

National Interagency Coordination Center
Incident Management Situation Report
Friday, July 29, 2022 – 0730 MDT
National Preparedness Level 3

National Fire Activity:

Initial attack activity:	Light (109 fires)
New large incidents:	1
Large fires contained:	4
Uncontained large fires: **	11
Area Command teams committed:	0
NIMOs committed:	0
Type 1 IMTs committed:	5
Type 2 IMTs committed:	5
***Complex IMTs committed:	1

***Complex Incident Management Teams (CIMTs) are configured to respond to large, complex fires and can expand and reduce staffing in all functional areas as necessary to meet the needs of the incident.

Nationally, there are 71 fires being managed under a strategy other than full suppression.

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

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

[Link](#) to Understanding the IMSR.

One RC-26 aircraft with Distributed Real-Time Infrared (DRTI) capability and support personnel from the 141st Air Refueling Wing (Washington Air National Guard) have been deployed to Boise, ID. One RC-26 aircraft with Distributed Real-Time Infrared (DRTI) capability and support personnel from the 162nd Operations Group (Arizona Air National Guard) have been deployed to St. George, UT in support of wildland fire operations.

Active Incident Resource Summary							
GACC	Incidents	Cumulative Acres	Crews	Engines	Helicopters	Total Personnel	Change in Personnel
AICC	9	1,723,262	13	7	11	685	-3
NWCC	1	1,200	0	11	0	42	0
ONCC	2	6,846	0	2	0	7	0
OSCC	3	24,498	86	313	25	3,989	-58
NRCC	5	3,500	11	17	3	381	12
GBCC	12	88,517	28	84	18	1,532	-61
SWCC	7	381,601	13	15	4	727	-172
RMCC	6	19,494	10	55	6	482	46
EACC	0	0	0	0	0	0	0
SACC	22	32,620	4	84	5	534	-6
Total	67	2,281,539	165	588	72	8,379	-242

Great Basin Area (PL 3)

New fires:	14
New large incidents:	0
Uncontained large fires:	3
Type 1 IMTs committed:	2
Type 2 IMTs committed:	1

Moose, Salmon-Challis NF, USFS. IMT 1 (GB Team 2). IMT 1 (GB Team 1) mobilizing. Seventeen miles north of Salmon, ID. Timber. Extreme fire behavior with crowning, group torching and long-range spotting. Numerous structures threatened. Evacuations, area, road and trail closures in effect.

Dodge Springs, Ely District, BLM. Transfer of command from IMT 2 (GB Team 6) back to the local unit will occur tomorrow. Thirty-eight miles north of Mesquite, NV. Short grass, brush and chaparral. Minimal fire behavior with creeping and smoldering. Structures threatened.

Heath Canyon, Ely District, BLM. Twenty miles southwest of Lund, NV. Timber, brush and short grass. Minimal fire behavior with creeping, smoldering and isolated torching.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Moose	ID-SCF	40,388	2,067	15	Ctn	8/30	922	45	17	62	10	4	12M	FS
Dodge Springs	NV-ELD	5,635	0	98	Ctn	8/1	235	-69	4	2	3	0	3.3M	BLM
Heath Canyon	NV-ELD	419	0	25	Ctn	8/8	78	2	2	2	1	0	150K	BLM
Favre	ID-BOD	2,431	931	100	Ctn	---	32	-44	0	6	0	0	200K	C&L
Large Fires Being Managed with a Strategy Other Than Full Suppression Without a Type 1 or 2 IMT Assigned														
Halfway Hill	UT-SCS	11,701	0	83	Comp	9/15	99	-3	1	5	1	2	11.2M	ST
Woodtick	ID-SCF	1,814	41	20	Comp	9/15	96	0	3	3	1	0	470K	FS
Goshute	NV-EKD	1,966	0	90	Comp	9/1	0	0	0	0	0	0	3.2M	BLM
Wolf Fang	ID-SCF	768	337	0	Comp	10/1	1	0	0	0	0	0	30K	FS

BOD – Boise District, BLM SCS – South Central Area, Utah DOF EKD – Elko District, BLM

Southern Area (PL 3)

New fires:	21
New large incidents:	1
Uncontained large fires:	3
Type 1 IMTs committed:	1

Chalk Mountain, Texas A&M Forest Service. IMT 1 (SA Blue Team). Started on private land five miles southwest of Glen Rose, TX. Timber, tall grass and brush. Minimal fire behavior with backing, creeping and smoldering. Residences and energy infrastructure threatened.

