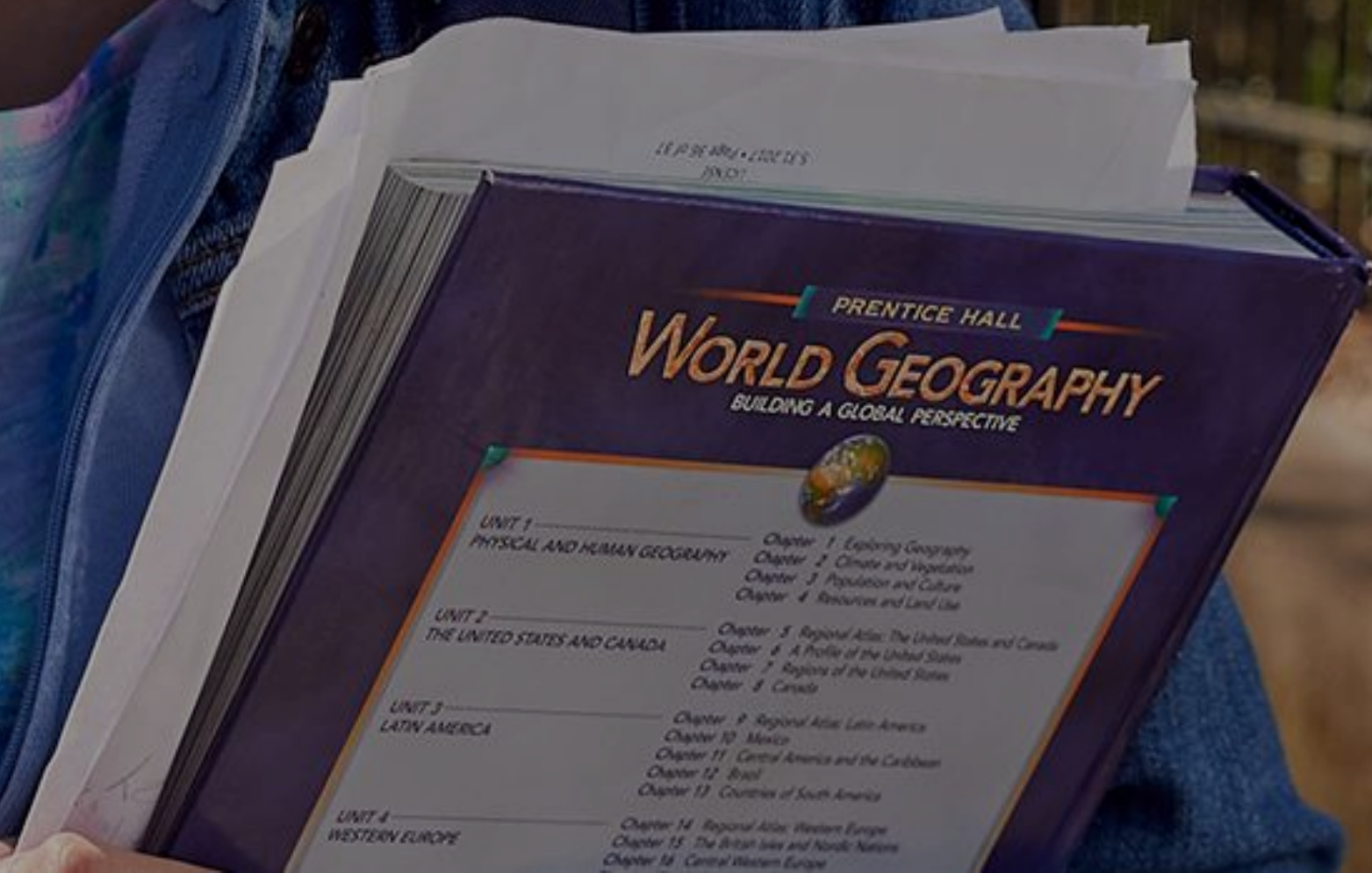


Affordable Housing Resilience Training: Ready to Respond LA

March 25, 2021



LET'S TALK

AGENDA

- LA's Regional Risk Landscape
- Ready to Respond training
- Ready Your LA Neighborhood
- Action steps



The Current Crisis

Cascading impacts of the Covid-19 pandemic compounded by economic, housing affordability, homelessness and climate crises

The Pre-Pandemic Crisis

Housing Affordability & Homelessness



HOMELESS COUNT 2020

66,436 ^{+13%}

In the last year, homelessness increased by 13% in L.A. County because there aren't enough homes people can afford.

