Webinar Prep

• Due to the large attendance, all participants are muted for the duration of the session to prevent background noise.
  • Please use the Q&A functionality within Zoom for questions that are relevant to the whole group.
  • We will address these Q&A at the end of the webinar!

• This webinar will be recorded.
Future EM Geo Forum Dates

September EM Geo Forum
Earthquake Readiness and Resources

https://www.napsgfoundation.org/events/
Modeling and Data Working Group (MDWG)

Meeting the 3rd Wednesday of the month from 2:00-3:30 PM ET

Adobe Connect:  https://fema.connectsolutions.com/mdwg-monthly-meeting/
Conference Bridge:  800-320-4330, Passcode: 399137#

Email:  fema-mdwg@fema.dhs.gov
Wildfire Workflows and Considerations for Emergency Management
Today’s Presenters

Skip Edel
Geospatial Subcommittee Chair
National Wildfire Coordinating Group (NWCG)

Chris Stewart
Geospatial Coordinator
FEMA Region IX

Ben Ogren
Senior GIS Specialist
Mariposa County, CA
About NAPSG Foundation

Our Vision
A Nation of emergency responders and leaders equipped with the knowledge and skills in applying technology and data to change the outcome for survivors.

• 501(c)(3) Non-profit organization established in 2005
• +20,000 member network: Public Safety leaders, first responders, and GIS practitioners
• Board of Directors comprised of public safety & emergency management industry leaders
How Do We Do It

- Defining and promulgating consistent best practices
- Fostering regional collaboration through implementation
- Building capacity in using innovative technology
- Transferring knowledge and skills

National Guidelines and Standards
Exercises & Simulations
Education & Training
Tech Assistance
Total Participants

345

*may include duplicates that attended multiple events or exclude those who did not provide location details.

Sector Affiliation

- Emergency Management
- Fire Service
- Search & Rescue
- 911 Dispatch
- Public Works/Utilities
- Law Enforcement
- EMS
- Mass Care
- Public Health

By Jurisdiction

Federal Government 25.22%
Private Sector 12.46%
University 1.45%
State Government 13.04%
Other 4.05%
NGO 8.12%
Local Government 35.65%
Objectives

At the end of this session, participants will:

1. Have insight into the National Interagency Fire Center (NIFC) ArcGIS Online Organization, the Wildland Fire National Incident Feature Services (NIFS), and the Integrated Reporting of Wildland Fire Information (IRWIN).

2. Know about FEMA’s Regional support to wildfire incidents.

3. Understand how local GIS staff can utilize national-level live feeds and resources for response efforts for both internal and public maps.
Wildfire Incident GIS Support

Skip Edel
Geospatial Subcommittee Chair – National Wildfire Coordinating Group
Standards Lay the Foundation

- “GeoOps” PMS 936
- The **WHAT**
- Positions Standards

https://www.nw cg.gov/publications/pms936
Workflows that Meet Standard

- GISS Workflow
- PMS 936-1
- The HOW

https://www.nwcg.gov/publications/pms936-1
New Hosted NIFS and Templates Available in Incident Resources Group

Featured Content

- Open Data: National Interagency Fire Center
- Feature Service: Wildfire Perimeters
- A Review of the NIFC ArcGIS Online Org
- Incident Resource: #2020 GeoOps Folder Structure (Folders, GDBs)
National Incident Feature Service

- Set of AGOL hosted services
- NWCG Standard – required use by all incidents
- Used by all levels of incident response – single engine to large Type 1 incident management teams
- Accessible to other fire applications
- Shared to public based on attribution
Integrated Reporting of Wildland-Fire Information (IRWIN)

- Data exchange system that shares authoritative data – 250 connected service
- Single, spatially enabled record.
- Some systems READ/Write – Most READ

https://www.doi.gov/wildlandfire/hello-my-name-irwin
National Interagency Fire Center – Open Data Site

http://data-nifc.opendata.arcgis.com/
Public Wildfire Points and Perimeters

• **Current Wildfire Points** from IRWIN

• **Current Wildfire Perimeters** from National Incident Feature Service – attribute = “Public”

• Shared in Open Data site

• GeoMAC **decommissioned**

NEW Services!
Usage details for the period:
August 27, 2019 - August 27, 2020

Requests this Period: 1,092,289,580
Avg Requests Per Day: 2,984,397.76
Interagency Fire Occurrence Reporting Modules (InFORM)

• InFORM: One fire, one report, one authoritative data source.

