Damage Inspection Program

Collector for ArcGIS

Presentation Overview

1. **Damage Inspection Program Overview**
2. **The DINS Process**
3. **Esri and Collector for ArcGIS**
4. **Deliverables**
5. **PROS and CONS**
6. **DINS and Collector for ArcGIS Future**
7. **Conclusion**

Damage Inspection Program Overview

Damage Inspection Program Overview

The Past

- Prior to 2015, no centralized program
- Low tech – paper data gathering
- Varying data collection fields
- Varying final report standards
- Subjective based on Incident Management Team, political environments, location, other reasons

Damage Inspection Program Overview

The Boles Fire

- 2014 Boles Fire (SKU) was first large CAL FIRE Incident to utilize Collector for ArcGIS and current technology e.g. iPad, Android tablets
- Favorable variables helped lead to success:
  - Good connectivity
  - Supported with private vendor for equipment
  - Easy travel
- Showed the benefits of new technology
- Viewed as a success

Damage Inspection Program Overview

Since the Boles Fire

- 2015 and 2016 fire seasons saw a significant number of structures damaged or destroyed
- DINS deployed on 14 major fires throughout the state
- 5,000 + damaged or destroyed structures documented
  - Any permanent structure, min 10’ X 12’ in size

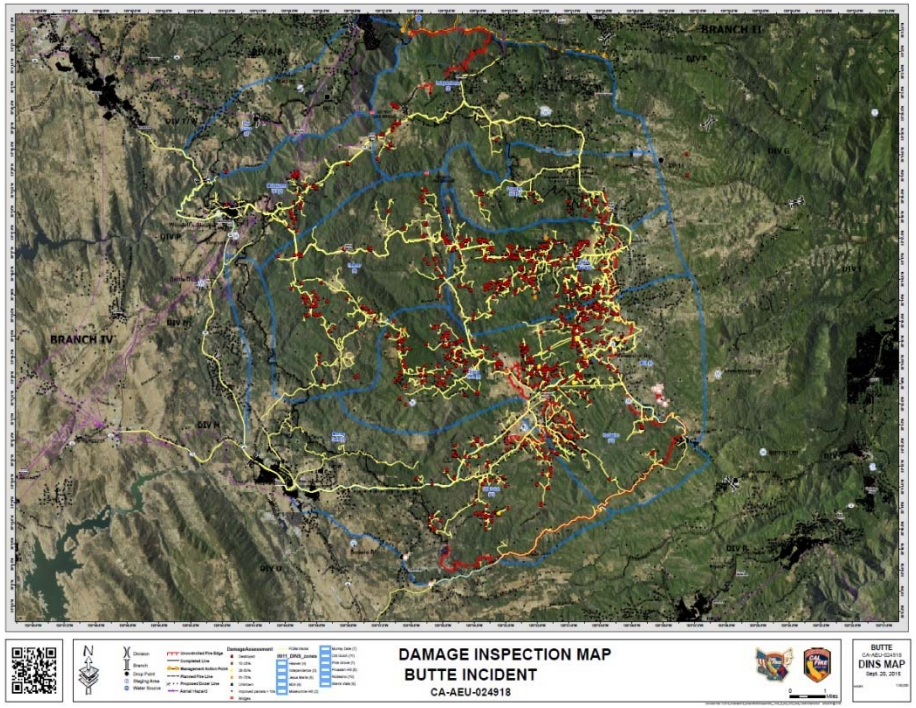
Damage Inspection Program

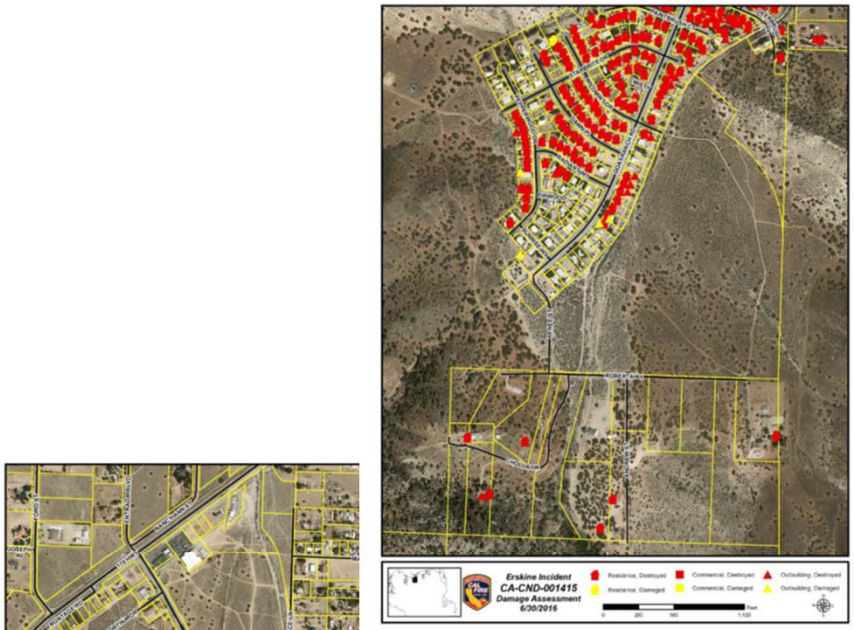
DINS Process

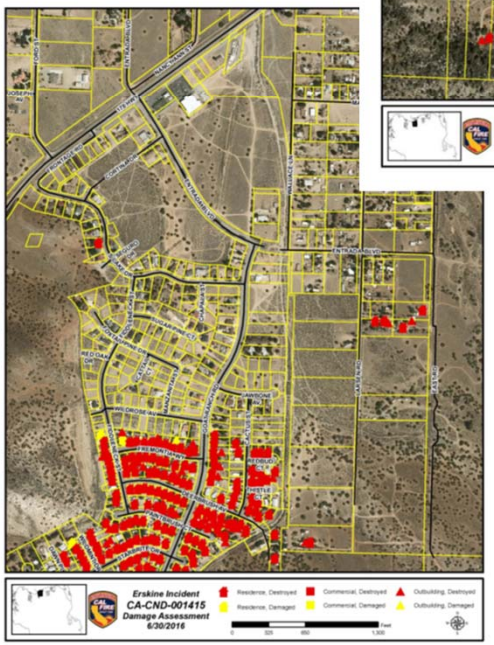
The DINS Process

- The incident starts and the need for DINS is determined
- Windshield survey conducted
- Zones determined and maps produced

The DINS Process







The DINS Process

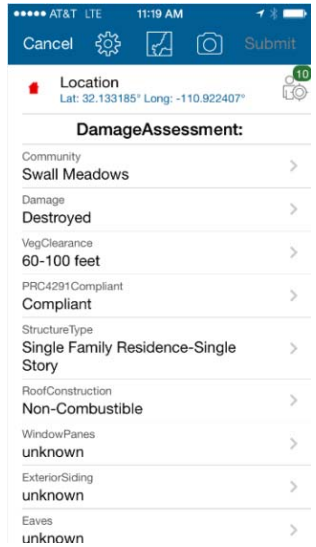
- Teams are assembled and comprised of
  - Lead
    - Works with IMT/Unit, daily briefing, training, reconcile data, assembles final report
  - GISS
    - Create field maps, reconcile data, and final report map products
  - Field Team – minimum of 2 people/team
    - One Field Observer (Fire Department), One Fire Life Safety Inspector (OSFM)
    - Scalable with the incident

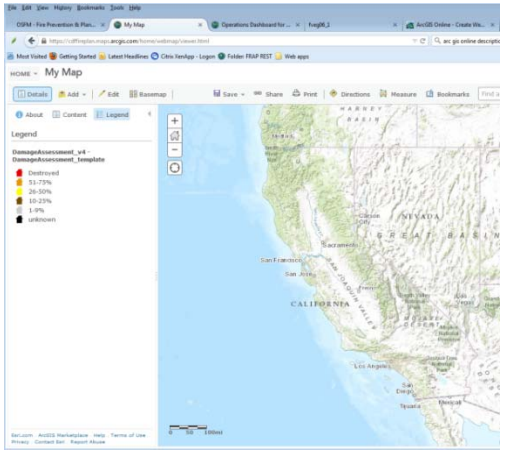
Damage Inspection Program

Esri and Collector for ArcGIS

Esri and Collector for ArcGIS

- Mobile data collection software
- Created by Esri
- Connects with ArcGIS Online
- Can work in areas with and without cellular connectivity (online and offline)
- Choose which data you want to collect
- Geospatial





