

# Spatial Incident Response Data Technical Interchange

April 17, 2014



# What We Do



All emergencies are local where the role is **to respond** to observed impacts and identified threats with resources that protect people, property, and the environment from loss.



The role of the state is **to coordinate and facilitate** multi-agency and multijurisdictional emergencies in California, facilitate the flow of information within and between levels of the system, and facilitate coordination among all responding agencies.



The federal role is **to coordinate** federal, military, and multi-state/regional resources in support of state needs.

# How We All Operate



**To respond** requires field information on about impacts and threats and their actual impact on people, property, and the environment from sensors and human sensors.



The state **coordinates** requests for resources from the local, regional, state, and federal levels though mission **tasking** prioritized by life safety, property and the environment



**To coordinate** an operation requires situational awareness, a common operating pictures, and forecast models that forecast as yet unobserved impacts.

# Standardized Emergency Management System

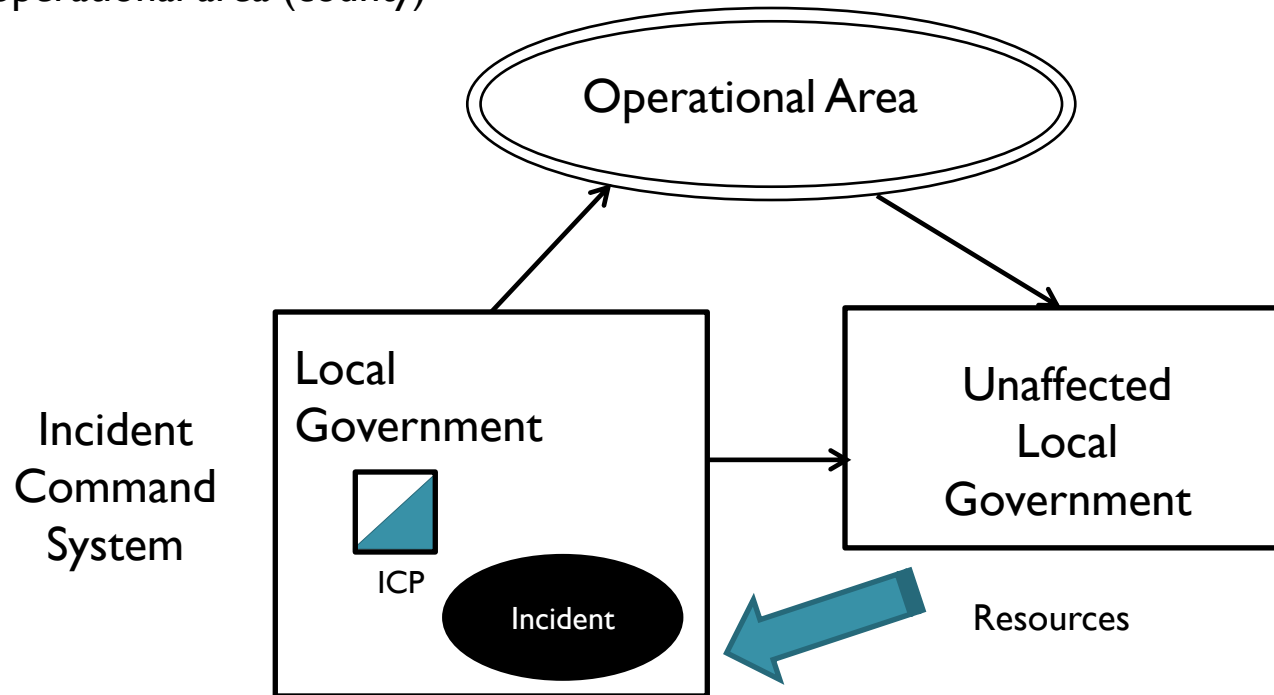
The Standardized Emergency Management System (SEMS) was established to provide effective management of multi-agency and multi-jurisdictional emergencies in California.

- SEMS is the cornerstone of California's emergency response system and the fundamental structure for the response phase of emergency management in California
- Local governments must use SEMS to be eligible for funding of their response-related personnel costs under state disaster assistance programs.