• Interacts with IRWIN fire locations from CAD

• 3 Applications:
  • Survery123 (no CAD)
  • Collector (polygon)
  • Inspector (certify record)

• Available to Federal, State and Local Users

https://in-form-nifc.hub.arcgis.com/
Thanks!

Questions?
Skip_Edel@nps.gov
FEMA Wildfire Response: Geospatial Workflows and Considerations

Chris Stewart
Regional Geospatial Coordinator
FEMA Region 9
Shelters

2020 California Lightning Fires Map Journal

Open Shelters

- TEP - Ann Sobrato High School
  Population: 9
  4850 Campus Avenue
  MORGAN HILL, CA 95037

- Lakewood Middle School
  Population: 3
  2150 E. Lake Ave
  WATSONVILLE, CA 95076

- Monterey Conference Center
  Population: 3
  1 PONTIOLA PLAZA
  MONTEREY, CA 93940

- Cabrillo College Gymnasium
  Population: 124
  5555 College Drive, 044-1160
  APTOS, CA 95003

- FULL - Santa Cruz Fairgrounds
  Population: 76
  3011 East Lake Blvd
  WATSONVILLE, CA 95076

- Carmel Middle School
  Population: 9
  4550 CARMEL VALLEY ROAD
  CARMEL, CA 93923

- Santa Cruz Bible Church
  Population: 16
  464 Franklin St
  SANTA CRUZ, CA 95062

- TEP - Quintan Community Center
  Population: 9
  10100 N. Thelma Road
  CUPERTINO, CA 95014

- TEP - HALF MOON BAY HIGH SCHOOL
  Population: 9
  1 Lewis Fischer Drive
  HALF MOON BAY, CA 94043

- Quinncy Jr/Sr High School
  Population: 11

Shelter Population: 848
Evacuation Capacity: 17,378
Post-Impact Capacity: 5,931
Critical Infrastructure

2020 California Lightning Fires Map Journal

FEMA Region IV

Active California Wildfires
Sorted by Acres Burned

- LINN LIGHTNING COMPLEX
  - 540,365.79 acres
- SCU LIGHTNING COMPLEX
  - 327,102.03 acres
- DOE
  - 201,276.9 acres
- MCE AUG LIGHTNING complex
  - 39,995 acres
- CALDFIELD
  - 60,890.74 acres
- W-S COLD SPRINGS
  - 55,856.56 acres
- RIVER
  - 44,644.9 acres
- FORT YATES
  - 46,501.85 acres
- EKLHORN
  - 36,647.63 acres

- Public Schools
- Private Schools
- Colleges and Universities
- Cellular Towers
- Electric Power Generation Plants
- Gas and Oil Wells
- National Shelter System Facilities
- Power Lines
- Major State Government Buildings
- Nursing Homes
- Hospitals
- Law Enforcement Locations
- Fire Stations

Public Drinking Water System Locations
California Electric Transmission Lines - Transmission Lines
National Shelter System Facilities
Public Schools
Private Schools
Colleges and Universities
Cellular Towers
Electric Power Generation Plants
Gas and Oil Wells

Critical Infrastructure layers are turned off by default. Turn layers on by expanding the layer list in the upper right corner of the map.
Logistics

2020 California Lightning Fires Map Journal

Select an Active Wildfire:
- LNU Lightning Complex
- Sugar Fire
- Apple Fire
- Lake Fire
- Minami Fire
- Green Fire

Estimated Plastic Sheeting (Rolls): 3,710
Estimated Cots: 56
Estimated Meals per Day: 112
Estimated Water per Day (Gallons): 168
Estimated Sheltered Population: 56
Estimated Number of Evacuees: 112

