National Interagency Coordination Center Incident Management Situation Report Thursday, June 30, 2022 – 0730 MDT National Preparedness Level 2

National Fire Activity:

Initial attack activity:	Light (158 fires)
New large incidents:	3
Large fires contained:	1
Uncontained large fires: **	15
Area Command teams committed:	0
NIMOs committed:	0
Type 1 IMTs committed:	0
Type 2 IMTs committed:	7
***Complex IMTs committed:	0

^{***}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 56 fires being managed under a strategy other than full suppression.

Link to Geographic Area daily reports.

Link to Understanding the IMSR.

	Active Incident Resource Summary												
GACC	Incidents	Cumulative Acres	Crews	Engines	Helicopters	Total Personnel	Change in Personnel						
AICC	15	956,470	24	10	9	1,029	90						
NWCC	2	45,128	0	37	1	140	96						
ONCC	2	1,745	35	163	1	1,115	732						
oscc	2	2,850	18	38	1	443	420						
NRCC	0	0	0	0	0	0	0						
GBCC	4	11,825	28	42	11	1,064	42						
SWCC	11	790,030	18	19	5	1,415	-96						
RMCC	1	3,810	1	5	0	41	-35						
EACC	1	315	0	10	1	55	0						
SACC	17	21,435	0	104	3	510	-13						
Total	55	1,833,608	124	428	32	5,812	1,236						

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

Alaska Area (PL 5)

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

Lime Complex (14 fires), Southwest Area, Alaska DOF. Transfer of command from IMT 2 (AK Black Team) to IMT 2 (AK Green Team) will occur today. Fifty miles east of Chuathbaluk, AK. Grass, timber and brush. Active fire behavior with flanking, running and torching. Numerous structures, communication and energy infrastructure threatened.

Clear, Fairbanks Area, Alaska DOF. IMT 2 (NW Team 10). Ten miles northwest of Anderson, AK. Timber and short grass. Active fire behavior with creeping, group torching and spotting. Numerous residences threatened. Evacuations and area closures in effect.

Bean Complex (5 fires), Tanana Zone, BLM. IMT 2 (NW Team 7). Started on state land 100 miles west of Fairbanks, AK. Timber and short grass. Active fire behavior with short crown runs, torching and spotting. Structures threatened.

Poorman Complex (3 fires), Galena Zone, BLM. Thirty-eight miles southeast of Ruby, AK. Timber. Active fire behavior with flanking, backing and running. Structures threatened. Last narrative report unless significant activity occurs.

Incident Name	Unit	Siz	ze	%	Ctn/	Est	Perso	onnel	Re	esource	es	Strc	\$\$	Origin
incident Name	Offic	Acres	Chge	/0	Comp	LSI	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Lime Complex	AK-SWS	602,010	13,860	0	Comp	7/16	275	52	2	0	4	8	6.3M	ST
Clear	AK-FAS	23,512	13,957	8	Comp	7/22	317	40	10	6	1	0	1.8M	ST
Bean Complex	AK-TAD	64,091	20,727	0	Comp	7/31	132	0	4	0	0	0	2.7M	ST
Large	Fires Being	Managed	with a St	rateg	y Other 7	Γhan Full	Suppres	sion With	out a T	ype 1	or 2 IM	T Assiç	gned	
Poorman Complex	AK-GAD	23,064	10,803	0	Comp	7/20	26	14	0	0	1	0	NR	BLM
Apoon Pass	AK-GAD	84,138	0	0	Comp	8/10	0	0	0	0	0	0	55K	FWS
Huron	AK-TAD	2,416		0	Comp	10/1	0		0	0	0	0	1K	BLM
Hilltop	AK-TAD	2,217		0	Comp	10/1	0		0	0	0	0	1K	BLM
Troublesome	AK-TAD	1,143		0	Comp	10/1	0		0	0	0	0	5K	BLM
Holonada	AK-TAD	566		0	Comp	10/1	0		0	0	0	0	5K	BLM
Minto Lakes	AK-FAS	10,591		0	Comp	7/30	45		1	2	0	0	170K	ST
Central Creek Airstrip	AK-DAS	2,995		0	Comp	7/20	0		0	0	0	0	55K	ST
Hog Butte	AK-TAD	70,152		0	Comp	6/30	0		0	0	0	0	410K	ST
Melozitna	AK-GAD	2,247		0	Comp	8/24	0		0	0	0	0	20K	BLM
Curky	AK-TAD	2,524		0	Comp	8/31	0		0	0	0	0	NR	BLM
Paddle	AK-UYD	1,944		0	Comp	8/31	0		0	0	0	0	NR	FWS
Boatman	AK-UYD	1,334		0	Comp	8/31	0		0	0	0	0	NR	BLM
Fish Creek	AK-TAD	1,054		0	Comp	8/31	0		0	0	0	0	NR	ST
Lansing Creek	AK-UYD	443		0	Comp	8/31	0		0	0	0	0	NR	FWS
Schilling Creek	AK-UYD	430		0	Comp	8/31	0		0	0	0	0	50K	BLM
North Fork	AK-UYD	373		0	Comp	8/31	0		0	0	0	0	NR	BLM
Douglas	AK-UYD	364		0	Comp	8/31	0		0	0	0	0	NR	BLM

