

San Diego State University  
College of Sciences  
Field Stations Program  
2007 HPWREN Users Meeting



San Diego State University ★  
Properties in Field Station Programs



Produced by  
Jeffrey T. Iles  
September 20, 1999

Field Stations  
College of Sciences



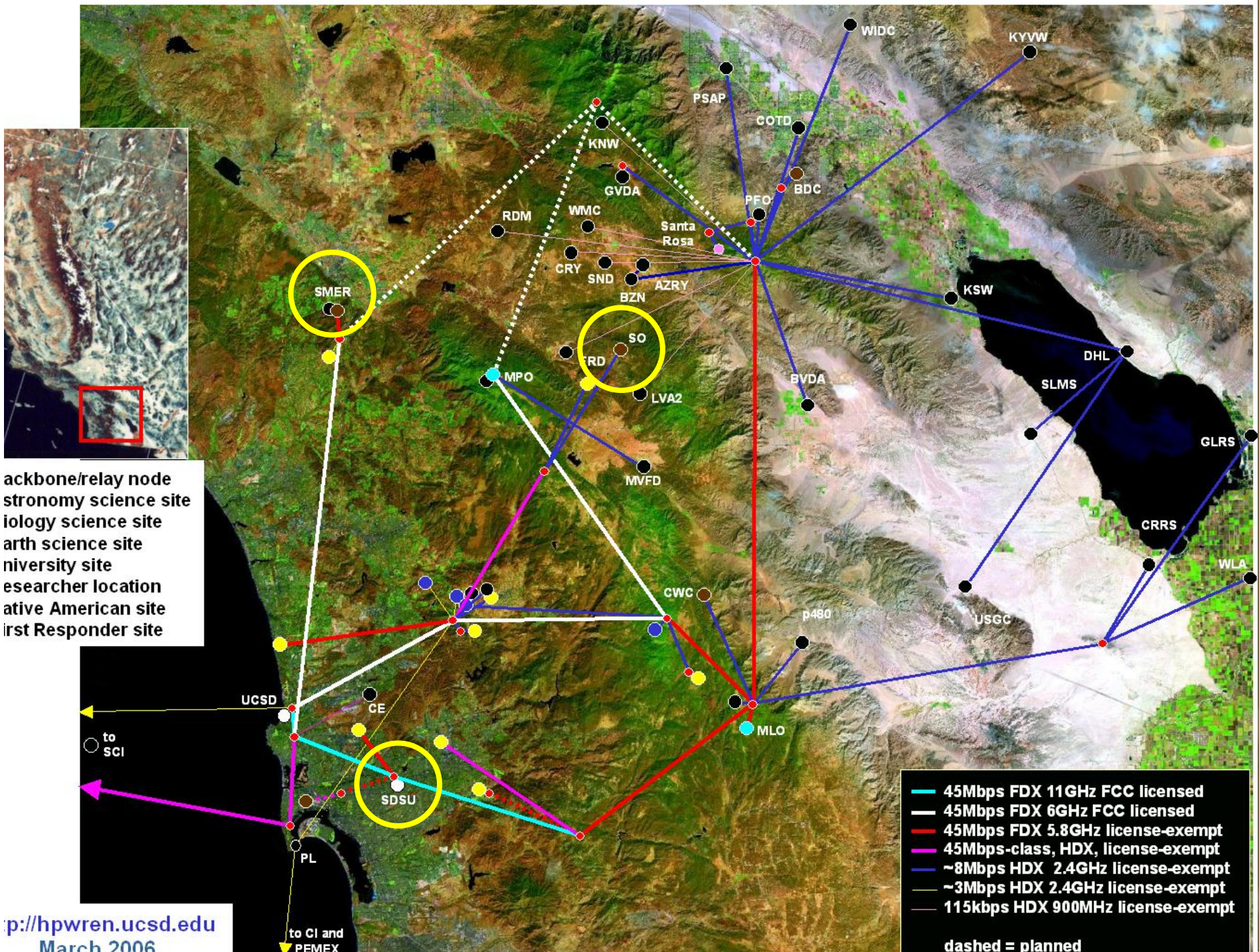
-  Field Stations
-  Major freeways
-  Streams
-  County lines
-  International boundary



# SDSU's Field Station Locations in San Diego County

- Santa Margarita Ecological Reserve
- Sky Oaks Field Station
- Tijuana Estuary Reserve
- Fortuna Mountain







# RICE FIRE

CA-MVU-10502  
as of 10/26/07 - 0700 Hrs  
9,000 Acres 40% Contained  
Started October 22, 2007 0416 Hrs  
San Diego County

Fire Threats and Damages  
206 Residence Destroyed  
2 Commercial Properties Destroyed  
40 Outbuilding/Other Destroyed  
200 Residence Threatened

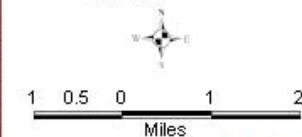
12 hours: De Luz and areas North of  
Mission Rd.

## Fire Perimeter

- Fire Perimeter as of 10/26/07 AM
- Incorporated City Limits
- Pala Indian Reservation
- US NAWY