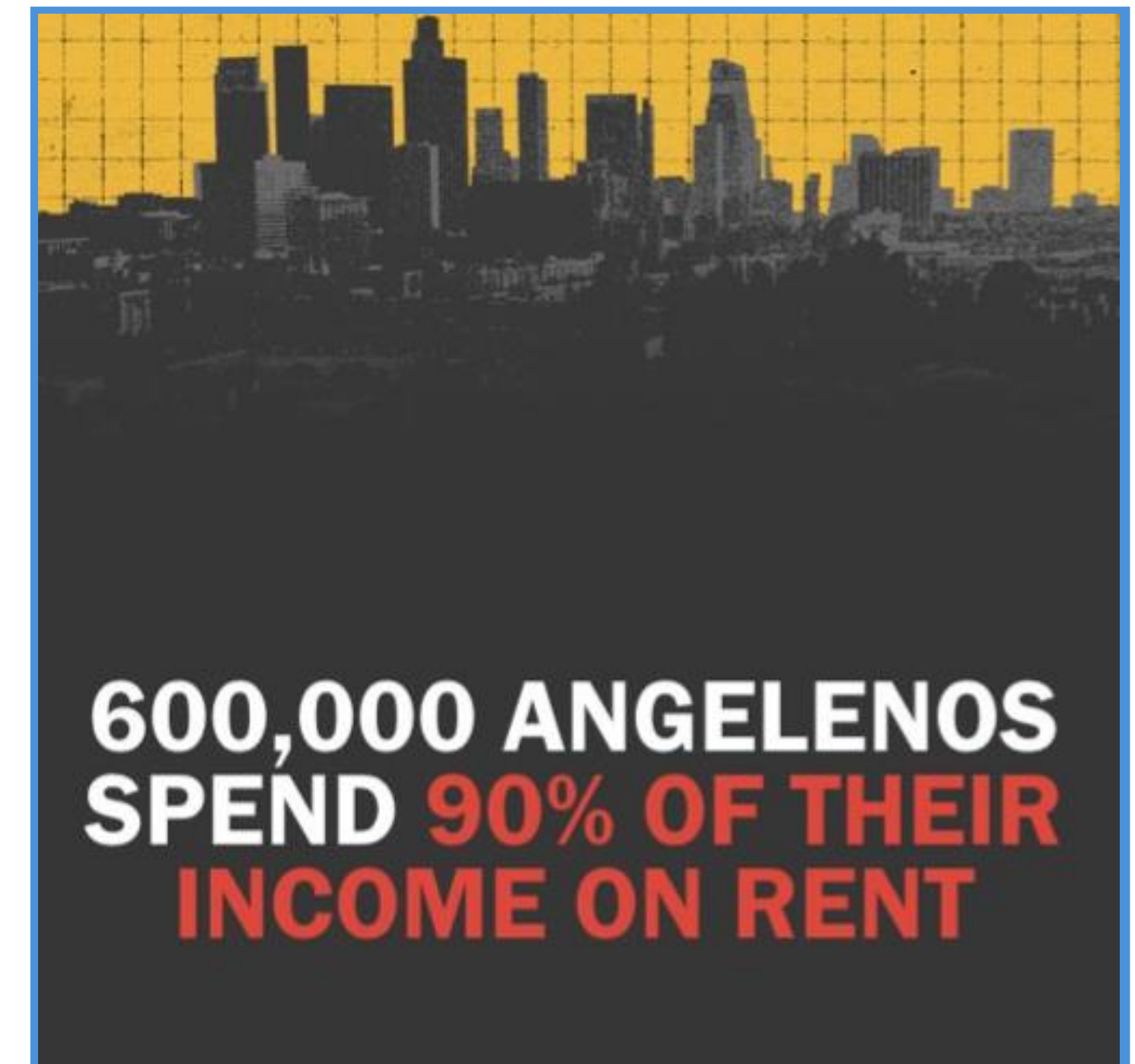
This infographic features a dark background with a cityscape silhouette. The text is in white and red. A red circle with a white plus sign and the number 13 is positioned above the final digit of the count.