217, Oklahoma DOF. Six miles northeast of Mooreland, OK. Timber, tall grass and brush. Moderate fire behavior with smoldering and single tree torching. Residences threatened. Evacuations in effect.

* **Pryor Creek**, Cherokee Nation Tribe. Four miles southeast of Pryor, OK. Hardwood litter. Active fire behavior with running, backing and flanking. Structures threatened.

Incident Name	Unit	Size		%	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Chalk Mountain	TX-TXS	6,746	0	67	Ctn	8/2	293	-16	3	16	1	17	5M	PRI
217	OK-OKS	19,072	0	80	Ctn	7/31	42	-19	0	13	2	1	760K	ST
* Pryor Creek	OK-CNA	118	---	50	Ctn	UNK	43	---	0	18	0	0	30K	TRI
San Gabriel	TX-TXS	446	0	100	Ctn	---	43	0	0	11	1	0	NR	PRI

Southern California Area (PL 2)

New fires:	10
New large incidents:	0
Uncontained large fires:	2
Type 1 IMTs committed:	1
Type 2 IMTs committed:	1

Oak, Mariposa-Merced Unit, Cal Fire. IMT 1 (Cal Fire Team 5). Five miles northeast of Mariposa, CA. Tall grass, chaparral and timber. Active fire behavior with backing, flanking and isolated torching. Several communities, numerous residences and energy infrastructure threatened. Evacuations, area, road and trail closures in effect.

Washburn, Yosemite NP, NPS. Transfer of command from IMT 2 (CA Team 15) back to the local unit will occur tomorrow. Three miles southeast of Wawona, CA. Timber, closed timber litter and brush. Minimal fire behavior with creeping and smoldering. Area, road and trail closures in effect.

Incident Name	Unit	Size		%	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Oak	CA-MMU	19,191	367	42	Ctn	8/6	3,794	36	85	308	21	135	28.2M	ST
Washburn	CA-YNP	4,886	3	95	Ctn	7/31	195	-94	1	5	4	0	34.2M	NPS

Alaska Area (PL 2)

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

Clear, Fairbanks Area, Alaska DOF. Transfer of command from IMT 1 (NR Team 1) back to the local unit will occur today. Ten miles northwest of Anderson, AK. Timber, hardwood litter and closed timber litter. Minimal fire behavior with creeping and smoldering. Structures threatened.

Bean Complex (3 fires), Tanana Zone, BLM. IMT 2 (NR Team 4). Started on state land 100 miles west of Fairbanks, AK. Timber and short grass. Minimal fire behavior with smoldering.

Poorman Complex (3 fires), Galena Zone, BLM. Previously reported incident. Thirty-eight miles southeast of Ruby, AK. Timber. No fire behavior received. Last narrative report unless significant activity occurs.

Dalton Highway Complex (6 fires), Tanana Zone, BLM. Seventy-seven miles northwest of Beaver, AK. Timber and short grass. Minimal fire behavior with creeping and backing. Energy infrastructure threatened. Precipitation occurred over the fire area yesterday. Last narrative report unless significant activity occurs.

Tolstine Creek, Southwest Area, Alaska DOF. Previously reported incident. Seventeen miles west of Ophir, AK. Timber. Minimal fire behavior with smoldering. Last narrative report unless significant activity occurs.

