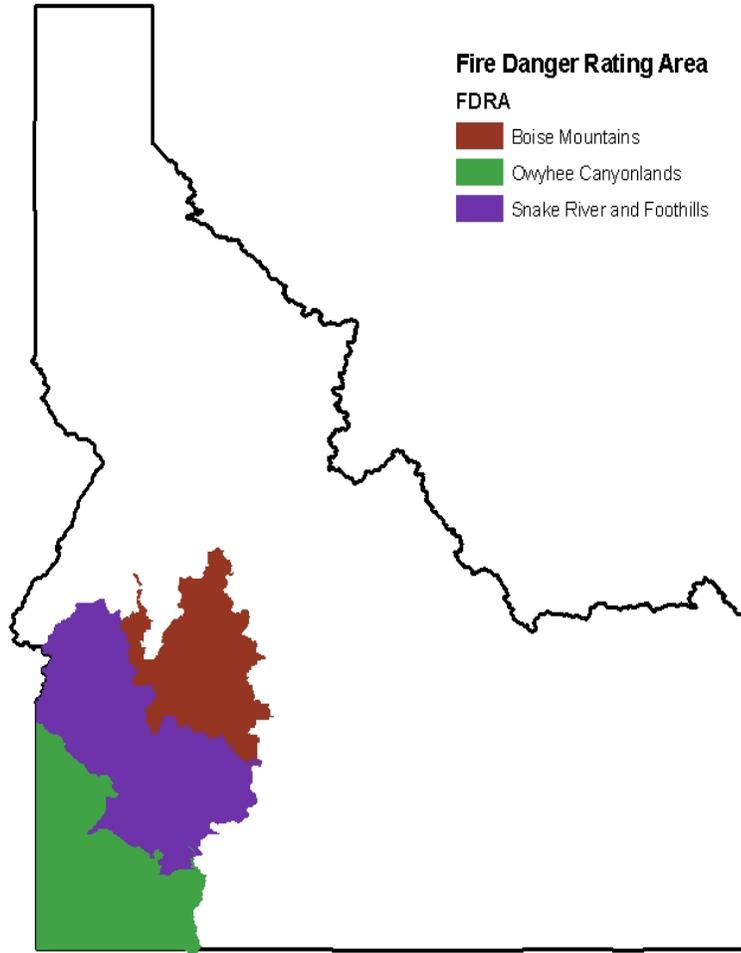


SOUTHWEST IDAHO

Interagency Fire Danger Operating Plan



February 2016

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SOUTHWEST IDAHO

Interagency Fire Danger Operating Plan

Approved By: *Agency Administrators*



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SOUTHWEST IDAHO

Interagency Fire Danger Operating Plan

Recommended By: *Fire Program Managers*



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I. INTRODUCTION

A. PURPOSE

The public, industry, and our own agency personnel expect the interagency wildland fire management agencies to implement appropriate and timely decisions which ultimately result in safe, efficient, and effective wildland fire management actions. This plan is intended to document a decision-making process for agency administrators, fire program managers, fire operations specialists, dispatchers, agency cooperators, and firefighters by establishing interagency planning and response levels using the best available scientific methods and historical weather/fire data. An appropriate level of preparedness to meet wildland fire management objectives is based upon an assessment of vegetation, climate, and topography utilizing the National Fire Danger Rating System (NFDRS). This plan provides a science-based “tool” for interagency fire managers to incorporate a measure of risk associated with decisions which have the potential to significantly compromise safety and control of wildland fires.

1. Fire Danger Operating Plan

Interagency policy and guidance requires numerous unit plans and guides in order to meet preparedness objectives. Some of these plans and guides are inter-related; some plans and guides provide the basis for other plans/guides as shown in this schematic.

This Fire Danger Operating Plan (FDOP) guides the application of information from decision support tools (such as NFDRS) at the local level. This FDOP is supplemental to the Fire Management Plan; it documents the establishment and management of a fire weather station network and describes how fire danger ratings will be applied to local unit fire management decisions. The actual implementation of the fire business thresholds is described in the following supplemental action plans.

The decision points are identified and documented in the SOUTHWEST IDAHO Fire Danger Operating Plan.



Figure 1: Preparedness Plan Relationship

a. Staffing Plan

The Staffing Plan describes escalating responses that are usually noted in the FMP. Mitigating actions are designed to enhance the unit's fire management capability during short periods (one burning period, Fourth of July or other pre-identified events) where normal staffing cannot meet initial attack, prevention, or detection needs. Each agency develops their own Staffing Plans.

b. Preparedness Plan

Preparedness plans provide management direction given identified levels of burning conditions, fire activity, and resource commitment, and are required at national, state/regional, and local levels. Preparedness Levels (1-5) are determined by incremental measures of burning conditions, fire activity, and resource commitment. Fire danger rating is a critical measure of burning conditions. The Preparedness Levels are identified and documented in the SOUTHWEST IDAHO Fire Danger Operating Plan. Each agency develops their own Preparedness Plan.

c. Prevention Plan

Prevention plans document the wildland fire problems identified by a prevention analysis. This analysis will not only examine human-caused fires, but also the risks, hazards, and values for the planning unit. Components of the plan include mitigation (actions initiated to reduce impacts of wildland fire to communities), prevention (of unwanted human-caused fires), education (facilitating and promoting awareness and understanding of wildland fire), enforcement (actions necessary to establish and carry out regulations, restrictions, and closures), and administration of the prevention program. The analysis of fire problems and associated target groups in the SOUTHWEST IDAHO are documented in this Fire Danger Operating Plan. Each agency develops and maintains their own Prevention Plans.

d. Restriction Plan

A Restriction Plan is an interagency document that outlines interagency coordination efforts regarding fire restrictions and closures. An interagency approach for initiating restrictions or closures helps provide consistency among the land management partners, while defining the restriction boundaries so they are easily distinguishable to the public. Based on the fire danger, managers may impose fire restrictions or emergency closures to public lands. Decision points when restrictions and/or closures should be considered are identified and documented in the SOUTHWEST IDAHO Fire Danger Operating Plan. The Southwest Idaho Restrictions Plan can be found at: <http://www.idahofireinfo.blm.gov/southwest/firerestrictions.htm>

2. **Wildfire Response**

a. Initial Response Plan

Initial response plans, also referred to as run cards or pre-planned response plans, specify the fire management response (e.g. number and type of suppression assets to dispatch) within a defined geographic area to an unplanned ignition, based on fire weather, fuel conditions, fire management objectives, and resource availability. Response levels are identified and documented in the SOUTHWEST IDAHO Fire Danger Operating Plan. The number and type of suppression resources dispatched to a reported fire is documented in the Boise Dispatch Run Cards/Response Plan.

b. Local Mobilization Plan

The SOUTHWEST IDAHO Mobilization Plan identifies standard procedures, which guide the operations of multi-agency logistical support activity throughout the coordination system. The Mobilization Plan is intended to facilitate interagency dispatch coordination, ensuring the timeliest and most cost effective incident support services available are provided. Communication between Units, GACCs, State, Regional Offices and other cooperative agencies are addressed. The Mobilization Plan is located on the Boise Interagency Dispatch Center website:

<http://www.idahofireinfo.blm.gov/southwestidaho>.

B. POLICY AND GUIDANCE

Interagency policy and guidance regarding the development of Fire Danger Operating Plans can be found in the [Interagency Standards for Fire & Aviation Operations](#) (Red Book). Agency-specific direction can be found in:

- U.S. Forest Service – [Manual 5120 - Fire Management - Preparedness](#)
- Bureau of Land Management – [Manual 9211 - 1 - Fire Planning Handbook](#)
- [National Park Service – Manual 18, Chapter 5 – Preparedness](#)
- Fish and Wildlife Service – [Fire Management Handbook, Chapter 10 - Preparedness](#)
- Bureau of Indian Affairs – [Wildland Fire and Aviation Program Management Operations Guide](#)

C. OPERATING PLAN OBJECTIVES

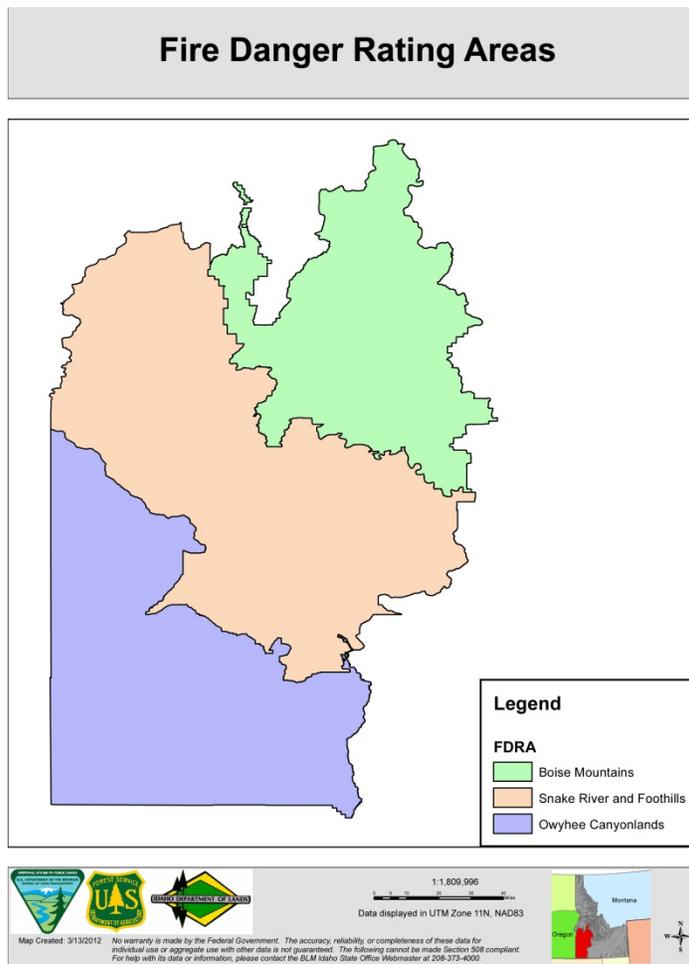
1. Provide a tool for agency administrators, fire managers, dispatchers, agency cooperators, and firefighters to correlate fire danger ratings with appropriate fire business decisions in fire danger planning area.
2. Delineate fire danger rating areas (FDRAs) in fire danger planning area with similar climate, vegetation, and topography.
3. Establish an interagency fire weather-monitoring network consisting of Remote Automated Weather Stations (RAWS) which comply with NFDRS Weather Station Standards (PMS 426-3).
4. Determine climatological breakpoints and fire business thresholds using the Weather Information Management System (WIMS), National Fire Danger Rating System (NFDRS), FireFamilyPlus software to analyse and summarize an integrated database of historical fire weather and fire occurrence data.
5. Define roles and responsibilities to make fire preparedness decisions, manage weather information, and brief fire suppression personnel regarding current and potential fire danger.
6. Determine the most effective communication methods for fire managers to communicate potential fire danger to cooperating agencies, industry, and the public.
7. Provide guidance to interagency personnel outlining specific daily actions and considerations at each preparedness level.
8. Identify seasonal risk analysis criteria and establish general fire severity thresholds.
9. Identify the development and distribution of fire danger pocket cards to all personnel involved with fire suppression within the fire danger planning area.
10. Identify program needs and suggest improvements for implementation of the Fire Danger Operating Plan.

II. FIRE DANGER PLANNING AREA INVENTORY AND ANALYSIS

A. FIRE DANGER RATING AREAS

A Fire Danger Rating Area (FDRA) is defined as a large geographic area relatively homogenous with respect to *climate, vegetation and topography*. Because of these similarities, it can be assumed that the fire danger within a FDRA is relatively uniform. Fire Danger Rating Areas were delineated based upon an analysis of these three factors: climate (0), vegetation (0), and topography (0). After these environmental factors were considered, the draft FDRAs were *edge-matched* to existing administrative boundaries using Response Areas (**Error! Reference source not found.**). The final FDRA delineation is depicted here:

1. Southwest Idaho FDRA Map



2. FDRA Table

Fire Danger Rating Area	Acreage	% of Total
Boise Mountains	2,128,994	23%
Snake River and Foothills	3,942,968	43%
Owyhee Canyonlands	3,197,802	34%

Table 1: Fire Danger Rating Areas (FDRAs)

3. Detailed FDRA Descriptions

a. Boise Mountains

- General Location:

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 lands excluding the Frank Church Wilderness. All 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:

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 fir 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 affected 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.

- **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:

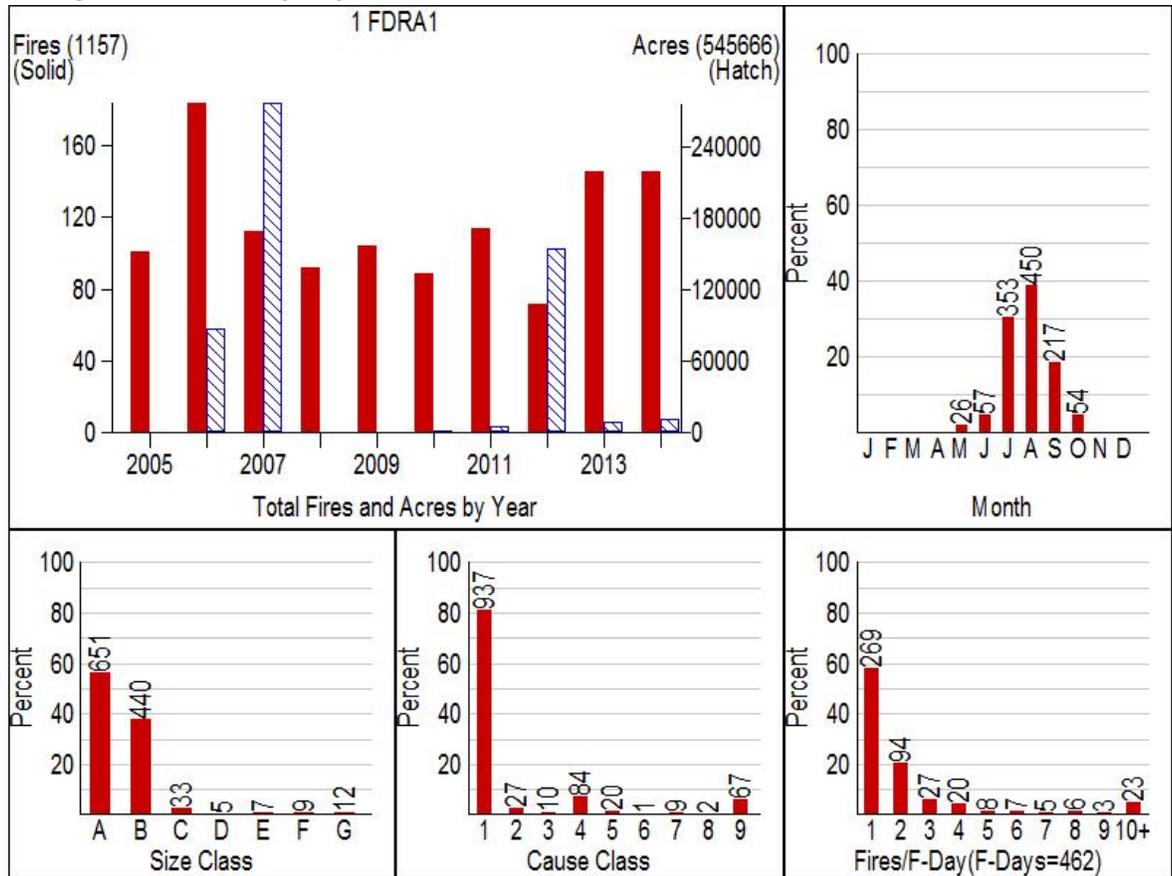
- High elevation distinctive mountains and valleys formed from alpine glaciations.
- Lands with sharply defined drainage patterns formed by stream cutting action.
- Lands formed by volcanic floss

- **FDRA Parameter Summary Table:**

FDRA	Slope Class	Climate Class	Herb Type
Boise Mountains	2, 3, 4	2	Perennial

- Boise Mountains – Fire Summary Graph

Figure 2: Fire Summary Graph



Size Class:

- A = 0 – .25 acres
- B = .30 – 9 acres
- C = 10 – 99 acres
- D = 100 – 299 acres
- E = 300 – 999 acres
- F = 1000 – 4999 acres
- G = 5000 + acres

Cause Class:

- 1 = Lightning
- 2 = Equipment
- 3 = Smoking
- 4 = Campfire
- 5 = Debris Burning
- 6 = Railroad
- 7 = Arson
- 8 = Children
- 9 = Misc

Boise Mountains Correlation with Fire Occurrence

From 2005 to 2014 a total of 1157 fires were recorded within the FDRA burning 545,666 acres. Lighting accounts for 80% of fire occurrence in the FDRA. Campfires and debris burning 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.

b. Snake River and Foothills

- General 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:

Historically, much of the Snake River and Foothills FDRA was covered by sagebrush steppe and salt desert shrublands. Principal shrub species include big and low sagebrush, rabbitbrush (*Chrysothamnus* spp.), antelope bitterbrush (*Purshia tridentata*), winterfat, and various *Atriplex*. These vegetation communities are highly susceptible 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. Further 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:

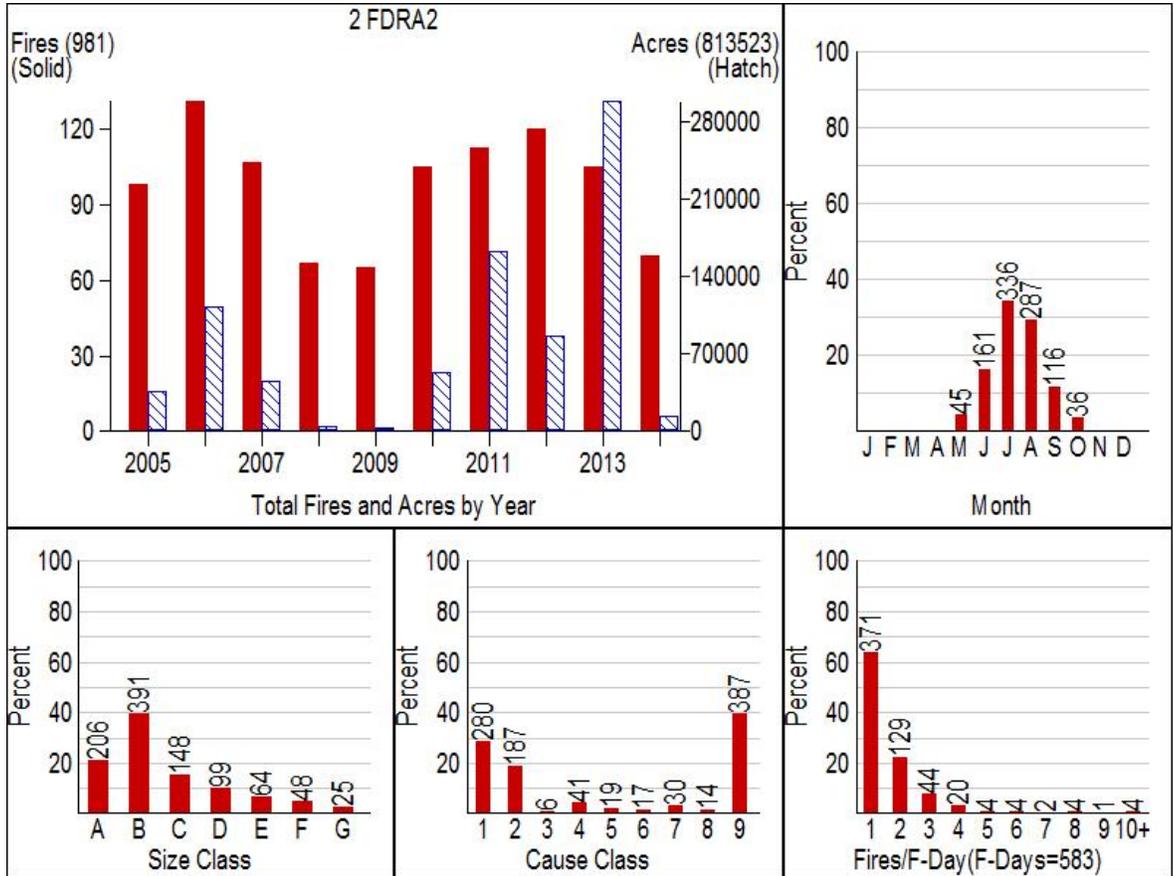
The Snake River and Foothills FDRA is characterized by flat and rolling terrain. Elevation ranges from a low of approximately 2100 feet on the Snake River near Weiser, to approximately 4000 feet on the higher bluffs within the FDRA. The Snake River Canyon is a major topographic feature of the FDRA. Much 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.

- FDRA Parameter Summary Table:

FDRA	Slope Class	Climate Class	Herb Type
Snake River and Foothills	1,2	1,2	Annual

• Snake River and Foothills – Fire Summary Graph

Figure 3: Fire Summary Graph



- Size Class:
- A = 0 — .25 acres
 - B = .30 — 9 acres
 - C = 10 — 99 acres
 - D = 100 — 299 acres
 - E = 300 — 999 acres
 - F = 1000 — 4999 acres
 - G = 5000 + acres
- Cause Class:
- 1 = Lightning
 - 2 = Equipment
 - 3 = Smoking
 - 4 = Campfire
 - 5 = Debris Burning
 - 6 = Railroad
 - 7 = Arson
 - 8 = Children
 - 9 = Misc

Snake River Foothills Correlation with Fire Occurrence

From 2005 to 2014 a total of 981 fires were recorded burning a total of 813,523 acres. Historically, 18% of fires in this area are larger than 100 acres with 70% of ignitions being human caused. Equipment use is the most common human cause, followed by railroad, debris burning and arson. Fires commonly occur from May through October with June through September being the busiest months.

c. Owyhee Canyonlands

- General 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:

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 (*ArtemisiaTridentata* var. *vaseyana*), low sagebrush (*Artemisia arbuscula*), 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:**

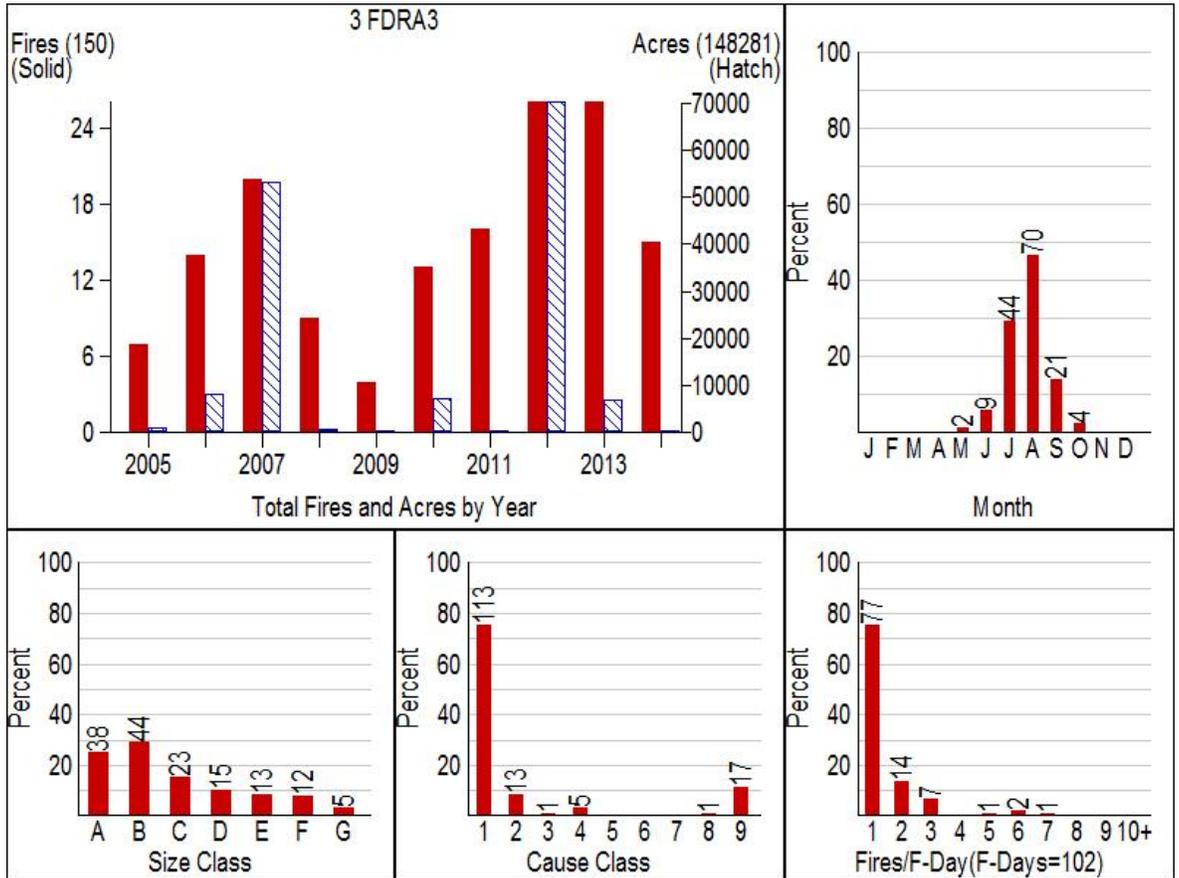
The elevation of the Owyhee Canyonlands FDRA ranges from a low of generally 4000 feet to a high of 8400 feet. The eastern and southern portions of the FDRA are characterized by deep river canyons and large plateau areas. The north-western portion of the FDRA is dominated by the Owyhee Mountain Range. 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-Jarbridge.

- **FDRA Parameter Summary Table:**

FDRA	Slope Class	Climate Class	Herb Type
Owyhee Canyonlands	1	1	Annual

- Owyhee Canyonlands – Fire Summary Graph

Figure 4: Fire Summary Graph



Size Class:

- A = 0 – .25 acres
- B = .30 – 9 acres
- C = 10 – 99 acres
- D = 100 – 299 acres
- E = 300 – 999 acres
- F = 1000 – 4999 acres
- G = 5000 + acres

Cause Class:

- 1 = Lightning
- 2 = Equipment
- 3 = Smoking
- 4 = Campfire
- 5 = Debris Burning
- 6 = Railroad
- 7 = Arson
- 8 = Children
- 9 = Misc

Owyhee Canyonlands Correlation with Fire Occurrence

From 2005 to 2014, 150 fires were recorded in the Owyhee Canyonlands Fire Danger Rating Area burning 148,281 acres. 75% of fires are caused by lightning with miscellaneous ignitions being primary causes of human starts within the FDRA. The majority of fires occurred in July and August.

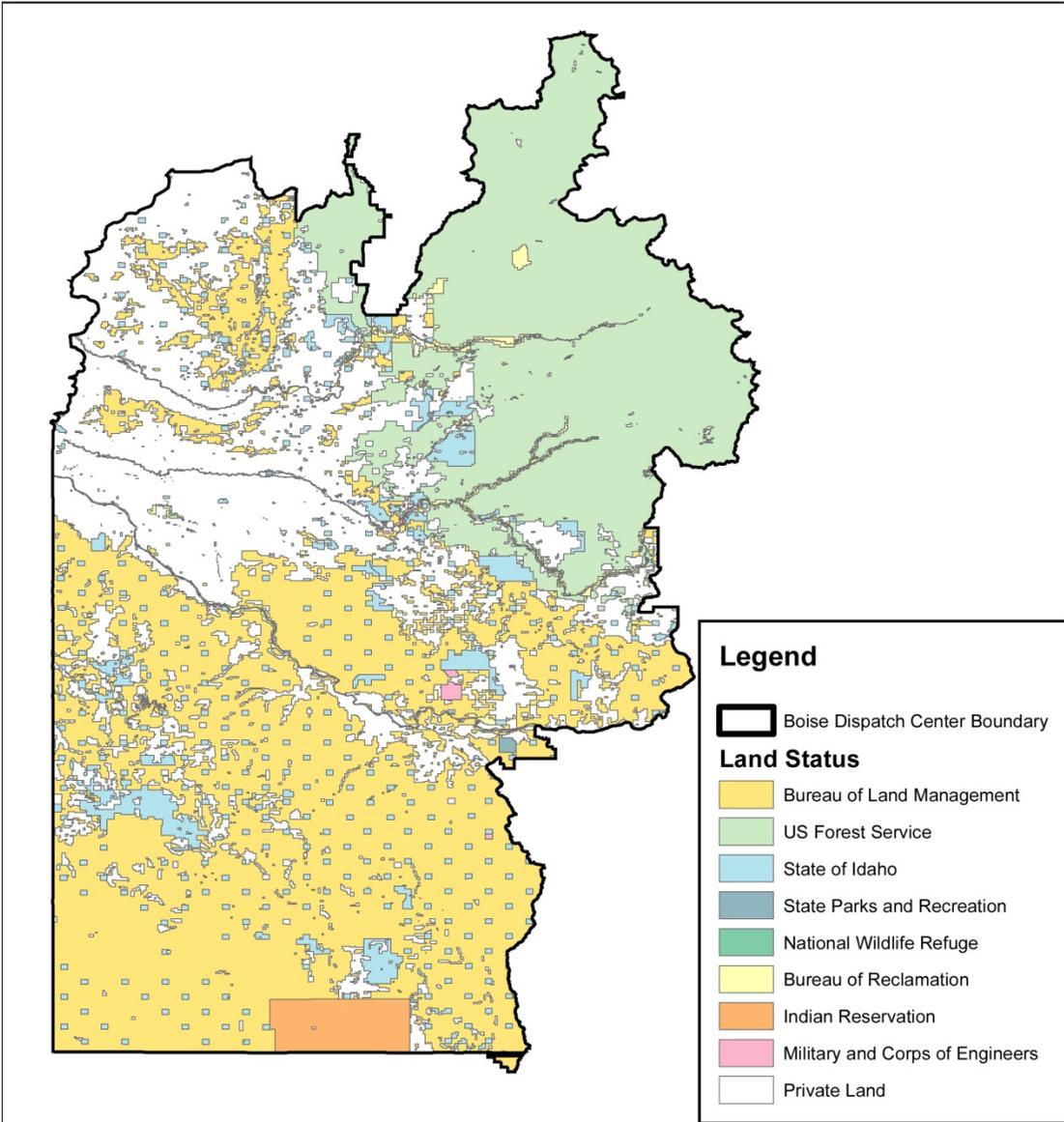
B. ADMINISTRATIVE UNITS

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.

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.

Southwest Idaho Ownership Map

Ownership



Legend

- Boise Dispatch Center Boundary

Land Status

- Bureau of Land Management
- US Forest Service
- State of Idaho
- State Parks and Recreation
- National Wildlife Refuge
- Bureau of Reclamation
- Indian Reservation
- Military and Corps of Engineers
- Private Land





1:1,808,520



Data displayed in UTM Zone 11N, NAD83




Map Created: 3/13/2012 No warranty is made by the Federal Government. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. The following cannot be made Section 508 compliant. For help with its data or information, please contact the BLM Idaho State Office Webmaster at 208-373-4000.

Ownership and Protection Acres

OWNERSHIP ACRES BY PROTECTION AREA			
	BOISE DISTRICT BLM	BOISE NATIONAL FOREST	SW IDAHO DEPT OF LANDS
BLM	3,790,678	16,540	19,343
BOR	34,597	46,905	1,386
HISTORIC WATER	23,461	5,375	722
MILITARY	10,311	805	104
NATIONAL WILDLIFE REFUGE	1,392	0	0
PRIVATE	2,215,693	138,902	193,121
STATE	418,927	46,694	35,771
STATE FISH & GAME	18,802	5,596	432
STATE OTHER	4,094	0	0
STATE PARKS & REC	5,687	0	0
USFS	79,626	1,864,024	142,178
USGS	18	0	0

Table 2: Ownership and Protection Table

Protection Responsibility Acres

	BOISE DISTRICT BLM	BOISE NATIONAL FOREST	SOUTHWEST IDAHO DEPARTMENT OF LANDS
OWNERSHIP ACRES	3,826,562	2,085,828	501,392
PROTECTION ACRES	6,603,286	2,124,842	393,056
BOISE DISPATCH PROTECTION RESPONSIBILITY ACRES			9,121,185

Table 3: Protection Responsibility Table

C. WEATHER STATIONS

All Remote Automated Weather Stations (RAWS) comply with the National Wildfire Coordinating Group (NWCG) weather station standards.

<http://www.nwcg.gov/pms/pubs/PMS426-3.pdf> .

Each RAWS receives, at a minimum, one annual on-site maintenance visit by either the local user or contracted personnel to ensure sensors are within calibration standards, and verify site and station conditions.

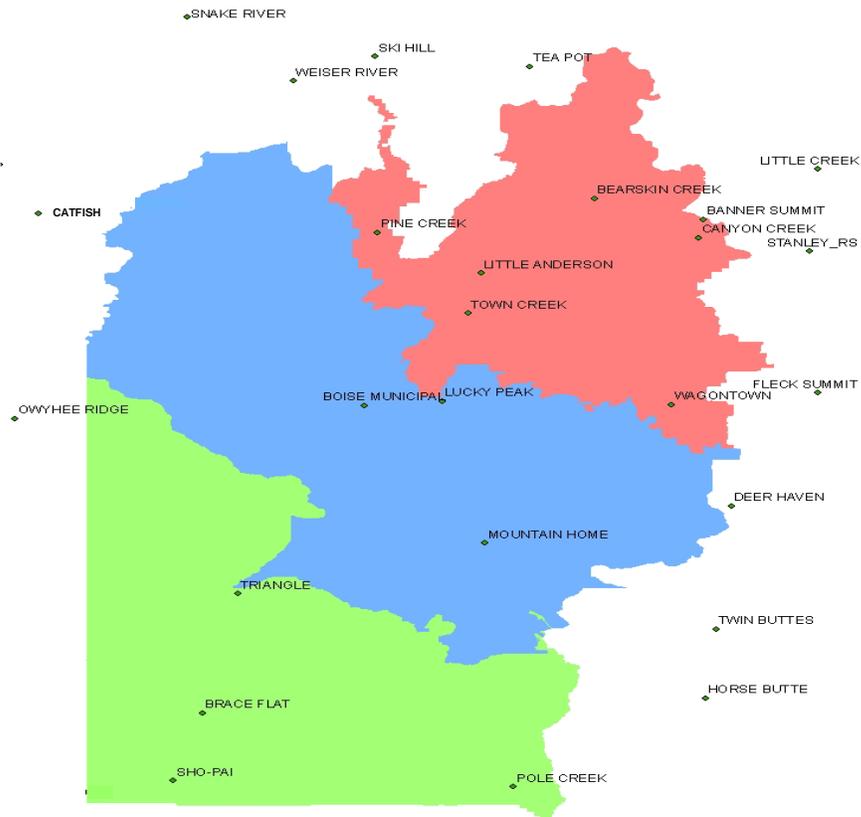
Within the Southwest Planning Zone a total of 10 Remote Automated Weather Stations (RAWS) are managed. The Boise National Forest manages five active stations: Bearskin, Pine Creek, Little Anderson, Town Creek and Wagon Town. All of these stations comply with NWCG NFDRS Weather Station Standards. The Boise District BLM also manages five active RAWS: Catfish, 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 20 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 consistent 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, Town Creek, Little Anderson, Wagontown stations have been combined with the Payette NF managed Teapot stations in WIMS to create a Special Interest Group (SIG) to compute an equally weighted set of fire danger indices. The Catfish, 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 2012 as the station is scheduled to be removed.