2/3

ARE EXPERIENCING HOMELESSNESS FOR THE FIRST TIME

This infographic has a dark blue background. It features a circular image of a woman with her arms crossed, looking to the side. A blue circle with the fraction 2/3 is in the top left corner.



600,000 ANGELENOS SPEND **90% OF THEIR INCOME ON RENT**

This infographic has a dark background with a city skyline silhouette. The text is in white and red. A grid pattern is visible in the background.

Covid-19 Pandemic + Recession

C19 in LA County

- C19 cases: 1.22M
- C19 deaths: 22,960
- 2x more C19 deaths than any other US County

January 2021

Unemployment Rate

- LA County: 12.6%
- California: 9%
- National: 6.3%

Hundreds of thousands of households in LA **unable to pay rent and at risk of eviction**

2020 Climate Events in LA

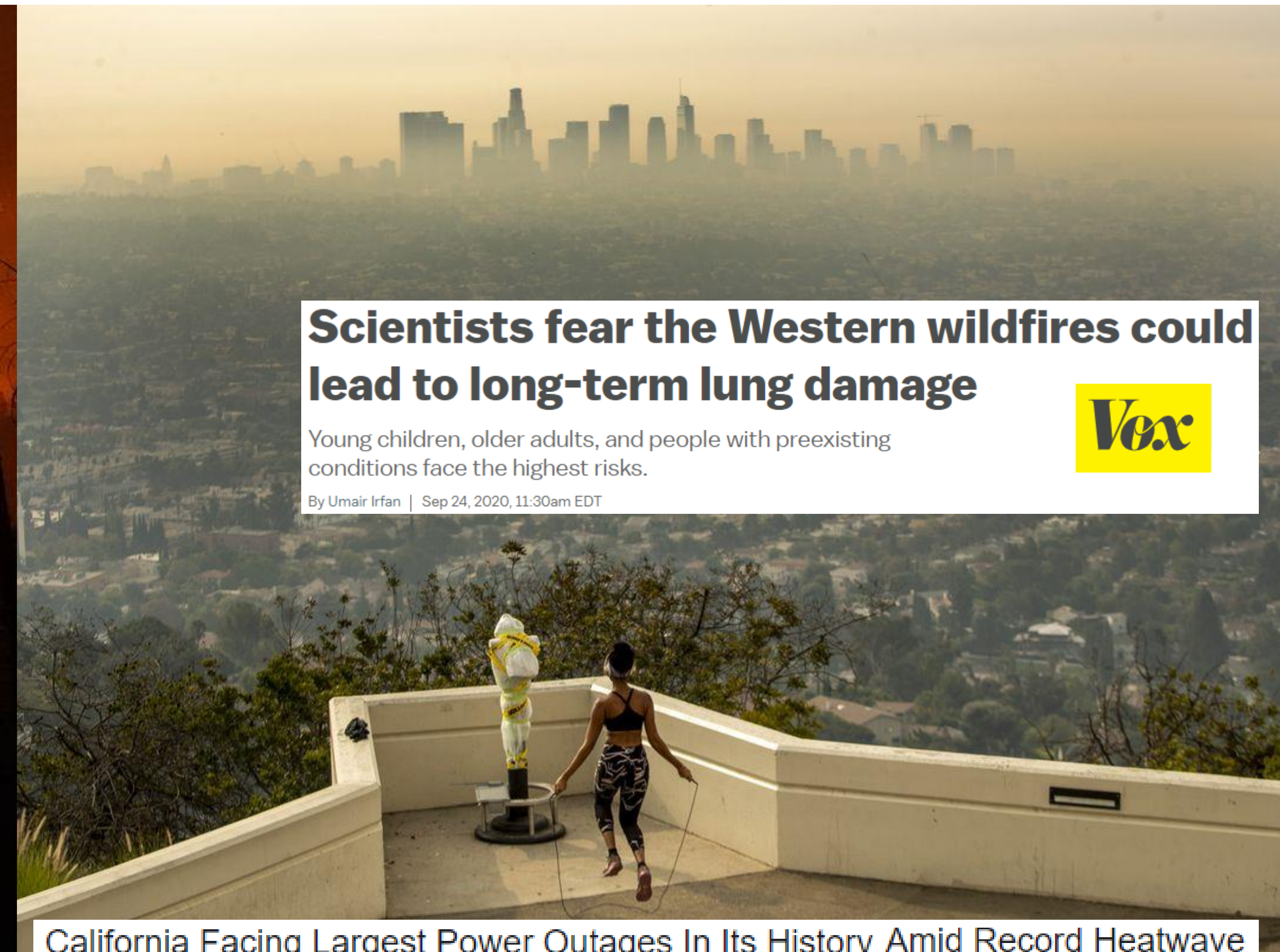


Record Heat Wave Creates 'Kiln-Like' Conditions In California

September 7, 2020 · 12:10 PM ET

n p r

At 121 degrees, Los Angeles County hit its [highest temperature](#) ever recorded this weekend, as the state swelters in a heat wave that has helped intensify the most devastating wildfire season California has experienced in years.



Scientists fear the Western wildfires could lead to long-term lung damage

Young children, older adults, and people with preexisting conditions face the highest risks.

By Umair Irfan | Sep 24, 2020, 11:30am EDT

Vex

California Facing Largest Power Outages In Its History Amid Record Heatwave

LOS ANGELES REGIONAL RISK LANDSCAPE

Natural hazards in LA County

SCIENCE

The riskiest place for a natural disaster in the U.S.? You're living in it, L.A.



Smoke from wildfires burning in Angeles National Forest fills the sky behind downtown Los Angeles. (Ringo H.W. Chiu / Associated Press)

