



Saving Lives with Big Data: Wildfire Prediction and Emergency Response

W1.1

After this video you will be able to..

- Give an example of sensor, organizational, and people-generated data used in wildfire analytics
- Explain to a friend why the integration of unexpected streams of data is critical to wildfire prevention and emergency response

Why important?

San Diego County, May 14, 2014

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14 fires burning

Why important?

San Diego County, May 14, 2014



area of
San Francisco

14 fires burning

Why important?

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14 fires burning

area of
San Francisco

6 injured
+ 1 death

Why important?

San Diego County, May 14, 2014



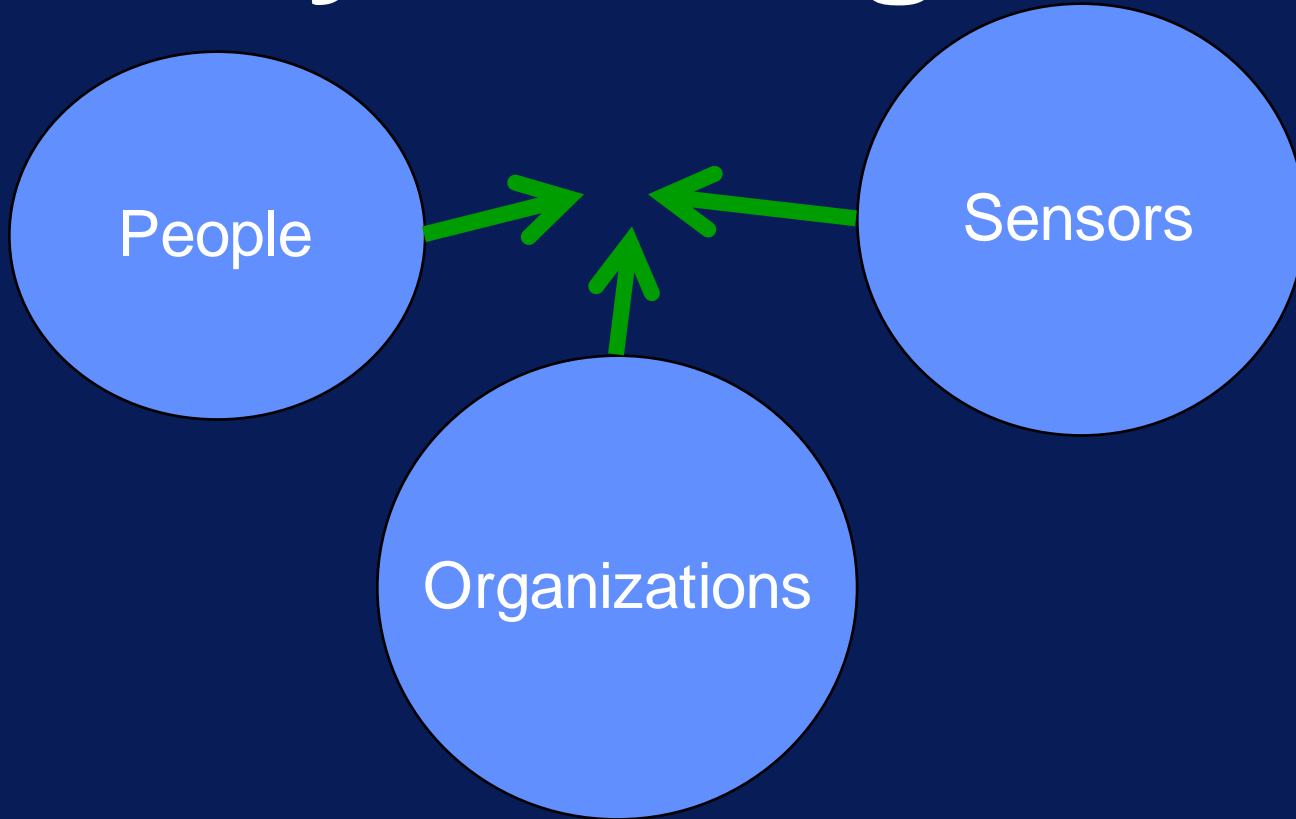
14 fires burning

area of
San Francisco

6 injured
+ 1 death

\$60 million USD

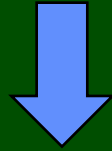
Why can Big Data help?