RAWS Map



1. **RAWS Catalogue Table (Active Stations Only)**

Table 3: RAWS Catalogue

STATION NAME	WIMS ID	NESDIS ID	AGENCY / OWNER	AVAIL DATA YEARS	ELEV	LATITUDE	LONGITUDE	REPORTING TIME
Weiser River	101108	325E60D6	USFS / ID-PAF	1982-PRES	3900	44 50 50	116 25 38	12MST
Pine Creek	101222	3241DC86	USFS / ID-BOF	1984-PRES	5600	44 15 00	116 11 00	13MST
Ski Hill	101223	325E554C	USFS / ID-PAF	1987-PRES	5600	44 56 34	116 11 17	12MST
Town Creek	101708	3241CFF0	USFS / ID-BOF	1982-PRES	4500	43 56 37	115 55 00	13MST
Catfish	101402	3250B2D6	BLM / ID-BOD	1990-PRES	3750	44 19 09	117 10 06	12MST
Mountain Home	102709	3252C1B2	BLM / ID-BOD	1966-PRES	3350	43 01 42	115 52 12	12MST
Horse Butte	103205	32513638	BLM / ID-TFD	1983-PRES	5000	42 25 06	115 12 06	12MST
Twin Butte	103209	3252B722	BLM / ID-TFD	1990-PRES	3300	42 41 26	115 11 43	12MST
Brace Flat	103207	325034C2	BLM / ID-BOD	1990-PRES	4900	42 21 01	116 41 08	12MST
Triangle	103208	32523136	BLM / ID-BOD	1990-PRES	5270	42 49 08	116 35 09	12MST
Owyhee Ridge	353614	3252A454	BLM / OR-VAD	1985-PRES	4400	43 31 04	117 14 22	12MST
Teapot	101220	325E73A0	USFS / ID-PAF	1986-PRES	5152	44 54 19	115 44 18	12MST
Bearskin Creek	101221	3241D254	USFS / ID-BOF	1982-PRES	6700	44 23 00	115 30 00	13MST
Little Anderson	101710	326BE772	USFS / ID-BOF	2001-PRES	4560	44 05 28	115 52 50	13MST
Horton Peak	101812	325EA5C8	USFS / ID-STF	1982-PRES	8700	43 56 53	114 45 22	12MST
Boise South	102601	Manual	BLM / ID-BOD	1975-PRES	2838	43 34 00	116 12 03	13MST
Deer Haven	102711	3250E2AA	BLM / ID-TFD	1990-PRES	5550	43 10 27	115 09 06	12MST
Wagontown	102712	3334578E	USFS / ID-BOF	2003-PRES	6200	43 34 21	115 19 36	13MST
Fleck Summit	102802	3267A5E4	USFS / ID-STF	1997-PRES	7100	43 37 11	114 53 56	12MST
Pole Creek	103210	3251B02C	USFS / ID-BOD	1990-PRES	5660	42 03 09	115 46 06	12MST

2. **Special Interest Groups (SIGs)**

<i>Special Interest Group (SIG):</i> Boise Mountains	
<i>Station / WIMS Number</i>	<i>Station Name</i>
101222	RAWS1_Pine Creek
101708	RAWS2_Town Creek
101710	RAWS3_Little Anderson
102712	RAWS4_Wagontown
101220	RAWS5_Teapot

<i>Special Interest Group (SIG):</i> Snake River and Foothills	
<i>Station / WIMS Number</i>	<i>Station Name</i>
102709	RAWS1_Mountain Home
103205	RAWS2_Horse Butte
101402	RAWS3_Catfish

<i>Special Interest Group (SIG):</i> Owyhee Canyonlands	
<i>Station / WIMS Number</i>	<i>Station Name</i>
353614	RAWS1_Owyhee Ridge
103207	RAWS2_Brace Flat
103208	RAWS3_Triangle

III. **FIRE DANGER PROBLEM ANALYSIS**

In order to apply a fire danger system which will assist managers with fire management decisions, ignition problems need to be identified, quantified, framed, and associated with a specific target group to determine the most appropriate fire danger-based decision “tool” to mitigate the given issue.

A. **IDENTIFICATION / DEFINITION OF THE FIRE PROBLEM(S)**

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. Consequently, the most appropriate decision tool would depend upon the sensitivity of the target group to the implementation of the action. In addition, each action will result in positive and/or negative impacts to a user group. In selecting a component and/or index, several factors must be considered:

1. **Affected Target Group:** The group of people commonly associated with the problem (Agency, Industry, or Public).
 - Agency: Employees of the federal, state, and local governments involved in the cooperative effort to suppress wildland fires. This includes Federal, State, and County land management employees, along with volunteer fire departments who share a similar protection mission to manage wildland fires.
 - Industry: Employees affiliated with organizations which utilize natural resources and/or obtain permits or leases to conduct commercial activities on federal, state, or private lands. These entities or activities could include ranchers, wilderness camps, railroads, mines, timber harvesting, filming, building construction, oil and gas, electric generation, guiding services, etc.
 - Public: Individuals who use public lands for non-commercial purposes such as off-highway vehicle (OHV) use, camping, hiking, hunting, fishing, skiing, firewood gathering, agriculture, mountain biking, general travel and recreation. This group also includes those living within the wildland/urban interface (WUI).
2. **Problem Definition:** This is the problem specific to the area of concern and includes ignition causes. The problem is “framed” to focus on the wildland fire management issue associated with a specific target group.

B. FIRE PROBLEM ANALYSIS TABLE

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. The following table illustrates the differences between target groups (Agency, Industry, and Public) and the associated fire cause.

Table 4: Planning Area Fire Problem

TARGET GROUP		IGNITION CAUSE		RELATIVE DEGREE OF CONTROL	COMMUNICATION METHODS	PROBLEM DEFINITION	FDRA
GENERAL	SPECIFIC	GENERAL	SPECIFIC				
Agency		1 - Lightning		High	Dispatch Red Flag Warnings and FWW, Staffing Levels, Morning Briefings, MAC Group	Amount of ignitions and complexity	All

TARGET GROUP		IGNITION CAUSE		RELATIVE DEGREE OF CONTROL	COMMUNICATION METHODS	PROBLEM DEFINITION	FDRA
GENERAL	SPECIFIC	GENERAL	SPECIFIC				
Public	Overnight campers & day-use picnickers.	4 - Campfire	Unattended (and escaped) Campfires around developed and undeveloped recreation sites.	Moderate	Agency personnel implementation of Fire Restrictions. The intent is to raise the awareness of potential fire danger in simple, easy to communicate terms via local radio, TV, newspaper, "Smokey's Arm" sign at the entrance to developed recreation areas.	The unit is experiencing a significant number of escaped campfires at developed and undeveloped recreation sites. The campfires are abandoned by single-day or overnight campers when fuels are critically dry and high wind events.	Boise Mtn

TARGET GROUP		IGNITION CAUSE		RELATIVE DEGREE OF CONTROL	COMMUNICATION METHODS	PROBLEM DEFINITION	FDRA
GENERAL	SPECIFIC	GENERAL	SPECIFIC				
Industry		9 - Miscellaneous	Powerlines	Moderate	Agreements, Training, Phone and Text	Wind Events, Structural Design Failure, and Wildlife	All

TARGET GROUP		IGNITION CAUSE		RELATIVE DEGREE OF CONTROL	COMMUNICATION METHODS	PROBLEM DEFINITION	FDRA
GENERAL	SPECIFIC	GENERAL	SPECIFIC				
Public		9 - Miscellaneous	Shooting (Exploding Targets), Firework	Low	PSA, Signage at retailers and in wildland, patrolling, Enforcement of Order	Seasonality	All

TARGET GROUP		IGNITION CAUSE		RELATIVE DEGREE OF CONTROL	COMMUNICATION METHODS	PROBLEM DEFINITION	FDRA
GENERAL	SPECIFIC	GENERAL	SPECIFIC				
Public	Vehicles	2 - Equipment	Improper Use or Maintenance, Mechanical, Dragging Chains, Off Road Use	Low	PSA, Patrolling, Signage, Enforcement	Numerous starts caused by vehicles along travel corridors	All

IV. FIRE DANGER DECISION ANALYSIS

Decision points can be based upon either:

- Climatological Breakpoints, or
- Fire Business Thresholds.

The following table provides a summary of the planning area's fire danger problems and concerns. In addition, each problem is associated with a specific target group whose activities can be influenced through effective communication and implementation of specific control measures.

This Fire Danger Operating Plan will be used to support preparedness, staffing and response decisions which are made at specific decision points. A "decision point" is a point along the range of possible output values where a decision shifts from one choice to another. When the combination of events and conditions signal that it is time to do something different, a "decision point" has been identified for each Fire Danger Rating Level within each Fire Danger Rating Area.

A. CLIMATOLOGICAL ANALYSIS

Climatological breakpoints are points on the cumulative distribution curve of one fire weather/danger index computed from climatology (weather) without regard for associated fire occurrence/business. For example, the value at the 90th percentile ERC is the climatological breakpoint at which only 10 percent of the ERC values are greater in value.

It is equally important to identify the period or range of data analysis used to determine the agency percentiles. The percentile values for the calendar year (Jan – Dec) will be different from the percentile values for the fire season (Jun – Sept). Each agency will have specific (and perhaps different) direction for use of climatological percentiles.

The decision thresholds identified in this Fire Danger Operating Plan are based upon the statistical correlation of historical fire occurrence and weather data and, therefore, do not utilize climatological (percentiles) for decision points.

B. FIRE BUSINESS ANALYSIS

In order to apply a fire danger system which will assist managers with fire management decisions, ignition problems should be identified, quantified, framed, and associated with a target group to determine the most appropriate fire danger-based decision "tool" to mitigate any given issue.

C. PARAMETERS USED TO CALCULATE FIRE DANGER

Table 5: FireFamilyPlus Parameters

Large Fire Size (acres)	5
Multiple Fire Day (fires/day)	3

SIG: Boise Mountains

	101222 <i>Error!</i> Reference source not found.	101708	101710	102712	101220
Weather Station Number →					
Weather Station Name	Pine Creek	Town Creek	Little Anderson	Wagontown	Teapot
NFDRS Fuel Model	G	G	G	G	G
Data Years Used in Analysis	2005-14	2005-14	2005-14	2005-14	2005-14
Slope Class	2	3	2	2	4
Climate Class	2	2	2	2	2
Herbaceous Type	P	P	P	P	P
Green-up Date (estimate)	5/16	5/6	5/1	5/16	5/24
Freeze Date (estimate)	12/31	12/31	12/31	12/31	12/31

Large FireSize (acres)	500
Multiple Fire Day (fires/day)	2

SIG: Snake River and Foothills

	102709 <i>Error!</i> Reference source not found.	103205	101402
Weather Station Number →			
Weather Station Name	Mountain Home	Horse Butte	Catfish
NFDRS Fuel Model	G	G	G
Data Years Used in Analysis	2005-14	2005-14	2005-14
Slope Class	1	1	2
Climate Class	1	1	2
Herbaceous Type	A	A	A
Green-up Date (estimate)	4/1	4/15	4/15
Freeze Date (estimate)	12/31	12/31	12/31

Large FireSize (acres)	25
Multiple FireDay (fires/day)	2

SIG: Owyhee Canyonlands

	353614 <i>Error!</i> Reference source not found.	103207	103208
Weather StationNumber →			
Weather Station Name	Owyhee Ridge	Brace Flat	Triangle
NFDRS Fuel Model	G	G	G
Data Years Used in Analysis	2005-14	2005-14	2005-14
Slope Class	1	1	1

Climate Class	1	1	1
Herbaceous Type	A	A	A
Green-up Date (estimate)	5/1	4/18	5/1
Freeze Date (estimate)	12/31	12/31	12/31

D. DECISION SUMMARY TABLE

Target Group	Fire Danger Rating Area(s)	Statistical Cause	Problem Definition	Climatological Breakpoints or Fire Business Thresholds	Number of Decision Points	Index / Comp.	Fuel Model	Preparedness Plan(s) Intended to Modify Target Group Behavior
Agency	FDRAs 1, 2 & 3	1 - Lightning	Resource drawdown due to numerous ignitions	Fire Business Thresholds	5	ERC	G	Staffing / Draw-down Plan
Public	FDRAs 1, 2 & 3	4 - Campfire	Unattended campfires	Fire Business Thresholds	5	ERC	G	Restriction / Closure Plan
Industry	FDRAs 1, 2 & 3	9 - Miscellaneous	Powerlines	Fire Business Thresholds	5	ERC	G	Prevention Plan
Public	FDRAs 1, 2 & 3	9 - Miscellaneous	Shooting/Fireworks	Fire Business Thresholds	5	ERC	G	Prevention Plan
Public	FDRAs 1, 2 & 3	2 - Equipment	Vehicles	Fire Business Thresholds	5	ERC	G	Prevention Plan

V. FIRE DANGER RATING LEVELS

The NFDRS utilizes the WIMS processor to manipulate weather data and forecasted data stored in the National Interagency Fire Management Integrated Database (NIFMID) to produce fire danger ratings for corresponding weather stations. NFDRS outputs from the WIMS processor can be used to determine various levels of fire danger rating to address the fire problems identified previously in the *Fire Problem Analysis Chart*. The system is designed to model worst-case fire danger scenario. NFDRS (along with other decision support tools) will be utilized to produce levels (thresholds) of fire business to address local fire problems by targeting public, industrial, or agency groups.

A. RESPONSE (OR DISPATCH) LEVEL

Response (or Dispatch) Levels are pre-planned actions which identify the number and type of resources (engines, crews, aircraft, etc.) initially dispatched to a reported wildland fire based upon fire danger criteria. 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.

Fire Danger Rating Area	Index/Component and Fuel Model			
Boise Mountains	ERC Fuel Model G	0-44	45-77	78+
Snake River & Foothills	BI Fuel Model A	0-25	26-45	46+
Owyhee Canyonlands	BI Fuel Model G	0-49	50-74	75+
DISPATCH LEVEL		LOW	MODERATE	HIGH

B. STAFFING LEVEL

Staffing Levels will be used to make daily internal fire preparedness and operational decision. At the protection unit level, the staffing level can form a basis for decisions regarding the “degree of readiness” for initial attack resources and support resources. Specific preparedness actions are defined at each staffing level. Although Staffing Level can be a direct output in WIMS, the WIMS output is only based upon weather observations and climatological percentiles. The use of climatological percentiles for daily staffing decisions is optional. The preferred method to delineate Staffing Level thresholds are based on statistical correlation of weather AND fire occurrence.

C. PREPAREDNESS LEVEL

The Preparedness Level is a five-tier (1-5) fire danger rating decision tool that is based on NFDRS output(s) and other indicators of fire business (such as projected levels of resource commitment). Preparedness Levels will assist fire managers with more long-term (seasonal) decisions with respect to fire danger.

Preparedness Level Worksheet

Boise Mountains FDRA ERC Fuel Model G	0-24		25-44		45-69		70-84		85+		
Snake River and Foothills ERC Fuel Model G	0-29		30-54		55-79		80-91		92+		
Owyhee Canyonlands ERC Fuel Model G	0-37		38-61		62-83		84-93		94+		
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 ↓	
ROW 5 ⇒											
PREPAREDNESS LEVEL	I		II		III		IV		V		

D. FIRE DANGER ADJECTIVE RATING LEVEL

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.

Adjective Fire Danger Rating Color Code and Descriptions

<p>Low (L) (Green)</p>	<p>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.</p>
<p>Moderate (M) Blue</p>	<p>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.</p>
<p>High (H) Yellow</p>	<p>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.</p>
<p>Very High (VH) Orange</p>	<p>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.</p>
<p>Extreme (E) Red</p>	<p>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.</p>

Determination

The adjective rating for each FDRA will be calculated from the charts below. The actual determination of the daily adjective rating is based upon the current and forecasted value of a selected staffing index (ERC) and ignition component using the tables below.

Boise Mountains FDRA

ERC - G STAFFING INDEX	ADJECTIVE FIRE DANGER RATING				
0-24	L	L	L	M	M
25-44	L	M	M	M	H
45-69	M	M	H	H	VH
70-84	M	H	VH	VH	E
85+	H	VH	VH	E	E
IGNITION COMPONENT	0-20	21-45	46-65	66-80	81-100

Snake River & Foothills FDRA

ERC - G STAFFING INDEX	ADJECTIVE FIRE DANGER RATING				
0-29	L	L	L	M	M
30-54	L	M	M	M	H
55-79	M	M	H	H	VH
80-91	M	H	VH	VH	E
92+	H	VH	VH	E	E
IGNITION COMPONENT	0-20	21-45	46-65	66-80	81-100

Owyhee Canyonlands FDRA

ERC - G STAFFING INDEX	ADJECTIVE FIRE DANGER RATING				
0-37	L	L	L	M	M
38-61	L	M	M	M	H
62-83	M	M	H	H	VH
84-93	M	H	VH	VH	E
94+	H	VH	VH	E	E
IGNITION COMPONENT	0-20	21-45	46-65	66-80	81-100

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.