By ASSOCIATED PRESS

JAN. 2, 2021 7:07 AM PT

FEMA'S National Risk Index

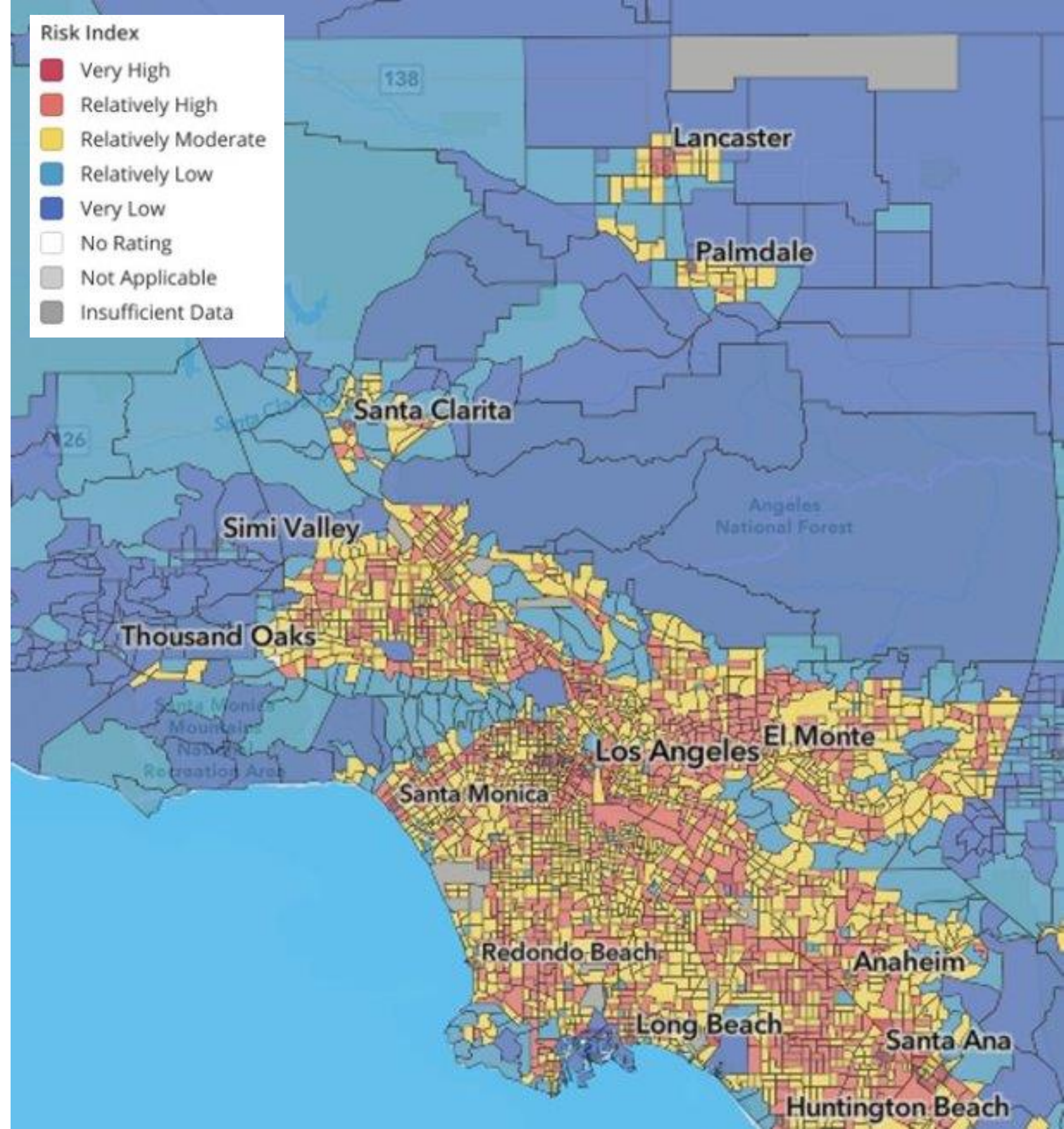
Los Angeles County Risk Rating

- **Population:** 10 million+
- **Building Value:** \$950 billion
- **FEMA Risk Index:** Very High (100th percentile)
- **Expected Annual Loss:** Very High (100th percentile)
 - Total annual loss: \$1.4 billion
 - Annual building value lost: \$1.1 billion
- **Social Vulnerability:** Relatively High (77th percentile)
- **Community Resilience:** Relatively Low (18th percentile)

