

**National Interagency Coordination Center**  
**Incident Management Situation Report**  
**Sunday, August 28, 2016 – 0530 MT**  
**National Preparedness Level 4**

**National Fire Activity**

Initial attack activity:	Light (98 new fires)
New large incidents:	2
Large fires contained:	3
Uncontained large fires:**	27
Area Command Teams Committed:	0
NIMOs committed:	1
Type 1 IMTs committed:	8
Type 2 IMTs committed:	11

\*\*Uncontained large fires include only fires being managed under a full suppression strategy.

[Link](#) to Geographic Area daily reports.

One MAFFS C-130 air tanker and support personnel each from the 153<sup>rd</sup> Airlift Wing, (Wyoming Air National Guard) and the 302<sup>nd</sup> Airlift Wing, (Colorado Springs, Air Force Reserve) have been deployed to Boise, ID in support of wildland fire operations.

One Convair 580 airtanker group from both British Columbia and Alberta have been deployed to Pocatello and Twin Falls, Idaho in support of wildland fire operations.

**Southern California Area (PL 4)**

New fires:	19
New large incidents:	0
Uncontained large fires:	5
Type 1 IMTs committed:	4

**Soberanes**, San Benito-Monterey Unit, Cal Fire. IMT 1 (Kurth). Seven miles northwest of Big Sur, CA. Timber, chaparral and tall grass. Active fire behavior with uphill runs, short-range spotting and flanking. Numerous structures threatened. Evacuations, road, area and trail closures in effect.

**Chimney**, San Luis Obispo Unit, Cal Fire. Cal Fire IMT 1 (Patterson). Fifteen miles west of Paso Robles, CA. Timber and chaparral. Active fire behavior. Numerous structures threatened. Evacuations, road and area closures in effect.

**Cedar**, Sequoia NF. IMT 1 (Minton). Five miles north of Alta Sierra, CA. Timber and chaparral. Active fire behavior with short crown runs, group torching and short-range spotting. Numerous structures threatened. Evacuations, road, trail and area closures in effect.

**Rey**, Los Padres NF. IMT 1 (McGowan). Seven miles north of Goleta, CA. Chaparral. Moderate fire behavior with backing. Structures threatened. Road, trail and area closures in effect.

**Range**, Kern County. Five miles east of Arvin, CA. Timber, brush and tall grass. Minimal fire behavior. Residences threatened. Evacuations, road and area closures in effect.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Soberanes	CA-BEU	91,453	353	60	Ctn	9/30	1,496	-5	24	72	12	68	164.3M	ST
Chimney	CA-SLU	45,108	100	52	Ctn	9/3	3,896	-89	97	312	14	70	57.7M	ST
Cedar	CA-SQF	29,040	200	30	Ctn	9/15	2,436	18	42	185	17	6	35.4M	FS

Incident Name	Unit	Size		%	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Rey	CA-LPF	33,006	0	54	Ctn	8/31	1,408	-391	42	31	16	5	21.4M	FS
Range	CA-KRN	516	---	68	Ctn	8/31	544	---	12	68	1	0	1.2M	CNTY

#### Great Basin Area (PL 4)

New fires:	15
New large incidents:	0
Uncontained large fires:	4
Type 1 IMTs committed:	1
Type 2 IMTs committed:	3

**Pioneer**, Boise NF. IMT 1 (Lund). Eight miles north of Idaho City, ID. Timber. Active fire behavior with running, spotting and group torching. Structures threatened. Road, area and trail closures in effect.

**Henry's Creek**, Bonneville County. IMT 2 (DeMasters). Seven miles southeast of Idaho Falls, ID. Brush and short grass. Moderate fire behavior with creeping and smoldering. Structures and sage-grouse habitat threatened. Road, area and trail closures in effect.

**Berry**, Grand Teton NP. IMT 2 (Roide). Nineteen miles northwest of Moran, WY. Timber and short grass. Moderate fire behavior with wind-driven runs, spotting and group torching. Structures threatened. Evacuations, road, area and trail closures in effect.

