER is abbreviated as NUM. The number in parenthesis shows the column size.

1. OVERVIEW OF NIFMID

1.1. INTRODUCTION

The tables described in this chapter are implemented at the USDA National Information Technology Center (located at Kansas City Computer, Missouri) (NIST-KC) in an Oracle instance dedicated to fire management use. The instance contains tables and applications that support the Weather Information System (WIMS), the historical analysis portion of the Forest Service version of the National Fire Management Analysis System (NFMAS), the historical fire occurrence data for the Forest Service, and the historical weather information reported by wildland fire agencies through AFFIRMS or WIMS.

Tables are grouped for convenience into several sections: fire report information, reference tables that support fire reports, weather information system (WIMS) tables, WIMS reference tables, FS Atlas tables, and fire summary tables. Reference tables generally contain codes and definitions of those codes; these tables usually change very slowly if at all.

The table owner (Oracle ID that created the table) is shown above the column descriptions for each table. Table usage through SQL*Plus, QMX, and other products should include the table owner as the prefix to the table name.

1.1.1. PURPOSE

1.1.2. DATA SCOPE

Data included in NIFMID covers the United States, territories, and possessions. At present, however, data from territories and possessions is very limited.

Weather data. Weather observations recorded by the five Federal land management agencies (USDA Forest Service, DOI Bureau of Land Management, DOI Bureau of Indian Affairs, DOI Fish and Wildlife Service, and DOI National Park Service), state and local agencies are stored in NIFMID. Data within 18 approximately months of the current date includes all hourly observations from Remote Automated Weather Stations (RAWS). Data older than approximately 18 months only includes a single daily observation taken at 1300 local standard time. The RAWS observations older than 18 months are available from the Western Regional Climate Center.

Fire occurrence data. Fire reports from Forest Service units are stored in the fire occurrence tables; Department of Interior fires are stored in a separate database managed by DOI agencies.

1.1.3. TIME PERIOD

Weather data. The bulk of the weather observations were taken from 1972 to present. Observations for some stations exist for earlier dates, but are not common.

Fire occurrence data. At present, Forest Service fire reports from 1970 to present are stored in NIFMID. Some earlier data exists but has not yet been loaded into the fire occurrence tables. This work may be done at some future date, but such work is not scheduled nor immediately planned.

1.1.4. UPDATE FREQUENCY

Weather data. Observations are received hourly for approximately 800 stations. Another 800 or so stations observe weather once per day.

Fire occurrence data. Fire reports are entered several days after the fire is out by local Forest Service units. Updates occur periodically throughout the year as fires occur.

1.1.5. ACCESS CONSTRAINTS

Only users with valid KC-WIMS user ID may directly access the data.

1.1.6. DATA SET ENVIRONMENT

The data is stored in an Oracle 7 database on an IBM mainframe computer.

1.2. TABLE RELATIONSHIPS

[Include diagrams that show table relationships.

1.2.1. FIRE TABLES

1.2.2. WEATHER TABLES

1.2.3. REFERENCE TABLES

Much more to write in this section.....

2. FIRE OCCURRENCE TABLES

The tables described in this chapter store data related to fire occurrence records. Section 2.1 documents the tables that store data on individual fires. Each fire will have a single entry in the FIRE_OCCURRENCES table, and none, one or more entries in the other tables in that section.

Section 2.2 describes tables that contain codes used by the fire report tables in section 2.1. These tables are fairly static.

Section 2.3 lists reference values that are not stored in tables but may help interpret and understand data in the previous sections.

2.1. FIRE REPORT TABLES

The tables in this section support the Fire Occurrence portion of NIFMID. All fires have an entry in the FIRE_OCCURRENCES table, and nearly all have entries in the FIRE_RESOURCES_USED, FIRE_EVENTS, and FIRE_OCCURRENCE_CAUSES tables. Most Forest Service fires after 1985 also have entries in the FIRE_FMAZS table. The other tables handle information generally only collected on large fires or for special purposes.

2.1.1. FIRE_ACCOUNTS

DESCRIPTION: This table stores acres burned by protection agency, protection unit, and landowner class for large fires. Most of the data in this table was collected on C and larger Forest Service fires after 1994.

FIRE.FIRE_DAMAGE_ACRES

Column Name	Req?	Type & Size	Description
FIRE_ID *	Yes	NUM(12)	A unique numeric identifier for a specific fire in the FIRE_OCCURRENCES table.
ACCOUNT_CODE	Yes	VC2(10)	An alphanumeric value that identifies the account to which fire costs are charged for a specific fire. This field contains the Forest Service “P”-code or other charge code.
CODE_AMOUNT		NUM(9)	A numeric value that stores the amount in dollars charged to the ACCOUNT_CODE.

2.1.2. FIRE_DAMAGE_ACRES

DESCRIPTION: This table stores acres burned by protection agency, protection unit, and landowner class for large fires. Most of the data in this table was collected on C and larger Forest Service fires after 1994.

FIRE.FIRE_DAMAGE_ACRES

Column Name	Req?	Type & Size	Description
FIRE_ID *	Yes	NUM(12)	A unique numeric identifier for a specific fire in the FIRE_OCCURRENCES table.
PROTECTION_AGENCY	Yes	VC2(3)	An alpha code that identifies the federal agency or state that has primary protection for the land involved.
PROTECTION_UNIT		VC2(5)	A numeric code that identifies the protection unit with the Protection Agency responsible for primary protection on the land involved.
LAND_OWNERSHIP	Yes	VC2(3)	An alpha code that identifies the federal agency or state that owns the land involved.
ACRES_BURNED *	Yes	NUM(9,1)	A numeric value that represents the number of acres burned for a specific fire, protection agency and unit, and landowner. This value must be less than or equal to the TOTAL_ACRES_BURNED column in the FIRE_OCCURRENCES table for a specific fire.

2.1.3. FIRE_EVENTS

This table stores fire event dates and times in a single record related one fire. Date and time can be separately extracted. Times range from 00:00:00 to 23:59:59. If no time is stored, the system assumes midnight (start of the day). Events usually proceed in the order shown in the table list. Ignition and discovery events can happen simultaneously (lookout saw lightning strike a tree and ignite same); all other events must be separated by at least one minute.

Events for the same fire can occur in different years. For example, a holdover from a prescribed burn or recreationist fire ignited in the fall may not become a wildfire until conditions are right during the following spring. Likewise, a large fire may not be declared out until the following spring or summer.

FIRE.FIRE_EVENTS

Column Name	Req?	Type & Size	Description
FIRE_ID *	Yes	NUM(12)	A unique numeric identifier for a specific fire in the FIRE_OCCURRENCES table.
IGNITION		DATE	The estimated or known date and time of fire ignition.
DISCOVERY		DATE	The date and time when the fire was effectively discovered. This date and time establishes the fact that a fire exists.
REPORT		DATE	The date and time when the fire was reported to fire dispatch personnel. This data was commonly recorded in the past, but is no longer a required field on current fire reports.
DISPATCH		DATE	The date and time when the suppression forces were dispatched to the fire. This data was commonly recorded in the past, but is no longer a required field on current fire reports.
ATTACK		DATE	The date and time when fire management forces began management activities on the fire.
REINFORCEMENT		DATE	The date and time when additional resources arrived; additional forces that arrive within five minutes of the first units are not considered reinforcements. This data was not collected after 1985.
DECLARED_WILDFIRE		DATE	The date and time when a prescribed fire was declared a wildfire. This status change can occur for many reasons other than escape.
CONTAINED		DATE	The date and time when the fire was declared contained (meaning a control like or barriers surrounded the fire).
STRATEGY_MET		DATE	The date and time when the management strategy (which often is a control strategy) was met.
FIRE_OUT		DATE	The date and time when the fire was declared out.

2.1.4. FIRE_OCCURRENCES

The FIRE_OCCURRENCES table is the heart of the fire report data. All fires must have an entry in this table; other tables link with this table as needed through the FIRE_ID value. Most of the key data about the fire site is in this table. Events such as discovery date and time are in the FIRE_EVENTS table. Suppression resources used on the fire are stored in the FIRE_RESOURCES_USED table.

FIRE.FIRE_OCCURRENCES

Column Name	Req?	Type & Size	Description
FIRE_ID *	Yes	NUM(12)	A unique numeric identifier for a specific fire in the table. This value is assigned by the data load software sequentially without any hidden meaning.
DISCOVER_YEAR	Yes	VC2(4)	A four digit numeric value for the calendar year at time of fire discovery. Note that fire origin may be in a different year. This value is derived from DISCOVERY in the FIRE_EVENTS table.
REPORT_AGENCY *	Yes	VC2(3)	An alpha value that identifies the agency responsible for statistical reports on a given fire. See section 2.3.2 for the code list and definitions.
REPORT_UNIT *	Yes	VC2(6)	A value that identifies the unit in the Organizations table that originally reported the fire for statistical purposes. Generally the report agency is the landowner or the protection agency.
FIRE_NUMBER	Yes	VC2(6)	An alphanumeric value (usually a number) assigned to the fire by the reporting agency.
PROTECTION_AGENCY *		NUM(9)	The organization responsible for fire protection at the point of fire origin. The protection agency is not necessarily the reporting agency. See section 2.3.2 for a list of codes and definitions.
OWNERSHIP_ORIGIN *		VC2(3)	An alphanumeric value that best describes the broad category land ownership at the point of fire origin. See the PROTECTION_CLASSES table for code definitions.
STATE *	Yes	VC2(2)	A two letter abbreviation(same as USPS state codes) that represents a state or possession in the U.S. See the STATES table for code definitions.
COUNTY *		VC2(3)	A numeric code that designates the county of the fire origin. County must be qualified by STATE to define a unique COUNTY. See the COUNTIES table for definitions; the code set is too voluminous to include in this guide.
FIRE_SIZE_CLASS *	Yes	VC2(1)	A one letter code that represents fire size in classes by total acres burned. See the FIRE_SIZE_CLASSES table for code definitions.
TOTAL_ACRES_BURNED	Yes	NUM(9,1)	Total number of acres within the wildfire perimeter for a single fire report regardless of ownership or protection responsibility.

AGENCY_ACRES		NUM(8,1)	Total number of acres within the wildfire perimeter owned by the protection agency.
OTHER_ACRES_INSIDE		NUM(8,1)	Total number of acres within the wildfire perimeter protected by the protection agency but not owned by that agency.
OTHER_ACRES_OUTSIDE		NUM(8,1)	Total number of acres within the wildfire perimeter outside the protection responsibility of the reporting agency.
PRESCRIBED_ACRES		NUM(8,1)	Total number of acres within the wildfire perimeter that burned under a prescription prior to designation as a wildfire. Note that some fires may have all acres in this category.
FIRE_DETECTOR *		VC2(3)	An alphanumeric code that defines the detection method by which the fire was effectively discovered. See the FIRE_DETECTOR_CODES table for code definitions.
PRESCRIBED_FIRE		VC2(1)	An alphanumeric value (Y or N) that identifies whether or not a specific fire was either ignited or managed under a management prescription. Most prescribed fires use an initial suppression strategy other than control.
ESCAPED_FIRE		VC2(1)	An alphanumeric value (Y or N) letter that identifies whether or not the wildfire was a either a prescribed fire that escaped from the prescription or a wildfire that escaped initial attack resources.
ESCAPED_FIRE_CAUSE		VC2(2)	An alphanumeric code that represents the reason a prescribed fire was declared a wildfire for suppression purposes. Codes not yet defined.
INIT_SUPPR_STRATEGY *		VC2(1)	An alphanumeric code that identifies the initial suppression strategy applied to a fire. See section 2.3.3 for code definitions.
SLOPE		NUM(3)	A numeric value that indicates the slope at or near the point of origin. Slope percent is rise in feet per 100 feet horizontal distance. Most data prior to 1994 was collected in slope classes and transformed into slope percent by using the class midpoint value.
ASPECT_CLASS *		VC2(1)	Indicates the aspect (compass direction towards which the land slopes) at the point of fire origin using an 8-point compass. See the ASPECT_CLASSES table for code definitions.
ELEVATION		NUM(5)	The recorded elevation in feet above mean sea level at the point of origin based on the 1927 North American Datum. Most data before 1986 was entered in 1000 foot classes; the data was converted to elevation by using the class mid-point value. Later data used 100 foot classes.
NFDRS *		VC2(1)	A character value that designates the NFDRS fuel model most representative of fuel and burning

			conditions near the fire origin.
OTHER_FUEL_MODEL *		NUM(3)	A numeric value that references a code that designates a fuel model other than NFDRS.
VEG_COVER_CLASS *		NUM(4)	A numeric ID value that references the principal vegetation cover at or near the point of origin. See the FIRE_VEG_COVER_CLASSES table for codes.
FIRE_NET_VALUE_CHANGE		NUM(10)	Net change in resource values over the entire fire area due to the wildfire. Damages are negative values, and benefits are positive values for determination of net change.
TOTAL_FIRE_DAMAGES		NUM(12)	Total damage in US Dollars to resources within the wildfire area.
FIRE_INTENSITY_LEVEL *		VC2(1)	An alphanumeric code that represents the fire intensity level during the first burning period. See the FIRE_INTENSITY_LEVELS table for code definitions.
FIRE_INTENSITY_SOURCE *		VC2(2)	An alphanumeric code that identifies the information source for the fire intensity level.
FFF_COST		NUM(10)	Numeric value in whole dollars of the estimated cost to suppress a wildfire. Only reporting agency costs are included.
REP_WX_STATION *		NUM(7)	A six digit numeric identifier assigned by the National Weather Service for a fire weather station. This is the weather station that best reflects the weather at or near the fire site. See the STATION_INFORMATION table for valid codes.
LAT_DEG		NUM(2)	Number of degrees latitude north of the equator for the fire origin.
LAT_MIN		NUM(2)	Number of minutes latitude north of the equator for the fire origin.
LAT_SEC		NUM(2)	Number of seconds latitude north of the equator for the fire origin.
LONG_DEG		NUM(3)	Number of degrees longitude west of the prime meridian for the fire origin.
LONG_MIN		NUM(2)	Number of minutes longitude west of the prime meridian for the fire origin.
LONG_SEC		NUM(2)	Number of seconds longitude west of the prime meridian for the fire origin.
LOCATION_SOURCE *		VC2(2)	An alphanumeric code that identifies the information source for location.
TOWNSHIP		VC2(5)	An alphanumeric coded value that defines the Public Land Survey System (PLSS) fire origin township north or south of the base line. The first three characters are the township number (right-justified), the fourth character denotes full or partial township (0=full, 1=1/4, 2=1/2, 3=3/4), and the fifth character denotes direction from the base line (N or S).

