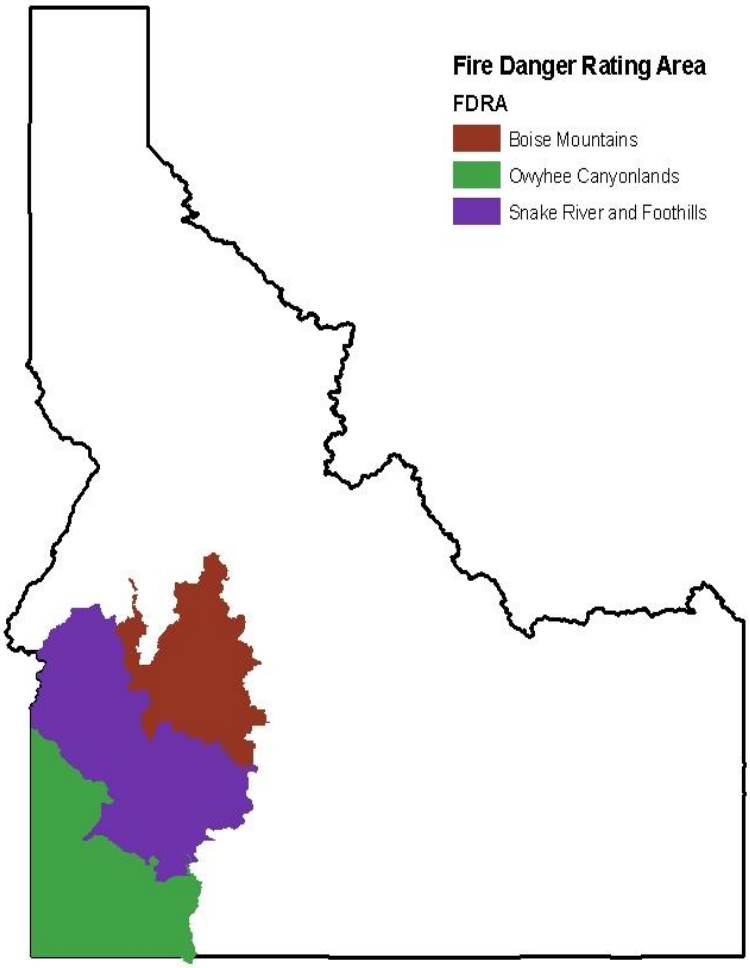
Boise

Interagency Fire Danger Operating Plan



March 2023

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Boise

Interagency Fire Danger Operating Plan

Approved By: *Agency Administrators*

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Boise

Interagency Fire Danger Operating Plan

Recommended By: *Fire Program Managers*

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Table of Contents

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 require 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 Boise 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 or Strategic Management Action Guide. 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 Boise 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 Boise area 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 Boise Fire Danger Operating Plan. The Idaho Restrictions Plan can be found at: https://drive.google.com/drive/folders/1hYSrhHflkm4L3QUsLIQ986H4-ITmnznN

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 Boise 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 Boise Mobilization Guide 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: https://gacc.nifc.gov/gbcc/dispatch/id-bdc/dispatch.php

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

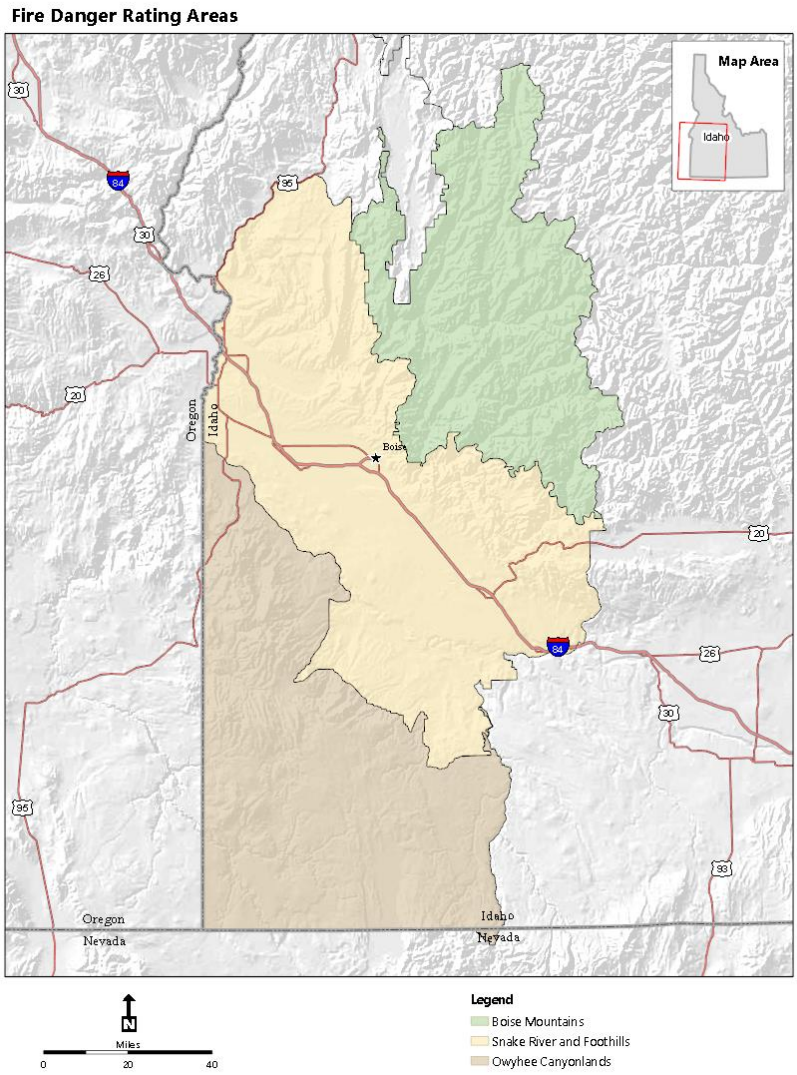
1. Provide a tool for agency administrators, fire managers, dispatchers, agency cooperators, and firefighters to correlate fire danger ratings with appropriate fire business decisions in fire danger planning area.
2. Delineate fire danger rating areas (FDRAs) in fire danger planning area with similar climate, vegetation, and topography.
3. Establish an interagency fire weather-monitoring network consisting of Remote Automatic 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 analyze 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. Develop and distribute 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 (Appendix G), vegetation (Appendix F), and topography (Appendix E). After these environmental factors were considered, the draft FDRAs were *edge-matched* to existing administrative boundaries using Response Areas (Appendix A). The final FDRA delineation is depicted here:

1. Southwest Idaho FDRA Map



2. **FDRA Table**

Fire Danger Rating Area	Acreage	% of Total
Boise Mountains	2,218,755	24%
Snake River and Foothills	3,916,405	42%
Owyhee Canyonlands	3,199,409	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 Mountains 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.

- 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:

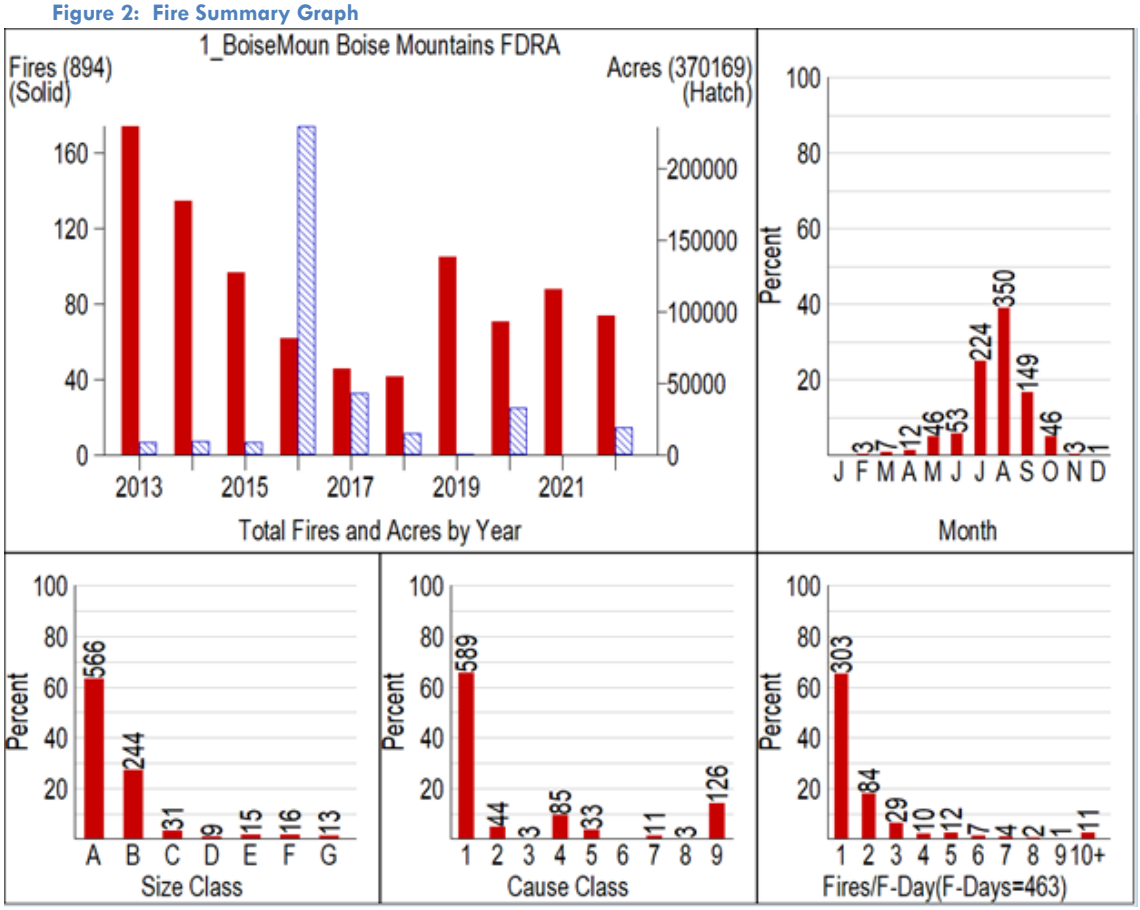
- High elevation distinctive mountains and valleys formed from alpine glaciations.
- Lands with sharply defined drainage patterns formed by stream cutting action.
- Lands formed by volcanic floss.

- FDRA Parameter Summary Table:

FDRA	Slope Class	Herb Type
Boise Mountains	2, 3, 4	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	6 =Railroad
2 = Equipment	7 =Arson
3 = Smoking	8 =Children
4 = Campfire	9 =Misc
5 = Debris Burning	

Boise Mountains Correlation with Fire Occurrence

From 2013 through 2022 a total of 894* fires were recorded within the FDRA burning 370,169 acres. Lighting accounts for 65% of fire occurrence in the FDRA. Campfires and Miscellaneous were the leading human causes. Fires commonly occur from May through October with the months of July, August and September representing the largest percentage of fire occurrence.

*Data includes IDOEM and County fire records from InFORM and FOD Spatial data.

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 Forest and Boise Forest 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 3.2 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 cheatgrass 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 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. 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:

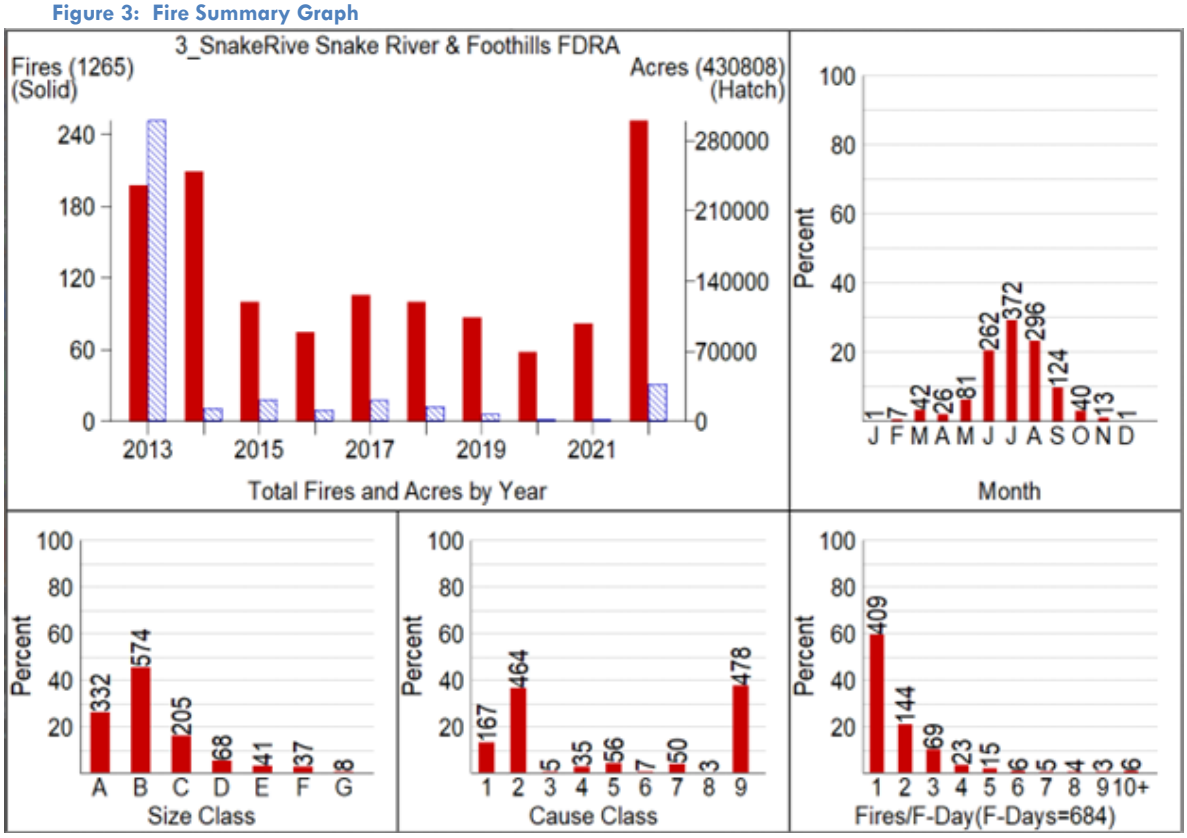
The Snake River and Foothills FDRA is characterized by flat and rolling terrain. Elevation ranges from a low of approximately 2100 feet on the Snake River near Weiser, to approximately 4000 feet on the higher bluffs within the FDRA. The Snake River Canyon is a major topographic feature of the FDRA. Much 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	Herb Type
Snake River and Foothills	1,2	Annual

- Snake River and Foothills – Fire Summary Graph

Figure 3: Fire Summary Graph



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F =	1000 —	4999	acres
G =	5000 +		acres

Cause Class:

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

Snake River Foothills Correlation with Fire Occurrence

From 2013 through 2022 a total of 1265* fires were recorded burning a total of 430,807 acres. Lightning fires accounted for a little over 50% of ignitions. Miscellaneous and Equipment use were the most common human causes. Fires commonly occur from May through October with June through September being the busiest months.