**Tie**, Caribou-Targhee NF. IMT 2 (Bird). Ten miles southwest of Victor, Idaho. Timber and brush. Active fire behavior with uphill runs, spotting and group torching. Structures threatened. Road, area and trail closures in effect. Reduction in acreage due to more accurate mapping.

**Peterson Hollow**, Uinta/Wasatch-Cache NF. Twelve miles northwest of Garden City, UT. Timber. Moderate fire behavior with group torching, spotting and backing. Structures threatened. Road, area and trail closures in effect. Reduction in acreage due to more accurate mapping.

**Box Canyon**, Uinta/Wasatch-Cache NF. Previously reported incident. Twenty-three miles northeast of Heber City, UT. Timber and closed timber litter. Moderate fire behavior with spotting and torching. Structures threatened. Road, area and trail closures in effect. Last report unless significant activity occurs.

Incident Name	Unit	Size		%	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Pioneer	ID-BOF	105,475	1,212	58	Ctn	10/15	1,399	-148	30	62	9	5	71.4M	FS
Henry's Creek	ID-8BN	52,972	461	68	Ctn	9/5	462	19	10	26	8	3	3.2M	CNTY
Berry	WY-GTP	12,378	0	35	Comp	10/1	379	28	7	18	5	0	2.3M	NPS
Tie	ID-CTF	978	-282	44	Ctn	9/15	328	78	8	8	5	0	1.3M	FS
Peterson Hollow	UT-UWF	1,187	-13	20	Ctn	9/8	324	72	9	14	5	0	2.2M	FS
Box Canyon	UT-UWF	3,947	1,979	20	Comp	10/31	48	23	2	5	1	0	2M	FS
Toponce Creek	ID-EIS	265	0	100	Ctn	---	15	0	0	1	1	0	1.5M	ST

### Northwest Area (PL 3)

New fires:	14
New large incidents:	0
Uncontained large fires:	9
Type 1 IMTs committed:	1
Type 2 IMTs committed:	6

**Cayuse Mtn.**, Spokane Agency, BIA. IMT 2 (Goff). Eight miles south west of Wellpinit, WA. Timber and tall grass. Moderate fire behavior with single tree torching, short-range spotting and creeping. Numerous structures threatened. Evacuations, road and trail closures in effect.

**Deep North**, Northeast Region, Washington DNR. IMT 2 (Ciraulo). Thirty-one miles northeast of Colville, WA. Timber and brush. Moderate fire behavior with flanking, creeping and smoldering. Residences threatened.

**Spokane Complex**, Northeast Region, Washington DNR. IMT 2 (Rabe). Twelve miles south of Spokane, WA. Timber and short grass. Minimal fire behavior. Numerous structures threatened.

**Rail**, Wallowa-Whitman NF. IMT 2 (Sheldon) and IMT 2 (Gales). Five miles west of Unity, OR. Timber. Moderate fire behavior with single tree torching, flanking and backing. Structures threatened. Road, trail and area closures in effect.

**High Pass**, Western Lane District, Oregon DOF. ODF IMT 1 (Cline). Ten miles west of Junction City, OR. Timber and medium logging slash. Active fire behavior with torching and creeping. Residences threatened. Road closures in effect.

**Hart**, Northeast Region, Washington DNR. Transfer of command from IMT 2 (Knerr) back to local unit will occur today. Thirty-five miles northwest of Spokane, WA. Timber and short grass. Minimal fire behavior. Numerous structures threatened.

**Cherry Road**, Vale District, BLM. Seven miles southwest of Adrian, OR. Brush and short grass. Minimal fire behavior. Reduction in acreage due to more accurate mapping.

**Cleveland Ridge**, Medford Unit, Oregon DOF. Twenty-two miles north of Medford, OR. Timber, brush, and short grass. No new information.