RANGE		VC2(5)	An alphanumeric coded value that defines the Public Land Survey System (PLSS) fire origin range east or west of the principal meridian. The first three characters are the range number (right-justified), the fourth character denotes full or partial township (0=full, 1=1/4, 2=1/2, 3=3/4), and the fifth character denotes direction from the meridian line (E or W).).
SECTION		VC2(2)	A numeric value that identifies the fire origin PLSS section within a township.).
SUB_SECTION		VC2(4)	An alphanumeric value that represents the public land survey system descriptor for the fire origin. The NE ¼ of the SE ¼ can be coded as NESE from the smallest (¼ ¼ section, 40 acre parcel) to the largest (¼ section, 160 acre parcel).).
PRINCIPAL_MERIDIAN *		VC2(2)	A numeric code that identifies the principal meridian applicable to the fire origin. This value must be consistent with STATE. See the PRINCIPAL_MERIDIANS table for code definitions.).
MAX_PERSONNEL		NUM(5)	A numeric value that indicates the total number of persons who worked directly to suppress or manage the fire.
SPECIFIC_FUEL_ORIGIN *		VC2(2)	An alphanumeric value that represents the specific fuel at the point of fire origin involved in ignition and initial spread. This data was collected from 1960-69.
TOPO_LANDFORM_ORIGIN *		VC2(2)	A numeric value that represents the topographic landform at the point of fire origin.
CHARACTER_ON_ARRIVAL *		VC2(1)	An alphanumeric code that represents the type of fire combustion and behavior at the time of first action.
WIND_DIR *		VC2(1)	A numeric code representing wind direction based on an 8-point compass.
WIND_SPEED		NUM(2)	A numeric value representing the wind speed in miles per hour at the time of fire detection.
DISCOVERED_BY_DESCR		VC2(30)	An alphanumeric text field that identifies who or what agent discovered the fire. Suggested use is to enter the lookout name..
FIRE_NAME		VC2(20)	The name assigned to a specific fire. Noteworthy fires should have the name entered in this field. Examples are class E and larger fires, and fires that made regional or national news.
STATISTICAL_CAUSE		NUM(1)	The statistical cause attributed to a specific fire. There are nine statistical causes. See the FIRE_CAUSE_CODES table for code definitions.
GENERAL_CAUSE		NUM(2)	The general cause attributed to a specific fire further clarifies the type of fire when combined with statistical cause. See the FIRE_CAUSE_CODES table for code definitions.
SPECIFIC_CAUSE		NUM(2)	The specific cause attributed to a specific fire defines

			the cause more exactly than statistical cause. See the FIRE_CAUSE_CODES table for code definitions.
CLASS_PEOPLE		NUM(2)	The class or broad group of people involved with a human-caused fire are categorized by this code. See the FIRE_CAUSE_CODES table for code definitions.
ADMIN_AGENCY		VC2(3)	An alpha value that identifies the agency responsible for management on the lands within the fire perimeter. See section 2.3.2 for the code list and definitions.
ADMIN_UNIT		VC2(4)	The agency unit identifier for the unit currently administering the land area on which the fire ignited. Forest Service fires will have region and forest numbers in this field. See the ORGANIZATIONS for code definitions.
FMAZ_CODE		VC2(5)	An alphanumeric code that represents the Fire Management Zone (FMZ). This is the code used on fire reports and planning work.
DISTRICT		VC2(2)	A numeric value that defines the Forest Service Ranger District at the time of the fire. These codes change over time, and fires that occur on districts with the same number may not be the same unit or geographical area.
RECORD_ENTRY_DATE		DATE	The date a specific record entered the database.
DATE_MODIFIED	Yes	DATE	The date information in this record was modified.
REMARKS		VC2(240)	An alphanumeric free-text field to capture important information about a fire that cannot otherwise be coded.

2.1.5. FIRE_RESOURCES_USED

The FIRE_RESOURCES_USED table stores information on what type and number of suppression resources, such as crews, engines, dozers, etc., were used on a fire. Forest Service fires since 1986 separate Forest Service agency resources and resources from other sources. Prior to 1986, all resources are assumed to belong to the reporting agency unless data exists to indicate other agencies.

The database only allows one record per resource type and agency affiliation record per fire; when the loading software found several identical resources coded, those resource amounts were added together. For example, if three Forest Service type 5 engines were coded on the original fire report, those three records would be grouped together with an amount used value of 3.

FIRE.FIRE_RESOURCES_USED

Column Name	Req?	Type & Size	Description
FIRE_ID *	Yes	NUM(12)	A unique numeric identifier for a specific fire in the FIRE_OCCURRENCES table.
RESOURCE_CODE *	Yes	VC2(2)	An alphanumeric code that identifies the type of fire suppression resource used on a fire. See the FIRE_RESOURCE_TYPES table for valid codes.
AGENCY_ID *	Yes	VC2(5)	A numeric value that refers to the Agency in the ORGANIZATIONS table reported on a fire. This code allows general or specific identification of responding units. In practice, the agency codes are the same as the reporting agency, or point to a Cooperator category.
AMOUNT_USED		NUM(5)	A numeric value that represents the quantity of a particular type of suppression resource used.

2.1.6. FIRE_SPECIAL_CODES

This table stores information that does not have a specific field defined in the database, or that local units need for their planning activities. Duplicate special codes for the same fire are not allowed in this table; generally the other values for the same special code were combined or dropped.

Special codes, such as causes and slope, that have a defined column in NIFMID were moved from this table to the appropriate location. The codes that were moved were deleted from this table.

FIRE.FIRE_SPECIAL_CODES

Column Name	Req?	Type & Size	Description
FIRE_ID *	Yes	NUM(12)	A unique numeric identifier for a specific fire in the FIRE_OCCURRENCES table.
SPECIAL_ID *	Yes	NUM(6)	A numeric value that uniquely identifies a special code. See the SPECIAL_CODE_TYPES table for valid codes.
SPECIAL_CODE_VALUE	Yes	NUM(5)	A numeric value that either defines the special code in more detail or shows the count of a special category.

2.2. FIRE REFERENCE TABLES

The tables in this section store codes used by the tables described in the previous section.

2.2.1. ASPECT_CLASSES

This table defines the aspect codes used by the fire reports. Aspect is the downslope compass direction closest to the 8 defined directional codes. Flat and ridgetop are also valid codes.

FIRE.ASPECT_CLASSES

Column Name	Req?	Type & Size	Description
ASPECT_CODE	Yes	VC2(1)	A numeric code between 0 and 9 that represents the 8-points of the compass, ridgetop, and flat.
ASPECT_ABBR	Yes	VC2(2)	An abbreviation for the aspect.
ASPECT_DESCR	Yes	VC2(15)	A brief descriptive definition of the aspect direction based on the 8-point compass.
AZIMUTH		NUM(3)	Number of degrees associated with the 8-point aspect of a site measured clockwise from true north.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.ASPECT_CLASSES

Code	Abbr.	Description	Azimuth
0	FL	Flat	
1	N	North	0
2	NE	Northeast	45
3	E	East	90
4	SE	Southeast	135
5	S	South	180
6	SW	Southwest	225
7	W	West	270
8	NW	Northwest	315
9	RG	Ridgetop	

2.2.2. FIRE_CAUSE_CODES

This table defines all the cause codes used in NIFMID. Causes are aggregated into groups; for example, the Forest Service cause codes for Specific Cause, General Cause, Specific Cause, and People Cause are in separate groups. Cause code sets from other agencies or time periods that aren't essentially the same as those in this table can be added in the future.

FIRE.FIRE_CAUSE_CODES

Column Name	Req?	Type & Size	Description
GROUP_CODE	Yes	VC2(15)	An alphanumeric value that identifies and groups a set of fire causes into a logical table. Each cause code must belong to one and only one cause group.
CAUSE_CODE	Yes	VC2(3)	A alphanumeric (but usually numeric) value that represents the fire cause.
CAUSE_DESCR	Yes	VC2(25)	A brief descriptive definition of the fire cause code.
HUMAN_CAUSED	Yes	VC2(1)	An alphanumeric value (Y or N) that identifies those fire causes generally attributed to human activities.
FIRE_CAUSE_ID	Yes	NUM(6)	A numeric value that uniquely identifies a specific row in the table.
REMARKS		VC2(240)	An alphanumeric free-text field to capture important information about a fire cause.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.FIRE_CAUSE_CODES

Group	Code	Description	Hum?
Statistical	1	Lightning	N
		Equipment Use	Y
	3	Smoking	Y
	4	Campfire	Y
	5	Debris Burning	Y
	6	Railroad	Y
	7	Arson	Y
	8	Children	Y
	9	Miscellaneous	Y
General	0	Other	Y
	1	Timber Harvest	Y
	2	Harvest Other Products	Y
	3	Forest/Range Mgmt	Y
	4	Highway	Y
	5	Power, Reclamation	Y
	6	Hunting	Y
	7	Fishing	Y
	8	Other Recreation	Y
	9	Resident	Y
Specific	1	Lightning	N
	2	Aircraft	Y

	3	Burning Vehicle	Y
	4	Exhaust-Powersaw	Y
	5	Exhaust-Other	Y
	6	Logging Line	Y
	7	Brakeshoe	Y
	8	Cooking Fire	Y
	9	Warming Fire	Y
	10	Smoking	Y
	11	Trash Burning	Y
	12	Burning Dump	Y
	13	Field Burning	Y
	14	Land Clearing	Y
	15	Slash Burning	Y
	16	R/W Burning	Y
	17	Resource Mgmt Burning	Y
	18	Grudge Fire	Y
	19	Pyromania	Y
	20	Smoking out Bees/Game	Y
	21	Insect/Snake Control	Y
	22	Job Fire	Y
	23	Blasting	Y
	24	Burning Building	Y
	25	Powerline	Y
	26	Fireworks	Y
	28	Repel Predatory Animals	Y
	29	Stove Fuel Sparks	Y
	30	Other	Y
People	1	Owner	Y
	2	Permittee	Y
	3	Contractor	Y
	4	Public Employee	Y
	5	Local Permanent	Y
	6	Seasonal	Y
	7	Transient	Y
	8	Other	Y
	9	Visitor	Y

2.2.3. FIRE_DETECTOR_CODES

This table defines the class of person or agent that discovered a fire. The present set of codes include the discovery codes used by the Forest Service, and an experimental set of codes defined by the National Fire Protection Association Committee on Fire Reporting.

FIRE.FIRE_DETECTOR_CODES

Column Name	Req?	Type & Size	Description
DETECTOR_CODE	Yes	VC2(3)	An alphanumeric code that represents the detection method that effectively discovered a fire.
DETECTOR_ABBR	Yes	VC2(5)	An abbreviation (up to 5 characters) for the detection method by that the fire was effectively discovered.
DETECTOR_DESCR	Yes	VC2(25)	A brief descriptive definition of the detection agency or class.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14.

NFPA 901 Uniform Coding for Fire Protection, National Fire Protection Association.

VALUES:

The code in the Equiv. column shows how values in the two code sets relate.

FIRE.FIRE_DETECTOR_CODES

Code	Abbr	Description	Equiv
0	OTHER	Other	98
1	AG LO	Agency Lookout	22
2	OTO	Other Lookout	23
3	AGPTL	Agency Patrol	31
4	AG EM	Other Agency Employee	4
5	COOP	Planned Cooperator	45
6	AGPMT	Agency Permittee	12
7	AGAIR	Agency Air Obs	71
8	OTAIR	Other Air Obs	79
9	IRED	Infrared Detect	75
10	OCCUP	Occupant, type unknown	
11	RESID	Resident	
12	TENAN	Tenant, permittee	6
13	CONTR	Contractor personnel	
19	OCCNC	Occupant, not class above	
20	WATCH	Watchman, type unknown	
21	GUARD	Building/Property guard	
22	LOKRA	Lookout, Reporting agency	1
23	LOKCO	Lookout, Coop agency	2
24	GUARA	Fire guard, Reporting agency	
25	GUACO	Fire guard, Coop agency	
29	WATNC	Watchman, not class above	
30	ROVER	Rover, type unknown	
31	PTLRA	Roving patrol, Reporting agy	3
32	PTLCO	Roving patrol, Coop agency	
38	PTLNF	Roving non-fire patrol	
39	ROVNC	Roving patrol, not class above	
40	NONOC	Non-Occupant, type unknown	
41	PASSR	Passerby	
42	VISIT	Visitor in area	
43	NEIGH	Neighbor	
44	ODEMP	On duty reporting agy employee	4
45	COOPE	Cooperator or coop employee	5
49	NOCNC	Non-Occupant, not class above	
70	AIRCR	Aerial detection, type unknown	
71	AIRRA	Aerial detection, reporting agency	7
72	AIRCO	Aerial detection, Coop agency	
73	AIRNB	Aircraft in vicinity	
74	AIRRR	Aircraft on regular route	
75	AIRIR	Aerial infrared detection	9
76	SATEL	Satellite detection	
79	AIRNC	Aerial detection, type unknown	8
80	FDNOA	Fire detected, no alarm	
98	UNCLS	Detector known, unclassified	0
99	UNKWN	Detector unknown	

2.2.4. FIRE_FUEL_MODELS

This table defines fuel models used by fire reports. Codes from the National Fire Danger Rating System (NFDRS) and other fuel model systems are included.

FIRE.FIRE_FUEL_MODELS

Column Name	Req?	Type & Size	Description
FUEL_TYPE *	Yes	VC2(1)	Indicates the fuel modeling system used for the representative data.
FUEL_MODEL	Yes	VC2(4)	An alphanumeric designator for the fuel model. NFDRS fuel models use one letter, other fuel models may use one or more characters.
FUEL_DESCR	Yes	VC2(32)	A brief descriptive definition of the fuel model code.
FUEL_ID	Yes	NUM(3)	A numeric value that represents a code for the NFDRS or other fuel model.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

USDA Forest Service Fire Report Handbook, FSH 5109.14.

VALUES: See table.

2.2.5. FIRE_INFO_SOURCES

This table defines information sources in various tables.

FIRE.FIRE_INFO_SOURCES

Column Name	Req?	Type & Size	Description
INFO_SOURCE	Yes	VC2(2)	An alphanumeric code that identifies the information source.
INFO_DESCR	Yes	VC2(20)	A brief descriptive definition of the fire information source code.

AUTHORITY OR SOURCES: None.

VALUES:

FIRE.FIRE_INFO_SOURCES

Code	Description
FC	FIL computed
FE	FIL estimated
FO	FIL observed & coded
FR	Fire Report
LE	Location estimated
LL	Location Lat/Long from fire report
LP	Location (SS) from fire report

2.2.6. FIRE_INTENSITY_LEVELS

This table defines fire intensity levels (FIL). FIL is an estimate of fire behavior at the fire head.

FIRE.FIRE_INTENSITY_LEVELS

Column Name	Req?	Type & Size	Description
FIL_CODE	Yes	VC2(1)	An alphanumeric code that represents the fire intensity level.
FIL_DESCR	Yes	VC2(20)	A brief description of the fire intensity level code.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.FIRE_INTENSITY_LEVELS

Code	Description
1	Flame length 0-2
2	Flame length 2-4
3	Flame length 4-6
4	Flame length 6-8
5	Flame length 8-12
6	Flame length 12+

2.2.7. FIRE_RESOURCE_TYPES

This table defines codes that identify suppression and management resources used on an incident. The list includes codes for resources used in the past or by other agencies.

FIRE.FIRE_RESOURCE_TYPES

Column Name	Req?	Type & Size	Description
RESOURCE_CODE	Yes	VC2(2)	An alphanumeric code that identifies the type of fire suppression resource used on a fire.
RESOURCE_DESCR	Yes	VC2(25)	A brief description of the fire management resource type.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.RESOURCE_TYPES

Code	Description
A1	Air Tanker 1 (2000g)
A2	Air Tanker 1 (1000g)
A3	Air Tanker 1 (800g)
A4	Air Tanker 1 (100g)
A9	Air Tanker 1 (unknown)
C1	Crew Category 1 (20p)
C2	Crew Category 2 (20p)
D1	Dozer 1 (Large)
D2	Dozer 2 (Medium)
D3	Dozer 3 (Small)
D9	Dozer (unknown)
E1	Engine 1 (400g, ladder)
E2	Engine 2 (400g, ladder)
E3	Engine 3 (300g)
E4	Engine 4 (750g)
E5	Engine 5 (500g)
E6	Engine 6 (200g)
E7	Engine 7 (125g)
E8	Engine 8 (obsolete)
E9	Patrol
EX	Engine (unknown)
H1	Helitanker 1 (Heavy)
H2	Helitanker 2 (Heavy)
H3	Helitanker 3 (Medium)
H4	Helitanker 4 (Light)
H9	Helitanker (unknown)
M1	Miscellaneous
M2	Trencher
M3	Explosives
M9	Miscellaneous
P1	Suppression Person
P2	Smokejumper via parachute
P3	Helitack via helicopter
P4	Rappeller via helicopter
T1	Tractor plow 1 (Heavy)
T2	Tractor plow 2 (Medium)
T3	Tractor plow 3 (Medium)
T4	Tractor plow 4 (Light)
T9	Tractor plow (unknown)
W1	Watertender 1 (1-2500g)
W2	Watertender 2 (2500-3500g)
W3	Watertender 3 (3500g+)
W9	Watertender (unknown)

2.2.8. FIRE_SIZE_CLASSES

This table defines size classes used to categorize wildland fire sizes.