# Standardized Emergency Management System

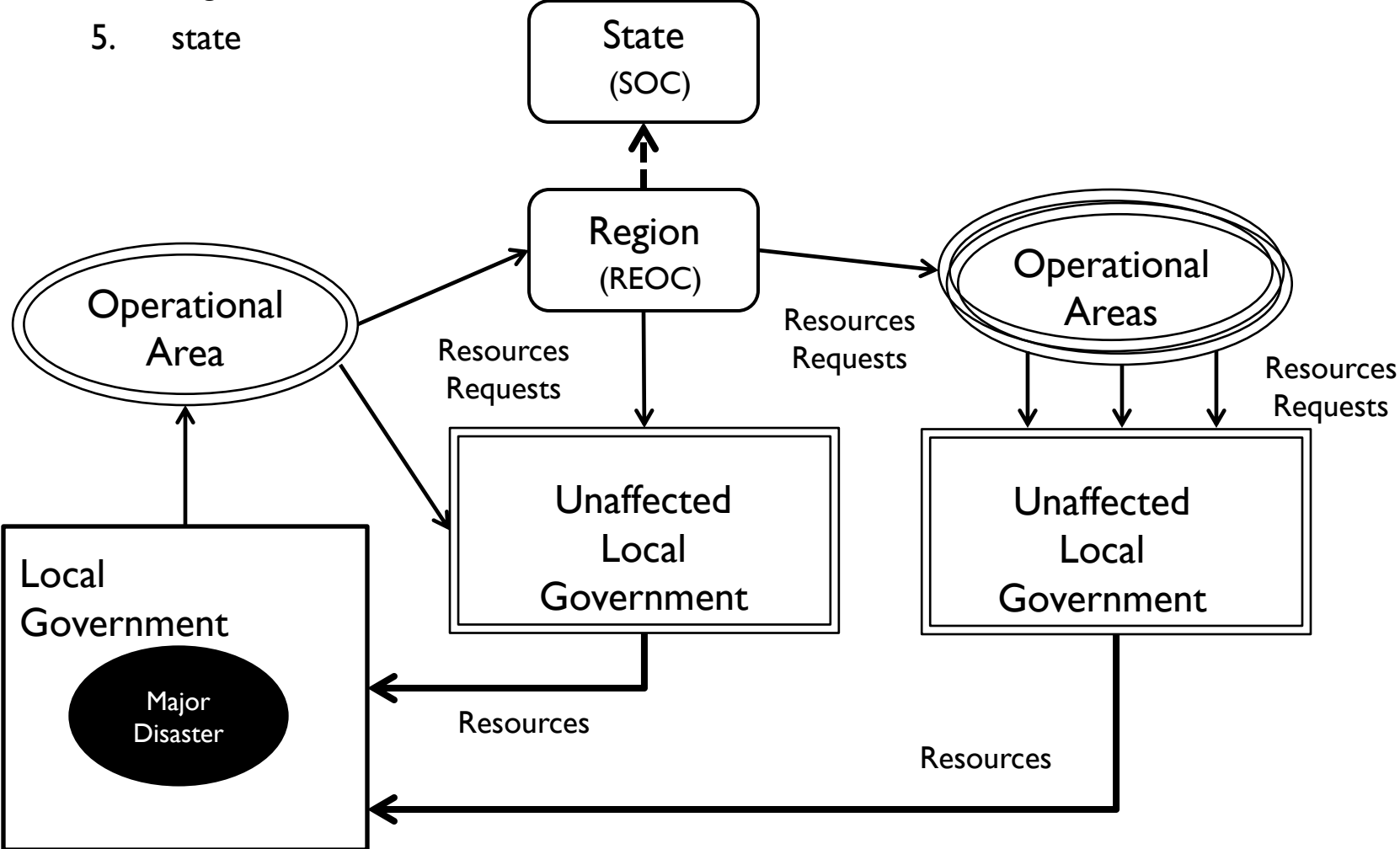
SEMS consists of five organizational levels, which are activated as necessary:

1. field response
2. local government
3. operational area (county)



