



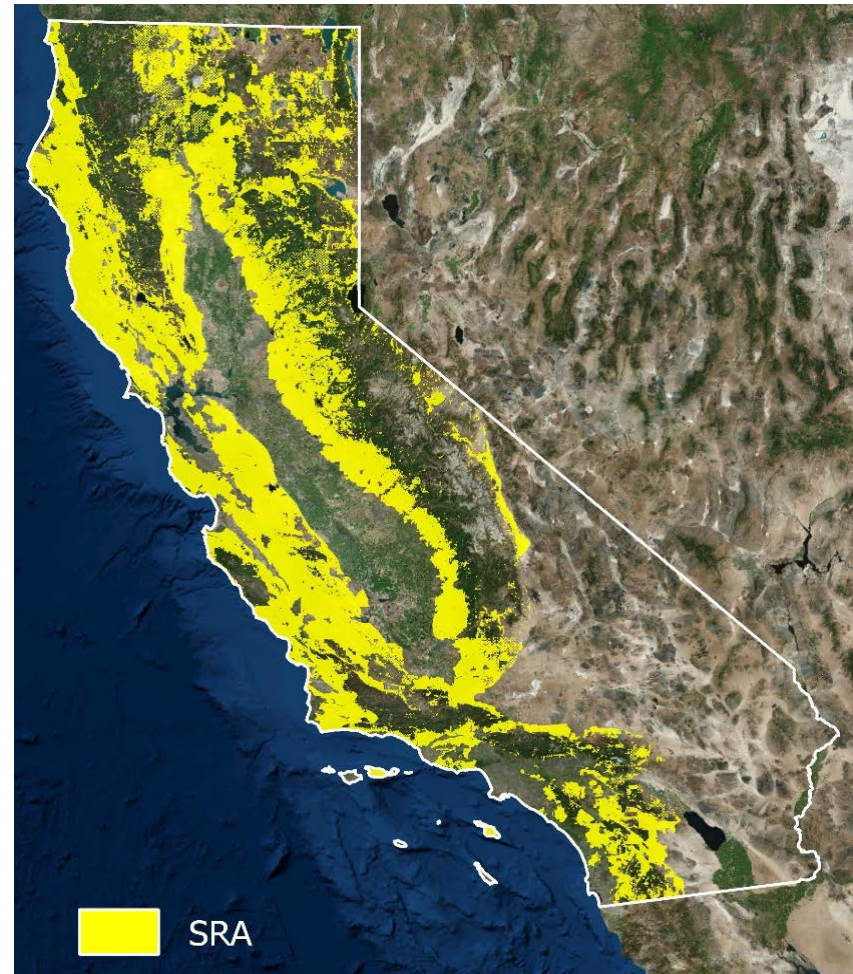
The Power of Public Web Apps Camp Fire

Esri User Conference 2019

Presented by: Steven Hawks
William Brewer

The 411 on CAL FIRE

- Largest Fire Department in California
- Protect 31 million acres of privately owned wildlands
 - State Responsibility Area (SRA)
 - Roughly 1/3 of the land area in California
- Provide emergency services in 150 counties, cities and districts via agreement
- All-hazards emergency response



The Wildland Urban Interface/Intermix (WUI)

- Roughly 1 million residential structures in those 31 million acres
- California's climate provides the perfect fire environment
 - Hot, low relative humidity, wind
 - Diverse and steep terrain
 - Flammable vegetation
- Structures are fuel too and are damaged/destroyed by wildfire



History of CAL FIRE's Damage Inspection Program

- Started in the late 1980's
- Goal was to collect data to validate defensible space regulations
- Later revised to provide statistical information and added hazard mitigation
- Program was informal, and inconsistent throughout the state
- Not all fire losses were recorded
- Utilized paper forms

The Current Damage Inspection Program

- ESRI Collector App utilized
 - Centralized electronic database for structure loss data
 - Rapid and efficient data collection
 - Choose what data to collect
 - Improved data quality and reporting
 - Connect photos and data geospatially
- Analyze Fire Safe Regulations
 - PRC 4290 – Fire Safe Development
 - PRC 4291 – Defensible Space Requirement
 - CBC Chapter 7A – WUI building standards
- Further analysis



CAMP2018_DINS

🔴 Destroyed (>50%)

🟡 Major (26-50%)

🟢 Minor (10-25%)

🟠 Affected (1-9%)