Incident Name	Unit	Siz	:e	%	Ctn/	Est	Perso	onnel	Re	esourc	es	Strc	\$\$	Origin
moldent Name	Offic	Acres	Chge	70	Comp	Lot	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Tatlawiksuk	AK-SWS	130,194		0	Comp	10/31	0		0	0	0	0	8K	ST
Fourth of July Creek	AK-SWS	51,146		0	Comp	10/31	0		0	0	0	0	18K	ST
Iowithla River	AK-SWS	36,559		0	Comp	10/31	0		0	0	0	0	57K	ST
Kokwok	AK-SWS	31,497		0	Comp	10/31	0		0	0	0	0	2.5K	ST
Sawpit Creek	AK-SWS	23,580		0	Comp	10/31	0		0	0	0	0	55K	ST
Submarine Creek	AK-SWS	22,945		0	Comp	10/31	0		0	0	0	24	163K	ST
Contact Creek	AK-SWS	10,322		0	Comp	10/31	0		0	0	0	0	25K	NPS
Pauls Creek	AK-SWS	10,057		0	Comp	10/31	0		0	0	0	0	2K	ST
Tuklung River	AK-SWS	6,163		0	Comp	10/31	0		0	0	0	0	4K	FWS
Fork Creek	AK-SWS	2,244		0	Comp	10/31	0		0	0	0	0	5K	FWS
Ongoke River	AK-SWS	1,426		0	Comp	10/31	0		0	0	0	0	18.4K	FWS
Adak	AK-SWS	919		0	Comp	10/31	0		0	0	0	0	NR	FWS
Ongivinuk River	AK-SWS	735		10	Comp	10/31	0		0	0	0	0	2K	ST
Ponglevik River	AK-SWS	629		0	Comp	10/31	0		0	0	0	0	3.5K	FWS

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

Southwest Area (PL 2)

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

Hermits Peak, Santa Fe NF, USFS. IMT 2 (SW Team 3) and IMT 2 (GB Team 7). Twelve miles northwest of Las Vegas, NM. Hardwood litter and timber. Minimal fire behavior with smoldering. Area, road and trail closures in effect.

Pipeline, Coconino NF, USFS. Five miles north of Flagstaff, AZ. Timber, brush and grass. Minimal fire behavior with smoldering. Area, road and trail closures in effect. Precipitation occurred over the fire area yesterday.

Haywire, Coconino NF, USFS. Seventeen miles northeast of Flagstaff, AZ. Timber, brush and short grass. Minimal fire behavior with smoldering. Area, road and trail closures in effect. Precipitation occurred over the fire area yesterday.

Black, Gila NF, USFS. Twenty-four miles north of Mimbres, NM. Grass and timber. Minimal fire behavior. Area, road and trail closures in effect. Precipitation occurred over the fire area yesterday.