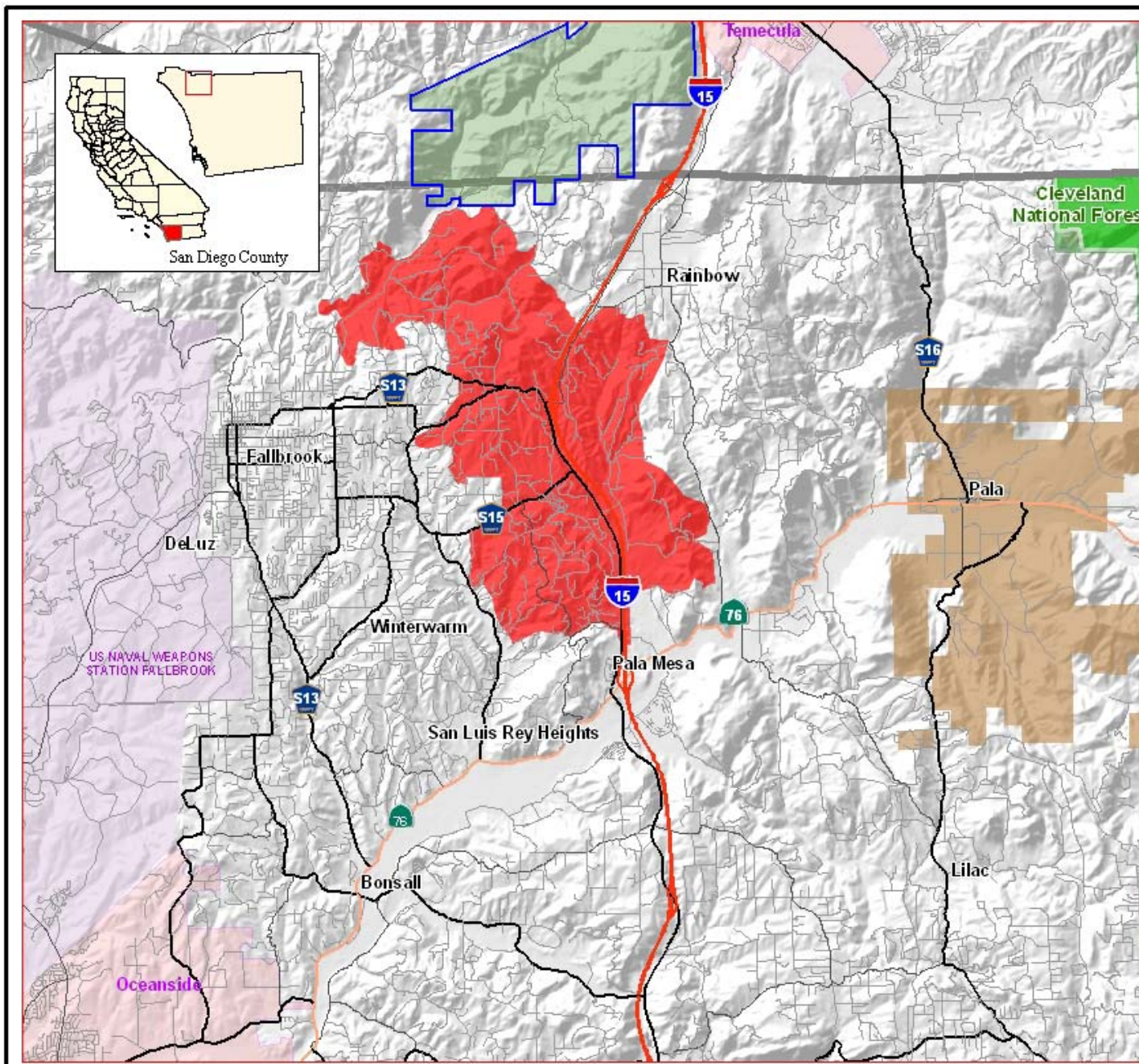
## Transportation Network

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road
- National Forest Boundary
- Santa Margarita Ecological Reserve boundary



Created by OES-GIS, M Baldwin  
October 26, 2007  
Sources: FAMWEB 2009;  
active\_incident/fires/2007/  
De/Active\_Incidents/Fires/2007/Southern\_California  
\_Wildfires\_2007/Projects/102607/Rice\_102607\_AM.mxd

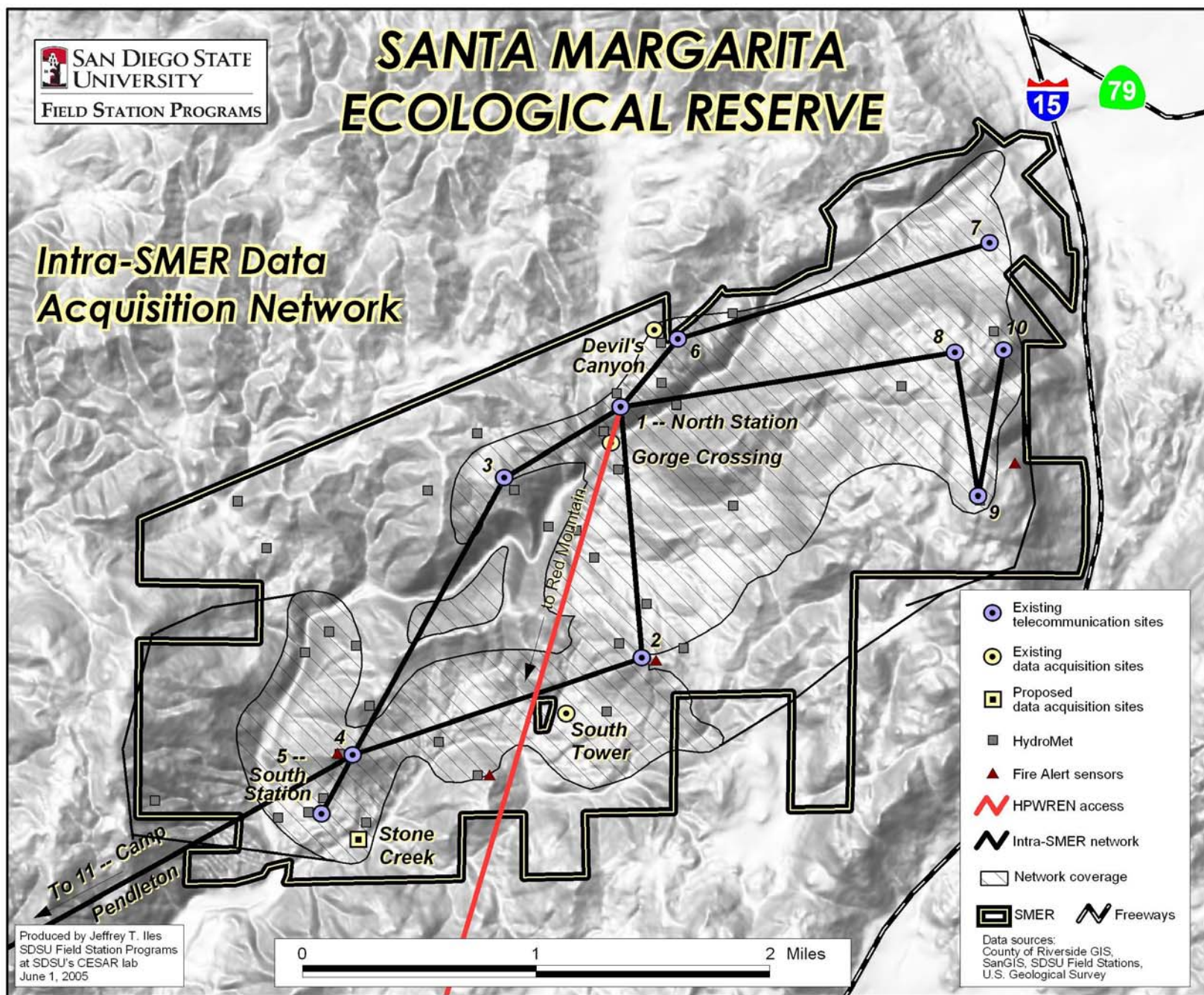
**OES**  
CALIFORNIA  
Governor's Office of  
Emergency Services