FIRE.FIRE_SIZE_CLASSES

Column Name	Req?	Type & Size	Description
FIRE_SIZE_CODE	Yes	VC2(1)	A letter code that represents fire size class based on acres burned.
FIRE_SIZE_DESCR	Yes	VC2(20)	A brief definition of the fire size class.
MAX_ACRES	Yes	NUM(10,2)	A numeric value that shows the largest value in acres within a size class.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.FIRE-SIZE_CLASSES

Code	Description	Max Acres
A	0.25 or less acres	0.25
B	0.25-9.9 acres	9.9
C	10-99 acres	99.9
D	100-299 acres	299.9
E	300-999 acres	999.9
F	1000-4999 acres	4999.9
G	5000+ acres	

2.2.9. FIRE_VEG_COVER_CLASSES

This table defines vegetation cover class codes used by units. Defining organizations often have several sets of codes for defined time periods.

FIRE.FIRE_VEG_COVER_CLASSES

Column Name	Req?	Type & Size	Description
VEG_ID	Yes	NUM(4)	A numeric value that uniquely identifies a specific row in the table. This value is assigned by the data load software.
COVER_CLASS_CODE	Yes	VC2(4)	An alphanumeric code that represents the principal vegetation cover class.
AGENCY		VC2(3)	A two or three character agency code that identifies the agency defining the vegetation cover class code. See the PROTECTION_AGENCY table for valid codes (NOP is not valid in this column).
ORG_ID *	Yes	VC2(5)	A unit code that identifies the agency unit (FS Region in most cases) defining the vegetation cover class code. See the PROTECTION_AGENCY table for valid codes.
COVER_CLASS_DESCR	Yes	VC2(30)	A brief definition of the vegetation cover class code.
EFFECTIVE_DATE		DATE	The date on which a specific code became valid..
END_DATE		DATE	The last date a specific code is valid

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES: See table.

2.2.10. ORGANIZATIONS

This table stores data on organizations of various types.

Organizations that exist over a period of time may have several records with beginning and ending dates.

FIRE.ORGANIZATIONS

Column Name	Req?	Type & Size	Description
AGENCY	Yes	VC2(3)	A two or three character agency code that identifies the agency defining the vegetation cover class code. See the PROTECTION_AGENCY table for valid codes (NOP is not valid in this column).
UNIT	Yes	VC2(5)	A unit code that identifies the agency unit (FS Region, or Region and Forest) defining the organizational unit.
UNIT_NAME		VC2(50)	The full name of a specific organization.
SHORT_NAME		VC2(25)	The shortened name of a specific organization.
BEGIN_DATE		DATE	Date on which an organization definition first became valid during a contiguous period.
END_DATE		DATE	Date on which an organization definition ceased as a valid unit during a contiguous period.

AUTHORITY OR SOURCES: Data compiled from a wide variety of historical records, agency handbooks, and .other sources.

2.2.11. PROTECTION_CLASSES

This table defines broad wildland protection classes from the reporting agency perspective.

FIRE.PROTECTION_CLASSES

Column Name	Req?	Type & Size	Description
PROTECTION_CODE	Yes	VC2(8)	A code that identifies broad protection classes from the Forest Service perspective.
PROTECTION_DESCR	Yes	VC2(35)	A brief definition of the protection code.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.PROTECTION_CLASSES

Code	Description
1	National Forest
2	State & Private lands inside NF boundary
3	Outside National Forest boundary
4	Other Federal land inside NF boundary

2.2.12. SLOPE_CLASSES

This table defines the slope classes used by several applications.

FIRE.SLOPE_CLASSES

Column Name	Req?	Type & Size	Description
SLOPE_TYPE *	Yes	VC2(1)	An alphanumeric value that defines a slope class category.
SLOPE_CODE	Yes	VC2(1)	A numeric code that designates the slope class at a particular point.
SLOPE_DESCR	Yes	VC2(9)	A brief description of the slope class identified by SLOPE_CODE.
LOWER_BOUND	Yes	NUM(3)	A numeric value specifying the lower bound value for a slope class.
UPPER_BOUND	Yes	NUM(3)	A numeric value specifying the upper bound value for a slope class.
SLOPE_ID	Yes	NUM(3)	A numeric code that uniquely identifies a data record in the table.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.SLOPE_CLASSES

Group	Code	Description	Lower	Upper
W	1	0-25 %	0	25
W	2	26-40 %	26	40
W	3	41-55 %	41	55
W	4	56+ %		56

2.2.13. SPECIAL_CODE_TYPES

This table stores the special codes defined by the Washington Office, Regions, and Forests that reporting units can use to supplement information coded into predefined fields. The codes listed in the values table include the codes defined at the time of publication.

FIRE.SPECIAL_CODE_TYPES

Column Name	Req?	Type & Size	Description
SPECIAL_ID	Yes	NUM(6)	A numeric value that uniquely identifies a specific row in the table. This value is assigned by the data load software. Other tables use this value to identify a specific special code.
SPECIAL_CODE	Yes	VC2(2)	A two-letter value that identifies a special category of information. Fire reporting software uses these codes.
ORG_ID *	Yes	VC2(5)	A value that identifies the organization that defined codes in the table. See the ORGANIZATIONS table for valid codes.
SPECIAL_ABBR	Yes	VC2(5)	An abbreviation (up to 5 characters) for the special code name.
SPECIAL_DESCR	Yes	VC2(25)	A brief descriptive definition of the special code.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.SPECIAL_CODE_TYPES

SC	ORG	Abbr	Description	SID
CG	FS	CGENR	CAUSE-General	253
CP	FS	CPEOP	CAUSE-Class of People	255
CS	FS	CSPEC	CAUSE-Specific	254
IG	FS	IGSIT	Nbr Ignition Sites	263
PP	FS	PCODE	FS Accounting Code	256
RR	FS	REIMB	FS Reimbursable Account	257
WL	FS	WILDR	Wilderness Area	258
WS	FS	SLOPE	Slope Class	1
ZA	FS	BEGAC	Fire size-acres Decl Wild	264
ZC	FS	CONTN	Date contained MMDD	265
ZD	FS	DAMAG	Resource damage in $1000	266
ZW	FS	DWILD	Date decl Wildfire MMDD	267
WF	01	WILDF	Unplanned Ignit Wildfire	2
MA	0116	LMPMA	Management Area	76
AA	02	KNOWN	Cause Known by Invest	3
AB	02	UNDET	Cause Undetermined	4
AI	03	AIRCI	Aircraft Intrusion	5
OE	03	WOEQI	Wldrns Oth Equip Intrusn	9

PS	03	WSAWI	Wldrns Power Saw Intrusn	7
TR	03	WTRA	I Wldrns Tractor Intrusion	8
WA	03	WAIRI	Wldrns Aircraft Intrusion	6
HB	0305	HBUKT	Nbr	259
HC	0305	HCOOP	Nbr	260
HF	0305	HFHEL	Nbr	261
HR	0305	HRAPP	Nbr	262
SA	05	ACTIV	Activity Code	70
SB	05	AIRBC	Air Basin Code	71
CO	0502	COPAS	Cooperator Assistance	137
LE	0502	LERPT	Law Enforcement Case	138
EC	0503	ECAUS	Exact Cause	202
FI	0503	INVST	Fire Investigator	268
HA	0503	HAZAR	Hazard Area	205
LO	0503	RLOOK	Reporting Lookout	204
AB	0515	AIRBC	Air Basin	160
TC	06	FTONC	Tons Fuel Consumed	14
CA	0604	CAPAR	Capability Area	269
LO	0604	RLOOK	Reporting Lookout	270
FR	0607	FIRPT	First Report by	136
SC	08	CSPEC	Cause-Specific	75
AT	0909	ATWTR	Air Tanker-Gal Water dlvd	145
BC	0909	BVCGO	Beaver-Lbs cargo deliverd	139
BP	0909	BVPAX	Beaver-Nbr Passengers del	140
BW	0909	BVWTR	Beaver-Gal Water deliverd	141
HC	0909	HLCGO	Helicopter-Lbs cargo del	142
HP	0909	HLPAX	Helicopter-Nbr Passengers	143
HW	0909	HLWTR	Helicopter-Gal Water dlvd	144

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CT	42	4	0	41	0	0	73	45	0	71	46	0
DE	39	51	0	38	25	0	75	48	0	75	5	0
FL	30	30	0	24	30	0	87	30	0	80	0	0
GA	35	0	0	30	30	0	86	0	0	81	0	0
HI	28	30	0	18	30	0	178	0	0	154	30	0
IA	43	30	0	40	20	0	96	37	0	90	8	0
ID	49	0	0	42	0	0	117	15	0	111	1	0
IL	42	30	0	36	29	0	91	30	0	87	47	0
IN	41	45	0	38	46	0	88	3	0	84	54	0
KS	40	0	0	37	0	0	102	2	0	94	38	0
KY	39	5	0	36	30	0	89	30	0	82	0	0
LA	33	0	0	29	30	0	94	0	0	89	0	0
MA	42	54	0	41	13	0	73	30	0	69	55	0
MD	39	45	0	37	54	0	79	30	0	75	3	0
ME	47	27	0	43	2	0	71	0	0	66	56	0
MI	48	12	0	41	42	0	90	25	0	82	22	0
MN	49	22	0	43	34	0	97	20	0	89	25	0
MO	40	37	0	36	0	0	95	48	0	89	0	0
MS	35	0	0	30	8	0	91	42	0	88	4	0
MT	49	0	0	44	20	0	116	4	0	104	1	0
NC	36	34	0	33	56	0	84	18	0	75	30	0
ND	49	0	0	45	56	0	104	1	0	96	32	0
NE	43	0	0	40	0	0	104	3	0	95	18	0
NH	45	18	0	42	42	0	72	33	0	70	40	0
NJ	41	22	0	38	55	0	75	34	0	73	56	0
NM	37	0	0	31	15	0	109	0	0	103	0	0
NV	42	0	0	35	0	0	120	0	0	114	1	0
NY	45	2	0	40	30	0	79	48	0	71	48	0
OH	42	0	0	38	15	0	85	0	0	80	30	0
OK	37	0	0	33	30	0	103	0	0	94	0	0
OR	46	15	0	42	0	0	124	37	0	116	27	0
PA	42	15	0	39	45	0	80	30	0	75	41	0
PR	18	53	0	18	31	0	67	16	0	65	15	0
RI	42	2	0	41	15	0	71	56	0	71	1	0
SC	35	15	0	32	0	0	83	22	0	78	30	0
SD	45	56	0	42	30	0	104	1	0	96	12	0
TN	36	35	0	34	59	0	90	15	0	81	15	0
TX	36	30	0	25	55	0	106	32	0	93	30	0
UT	42	0	0	37	0	0	114	1	0	109	4	0
VA	39	15	0	37	0	0	84	0	0	75	30	0
VT	45	30	0	42	44	0	74	0	0	71	30	0
WA	49	0	0	45	34	0	124	48	0	116	54	0
WI	47	0	0	42	0	0	92	50	0	87	50	0
WV	40	36	0	37	48	0	82	36	0	77	45	0
WY	45	0	0	41	0	0	111	5	0	104	2	0

2.2.15. TOPOGRAPHIC_LANDFORMS

This table defines codes that describe landforms in the U.S.

FIRE.TOPOGRAPHIC_LANDFORMS

Column Name	Req?	Type & Size	Description
LANDFORM_CODE	Yes	VC2(2)	An alphanumeric code that identifies the topographic form or shape of the land.
LANDFORM_DESCR	Yes	VC2(30)	A brief definition of the topographic landform code.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.TOPOGRAPHIC_LANDFORMS

Code	Description
1	Flat-gentle, rolling
2	Flat-gentle, steep canyons
3	Flat-gentle, glacial
4	Lava flows
5	Mesas, steep bluffs
6	Flat-gently, steep ridges
7	Flat-gentle, round peaks
8	Rounded mountains, U valleys
9	Rounded mountains, V valleys
10	Steep crested mountain peaks

2.2.16. TOPOGRAPHIC_POSITIONS

This table defines a point relative to the surrounding topography.

FIRE.TOPOGRAPHIC_POSITIONS

Column Name	Req?	Type & Size	Description
POSITION_CODE	Yes	VC2(2)	A numeric value that represents the topographic position types on typical landforms common in the U.S.
POSITION_DESCR	Yes	VC2(20)	A brief definition of the topographic landform code.

AUTHORITY OR SOURCES:

USDA Forest Service Fire Report Handbook, FSH 5109.14

VALUES:

FIRE.TOPOGRAPHIC_POSITIONS

Code	Description
1	Ridgetop
2	Saddle
3	Upper 1/3 of slope
4	Middle 1/3 of slope
5	Lower 1/3 of slope
6	Canyon bottom
7	Valley bottom
8	Mesa or plateau
9	Flat or rolling

2.3. OTHER REFERENCE INFORMATION

2.3.1. LANDOWNER_CLASS

LANDOWNER_CLASS defines the broad classes for land ownership recognized by the Forest Service fire report system. In addition to the codes listed below, lands owned by state agencies are designated by the two letter state code.

LANDOWNER CLASS

Code	Landowner Description
USF	US Forest Service
BIA	Dept of Interior, Bureau of Indian Affairs
BLM	Dept of Interior, Bureau of Land Management
FWS	Dept of Interior, Fish and Wildlife Service
NPS	Dept of Interior, National Park Service
OTH	Other Federal Agency
PVT	Private landowner
AFS	DOD, Air Force
ARM	DOD, Army
NAV	DOD, Navy

2.3.2. PROTECTION_AGENCY

PROTECTION_AGENCY classifies the wildland fire protection agencies responsible . In addition to the codes listed below, lands protected by state or local agencies (such as county, municipal, or volunteer agencies) are designated by the two letter state code.

PROTECTION_AGENCY

Code	Protection Agency
USF	US Forest Service
BIA	Dept of Interior, Bureau of Indian Affairs
BLM	Dept of Interior, Bureau of Land Management
FWS	Dept of Interior, Fish and Wildlife Service
NPS	Dept of Interior, National Park Service
OTH	Other Federal Agency
AFS	DOD, Air Force
ARM	DOD, Army
NAV	DOD, Navy
NOP	No organized protection

2.3.3. SUPPRESSION_STRATEGIES

This table defines several wildland suppression strategy codes.

SUPPRESSION_STRATEGIES

Code	Description
1	Confine
2	Contain
3	Control

2.3.4. FIRE_CHARACTERISTICS

This table stores codes that define burning intensity and fire behavior. These codes were used on Forest Service fire reports in the period 1960-69 and by other agencies during that period and more recently.

FIRE_CHARACTERISTICS

Code	Description
1	Smoldering
2	Creeping
3	Running
4	Spotting
5	Crowning
6	Erratic

2.3.5. FUEL_MODEL_TYPES

This table defines several groups of fuel type codes used for different purposes.

FUEL_MODEL_TYPES

Code	Description
E	R-9 Fuel Types
I	IFSL Behave
R	Rate of Spread/Resistance to Control
V	R-5 Fuel Types
7	National Fire Danger Rating System, 1978 edition
8	National Fire Danger Rating System, 1988 edition

2.3.6. FUELS_SPECIFIC

This table describes the type of fuel burning. As used in the 60's decade, these values showed the predominant fuel burning at time of initial attack.

FUELS_SPECIFIC

Code	Description
0	Snags
1	Needles, leaves, litter
2	Duff
3	Grass, ferns, weeds
4	Brush
5	Reproduction
6	Pole and larger tree crowns
7	Slash, clear cut
8	Slash, partial cut
9	Other

3. WEATHER TABLES

3.1. WEATHER INFORMATION MANAGEMENT SYSTEM (WIMS) TABLES

The tables in this section store information on weather stations, weather observations, forecasts, and related information.

3.1.1. FUEL_MODELS

This table stores information on the fuel models assigned to a specific weather station.