# Standardized Emergency Management System

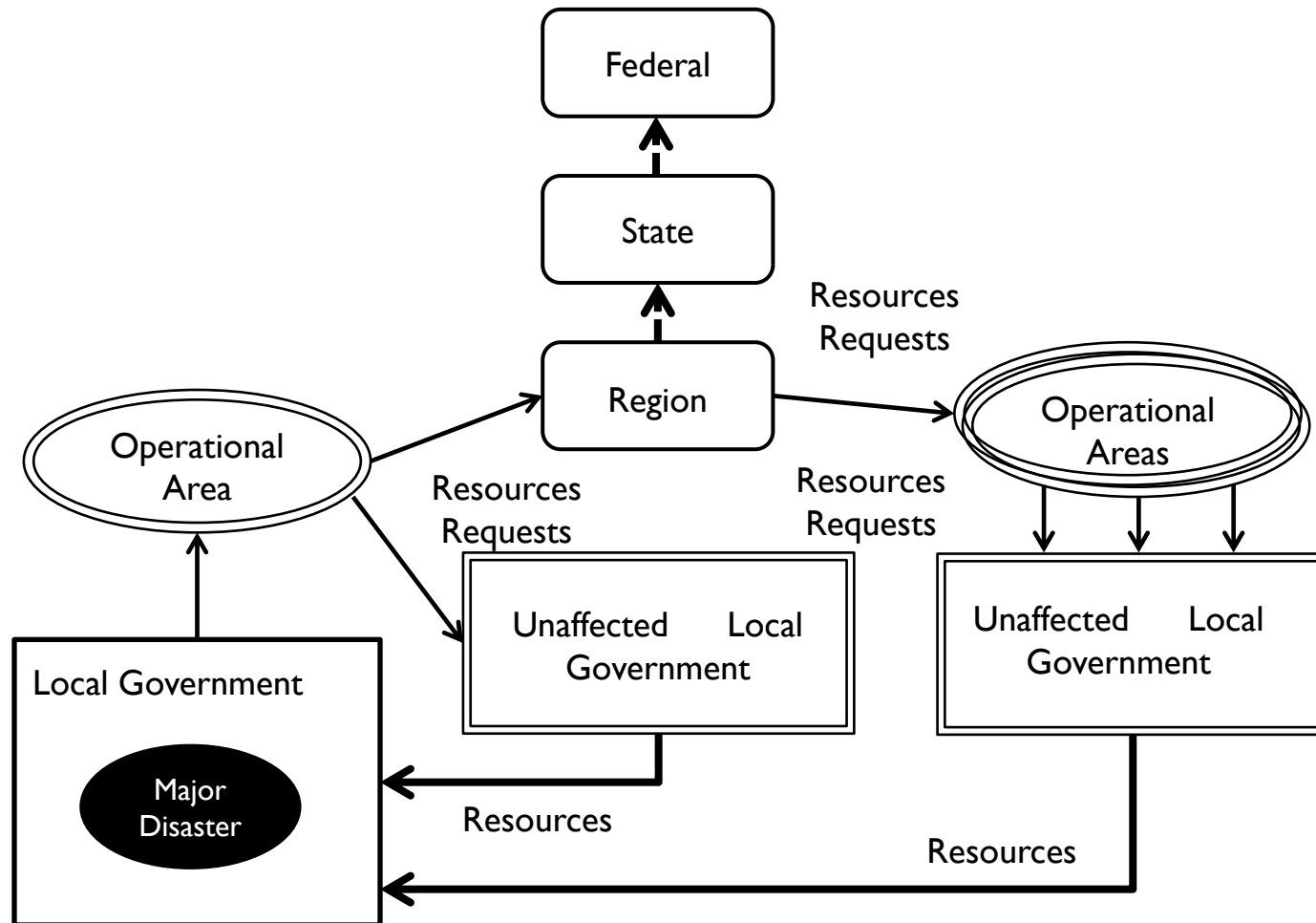
- 3. operational area (county)
- 4. regional
- 5. state





# National Incident Management System

Federal resources become available after a disaster declaration or emergency management declaration is made by the president, in response to a Request for Federal Declaration by the state governor.



