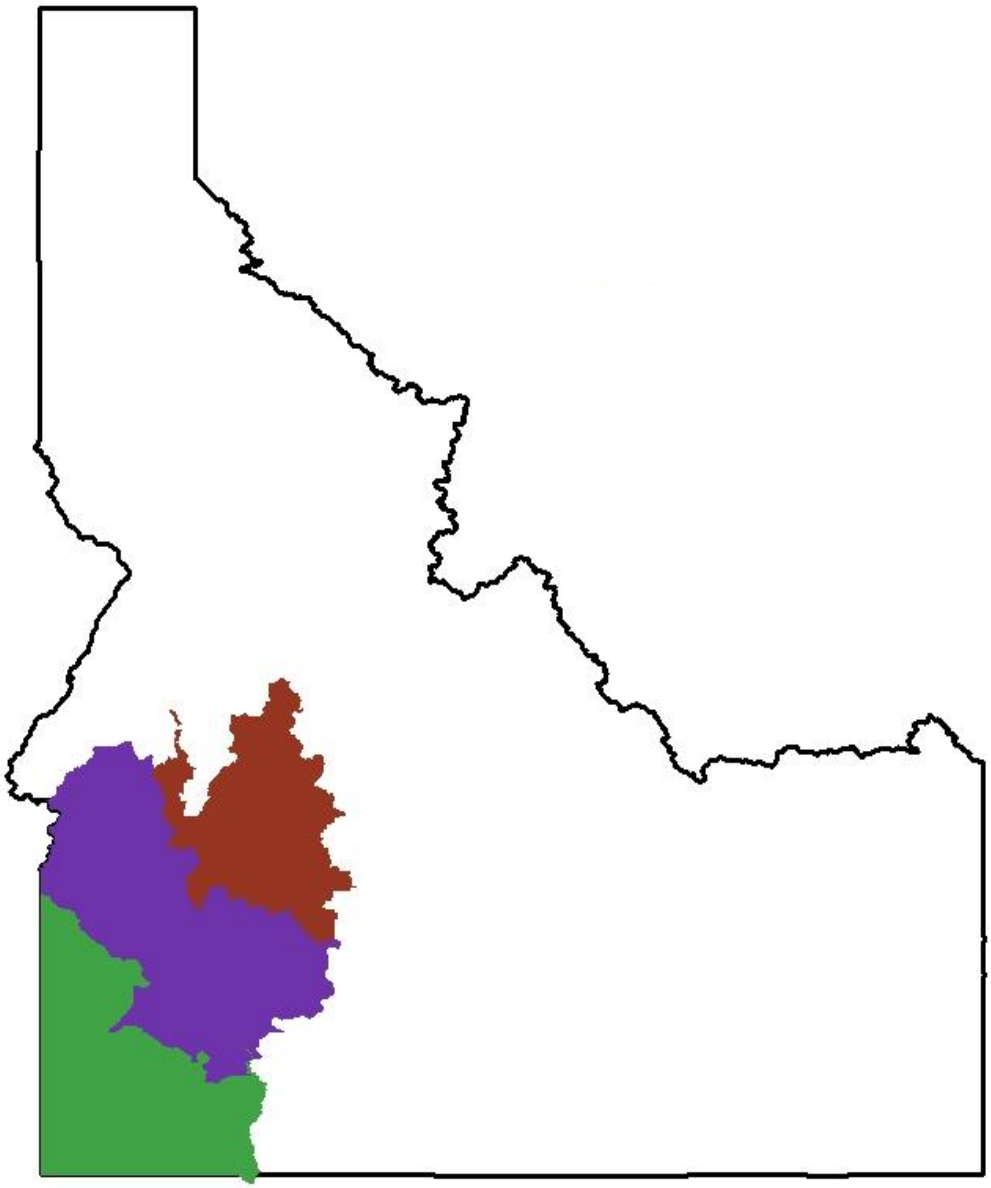
SOUTHWEST IDAHO INTERAGENCY FIRE DANGER OPERATING & PREPAREDNESS PLAN

March 2012 Revision



Changes to the FDOP for 2012

- Added weather and fire data through 2011 in order to reanalyze the fire business candidates.
- Selected new fire business candidates
- Analyses were completed on the fuel models. By request of the Forest Boise Mountains FDRA changed from a FM H to FM G due to the statistical correlation with Large Fire and Multiple Fire Days. For the Snake River and Foothills and Owyhee FDRA the fuel models were kept the same by request of the BLM District FMO. The decision points were adjusted slightly for best fit for both the dispatch and preparedness levels for all three FDRAs. The NFDRS variables were kept the same.
- A weather station analysis to determine which RAWS stations to use for each FDRA was not completed this year as as it was part of the last two revisions. For the Owyhee FDRA, Pole Creek RAWS was removed as part of the group due BLM most likely removing it from service in FY13.
- Individual weather station observations were reviewed for quality control and edited as needed for the entire analysis period. This was completed due to the poor file management that Fire Family Plus offers, different personnel working on the FDOP, and unsure on what data we did have.
- The Fire History data was reviewed and cleaned within each FDRA. Also duplicate fires from agency to agency were deleted as needed. Again this was completed this year due to the poor file management that Fire Family Plus offers and different personnel working on the FDOP so not sure on the data that we had.
- The Pocket Card was updated with current information. The format of the card was unchanged.
- Added Appendices on what was done to update Fire History and Fire Business Candidates with Fire Family Plus
- Updated Vegetation Map to use the 40 Standard Fire Behavior Fuel Model Definitions
- Updated Land Status, Dispatch Zones, and Agency Fire Occurenece Maps
- Added to the Boise Dispatch Responsibility Area and Ownership Acres Tables
- Updated the vegetation and fuels descriptions for each FDRA
- Added additional instructions for the Preparedness Level Worksheet
- All charts, graphs, breakpoints, inventories, and screen captures were updated
- Added a Revision Changes section of the FDOP

Changes to the FDOP for 2010

- Edited the dispatch levels for the Boise Mountain FDRA. Statistics were showing that there were 24 days that the area was in a high dispatch with only moderate conditions. The high dispatch level also now corresponds to the critical level of ERC in terms of large or problem fires.
- Edited to reflect the changes made to the Snake River / Foothills FDRA. The RAWS stations used were changed after an analysis was done with the weather outputs. Also slightly changes the dispatch levels to better reflect past fire history.
- The wrong charts were used for the Boise Mountain FDRA for the Dispatch and Preparedness Levels, pages 67-68.
- Added new Pocket Card for 2010. Modified from three cards to one.
- Changes were made to the Team Members and WIMS access list.

Only slight edits were made this year as we thought we would like to see more of active fire seasons before major edits to the plan were done.

SOUTHWEST IDAHO INTERAGENCY FIRE DANGER OPERATING AND PREPAREDNESS PLAN

RECOMMENDED BY:

4/27/2012

Bob Shindelar, Forest Fire Management Officer — **Date**
US Forest Service, Boise National Forest

4/22/12

Andy Delmas, Fire Management Officer — **Date**
Bureau of Land Management, Boise District

4/30/12

Dan Christman, Resource Supervisor – Fire — **Date**
Idaho Department of Lands

APPROVED BY:

4/27/2012

for **Cecilia Seesholtz, Forest Supervisor** — **Date**
US Forest Service, Boise National Forest

4/23/12

Aden Seidlitz, District Manager — **Date**
Bureau of Land Management, Boise District

4/30/12

Steve Douglas, Southwest Area Manager — **Date**
Idaho Department of Lands

I. Introduction

Each Agency (BLM, USFS, and State) must maintain an appropriate level of preparedness to meet wildland fire management objectives. Preparedness is based upon the assessment of fuels and weather conditions utilizing the National Fire Danger Rating System (NFDRS). This Fire Danger Operating Plan (FDOP) documents the establishment and management of the Boise Interagency fire weather system and incorporates NFDRS fire danger modeling into fire management decisions. In addition, this plan combines an Operating Plan with a Preparedness Plan for three wildland fire management agencies in southwest Idaho (BLM, USFS, and IDL). Direction for development of a Fire Danger Operating and Preparedness Plan can be found in the BLM/USFS *Standards for Fire and Aviation Operations* and *Forest Service Manual 5120.*

This plan simplifies the decision-making process for agency administrators, fire managers, dispatchers, agency cooperators, and firefighters by establishing agency planning and dispatch levels using the best available scientific methods and historical weather/fire data. In addition, this plan outlines procedures for developing seasonal risk analysis and defines fire severity trigger points. Furthermore, this plan addresses the *Thirtymile Fire Accident Prevention Action Items* by providing the direction necessary to convey fire danger awareness to fire management personnel of escalating fire potential. This awareness is critical when wildland fire danger levels are at severe thresholds which may significantly compromise safety and control.

This plan addresses fire danger levels and ratings and corresponding appropriate responses, with an emphasis on proactive information and resource sharing between Federal, State and local agencies, private industry, and the general public.

II. Objectives

Provide a tool for agency administrators, fire managers, dispatchers, agency cooperators, and firefighters to correlate fire danger ratings with appropriate fire business decisions in southwest Idaho.

Delineate fire danger rating areas (FDRA's) in southwest Idaho with similar climate, fuels, and topography.

Establish a fire weather-monitoring network consisting of Remote Automated Weather Stations (RAWS) which comply with NWCG NFDRS Weather Station Standards (PMS 426-3).

Determine fire business and adjective fire danger rating break points using Weather Information Management System (WIMS), National Fire Danger Rating System (NFDRS), Fire Family Plus software, and analysis of historical weather and fire occurrence data.

Define roles and responsibilities regarding fire preparedness decisions, manage weather information, and brief fire suppression personnel regarding current and potential fire danger.

Ensure agency administrators, fire managers, cooperating agencies, industry, and the public are notified of the potential fire danger.

Provide guidance to interagency personnel outlining specific daily actions to take at each preparedness level.

Identify seasonal risk analysis criteria and establish general fire severity thresholds.

Identify season-ending events using a probabilities analysis

Develop and distribute fire danger pocket cards to all personnel involved with fire suppression activities within the southwest Idaho Fire Danger Rating Areas.

Identify program needs and suggest improvements for the Fire Danger Operating and Preparedness Plan.

III. Inventory and Analysis

In order to apply a system which will assist managers with fire management decisions, the problems must be inventoried and analyzed to determine the most appropriate system to adequately address the issues.

A. Involved Parties

This plan will affect a wide range of entities. However, they can be grouped into three broad categories:

Agency: Employees of federal, state, and local governments which cooperate in fire management operations. This includes BLM, USFS and State of Idaho employees, along with volunteer fire departments and military personnel.

Industry: Organizations that either utilize the natural resources or have permitted activities on federal, state, or private wildlands for commercial purposes. These entities or activities include ranchers, hazardous material disposal sites, railroads, timber harvesting, filming, ski resorts, building construction, etc.

Public: Individuals who use the land for recreational purposes such as off-highway vehicle (OHV) use, camping, hiking, fishing, skiing, firewood gathering, mountain biking, or general travel. This group also includes those living within the wildand/urban interface.

B. Agency, Public, and Industry Interaction

The following matrix demonstrates the differences between the target groups (Agency, Industry, and Public). The ability to regulate, educate, or control a user group will be based upon the interface method and how quickly they can react to the action taken. In addition, each action will result in positive and/or negative impacts to the user groups. Consequently, the decision tool which would be most appropriate would depend upon the sensitivity of the target group to the implementation of the action.

Table 1. Target Groups

Involved Party	Action	Controllability	Interface Method	Potential Positive Impacts	Potential Negative Impacts	Decision Tool
Agency	Initial Attack (IA) response	Moderate/High	Radio Telephone Fax E-mail	Successful IA	Accidents/incidents	Burning Index
	Automatic Dispatch of Initial Attack Resources			Resources effective	Resources not essential for successful IA	Burning Index
	Pre-positioning of Resources			Improved IA capability	Financial Logistical	Energy Release Component
	Suspension of Prescribed Fire Projects			Prevent escaped RX fires	Missed opportunity to treat fuels	Energy Release Component
	Extended Staffing			Improved IA capability	Financial Logistical	Burning Index
	Fires Managed for Multiple Objectives			Ecological Benefits	Public Perception	Energy Release Component
Industry	Chainsaw Restrictions/ mechanized equipment restrictions	Low/Moderate	Telephone Mail E-mail Face-to-Face Signs	Fire Prevention	Political Financial	Energy Release Component
	OHV Restrictions			Fire Prevention	Political Financial	Energy Release Component
Public	Campground / area closures	Low	Newspaper Television Signs Internet Face-to-Face	Fire Prevention	Political Financial	Energy Release Component
	Fuelwood cutting restrictions			Fire Prevention	Political Financial	Energy Release Component
	OHV restrictions			Fire Prevention	Political Financial	Energy Release Component
	Debris Burning /Burn Permit			Fire Prevention	Political Financial	Energy Release Component
	Fireworks			Fire Prevention	Political Financial	Energy Release Component
	Fire Restrictions / Burn Permits			Fire Prevention	Political Public Perception	Energy Release Component

C. Fire Danger Rating Inventory

Southwest Idaho fire danger planning zone encompasses almost nine million acres with wildland fire management responsibilities belonging to Bureau of Land Management, US Forest Service and Idaho Department of Lands along with numerous cooperators such as city and rural fire protection districts and military. Below are two charts showing acres and ownership for the area.

Table 2. Protection Responsibility Acres

	BOISE DISTRICT BLM	BOISE NATIONAL FOREST	SOUTHWEST IDAHO DEPARTMENT OF LANDS
OWNERSHIP ACRES	3,823,230	1,932,919	500,999
PROTECTION ACRES	6,589,482	1,952,026	393,089
BOISE DISPATCH PROTECTION RESPONSIBILITY ACRES			**8,934,562**

Table 3. Ownership Acres

OWNERSHIP ACRES BY PROTECTION AREA			
	BOISE DISTRICT BLM	BOISE NATIONAL FOREST	SW IDAHO DEPT OF LANDS
BLM	3,787,352	16,535	19,343
BOR	25,849	46,697	1385
HISTORIC WATER	23,863	5214	723
MILITARY	10,311	805	104
NATIONAL WILDLIFE REFUGE	763	0	0
PRIVATE	2,214,543	119,082	193,558
STATE	418,877	46,352	35,770
STATE FISH & GAME	18,708	5596	432
STATE OTHER	4094	0	0
STATE PARKS & REC	5687	0	0
USFS	79,435	1,711,745	141,739

Southwest Idaho is a highly diverse area which includes the peak of the Boise Mountains to the north, the Owyhee Mountain Range to the south, and in between the Snake River Plateau. The planning zone has three Fire Danger Rating Areas (FDRA's). They are identified as Boise Mountains, Snake River and Foothills, and Owyhee Canyonlands. These areas were delineated based on their relatively homogeneous fuels, climate, and topographical characteristics. Refer to Appendix L Maps 4-7.

Boise Mountains Fire Danger Rating Area:

Location: The Boise Mountains FDRA is defined with the following Geographic boundaries: From the point where the Boise National Forest boundary intersects Idaho State highway 20 near Dixie following the Boise Forest boundary west and North along the ridge of the Danskin to Boise front foothills and extending North encompassing the Idaho Department of Lands jurisdictional boundary to its intersection back with the Boise National Forest boundary near Sagehen reservoir. The far northern boundary includes all Boise National Forest administered lands north of Sagehen reservoir including Tripod Mountain and West Mountain within the North Fork Payette river drainage north to near Tamarack Resort. This FDRA includes all lands within the Boise Forest boundary north to Yellowpine and south to Camas reservoir which includes lands west of Pine and Featherville, which are Sawtooth National forest lands protected by the Boise National Forest. This FDRA encompasses approximately 2.2 million acres.

Vegetation and Fuels: Fuels within the Boise Mountains FDRA are highly variable and complex. They range from shrub-steppe communities at the lowest elevation to alpine communities at the highest. Low elevation shrub-steppe includes several subspecies of sagebrush along with perennial and non-native annual grasses. These areas are bordered by persistent aspen, ponderosa pine and ponderosa pine/Douglas-fir forest communities which represent the warm, dry extreme of the forested zone. Douglas-fir becomes more prominent as elevation increases and can occur as a co-dominant species with lodgepole pine, grand fir, subalpine fire and western larch. The lower elevation ponderosa pine/Douglas-fir communities were historically fire dependent and frequently exposed to low intensity non-lethal fire events. Aspen occurs as small inclusions in the forested zone but was likely more obvious on the landscape under the historical fire regimes. Fires were historically a mixed fire regime at mid to higher elevations in dry Douglas-fir and warm subalpine fir-Engleman spruce communities. The mixed and lethal complexes were historically visited by fire more infrequently with the effected area being a mix of lethal and non-lethal events which maintained a mosaic of uneven-aged stands across the landscape.

Climate: Climate patterns are typically warm to hot and dry during the summer and fall. In the late spring and summer, moisture from the Gulf of Mexico may move north and combine with warm seasonal temperatures and steep topography to create high-intensity, short duration thunderstorms. Late spring events generally have more precipitation with 24-hour totals often greater than 0.5 inches. Dry lightning is more common during summer and fall and have potential to create frequent multi-fire events which can exceed local staffing capabilities. Maximum summer daytime temperatures can reach over 100 degrees at lower elevations, with higher elevations in the 80s to 90s. Growing seasons vary greatly from 30 days in the alpine areas to over 150 days in the lower valleys. The Boise Mountains FDRA spans climate classes 2 and 3.

Topography: The Boise Mountains FDRA is a landscape which varies greatly with elevations of 2,800 feet in the river canyons to 10,000 feet atop Steel Mountain. Key features include the Boise and Salmon River mountains which are characterized by forested slopes and steep river drainages. Three major landforms dominate this FDRA:

- High elevation distinctive mountains and valleys formed from alpine glaciations.
- Lands with sharply defined drainage patterns formed by stream cutting action.
- Lands formed by volcanic floss

Fire Occurrence: From 1956 to 2010 a total of 10,783 fires were recorded within the FDRA burning 3,675,359 acres. Lighting accounts for nearly 80% of fire occurrence in the FDRA. Campfires, debris burning and smoking were the leading human causes. Fires commonly occur from June through October with the months of July and August representing the largest percentage of fire occurrence.

Snake River and Foothills Fire Danger Rating Area

Location: The Snake River and Foothills FDRA is bounded by the Idaho/Oregon border on the west. The southern boundary generally follows the Snake River from the Idaho/Oregon boundary to Oreana then follows the Bachman Grade to Triangle and continues east-northeast generally along the 4600 foot elevation line of the Owyhee Front to the Bruneau River. The northern boundary begins near Weiser Idaho and follows Hwy 95 to Indian Valley, then generally follows the Little Weiser River to the Payette and Boise National Boundary line where it follows the southern boundary of the Boise Mountains FDRA to the dispatch center boundary. The eastern boundary is the District boundary between the Boise and Twin Falls BLM District's. This FDRA encompasses approximately 3.9 million acres.

Vegetation and Fuels: Historically, much of the Snake River and Foothills FDRA was covered by sagebrush steppe and salt desert shrublands. Prinicipal shrub species include big and low sagebrush, rabbitbrush (*Chrysothamnus* spp.), antelope bitterbrush (*Purshia tridentata*), winterfat, and various Atriplex. These vegetation communities are highly suceptiable to invasion by annual grasses and other non-native species, particularly when heavy livestock grazing occurs during drought periods. This combination of factors in the early twentieth century caused the establishment of large areas, particularly within the Snake River Plain, to be dominated by annual grasses, such as cheat grass and medusahead wildrye, and exotic annual forbs. The resulting reduction in the mean fire return interval led to their expansion into adjacent shrublands. Futher loss of sagebrush steppe is due to the conversion of private land to agricultural cropland, residential development, and historic seeding practices (Southwestern Idaho FMP 2011). Annual grasses are dominated by cheatgrass (*Bromus tectorum*) and medusahead wildrye (*Taeniatherum caput-medusae*). Perennial grasses are dominated by perennial montane grasses such as (*Festuca* spp., *Poa* spp., *Bromus* spp., and *Stipa* spp.), and seeded grass species such as crested wheatgrass (*Agropyron cristatum*).

Climate: The Snake River and Foothills FDRA is in climate class 1. Precipitation is generally 12 inches or less. The FDRA is typified by hot, dry fire seasons. The general air flow during fire season is westerly or southwesterly. However, the Snake River moves through the FDRA in a southeast to northeast direction, which can channel winds. Thunderstorms capable of producing strong and erratic winds are a threat throughout the FDRA during fire season. However, the peak times for thunderstorms are mid-June through mid-August. Due to low elevation and dry conditions typical of the FDRA virga is a common occurrence with thunderstorms.

Topography: The Snake River and Foothills FDRA is characterized by flat and rolling terrain. Elevation ranges from a low of approximately 2100 feet on the Snake River near Weiser, to approximately 4000 feet on the higher bluffs within the FDRA. The Snake River Canyon is a major topographic feature of the FDRA. Much of the FDRA is accessible by vehicle because of the flat and rolling nature of terrain within this FDRA. It also includes the King Hill Creek Wilderness Study Area.

Fire Occurrence: From 1956 to 2010 a total of 3073 fires were recorded burning a total of 2,049,824 acres. Historically, over 20% of fires in this area are larger than 100 acres with nearly 60% of ignitions being human caused. Equipment use is the most common cause, followed by railroad, debris burning and arson. Fires commonly occur from May through October with June through September being the busiest months.

Owyhee Canyonlands Fire Danger Rating Area

Location: The Owyhee Canyonlands FDRA is bounded by the Idaho/Nevada border on the south; the Idaho-Oregon border on the west; and the Bruneau River on the east. The northern boundary generally follows the Snake River from the Idaho/Oregon boundary to Oreana then follows the Bachman Grade to Triangle and continues east-northeast generally along the 4600 foot elevation line of the Owyhee Front to the Bruneau River. The FDRA encompasses approximately 3.2 million acres. The FDRA includes approximately 146,000 acres of the Duck Valley Indian Reservation. Most of the remainder of land in this FDRA is owned by the BLM and IDL.

Vegetation and Fuels: The fuels complex of the Owyhee Canyonlands FDRA is dominated by juniper woodlands and mid-elevation shrubs in the western portion. The eastern portion is dominated by shrubs (mid-elevation, low-elevation, and salt-desert). The juniper woodlands are dominated by western juniper *(Juniperis occidentalis*). In some areas, "western juniper woodlands have expanded into mid-elevation shrub-steppe communities, forming dense seral stands, with a depauperate understory of shrubs, forbs, and grasses. In contrast to climax juniper stands, which tend to occur on shallow stony ridge top sites, seral stands occupy deep-soiled loamy sites in swales and valley bottoms". (Southwestern Idaho FMP 2011).

The mid-elevation shrub areas are dominated by mountain big sagebrush (ArtimesiaTridentata var. *vaseyana*), low sagebrush (*Artemisia arbuscala*), and curl-leaf mountainmahogany (*Cercocarpusledifolius*). The low elevation shrub areas are dominated by Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), basin big sagebrush (*Artemisia tridentata tridentata*), and antelope bitterbrush (*Purshia tridentata*),winterfat (*Krascheninnikovia lanata*), and green rabbitbrush (*Chrysothamnus viscidiflorus*). The salt desert shrub areas are dominated by budsage (*Picrothamnus desertorum*), cheatgrass (*Bromustectorum*), greasewood (*Sarcobatus vermiculatus*), horsebrush (*Tetradymia* spp.) (, saltbrushes (*Atriplex* spp.), and winterfat (*Krascheninnikovia lanata*).

Other fuel types found in the FDRA in coverages of generally less than 5% in the represented Fire Planning Units include annual grasses, perennial grasses, aspen, dry conifers, riparian, and wet/cold conifers.

Climate: The Owyhee Canyonlands FDRA is in climate class 1. The FDRA is typified by arid to semi-arid desert and steppe country. The average annual precipitation at weather stations in the middle of the elevation represented in the FDRA is 15 inches. During fire season hot and dry conditions dominate. The general wind flow patterns during fire season are westerly or southwesterly. Thunderstorms capable of producing strong erratic winds are a threat throughout the FDRA during fire season. Large snow accumulations are possible in the higher elevations of the FDRA. However, melting generally occurs sooner in the Owyhee Mountains than other mountains in Idaho. The peak river flows usually occur in late May and June.

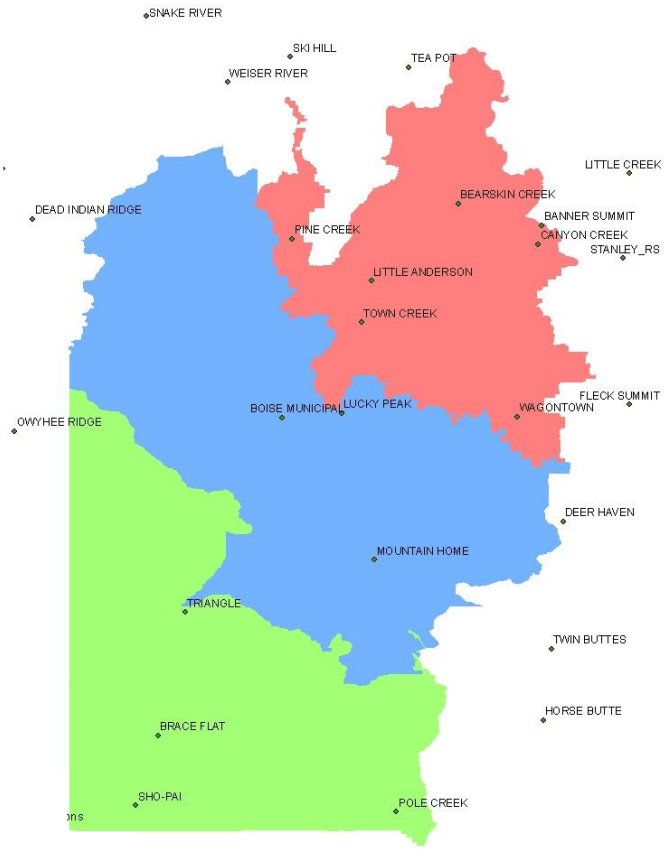
Topography: The elevation of the Owyhee Canyonlands FDRA ranges from a low of generally 4000 feet to a high of 8400 feet. The eastern and southern portions of the FDRA are characterized by deep river canyons and large plateau areas. The northwestern portion of the FDRA is dominated by the Owyhee Mountain Range. The terrain throughout the FDRA is largely inaccessible by vehicles. The FDRA includes the following Wilderness Areas: North Fork Owyhee, Pole Creek, Owyhee River, and Bruneau-Jarbidge.

Fire Occurrence: From 1956 to 2010, 362 fires were recorded in the Owyhee Canyonlands Fire Danger Rating Area burning a little more than 290,119 acres. Historically, nearly 60% of fires are caused by lightning with equipment and debris burning as the primary causes of human starts within the FDRA. Nearly 70% of fires occurred in July and August.

D. Weather Station Information

Description

Within the Southwest Planning Zone we manage a total of 10 Remote Automated Weather Stations (RAWS). The Boise National Forest manages five active stations: Bearskin, Pine Creek, Little Anderson, Town Creek and Wagon Town. All of these stations comply with NWCG NFDRS Weather Station Standards. The Boise District BLM also manages five active RAWS: Dead Indian Ridge, Mountain Home, Brace Flat, Triangle, and Pole Creek. All of these stations comply with NWCG NFDRS Weather Station Standards. Additionally, the Boise District coordinates with the Boise National Weather Service office to maintain the Boise Manual station.



Quality Control

A total of 27 RAWS were reviewed for quality data from our area and surrounding areas to find which stations might best represent our area and the FDRA. This involved obtaining the original unprocessed historical weather data for each station, review the information, edit or remove erroneous readings, estimate missing readings when appropriate, and finding the stations with the most complete and consistant amount of data. Then a correlation analysis was completed to see which stations were most compatible with each other and represent the FDRA.

From the quality control analysis, RAWS were chosen to represent each FDRA. For Boise Mountains FDRA, the Pine Creek and Town Creek stations have been combined with the Payette NF managed Weiser River and Skihill stations in WIMS to create a Special Interest Group (SIG) to compute an equally weighted set of fire danger indices. The Dead Indian Ridge, Mountain Home and Horse Butte stations were combined in WIMS to create a SIG representing the Snake River and Foothills area. For Owyhee Canyonlands, Brace Flat and Triangle were combined with the Owyhee Ridge RAWS which is managed by Vale District BLM. The Pole Creek RAWS was also used until this year as the station is scheduled to be removed in FY13.

Table 4. Remote Automated Weather Stations by FDRA

	WIMS STATION ID	STATION NAME	STATUS	AGENCY/OWNER	ELEVATION	WIMS DATA YEARS
BOISE MOUNTAINS	101108	WEISER RIVER	ACTIVE	USFS ID-PAF	3900	1982-PRESENT
	101222	PINE CREEK	ACTIVE	USFS ID-BOF	5600	1984-PRESENT
	101223	SKI HILL	ACTIVE	USFS ID-PAF	5600	1987-PRESENT
	101708	TOWN CREEK	ACTIVE	USFS ID-BOF	4500	1982-PRESENT

	WIMS STATION ID	STATION NAME	STATUS	AGENCY/OWNER	ELEVATION	WIMS DATA YEARS
SNAKE RIVER AND FOOTHILLS	101402	DEAD INDIAN RIDGE	ACTIVE	BLM ID-BOD	3750	1990-PRESENT
	102709	MOUNTAIN HOME	ACTIVE	BLM ID-BOD	3350	1966-PRESENT
	103205	HORSE BUTTE	ACTIVE	BLM ID-TFD	5000	1983-PRESENT

	WIMS STATION ID	STATION NAME	STATUS	AGENCY/OWNER	ELEVATION	WIMS DATA YEARS
OWYHEE CANYONLANDS	103207	BRACE FLAT	ACTIVE	BLM ID-BOD	4900	1990-PRESENT
	103208	TRIANGLE	ACTIVE	BLM ID-BOD	5270	1990-PRESENT
	353614	OWYHEE RIDGE	ACTIVE	BLM OR-VAD	4400	1985-PRESENT

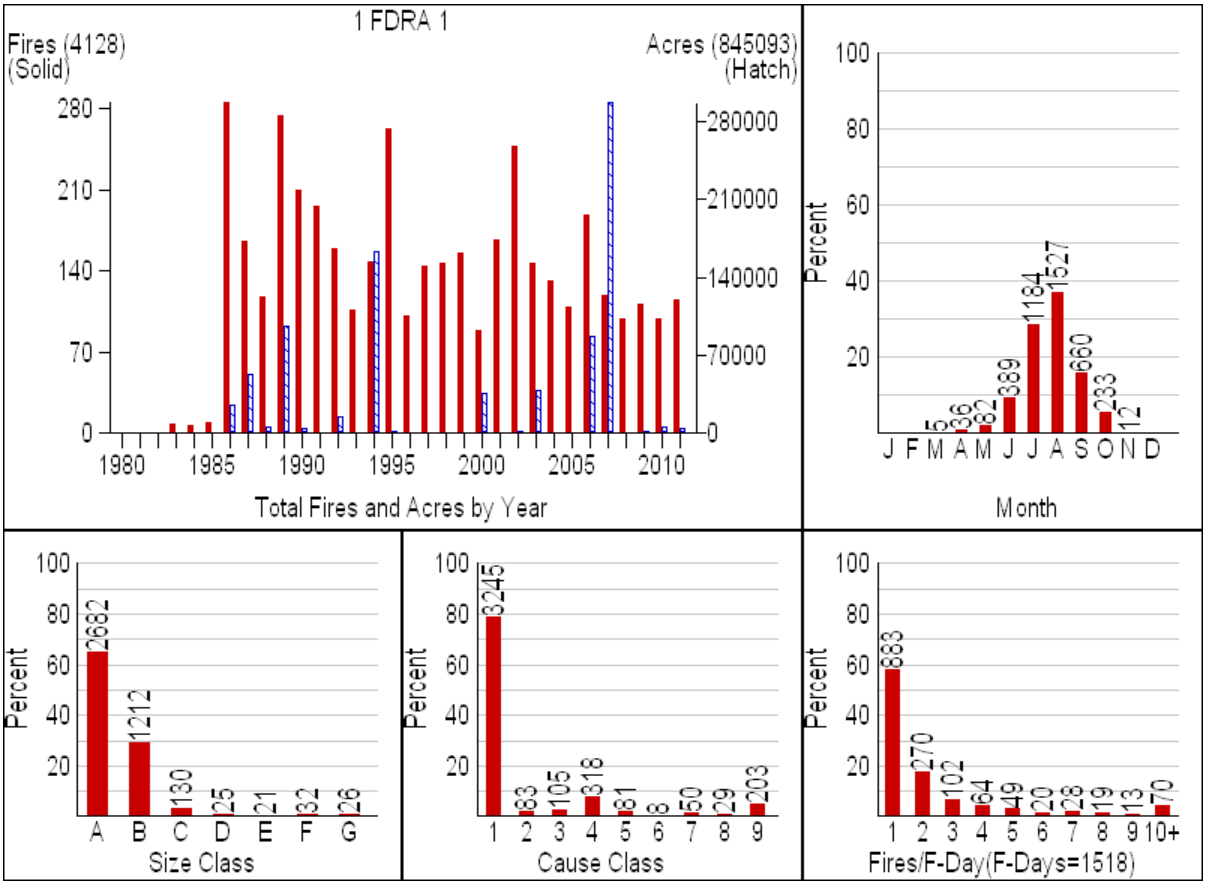
	WIMS STATION ID	STATION NAME	STATUS	AGENCY/OWNER	ELEVATION	WIMS DATA YEARS
OTHER RAWS USED IN THE ANALYSIS	101220	TEAPOT	ACTIVE	USFS-ID-PAF	5152	1986-PRESENT
	101221	BEARSKIN CREEK	ACTIVE	USFS-ID-BOF	6700	1982- PRESENT
	101710	LITTLE ANDERSON	ACTIVE	USFS-ID-BOF	4560	2001- PRESENT
	101805	LITTLE CREEK	ACTIVE	USFS-ID-SCF	4400	1963- PRESENT
	101809	STANLEY	ACTIVE	USFS-ID-STF	6286	1960- PRESENT
	101812	HORTON PEAK	ACTIVE	USFS-ID-STF	8700	1982- PRESENT
	102601	BOISE SOUTH	ACTIVE	BLM-ID-BOD	2838	1975- PRESENT
	102711	DEER HAVEN	ACTIVE	BLM-ID-TFD	5550	1990- PRESENT
	102712	WAGONTOWN	ACTIVE	USFS-ID-BOF	6200	2003- PRESENT
	102802	FLECK SUMMIT	ACTIVE	USFS-ID-STF	7100	1997- PRESENT
	102903	NORTH FORK	ACTIVE	USFS-ID-SNF	2733	1961- PRESENT
	103209	TWIN BUTTES	ACTIVE	BLM-ID-TFD	3330	1990- PRESENT
	103210	POLE CREEK	ACTIVE	BLM-ID-BOD	5660	1990-PRESENT
	103211	SHO-PAI	ACTIVE	BIA-NV-DVA	5315	2005- PRESENT
	352420	MORGAN MOUNTAIN	ACTIVE	BLM-OR-VAD	3600	1985- PRESENT
	353612	GRASSY MOUNTAIN	ACTIVE	BLM-OR-BUD	4520	1985- PRESENT
	480109	SNAKE RIVER	INACTIVE	NPS	6883	1965-1969

E. Statistical Analysis

Fire History

For purposes of this analysis, 25 years (1987-2011) of fire history data was obtained from the three agencies (BLM, USFS, State). BLM fire data was obtained from the Wildland Fire Information web site. USFS fire data was obtained from KCFAST and State of Idaho data was obtained from the Idaho Department of Lands, Fire Management Bureau. Since all three agencies may have reported the same fire in their respective databases, the fires were cross-referenced and duplicate fires were eliminated (where possible). For the Snake River and Foothills and Owyhee Canyonlands Fire Danger Rating Areas, 22 years of data was collected (1990-2007). This was necessary to accommodate the length of record of the weather stations used in analysis. FireFamily Plus software was utilized to produce statistics and graphs. Fire occurrence workload analysis by agency is in Appendix K.