CAMP2018_DINS_NO_DAMAGE

⬛ No Damage

CAMP_DINS_QA_QC_2

★ Field Correct

● Field Notes

● Check Location

Damage Inspection Program Overview

Year	Damage	Structure Type						Total	% of Residential Structures Damaged/Destroyed	% of All Structures Damaged/Destroyed
		Single Family Residences	Multifamily Residences	Mixed Residential Commercial	Nonresidential Commercial	Other Minor Structures	Infrastructure			
Since 2014	Destroyed (>50%)	26874	282	15	938	10104	16	38229	93.32%	93.05%
	Major (26-50%)	137	6	0	24	133	7	307	0.49%	0.75%
	Minor (10-25%)	368	6	3	48	173	2	600	1.29%	1.46%
	Affected (1-9%)	1402	24	2	131	376	12	1947	4.90%	4.74%
	TOTAL	28781	318	20	1141	10786	37	41083	100.00%	100.00%

Total	2014	2015	2016	2017	2018	Since 2014
Structures Destroyed	240	3141	1223	10922	22703	38229
Structures Damaged	8	112	72	1139	1523	2854
Structures Damaged/Destroyed	248	3253	1295	12061	24226	41083

All permanent structures greater than 120 sq. ft.

California's Top 20 Most Destructive Wildfires

Top 20 Most Destructive California Wildfires

FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1 CAMP FIRE (Under Investigation)	November 2018	Butte County	153,336	18,804	85
2 TUBBS (Electrical)	October 2017	Napa & Sonoma	36,807	5,636	22
3 TUNNEL - Oakland Hills (Rekindle)	October 1991	Alameda	1,600	2,900	25
4 CEDAR (Human Related)	October 2003	San Diego	273,246	2,820	15
5 VALLEY (Electrical)	September 2015	Lake, Napa & Sonoma	76,067	1,955	4
6 WITCH (Powerlines)	October 2007	San Diego	197,990	1,650	2
7 WOOLSEY (Under Investigation)	November 2018	Ventura	96,949	1,643	3
8 CARR (Human Related)	July 2018	Shasta County, Trinity County	229,651	1,614	8
9 NUNS (Powerline)	October 2017	Sonoma	54,382	1,355	3
10 THOMAS (Powerline)	December 2017	Ventura & Santa Barbara	281,893	1,063	2
11 OLD (Human Related)	October 2003	San Bernardino	91,281	1,003	6
12 JONES (Undetermined)	October 1999	Shasta	26,200	954	1
13 BUTTE (Powerlines)	September 2015	Amador & Calaveras	70,868	921	2
14 ATLAS (Powerline)	October 2017	Napa & Solano	51,624	783	6
15 PAINT (Arson)	June 1990	Santa Barbara	4,900	641	1
16 FOUNTAIN (Arson)	August 1992	Shasta	63,960	636	0
17 SAYRE (Misc.)	November 2008	Los Angeles	11,262	604	0
18 CITY OF BERKELEY (Powerlines)	September 1923	Alameda	130	584	0
19 HARRIS (Undetermined)	October 2007	San Diego	90,440	548	8
20 REDWOOD VALLEY (Powerline)	October 2017	Mendocino	36,523	546	9

***Structures* include homes, outbuildings (barns, garages, sheds, etc) and commercial properties destroyed.

***This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.



3/14/2019

The DINS Process

- Lead – Damage Inspection Manager (DINM)
 - Works for SITL with IMT/Unit, daily briefing, cooperators meeting, local AHJs, training, QA/QC data, 209, and assembles final report
- Field Team – Damage Inspection Specialist (DINS)
 - Minimum of 2 people/team
 - Daily briefing, experienced with non-experienced, other SMEs, safety, data collection, QA/QC, and scalable with the incident
- GISS
 - Create field maps, QA/QC data, dashboards, public web map, data sharing group, and final report products