WIMS.FUEL_MODELS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	NUM(7)	A six-digit numeric code assigned by the National Weather Service that identifies the cataloged weather station.
FUEL_MODEL	Yes	VC2(2)	A two character value that identifies the NFDRS fuel model letter and the model decade (7 or 8) for the NFDRS fuel model.
MODEL_PRIORITY	Yes	NUM(1)	A numeric value between 1 and 4 specifying the order of precedence for fuel models for a particular weather station.
DATE_MODIFIED		DATE	The date information associated with a particular record of information was entered or modified for a specific table within the database.
PERCENT_FM_REP		NUM(3)	Percent of fuel model representation for a particular cataloged weather station.
SLOPECLASS		NUM(1)	A numeric code between 1 and 5 that designates the slope class for the particular weather station.
GRASSTYPE *		VC2(1)	A one character letter (A or P) designating the type of herbaceous vegetation (Annual or Perennial) represented in the NFDRS fuel model designated for the cataloged station.
SHRUB_TYPE *		VC2(1)	A one character letter (D or E) designating the type of shrubs (Deciduous or Evergreen) represented within the NFDRS fuel model reporting area.
GREENUP_DATE		DATE	The date declared by the user that starts the greenup period in the live fuel moisture model. This date is when the spring flush of growth begins.
HERB_VEG_DATE		DATE	The date associated with the herbaceous vegetation stage.
HERB_VEG_STAGE_CODE *		VC2(1)	A one character letter designating the condition of the vegetation for a specific fuel model representing a particular cataloged station.
HERB_VEG_STAGE_NUMBER *		NUM(1)	A numeric value to denote the stage of herbaceous vegetation on the observation date.

GRASS_GREEN_FACTOR		NUM(2)	A numeric value between 0 (dormant) and 20 (maximum greenness) that represents the stage of greenness for grasses and forbs. Used with the 1988 NFDRS.
SHRUB_GREEN_FACTOR		NUM(2)	A numeric value between 0 (dormant) and 20 (maximum greenness) that represents the stage of greenness for woody shrub vegetation. Used with the 1988 NFDRS.
SILO_VALUE		NUM(3)	A numeric value defining the lower percentile level used for the staffing index. This is the value for the 90th percentile for the USFS or 80th percentile level for BLM.
SIHI_VALUE		NUM(3)	A numeric value defining the upper percentile level used for the staffing index. This is the value for the 97th percentile for the USFS or 85th percentile level for BLM.
SILO_PERCENT		NUM(3)	A numeric value that specifies the percentile level for SI_LEVEL_LOW. Normally this value is the 90th percentile for the USFS or 80th percentile level for BLM.
SIHI_PERCENT		NUM(3)	A numeric value that specifies the percentile level for SI_LEVEL_HI. Normally this value is the 97th percentile for the USFS or 85th percentile level for BLM.
NUMBER_DISPLAY_CLASSES		NUM(1)	The number of staffing index classes to display for a particular catalogued weather station.
CLIMATE_CLASS *		NUM(1)	A climate classification defined by the NFDRS corresponding to humidity provinces and designed to produce the best assessment of live fuel moisture conditions in a NFDRS rating area. See the NFDRS_CLIMATE_CLASSES table for codes.
STAFFING_INDEX *		NUM(2)	A numeric code between 1 and 8 designating the staffing index used for a cataloged weather station. See the NFDRS_INDICES table for codes.

3.1.2. LIBRARY_ABSTRACT

This table stores abstract text that describes library items.

WIMS.LIBRARY_ABSTRACT

Column Name	Req?	Type & Size	Description
LIBRARY_VSAM_KEY	Yes	VC2(26)	Unique VSAM file key for the library item.
LIBRARY_ABSTRACT_SEQNO	Yes	NUM(6)	A number to sequence abstract text lines into the correct order.
LIBRARY_ABSTRACT_TEXT		VC2(133)	Text to describe the library abstract item.

3.1.3. LIBRARY_INDEX

This table stores.

WIMS.LIBRARY_INDEX

Column Name	Req?	Type & Size	Description
LIBRARY_VSAM_KEY	Yes	VC2(26)	Unique VSAM file key for the library item.
LIBRARY_TYPE	Yes	NUM(6)	A numeric identifier for the library type.
LIBRARY_TITLE	Yes	VC2(133)	An alphanumeric title of the library item.
LIBRARY_PC_FILENAME	Yes	VC2(12)	A filename for the item that will be assigned if the library item is exported to a PC. The format is 1-8 characters, a period, and 0-3 characters as the file type suffix.
LIBRARY_ABSTRACT_AVAIL	Yes	VC2(1)	A (Y/N) value that denotes whether or not an abstract is available for the library item.
LIBRARY_DATA_AVAIL	Yes	VC2(1)	A (Y/N) value that denotes whether or not the library item contains data.
LIBRARY_TEXT_BINARY_FLAG	Yes	VC2(1)	A (Y/N) value that denotes whether or not the library item is a binary file.
LIBRARY_LINES_OF_DATA		NUM(6)	A numeric value that shows the number of data lines in the library items. This field will only have a value if the LIBRARY_DATE_AVAIL field is Y.
LIBRARY_AUTHOR		VC2(20)	The group or individual responsible for creation of the library item.
LIBRARY_CREATE_DATE		DATE	The date on which the library item was created.
LIBRARY_TIMES_REQUESTED		NUM(5)	A numeric value that counts the number of times the library item was requested.
LIBRARY_LAST_REQUESTED		DATE	The date on which the library item was most recently requested.
LIBRARY_PURGE_DATE		DATE	The date on which the library item will be purged from the library.

3.1.4. NFDR

This table stores National Fire Danger Rating System parameters necessary to calculate indices.

WIMS.NFDR

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	NUM(7)	A six-digit numeric code assigned by the National Weather Service that identifies the cataloged weather station.
NFDR_DATE	Yes	DATE	The date information associated with a particular record of information was measured for a specific station within the database.
FUEL_MODEL	Yes	VC2(2)	A two character value that identifies the model decade (7 or 8) and the NFDRS fuel model letter.
MODEL_PRIORITY	Yes	NUM(1)	A numeric value between 1 and 4 specifying the order of precedence for fuel models for a particular weather station.
NFDR_TIME		NUM(2)	The standard weather observation hour for fire danger rating purposes.
HERB_VEG_CONDITION *		VC2(1)	A one character numeric code that designates the vegetative condition of herbaceous fuels in a daily weather observation record.
HERBACEOUS_FUEL_MOISTURE		NUM(3)	A numeric value expressed in percent that represents the fuel moisture of the herbaceous vegetation.
GRASS_GREEN_FACTOR		NUM(2)	A numeric value representing the “greenness” of the grass; the value ranges from 1 (dry) to 20 (green).
SHRUB_GREEN_FACTOR		NUM(2)	A numeric value representing the “greenness” of the shrubs; the value ranges from 1 (dry) to 20 (green).
WOODY_FUEL_MOISTURE		NUM(3)	A numeric value representing the live woody fuel moisture that is measured and recorded for a particular cataloged weather station.
KBDI		NUM(3)	Keetch-Byram Drought Index value.
ONE_HR_TL_FUEL_MOISTURE		NUM(2)	A numeric value that represents the amount of moisture in one hour fuels.
TEN_HR_TL_FUEL_MOISTURE		NUM(2)	A numeric value that represents the amount of moisture in ten hour fuels.
HUN_HR_TL_FUEL_MOISTURE		NUM(2)	A numeric value that represents the amount of moisture in hundred hour fuels.
THOU_HR_TL_FUEL_MOISTURE		NUM(4,2)	A numeric value that represents the amount of moisture in thousand hour fuels.
XTHOU_HR_TL_FUEL_MOISTURE		NUM(4,2)	A numeric value that represents the amount of moisture in thousand hour fuels.
IGNITION_COMPONENT		NUM(3)	A numeric value that represents the probability that a firebrand will ignite a fire.

SPREAD_COMPONENT		NUM(3)	A number related to the forward rate of spread of a head fire.
ENERGY_RELEASE_COMPONENT		NUM(3)	A number related to the available energy (Btu) per unit area (square foot) within the flaming front at the hear of a fire.
LIGHTNING_RISK		NUM(3)	A number related to the expected number of cloud-to-ground lightning discharges capable of starting fires that a rating area will be exposed to during the rating period.
LIGHTNING_OCCURRENCE_INDEX		NUM(3)	A numerical rating of the potential occurrence of lightning-caused fires.
TODAYS_HUMAN_CAUSED_RISK		NUM(3)	A number related to the expected number of human-produced firebrands capable of starting fires that a rating area will be exposed to during today's rating period.
HUMAN_CAUSED_OCCURRENCE_INDEX		NUM(2)	A number related to the expected number of human-produced firebrands capable of starting fires that a rating area will be exposed to during a rating period.
BURNING_INDEX		NUM(3)	A number related to the contribution of fire behavior to the effort of containing a fire.
FIRE_LOAD_INDEX		NUM(3)	A numerical rating of the maximum effort required to contain all probable fires occurring within a rating area during the rating period.
STAFFING_CLASS		NUM(2)	A numerical code that identifies the fire danger rating index upon which the user agency bases fire danger-rating decisions.
ADJECTIVE_RATING		VC2(2)	A set of standard interagency terms for specifying fire danger for public information. The classes are Low (L), Moderate (M), High (H), Very High (VH), and Extreme (E).
BNDRY_VALUE		NUM(5,2)	An equilibrium moisture content (EMC) value derived from observed temperature and relative humidity data to represent moisture content at the surface of dead fuels.
NFDR_TYPE		VC2(1)	A one character code to identify the type of weather observation. Codes are: O-regular observation; S-Special observation; and R-RAWS observation.
PRECIPITATION_CUMULATIVE		NUM(6,3)	Cumulative precipitation. Over what period???
SLOPE_CLASS		NUM(1)	A single digit code that represents the NFDRS slope class used for calculations. See the SLOPE_CLASSES table for code values.
GRASSTYPE		VC2(1)	A one character letter (A or P) designating the type of herbaceous vegetation (Annual or Perennial) represented in the NFDRS fuel model designated for the cataloged station.

CLIMATE_CLASS		NUM(1)	A single digit code that represents the NFDRS climate class used for calculations. See the NFDRS_CLIMATE_CLASSES table for code values
SENT_FLAG		VC2(1)	

3.1.5. NWS_INFORMATION

This table defines National Weather Service offices that provide products to WIMS.

WIMS.NWS_INFORMATION

Column Name	Req?	Type & Size	Description
FCST_STATE	Yes	VC2(2)	Two letter code that identifies the state covered by the associated NWS office.
NWS_REGION	Yes	VC2(1)	A one letter code that identifies the NWS region to which the state is assigned.
NWS_OFFICE	Yes	VC2(20)	The NWS office name.
NWS_CODE	Yes	VC2(43)	An alphabetic code that uniquely identifies a specific NWS office. The code is usually (but not always) the FAA code for the nearest major airport.

AUTHORITY OR SOURCES:

National Weather Service

WIMS.NWS_INFORMATION

FC	N	NWS_OFFICE	NWS
AK	A	Anchorage, AK	ANC
AL	S	Birmingham, AL	BHM
AR	S	Little Rock, AR	LIT
AZ	W	Phoenix, AZ	PHX
CA	W	Fresno, CA	FAT
CA	W	Los Angeles, CA	LAX
CA	W	Redding, CA	RDD
CA	W	Riverside, CA	UCR
CA	W	Sacramento, CA	SAC
CO	C	Denver, CO	DEN
CT	E	Boston, MA	BOS
DC	E	Washington DC	DCA
DC	E	Washington DC	WBC
DE	E	Philadelphia, PA	PHL
FL	S	Tampa Bay, FL	TBW
GA	S	Atlanta, GA	ATL
HA	W	Honolulu, HA	HON
ID	W	Boise, ID	BOI
ID	C	Louisville, ID	IND
IL	C	St. Louis, MO	STL
IN	C	Louisville, KY	SDF
KS	C	Topeka, KS	TOP
KY	C	Louisville, KY	SDF
LA	S	New Orleans, LA	NEW
MA	E	Boston, MA	BOS
MD	E	Washington DC	DCA
ME	E	Boston, MA	BOS
MI	C	Ann Arbor, MI	DET
MI	C	Ann Arbor, MI	ARB
MI	C	Detroit/Pontiac, MI	DTX
MI	C	Gaylord, MI	APN
MI	C	Marquette, MI	MQT
MN	C	Duluth, MN	DLH
MN	C	Minneapolis, MN	MSP
MO	C	St. Louis, MO	STL
MS	S	Jackson, MS	JKN
MT	W	Billings, MT	BIL
MT	W	Missoula, MT	MSO
NC	E	Raleigh, NC	RDU
ND	C	Bismark, ND	BIS
NE	C	Omaha, NE	OMA
NH	E	Boston, MA	BOS
NJ	E	Philadelphia, PA	PHL
NJ	E	Atlantic City, NJ	ACY
NM	S	Albuquerque, NM	ABQ
NV	W	Reno, NV	RNO
NY	E	Albany, NY	ALB
OH	E	Louisville, KY	SDF
OH	C	Louisville, OH	CLE
OK	S	Norman, OK	OKC
OK	S	Tulsa, OK	TUC
OK	C	Tulsa, OK	TUL
OR	W	Medford, OR	MFR
OR	W	Pendleton, OR	PDT
OR	W	Salem, OR	SLE
PA	E	Philadelphia, PA	PHL
RI	E	Boston, MA	BOS
SC	E	Columbia, SC	CAE
SD	C	Sioux Falls, SD	FSD
TN	S	Memphis, TN	MEM
TX	S	Fort Worth, TX	FTW

TX	S	Lubbock, TX	LBB
UT	W	Salt Lake City, UT	SLC
VA	E	Sterling, VA	RIC
VA	E	Washington DC	DCA
VT	E	Boston, MA	BOS
WA	W	Olympia, WA	OLM
WA	W	Seattle, WA	SEA
WA	W	Spokane, WA	GEG
WA	W	Wenatchee, WA	EAT
WI	C	Green Bay, WI	GRB
WI	C	Milwaukee, WI	MKE
WV	E	Charleston, WV	CRW
WY	C	Cheyenne, WY	CYS

3.1.6. NDVI_RETRIEVAL_DATA

This table stores map files that show Normalized Difference Vegetation Index (NDVI) values across the United States.

WIMS.NDVI_RETRIEVAL_DATA

Column Name	Req?	Type & Size	Description
PERIOD_NUMBER	Yes	NUM	A numerical field that identifies the NDVI period in the file.
VALID_FROM_DATE	Yes	DATE	The beginning date for which a specific NDVI map is valid.
VALID_TO_DATE	Yes	DATE	The ending date for which a specific NDVI map is valid.
MAP_FILE_NAME	Yes	VC2(10)	The file name for a specific NDVI map.
SCHED_RETRIEVAL_DATE		DATE	The scheduled retrieval date for a specific NDVI map.
RETRIEVED_DATE		DATE	The actual date retrieved for a specific NDVI map.

3.1.7. NWS_PROD_OFFICE_ZONE

This table identifies products produced by NWS offices.

WIMS.NWS_PROD_OFFICE_ZONE

Column Name	Req?	Type & Size	Description
PRODUCT_CODE	Yes	VC2(20)	Description of the product produced by the NWS office identified. Product names are generally the city name of the forecast office.
NWS_OFFICE_CODE	Yes	VC2(3)	An alphabetic code that uniquely identifies a specific NWS office. Codes are generally the airport designator for the nearest large airport.
FIRE_WEATHER_ZONE_STA	Yes	NUM(6)	The station number for the primary weather station within an NWS forecast zone.

AUTHORITY OR SOURCES:

National Weather Service.

VALUES: See table.

3.1.8. OBSERVATIONS

This table stores daily weather observations starting with 1 January 1993. Prior observations are stored in the WX_DAILY_OBSERVATIONS table.