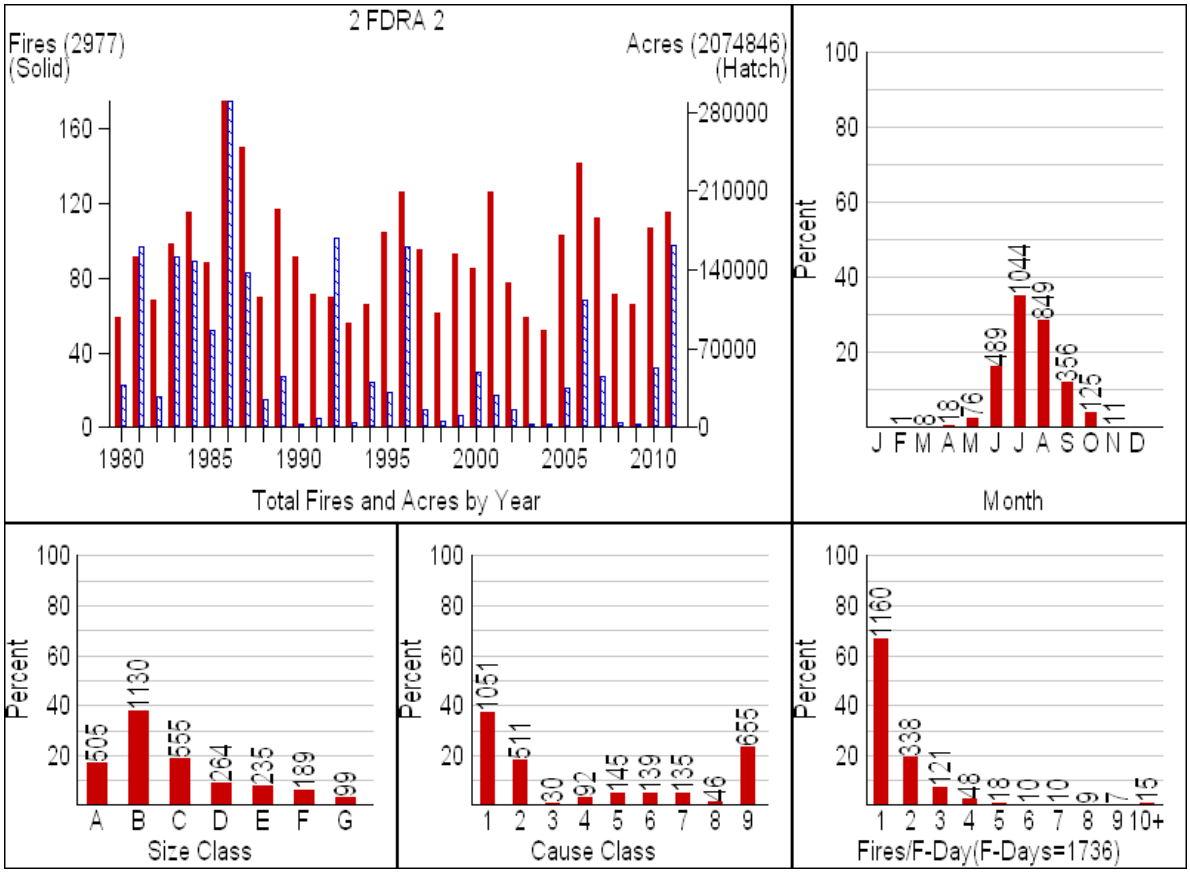
Boise Mountains FDRA



Size Class:
A=0-.2 acres
B=.3-9 acres
C=10-99 acres
D=100-299 acres
E=300-999 acres

Cause Class:
1=Lightning
2=Equipment
3=Smoking
4=Campfire
5=Debris Burning
6=Railroad
7=Arson
8=Children
9=Miscellaneous

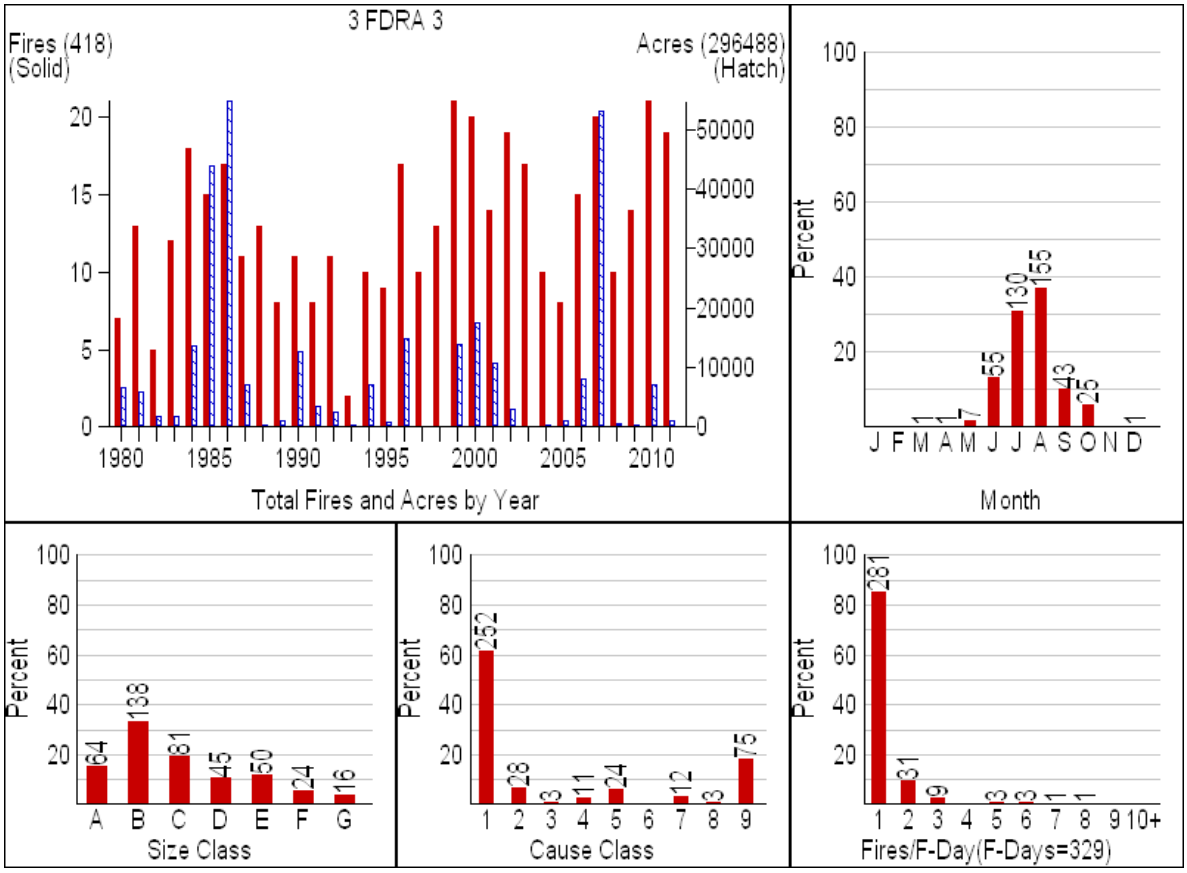
Snake River and Foothills FDRA



Size Class:
A=0-.2 acres
B=.3-9 acres
C=10-99 acres
D=100-299 acres
E=300-999 acres

Cause Class:
1=Lightning
2=Equipment
3=Smoking
4=Campfire
5=Debris Burning
6=Railroad
7=Arson
8=Children
9=Miscellaneous

Owyhee Canyonlands FDRA



Size Class:
A=0-.2 acres
B=.3-9 acres
C=10-99 acres
D=100-299 acres
E=300-999 acres

Cause Class:
1=Lightning
2=Equipment
3=Smoking
4=Campfire
5=Debris Burning
6=Railroad
7=Arson
8=Children
9=Miscellaneous

Preparedness Level Thresholds

A threshold corresponds to a change in historical fire activity. Preparedness levels differ from adjective fire danger ratings because they take fire history and other locally determined factors into account in addition to weather.

The FireFamily Plus software package was used to establish the fire business thresholds. A statistical analysis based on historical weather adjusted for fire activity determines the appropriate staffing index and associated breakpoints for each FDRA. Refer to Appendix J for a detailed summary of the FireFamily plus analysis.

Table 5. Preparedness Level: FireFamily Plus Analysis Factors and Determination

Rating Area	**RAWS**	**Data Years Used**	**Weighting Factor**	**Fuel Model**	**NFDRS Index**	**Break Point Ranges**	
Boise Mountains	**SIG** Weiser River Skihill Pine Creek Town Creek	1987-2011	 1.0 1.0 1.0 1.0	G	ERC	**PL 1** **PL 2** **PL 3** **PL 4** **PL 5**	0-32 33-48 49-64 65-76 77+
Snake River and Foothills	**SIG** Mountain Home Dead Indian Ridge Horse Butte	1990-2011	 1.0 1.0 1.0	G	ERC	**PL 1** **PL 2** **PL 3** **PL 4** **PL 5**	0-48 49-65 66-79 80-89 90+
Owyhee Canyonlands	**SIG** Owyhee Ridge Brace Flat Triangle	1990-2011	 1.0 1.0 1.0	T	ERC	**PL 1** **PL 2** **PL 3** **PL 4** **PL 5**	0-6 7-12 13-18 19- 2122+

The above breakpoints give us one component of our preparedness level. It also incorporates fire activity, fire weather advisories, Haines Index, live fuel moisture and a measure of ignition risk (i.e. LAL). Daily index/component values will be obtained from WIMS and used in preparedness and dispatch level worksheets. Refer to page 24-25.

Dispatch Level Thresholds

Fire Business refers to the level of fire activity that occurs at a local unit office. How many days have a fire? How large do these fires become? When does fire activity become a burden to the local suppression forces? Fire Business Thresholds are based on correlations of fire danger climatology and fire occurrence data. We use Fire Business Thresholds for Dispatch Level because climatological breakpoints may not predict fire activity in a timely way. The activity predicted may have already happened. Without fire activity information, breakpoints are often set too high, resulting in activity occurring before the climatological breakpoint predictions indicate.

Table 6. Dispatch Level: FireFamily Plus Analysis Factors and Determination

Rating Area	**RAWS**	**Data Years Used**	**Weighting Factor**	**Fuel Model**	**NFDRS Index**	**Fire Business Break Point Ranges**	
Boise Mountains	**SIG** Weiser River Skihill Pine Creek Town Creek	1987-2011	 1.0 1.0 1.0 1.0	G	ERC	**Low** **Moderate** **High**	0-44 45-69 70+
Snake River and Foothills	**SIG** Mountain Home Dead Indian Ridge Horse Butte	1990-2011	 1.0 1.0 1.0	A	BI	**Low** **Moderate** **High**	0-26 27-38 39+
Owyhee Canyonlands	**SIG** Owyhee Ridge Brace Flat Triangle Pole Creek	1990-2011	 1.0 1.0 1.0 1.0	T	BI	**Low** **Moderate** **High**	0-33 34-62 63+

Adjective Fire Danger Rating (AFDR) Breakpoints

Adjective fire danger breakpoints are based on staffing classes (divisions of fire danger) and a staffing index/component (for example BI or ERC). Adjective ratings will be based upon the seasonal climatic breakpoints. Climatological breakpoints are points on the cumulative distribution of one fire weather/fire danger index without regard to associated fire occurrence/business. For example, the value of the 90th percentile ERC is the climatological breakpoint at which only 10 percent of the ERC values are greater. The percentiles for climatological breakpoints are predetermined by agency directive. The USFS standard of the 90th and 97th percentile break points for adjective fire danger determination will be used for the Boise Mountains FDRA. The BLM standard of the 80th and 95th percentile breakpoints for adjective fire danger rating will be used for the Snake River and Foothills and Owyhee Canyonlands FDRAs. These values have been entered into WIMS.

Five staffing class intervals (1-5) that correspond with five levels of adjective fire danger: low, moderate, high, very high, and extreme will be used for all FDRAs.

Table 7. Adjective Fire Danger Rating Staffing Class and Breakpoints by FDRA

Input Information for Boise Mountains FDRA			Staffing Class and Percentile Break Points	
RAWS	Fuel Model	Staffing Index	90th	97th
Weiser River	G	ERC	87	93
SkiHill	G	ERC	74	81
Pine Creek	G	ERC	84	90
Town Creek	G	ERC	78	86

Input Information for Snake River and Foothills FDRA			Staffing Class and Percentile Break Points	
RAWS	Fuel Model	Staffing Index	80th	95th
Mountain Home	G	ERC	85	92
Dead Indian Ridge	G	ERC	86	93
Horse Butte	G	ERC	87	95

Input Information for Owhyee Canyonlands FDRA			Staffing Class and Percentile Break Points	
RAWS	Fuel Model	Staffing Index	80th	95th
Owyhee Ridge	T	ERC	20	23
Brace Flat	T	ERC	21	24
Triangle	T	ERC	18	22

IV. APPLICATIONS

The National Fire Danger Rating System (NFDRS) utilizes the WIMS processor to manipulate weather data and forecasted data stored in the NIFMID database to produce fire danger ratings for corresponding weather stations (RAWS). NFDRS outputs from the WIMS processor can be used to determine various levels of fire danger rating. The system is designed to calculate worst-case scenario fire danger. NFDRS will be utilized in the following ways for the purpose of this plan:

- The **Preparedness Level** will help agency personnel determine appropriate state of readiness of suppression forces.
- The **Dispatch Level** is a decision tool for dispatchers to assign initial attack forces to reported fires. Dispatch level is a function of ERC for the Boise Mountains FDRA and BI for the Owyhee Canyonlands and Snake River and Foothills FDRAs.
- The third utilization of NFDRS is to compute the **Adjective Fire Danger** for the purpose of communicating fire danger to public and industrial interests.
- **Fire Restrictions** are addressed in the 2008 Idaho Fire Restrictions Plan which can be downloaded from the Boise Interagency Dispatch Center website.

The preparedness level for our area and the dispatch levels for the different FDRAs will be broadcast in conjunction with the morning weather report and documented. The adjective fire danger ratings will be broadcasted and documented in the same manner.

Although fire danger ratings do not prevent human-caused fires, a strong effort should be made to communicate the fire danger as it changes throughout the fire season. The social, political, and financial impacts of wildfires on agency, public, and industrial entities can be far reaching. Loss of life, property, and financial resources can potentially be associated with any wildfire. As the fire danger fluctuates, agency personnel need to have pre-planned and appropriate responses. These actions should not only focus on appropriate fire suppression, but also incorporate mitigation/education.

A. Preparedness Level

The preparedness level is a five-tier fire danger rating system that will be based on Energy Release Component and indicators of fire business. The fire business indicators used to calculate the preparedness level are large/multiple fire activity, Red Flag Warnings and Fire Weather Watches, Lightning Activity Level, Haines Index, and a Human Caused risk factor. A flow chart (Table 8. Page 24) guides personnel through the process. Several procedures and guidelines are to be followed once the preparedness level has been determined. The breakpoints for the preparedness level are set using an historical analysis (FireFamily Plus) of fire business and its relationship to daily 1300 hour weather observations from RAWS entered into the NIFMID database and processed by WIMS, which calculates the staffing index values (BI, ERC, etc).

Worksheet Instructions:

The flow chart process is to be completed separately for each FDRA and then one Preparedness Level would be decided upon from the three outcomes. For each of the following values, progress down the chart and focus on what each value does and how it corresponds to the preparedness level. Follow the bold lines and keep in mind when a value of yes is chosen, move to the right on the chart and when a value is no move to the left on the chart.

- Staffing Index Value: Place a checkmark indicating the forecasted staffing index/component range in row one. The forecasted indices by the Boise Weather Office are based on the 1300 RAWS observations which are input to the WIMS processor by Boise Dispatch personnel.
- Fire Activity: Fire activity can be defined as any fire that requires the commitment of one or more agency suppression resources within the Fire Danger Rating Area. Place a checkmark in the appropriate box in row two.
- Red Flag Warning or LAL: Place a checkmark in row three based on the presence of a Red Flag Warning or Fire Weather Watch issued by the National Weather Service and the forecasted Lightning Activity Level.
- Haines Index: Place a checkmark in row four indicating the forecasted Haines Index Ranger.
- Human Ignition Risk Factor: Place a checkmark in row five to indicate the relative risk of human caused ignitions. The Human Ignition Risk Factor is used for high risk times such as holiday weekends, special events, opening of hunting season or other times where an increased risk of ignition is predicted. The other factors should be self explanatory.

Table 8. Preparedness Level Worksheet – Boise Interagency Dispatch Center

Boise Mountains FDRA ERC Fuel Model G	**0-32**				**33-48**				**49-64**				**65-76**				**77+**					
Snake River and Foothills ERC Fuel Model G	**0-48**				**49-65**				**66-79**				**80-89**				**90+**					
Owyhee Canyonlands ERC Fuel Model T	**0-6**				**7-12**				**13-18**				**19-21**				**22+**					
ROW 1 ⇒																						
LARGE OR MULTIPLE FIRE ACTIVITY	**NO** ⇓		**YES** ⇓		**NO** ⇓	**YES** ⇓			**NO** ⇓	**YES** ⇓			**NO** ⇓	**YES** ⇓			**NO** ⇓	**YES** ⇓				
ROW 2 ⇒																						
RED FLAG WARNING OR LAL FORECASTED 2-6	**NO** ⇓	**YES** ⇓	**NO** ⇓		**YES** ⇓	**NO** ⇓			**YES** ⇓	**NO** ⇓			**YES** ⇓	**NO** ⇓			**YES** ⇓					
ROW 3 ⇒																						
HAINES INDEX	**2-6** ⇓	**2-4** ⇓	**5-6** ⇓		**2-4** ⇓	**5-6** ⇓			**2-4** ⇓	**5-6** ⇓			**2-4** ⇓	**5-6** ⇓			**2-4** ⇓	**5-6** ⇓				
ROW 4 ⇒																						
HUMAN IGNITION RISK FACTOR	**LOW** ⇓	**HIGH** ⇓	**LOW** ⇓		**HIGH** ⇓	**LOW** ⇓			**HIGH** ⇓	**LOW** ⇓			**HIGH** ⇓	**LOW** ⇓			**HIGH** ⇓	**LOW** ⇓	**HIGH** ⇓			
ROW 5 ⇒																						
PREPAREDNESS LEVEL	**I**				**II**				**III**				**IV**				**V**					

B. Dispatch Level

Agency personnel use the dispatch level (response level) to assign initial attack resources based on pre-planned interagency "Run Cards". Combined with pre-defined Dispatch Response Zones, the Dispatch Level is used to assign an appropriate mix of suppression resources to a reported wildland fire based upon fire danger potential. The dispatch levels are derived from the most appropriate NFDRS index and/or component that correlate to fire occurrence in the FDRA. In the Boise Mountains FDRA the BI was not well correlated with fire occurrence. It was noted that weather stations appeared to be under-representing the wind factor when compared to nearby stations. For this reason along with the timber fuel type, ERC has been determined to be the best index for Dispatch Level. ERC will be used to pre-plan and implement response levels for initial attack until a qualified Incident Commander arrives on scene to validate the need for the dispatched resources. In the Snake River and Foothills and Owyhee Canyonlands FDRAs the BI was chosen to be the best choice for the dispatch levels due to the grass and brush fuel component, as well as a fire management preference.

Table 9. Dispatch Level Worksheet - Boise Dispatch Center

Fire Danger Rating Area	Index/Component and Fuel Model			
Boise Mountains	**ERC Fuel Model G**	**0-44**	**45-69**	**70+**
Snake River and Foothills	**BI Fuel Model A**	**0-26**	**27-38**	**39+**
Owyhee Canyonlands	**BI Fuel Model T**	**0-33**	**34-62**	**63+**
Dispatch Level		**Low**	**Moderate**	**High**

C. Adjective Fire Danger Rating

Description

In 1974, the Forest Service, Bureau of Land Management and State Forestry organizations established a standard adjective description for five levels of fire danger for use in public information releases and fire prevention signing. For this purpose only, fire danger is expressed using the adjective levels and color codes described below.

Table 10. Adjective Fire Danger Rating Color Code and Descriptions

Low (L) (Green)	Fuels do not ignite readily from small firebrands although a more intense heat source, such as lightning, may start fires in duff or punky wood. Fires in open cured grasslands may burn freely a few hours after rain, but timber fires spread slowly by creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.
Moderate (M) (Blue)	Fires can start from most accidental causes but, with the exception of lightning fires in some areas, the number of starts is generally low. Fires in open cured grasslands will burn briskly and spread rapidly on windy days. Timber fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious and control is relatively easy.
High (H) (Yellow)	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High-intensity burning may develop on slopes or in concentrations of fine fuels. Fires may become serious and their control difficult unless they are attacked successfully while small.
Very High (VH) (Orange)	Fires start easily from all causes and, immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high intensity characteristics such as long-distance spotting and fire whirlwinds when they burn in heavier fuels.
Extreme (E) (Red)	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high intensity burning will usually be faster and occur from smaller fires than in the very high fire danger class. Direct attack is rarely possible and may be dangerous except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessens.

Determination

NFDRS processors automatically calculate the adjective class rating. The adjective rating calculations are keyed off the priority fuel model listed in the station catalog and specified by the user in the SIG. The WIMS processor uses the staffing index (such as ERC or BI) the user associates with the priority fuel model/slope/grass/climate class combination.

The actual determination of the daily adjective rating is based on the current or predicted value for a user selected staffing index and ignition component using the table below.

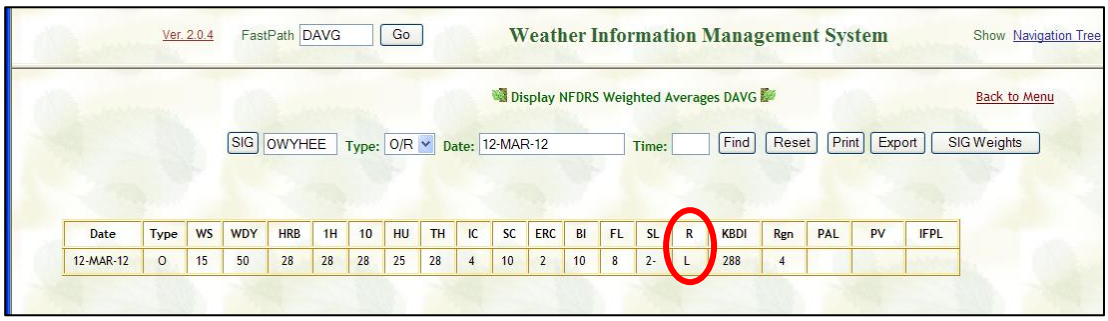
Table 11. NFDRS Processor for Adjective Class Rating

Staffing Levels	Adjective Fire Danger Rating				
1-, 1, 1+	L	L	L	M	M
2-, 2, 2+	L	M	M	M	H
3-, 3, 3+	M	M	H	H	VH
4-, 4, 4+	M	H	VH	VH	E
5	H	VH	VH	E	E
Ignition Component	0-20	21-45	46-65	66-80	81-100

Given the same weather inputs to the processor, the adjective fire danger can vary for different fuel models.

The adjective fire danger rating for the Boise Mountains FDRA is a composite of weather data between the Weiser River, SkiHill, Town Creek and Pine Creek stations. A Special Interest Group (SIG) has been created in WIMS that combines the data from these stations using the NFDRS fuel model (G). The data is accessed using the WIMS "DAVG" command and entering the SIG name in the query block. The fire danger for the Snake River and Foothills FDRA is determined by querying the SIG of Mountain Home, Dead Indian Ridge and Horse Butte RAWS using fuel model G. The fire danger for the Owyhee Canyonlands FDRA is determined by querying the SIG of Owyhee Ridge, Triangle, and Brace Flat RAWS using fuel model T. The example below displays the forecasted 1300 Adjective Fire Danger Rating of Low for March 12.

When Fire Restrictions are implemented in accordance with the Idaho Fire Restrictions Plan, the Adjective Fire Danger Rating posted on prevention signs will not be dropped below the High level in order to avoid providing conflicting information to the public.



D. Seasonal Risk Analysis

Seasonal risk analysis is a comparison of the historic weather/fuels records with current and forecasted weather/fuels information. Seasonal risk analysis is an on-going responsibility for fire program managers. The most significant indicators of seasonal fire severity BI, ERC, fine fuel loading, and Live Fuel Moisture will be graphically compared with historical maximums and average; this graph will be routinely updated and distributed to fire suppression personnel and dispatch. Seasonal risk analysis information will be used as a basis for pre-positioning critical resources, dispatching resources, and requesting fire severity funding. Specific indicators are most useful to predict fire season severity and duration in the three Fire Danger Rating Areas.

Key Factors and Trends

Fire Activity: The presence (or absence) of fire activity can be tracked and compared to historical occurrences in order to anticipate severity conditions. The Fire Summary module of FireFamily Plus provides an efficient means to compare monthly fire activity.

Live Fuel Moisture: Live woody moisture samples are taken every two weeks throughout the fire season. Conifer and shrubs are sampled at five sites within the Boise Mountains FDRA (Idaho City, Cascade, Lowman,Emmett and Centerville). Sagebrush is sampled at four sites which includeWild West, Kuna, Hammett and Triangle. Triangle is within the Owyhee Canyonlands FDRA and the other three are in the Snake River and Foothills FDRA. Also within the Snake River and Foothills FDRA, conifer, shrub and grass are measured at Bogus Basin.

Fine Fuel Loading: Fine fuel loading is measured annually at four test plots near Kuna Butte, Wild West, Hammett, and Orchard. These sites fall within the Snake River and Foothills FDRA. These test plots are fenced in non-grazed areas.

NFDRS Indicators: BI and ERC are used as the primary indicators to track seasonal trends of fire danger potential. NFDRS fuel model G has been chosen to represent the Boise Mountains for both BI and ERC. For the Snake River and Foothills FDRA fuel model A was chosen for use with BI and Fuel model G was chosen for use with ERC. Fuel model T has been chosen to represent the Owyhee Mountains FDRA for both BI and ERC.

Weather Trends: Seasonal weather assessments rely upon long-range (30-90 day) forecasts. This information is available in two formats; seasonal long-lead outlooks and 30-90 day outlooks. This information is provided by NOAA.

Drought Indicators: The Keetch-Byrum Drought Index (KBDI) and Palmer Drought Index track soil moisture and have been tailored to meet the needs of fire risk assessment personnel. Current KBDI information is located on the Wildfire Assessment System (WFAS) Internet site. Tracking and comparing 1,000 hour fuel moisture with Fire Family Plus is another method to assess drought conditions.

Normalized Difference Vegetation Index (NDVI): NDVI data is satellite imagery, which displays vegetative growth and curing rates of live fuels. The Eastern Great Basin Internet site provides several different current and historical greenness images, which can be a significant contributor to seasonal risk assessments. The WFAS Internet site provides several different ways to analyse greenness imagery.

Season Ending Event: Further study is needed to identify specific combinations of weather parameters that would signal the end of the fire season.

E. Thresholds (Extreme Fire Danger)

Seasonal risk escalation in fuel complexes of Southwest Idaho relies upon a combination of factors, which will ultimately trigger an extreme state of fuel volatility and a high potential for large fire growth or multiple ignition scenarios.

Fire Activity: The occurrence of large/multiple fires is the best indicator severity conditions and the potential for seasonal risk in Southwest Idaho. Any one incident reaching type one or two complexity would be an indicator of severity. Two or more type three incidents within a two to four week period would also be a strong indicator. Depending on the FDRA two to five initial attack fires in the same day indicate a point where resources are scarce. A progressive approach to assessing seasonal risk will prepare the local unit for these occurrences and the necessary tools will already be in place.

Live Fuel Moisture: (Sagebrush): An analysis of Live Fuel Moisture samples from 2002-2011 fire season months from June-September indicate the woody fuel moisture of sagebrush in the Snake River and Foothills FDRA fluctuates between 262% (June) to 37% (August). At extreme low fuel moisture values Sagebrush may go into dormancy. The Triangle sampling site was implemented in the Owyhee Canyonlands FDRA in 2009. Fuel moistures measure 240% to 89%. In general, Live Fuel Moistures of less than 100% indicate potential for extreme fire behavior, especially if the live fuels have been exposed to ongoing drought conditions.

Live Fuel Moisture: (Conifer): Live woody fuel moisture of conifers in the Boise Mountains FDRA from 2004-2011 fire season months from June-September fluctuated between 285% and 44%. Live woody fuel moisture of conifers in the Snake River and Foothills FDRA measured between 165% and 50%.. It is important to note that the 2006 and 2007 seasons can be categorized as record setting for total acres burned. Fuel Moistures below 100% indicate potential for extreme fire behavior.

Live Fuel Moisture: (Shrub): Live woody fuel moisture of shrubs (huckleberry, ceanothus, Ribes spp.) during fire season months from June-September in the Boise Mountains FDRA ranged between 300% and 60%. . Fuel Moistures below 100% indicate potential for extreme fire behavior.

Fine Fuel Loading: There has been one test site located in the Snake River and Foothills FDRA (Orchard site)which was established in 1996. In 2010 three additional sites were established (Wild West, Hammett and Kuna Butte). The fuel load calculation includes cheatgrass, litter, and forbs. Fuel load determinations are made on an annual basis, typically in early July, and compared to historical averages in order to determine the potential intensity of fires. For the Orchard site the 13 year average fine fuel loading (1996-2011excluding 2003, 2006-2008) was 4125 total pounds per acre. For 2011 the fuel loadings for each site were as follows: Wild West 1869, Kuna 6462, Hammett 3492, and Orchard 6528 lbs/acre.

NFDRS Thresholds: The BI (Fuel Model A) threshold for extreme fire potential in the Snake River and Foothills FDRA is 39 which is the 80th percentile. The BI (Fuel Model T) threshold for extreme fire potential in the Owyhee Canyonlands FDRA is 63, 80th percentile. The ERC (Fuel Model G) threshold for extreme fire potential in the Boise Mountains FDRA is 72, which is the 75th percentile. The ERC (Fuel Model G) threshold for extreme fire potential in the Snake River and Foothills FDRA is 90. The ERC (Fuel Model T) threshold for extreme fire potential in the Owyhee Canyonlands is 22. Early and late-season readings that trend above average may indicate an extension of the normal fire season.

Weather Thresholds: The observable weather factors that contribute to large fires and the potential for extreme fire behavior can be determined from the same percentiles determined from NFDRS thresholds. Any of these factors significantly increase the potential for extreme fire behavior and large fire growth. Any combination of these factors will increase the risk.

Drought Indicators: Palmer Drought Index graphics display current drought conditions while KBDI values of 500-800 indicate the potential for rapid curing and drying of the fine fuels and potential for live fuel moisture to drop. The 1,000-hour fuel moisture is also a good drought indicator. Values between six and ten percent indicate the potential risk for extreme burning conditions.

NDVI: An analysis of this imagery will assist in the assessment of current fuel moisture conditions and provide historical as well as average greenness comparisons. The Windisp 3 software (WFAS Internet site) program is utilized to develop detailed, region-specific greenness maps.

F. Fire Danger Pocket Cards

The Fire Danger Pocket Card is a tool, which can aid fire suppression personnel to interpret NFDRS outputs and understand local fire danger thresholds for a local area. Pocket cards can relate current NFDRS outputs with the historical average and worst-case values in a specific geographic location. Visiting resources can use the pocket card to familiarize themselves with local fire danger conditions.

Burning Index was used to develop the pocket card for the Snake River and Foothills FDRA and the Owyhee Canyonlands FDRA because it can be related to fire controllability (Deeming et al. 1978). Fuel Model A was chosen as the best fit with BI for the Snake River and Foothills FDRA and Fuel model T was chosen as the best fit with BI for the Owyhee Canyonlands FDRA. It was noted that weather stations within the Boise Mountains FDRA appeared to be under-representing the wind speed compared to neighboring stations. For this reason (until further study of this issue can be done) ERC was chosen for use in developing a pocket card for this FDRA because wind is not a factor in the calculation of ERC. NFDRS fuel model G was selected as it provided the best fit with ERC for fire danger rating in the Boise Mountains FDRA. Refer to Appendix H.

G. Roles and Responsibilities

Fire Danger Operating and Preparedness Plan: The Boise Interagency Dispatch Center Manager will ensure that necessary amendments or updates to this plan are complete. Updates to this plan will be made at least every two years and approved by the line officers (or delegates) from each agency. Revised copies will be distributed to the individuals on the primary distribution list.

Suppression Resources: During periods when local preparedness levels are High to Extreme, the Fire Management Officers from each agency will strive to achieve 100% Staffing. This may require the pre-positioning of suppression resources. The fire managers from each agency will also determine the need to request/release off unit resources or support personnel throughout the fire season.

Duty Officer: For the purposes of this plan, a Duty Officer from each agency will be identified to the Boise Interagency Dispatch Center. The Duty Officer is a designated fire operations specialist, who provides input and guidance regarding preparedness and dispatch levels. It is the Duty Officer's role to interpret and modify the daily preparedness and dispatch levels as required by factors not addressed by this plan. Modifications of the preparedness and/or dispatch levels must be coordinated through the Dispatch Center Manager. The Duty Officer will keep their respective agency's fire and management staff updated (as needed).

Fire Weather Forecasting: Daily fire weather forecasts will be developed by the National Weather Service, Boise Fire Weather Forecast Office, and posted on the Internet and in WIMS for the Boise Interagency Dispatch Center to retrieve.

NFDRS Outputs and Indices: The Boise Dispatch Manager will ensure that the daily fire weather forecast (including NFDRS indices) is retrieved and that the daily preparedness, dispatch, and adjective levels are calculated and distributed.

Risk Analysis and Information: The FMO/Fire Warden from each agency will ensure that seasonal risk assessments are conducted during the fire season. The risk analysis will include information such as live fuel moisture, 1,000-hour fuel moisture, fuel loading, NFDRS (BI/ERC) trends, NDVI imagery, and other pertinent data. This information will be distributed to agency staff and the Boise Dispatch Center Manager. The Center Manager and fire supervisors will ensure information is posted at duty stations.

Weather Station Maintenance: The Remote Sensing Fire Weather Support Unit (RSFWU) located at the National Interagency Fire Center (NIFC) maintains and calibrates the Boise BLM RAWS stations on an annual basis. They also provide the first responder services for malfunctions of the these stations

Two of the Boise NF RAWS stations, Town Creek and Wagontown, are on a Modified Maintenance Agreement which means the annual maintenance is completed by the RSFWU. The local AFMO in which the station is located is responsible for the first responder services. The three other stations, Bearskin, Pine Creek and Little Anderson, are located on the northern part of the forest are on the Depot Maintenance Agreement which means the RSFWU provides the telephone support and component exchange. The local unit AFMO is responsible for the completion of the annual maintenance and any first responder malfunctions. Guy Blom and Tim Dulhanty will be the first responders for maintenance of the RAWS on the Boise National Forest.

Idaho Department of Lands does not currently own any RAWS within the study area.

WIMS Access, Daily Observations, and Station Catalog Editing: The Boise Dispatch Center, Assistant Center Manager, Intel is listed as the station owner for all Boise District BLM and Boise National Forest RAWS. The owner maintains the WIMS Access Control List (ACL). The station owner will also ensure appropriate editing of the RAWS catalogs and observations.

Preparedness, Dispatch and Adjective Level Guidelines: Each agency's fire management staff along with the Boise Dispatch Center Manager will be responsible for establishing and reviewing the preparedness, dispatch and adjective level guidelines on an annual basis (as a minimum).

Public and Industrial Awareness: Education and mitigation programs will be implemented by agency Public Information Officers, Law Enforcement Officers, FMO's, AFMO's, Fire Wardens, Fire Prevention Technicians and Fire Education/Mitigation Specialists based on Preparedness Level Guidelines and direction provided by the agency's FMO and Duty Officer.

NFDRS and Adjective Fire Danger Break Points: A FDOP team will review weather and fire data at least every two years (when the FDOP is re-analyzed). The team will ensure that the breakpoints reflect the most accurate information with the concurrence of the FMO's.

Fire Danger Pocket Cards: The Dispatch Center Manager and FMO/Fire Wardens' will ensure the pocket card is prepared at least every two years and is in compliance with NWCG and/or agency standards. The card will be distributed to all interagency, local and incoming firefighters and overhead. The pocket card will be posted on the Boise Interagency Dispatch Center and National Wildfire Coordinating Group (NWCG) web sites. Fire suppression supervisors will utilize the pocket card to train and brief suppression personnel and ensure that it is posted at their respective fire stations.

V. Program Improvements

Training
Encourage personnel who are identified as first responders to attend RAWS training.

Put all Boise NF RAWS on full ride maintenance contract

Provide Pocket Card training at annual fireline refreshers

Encourage agency fire suppression supervisors to attend NFDRS (S-491) training

RAWS
Test a new site for the Bearskin RAWS. It is currently inaccessible for repairs in early spring and is frequently down for long periods of time.

Investigate and correct under-representation of wind at Boise NF owned RAWS

Contract with RSFWSU for modified maintenance of all Boise NF owned RAWS stations

Technology and Information Management
Develop thresholds of local season ending criteria

Future additions to this plan
Provide narratives with the maps on how each FDRA boundary was decided upon with the topography, climate and vegetation.

Follow up with FAMWEB representation and/or Western Region Climate Center with historical weather data changes.

Appendix A – Team Members

2012 Revision

Name Leigh Ann Hislop
Title Assistant Center Manger - Intel
Agency Boise District BLM
Office Boise Interagency Dispatch Center

Name Justin Boeck
Title Fire Planner
Agency Boise District
Office Bureau of Land Management

Name Dan Christman
Title Resource Supervisor – Fire Warden
Agency Idaho Department of Lands
Office Southwest Supervisory Area

Name Bob Shindelar
Title Forest Fire Management Officer
Agency US Forest Service
Office Boise National Forest

Name Dusty Pence
Title Fuels Planner
Agency US Forest Service
Office Boise National Forest

Name Julia Sullens
Title Resource Specialist – Assistant Fire Warden
Agency Idaho Department of Lands
Office Southwest Supervisory Area

2010 & 2011 Edits were made by:

Name Leigh Ann Hislop
Title Intelligence Dispatcher
Agency Boise District BLM
Office Boise Interagency Dispatch Center

2008 Fire Danger Operating Plan Major Revision:

Name Bob Narus
Title Fire Education and Mitigation Specialist
Agency Bureau of Land Management
Office Boise District

Name Dan Christman
Title Resource Supervisor – Fire Warden
Agency Idaho Department of Lands
Office Southwest Supervisory Area

Name Tami Parkinson
Title Assistant Forest Fire Management Officer
Agency US Forest Service
Office Boise National Forest

Name Rex Miller
Title Assistant Fire Management Officer
Agency US Forest Service
Office Boise National Forest, Lowman Ranger District

Name Albert Linch
Title Assistant Fire Management Officer
Agency US Forest Service
Office Boise National Forest, Mountain Home Ranger District

Name Kathy Geier-Hayes
Title Fire Ecologist
Agency US Forest Service
Office Boise National Forest

Name Stephaney Church
Title Center Manager
Agency US Forest Service, Interagency
Office Boise Interagency Dispatch Center

Appendix B – Primary Distribution List

Name	Title	Agency	Mailing Address	E-mail
Aden Seidlitz	District Manager	BLM	Boise District BLM 3948 Development Ave Boise, ID 83705	aseidlitz@blm.gov
Cecilia Seesholtz	Forest Supervisor	USFS	Boise National Forest 1249 South Vinnell Way, Ste 200 Boise, ID 83709	cseesholtz@fs.fed.us
Steve Douglas	Area Manager	IDL	Idaho Department of Lands 8355 W. State Street Boise, ID 83714	sdouglas@idl.idaho.gov
Dan Christman	Resource Supervisor – Fire Warden	IDL	Idaho Department of Lands 8355 W. State Street Boise, ID 83714	dchristman@idl.idaho.gov
Andy Delmas	Fire Management Officer	BLM	Boise District BLM 3948 Development Ave Boise, ID 83705	adelmas@blm.gov
Len Spain	Assistant Fire Management Officer	BLM	Boise District BLM 3948 Development Ave Boise, ID 83705	lspain@blm.gov
Steve Acarregui	Fire Operations Manager	BLM	Boise District BLM 3948 Development Ave Boise, ID 83705	sacarregui@blm.gov
Bob Shindelar	Forest Fire Management Officer	USFS	Boise National Forest 1249 South Vinnell Way, Ste 200 Boise, ID 83709	bshindelar@fs.fed.us
Lance Carbone	Forest Planner	USFS	Boise National Forest 1249 South Vinnell Way, Ste 200 Boise, ID 83709	lcarbone@fs.fed.us
Sean Johnson	Deputy Forest Fire Management Officer	USFS	Boise National Forest 1249 South Vinnell Way, Ste 200 Boise, ID 83709	sdjohnson01@fs.fed.us
Jill Leguineche	Center Manager	USFS	Boise Dispatch Center 3948 Development Ave Boise, ID 83705	jleguineche@fs.fed.us

Appendix C – Glossary

Adjective Rating-A public description of the relative severity of the current fire danger situation.