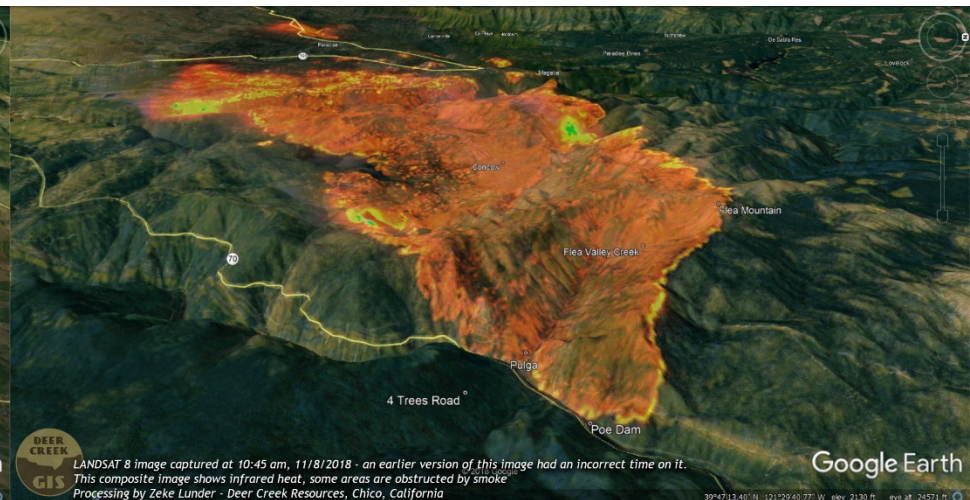
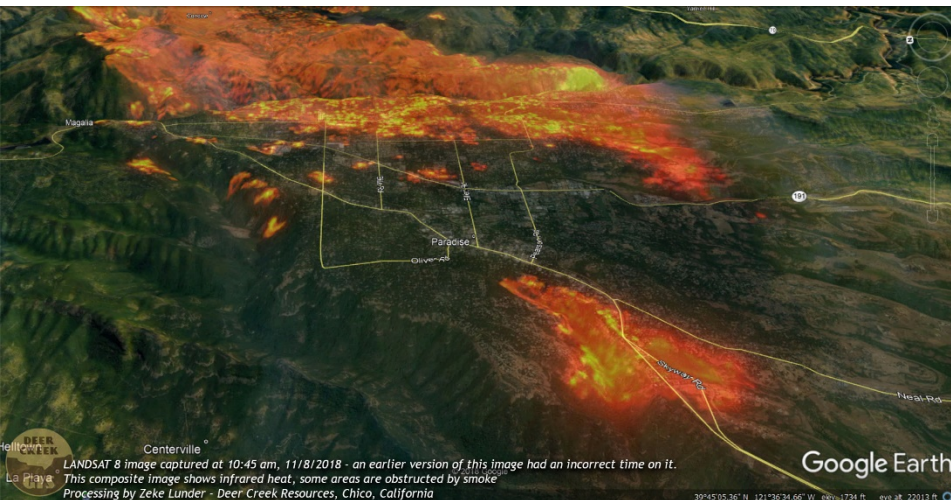
The DINS Process

- Operational period of a DINS
 - Attend Operational Briefing
 - Attend DINS Briefing
 - Ensure Collector is setup for the day
 - Check in with assigned DIV/Group Supervisor
 - Conduct a systematically search assigned area
 - 360° around each structure
 - Document damaged/destroyed/no damage in Collector
 - Mark property as inspected
 - Check out with assigned DIV/Group Supervisor
 - Sync offline records
 - QA/QC data
 - Check in with DINM and debrief



The DINS Process

- The Camp Fire (Camp Creek Road in Pulga, CA)
 - Started: November 8, 2018
 - Contained: November 25, 2018
 - 153,336 acres and at least 85 deaths
 - 18,804 structures destroyed
 - 13,696 single family residential structures destroyed
 - Deadliest and most destructive fire in California history