*Data includes IDOEM and County fire records from InFORM and FOD Spatial data.

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 3.9 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 (Juniperus 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 mountain mahogany (C*ercocarpusledifolius*). 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 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:

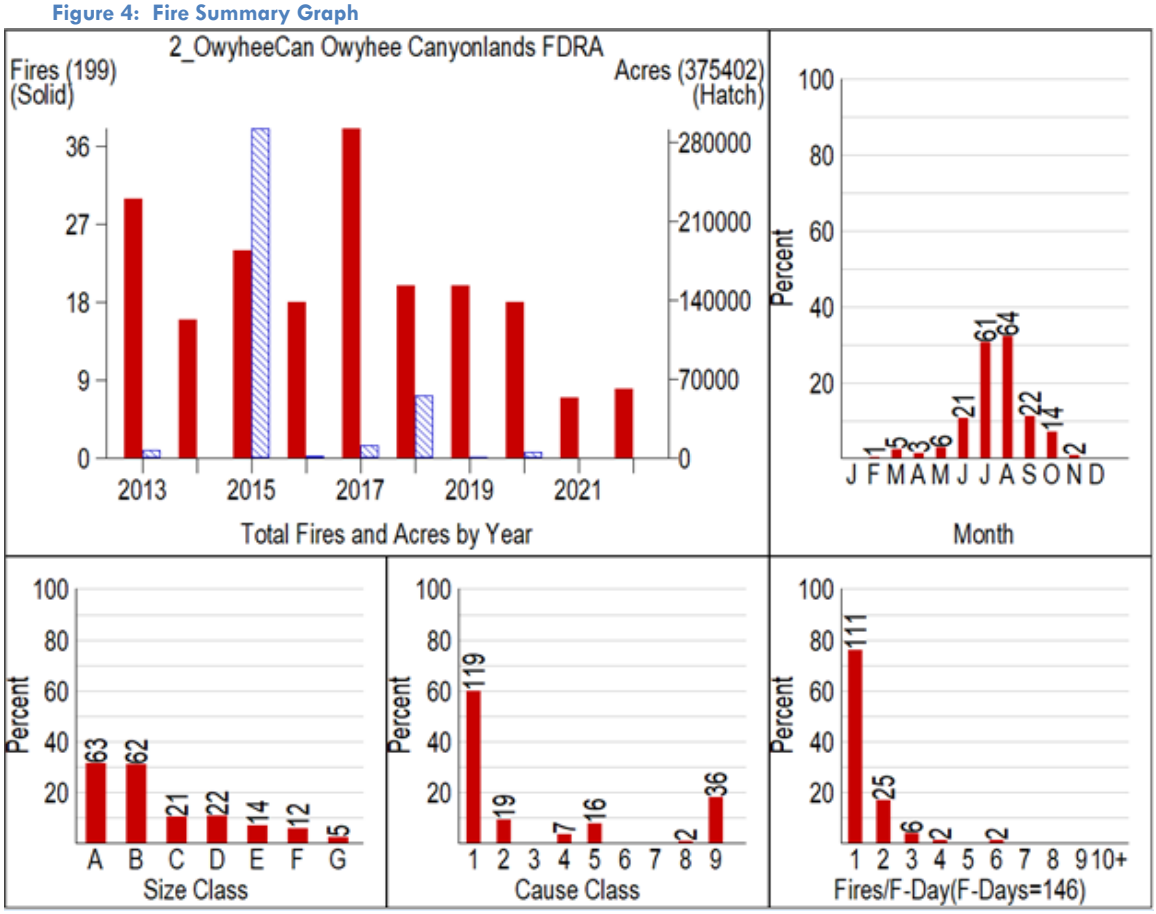
The elevation of the Owyhee Canyonlands FDRA ranges from a low of generally 4000 feet to a high of 8400 feet. The eastern and southern portions of the FDRA are characterized by deep river canyons and large plateau areas. The north-western portion of the FDRA is dominated by the Owyhee Mountain Range.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

- FDRA Parameter Summary Table:

FDRA	Slope Class	Herb Type
Owyhee Canyonlands	1	Annual

- Owyhee Canyonlands – Fire Summary Graph

Figure 4: Fire Summary Graph



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Cause Class:

1 = Lightning	6 =Railroad
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3 = Smoking	8 =Children
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5 = Debris Burning	

Owyhee Canyonlands Correlation with Fire Occurrence

From 2013 through 2022, a total of 199* fires were recorded in the Owyhee Canyonlands Fire Danger Rating Area burning 375,402 acres. A little over 70% of fires are caused by lightning with miscellaneous ignitions being the primary cause of human starts within the FDRA. The majority of fires occurred in July and August.

*Data includes IDOEM and County fire records from InFORM and FOD Spatial data.

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. The next two charts show 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

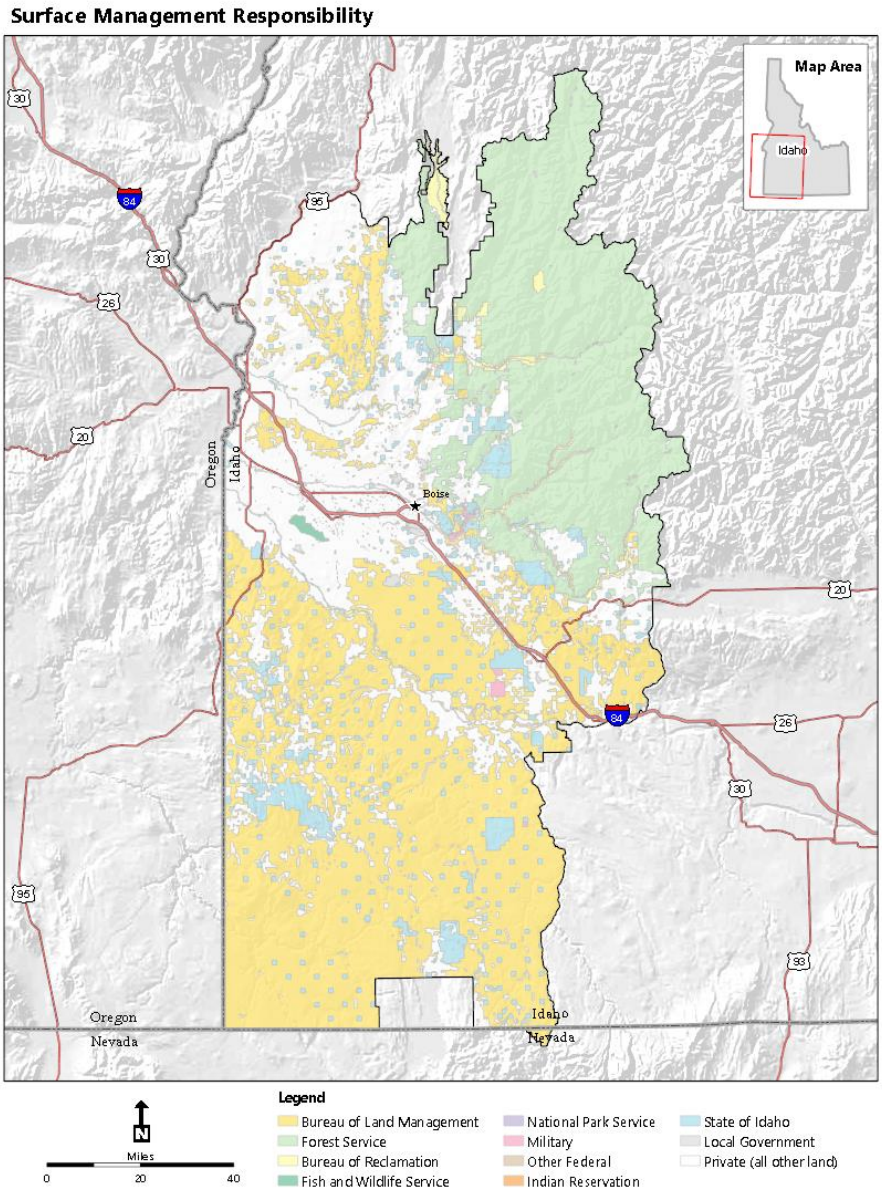


Table 2: Ownership Table

Ownership Acres

ID-BDC SURFACE MANAGEMENT RESPONSIBILITY ACRES	
BLM	3,816,059
BOR	123,703
HISTORIC WATER	30,444
LOCAL GOVERNMENT	41,175
MILITARY/USCOE	14,958
NATIONAL WILDLIFE REFUGE	11,352
PRIVATE	2,496,068
STATE	518,572
STATE FISH & GAME	26,917
STATE PARKS & REC	5,737
USFS	2,135,354
OTHER FEDERAL	233

C. WEATHER STATIONS

All Remote Automatic Weather Stations (RAWS) comply with the National Wildfire Coordinating Group (NWCG) weather station standards. NWCG Standards for Fire Weather Stations .

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.

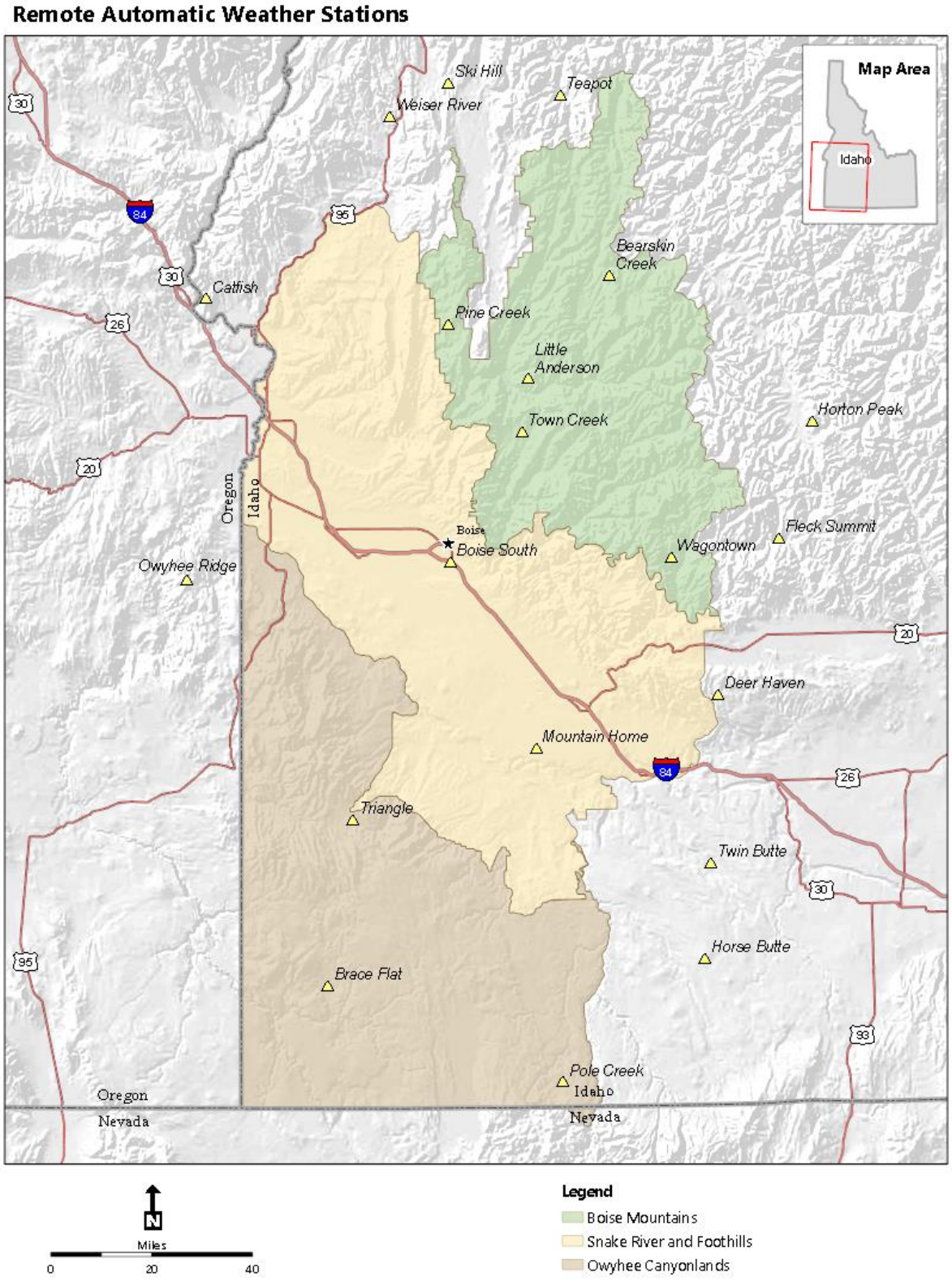
Within the Southwest Planning Zone, a total of 10 RAWS are managed. The Boise National Forest manages five active stations: Bearskin, Pine Creek, Little Anderson, Town Creek and Wagon Town. These stations comply with NWCG NFDRS Weather Station Standards. The Boise District BLM also manages five active RAWS: Catfish, Mountain Home, Brace Flat, Triangle, and Pole Creek. These stations comply with NWCG NFDRS Weather Station Standards.