**Pickens North**, Northeast Region, Washington DNR. Started on private land eight miles southwest of Tonasket, WA. Timber, brush, and short grass. No new information.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Cayuse Mtn.	WA-SPA	18,417	0	65	Ctn	8/31	451	35	9	29	4	23	1.9M	BIA
Deep North	WA-NES	596	0	60	Ctn	8/30	692	116	21	38	2	0	3M	ST
Spokane Complex	WA-NES	6,195	0	95	Ctn	8/30	649	-41	10	74	4	17	3.9M	ST
Rail	OR-WWF	34,369	629	58	Ctn	8/31	836	-58	21	38	7	1	24.4M	FS
High Pass	OR-781S	195	45	35	Ctn	9/1	573	337	22	12	6	0	1.2M	ST
Hart	WA-NES	4,983	0	95	Ctn	9/1	229	0	5	17	0	39	1.9M	ST
Cherry Road	OR-VAD	32,000	0	95	Ctn	8/29	32	-6	0	8	0	0	1.8M	BLM
Cleveland Ridge	OR-711S	530	-105	50	Ctn	8/31	464	0	29	23	7	0	1.9M	ST
Pickens North	WA-NES	760	160	80	Ctn	8/30	124	64	2	18	2	1	175K	PRI
2500 Road	OR-553S	202	0	100	Ctn	---	208	-91	8	6	1	0	1.2M	ST

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Chge	Total				Chge	Crw	Eng	Heli				
Tule #6	WA-YAA	6,200	0	100	Comp	---	34	-126	0	4	0	0	700K	BIA

553S - Toledo Unit, Oregon DOF

YAA - Yakima Agency BIA

### Northern Rockies Area (PL 3)

New fires:	8
New large incidents:	2
Uncontained large fires:	3
Type 1 IMTs Committed:	1
Type 2 IMTs Committed:	2

\* **John Doe**, West St. Joe Area Office, Idaho Department of Lands. IMT 2 (Connell). Nine miles southwest of St. Maries, ID. Heavy logging slash. Active fire behavior with running and spotting.

**Copper King**, Lolo NF. IMT 1 (Poncin). Seven miles east of Thompson Falls, MT. Timber. Moderate fire behavior with isolated torching, backing and creeping. Residences threatened. Evacuations, road, area and trail closures in effect.

**Maple**, Yellowstone NP. IMT 2 (Hutton). Four miles northeast of West Yellowstone, MT. Timber and grass. Moderate fire behavior. Structures threatened. Trail and area closures in effect.

\* **Clear Creek**, Flathead Agency, BIA. Thirteen miles southeast of Plains, MT. Timber, brush and tall grass. Active fire behavior with running, torching and creeping. Structures threatened.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Chge	Total				Chge	Crw	Eng	Heli				
* John Doe	ID-SJS	500	---	0	Ctn	8/31	47	---	0	4	2	0	25K	ST
Copper King	MT-LNF	23,432	967	15	Ctn	10/31	782	64	18	39	10	0	13.8M	FS
Maple	WY-YNP	31,029	902	0	Comp	10/15	204	22	4	3	2	0	810K	NPS
* Clear Creek	MT-FHA	500	---	0	Ctn	8/31	85	---	2	5	2	0	200K	BIA

### Northern California (PL 3)

New fires:	23
New large incidents:	0
Uncontained large fires:	2
Type 1 IMTs Committed:	1

**Tulley**, Humboldt-Del Norte Unit, Cal Fire. Cal Fire IMT 1 (Lawson). Six miles north of Weitchpec, CA. Timber and heavy logging slash. Moderate fire behavior with backing and creeping. Residences threatened.

**Grade**, Siskiyou Unit, Cal Fire. Two miles north of Yreka, CA. Timber, chaparral and tall grass. Minimal fire behavior. Numerous structures threatened.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Chge	Total				Chge	Crw	Eng	Heli				
Tulley	CA-HUU	599	28	40	Ctn	9/2	1,396	-94	48	69	10	3	9M	ST
Grade	CA-SKU	710	0	85	Ctn	8/31	386	-237	13	20	0	10	1.8M	ST

## Rocky Mountain (PL 2)

New fires:	8
New large incidents:	0
Uncontained large fires:	3
NIMOs Committed:	1

**Beaver Creek**, Routt NF. NIMO (Hahnenberg). NIMO is also managing the Broadway fire. Twenty-four miles north of Walden, CO. Timber and brush. Moderate fire behavior with torching, creeping and smoldering. Numerous structures and sage-grouse habitat threatened. Road, area and trail closures in effect.