Esri and Collector for ArcGIS

- Centralized electronic database for analysis and reporting
- Rapid and efficient data collection
- Standardized data using pick lists
- Connects photos and data to spatial location
- Improved data quality
- Rapid mapping (live)
- Standardized reporting

Esri and Collector for ArcGIS

Damage Inspection Worksheet

Incident Name:	Incident Number:
Inspector's Name *(print)*:	Inspection Date:

PROPERTY		
Physical Address		
Latitude *(Degrees Decimal Minutes)*:	Longitude *(Degrees Decimal Minutes)*:	
Street Number *(e.g., 1234)*:	Street Name:	
Street Type *(e.g., court, hwy 50, blvd)*:	Street Suffix *(e.g., apt 23, bldg c, lot 12)*:	
City:	State: **CA**	Zip Code:
APN:	CAL FIRE Unit:	
County:	Community *(e.g., focus area)*:	

Structure Type

1) Single Family Residence
   - a) Single Story
   - b) Multi Story
2) Multi-Family Residence (e.g. apartment)
   - a) Single Story
   - b) Multi Story
3) Mobile Home
   - a) Single Wide
   - b) Double Wide
   - c) Triple Wide
   - d) Motor Home (if used as a residence)
4) Commercial Building (e.g., Industrial, Manufacturing, Office, Retail)
   - a) Single Story
   - b) Multi Story
5) Non-habitable
   - a) Shop
   - b) Barn
   - c) Detached Garage
   - d) Outbuilding > 10'x12'
6) Other
   - a) School (Educational)
   - b) Hospital (Medical)
   - c) Church
   - d) Miscellaneous
   - e) Agriculture
   - f) Environment
   - g) Infrastructure (Essential Services)

Location of Structure (Topography)

- a) Chimney
- b) Flat Ground
- c) Ridge Top
- d) Saddle

Construction Types
(Exclude Other and Non-Habitable Structures)

1) Roof Construction
   - a) Combustible
   - b) Fire Resistant
   - c) Unknown
2) Exterior Siding
   - a) Combustible
   - b) Fire Resistant
   - c) Unknown
3) Window Panes
   - a) Single-Pane
   - b) Multi-Pane
   - c) Unknown
4) Eaves
   - a) Enclosed
   - b) Un-Enclosed
   - c) Unknown
5) Deck or Porch
   - a) Masonry
   - b) Composite
   - c) Wood
   - d) Unknown
6) Vent Screens
   - a) Screened
   - b) Un-screened
   - c) Unknown

Structure(s)

Destroyed (> 75%)

Damaged
- *a) 1-9%*
- *b) 10-25%*
- *c) 26-50%*
- *d) 51-75%*

Structure With No Damage (Record information when directed.)

Is Structure With No Damage Compliant with PRC 4291?
- *a) Yes*
- *b) No*
- *c) Unknown*

Complete for all structures

Vegetation Clearance
- *a) 30 – 60 feet*
- *b) 60 – 100 feet*
- *c) > 100 feet*
- *d) Not Applicable*

Deliverables

Construction Method	Roof Construction	Exterior Siding	Window Panes	Eaves	Eave Vent Screen	Deck or Porch
Combustible	22	47				
Non-Combustible	51	14				
Composite						1
Single			26			
Multi-Pane			9			
Enclosed				3		
Un-Enclosed				8		
Wood						24
Yes					14	
No					8	
Total evaluated	**73**	**61**	**35**	**11**	**22**	**25**

Damaged	Homes	Outbuildings	Commercial	Total
1-9%	14	11	0	25
10-25%	2	4	0	6
26-50%	2	3	0	5
51-75%	3	4	1	8
Destroyed	549	368	4	921
Total	570	390	5	965