# What We Need to Know to Respond, Facilitate, and Coordinate

- **What is it?**  
Incident management means coordinating among multiple agencies
- **Where is it?**  
The geospatial view showing hazard and people, infrastructure, environment
- **Who's in charge?**  
Organizing incident command or emergency support function
- **Who should know?**  
Alerts from authoritative sources, who has received alert, who has responded
- **What's the impact?**  
Understanding the environment by sharing sensors, cameras, imagery, models
- **What is the response?**  
Resources employed, operating procedures followed, tasks performed
- **What's happening now?**  
Situational awareness, common operating picture, shift change briefing, statistics
- **What's planned next?**  
Action plans, future resource allocation and tactical response, forecast of impacts



# Why We Are Involved Today

At all levels of an emergency, different **information** is generated and the **technologies** to support that are varied. They are designed to meet the needs of their users.

Information, Field Observations, Incident Geospatial Information, all have a specific purpose, and that is what makes them so good for their users.

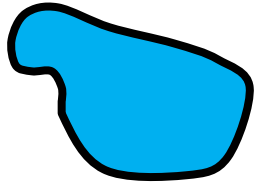
As a result, when individual agencies need to coordinate with others, we have challenges distinguishing what information is pertinent to each role or agency.

The challenge is to make sure **authoritative** information is captured and used **at the appropriate level**, and that it is **managed** in an organized way.

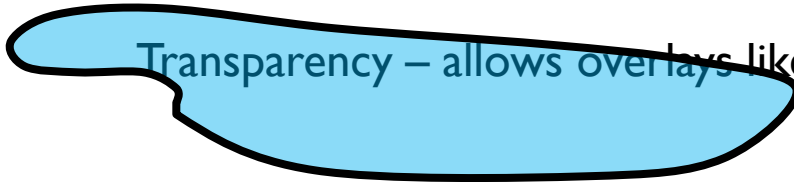
# The UICDS Advantage

- The advantage of the UICDS technology is to be able to control the information flow, and have access to any relevant data from multiple sources.
- At the State and Federal level, **different roles** have been established using the Emergency Functions (EFs) and Emergency Support Functions (ESFs)
- **UICDS** can be the bridge over the divide between the multiple technologies and viewers to provide **interoperability**, and focus on the **Common Operational Data** that supports management by objectives and smart decision making

# The Basics of Geospatial Information

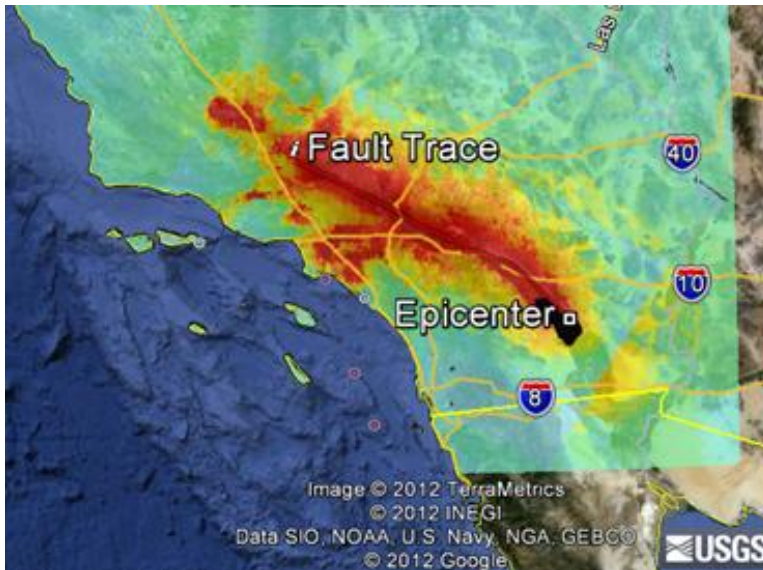


Fill a Polygon – lake, area, building, field

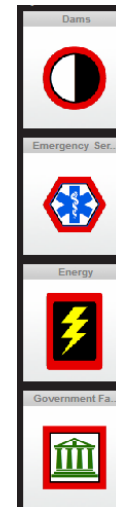


Transparency – allows overlays like chemical plume

Make icons for points



The combination of points, lines, polygons, fills, imagery and transparency makes a map that is useful