Quality Control

A total of 19 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 utilizing the SIG Selector Tool to verify 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 the Boise Mountains FDRA: Pine Creek, Town Creek, Wagontown stations have been combined with the Payette NF managed Teapot station 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 stations all have a very strong correlation (none lower than .890). Stations were selected for each SIG based on years of data available and completeness of data. Stations selected were spread throughout the area proximally and varied in aspect, exposure, and elevation relevant to each FDRA.

RAWS Map


Remote Automatic Weather Stations
Map Area
Idaho
Ski Hill
Teapot
Weiser River
Bearskin Creek
Catfish
Pine Creek
Little Anderson
Town Creek
Horton Peak
Oregon
Idaho
Boise
Boise South
Wagontown
Fleck Summit
Owyhee Ridge
Deer Haven
Mountain Home
Triangle
Twin Butte
Horse Butte
Brace Flat
Pole Creek
Oregon
Nevada
Idaho
Nevada
Miles
0
20
40
Legend
Boise Mountains
Snake River and Foothills
Owyhee Canyonlands

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	FDRA
Weiser River	101108	325E60D6	USFS / ID-PAF	1982-PRES	3900	44 50 50.4	116 25 39.6	12MST	**N/A**
Pine Creek	101222	3241DC86	USFS / ID-BOF	1984-PRES	5600	44 15 01	116 11 55	13MST	**Boise Mountains**
Ski Hill	101223	325E554C	USFS / ID-PAF	1987-PRES	5600	44 56 34.43	116 11 17.51	12MST	**N/A**
Town Creek	101708	3241CFF0	USFS / ID-BOF	1982-PRES	4500	43 56 22.5	115 54 41.5	13MST	**Boise Mountains**
Catfish	101402	3250B2D6	BLM / ID-BOD	1990-PRES	3750	44 19 34	117 10 10	12MST	**N/A**
Mountain Home	102709	3252C1B2	BLM / ID-BOD	1966-PRES	3350	43 01 42.1	115 52 16.4	12MST	**Snake River and Foothills**
Horse Butte	103205	32513638	BLM / ID-TFD	1983-PRES	5000	42 25 02	115 13 40	12MST	**N/A**
Twin Butte	103209	3252B722	BLM / ID-TFD	1990-PRES	3300	42 41 26	115 11 43	12MST	**N/A**
Brace Flat	103207	325034C2	BLM / ID-BOD	1990-PRES	4900	42 21 06	116 41 31	12MST	**Owyhee Canyonlands**
Triangle	103208	32523136	BLM / ID-BOD	1990-PRES	5270	42 49 43	116 35 19	12MST	**Owyhee Canyonlands**
Owyhee Ridge	353614	3252A454	BLM / OR-VAD	1985-PRES	4400	43 31 03.8	117 14 22.6	12MST	**N/A**
Teapot	101220	325E73A0	USFS / ID-PAF	1986-PRES	5152	44 54 15.6	115 44 18.9	12MST	**N/A**
Bearskin Creek	101221	3241D254	USFS / ID-BOF	1982-PRES	6700	44 23 08	115 33 01.8	13MST	**Boise Mountains**
Little Anderson	101710	326BE772	USFS / ID-BOF	2001-PRES	4560	44 05 28	115 52 50	13MST	**Boise Mountains**
Horton Peak	101812	325EA5C8	USFS / ID-STF	1982-PRES	8700	43 57 07.4	114 45 26.47	12MST	**N/A**
Deer Haven	102711	3250E2AA	BLM / ID-TFD	1990-PRES	5550	43 10 26.1	115 09 06.7	12MST	**N/A**
Wagontown	102712	3334578E	USFS / ID-BOF	2003-PRES	6200	43 34 19	115 19 39.1	13MST	**Boise Mountains**
Fleck Summit	102802	3267A5E4	USFS / ID-STF	1997-PRES	7100	43 37 11	114 54 01.3	12MST	**N/A**
Pole Creek	103210	3251B02C	USFS / ID-BOD	1990-PRES	5660	42 04 10	115 47 10	12MST	**Owyhee Canyonlands**

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

Special Interest Group (SIG):	**Boise Mountains**	
Station / WIMS Number	***Station Name***	***Weight***
101222	RAWS1_Pine Creek	1.0
101708	RAWS2_Town Creek	1.0
102712	RAWS3_Wagontown	1.0
101220	RAWS4_Teapot	1.0

Special Interest Group (SIG):	**Snake River and Foothills**	
Station / WIMS Number	***Station Name***	***Weight***
102709	RAWS1_Mountain Home	1.0
103205	RAWS2_Horse Butte	1.0
101402	RAWS3_Catfish	1.0

Special Interest Group (SIG):	**Owyhee Canyonlands**	
Station / WIMS Number	***Station Name***	***Weight***
353614	RAWS1_Owyhee Ridge	1.0
103207	RAWS2_Brace Flat	1.0
103208	RAWS3_Triangle	1.0

III. FIRE DANGER PROBLEM ANALYSIS

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
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 sigificant 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
Industry		9 - Miscellaneous	Powerlines	Moderate	Agreements, Training, Phone and Text	Wind Events, Structural Design Failure, and Wildlife	All
Public		9 - Miscellaneous	Shooting (Exploding Targets), Firework	Low	PSA, Signage at retailers and in wildland, patrolling, Enforcement of Order	Seasonality	All
Public	Vehicles	2 - Equipment	Improper Use or Maintence, 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

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) 13
Multiple Fire Day (fires/day) 3
Annual Filter May 1- October 31

SIG: *Boise Mountains*

Weather Station Number →	***101222***	***101708***	***102712***	***101220***
Weather Station Name	Pine Creek	Town Creek	Wagontown	Teapot
NFDRS Fuel Model	Y	Y	Y	Y
Data Years Used in Analysis	2013-2022	2013-2022	2013-2022	2013-2022
Slope Class	2	3	2	4
Herbaceous Type	P	P	P	P

Large Fire Size (acres) 500
Multiple Fire Day (fires/day) 2
Point fire reporting data was used for this SIG
Annual Filter May 1- October 31

SIG: *Snake River and Foothills*

Weather Station Number →	***102709***	***103205***	***101402***
Weather Station Name	Mountain Home	Horse Butte	Catfish
NFDRS Fuel Model	X	X	X
Data Years Used in Analysis	2013-2022	2013-2022	2013-2022
Slope Class	1	1	2
Herbaceous Type	A	A	A

Large Fire Size (acres) 25
Multiple Fire Day (fires/day) 2
Point fire reporting data was used for this SIG
Annual Filter May 1- October 31

SIG: *Owyhee Canyonlands*

Weather Station Number →	353614	103207	103208
Weather Station Name	Owyhee Ridge	Brace Flat	Triangle
NFDRS Fuel Model	X	X	X
Data Years Used in Analysis	2013-2022	2013-2022	2013-2022
Slope Class	1	1	1
Herbaceous Type	A	A	A

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 & 3 FDRA 2	ALL	Resource drawdown due to numerous ignitions	Fire Business Thresholds	3	BI	X Y	Dispatch / Response
Agency	FDRAs 1 & 3 FDRA 2	1 - Lightning	Resource drawdown due to numerous ignitions	Fire Business Thresholds	*5*	ERC	X Y	Staffing / Draw-down Plan
Public	FDRAs 1 & 3 FDRA 2	4 - Campfire	Unattended campfires	Fire Business Thresholds	*5*	ERC	X Y	Restriction / Closure Plan
Industry	FDRAs 1 & 3 FDRA 2	9 - Miscellaneous	Powerlines	Fire Business Thresholds	*5*	ERC	X Y	Prevention Plan
Public	FDRAs 1 & 3 FDRA 2	9 - Miscellaneous	Shooting/Fireworks	Fire Business Thresholds	*5*	ERC	X Y	Prevention Plan
Public	FDRAs 1 & 3 FDRA 2	2 - Equipment	Vehicles	Fire Business Thresholds	*5*	ERC	X Y	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.

Burning Index (BI) with NFDRS Fuel Model Y (Boise Mountains) and Fuel Model X (Snake River & Foothills and Owyhee Canyonlands) has been determined to be the most appropriate NFDRS index that statistically correlates to the potential for large fires to occur. Due to the ability of BI to reflect the most current fire danger potential, and the Dispatch Center's ability to track agency personnel throughout the course of any given day, BI will be computed and implemented for initial attack response levels until a qualified Incident Commander evaluates the need for the dispatched resources.

Fire Danger Rating Area	Index/Component and Fuel Model			
Boise Mountains	BI Fuel Model Y	**0-25**	**26-38**	**39+**
Snake River & Foothills	BI Fuel Model X	**0-104**	**105-199**	**200+**
Owyhee Canyonlands	BI Fuel Model X	**0-61**	**62-161**	**162+**
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. 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. The Agencies within the Boise Dispatch Area elected to utilize Dispatch Level as a component toward calculation of the overall Preparedness Level which initiates staffing actions, refer to Part C.

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). Specific preparedness actions are defined at each Preparedness Level in the Specific Management Action Guide (FS) and Staffing Guide (BLM). Preparedness Levels will assist fire managers with short, mid, and long-term (seasonal) decisions with respect to fire danger.

Preparedness Level Worksheet

Boise Mountains *ERC Fuel Model Y*	**0-19**		**20-31**		**32-48**		**49-60**		**61+**			
Snake River and Foothills *ERC Fuel Model X*	**0-29**		**30-49**		**50-74**		**75-99**		**100+**			
Owyhee Canyon Lands *ERC Fuel Model X*	**0-22**		**23-44**		**45-69**		**70-84**		**85+**			
ADJECTIVE LEVEL (ERC)	**L**		**M**		**H**		**V**		**E**			
LARGE OR MULTIPLE FIRES	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**		
7-DAY SIGNIFICANT FIRE POTENTIAL	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**		
DISPATCH LEVEL HIGH (BI)	**NO**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	**NO**	**YES**	
HUMAN IGNITION RISK FACTOR	**L**	**H**	**L**	**H**	**L**	**H**	**L**	**H**	**L**	**H**	**L**	**H**
PREPAREDNESS LEVEL	**1**		**2**		**3**		**4**		**5**			

Large or Multiple Fire Activity can be defined as a certain number of wildland fires or acreage of wildland fires within the Boise Interagency Dispatch Area that requires a commitment of BDC suppression (ground or aviation) resources within the respective FDRA; Boise Mountains - X fires, XX acres. Snake River & Foothills - X fires, XX acres, and Owyhee Canyonlands – X fires, XX acres.

Significant Fire Potential: The Predictive Service Area (PSA) 7-Day Fire Potential Outlooks combine forecasted fuel dryness with significant weather triggers to identify high risk areas. The 7-day Fire Potential Outlook is posted daily during fire season and forecasts significant fire potential for the next 7 days. Tomorrow's Significant Fire Potential can be found on the Predictive Services (Outlooks) page of the GBCC website.

Dispatch Level High: the actual or forecasted Dispatch Level at HIGH will be the fourth factor input to the Preparedness Level Worksheet.

Human Ignition Risk Factor: described as an event on our agency's jurisdiction (Independence Day Celebration, Fireworks display, Solar Eclipse, Rainbow Gathering, etc.) or the occurrence of fires (2 or more) due to suspected arson, or the noticeable uptick in abandoned campfires within the FRDAs.

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

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

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 component (ERC).

Boise Mountains FDRA

ERC – Y	ADJECTIVE FIRE DANGER RATING
0-19	LOW
20-31	MODERATE
32-48	HIGH
49-60	VERY HIGH
61+	EXTREME

Snake River & Foothills FDRA

ERC – X	ADJECTIVE FIRE DANGER RATING
0-29	LOW
30-49	MODERATE
50-74	HIGH
75-99	VERY HIGH
100+	EXTREME

Owyhee Canyonlands FDRA

ERC – X	ADJECTIVE FIRE DANGER RATING
0-22	LOW
23-44	MODERATE
45-69	HIGH
70-84	VERY HIGH
85+	EXTREME

Boise Dispatch will be calculating the Adjective Fire Danger Rating daily, however, the website will only be changed once a week, on Sunday. If there is a need to change the Adjective level before Sunday, that message will be communicated through Duty Officers.

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 (PL) and/or dispatch levels (DL) must be coordinated through the Dispatch Center Manager. The Duty Officer will keep their respective agency's fire and management staff updated. Decisions to modify PL or DL will be documented in standard Unit Logs (ICS 214) or daily Duty Officer Log and communicated to Boise Dispatch Center.

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 Center 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 Intel Assistant Center Manager 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 (including snow flags). Agency fire/fuels management staff will support the station owners with quality assurance and field verification of data.

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

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 lead by the agency Fire and Fuels Planners 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: Pocket Cards will be updated following a significant fire season, but otherwise the Boise Dispatch Center Manager and FMO/Fire Wardens' will ensure the pocket card is prepared at least every three years and follows 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.

Seasonal Trend Analysis (BLM specific): A seasonal trend analysis (updated and posted at least every two weeks) will be the only requirement for communication of fire danger, although offices may use Pocket Cards in addition to a seasonal trend analysis if they choose to. Fire management officers should ensure incoming and local resources are briefed on the seasonal trend analysis for their area. The analysis will be posted on the Boise Interagency Dispatch Center website daily.