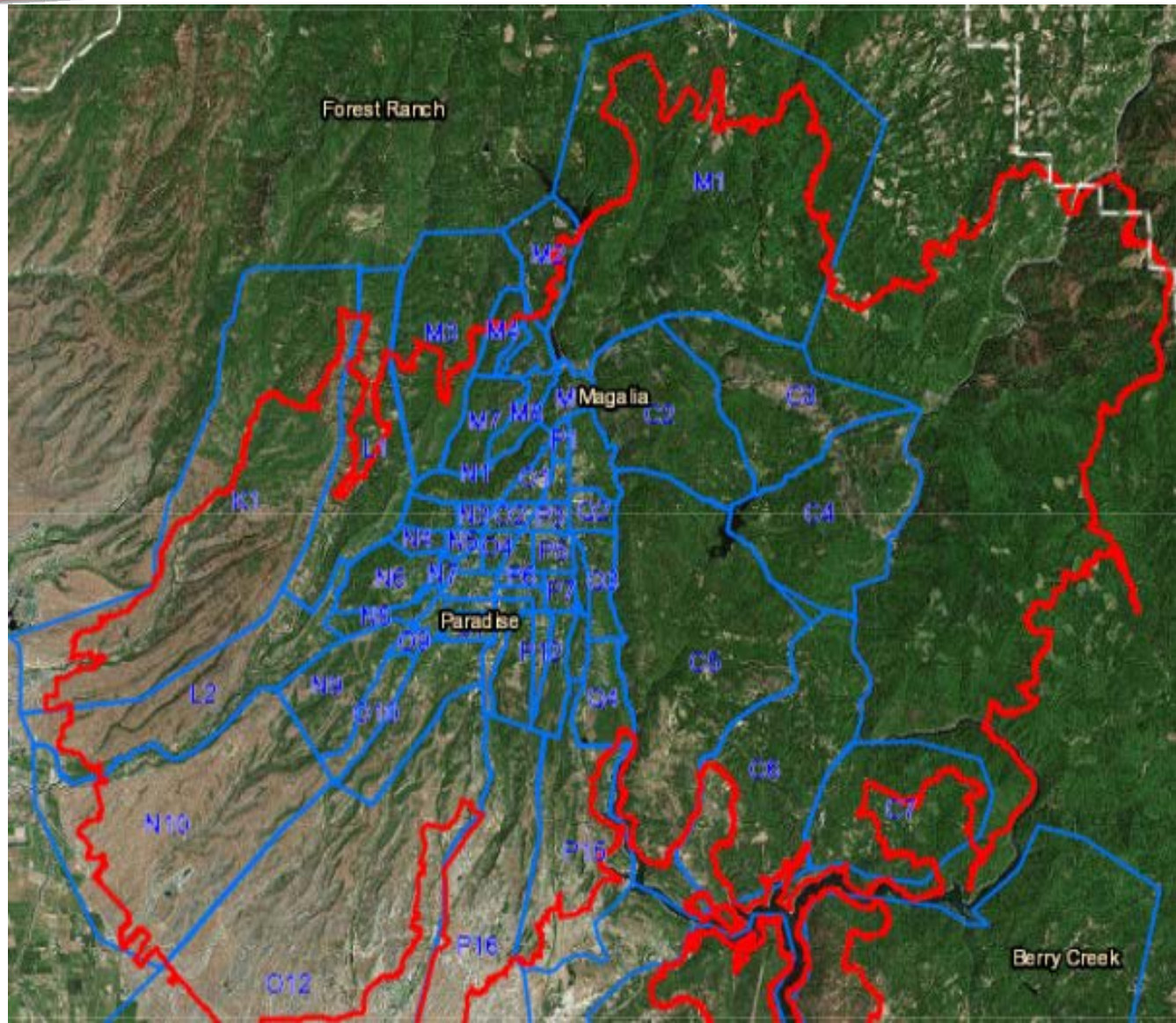
The DINS Process

Windshield survey



The DINS Process

Zones
determined
and maps
produced



The DINS Process

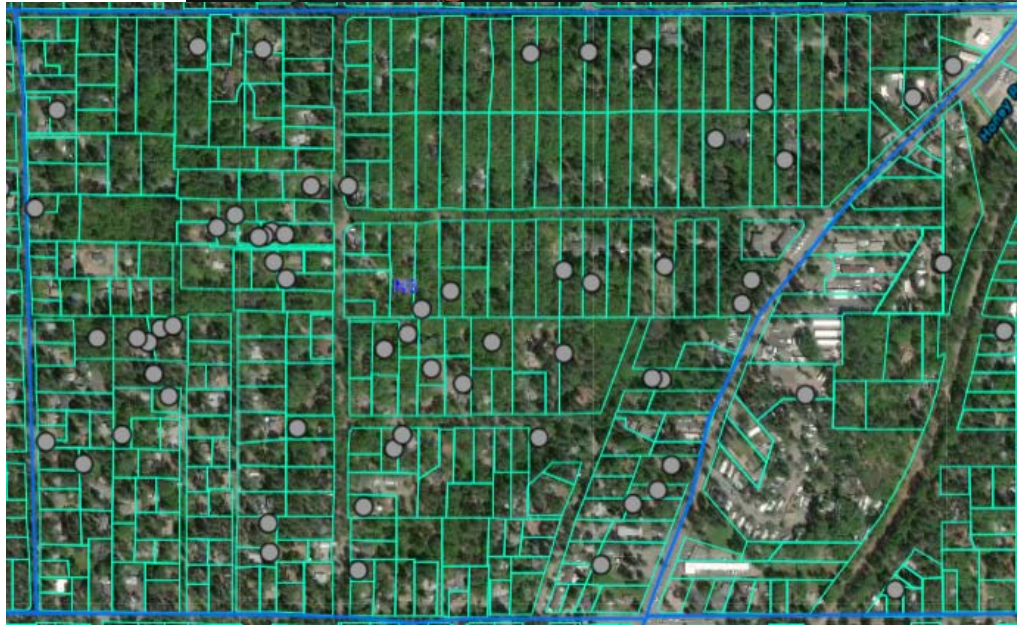
Track logs



QA/QC Process

QA/QC

- Swim team
- DINMs
- DINS
- GISS



CAMP_DINS_QA_QC_2

★ Field Correct

● Field Notes

● Check Location

● Missing Attributes

● Missing Photo

◆ Missing Structure

● Retake Photo

QA/QC Process

Edit Status field

- Approved

Reported field

- Yes

Shared field

- Yes

Automated process

- After 0600 and 1800 209, update AGOL Group
- AHJs

EDIT STATUS

Approved



No Value

Approved



Check Location

Missing Attributes

Missing Photos

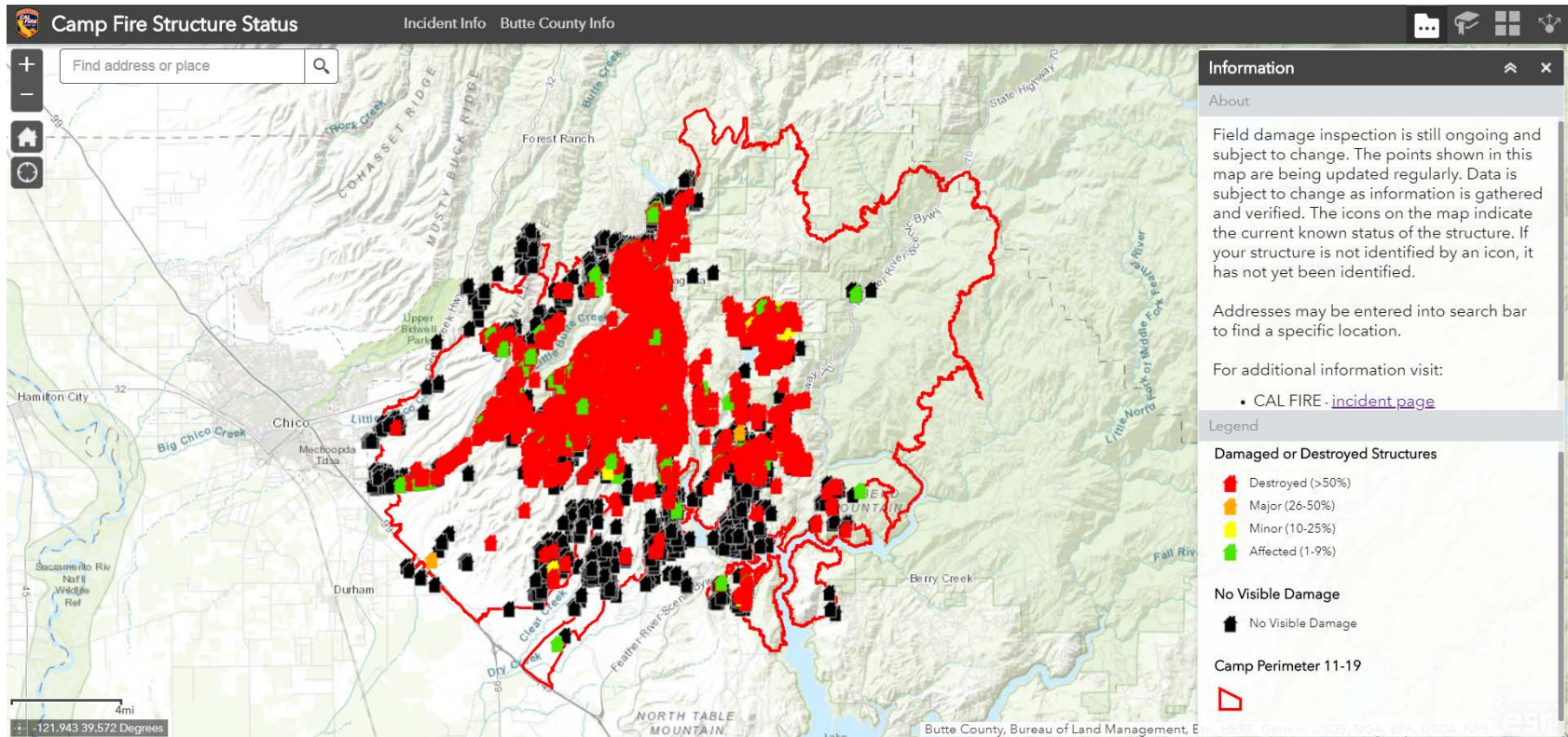
Retake Photo

Public Web App

Public Web App

Incident Start: November 8th, 2018

Public App Release: November 12th, 2018



menu
 abc 7

WATCH VIDEOS

60° San Francisco, CA
EDIT Log In

MAPS: A look at the Camp Fire in Butte County and other California fires

The website will continue to be updated as field damage inspections continue.

SHARE

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Camp Fire Structure Status Incident Info Butte County Info

Find address or place

DAMAGE INSPECTION:

Field damage inspection is ongoing and subject to change. The information contained herein is updated as information is gathered and verified. The icons on the map indicate the current known status of the structure. By entering this site you are making a public record request pursuant to Government Code Section 6254 et seq. for the information contained herein.

If your structure is not identified by an icon, it has not yet been inspected.

Thank you for your patience. Our thoughts are with all those impacted.