WIMS.OBSERVATIONS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	VC2(7)	A six-digit numeric code assigned by the National Weather Service which identifies the cataloged weather station.
OBSERVATION_DATE	Yes	DATE	The date a daily observation record is recorded. Oracle stores dates in the format 'dd-mon-yy' and must be converted to 'yymmdd' to conform to standard WS D-9a observation format.
OBSERVATION_TIME	Yes	NUM(2)	The clock hour at which the observation is recorded.
STATE_OF_WEATHER *		NUM(1)	A numeric code between 1 and 9 designating the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records. See the NFDRS_SOW_CODES table for codes.
DRY_BULB_TEMPERATURE		NUM(6,1)	The temperature of the air, measured in degrees Fahrenheit.
MORNING_LIGHTNING_ACT_LVL *		NUM(1)	A numeric code between 1 and 6 designating a lightning activity level. See NFDRS_LAL_CODES for codes..
HUMAN_RISK		NUM(3)	A number related to the expected number of human-produced fire brands capable of starting fires that a rating area will be exposed to during a rating period.
WIND_DIRECTION *		NUM(3)	Number of degrees associated with the wind direction azimuth measured clockwise from true north..
WIND_SPEED		NUM(4,1)	A numeric value representing the wind speed in miles per hour taken at daily observation time over a ten minute period.
TEN_HR_TL_FUEL_MOISTURE		NUM(3)	The ten hour time-lag fuel stick moisture recorded in a daily weather observation record.
OBS_MAXIMUM_TEMPERATURE		NUM(3)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
OBS_MINIMUM_TEMPERATURE		NUM(3)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS

			converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
MAXIMUM_RELATIVE_HUMIDITY		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MINIMUM_RELATIVE_HUMIDITY		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
PRECIPITATION_DURATION		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
PRECIPITATION_AMOUNT		NUM(6,3)	Any form of atmospheric water, liquid or solid, that reaches the ground and is measured to the tenth of an inch. For the period 1973 through March, 1975, AFFIRMS made only one consistency check on the precipitation amount: values were required to be between 0 and 10.00 inches. Occasionally, field personnel would enter 9 when they should have entered .90 or .09. These three values are all valid as far as the AFFIRMS program is concerned, therefore large precipitation amounts should be viewed with suspicion for this period.
YESTERDAYS_LIGHTNING_ACT_LVL		NUM(1)	A numeric code between 1 and 6 designating a lightning activity level for yesterday. See NFDRS_LAL_CODES for codes.
FORECASTED_HC_RISK		NUM(3)	A number related to the forecast number of human-produced fire brands capable of starting fires that a rating area will be exposed to during a rating period.
REGULAR_SPECIAL_OBS_FLAG	Yes	VC2(1)	A one character code to identify the type of weather observation. Codes are: O-regular (1400) observation; S-Special observation; and R-RAWS observation.
HUMIDITY_ENTRY		NUM(6,1)	The value entered into the system for humidity.
DEW_POINT_TEMPERATURE		NUM(6,1)	The temperature at which the air is saturated with water vapor.
RELATIVE_HUMIDITY		NUM(3).	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage

WET_BULB_TEMPERATURE		NUM(6,1)	The temperature recorded on the wet bulb thermometer.
WET_FLAG		VC2(1)	A one character entry (Y or N) to indicate whether or not the fuels are wet or covered with ice or snow at observation time.
UNKO		VC2(48)	Comments field. Not used.
RAIN_GAUGE		NUM(6,2)	Precipitation measurement.
ONE_HR_TL_FUEL_MOISTURE		NUM(3)	The one hour time-lag fuel stick moisture recorded in a daily weather observation record.
FUEL_TEMPERATURE		NUM(6,1)	The temperature on an unshaded sensor that simulates the temperature of fuels.
BVOLT		NUM(4,1)	Battery voltage at observation time.
BAROMETRIC_PRESSURE		NUM(5,1)	Barometric pressure in millibars at observation time.
NESDIS_ID *		VC2(8)	The National Environmental Sciences Data Information System identifying number. Also known as the RAWS (Remote Automatic Weather System) identifier.
TEN_HR_X_FUEL_MOISTURE		NUM(3)	The modified ten hour time-lag fuel stick moisture in a daily weather observation record.
PEAK_GUST_DIR *		NUM(3)	A numeric code between 0 and 8 representing the 8-points of the compass.
PEAK_GUST_SPEED		NUM(4,1)	A numeric value representing the wind speed in miles per hour taken at the time of the daily observation.
SENT_FLAG		VC2(1)	
OBS_MIN		NUM(2)	

3.1.9. PFSIG

This table stores forecasts that cover a special interest group of stations.

WIMS.PFSIG

Column Name	Req?	Type & Size	Description
SIG_NAME		VC2(8)	The name of a Special Interest Group (SIG) defined by a specific user.
STATION_ID	Yes	NUM(7)	A six-digit numeric code assigned by the National Weather Service that identifies the cataloged weather station.
FORECAST_DATE	Yes	DATE	The date information associated with a particular record of information was forecast for a specific station within the database.
VALID_TIME	Yes	NUM(2)	The hour for which the forecast is valid.
AFTERNOON_LIGHTNING_ACT_LVL		NUM(1)	A numeric code between 1 and 6 designating the forecast lightning activity level. See the NFDRS_LAL_CODES table for codes.
DRY_BULB_TEMPERATURE		NUM(4)	The forecast temperature of the air measured in degrees Fahrenheit.
FCST_WIND_SPEED		NUM(2)	A numeric value representing the wind speed in miles per hour forecast for the time of the daily observation.
FCST_WIND_DIRECTION		NUM(3)	Forecast wind direction azimuth measured clockwise from true north.
MAXIMUM_RELATIVE_HUMIDITY		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MAXIMUM_TEMPERATURE		NUM(3)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
MINIMUM_RELATIVE_HUMIDITY		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MINIMUM_TEMPERATURE		NUM(3)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation

			time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
PRECIPITATION_DURATION1		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
PRECIPITATION_DURATION2		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
RELATIVE_HUMIDITY		NUM(3)	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage.
STATE_OF_WEATHER		NUM(1)	A numeric code between 1 and 9 designating the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records.
TEN_HR_TL_FUEL_MOISTURE		NUM(4)	The ten hour time-lag fuel stick moisture recorded in a daily weather observation record.
TOMORROWS_LIGHTNING_ACT_LVL		NUM(1)	A numeric code between 1 and 6 designating the forecast lightning activity level. See the NFDRS_LAL_CODES table for codes.

3.1.10. POINT_FORECASTS

This table stores forecast information developed for a specific point on a specific date.

WIMS.POINT_FORECASTS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	NUM(7)	A six-digit numeric code assigned by the National Weather Service that identifies the cataloged weather station.
FORECAST_DATE	Yes	DATE	The date information associated with a particular record of information was forecast for a specific station within the database.
VALID_TIME	Yes	NUM(2)	The hour for which the forecast is valid.
AFTERNOON_LIGHTNING_ACT_LVL *	Yes	NUM(1)	A numeric code between 1 and 6 designating the forecast afternoon lightning activity level. See the NFDRS_LAL_CODES table for codes.
DRY_BULB_TEMPERATURE		NUM(4)	The forecast temperature of the air measured in degrees Fahrenheit.
FCST_WIND_DIRECTION		NUM(3)	Forecast wind direction azimuth measured clockwise from true north..
FCST_WIND_SPEED		NUM(2)	A numeric value representing the wind speed in miles per hour taken at the time of the daily observation.
MAXIMUM_RELATIVE_HUMIDITY		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MINIMUM_RELATIVE_HUMIDITY		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MAXIMUM_TEMPERATURE		NUM(3)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
MINIMUM_TEMPERATURE		NUM(3)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS

			converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
PRECIPITATION_DURATION1		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
PRECIPITATION_DURATION2		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
STATE_OF_WEATHER *		NUM(1)	A numeric code between 1 and 9 designating the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records. See the NFDRS_SOW_CODES for codes..
TOMORROWS_LIGHTNING_ACT_LVL *	Yes	NUM(1)	A numeric code between 1 and 6 designating the forecast lightning activity level for tomorrow. See the NFDRS_LAL_CODES table for codes..
RELATIVE_HUMIDITY		NUM(3)	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage.
TEN_HR_TL_FUEL_MOISTURE		NUM(4)	The ten hour time-lag fuel stick moisture recorded in a daily weather observation record.
WET_FLAG		VC2(1)	A one character entry (Y or N) to indicate whether or not the fuels are wet or covered with ice or snow at observation time.
SENT_FLAG		VC2(1)	

3.1.11. PRODUCT_ABSTRACT_CODE

This table stores information on products handled by WIMS. Products include forecasts, NDVI maps, and other information.

WIMS.PRODUCT_ABSTRACT_CODE

Column Name	Req?	Type & Size	Description
PRODUCT_CODE	Yes	VC2(15)	The identifier for a product handled by WIMS.
SEQNO	Yes	NUM	A number to sequence abstract text lines into the correct order.
ABSTRACT_TEXT		VC2(78)	Text to describe the product abstract item.

3.1.12. PRODUCT_INCOMING

This table stores data on products incoming to WIMS.

WIMS.PRODUCT_INCOMING

Column Name	Req?	Type & Size	Description
PRODUCT_HEADER	Yes	VC2(15)	
GATEWAY_ONLINE_FLAG	Yes	VC2(1)	
GATEWAY_ROUTINE		VC2(8)	The gateway routine name that handles the incoming product. See the VALID_GATEWAY_ROUTINES for valid routines.
SFILE_CODE		VC2(10)	See the SFILE_TRAN_CODES table for codes.
TITLE_FORMAT		VC2(3)	
DTD_TITLE		VC2(18)	
DESC_TITLE		VC2(35)	A descriptive title for the incoming product.
PURGE_RATE		NUM(8,4)	
RETURN_REQUESTED		VC2(1)	
RETURN_WMO_HEADER		VC2(15)	
REPORT_ERRORS		VC2(1)	
REPORT_ERRORS_WMO_HEADER		VC2(15)	
PRODUCT_CODE		VC2(15)	The identifier for a product handled by WIMS. See the PRODUCT_ABSTRACT_CODE table for codes.
DATA_TYPE		VC2(1)	
DOWNLOAD_FILE_NAME		VC2(12)	Valid 8.3 PC file name for the product.
DEFAULT_AUTHOR		VC2(20)	

3.1.13. PRODUCT_OUTGOING

This table stores.

WIMS.PRODUCT_OUTGOING

Column Name	Req?	Type & Size	Description

3.1.14. RAWS_SENSOR_DATA

This table stores observations from RAWS sensors for a short period of time before the data is loaded into other tables.

WIMS.RAWS_SENSOR_DATA

Column Name	Req?	Type & Size	Description
NESDIS_ID *		VC2(8)	The National Environmental Sciences Data Information System identifying number. Also known as the RAWS (Remote Automatic Weather System) identifier. See the STATION_INFORMATION for defined values.
OBSERVATION_DATE	Yes	DATE	The date a daily observation record is recorded. Oracle stores dates in the format 'dd-mon-yy' and must be converted to 'yymmdd' to conform to standard WS D-9a observation format.
OBSERVATION_TIME	Yes	NUM(2)	The clock hour at which the observation is recorded.
SENSOR_ID *	Yes	NUM(3)	A numeric value that identifies the RAWS sensor. See the SHEF_CODES table for codes.
SENSOR_VALUE		NUM(6,2)	The value reported by a specific sensor.
OBS_MIN		NUM(2)	

3.1.15. RAWS_SENSORS

This table identifies each sensor on each RAWS in the data base.

WIMS.RAWS_SENSORS

Column Name	Req?	Type & Size	Description
NESDIS_ID *		VC2(8)	The National Environmental Sciences Data Information System identifying number. Also known as the RAWS (Remote Automatic Weather System) identifier. See the STATION_INFORMATION for defined values.
SENSOR_ID *	Yes	NUM(3)	A numeric value that identifies the RAWS sensor. See the SHEF_CODES table for codes.
SENSOR_DESC		VC2(40)	A description of the sensor.
SHORT_DESC		VC2(5)	A short abbreviation for the sensor.

3.1.16. SFILE_TRAN_CODES

This table stores data on transactions in the share file.

WIMS.SFILE_TRANS_CODES

Column Name	Req?	Type & Size	Description
SFILE_CODE	Yes	VC2(10)	Share file identifier.
TRAN_CODE	Yes	VC2(4)	Transaction type code.
CODE_DESC		VC2(30)	Textual description of the transaction code.

VALUES:

WIMS.SFILE_TRANS_CODES

SFILE_CODE	TRAN	Description
DOCUMENT	M09A	On-Line Text Documents
SOFTWARE	M09B	PC Based Software
GRAPHIC	M09C	NWS Vector Graphics
WIMS UPDS	M09D	WIMS System Updates
NIFC	M09E	NIFC Logistics/Situation
FIRE WX	M09F	Fire Weather Forecasts
FTSLOGS	M09G	FTSGTWY Logs Files
RED FLAG	M09H	Red Flag Warnings
SPOT	M09I	Red Flag Warnings
SMOKE MGMT	M09J	Smoke Mgmt. Forecasts
VARIOUS	M09K	Various Other Narratives
OTHER	M09L	Other
RAWSLOGS	M09N	RAWS Log Files
NWSLOGS	M09O	NWSGTWY Log
NWSOUT	M09P	NWSGTWY Output
GENLOG	M09Q	GENERAL LOG DIRECTORY
ABENDLOG	M09R	ABEND Log
UBOARD	M09S	User Bulletin Board
CBLLOGS	M09T	CBL Log Files
WFAS	M09U	WFAS Products
NDGRAPH	M25A	NDVI Greenness Data

3.1.17. SIG_CATALOG

This table identifies the stations in each Special Interest Group (SIG) defined by specific users.

WIMS.SIG_CATALOG

Column Name	Req?	Type & Size	Description
SIG_NAME	Yes	VC2(8)	The name of a Special Interest Group (SIG) defined by a specific user.
STATION_ID *	Yes	VC2(7)	A six-digit numeric code identifier assigned to a fire weather station. See the STATION_INFORMATION for defined station codes.
USER_ID	Yes	VC2(12)	The WIMS user ID of the user who defined a specific Special Interest Group.

3.1.18. STATION_INFORMATION

This table stores catalog information on fire weather stations.

WIMS.STATION_INFORMATION

Column Name	Req?	Type & Size	Description
STATION_ID	Yes	NUM(7)	A six-digit numeric code assigned by the National Weather Service that identifies the cataloged weather station. Prior to 1995, the first 2-digits represented the AFFIRMS_STATE code, the second 2-digits represented the AFFIRMS_CNTY code and the last 2-digits were sequentially numbered for stations within a particular state/county. This system is no longer required but often followed.
NESDIS_ID		VC2(8)	The National Environmental Sciences Data Information System identifying number. Also known as the RAWS (Remote Automatic Weather System) identifier. This field is only valid for stations that use satellite telemetry for data transmission.
STATION_CREATE_MOD_DATE		DATE	The date the station catalog was created, or the earliest date of weather observations for the site.
STATION_TYPE *		NUM(1)	A one character code designating the type of weather station which is cataloged. See the WX_STATION_TYPES table for codes.
STATION_NAME		VC2(20)	A descriptive name for a cataloged weather station.
ASPECT *		VC2(3)	The numeric that designates direction for the prevailing downslope at the weather station site. See section 3.4.1 for codes.
ASSOC_MANUAL_STATION *		NUM(7)	A previously cataloged manual weather station used to acquire man risk and lightning information. This station must not only exist but it cannot be the station presented in the STATION_ID for the record, nor can it be a RAWS type station. This field is only valid for type 4-RAWS-NFDRS stations.
PREVIOUS_STATION *		NUM(7)	As many manual observation stations were converted to RAWS platforms, the location of the stations remained the same, but new station ID's were obtained from the National Weather Service for the station. This fractured the historical record for a continuously reporting location. NIFMID now provides for the assignment of a previous AFFIRMS station ID to the currently cataloged weather station, linking the two data sets together.
DEFAULT_WOODY_FM		NUM(3)	A numeric value used as the default initial value for woody fuel moisture.
ELEVATION		NUM(5)	The recorded elevation in feet above mean sea level (1927 North American datum) for the cataloged weather station site.