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 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 Y has been chosen to represent the Boise Mountains. Fuel model X was chosen for the Owyhee Canyonlandsand the Snake River and Foothills.

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 website provides several different current and historical greenness images, which can be a significant contributor to seasonal risk assessments. The WFAS website provides several different ways to analyze 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. Fuels and Fire Planners from the respective agencies will develop a plan to complete this assessment by December, 2024.

C. DAILY SCHEDULE

Dispatch Level

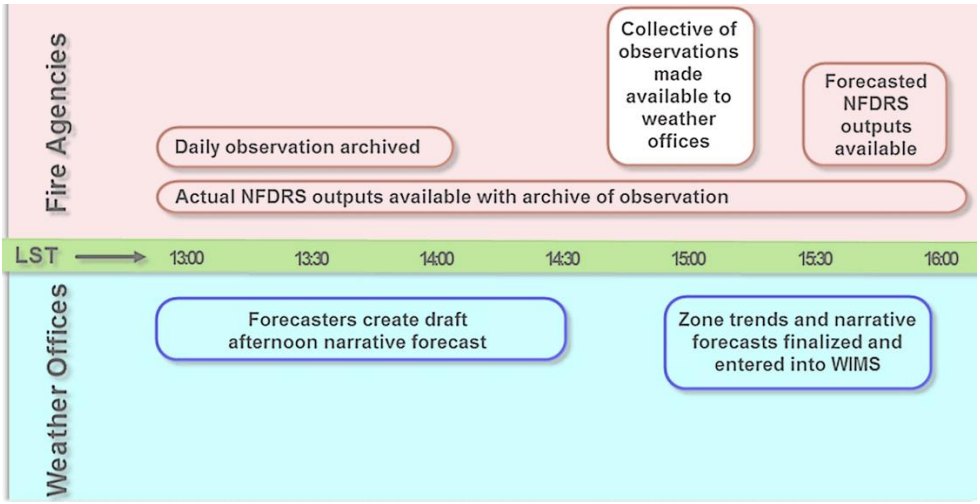
- From midnight until 1100 the next day, forecasted indices are used but dropped one level from what has been determined from the chart for each FDRA. For example, the forecasted BI for Snake River & Foothills FDRA is 46 which is a high dispatch level. It would be a moderate from midnight until 1100 the next morning.
- Forecasted indices are used to determine the dispatch level used from 1100-1500
- 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. Dispatch will watch for trends as indication to change the Dispatch PL level.
- We will use the forecasted Energy Release Component and then use the Preparedness level worksheet to determine the preparedness level.
- The PL will be changed at 1530 each day and run until 1530 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.
- We will use the forecasted Energy Release Component to determine daily Adjective levels.
- Adjective level will only be changed and posted to the BDC website weekly on Sunday.
- If fire activity, extreme weather or other situations warrant an Adjective level change before then, and the partners within that FDRA agree, that info will be messaged through the BDC website and to duty officers, as needed.



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 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
- Ensure RAWS site maintenance is completed/reviewed annually- Station Manager(s) and Fire/Fuels Management Staff for QA/QC (Coordinated through Paul Corrigan)

B. COMPUTER/EQUIPMENT

C. TRAINING

- Duty officers/managers should consider taking S491 Intermediate NFDRS
- All individuals responsible for updating and revising the FDOP will have a minimum of S491 (or equivalent) coursework completed.
- All Dispatchers need to have WIMS training

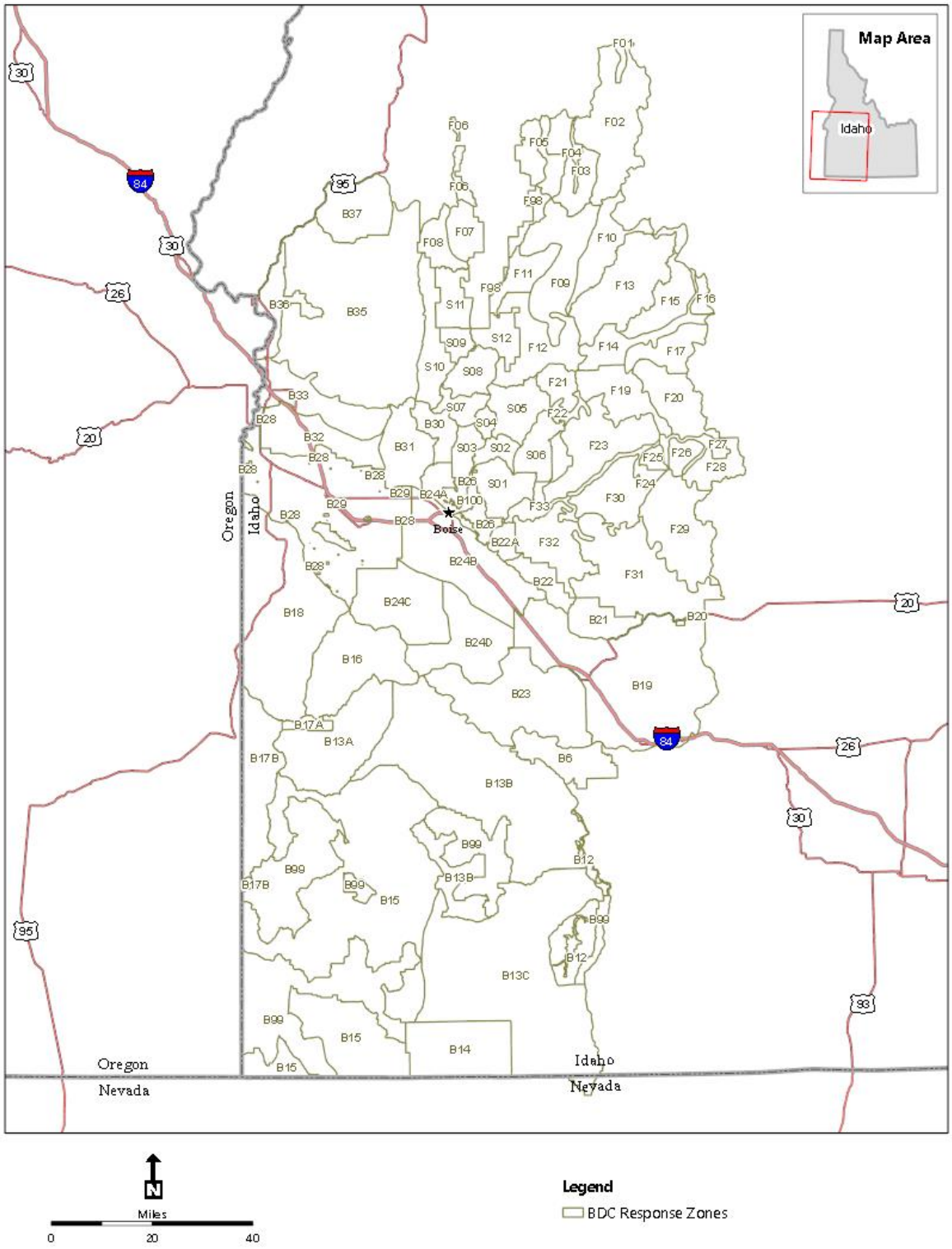
D. SEASONAL FIRE DANGER RISK ASSESSMENTS

- Annual review of the FDOP plan per Board of Directors direction
- Ensure Fire and Fuels Planners are part of the editing committee
- Develop prescribed fire thresholds for future implementation
- Develop pocket cards with both ERC and BI on the same card for fire fighters in the field to calculate the Severe Fire Danger Index.

APPENDICES

APPENDIX A: RESPONSE / DISPATCH AREA MAP

Boise Dispatch Center Response Zones



APPENDIX B: STAFFING PLAN/DRAWDOWN LEVELS

Please reference agency specific Staffing Level and Drawdown plans.

APPENDIX C: PREVENTION PLANS

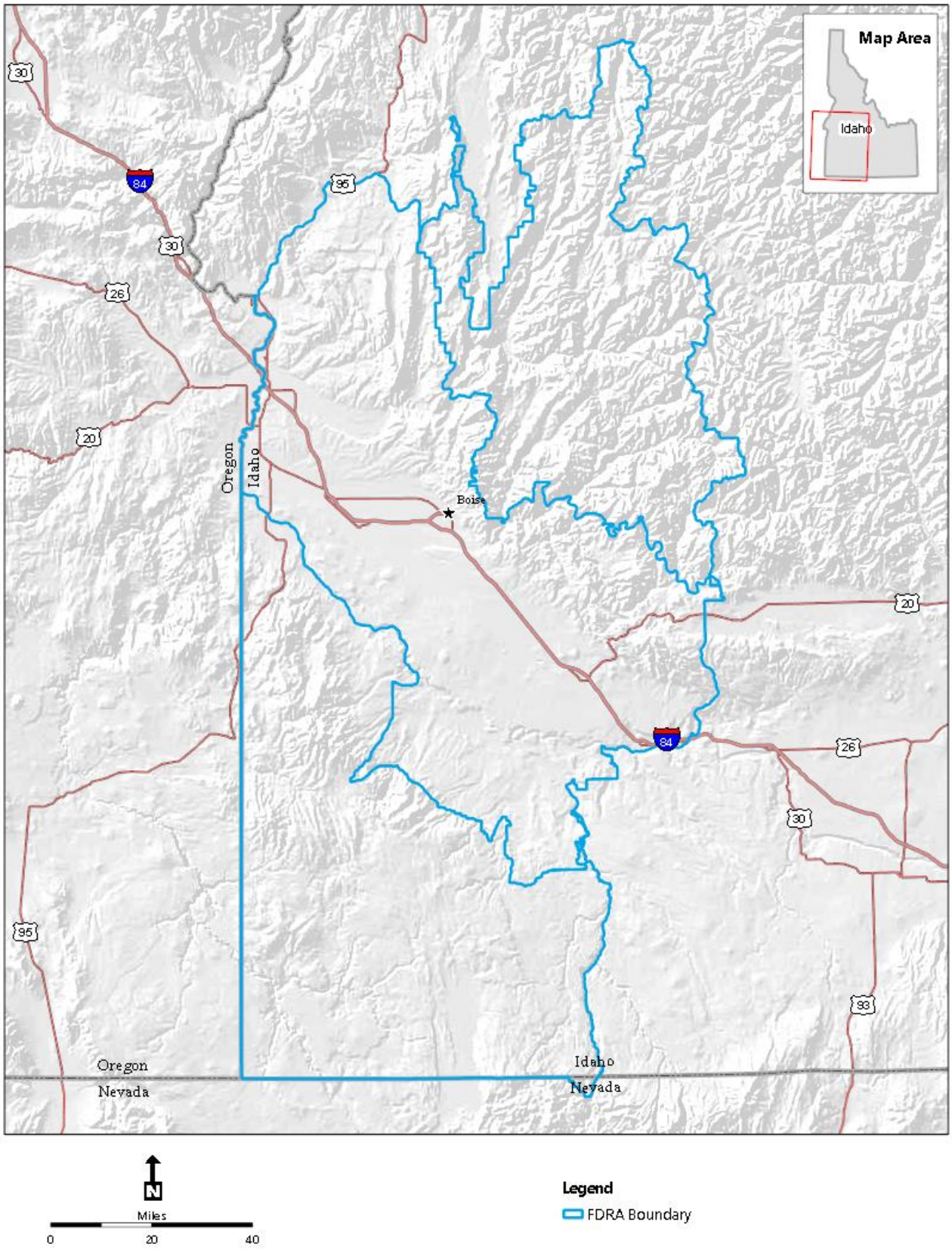
Please reference agency specific Prevention plans.