VI. FIRE DANGER OPERATING PROCEDURES

A. 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 needed. 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.

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.

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 along with completing the FDOP revision. 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.

B. SEASONAL SCHEDULE

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 FDRAs.

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 include Wild 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, Snake River and Owyhee.

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 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.

C. DAILY SCHEDULE

Dispatch Level

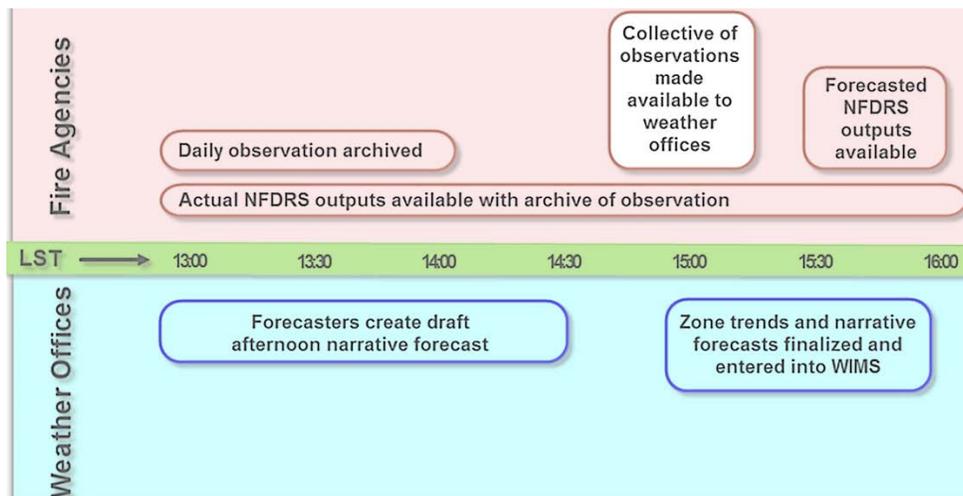
- From midnight until 1100 the next day, forecasted indices are used but dropped one level from what has been determined from the chart for each FDRA. For example, the forecasted BI for Snake River & Foothills FDRA is 42 which is a high dispatch level. It would be a moderate from midnight until 1100 the next morning.
- Forecasted indices are used to determine the dispatch level used from 1100-1500 the next day
- Actual indices are available for the current day at 1500. These will be used to determine the dispatch level used from 1500-midnight.

Preparedness Level

- The forecasted indices for each area will determine the preparedness level for each FDRA and then averaged for one PL for our dispatch area.
- The forecasted indices are available at 1600. We will use the forecasted Energy Release Component and then follow the chart to determine the preparedness level.
- The PL will be changed at 1600 each day and run until 1600 the next day. This allows the unit to be proactive if conditions are predicted to change.

Adjective Rating

- The forecasted indices for each area will determine the adjective rating (Fire Danger Level) for each FDRA.
- The forecasted indices are available at 1600. We will use the forecasted Energy Release Component and Ignition Component to assist in determining the adjective rating level.
- It will be changed at 1600 each day and run until 1600 the next day. This allows the unit to be proactive if conditions are predicted to change.



D. WEATHER STATION MONITORING AND 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.

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

VII. FIRE DANGER OPERATING PROCEDURES

A. WEATHER STATIONS

- Need RAWs in the Boise area/foothills-further discussion in regards to the boise city fire raws meeting nwcg
- ensure raws site maintenance is completed/reviewed annually

B. COMPUTER / EQUIPMENT

C. TRAINING

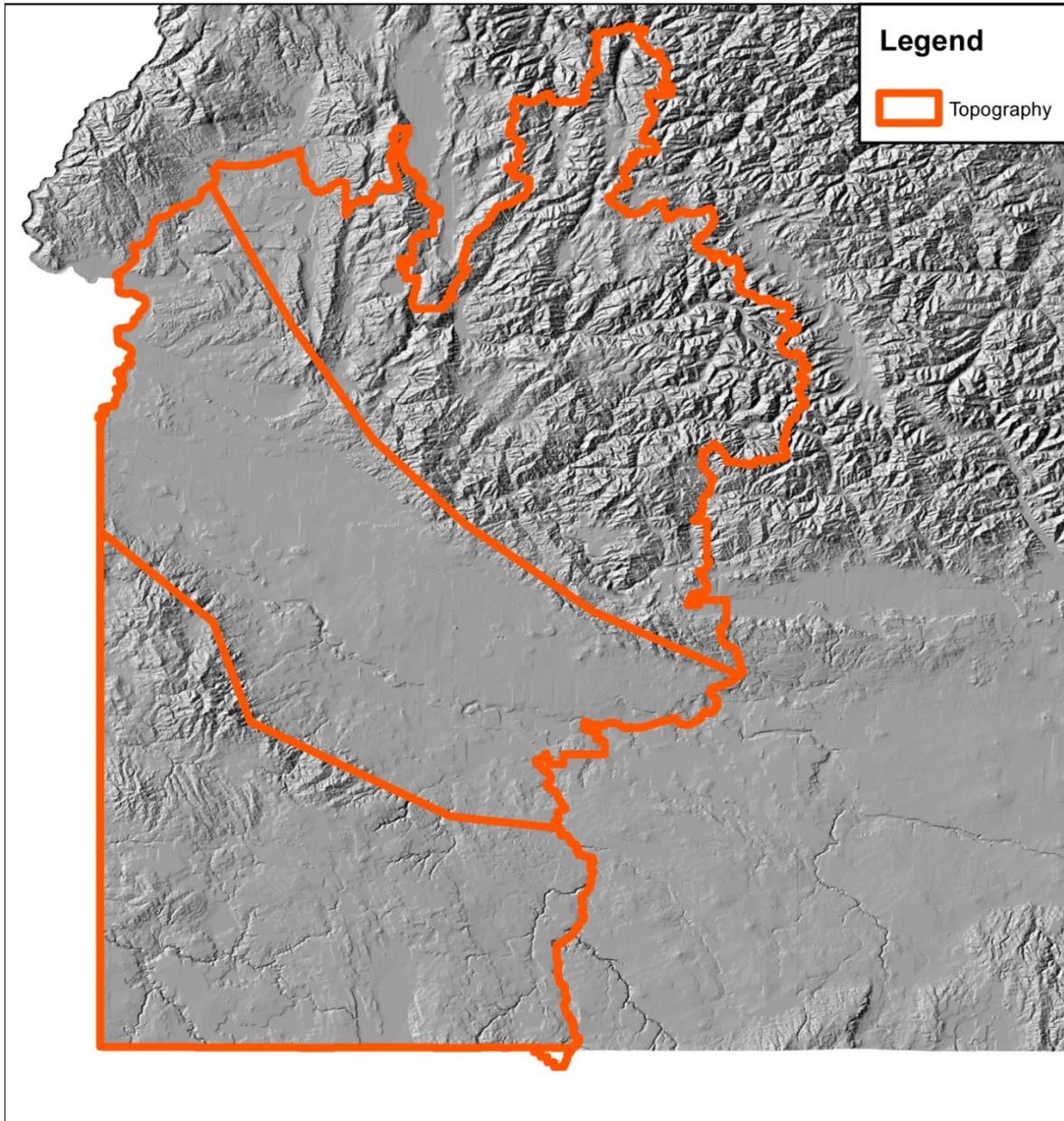
- Duty officers/managers should consider taking S491 Intermediate NFDRS
- All Dispatchers need to have WIMS training

D. SEASONAL FIRE DANGER RISK ASSESSMENTS

- Annual review of the FDOP plan per FMO direction
- Ensure Fire Planners are part of the editing committee

APPENDICES

Topography and Southwest Idaho Hillshade



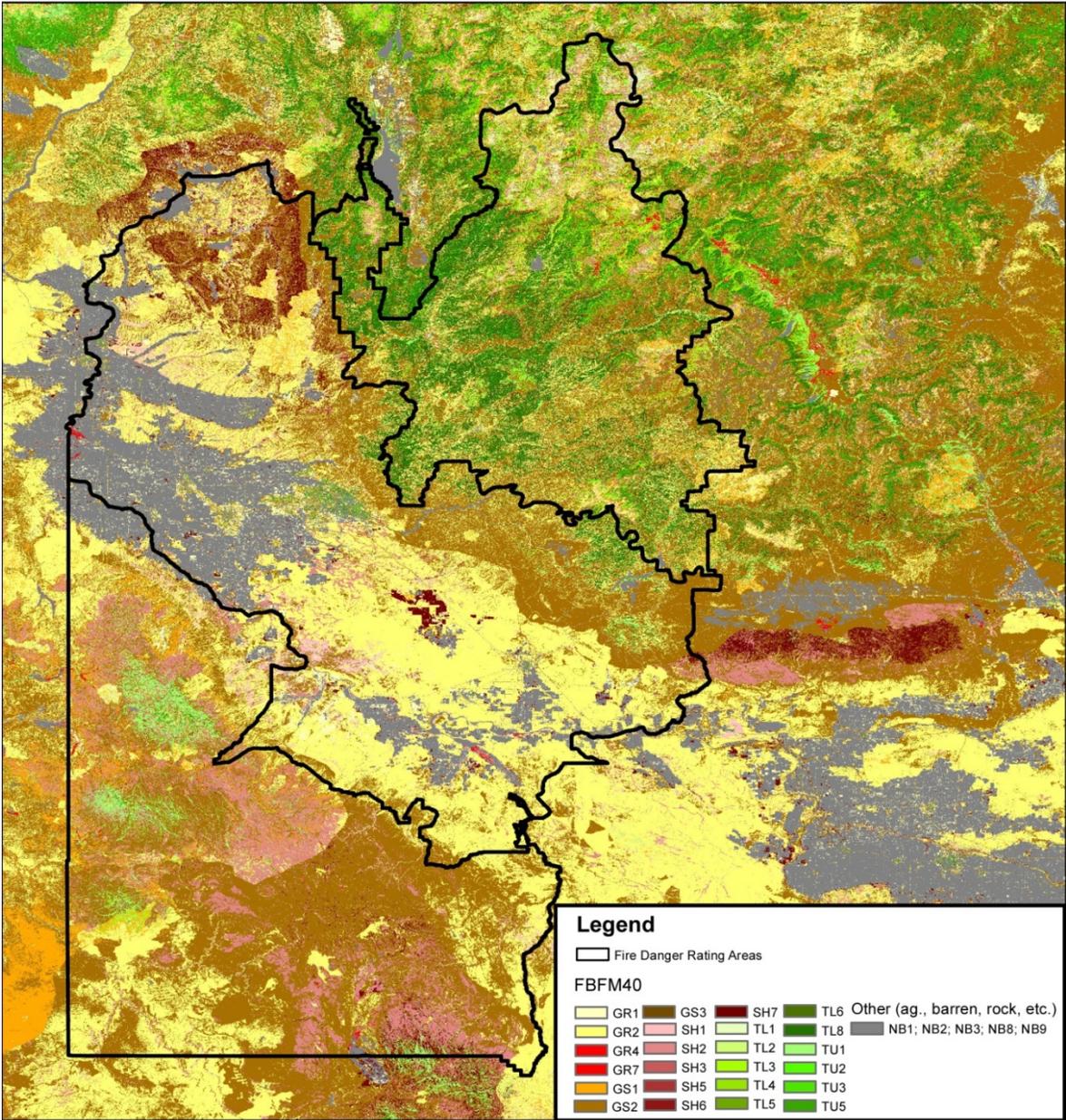
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0 5 10 20 30 40 Miles
Data displayed in UTM Zone 11N, NAD83

Map Created: 3/13/2012 *No warranty is made by the Federal Government. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. The following cannot be made Section 508 compliant. For help with its data or information, please contact the BLM Idaho State Office Webmaster at 208-373-4000.*

 Oregon Montana

Vegetation Data

Standard Fire Behavior Fuel Models (FBFM40)







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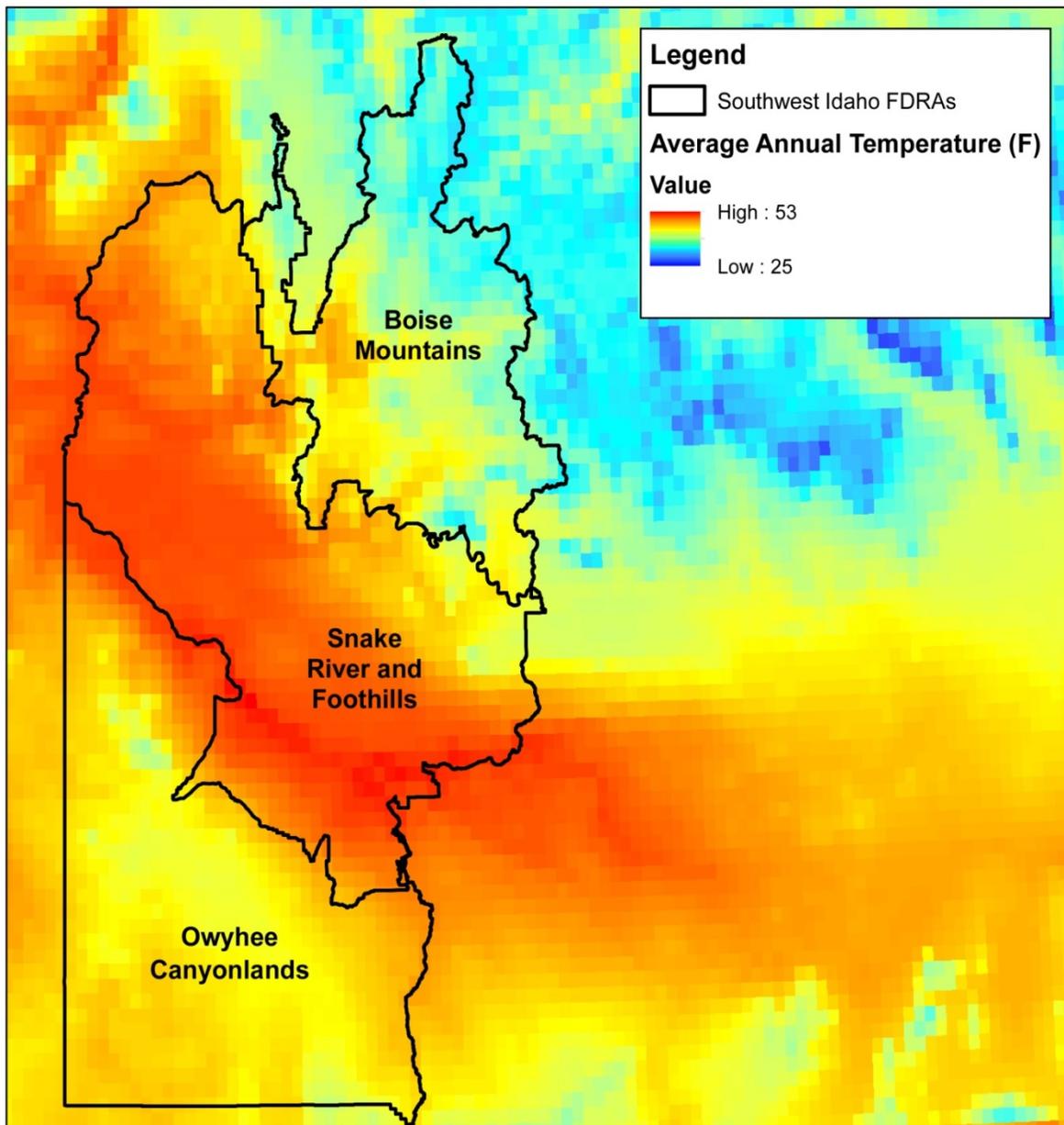
Data displayed in UTM Zone 11N, NAD83




Map Created: 3/13/2012 No warranty is made by the Federal Government. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. The following cannot be made Section 508 compliant. For help with its data or information, please contact the BLM Idaho State Office Webmaster at 208-373-4000.