# The Basics of Emergency Information

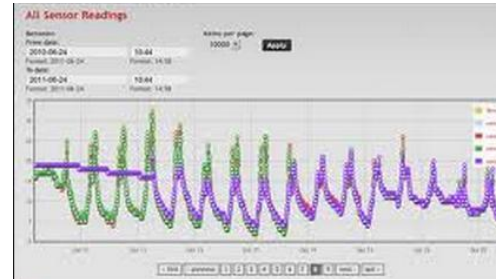
Resource Management Assessment			
Does your organization ...	Yes	No	Unclear
Have needed resources identified based on a thorough hazard analysis and the Emergency Operations Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organize resources by category, kind, and type, including size, capacity, capability, skill, and other characteristics that allow for more efficient ordering and use of mutual aid agreements or assistance agreements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Develop and maintain standing agreements and contracts for services and supplies that may be needed during an incident?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incorporate available resources from all levels of government, nongovernmental organizations, and the private sector (where appropriate) in resource management planning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use standard protocols for requesting resources, prioritizing requests, advising and mobilizing resources to incidents, and returning resources to normal status?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have standard methods for identifying, acquiring, allocating, and tracking resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Establish incident perimeters and other measures to protect resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have plans for managing unaffiliated volunteers and unclassified donations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use systems to provide accurate resource status information?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintain backup systems to manage resources in the event that the primary resource management information system is disrupted or unavailable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use credentialing processes and criteria for ensuring consistent training, licensure, and certification standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have processes for rehabilitating, replenishing, disposing of, and/or retrograding resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Follow established mechanisms for collecting bills, validating costs against the scope of the work, ensuring that proper authorities are involved, and accessing reimbursement programs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Incident Status Summary (ICS-209)			
1. Incident Name: [Blank]		2. Incident Number: [Blank]	
3. Incident Location: [Blank]		4. Incident Start Date/Time: [Blank]	
5. Incident Management Agency or Organization: [Blank]		6. Incident Management Organization: [Blank]	
7. Incident Start Date/Time: [Blank]		8. Incident End Date/Time: [Blank]	
9. Incident Status: [Blank]		10. Incident Priority: [Blank]	
11. Incident Description: [Blank]		12. Incident Location: [Blank]	
13. Incident Type: [Blank]		14. Incident Category: [Blank]	
15. Incident Cause: [Blank]		16. Incident Effect: [Blank]	
17. Incident Impact: [Blank]		18. Incident Status: [Blank]	
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99. Incident Status: [Blank]		100. Incident Status: [Blank]	

## Logs

Annual Performance: Small Animal Sheltering Team					
Resource	Category	Measure	Target	Actual	Notes
Equipment	Animal Care	Number of animals	100	100	
Personnel	Animal Care	Number of staff	5	5	
Vehicle	Animal Care	Number of vehicles	2	2	
Personnel	Animal Care	Number of staff	5	5	
Vehicle	Animal Care	Number of vehicles	2	2	

## Field Observations



## Sensor Readings

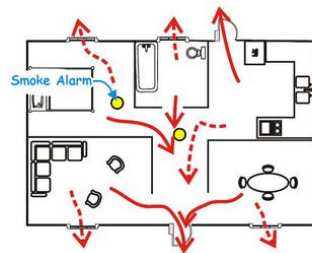
## Checklists

## Inventory



Field Photos and Videos

Plans



Diagrams

Incident Status Summary (ICS-209)			
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Situation Reports

