

# Camp Fire

## Search & Recovery Operation



*Damian Guilliani*  
Situation Unit Leader / Technical Information Specialist





# Camp Fire

## Search & Recovery Operation



- Fire Overview
- Sheriff Search & Rescue
- FEMA / OES US&R Teams
- US&R Operations
- Data Collection
- GIS Products
- US National Grid
- Lessons Learned





# Camp Fire Overview

- The fire started at sunrise on Thursday, November 8, 2018, and was first reported at 06:29 hours
- 76 Acres per minute / 1+ Football Field per second
- Burned area: 153,336 acres
- Most destructive wildfire in California history
- Largest SAR Operation in California history
- Over 21,000 structures destroyed
- Approximately 17,000 livable structures
- Another 4,000 commercial and other structures
- **\*86 confirmed fatalities**

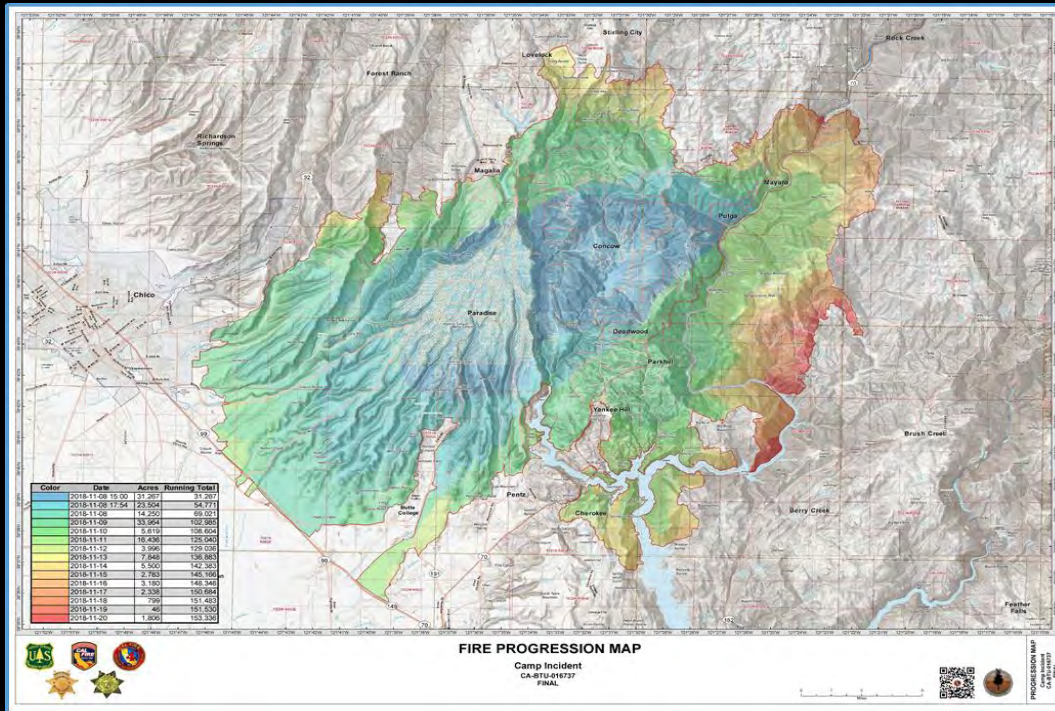




# Camp Fire Overview

“We don’t normally have a process to deal with many unaccounted-for individuals”

-Butte County Sherriff-Coroner: Korey Honea





# Catastrophic Mass Fatality



- California does not have a State Coroner or Medical Examiner.

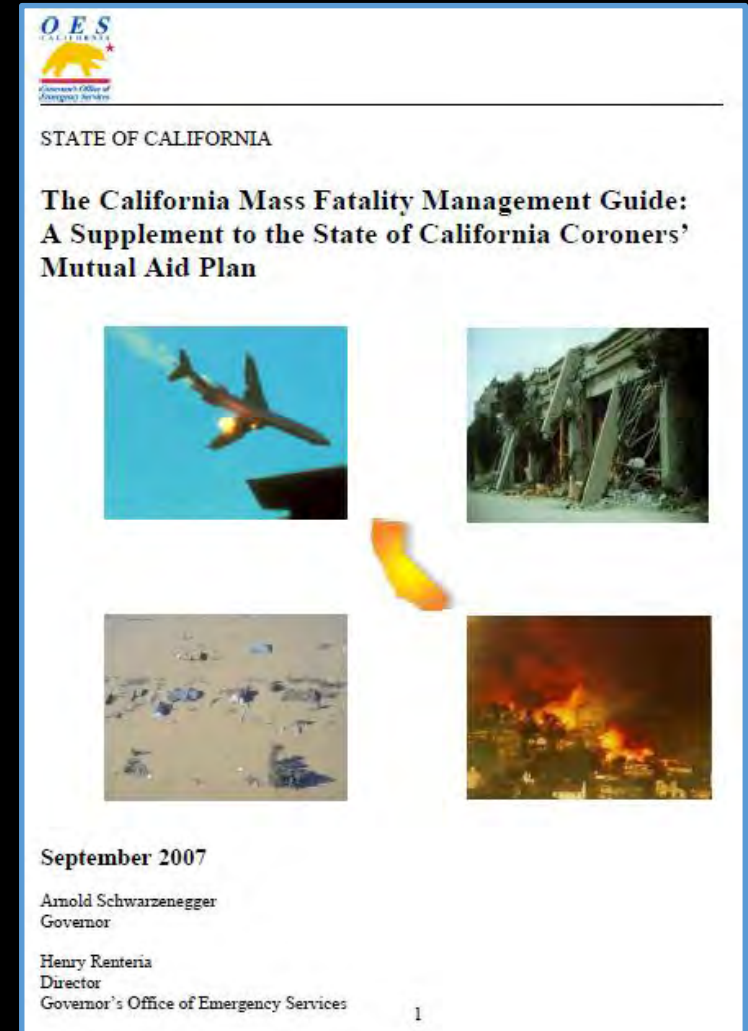




# Catastrophic Mass Fatality



- A “Catastrophic Mass Fatality” event is one in which the loss of life overwhelms the state’s coroner mutual aid system and requires extraordinary support from the state, federal, and private resources.
- Primary responsibility for the investigation, recovery, and management of human remains resides within the authority of the local coroner or medical examiner.







The image shows the cover of a document titled "The California Mass Fatality Management Guide: A Supplement to the State of California Coroners' Mutual Aid Plan". The cover features the OES California logo at the top left, the text "STATE OF CALIFORNIA" and "The California Mass Fatality Management Guide: A Supplement to the State of California Coroners' Mutual Aid Plan". Below the title are four small images: an airplane in flight, a collapsed building, a large fire, and a scene of debris. At the bottom, it lists "September 2007", "Arnold Schwarzenegger Governor", and "Henry Rentenia Director, Governor's Office of Emergency Services". A page number "1" is visible in the bottom right corner.

OES CALIFORNIA  
Governor's Office of Emergency Services

STATE OF CALIFORNIA

The California Mass Fatality Management Guide:  
A Supplement to the State of California Coroners'  
Mutual Aid Plan



September 2007

Arnold Schwarzenegger  
Governor

Henry Rentenia  
Director  
Governor's Office of Emergency Services

1



# Sheriff Search & Rescue (SAR)



- Volunteers
- Search for stranded, lost or injured persons
- Activated during natural disasters
- Organization Components;
  - Search Units
  - Plans Section
  - K-9 Units
  - Coroners & Anthropologists
  - Communications Unit
  - Logistics Unit
  - Medical Unit