**Broadway**, Medicine Bow NF. Thirty miles northwest of Walden, CO. Timber and brush. Moderate fire behavior with torching and backing. Road, area and trail closures in effect.

**Hunter Peak**, Shoshone NF. Fifteen miles southeast of Cooke City, MT. Closed timber litter, brush and short grass. Minimal fire behavior. Structures threatened. Trail closures in effect.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Chge	Total				Chge	Total	Crw	Eng	Heli			
Beaver Creek	CO-RTF	37,403	0	53	Ctn	10/21	257	2	2	13	4	17	24.7M	FS
Broadway	WY-MBF	246	0	0	Ctn	10/21	68	13	2	1	0	0	578K	FS
Hunter Peak	WY-SHF	3,572	100	73	Ctn	10/1	80	0	1	2	1	0	6.8M	FS

## Southern Area (PL 1)

New fires:	11
New large incidents:	0
Uncontained large fires:	1

**Spanish Peaks**, Oklahoma DOF. Five miles southeast of Liberty, OK. Hardwood litter and tall grass. Minimal fire behavior.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Chge	Total				Chge	Total	Crw	Eng	Heli			
Spanish Peaks	OK-OKS	263	0	95	Ctn	8/28	4	0	0	2	0	0	81K	ST

Active Incident Resource Summary						
GACC	Fires	Cumulative Acres	Crews	Engines	Helicopters	Total Personnel
AICC	1	58,137.8	0	0	0	0
NWCC	19	116,798	133	277	34	4,472
ONCC	3	5,238	61	91	11	1,814
OSCC	7	235,616	222	676	64	10,043
NRCC	16	79,668.6	26	69	19	1,346
GBCC	21	199,526	79	174	39	3,640
SWCC	2	431	0	1	0	4
RMCC	9	70,138.4	7	27	6	532
EACC	1	127	0	0	0	0
SACC	1	263	0	2	0	4
<b>Total</b>	<b>80</b>	<b>765,943.8</b>	<b>528</b>	<b>1,317</b>	<b>173</b>	<b>21,855</b>

**Fires and Acres Yesterday (by Protection):**

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alaska Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Northwest Area	FIREs	2	1	0	0	5	6	14
	ACRES	2	0	0	0	3	958	963
Northern California Area	FIREs	0	0	0	0	20	3	23
	ACRES	0	0	0	0	130	4	134
Southern California Area	FIREs	0	1	2	0	11	5	19
	ACRES	0	0	101	0	3,821	46,006	49,928
Northern Rockies Area	FIREs	2	1	0	0	4	1	8
	ACRES	514	25	0	0	530	967	2,036
Great Basin Area	FIREs	0	7	0	1	2	5	15
	ACRES	0	1	0	0	987	2,799	3,787
Southwest Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Rocky Mountain Area	FIREs	0	0	0	0	3	5	8
	ACRES	0	0	0	0	10	1	11
Eastern Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Southern Area	FIREs	0	0	0	0	11	0	11
	ACRES	0	0	0	0	14	0	14
<b>TOTAL FIRES:</b>		<b>4</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>56</b>	<b>25</b>	<b>98</b>
<b>TOTAL ACRES:</b>		<b>516</b>	<b>26</b>	<b>101</b>	<b>0</b>	<b>5,495</b>	<b>50,735</b>	<b>56,873</b>