Incident Name	Unit	Size		%	Ctr/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Clear	AK-FAS	72,191	3	77	Comp	7/30	140	-33	2	4	2	33	24.9M	ST
Bean Complex	AK-TAD	197,142	356	85	Comp	10/1	166	2	2	0	3	0	11.3M	ST
Large Fires Being Managed with a Strategy Other Than Full Suppression Without a Type 1 or 2 IMT Assigned														
Poorman Complex	AK-GAD	140,356	11,924	0	Comp	8/1	65	0	1	0	0	0	135K	BLM
Dalton Highway Complex	AK-TAD	91,602	2,502	57	Comp	8/31	167	0	3	3	2	0	6.2M	BLM
Tolstine Creek	AK-SWS	6,527	2,985	0	Comp	10/31	0	0	0	0	0	0	20K	ST
Paradise Complex	AK-TAD	279,326	-43	65	Comp	9/1	35	0	1	0	2	0	3M	BLM
Kocacho	AK-UYD	4,135	0	0	Comp	10/1	0	---	0	0	0	0	50K	TRI
Slathtouka	AK-TAD	9,927	0	85	Comp	9/30	34	-3	1	0	1	0	2M	BLM
Middle Tanana Complex	AK-DAS	62,861	0	0	Comp	10/31	40	-8	1	0	1	0	3.4M	ST
Christian	AK-UYD	990	172	0	Comp	9/30	0	0	0	0	0	0	NR	TRI
Minnkohwin	AK-TAD	7,382	219	0	Comp	10/1	0	0	0	0	0	0	NR	FWS
Bearman	AK-UYD	596	0	0	Comp	10/1	0	0	0	0	0	0	NR	TRI
Goose	AK-UYD	5,533	348	0	Comp	10/1	0	0	0	0	0	0	NR	FWS
Hardscrabble Creek	AK-SWS	2,514	0	0	Comp	10/31	0	0	0	0	0	0	3K	ST
AK-TAD-000532	AK-TAD	5,482	---	0	Comp	9/30	0	---	0	0	0	0	NR	ST
Tatlawiksuk	AK-SWS	229,439	---	0	Comp	10/31	0	---	0	0	1	0	72K	BLM
Submarine Creek	AK-SWS	35,939	---	0	Comp	10/31	0	---	0	0	0	24	184K	ST
South Fork Kuskokwim	AK-SWS	2,866	---	0	Comp	10/31	0	---	0	0	0	0	17K	ST
Fourth of July Creek	AK-SWS	51,146	---	2	Comp	10/31	0	---	0	0	0	0	68K	ST
Iowithla River	AK-SWS	42,880	---	0	Comp	10/31	0	---	0	0	0	0	198K	ST
Kokwok	AK-SWS	31,497	---	0	Comp	10/31	0	---	0	0	0	0	13K	ST
Sawpit Creek	AK-SWS	26,243	---	0	Comp	10/31	0	---	0	0	0	0	61K	ST
Pauls Creek	AK-SWS	17,948	---	0	Comp	10/31	0	---	0	0	0	0	4K	ST
Contact Creek	AK-SWS	10,654	---	0	Comp	10/31	0	---	0	0	0	0	25K	NPS
Tuklung River	AK-SWS	6,591	---	0	Comp	10/31	0	---	0	0	0	0	21K	FWS
Fork Creek	AK-SWS	2,741	---	0	Comp	10/31	0	---	0	0	0	0	8K	FWS
Ongoke River	AK-SWS	1,426	---	0	Comp	10/31	0	---	0	0	0	0	1K	FWS
Ongivinuk River	AK-SWS	735	---	10	Comp	10/31	0	---	0	0	0	0	4K	ST
Ponglevik River	AK-SWS	3,081	---	0	Comp	10/31	0	---	0	0	0	0	4K	FWS
Minto Lakes	AK-FAS	37,554	---	53	Comp	7/30	10	---	0	0	2	0	9.2M	ST
Chalatna	AK-TAD	661	---	0	Comp	9/30	0	---	0	0	0	0	NR	FWS
East Henshaw	AK-TAD	440	---	0	Comp	9/30	0	---	0	0	0	0	NR	ST
Little Mud	AK-TAD	10,673	---	0	Comp	10/1	0	---	0	0	0	0	NR	TRI
Fort Hamlin Hills	AK-TAD	468	---	0	Comp	9/30	0	---	0	0	0	0	NR	BLM

Incident Name	Unit	Size		%	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Middle Fork	AK-FAS	1,245	---	0	Comp	8/15	2	---	0	0	0	0	60K	ST
Eddy Creek	AK-GAD	3,355	---	0	Comp	8/31	0	---	0	0	0	0	5K	BLM
Tagagawik 2	AK-GAD	620	---	0	Comp	8/31	0	---	0	0	0	0	2K	BLM
Apoon Pass	AK-GAD	84,138	---	0	Comp	8/10	0	---	0	0	0	0	55K	FWS
Fish Creek	AK-TAD	1,054	---	0	Comp	8/31	0	---	0	0	0	0	NR	ST
Adak	AK-SWS	919	---	0	Comp	10/31	0	---	0	0	0	0	NR	FWS
Radio Creek	AK-GAD	45,801	16,369	100	Comp	---	0	0	0	0	0	0	75K	BLM
Melozitna	AK-GAD	7,557	1,066	100	Comp	---	0	0	0	0	0	0	15K	BLM

UYD – Upper Yukon Zone, BLM DAS – Delta Area, Alaska DOF

Southwest Area (PL 2)

New fires: 18
 New large incidents: 0
 Uncontained large fires: 1
 Type 2 IMTs committed: 2

Hermits Peak, Santa Fe NF, USFS. IMT 2 (SW Team 5). Twelve miles northwest of Las Vegas, NM. Hardwood litter and timber. Minimal fire behavior. Area, road and trail closures in effect. Precipitation occurred over the fire area yesterday.