# SAR Priority Searches



- **TUBBS Fire 2017:**

- Priority 1: High Probability

- \*Only Priority 1 searches completed

- **Camp Fire 2018:**

- Priority 1: High Probability

- Priority 2: Moderate Probability

- Priority 3: Low Probability



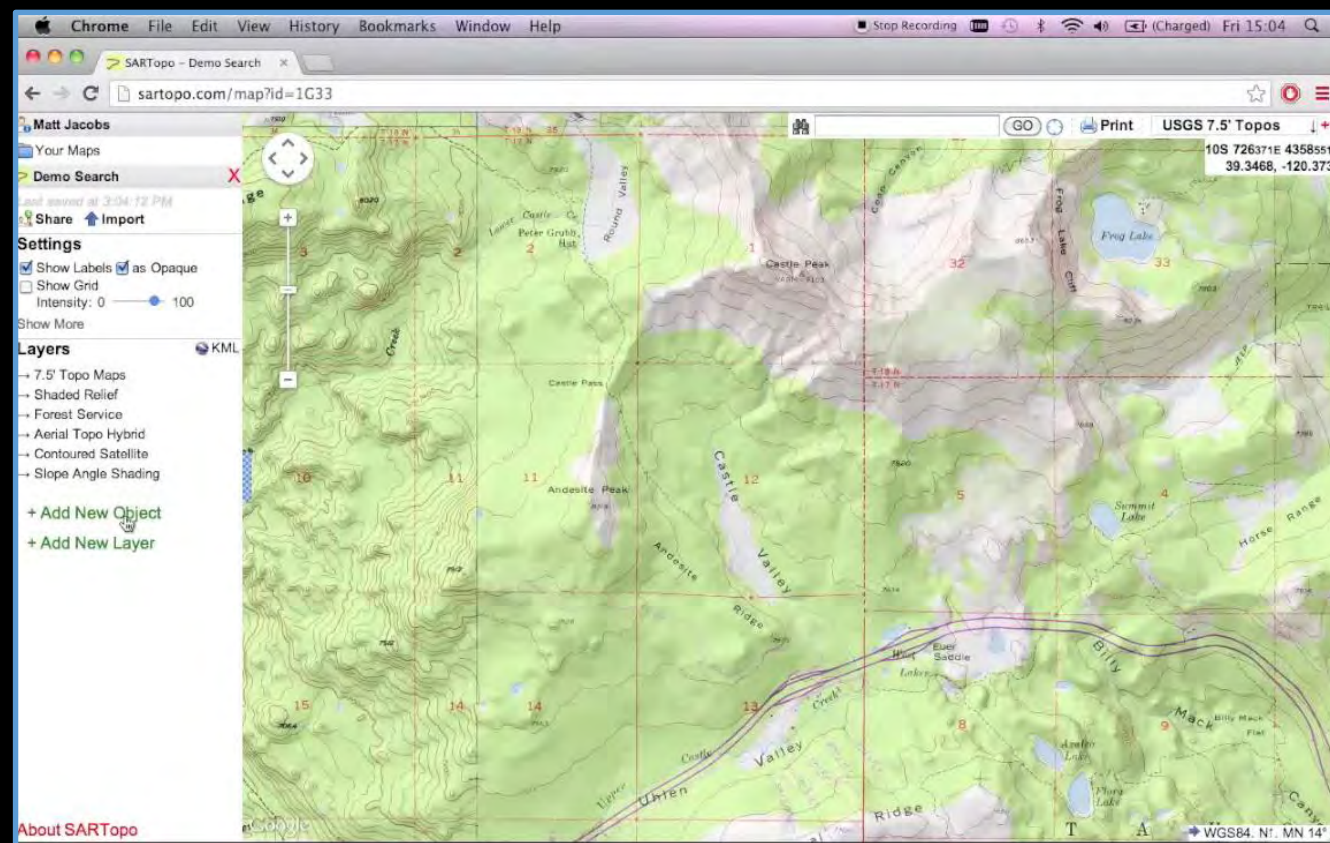




# SARTopo & SAR Data Collection

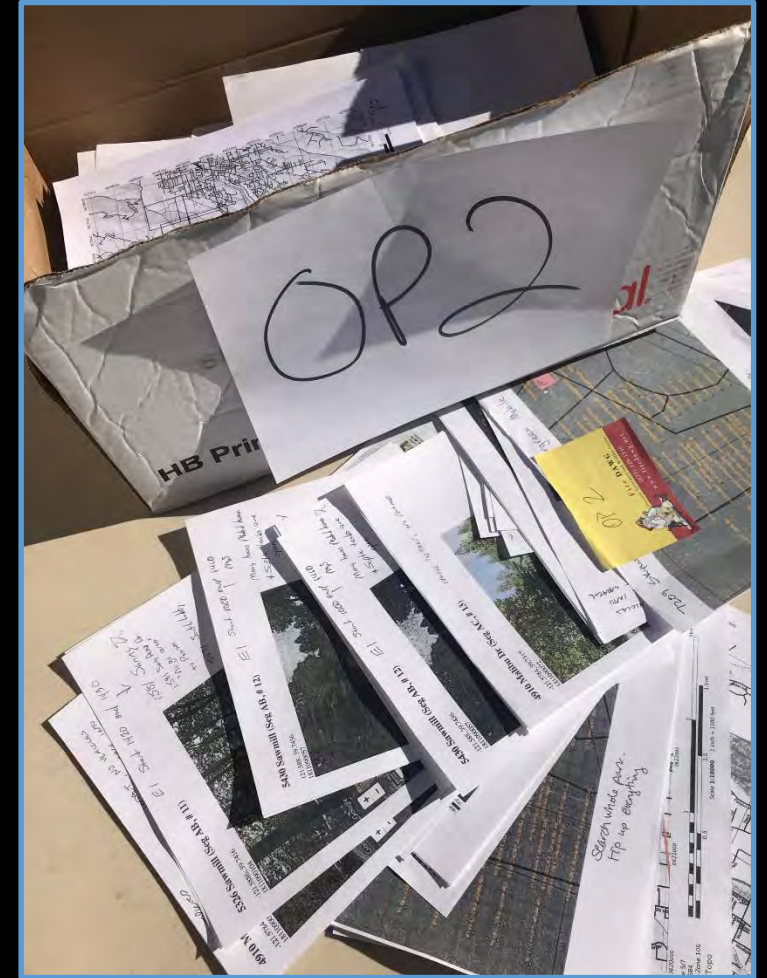


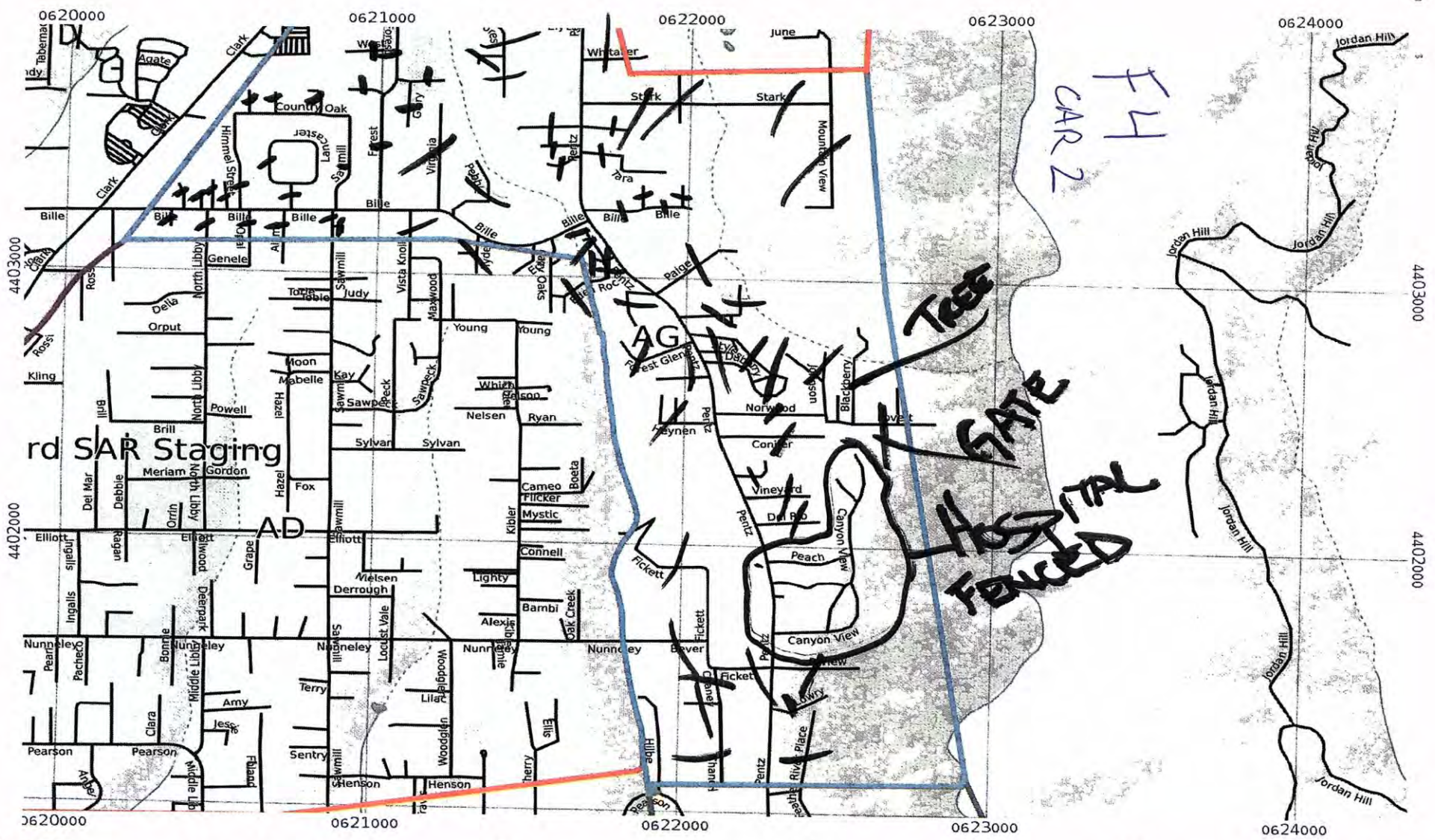
- Works for small area search
- Web based with offline option
- Search Operations
- Search Planning
- Post Operation Reports
- Interfaces with google maps
- Manage & Edit GPS Data



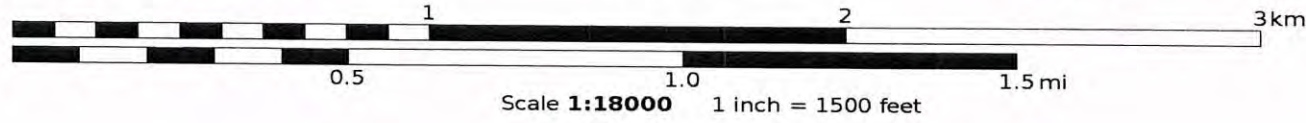


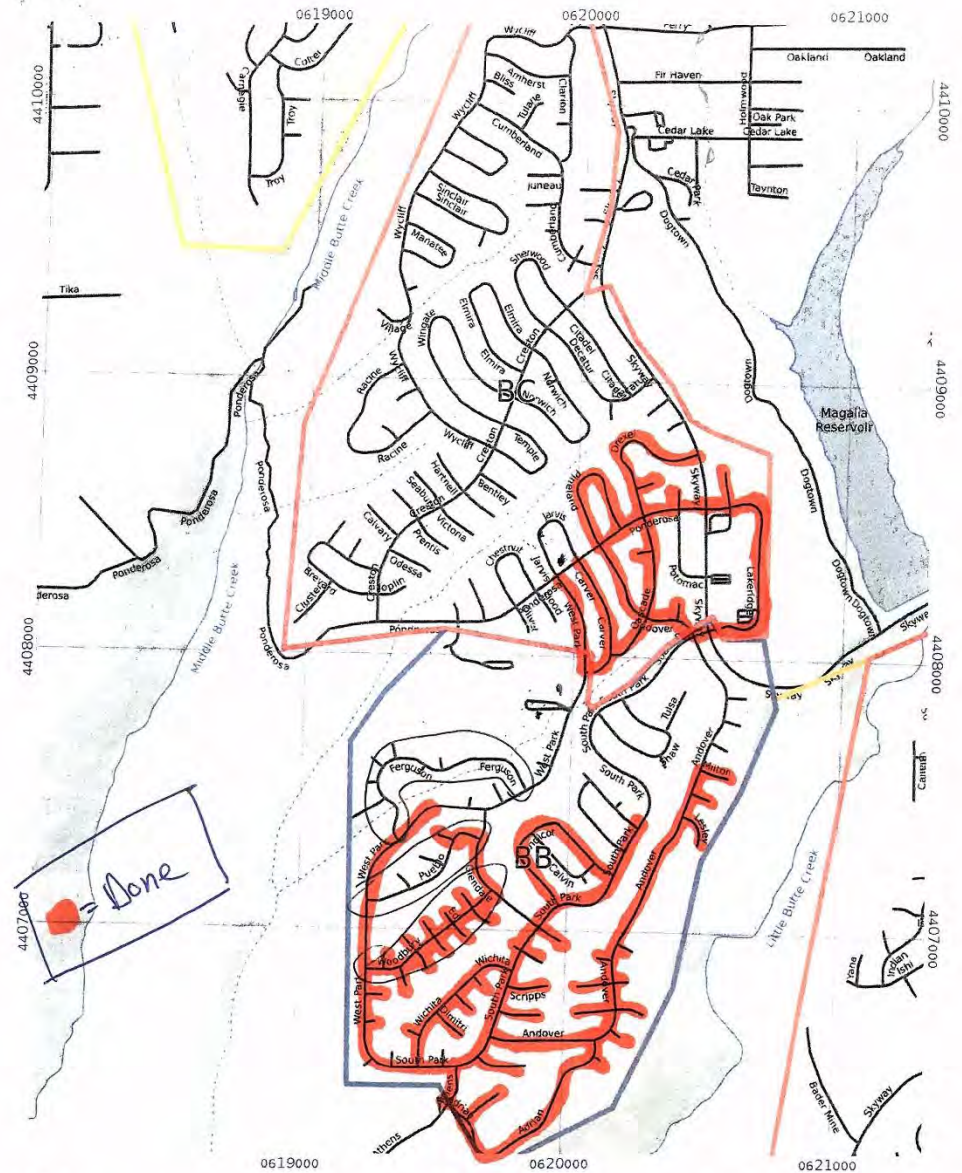
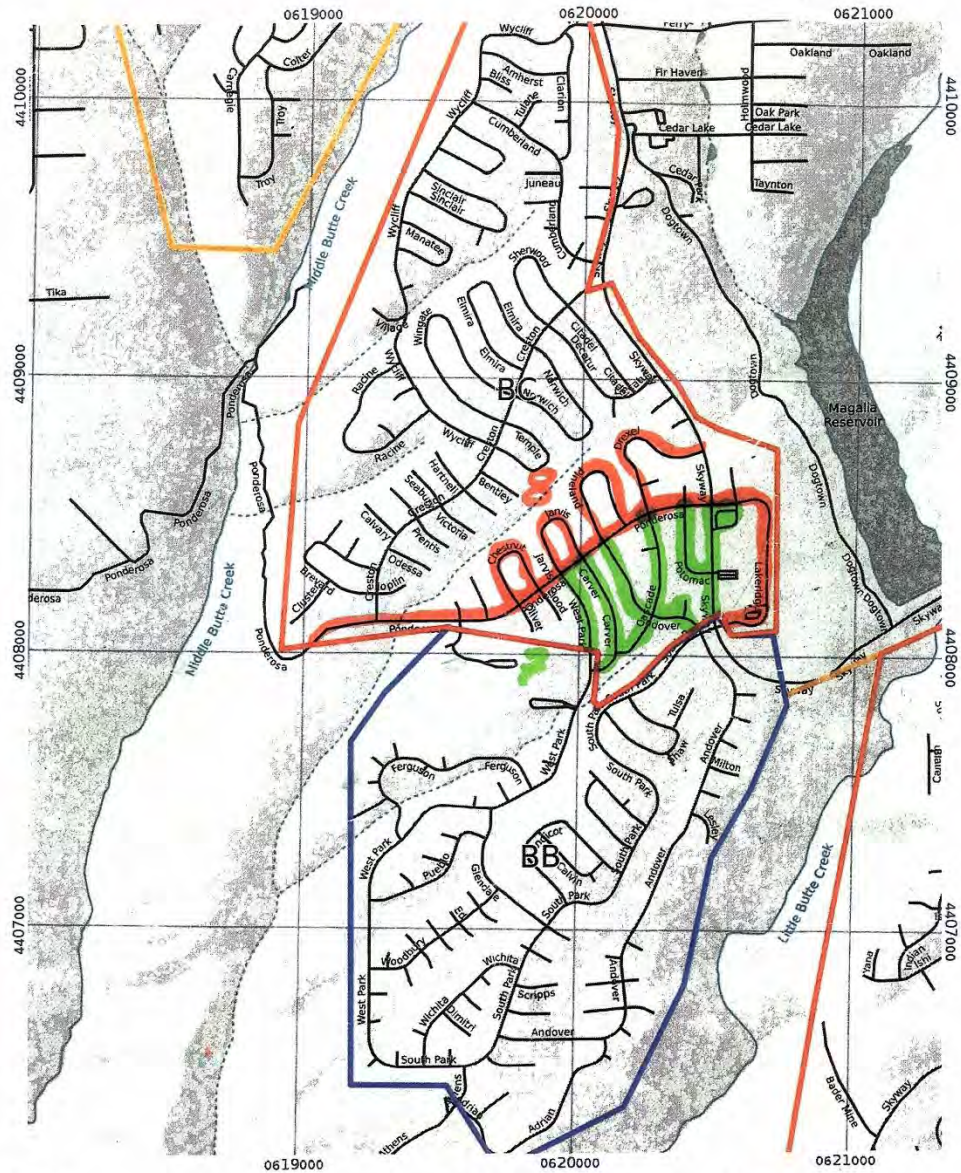
# SARTopo & Data Collection





Page 5/7  
 WGS84  
 UTM Zone 10S  
 SARTopo





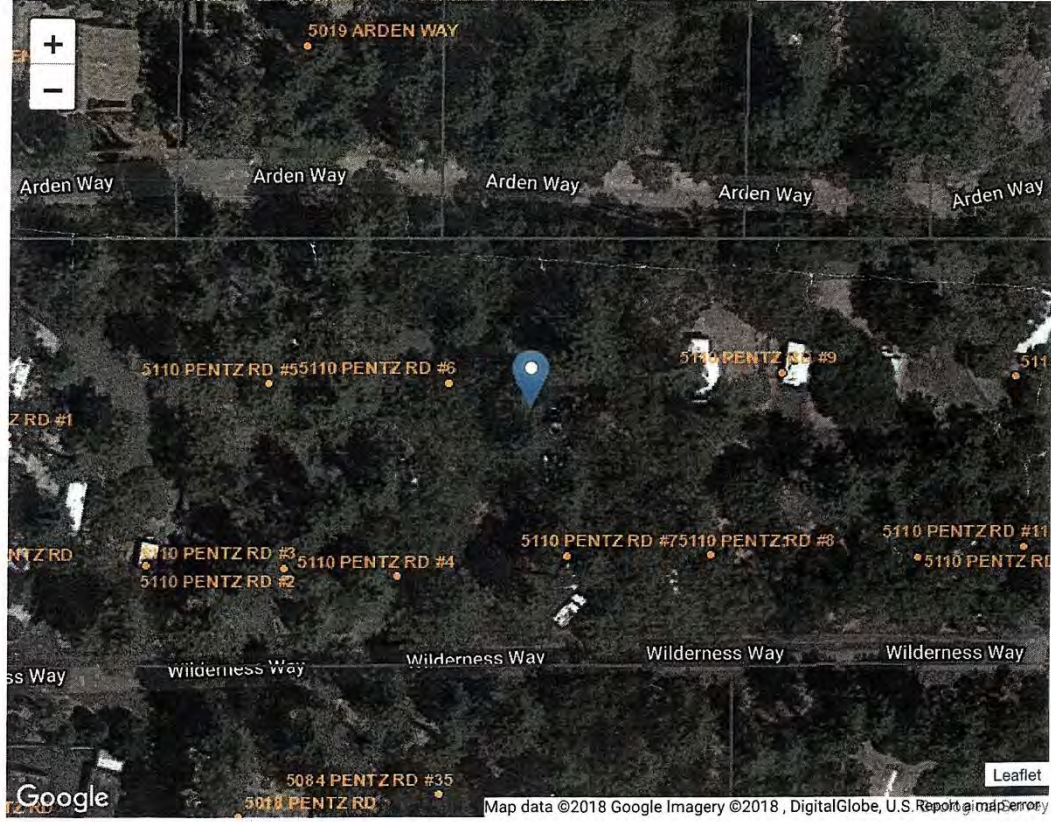
D 1

### 5110 Pentz Rd (Seg AC, # 2)

-121.5732, 39.7295



Plumas Co  
 reported  
 already  
 searched  
 today



5471 S LIBBY RD (Seg AB, # 1)

-121.5974, 39.7465

1811090610 Note: No unit # provided; marker on map is NOT exact location

ORANGE HIGHLIGHT DENOTES ALL SEARCHED UNITS/ADDRESSES

Sorry, we have no imagery here.

PINK HIGHLIGHT DENOTES #2 LIVE CAT FOUND IN SWAMP COOLER, NOT SEARCHED



HUMAN REMAINS FOUND, 1 PERSON

#1 LIVE CAT FOUND AT 1310

START TIME: 1130  
LUNCH BREAK: 1330 - 1400  
UTM:

STOP: 1608

SEARCH DETAILS:

- DECEASED DOG FOUND (SEE MAP) FOR LOCATION ON STREET IN FRONT OF MOBILE HOME
- TASK IS TO SEARCH WOOD PARK
- TEAM BELL 2 STARTS LINE SEARCH AT BOTTOM OF WOOD PARK AT UNIT # 33.