**Fires and Acres Year-to-Date (by Protection):**

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alaska Area	FIREs	0	180	0	0	334	16	530
	ACRES	0	394,808	0	0	104,812	3	499,623
Northwest Area	FIREs	274	184	26	25	1,049	2,433	3,991
	ACRES	36,154	332,626	1,866	2,480	17,276	35,581	425,983
Northern California Area	FIREs	97	6	1	25	2,041	318	2,488
	ACRES	139	11	1	5	36,627	8,732	45,515
Southern California Area	FIREs	11	75	8	39	2,441	285	2,859
	ACRES	5,971	29,857	370	1,071	165,774	221,459	424,502
Northern Rockies Area	FIREs	584	93	10	22	992	377	2,078
	ACRES	8,795	4,831	1,933	17,273	33,643	46,598	113,073
Great Basin Area	FIREs	27	622	7	42	515	404	1,617
	ACRES	12,443	294,115	3	15,603	140,318	171,044	633,526
Southwest Area	FIREs	637	218	10	60	962	1,028	2,915
	ACRES	79,585	66,474	6,976	32,185	130,866	242,035	558,121
Rocky Mountain Area	FIREs	623	379	12	22	994	411	2,441
	ACRES	22,087	26,256	614	2,127	454,831	72,089	578,004
Eastern Area	FIREs	490	0	25	19	5,315	360	6,209
	ACRES	2,007	0	1,087	910	30,951	7,155	42,110
Southern Area	FIREs	346	0	52	54	15,524	439	16,415
	ACRES	132,796	0	1,219	27,567	928,375	43,371	1,133,328
<b>TOTAL FIRES:</b>		<b>3,089</b>	<b>1,757</b>	<b>151</b>	<b>308</b>	<b>30,167</b>	<b>6,071</b>	<b>41,543</b>
<b>TOTAL ACRES:</b>		<b>299,977</b>	<b>1,148,978</b>	<b>14,069</b>	<b>99,221</b>	<b>2,043,473</b>	<b>848,067</b>	<b>4,453,785</b>

<b>Ten Year Average Fires (2006 – 2015 as of today)</b>	<b>52,602</b>
<b>Ten Year Average Acres (2006 – 2015 as of today)</b>	<b>5,485,739</b>

**Prescribed Fires and Acres Yesterday (by Ownership):**

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alaska Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Northwest Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Northern California Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Southern California Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Northern Rockies Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Great Basin Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Southwest Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Rocky Mountain Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Eastern Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Southern Area	FIREs	0	0	0	0	25	0	25
	ACRES	0	0	0	0	73	0	73
<b>TOTAL FIRES:</b>		0	0	0	0	25	0	25
<b>TOTAL ACRES:</b>		0	0	0	0	73	0	73

**Prescribed Fires and Acres Year-to-Date (by Ownership):**

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alaska Area	FIREs	0	7	0	0	2	1	10
	ACRES	0	31,664	0	0	1,566	38	33,268
Northwest Area	FIREs	9	22	6	0	0	152	189
	ACRES	8,752	1,991	356	0	0	24,097	35,196
Northern California Area	FIREs	4	1	9	8	0	126	148
	ACRES	41	90	3,356	328	0	8,244	12,059
Southern California Area	FIREs	0	5	4	1	0	136	146
	ACRES	0	71	422	760	0	3,587	4,840
Northern Rockies Area	FIREs	12	12	53	11	14	151	253
	ACRES	5,316	4,358	12,318	651	698	14,904	38,245
Great Basin Area	FIREs	4	22	6	5	36	75	148
	ACRES	110	2,296	3,584	128	915	26,105	33,138
Southwest Area	FIREs	8	30	3	9	1	122	173
	ACRES	894	26,591	92	2,333	2	63,004	92,916
Rocky Mountain Area	FIREs	25	33	58	24	76	71	287
	ACRES	1,635	2,908	26,221	10,952	4,482	28,161	74,359
Eastern Area	FIREs	87	0	349	23	908	182	1,549
	ACRES	45,614	0	51,090	5,774	61,747	56,182	220,407
Southern Area	FIREs	21	0	198	65	10,539	923	11,746
	ACRES	4,269	0	165,034	51,546	674,866	841,383	1,737,098
<b>TOTAL FIRES:</b>		<b>170</b>	<b>132</b>	<b>686</b>	<b>146</b>	<b>11,576</b>	<b>1,939</b>	<b>14,649</b>
<b>TOTAL ACRES:</b>		<b>66,631</b>	<b>69,969</b>	<b>262,473</b>	<b>72,472</b>	<b>744,276</b>	<b>1,065,705</b>	<b>2,281,526</b>