APPENDIX D: RESTRICTION PLAN

Idaho Fire Restrictions Plan

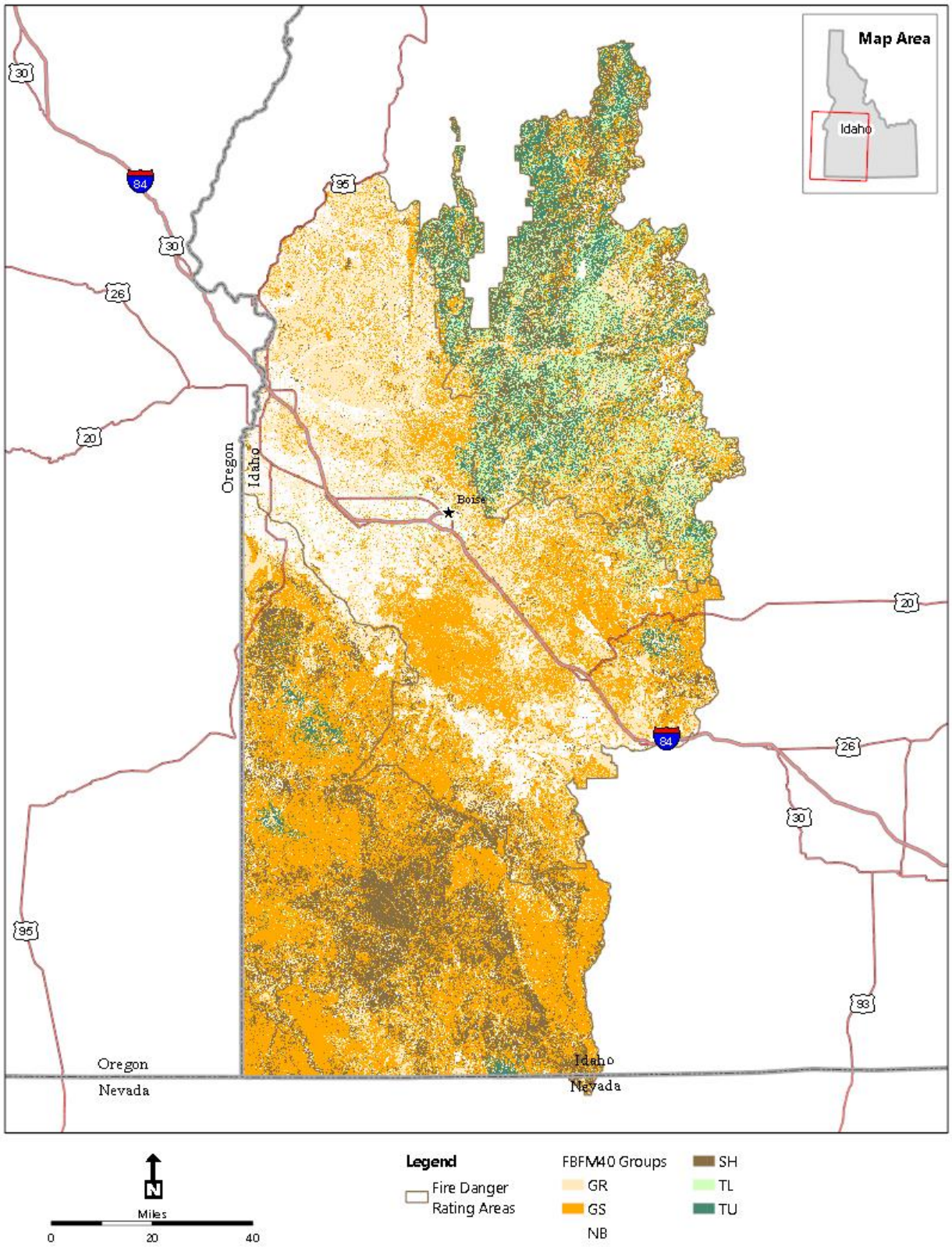
APPENDIX E: TOPOGRAPHY

Southwest Idaho Topography

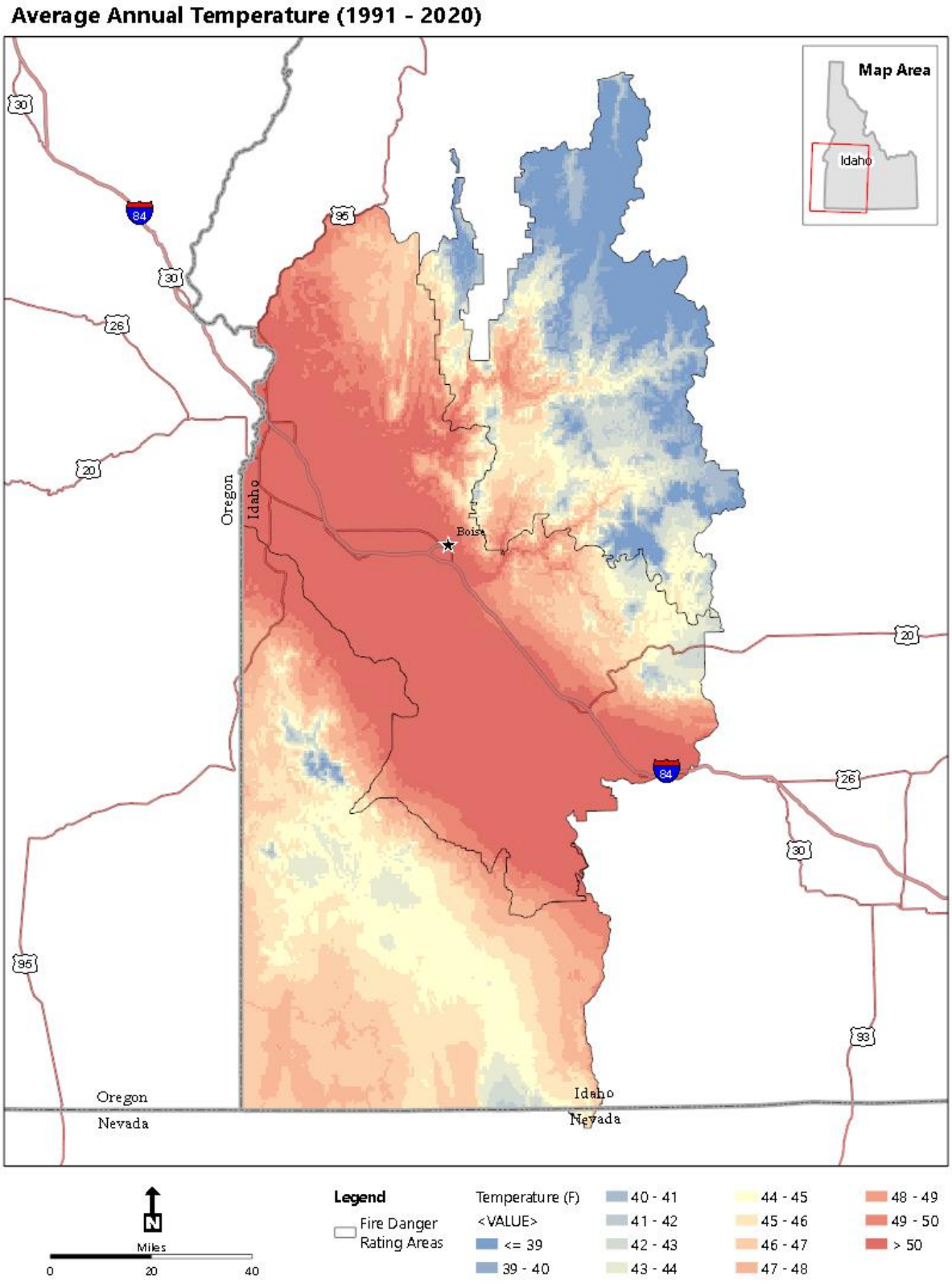


APPENDIX F: VEGETATION

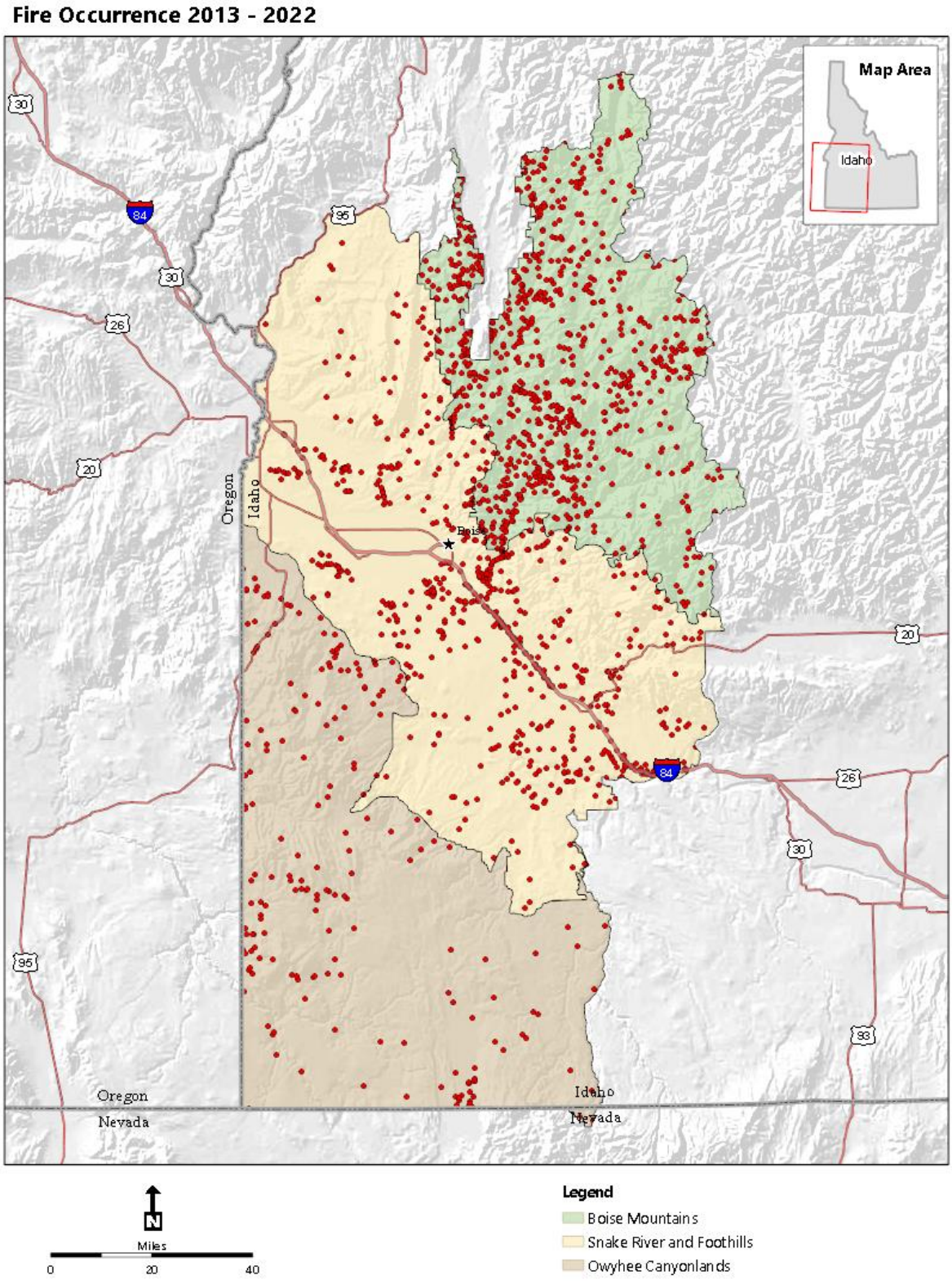
Standard Fire Behavior Fuel Models (FMFM40)