HUMAN REMAINS FOUND AT 1236 OF 1 PERSON TIME:

UTM OF 10S 062 012 005  
REMAINS 4400500

REMAINS ADDRESS: 5471 S. LIBBY RD # 33?  
REMAINS FOUND IN BED

LIVE CAT FOUND (SEE MAP)  
#1 BACK, NO TAIL  
WHITE MARKINGS ON FACE, ANIMAL CONTROL NOTIFIED

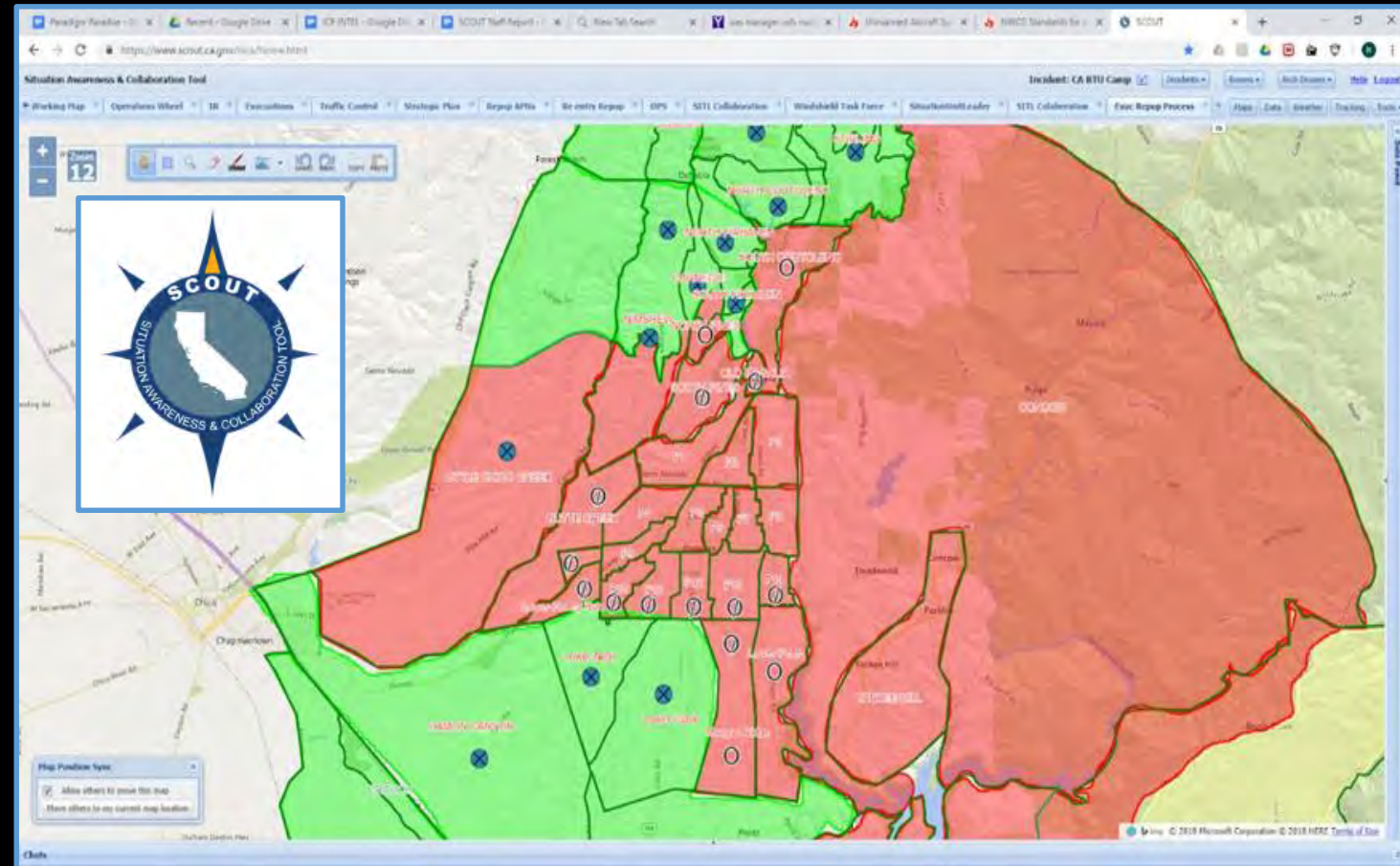
LIVE CAT #2 FOUND AT (SEE MAP), TRAPPED IN SWAMP COOLER. CAT WAS FREED BY PORE WREN!



# Evacuation Zones and Repopulation

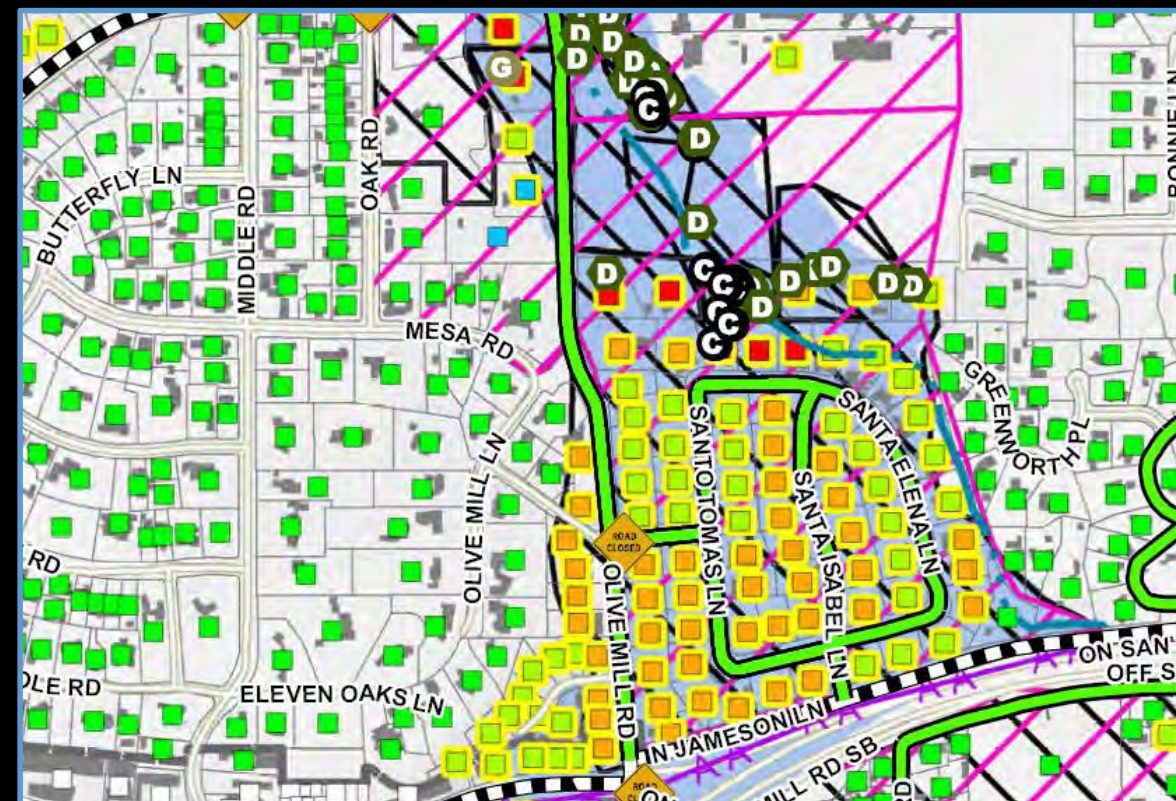
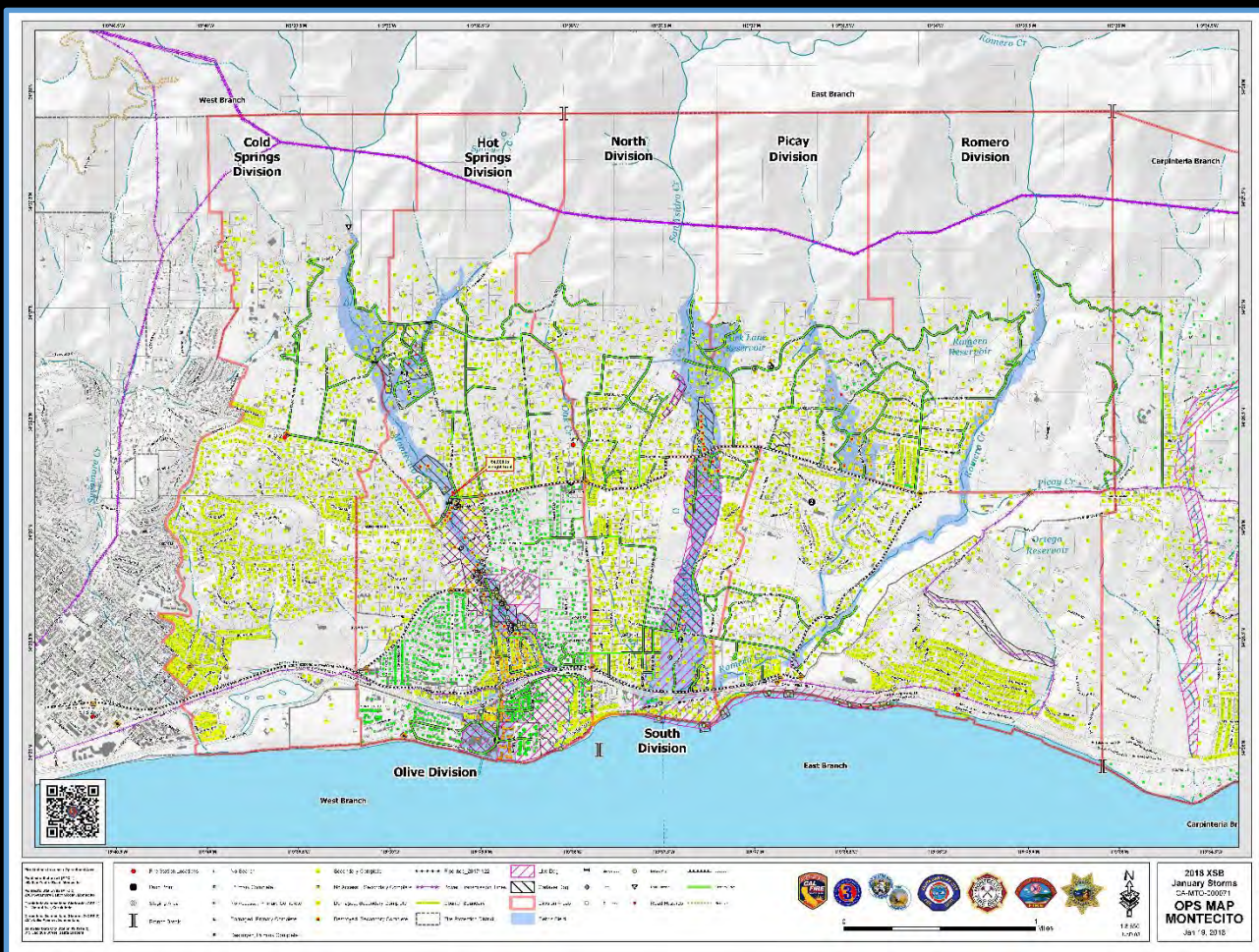


- Sherriff #1 Priority: Repopulation
- Search areas based off evacuation zones
- Repopulation data being collected in SCOUT

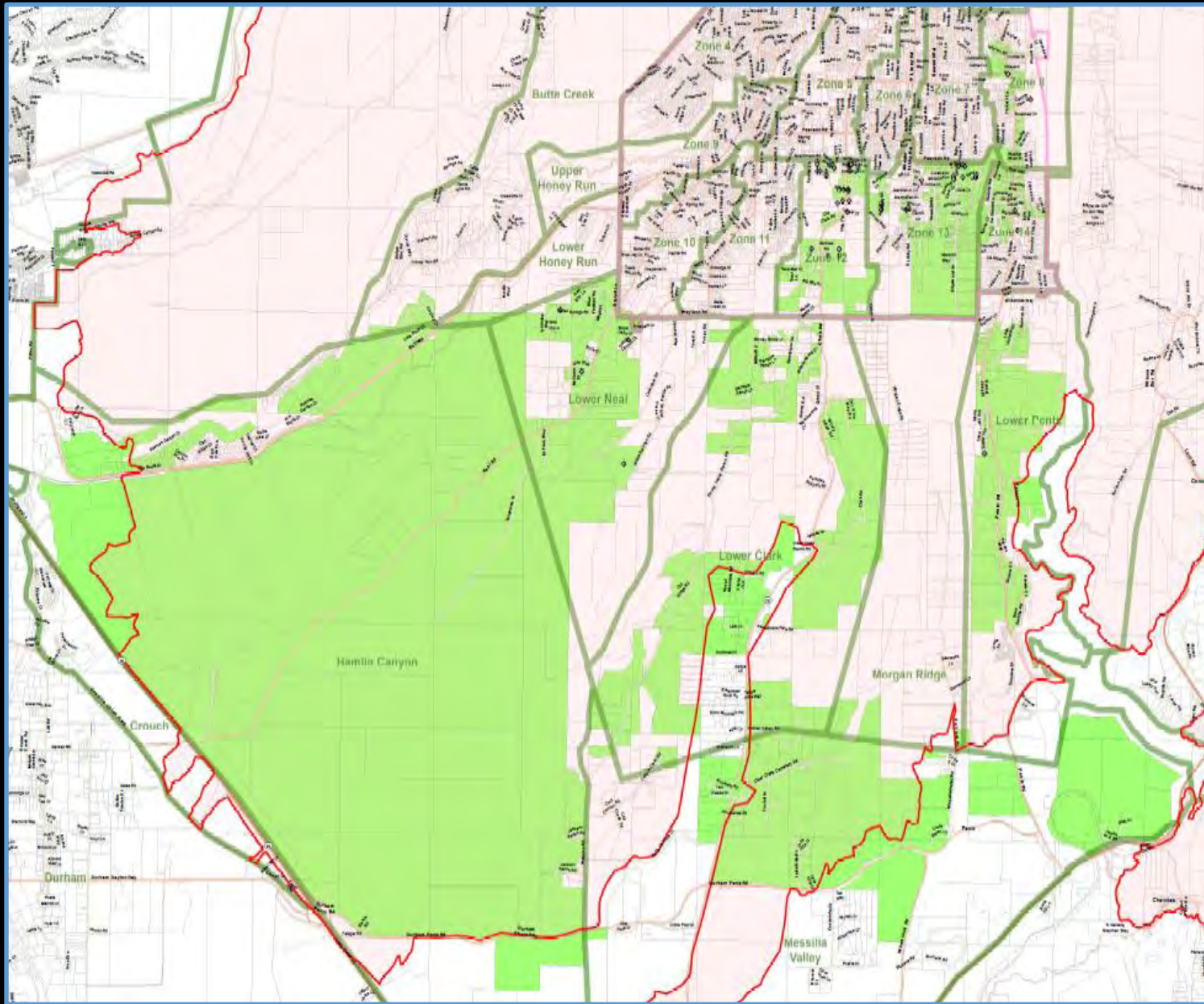




# Montecito Mudslides







# CAMP INCIDENT SAR

Camp Incident  
CA-BTU-016737

November 16, 2018

-  Parcel Boundary
-  Primary Search
-  Parcel Boundary
-  Paradise City Limits
-  Evacuation Zone Boundary