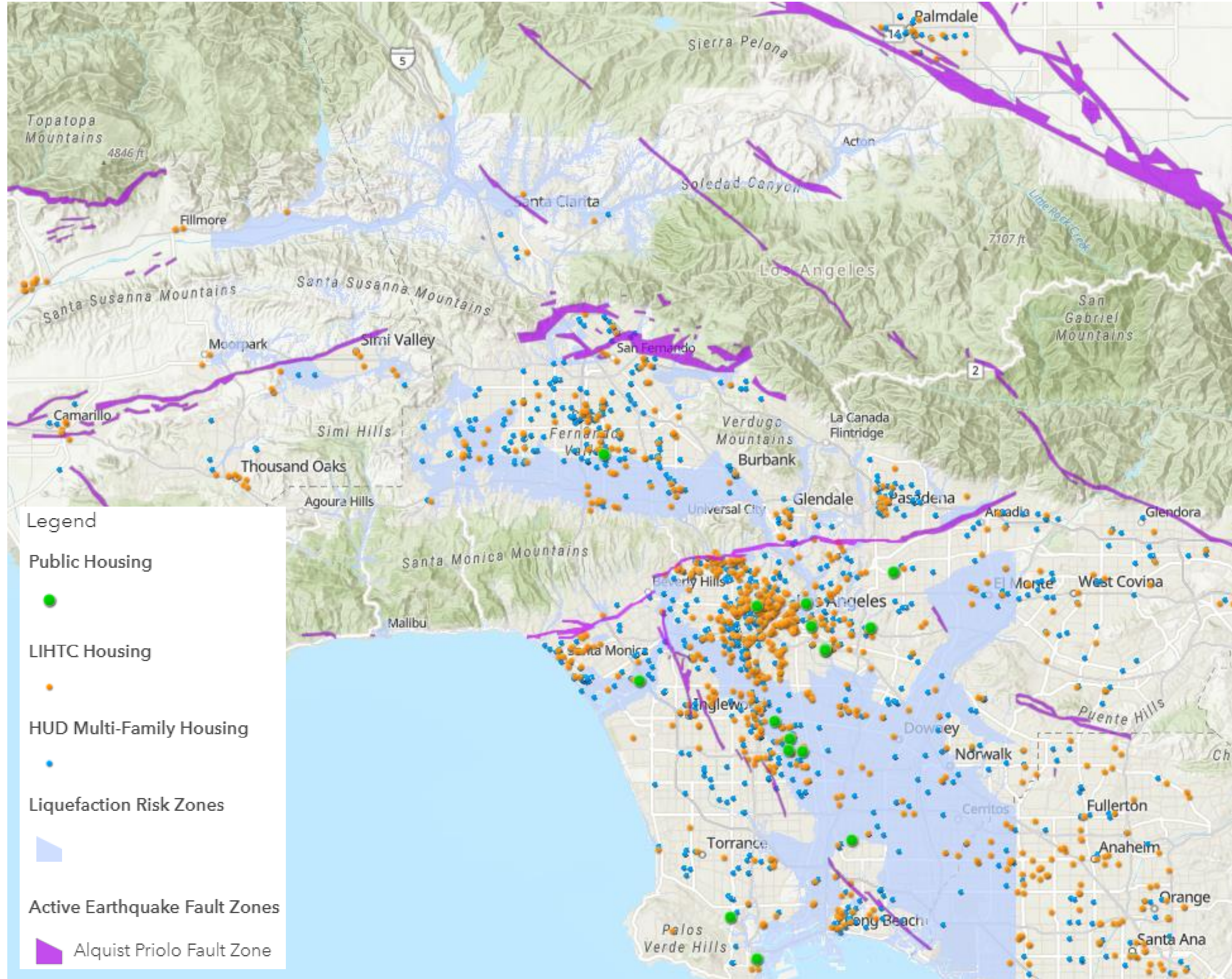
FEMA National Risk Index

LA County-wide Hazard Risk Ratings

- Avalanche: Very Low
- Coastal Flooding: Relatively Low
- Cold Wave: No Rating
- **Drought: Relatively High**
- **Earthquake: Very High**
- Hail: Relatively Moderate
- **Heat Wave: Relatively High**
- Hurricane: Not Applicable
- **Ice Storm: Relatively High**
- Landslide: Very Low
- **Lightning: Relatively High**
- **Riverine Flooding: Very High**
- **Strong Wind: Relatively High**
- **Tornado: Relatively High**
- Tsunami: Relatively Moderate
- Volcanic Activity: Not Applicable
- **Wildfire: Very High**
- Winter Weather: Relatively Low



EARTHQUAKES



1994 Northridge Earthquake (M6.7)

- 60 deaths
- 9,000 injuries
- \$20B - \$40B total damage
- 65,000 homes suffered major damage or were destroyed
 - 37K MF units major damage / destroyed
 - 240K MF units minor damage

Great Shakeout scenario (M7.8)

- 1,800 deaths
- 50,000 injuries
- \$200B total damage
- 1,500 collapsed buildings
- 300,000 buildings damaged >10% value
- 500,000+ displaced households

EARTHQUAKES

Los Angeles Times

The 1971 Sylmar quake is keeping veterans homeless in L.A. in 2020. That may change soon



5 most seismically vulnerable building types according to Dr. Lucy Jones Center for Science + Society's Safer City Survey:

- 1) Unreinforced brick masonry
- 2) Tilt-up concrete wall panel
- 3) Non-ductile concrete
- 4) Pre-Northridge steel moment frame
- 5) Wood frame soft-story

Snapshot of LA's Significant Earthquakes

1933 Long Beach Earthquake, M6.4

120 schools damaged, 70 destroyed
Primary causes: loose subsoil, shoddy workmanship, and substandard material



1971 San Fernando Earthquake, M6.5

Significant damage to non-ductile reinforced concrete buildings;
Critical damage to some hospitals



1987 Whittier Narrows Earthquake, M5.9

Fire followed due to ruptured gas lines, causing significant damage to residential, transportation systems, and DTLA's commercial district



1994 Northridge Earthquake, M6.7

Damaged estimated above \$20 billion;
Unexpected failures of welded steel moment-frames exposed major design flaw



Retrofit ordinances today



Permit date for steel moment frame ordinance application: **pre-1995**

Permit date for non-ductile concrete ordinance application: **pre-1977**

1933 Field Act

Authorized Division of the State Architect (DSA) to review all public school plans