Climatological Breakpoints- Points on the cumulative distribution of one fire weather/fire danger index without regard to associated fire occurrence/business. They are sometimes referred to as excedence thresholds.

Equilibrium Moisture Content- The moisture content that a fuel particle will attain if exposed for an infinite period in an environment of constant temperature and humidity. When a fuel particle has reached its equilibrium moisture content, the net exchange of moisture between it and its environment is zero.

Fire Business Thresholds- Values of one or more fire weather/fire danger indexes that have been statistically related to occurrence of fires (fire business). Generally, the threshold is a value or range of values where historical fire activity has significantly increased or decreased.

Fire Danger- The resultant descriptor of the combination of both constant and variable factors that affect the ignition, spread, and control difficulty of control of wildfires on an area.

Fire Danger Continuum- The range of possible values for a fire danger index or component, given a set of NFDRS parameters and inputs.

Fire Danger Rating- A system that integrates the effects of existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an areas protection needs.

Fire Danger Rating Area- A geographic area relatively homogeneous in climate, fuels and topography, tens of thousands of acres in size, within which the fire danger can be assumed to be uniform. Its size and shape is primarily based on influences of fire danger, not political boundaries. It is the basic, on the ground unit for which unique fire danger decisions are made based of fire danger ratings. Weather is represented by one or more NFDRS weather (RAWS) stations.

Fire Weather Forecast Zone- A grouping of fire weather forecast stations that experience the same weather change or trend. Zones are developed by the National Weather Service to assist NWS production of fire weather forecasts or trends for similar stations. Fire weather forecast zones are best thought of as a list of similar weather stations, rather than an area on a map.

Fuel Model- A simulated fuel complex for which all fuel descriptions required by the mathematical fire spread model have been supplied.

Staffing Level- The basis for decision support for daily staffing of initial attack resources and other activities; a level of readiness and an indicator of daily preparedness.

Appendix D – WIMS User ID's

Name	WIMS User ID	Level of Access
Leigh Ann Hislop	FS7129/BLM1302	Station Owner
Jill Leguineche	BLM1733	Data Entry/Station Edit
Cathy Baird	FS7257	Data Entry/Edit
Carol Field	BLM1928	Data Entry/Edit
Mark Rich	BLM1938	Data Entry/Edit
James Shanafelt	BLM1934	Data Entry/Edit
Nichole Oke	BLM2412	Data Entry/Edit
Christopher Miller	FS7404	Data Entry/Edit
Al Mebane	BLM2833	Data Entry/Edit

Appendix E – Weather Station Inventory

The following station inventories include those used by the FDRA along with the active stations within our Southwest Idaho area.

```
WLSTINV1-Weather Station Inventory for 101108

Station: 101108   Name: WEISRV                NESDIS: 325E60D6

Type: 4 (RAWS S NFDRS)   Create/Mod Date: 05-Dec-2011
Obs Time/Z: 12/MST
Assoc Man: ______     Prev Stn: ______     Fcst Zone: 401

State: 16-ID   County: 003-Adams           Lat/Lon: 44 50 50, 116 25 38
Obs Agy: 1 (USDA FS )     Unit: PAYETTE      Mnemonic: PAF
FS Reg:   4

Fuel Stk: ___________   Wdy FM Mea: ___________
Site: 2   Elev:  3832   Asp: 4   Ann Prec:  25.00   Season:
Ltng scale:   1.00   Hum code: 2   Temp code: 1   Pres code: 1
Wind Spd code: 1   KBDI: 100   One/Ten Fl: N

P   ** 78 NFDRS Only **   88 S G C Staffing Idx Breakpnts
   r    H            Greenup  S l r l          Low     High
   i FM S Herb Date     Date  b p s i  SI DC SI% Val SI% Val
   - -- - --------- --------- - - - -  -- -- --- --- --- ---
   1 7C F 06-nov-11 10-may-11 _ 2 P 2  BI 5  90  44  97  52
   2 7G F 06-nov-11 10-may-11 _ 2 P 2  EC 5  90  87  97  94
   3 7C F 06-nov-11 10-may-11 _ 2 P 2  EC 5  90  21  97  23
   4 7H F 06-nov-11 10-may-11 _ 2 P 2  EC 5  90  48  97  52

   NESDIS      S#   Description                                SHEF
   --------   ---   ----------------------------------------   -----
   325E60D6     9   Rain Accumulation, Inches                  PC
   325E60D6    10   Windspeed, Miles per Hour                  US
   325E60D6    11   Wind Direction, Degrees                    UD
   325E60D6    12   Air Temperature, Standard Placement, Deg   TA
   325E60D6    13   Fuel Temperature, Degrees Fahrenheit       MT
   325E60D6    14   Relative Humidity, Percent                 XR
   325E60D6    15   Battery Voltage, volts                     VB
   325E60D6    17   Fuel Moisture, Percent                     MM
   325E60D6    18   Wind Direction, Peak, Degrees              UX
   325E60D6    19   Windspeed, Peak, Miles per Hour            UP
   325E60D6    20   Solar Radiation, watts per meter squared   RD
```

WLSTINV1-Weather Station Inventory for 101221

Station: 101221 Name: BEARSKIN NESDIS: 3241D254

Type: 4 (RAWS S NFDRS) Create/Mod Date: 14-Dec-2011
Obs Time/Z: 13/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 403

State: 16-ID County: 085-Valley Lat/Lon: 44 23 0, 115 30 0
Obs Agy: 1 (USDA FS) Unit: BOISE NF Mnemonic: BOF
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 2 Elev: 6700 Asp: 4 Ann Prec: 33.00 Season:
Ltng scale: 1.00 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P ** 78 NFDRS Only ** 88 S G C Staffing Idx Breakpnts

r i	H FM	S	Herb Date	Greenup Date	S b	l p	r s	l i	SI	DC	Low SI%	Low Val	High SI%	High Val
1	7G	F	14-dec-11	28-jul-11	_	2	P	3	EC	5	90	76	97	82
2	7G	F	14-dec-11	28-jul-11	_	2	P	3	BI	5	90	66	97	76
3	7H	F	14-dec-11	28-jul-11	_	2	P	3	BI	5	90	29	97	33

NESDIS	S#	Description	SHEF
3241D254	9	Rain Accumulation, Inches	PC
3241D254	10	Windspeed, Miles per Hour	US
3241D254	11	Wind Direction, Degrees	UD
3241D254	12	Air Temperature, Standard Placement, Deg	TA
3241D254	13	Fuel Temperature, Degrees Fahrenheit	MT
3241D254	14	Relative Humidity, Percent	XR
3241D254	15	Battery Voltage, volts	VB
3241D254	17	Fuel Moisture, Percent	MM
3241D254	18	Wind Direction, Peak, Degrees	UX
3241D254	19	Windspeed, Peak, Miles per Hour	UP
3241D254	20	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 101222

Station: 101222 Name: PINE CREEK NESDIS: 3241DC86

Type: 4 (RAWS S NFDRS) Create/Mod Date: 10-Jan-2012
Obs Time/Z: 13/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 403

State: 16-ID County: 085-Valley Lat/Lon: 44 15 0, 116 11 0
Obs Agy: 1 (USDA FS) Unit: BOISE NF Mnemonic: BOF
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 2 Elev: 5600 Asp: 4 Ann Prec: 27.00 Season:
Ltng scale: 1.00 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

Pr i	FM	S	Herb Date	** 78 NFDRS Only ** Greenup Date	88 Sb	S lp	G rs	C li	Staffing SI	Idx Breakpnts DC	Low SI%	Low Val	High SI%	High Val
1	7G	F	14-dec-11	01-jun-11	_	2	P	3	EC	5	90	83	97	90
2	7G	F	14-dec-11	01-jun-11	_	2	P	3	BI	5	90	55	97	62
3	7H	F	14-dec-11	01-jun-11	_	2	P	3	BI	5	90	24	97	27
4	7H	F	14-dec-11	01-jun-11	_	2	P	3	EC	5	90	46	97	50

NESDIS	S#	Description	SHEF
3241DC86	9	Rain Accumulation, Inches	PC
3241DC86	10	Windspeed, Miles per Hour	US
3241DC86	11	Wind Direction, Degrees	UD
3241DC86	12	Air Temperature, Standard Placement, Deg	TA
3241DC86	13	Fuel Temperature, Degrees Fahrenheit	MT
3241DC86	14	Relative Humidity, Percent	XR
3241DC86	15	Battery Voltage, volts	VB
3241DC86	17	Fuel Moisture, Percent	MM
3241DC86	18	Wind Direction, Peak, Degrees	UX
3241DC86	19	Windspeed, Peak, Miles per Hour	UP
3241DC86	20	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 101402

Station: 101402 Name: DEAD INDIAN RIDGE NESDIS: 3250B2D6

Type: 4 (RAWS S NFDRS) Create/Mod Date: 19-Jan-2012
Obs Time/Z: 12/MST
Assoc Man: 102601 Prev Stn: _____ Fcst Zone: 400

State: 16-ID County: 087-Washington Lat/Lon: 44 19 9, 117 10 6
Obs Agy: 2 (USDI BLM) Unit: IDBOD Mnemonic: IBLM
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 3 Elev: 3570 Asp: 3 Ann Prec: 20.00 Season:
Ltng scale: .13 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7A	F	14-dec-11	17-may-11	_	2	A	2	BI	5	80	37	95	47
2	7T	F	14-dec-11	17-may-11	_	2	A	2	BI	5	80	60	95	78
3	7G	F	14-dec-11	17-may-11	_	2	A	2	BI	5	80	74	95	94
4	7C	F	14-dec-11	17-may-11	_	2	A	2	EC	5	80	20	95	22

NESDIS	S#	Description	SHEF
3250B2D6	9	Rain Accumulation, Inches	PC
3250B2D6	10	Windspeed, Miles per Hour	US
3250B2D6	11	Wind Direction, Degrees	UD
3250B2D6	12	Air Temperature, Standard Placement, Deg	TA
3250B2D6	13	Fuel Temperature, Degrees Fahrenheit	MT
3250B2D6	14	Relative Humidity, Percent	XR
3250B2D6	15	Battery Voltage, volts	VB
3250B2D6	17	Wind Direction, Peak, Degrees	UX
3250B2D6	18	Windspeed, Peak, Miles per Hour	UP
3250B2D6	19	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 101708

Station: 101708 Name: TOWN CREEK NESDIS: 3241CFF0

Type: 4 (RAWS S NFDRS) Create/Mod Date: 10-Jan-2012
Obs Time/Z: 13/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 404

State: 16-ID County: 015-Boise Lat/Lon: 43 56 37, 115 55 0
Obs Agy: 1 (USDA FS) Unit: BOISE NF Mnemonic: BOF
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 3 Elev: 4500 Asp: 6 Ann Prec: 25.00 Season:
Ltng scale: 1.00 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7G	F	14-dec-11	20-may-11	_	3	P	3	EC	5	90	78	97	87
2	7G	F	14-dec-11	20-may-11	_	3	P	3	BI	5	90	69	97	77
3	7H	F	14-dec-11	20-may-11	_	3	P	3	BI	5	90	30	97	34
4	7H	F	14-dec-11	20-may-11	_	3	P	3	EC	5	90	44	97	49

NESDIS	S#	Description	SHEF
3241CFF0	9	Rain Accumulation, Inches	PC
3241CFF0	10	Windspeed, Miles per Hour	US
3241CFF0	11	Wind Direction, Degrees	UD
3241CFF0	12	Air Temperature, Standard Placement, Deg	TA
3241CFF0	13	Fuel Temperature, Degrees Fahrenheit	MT
3241CFF0	14	Relative Humidity, Percent	XR
3241CFF0	15	Battery Voltage, volts	VB
3241CFF0	17	Fuel Moisture, Percent	MM
3241CFF0	18	Wind Direction, Peak, Degrees	UX
3241CFF0	19	Windspeed, Peak, Miles per Hour	UP
3241CFF0	20	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 101710

Station: 101710 Name: LITTLE ANDERSON NESDIS: 326BE772

Type: 4 (RAWS S NFDRS) Create/Mod Date: 10-Jan-2012
Obs Time/Z: 13/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 403

State: 16-ID County: 015-Boise Lat/Lon: 44 5 28, 115 52 50
Obs Agy: 1 (USDA FS) Unit: BOISE NF Mnemonic: BOI
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 2 Elev: 4560 Asp: 5 Ann Prec: 23.00 Season:
Ltng scale: Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7G	F	14-dec-11	01-jun-11	_	2	P	3	EC	5	90	85	97	90
2	7G	F	14-dec-11	01-jun-11	_	2	P	3	BI	5	90	58	97	62
3	7H	F	14-dec-11	01-jun-11	_	2	P	3	BI	5	90	25	97	28
4	7H	F	14-dec-11	01-jun-11	_	2	P	3	EC	5	90	48	97	51

NESDIS	S#	Description	SHEF
326BE772	9	Rain Accumulation, Inches	PC
326BE772	10	Windspeed, Miles per Hour	US
326BE772	11	Wind Direction, Degrees	UD
326BE772	12	Air Temperature, Standard Placement, Deg	TA
326BE772	13	Fuel Temperature, Degrees Fahrenheit	MT
326BE772	14	Relative Humidity, Percent	XR
326BE772	15	Battery Voltage, volts	VB
326BE772	17	Fuel Moisture, Percent	MM
326BE772	18	Soil Moisture, Tension, Centibars	MS
326BE772	19	Soil Temperature, Degrees Fahrenheit	TG
326BE772	20	Soil Moisture, Tension, 2nd Sensor, Cent	MS
326BE772	21	Soil Temperature, 2nd sensor, Degrees Fa	TG
326BE772	22	Soil Temperature, 3rd sensor, Degrees Fa	TG
326BE772	23	Wind Direction, Peak, Degrees	UX
326BE772	24	Windspeed, Peak, Miles per Hour	UP

WLSTINV1-Weather Station Inventory for 102601

Station: 102601 Name: BOISE SOUTH NESDIS: _____

Type: 2 (Man NFDRS) Create/Mod Date: 30-Dec-2011
Obs Time/Z: 13/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 408

State: 16-ID County: 001-Ada Lat/Lon: 43 34 0, 116 12 3
Obs Agy: 2 (USDI BLM) Unit: IDBOD Mnemonic: IBLM
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 1 Elev: 2838 Asp: 0 Ann Prec: 12.11 Season:
Ltng scale: .30 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P ** 78 NFDRS Only ** 88 S G C Staffing Idx Breakpnts

r i	H FM	S	Herb Date	Greenup Date	S b	l p	r s	l i	SI	DC	Low SI%	Low Val	High SI%	High Val
1	7A	F	30-dec-11	07-apr-11	_	1	A	1	BI	5	80	41	95	48
2	7T	F	30-dec-11	07-apr-11	_	1	A	1	BI	5	80	64	95	82
3	7G	F	30-dec-11	07-apr-11	_	1	A	1	BI	5	80	77	95	94

WLSTINV1-Weather Station Inventory for 102709

Station: 102709 Name: MOUNTAIN HOME NESDIS: 3252C1B2

Type: 4 (RAWS S NFDRS) Create/Mod Date: 14-Dec-2011 Obs Time/Z: 12/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 408

State: 16-ID County: 039-Elmore Lat/Lon: 43 1 42, 115 52 12
Obs Agy: 2 (USDI BLM) Unit: IDBOD Mnemonic: BOD
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 1 Elev: 3350 Asp: 0 Ann Prec: 10.91 Season: 4
Ltng scale: .10 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7A	F	14-dec-11	07-apr-11	_	1	A	1	BI	5	80	46	95	57
2	7T	F	14-dec-11	07-apr-11	_	1	A	1	BI	5	80	72	95	93
3	7G	F	14-dec-11	07-apr-11	_	1	A	1	BI	5	80	82	95	104
4	7C	F	14-dec-11	07-apr-11	_	1	A	1	EC	5	80	23	95	24

NESDIS	S#	Description	SHEF
3252C1B2	9	Rain Accumulation, Inches	PC
3252C1B2	10	Windspeed, Miles per Hour	US
3252C1B2	11	Wind Direction, Degrees	UD
3252C1B2	12	Air Temperature, Standard Placement, Deg	TA
3252C1B2	13	Fuel Temperature, Degrees Fahrenheit	MT
3252C1B2	14	Relative Humidity, Percent	XR
3252C1B2	15	Battery Voltage, volts	VB
3252C1B2	17	Fuel Moisture, Percent	MM
3252C1B2	18	Wind Direction, Peak, Degrees	UX
3252C1B2	19	Windspeed, Peak, Miles per Hour	UP
3252C1B2	20	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 102712

Station: 102712 Name: WAGONTOWN NESDIS: 3334578E

Type: 4 (RAWS S NFDRS) Create/Mod Date: 14-Dec-2011
Obs Time/Z: 13/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 404

State: 16-ID County: 039-Elmore Lat/Lon: 43 34 21, 115 19 36
Obs Agy: 1 (USDA FS) Unit: BOISE Mnemonic: IDBOF
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 2 Elev: 6200 Asp: 4 Ann Prec: 41.00 Season:
Ltng scale: 1.00 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: One/Ten Fl: N

Pr i	FM	S	Herb Date	** 78 NFDRS Only ** Greenup Date	88 Sb	S lp	G rs	C li	Staffing SI	Idx Breakpnts Low DC	Low SI%	Low Val	High SI%	High Val
1	7G	F	14-dec-11	18-jun-11	_	2	P	3	EC	5	90	89	97	93
2	7G	F	14-dec-11	18-jun-11	_	2	P	3	BI	5	90	63	97	69
3	7H	F	14-dec-11	18-jun-11	_	2	P	3	BI	5	90	28	97	30
4	7H	F	14-dec-11	18-jun-11	_	2	P	3	EC	5	90	51	97	53

NESDIS	S#	Description	SHEF
3334578E	9	Rain Accumulation, Inches	PC
3334578E	10	Windspeed, Miles per Hour	US
3334578E	11	Wind Direction, Degrees	UD
3334578E	12	Air Temperature, Standard Placement, Deg	TA
3334578E	13	Fuel Temperature, Degrees Fahrenheit	MT
3334578E	14	Relative Humidity, Percent	XR
3334578E	15	Battery Voltage, volts	VB
3334578E	17	Fuel Moisture, Percent	MM
3334578E	18	Wind Direction, Peak, Degrees	UX
3334578E	19	Windspeed, Peak, Miles per Hour	UP
3334578E	20	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 103205

Station: 103205 Name: HORSE BUTTE NESDIS: 32513638

Type: 4 (RAWS S NFDRS) Create/Mod Date: 05-Dec-2011
Obs Time/Z: 12/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 418

State: 16-ID County: 073-Owyhee Lat/Lon: 42 25 6, 115 12 6
Obs Agy: 2 (USDI BLM) Unit: TFD Mnemonic: IBLM
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 2 Elev: 5000 Asp: 5 Ann Prec: 9.00 Season:
Ltng scale: 1.00 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

Pri	FM	H S	Herb Date	** 78 NFDRS Only ** Greenup Date	88 Sblp	S	G	C	Staffing Idx	SI	DC	Breakpnts Low SI%	Low Val	High SI%	High Val
1	7L	F	03-dec-11	15-apr-11	_ 1 P	2			BI	5	80	54	95	69	
2	7A	F	03-dec-11	15-apr-11	_ 1 A	2			BI	5	80	42	95	55	
3	7T	F	03-dec-11	15-apr-11	_ 1 P	2			BI	5	80	68	95	88	
4	7G	F	03-dec-11	15-apr-11	_ 1 P	2			EC	5	80	85	95	93	

NESDIS	S#	Description	SHEF
32513638	9	Rain Accumulation, Inches	PC
32513638	10	Windspeed, Miles per Hour	US
32513638	11	Wind Direction, Degrees	UD
32513638	12	Air Temperature, Standard Placement, Deg	TA
32513638	13	Fuel Temperature, Degrees Fahrenheit	MT
32513638	14	Relative Humidity, Percent	XR
32513638	15	Battery Voltage, volts	VB
32513638	17	Wind Direction, Peak, Degrees	UX
32513638	18	Windspeed, Peak, Miles per Hour	UP
32513638	19	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 103207

Station: 103207 Name: BRACE FLAT NESDIS: 325034C2

Type: 4 (RAWS S NFDRS) Create/Mod Date: 19-Jan-2012
Obs Time/Z: 12/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 419

State: 16-ID County: 073-Owyhee Lat/Lon: 42 21 1, 116 41 8
Obs Agy: 2 (USDI BLM) Unit: IDBOD Mnemonic: IBLM
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 2 Elev: 4900 Asp: 6 Ann Prec: 15.00 Season:
Ltng scale: .04 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7A	F	14-dec-11	27-jul-11	_	1	A	1	BI	5	80	42	95	58
2	7T	F	14-dec-11	27-jul-11	_	1	A	1	BI	5	80	65	95	90
3	7G	F	14-dec-11	27-jul-11	_	1	A	1	BI	5	80	75	95	97
4	7T	F	14-dec-11	27-jul-11	_	1	A	1	EC	5	80	22	95	24

NESDIS	S#	Description	SHEF
325034C2	9	Rain Accumulation, Inches	PC
325034C2	10	Windspeed, Miles per Hour	US
325034C2	11	Wind Direction, Degrees	UD
325034C2	12	Air Temperature, Standard Placement, Deg	TA
325034C2	13	Fuel Temperature, Degrees Fahrenheit	MT
325034C2	14	Relative Humidity, Percent	XR
325034C2	15	Battery Voltage, volts	VB
325034C2	17	Wind Direction, Peak, Degrees	UX
325034C2	18	Windspeed, Peak, Miles per Hour	UP
325034C2	19	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 103208

Station: 103208 Name: TRIANGLE NESDIS: 32523136

Type: 4 (RAWS S NFDRS) Create/Mod Date: 19-Jan-2012
Obs Time/Z: 12/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 419

State: 16-ID County: 073-Owyhee Lat/Lon: 42 49 8, 116 35 9
Obs Agy: 2 (USDI BLM) Unit: IDBOD Mnemonic: IBLM
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 1 Elev: 5330 Asp: 6 Ann Prec: 15.00 Season:
Ltng scale: .04 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7A	F	14-dec-11	21-jul-11	_	1	A	1	BI	5	80	45	95	59
2	7T	F	14-dec-11	21-jul-11	_	2	P	1	BI	5	80	77	95	96
3	7G	F	14-dec-11	21-jul-11	_	2	P	1	BI	5	80	78	95	95
4	7T	F	14-dec-11	21-jul-11	_	2	P	1	EC	5	80	22	95	24

NESDIS	S#	Description	SHEF
32523136	9	Rain Accumulation, Inches	PC
32523136	10	Windspeed, Miles per Hour	US
32523136	11	Wind Direction, Degrees	UD
32523136	12	Air Temperature, Standard Placement, Deg	TA
32523136	13	Fuel Temperature, Degrees Fahrenheit	MT
32523136	14	Relative Humidity, Percent	XR
32523136	15	Battery Voltage, volts	VB
32523136	17	Wind Direction, Peak, Degrees	UX
32523136	18	Windspeed, Peak, Miles per Hour	UP
32523136	19	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 103210

Station: 103210 Name: POLE CREEK NESDIS: 3251B02C

Type: 4 (RAWS S NFDRS) Create/Mod Date: 14-Dec-2011
Obs Time/Z: 12/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 419

State: 16-ID County: 073-Owyhee Lat/Lon: 42 3 9, 115 46 6
Obs Agy: 2 (USDI BLM) Unit: IDBOD Mnemonic: IBLM
FS Reg: 4

Fuel Stk: _____ Wdy FM Mea: _____
Site: 1 Elev: 5660 Asp: 6 Ann Prec: 15.00 Season:
Ltng scale: .10 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7A	F	14-dec-11	27-jul-11	_	1	A	1	BI	5	80	46	95	61
2	7T	F	14-dec-11	27-jul-11	_	1	A	1	BI	5	80	73	95	97
3	7G	F	14-dec-11	27-jul-11	_	1	A	1	BI	5	80	81	95	103
4	7T	F	14-dec-11	27-jul-11	_	1	A	1	EC	5	80	21	95	24

NESDIS	S#	Description	SHEF
3251B02C	9	Rain Accumulation, Inches	PC
3251B02C	10	Windspeed, Miles per Hour	US
3251B02C	11	Wind Direction, Degrees	UD
3251B02C	12	Air Temperature, Standard Placement, Deg	TA
3251B02C	13	Fuel Temperature, Degrees Fahrenheit	MT
3251B02C	14	Relative Humidity, Percent	XR
3251B02C	15	Battery Voltage, volts	VB
3251B02C	17	Wind Direction, Peak, Degrees	UX
3251B02C	18	Windspeed, Peak, Miles per Hour	UP
3251B02C	19	Solar Radiation, watts per meter squared	RD

WLSTINV1-Weather Station Inventory for 353614

Station: 353614 Name: OWYRID NESDIS: 3252A454

Type: 4 (RAWS S NFDRS) Create/Mod Date: 17-Nov-2011
Obs Time/Z: 12/MST
Assoc Man: _____ Prev Stn: _____ Fcst Zone: 637

State: 41-OR County: 045-Malheur Lat/Lon: 43 31 4, 117 14 22
Obs Agy: 2 (USDI BLM) Unit: VALE Mnemonic: VAD
FS Reg: 6

Fuel Stk: _____ Wdy FM Mea: _____
Site: 1 Elev: 4400 Asp: 1 Ann Prec: 9.40 Season:
Ltng scale: 1.00 Hum code: 2 Temp code: 1 Pres code: 1
Wind Spd code: 1 KBDI: 100 One/Ten Fl: N

P	** 78 NFDRS Only **			88	S	G	C	Staffing	Idx	Breakpnts			
r	H		Greenup	S	l	r	l			Low		High	
i	FM	S	Herb Date	Date	b	p	s	i	SI	DC	SI%	Val	SI%	Val
1	7A	F	01-nov-11	22-apr-11	_	1	A	1	BI	6	80	40	95	53
2	7G	F	01-nov-11	06-may-11	_	1	A	1	EC	6	80	80	95	92
3	7T	F	01-nov-11	06-may-11	_	1	A	1	BI	6	80	63	95	84

NESDIS	S#	Description	SHEF
3252A454	9	Rain Accumulation, Inches	PC
3252A454	10	Windspeed, Miles per Hour	US
3252A454	11	Wind Direction, Degrees	UD
3252A454	12	Air Temperature, Standard Placement, Deg	TA
3252A454	13	Fuel Temperature, Degrees Fahrenheit	MT
3252A454	14	Relative Humidity, Percent	XR
3252A454	15	Battery Voltage, volts	VB
3252A454	17	Wind Direction, Peak, Degrees	UX
3252A454	18	Windspeed, Peak, Miles per Hour	UP
3252A454	19	Solar Radiation, watts per meter squared	RD

Appendix F – Weather Station Data Analysis

Weather Station Data Edits completed January 2012

- Boise South 102601
  - 07/26/91 Min Temperature reading -54 degrees. Changed to 54
  - 05/15/01 Precipitation reading 15 inches. Changed to 0.15
  - 08/17/95 Precipitation reading 4 inches. Changed to 0.04
  - 09/16/96 Precipitation reading 6 inches. Changed to 0.06
  - 10/12/00 Precipitation reading 78 inches. Changed to 0.78
  - 10/13/00 Precipitation reading 60 inches. Changed to 0.60

- Owyhee Ridge 353614
  - 06/01/08 Min Temperature reading -32 degrees. Changed to 32
  - 06/02/08 Min Temperature reading -32 degrees. Changed to 32
  - 7/23/93 Precipitation reading 2.35 inches. Changed to 0.35

- Pole Creek 103210
  - 08/11/93 Precipitation reading 1.84 inches. Changed to 0.84

- Horse Butte 103205
  - 2/1/01-3/7/01 Relative Humidity reading 1%. Deleted the RH readings.
  - 12/01/08 Precipitation reading 25 inches. Changed to 0.25

- Mountain Home 102709
  - 7/28/90 Min Temperature reading 10 degrees. Changed to 60

- Pine Creek 101222
  - 5/11/88 Min Temperature reading -58 degrees. Changed to 58
  - 12/1/98 Min Temperature reading -32 degrees. Changed to 32
  - 08/06-07/93 Precipitation reading 5.94 inches both days. Deleted readings.
  - 12/03/10 Wind Speed reading 42 mph. Changed to 4 mph

- Town Creek 101708
  - 07/22/89 Min Temperature reading 0.00. Changed to 57
  - 03/18/04 Precipitation reading 5.35 inches. Changed to 3.35
  - 04/02/96 Precipitation reading 2.97 inches. Changed to 0.97
  - 07/22/08 Wind Speed reading 37 mph. Changed to 7
  - 07/23/08 Wind Speed reading 35 mph. Changed to 6
  - 07/27/08 Wind Speed reading 52 mph. Changed to 6
  - 07/30/08 Wind Speed reading 40 mph. Changed to 6

- Ski Hill 101223
  03/19/04 Precipitation reading 4.30. Changed to 0
  06/28/89 Precipitation reading 3.05. Changed to 0
  09/21/05 Precipitation reading 5.00. Changed to 0
  06/24/08 Min Temperature reading -32 degrees. Changed to 32
  06/28/89 Min Temperature reading 0. Deleted observation.

- Weiser River 101108
  1/23/90 Precipitation reading 8.67 inches. Changed to 0.63
  03/19/04 Precipitation reading 4.61 inches. Changed to 0
  08/19/93 Precipitation reading 3.59 inches. Changed to 0
  09/21/05 Precipitation reading 5.00 inches. Changed to 0
  2/14-5/24/95 Min. Max. and Ob Temperature bad readings. Deleted all

- Wagontown 102712
  12/30/04 Wind Speed reading 99 mph. Changed to 9 mph
  01/05/06 Wind Speed reading 36 mph. Changed to 3 mph
  01/22-3/26/04 Min. Max and Ob Temperature reading -32 degrees. Deleted obs

- Little Anderson 101710
  11/24/10 Wind Speed reading 33 mph. Changed to 8 mph
  12/29-31/10 Wind Speed reading 37.37.34 mph. Changed to 7.7.4
  11/18-19/03 Max Temperature reading 106. 126. Deleted obs
  11/21/23/03 Max Temperature reading 134. 130. 101. Deleted obs
  11/29-30/03 Max Temperature reading 91.96. Deleted obs

- Bearskin 101221
  12/06/07 Precipitation reading 11.55 inches. Deleted ob
  11/7-14/92 Min Temperature reading -9.-32.-10.-25.-24.-49.-58. Deleted obs
  11/21/92 Min Temperature reading -52. Deleted ob

Weather Station Data Edits completed Winter 2008

- Weiser River 101108
  ?-? Min Temperature -58 degrees – Deleted ob

- Teapot 101220
  3/19/04 Conflicting information on RH and precipitation. Deleted ob
  6/26/86 Max Temp. Min Temp. RH all the same number. Deleted ob
  05/18/97 Max Temp. Min Temp. RH all the same number. Deleted ob
  04/05/98 Max Temp. Min Temp. RH all the same number. Deleted ob

- Bearskin Creek 101221
  Questionable data and not used in the analysis

- Pine Creek 101222

?-?	Precipitation reading 3.12 inches in one hour. Deleted ob
09/01/85	No wind data recorded. Deleted ob
09/03/85	No wind data recorded. Deleted ob
09/07/85	No wind data recorded. Deleted ob
07/07/89	No wind data recorded. Deleted ob
09/20/86	RH data erroneous. Deleted ob
09/27/86	RH data erroneous. Deleted ob
06/16/92	RH data erroneous. Deleted ob
ALL	No wind speeds recorded over 13 mph in the dataset

- Ski Hill 101223

06/18/91	Temperature data erroneous. Deleted ob
06/28/89	Temperature data erroneous. Deleted ob
07/03/97	Temperature data erroneous. Deleted ob
06/12/92	Max RH. Min RH reading 0. Deleted ob

- Dead Indian Ridge 101402

06/08/90	Min Temperature reading 0 degrees. Changed to 40

- Town Creek 101708

07/22/89	Temperature data erroneous. Deleted ob
08/19/90	RH data erroneous. Deleted ob
ALL	No wind speeds recorded over 19 mph for the dataset

- Little Creek 101805

09/20/88	No RH data. Deleted ob
06/23-9/5/90	Min RH reading of 0. Deleted ob

- North Fork 102903

07/03/93	Deleted observation
07/02/99	Deleted observation
09/09/91	Deleted observation
07/02/98	Precipitation reading 16 inches. Changed to 1.6 inches

- Stanley_RS 101809

03/18/04	Precipitation reading 2.61 inches in one hour. Deleted ob
06/14/92	Missing RH data. Deleted ob
07/21/93	Missing RH data. Deleted ob
09/02/96	Missing RH data. Deleted ob
04/20/00	Missing RH data. Deleted ob
07/06/00	Missing RH data. Deleted ob
10/13/00	Missing RH data. Deleted ob
05/15/00	Missing temperature data. Deleted ob
06/12/00	Missing temperature data. Deleted ob
07/01/00	Missing temperature data. Deleted ob

07/10/00 Missing temperature data. Deleted ob
08/01/00 Missing temperature data. Deleted ob
08/07/00 Missing temperature data. Deleted ob
08/10/00 Missing temperature data. Deleted ob
08/17/00 Missing temperature data. Deleted ob
08/20/00 Missing temperature data. Deleted ob
08/25/00 Missing temperature data. Deleted ob
08/28/00 Missing temperature data. Deleted ob
08/31/00 Missing temperature data. Deleted ob
09/07/00 Missing temperature data. Deleted ob
09/15/00 Missing temperature data. Deleted ob
09/16/00 Missing temperature data. Deleted ob
09/29/00 Missing temperature data. Deleted ob

- Horton Peak 101812
  09/22/95 Precipitation reading 2.13 inches in one hour. Deleted ob
  10/13/02 Questionable RH readings. Deleted ob
  03/28/07 Questionable RH readings. Deleted ob

- Mountain Home 102709
  06/27/96 Precipitation reading 35 inches. Changed to 0.35 inches
  10/13/00 Precipitation reading 32 inches. Changed to 0.32 inches
  09/16/96 Precipitation reading 30 inches. Changed to 0.03 inches
  07/31/01 Precipitation reading 13 inches. Changed to 0.13 inches
  10/12/00 Precipitation reading 5 inches. Changed to 0.50 inches
  06/25/96 Precipitation reading 4 inches. Changed to 0.04 inches
  08/11/93 Precipitation reading 2 inches. Changed to 0.02 inches
  07/07/95 Wind reading 55 mph. Changed to 15 mph

- Wagontown 102712
  Not used in the analysis due to short record. New in 2003

- Fleck Summit 102802
  05/27/99 RH readings erroneous. Deleted ob

- Twin Butte 103209
  07/14/96 Min Temperature reading 5 degrees. Changed to 75

- Pole Creek 103210
  08/11/93 Precipitation reading 5 inches. Deleted ob

- Horse Butte 103205
  05/22/92 Max Temperature reading 106 degrees. Changed to 76 degrees
  07/19/90 Min Temperature reading 7 degrees. Changed to 57

Appendix G – Preparedness Level Actions

Preparedness Level Actions

The following Preparedness Level actions are guidelines for agency personnel. They are discretionary in nature and usually will require a consensus between agency personnel prior to implementation.

For Boise National Forest also refer to their Specific Management Action Guide for a more detailed explanation and specific staffing information/draw down levels.

For Boise District BLM and Idaho Department of Lands, specific staffing will be determined by the duty officer and management.