11/17/2018



"You don't see what's going on until you come here, and what we saw at Pleasure, what a name right now... but what we just saw we just left Pleasure, or Paradise."  
-President Trump





# Rescue Group

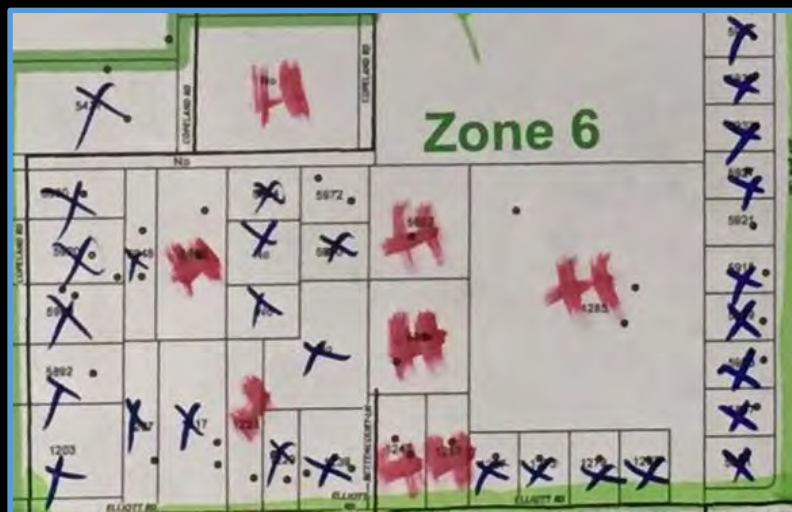
- Assigned 11/15/18
- 5812A was assigned to the Search and Rescue effort
- Primary Mission: Assist Echo Group in Paradise
- Established a system for documentation







# Early Data Collection



MAP CODING

- X = BURNED DOWN w/ NO SIGNS OF VICTIMS
- = UNBURNED ~~W/ SIGNS~~ ~~IN YARD~~ LOCKED DOORS
- = CONFIDENT NO VICTIMS

- H = ROOFS / WALLS FELL IN + CANNOT SEE IF VICTIMS ARE IN BUILDINGS
- = NEED HEAVY EQUIPMENT TO SEARCH BUILDINGS



# FEMA National US&R Task Forces



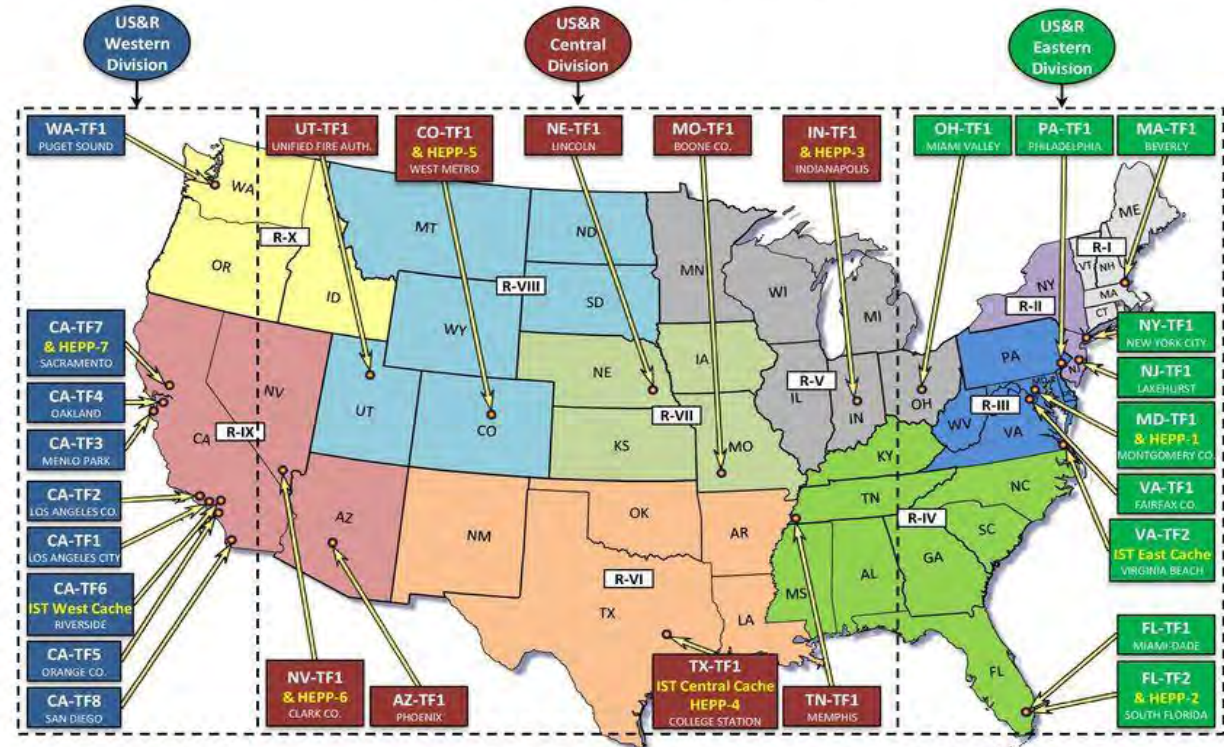
- 28 National Teams
- 8 Teams in California



## National US&R Response System

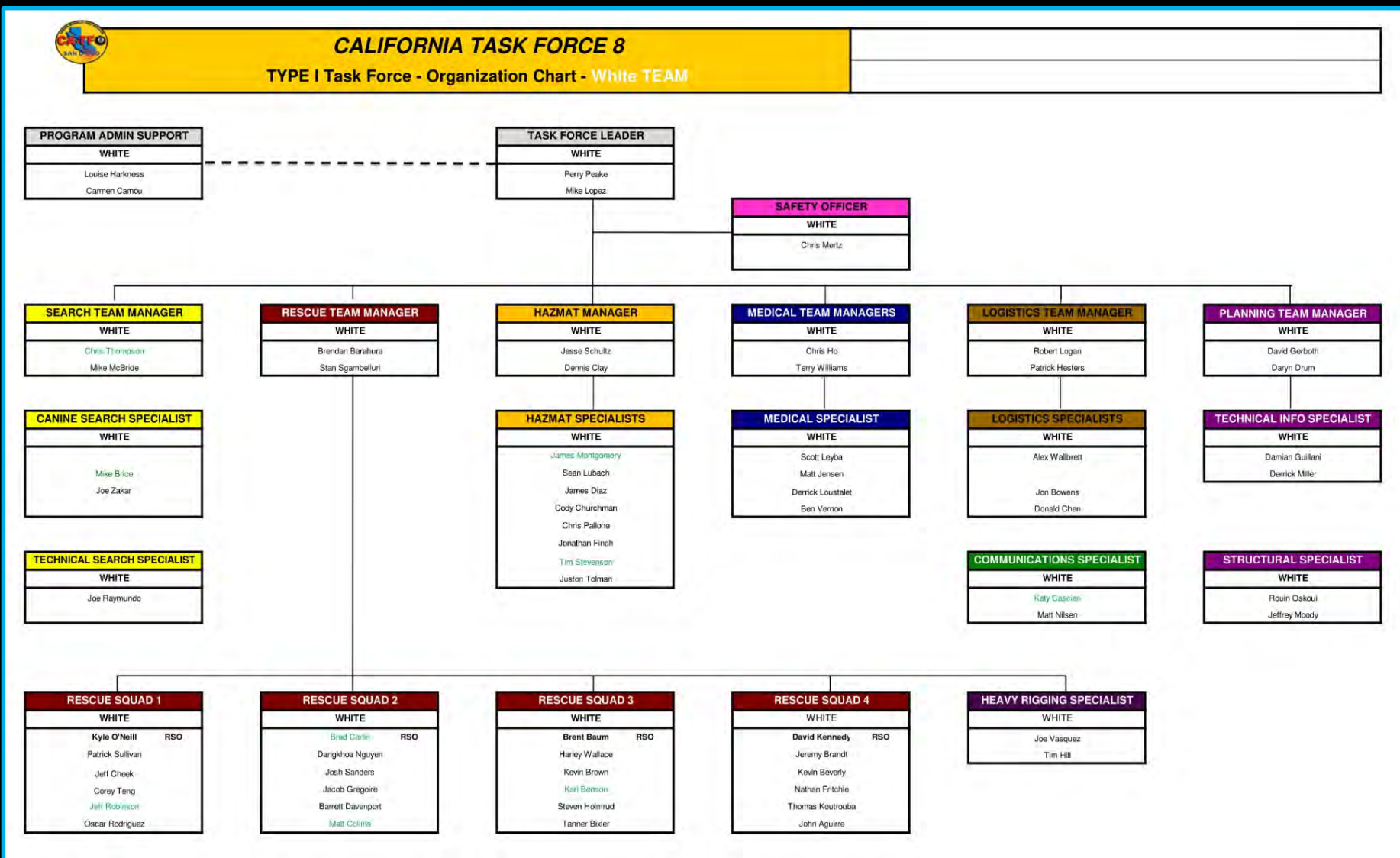
### Task Force Locations

Note: IST = Incident Support Team Equipment Cache  
HEPP = US&R Hazardous Material Push Package





# FEMA National US&R Task Forces





# OES California Regional US&R Task Forces



- 12 Total in California
- A Regional US&R Task Force includes 29 specially trained personnel.







# Resources

Date	11/21/2018		11/22/2018		11/23/2018		11/24/2018	
	Resouce #	People	Rescource	People	Rescource #	People	Rescource	People
USAR TASK FORCE	9	278	9	278	9	278	7	217
OES STA/TF	14	259	14	259	13	240.5	14	259
CAL FIRE STC	2	42	2	42	1	21	0	0
CAL FIRE OVERHEAD	5	5	5	5	8	8	5	5
BUTTE COUNTY FIRE TF	2	32	2	32	2	32	1	16
Forest Service Hand Crew	1	17	1	17	1	17	0	0
Private Heavy Equipment	13	13	13	13	13	13	6	6
SAR Volunteers		124		78		91		223
National Guard		106		126		126		126
Anthropologist + <i>K9</i>		9		9		18		24
<b>TOTAL</b>		<b>885</b>		<b>859</b>		<b>845</b>		<b>876</b>



# Data Collection Reset



- CA-TF3
- CA-TF4
- CA-TF6
- CA-TF8
- RTF-4
- RTF-5
- RTF-6
- RTF-10
- RTF-12
- 4816A
- FOBS





# US&R Data Collection





# Search System

Search Icons, Symbol Name, and Symbol Description

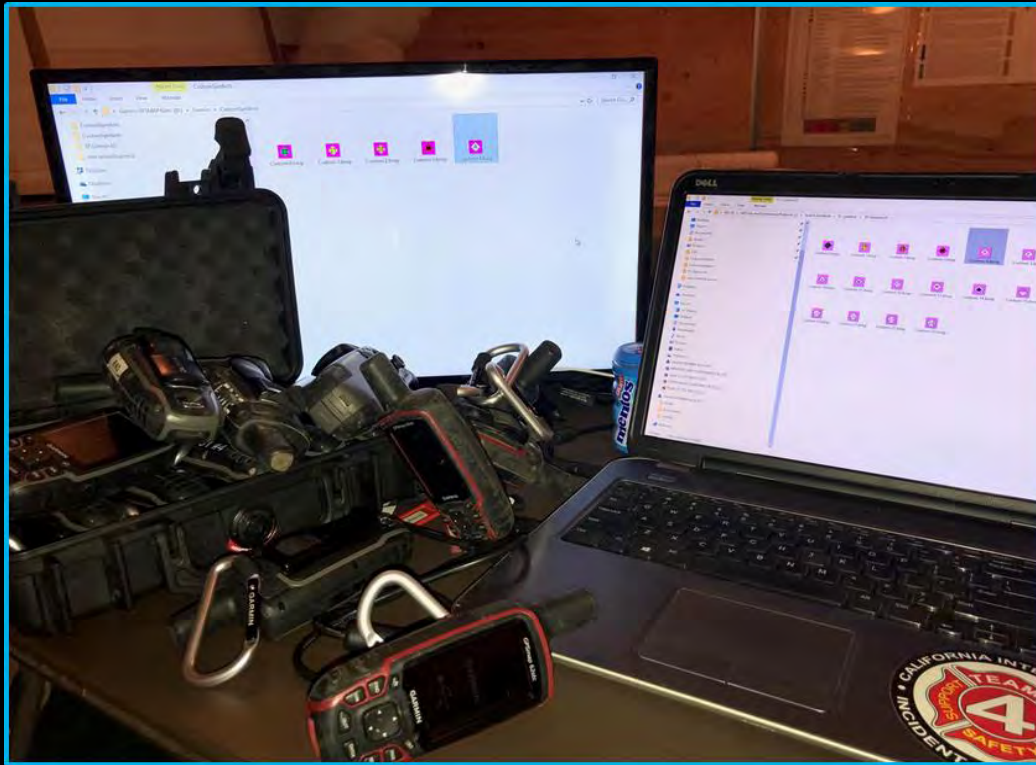
Number	Symbol	Name	Description
&01		Structure No Damage	Low Risk, low probability of further collapse
&02		Structure Damaged	Medium Risk, structure is moderately damaged
&03		Structure Failed	High Risk, may be subject to sudden collapse
&04		Structure Destroyed	Complete destruction of structure
&05	A	Assisted	
&06	E	Evacuated	
&07	R	Rescued	
&08	F	Follow-Up	
&09	V	Victim D	
&10	V	Confirm	
&11	V	Human	
&12	V	Human Remove	
&13	T	Shelter	
&14	A	Animal	
&15	F	Fire Inc	
&16	H	Hazardous Incident	
&17	T	Targeted	
&18	F	Flood/W	
&19	H	Helicopter Site	
&20	R	Route B	
&21	21	Extra 21	Mission specific placeholder to be determined (e.g. abandoned vehicle, commercial structure, evidence)
&22	22	Extra 22	Mission specific placeholder to be determined
&23	23	Extra 23	Mission specific placeholder to be determined
&24	24	Extra 24	Mission specific placeholder to be determined

Number	Symbol	Name	Description
&01		Structure No Damage	Low Risk, low probability of further collapse
&02		Structure Damaged	Medium Risk, structure is moderately damaged
&03		Structure Failed	High Risk, may be subject to sudden collapse
&04		Structure Destroyed	Complete destruction of structure

Search Type					
Targeted Search	Recon (Outline Boarder)	Hasty Rapid	Primary	Secondary Low	Secondary High