# SANTA MARGARITA ECOLOGICAL RESERVE

## Intra-SMER Data Acquisition Network



Rice Fire Photos  
Tue. 10/22, 2200 to  
Wed. 10/23, 0130  
from Red Mountain





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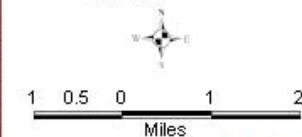
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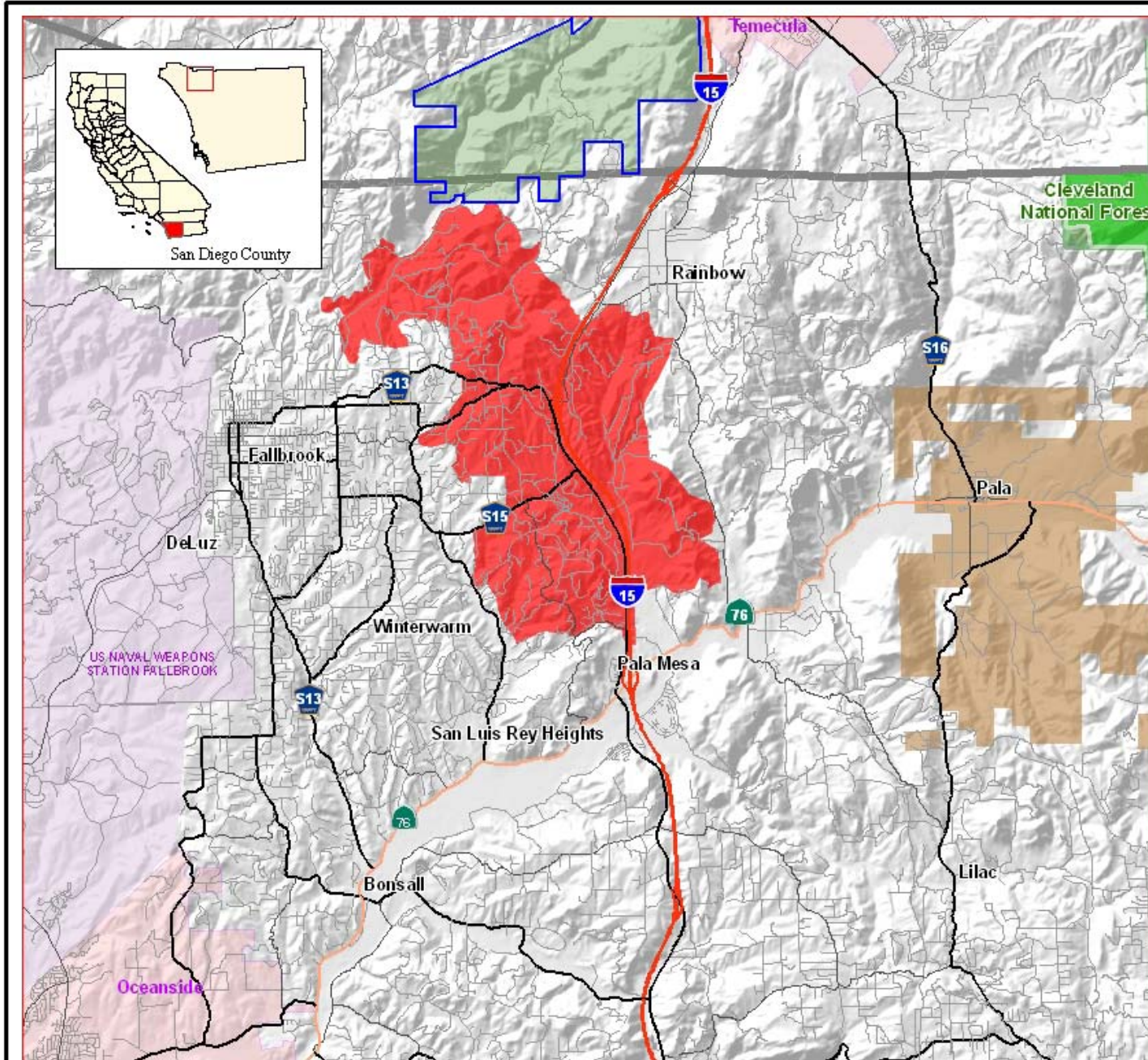
- Fire Perimeter as of 10/26/07 AM
- Incorporated City Limits
- Pala Indian Reservation
- US Navy

## Transportation Network

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- National Forest Boundary
- Santa Margarita Ecological Reserve boundary



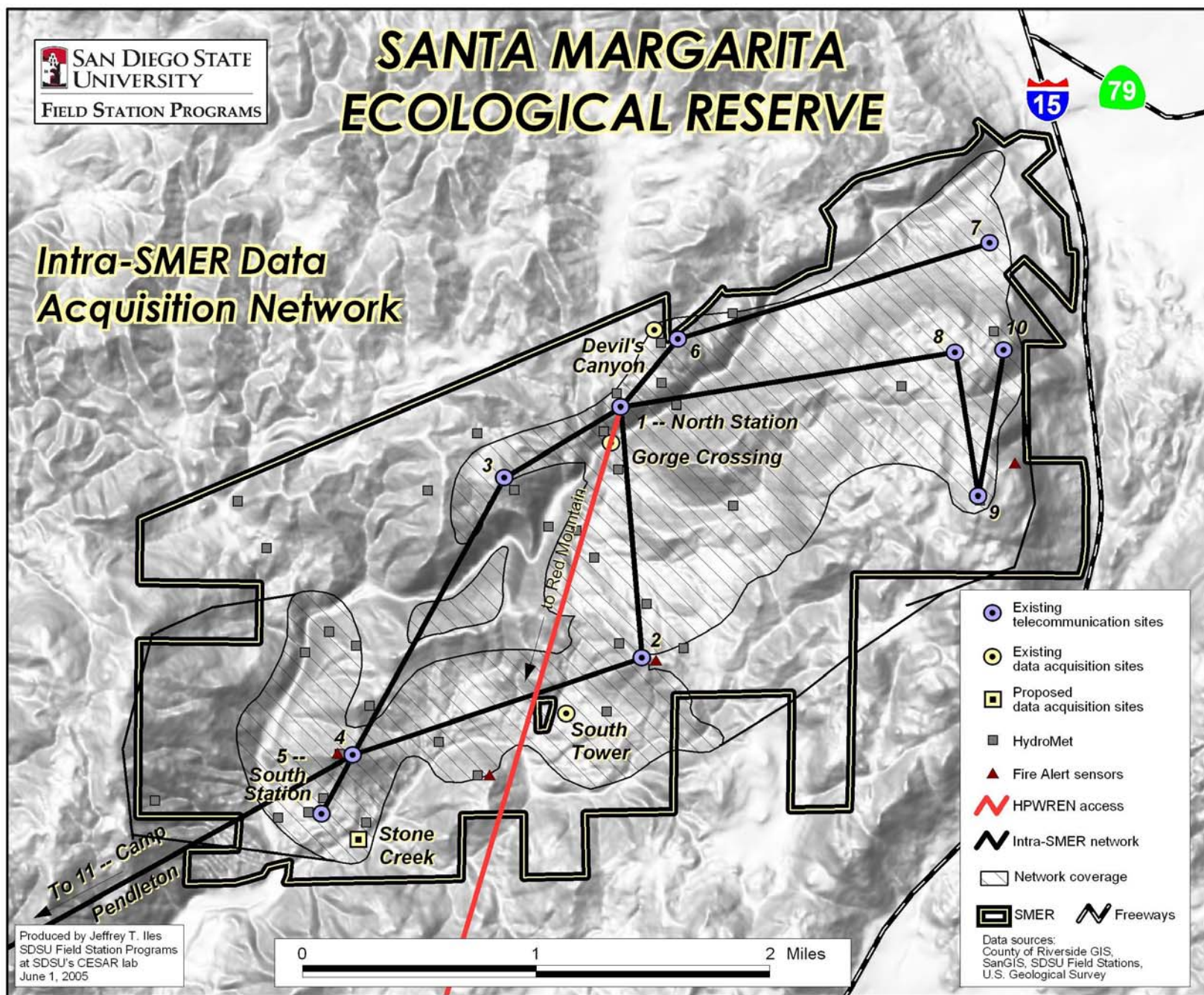
Created by OES-GIS, M Baldwin  
October 26, 2007  
Sources: FAMWEB 2009;  
active\_incident fires/2007/  
De/Active\_Incidents/Fires/2007/Southern\_California  
\_Wildfires\_2007/Projects/102607/Rice\_102607\_AM.mxd