Powered by NAPSG Foundation
Power Outages

2020 California Lightning Fires Map Journal

Power Outage Dashboard

Total Customers Without Power: 16,311

Customers Without Power: 1,502

Customers Without Power: 14,809

Power Company

- PGE: 13.4k
- SCE: 1k
- SDGE: 1k

Counties with Outages:

- SANTA CRUZ: Customers Without Power: 6,304
- NAPA: Customers Without Power: 1,798
- SONOMA: Customers Without Power: 990
- SOLANO: Customers Without Power: 977
- MONTEREY: Customers Without Power: 932
- LOS ANGELES: Customers Without Power: 849

Current Outages:

- SANTA CRUZ: Customers Without Power: 2,376
- NAPA: Customers Without Power: 1,713
- SONOMA: Customers Without Power: 1,244

Date/Time Started:
- 8/19/2020, 2:27 AM
- 8/19/2020, 1:57 AM
- 8/19/2020, 1:57 AM

Outage Type:
- Not Planned

Outage Cause:
- Not Planned
Twitter Map
Damage Assessments

- Automating post-disaster damage assessments

<table>
<thead>
<tr>
<th>Score Level</th>
<th>Visual Description of the Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 No damage</td>
<td>Undisturbed. No sign of water, structural damage, shingle damage, or burn marks.</td>
</tr>
<tr>
<td>1 Minor damage</td>
<td>Building partially burnt, water surrounding the structure, volcanic flow nearby, roof elements missing, or visible cracks.</td>
</tr>
<tr>
<td>2 Major damage</td>
<td>Partial wall or roof collapse, encroaching volcanic flow, or the structure is surrounded by water or mud.</td>
</tr>
<tr>
<td>3 Destroyed</td>
<td>Structure is sound, completely collapsed, partially or completely covered with water or mud, or no longer present.</td>
</tr>
</tbody>
</table>
Damage Assessments

2018 Camp Fire: Paradise, CA
Damage Assessments

Supervised Image Classification

Vegetation and Structure Analysis
FEMA Region IX 2020 California Lightning Fires Map Journal:
https://arcg.is/Dyv8O0

Wildfire Population Impacts Enriched Feature Service:
https://gis.fema.gov/arcgis/rest/services/Partner/Active_Fire_Exposure/FeatureServer/0

Contact:
christopher.c.stewart@fema.dhs.gov
Mariposa County

Ben Ogren
Mariposa County, CA
• This map ‘controls’ the Public Information Map.
• Evacuation zones are mapped in the field by SAR’s team using the Collector App & S123.
• Points are added to this map showing evacuation progress, color-coded based on status (i.e., Evac. Complete, In progress, Not at home, or refused)
• Several widgets are used to edit content, flip switches, calculate populations, etc.
• Several users have access to this map and the associated apps.
Call to Action!

• Build your Geospatial Game Plan
  • Add new feeds to maps and apps
  • Become familiar with Fire GIS workflows (PMS 936)
  • Build your game plan for internal and public maps – Train on it!

• Public Information Maps (Evac, Shelter, Roads)

• Connect with Wildfire IMT / GIS before the incident.

Story Map: https://arcg.is/1qmuqz

#FireMappers
What’s Next?

- Wildfire Geospatial Game Plan [https://arcg.is/1qmuqz](https://arcg.is/1qmuqz)
- FEMA R9 Wildfire Map Journal [https://arcg.is/Dyv8O0](https://arcg.is/Dyv8O0)
- NIFC
  - GIS Training [https://sites.google.com/a/firenet.gov/gisstraining/home](https://sites.google.com/a/firenet.gov/gisstraining/home)
- Mariposa Public Info Map [https://arcg.is/1XWKyj](https://arcg.is/1XWKyj)
- Wildfire Population Impacts Enriched Feature Service [https://gis.fema.gov/arcgis/rest/services/Partner/Active_Fire_Exposure/FeatureServer/0](https://gis.fema.gov/arcgis/rest/services/Partner/Active_Fire_Exposure/FeatureServer/0)
- #FireMappers (Crowdsourced new fire reports) [https://arcg.is/zrSb9](https://arcg.is/zrSb9)
Thank you!