FCST_ZONE *	Yes	VC2(4)	The geographic area for which a fire weather forecast is specified.
UNIT_NAME		VC2(9)	An abbreviated name for the fire management unit responsible for the management of weather data for a particular cataloged station.
FUEL_STICK_INSTALLATION_DATE		DATE	The date on which the fuel sticks were most recently installed at the station.
LATITUDE		NUM(6,4)	Latitude in degrees and decimal degrees north of the equator.
LATITUDE_DEG		NUM(2)	Number of degrees north latitude for the location of the cataloged weather station.
LATITUDE_MIN		NUM(2)	Number of minutes latitude for the location of the cataloged weather station.
LATITUDE_SEC		NUM(2)	Number of seconds latitude for the location of the cataloged weather station.
LONGITUDE		NUM(7,4)	Longitude in degrees and decimal degrees west of the prime meridian.
LONGITUDE_DEG		NUM(3)	Number of degrees west longitude for the location of the cataloged weather station.
LONGITUDE_MIN		NUM(2)	Number of minutes longitude for the location of the cataloged weather station.
LONGITUDE_SEC		NUM(2)	Number of seconds longitude for the location of the cataloged weather station.
LIGHTNING_SCALING_FACTOR		NUM(4,2)	A numerical factor derived from local thunderstorm and lightning-caused fire records that adjusts the predictions of the basic lightning fire occurrence model to local experience. It accounts for factors not addressed directly by the model such as susceptibility of the local fuels to ignition by lightning, fuel continuity, topography, and regional characteristics of thunderstorms.
OBSERVING_AGENCY *		NUM(1)	The Federal, State or Local government agency, or private concern identified as the manager/owner of a weather station in the WIMS system. See table WX_AGENCY_CODES table for codes.
FIPS_STATE *		VC2(2)	The FIPS state designating code. See the STATES table for codes.
FIPS_CNTY *		VC2(3)	The FIPS county designating code. See the COUNTIES table for codes.
AVG_ANNUAL_PRECIP		NUM(6,2)	Average annual precipitation reported for a weather station.
HUMIDITY_CODE *		NUM(1)	A numeric code value between 1 and 6 indicating the humidity measurement definition. See the HUMIDITY_DEFINITIONS table for codes.
PRESSURE_CODE *		NUM(1)	A numeric code value that indicates the pressure

			measurement definition.
REGION_NUMBER		NUM(2)	A numeric code that represents the Forest Service Region number in which the cataloged station resides.
SITE *		NUM(1)	A numeric code designating the general site class of the cataloged weather station. See the WX_SITE_CODES for codes.
REG_SCHEDULED_OBSERVATION_TIME		NUM(2)	The standard observation hour specified for a particular cataloged weather station.
TEMPERATURE_CODE *		NUM(1)	A one-digit code that indicates the temperature scale for new weather observations. 1=English, 2=Metric.
TIME_ZONE *		VC2(3)	A three character abbreviation for the time zone in which a weather station is cataloged. See the AUTHORITY OR SOURCES: US Geological Survey TIME_ZONES table for codes.
NEMONIC		VC2(5)	A short identifier for this weather station.
USER_COMMENTS		VC2(48)	User comments about the station that cannot be captured in other columns.
USER_ID		VC2(12)	The WIMS identifier for a specific individual who last updated the station information table.
WIND_DIRECTION_CODE *		NUM(1)	A numeric value to identify whether an 8 or 16 point compass is used for wind direction. This code column is no longer used.
WIND_SPEED_CODE		NUM(1)	A one-digit code that indicates the wind speed scale for new weather observations. 1=English, 2=Metric.
INIT_KBDI		NUM(3)	A numeric value that represents the initial Keetch-Byram Drought Index for the year.
SEASON_CODE *		NUM(1)	A numeric value that represents the four seasons in a year.
ONE_TEN_FLAG		VC2(1)	A flag that tells the fire danger rating processor to set the 1 hour timelag fuel moisture equal to the 10 hour timelag fuel moisture value.
WOODY_FM_MEAS_DATE		DATE	The date on which live woody fuel moistures are measured.
ACCESS_LIST		VC2(12)	The access list name that allows several users to maintain station information.

3.1.19. TREND_FORECASTS

This table stores trend forecast information developed for a specific group of station on a specific date.

WIMS.TREND_FORECASTS

Column Name	Req?	Type & Size	Description
SIG_ID *	Yes	VC2(8)	Alphanumeric identifier for the Special Interest Group (SIG) to which the forecast refers.
FORECAST_DATE	Yes	DATE	The date information associated with a particular record of information was forecast for a specific station within the database.
VALID_TIME	Yes	NUM(2)	Clock hour for which the forecast is valid.
AFTERNOON_LIGHTNING_ACT_LVL *	Yes	NUM(1)	A numeric code between 1 and 6 designating the afternoon lightning activity level. See the NFDRS_LAL_CODES table for codes.
DRY_BULB_TEMPERATURE_TREND		NUM(3)	The forecast temperature of the air, measured in degrees Fahrenheit.
MAXIMUM_RELATIVE_HUMIDITY_TREND		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MIN_RELATIVE_HUMIDITY_TREND		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MAXIMUM_TEMPERATURE_TREND		NUM(3)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
MINIMUM_TEMPERATURE_TREND		NUM(3)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
PRECIPITATION_DURATION1		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.

PRECIPITATION_DURATION2		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
REGION_NUMBER		NUM(2)	A numeric value between 1 and 10 that identifies the Forest Service region in which the weather station is located.
STATE_OF_WEATHER *		NUM(1)	A numeric code between 1 and 9 designating the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records.
TOMORROWS_LIGHTNING_ACT_LVL *	Yes	NUM(1)	A numeric code between 1 and 6 designating the forecast lightning activity level for tomorrow. See the NFDRS_LAL_CODES table for codes..
RELATIVE_HUMIDITY_TREND		NUM(3)	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage.
TEN_HR_TL_FUEL_MOISTURE_TREND		NUM(3)	The ten hour time-lag fuel stick moisture trend forecast.
WIND_SPEED_TREND		NUM(3)	A numeric value representing the wind speed trend in miles per hour over the forecast period.
WET_FLAG		VC2(1)	one character entry (Y or N) to indicate whether or not the fuels are wet or covered with ice or snow at observation time.

3.1.20. VALID_GATEWAY_ROUTINES

This table stores data on valid gateway handling routines.

WIMS.VALID-GATEWAY_ROUTINES

Column Name	Req?	Type & Size	Description
GATEWAY_ROUTINE	Yes	VC2(8)	The gateway routine name that handles the incoming or outgoing products.
SEND_RECEIVE_FLAG	Yes	VC2(1)	
PURPOSE		VC2(79)	Textual description of the routines purpose and functions.

VALUES:

WIMS.VALID-GATEWAY_ROUTINES

ROUTINE	S	PURPOSE
SENDNFDR	S	Send NFDR Indices
DOTEXT	R	Process standard text data
DOBINARY	R	Process graphics
DOFCST	R	Process FCST / ZONE commands
SENDOBS	S	Send Observations and Forecasts
SENDFLE	S	Send Share File text files

3.1.21. WEIGHTED_SIG_CATALOG

This table stores fuel models and weight definitions for the stations within a user-defined special interest group.

WIMS.WEIGHTED_SIG_CATALOG

Column Name	Req?	Type & Size	Description
SIG_NAME	Yes	VC2(8)	The name for a user-defined special interest group (SIG)t.
STATION_ID	Yes	NUM(7)	A six-digit numeric code identifier assigned to a fire weather station. See the STATION_INFORMATION for defined station codes.
USER_ID	Yes	VC2(12)	The WIMS user ID of the user who defined a specific Special Interest Group.
FUEL_MODEL_PRIORITY		NUM(1)	
WEIGHT_FACTOR		NUM(3)	A weight factor applied to the fuel model priority. Weights can vary from 1-100, and the sum must equal 100.

3.2. WIMS REFERENCE TABLES

The tables in this section store codes used by the weather tables described in the previous section.

3.2.1. FUEL_MODELS78_DFLT

This table defines the 1978 National Fire Danger Rating Systems fuel model types and the default fire behavior model parameter values for each model.

WIMS.FUEL_MODELS78_DFLT

Column Name	Req?	Type & Size	Description
FUEL_MODEL	Yes	VC2(2)	A two character value that identifies the model decade (7) and the NFDRS fuel model letter for the NFDRS fuel model.
W1D		NUM(5,2)	Adjusted fuel load in tons per acre for 1 hour fuels.
W10D		NUM(5,2)	Adjusted fuel load in tons per acre for 10 hour fuels.
W100D		NUM(5,2)	Adjusted fuel load in tons per acre for 100 hour fuels.
W1000D		NUM(5,2)	Adjusted fuel load in tons per acre for 1000 hour fuels.
WWOOD		NUM(5,2)	Adjusted fuel load in tons per acre for live woody fuels.
WHERB		NUM(5,2)	Adjusted fuel load in tons per acre for live herbaceous fuels.
SIG1D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 1 hour fuels.
SIG10D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 10 hour fuels.
SIG100D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 100 hour fuels.
SIG1000D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 1000 hour fuels.
SIGWOOD		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for woody fuels.
SIGHERB		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for herbaceous fuels.
HD		NUM(7,2)	Heat content of dead fuels in British Thermal Units (BTU).
SCM		NUM(7,2)	Spread component maximum.
EXTMOI		NUM(5,2)	Moisture of extinction is the fuel moisture content at which the fire will not spread.
DEPTH		NUM(5,2)	Fuelbed depth in feet.
WNDFTR		NUM(5,2)	Wind reduction factor.
WFMIN		NUM(5,2)	Wind factor minimum.
WFMAX		NUM(5,2)	Wind factor maximum.

DRFUEL		NUM(5,2)	

VALUES:

3.2.2. FUEL_MODELS88_DFLT

This table defines the 1988 National Fire Danger Rating Systems fuel model types and the default fire behavior model parameter values for each model.

WIMS.FUEL_MODELS88_DFLT

Column Name	Req?	Type & Size	Description
FUEL_MODEL	Yes	VC2(2)	A two character value that identifies the model decade (8) and the NFDRS fuel model letter for the NFDRS fuel model.
W1D		NUM(5,2)	Adjusted fuel load in tons per acre for 1 hour fuels.
W10D		NUM(5,2)	Adjusted fuel load in tons per acre for 10 hour fuels.
W100D		NUM(5,2)	Adjusted fuel load in tons per acre for 100 hour fuels.
W1000D		NUM(5,2)	Adjusted fuel load in tons per acre for 1000 hour fuels.
WWOOD		NUM(5,2)	Adjusted fuel load in tons per acre for live woody fuels.
WHERB		NUM(5,2)	Adjusted fuel load in tons per acre for live herbaceous fuels.
SIG1D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 1 hour fuels.
SIG10D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 10 hour fuels.
SIG100D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 100 hour fuels.
SIG1000D		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for 1000 hour fuels.
SIGWOOD		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for woody fuels.
SIGHERB		NUM(7,2)	Surface area to volume ratio (square feet per cubic foot) for herbaceous fuels.
HD		NUM(5,2)	Heat content of dead fuels in British Thermal Units (BTU). XE "Fuel heat content"
SCM		NUM(5,2)	Spread component maximum.
EXTMOI		NUM(5,2)	Moisture of extinction is the fuel moisture content at which the fire will not spread.
DEPTH		NUM(5,2)	Fuelbed depth in feet.
WNDFTR		NUM(5,2)	Wind reduction factor.
WFMIN		NUM(5,2)	Wind factor minimum.
WFMAX		NUM(5,2)	Wind factor maximum.
DRFUEL		NUM(5,2)	

VALUES:

3.2.3. HUMIDITY_DEFINITIONS

This table defines different ways to calculate relative humidity.

FIRE.HUMIDITY_DEFINITIONS

Column Name	Req?	Type & Size	Description
HDEF_CODE	Yes	VC2(1)	A numeric code that indicates the humidity measurement definition.
HDEF_DESCR	Yes	VC2(30)	A brief definition of humidity measurement definitions.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.HUMIDITY_DEFINITIONS

Code	Description
1	Wet-bulb Temperature (deg. F)
2	Relative Humidity (percent)
3	Dew point Temperature (deg. F)
4	Wet-bulb Temperature (deg. C)
5	Reserved
6	Dew point Temperature (deg. C)

3.2.4. NFDRS_CLIMATE_CLASSES

This table stores NFDRS climate class codes.

FIRE.NFDRS_CLIMATE_CLASSES

Column Name	Req?	Type & Size	Description
CLIMATE_CODE	Yes	VC2(1)	A numeric code that defines NFDRS climate classes.
CLIMATE_DESCR	Yes	VC2(20)	A brief definition of the NFDRS climate classes.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.NFDRS_CLIMATE_CLASSES

Code	Description
1	Arid-Desert & Steppe
2	Subhumid-Dry season
3	Subhumid-Adequate Rain
4	Wet-Rain Forest

3.2.5. NFDRS_INDICES

This table stores the mnemonics for National Fire Danger Rating System indices.

FIRE.NFDRS_INDICES

Column Name	Req?	Type & Size	Description
INDEX_CODE *	Yes	VC2(2)	An abbreviated code for NFDRS components and indices.
INDEX_DESCR	Yes	VC2(27)	A brief definition of the NFDRS component and index names.
SI_CODE	Yes	VC2(1)	A numeric code between 1 and 8 designating the staffing index used for a cataloged weather station.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.NFDRS_INDICES

Code	Description	SI Code
IC	Ignition Component	1
LO	Lightning caused Occurrence	2
BI	Burning Index	3
FL	Fire Load Index	4
SC	Spread Component	5
EC	Energy Release Component	6
MO	Man caused Occurrence	7
LR	Lightning Risk	8
KB	Keetch-Byram Drought Index	9

3.2.6. NFDRS_LAL_CODES

This table stores lightning activity codes.

FIRE.NFDRS_LAL_CODES

Column Name	Req?	Type & Size	Description
LAL_CODE	Yes	VC2(1)	A numeric code between 1 and 6 designating a lightning activity level.
LAL_DESCR	Yes	VC2(26)	A brief definition of the lightning activity level categories.
SI_CODE	Yes	VC2(1)	A numeric code between 1 and 8 designating the staffing index used for a cataloged weather station. See the NFDRS_INDICES table for valid codes.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.NFDRS_LAL_CODES

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

3.2.7. NFDRS_SOW_CODES

This table stores state of the weather codes.

FIRE.NFDRS_SOW_CODES

Column Name	Req?	Type & Size	Description
SOW_CODE	Yes	VC2(1)	A numeric code that designates the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records.
SOW_DESCR	Yes	VC2(25)	A brief descriptive definition of the state of the weather for daily observation records.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.NFDRS_SOW_CODES

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

3.2.8. NFDRS_VEG_STAGES

This table stores definitions for the vegetation stages used in fire danger rating.

FIRE.NFDRS_VEG_STAGES

Column Name	Req?	Type & Size	Description
VEG_STAGE_CODE	Yes	VC2(1)	A one character code that designates the condition of the vegetation for a specific fuel model represented in a particular cataloged station.
VEG_STAGE_DESCR	Yes	VC2(20)	A brief definition of herbaceous vegetative conditions within the annual growth cycle.
VEG_STAGE_NUMBER		NUM(1)	A number that defines the order of stages.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.NFDRS_VEG_STAGES

Code	Description	Stage
P	Pre-Green	1
G	Green	2
T	Transition	3
C	Cured	4
F	Frozen	5

3.2.9. NFDRS_VEG_TYPES

This table stores vegetation type codes for NFDRS calculations.

FIRE.NFDRS_VEG_TYPES

Column Name	Req?	Type & Size	Description
VEG_TYPE_CODE	Yes	VC2(1)	A one character code that designates the type of herbaceous vegetation (annual or perennial) or woody vegetation type (deciduous or evergreen) represented in the NFDRS fuel model designated for the cataloged station.
VEG_TYPE_DESCR	Yes	VC2(20)	A brief definition of vegetative types.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.NFDRS_VEG_TYPES

Code	Description
A	Annual
D	Deciduous
E	Evergreen
P	Perennial

3.2.10. SHEF_CODES

This table lists the Standard Hydrological Exchange Format (SHEF) codes.

WIMS.SHEF_CODES

Column Name	Req?	Type & Size	Description
SHEF_KEY		NUM(3)	A numeric value that uniquely identifies a specific sensor type.
SHEF_CODE		VC2(2)	A alphanumeric code that identifies a sensor type.
SHEF_DESCR		VC2(40)	Text that describes the sensor type.