Why can Big Data help?



Integration of diverse streams



see new things

develop predictive analytics

Diverse Data Sources

Machine Data

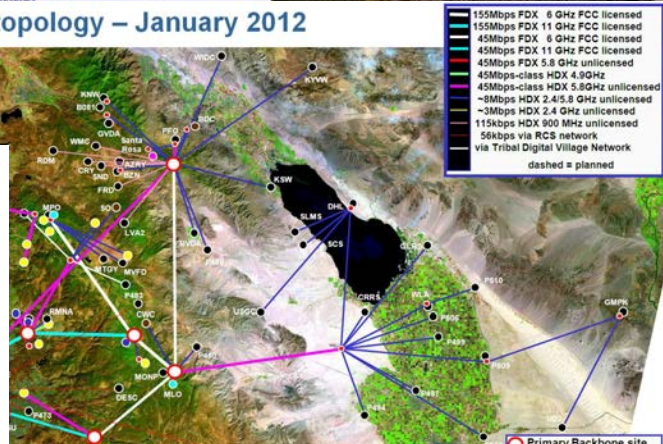


HPWREN topology – January 2012

The map shows a network topology centered around a red dot, likely representing a central hub or gateway. Various locations are marked with black dots and labeled, including WASH DC, BOSTON, NEW YORK, PHOENIX, LOS ANGELES, SAN FRANCISCO, SEATTLE, PORTLAND, DENVER, CHICAGO, MIAMI, HOUSTON, SALT LAKE CITY, LAS VEGAS, ALBUQUERQUE, EL PASO, SAN ANTONIO, AUSTIN, DALLAS, MEMPHIS, INDIANAPOLIS, CINCINNATI, CLEVELAND, PITTSBURGH, PHILADELPHIA, BALTIMORE, WASHINGTON, and NEW ORLEANS. The legend on the right provides details about the nodes:

- 155Mbps FDX 6 GHz FCC licensed
- 155Mbps FDX 11 GHz FCC licensed
- 45Mbps FDX 6 GHz FCC licensed
- 45Mbps FDX 11 GHz FCC licensed
- 45Mbps FDX 5.8 GHz unlicensed
- 45Mbps-class HDX 4.9GHz
- 45Mbps-class HDX 5.8GHz unlicensed
- ~6Mbps HDX 2.4/5.8 GHz unlicensed
- 3Mbps HDX 2.4 GHz unlicensed
- 11Mbps HDX 900 MHz unlicensed
- 56kbps via RCS network