1972 Hospital Safety Act

Higher seismic safety standards for hospitals

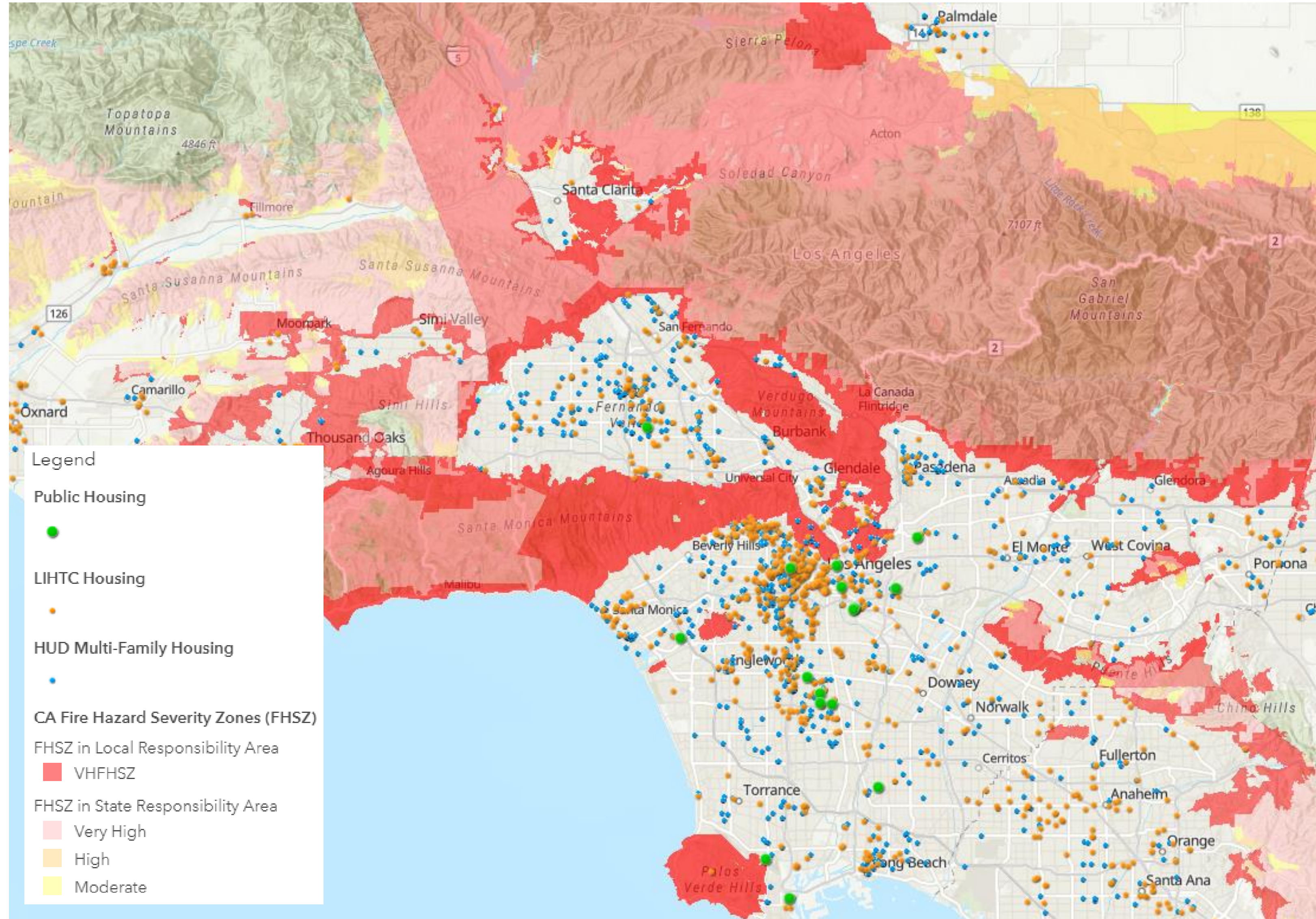
1976 Uniform Building Code

Adopted by many jurisdictions in the late 1970's
Critical update for **non-ductile concrete buildings**