Contreras, Papago Agency, BIA. Fifteen miles northeast of Topawa, AZ. Timber, brush and tall grass. Minimal fire behavior with smoldering. Road and trail closures in effect.

Hog Spring, Apache-Sitgreaves NF, USFS. Ten miles east of Show Low, AZ. Timber and short grass. No new information. Last report unless new information is received.

Incident Name	Unit	Si	ze	%	Ctn/ Comp	Est -	Personnel		Resources			Strc	\$\$	Origin
		Acres	Chge	70			Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Hermits Peak	NM-SNF	341,735	0	93	Ctn	7/31	1,187	-50	11	13	1	903	268M	FS

Incident Name	Unit	Siz	ze	% Ctn/	Est	Perso	onnel	Resources			Strc	\$\$	Origin	
moldent rame	Offic	Acres	Chge	70	Comp	L31	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Pipeline	AZ-COF	26,532	0	90	Ctn	7/31	41	0	1	2	4	2	15.7M	FS
Haywire	AZ-COF	5,575	0	95	Ctn	7/15	33	0	1	2	0	0	2.5M	FS
Black	NM-GNF	325,136	0	70	Ctn	7/17	91	0	3	0	0	5	59.6M	FS
Contreras	AZ-PPA	29,482	0	95	Ctn	7/3	3	-46	0	1	0	4	13.4M	BIA
Hog Spring	AZ-ASF	461		48	Ctn	6/30	3		0	1	0	0	30K	FS
Larg	e Fires Bein	g Managed	d with a St	rategy	Other T	han Full	Suppress	sion With	out a T	ype 1	or 2 IM	T Assiç	gned	
Steamboat	AZ-A5S	815	27	41	Comp	7/5	2	0	0	0	0	0	30K	ST

A5S - Northwest District, Arizona DOF

Great Basin Area (PL 2)

14
1
3
1

Goshute, Elko District, BLM. Twenty-five miles south of Wendover, NV. Timber. Active fire behavior with group torching, short-range spotting and smoldering. Structures threatened.

Left Fork, Dixie NF, USFS. IMT 2 (GB Team 6). Eight miles northeast of Alton, UT. Timber, closed timber litter and brush. Minimal fire behavior with smoldering, creeping and isolated torching. Numerous structures threatened. Area, road and trail closures in effect. Precipitation occurred over the fire area yesterday.

* **Sugar Loaf**, Jerome County. Six miles northeast of Twin Falls, ID. Short grass. Active fire behavior with running. Residences threatened. Area closures in effect.

Incident Name	Unit	Si	ze	%	Ctn/	Est	Personnel		Resources			Strc	\$\$	Origin
		Acres	Chge	70	Comp	LSI	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Goshute	NV-EKD	2,000	200	20	Ctn	7/18	295	16	8	3	6	0	950K	BLM
Left Fork	UT-DIF	4,254	0	83	Ctn	8/1	681	-27	20	25	3	0	10.5M	FS
* Sugar Loaf	ID-JMX	5,000		25	Ctn	6/30	53		0	8	1	0	140K	C&L

Southern Area (PL 2)

New fires:63New large incidents:0Uncontained large fires:2

Dempsey, Texas A&M Forest Service. Started on private land seven miles west of Mineral Wells, TX. Brush and chaparral. Moderate fire behavior with creeping. Numerous structures threatened.

Ferebee Road, North Carolina Forest Service. Five miles northeast of Rodanthe, NC. Southern rough. Moderate fire behavior with isolated torching.