# System GPS Symbols



Search Type					
Targeted Search	Recon (Outline Boarder)	Hasty Rapid	Primary	Secondary Low	Secondary High

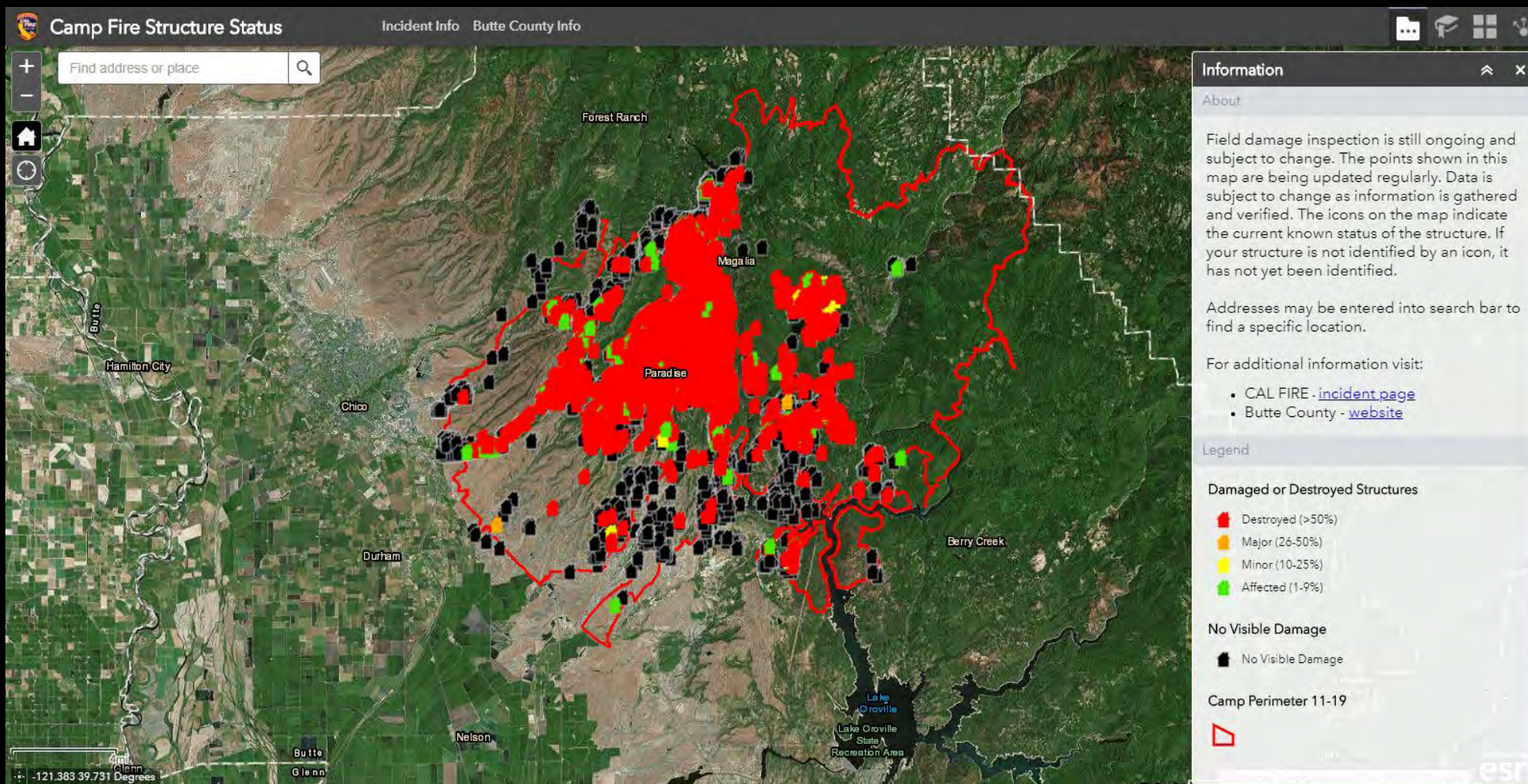


# Task Force Briefings



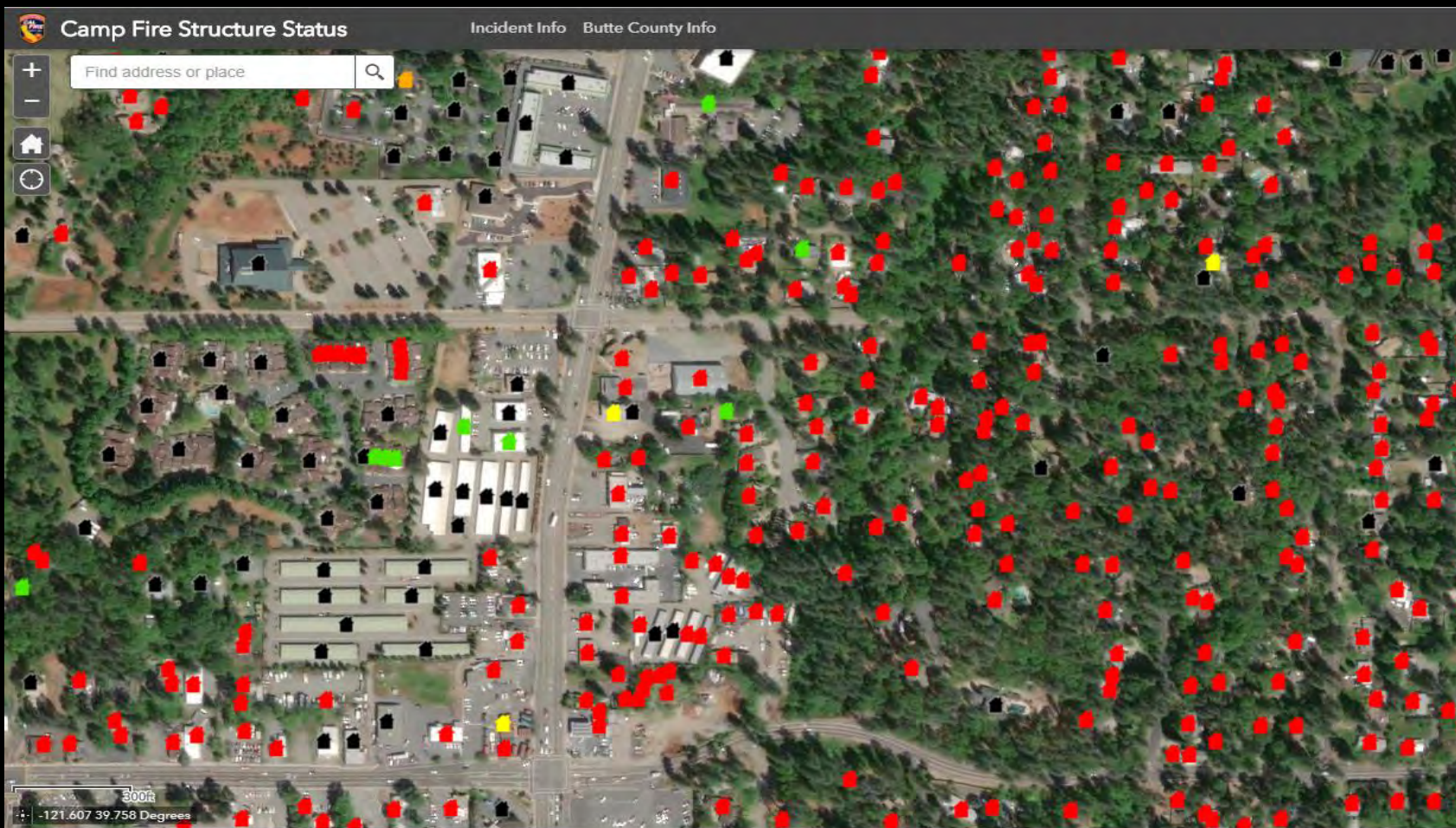


# Damage Inspection Data





# Damage Inspection Data













13,972 residences, 528 commercial and 4,293 other buildings





# DATA Compilation



	Primary Search		Structure Damaged, Primary Search
	Secondary Search		Structure Damaged, Secondary Search
	Structure No Damage, Not Searched		Structure Failed
	Structure No Damage, Primary Search		Structure Destroyed, Not Searched
	Structure Damaged, Not Searched		Structure Destroyed, Primary Search



# Position Formats

Position Format  
**US National Grid**

Map Datum  
WGS 84

Map Spheroid  
WGS 84

FEMA US&R  
Standard

Position Format  
**hddd°mm.mmm'**

Map Datum  
WGS 84

Map Spheroid  
WGS 84

Used by Fire &  
Aircraft

Position Format  
**hddd°mm'ss.s"**

Map Datum  
WGS 84

Map Spheroid  
WGS 84

Used by Sheriff  
SAR



# US National Grid

- Functionally, it is the same system that was created in 1947, Military Grid Reference System (MRGS). It's been used by the military since 1949.
- An Alphanumeric Point reference system that has been overlaid on the Universal Transverse Mercator (UTM) numerical grid.
- Developed in 1999 and adopted as the Federal Standard in 2001
- 2015: Directive 092-5



**FEMA**

**092-5**

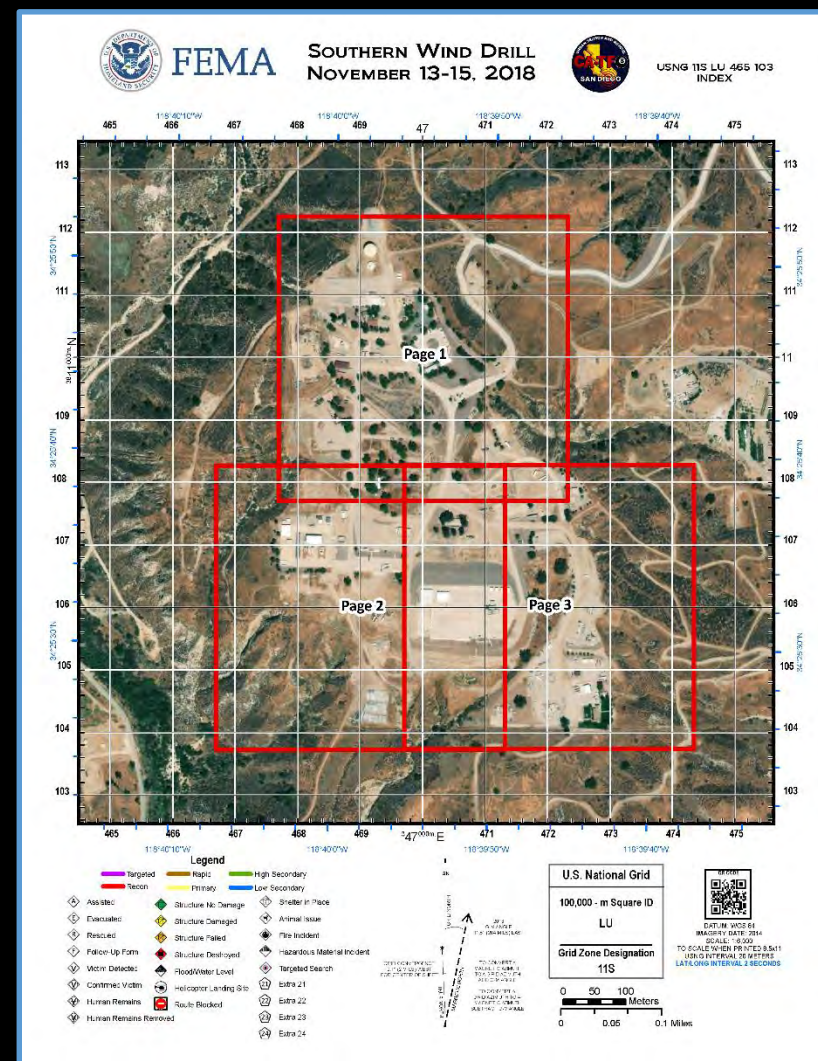
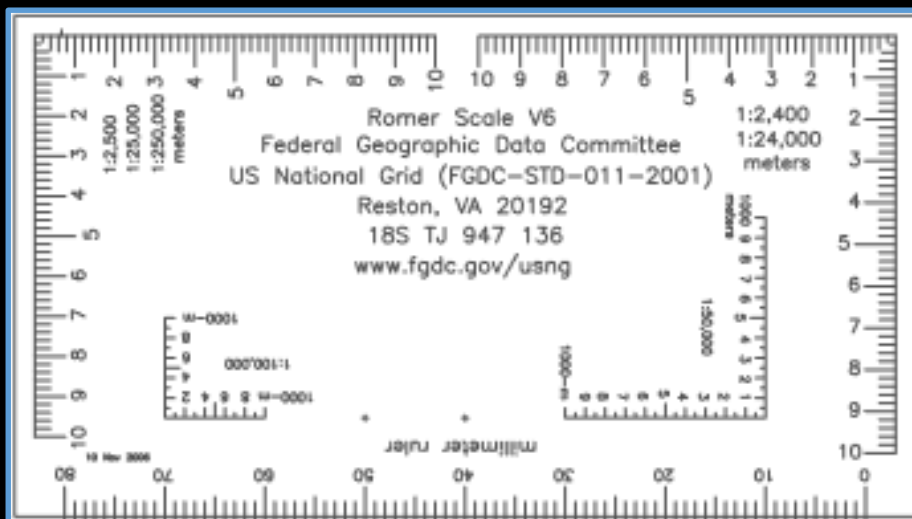
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**FEMA DIRECTIVE – USE OF THE UNITED STATES NATIONAL GRID (USNG)**