AUTHORITY OR SOURCES:

WIMS.SHEF_CODES

KEY	SH	SHEF_DESCR	KEY	SH	SHEF_DESCR
1	PC	Precipitation, Accumulator	44	EM	Evapotranspriation Amount
2	US	Wind Speed	45	EP	Evaporation, Pan Increment
3	UD	Wind Direction	46	ER	Evaporation Rate
4	TA	Atmospheric Temperature	47	ET	Evapotranspiration Total
5	MT	Fuel Temperature	48	EV	Evaporation, Lake (Computer)
6	XR	Relative Humidity	49	GD	Frost Depth, Depth of Frost Penetration
7	VB	Battery Voltage	50	GR	Frost Report, Structure
8	PA	Pressure, Atmospheric	51	GS	Ground State
9	MM	Fuel Moisture, Wood	52	GT	Frost, Depth of Surface Frost Thawed
10	UX	Wind Gust Direction	53	HO	Paroscientic (Press Trans)
11	UG	Wind Gust Speed	54	H1	Water Log (Press Trans)
12	TX	Atmospheric Temperature Maximum	55	H2	Druck (Press Trans)
13	TN	Atmospheric Temperature Minimum	56	H3	Travis (Press Trans)
14	XS	Relative Humidity Maximum	57	H4	Thomas (Shaft Enc)
15	XQ	Relative Humidity Minimum	58	H5	Valcom (Shaft Enc)
16	AF	Surface Frost Intensity	59	H6	Handar (Shaft Enc)
17	AH	Soil Heat	60	H7	Sutron (Shaft Enc)
18	AM	Surface Dew Intensity	61	H8	Affra (Acoustic)
19	AQ	Air Quality	62	H9	Stevens (Pulse Gen)
20	AS	Soil Deformation	63	HA	(V) Height of Reading
21	AT	Time Below Critical Temp (25 DF,-3.9 DC)	64	HB	Depth of Reading Below Surface
22	AU	Time Below Critical Temp (32 DF, 0 DC)	65	HC	Height, Ceiling
23	AW	Leaf Wetness	66	HD	Height, Head
24	CB	Volcano Fault Creep	67	HE	(V) Height, Regulating Gate
25	CE	Volcano Seismic Data	68	HF	Elevation, Project Powerhouse Forebay
26	CG	Volcanic Gases	69	HG	Height, River Stage
27	CH	Volcanic Helium	70	HH	(V) Height, of Reading
28	CM	Volcano Crustal Magnetic Field	71	HI	Stage Trend Indicator
29	CP	Volcano Core Pressure	72	HJ	(V) Height, Spillway Gate
30	CQ	Earthquake Prediction	73	HK	Height, Lake Above a Specified Datum
31	CS	Volcano Crustal Strain	74	HL	Elevation, Natural Lake
32	CT	Volcano Crustal Tilt	75	HM	Height of Tide
33	CU	Volcano Crustal Uplift	76	HN	Height River Stage (Daily Min.)
34	CV	Volcano Geomagnetic Field Variations	77	HP	Elevatopm, Pool
35	CW	Volcano Soil Tension	78	HQ	River, Stream, Canal Flow Velocity
36	CX	Glaciological Data	79	HR	Elevation, Lake or Reservoir Rule Curve
37	DD	Data Motion (Non-Physical Elements)	80	HS	Elevation, Spillway Forebay
38	DE	Data Environmental (Non-Phys Elements)	81	HT	Elevation, Project TailWater Stage
39	DT	Data Turbulence (Non-Physical Elements)	82	HU	Gage Height
40	DY	Data Activity (Non-Physical Elements)	83	HV	Discharge Flow
41	EA	Evapotranspiration Potential	84	HW	Height, Spillway TailWater
42	EC	Evaporation, Event Counter	85	HX	(S) Height, River State
43	ED	Evaporation, Pan Depth	86	HY	(S) Height, River Stage at 7 AM
			87	HZ	Elevation, Freezing Level

88	IC	Ice Cover, River	154	SI	Snow, Water Content in Inches of Water
89	IE	Extent of Ice from Reporting Area	155	SL	Snow, Elevation of Snow Line
90	IF	Freezing Ice (Ref. by Voltage)	156	SR	Snow, Snow Report
91	IG	Icing Rate	157	SS	Snow, Density
92	IM	Ice Movement	158	ST	Snow, Temperature
93	IO	Extent of Open Water From Reporting Area	159	SW	Snow, Water Equivalent
94	IR	Ice Report	160	TB	Temperature, Delta
95	IS	Ice Stress	161	TC	Temperature, Degree Days of Cooling
96	IT	Ice Thickness	162	TD	Temperature, Dew Point
97	LA	Lake Surface Area	163	TE	Temperature, Sea Water
98	LC	Lake Storage Volume Change	164	TF	Temperature, Degree Days of Freezing
99	LS	Lake Storage (volume)	165	TG	Temperature, Underground
100	LV	Liquid Water Vapor Prof Sensed by Radiom	166	TH	Temperature, Degree Days of Heating
101	MC	Condensation Nuclei	167	TM	Temperature, Air (Wet Bulb)
102	MI	Moisture, Soil Index or API	168	TO	Temperature, Observed AIT Temp in Deg F
103	ML	Moisture, Lower Zone Storage	169	TP	Temperature, Pan Water
105	MO	Soil Conductivity	170	TR	Temperature, Mean
106	MS	(V) Moisture, Soil (Amount)	171	TS	Temperature, Bare Soil
107	MU	Moisture, Upper Zone Storage	172	TW	Temperature, Water
108	MW	Moisture, Soil, Percent by Weight	173	TY	Temperature, Surface
109	MX	Fuel Mixture - 10 hour	174	UA	Wind, Average Wind Speed
110	NG	Total of Gate Openings (DAM)	175	UC	Wind, Accumulated Wind Travel
111	NN	(V) Number of Spillway Gates Reported	176	UE	Wind, Average Wind Direction
112	NO	Size OG Gate Opening (DAM)	177	UI	Wind, Run in Accumulated Miles
113	PP	Precipitation, Actual Increment	178	UL	Wind, Travel Length Accumulated Over Dur
114	PR	Precipitation Rate	179	UM	Wind, Speed Min. (Mi.Hr,M/Sec)
115	PT	Precipitation, Type	180	UP	Wind, Speed (Peak)
116	PY	(S) Precipitation, Increment End at 7 AM	181	UR	Wind, Reference for Wind Direction
117	QA	Discharge, Adjust Storage @ Project Only	182	UT	Wind, Sigms Theta Dir. Measured in Degs
118	QB	Discharge, Instantaneous (KEFS)	183	UW	Wind, General
119	QC	Runoff Volume	184	VC	Generation, Surplus Cap of Units on Line
120	QD	Discharge, Canal Diversion	185	VE	Generation, Energy Total
121	QG	Discharge From Power Generation	186	VG	Generation, Pumped Water, Power Produced
122	QI	Discharge, Inflow	187	VH	Generation, Time
123	QL	Discharge, Rule Curve	188	VJ	Generation, Energy Prod From Pumpd Water
124	QM	Discharge, Preproject Conditions in Basn	189	VK	Generation, Energy Store in Reservoir
125	QN	(S) Discharge, Minimum Flow	190	VL	Generation, STORAGE (NATURAL FLOW ONLY)
126	QP	Discharge, Pumping	191	VM	Generation, Losses Due to Spill & Other
127	QR	Discharge, River	192	VP	Generation, Pumping Use, Power Used
128	QS	Discharge, Spillway	193	VQ	Generation, Pump. Use, Total Energy Used
129	QT	Discharge, Computed Total Project Outflo	194	VR	Generation, Stored in Reserve Flow
130	QU	Discharge, Controlled by Regulating Outl	195	VS	Generation, Station Load, Energy Used
131	QV	Cumulative Volume Increment	196	VT	Generation, Power Total
132	QX	(S) Discharge, Maximum Flow	197	VU	Generation, Status
133	QY	Discharge, River at 7 AM	198	VW	Generation, Station Load, Power Used
134	RA	Radiation, Albedo	199	WA	Water, Dissolved Nitrogen & Argon
135	RC	Radiation, Total Sky Cover	200	WB	Water, Oxidation Reduction Potential
136	RD	Radiation, Direct Beam Solar Radiation	201	WC	Water, Conductance
137	RG	Radiation, Gamma	202	WD	Water, % of Dissolved Oxygen
138	RI	Radiation, Accumulated Incoming Solar	203	WE	Water, Sea Level
139	RL	Radiation, Longwave	204	WG	Water, Dissolved Total Gases, Pressure
140	RM	Radiation, Electron Density in Ionosphere	205	WH	Water, Dissolved Hydrogen Sulfide
142	RO	Radiation, Outgoing Solar	206	WI	Water, Depth of Inst. BLW Water Level
143	RP	Radiation, Sunshine Percent of Possible	207	WL	Water, Suspended Sediment
144	RR	Radiation, Partial Flow Rate	208	WO	Water, Dissolved Oxygen
145	RS	Radiation, Sky	209	WP	Water, pH
146	RT	Radiation, Sunshine Hours	210	WQ	Water, Quality
147	RV	Radiation, Flow Rate Air	211	WS	Water, Salinity
148	RZ	Radiation, Global	212	WT	Water, Turbidity
149	SA	Snow, Areal Extend of Basin Snow Cover	213	WV	Water, Velocity
150	SD	Snow, Depth	214	WW	Water, Wwll Level
151	SE	Snow, Pillow Ground Temperature	215	WX	Water, % of Saturation
152	SF	Snow, Depth (New Snowfall)	216	XA	Upper Air Meteorological Data
153	SG	Snow, Pillow Temperature Underground	217	XC	Total Sky Cover

218	XF	Fog
219	XG	Lightning, Numb of Strikes per Grid Box
220	XL	Lightning, Point Strike
221	XM	Carbon Monoxide
222	XO	Ozone Measurements
223	XP	Weather, Past
224	XT	Tropopause
225	XU	Humidity, Absolute
226	XV	Weather, Visibility
227	XW	Weather, Present
228	XX	WMO COodeFM13 IX SHhip
229	XY	Hurricane Radar Data
230	YA	Instrument Testing
231	YB	Pressure Readings from Weirs
232	YD	Dust Flux
233	YI	Instrument Temperature
234	YK	Strain Temperature
235	YL	Transmissometers
236	YM	Magnetosphere Measurements
237	YU	DCP Serial Number
238	YW	Soil Heat Flux
239	YY	DCP STatus(Internal Params of CP)
240	ZA	Test DCP (Test Purposes Only)
241	ZF	Forward Radiated Power (DCP)
242	ZR	Reflected Radiated Power(DCP)
243	ZS	DCP STatus Number
244	ZT	Internal Temperature (DCP)
245	ZL	Error Log
246	ZZ	WMO Code FM63 IX Bathy

AUTHORITY OR SOURCES:

US Geological Survey

3.2.11. TIME_ZONES

This table stores time zone codes.

FIRE.TIME_ZONES

Column Name	Req?	Type & Size	Description
ZONE_CODE	Yes	VC2(3)	A three character abbreviation for the time zone.
ZONE_DESCR	Yes	VC2(25)	A brief time zone name and description.

AUTHORITY OR SOURCES:

FIPS PUB ??.

VALUES:

FIRE.TIME_ZONES

Code	Description
ADT	Atlantic Daylight Time
AST	Atlantic Standard Time
BDT	Bering Daylight Time
BST	Bering Standard Time
CDT	Central Daylight Time
CST	Central Standard Time
EDT	Eastern Daylight Time
EST	Eastern Standard Time
GMT	Greenwich Mean Time
HDT	Hawaiian Daylight Time
HST	Hawaiian Standard Time
MDT	Mountain Daylight Time
MST	Mountain Standard Time
NDT	Newfoundland Standard Time
PDT	Pacific Daylight Time
PST	Pacific Standard Time
UTC	Universal Coordinated Time
YST	Yukon Standard Time
YST	Yukon Standard Time

3.2.12. WX_AGENCY_CODES

This table stores the valid list of agency codes for weather stations.

FIRE.WX_AGENCY_CODES

Column Name	Req?	Type & Size	Description
AGENCY_CODE	Yes	VC2(1)	A numeric code that represents wildland agencies.
AGENCY_ABBR	Yes	VC2(10)	The abbreviation for an agency.
AGENCY_DESCR		VC2(24)	A brief agency name.

AUTHORITY OR SOURCES: Unknown.

VALUES:

FIRE.WX_AGENCY_CODES

Code	Abbr	Description
1	USDA FS	Forest Service
2	USDI BLM	Bureau of Land Management
3	USDI NPS	National Park Service
4	USDI BIA	Bureau of Indian Affairs
5	STATE	State
6	LOCAL GOVT	City, County, Special District
7	PVT/COML	Private or Commercial
8	OTH FEDERAL	Other Federal
9	UNKNOWN	Unknown

3.2.13. WX_SEASON_CODES

This table stores definitions of the four seasons.

FIRE.WX_SEASON_CODES

Column Name	Req?	Type & Size	Description
SEASON_CODE	Yes	VC2(1)	A numeric code that represents the four seasons of the year. Used with the 1988 NFDRS.
SEASON_DESCR	Yes	VC2(15)	Name of the season of the year.

AUTHORITY OR SOURCES: Unknown.

VALUES:

FIRE.WX_SEASON_CODES

Code	Description
1	Winter
2	Spring
3	Summer
4	Fall

3.2.14. WX_SITE_CODES

This table defines the topographic land shape around the weather station.

FIRE.WX_SITE_CODES

Column Name	Req?	Type & Size	Description
SITE_CODE	Yes	VC2(1)	A numeric code designating the general location of the cataloged weather station.
SITE_DESCR	Yes	VC2(22)	A brief description of the general site location of a cataloged weather station.

AUTHORITY OR SOURCES:

National Fire Danger Rating System.

VALUES:

FIRE.WX_SITE_CODES

Code	Description
1	Valley bottom or flat
2	Midslope
3	Ridge or peak top

3.2.15. WX_STATION_TYPES

This table defines types of weather stations.

FIRE.WX_STATION_TYPES

Column Name	Req?	Type & Size	Description
STATION_CODE	Yes	VC2(1)	A one character code designating the type of weather station that is cataloged.
STATION_DESCR	Yes	VC2(20)	A brief definition of cataloged weather station type.
TYPE_NUMBER		NUM(1)	A numeric value that designates the type of weather station that is cataloged.

AUTHORITY OR SOURCES: Unknown.

VALUES:

FIRE.WX_STATION_TYPES

Code	Description	Type
N	Manual (non-NFDRS)	1
M	Manual (NFDRS)	2
A	RAWS (SAT non-NFDRS)	3
R	RAWS (SAT NFDRS)	4
B	RAWS (non-SAT non-NFDRS)	5
C	RAWS (non-SAT NFDRS)	6
H	Historic non-Active	7
D	Dummy	8
U	Unknown	9

3.2.16. WIND_DIRECTION_CODES

This table defines wind direction codes with both an 8 point and 16 point compass.

WIMS.WIND_DIRECTION_CODES

Column Name	Req?	Type & Size	Description
PT8_CODE		NUM(2)	A numeric code that represents the 8 points of the compass.
PT16_CODE	Yes	NUM(2)	A numeric code to define wind direction on a 16 point compass.
WIND_ABBR	Yes	VC2(3)	An abbreviation of the wind direction code.
WIND_DESCR	Yes	VC2(16)	A brief descriptive definition of the wind direction code.
AZIMUTH		NUM(3)	Number of degrees associated with the wind direction code measured clockwise from true north..

AUTHORITY OR SOURCES: Unknown.

VALUES:

WIMS.WIND_DIRECTION_CODES

8-Point	16-Point	Abbr	Description	Azimuth
	1	NNE	North Northeast	23
1	**2**	NE	Northeast	45
	3	ENE	East Northeast	68
2	**4**	E	East	90
	5	ESE	East Southeast	113
3	**6**	SE	Southeast	135
	7	SSE	South Southeast	158
4	**8**	S	south	180
	9	SSW	South Southwest	203
5	**10**	SW	Southwest	225
	11	WSW	West Southwest	248
6	**12**	W	West	270
	13	WNW	West Northwest	293
7	**14**	NW	Northwest	315
	15	NNW	North Northwest	338
8	**16**	N	North	360
0	**17**	FL	Calm or Flat	0

3.3. WEATHER ARCHIVE TABLES

3.3.1. DAILY_OBSERVATIONS

This table stores daily weather observations taken at standard fire weather observation time. The tables stores only one observation per station per day. Observations are added to this table from the WIMS.OBSERVATIONS table by the archive process approximately 18 months after the observation was recorded.