C-3, Truxton Canyon Agency, BIA. IMT 2 (SW Team 3). Twenty-five miles north of Peach Springs, AZ. Timber, brush and hardwood litter. Minimal fire behavior with smoldering. Precipitation occurred over fire area yesterday.

Incident Name	Unit	Size		%	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Acres	Chge				Total	Chge	Crw	Eng	Heli			
Hermits Peak	NM-SNF	341,735	0	94	Ctn	7/31	417	-167	8	5	1	903	287M	FS
C-3	AZ-TCA	1,378	0	72	Comp	7/31	136	-4	2	3	0	0	915K	BIA
Large Fires Being Managed with a Strategy Other Than Full Suppression Without a Type 1 or 2 IMT Assigned														
Dragon	AZ-GCP	1,375	45	0	Comp	9/1	144	-1	3	5	1	0	669K	NPS
Pine Peak	AZ-CRD	1,631	---	25	Comp	8/15	14	---	0	1	1	0	370K	BLM
Potrillo	NM-LCD	2,700	---	70	Comp	UNK	14	---	2	1	0	0	15K	BLM

GCP – Grand Canyon NP, NPS CRD – Colorado River District, BLM LCD – Las Cruces Field Office, BLM

Rocky Mountain Area (PL 2)

New fires: 10
 New large incidents: 0
 Uncontained large fires: 1
 Complex IMTs committed: 1

Sugarloaf, Medicine Bow – Routt NF, Thunder Basin National Grassland, USFS. CIMT (RM Team 3). Twenty-five miles northwest of Wheatland, WY. Timber. Minimal fire behavior with backing, creeping and smoldering. Residences threatened. Evacuations in effect. Precipitation occurred over the fire area yesterday.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Total	Chge				Crw	Eng	Heli					
Sugarloaf	WY-MRF	510	113	0	Ctn	8/17	304	48	8	9	6	0	1.1M	FS

Northern California Area (PL 2)

New fires: 20

New large incidents: 0

Uncontained large fires: 1

Leilani, U.S. Army Garrison Hawaii-Pohakuloa Training Area, DOD. Twenty miles south of Waimea, HI. Tall grass and chaparral. Minimal fire behavior with backing, creeping and smoldering.

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Total	Chge				Crw	Eng	Heli					
Leilani	HI-PTYQ	2,368	0	85	Ctn	7/31	7	0	0	2	0	0	5K	DOD

Northern Rockies Area (PL 2)

New fires: 3

New large incidents: 0

Uncontained large fires: 0

Incident Name	Unit	Size		% Acres	Ctn/ Comp	Est	Personnel		Resources			Strc Lost	\$\$ CTD	Origin Own
		Total	Chge				Crw	Eng	Heli					
Large Fires Being Managed with a Strategy Other Than Full Suppression Without a Type 1 or 2 IMT Assigned														
Clover	MT-BDF	798	98	20	Comp	10/30	100	2	3	2	0	0	582K	FS
Hog Trough	MT-BRF	592	5	9	Comp	10/15	159	18	4	4	2	0	1.3M	FS

BDF – Beaverhead-Deerlodge NF, USFS BRF – Bitterroot NF, USFS

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	116	0	0	10,711	11	10,838
Northwest Area	FIREs	0	1	0	1	7	4	13
	ACRES	0	0	0	1	5	1	7
Northern California Area	FIREs	0	0	0	0	18	2	20
	ACRES	0	0	0	0	116	0	116
Southern California Area	FIREs	0	0	0	0	9	1	10
	ACRES	0	0	0	0	254	0	254
Northern Rockies Area	FIREs	0	0	0	0	3	0	3
	ACRES	0	0	0	0	138	5	143
Great Basin Area	FIREs	0	3	0	1	9	1	14
	ACRES	0	2,435	0	0	5	2,159	4,599
Southwest Area	FIREs	1	2	0	0	2	13	18
	ACRES	0	0	0	0	2	3	5
Rocky Mountain Area	FIREs	0	3	0	0	2	5	10
	ACRES	0	0	0	0	6	1	7
Eastern Area	FIREs	0	0	0	0	0	0	0
	ACRES	0	0	0	0	0	0	0
Southern Area	FIREs	5	0	0	0	13	3	21
	ACRES	79	0	0	0	54	36	170
TOTAL FIRES:		6	9	0	2	63	29	109
TOTAL ACRES:		79	2,551	0	1	11,292	2,217	16,142