Incident Name	Unit	Si	ze	%	Ctn/ Comp	Est	Personnel		Resources			Strc	\$\$	Origin
		Acres	Chge	70		LSI	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Dempsey	TX-TXS	11,598	0	55	Ctn	7/7	254	0	0	59	1	1	NR	PRI

Incident Name	Unit	Si	ze	%	Ctn/	Est	Perso	Personnel		Resources			\$\$	Origin
molachi Name	Offic	Acres	Chge	70	Comp		Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Ferebee Road	NC-NCS	1,938	0	35	Ctn	7/31	91	-1	0	14	1	0	420K	ST
Large	Fires Being	Manage	d with a S	Strateg	Other T	han Full	Suppres	sion With	out a T	ype 1	or 2 IM	T Assi	gned	
St. Catherines Island	GA-GAS	2,213	0	95	Comp	7/2	15	-7	0	3	0	0	259K	ST

GAS - Georgia Forestry Commission

Northern California Area (PL 2)

New fires:	16
New large incidents:	0
Uncontained large fires:	1

Rices, Nevada-Yuba-Placer Unit, CalFire. Eight miles southeast of North San Juan, CA. Brush and hardwood slash. Active fire behavior with backing, creeping and single tree torching. Several communities, numerous residences and energy infrastructure threatened. Evacuations and road closures in effect.

Incident Name	Unit	Si	ze	%	Ctn/	Est	Personnel		Resources		Strc		Origin	
moident Name	o iii	Acres	Chge	Coi	Comp	Comp	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
Rices	CA-NEU	904	394	10	Ctn	7/3	1,079	878	34	158	1	1	3.7M	ST
Burrows	CA-TGU	317	0	100	Ctn		36	-146	1	5	0	0	500K	ST

TGU - Tehama-Glenn Unit, CalFire

Southern California Area (PL 2)

New fires:	32
New large incidents:	1
Uncontained large fires:	1

^{*} **Camino**, San Luis Obispo Unit, CalFire. Three miles northwest of Huasna, CA. Chaparral. Moderate fire behavior. Residences and energy infrastructure threatened.

Incident Name	Unit	Si	ze	%	% Ctn/	Ctn/	Ctn/ Est	Personnel		Resources		Strc	\$\$	Origin
incident Name	Offic	Acres	Chge	⁷⁰ Com	Comp	LSI	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own
* Camino	CA-SLU	350		45	Ctn	7/2	420		17	38	1	0	900K	ST

Northwest Area (PL 1)

New fires: 8
New large incidents: 1
Uncontained large fires: 2

Willow Creek, Vale District, BLM. Started on private land 12 miles north of Vale, OR. Grass and brush. Active fire behavior with wind-driven runs, short-range spotting and backing. Structures threatened. Road closures in effect.

^{*} **Touchet North**, Washington State Fire Marshal's Office. Six miles north of Touchet, WA. Grass. Active fire behavior with wind-driven runs. Structures threatened.

Incident Name	Unit	Size		% Ctn/ Est		Fet	Personnel		Resources			Strc	\$\$	Origin
incident Name Onit	Acres	Chge	/0	Comp	LSt	Total	Chge	Crw	Eng	Heli	Lost	CTD	Own	
Willow Creek	OR-VAD	42,128	9,128	45	Ctn	7/2	70	26	0	18	1	0	200K	PRI
* Touchet North	WA-WFS	3,000		90	Ctn	UNK	70		0	19	0	0	2K	ST

Fires and Acres Yesterday (by Protection):

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alcoko Aros	FIRES	0	0	0	0	2	0	2
Alaska Area	ACRES	0	103,611	0	0	18,503	0	122,114
Northwest Area	FIRES	2	1	0	0	4	1	8
Northwest Area	ACRES	1	33,000	0	0	3	0	33,004
Northern California Area	FIRES	0	0	0	0	14	2	16
Northern Camorna Area	ACRES	0	0	0	0	726	0	726
Southern California Area	FIRES	0	1	0	0	26	5	32
Southern California Area	ACRES	0	0	0	0	269	2	271
Northern Rockies Area	FIRES	0	1	0	0	3	1	5
Northern Rockies Area	ACRES	0	1	0	0	4	0	5
Oscal Basis Assa	FIRES	1	3	0	2	5	3	14
Great Basin Area	ACRES	0	202	0	0	3,007	46	3,255
Southwest Area	FIRES	1	1	0	1	0	3	6
Southwest Area	ACRES	0	0	0	0	5	5	10
Poolsy Mountain Area	FIRES	1	5	0	1	2	3	12
Rocky Mountain Area	ACRES	1	0	0	0	5	5	11
Factors Area	FIRES	0	0	0	0	0	0	0
Eastern Area	ACRES	0	0	0	0	0	0	0
Southern Area	FIRES	2	0	0	0	59	2	63
Southern Area	ACRES	8	0	0	0	771	6	785
TOTAL FIRES:		7	12	0	4	115	20	158
TOTAL ACRES:		10	136,814	0	0	23,293	64	160,181