Climate

Average Annual Temperature







1:1,809,996

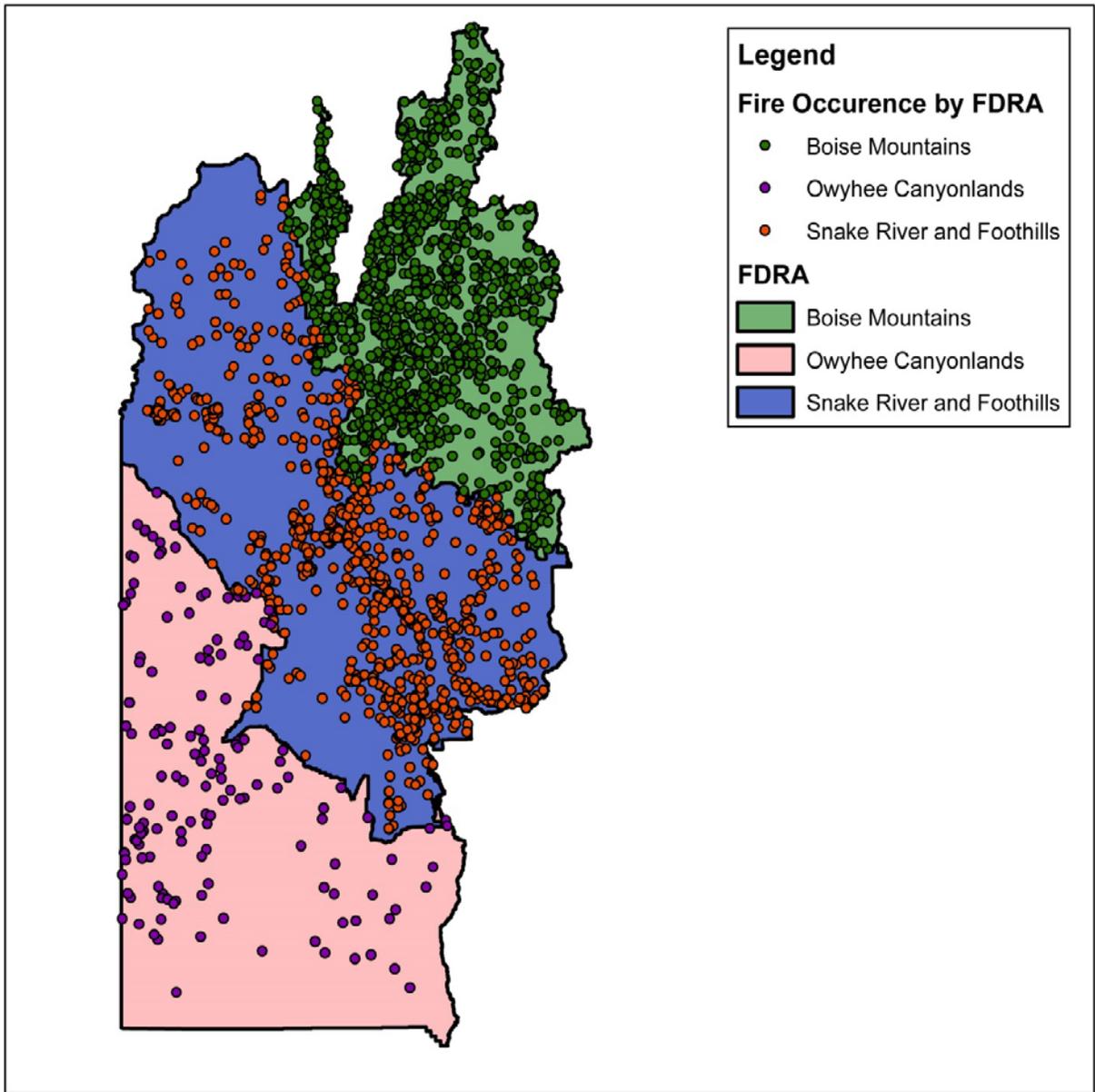


Data displayed in UTM Zone 11N, NAD83




Map Created: 3/13/2012 No warranty is made by the Federal Government. The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed. The following cannot be made Section 508 compliant. For help with its data or information, please contact the BLM Idaho State Office Webmaster at 208-373-4000.

Fire Occurrence by FDRA 2005-2014



Legend

Fire Occurrence by FDRA

- Boise Mountains
- Owyhee Canyonlands
- Snake River and Foothills

FDRA

- Boise Mountains
- Owyhee Canyonlands
- Snake River and Foothills





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Data displayed in UTM Zone 11N, NAD83

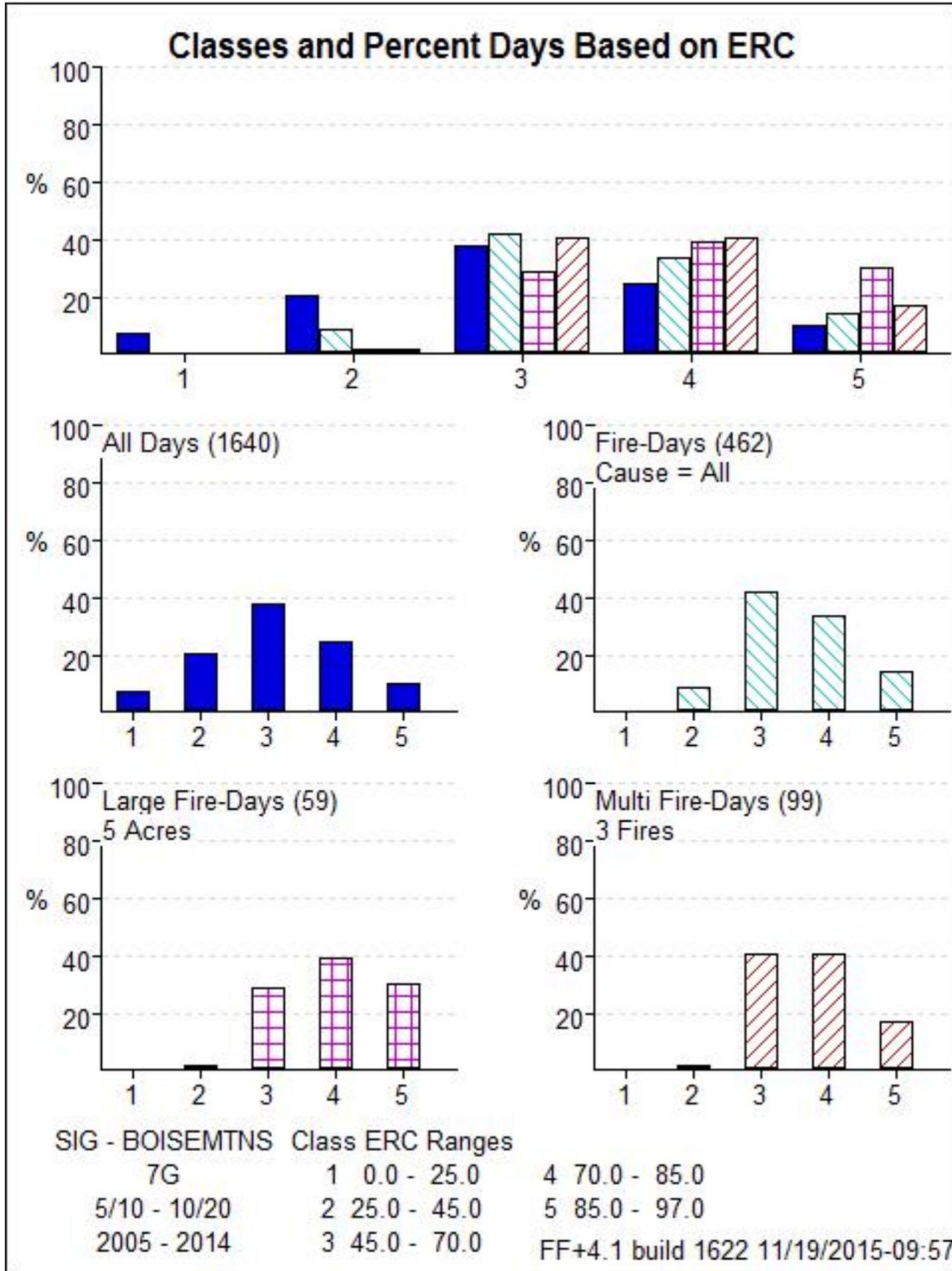


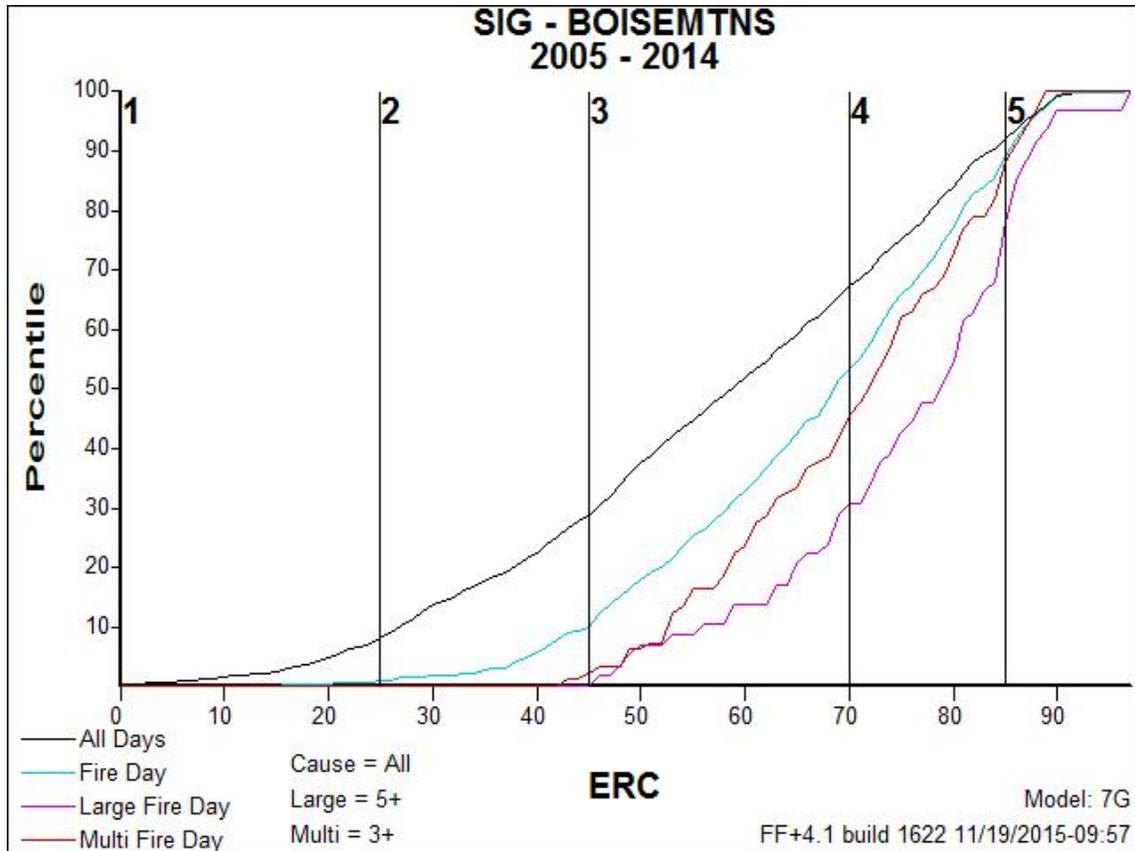
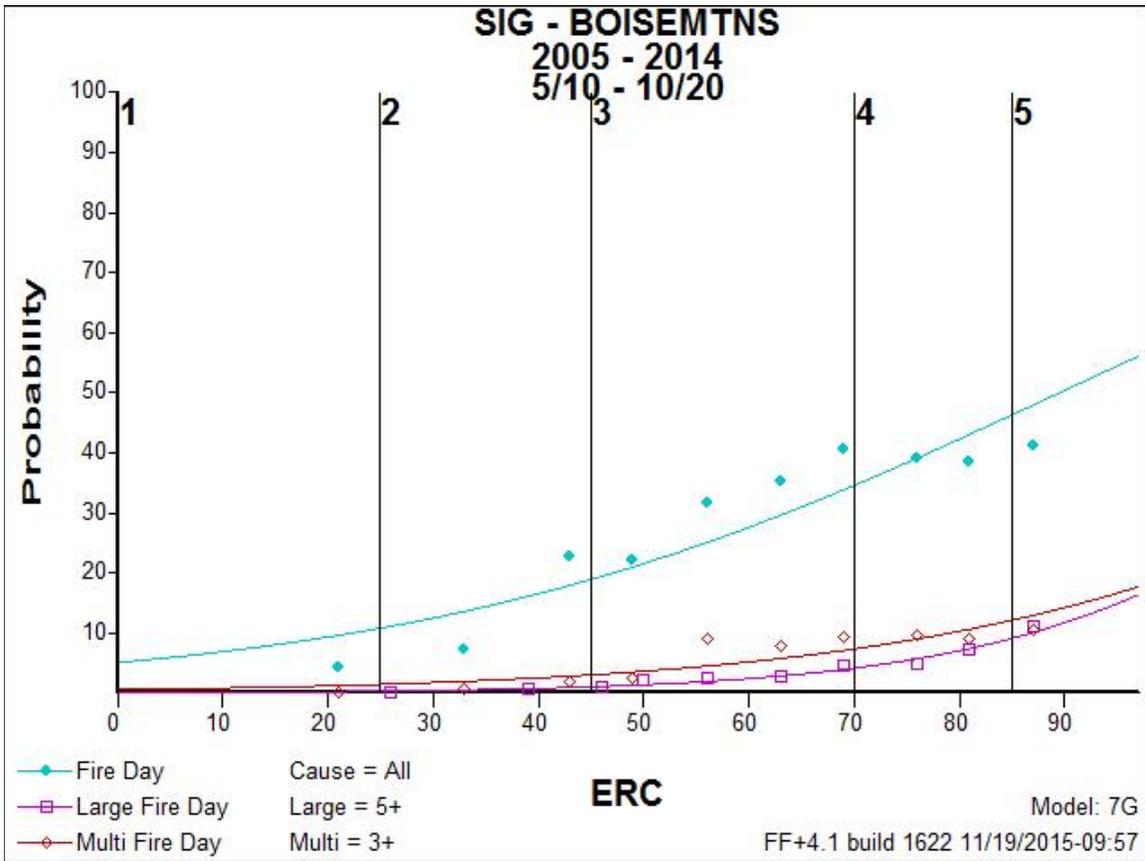

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APPENDIX F: FIRE FAMILY PLUS ANALYSIS