APPENDIX G: CLIMATE

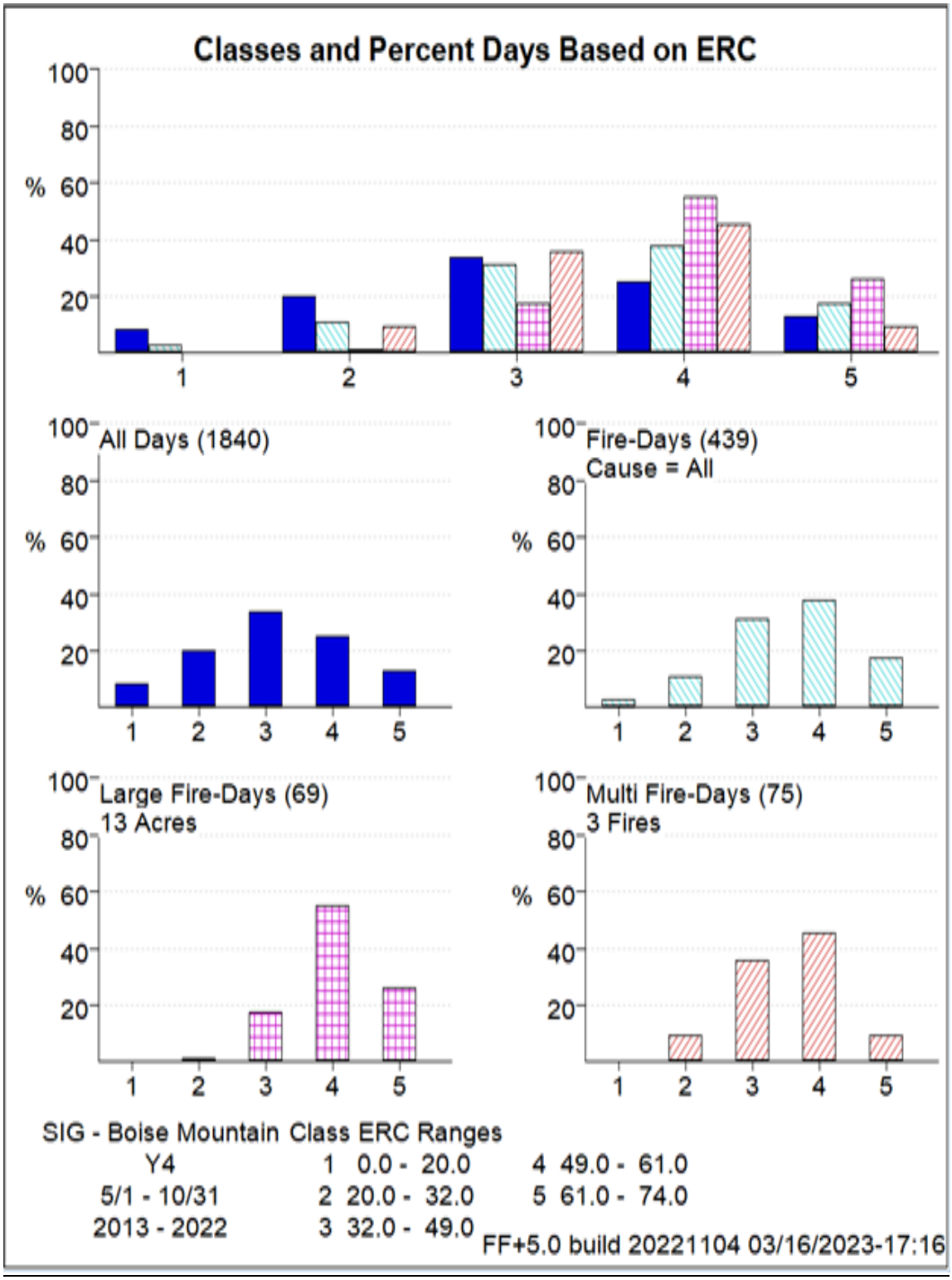


APPENDIX H: FIRE OCCURRENCE MAP

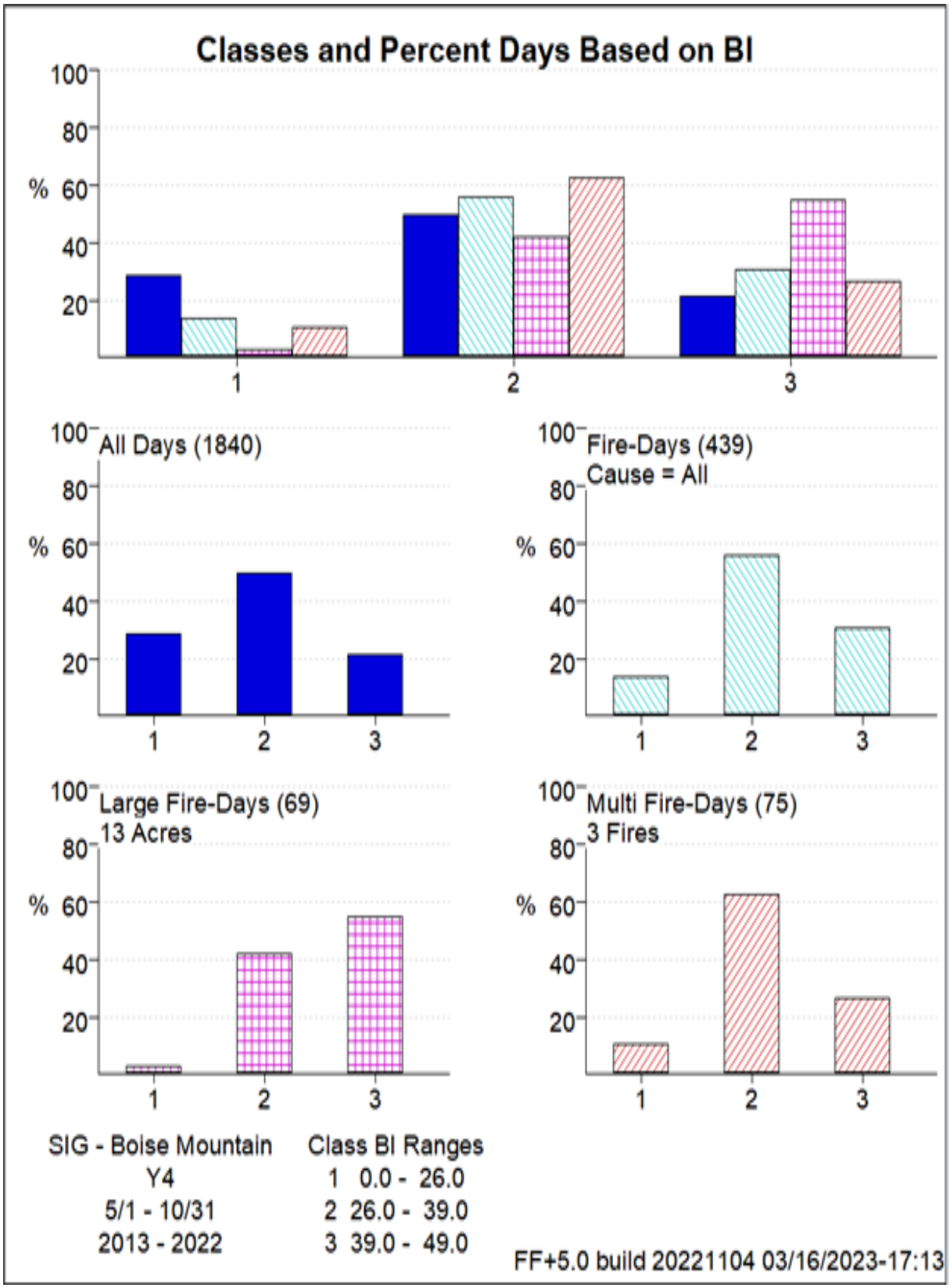


APPENDIX I: FIRE FAMILY PLUS ANALYSIS

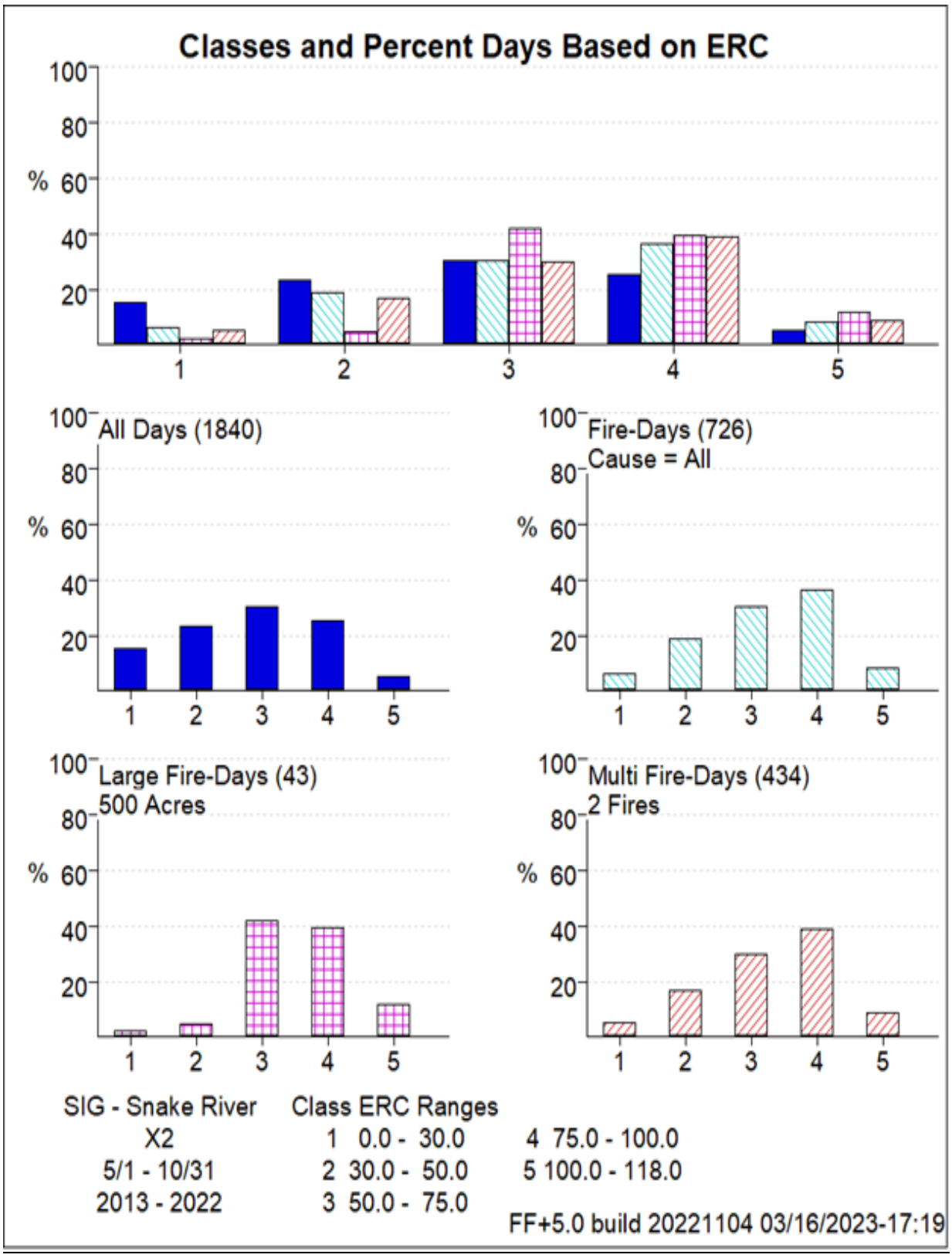
Boise Mountains FDRA – Adjective Level Supporting Documentation



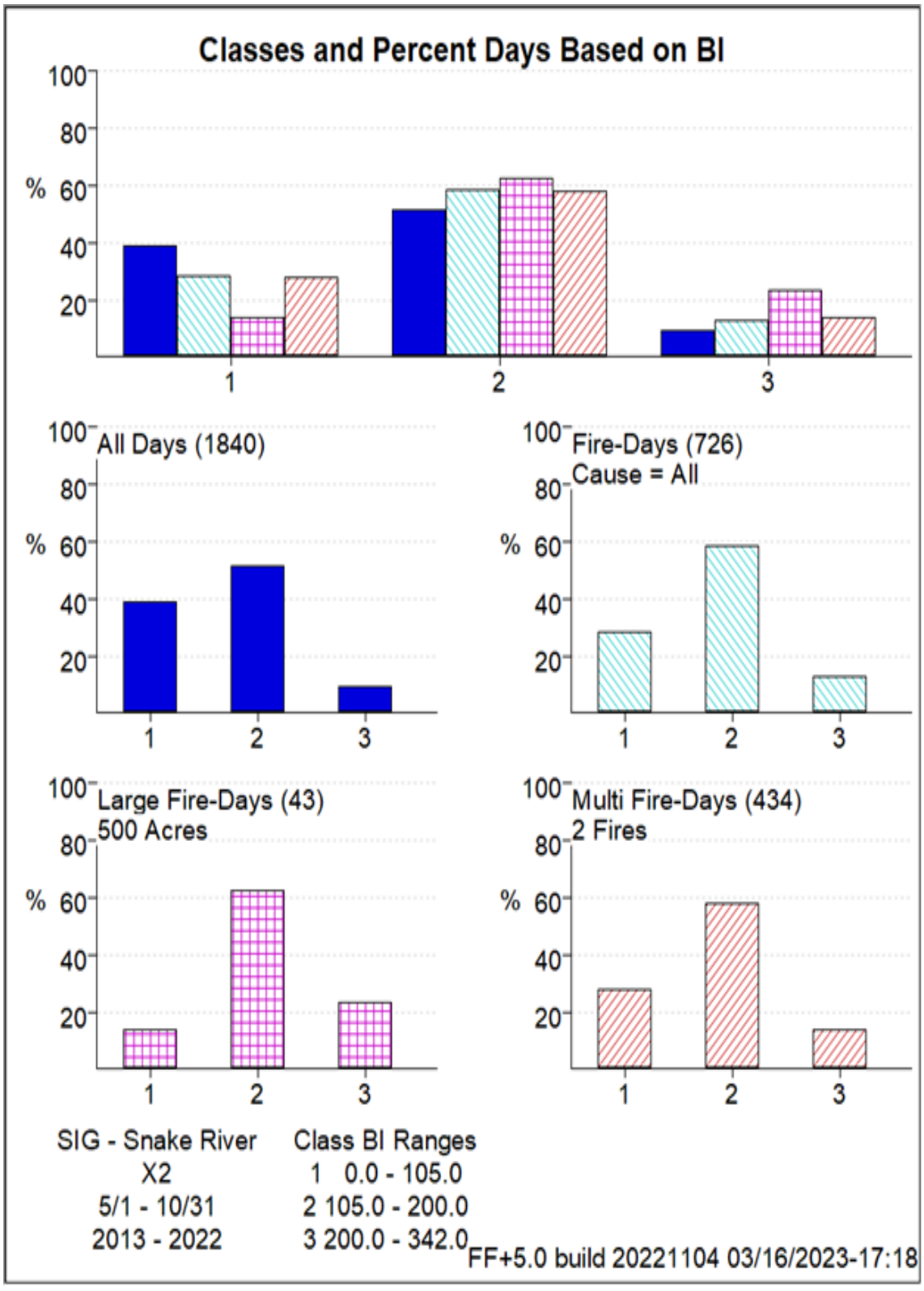
Boise Mountains FDRA – Dispatch Level Supporting Documentation



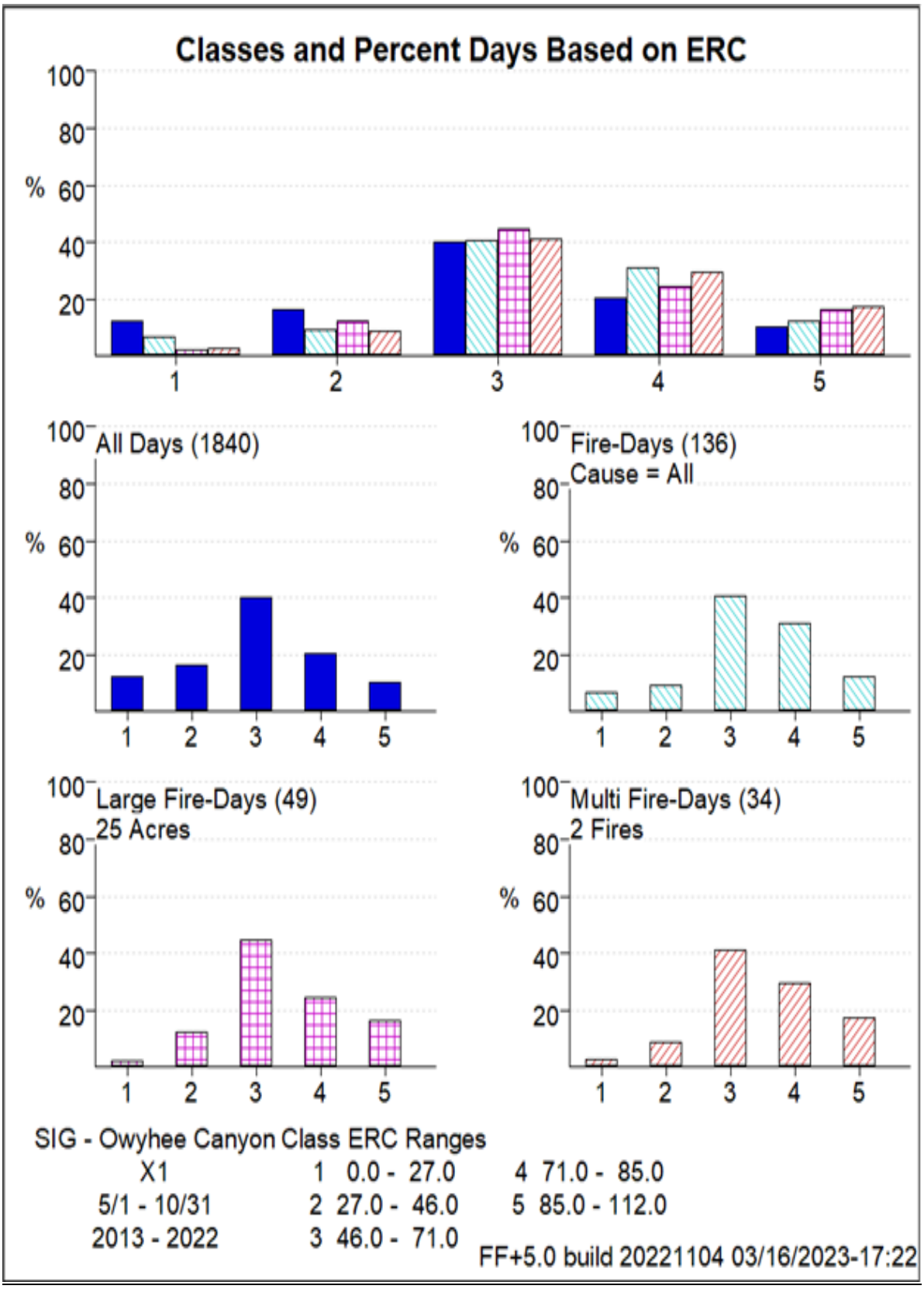
Snake River and Foothills FDRA – Adjective Level Supporting Documentation