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

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alaska Area	FIRES	0	184	0	0	330	28	542
	ACRES	0	1,473,964	0	0	1,567,427	19	3,041,410
Northwest Area	FIRES	97	103	12	6	424	174	816
	ACRES	1,072	43,171	25	1	1,597	66	45,934
Northern California Area	FIRES	6	14	3	7	1,894	131	2,055
	ACRES	2	180	5	43	13,647	353	14,230
Southern California Area	FIRES	19	32	7	18	2,534	301	2,911
	ACRES	105	285	102	879	17,995	2,008	21,375
Northern Rockies Area	FIRES	231	17	3	0	495	138	884
	ACRES	2,186	2,103	207	0	4,635	792	9,923
Great Basin Area	FIRES	21	370	3	24	479	158	1,055
	ACRES	42	25,827	0	28	35,218	80,894	142,010
Southwest Area	FIRES	365	178	3	23	523	648	1,740
	ACRES	42,442	13,255	0	2,711	159,632	756,678	974,719
Rocky Mountain Area	FIRES	241	206	12	17	887	195	1,558
	ACRES	17,556	4,409	130	596	170,966	9,338	202,996
Eastern Area	FIRES	88	0	20	10	4,855	306	5,279
	ACRES	254	0	680	12	38,606	2,886	42,439
Southern Area	FIRES	672	4	21	60	20,683	575	22,015
	ACRES	98,660	88	5,308	2,924	985,855	38,194	1,131,032
TOTAL FIRES:		1,740	1,108	84	165	33,104	2,654	38,855
TOTAL ACRES:		162,320	1,563,282	6,457	7,195	2,995,583	891,231	5,626,071

Ten Year Average Fires (2012 – 2021 as of today)

36,153

Ten Year Average Acres (2012 – 2021 as of today)

3,475,336

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

*****Additional wildfire information is available through the Geographic Areas at <https://qacc.nifc.gov/>**

Canadian Fires and Hectares

PROVINCES	FIRES YESTERDAY	HECTARES YESTERDAY	FIRES YEAR-TO-DATE	HECTARES YEAR-TO- DATE
BRITISH COLUMBIA	5	177	380	13,135
YUKON TERRITORY	0	0	271	175,204
ALBERTA	8	0	661	107,805
NORTHWEST TERRITORY	0	1	182	359,432
SASKATCHEWAN	5	269	293	215,266
MANITOBA	0	11	114	133,965
ONTARIO	2	0	163	2,414
QUEBEC	4	1	320	29,573
NEWFOUNDLAND	0	0	60	2,425
NEW BRUNSWICK	1	0	164	132
NOVA SCOTIA	4	1	103	3,366
PRINCE EDWARD ISLAND	0	0	2	0
NATIONAL PARKS	0	0	49	6,624
TOTALS	5	177	380	13,135

*1 Hectare = 2.47 Acres

Predictive Services Discussion: As high pressure continues to build, hot and dry conditions will continue across the western CONUS away from the monsoon. A shortwave disturbance is likely to generate scattered wet and dry thunderstorm activity in the western Northern Rockies, central Idaho mountains, and into the eastern Great Basin. Gusty outflow winds will accompany the storms as they move over previously very dry terrain. Thunderstorms are possible in southern and central Oregon, and far northern California. Breezy conditions are anticipated in eastern Oregon, southwestern Idaho and northern Nevada.

Monsoonal thunderstorms and showers will continue over the Southwest, mainly targeting the Four Corners region, with highest amounts of rainfall expected over southern Colorado and northern New Mexico. Isolated storms are possible in eastern and southern Nevada and in the Sierra Nevada as well. The southeastern corner of New Mexico, Texas, and portions of Louisiana will likely remain dry, breezy, and unstable. The possibility of widespread heavy rain will move into the central Great plains, Oklahoma, and the Lower Mississippi Valley, with lighter amounts expected across the Ohio Valley and into the Mid-Atlantic. Dry, breezy conditions will persist over much of the Southeast, northern Great Plains, and Upper Mississippi Valley.

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



Safety Zone Research

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 preheating 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 on the Safety Zones page of the *Incident Response Pocket Guide (IRPG)*, PMS 461:

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

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:

$$4 \times 2 \times \text{Vegetation Height} = \text{Safe Separation Distance}, \text{ which simplified is:}$$

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

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.

In the meantime, utilize the calculations in the Safety Zones page of your IRPG 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.

Resources: [Incident Response Pocket Guide \(IRPG\)](#), PMS 461, [RT-130 Wildland Fire Safety Training Annual Refresher](#), [Wildland Fire Lessons Learned Center](#), [Wildland Fire Leadership Development Program](#)