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

Area		BIA	BLM	FWS	NPS	ST/OT	USFS	TOTAL
Alaaka Araa	FIRES	0	90	0	0	229	15	334
Alaska Area	ACRES	0	563,950	0	0	977,697	6	1,541,653
Northwest Area	FIRES	48	41	7	0	187	65	348
Northwest Alea	ACRES	590	33,474	22	0	328	11	34,425
Northern California Area	FIRES	6	9	0	3	1,385	87	1,490
Northern Camornia Area	ACRES	2	13	0	0	6,722	291	7,028
Southern California Area	FIRES	12	27	1	9	1,890	236	2,175
Southern California Area	ACRES	8	267	100	376	15,975	1,854	18,580
Northern Rockies Area	FIRES	201	3	2	0	229	44	479
Northern Rockies Area	ACRES	499	3	206	0	2,538	85	3,331
Great Basin Area	FIRES	11	117	3	14	258	57	460
Great basiii Area	ACRES	33	5,761	0	10	5,644	4,326	15,774
Couthwest Area	FIRES	293	114	1	7	430	435	1,280
Southwest Area	ACRES	40,534	8,567	0	4	157,931	756,411	963,447
Deeley Mountain Area	FIRES	144	43	10	6	737	101	1,041
Rocky Mountain Area	ACRES	4,805	1,385	130	571	165,221	7,055	179,167
Eastern Area	FIRES	84	0	20	8	4,322	261	4,695
Lastelli Alea	ACRES	253	0	680	10	30,102	2,606	33,651
Couthorn Arcs	FIRES	507	3	17	49	20,215	499	21,290
Southern Area	ACRES	96,246	65	2,541	2,472	862,137	37,066	1,000,528
TOTAL FIRES:		1,306	447	61	96	29,882	1,800	33,592
TOTAL ACRES:		142,971	613,485	3,679	3,444	2,224,295	809,711	3,797,585

Ten Year Average Fires (2012 – 2021 as of today)	26,043
Ten Year Average Acres (2012 – 2021 as of today)	1,724,768

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

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

Canadian Fires and Hectares

PROVINCES	FIRES YESTERDAY	HECTARES YESTERDAY	FIRES YEAR-TO-DATE	HECTARES YEAR-TO- DATE
BRITISH COLUMBIA	9	4	190	2,361
YUKON TERRITORY	3	497	37	3,641
ALBERTA	3	63	476	30,248
NORTHWEST TERRITORY	2	842	69	19,763
SASKATCHEWAN	1	16,907	167	49,404
MANITOBA	1	1	24	6,423
ONTARIO	3	1	104	2,393
QUEBEC	0	0	275	28,475
NEWFOUNDLAND	0	0	32	668
NEW BRUNSWICK	0	0	149	123
NOVA SCOTIA	0	0	78	3,361
PRINCE EDWARD ISLAND	0	0	2	0
NATIONAL PARKS	9	3	49	168
TOTALS	31	18,316	1,646	147,027

^{*1} Hectare = 2.47 Acres

Predictive Services Discussion: Hot and dry conditions are expected across much of the Interior, western, and south-central Alaska, with gusty winds over southwest Alaska. Isolated to scattered thunderstorms are likely across south-central Alaska and portions of the Interior as well. Dry and breezy conditions will continue along and east of the Sierra and Peninsular Ranges in California and likely spread east into portions of western and southern Nevada. Scattered to numerous thunderstorms are expected across eastern and northern Arizona, eastern Utah, western and northern New Mexico, Colorado, and southern Wyoming, with some drier thunderstorms possible in Utah. Strong to severe thunderstorms are likely across the central Plains into the Great Lakes along and ahead of a cold front. Thunderstorms are also likely along the Gulf and Southeast Atlantic Coasts spreading inland into south and east Texas, the Lower Mississippi Valley, and the southern Appalachians.