# SANTA MARGARITA ECOLOGICAL RESERVE

## Intra-SMER Data Acquisition Network





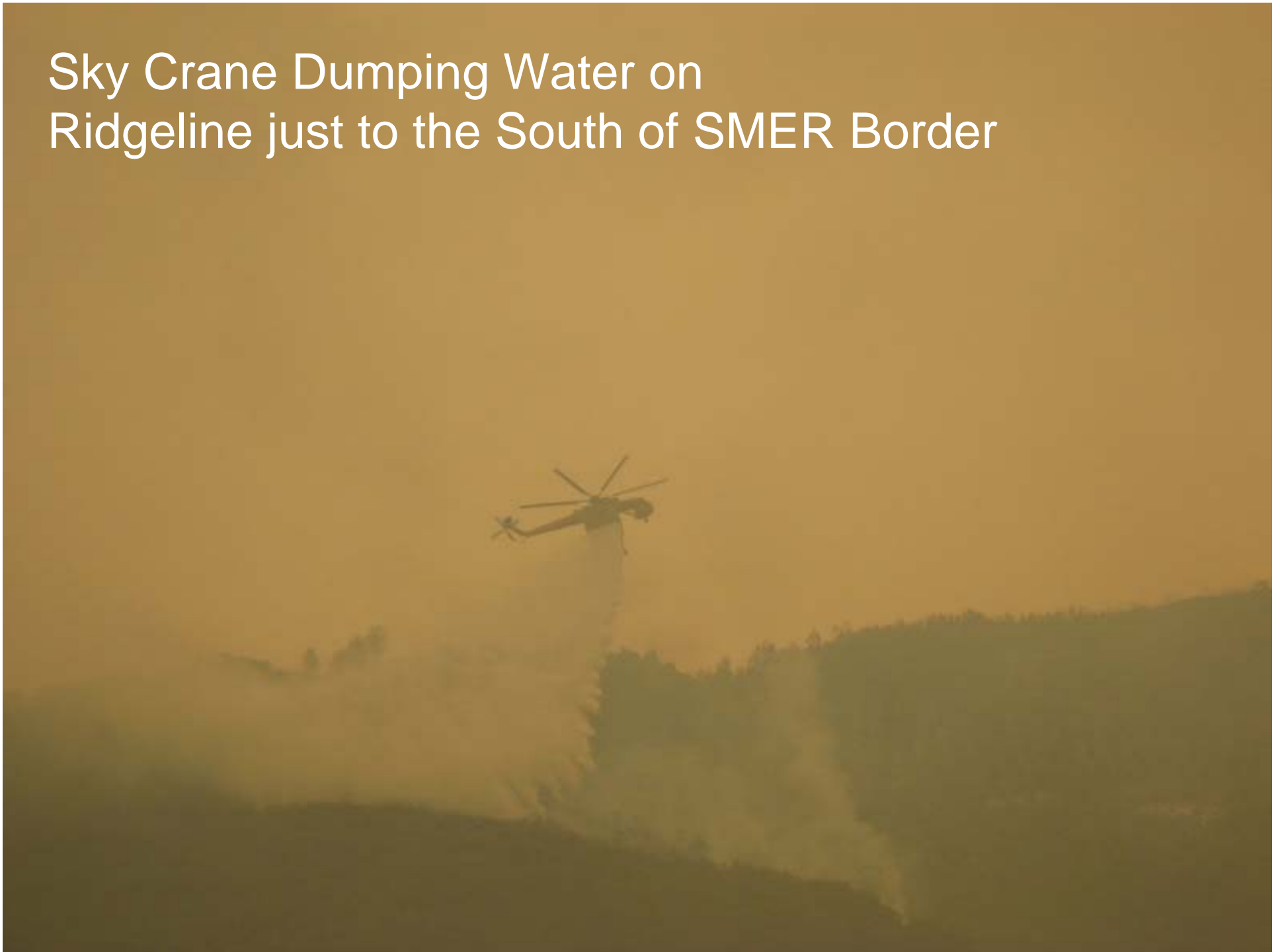
# Rice Fire Photos

## Thursday, 10/25

### South Side of SMER



# Sky Crane Dumping Water on Ridgeline just to the South of SMER Border





# Public Agencies

## Real-time Environmental Monitoring and Observation Technology SDSU Field Stations Program Web Camera

### About REMOT:

- [Introduction](#)
- [Network](#)
- [Infrastructure](#)
- [Technology Transfer](#)
- [Future Directions](#)

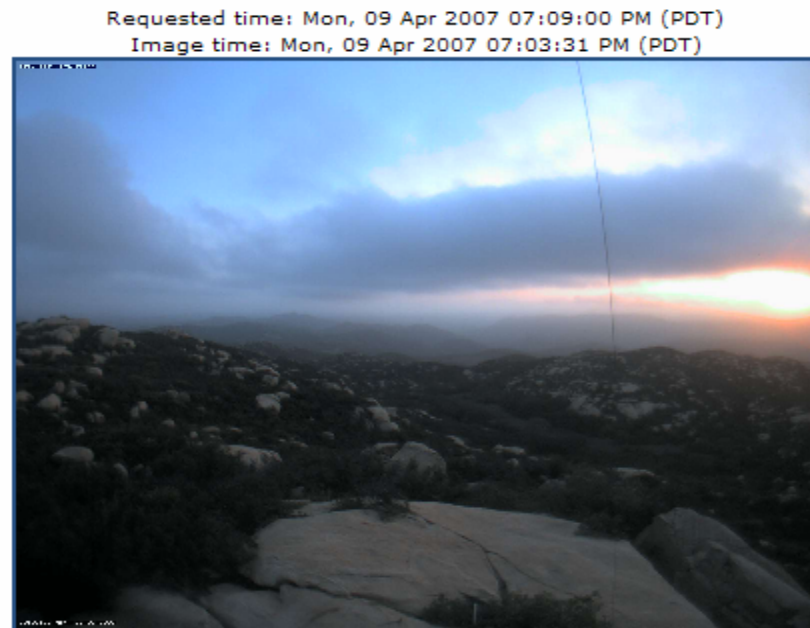
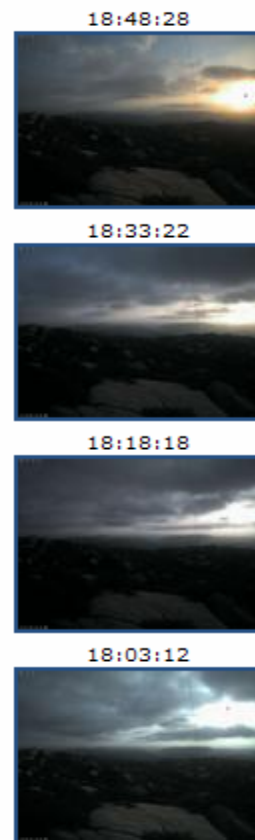
### About This Observatory:

- [Data](#)
- [Description](#)
- [Lessons Learned](#)
- [Equipment Used](#)
- [Operated by FSP](#)

### Observatories at [SMER](#):

-  [Avocado Grove](#)
-  [Bug Trail](#)
-  [Dead Coyote](#)
-  [Devils Canyon](#)
-  [East Gorge](#)
-  [Gorge Crossing](#)
-  [Gorge Overlook](#)

earlier



[-1 wk](#) < [-1 day](#) < [-6 hrs](#) < [-1 hr](#) < > [+1 hr](#) > [+6 hrs](#) > [+1 day](#) > [+1 wk](#) >

[Get the Latest Image](#)