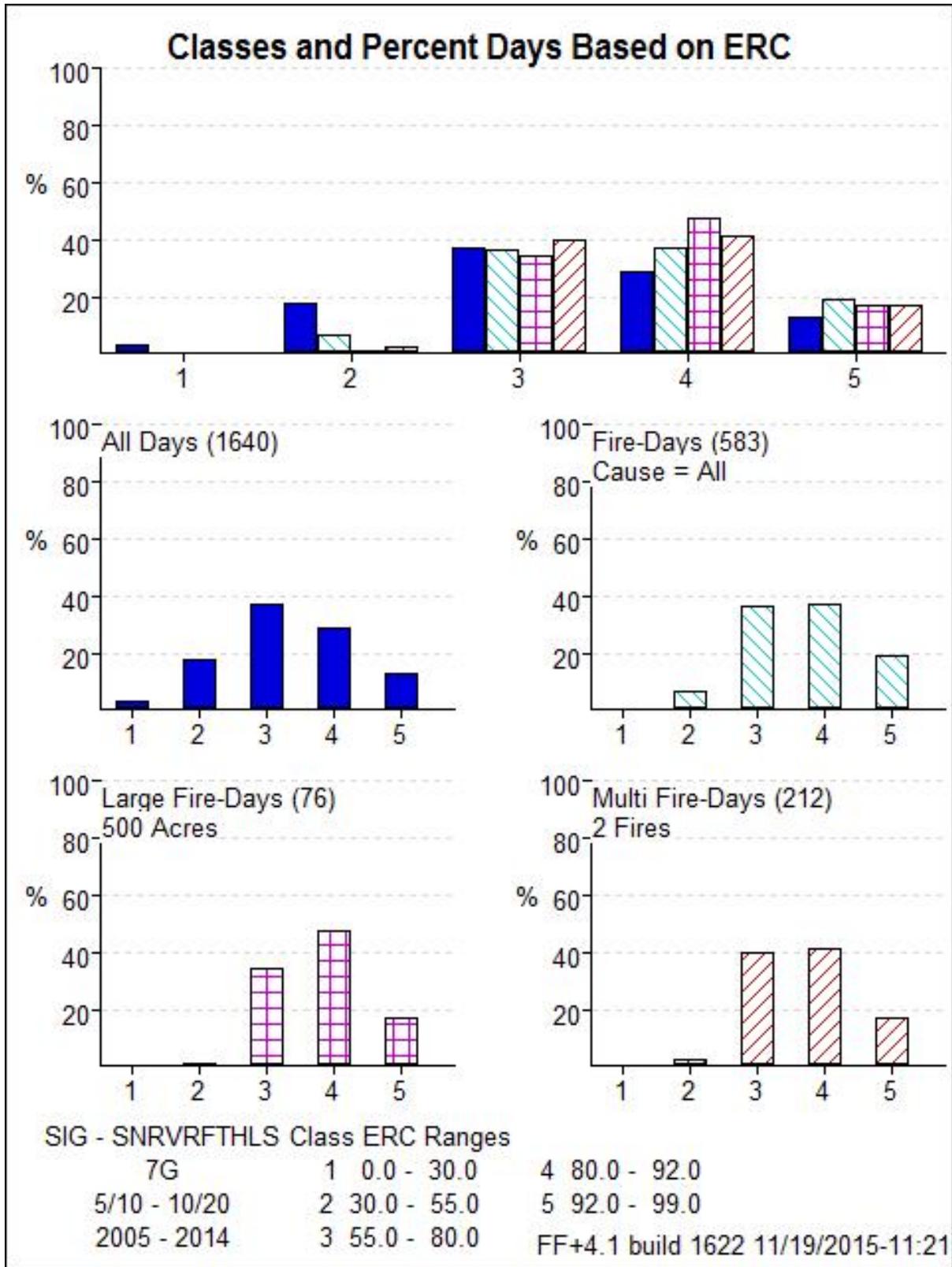
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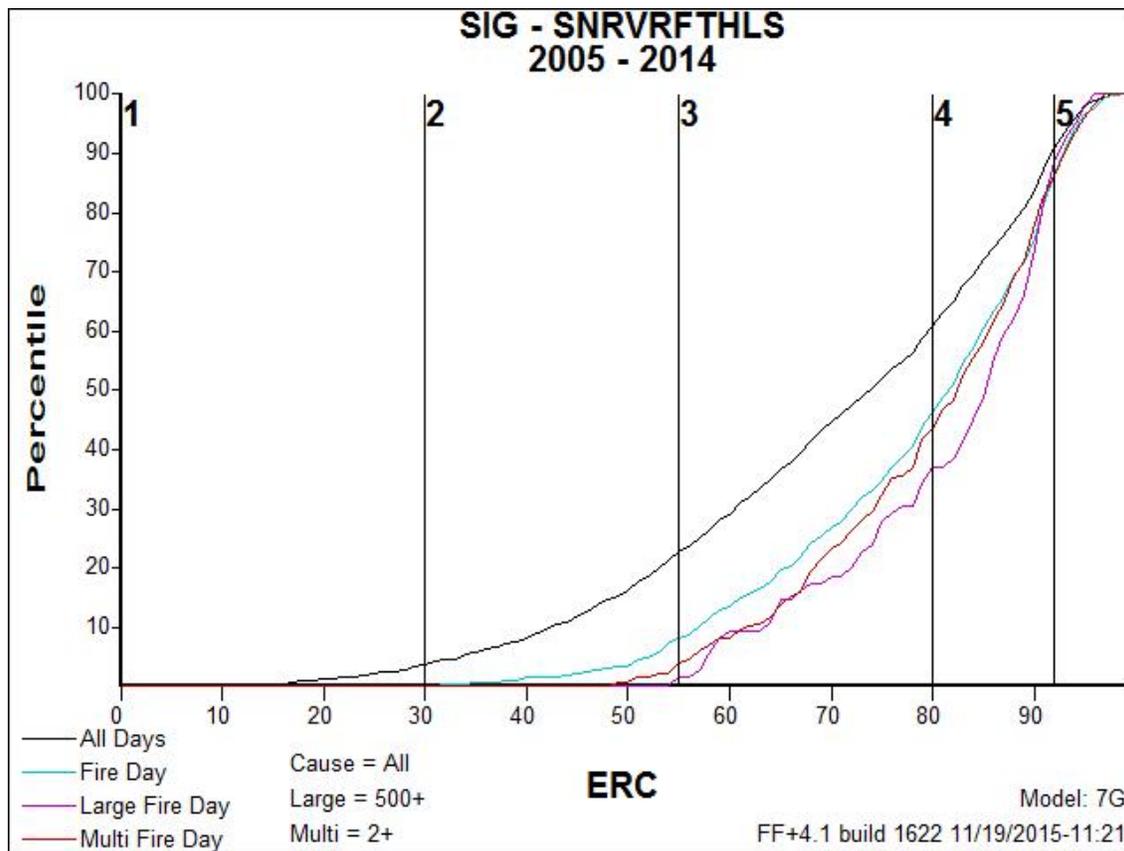
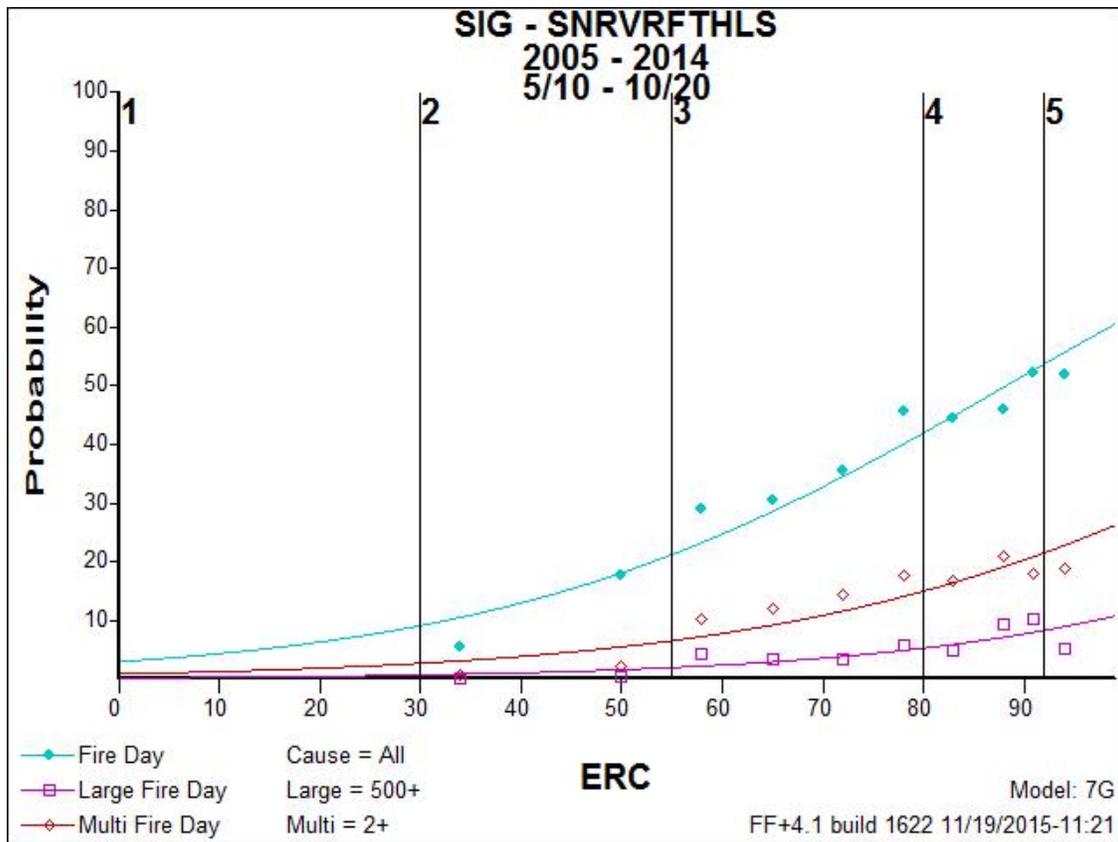
Boise Mountains FDRA



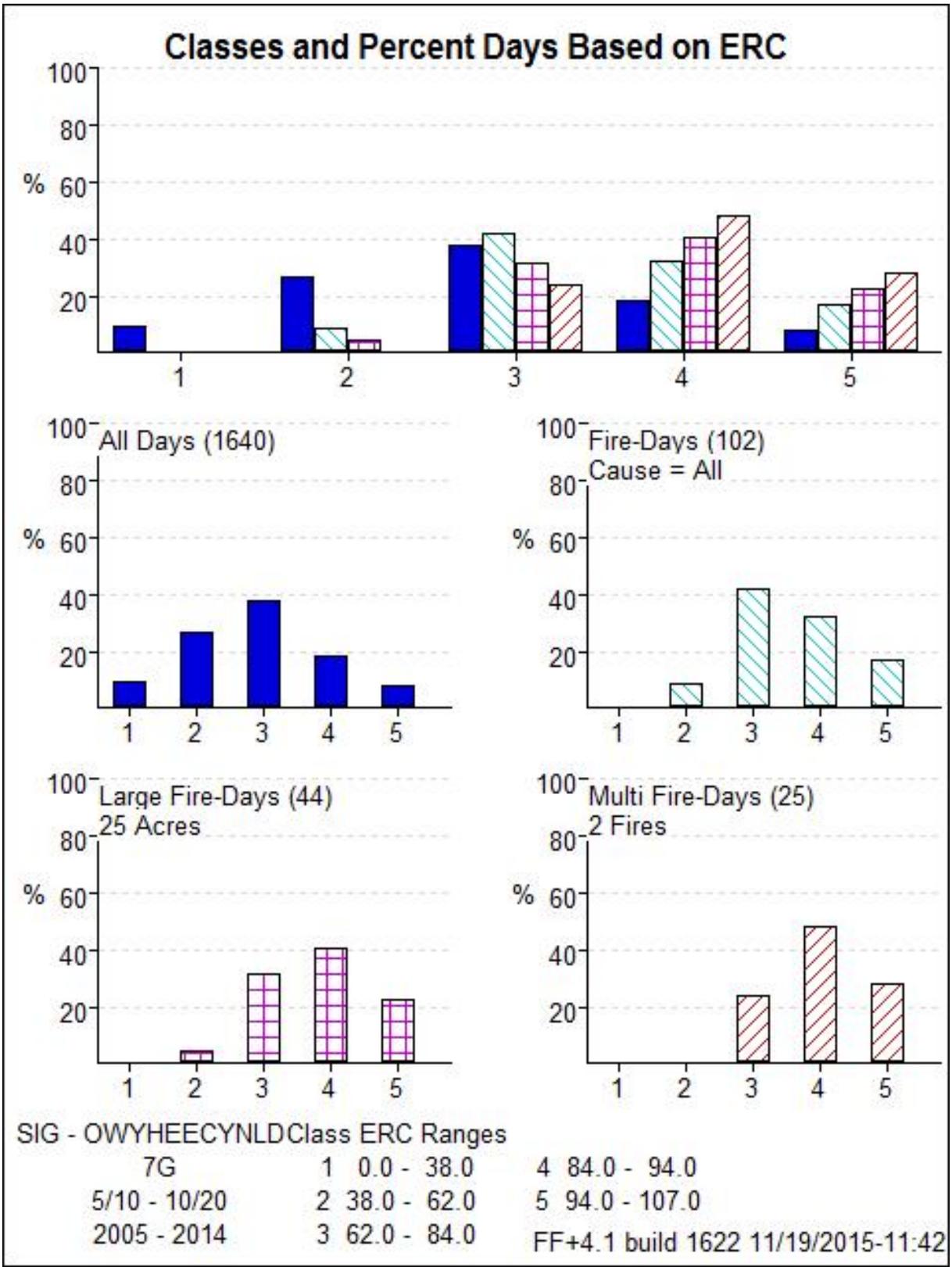


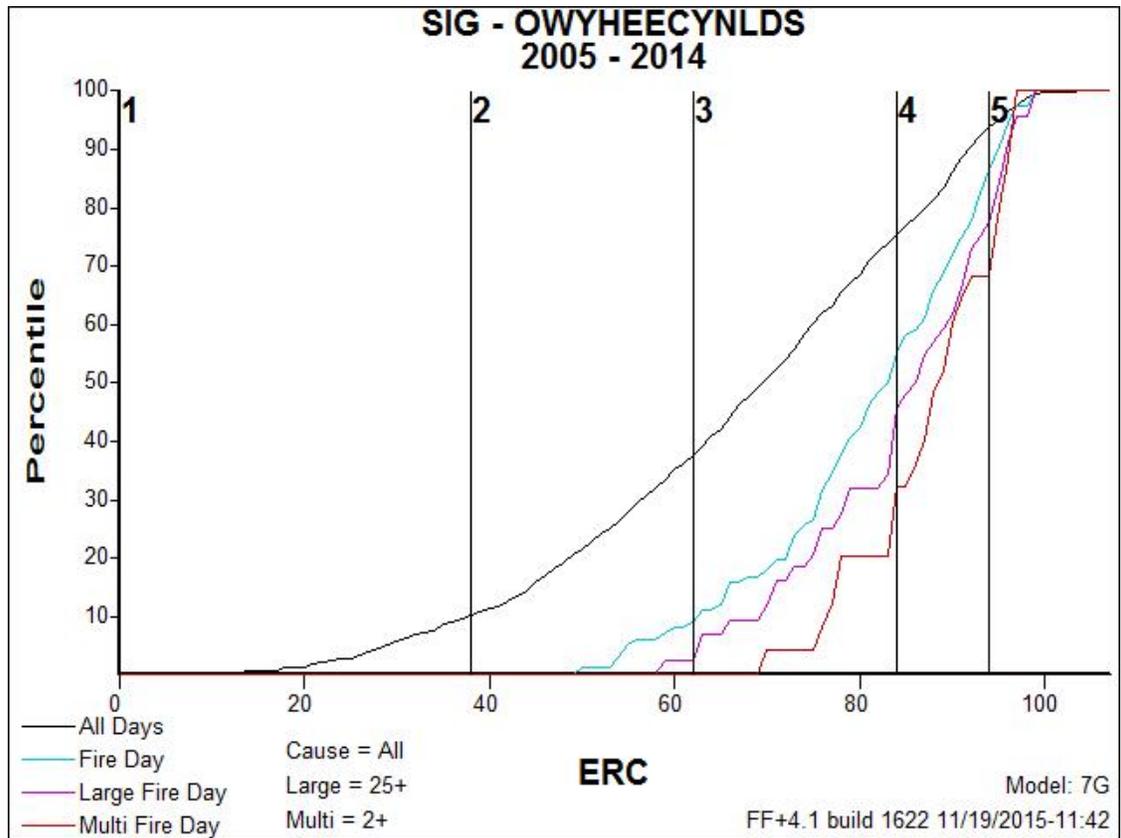
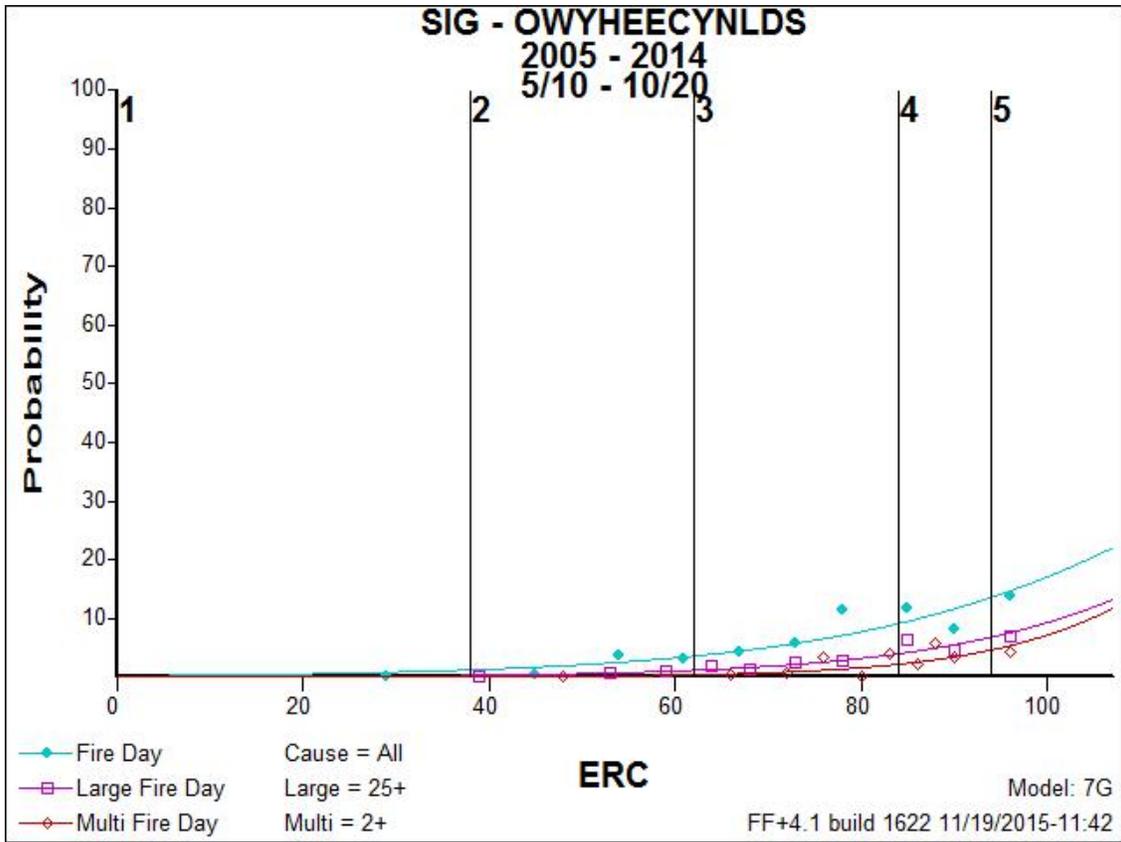
Snake River Foothills FDRA