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

Yarnell Hill Fire (Arizona) – June 30, 2013

Perspective by the Yarnell Hill Fire SAIT lead

Today's topic is dedicated to all fallen wildland firefighters.

Nineteen firefighters were killed on the Yarnell Hill Fire in central Arizona on June 30, 2013, at 1642. The Granite Mountain Interagency Hotshot Crew (IHC) from the Prescott Fire Department was working on the south end of the fire west of Yarnell when they were overrun by fire. This tragedy occurred while the crew was traveling through an unburned area toward a safety zone when a rapidly advancing fire of great intensity overtook them. The fire's extreme speed of 10 to 12 miles per hour eliminated any opportunity for the crew to reach the safety zone or return to the canyon rim. The crew had less than two minutes to improve a shelter deployment site using chainsaws and burning out. The crew had deployed their fire shelters close together when the fire overtook

them. The deployment site, in a box canyon with heavy brush, caused direct flame contact and extreme temperatures as the fire swept through and was not survivable. The loss of nineteen of the twenty Granite Mountain IHC had a profound impact on family and friends as well as on the Prescott Fire Department, the State of Arizona, the Interagency Hotshot Crew community, and all firefighters across the United States and around the world.

Following the accident, a Yarnell Hill Fire Serious Accident Investigation Team (SAIT) developed a fire report. The report concentrated on helping wildland

"As a firefighter you should never stop learning, as one day your life may depend on it." – Jim Karels, NASF Fire Director and lead investigator on the Yarnell Hill Fire SAIT

firefighters of the present and future learn from the tragedy through sense making, reviewing decision points, and a video. This helped firefighters visualize what happened and how to best learn from the loss of the Granite Mountain IHC members. One recommendation from the report was that the State of Arizona lead an interagency effort to develop a Yarnell Hill Fire staff ride to remember these brave firefighters and to help future firefighters learn from this event.

Today we honor and remember the lives of the nineteen lost on this tragic day, but we also remember the lives of all fallen firefighters and honor them throughout this week. The anniversaries of such events should signal a reminder for all of us to seek improvement and pursue successful outcomes where we all safely come off the line at the end of each shift.

How do we as a fire community remember and honor the lives of those who were lost on these fires? We need to keep talking about and learning from what happened to bring change. We need to be open to assessing what we have learned from these events and be proactive in implementing the lessons learned moving forward.

The purpose of this week is to honor our fallen firefighters by **making a commitment** that we will apply the lessons we have learned every day, on every fireline we walk, and with every decision we make. Use the materials provided this week as a foundation for respectful dialogue and discussion. Apply these lessons to yourself, your crew, your team, and your unit. Ask yourself this: *How can these lessons help change us for the better?*

Granite Mountain 19: Andrew Ashcraft, Robert Caldwell, Travis Carter, Dustin DeFord, Christopher MacKenzie, Eric Marsh, Grant McKee, Sean Misner, Scott Norris, Wade Parker, John Percin Jr., Anthony Rose, Jesse Steed, Joe Thurston, Travis Turbyfill, William Warneke, Clayton Whitted, Kevin Woyjeck, and Garret Zuppiger – Never Forgotten

- RT-130, Wildland Fire Safety Training Annual Refresher (WFSTAR) Module: Yarnell Hill Fire Case Study, https://www.nwcg.gov/publications/training-courses/rt-130/case-studies/cs214
- Region Granite Mountain Hotshots Memorial State Park Arizona, https://azstateparks.com/hotshots
- Yarnell Hill Fire Resources at the Wildland Fire Lessons Learned Center,
 https://www.wildfirelessons.net/orphans/viewincident?DocumentKey=1a2dac92-1d79-420f-be0e-1aa616a40a70
- Wildland Fire Lessons Learned Center, Two More Chains, Summer 2013, https://www.wildfirelessons.net/viewdocument/two-more-chains-summer-2013