☐ I agree to the above terms and conditions
 OK

Damaged or Destroyed Structures
 Destroyed (>50%)
 Major (25-50%)
 Minor (10-25%)
 Affected (1-9%)
 No Visible Damage

Camp Perimeter 11-19

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Information

About

- Damaged or Destroyed Structures
 - Destroyed (>50%)
 - Major (26-50%)
 - Minor (10-25%)
 - Affected (<10%)
- No Visible Damage

OK

No Visible Damage

Camp Perimeter 11-19

Move mouse to get coordinates

Butte County

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Public Web App – Splash Screen


- Convey essential message (1)
- Instructions for use (2)
- Manage expectations (3)
- Legal disclaimer (4)
- Thank you/thoughts (5)

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OK

Public Web App – Splash Screen


- Convey essential message (1)
- Instructions for use (2)
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OK

Public Web App – Splash Screen

Update to reflect current status of the inspection process


Original

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OK


Current

DAMAGE INSPECTION:
(last updated 01/12/2019)

Field damage inspection has concluded. The information contained herein may still be updated as information is gathered and verified. The icons on the map indicate the current known status of the structure. **By entering this site you are making a public record request pursuant to Government Code Section 6254 et seq. for the information contained herein.**

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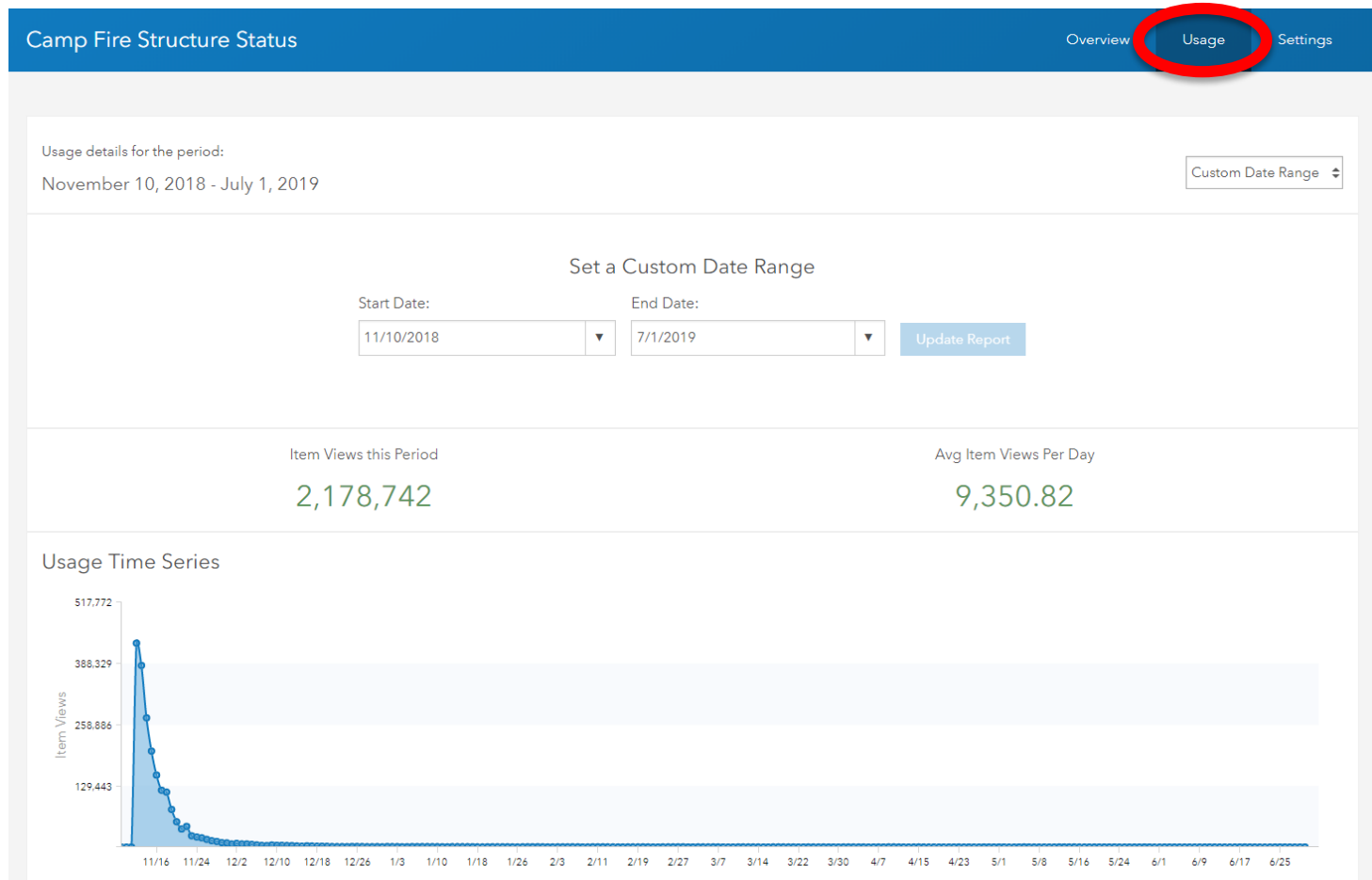
OK