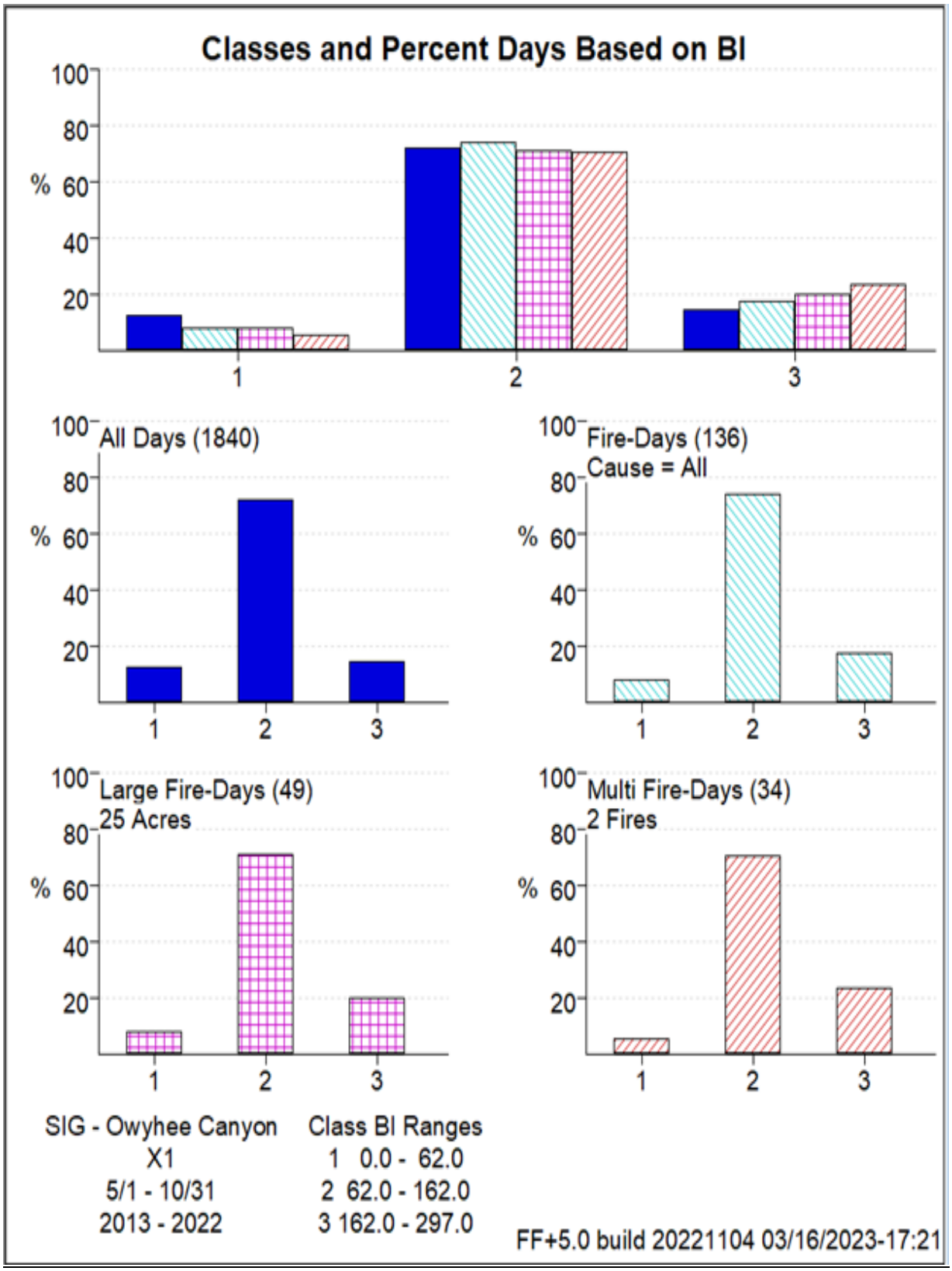
Snake River and Foothills FDRA – Dispatch Level Supporting Documentation



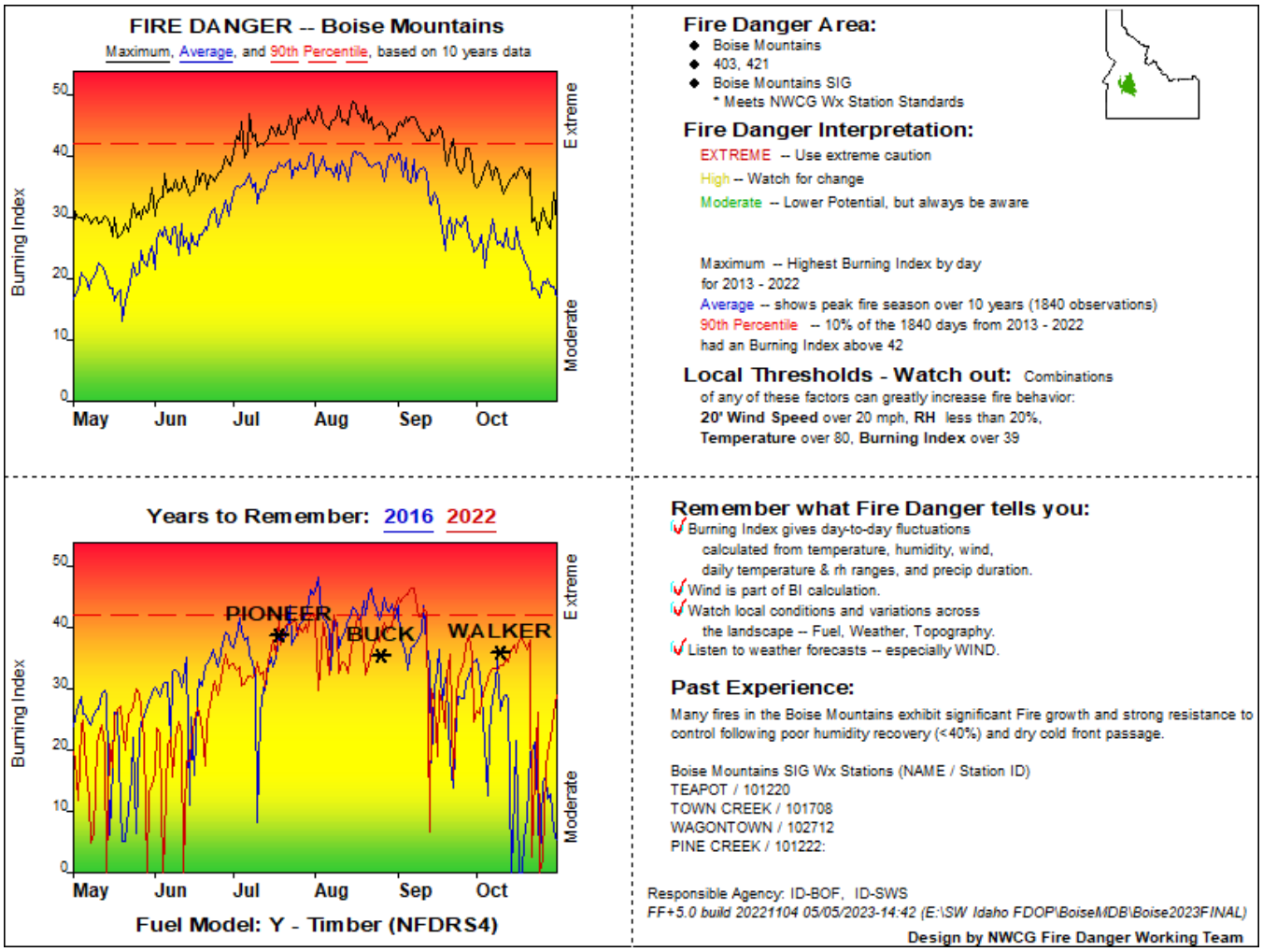
Owyhee Canyonlands FDRA – Adjective Level Supporting Documentation