FIRE.OBSERVATIONS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	NUM(7)	A six-digit numeric code identifier assigned to a fire weather station. See the STATION_INFORMATION for defined station codes.
OBSERVATION_DATE	Yes	DATE	The date and time a daily observation record is recorded.
STATE_OF_WEATHER *		NUM(1)	A numeric code between 1 and 9 designating the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records.
DRY_BULB_TEMPERATURE		NUM(6,1)	The temperature of the air, measured in degrees Fahrenheit.
MORNING_LIGHTNING_ACT_LVL *		NUM(1)	A numeric code between 1 and 6 designating the morning lightning activity level. See the NFDRS_LAL_CODES table for codes.
HUMAN_RISK		NUM(3)	A number related to the expected number of human-produced fire brands capable of starting fires that a rating area will be exposed to during a rating period.
WIND_DIRECTION *		NUM(3)	A numeric value that indicates wind direction azimuth measured clockwise from true north..
WIND_SPEED		NUM(4,1)	A numeric value representing the wind speed in miles per hour taken at daily observation time over a ten minute period.
TEN_HR_TL_FUEL_MOISTURE		NUM(3)	The ten hour time-lag fuel stick moisture recorded in a daily weather observation record.
OBS_MAXIMUM_TEMPERATURE		NUM(4)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
OBS_MINIMUM_TEMPERATURE		NUM(4)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless

			of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
MAXIMUM_RELATIVE_HUMIDITY		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MINIMUM_RELATIVE_HUMIDITY		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
PRECIPITATION_DURATION		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
PRECIPITATION_AMOUNT		NUM(6,3)	Any form of atmospheric water, liquid or solid, that reaches the ground and is measured to the tenth of an inch. For the period 1973 through March, 1975, AFFIRMS made only one consistency check on the precipitation amount: values were required to be between 0 and 10.00 inches. Occasionally, field personnel would enter 9 when they should have entered .90 or .09. These three values are all valid as far as the AFFIRMS program is concerned, therefore large precipitation amounts should be viewed with suspicion for this period.
YESTERDAYS_LIGHTNING_ACT_LVL		NUM(1)	A numeric code between 1 and 6 designating yesterday's lightning activity level. See the NFDRS_LAL_CODES table for codes.
RELATIVE_HUMIDITY		NUM(3).	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage
WET_FLAG		VC2(1)	A one character entry (Y or N) to indicate whether or not the fuels are wet or covered with ice or snow at observation time.
PEAK_GUST_DIR *		NUM(3)	A numeric value that indicates wind direction azimuth measured clockwise from true north at the time the peak gust was measured..
PEAK_GUST_SPEED		NUM(4,1)	A numeric value representing the wind speed in miles per hour taken at the time of the daily observation.
HERB_GREENNESS_FACTOR		NUM(2)	A numeric value between 1 and 20 representing the stage of greenness for herbaceous vegetation. Used with the 1988 NFDRS.

SHRUB_GREENNESS_FACTOR		NUM(2)	A numeric value between 1 and 20 representing the stage of greenness for shrubs. Used with the 1988 NFDRS.

3.3.2. WX_DAILY_FORECASTS

This table stores daily weather forecast data for the weather station.

FIRE.WX_DAILY_FORECASTS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	VC2(7)	A six-digit numeric code identifier assigned to a fire weather station. See the STATION_INFORMATION for defined station codes.
FCST_DATE	Yes	DATE	The date of forecast weather for a station.
LAL *		VC2(1)	A numeric code between 1 and 6 designating a observed lightning activity level. See the NFDRS_LAL_CODES table for codes.
SOW *		VC2(1)	A numeric code between 1 and 9 that designates the forecast state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records.
DRY_BULB		NUM(3)	The temperature of the air measured in degrees Fahrenheit.
HCR		VC2(3)	Human-Caused Risk. A number related to the expected number of human-produced fire brands capable of starting fires to which a rating area will be exposed during a rating period.
MAX_RH		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MIN_RH		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MAX_TEMP		NUM(3)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
MIN_TEMP		NUM(3)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS

			converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
PRECIP_DURATION		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
RH		NUM(3)	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage.
TEN_HR_FM		NUM(3)	The ten hour time-lag fuel stick moisture recorded in a daily weather observation record.
WIND_SPEED		NUM(3)	A numeric value representing the wind speed in miles per hour taken at daily observation time over a ten minute period.
WIND_DIR *		VC2(1)	A numeric code between 0 and 8 representing the 8-points of the compass.

3.3.3. WX_DAILY_FUELS

This table stores daily fuel moisture observations.

FIRE.WX_DAILY_FUELS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	VC2(7)	A six-digit numeric code identifier assigned to a fire weather station. See the STATION_INFORMATION for defined station codes.
NFDRS_MODEL	Yes	VC2(2)	A numeric value between 1 and 21 (for 1978 NFDRS) or 27 and 47 (for 1988 NFDRS) representing a code for the NFDRS fuel models.
OBS_DATE	Yes	DATE	The date a daily observation record is recorded. Oracle stores dates in the format 'dd-mon-yy' and must be converted to 'yymmdd' to conform to standard WS D-9a observation format.
MODEL_PRIORITY	Yes	NUM(1)	A numeric value between 1 and 4 specifying the order of precedence for fuel models for a particular weather station.
FUELS_WET		VC2(1)	Indicates whether the 10 hour time-lag fuel moisture sticks were snow or ice covered, or if it was raining at the designated observation time of the reporting station.
HERB_VEG_CONDITION *		VC2(1)	A one character letter code designating the vegetative condition of herbaceous fuels in a daily weather observation record.

3.3.4. WX_DAILY_OBSERVATIONS

This table stores daily weather observations.

FIRE.WX_DAILY_OBSERVATIONS

Column Name	Req?	Type & Size	Description
STATION_ID *	Yes	VC2(7)	A six-digit numeric code identifier assigned to a fire weather station. See the STATION_INFORMATION for defined station codes.
OBS_DATE	Yes	DATE	The date a daily observation record is recorded. Oracle stores dates in the format 'dd-mon-yy' and must be converted to 'yymmdd' to conform to standard WS D-9a observation format.
LAL *		VC2(1)	A numeric code between 1 and 6 designating the observed lightning activity level. See the NFDRS_LAL_CODES table for codes.
SOW *		VC2(1)	A numeric code between 1 and 9 designating the state of the weather (indicates the amount of cloud cover, kind of precipitation, and/or restrictions to visibility) for daily weather observation records.
DRY_BULB		NUM(3)	The temperature of the air, measured in degrees Fahrenheit.
FUEL_STICK_CHG		VC2(1)	A one character 'flag' indicating that the 10 hour TLFM sticks have been changed for a particular weather station on a specific date.
HCR		VC2(3)	Human-Caused Risk. A number related to the expected number of human-produced fire brands capable of starting fires that a rating area will be exposed to during a rating period.
MAX_RH		NUM(3)	Maximum relative humidity. The maximum RH for any daily observation cannot be lower than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MIN_RH		NUM(3)	Minimum relative humidity. The minimum RH for any daily observation cannot be higher than the humidity measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all humidity entries (wet bulb, dew point, or RH) to relative humidity.
MAX_TEMP		NUM(3)	Maximum temperature. The maximum temperature for any daily observation cannot be lower than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit)

			to degrees Fahrenheit.
MIN_TEMP		NUM(3)	Minimum temperature. The minimum temperature for any daily observation cannot be higher than the dry bulb temperature measured at standard observation time the previous day or the current day. Regardless of the humidity definition in the station catalog, WIMS converts all temperature entries (metric or Fahrenheit) to degrees Fahrenheit.
PRECIP_AMOUNT		VC2(4)	Any form of atmospheric water, liquid or solid, that reaches the ground and is measured to the tenth of an inch. For the period 1973 through March, 1975, AFFIRMS made only one consistency check on the precipitation amount: values were required to be between 0 and 10.00 inches. Occasionally, field personnel would enter 9 when they should have entered .90 or .09. These three values are all valid as far as the AFFIRMS program is concerned, therefore large precipitation amounts should be viewed with suspicion for this period.
PRECIP_DURATION		NUM(2)	The time in hours that precipitation lasts within the 24 hour observation period, or the length of time that fuels are exposed to liquid water during this period.
RH		NUM(3)	Relative humidity is the ratio of the actual amount of water vapor in the air to the amount necessary to saturate the air at that temperature and pressure. It is expressed as a percentage.
ONE_HR_FM		NUM(3)	The one hour time-lag fuel stick moisture recorded in a daily weather observation record.
TEN_HR_FM		NUM(3)	The ten hour time-lag fuel stick moisture recorded in a daily weather observation record.
HUN_HR_FM		NUM(3)	The one hundred hour time-lag fuel stick moisture recorded in a daily weather observation record.
WIND_DIR *		VC2(1)	A numeric code between 0 and 8 representing the 8-points of the compass.
WIND_SPEED		NUM(3)	A numeric value representing the wind speed in miles per hour taken at daily observation time over a ten minute period.
WIND_DIR_DEGREES		NUM(3)	The wind direction in degrees azimuth from true north at the time of the weather observation.
GRASS_GREEN_FACTOR		NUM(2)	A numeric value between 1 and 20 representing the stage of greenness for grasses and forbs. Used with the 1988 NFDRS.
SHRUB_GREEN_FACTOR		NUM(2)	A numeric value between 1 and 20 representing the stage of greenness for woody shrub vegetation. Used with the 1988 NFDRS.

3.4. OTHER REFERENCE INFORMATION

3.4.1. WEATHER STATION ASPECT

The weather station aspect codes denote the downslope direction of the land at the station location.

WEATHER STATION ASPECT

Code	Aspect
0	Flat,/None
1	Northeast (NE)
2	East (E)
3	Southeast (SE)
4	South (S)
5	Southwest (SW)
6	West (W)
7	Northwest (NW)
8	North (N)

4. COMMON USE REFERENCE TABLES

The tables in this section are shared by both the Weather and Fire Occurrence data tables. All but two of these tables are exactly the same or a superset of FS_ATLAS tables used throughout the Forest Service. The STATES and COUNTIES tables have columns for AFFIRMS codes added.

4.1.1. COUNTIES

This table stores numeric codes, names, and other information for U.S. counties. Except for the addition of AFFIRMS_CNTY, this table is the same as the COUNTIES table in the FS*ATLAS.

FIRE.COUNTIES

Column Name	Req?	Type & Size	Description
STATE_CODE *	Yes	VC2(2)	A numeric code that represents the FIPS designator for a state or possession in the U.S. See the STATES table for valid codes.
COUNTY_CODE	Yes	VC2(3)	A numeric Federal Information Processing Standards code for a U.S. county or Parish. County must be qualified by a state code to make it unique.
COUNTY_NAME	Yes	VC2(20)	The full place name of a county within a state of the U.S.
COUNTY_ABBR		VC2(5)	An abbreviation (up to 5 characters) for the name of the county..
AFFIRMS_CNTY		VC2(2)	The county number assigned to an AFFIRMS station by the National Weather Service. The third and fourth digits in the six digit station identifier.

AUTHORITY OR SOURCES:

FIPS PUB-??

VALUES: See table. The table is too lengthy for inclusion here.

4.1.2. MERIDIAN_STATES

.

This table defines the states for which each principal meridian is valid.

FIRE.MERIDIAN_STATES

Column Name	Req?	Type & Size	Description
MERIDIAN_CODE *	Yes	VC2(2)	A numeric code that identifies the principal meridian. See the PRINCIPAL_MERIDIANS table for valid codes.
STATE *	Yes	VC2(2)	A two letter abbreviation representing the FIPS designator for a state or possession in the U.S. See the STATES table for valid codes.

AUTHORITY OR SOURCES: Unknown.

VALUES:

See the STATES table description for a list of valid states for each principal meridian.

4.1.3. PRINCIPAL_MERIDIANS

This table defines the name, code, and other information for the principal meridians in the United States. If a base point is defined, the latitude and longitude of that point are listed. The Public Land Survey System (PLSS) was established by the Northwest Ordinance of 1785. The survey covers 30 states.

FIRE.PRINCIPAL_MERIDIANS

Column Name	Req?	Type & Size	Description
MERIDIAN_CODE	Yes	VC2(2)	A numeric code that identifies the principal meridian applicable to the location.
MERIDIAN_NAME	Yes	VC2(22)	The full name of the principal meridian.
MERIDIAN_ABBR		VC2(3)	An abbreviation (up to 3 characters) for the principal meridian name..
LAT_DEG		NUM(2)	Number of degrees north latitude for the meridian base point.
LAT_MIN		NUM(2)	Number of minutes latitude for the meridian base point.
LAT_SEC		NUM(5,3)	Number of seconds latitude for the meridian base point.
LONG_DEG		NUM(3)	Number of degrees longitude west of the prime meridian for the meridian base point.
LONG_MIN		NUM(2)	Number of minutes longitude for the meridian base point.
LONG_SEC		NUM(5,3)	Number of seconds longitude for the meridian base point.
REMARKS		VC2(240)	An alphanumeric free text field to capture important information about a meridian, such as year originated, that cannot otherwise be coded.

AUTHORITY OR SOURCES: Bureau of Land Management

FIRE.PRINCIPAL_MERIDIANS

Mer	Meridian Name	Abbr	States
01	First Principal	1	IN, OH
02	Second Principal	2	IL, IN
03	Third Principal	3	IL
04	Fourth Principal	4	IL, MN, WI
05	Fifth Principal	5	AR, IA, MN, MO, ND, SD
06	Sixth Principal	6	CO, KS, NE, SD, WY
07	Black Hills	BH	SD
08	Boise	BO	ID
09	Chickasaw	CHI	MS
10	Choctaw	CHO	MS
11	Cimarron	CIM	OK
12	Copper River	CR	AK
13	Fairbanks	FB	AK
14	Gila and Salt River	GSR	AZ

15	Humboldt	HUM	CA
16	Huntsville	HUN	AL
17	Indian	IN	OK
18	Louisiana	LOU	LA
19	Michigan	MI	MI, OH
20	Principal	MT	MT
21	Mt. Diablo	MD	CA, NV
22	Navajo	NAV	AZ
23	New Mexico	NM	CO, NM
24	St. Helena	SH	LA
25	St. Stephens	SS	AL, MS
26	Salt Lake	SL	UT
27	San Bernardino	SB	CA
28	Seward	SEW	AK
29	Tallahassee	TAL	AL
30	Uintah	UIN	UT
31	Ute	UTE	CO
32	Washington	WA	MS
33	Willamette	WIL	OR, WA
34	Wind River	WR	WY
35	Ohio	OHI	OH
36	Great Miami River	GMR	OH
37	Muskingum River	MUS	OH
38	Ohio River	OR	OH
39	First Scioto River	SC1	OH
40	Second Scioto River	SC2	OH
41	Third Scioto River	SC3	OH
42	Ellicotts Line	ELL	OH
43	12 Mile Square	12M	OH
44	Kateel River	KR	AK
45	Umiat	UMI	AK

4.1.4. STATES

This table defines valid identifiers for states, territories, and possessions of the United States. Except for the addition of AFFIRMS_STATE, this table is the same as the STATES table in other Forest Service databases, XE "U.S. possessions" \t "*See* State code"

FIRE.STATES

Column Name	Req?	Type & Size	Description
STATE_CODE	Yes	VC(2)	A numeric code representing the FIPS designator for a state or possession in the U.S.
STATE	Yes	VC2(2)	A two character abbreviation representing the FIPS designator for a state or possession in the U.S.
STATE_NAME	Yes	VC2(30)	The full place name of a state or possession in the U.S.
AFFIRMS_STATE		VC(2)	The state number assigned to an AFFIRMS station the National Weather Service. The first and second digits in the six digit station number.

AUTHORITY OR SOURCES:

VALUES:

5. OTHER REFERENCE INFORMATION

5.1. REFERENCES

National Fire Danger Rating System
Forest Service Handbook FSH 5109.14

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