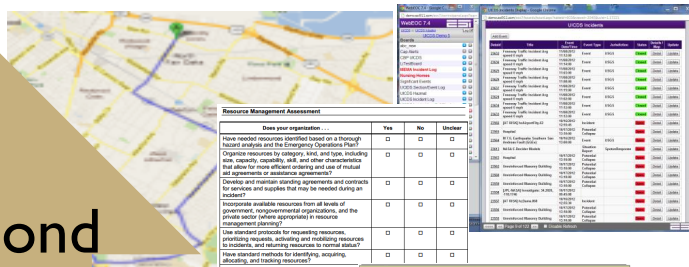


# Filling the Interoperability Gap with Common Operational Data To Respond, Facilitate and Coordinate

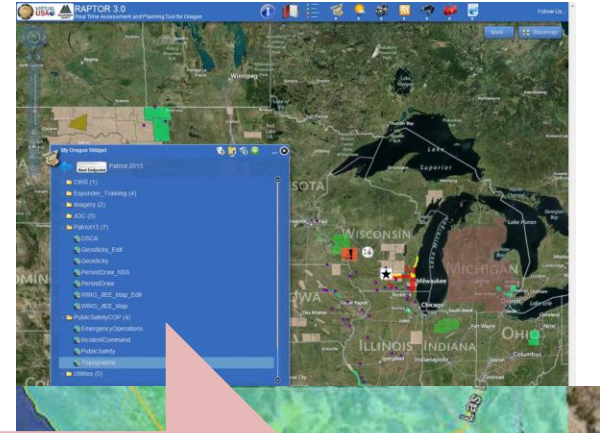
Respond

Facilitate

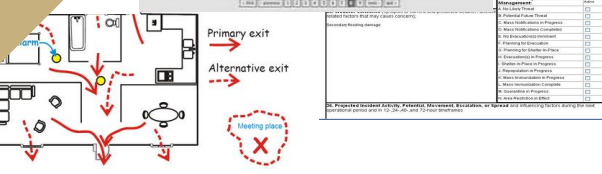
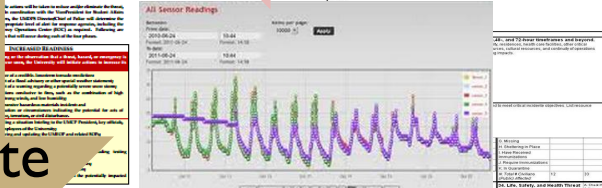
Coordinate



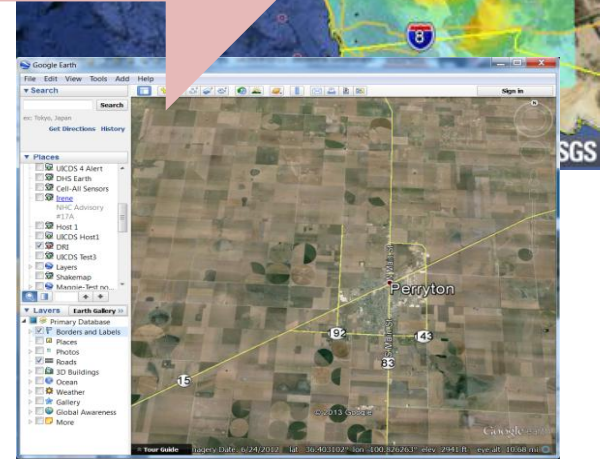
Resource Name	Location	Status	Other Information
...	...	...	...
...	...	...	...
...	...	...	...



Twitter User	Text	Time
...	...	...
...	...	...
...	...	...