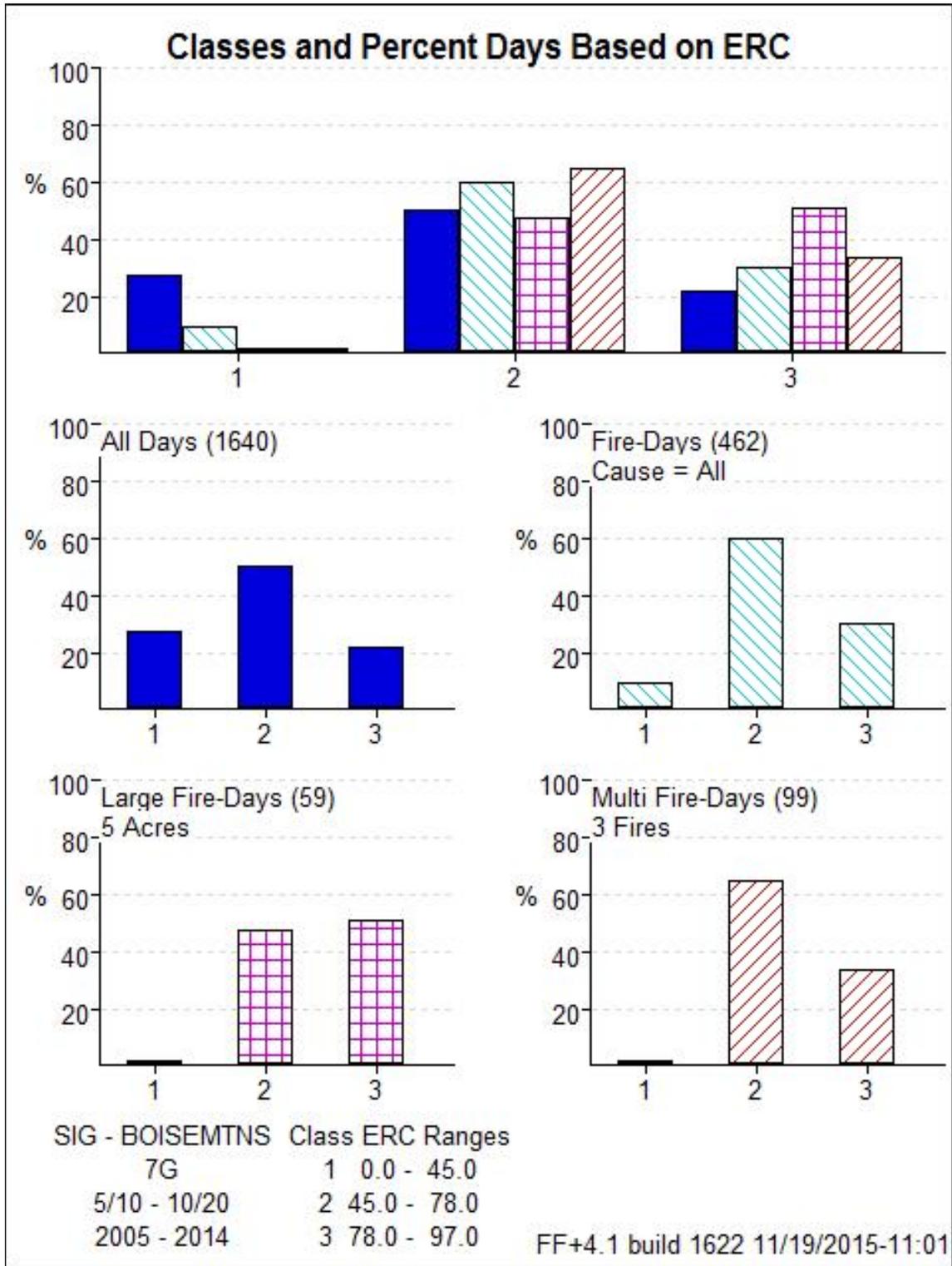
Owyhee Canyonlands FDRA

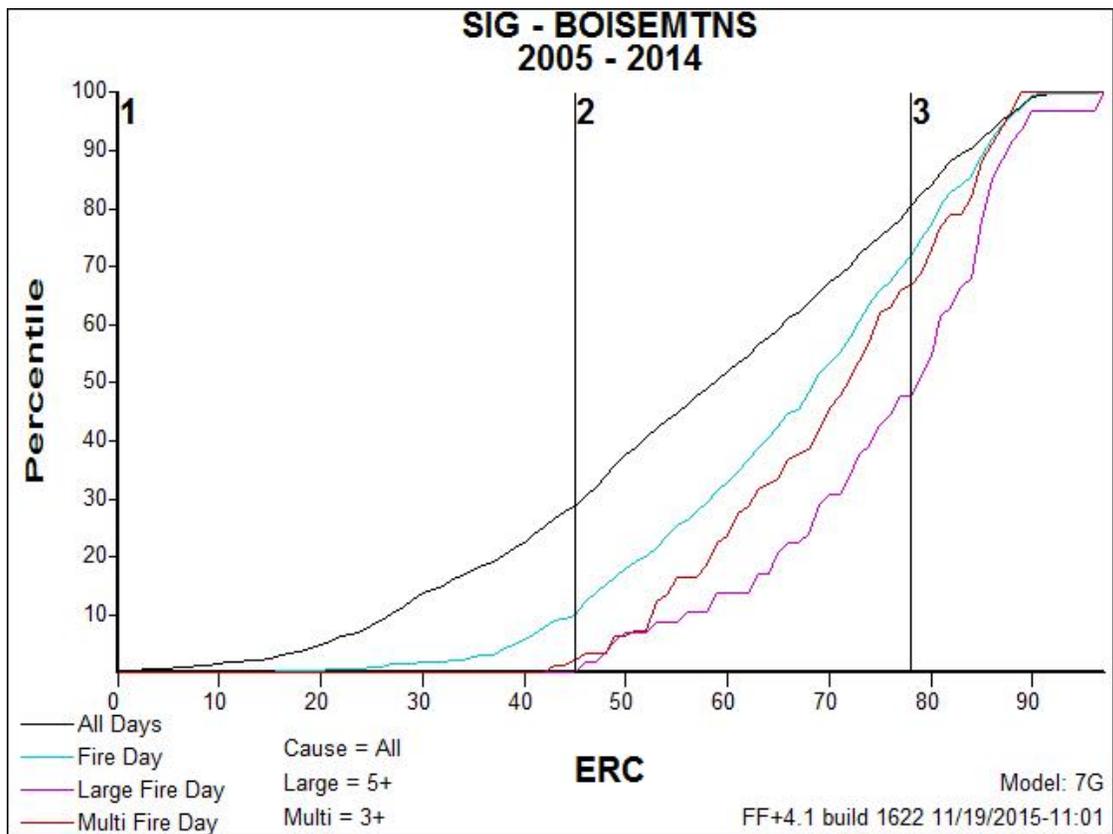
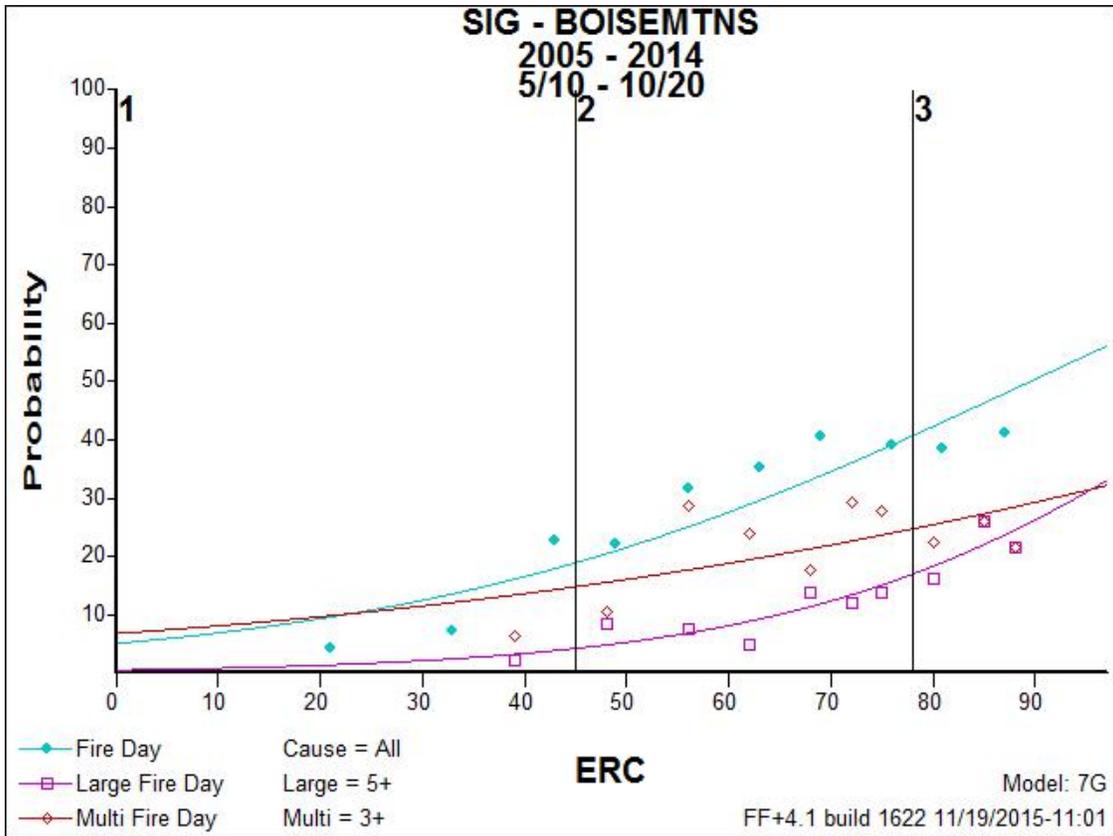




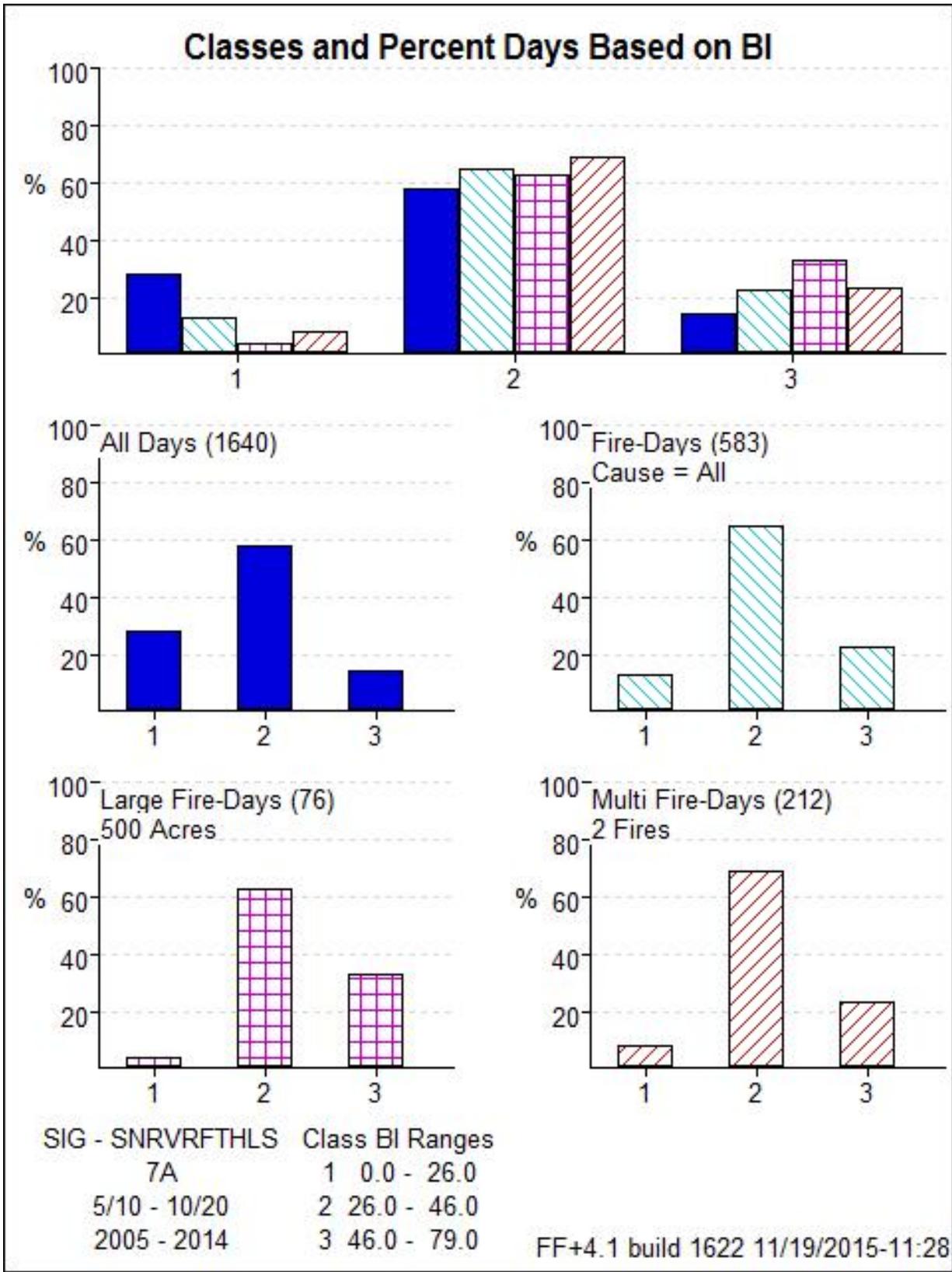
Documentation to Support Dispatch Levels

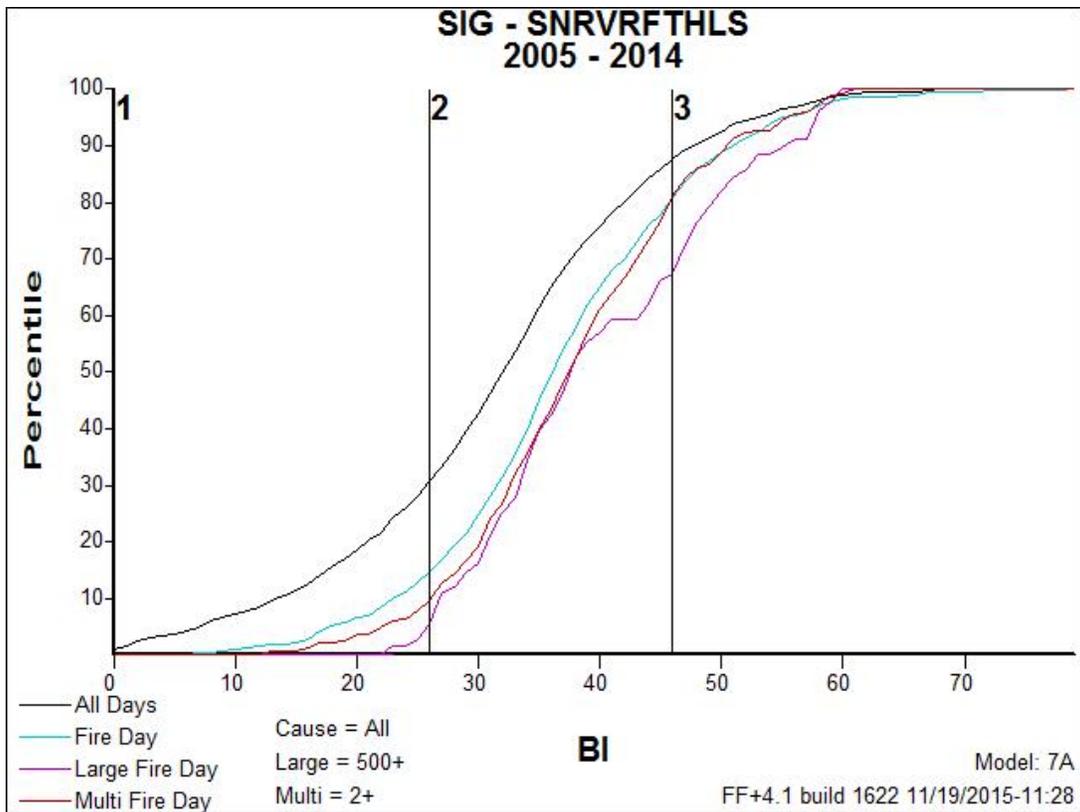
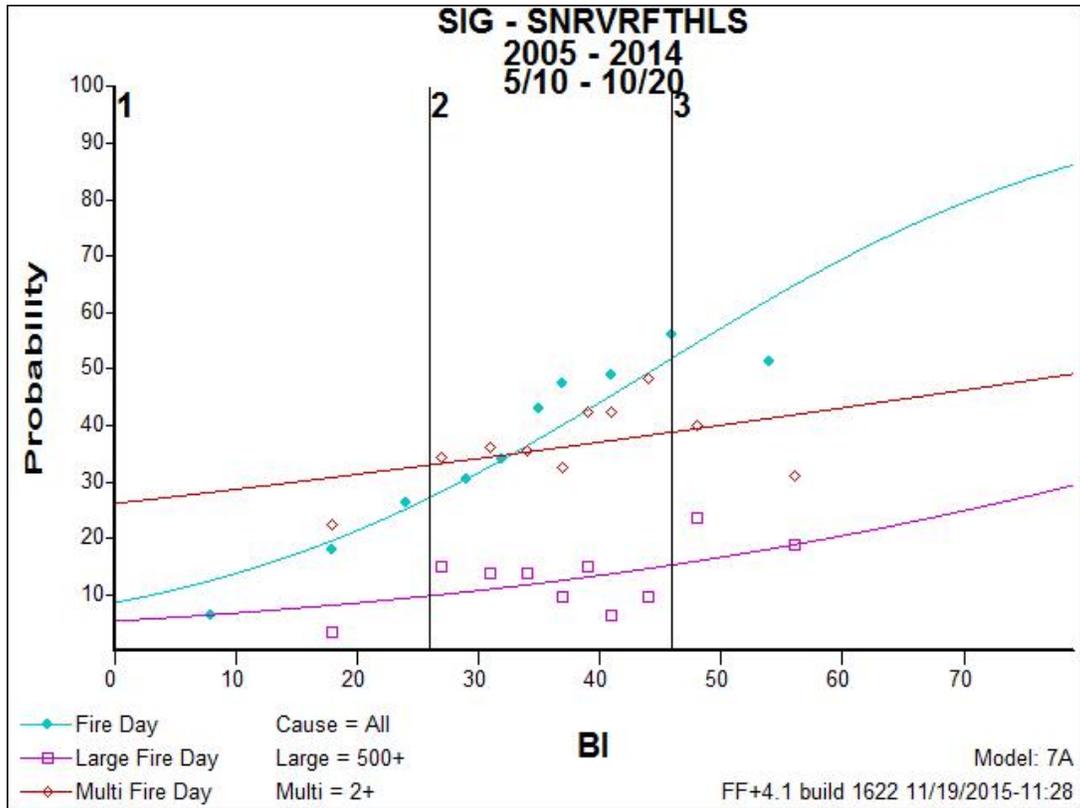
Boise Mountains FDRA