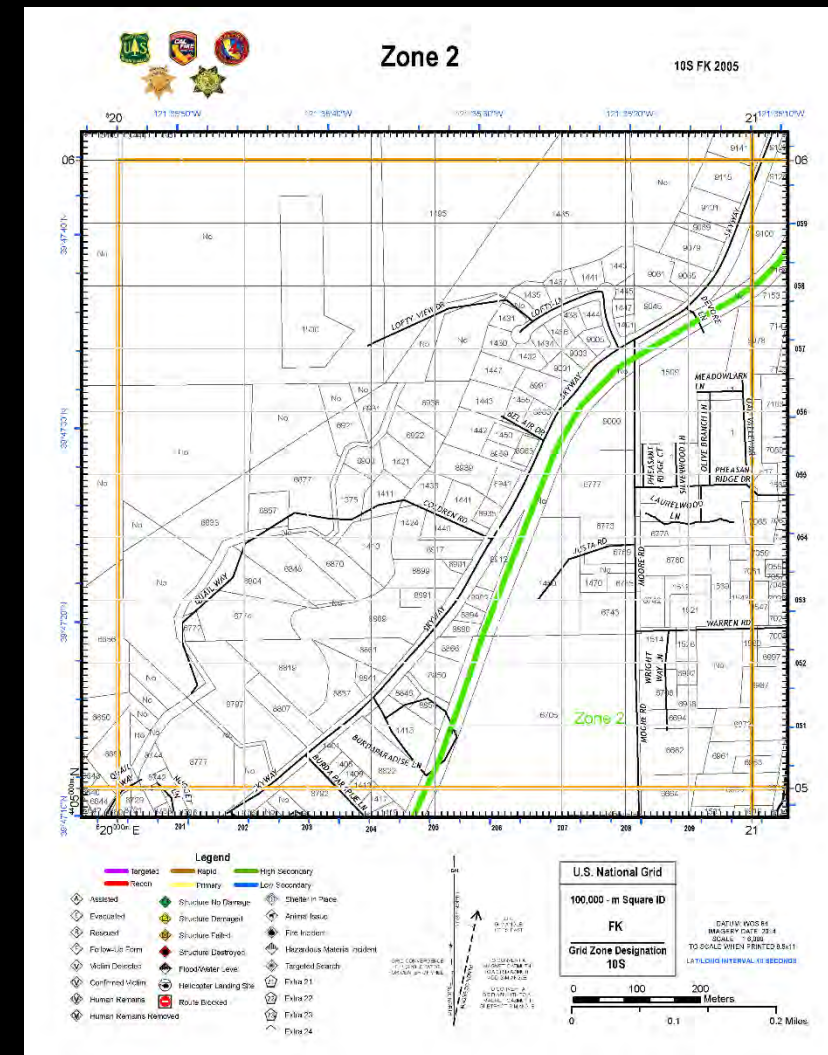
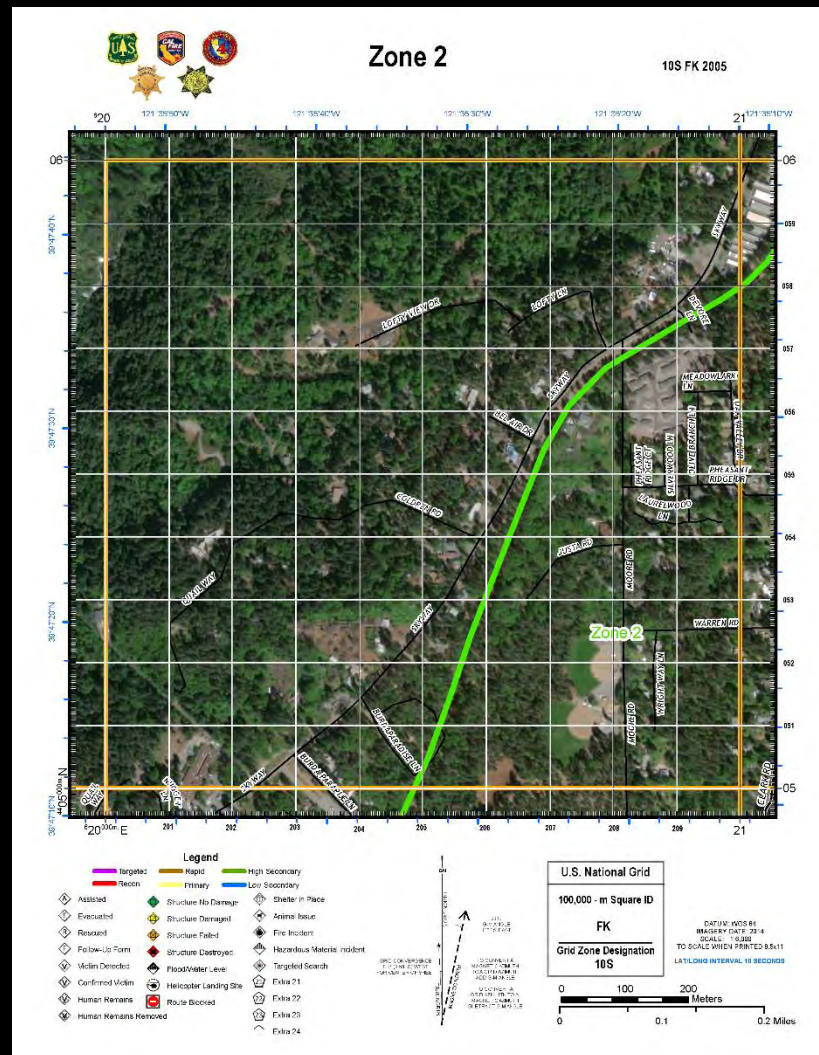
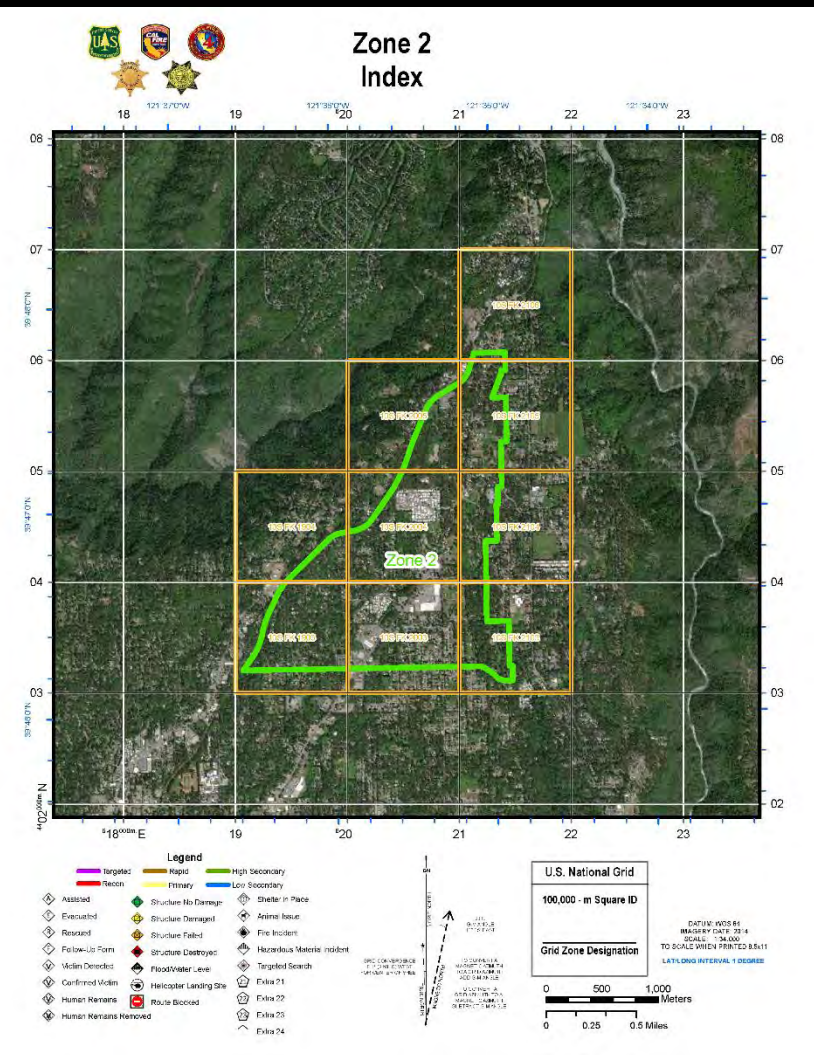
# U.S. National Grid

- Map products to Scale:
  - 1:2,500
  - 1:6,000
  - 1:24,000 - Index





# Product: USNG Map Packets





# Avenza Maps

- Most used mapping tool next to GPS (fire)
- Export and import data with connectivity
- Map Store
- Cost
- Setup
- Easy to use!





# Avenza Maps

Zone 4 SAR\_Grid\_E\_land\_20181126\_Camp\_CABTU016737

10S FK 17777 02037

Verizon 12:05 96%

Manage Symbol Sets

## US&R Symbols

TITLE

US&R Symbols

◆ 001	<input checked="" type="checkbox"/>
◆ 002	<input checked="" type="checkbox"/>
◆ 003	<input checked="" type="checkbox"/>
◆ 004	<input checked="" type="checkbox"/>



# Task Force Debriefing & Data Processing







# Tracking Remains





# Tracking Remains





# Human Remains Detection (HRD)





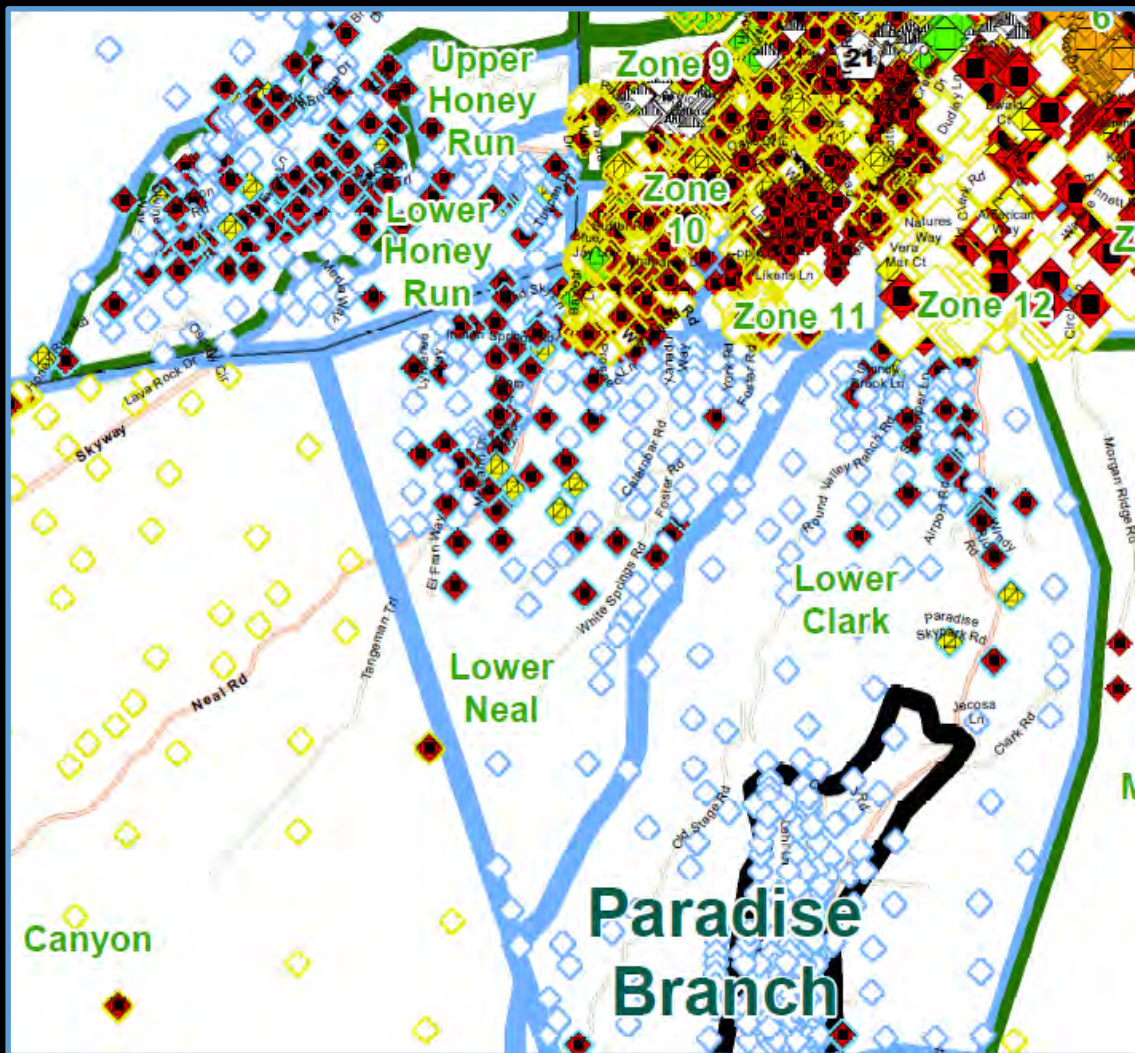
# Remains Database

- Data received 11/26/18
- \*Victim data only
- Request was for;
  - HRD- Canine
  - Victim remains
  - Animal remains
  - Unknown bones