Dashed = planned



Organizational Data

ArcGIS - County of San Diego Emergency Map

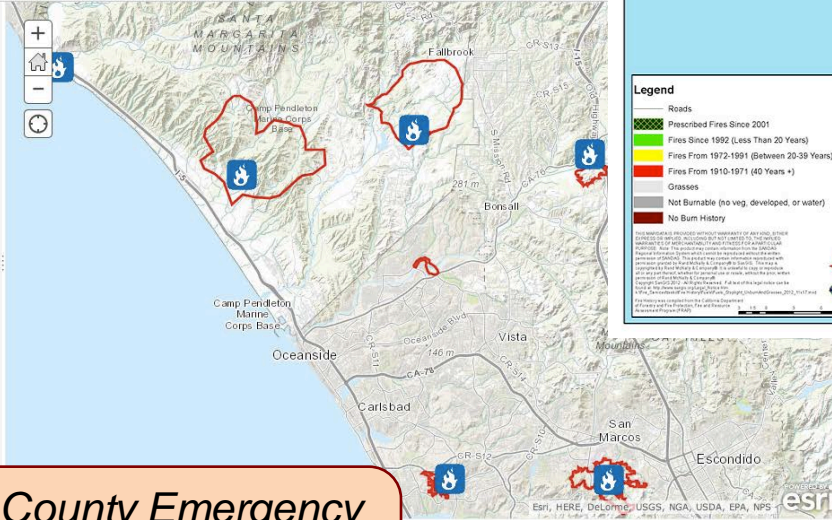
Details Basemap

Share Print Measure red mountain

Legend

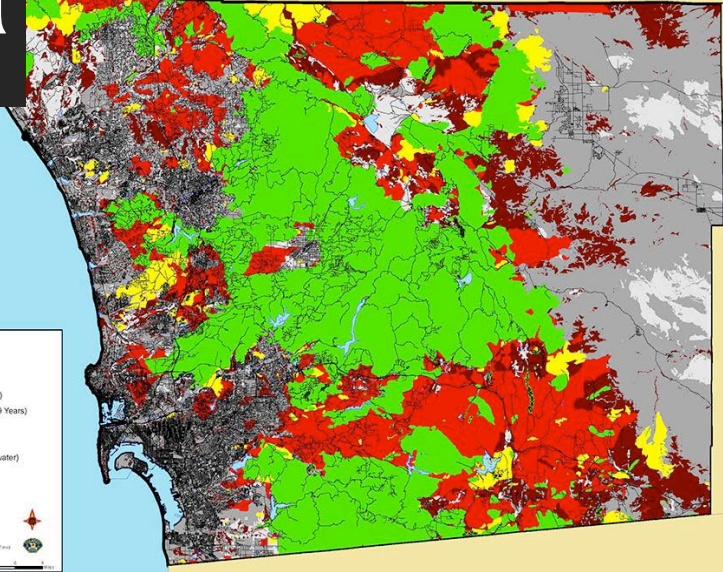
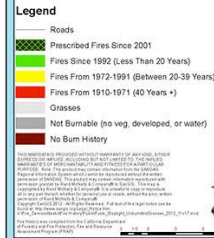
Localized Hazards

- Earthquake
- Epidemic
- Fire
- Flood
- General Hazard
- Hazardous Material
- Landslide
- Law Enforcement
- Tsunami
- Other



San Diego County Emergency Map displaying fire perimeter information from NICS.

Fuel Ages: 2012



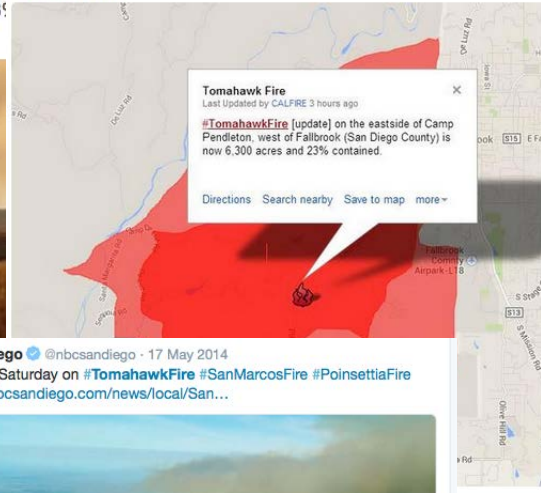


#NBC7 San Diego @nbcсандiego · 16 May 2014

UPDATE: #TomahawkFire: 6300-acre fire on east side of Camp Pendleton 23% contained on.nbc7.com/PzAWS11



Be safe out there San Diego. 6,300 acres burned 23% contained #TomahawkFire



Wow RT" @KTLA: San Diego fires: #CocosFire at 1,200 acres.; #TomahawkFire at 6,000 acres, . ktlane.ws/1gr0UkR "



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Our update for Saturday on #TomahawkFire #SanMarcosFire #PoinsettiaFire #CombatFire nbcсандiego.com/news/local/San...



Saturday Update: San Diego Fires

The latest on the San Diego fires as of Saturday, May 17, 2014.

People

Big Data



Monitoring

Visualization

Fire Modeling

Big Data



Monitoring

Visualization

Fire Modeling

Big Data



*Monitoring
Visualization
Fire Modeling*

Wildfire Command Centers of the Future