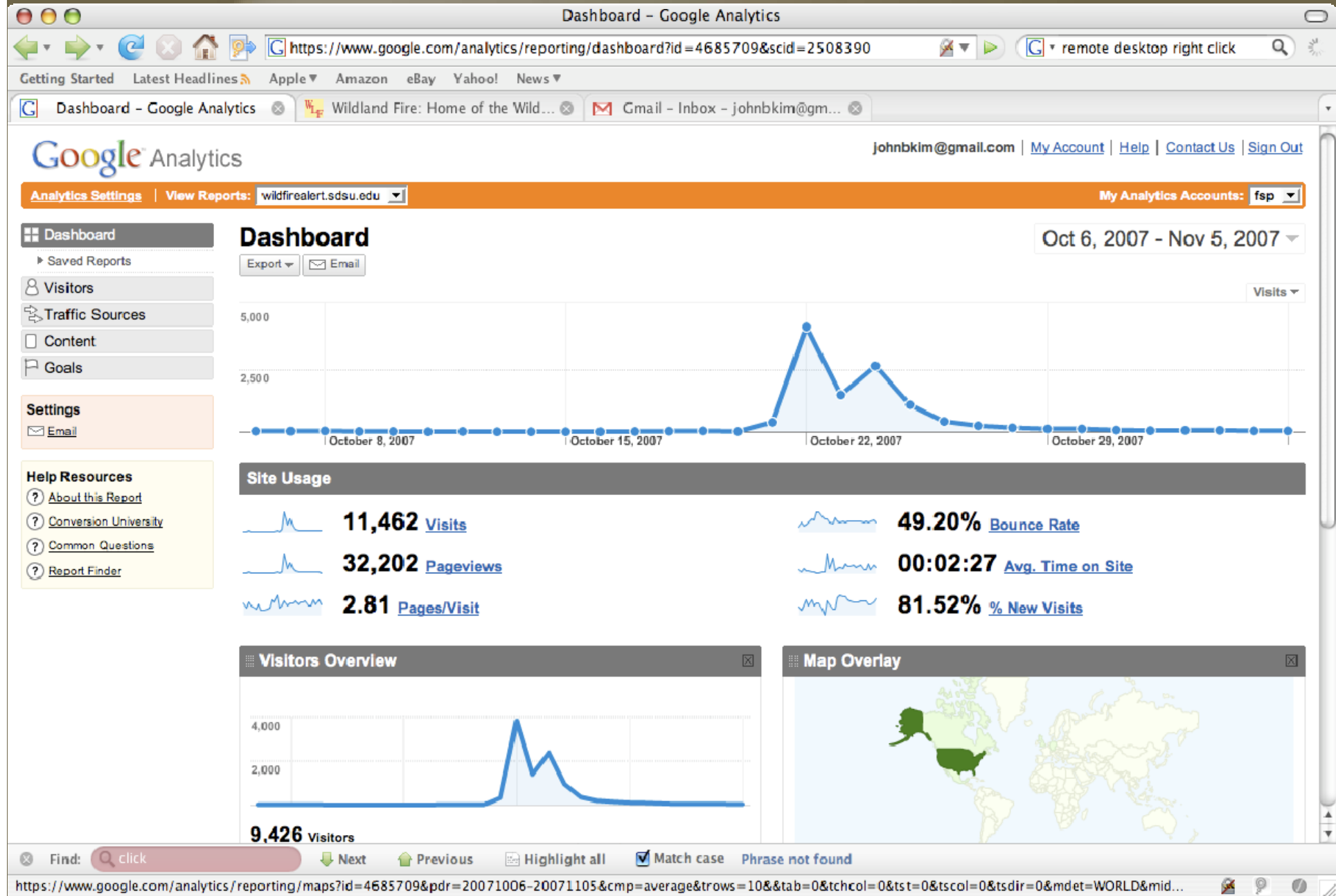
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date

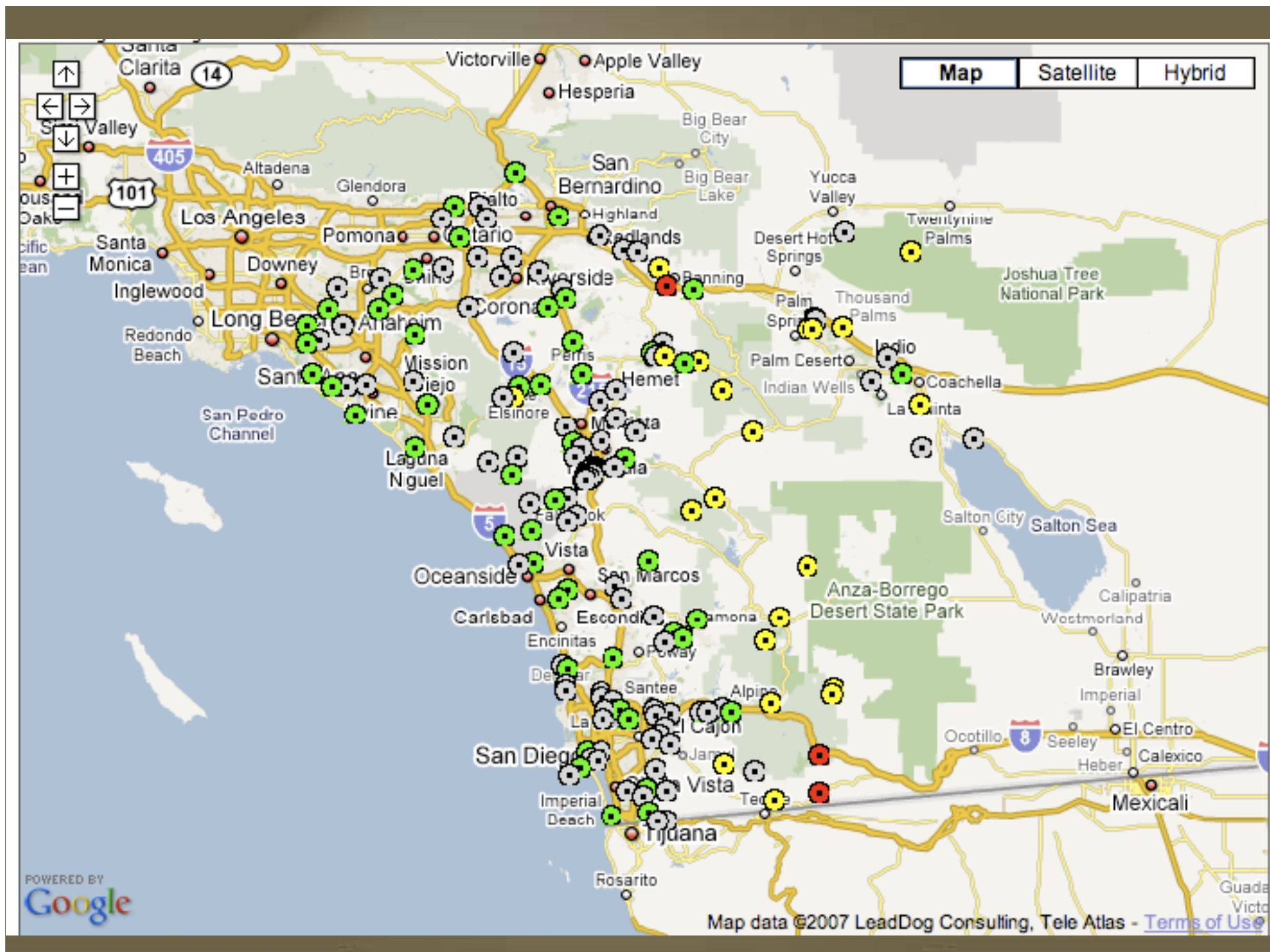
time

National Weather Service, CalFire, North County Fire Protection District, CHP etc.

# FSP Web Site Traffic







# Distance Learning

Using off the shelf equipment and free software to conduct interpretative learning from remote areas through the Internet.