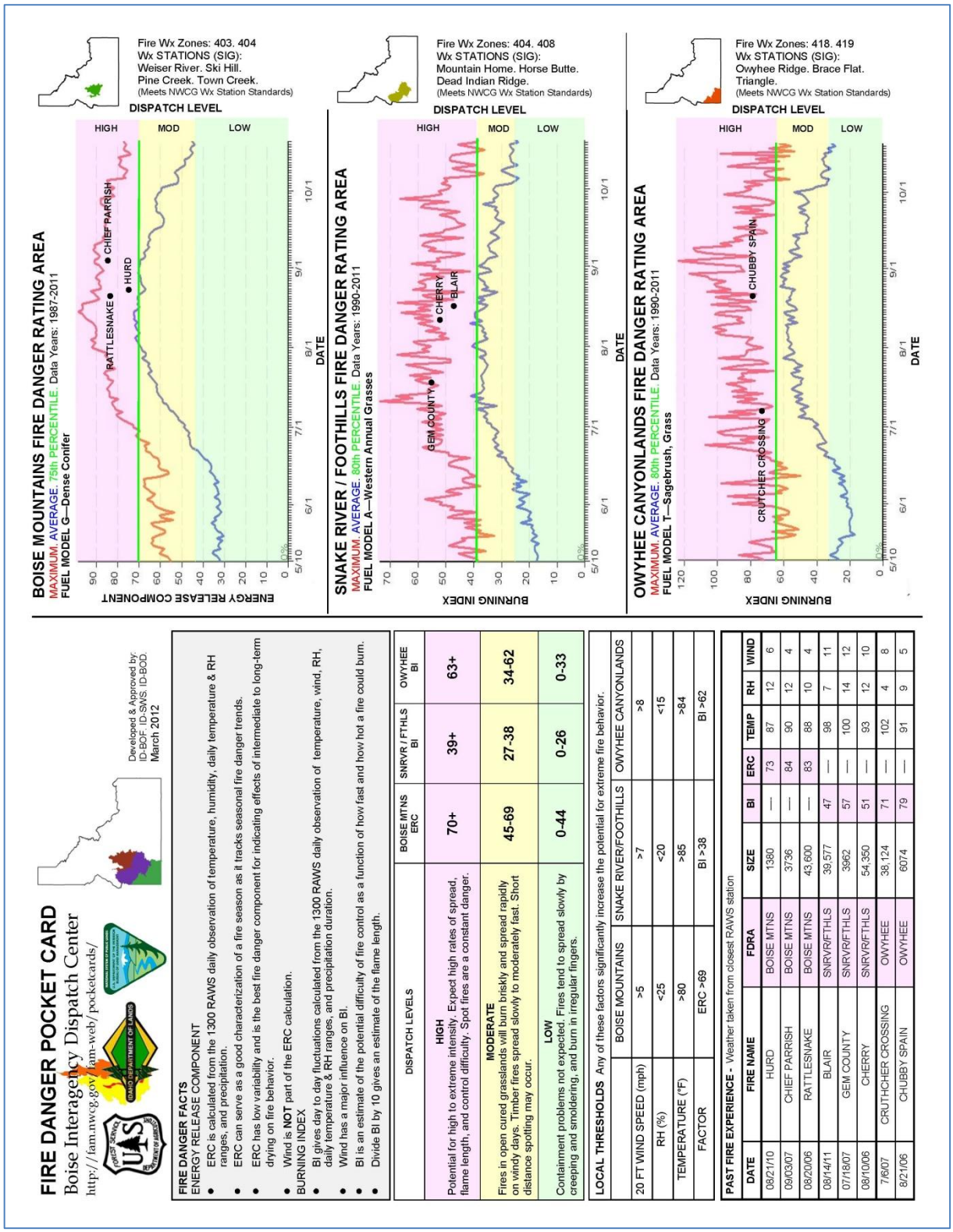
Responsible Party	Suggested Action	PL 1	PL 2	PL 3	PL 4	PL 5	Affected Entity
Agency Administrator	Ensure resource advisors are designated and available for fire assignments.	X	X	X	X	X	Agency
	Evaluate work/rest needs of fire staff.		X	X	X	X	Agency
	Consider need for fire restriction or closures.				X	X	Public Industry
	Provide appropriate political support to fire staff regarding the implementation of preparedness level actions.			X	X	X	Agency Public Industry
	Review, approve and transmit severity requests to the appropriate level.				X	X	Agency
	Issue guidance to respective agency staff indicating severity of the season and increased need and availability for fire support personnel.				X	X	Agency
Fire Staff Officer or FMO	Evaluate season severity data (BI and ERC trends for season, fuel loadings, live FM, drought indices, and long term forecasts).	X	X	X	X	X	Agency
	Evaluate fire staff work/rest requirements		X	X	X	X	Agency
	Brief agency administrator on burning conditions and fire activity.			X	X	X	Agency
	Review geographical and national preparedness levels and evaluate need to suspend local prescribe fire activities.			X	X	X	Agency

Fire Staff Officer or FMO	Ensure Education/Mitigation personnel have initiated media contacts and public notifications				X	X	Public Industry
	Ensure agency staff is briefed on increasing fire activity				X	X	Agency
	Brief next higher level of fire management on increasing/decreasing fire activity.				X	X	Agency
	Consider fire severity request and pre-positioning of resources including: suppression resources, aerial support, aerial supervision, command positions, dispatch, logistical support, and prevention.				X	X	Agency
	Coordinate with interagency partners on the need for fire restrictions or closures.					X	Public Industry
	Request that the Line Officer issue guidance to respective agency staff regarding the need for increased fire availability in support positions.				X	X	Agency
	Consider pre-position of a Type 3 organization.					X	Agency
Duty Officers	If preparedness level is decreasing, consider releasing pre-positioned and detailed resources.	X	X	X			Agency
	Evaluate work/rest needs of IA crews, dispatchers and aviation bases.			X	X	X	Agency
	Consider aerial detection flight.				X	X	Agency
	Evaluate need to change or shift duty hours of IA resources.				X	X	Agency
	Evaluate draw-down levels for suppression, command, and oversight positions.				X	X	Agency
	Consider extending staffing beyond normal shift length.			X LAL 3+	X	X	Agency
	Evaluate severity of conditions and consider severity request.				X	X	Agency
	Consider pre-positioning and/or detailing of additional IA resources.				X	X	Agency
	Consider pre-positioning and automatic dispatch of ATGS				X	X	Agency
	Consider 6th day staffing on modules				X	X	Agency
	Consider patrols and pre-positioning of local IA resources in high risk areas.				X	X	Agency

BDC Manager	Determine and broadcast the morning and afternoon preparedness, dispatch, and adjective fire danger levels to interagency fire personnel.	X	X	X	X	X	Agency
	Evaluate work/rest needs of center staff.			X	X	X	Agency
	If preparedness level is decreasing, consider release of pre-positioned or detailed dispatchers and logistical support personnel.	X	X	X			Agency
	Consult with Duty Officers concerning potential for extended staffing beyond normal shift length.			X LAL 3+	X	X	Agency
	Consider pre-positioning or detail of off-unit IA dispatchers and logistical support personnel.				X	X	Agency
	Consider discussing activation of local area MAC Group.				X	X	Agency
	Consult with duty officer and FMO regarding potential need for severity request.				X	X	Agency
	Consider bringing additional dispatch personnel in from scheduled days off.					X	Agency
	Notify appropriate military personnel of high/extreme fire danger and request the drop heights of chaff/flares be increased.					X	Agency
	Consult with Eastern Great Basin Coordination Center (EGBCC) regarding availability of resources at the geographical and national levels.			X	X	X	Agency
Assistant Fire Staff or AFMO	Ensure that roadside fire danger signs reflect the current adjective fire danger rating.	X	X	X	X	X	Public
	Ensure IA crews are briefed on local preparedness level, burning conditions, and availability of IA resources and air support.	X	X	X	X	X	Agency
	Ensure incoming pre-position or detailed personnel are briefed on local conditions.	X	X	X	X	X	Agency

Assistant Fire Staff or AFMO	Evaluate work/rest needs of crews. Monitor modules days off in an attempt to maintain everyone getting 1 day off in every 7.			X	X	X	Agency
	Increase patrols in camping and recreation areas.				X	X	Public
	Consider suspension of project work away from station.					X	Agency
	Provide duty officer with feedback regarding unique/unexpected fire behavior and severity conditions and the need to increase IA capabilities.				X	X	Agency
Fire Prevention - Education and Mitigation.	Ensure that roadside fire danger signs reflect the current adjective fire danger rating.	X	X	X	X	X	Public
	Initiate press release to inform public/industry of the potential fire danger.				X	X	Public Industry
	Ensure the public and industrial entities are aware of the policy regarding fire trespass investigations for human-caused fires and cost recovery for suppression action.				X	X	Public Industry
	Consider the need for increased prevention patrols.				X	X	Public Industry
	Contact local fire chiefs to make them aware of fire danger				X	X	Agency
	Consider door to door contacts in rural communities or ranch areas.					X	Public Industry
	Post signs and warnings in camp and recreation areas.				X	X	Public
	Consult with FMO regarding severity request and potential need for additional prevention personnel.				X	X	Public Industry
	Consult with AFMO and FMO regarding need for fire restrictions, closures and the need to order a Fire Prevention Team.				X	X	Agency Public Industry

Appendix H – Pocket Card



FIRE DANGER FACTS
ENERGY RELEASE COMPONENT

- ERC is calculated from the 1300 RAWS daily observation of temperature, humidity, daily temperature & RH ranges, and precipitation.
- ERC can serve as a good characterization of a fire season as it tracks seasonal fire danger trends.
- ERC has low variability and is the best fire danger component for indicating effects of intermediate to long-term drying on fire behavior.
- Wind is **NOT** part of the ERC calculation.

BURNING INDEX

- BI gives day to day fluctuations calculated from the 1300 RAWS daily observation of temperature, wind, RH, daily temperature & RH ranges, and precipitation duration.
- Wind has a major influence on BI.
- BI is an estimate of the potential difficulty of fire control as a function of how fast and how hot a fire could burn.
- Divide BI by 10 gives an estimate of the flame length.

DISPATCH LEVELS	BOISE MTNS ERC	SNRVR / FTHLS BI	OWYHEE BI
HIGH Potential for high to extreme intensity. Expect high rates of spread, flame length, and control difficulty. Spot fires are a constant danger.	70+	39+	63+
MODERATE Fires in open cured grasslands will burn briskly and spread rapidly on windy days. Timber fires spread slowly to moderately fast. Short distance spotting may occur.	45-69	27-38	34-62
LOW Containment problems not expected. Fires tend to spread slowly by creeping and smoldering, and burn in irregular fingers.	0-44	0-26	0-33

LOCAL THRESHOLDS Any of these factors significantly increase the potential for extreme fire behavior.

	BOISE MOUNTAINS	SNAKE RIVER/FOOTHILLS	OWYHEE CANYONLANDS
20 FT WIND SPEED (mph)	>5	>7	>8
RH (%)	<25	<20	<15
TEMPERATURE (°F)	>80	>85	>84
FACTOR	ERC >69	BI >38	BI >62

PAST FIRE EXPERIENCE - Weather taken from closest RAWS station

DATE	FIRE NAME	FDRA	SIZE	BI	ERC	TEMP	RH	WIND
08/21/10	HURD	BOISE MTNS	1380	—	73	87	12	6
09/03/07	CHIEF PARRISH	BOISE MTNS	3736	—	84	90	12	4
08/20/06	RATTLESNAKE	BOISE MTNS	43,600	—	83	88	10	4
08/14/11	BLAIR	SNRVR/FTHLS	39,577	47	—	98	7	11
07/18/07	GEM COUNTY	SNRVR/FTHLS	3962	57	—	100	14	12
08/10/06	CHERRY	SNRVR/FTHLS	54,350	51	—	93	12	10
7/6/07	CRUTHCHER CROSSING	OWYHEE	38,124	71	—	102	4	8
8/21/06	CHUBBY SPAIN	OWYHEE	6074	79	—	91	9	5

Appendix I – Season-Ending Event Probabilities Analysis

Future plans are to include an analysis for each of the Fire Danger Rating Areas.

.

Appendix J – FireFamily Plus Analysis

In order to interpret the following tables of outputs from the FireFamily Plus software package it is necessary to describe the process used for choosing a good fit.

There are four items to analyze in the interpretation of a good fit for Fire Day (FD), Large Fire Day (LFD) and Multiple Fire Day (MFD) for a given weather station or SIG of stations.

- The first item is the R^2 sometimes referred to as the correlation coefficient. In interpreting the R^2 of a particular combination of weather station fuel model and index/component, an R^2 of 1.0 indicates a perfect correlation.
- The second part of the interpretation is the Chi^2 which is a goodness of fit test that tells us how well the data fits the curve. A Chi^2 of less than 13 indicates an excellent fit. A Chi^2 of less than 20 is good but a Chi^2 of over 26 is not so good.
- The third item to examine is the P-Value associated with the Chi^2. The P-Value determines the confidence interval for the test. A good P-Value is greater than 0.05 for this test.
- The forth item to interpret is the Probability Range (FD P_Range). A large Probability Range is desirable because it allows for more flexibility in setting thresholds or breakpoints for fire business.

It is important to note that sometimes there is no "good fit" and the best you can do is pick the best of the worst. Additionally, the best fit may not work for the intended purpose. A good example of this would be using a highly variable index and fuel model to implement campfire restrictions. Using a fuel model A with BI may result in changing restriction levels on a daily basis, which would be extremely difficult to implement and enforce, potentially damaging our credibility with the public and industrial interests.

Boise Mountains FDRA

For the 2012 plan, the weather stations for the Special Interest Group (SIG) currently used were analyzed with NFDRS variables and fuel models to see what would be the best fit. The best fit NFDRS variable continued to be Energy Release Component (ERC) and so that was chosen. By request of the Forest Fire Management Officer Fuel Model G replaced Fuel Model H, with a good fit for Large Fire Day (LFD) and Multiple Fire Day (MFD). Below is a chart of the Fire Family fire business candidate outputs.

BOISE MOUNTAINS - SIG
Weiser River 101108. Pine Creek 101222. Ski Hill 101223. Town Creek 101708

DATA YEARS 1987-2011

VARIABLE	FUEL MODEL	FD_R^2	FD_Chi^2	FD_P-Val	FD_P-Range	LFD_R^2	LFD_Chi^2	LFD_P-Val	LFD_P-Range	MFD_R^2	MFD_Chi^2	MFD_P-Val	MFD_P-Range
BI	7I	0.89	15.5	0.0502	0.13 - 0.60	0.87	5.62	0.6892	0.01 - 0.37	0.33	3.65	0.8874	0.40 - 0.50
ERC	7B	0.88	8.33	0.4022	0.26 - 0.53	0.75	7.63	0.4701	0.05 - 0.24	0.3	5.28	0.7271	0.40 - 0.48
ERC	7D	0.94	10.52	0.2303	0.13 - 0.50	0.8	7.77	0.4563	0.01 - 0.21	0.02	11.87	0.1569	0.44 - 0.45
ERC	7E	0.9	12.58	0.1273	0.14 - 0.51	0.75	9.25	0.3217	0.01 - 0.23	0.17	10.42	0.2368	0.42 - 0.50
ERC	7G	0.85	47.55	0	0.09 - 0.63	0.87	6.34	0.6093	0.01 - 0.29	0.37	6.83	0.5554	0.36 - 0.51
ERC	7H	0.87	30.74	0.0002	0.14 - 0.60	0.83	9.66	0.2895	0.01 - 0.28	0.09	5.27	0.728	0.42 - 0.47
ERC	7N	0.9	8.84	0.3561	0.17 - 0.46	0.6	10.48	0.2329	0.03 - 0.18	0.34	6.31	0.6126	0.41 - 0.52
ERC	7U	0.94	6.94	0.5426	0.18 - 0.52	0.76	7.68	0.4656	0.02 - 0.22	0.08	13.9	0.0844	0.42 - 0.48
ERC	7Q	0.94	9.48	0.3034	0.14 - 0.53	0.73	11.43	0.1787	0.02 - 0.22	0.04	2.18	0.975	0.44 - 0.45

The analysis below was completed in 2008 to first identify the best correlation of weather stations and then with the NFDRS variable and fuel model. Individual weather stations were analyzed first to find the best correlation (FD^R2). The stations with the best correlation to fire business were then combined into a Special Interest Group (SIG) and analyzed again. From this analysis, Fuel Model H with ERC was found to be the best overall statistical fit for Fire Day (FD), Large Fire Day (LFD), and Multiple Fire Day (MFD) for the Boise Mountains Fire Danger Rating Area. The Weiser River, SkiHill, Pine Creek and Town Creek Weather Stations were used for the Final SIG.

SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD_P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	ERC	A	0.94	6.3	0.0428	0.19 - 0.56	0.94	1.39	0.5	0.04 - 0.22	0.17	6.46	0.0395	0.21 - 0.30
101222	1984 - 2007	BI	G	0.92	18.75	0.0162	0.11 - 0.71	0.95	2.07	0.9786	0.01 - 0.40	0	15.63	0.048	0.26 - 0.28
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	ERC	C	0.91	12.39	0.1345	0.16 - 0.58	0.52	13.18	0.1056	0.03 - 0.21	0.14	13.9	0.0845	0.21 - 0.30
101108	1982 - 2007	ERC	C	0.89	11.62	0.169	0.20 - 0.51	0.77	8.94	0.3475	0.03 - 0.26	0.06	5.68	0.6827	0.25 - 0.28
101222	1984 - 2007	ERC	G	0.89	32.14	0.0001	0.09 - 0.62	0.87	5.92	0.6563	0.01 - 0.27	0.35	12.86	0.1168	0.16 - 0.33
101223	1987 - 2007	ERC	H	0.88	12.77	0.12	0.22 - 0.60	0.66	17.73	0.0234	0.02 - 0.30	0.1	5.98	0.6489	0.24 - 0.29
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987- 2007	ERC	U	.88	17.43	0.0259	0.13-0.60	0.62	10.87	0.2093	0.03-0.22	0.08	13.85	0.0858	0.20-0.30
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	ERC	H	0.88	29.43	0.0003	0.10 - 0.68	0.8	6.59	0.5813	0.02 - 0.28	0.39	13.67	0.0908	0.14 - 0.36
101708	1982 - 2007	BI	G	0.88	32.19	0.0001	0.09 - 0.67	0.81	6.76	0.5629	0.01 - 0.35	0.02	13.07	0.1096	0.25 - 0.28
101708	1982 - 2007	ERC	G	0.88	42.93	0	0.08 - 0.64	0.8	6.71	0.5677	0.02 - 0.28	0.5	7.74	0.4591	0.16 - 0.35
101220	1986 - 2007	BI	G	0.87	15.75	0.0461	0.18 - 0.62	0.78	7.14	0.5215	0.02 - 0.35	0.03	8.39	0.3959	0.24 - 0.29
101108	1982 - 2007	BI	C	0.87	19.68	0.0116	0.19 - 0.68	0.67	16.14	0.0404	0.03 - 0.35	0.02	6.8	0.5582	0.26 - 0.27
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987- 2007	BI	U	.87	20.32	0.0092	0.13-0.70	0.85	3..28	0.9153	0.03-0.30	0.04	12.82	0.1181	0.22-0.29
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	ERC	K	0.87	28.28	0.0004	0.08 - 0.64	0.68	10.09	0.2585	0.01 - 0.24	0.28	15.36	0.0526	0.14 - 0.34
SIG – (101222, 101223, 101708)	1986 - 2007	ERC	G	0.86	32.68	0.0001	0.10 - 0.65	0.68	7.78	0.4557	0.02 - 0.24	0.51	21.65	0.0056	0.11 - 0.42

SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD_P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	ERC	G	0.86	40.32	0	0.06 - 0.69	0.75	8.62	0.3755	0.01 - 0.28	0.51	17.15	0.0285	0.09 - 0.41
101223	1987 - 2007	BI	H	0.85	11.78	0.1612	0.22 - 0.60	0.89	6.17	0.628	0.02 - 0.47	0	10.45	0.2349	0.25 - 0.28
101220	1986 - 2007	BI	H	0.85	14.14	0.0781	0.21 - 0.60	0.77	8.35	0.3997	0.03 - 0.36	0.18	7.66	0.467	0.22 - 0.30
101220	1986 - 2007	ERC	H	0.85	19.99	0.0104	0.20 - 0.56	0.74	10.74	0.2167	0.03 - 0.26	0	8.62	0.3756	0.26 - 0.27
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	BI	H	0.84	33.53	0	0.11 - 0.74	0.69	8.91	0.3503	0.02 - 0.34	0.19	10.33	0.2428	0.19 - 0.33
101108	1982 - 2007	ERC	G	0.84	36.69	0	0.08 - 0.60	0.9	4.89	0.7694	0.00 - 0.31	0.56	7.52	0.4815	0.14 - 0.35
101710	2001 - 2007	BI	G	0.83	9.92	0.2706	0.08 - 0.60	0.78	3.53	0.8966	0.00 - 0.39	0	6.53	0.5886	0.24 - 0.24
101222	1984 - 2007	IC	G	0.83	20.55	0.0084	0.21 - 0.63	0.67	18.54	0.0175	0.04 - 0.40	0.54	6.01	0.6458	0.17 - 0.33
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	BI	C	0.83	27.33	0.0006	0.16 - 0.69	0.76	5.68	0.6834	0.03 - 0.28	0.12	11.98	0.1522	0.21 - 0.31
102802	1997 - 2007	ERC	G	0.82	20.62	0.0082	0.10 - 0.58	0.84	7.49	0.4846	0.00 - 0.38	0.19	9.18	0.3275	0.17 - 0.31
101108	1982 - 2007	BI	G	0.82	32.45	0.0001	0.14 - 0.70	0.73	11.31	0.1849	0.02 - 0.40	0.16	8.88	0.3528	0.23 - 0.31
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	BI	K	0.81	27.16	0.0007	0.12 - 0.68	0.83	3.79	0.8755	0.02 - 0.31	0.01	4.36	0.8233	0.25 - 0.26
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	BI	G	0.81	43.05	0	0.09 - 0.76	0.74	8.6	0.3768	0.02 - 0.34	0.27	9.92	0.2708	0.17 - 0.35
101710	2001 - 2007	IC	G	0.8	9.42	0.3085	0.16 - 0.58	0.61	10.52	0.2307	0.00 - 0.41	0.15	3.44	0.9035	0.19 - 0.31
SIG – (101222, 101223, 101708)	1986 - 2007	BI	G	0.8	31.27	0.0001	0.12 - 0.69	0.58	12.48	0.1311	0.02 - 0.32	0.44	8.44	0.3918	0.16 - 0.38
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	ERC	F	0.79	30.41	0.0002	0.20 - 0.69	0.63	12.34	0.1365	0.04 - 0.29	0.03	16.25	0.039	0.24 - 0.29
101221	1982 - 2007	ERC	G	0.78	29.71	0.0002	0.17 - 0.56	0.47	11.05	0.1988	0.05 - 0.20	0.09	12.88	0.1159	0.25 - 0.31
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	BI	A	0.78	37.53	0	0.18 - 0.74	0.82	5.9	0.6584	0.03 - 0.39	0.02	11.29	0.186	0.24 - 0.28
101220	1986 - 2007	ERC	G	0.78	45.04	0	0.15 - 0.61	0.78	8.34	0.4009	0.02 - 0.27	0.22	10.2	0.2514	0.20 - 0.32

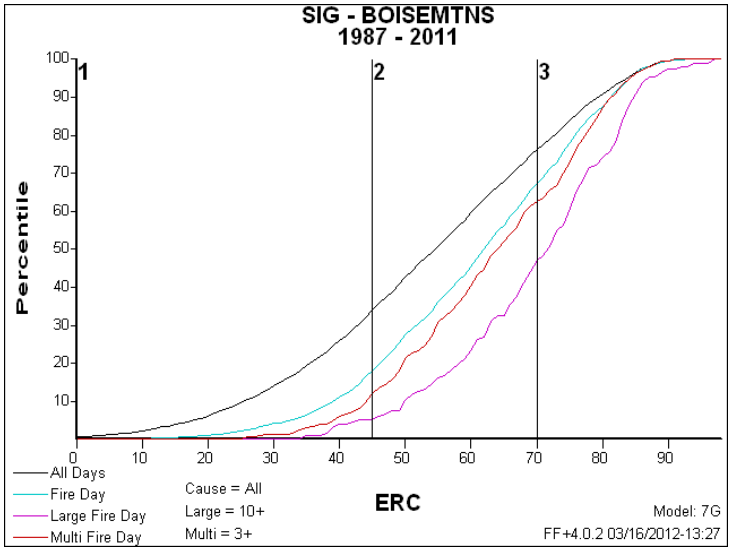
SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD_P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
101710	2001 - 2007	ERC	G	0.76	18.82	0.0158	0.07 - 0.62	0.61	10.36	0.2407	0.00 - 0.51	0.19	10.2	0.2515	0.11 - 0.33
101108	1982 - 2007	IC	G	0.76	25.5	0.0013	0.23 - 0.62	0.77	11.24	0.1886	0.04 - 0.42	0.49	3.25	0.9177	0.18 - 0.32
101108	1982 - 2007	IC	C	0.76	33.58	0	0.22 - 0.63	0.78	12.5	0.1304	0.04 - 0.39	0.2	6.87	0.5512	0.21 - 0.30
101221	1982 - 2007	BI	G	0.74	25.36	0.0014	0.21 - 0.64	0.46	16.85	0.0317	0.04 - 0.27	0.65	4.69	0.7902	0.18 - 0.38
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	BI	F	0.74	39.52	0	0.23 - 0.73	0.68	10.49	0.2321	0.05 - 0.35	0	13.28	0.1027	0.25 - 0.26
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	IC	F	0.73	42.25	0	0.22 - 0.64	0.66	12.45	0.1321	0.05 - 0.27	0	12.91	0.1149	0.25 - 0.26
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987- 2007	IC	U	.71	46.11	0	0.19-0.69	0.8	6..56	0.5845	0.04-0.33	0.01	00.31	0.2436	0.24-0.27
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	IC	G	0.71	47	0	0.19 - 0.69	0.81	6.18	0.6273	0.04 - 0.33	0	10.82	0.212	0.24 - 0.27
101108	1982 - 2007	SC	C	0.7	47.44	0	0.22 - 0.85	0.3	28.49	0.0004	0.06 - 0.45	0.12	7.67	0.466	0.25 - 0.33
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	IC	H	0.7	48.11	0	0.20 - 0.69	0.84	4.54	0.8052	0.04 - 0.33	0	14.44	0.071	0.25 - 0.26
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	IC	C	0.7	54.61	0	0.20 - 0.70	0.89	3.35	0.9108	0.04 - 0.35	0	20.55	0.0084	0.25 - 0.26
SIG – (101222, 101223, 101708)	1986 - 2007	IC	G	0.69	37.12	0	0.21 - 0.66	0.82	5.58	0.6939	0.04 - 0.34	0.11	9.86	0.2747	0.24 - 0.31
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	SC	C	0.69	55.73	0	0.19 - 0.81	0.66	7.93	0.4402	0.05 - 0.32	0.1	19.18	0.0139	0.22 - 0.32
101220	1986 - 2007	IC	G	0.68	23.24	0.0031	0.26 - 0.56	0.82	7.04	0.5319	0.04 - 0.36	0.61	4.69	0.7906	0.17 - 0.33
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	IC	K	0.68	42.81	0	0.21 - 0.65	0.8	5.85	0.6641	0.04 - 0.32	0.06	8.08	0.4254	0.22 - 0.29
101221	1982 - 2007	IC	G	0.67	27.86	0.0005	0.26 - 0.61	0.8	6.52	0.5889	0.05 - 0.41	0.65	10.15	0.2545	0.12 - 0.37
101708	1982 - 2007	SC	G	0.67	53.09	0	0.16 - 0.73	0.87	3.93	0.8634	0.03 - 0.56	0.26	8.11	0.423	0.16 - 0.33
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	SC	H	0.65	45.36	0	0.19 - 0.74	0.47	7.34	0.0619	0.05 - 0.24	0.03	5.48	0.1399	0.24 - 0.28

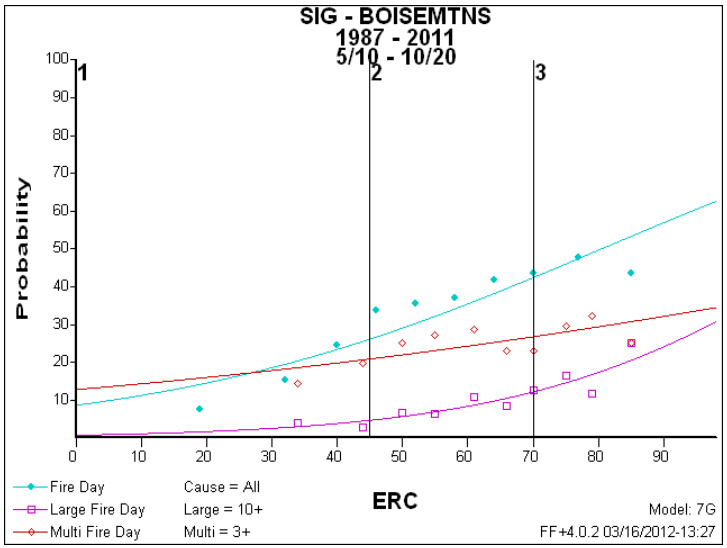
SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD_P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
102802	1997 - 2007	BI	G	0.64	12.77	0.1199	0.24 - 0.56	0.55	9.69	0.2875	0.02 - 0.33	0.22	11.12	0.1948	0.18 - 0.35
101710	2001 - 2007	SC	G	0.64	15.41	0.0311	0.15 - 0.66	0.58	4.28	0.5103	0.01 - 0.40	0.06	7.95	0.2418	0.17 - 0.31
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	IC	A	0.64	63.84	0	0.21 - 0.74	0.81	7.31	0.5033	0.04 - 0.43	0.01	10.74	0.2166	0.24 - 0.26
102903	1986 - 2007	ERC	G	0.63	24.97	0.0016	0.25 - 0.49	0.6	10.23	0.2494	0.04 - 0.21	0.03	27.07	0.0007	0.24 - 0.31
102903	1986 - 2007	ERC	G	0.63	24.97	0.0016	0.25 - 0.49	0.6	10.23	0.2494	0.04 - 0.21	0.03	27.07	0.0007	0.24 - 0.31
101222	1984 - 2007	SC	G	0.63	45.32	0	0.19 - 0.74	0.64	12.4	0.0883	0.03 - 0.42	0.28	3.9	0.5633	0.19 - 0.32
101220	1986 - 2007	SC	H	0.62	21.74	0.0054	0.27 - 0.57	0.87	3.7	0.8133	0.05 - 0.40	0.31	8.08	0.1519	0.17 - 0.32
101220	1986 - 2007	IC	H	0.62	32.52	0.0001	0.26 - 0.55	0.85	5.66	0.6852	0.04 - 0.35	0.54	6.3	0.6139	0.18 - 0.33
101108	1982 - 2007	SC	G	0.62	42.72	0	0.22 - 0.78	0.26	26.78	0.0008	0.06 - 0.40	0	6.25	0.6191	0.25 - 0.27
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	SC	A	0.62	62.53	0	0.23 - 0.83	0.77	5.1	0.7465	0.05 - 0.48	0	13.25	0.1035	0.26 - 0.26
101223	1987 - 2007	IC	H	0.61	26.17	0.001	0.28 - 0.58	0.87	5.01	0.7562	0.04 - 0.41	0.38	8.12	0.4218	0.18 - 0.32
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987- 2007	SC	U	.61	62.75	0	0.18-0.79	0.53	9.15	0.2418	0.04-0.31	0	8.33	0.3043	0.25-0.26
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	SC	K	0.6	22.14	0.0047	0.22 - 0.65	0.55	5.82	0.6677	0.05 - 0.27	0.15	8.6	0.1972	0.17 - 0.32
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	SC	G	0.6	62.45	0	0.18 - 0.78	0.51	11.12	0.1952	0.05 - 0.28	0	8.5	0.3862	0.26 - 0.26
101220	1986 - 2007	SC	G	0.51	34.71	0	0.26 - 0.59	0.74	6.41	0.6013	0.04 - 0.41	0.27	9.34	0.3143	0.16 - 0.33
SIG – Boise Mountains (101108, 101222, 101223, 101708)	1987 - 2007	SC	F	0.51	87.13	0	0.27 - 0.80	0.81	5.33	0.7216	0.07 - 0.41	0	33.95	0	0.25 - 0.26
102802	1997 - 2007	IC	G	0.49	13.13	0.1075	0.29 - 0.48	0.75	8.8	0.3596	0.02 - 0.38	0.44	11.96	0.153	0.13 - 0.38
101223	1987 - 2007	SC	H	0.47	5.91	0.1161	0.30 - 0.62	0.72	8.16	0.0429	0.05 - 0.64	0.9	0.09	0.7663	0.18 - 0.30
102903	1986 - 2007	BI	G	0.44	22.04	0.0048	0.29 - 0.61	0.43	13.08	0.1092	0.05 - 0.37	0.61	5.67	0.6847	0.11 - 0.37

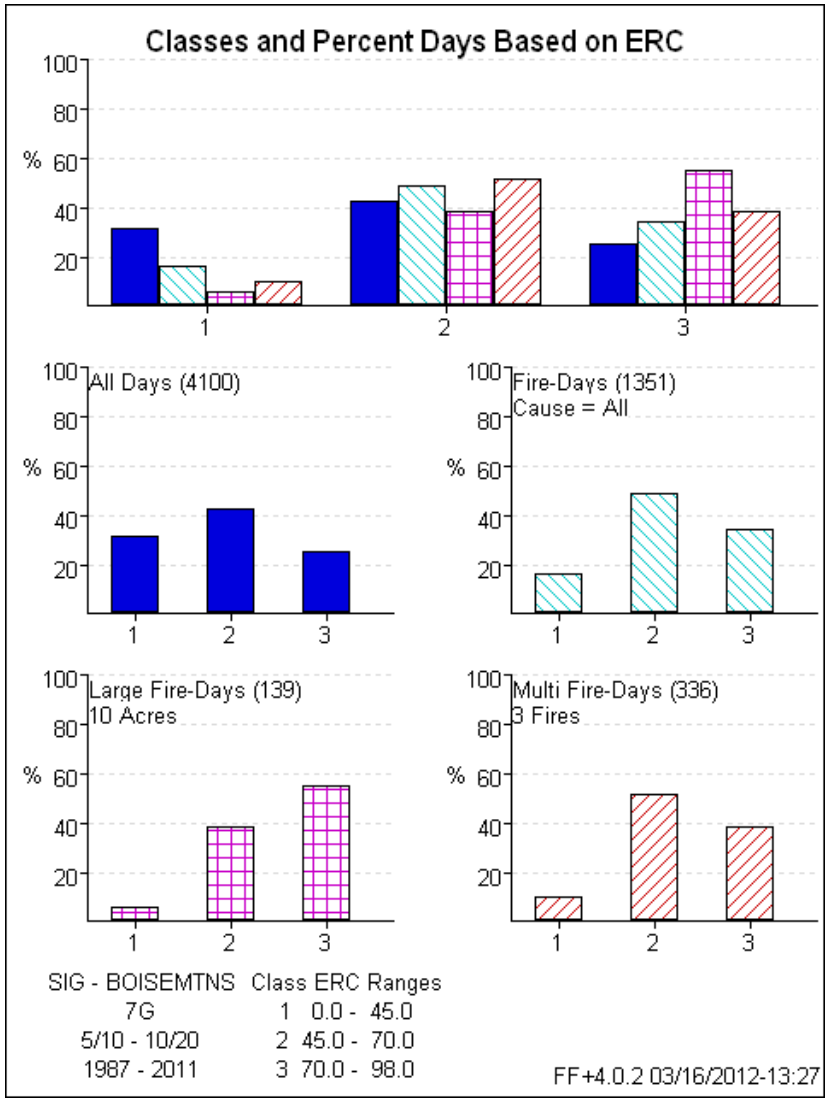
SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD_P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
101221	1982 - 2007	SC	G	0.41	33.79	0	0.29 - 0.78	0.54	12.35	0.1363	0.06 - 0.48	0.5	13.48	0.0963	0.08 - 0.37
SIG – (101222, 101223, 101708)	1986 - 2007	SC	G	0.3	52.46	0	0.26 - 0.62	0.62	11.63	0.1683	0.04 - 0.38	0	12.23	0.1413	0.25 - 0.27
102802	1997 - 2007	SC	G	0.11	9.05	0.3384	0.34 - 0.42	0.16	17.52	0.0251	0.05 - 0.23	0.29	10.61	0.2246	0.12 - 0.34
102903	1986 - 2007	IC	G	0.07	18.46	0.018	0.35 - 0.40	0.52	13.63	0.092	0.06 - 0.27	0.84	6.6	0.5801	0.08 - 0.42
102903	1986 - 2008	SC	G	0.01	22.4	0.0042	0.35 - 0.58	0.15	20.28	0.0093	0.09 - 0.55	0.52	10.44	0.2357	0.00 - 0.36
102903	1986 - 2007	SC	G	0.01	22.4	0.0042	0.35 - 0.58	0.15	20.28	0.0093	0.09 - 0.55	0.52	10.44	0.2357	0.00 - 0.36
102903	1986 - 2007	SC	G	0.01	22.4	0.0042	0.35 - 0.58	0.15	20.28	0.0093	0.09 - 0.55	0.52	10.44	0.2357	0.00 - 0.36

Boise Mountains Dispatch Level

Working Set: Weiser River, Pine Creek, Skihill, Town Creek RAWS 1987-2011, Fuel Model G, Large Fire Acres = 10, Multiple Fire Day = 3. Fire Associations Include: Boise National Forest, Idaho Department of Lands, and Boise District BLM fires within the FDRA boundary.