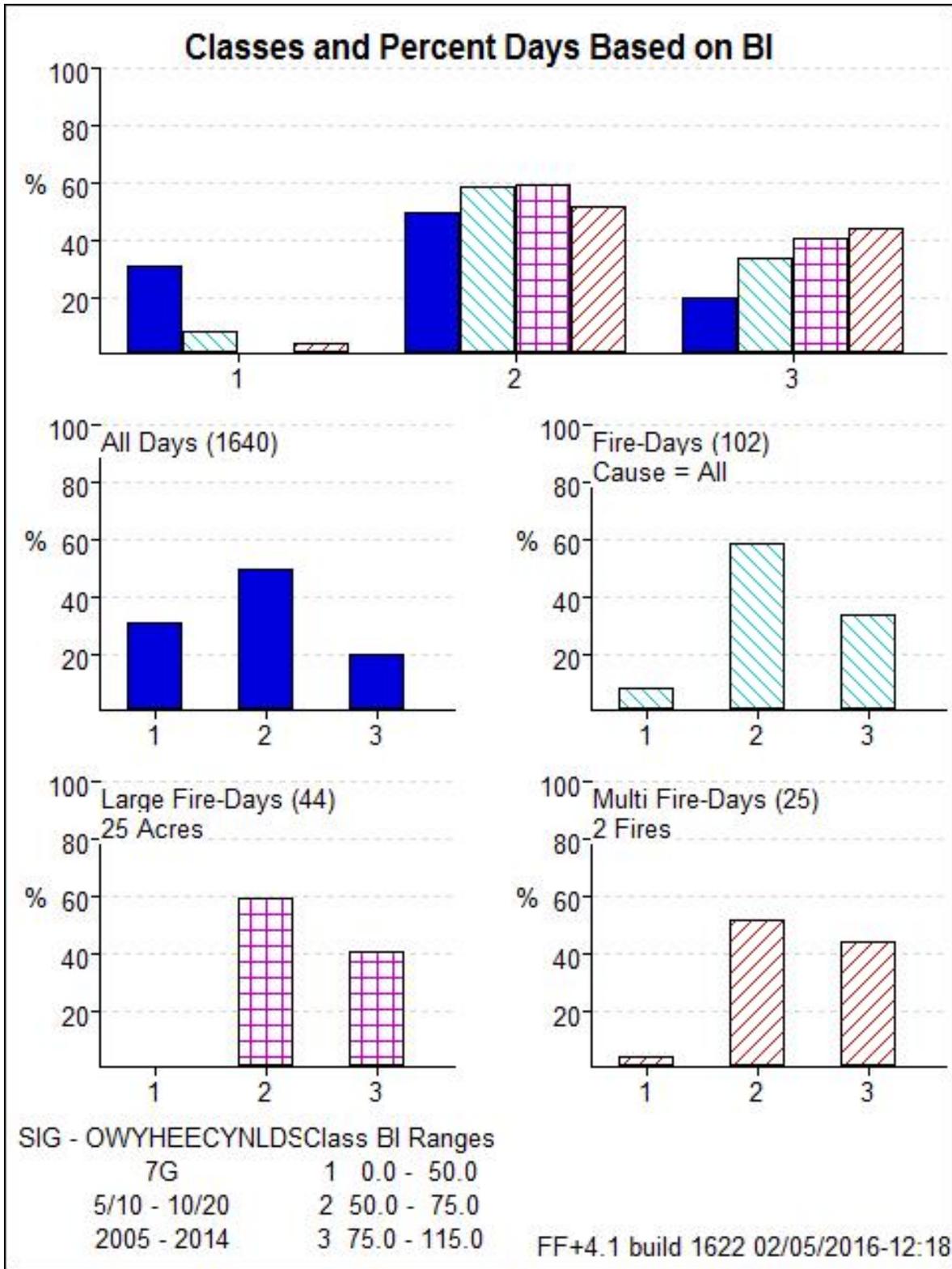


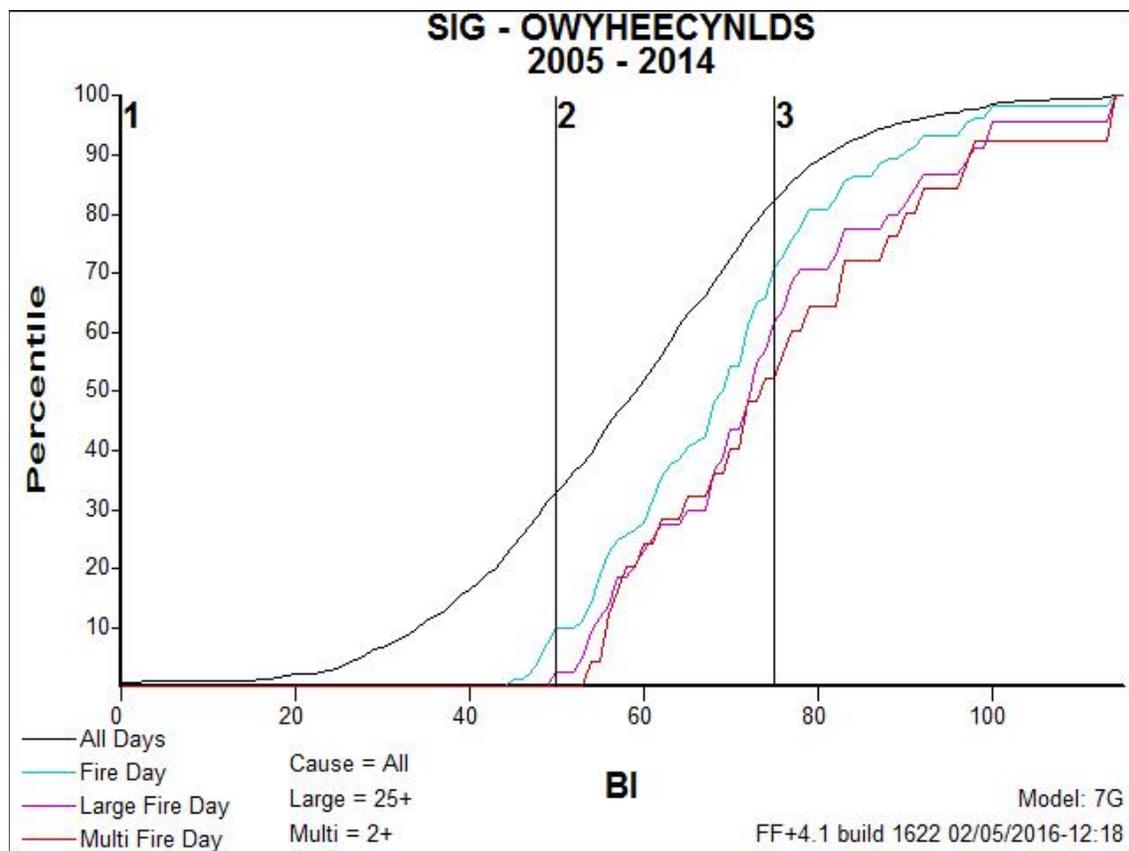
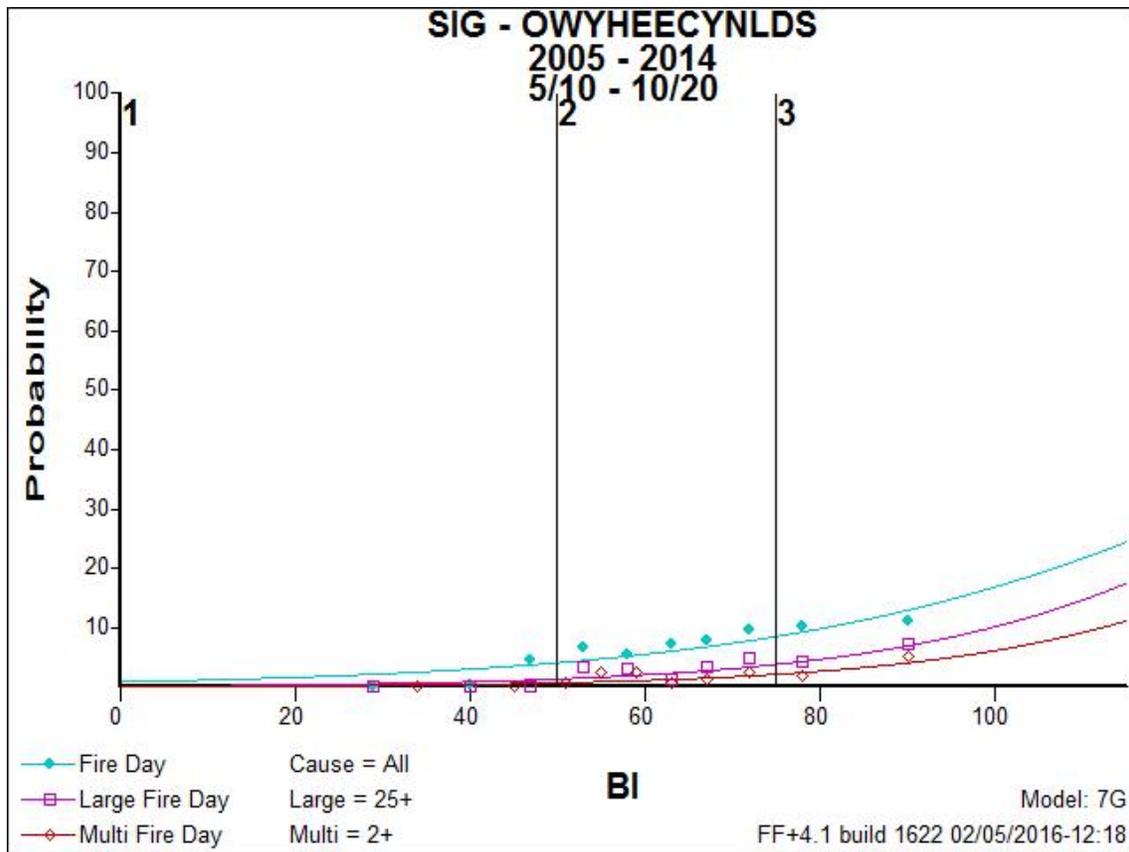
Snake River Foothills FDRA





Owyhee Canyonlands FDRA





APPENDIX G: SOUTHWEST IDAHO FIRE DANGER POCKET CARD

FIRE DANGER POCKET CARD

Boise Interagency Dispatch Center
<http://fam.nwoc.gov/fam-web/pocketcards/>



Developed & Approved by:
 ID-BOC, ID-SWS, ID-BOF,
 JANUARY 2016

- 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.	78+	46+	75+
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.	45-77	26-45	50-74
LOW Containment problems not expected. Fires tend to spread slowly by creeping and smoldering, and burn in irregular fingers.	0-44	0-25	0-49

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

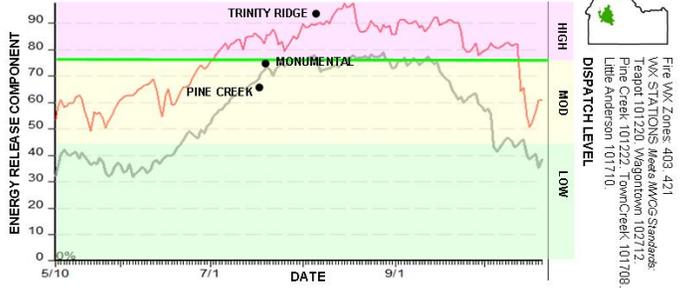
	BOISE MOUNTAINS	SNAKE RIVER/FOOTHILLS	OWYHEE CANYONLANDS
20 FT WIND SPEED (mph)	>5	>7	>8
RH (%)	<25	<15	<15
TEMPERATURE (°F)	>80	>85	>84
FACTOR	ERC >78	BI >46	BI >75

PAST FIRE EXPERIENCE - Weather taken from closest RAWS station

DATE	FIRE NAME	FDRA	SIZE	BI	ERC	TEMP	RH	WIND
07/15/13	PINE CREEK	BOISE MTNS	2797	—	66	97	9	5
06/03/12	TRINITY RIDGE	BOISE MTNS	146,892	—	92	85	8	5
07/17/07	MONUMENTAL	BOISE MTNS	174,231	—	75	83	19	4
06/25/15	MM43 HWY52	SNRVR/FTHLS	10,845	55	—	88	15	11
08/08/13	MUDD (PONY COMPLEX)	SNRVR/FTHLS	135,231	43	—	97	6	9
08/14/11	BLAIR	SNRVR/FTHLS	39,577	47	—	98	7	11
08/10/15	SODA	OWYHEE	279,144	96	—	94	10	24
07/09/12	JACKS	OWYHEE	48,894	90	—	98	6	13
07/06/07	CRUTCHER CROSSING	OWYHEE	38,124	87	—	102	4	8

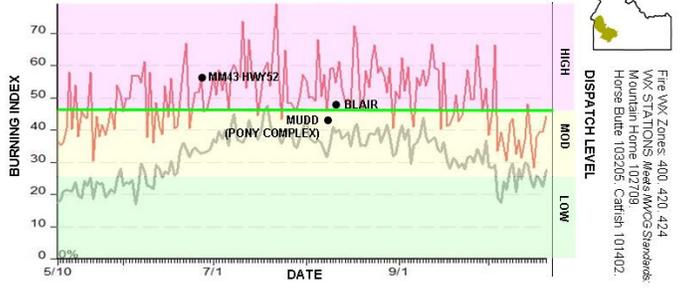
BOISE MOUNTAINS FIRE DANGER RATING AREA

MAXIMUM, AVERAGE, 80th PERCENTILE. Data Years: 2005-2014
 FUEL MODEL G—Dense Conifer



SNAKE RIVER / FOOTHILLS FIRE DANGER RATING AREA

MAXIMUM, AVERAGE, 85th PERCENTILE. Data Years: 2005-2014
 FUEL MODEL A—Western Annual Grasses



OWYHEE CANYONLANDS FIRE DANGER RATING AREA

MAXIMUM, AVERAGE, 80th PERCENTILE. Data Years: 2005-2014
 FUEL MODEL G—Dense Conifer



APPENDIX H: SOUTHWEST IDAHO FDOP TECHNICAL GROUPS

2016 Revision

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Agency Boise District BLM

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APPENDIX H: CHANGES TO FDOP BY YEAR

Changes for 2016

- Transitioned to the new template
- Fire Danger Rating Areas were delineated based upon an analysis of climate, vegetation, and topography (maps located in appendix). After these environmental factors were considered, the draft FDRAs were *edge-matched* to existing administrative boundaries using Response Areas (**Error! Reference source not found.**).

- GIS data sets had conflicting boundaries, correct boundaries were identified and data sets were updated.
- Changed RAWS Stations within the Boise Mountains FDRA to Little Anderson, Wagontown, Teapot, Pine Creek and Town Creek.
 - Wagontown RAWS now has 10 years of observations making it a viable data set. It was added to the SIG to help represent drier conditions on the southern end of the Boise Mountains FDRA.
 - Teapot and Little Anderson RAWS were added to the SIG due to their correlation with the rest of the group.
 - Ski Hill RAWS was removed from the SIG as its data did not trend as closely with the rest of the group.
 - Weiser River RAWS was removed due to the distance from the FDRA and its non-representative elevation.
 - This updated SIG could potentially produce higher ERC readings than the previous SIG.
- Updated Fire Family data analysis inputs to provide for better statistical analysis.
 - Changed Fuel Model in Owyhee FDRA to from FM-T to FM-G for both Dispatch and Adjective Levels.
 - Changed fire size class for large fire day from 10 to 5 acres in Boise Mountains.
 - Changed large fire day from 100 to 25 acres and multiple fire start day from 5 to 2 in the Owyhee FDRA.
- Updated the Fire Problem Chart, transferring historical data to the new template.
- Fire History inputs changed to 10-years of data and narratives were updated to reflect the same.
- Updated Preparedness Level and Dispatch Level thresholds to correspond with the new Fire Family data sets and SIG group.

Changes for 2014

- Added weather data through 2013 in order to reanalyze the fire business candidates. Individual weather station observations were reviewed for quality control.
- The northern RAWS for Boise District BLM name change from Dead Indian Ridge to Catfish.
- We determined that the only dispatch breakpoints that needed adjusting was for the Boise Mountains FDRA. A fire business analysis was completed reviewing all the historical larges in relation to the ERC and weather. At request of the forest new dispatch level breakpoints have been determined.
- Added the historical fire data from 2012 and 2013. The data was reviewed and cleaned within each FDRA. Also duplicate fires from agency to agency were deleted as needed.
- As a whole, it was determined that the adjective rating did not seem to reflect what the actual conditions have been. Talking with an “expert” of WIMS and NFDRS we determined that the output from WIMS does not seem to reflect the higher adjective ratings when it should. We adopted the process that Northern Utah uses to compute the adjective rating. Using the same concept as what WIMS would compute but use the Fire Business Thresholds that we have determined with the Ignition Component with the standard WIMS chart to get our own rating. A comparison was completed of last year and what it would have been using the new system and all the fire managers agreed this is what they would like to use.
- Added the additional tables for the Adjective Rating Determination Process
- The Pocket Card was updated with current information. The format of the card was unchanged.
- Updated Appendices on what was done to update Fire History and Fire Business Candidates with Fire Family Plus
- Added a Timeline section to reference the time frames for each dispatch level, preparedness level, and adjective level.
- Updated Dispatch Zones and Agency Fire Occurrence Maps
- Updated the Boise Dispatch Responsibility Area and Ownership Acres Tables
- All charts, graphs, breakpoints, inventories, and screen captures were updated

Changes 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 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 Occurrence 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 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.