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
APN	Owner	Owner_Add	City/ZIP	Latitude	Longitude	Eva/Branch	X												
058-330-003-000	BROWN RICHARD C SS	3621 HOFFMAN RD	OROVILLE CA 95965	39.78784191	-121.5201986	Concow Branch	121° 31' 12.493" W	39° 47' 16.094" N											
058-330-041-000	WOODS JOSEPH L	122 MONTERAY DR	VACAVILLE CA 95687	39.78339488	-121.5160471	Concow Branch	121° 30' 59.940" W	39° 46' 36.850" N											
058-340-015-000	BRANSON MATTHEW & NAPOLBRANSON JENNIFER	4275 BANYA TRAIL	OROVILLE CA 95965	39.79044127	-121.4502624	Concow Branch	121° 29' 33.181" W	39° 47' 25.570" N											
058-340-026-000	HUFF T K & MARGARET JT	13471 GREEN FOREST LN	OROVILLE CA 95965	39.7916908	-121.5000805	Concow Branch	121° 30' 0.628" W	39° 47' 30.014" N											
058-340-041-000	WALKER ELLEN V & LON R	4220 SCHWYHART LN	OROVILLE CA 95965	39.79070157	-121.4954060	Concow Branch	121° 29' 43.391" W	39° 47' 26.160" N											
058-370-025-000	QUZMAN ANELA	3923 CAMELOT LN	OROVILLE CA 95965	39.78413251	-121.5133250	Concow Branch	121° 30' 48.045" W	39° 47' 4.823" N											
058-800-008-000	STANDLEY DAVID G	3819 BROKEN GLASS CIR	OROVILLE CA 95965	39.79389837	-121.5132524	Concow Branch	121° 30' 47.661" W	39° 47' 38.019" N											
017-150-004-000	DISE GORDON	2735 ESKIN MAIDU TRAIL	CHICO CA 95928	39.73937189	-121.6783194	Creek Branch	121° 40' 42.253" W	39° 44' 20.795" N											
066-130-028-000	CADDY JOANNE M REVOCABLE LIVING TRUST	13812 W PARK DR	MAGALIA CA 95954	39.81019377	-121.5995037	Maqalia Branch	121° 30' 54.534" W	39° 48' 36.659" N											
056-220-020-000	HUNTER RYAN	13554 ANDOVER DR	MAGALIA CA 95954	39.80581229	-121.5961171	Maqalia Branch	121° 30' 58.576" W	39° 48' 21.433" N											
066-260-020-000	KRUEGER CHERYL ETAL	13720 W PARK DR	MAGALIA CA 95954	39.80495049	-121.6023673	Maqalia Branch	121° 30' 8.497" W	39° 48' 17.811" N											
066-360-010-000	MARSO M LUCILLE REVOCABLE INTER VIVOS TRUST	13793 NIMDHEW RD	MAGALIA CA 95954	39.81570765	-121.6267444	Maqalia Branch	121° 30' 36.307" W	39° 48' 56.525" N											
066-420-002-000	BROWN KATHY LYNN & LISLE ODELL	6778 ISH DR	MAGALIA CA 95954	39.8055667	-121.5833863	Maqalia Branch	121° 30' 0.141" W	39° 48' 20.042" N											
066-330-008-000	EL DORADO DIVERSIFIED HOLDINGS LLC	PO BOX 1263	ROCKLIN CA 95677	39.80256631	-121.5813018	Maqalia Branch	121° 34' 54.028" W	39° 48' 1.897" N											
066-470-007-000	SEDWICK JOHN CHRISTOPHER	13816 GLOVER LN	MAGALIA CA 95954	39.81155746	-121.5781725	Maqalia Branch	121° 34' 41.324" W	39° 48' 41.460" N											
055-290-036-000	GRIFFIN REVOCABLE TRUST	688 HENSHAW AVE	CHICO CA 95973	39.72879117	-121.5725826	Paradise Branch	121° 34' 20.532" W	39° 43' 43.639" N											
055-290-075-000	DODGE RANDALL P & PAULA S	P O BOX 281	PARADISE CA 95967	39.73060298	-121.5737967	Paradise Branch	121° 34' 25.490" W	39° 43' 50.551" N											
051-071-004-000	CLINE RICHARD W & EVELYN M	978 ROBERTS RD	PARADISE CA 95969	39.77558146	-121.6284002	Paradise Branch	121° 37' 42.204" W	39° 40' 32.911" N											
051-091-107-000	RIOS ENRIQUE & LOLENE	750 MEYERS ST	PARADISE CA 95969	39.77359207	-121.6228609	Paradise Branch	121° 37' 22.130" W	39° 40' 24.754" N											
051-103-015-000	KNAYER JAMES T	8391 MONTNA DR	PARADISE CA 95969	39.782033	-121.6063526	Paradise Branch	121° 36' 22.662" W	39° 40' 55.108" N											
052-160-016-000	SCHOTT DAVID C REVOCABLE INTER VIVOS TRUST	5923 SKYWAY RA	PARADISE CA 95967	39.75675955	-121.622091	Paradise Branch	121° 37' 18.754" W	39° 45' 24.233" N											
052-250-033-000	BLACK RIVER LAND COMPANY LLC	PO BOX 3200	PARADISE CA 95967	39.7519078	-121.6283143	Paradise Branch	121° 37' 41.739" W	39° 45' 4.871" N											
052-290-100-000	KIFER FAMILY TRUST	645 WYLLARD DR APT 361	FOLSOM CA 95630	39.74608113	-121.6188981	Paradise Branch	121° 37' 8.063" W	39° 44' 45.891" N											
052-290-169-000	MALARKEY JOHN V & DORALES J REVOCABLE LIVING TRUST	1432 PLANTATION DR	PARADISE CA 95969	39.74240796	-121.6179468	Paradise Branch	121° 37' 4.612" W	39° 44' 32.828" N											
051-153-005-000	MALZAR LOUIS W III TRUST	1692 MANSFORD AVE #197	CHICO CA 95926	39.77545497	-121.6083869	Paradise Branch	121° 36' 30.569" W	39° 46' 21.508" N											
050-081-015-000	ANDRADE JOHN J & DALEIA	6664 MOORE DR	PARADISE CA 95969	39.78621115	-121.5885057	Paradise Branch	121° 30' 18.514" W	39° 47' 10.027" N											
050-082-022-000	PINE SPRINGS ASSET PARTNERS LP	P O BOX 2308	LAQUINA HILLS CA 92654	39.78514127	-121.5838194	Paradise Branch	121° 30' 3.535" W	39° 47' 8.158" N											
050-120-115-000	REA FORREST REVOCABLE LIVING TRUST	1909 DEAN RD	PARADISE CA 95969	39.78718518	-121.5723009	Paradise Branch	121° 34' 20.575" W	39° 47' 14.707" N											
050-120-146-000	FLER FAMILY TRUST	5845 JAMES DR #B	PARADISE CA 95969	39.7851223	-121.5792723	Paradise Branch	121° 34' 44.838" W	39° 47' 6.620" N											
050-230-058-000	RIDGEWOOD MOBILE HOME PARK LLC	25024 RIDOE FLAT RD	AUBURN CA 95602	39.77801403	-121.5789796	Paradise Branch	121° 34' 39.878" W	39° 46' 41.340" N											
050-250-084-000	MAURER JACK A & LYNN M	PO BOX 2212	ALBURN CA 95967	39.77328118	-121.5732818	Paradise Branch	121° 34' 23.108" W	39° 46' 23.702" N											
050-330-027-000	FARRELL ROSE REV I V TRUST	1378 HERMAN LN	PARADISE CA 95969	39.78120093	-121.5961665	Paradise Branch	121° 35' 46.205" W	39° 46' 52.124" N											
053-131-040-000	MARUJAMA FAMILY PARTNERS LP	PO BOX 2499	PARADISE CA 95967	39.79394831	-121.6032451	Paradise Branch	121° 36' 11.547" W	39° 45' 33.205" N											
053-190-062-000	LEBLANC FAMILY TRUST	5042 COUNTRY CLUB DR	PARADISE CA 95969	39.76054765	-121.5973988	Paradise Branch	121° 35' 50.733" W	39° 45' 37.907" N											
053-200-030-000	WEBB ISABEL A	1449 SPEYER HOLLOW LANE	PARADISE CA 95969	39.76275161	-121.5917464	Paradise Branch	121° 35' 29.860" W	39° 45' 45.256" N											
053-250-049-000	ACRES CP PARADISE MOBILE HOME PARK LLC	3911 DEL PASO RD STE 160 RM 240	SACRAMENTO CA 95834	39.76433941	-121.5721715	Paradise Branch	121° 34' 19.162" W	39° 45' 52.980" N											
053-310-005-000	HEFFERN RICHARD A & MATILDE L	1855 NORWOOD DR	PARADISE CA 95969	39.76383886	-121.5720706	Paradise Branch	121° 34' 21.642" W	39° 45' 49.850" N											
053-330-043-000	WARE FAMILY LIVING TRUST	5783 WACON LN	PARADISE CA 95969	39.7568943	-121.5912784	Paradise Branch	121° 35' 28.649" W	39° 45' 24.642" N											
053-390-012-000	PARADISE RETIREMENT RESIDENCE LP	PO BOX 847	CARLSBAD CA 92018	39.76108601	-121.5699032	Paradise Branch	121° 34' 10.255" W	39° 45' 41.793" N											
054-030-057-000	VILLA ARTHUR MARTIN	8683 SCOTTY LAKE DR	PARADISE CA 95969	39.75280215	-121.5996448	Paradise Branch	121° 35' 59.919" W	39° 45' 10.126" N											
054-090-054-000	PETERSON FAMILY TRUST	635 PASCO COMPANIOS	CHICO CA 95928	39.74734749	-121.6089209	Paradise Branch	121° 36' 31.927" W	39° 44' 51.333" N											
054-141-022-000	CLARK MIYA SEA	12177 S STONERIDGE CIR	PARADISE CA 95969	39.75362527	-121.5954539	Paradise Branch	121° 35' 42.676" W	39° 45' 14.217" N											
054-181-011-000	AHRS PARADISE LLC	14672 COLTER WAY	MAGALIA CA 95954	39.74595666	-121.596554	Paradise Branch	121° 35' 50.148" W	39° 44' 46.742" N											
054-181-032-000	BROWN LARRY ALAN & CHERYL M	1397 NAE LANE	PARADISE CA 95969	39.74548743	-121.5954841	Paradise Branch	121° 35' 41.462" W	39° 44' 46.742" N											
054-192-006-000	FOLEY DANNY & ATHENA FAMILY TRUST	4680 VIEJA DR	SANTA BARBARA CA 93110	39.7434572	-121.5900397	Paradise Branch	121° 35' 25.248" W	39° 44' 36.809" N											
054-201-025-000	TRACY JOAN C TRUST	5326 SAWMILL RD	PARADISE CA 95969	39.74150488	-121.5887197	Paradise Branch	121° 35' 19.063" W	39° 44' 29.637" N											
054-310-003-000	HEINKE JOHN T	PO BOX 1196	PARADISE CA 95967	39.75084215	-121.5972531	Paradise Branch	121° 35' 49.893" W	39° 45' 0.062" N											
054-310-044-000	BROWN GEORGE REV INT VIV TRUST ESTATE	5577 HEAVENLY PL	PARADISE CA 95969	39.75113284	-121.5996238	Paradise Branch	121° 35' 58.259" W	39° 44' 52.197" N											
055-201-049-000	DUVALL VIOLET LE ETAL	1560 SUNNY ACRES ROAD	PARADISE CA 95969	39.73758159	-121.5858067	Paradise Branch	121° 35' 10.182" W	39° 44' 15.345" N											
055-202-008-000	ROBINSON SUSAN	5250 BEEWOOD LN	PARADISE CA 95969	39.73853605	-121.5836362	Paradise Branch	121° 34' 55.121" W	39° 44' 18.491" N											
054-120-021-000	PINECREST MOBILE HOME PARK LLC	P O BOX 1962	PARADISE CA 95967	39.74378345	-121.6058589	Paradise Branch	121° 36' 17.897" W	39° 44' 41.516" N											
054-260-051-000	MAGNUSON REVOCABLE TRUST	1812 ORENDEL CIR	PARADISE CA 95969	39.74367993	-121.5602921	Paradise Branch	121° 34' 8.862" W	39° 44' 36.353" N											
054-302-021-000	HERRERA LOUIS & DOROTHY LEE	2376 CLEARVIEW CIR	PARADISE CA 95969	39.73970661	-121.5688777	Paradise Branch	121° 34' 7.866" W	39° 44' 22.563" N											
050-230-058-000	RIDGEWOOD MOBILE HOME PARK LLC	25024 RIDOE FLAT RD	AUBURN CA 95602	39.77801403	-121.5789796	Paradise Branch	121° 34' 39.488" W	39° 46' 41.308" N											
058-330-041-000	WOODS JOSEPH L	122 MONTERAY DR	VACAVILLE CA 95687	39.7833															