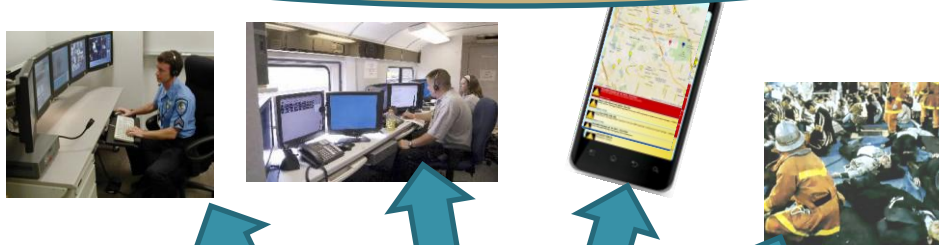


Common Operational Data

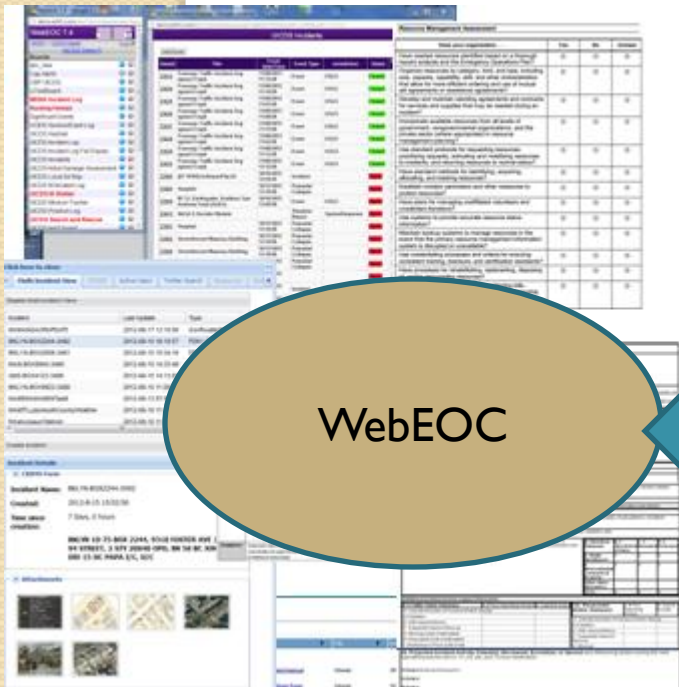


# CalOES Technology Choices

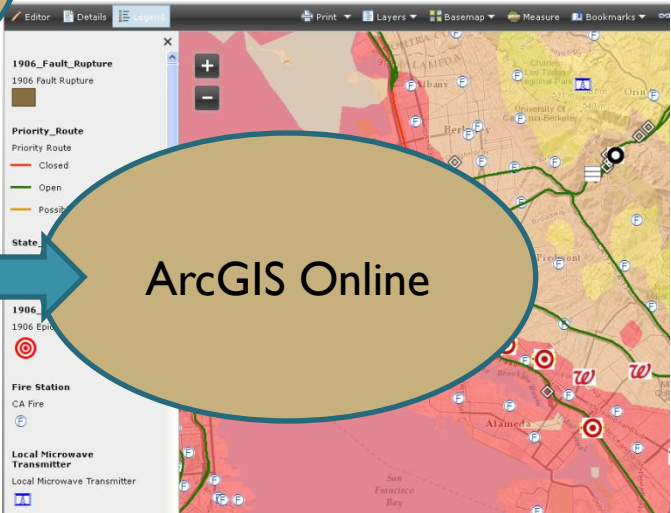
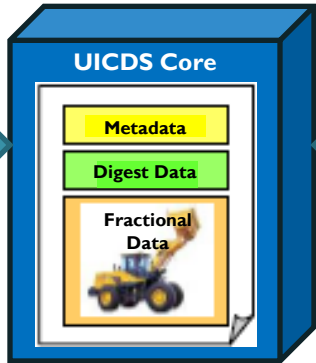
Interoperability With Other Technologies



UICDS/Keystone Interoperability Middleware



WebEOC



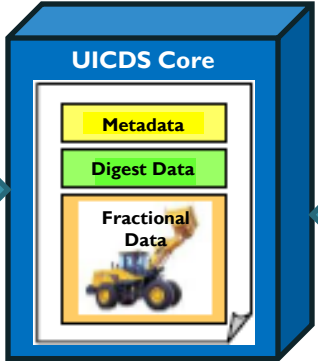
ArcGIS Online



# FEMA Technology Choices

**WebEOC**

The WebEOC interface includes a sidebar with navigation options like 'WebEOC 4.4' and 'UCIDS Incidents'. The main area displays a table of incidents with columns for 'Event Type', 'Event Date', 'Status', and 'Priority'. Below the table, there are sections for 'Incident Details', 'Attachments', and a floor plan diagram showing 'Smoke Alarm' locations and 'Primary exit' and 'Alternative exit' paths.



**ArcGIS Online**

The ArcGIS Online interface shows a map with a 'Fault Trace' overlay in red and yellow. A legend below the map lists 'BayAreaEQ\_FedResponseFacilities' and includes symbols for 'EmpRespFacilities', 'AFD', 'Distribution Center', 'Federal Staging', 'N-IMAT', and 'RRCC'. The map shows a geographical area including California, Nevada, and parts of the Great Basin.





# How This Works



Demonstration