Butte Incident CA AEU 024918
Damage Inspection Summary
Page 29 of 65

Site Address	Damaged	Structure Type	APN
4601 RAILROAD FLAT RD MOUNTAIN RANCH CA 95246	Destroyed	Single Family Residence-Single Story	20022011
486 RICH GULCH RD MOKELUMNE HILL CA 95245	Destroyed	Non-habitable-Shop	16027061
500 PEREGRINE RD MOKELUMNE HILL CA 95245	Destroyed	Single Family Residence-Single Story	16018096
5099 DEL SOL LN SAN ANDREAS CA 95249	Destroyed	Single Family Residence-Single Story	38015076
5102 LOMA SERENA MOUNTAIN RANCH CA 95246	Destroyed	Non-habitable-Detached Garage	20025017
511 DIAMOND LN MOKELUMNE HILL CA 95245	Destroyed	Non-habitable-Shop	14002025
511 DIAMOND LN MOKELUMNE HILL CA 95245	Destroyed	Non-habitable-Shop	14002025

Deliverables

Individual Damage Inspection Detail

Start Date: 9/9/2015 Incident Name: Butte Incident Number: CAAEU024918

Site Address: 6214 OLD EMIGRANT TRL W MOUNTAIN RANCH CA 95246 APN: 20014004

FOB Address: 6214 Old Immigrant Trail

Structure Type: Single Family Residence-Single Story Assessed Improved Value: $123,000

Damage Destroyed Community: Mountain Ranch

Record ID: 710 PRC4291 Compliant: Non-compliant Est.Veg. Clearance: 0-30

Construction Type	Construction Method
Deck or Porch	unknown
Eaves	unknown
Exterior Siding	Non-Combustible
Roof Construction	Non-Combustible
Vent Screens	unknown
Window Panes	Multi-Pane

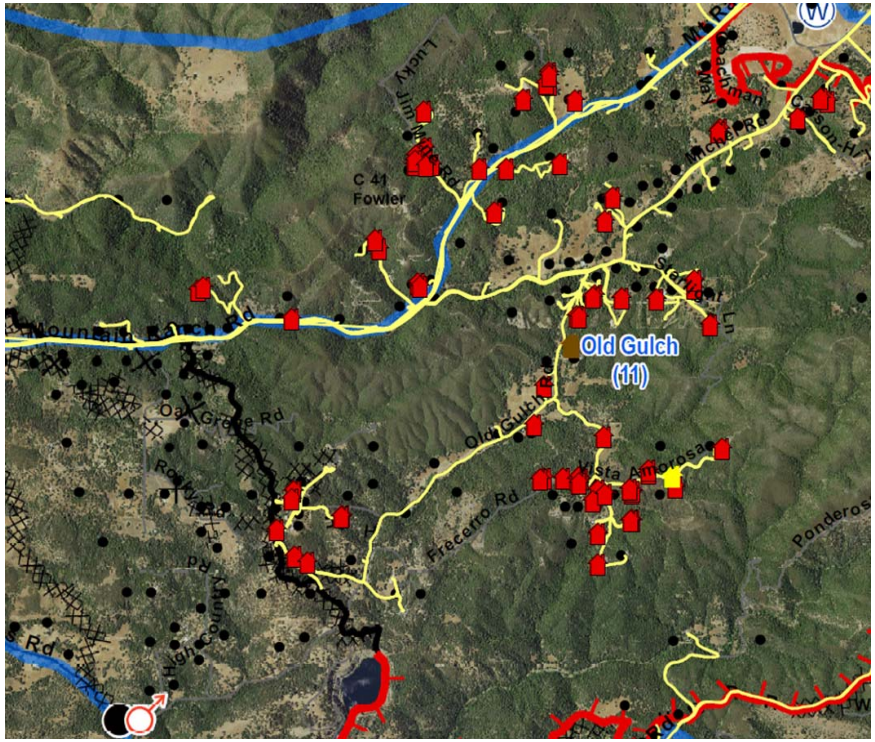



Photo Id: PHOTOID710