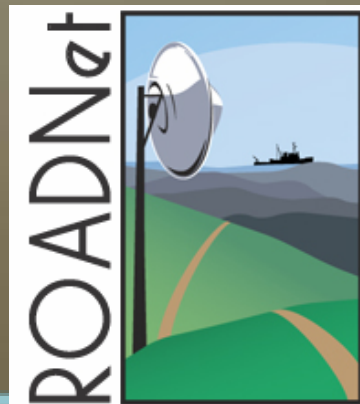
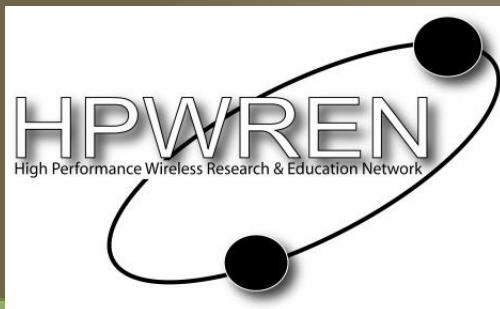
- Laptop
- DV Camcorder
- Orangeware
- Skype
- Internet Connection

Learn more at our website under  
“Stories From The Field”  
<http://fs.sdsu.edu/kf/>



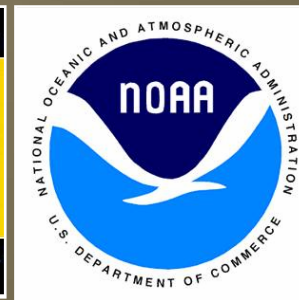
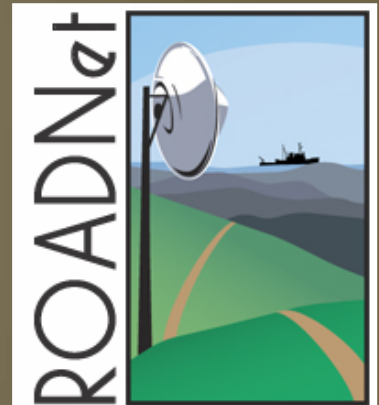
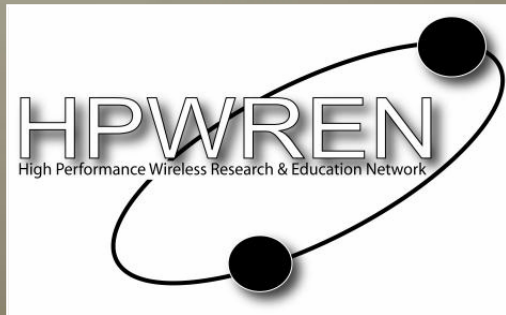


## and K-12, community fairs, and Tribal Learning Centers



# RiverNet

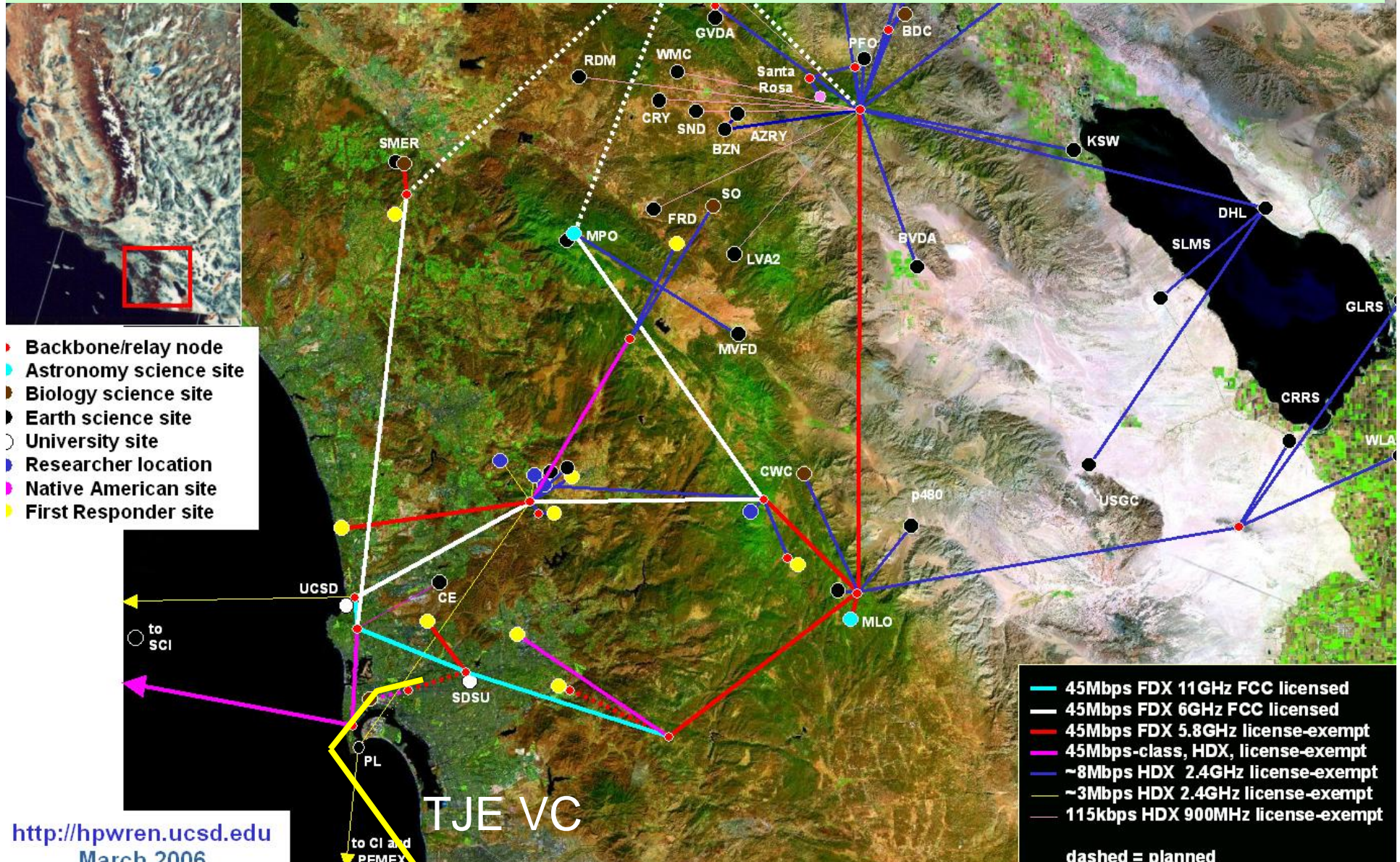
## SDSU – SIO Tijuana River Watershed Project





# Proposition 84 Water Shed Demo

*\$5.4 billion in California bonds for a wide variety of projects related to water safety, rivers, beaches, levees, watersheds, and parks and forests.*