# Incomplete & Parcel Data



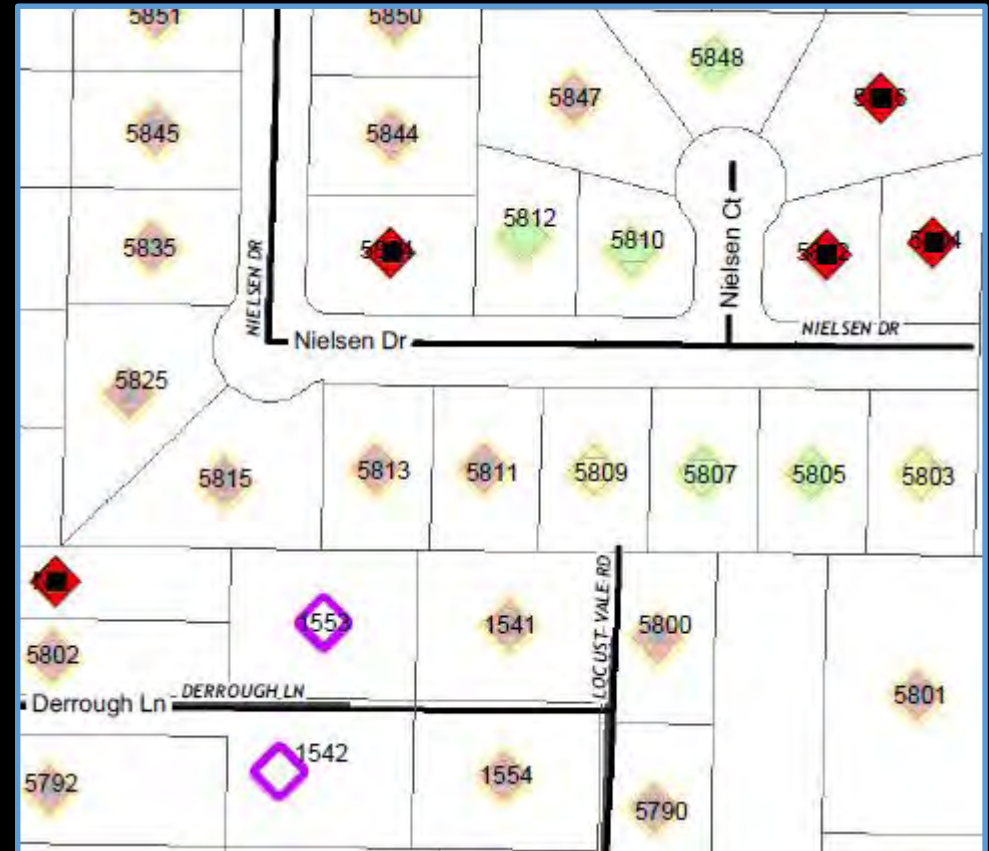
- Primary Search
- Secondary Search

- Incomplete Data



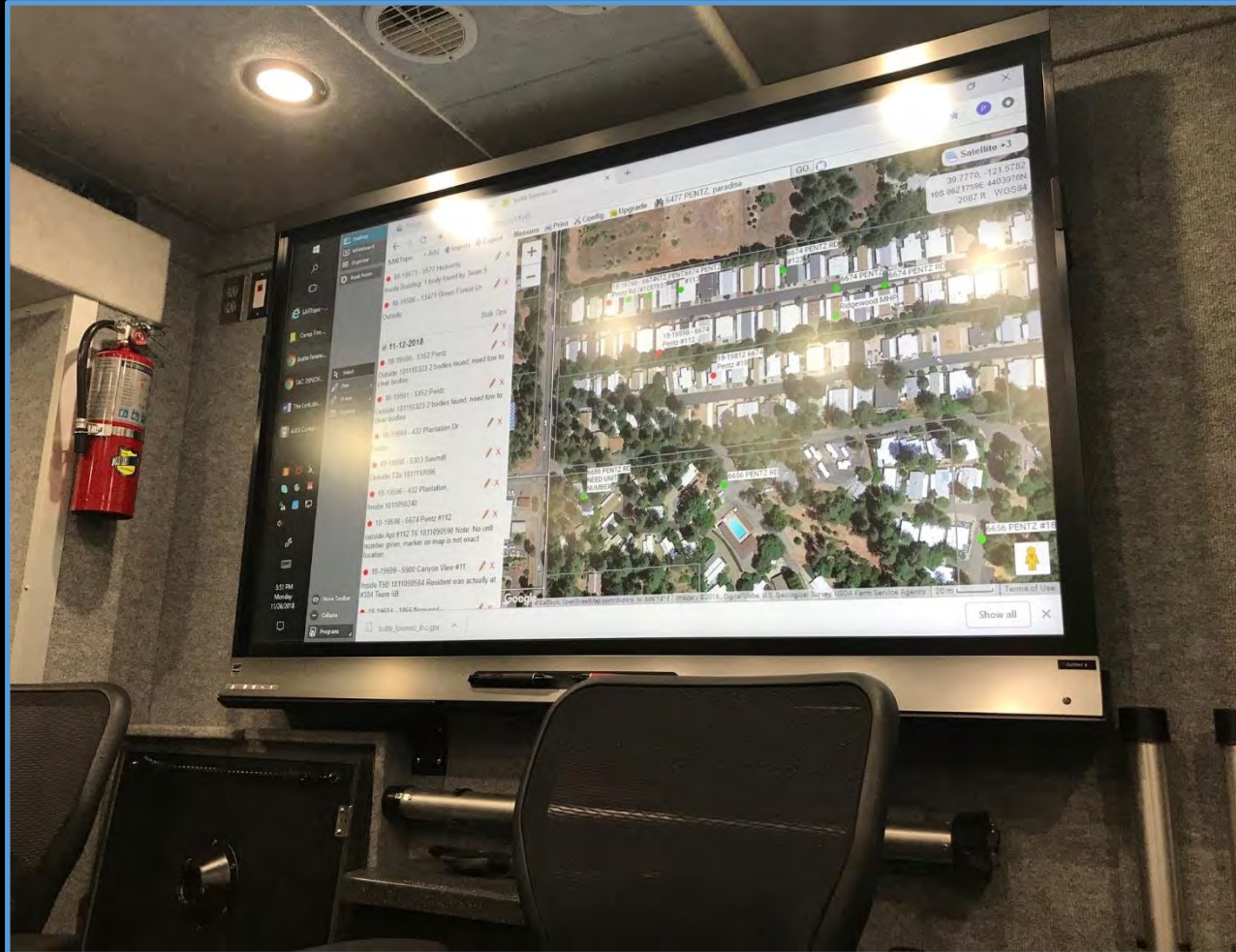
# 11/25/18 - 11/26/18

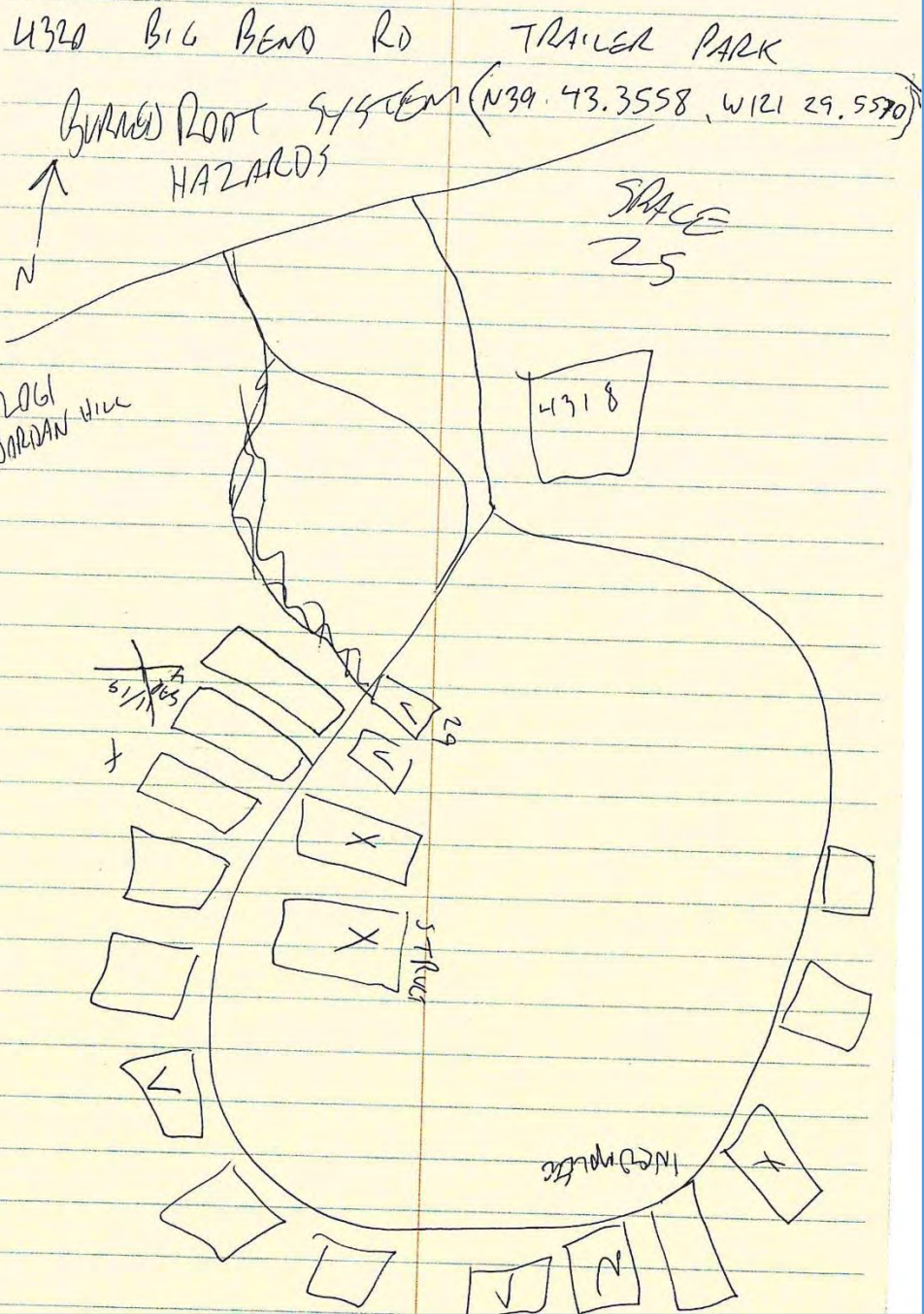
- Incomplete data Identified
- SAR Zone Maps modified to show incomplete data
- Crews to Seek and Confirm
- 11/25/18 was the last day for RTF and US&R Teams to Search





# 11/26/18 SAR Data Collection



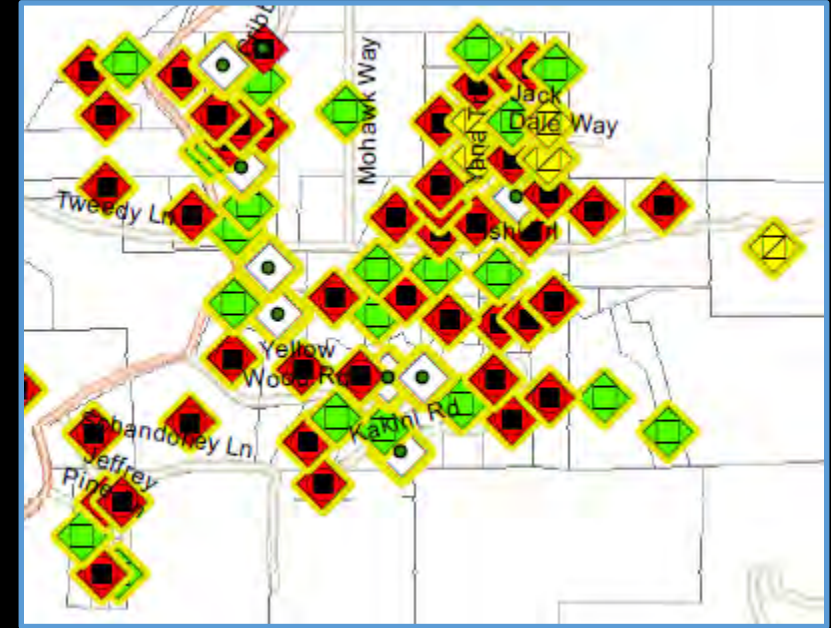
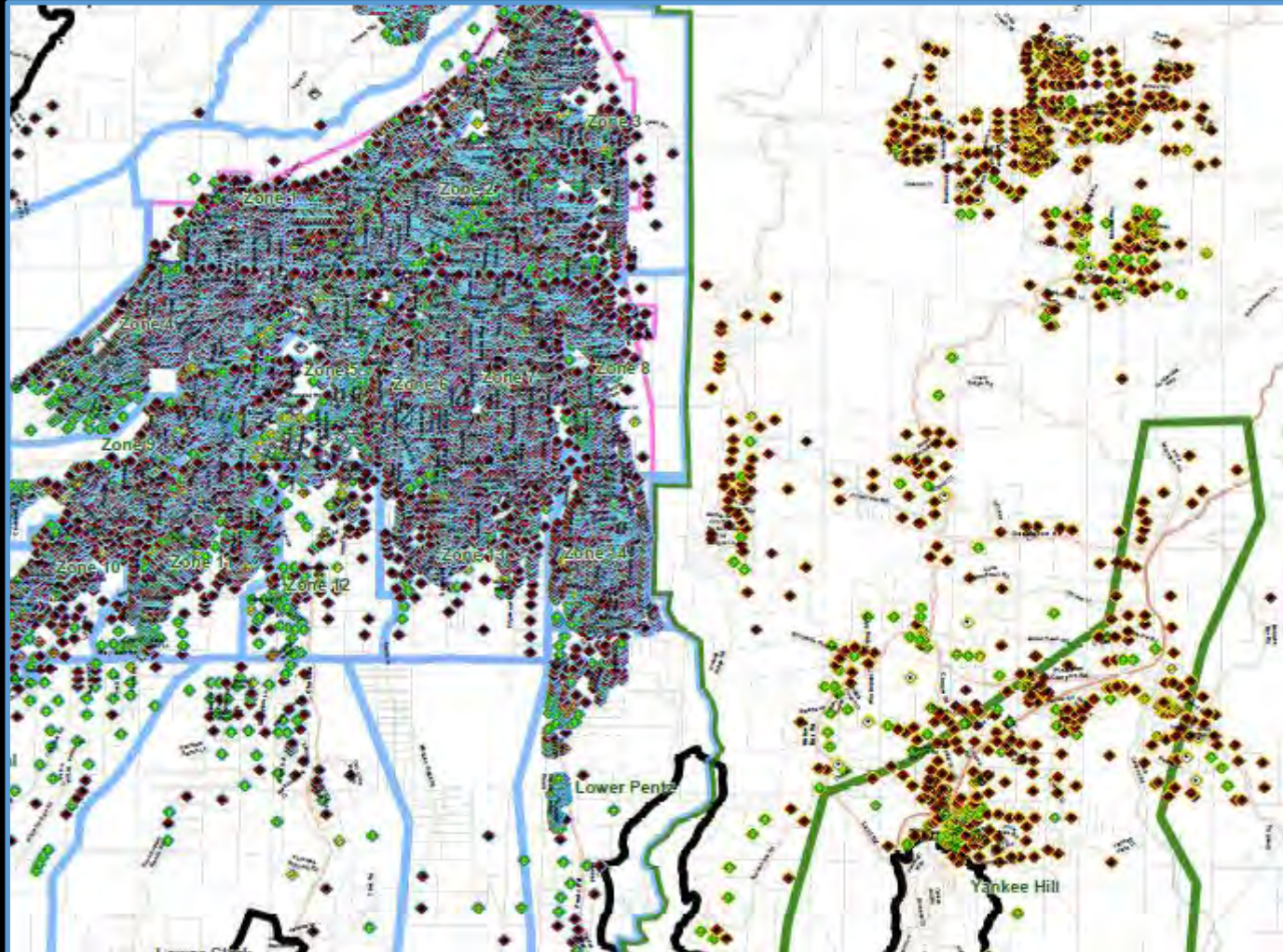


### UNIT LOG CONT. (ICS 214)

1. Incident Name: Camp Law/Rescue		2. Operational Period: Date From: 11/26/18 Date To: 11/27/18 Time From: 0700 Time To: 0700	
6. Activity Log			
TIME	MAJOR EVENTS		
	- GHA GPS location - signed on opposite side		
H2 39° 45' 7.29" 121° 32' 39.27"	12365 Jordan Hill - Passed locked gate Road blocked - Red vehicle unpowered at lower lot. GLOW Fields at lower and Upper lots		
	- Helms keep is Actual Address Previous search - Also dog/search by A3D		
H1 39° 44' 52.202" 121° 33' 15.679"	Lost Ridge way - searched previous Also dog by A3D		
H7 39° 47' 13.84" 121° 30' 22.25"	4065 Windermere - House standing - Door locked searched previous - outside?		
H8 39° 47' 15.31" 121° 30' 1.26"	13362 Conrow Rd - Searched previously Also dog by A3D		
H9 39° 47' 19.46" 121° 30' 3.68"	13371 Conrow Rd - Searched previously		



# 11/27/18



Structure Destroyed,  
Search Completed



SAR Searched



# ESRI: Survey123 & Collector



IAFC Operations Response D... Filter Map by Operational Period 10/8/2018 12/16/2018 Filter Map by Username Pick username(s)

### Legend

SUSAR Human Interactions

- Assisted
- Evacuated
- Human Remains
- Human Remains Removed
- Rescued
- Shelter in Place
- Victim Confirmed
- Victim Deceased
- Map Legend

1 of 19

Operations Map Operations App

Please note - we have simplified the Dashboard to improve performance and added tools to filter by date and / or username. FLTF1,2,6 GPS data were imported under username pdoherty\_iafc.

Links

- [Survey123 Results to export](#)

### Recent Surveys

Team: FLTF7  
16R FV 4000 1230  
10/17/2018, 8:42 PM  
Tree to roof

**Type: Damage**  
Team: FLTF7  
16R FV 4355 1736  
10/17/2018, 5:41 PM  
Trees down. Minimal to house

**Type: Other**  
Team: FLTF7  
16R FV 4301 1747  
10/17/2018, 5:20 PM  
Last update: a few seconds ago

### SUSAR Waypoint Categories

Victims	Hazards	Damage	Other
1,990	388	1,705	

(Note: Damage = Structures surveyed, see the SUSAR Damage tab for results. Victims = waypoints where there were human interactions. These labels are a limitation of the system, that will be changed in future deployments)

SUSAR Waypoints SUSAR Damage FEMA Waypoints

SUSAR Waypoints **51,371**

Last update: a few seconds ago

FEMA Waypoints **47,867**  
(w/o human interactions)

Last update: 4 minutes ago





# Lessons Learned & Recommendations



- **The Catastrophic Mass Fatality SOP needs to be revisited. This process does not work for California.**
- **Data Collection reciprocity for Fire and LE must exist**
- **Operations and the IMT Situation Unit must establish search criteria and data collection processes**
- **Clearly communicate with searchers using standardized terminology**
- **Define the roles for Urban Search teams and Wilderness SAR teams**



# Lessons Learned & Recommendations



- The Regional Task Forces must be working with the same symbol sets, if not the same exact equipment as the FEMA task forces
- USNG Map product to replace the IAP Map
- USNG Template for GSTOP
- Search Zones should relate to USNG map pages (100 Meter Grid)
- Training for GISS needs occur prior to disaster incidents.



# Questions or Comments

## CIIMT-4



**California Interagency Incident Management Team 4**  
**Proudly serving the city of Encinitas**  
**Fire & Marine Safety Department**

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