\*\*\* Changes in some agency YTD acres reflect more accurate mapping or reporting adjustments. \*\*\*

Additional wildfire information is available through the Geographic Areas at <http://gacc.nifc.gov/>

### Canada Fires and Hectares

PROVINCES	FIRES YESTERDAY	HECTARES YESTERDAY	FIRES YEAR-TO-DATE	HECTARES YEAR-TO-DATE
BRITISH COLUMBIA	0	0	946	99,351
YUKON TERRITORY	0	0	52	21,568
ALBERTA	0	0	1,242	612,132
NORTHWEST TERRITORY	0	0	186	229,755
SASKATCHEWAN	0	0	358	260,029
MANITOBA	1	3	193	36,498
ONTARIO	4	0	604	86,531
QUEBEC	0	0	547	32,609
NEWFOUNDLAND	0	0	88	10,962
NEW BRUNSWICK	0	0	263	262
NOVA SCOTIA	1	0	243	761
PRINCE EDWARD ISLAND	0	0	6	19
NATIONAL PARKS	0	0	60	8,423
<b>TOTALS</b>	<b>6</b>	<b>3</b>	<b>4,788</b>	<b>1,398,901</b>

\* 1 Hectare = 2.47 Acres

**Predictive Services Discussion:** Scattered thunderstorms will develop across the southern and central Rockies with isolated thunderstorms possible over higher terrain of the southern Great Basin. Scattered thunderstorms will continue along the Gulf Coast and along a front stretching from Texas to New England. Temperatures will be mild across the Upper Midwest and the Rockies. Warm weather will continue over most of the South and East with very warm weather in much of the West.

<http://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>



## New Research on Safety Zones

*Operational Engagement*

[If you have computer or smart phone access, please watch the video for this subject using the link or QR code...Otherwise, read on Old School...]



First, a Fire Behavior 101 refresher: You can warm yourself around the sides of a campfire for quite some time; that's **radiant heat**. If you hold your hands over the top of the fire, you'll get burned relatively quickly; that's **convective heat**.

Basically, wind or slope can tip the flames over, so that the convective heat is no longer going straight up, but is now aimed more along the ground, sending the heat and hot gasses much further ahead. This causes pre heating of the fuels, faster fire spread and greater fire intensities. You'll need a larger Safety Zone if that fire is coming towards you.

The current equation for safety zone size in the IRPG (page 8) is:

$$4 \times \text{Flame Height} = \text{Safe Separation Distance}$$

To make estimations of flame height though, you either have to use past fire behavior observations or use your experience to guess what the fire may do in the future. After a decade of research, Bret Butler, at the Missoula Technology and Development Center, suggests removing the uncertainty and guesswork that comes with estimating flame height by taking the general rule of thumb:  $\text{Flame Height} = 2 \times \text{Vegetation Height}$

...and substituting that Flame Height equation into the original IRPG equation, to give:

$$4 \times 2 \times \text{Vegetation Height} = \text{Safe Separation Distance}$$
$$8 \times \text{Vegetation Height} = \text{Safe Separation Distance}$$

But remember, that's still for **radiant heat** only, on flat ground, with no wind. To take into account the **convective heat** from slope or wind, Butler's research suggests that a "Slope Wind Factor" is needed in the equation:

$$8 \times \text{Vegetation Height} \times \text{Slope Wind Factor} = \text{Safe Separation Distance}$$

But what is the Slope Wind Factor? Current research is indicating that the Slope Wind Factor is between 1 and 10; with Butler arguing it may be closer to between 1 and 5. Butler's ongoing research is focused on answering that question by gathering sensor data on fires, running computer simulations, and refining the models...Stay tuned.

In the meantime, utilize the calculations on page 8 of your IRGP to help you determine a bare minimum size for your safety zone with the understanding that slope and wind need to be considered in your decision making.

But remember, a safety zone is only good if you can get there...join us tomorrow for some thoughts on Escape Routes.

**Have an idea? Have feedback? Share it.**