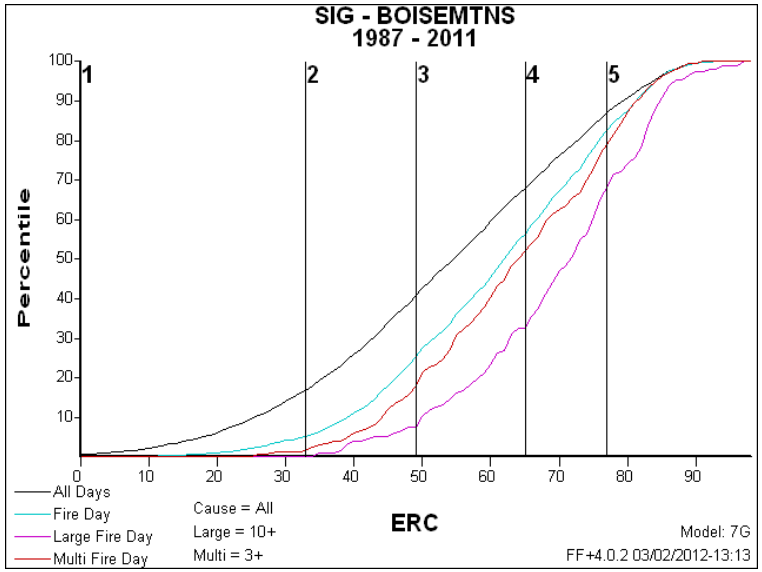


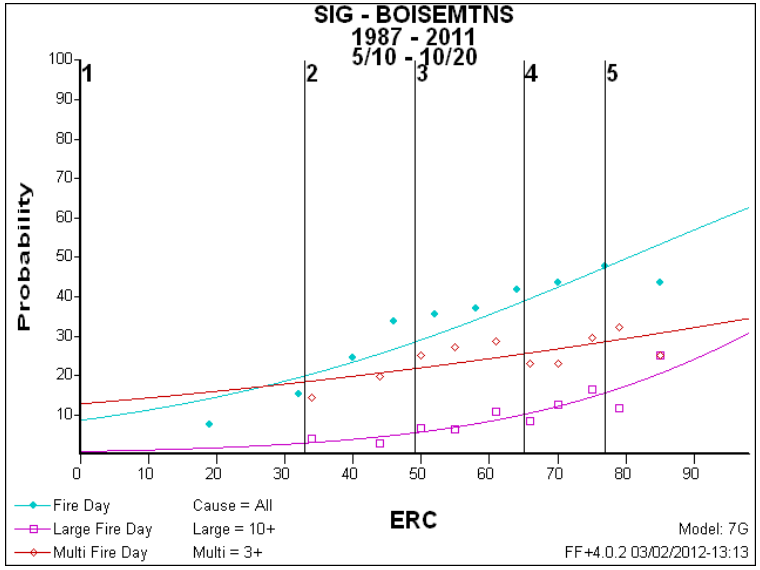


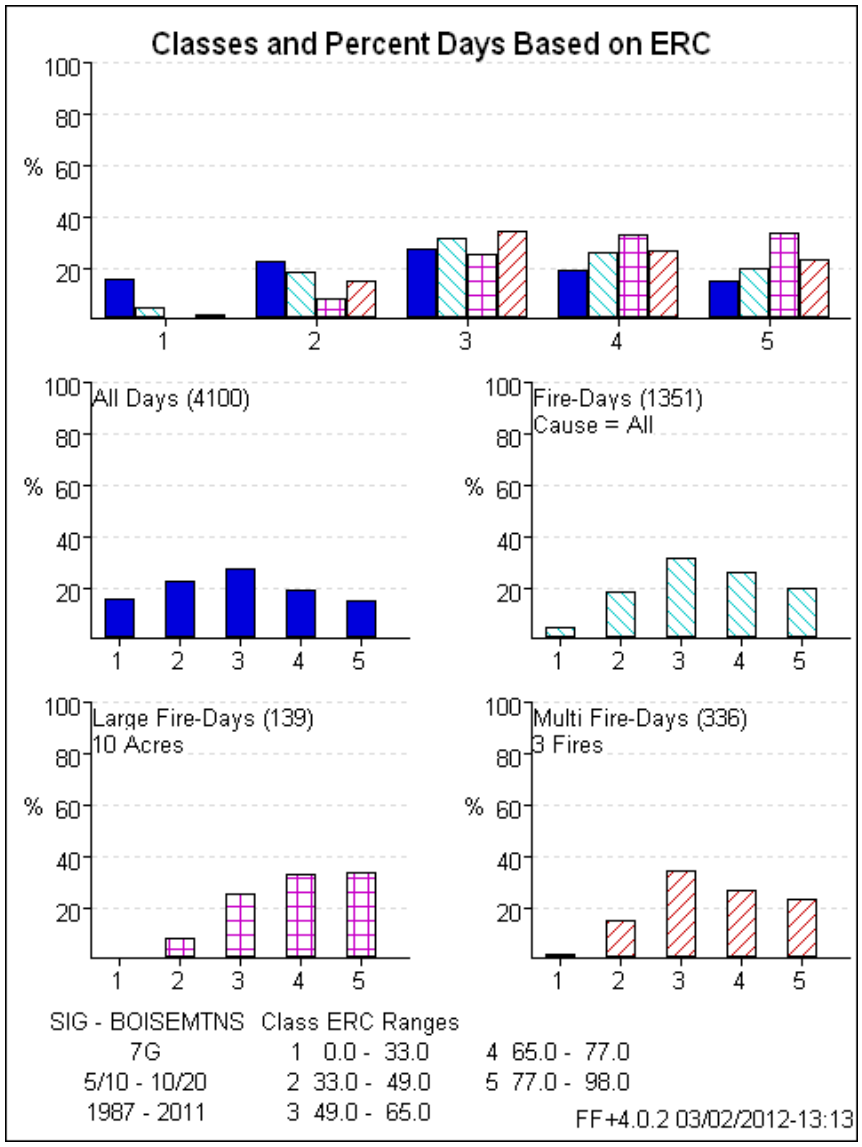


Boise Mountains Preparedness Level

Working Set: Weiser River, Pine Creek, Skihill, Town Creek RAWS 1987-2011, Fuel Model G, Large Fire Acres = 10, Multiple Fire Day = 3. Fire Associations Include: Boise National Forest, Idaho Department of Lands, and Boise District BLM fires within the FDRA boundary.







Snake River and Foothills FDRA

For the 2012 plan, the weather stations for the Special Interest Group (SIG) currently used were analyzed with NFDRS variables and fuel models to see what would be the best fit. By request of the BLM Fire Management Officer, Burning Index (BI) would be used as the NFDRS variable due to the high influence of wind in the area. Fuel Model A was the only model that had a reasonable fit with BI for Fire Day (FD), Large Fire Day (LFD), and Multiple Fire Day (MFD). Below is a chart of the Fire Family fire business candidate outputs.

SNRVR/FOOTHILLS – SIG
DEAD INDIAN RIDGE 101402. MOUNTAIN HOME 102709. HORSE BUTTE 103205
DATA YEARS 1990-2011

VARIABLE	FUEL MODEL	FD_R^2	FD_Chi^2	FD_P-Val	FD_P-Range	LFD_R^2	LFD_Chi^2	LFD_P-Val	LFD_P-Range	MFD_R^2	MFD_Chi^2	MFD_P-Val	MFD_P-Range
BI	7A	0.9	21.91	0.0051	0.12 - 0.77	0.36	19.67	0.0116	0.04 - 0.30	0.59	9.59	0.2947	0.78 - 1.00
ERC	7C	0.99	3.03	0.9324	0.06 - 0.59	0.62	8.45	0.3908	0.02 - 0.18	0.78	5.55	0.6978	0.63 - 0.99
ERC	7D	0.99	3.37	0.9088	0.03 - 0.55	0.57	10.57	0.2275	0.01 - 0.18	0.79	8.69	0.3692	0.40 - 0.98
ERC	7E	0.98	6.66	0.574	0.03 - 0.61	0.58	8.88	0.3524	0.01 - 0.19	0.87	3.42	0.9052	0.43 - 0.99
ERC	7L	0.98	5.33	0.3774	0.10 - 0.61	0.56	5.14	0.273	0.04 - 0.17	0.96	0.79	0.9404	0.75 - 0.99
ERC	7N	0.98	4.32	0.8268	0.04 - 0.59	0.57	11.09	0.1968	0.01 - 0.19	0.81	6.22	0.6231	0.42 - 0.99
ERC	7P	0.98	5.91	0.6573	0.02 - 0.58	0.5	14.65	0.0664	0.01 - 0.19	0.82	5.41	0.7126	0.36 - 0.99
ERC	7Q	0.98	6.09	0.6367	0.04 - 0.59	0.59	10.83	0.2114	0.01 - 0.19	0.78	11.86	0.1577	0.43 - 0.99
ERC	7S	0.98	4.56	0.8029	0.04 - 0.57	0.59	9.35	0.3139	0.01 - 0.18	0.76	10.39	0.2385	0.43 - 0.99
ERC	7U	0.98	5.46	0.7072	0.05 - 0.62	0.44	19.13	0.0142	0.02 - 0.20	0.93	2.19	0.9745	0.56 - 0.99

The analysis below was completed in 2008 and 2010 to first identify the best correlation of weather stations and then with the NFDRS variable and fuel model. Individual weather stations were analyzed first to find the best correlation (FDR2). The stations with the best correlation to fire business were then combined into a Special Interest Group (SIG) and analyzed again. Initially From this analysis, Fuel Model C was selected for use with ERC for the Preparedness Level and Fuel Model A was selected for use with BI for the Dispatch Level. After using Fuel Model C with ERC for the Month of June, it became apparent that the narrow range of values was inadequate and Fuel Model G was used instead. Mountain Home, Dead Indian Ridge and Horse Butte were selected for use in the final SIG.

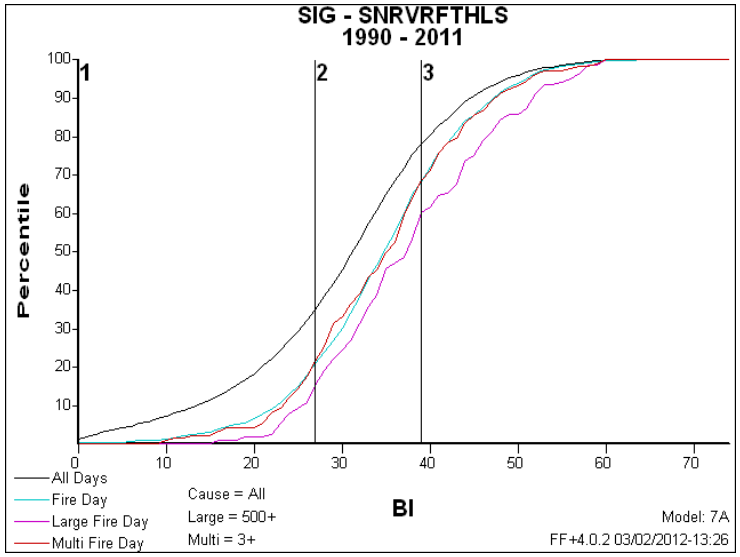
SIG/Station	Years	VAR	Model	FD_R^2	FD_Chi^2	FD_P-Val	FD_P-RAN	LFD_R^2	LFD_Chi^2	LFD_P-Val	LFD_P-RAN	MFD_R^2	MFD_Chi^2	MFD_P-Val	MFD_P-RAN
SIG - FDR2	1996 - 2007	BI	7A	0.94	8.2	0.4143	0.10 - 0.73	0.59	14.87	0.0618	0.07 - 0.56	0	7.69	0.4648	0.14 - 0.14
SIG - FDR2	1996 - 2007	BI	7A	0.93	9.79	0.2798	0.09 - 0.74	0.59	14.13	0.0784	0.07 - 0.55	0	4.78	0.7807	0.14 - 0.14
SIG - F2	1996 - 2007	BI	7A	0.93	11.35	0.1827	0.08 - 0.74	0.75	8.2	0.4138	0.06 - 0.57	0	8.42	0.3933	0.14 - 0.15
SIG - F2	1990 - 2008	BI	7A	0.88	22.13	0.0047	0.08 - 0.73	0.73	11.67	0.1664	0.06 - 0.56	0.05	7.14	0.5218	0.15 - 0.19
SIG - FDR2	1990 - 2008	BI	7A	0.88	19.57	0.0121	0.10 - 0.72	0.55	18.53	0.0176	0.08 - 0.52	0.25	2.95	0.9372	0.14 - 0.21
SIG - FDRA2	1990 - 2007	BI	7A	0.85	26.14	0.001	0.11 - 0.75	0.77	7.29	0.5055	0.08 - 0.52	0.09	18.31	0.019	0.13 - 0.22
SIG - SNRVR/FTHL	1990 - 2007	BI	7A	0.89	36.87	0	0.08 - 0.87	0.77	5.17	0.7393	0.14 - 0.52	0.07	5.77	0.6735	0.16 - 0.21
102601	1990 - 2007	BI	7A1AE1	0.97	4.4	0.8198	0.10 - 0.72	0.8	6.66	0.5742	0.08 - 0.56	0.03	7.64	0.4697	0.15 - 0.18
102709	1990 - 2007	BI	7A1AE1	0.8	31.97	0.0001	0.14 - 0.77	0.67	11.31	0.1845	0.11 - 0.59	0.21	8.71	0.3676	0.11 - 0.22
103205	1990 - 2007	BI	7A1AE1	0.9	11.6	0.1701	0.15 - 0.71	0.55	7.8	0.4536	0.15 - 0.47	0	8.12	0.4217	0.15 - 0.18
103209	1990 - 2007	BI	7A1AE1	0.85	14.32	0.0737	0.15 - 0.62	0.64	8.04	0.4298	0.12 - 0.48	0.06	3.7	0.8833	0.13 - 0.22
101402	1990 - 2007	BI	7A2AE2	0.97	6.84	0.5537	0.22 - 0.91	0.83	7.77	0.4565	0.12 - 0.50	0.26	17.71	0.0235	0.27 - 0.43
SIG - FDRA2	1990 - 2007	BI	7C	0.74	28.25	0.0004	0.12 - 0.65	0.67	10.48	0.233	0.08 - 0.57	0.11	7.01	0.536	0.13 - 0.21
SIG - SNRVR/FOOTHILL	1990 - 2007	BI	7C	0.78	52.1	0	0.10 - 0.84	0.61	9.44	0.3063	0.14 - 0.53	0.29	5.56	0.6962	0.12 - 0.27
102601	1990 - 2007	BI	7C1AE1	0.85	18.39	0.0185	0.12 - 0.75	0.88	3.88	0.8677	0.07 - 0.60	0.15	2.64	0.9549	0.15 - 0.19
102709	1990 - 2007	BI	7C1AE1	0.63	53.36	0	0.16 - 0.71	0.67	8.6	0.3774	0.12 - 0.57	0.22	7.8	0.4534	0.10 - 0.23
103205	1990 - 2007	BI	7C1AE1	0.81	13.97	0.0825	0.17 - 0.59	0.47	10.96	0.204	0.14 - 0.46	0.04	7.65	0.4682	0.15 - 0.19
103209	1990 - 2007	BI	7C1AE1	0.6	22.44	0.0042	0.20 - 0.50	0.6	9.08	0.3356	0.12 - 0.47	0	11.29	0.186	0.13 - 0.21

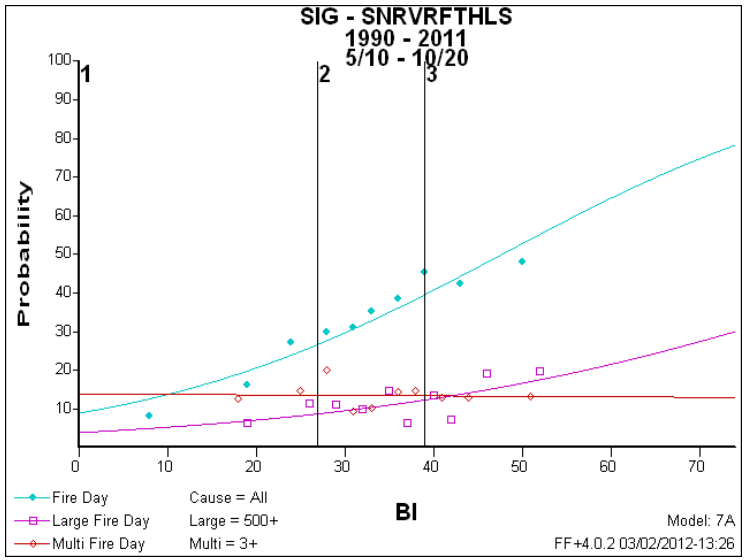
101402	1990 - 2007	BI	7C2AE2	0.83	34.02	0	0.25 - 0.89	0.6	17.87	0.0222	0.12 - 0.51	0.27	17.33	0.0268	0.25 - 0.46
102601	1990 - 2007	BI	7F1AE1	0.65	54.11	0	0.21 - 0.76	0.47	13.75	0.0887	0.18 - 0.46	0.01	5.51	0.7016	0.16 - 0.18
101402	1990 - 2007	BI	7F2AE2	0.86	41.46	0	0.31 - 0.94	0.83	7.96	0.4376	0.15 - 0.53	0.39	13.82	0.0865	0.28 - 0.46
SIG - FDRA2	1990 - 2007	BI	7G	0.74	28.25	0.0004	0.12 - 0.65	0.67	10.48	0.233	0.08 - 0.57	0.11	7.01	0.536	0.13 - 0.21
SIG - SNRVR/FTHL	1990 - 2007	BI	7G	0.78	52.1	0	0.10 - 0.84	0.61	9.44	0.3063	0.14 - 0.53	0.29	5.56	0.6962	0.12 - 0.27
102601	1990 - 2007	BI	7G1AE1	0.79	20.03	0.0102	0.13 - 0.71	0.74	7.57	0.4767	0.08 - 0.57	0.04	6.13	0.633	0.16 - 0.18
102709	1990 - 2007	BI	7G1AE1	0.6	37.6	0	0.17 - 0.67	0.54	12.15	0.1445	0.12 - 0.56	0.17	8.98	0.344	0.10 - 0.23
103205	1990 - 2007	BI	7G1AE1	0.72	22.89	0.0035	0.16 - 0.63	0.62	4.86	0.7722	0.14 - 0.49	0.02	6.52	0.5889	0.15 - 0.18
103209	1990 - 2007	BI	7G1AE1	0.52	31.49	0.0001	0.19 - 0.55	0.55	10.25	0.2476	0.12 - 0.48	0	7.13	0.5229	0.13 - 0.21
101402	1990 - 2007	BI	7G2AE2	0.76	47.41	0	0.24 - 0.88	0.64	12.96	0.1134	0.12 - 0.48	0.29	21.32	0.0063	0.24 - 0.46
SIG - FDRA2	1990 - 2007	BI	7K	0.58	47.03	0	0.14 - 0.64	0.75	5.44	0.71	0.10 - 0.55	0.28	2.49	0.9623	0.13 - 0.21
SIG - SNRVR/FTHL	1990 - 2007	BI	7K	0.86	33.88	0	0.11 - 0.88	0.64	7.18	0.5175	0.16 - 0.52	0.13	10.51	0.2311	0.14 - 0.23
102601	1990 - 2007	BI	7K1AE1	0.89	12.92	0.1147	0.10 - 0.71	0.85	4.62	0.7971	0.06 - 0.60	0.22	1.55	0.9918	0.14 - 0.19
102709	1990 - 2007	BI	7K1AE1	0.76	17.55	0.0248	0.15 - 0.64	0.79	5.45	0.7086	0.09 - 0.58	0.16	8.92	0.3487	0.11 - 0.23
103205	1990 - 2007	BI	7K1AE1	0.85	13.28	0.1024	0.14 - 0.63	0.47	12.19	0.143	0.12 - 0.49	0.01	5.71	0.6802	0.16 - 0.17
103209	1990 - 2007	BI	7K1AE1	0.68	16.74	0.033	0.17 - 0.50	0.68	6.16	0.6293	0.10 - 0.46	0	8.96	0.3455	0.13 - 0.22
101402	1990 - 2007	BI	7K2AE2	0.8	36.09	0	0.22 - 0.87	0.69	11.52	0.1739	0.11 - 0.48	0.24	15.71	0.0467	0.26 - 0.43
SIG - FDRA2	1990 - 2007	BI	7L	0.85	22.59	0.0039	0.11 - 0.68	0.78	7.24	0.5113	0.08 - 0.54	0.11	10.89	0.2079	0.13 - 0.22
SIG - SNRVR/FTHL	1990 - 2007	BI	7L	0.87	38.45	0	0.09 - 0.88	0.72	6.92	0.5454	0.14 - 0.55	0.11	10.4	0.238	0.15 - 0.22
SIG/Station	Years	VAR	Model	FD_R^2	FD_Chi^2	FD_P-Val	FD_P-RAN	LFD_R^2	LFD_Chi^2	LFD_P-Val	LFD_P-RAN	MFD_R^2	MFD_Chi^2	MFD_P-Val	MFD_P-RAN
102601	1990 - 2007	BI	7L1AE1	0.95	6.33	0.6107	0.11 - 0.68	0.8	6.88	0.55	0.07 - 0.57	0.04	7.9	0.443	0.15 - 0.18
102709	1990 - 2007	BI	7L1AE1	0.8	31.32	0.0001	0.15 - 0.73	0.84	4.51	0.8082	0.10 - 0.60	0.19	8.13	0.4206	0.12 - 0.21
103205	1990 - 2007	BI	7L1AE1	0.89	11.8	0.1604	0.16 - 0.71	0.61	5.59	0.6935	0.14 - 0.47	0	11.22	0.1897	0.16 - 0.17
103209	1990 - 2007	BI	7L1AE1	0.85	12.53	0.1292	0.16 - 0.60	0.9	2.17	0.9753	0.11 - 0.49	0.02	17.37	0.0265	0.13 - 0.22
101402	1990 - 2007	BI	7L2AE2	0.95	11.6	0.1699	0.23 - 0.90	0.85	6.29	0.6143	0.12 - 0.50	0.26	17.64	0.0241	0.28 - 0.42
SIG - FDRA2	1990 - 2007	BI	7T	0.85	22.59	0.0039	0.11 - 0.68	0.78	7.24	0.5113	0.08 - 0.54	0.11	10.89	0.2079	0.13 - 0.22
SIG - SNRVR/FTHL	1990 - 2007	BI	7T	0.87	38.45	0	0.09 - 0.88	0.72	6.92	0.5454	0.14 - 0.55	0.11	10.4	0.238	0.15 - 0.22
102601	1990 - 2007	BI	7T1AE1	0.74	38.9	0	0.16 - 0.78	0.7	8.64	0.3739	0.12 - 0.55	0.01	9.16	0.3288	0.16 - 0.17

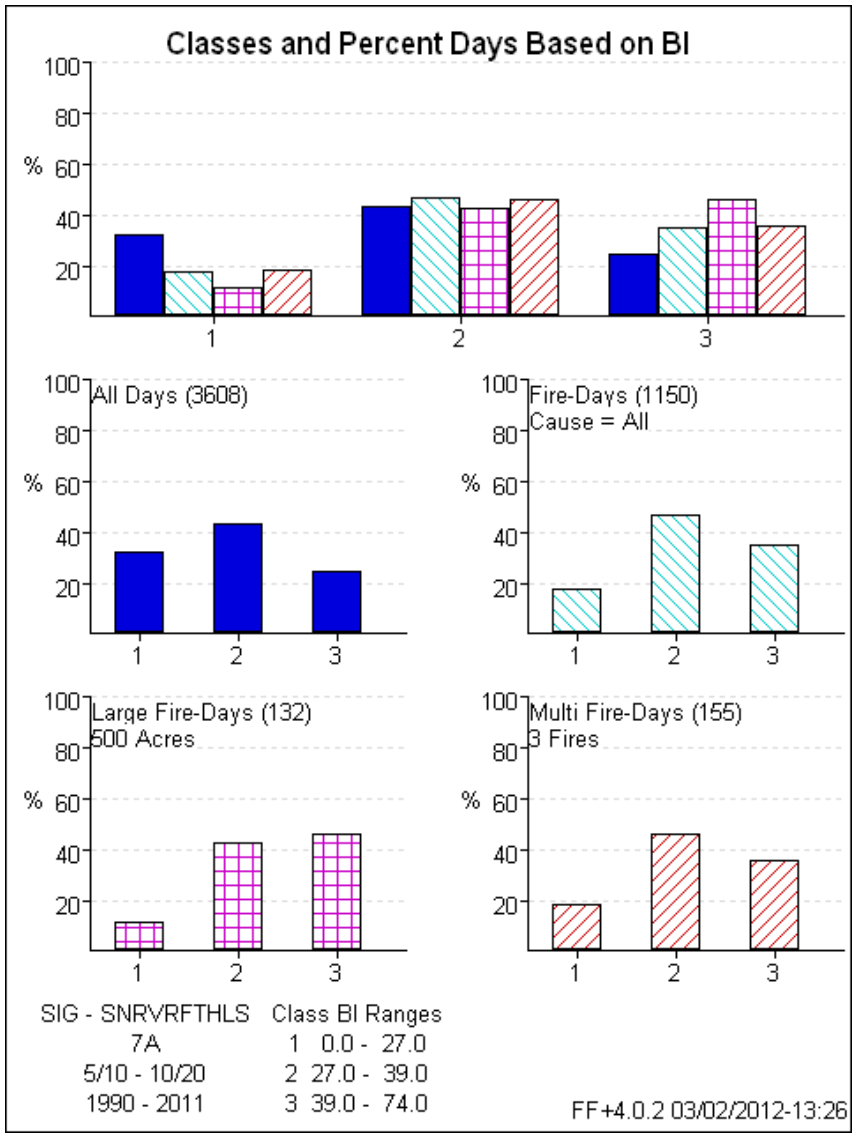
102709	1990 - 2007	BI	7T1AE1	0.58	66.82	0	0.19 - 0.71	0.7	6.54	0.5871	0.15 - 0.53	0.26	6.88	0.5494	0.09 - 0.22
103205	1990 - 2007	BI	7T1AE1	0.7	25.38	0.0013	0.19 - 0.59	0.28	18.33	0.0189	0.16 - 0.44	0.12	6.03	0.6438	0.14 - 0.21
103209	1990 - 2007	BI	7T1AE1	0.59	30.87	0.0001	0.21 - 0.53	0.46	13.7	0.0898	0.15 - 0.45	0	8.06	0.4278	0.14 - 0.19
101402	1990 - 2007	BI	7T2AE2	0.79	53.79	0	0.29 - 0.93	0.79	7.85	0.4481	0.14 - 0.52	0.4	14.72	0.0648	0.25 - 0.49
SIG - FDRA2	1990 - 2007	BI	7U	0.74	28.25	0.0004	0.12 - 0.65	0.67	10.48	0.233	0.08 - 0.57	0.11	7.01	0.536	0.13 - 0.21
SIG - SNRVR/FTHL	1990 - 2007	BI	7U	0.78	52.1	0	0.10 - 0.84	0.61	9.44	0.3063	0.14 - 0.53	0.29	5.56	0.6962	0.12 - 0.27
102601	1990 - 2007	BI	7U1AE1	0.87	17.89	0.0221	0.10 - 0.75	0.84	5.34	0.7209	0.06 - 0.62	0.24	2.46	0.9634	0.14 - 0.20
102709	1990 - 2007	BI	7U1AE1	0.73	33.88	0	0.14 - 0.71	0.8	5.01	0.757	0.10 - 0.59	0.37	4.22	0.8365	0.10 - 0.23
103205	1990 - 2007	BI	7U1AE1	0.83	15.68	0.0472	0.15 - 0.63	0.91	0.96	0.9985	0.13 - 0.48	0.02	13.15	0.1069	0.15 - 0.18
103209	1990 - 2007	BI	7U1AE1	0.72	16.08	0.0412	0.18 - 0.51	0.65	8.35	0.4	0.11 - 0.47	0	4.79	0.7794	0.13 - 0.21
101402	1990 - 2007	BI	7U2AE2	0.84	36.16	0	0.21 - 0.89	0.7	13.09	0.1089	0.11 - 0.51	0.29	17.06	0.0294	0.25 - 0.45
SIG - FDRA2	2002 - 2007	BI	7A	0.7	23.1	0.0032	0.10 - 0.78	0.65	5.06	0.7511	0.07 - 0.50	0	4.01	0.8561	0.11 - 0.14
SIG - SNRVR/FTHL	2002 - 2007	BI	7A	0.86	16.53	0.0354	0.07 - 0.85	0.58	5.84	0.6657	0.07 - 0.50	0.08	9.09	0.3347	0.09 - 0.23
102709	2002 - 2007	BI	7A1AE1	0.73	17.98	0.0214	0.13 - 0.76	0.54	12.82	0.1183	0.07 - 0.61	0.01	6.37	0.6057	0.11 - 0.14
103205	2002 - 2007	BI	7A1AE1	0.86	7.18	0.5173	0.14 - 0.76	0.41	3.85	0.8701	0.14 - 0.43	0.01	9.2	0.3259	0.10 - 0.16
103209	2002 - 2007	BI	7A1AE1	0.84	6.53	0.5876	0.14 - 0.64	0.47	5.52	0.701	0.12 - 0.43	0.01	7.92	0.4417	0.12 - 0.14
SIG - FDRA2	2002 - 2007	BI	7L	0.74	15.29	0.0538	0.11 - 0.69	0.74	3.52	0.8975	0.07 - 0.52	0	3.13	0.926	0.10 - 0.15
SIG - SNRVR/FTHL	2002 - 2007	BI	7L	0.78	24.83	0.0017	0.08 - 0.86	0.41	9.44	0.3065	0.08 - 0.52	0.07	7.31	0.504	0.09 - 0.24
102709	2002 - 2007	BI	7L1AE1	0.66	23.24	0.0031	0.14 - 0.70	0.59	9.08	0.3355	0.07 - 0.62	0.01	7.77	0.4562	0.11 - 0.15
103205	2002 - 2007	BI	7L1AE1	0.72	14.61	0.0671	0.15 - 0.75	0.17	10.06	0.2607	0.14 - 0.43	0.03	7.6	0.4735	0.10 - 0.17
103209	2002 - 2007	BI	7L1AE1	0.68	10.52	0.2306	0.16 - 0.59	0.44	6.92	0.5458	0.12 - 0.42	0	6.9	0.5479	0.12 - 0.13
SIG - FDRA 2	1990 - 2007	BI	7A	0.86	18.29	0.0191	0.13 - 0.67	0.7	5.73	0.6776	0.12 - 0.47	0.04	8.01	0.4321	0.14 - 0.20
SIG - FDRA 2	1990 - 2007	BI	7L	0.86	18.29	0.0191	0.13 - 0.67	0.7	5.73	0.6776	0.12 - 0.47	0.04	8.01	0.4321	0.14 - 0.20

Snake River and Foothills Dispatch Level

Working Set: Dead Indian Ridge, Mountain Home, Horse Butte RAWS 1990-2011, Fuel Model A, Large Fire Acres = 500, Multiple Fire Day = 2. Fire Associations Include: Boise District BLM, Idaho Department of Lands and Boise National Forest fires within the FDRA.

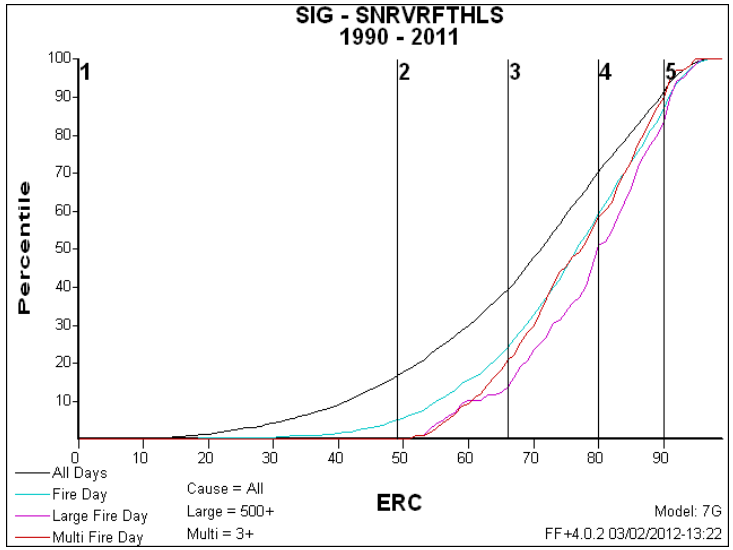


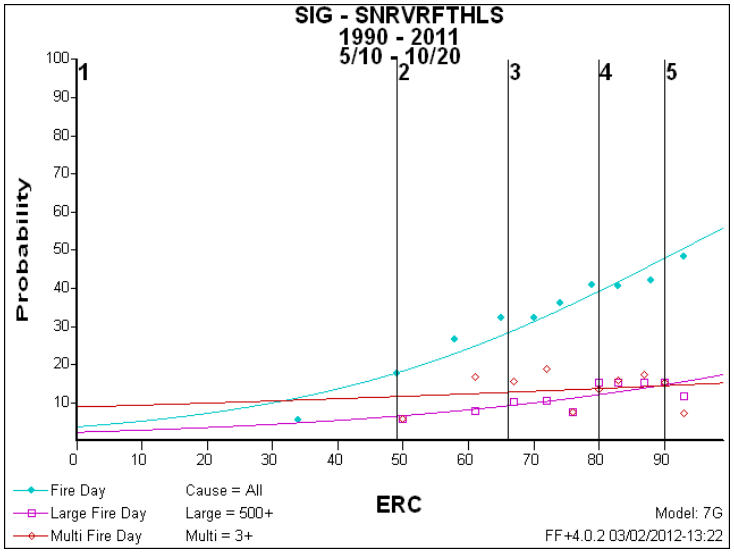


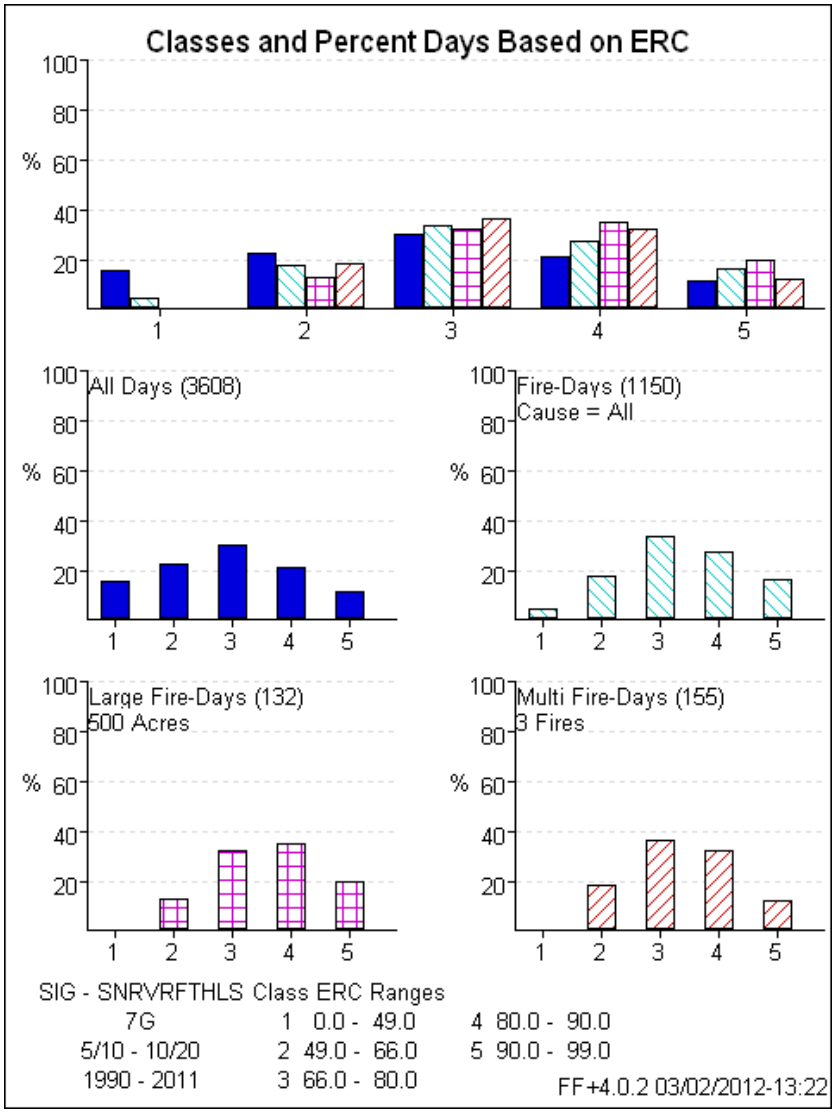


Snake River and Foothills Preparedness Level

Working Set: Dead Indian Ridge, Mountain Home, Twin Buttes RAWS 1990-2011, Fuel Model G, Large Fire Acres = 500, Multiple Fire Day = 2. Fire Associations Include: Boise District BLM, Idaho Department of Lands and Boise National Forest fires within the FDRA.







Owyhee Canyonlands FDRA

For the 2012 plan, the weather stations for the Special Interest Group (SIG) required a change due to agency direction to have some RAWS actively removed. Pole Creek station in the most southeastern portion of the district is slated to be inactive within FY13 and was determined to be taken from the SIG group used within this analysis. The weather stations now used for the FDRA are Triangle, Brace Flat and Owyhee Ridge. These stations were analyzed with NFDRS variables and fuel models to see what would be the best fit. By request of the BLM Fire Management Officer, Burning Index (BI) would be used as the NFDRS variable due to the high influence of wind in the area. Fuel Model T had a reasonable fit with BI for Fire Day (FD), Large Fire Day (LFD), and Multiple Fire Day (MFD). Below is a chart of the Fire Family fire business candidate outputs.

OWYHEE CANYONLANDS
TRIANGLE 102307. BRACE FLAT 103208. OWYHEE RIDGE 353614.
DATA YEARS 1990-2011

Variable	Fuel Model	FD_R^2	FD_Chi^2	FD_P-Val	FD_P-Range	LFD_R^2	LFD_Chi^2	LFD_P-Val	LFD_P-Range	MFD_R^2	MFD_Chi^2	MFD_P-Val	MFD_P-Range
BI	7D	0.64	29.65	0.0002	0.01 - 0.30	0.65	8.95	0.3466	0.08 - 0.76	0.28	6.97	0.5395	0.01 - 0.22
BI	7E	0.56	30.29	0.0002	0.01 - 0.28	0.66	8.64	0.374	0.11 - 0.78	0.35	5.23	0.7329	0.02 - 0.23
BI	7K	0.57	29.77	0.0002	0.01 - 0.25	0.74	6.02	0.6447	0.11 - 0.77	0.34	5.7	0.6803	0.02 - 0.23
BI	7O	0.69	28.06	0.0005	0.02 - 0.30	0.65	6.9	0.5472	0.09 - 0.71	0.42	4.59	0.8	0.01 - 0.22
BI	7R	0.62	29.75	0.0002	0.01 - 0.28	0.71	6.98	0.5386	0.09 - 0.77	0.41	6.34	0.3859	0.01 - 0.27
BI	7T	0.63	32.53	0.0001	0.02 - 0.31	0.65	8.85	0.3548	0.08 - 0.77	0.58	2.72	0.9508	0.01 - 0.23
ERC	7D	0.9	9.12	0.3323	0.00 - 0.19	0.66	3.27	0.9164	0.09 - 0.50	0.23	9.49	0.1477	0.01 - 0.13
ERC	7G	0.83	17.53	0.0251	0.00 - 0.24	0.48	4.96	0.7615	0.16 - 0.47	0.29	12.28	0.1392	0.01 - 0.16
ERC	7N	0.88	12.54	0.1286	0.00 - 0.19	0.5	6.05	0.6418	0.09 - 0.51	0.39	9.02	0.1084	0.01 - 0.14
ERC	7I	0.83	19.32	0.0132	0.00 - 0.24	0.38	9.33	0.3149	0.14 - 0.49	0.42	6.68	0.5714	0.00 - 0.18
ERC	7P	0.82	18.54	0.0175	0.00 - 0.19	0.44	7.17	0.518	0.12 - 0.51	0.39	7.51	0.1853	0.00 - 0.17
ERC	7R	0.82	17.14	0.0287	0.00 - 0.19	0.54	3.05	0.8806	0.16 - 0.46	0.53	7.35	0.1961	0.00 - 0.20
ERC	7S	0.87	14.28	0.0747	0.00 - 0.21	0.54	4.11	0.7666	0.13 - 0.46	0.57	4.28	0.5097	0.00 - 0.15
ERC	7T	0.84	15.28	0.0539	0.01 - 0.20	0.6	4.3	0.8286	0.13 - 0.51	0.25	8.58	0.1987	0.01 - 0.14

The analysis below was completed in 2008 and 2010 to first identify the best correlation of weather stations and then with the NFDRS variable and fuel model. Individual weather stations were analyzed first to find the best correlation (FD R2). The stations with the best correlation to fire business were then combined into a Special Interest Group (SIG) and analyzed again. From this analysis, Fuel Model T was selected for use with ERC for the Preparedness Level and BI for the Dispatch Level. Owyhee Ridge, Brace Flat, Pole Creek and Triangle were selected for use in the final SIG.

SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
353614	1985 - 2007	IC	R	0.96	2.88	0.9419	0.02 - 0.20	0.73	3.3	0.914	0.15 - 0.60	0.48	2.98	0.3947	0.00 - 0.10
353614	1985 - 2007	ERC	L	0.94	5.5	0.3583	0.01 - 0.21	0.68	4.7	0.1954	0.06 - 0.60	0.89	0.36	0.5487	0.00 - 0.07
353614	1985 - 2007	IC	F	0.91	6.6	0.5799	0.02 - 0.14	0.72	5.08	0.7486	0.14 - 0.54	0.39	2.19	0.5345	0.00 - 0.06
353614	1985 - 2007	IC	L	0.9	8.18	0.4156	0.02 - 0.20	0.41	13.06	0.1098	0.17 - 0.60	0.45	3.03	0.3872	0.00 - 0.09
353614	1985 - 2007	ERC	A	0.88	5.32	0	0.02 - 0.12	1	0.01	0.9079	0.11 - 0.53	0.95	0.1	0	0.00 - 0.06
353614	1985 - 2007	BI	L	0.88	6.73	0.5661	0.02 - 0.29	0.51	8.46	0.3896	0.12 - 0.60	0.41	3.73	0.2916	0.00 - 0.09
353614	1985 - 2007	BI	R	0.88	7.34	0.5001	0.01 - 0.28	0.79	2.41	0.9656	0.07 - 0.76	0.27	8	0.046	0.00 - 0.22
353614	1985 - 2007	IC	L	0.88	7.37	0.4977	0.02 - 0.19	0.48	8.96	0.3459	0.17 - 0.60	0.45	2.99	0.3927	0.00 - 0.09
353614	1985 - 2007	ERC	T	0.87	8.74	0.3644	0.02 - 0.17	0.85	2.47	0.9629	0.07 - 0.61	0.99	0.03	0.9845	0.00 - 0.08
353614	1985 - 2007	BI	A	0.86	8.06	0.4274	0.02 - 0.30	0.54	8.1	0.4234	0.13 - 0.64	0.12	12.25	0.0066	0.00 - 0.11
353614	1985 - 2007	IC	A	0.86	9.04	0.339	0.03 - 0.24	0.53	8.37	0.3984	0.18 - 0.64	0.21	10.75	0.0131	0.00 - 0.11
353614	1985 - 2007	IC	T	0.86	9.1	0.3338	0.02 - 0.24	0.58	8.73	0.3655	0.15 - 0.63	0.59	2.05	0.5619	0.00 - 0.10
103209	1990 - 2007	ERC	T	0.85	10.8	0.2134	0.01 - 0.18	0.41	7.34	0.5004	0.06 - 0.53	0	4.36	0.0368	0.00 - 0.06
103210	1990 - 2007	ERC	T	0.85	11.29	0.1857	0.02 - 0.19	0.64	4.95	0.7624	0.10 - 0.60	0.6	1.25	0.2632	0.00 - 0.14
353614	1985 - 2007	BI	T	0.84	10.57	0.2275	0.02 - 0.28	0.86	1.91	0.9837	0.11 - 0.77	0.41	4.06	0.2555	0.00 - 0.19
353614	1985 - 2007	ERC	R	0.84	13.33	0.1009	0.00 - 0.16	0.67	4.36	0.8237	0.01 - 0.59	0.91	0.45	0.7981	0.00 - 0.12
353614	1985 - 2007	SC	R	0.81	6.68	0.5711	0.03 - 0.35	0.47	7.3	0.1995	0.21 - 0.79	0.29	5.35	0.0688	0.01 - 0.24
353614	1985 - 2007	SC	L	0.79	10.57	0.2275	0.03 - 0.34	0.39	10.96	0.2041	0.22 - 0.60	0.31	4.06	0.2555	0.01 - 0.08
353614	1985 - 2007	SC	L	0.79	10.57	0.2275	0.03 - 0.34	0.39	10.96	0.2041	0.22 - 0.60	0.31	4.06	0.2555	0.01 - 0.08

SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
103209	1990 - 2007	ERC	R	0.79	13.13	0.1073	0.00 - 0.17	0.35	5.45	0.4872	0.02 - 0.50	0.25	1.81	0.4056	0.00 - 0.08
103209	1990 - 2007	ERC	L	0.78	9.45	0.0508	0.01 - 0.18	0.52	1.5	0.6828	0.15 - 0.49	0	1.07	0.3016	0.01 - 0.04
103209	1990 - 2007	ERC	F	0.75	17.78	0.023	0.02 - 0.21	0.43	8.96	0.3453	0.15 - 0.57	0	2.02	0.3637	0.00 - 0.08
353614	1985 - 2007	SC	A	0.74	12.62	0.1257	0.03 - 0.37	0.47	8.08	0.4253	0.21 - 0.66	0.47	2.02	0.5679	0.01 - 0.10
353614	1985 - 2007	ERC	F	0.74	19.54	0.0122	0.02 - 0.22	0.47	9.47	0.3045	0.16 - 0.64	0.28	3.82	0.2816	0.00 - 0.09
103209	1990 - 2007	ERC	A	0.73	10.13	0	0.02 - 0.11	0.87	0.18	0.6755	0.21 - 0.44	0.8	0.34	0	0.00 - 0.05
103210	1990 - 2007	BI	T	0.73	16.87	0.0315	0.02 - 0.34	0.28	14.22	0.0762	0.23 - 0.64	0.33	3.77	0.1518	0.01 - 0.12
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	ERC	T	0.73	23.18	0.0031	0.01 - 0.20	0.67	5.43	0.7107	0.05 - 0.59	0.71	0.83	0.3623	0.00 - 0.10
103210	1990 - 2007	SC	F	0.72	13.87	0.0851	0.04 - 0.43	0.55	5.94	0.6535	0.29 - 0.75	0.35	2.14	0.3425	0.02 - 0.12
103210	1990 - 2007	BI	R	0.72	14.34	0.0733	0.02 - 0.30	0.3	5.34	0.7207	0.25 - 0.54	0.9	0.18	0.9137	0.01 - 0.13
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	BI	T	0.72	18.53	0.0176	0.02 - 0.29	0.68	5.46	0.7076	0.10 - 0.80	0.39	5.54	0.0625	0.00 - 0.26
103210	1990 - 2007	BI	F	0.71	17.29	0.0272	0.03 - 0.30	0.61	5.47	0.7059	0.23 - 0.70	0.55	1.94	0.3789	0.01 - 0.13
103208	1990 - 2007	ERC	R	0.71	25.13	0.0015	0.01 - 0.17	0.72	3.01	0.9336	0.05 - 0.54	0.33	1.13	0.2884	0.00 - 0.20
103207	1990 - 2007	ERC	T	0.71	25.86	0.0011	0.01 - 0.18	0.63	6.38	0.6043	0.05 - 0.65	0.83	0.54	0.7622	0.00 - 0.15
103209	1990 - 2007	IC	F	0.7	20.29	0.0093	0.02 - 0.13	0.31	10.76	0.2157	0.16 - 0.47	0	1.95	0.3779	0.01 - 0.04
SIG – (103207, 103208, 103210)	1990 - 2007	ERC	T	0.7	26.85	0.0007	0.01 - 0.19	0.41	12.68	0.1234	0.07 - 0.62	0.86	0.6	0.7408	0.00 - 0.16
353614	1985 - 2007	SC	F	0.68	17.07	0.0294	0.04 - 0.27	0.61	7.98	0.4353	0.23 - 0.73	0.16	3.23	0.357	0.01 - 0.09
353614	1985 - 2007	BI	F	0.67	23.52	0.0028	0.03 - 0.25	0.65	7.2	0.5157	0.18 - 0.67	0.39	3.21	0.36	0.01 - 0.09
103208	1990 - 2007	BI	R	0.66	17.5	0.0253	0.02 - 0.22	0.58	8.33	0.4016	0.06 - 0.70	0.7	1.91	0.3841	0.00 - 0.22
103207	1990 - 2007	ERC	A	0.66	19.59	0	0.02 - 0.17	0.99	0.08	0.7828	0.05 - 0.54	0	0.31	0	0.01 - 0.03
103210	1990 - 2007	IC	T	0.65	24.02	0.0023	0.03 - 0.20	0.52	5.76	0.674	0.21 - 0.60	0.53	1.8	0.4062	0.01 - 0.10
103210	1990 - 2007	ERC	R	0.65	26.67	0.0008	0.01 - 0.16	0.64	1.93	0.9635	0.07 - 0.53	0	1.33	0.2491	0.00 - 0.13

SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
103210	1990 - 2007	BI	L	0.64	19.93	0.0106	0.03 - 0.30	0.15	12	0.1514	0.24 - 0.57	0.99	0.02	0.9918	0.01 - 0.11
353614	1985 - 2007	SC	F	0.64	21.83	0.0052	0.04 - 0.34	0.6	9.98	0.2663	0.23 - 0.74	0.14	3.3	0.347	0.01 - 0.09
103210	1990 - 2007	ERC	A	0.64	24.17	0	0.02 - 0.21	0.68	1.62	0.2025	0.12 - 0.52	0	0.28	0	0.00 - 0.05
353614	1985 - 2007	SC	T	0.63	22.76	0.0037	0.04 - 0.41	0.25	21.09	0.0069	0.23 - 0.82	0.47	1.78	0.6203	0.01 - 0.20
103209	1990 - 2007	BI	F	0.63	26.67	0.0008	0.03 - 0.23	0.43	9.91	0.2711	0.19 - 0.62	0.46	1.82	0.403	0.01 - 0.08
SIG – (103207, 103208, 103210)	1990 - 2007	BI	T	0.62	29.14	0.0003	0.02 - 0.30	0.71	5.04	0.7536	0.11 - 0.78	0.67	1.96	0.3759	0.00 - 0.26
103210	1990 - 2007	IC	F	0.62	31.1	0.0001	0.02 - 0.13	0.52	5.88	0.6603	0.18 - 0.52	0.49	5.24	0.0729	0.00 - 0.08
103210	1990 - 2007	BI	A	0.61	23.68	0.0026	0.03 - 0.32	0.3	6.7	0.5689	0.24 - 0.62	0.88	0.14	0.9324	0.01 - 0.12
103210	1990 - 2007	ERC	F	0.61	28.38	0.0004	0.03 - 0.22	0.54	6.39	0.604	0.17 - 0.66	0.38	4.93	0.0852	0.00 - 0.14
103207	1990 - 2007	ERC	R	0.61	32.67	0.0001	0.00 - 0.18	0.74	2.11	0.9536	0.03 - 0.58	0.53	1.22	0.2687	0.00 - 0.26
103209	1990 - 2007	IC	R	0.6	15.67	0.0474	0.02 - 0.13	0.46	7.35	0.4993	0.16 - 0.55	0.11	3.78	0.1511	0.01 - 0.06
103207	1990 - 2007	BI	R	0.6	15.93	0.0434	0.02 - 0.26	0.31	13.66	0.091	0.11 - 0.64	0.26	5.24	0.0728	0.00 - 0.15
103207	1990 - 2007	BI	T	0.6	22.14	0.0047	0.03 - 0.31	0.58	7.81	0.4522	0.13 - 0.71	0.7	2.13	0.3441	0.00 - 0.18
103208	1990 - 2007	ERC	T	0.6	27.8	0.0005	0.02 - 0.20	0.75	2.72	0.9505	0.12 - 0.62	0.9	0.49	0.7828	0.00 - 0.20
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	IC	T	0.6	27.97	0.0005	0.02 - 0.27	0.73	5.19	0.7372	0.11 - 0.74	0.68	1.98	0.3722	0.00 - 0.17
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	BI	A	0.59	26.09	0.001	0.02 - 0.28	0.53	8.07	0.4267	0.11 - 0.72	0.62	2.07	0.3555	0.00 - 0.21
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	ERC	A	0.65	26.88	0	0.01 - 0.22	0.93	0.63	0.427	0.05 - 0.58	0	0.14	0	0.00 - 0.05
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	IC	A	0.53	32.19	0.0001	0.03 - 0.27	0.49	10.03	0.2627	0.15 - 0.75	0.61	2.02	0.364	0.00 - 0.22
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	SC	A	0.53	20.62	0.0082	0.04 - 0.28	0.69	3.11	0.9271	0.21 - 0.73	0.64	1.7	0.4269	0.01 - 0.20
103207	1990 - 2007	IC	R	0.59	19.45	0.0127	0.03 - 0.16	0.47	10.68	0.2203	0.12 - 0.68	0.35	5.29	0.0709	0.00 - 0.14
103210	1990 - 2007	IC	R	0.59	27.02	0.0007	0.02 - 0.18	0.41	6.88	0.5499	0.21 - 0.55	0.27	6.21	0.0448	0.00 - 0.10

SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
SIG – (103207, 103208, 103210)	1990 - 2007	IC	T	0.59	29.42	0.0003	0.03 - 0.23	0.9	1.35	0.9949	0.12 - 0.73	0.62	2.04	0.3604	0.00 - 0.17
103207	1990 - 2007	ERC	L	0.59	30.24	0	0.01 - 0.18	0.66	2.55	0.4656	0.07 - 0.55	0	1.55	0	0.00 - 0.05
103208	1990 - 2007	BI	L	0.58	19.37	0.013	0.03 - 0.20	0.61	5.96	0.6521	0.12 - 0.68	0.68	1.98	0.3719	0.00 - 0.17
103208	1990 - 2007	ERC	L	0.58	28.22	0.0001	0.02 - 0.16	0.7	2.49	0.6466	0.12 - 0.57	0.05	0.42	0.5173	0.00 - 0.09
103207	1990 - 2007	IC	F	0.58	34.83	0	0.02 - 0.13	0.45	15.14	0.0564	0.12 - 0.55	0.2	4.36	0.1132	0.00 - 0.07
103207	1990 - 2007	IC	T	0.57	27.07	0.0007	0.03 - 0.17	0.43	12.05	0.1489	0.14 - 0.75	0.6	1.78	0.4103	0.00 - 0.17
103208	1990 - 2007	ERC	A	0.57	28.15	0	0.02 - 0.18	0.58	1.94	0.1635	0.16 - 0.50	0.66	0.21	0	0.00 - 0.09
103207	1990 - 2007	BI	F	0.56	28.66	0.0004	0.03 - 0.27	0.61	9.35	0.3137	0.16 - 0.73	0.83	1.22	0.5425	0.00 - 0.28
103208	1990 - 2007	IC	R	0.54	28.91	0.0003	0.03 - 0.16	0.67	5.7	0.6812	0.11 - 0.72	0.7	2.01	0.3669	0.00 - 0.23
103209	1990 - 2007	SC	F	0.53	26.75	0.0008	0.04 - 0.28	0.37	5.86	0.6629	0.27 - 0.72	0.24	2.08	0.3535	0.02 - 0.09
103209	1990 - 2007	SC	F	0.53	26.75	0.0008	0.04 - 0.28	0.37	5.86	0.6629	0.27 - 0.72	0.24	2.08	0.3535	0.02 - 0.09
103208	1990 - 2007	BI	T	0.53	28.83	0.0003	0.03 - 0.27	0.55	8.24	0.4105	0.12 - 0.71	0.69	1.9	0.3863	0.00 - 0.21
103209	1990 - 2007	IC	T	0.52	17	0.0301	0.03 - 0.14	0.53	4.31	0.8279	0.21 - 0.55	0.82	0.17	0.9185	0.01 - 0.05
103210	1990 - 2007	SC	R	0.52	19.35	0.0131	0.04 - 0.36	0.04	7.32	0.292	0.35 - 0.48	0.64	0.46	0.793	0.02 - 0.08
103208	1990 - 2007	BI	A	0.5	26.99	0.0007	0.03 - 0.21	0.52	8.94	0.3478	0.12 - 0.71	0.61	1.89	0.388	0.00 - 0.18
103207	1990 - 2007	SC	F	0.5	27.68	0.0005	0.05 - 0.43	0.55	9.09	0.3344	0.22 - 0.81	0.71	1.8	0.4067	0.01 - 0.25
103208	1990 - 2007	IC	L	0.5	29.05	0.0003	0.03 - 0.15	0.47	11.33	0.1835	0.15 - 0.67	0.44	4.73	0.094	0.00 - 0.15
103207	1990 - 2007	ERC	F	0.5	40.7	0	0.03 - 0.20	0.71	4.21	0.8378	0.14 - 0.70	0.77	1.03	0.5961	0.00 - 0.25
103211	2005 - 2007	ERC	T	0.49	4	0	0.02 - 0.11	0.08	4.27	0.2337	0.22 - 0.48	0	0.01	0	0.00 - 0.50
103208	1990 - 2007	IC	F	0.49	36.37	0	0.03 - 0.14	0.8	2.36	0.9679	0.16 - 0.60	0.86	0.65	0.7225	0.00 - 0.11
103210	1990 - 2007	ERC	L	0.49	39.25	0	0.02 - 0.18	0.42	3.22	0.3586	0.13 - 0.60	0	1.59	0	0.00 - 0.16
103208	1990 - 2007	ERC	F	0.48	36.85	0	0.03 - 0.27	0.42	9.13	0.3313	0.18 - 0.69	0.47	6.37	0.0413	0.00 - 0.31
103210	1990 - 2007	IC	L	0.47	40.15	0	0.03 - 0.17	0.21	10.64	0.2227	0.24 - 0.54	0.54	2	0.3681	0.01 - 0.10

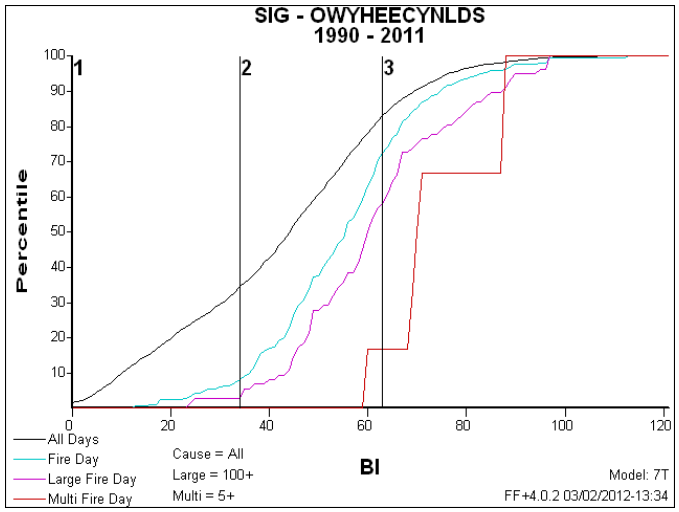
SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
103209	1990 - 2007	BI	L	0.46	14.62	0.067	0.03 - 0.15	0.21	8.84	0.3558	0.23 - 0.53	0.79	0.06	0.9726	0.02 - 0.04
SIG – Owyhee Canyonlands (353614, 103207, 103208, 103210)	1990 - 2007	SC	T	0.46	21.98	0.005	0.04 - 0.32	0.64	4.3	0.8292	0.23 - 0.83	0.37	4.03	0.1336	0.01 - 0.20
103208	1990 - 2007	IC	T	0.46	31.17	0.0001	0.04 - 0.20	0.56	9.04	0.3386	0.14 - 0.73	0.64	2.11	0.3486	0.00 - 0.20
103211	2005 - 2007	ERC	L	0.45	3.41	0	0.02 - 0.11	0.08	9.49	0.0235	0.14 - 0.52	0	0.01	0	0.00 - 0.40
103209	1990 - 2007	IC	L	0.45	19.88	0.0108	0.03 - 0.12	0.45	4.76	0.7831	0.22 - 0.52	0.24	1.95	0.3763	0.01 - 0.04
103207	1990 - 2007	BI	L	0.45	20.06	0.0101	0.04 - 0.24	0.46	7.16	0.519	0.16 - 0.68	0.72	0.89	0.6419	0.00 - 0.16
SIG – (103207, 103208, 103210)	1990 - 2007	SC	T	0.43	28.35	0.0004	0.04 - 0.36	0.63	3.4	0.9066	0.24 - 0.80	0.48	1.73	0.4218	0.01 - 0.20
103210	1990 - 2007	IC	A	0.43	38.53	0	0.03 - 0.21	0.15	12.44	0.1325	0.26 - 0.57	0.38	2.11	0.3483	0.01 - 0.09
103209	1990 - 2007	IC	A	0.42	23.05	0.0033	0.03 - 0.15	0.41	6.39	0.6037	0.23 - 0.57	0.29	1.63	0.4417	0.01 - 0.06
103209	1990 - 2007	BI	A	0.41	16.33	0.0379	0.03 - 0.15	0.2	13.74	0.0888	0.21 - 0.55	0.22	1.78	0.4111	0.01 - 0.05
103207	1990 - 2007	BI	A	0.41	27.69	0.0005	0.03 - 0.21	0.41	9.29	0.3186	0.16 - 0.70	0.65	2.2	0.3326	0.00 - 0.23
103208	1990 - 2007	SC	R	0.4	19.6	0.0065	0.04 - 0.20	0.87	1.4	0.8433	0.16 - 0.78	0.86	0.8	0.3715	0.00 - 0.26
103210	1990 - 2007	SC	A	0.4	29.9	0.0002	0.05 - 0.35	0.07	26.49	0.0009	0.31 - 0.62	0.24	1.79	0.4092	0.02 - 0.10
103208	1990 - 2007	BI	F	0.4	31.18	0.0001	0.04 - 0.23	0.45	9.78	0.2809	0.20 - 0.78	0.52	5.98	0.0503	0.00 - 0.36
103210	1990 - 2007	SC	T	0.39	32.1	0.0001	0.04 - 0.35	0.1	13.87	0.0852	0.34 - 0.54	0.24	1.61	0.4476	0.02 - 0.09
103207	1990 - 2007	IC	A	0.39	34.95	0	0.04 - 0.16	0.42	11.61	0.1693	0.19 - 0.71	0.97	0.11	0.9487	0.00 - 0.20
103208	1990 - 2007	SC	T	0.38	33.13	0.0001	0.05 - 0.26	0.57	6.21	0.6238	0.22 - 0.80	0.56	2.06	0.3572	0.01 - 0.25
103208	1990 - 2007	IC	A	0.38	39.09	0	0.04 - 0.17	0.42	14.79	0.0634	0.16 - 0.72	0.57	2.25	0.3248	0.00 - 0.17
103210	1990 - 2007	SC	L	0.37	27.12	0.0007	0.04 - 0.30	0.06	28.7	0.0004	0.32 - 0.52	0.98	0.01	0.9934	0.01 - 0.09
103208	1990 - 2007	SC	A	0.36	24.6	0.0018	0.04 - 0.21	0.4	12.11	0.1466	0.20 - 0.74	0.65	1.75	0.4175	0.01 - 0.19
103209	1990 - 2007	BI	T	0.36	25.85	0.0011	0.03 - 0.16	0.28	9.2	0.3254	0.21 - 0.61	0.95	0.03	0.9843	0.01 - 0.07
103208	1990 - 2007	SC	L	0.35	26.33	0.0009	0.04 - 0.19	0.33	13.91	0.084	0.20 - 0.66	0.69	1.71	0.4248	0.00 - 0.15
103207	1990 - 2007	IC	L	0.35	30.78	0.0002	0.04 - 0.15	0.65	4.4	0.8197	0.16 - 0.66	0.99	0.05	0.9775	0.00 - 0.13

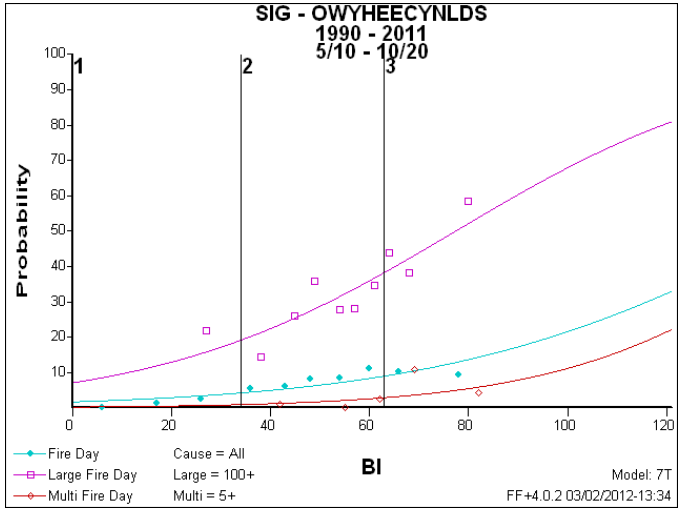
SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
103209	1990 - 2007	BI	R	0.34	19.18	0.0139	0.03 - 0.14	0.13	12.18	0.1432	0.20 - 0.56	0.3	1.24	0.5393	0.01 - 0.08
103207	1990 - 2007	SC	R	0.32	9.73	0.2848	0.05 - 0.24	0.5	6.66	0.3538	0.22 - 0.70	0.22	7.18	0.0276	0.01 - 0.14
103208	1990 - 2007	SC	F	0.31	24	0.0023	0.05 - 0.23	0.56	7.86	0.4472	0.25 - 0.81	0.74	2.06	0.3562	0.01 - 0.31
103211	2005 - 2007	ERC	A	0.29	5.25	0	0.03 - 0.08	0.87	0.28	0	0.06 - 0.56	0	0.01	0	0.00 - 0.15
103211	2005 - 2007	BI	T	0.27	9.06	0	0.03 - 0.23	0.24	6.4	0.3803	0.14 - 0.80	0	0	0	0.00 - 0.99
103207	1990 - 2007	SC	T	0.26	25.12	0.0015	0.05 - 0.28	0.4	9.57	0.2966	0.25 - 0.73	0.6	1.75	0.4171	0.01 - 0.12
103211	2005 - 2007	SC	F	0.24	9.75	0	0.04 - 0.30	0.31	5.37	0.3728	0.24 - 0.82	0	0.01	0	0.00 - 1.00
103211	2005 - 2007	SC	F	0.24	9.75	0	0.04 - 0.30	0.31	5.37	0.3728	0.24 - 0.82	0	0.01	0	0.00 - 1.00
103209	1990 - 2007	SC	A	0.24	12.3	0.1382	0.05 - 0.13	0.41	2.4	0.9664	0.30 - 0.52	0.13	1.89	0.3882	0.02 - 0.05
103211	2005 - 2007	IC	F	0.21	4.07	0	0.04 - 0.08	0.02	10.52	0.0618	0.35 - 0.42	0	0.01	0	0.00 - 0.26
103211	2005 - 2007	ERC	R	0.21	9.91	0	0.01 - 0.11	0.04	5.71	0.2221	0.15 - 0.48	0	0.01	0	0.00 - 0.51
103211	2005 - 2007	SC	T	0.2	11.82	0	0.05 - 0.28	0.25	5.45	0.3629	0.20 - 0.91	0	0	0	0.00 - 1.00
103211	2005 - 2007	IC	T	0.19	6.58	0	0.03 - 0.11	0.2	10.05	0.0738	0.17 - 0.63	0	0.02	0	0.00 - 0.42
103211	2005 - 2007	BI	F	0.19	13.43	0	0.04 - 0.19	0.14	9.09	0.1683	0.22 - 0.69	0	0.02	0	0.00 - 0.90
103207	1990 - 2007	SC	L	0.19	19.18	0.0139	0.06 - 0.18	0.47	5.34	0.7207	0.28 - 0.65	0.61	1.64	0.4413	0.01 - 0.13
103207	1990 - 2007	SC	A	0.19	21.02	0.0071	0.05 - 0.16	0.32	9.15	0.3302	0.29 - 0.65	0.67	1.68	0.4309	0.01 - 0.22
103211	2005 - 2007	BI	R	0.17	12	0	0.02 - 0.19	0.16	5.7	0.3368	0.09 - 0.79	0	0	0	0.00 - 0.96
103209	1990 - 2007	SC	L	0.15	18.34	0.0188	0.05 - 0.11	0.11	11.92	0.155	0.33 - 0.48	0.87	0.01	0.9968	0.02 - 0.03
103211	2005 - 2007	BI	L	0.13	13.08	0	0.03 - 0.15	0.22	8.05	0.1535	0.14 - 0.74	0	0.01	0	0.00 - 0.73
103211	2005 - 2007	IC	R	0.12	9.57	0	0.04 - 0.09	0.32	4.97	0.29	0.14 - 0.60	0	0.02	0	0.00 - 0.37
103211	2005 - 2007	SC	R	0.12	9.63	0	0.04 - 0.22	0.91	0.36	0.8345	0.16 - 0.91	0	0	0	0.00 - 1.00
103211	2005 - 2007	BI	A	0.12	10.54	0	0.03 - 0.13	0.2	5.95	0.311	0.14 - 0.72	0	0.01	0	0.00 - 0.63
103211	2005 - 2007	ERC	F	0.12	11.83	0	0.03 - 0.12	0.05	9.32	0.0968	0.24 - 0.53	0	0.02	0	0.00 - 0.56

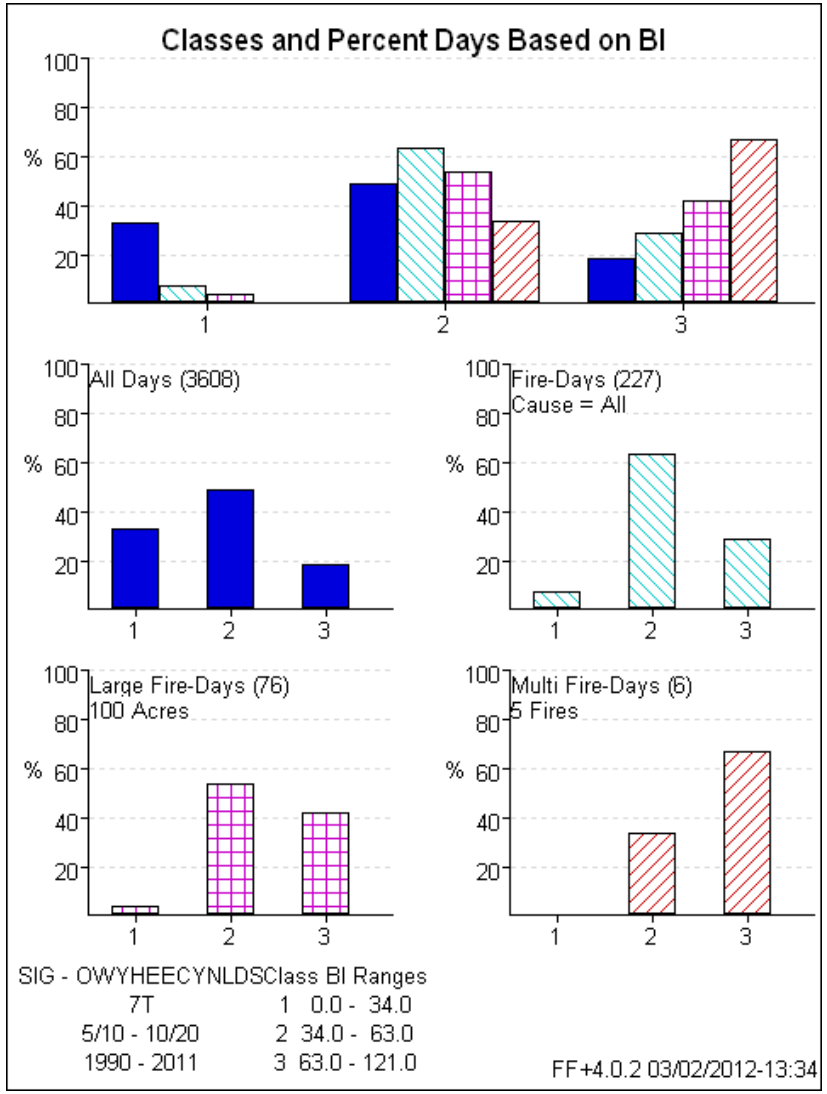
SIG/Station	Years	Variable	Model	FD R^2	FD Chi^2	FD P-Val	FD P-Range	LFD R^2	LFD Chi^2	LFD P-Val	LFD P-Range	MFD R^2	MFD Chi^2	MFD P-Val	MFD P-Range
103211	2005 - 2007	IC	A	0.1	11.9	0	0.04 - 0.10	0.12	4.09	0.536	0.19 - 0.64	0	0.01	0	0.00 - 0.46
103211	2005 - 2007	SC	L	0.1	13.31	0	0.04 - 0.17	0.49	2.59	0.7634	0.22 - 0.79	0	0.01	0	0.00 - 0.78
103211	2005 - 2007	IC	L	0.09	10.26	0	0.04 - 0.09	0.34	3.31	0.5067	0.17 - 0.59	0	0.02	0	0.00 - 0.37
103211	2005 - 2007	SC	A	0.05	13.37	0	0.04 - 0.14	0.62	1.6	0.9526	0.21 - 0.77	0	0.01	0	0.00 - 0.66
103209	1990 - 2007	SC	T	0.03	31.1	0.0001	0.06 - 0.11	0.22	3.95	0.8618	0.32 - 0.60	0	0.83	0.6587	0.02 - 0.08

Owyhee Canyonlands Dispatch Level

Working Set: Owyhee Ridge, Pole Creek, Brace Flat, Triangle RAWS 1990-2011, Fuel Model T, Large Fire Acres = 100, Multiple Fire Day = 5. Fire Associations Include: Boise District BLM and Idaho Department of Lands fires within the FDRA.

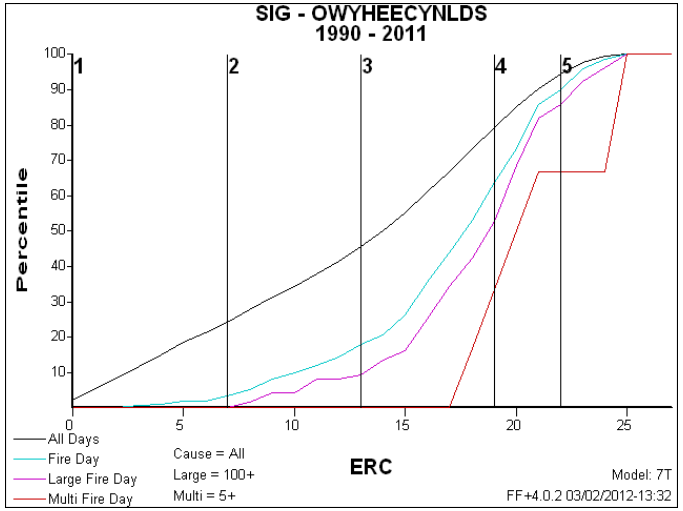


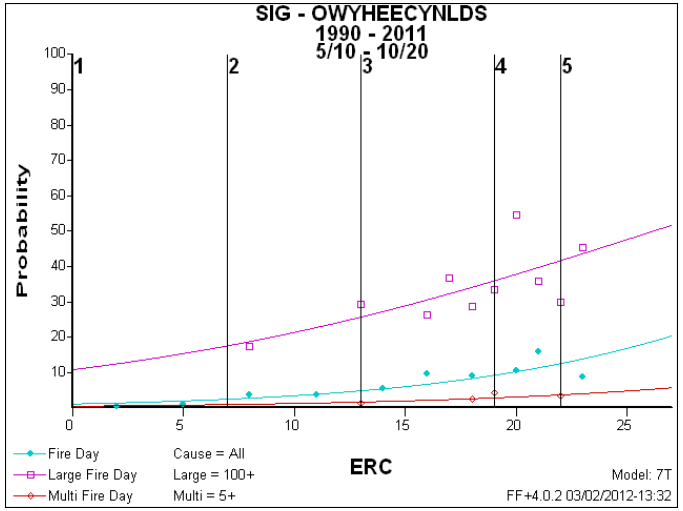


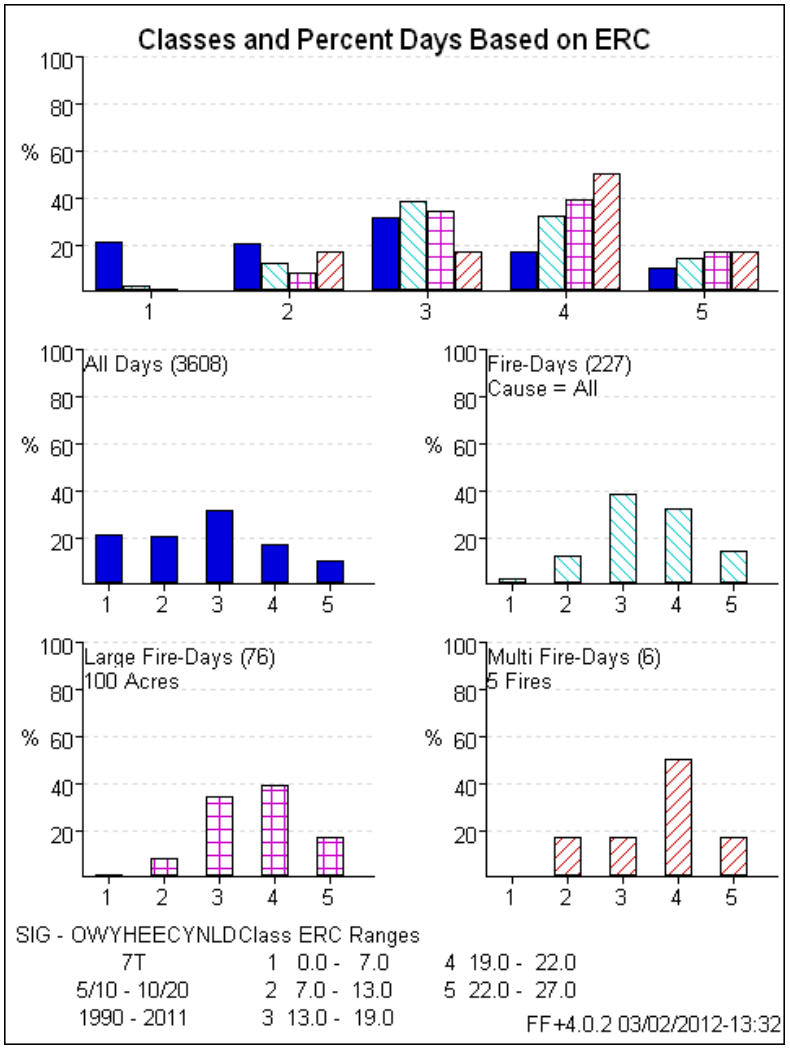


Owyhee Canyonlands Preparedness Level

Working Set: Owyhee Ridge, Pole Creek, Brace Flat, Triangle RAWS 1990-2011, Fuel Model T, Large Fire Acres = 100, Multiple Fire Day = 5. Fire Associations Include: Boise District BLM and Idaho Department of Lands fires within the FDRA.