# The Tijuana River Watershed



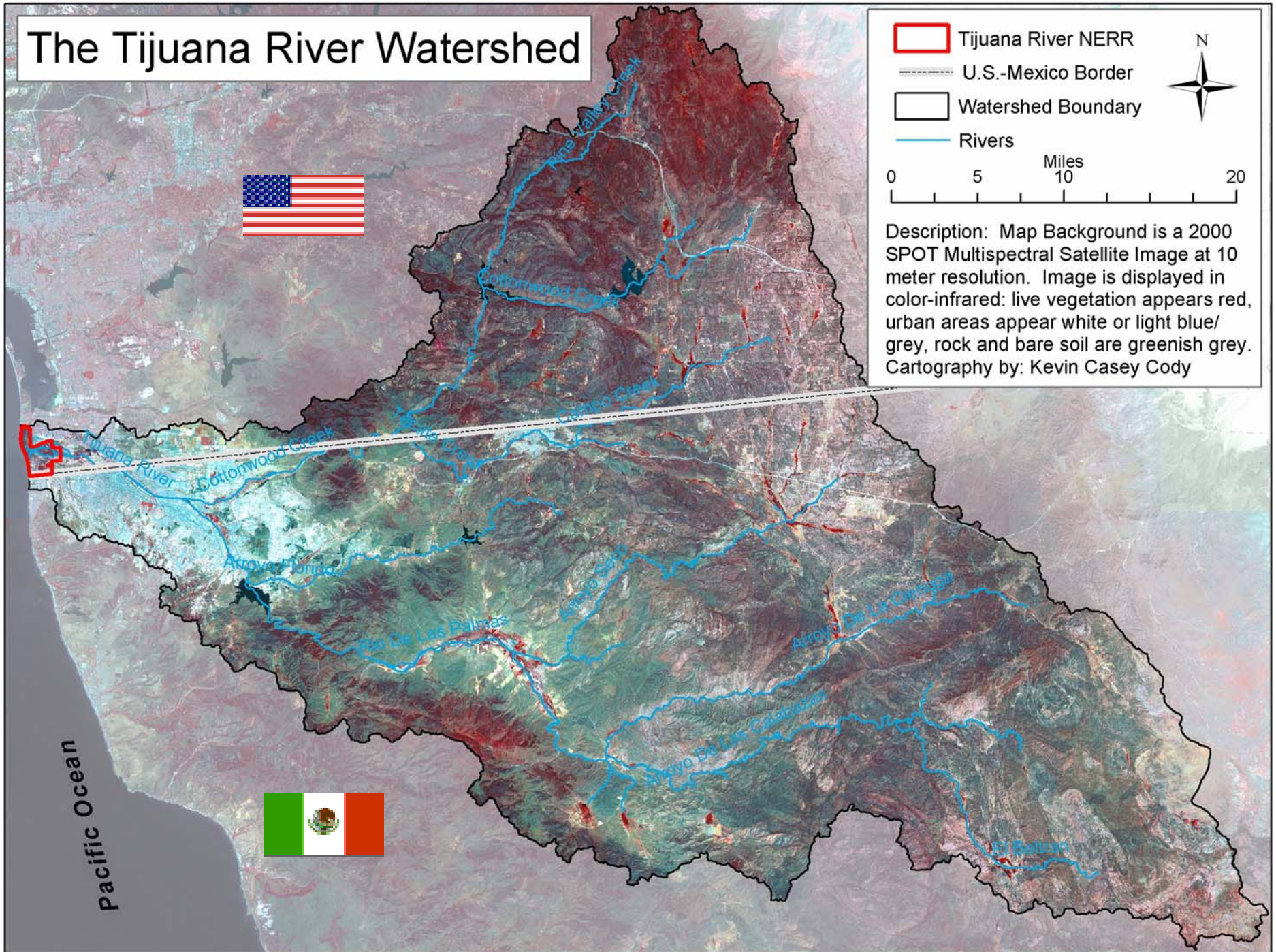
Pacific Ocean

-  Tijuana River NERR
-  U.S.-Mexico Border
-  Watershed Boundary
-  Rivers



0 5 10 20  
Miles

Description: Map Background is a 2000 SPOT Multispectral Satellite Image at 10 meter resolution. Image is displayed in color-infrared: live vegetation appears red, urban areas appear white or light blue/grey, rock and bare soil are greenish grey. Cartography by: Kevin Casey Cody