The Power of the Public Web App



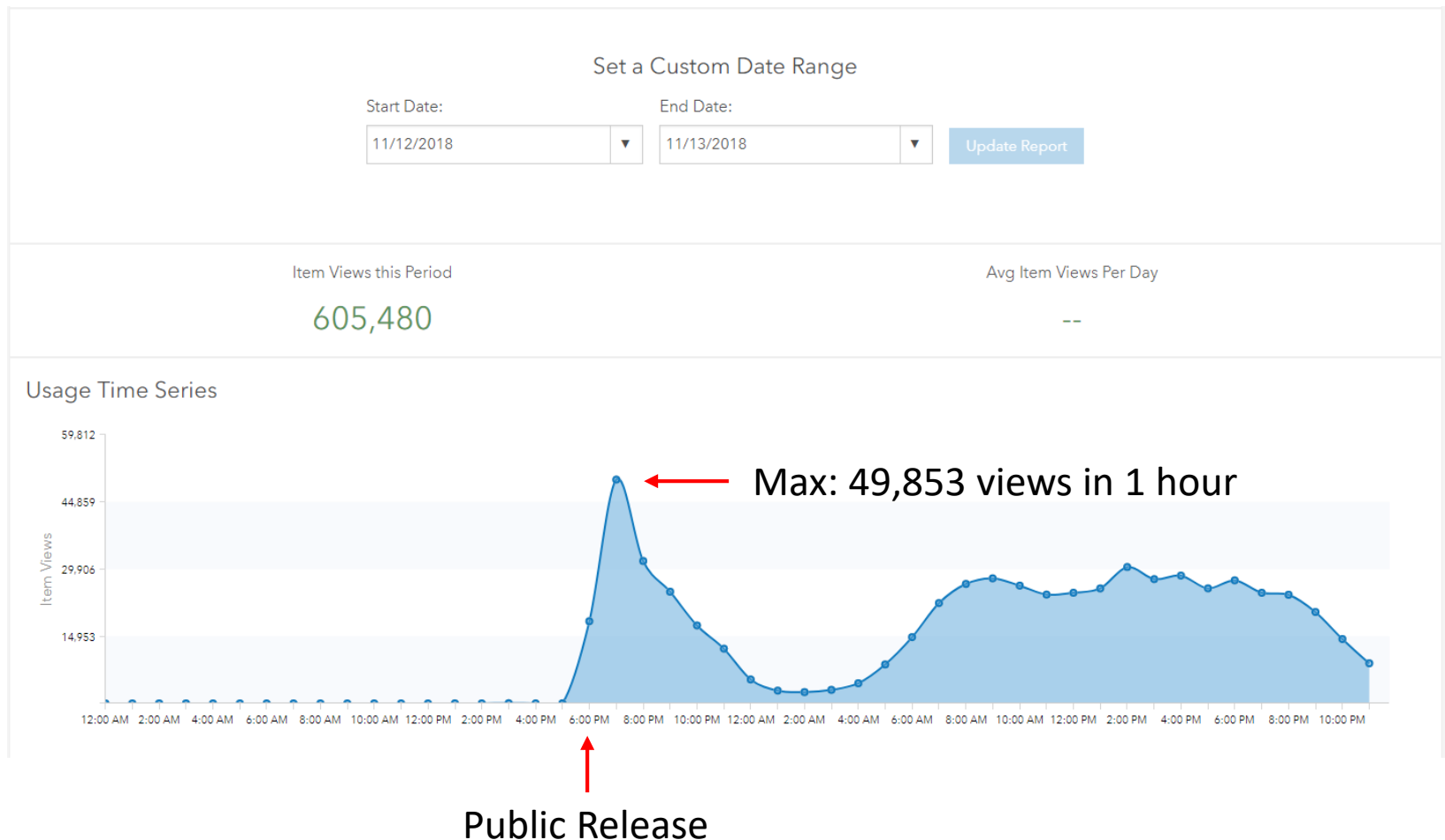
Public Web App – Usage Statistics

- November 12th 2018 – present



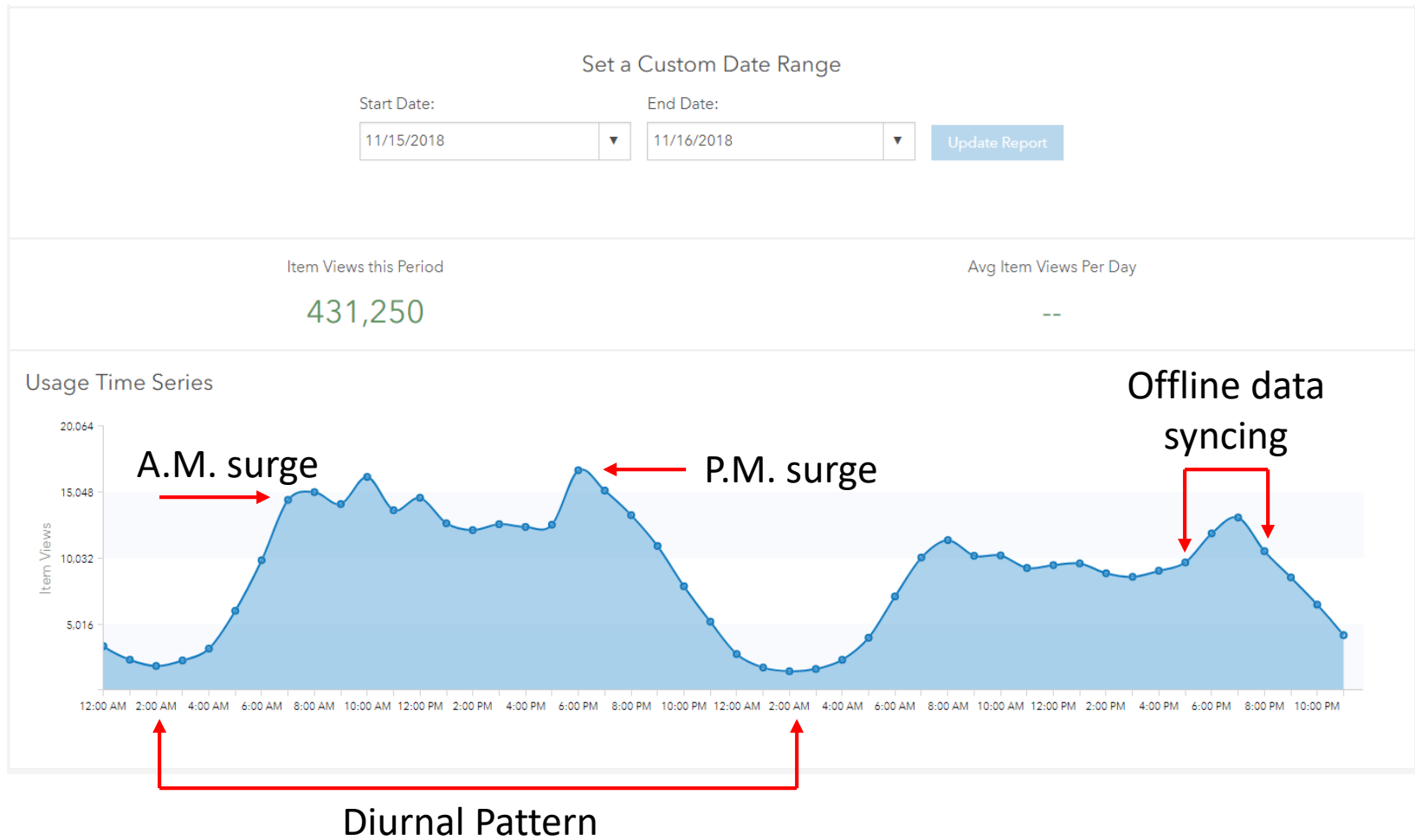
Public Web App – Usage Statistics

- November 12th – 13th 2018 - First 48 hours



Public Web App – Usage Statistics

- November 15th – 16th 2018 - Three days after release



Public Web App – Usage Statistics

- January 1st – July 1st 2019



Public Web App – Usage Statistics

Procrastination?



Public Web App – Usage Statistics

Insurance Companies

Insurance claims from California's November wildfires total \$11.4 billion

FACING DAMAGES FROM THE CAMP FIRE IN CALIFORNIA?

A Camp Fire Claim Attorney From Our Firm Will Fight for Your Recovery

Wildfire insurance losses from November 2018 blazes top \$12 billion

News: 2019 Press Release

L.A. NOW LOCAL

California plans takeover of property insurer overwhelmed by Camp fire claims

By JAMES RUFUS KOREN DEC 03, 2018 | 6:40 PM



The Power of the Public Web App

- Public Web App Benefits
 - Informs decision makers
 - Informs the public
 - Homeowner insurance claims
 - Insurance company validation
 - Insurance fraud
 - FEMA



Questions?

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