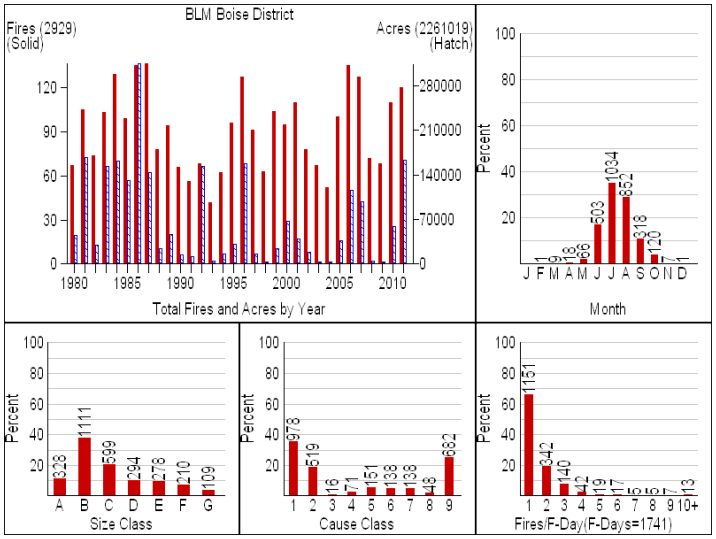


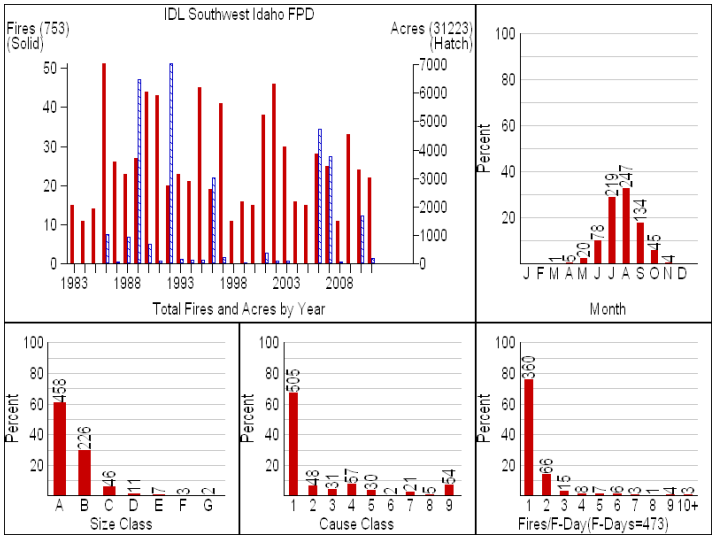


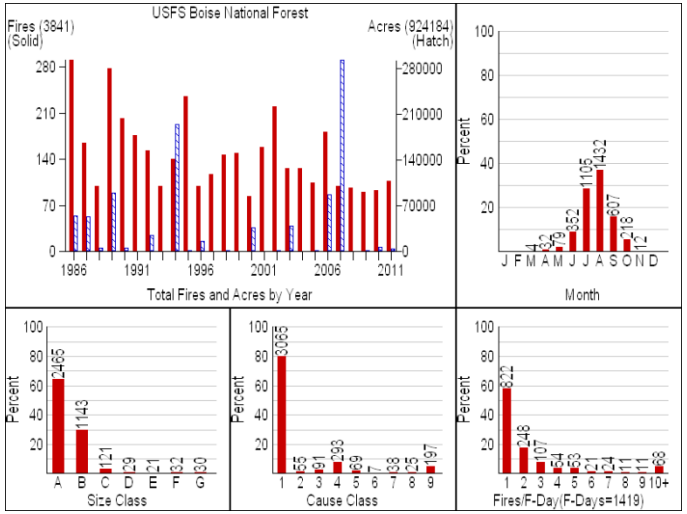
Appendix K – Fire Occurrence by Agency

Fire Family Plus Database (1987-2011)
Boise Dispatch Center

Agency	# of Fires	% of Total Fires	Acres Burned	% of Total Acres
BLM	2,929	39%	2,261,019	70%
Idaho Department of Lands	753	10%	31,223	1%
Boise National Forest	3,841	51%	924,184	29%
Totals	**7,523**	**100%**	**3,216,426**	**100%**

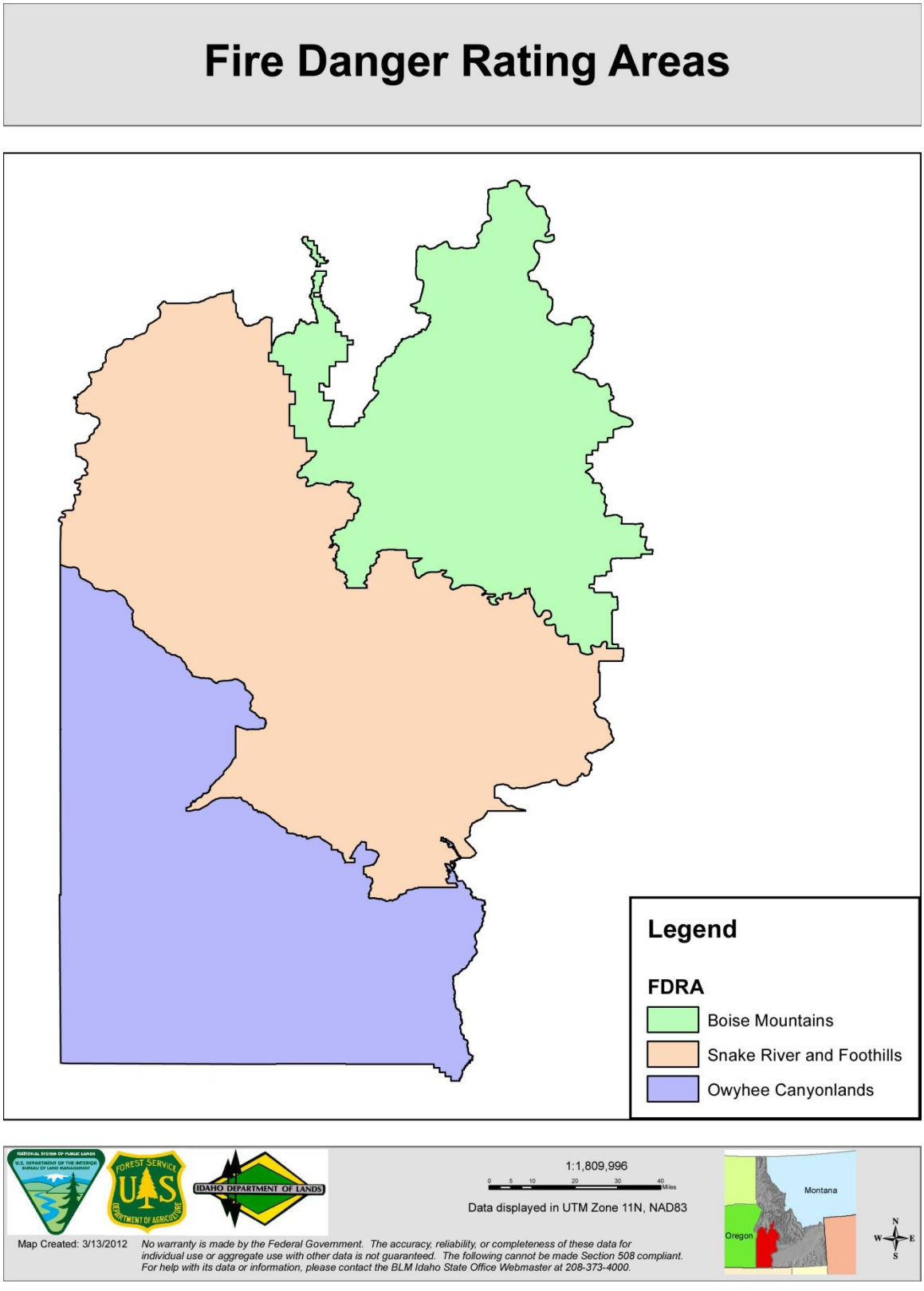




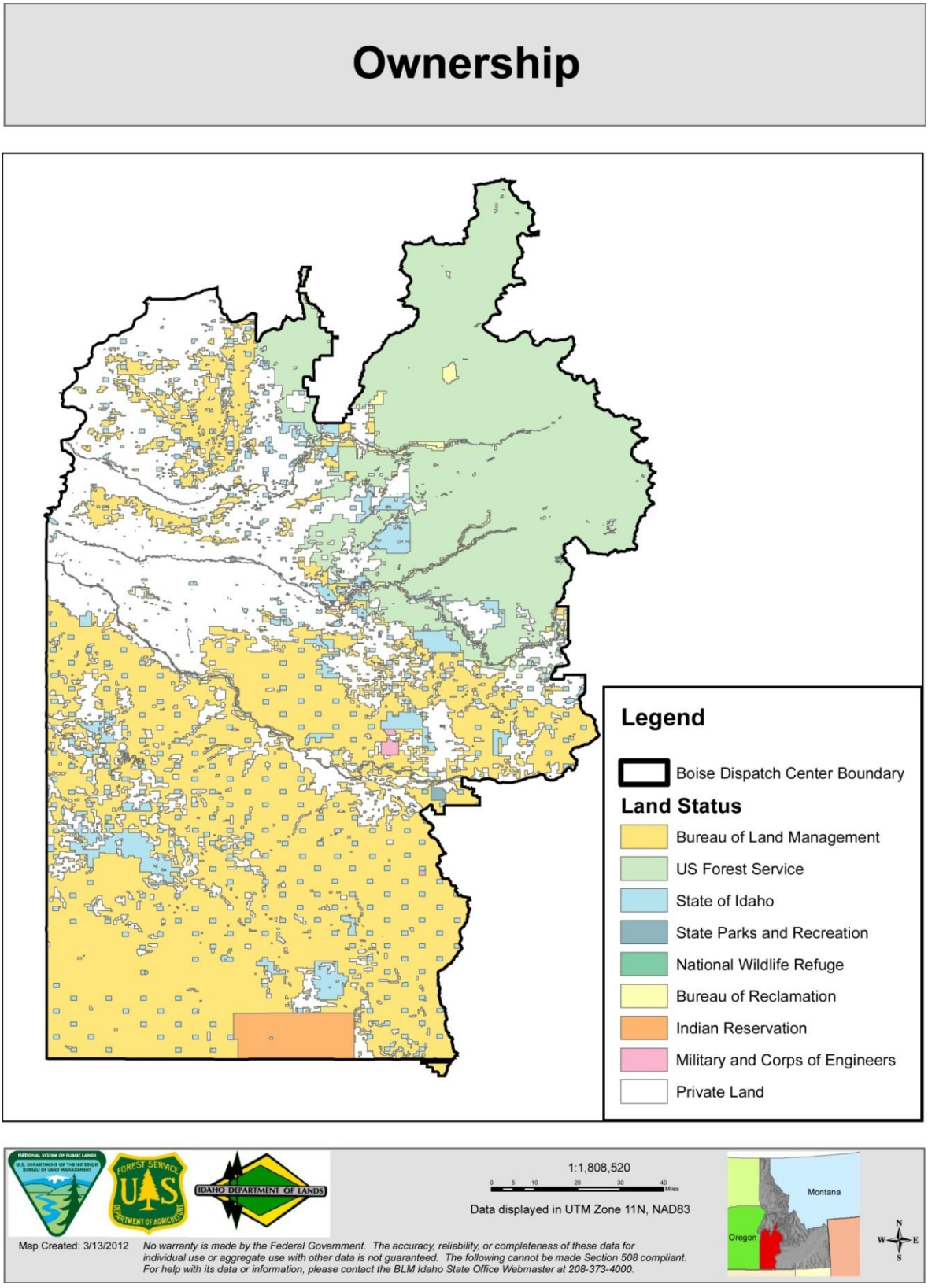


Appendix L – Maps

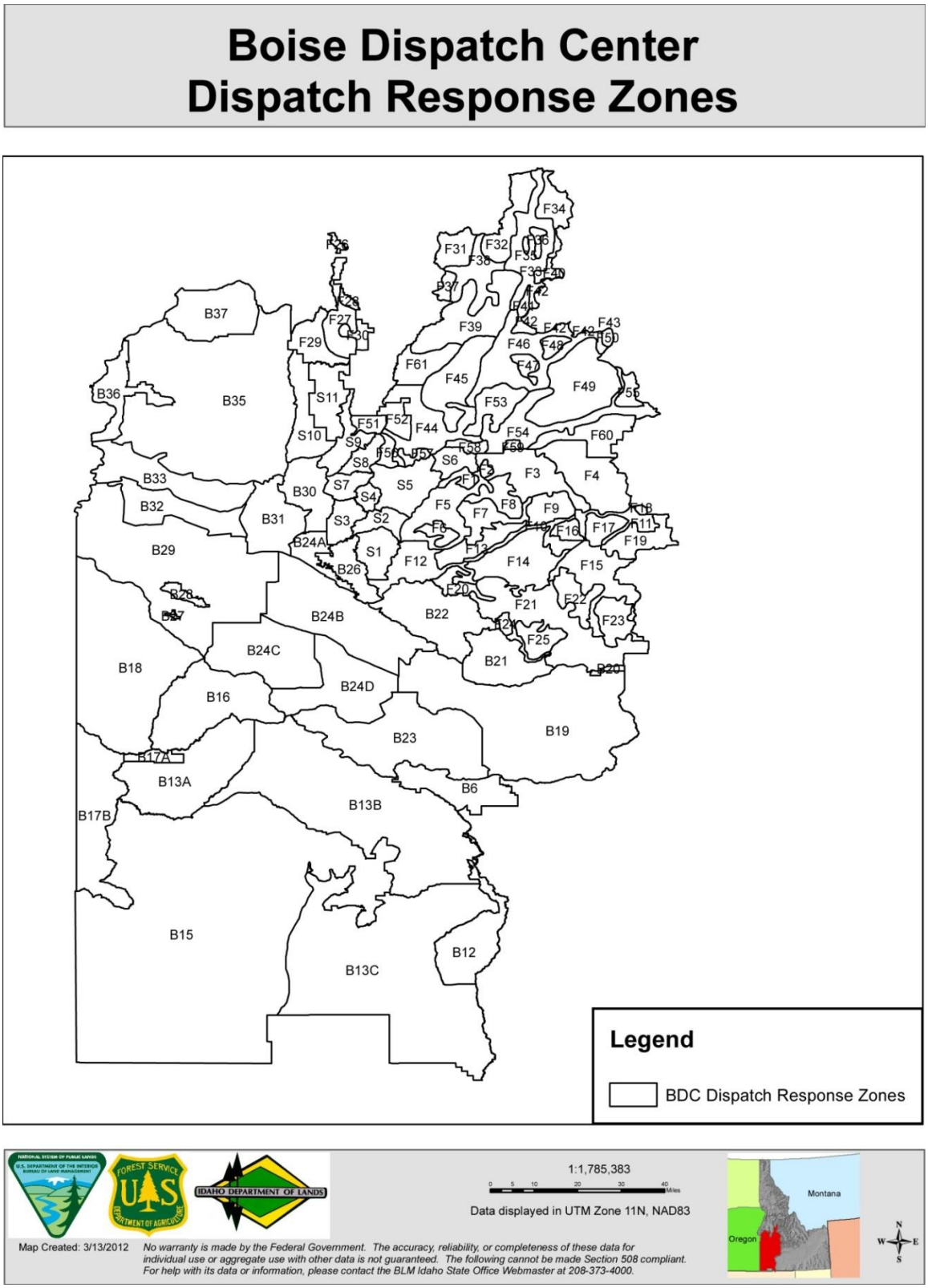
Map 1. Fire Danger Rating Areas



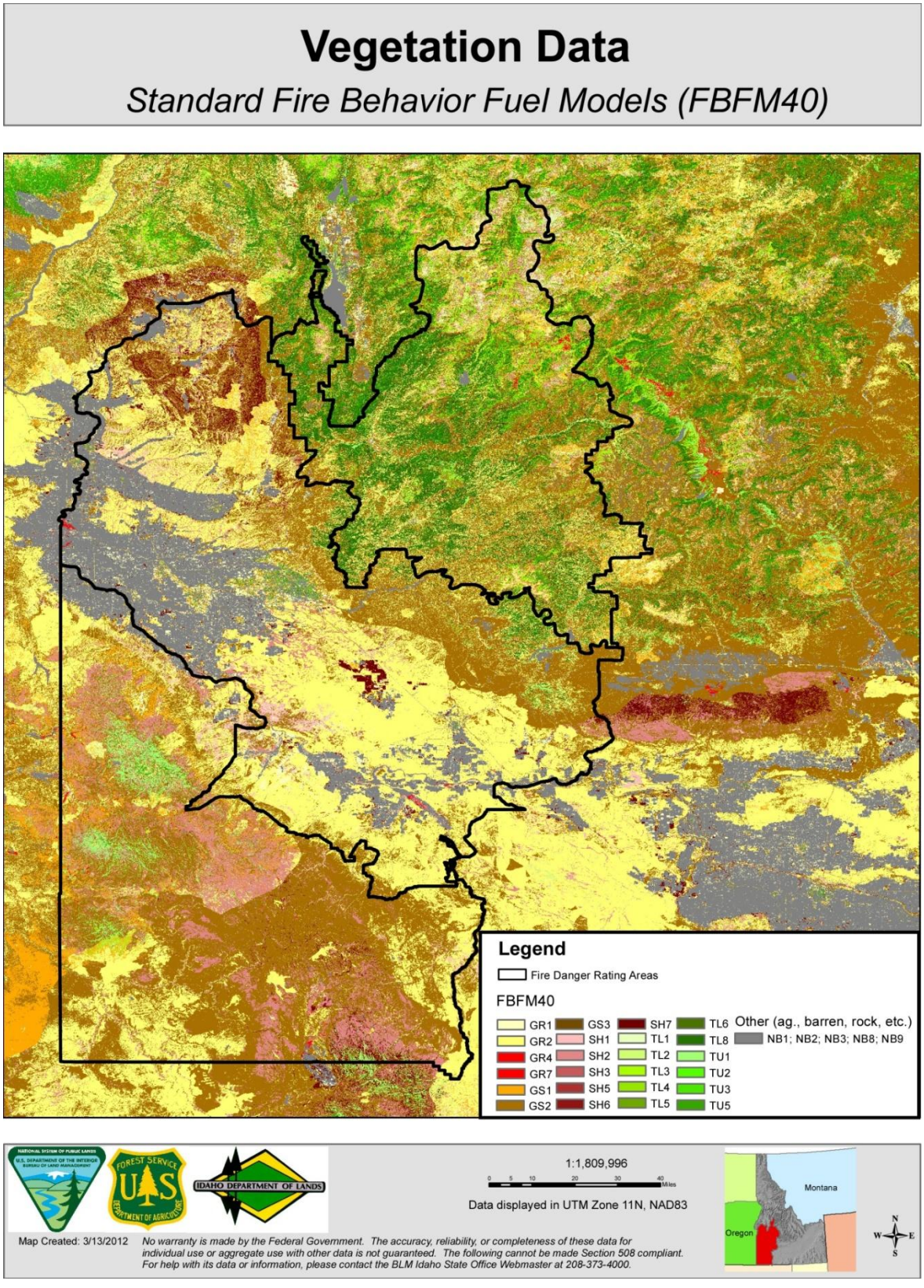
Map 2. Ownership



Map 3. Dispatch Response Zones

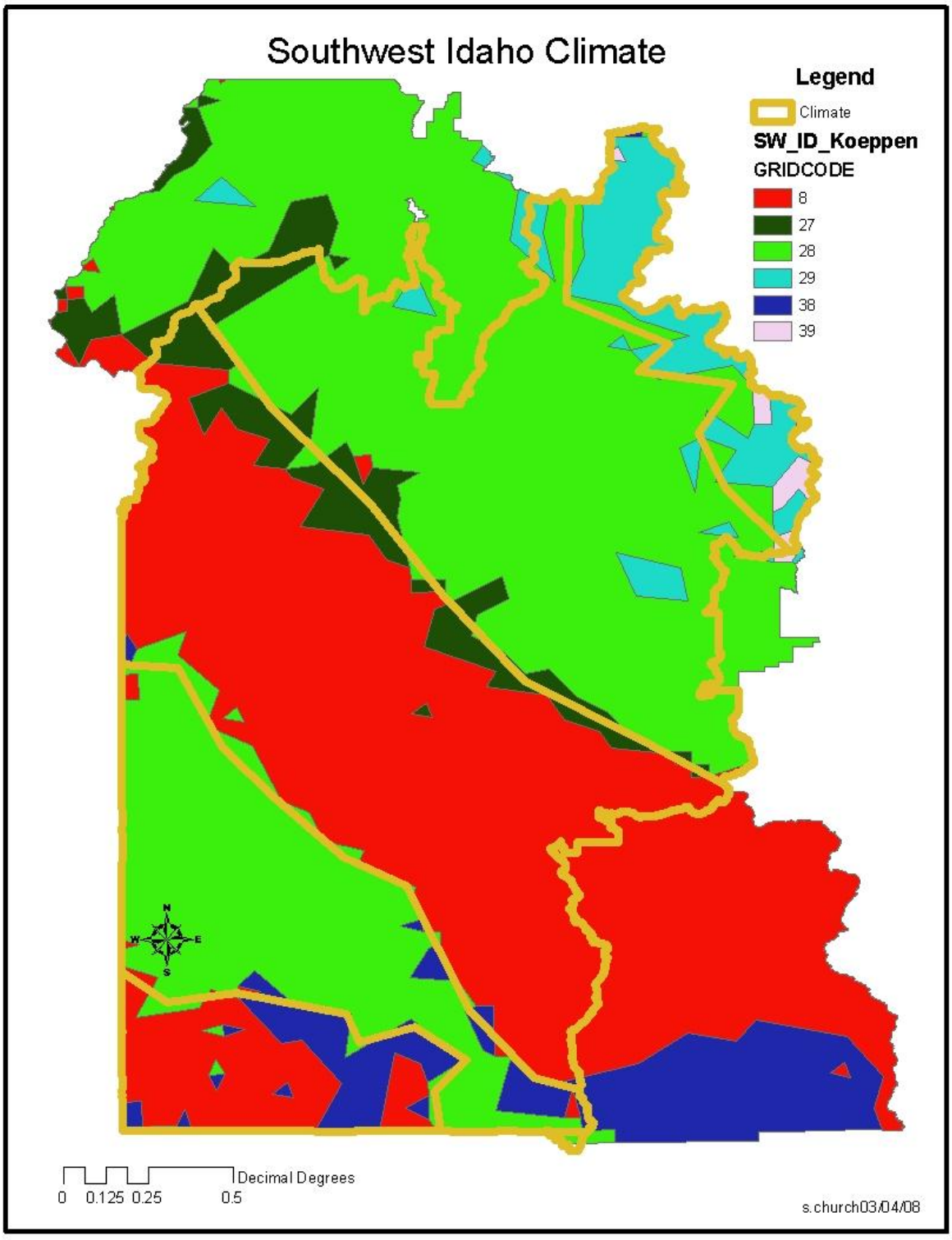


Map 4. Vegetation Data

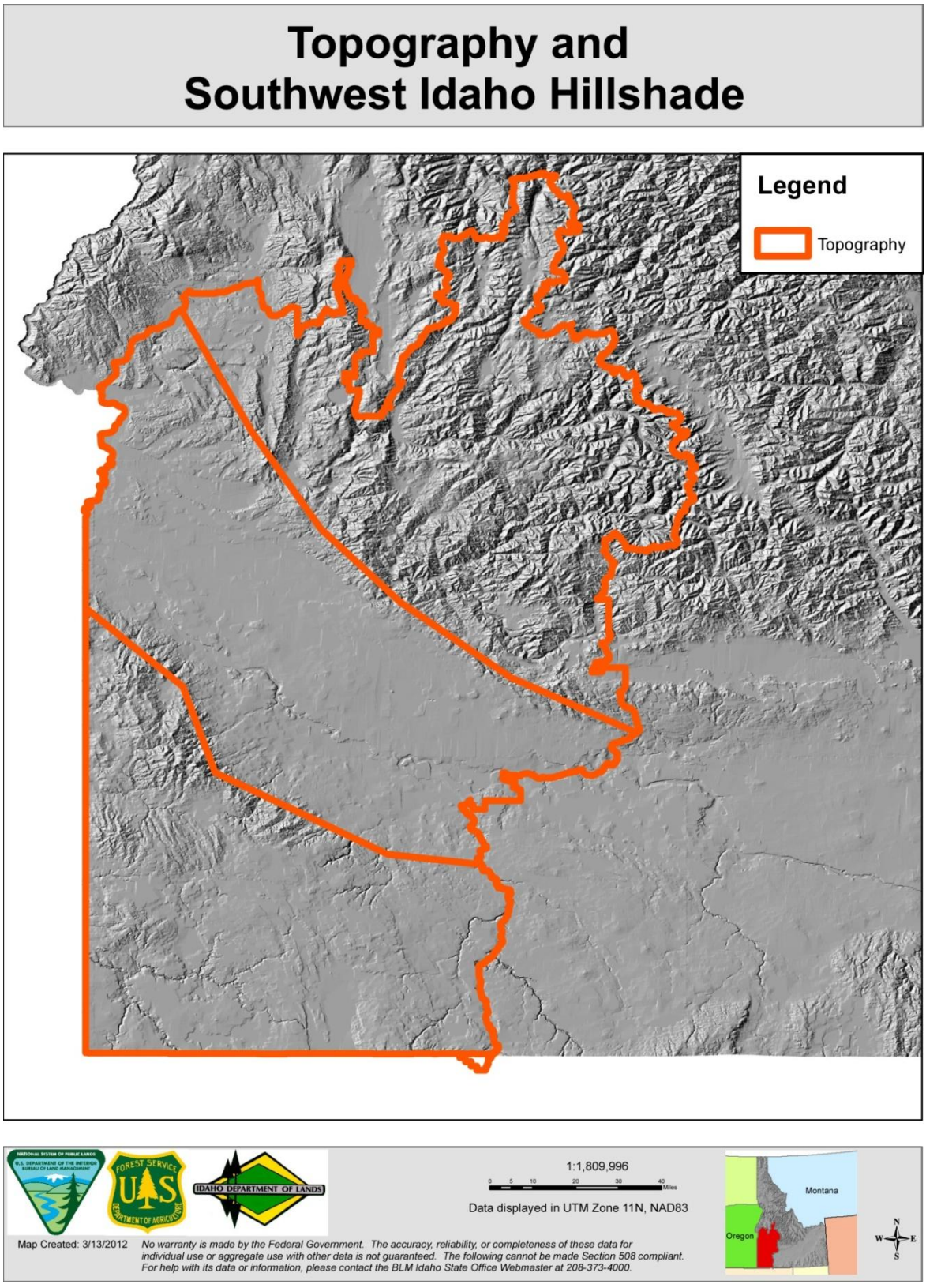


Map 5. Climate

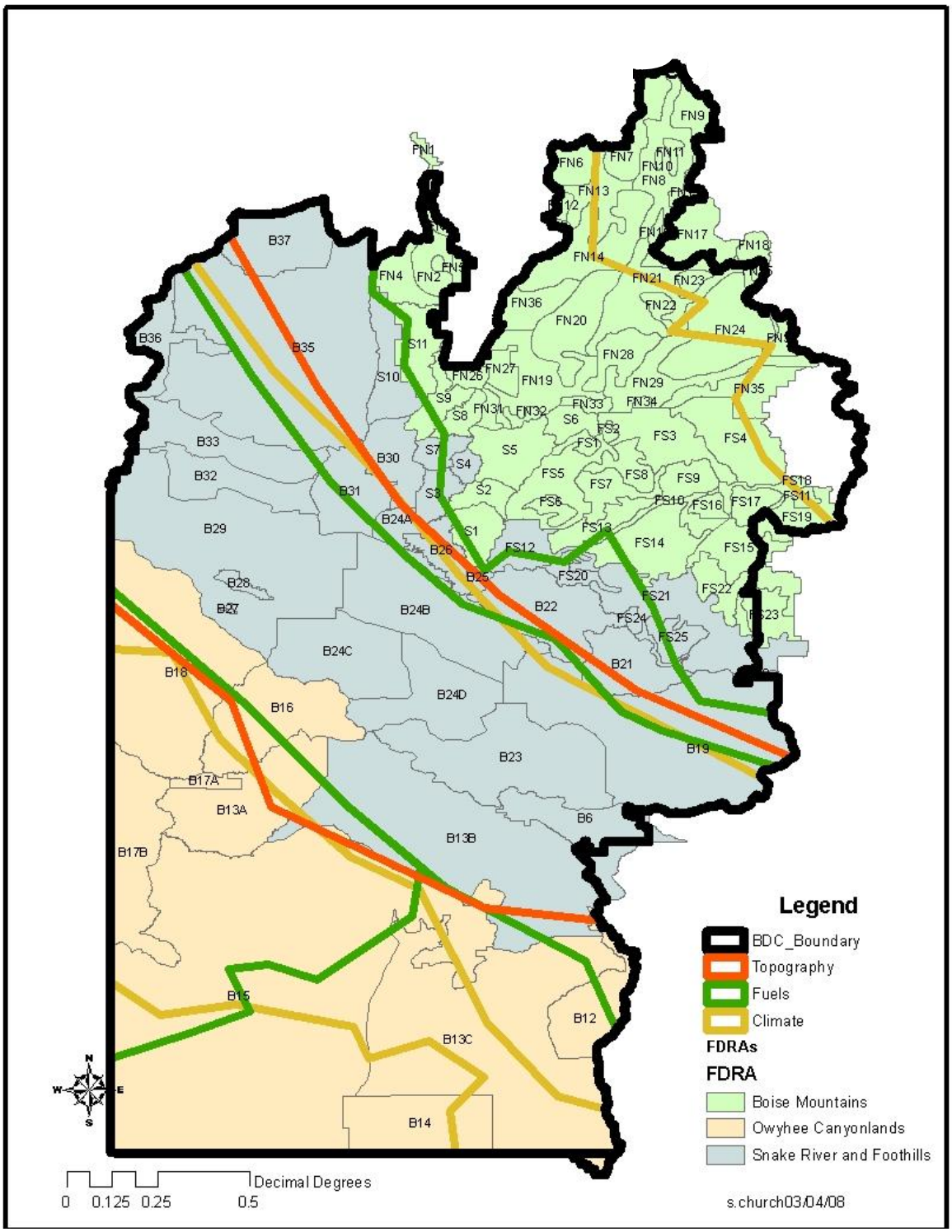
Climate



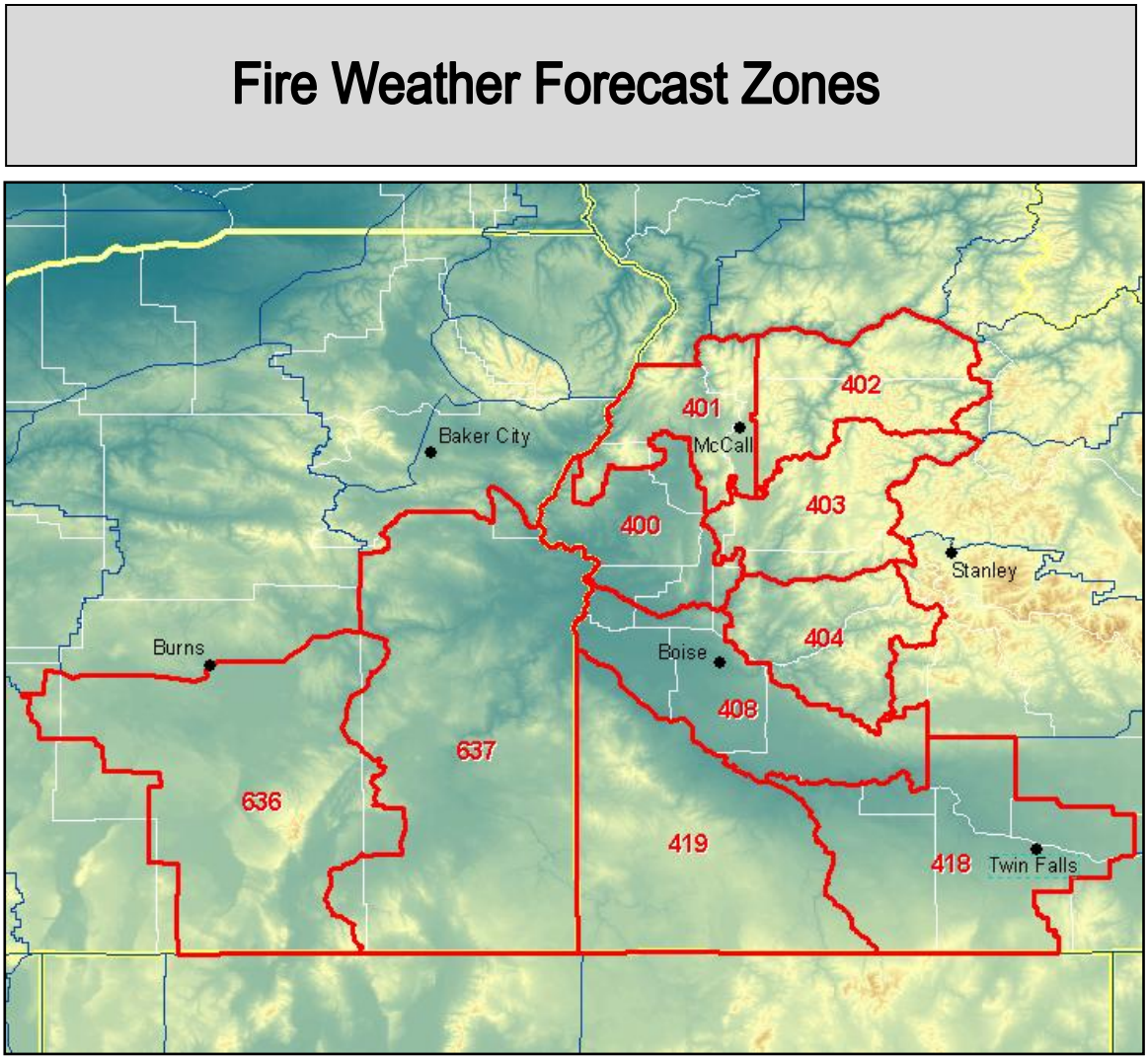
Map 6. Topography



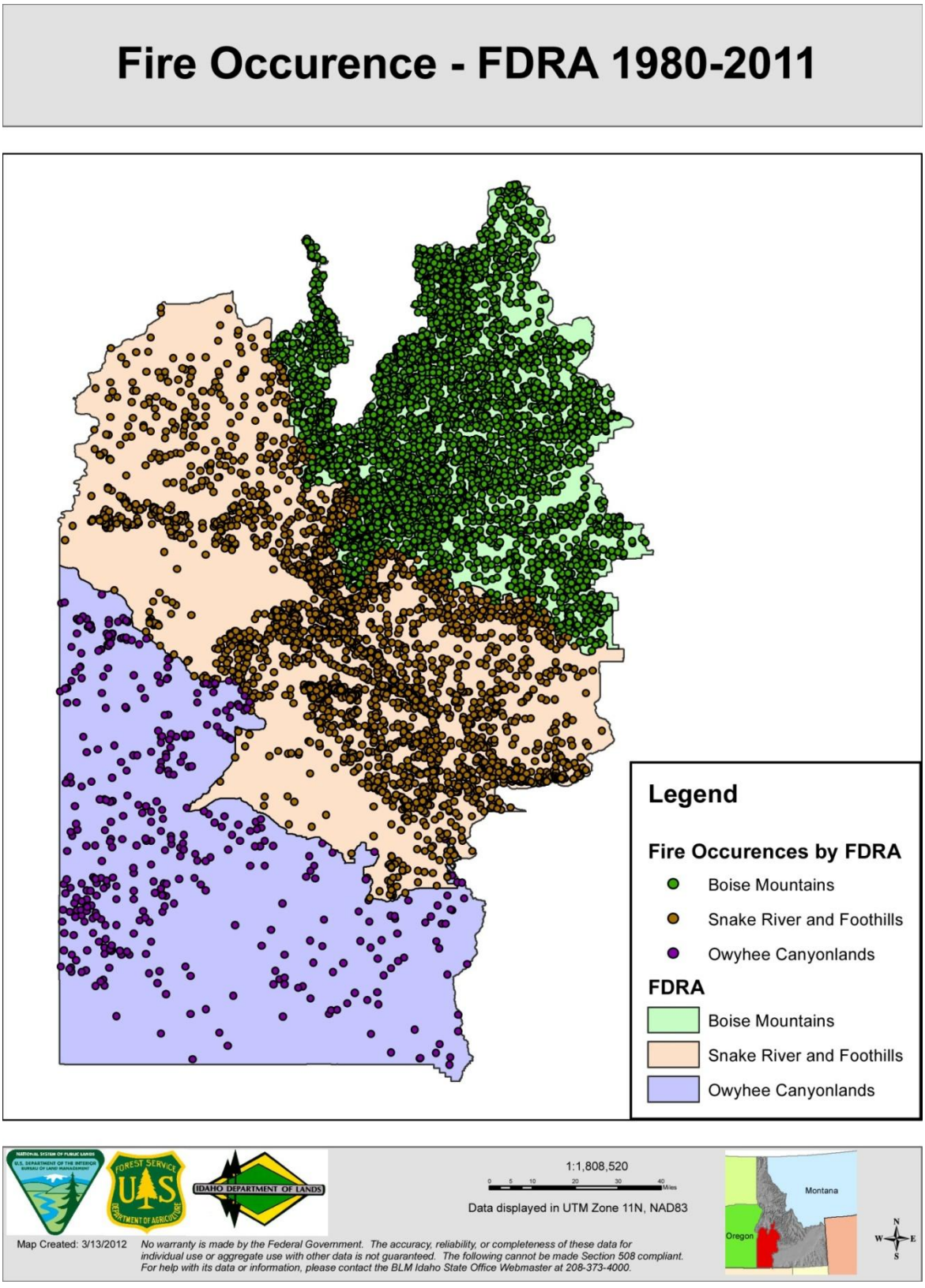
Map 7. Fire Danger Rating Areas Boundary Analysis