Clapper Rail



Least Bell's Vireo



Snowy plover



Least tern



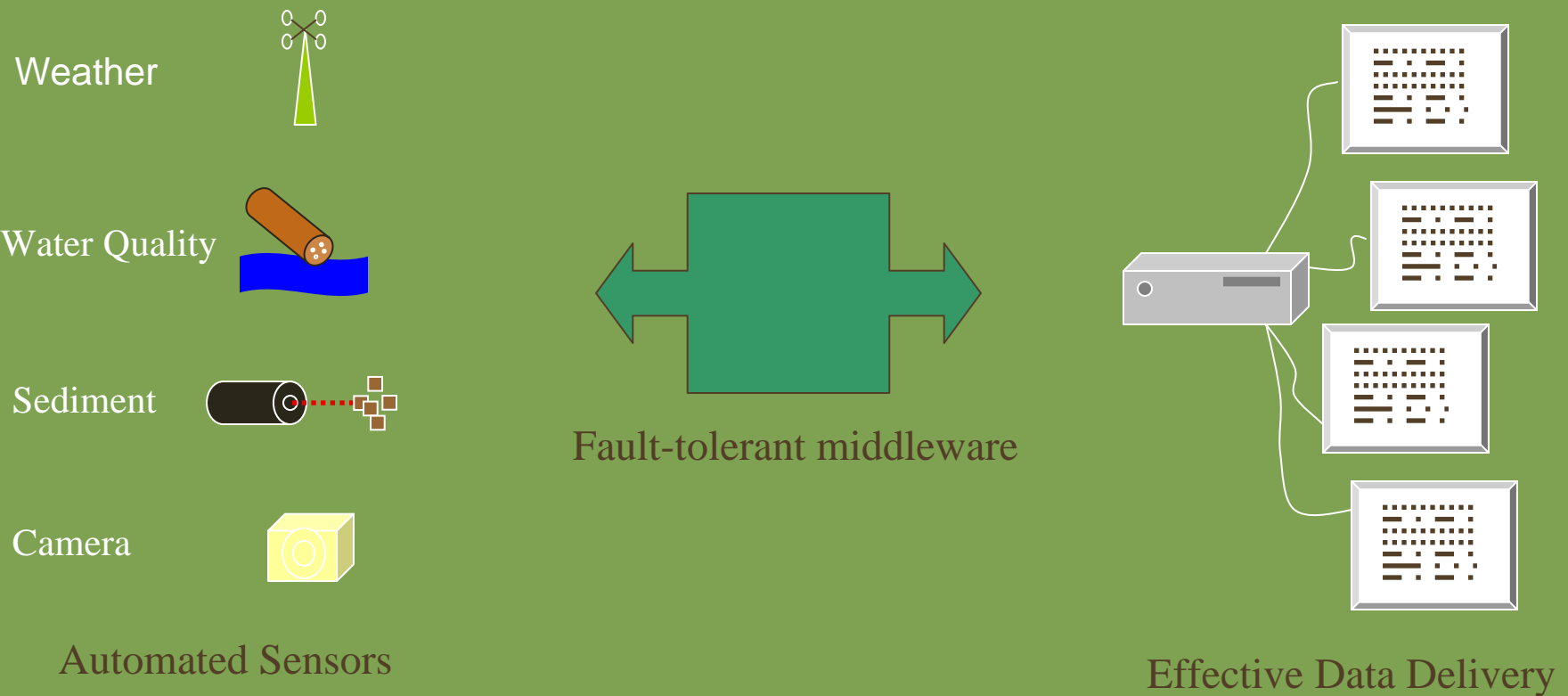




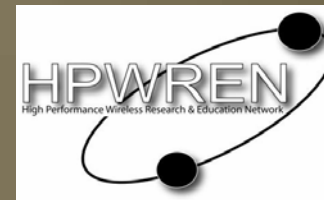
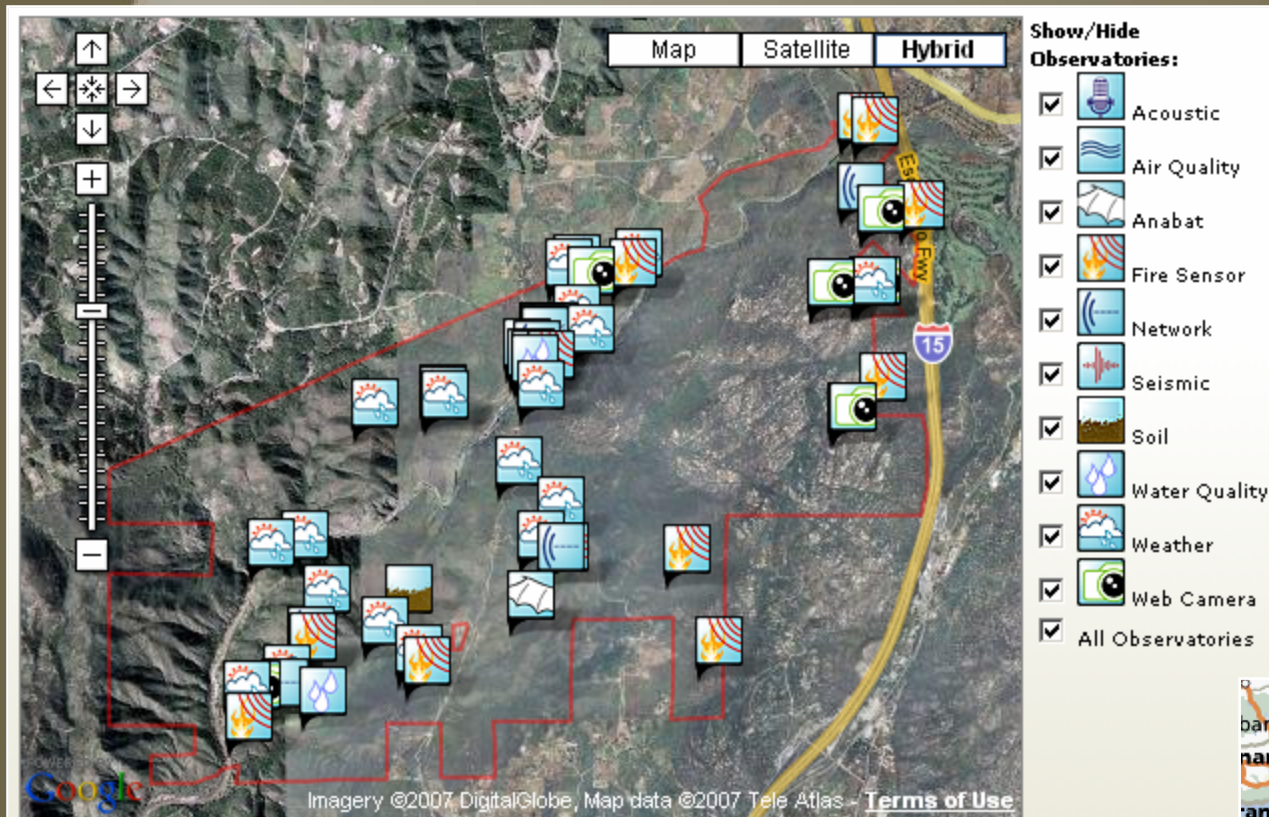




# High-tech Environmental Sensor Network



# High-tech Environmental Sensor Network at San Diego State University Santa Margarita Ecological Reserve



wireless bubble over 80% of 4500 acre reserve  
238 environmental sensors at 66 observatories



# Links and Contacts

Field Stations Programs: <http://fs.sdsu.edu/kf/>

Cameras on the web: <http://archive.hpwren.ucsd.edu/cameras/>

Field Station Information

Matt Rahn, Executive Director

619.594.0580

Sensor Network Information

Pablo Bryant

619.507.0944

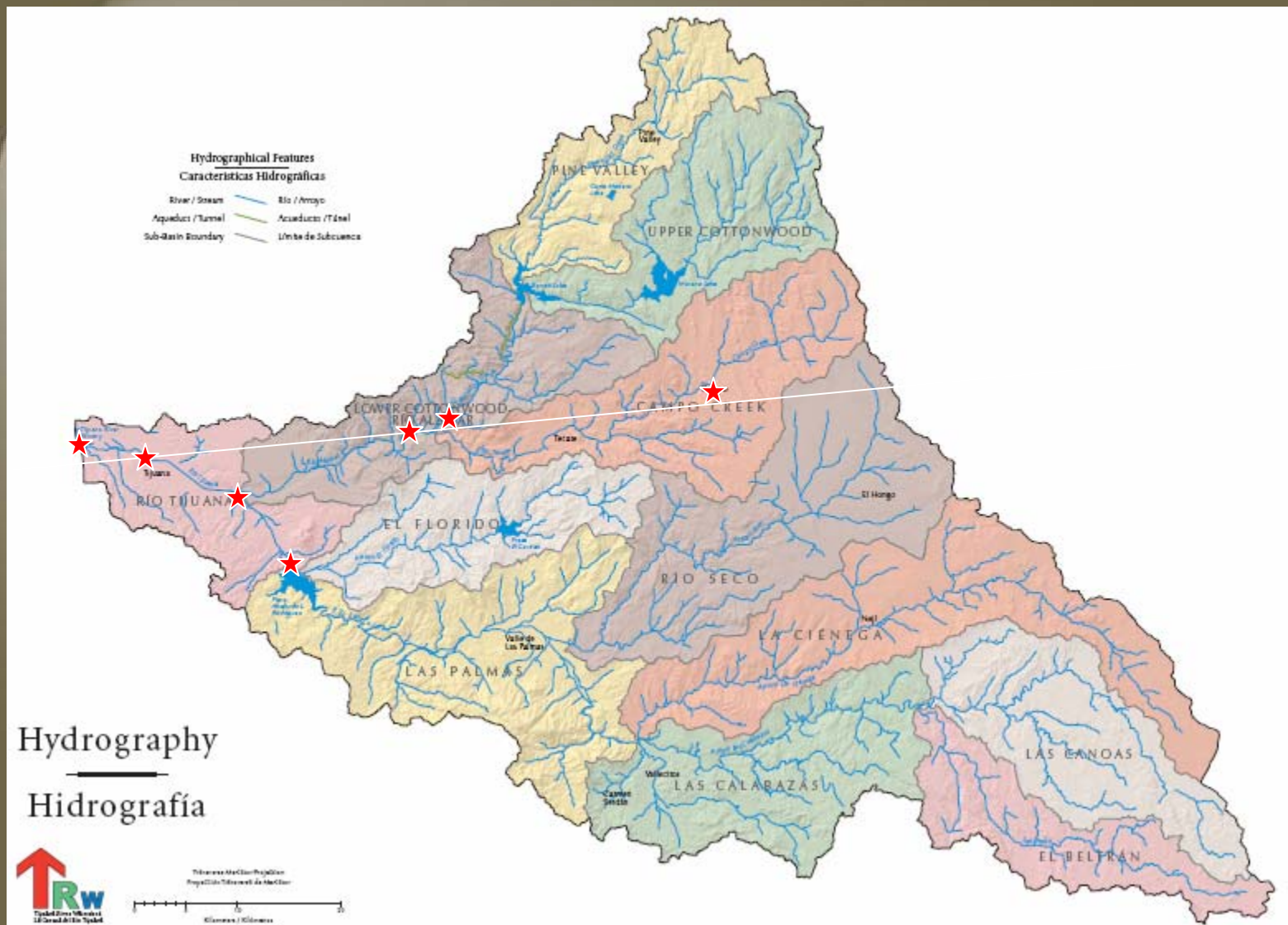




# Proposition 84 Demo



## And at key locations in Tijuana River Watershed



Strategic locations in Mexico in collaboration with partner agencies  
Plus Goat Canyon Micro-basins



# How do we respond to a regional disaster?

- How important is voice and data communications for operation of large scale emergency response?
- Identify sources of Internet access: HPWREN, Intra-SMER, Starbucks, Borders, home based cable...etc?
- What hardware is needed; Radios, VoIP, cameras, tripods, enclosures, generators...etc?
- What are the mechanisms for training, deployment?
- Where is the funding?

HIGH PERFORMANCE WIRELESS

**HPWREN**  
RESEARCH & EDUCATION NETWORK

**UCSD**

**SDSU**