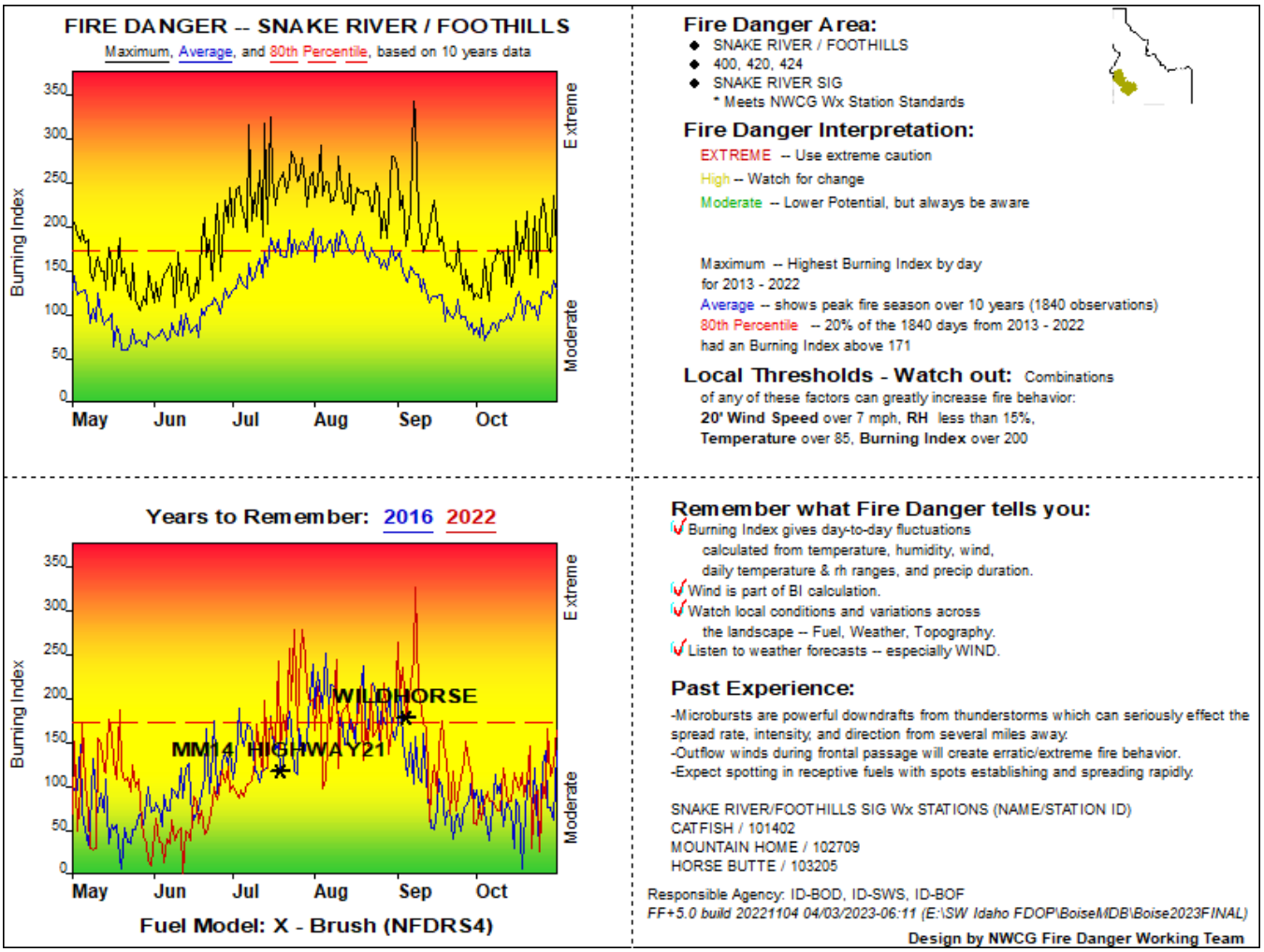


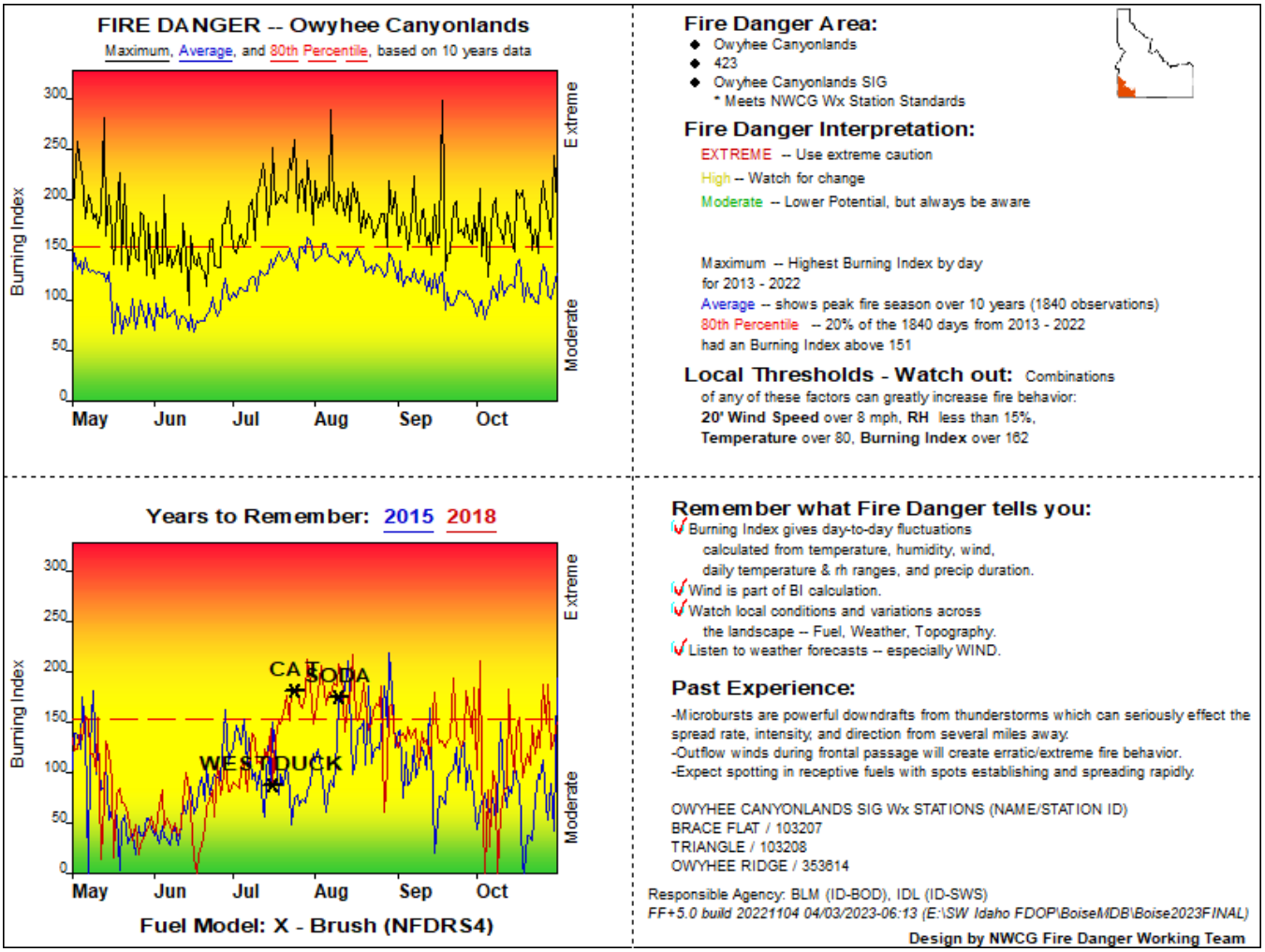
Owyhee Canyonlands FDRA – Dispatch Level Supporting Documentation



APPENDIX J: SOUTHWEST IDAHO FIRE DANGER POCKET CARDS




FIRE DANGER -- SNAKE RIVER / FOOTHILLS
Maximum, Average, and 80th Percentile, based on 10 years data
Burning Index
350
300
250
200
150
100
50
0
May
Jun
Jul
Aug
Sep
Oct
Extreme
Moderate
Fire Danger Area:
SNAKE RIVER / FOOTHILLS
400, 420, 424
SNAKE RIVER SIG
* Meets NWCG Wx Station Standards
Fire Danger Interpretation:
EXTREME -- Use extreme caution
High -- Watch for change
Moderate -- Lower Potential, but always be aware
Maximum -- Highest Burning Index by day for 2013 - 2022
Average -- shows peak fire season over 10 years (1840 observations)
80th Percentile -- 20% of the 1840 days from 2013 - 2022 had an Burning Index above 171
Local Thresholds - Watch out: Combinations of any of these factors can greatly increase fire behavior:
20' Wind Speed over 7 mph, RH less than 15%,
Temperature over 85, Burning Index over 200
Years to Remember: 2016 2022
WILDHORSE
MM14 HIGHWAY21
Fuel Model: X - Brush (NFDRS4)
Remember what Fire Danger tells you:
Burning Index gives day-to-day fluctuations calculated from temperature, humidity, wind, daily temperature & rh ranges, and precip duration.
Wind is part of BI calculation.
Watch local conditions and variations across the landscape -- Fuel, Weather, Topography.
Listen to weather forecasts -- especially WIND.
Past Experience:
-Microbursts are powerful downdrafts from thunderstorms which can seriously effect the spread rate, intensity, and direction from several miles away.
-Outflow winds during frontal passage will create erratic/extreme fire behavior.
-Expect spotting in receptive fuels with spots establishing and spreading rapidly.
SNAKE RIVER/FOOTHILLS SIG Wx STATIONS (NAME/STATION ID)
CATFISH / 101402
MOUNTAIN HOME / 102709
HORSE BUTTE / 103205
Responsible Agency: ID-BOD, ID-SWS, ID-BOF
FF+5.0 build 20221104 04/03/2023-06:11 (E:\SW Idaho FDOP\BoiseMDB\Boise2023FINAL)
Design by NWCG Fire Danger Working Team


FIRE DANGER -- Owyhee Canyonlands
Maximum, Average, and 80th Percentile, based on 10 years data
Burning Index
300
250
200
150
100
50
0
May
Jun
Jul
Aug
Sep
Oct
Extreme
Moderate
Fire Danger Area:
Owyhee Canyonlands
423
Owyhee Canyonlands SIG
* Meets NWCG Wx Station Standards
Fire Danger Interpretation:
EXTREME -- Use extreme caution
High -- Watch for change
Moderate -- Lower Potential, but always be aware
Maximum -- Highest Burning Index by day for 2013 - 2022
Average -- shows peak fire season over 10 years (1840 observations)
80th Percentile -- 20% of the 1840 days from 2013 - 2022 had an Burning Index above 151
Local Thresholds - Watch out: Combinations of any of these factors can greatly increase fire behavior:
20' Wind Speed over 8 mph, RH less than 15%,
Temperature over 80, Burning Index over 162
Years to Remember: 2015 2018
CAT SODA
WEST DUCK
Fuel Model: X - Brush (NFDRS4)
Remember what Fire Danger tells you:
Burning Index gives day-to-day fluctuations calculated from temperature, humidity, wind, daily temperature & rh ranges, and precip duration.
Wind is part of BI calculation.
Watch local conditions and variations across the landscape -- Fuel, Weather, Topography.
Listen to weather forecasts -- especially WIND.
Past Experience:
-Microbursts are powerful downdrafts from thunderstorms which can seriously effect the spread rate, intensity, and direction from several miles away.
-Outflow winds during frontal passage will create erratic/extreme fire behavior.
-Expect spotting in receptive fuels with spots establishing and spreading rapidly.
OWYHEE CANYONLANDS SIG Wx STATIONS (NAME/STATION ID)
BRACE FLAT / 103207
TRIANGLE / 103208
OWYHEE RIDGE / 353614
Responsible Agency: BLM (ID-BOD), IDL (ID-SWS)
FF+5.0 build 20221104 04/03/2023-06:13 (E:\SW Idaho FDOP\BoiseMDB\Boise2023FINAL)
Design by NWCG Fire Danger Working Team

APPENDIX K: SOUTHWEST IDAHO FDOP TECHNICAL GROUPS

2023 Revision

Name Andra Peterson
Title Boise Interagency Dispatch Assistant Center Manger - Intel
Agency Boise District BLM

Name Joshua Warden
Title District Fire Management Officer – Cascade RD
Agency Boise National Forest USFS

Name Chris Boldman
Title District Fire Management Officer – Idaho City RD
Agency Boise National Forest USFS

Name Rory Anderton
Title Crew Supervisor (Crew 41) – Cascade RD
Agency Boise National Forest USFS

Name Mark Rich
Title Boise Interagency Dispatch Lead Dispatcher/Intel
Agency Boise District BLM

Name Steve Jimenez
Title Fuels
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Name Nolin Page
Title Fuels
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Name Tyke Lofing
Title Assistant Fire Warden
Agency Southwest Idaho Area Office, Idaho Department of Lands

2022 Revision

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Name Matt Sorensen

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Agency Boise National Forest USFS

Name Ryan Jones
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Name Mark Rich
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Agency Boise District BLM

Name Rich Zimmerlee
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Name Daniel Betts
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Agency Boise District BLM

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Agency Boise National Forest USFS

Name Mike Towers
Title Boise Interagency Dispatch Center Manager - Acting
Agency Boise National Forest USFS

Name Chris Boldman
Title District Fire Management Officer – Idaho City RD
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Name Chris Cromwell
Title Fuels
Agency Boise District BLM

Name Patrick Morgan
Title Fire Planner
Agency Boise National Forest USFS

2021 Revision

Name Elise Hawes
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Name Jill Leguineche
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Agency Boise National Forest USFS

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Agency Boise District BLM

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Name Annie Benoit
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Name Josh Erickson
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Agency Boise National Forest USFS

Name Doug Marolf
Title Forest Aviation Officer
Agency Boise National Forest USFS

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Name Dan Christman
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Name Bob Shindelar
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Agency Boise National Forest USFS

Name Andy Delmas
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Name Dusty Pence
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Name Chris Cromwell
Title Fire Mitigation Specialist
Agency Boise District BLM

2012 Revision

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Agency Boise District BLM

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Agency Boise District BLM

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Name Bob Shindelar
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Agency Boise District BLM

2008 Fire Danger Operating Plan Major Revision:

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Name Rex Miller
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Name Albert Linch
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Name Kathy Geier-Hayes
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Name Stephaney Church
Title Boise Interagency Dispatch Center Manager
Agency Boise National Forest USFS

APPENDIX L: CHANGES TO FDOP BY YEAR

Changes for 2023

- Updated years used to 2013 through 2022 (10 years).
- Added 2 years (2021 & 2022) of data (Weather Observations and Fire Occurrence).
- Edited Fire Occurrence (Large Fires) dates in the Boise Mountains FDRA for the previous 10 years to reflect both date of "escape" and large growth days. Discontinued use of MODIS FRP for large fires.
- Edited InFORM Fire Occurrence Data in Snake River & Foothills FRDA to remove Owyhee Training Range fire occurrence. Included InFORM Fire Occurrence Data from 2021and 2022 of IDOEM/City/County vegetation and wildland fires (not BDC response).
- Adjective level and response level breakpoints were updated for all FDRA's due to the changes in Fuel Models.
- Modified local format of pocket card to more closely resemble the standard NWCG pocket card requirements. Fuel Model and Index adjustments as described below.
- Adjusted fuel models through analyses of weather, fuel, and fire occurrence data and evaluating Chi ^{2} analysis for which FM best* correlated. Additionally, analyzed decision space graphs for the below FDRAs:
    - Boise Mountains went from X-Brush to Y-Timber
        - Dispatch Level – BI-Y
        - Preparedness Level – ERC-Y
    - Snake River & Foothills went from Y-Timber to X-Brush

* After analyzing outputs and trends from 2021and 2022, Faith Ann Heinsch from the Firelab in Missoula was consulted to review the stations using FM X. Her recommendation was to switch the Mountains FDRA stations to FM Y which supported our ananlysis.

Changes for 2022

- No changes or updates. (Updated breakpoints were discussed and agreed upon, but ultimately did not end up getting the plan changed or updated)

Changes for 2021

- Transitioned to the NFDRS16 Fuel Models (Grass, Grass/Shrub, Shrub, Timber, Slash) and chose which fuel model correlated best for each FDRA using Chi^2.
    - Boise Mountains – X – Brush
    - Snake River and Foothills - Y – Timber
    - Owyhee and Canyonlands – X – Brush
- Updated years used to 2011 through 2020 (10 years).
    - Pocket Cards
    - Fire Summary Charts – Pages 10-16

- Changed RAWS Stations within the Boise Mountains SIG to Wagontown, Teapot, Pine Creek and Town Creek. Removed Little Anderson because it did not have 10 years of solar radiation data, which is needed with NFDRS16. Thought Town Creek would cover that area as they are close in elevation and location.

- Used Modis and Point (Fire reporting) data to run Chi^2 for all FDRA's. Utilized Modis data to determine Boise Mountain breakpoints as it correlated the best and used Point data for both Snake River & Foothills and Owyhee. **Note Modis data is better at showing large fire growth, especially in timber**.
- Adjective level and response level breakpoints were updated for all FDRA's due to the changes in Fuel Models.
- Adjective level will be calculated by ERC breakpoints only and no longer used in conjunction with Ignition Component. In addition, we will run the adjective level daily but will only post to website on Sunday or when significant events occur to assist prevention employees and for consistent messaging to the public.
- New pocket cards and Seasonal Trend Analysis created. Added information on Season Trend Analysis as it is the new BLM standard.
- Updated all maps, tables and graphs that are within the FDOP document. Removed Probability and Percentage charts in Appendix I.
- Added subordinate plan links to appendices.

Changes for 2020

- Spring of 2020 FDOP workshop was cancelled due to COVID-19. Changed dates to 2020, updated the Response Zone map due to minor changes.

Changes for 2019

- Spring of 2019 FDOP workshop was cancelled (rescheduled for Fall 2019) so minor changes were made to the date of the document and the pocket card was updated with the 2018 version.

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.
    - 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.