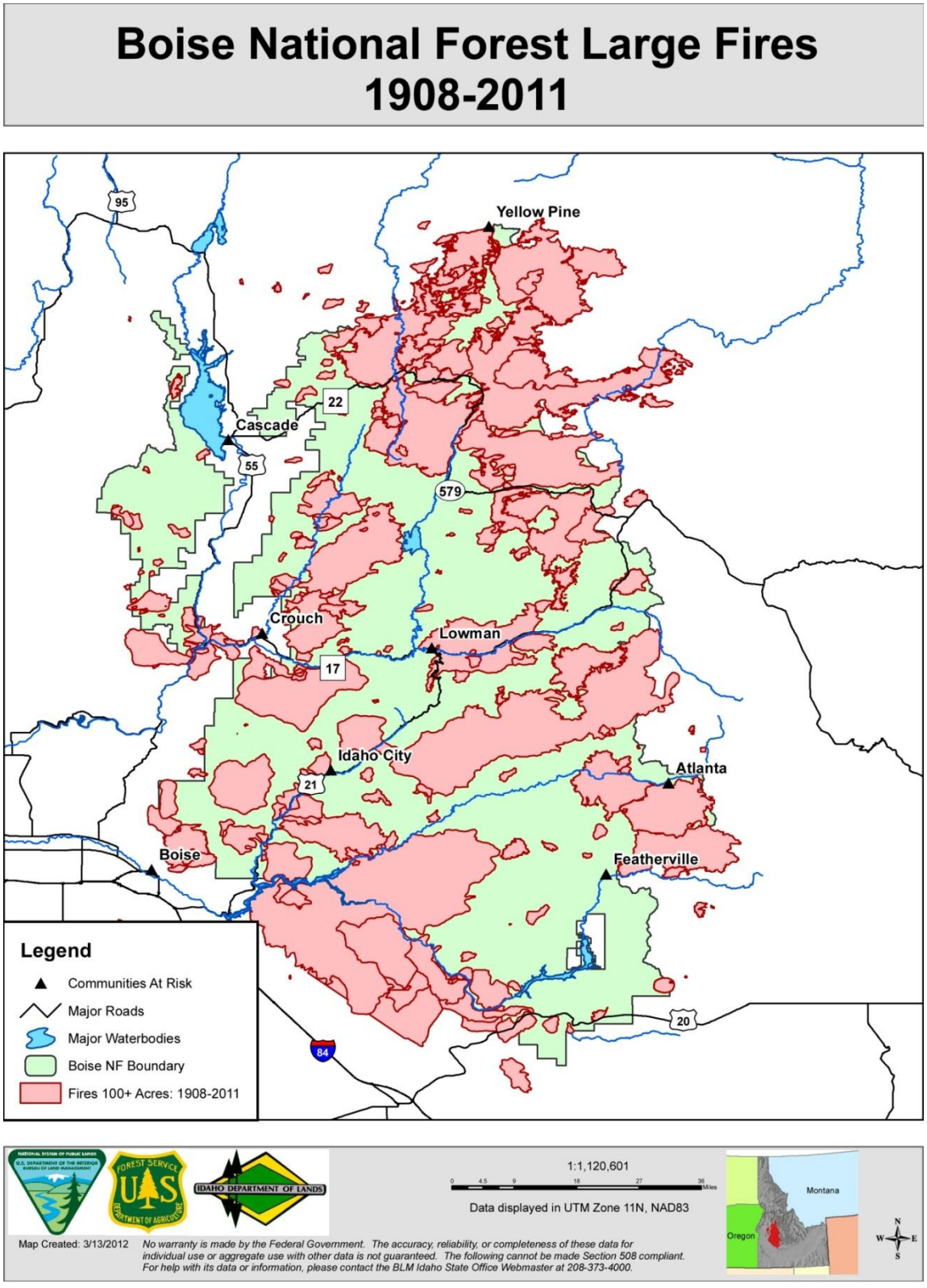
Map 8. Fire Weather Forecast Zones



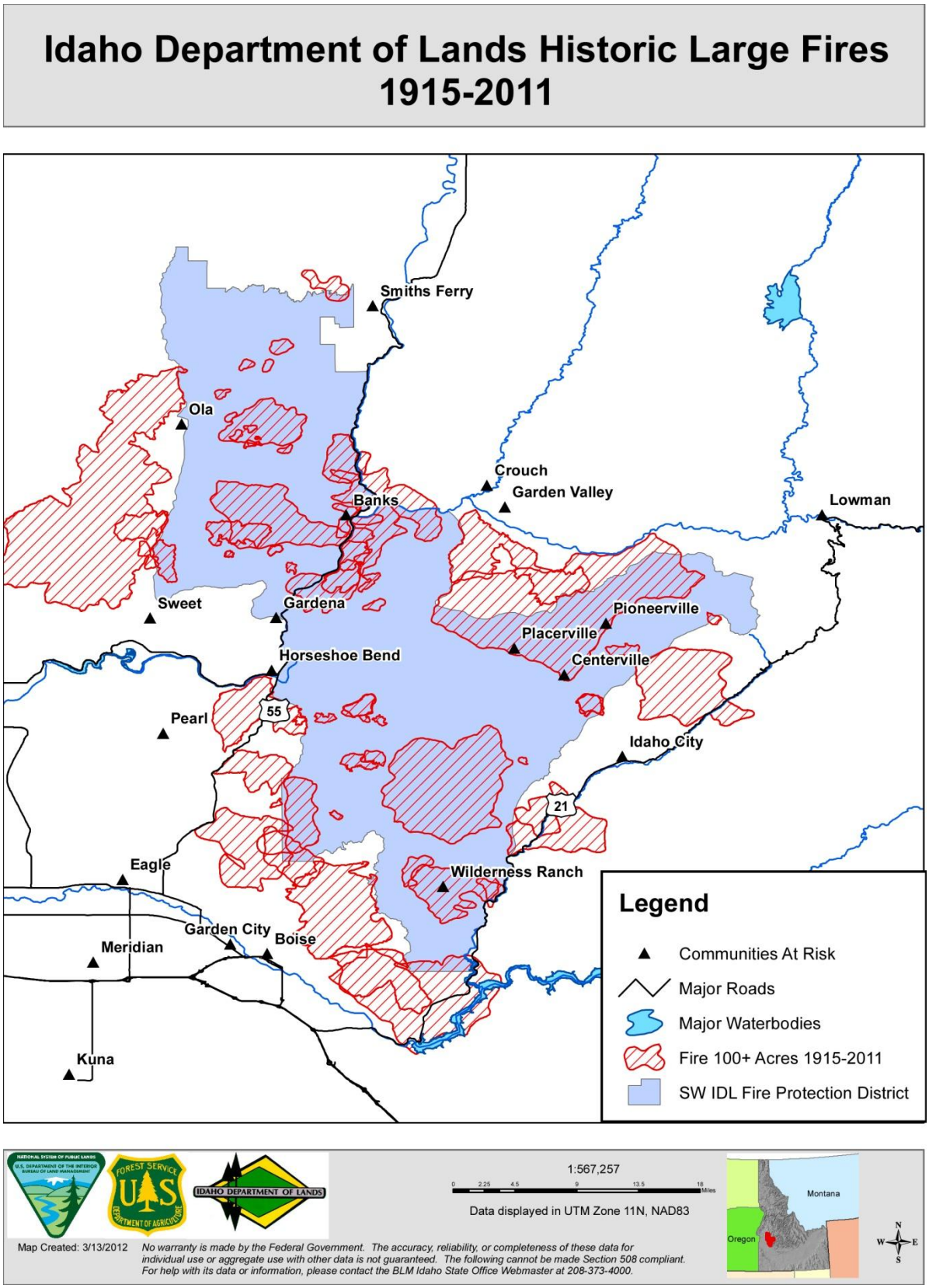
Map 9. Fire Occurrence by Fire Danger Rating Areas



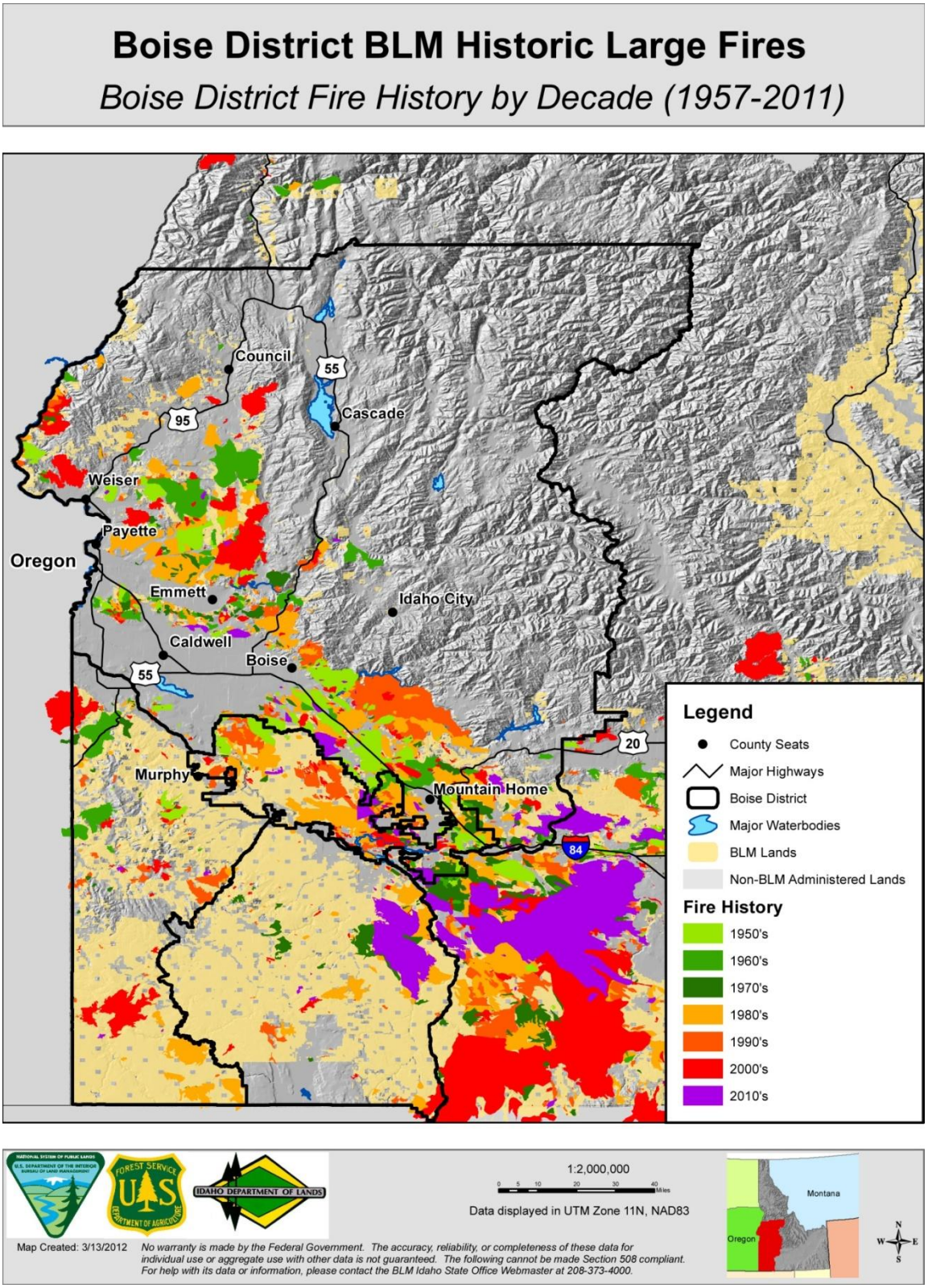
Map 10. Fire History – Boise National Forest



Map 11. Fire History – Idaho Department of Lands



Map 12. Fire History – Boise District BLM



Appendix M – NFDRS Fuel Models

(Used for the Fire Danger Rating Analysis)

The following descriptions of the various NFDRS fuel models are taken from Deeming et al. (1977).

Fuel Model A – This fuel model represents western grasslands vegetated by annual grasses and forbs. Brush or trees may be present but are very sparse, occupying less than one-third of the area. Examples of types where Fuel Model A should be used are cheatgrass and medusahead. Open pinyon-juniper, sagebrush-grass, and desert shrub associations may appropriately be assigned this fuel model if the woody plants meet the density criteria. The quantity and continuity of the ground fuels vary greatly with rainfall from year to year.

Fuel Model B – Mature, dense fields of brush six feet or more in height is represented by this fuel model. One-fourth or more of the aerial fuel in such stands is dead. Foliage burns readily. Model B fuels are potentially very dangerous, fostering intense, fast-spreading fires. This model is for California mixed chaparral, generally 30 years or older. The F model is more appropriate for pure chamise stands. The B model may also be used for the New Jersey pine barrens.

Fuel Model C – Open pine stands typify Model C fuels. Perennial grasses and forbs are the primary ground fuel but there is enough needle litter and branchwood present to contribute significantly to the fuel loading. Some brush and shrubs may be present but they are of little consequence. Types covered by Fuel Model C are open, longleaf, slash, ponderosa, Jeffery, and sugar pine stands. Some pinyon-juniper stands may qualify.

Fuel Model D – This fuel model is specifically for the palmetto-gallberry understory-pine association of the southeast coastal plains. It can also be used for the so-called "low pocosins" where Fuel Model O might be too severe. This model should only be used in the Southeast because of the high moisture of extinction associated with it.

Fuel Model E – Use this model after fall leaf fall for hardwood and mixed hardwood-conifer types where the hardwoods dominate. The fuel is primarily hardwood leaf litter. Fuel Model E best represents the oak- hickory types and is an acceptable choice for northern hardwoods and mixed forests of the Southeast. In high winds, the fire danger may be underrated because rolling and blowing leaves are not accounted for. In the summer after the trees have leafed out, Fuel Model R should replace Fuel Model E.

Fuel Model F – Fuel Model F represents mature closed chamise stands and oak brush fields of Arizona, Utah, and Colorado. It also applies to young, closed stands and mature, open stands of California mixed chaparral. Open stands of pinyon-juniper are represented; however, fire activity will be overrated at low wind speeds and where ground fuels are sparse.

Fuel Model G – Fuel Model G is used for dense conifer stands where there is a heavy accumulation of litter and down woody material. Such stands are typically over mature and may also be suffering insect, disease, and wind or ice damage—natural events that create a very heavy buildup of dead material on the forest floor. The duff and litter are deep and much of the woody material is more than three inches in diameter. The undergrowth is variable, but shrubs are usually restricted to openings. Types to be represented by Fuel Model G are hemlock-Sitka spruce, coastal Douglas fir, and wind thrown or bug-killed stands of lodgepole pine and spruce.

Fuel Model H – The short-needled conifers (white pines, spruces, larches, and firs) are represented by Fuel Model H. In contrast to Model G fuels, Fuel Model H describes a healthy stand with sparse undergrowth and a thin layer of ground fuels. Fires in the H fuels are typically slow spreading and are dangerous only in scattered areas where the downed woody material is concentrated.

Fuel Model I – Fuel Model I was designed for clear-cut conifer slash where the total loading of materials less than six inches in diameter exceeds 25 tons/acre. After settling and the fines (needles and twigs) fall from the branches, Fuel Model I will overrate the fire potential. For lighter loadings of clear-cut conifer slash use Fuel Model J, and for light thinnings and partial cuts where the slash is scattered under a residual overstory, use Fuel Model K.

Fuel Model J – This model complements Fuel Model I. It is for clear-cuts and heavily thinned conifer stands where the total loading of material less than six inches in diameter is less than 25 tons per acre. Again as the slash ages, the fire potential will be overrated.

Fuel Model K – Slash fuels from light thinnings and partial cuts in conifer stands are represented by Fuel Model K. Typically the slash is scattered about under an open overstory. This model applies to hardwood slash and to southern pine clear-cuts where loading of all fuels is less than 15 tons/acre.

Fuel Model L – This fuel model is meant to represent western grasslands vegetated by perennial grasses. The principal species are coarser and the loadings heavier than those in Model A fuels. Otherwise the situations are very similar; shrubs and trees occupy less than one-third of the area. The quantity of fuels in these areas is more stable from year to year. In sagebrush areas Fuel Model T may be more appropriate.

There is no Fuel Model M.

Fuel Model N – This fuel model was constructed specifically for the sawgrass prairies of south Florida. It may be useful in other marsh situations where the fuel is coarse and reed like. This model assumes that one-third of the aerial portion of the plants is dead. Fast-spreading, intense fires can occur over standing water.

Fuel Model O – The O fuel model applies to dense, brush like fuels of the Southeast. In contrast to B fuels, O fuels are almost entirely living except for a deep litter layer. The foliage burns readily except during the active growing season. The plants are typically over six feet tall and are often found under open stands of pine. The high pocosins of the Virginia, North and South Carolina coasts are the ideal of Fuel Model O. If the plants do not meet the 6- foot criteria in those areas, Fuel Model D should be used.

Fuel Model P – Closed, thrifty stands of long- needled southern pines are characteristic of P fuels. A 2 to 4 inch layer of lightly compacted needle litter is the primary fuel. Some small diameter branchwood is present but the density of the canopy precludes more than a scattering of shrubs and grass. Model P has the high moisture of extinction characteristic of the Southeast. The corresponding model for other long-needled pines is H.

Fuel Model Q – Upland Alaska black spruce is represented by Fuel Model Q. The stands are dense but have frequent openings filled with usually flammable shrub species. The forest floor is a deep layer of moss and lichens, but there is some needle litter and small diameter branchwood. The branches are persistent on the trees, and ground fires easily reach into the crowns. This fuel model may be useful for jack pine stands in the Lake States. Ground fires are typically slow spreading, but a dangerous crowning potential exists. Users should be alert to such events and note those levels of SC and BI when crowning occurs.

Fuel Model R – This fuel model represents hardwood areas after the canopies leaf out in the spring. It is provided as the off- season substitute for Fuel Model E. It should be used during the summer in all hardwood and mixed conifer-hardwood stands where more than half of the overstory is deciduous.

Fuel Model S – Alaskan and alpine tundra on relatively well-drained sites fit this fuel model. Grass and low shrubs are often present, but the principal fuel is a deep layer of lichens and moss. Fires in these fuels are not fast spreading or intense, but are difficult to extinguish.

Fuel Model T – The sagebrush-grass types of the Great Basin and the Intermountain West are characteristic of T fuels. The shrubs burn easily and are not dense enough to shade out grass and other herbaceous plants. The shrubs must occupy at least one-third of the site or the A or L fuel models should be used. Fuel Model T might be used for immature scrub oak and desert shrub associations in the West and the scrub oak-wire grass type of the Southeast.

Fuel Model U – This fuel model represents the closed stands of western long-needled pines. The ground fuels are primarily litter and small branchwood. Grass and shrubs are precluded by the dense canopy but may occur in the occasional natural opening. Fuel Model U should be used for ponderosa, Jeffery, sugar pine stands of the West and red pine stands of the Lake States. Fuel Model P is the corresponding model for southern pine plantations.

Appendix N - 40 Standard Fire Behavior Fuel Model Definitions

(Used to for the Map Data within the FDOP)

The following definitions are currently used for FPA and will be incorporated in future revisions of the FMP. Definitions are taken from RMRS-GTR-153 (2005).

Grass Description:

The primary carrier of fire in the GR fuel models is grass. Grass fuels can vary from heavily grazed grass stubble or sparse natural grass to dense grass more than 6 feet tall. Fire behavior varies from moderate spread rate and low flame length in the sparse grass to extreme spread rate and flame length in the tall grass models. All GR fuel models are dynamic, meaning that their live herbaceous fuel load shifts from live to dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is very strong. See the dynamic fuel models topic for more information.

GR1 Short, sparse dry climate grass

Description:

The primary carrier of fire in GR1 is sparse grass, though small amounts of fine dead fuel may be present. The grass in GR1 is generally short, either naturally or by heavy grazing, and may be sparse or discontinuous. The moisture of extinction of GR1 is indicative of a dry climate fuelbed, but GR1 may also be applied in high-extinction moisture fuelbeds because in both cases predicted spread rate and flame length are very low (compared to other GR fuel models).

GR2 Low load, dry climate grass

Description:

The primary carrier of fire in GR2 is grass, though small amounts of fine dead fuel may be present. Load is greater than GR1, and fuelbed may be more continuous. Shrubs, if present, do not affect fire behavior.

GR3 Low load, very coarse, humid climate grass

Description:

The primary carrier of fire in GR3 is continuous, coarse, humid-climate grass. Grass and herb fuel load is relatively light; fuelbed depth is about two feet. Shrubs are not present in significant quantity to affect fire behavior.

GR4 Moderate load, dry climate grass

Description:

The primary carrier of fire in GR4 is continuous, dry-climate grass. Load and depth are greater than GR2; fuelbed depth is about two feet.

GR5 Low load, humid climate grass

Description:

The primary carrier of fire in GR5 is humid-climate grass. Load is greater than GR3 but depth is lower, about 1-2 feet.

GR6 Moderate load, humid climate grass
Description:
The primary carrier of fire in GR6 is continuous humid-climate grass. Load is greater than GR5 but depth is about the same. Grass is less coarse than GR5.

GR7 High load, dry climate grass
Description:
The primary carrier of fire in GR7 is continuous dry-climate grass. Load and depth are greater than GR4. Grass is about three feet tall.

GR8 High load, very coarse, humid climate grass
Description:
The primary carrier of fire in GR8 is continuous, very coarse, humid-climate grass. Load and depth are greater than GR6. Spread rate and flame length can be extreme if grass is fully cured.

GR9 Very high load, humid climate grass
Description:
The primary carrier of fire in GR9 is dense, tall, humid-climate grass. Load and depth are greater than GR8, about six feet tall. Spread rate and flame length can be extreme if grass is fully or mostly cured.

Grass-shrub Description:
The primary carrier of fire in the GS fuel models is grass and shrubs combined; both components are important in determining fire behavior. All GS fuel models are dynamic, meaning that their live herbaceous fuel load shifts from live to dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong, and depends on the relative amount of grass and shrub load in the fuel model. See the dynamic fuel models topic for more information.

GS1 Low load, dry climate grass-shrub
Description:
The primary carrier of fire in GS1 is grass and shrubs combined. Shrubs are about one foot high, grass load is low. Spread rate is high; flame length moderate. Moisture of extinction is low.

GS2 Moderate load, dry climate grass-shrub
Description:
The primary carrier of fire in GS2 is grass and shrubs combined. Shrubs are 1-3 feet high, grass load is moderate. Spread rate is high; flame length moderate. Moisture of extinction is low.

GS3 Moderate load, humid climate grass-shrub
Description:
The primary carrier of fire in GS3 is grass and shrubs combined. There is a moderate

grass/shrub load; average grass/shrub depth is less than two feet. Spread rate is very high; flame length high. Moisture of extinction is high.

GS4 High load, humid climate grass-shrub
Description:
The primary carrier of fire in GS4 is grass and shrubs combined. There is heavy grass/shrub load; depth is greater than two feet. Spread rate is high; flame length very high. Moisture of extinction is high.

Shrub Description:
The primary carrier of fire in the SH fuel models is live and dead shrub twigs and foliage in combination with dead and down shrub litter. A small amount of herbaceous fuel may be present, especially in SH1 and SH9, which are dynamic models (their live herbaceous fuel load shifts from live to dead as a function of live herbaceous moisture content). The effect of live herbaceous moisture content on spread rate and flame length can be strong in those dynamic SH models. See the dynamic fuel models topic for more information.

SH1 Low load, dry climate shrub
Description:
The primary carrier of fire in SH1 is woody shrubs and shrub litter. There is a low shrub fuel load; fuelbed depth is about one foot; some grass may be present. Spread rate is high; flame length moderate.

SH2 Moderate load, dry climate shrub
Description:
The primary carrier of fire in SH2 is woody shrubs and shrub litter. There is a moderate fuel load (higher than SH1); depth is about one foot; no grass fuel present. Spread rate is moderate; flame length moderate.

SH3 Moderate load, humid climate shrub
Description:
The primary carrier of fire in SH3 is woody shrubs and shrub litter. There is moderate shrub load, possibly with pine overstory or herbaceous fuel; fuel bed depth is 2-3 feet. Spread rate is moderate; flame length low.

SH4 Low load, humid climate timber-shrub
Description:
The primary carrier of fire in SH4 is woody shrubs and shrub litter. There is low to moderate shrub and litter load, possibly with pine overstory; fuel bed depth is about three feet. Spread rate is high; flame length high.

SH5 High load, dry climate shrub
Description:
The primary carrier of fire in SH5 is woody shrubs and shrub litter. There is heavy shrub load; depth is 4-6 feet. Spread rate is very high; flame length very high.

SH6 Low load, humid climate shrub
Description:
The primary carrier of fire in SH6 is woody shrubs and shrub litter. There are dense shrubs, with little or no herbaceous fuel; fuelbed depth is about two feet. Spread rate is high; flame length high.

SH7 Very high load, dry climate shrub
Description:
The primary carrier of fire in SH7 is woody shrubs and shrub litter. There is a very heavy shrub load; depth is 4-6 feet. Spread rate lower than SH5, but flame length similar. Spread rate is very high; flame length very high.

SH8 High load, humid climate shrub
Description:
The primary carrier of fire in SH8 is woody shrubs and shrub litter. There are dense shrubs, with little or no herbaceous fuel; fuelbed depth is about three feet. Spread rate is high; flame length very high.

SH9 Very high load, humid climate shrub
Description:
The primary carrier of fire in SH9 is woody shrubs and shrub litter. There are dense, finely branched shrubs with significant fine dead fuel, about 4-6 feet tall; some herbaceous fuel may be present. Spread rate is very high, flame length very high.

Timber-understory Description:
The primary carrier of fire in the TU fuel models is forest litter in combination with herbaceous or shrub fuels. TU1 and TU3 contain live herbaceous load and are dynamic, meaning that their live herbaceous fuel load is allocated between live and dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong, and depends on the relative amount of grass and shrub load in the fuel model.

TU1 Low load, dry climate timber-grass-shrub
Description:
The primary carrier of fire in TU1 is low load of grass and/or shrub with litter. Spread rate is low; flame length low.

TU2 Moderate load, humid climate timber-shrub
Description:
The primary carrier of fire in TU2 is moderate litter load with shrub component. There is high extinction moisture. Spread rate is moderate; flame length low.

TU3 Moderate load, humid climate timber-grass-shrub
Description:
The primary carrier of fire in TU3 is moderate forest litter with grass and shrub components. Extinction moisture is high. Spread rate is high; flame length high.

TU4 Dwarf conifer with moss
Description:
The primary carrier of fire in TU4 is short conifer trees with grass or moss understory. Spread rate is moderate; flame length moderate.

TU5 Very high load, dry climate timber-shrub
Description:
The primary carrier of fire in TU5 is heavy forest litter with a shrub or small tree understory. Spread rate is moderate; flame length high.

Timber litter Description:
The primary carrier of fire in the TL fuel models is dead and down woody fuel. Live fuel, if present, has little effect on fire behavior.

TL1 Low load, compact conifer litter
Description:
The primary carrier of fire in TL1 is compact forest litter. Light to moderate load, fuels 1-2 inches deep. Spread rate is very low; flame length very low. It may be used to represent a recently burned forest.

TL2 Low load, broadleaf litter
Description:
The primary carrier of fire in TL2 is broadleaf (hardwood) litter. There is a low load, with compact broadleaf litter. Spread rate is very low; flame length very low.
TL3 Moderate load, conifer litter
Description:
The primary carrier of fire in TL3 is moderate load conifer litter, with a light load of coarse fuels. Spread rate is very low; flame length very low.

TL4 Small downed logs
Description:
The primary carrier of fire in TL4 is moderate load of fine litter and coarse fuels; includes small diameter downed logs. Spread rate is low; flame length low.

TL5 High load, conifer litter
Description:
The primary carrier of fire in TL5 is high load conifer litter, light slash or mortality fuel. Spread rate is low; flame length low.

TL6 High load, broadleaf litter
Description:
The primary carrier of fire in TL6 is moderate load broadleaf litter, less compact than TL2. Spread rate is moderate; flame length low.

TL7 Large downed logs

Description:
The primary carrier of fire in TL7 is heavy load forest litter, includes larger diameter downed logs. Spread rate low; flame length low.

TL8 Long-needle litter
Description:
The primary carrier of fire in TL8 is moderate load long-needle pine litter, may include small amount of herbaceous load. Spread rate is moderate; flame length low.

TL9 Very high load, broadleaf litter
Description:
The primary carrier of fire in TL9 is very high load, fluffy broadleaf litter. TL9 can also be used to represent heavy needle-drape. Spread rate is moderate; flame length moderate.

Slash-blowdown Description:
The primary carrier of fire in the SB fuel models is activity fuel or blowdown. Forested areas with heavy mortality may be modeled with SB fuel models.

SB1 Low load activity fuel
Description:
The primary carrier of fire in SB1 is light dead and down activity fuel. Fine fuel load is 10 to 20 t/ac, weighted toward fuels 1-3 in diameter class; depth is less than one foot. Spread rate is moderate; flame length low.

SB2 Moderate load slash or low load blowdown
Description:
The primary carrier of fire in SB2 is moderate dead and down activity fuel or light blowdown. Fine fuel load is 7 to 12 t/ac, evenly distributed across 0-0.25, 0.25-1, and 1-3 inch diameter classes, depth is about 1 foot. Blowdown is scattered, with many trees still standing. Spread rate is moderate; flame length moderate.

SB3 High load slash or moderate load blowdown
Description:
The primary carrier of fire in SB3 is heavy dead and down activity fuel or moderate blowdown. Fine fuel load is 7 to 12 t/ac, weighted toward 0-0.25 inch diameter class, depth is more than 1 foot. Blowdown is moderate, trees compacted to near the ground. Spread rate is high; flame length high.

SB4 High load blowdown
Description:
The primary carrier of fire in SB4 is heavy blowdown fuel. Blowdown is total, fuelbed not compacted, most foliage and fine fuel are still attached to blowdown. Spread rate very high; flame length very high.

Non-burnable Description:
These non-burnable "fuel models" are included to provide consistency in how the non-

burnable portions of the landscape are displayed on a fuel model map. In all NB fuel models there is no fuel load -- wildland fire will not spread.

NB1 urban/developed
Description:
Fuel model NB1 consists of land covered by urban and suburban development. To be called NB1, the area under consideration must not support wildland fire spread. In some cases, areas mapped as NB1 may experience structural fire losses during a wildland fire incident; however, structure ignition in those cases is either house-to-house or by firebrands, neither of which is directly modeled using fire behavior fuel models. If sufficient fuel surrounds structures such that wildland fire spread is possible, then choose a fuel model appropriate for the wildland vegetation rather than NB1.

NB2 snow/ice
Description:
Land covered by permanent snow or ice is included in NB2. Areas covered by seasonal snow can be mapped to two different fuel models: NB2 for use when snow-covered, and another for use in the fire season.

NB3 agriculture
Description:
Fuel model NB3 is agricultural land maintained in a non-burnable condition; examples include irrigated annual crops, mowed or tilled orchards, etc. However, there are many agricultural areas that are not kept in a non-burnable condition. For example, grass is often allowed to grow beneath vines or orchard trees, and wheat or similar crops are allowed to cure before harvest; in those cases use a fuel model other than NB3.

NB8 water
Description:
Land covered by open bodies of water such as lakes, rivers and oceans comprise NB8.

NB9 bare ground
Description:
Land devoid of enough fuel to support wildland fire spread is covered by fuel model NB9. Such areas may include gravel pits, arid deserts with little vegetation, sand dunes, rock outcroppings, beaches, and so forth.

Appendix O – Procedures completed by Team Members for Data Analysis

FireFamily Plus Documentation –Fire History

February 2012

- Obtained Fire History from 1983 to 2011 for BLM, FS, and IDL from:
    - BLM: WFMI reports
        - Included all action fires (1), natural outs (2), and support actions (37).
            - Support action (37) fires were first imported into FireFamily. Fires that included a Forest Service or IDL identifier in the name were deleted in order to avoid duplications from the FS and IDL reports. Once the (37) fires were cleaned then the action fires (1) and natural outs (2) were imported.
        - All fire data was exported in FireFamily plus format and then imported.
    - Forest Service: KCFast
        - Included all Payette and Boise National Forest fires.
        - All fire data was exported in FireFamily plus format and then imported.
    - IDL: obtained from Don Wagner in Coeur d' Alene (208-666-8647).
        - Included fire data from the Southwest Idaho Fire Protection District and SITPA.
        - All fire data was converted to an excel csv. file type that could be imported into FireFamily Plus (look in supporting documentation under "Creating a Unique Fire Data Set" for instructions on how to this-pg. 7).
        - To convert Lat/Long Degrees Minutes Seconds to Decimal Degrees, the following formulas were used:
            - Lat: A1(degrees)+B1(minutes/60)+C1(seconds/3600) where degrees (A1), minutes (B1), and seconds (C1) are in separate cells.
                - The new cell with Latitude in Decimal Degrees should be formatted as a number with 8 decimals.
            - Long: A1(degrees)+B1(- minutes/60)+C1(- seconds/3600) where degrees (A1), minutes (B1), and seconds (C1) are in separate cells.
                - Not the minus sign before minutes and seconds in order to come out with the negative Longitude (ex. -115.xxxxxxxx)
                - The new cell with Longitude in Decimal Degrees should be formatted as a number with 8 decimals.
- After all data was imported into FireFamily plus, it was then exported as a shapefile.

- This shapefile was then imported into Arcmap in order to associate fires with Fire Danger Rating Areas. Look in supporting documentation under "Creating a Unique Fire Data Set" for instructions on how to associate these fires to a FDRA.
    - The FDRA shapefile (FDRAs.shp) is located in the working data folder. This is what you use to join the fire point data and associate the FDRAs.
    - Also ensure the point data for the fires shapefile has a defined geographic coordinate system and is projected in NAD83 to match the FDRA shapefile.
- After fires were associated, the new csv. file was cleaned for duplicates by Leigh Ann Hislop and then imported into FireFamily Plus.

Special Notes:

- Approximately 1,177 fires did not have a Lat/Long associated with them.
    - These fires were therefore not included in the analysis because they couldn't be associated with an FDRA.
- All fires with OTA in the fire name should be excluded from the analysis.
    - The analysis could be skewed to show more man caused fires than would normally be expected due to the high occurrence of man caused fires during military training exercises.
    - These fires might have also been categorized as lightning fires when in fact they were man caused.

FireFamily Plus Documentation – Fire Business Candidates

February 2012

Working Set – Check the following to ensure the data being used is correct

- SIG or weather station
- Fuel model – Set the same for all stations within a SIG
- Data Years (1987-2011 for Boise Mountains and 1990-2011 for Snake River Foothills and Owyhee Canyonlands
- Annual Filter set to correct time frame (May10-October 20)
- Fire Associations are defined by the SIG or station

Fire History Data – Key Points

- Data file received from the GIS/Planner - Important to document order of information within spreadsheet by column for import when completing the download into Fire Family Plus
- Data file clean up needs to take place at this point – Removing going thru and removing duplicate fires from agency to agency and ensuring there is complete data
- Before importing fires – Special Interest Groups need to be set up by FDRA (Data – SIGS – New) Bring into each SIG the weather stations that belong to each fire danger rating area
- Data – Import – (Pick the agency and type of file) – Select from saved file – Choose the information used in the file in order by column and move to the Selected Fields
- Select – Fires – Summary – General and Select by each specific area to View the Fires to review the data
- From the Working Copy, Select Fire Associations to select the specific fires to each FDRA

To Analyze Fire Business Candidates

- Choose Batch menu and click on Interactive
- Select appropriate SIG from list and Run
- Select the tab Fire Analysis Report or Fire Analysis Graph (Required)
- Click on each tab: Working Set, Fire Associations and Fire Options and select the correct settings
- Select the index your interested in (under NFDRS in the right-hand column)
- Click the Add to Candidates button. This will move the statistics resulting from the Fuel Model and Index run to the Fire Business Candidates list for further analysis.
- For the 2012 plan we ran all fuel models combined with ERC, BI, SC, and IC for our analysis
- Once all candidates have been added, go to the main screen, Fires menu, select Fire Business Candidates
- Export to spreadsheet for analysis

Analysis for setting Decision Points (Thresholds)

- Choose Fires menu and click on Fires Analysis (after double-checking Working Set)
- Set Large Fire Acres (10 for Boise Mountains, 500 for Snake River and Foothills and 100 for Owyhee Canyonlands), Multi Fire Days (3 for Boise Mountains and Snake River and Foothills, and 5 for Owyhee Canyonlands) and Analysis Variable (depending on what thresholds you're trying to set), select "OK."
- Select Fires Probability Analysis window and then select the Decision Points button

Appendix P – NFDRS Flow Chart