Revision of AISC Seismic Provisions

Emergency code change to remove prescriptive WUF-B connection from code; new standards and procedures for welding and inspection of moment frames
Critical update for **steel moment frame design**

WILDFIRES



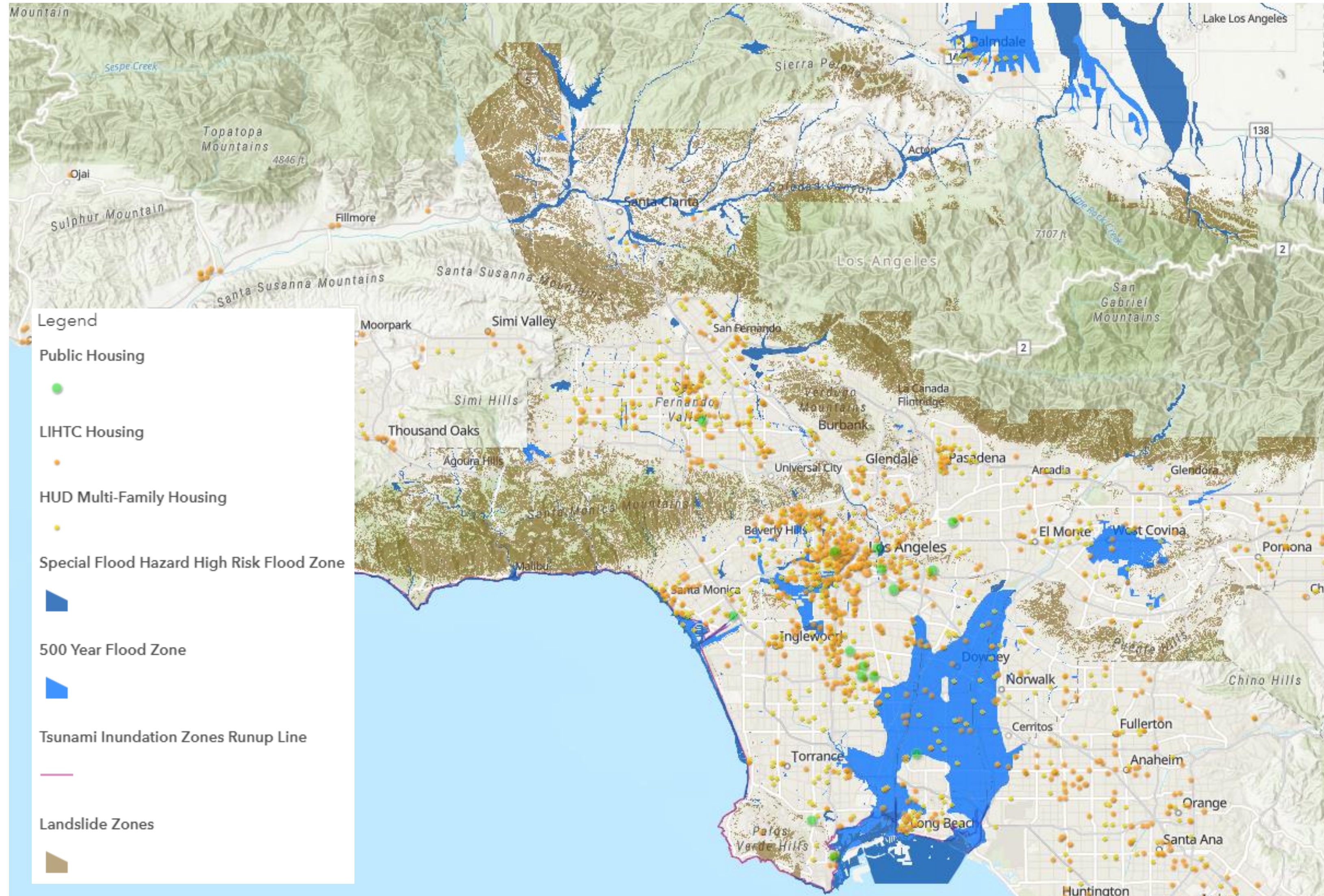
LA Region Climate Assessment

- **Wildfires:** risk increasing; average fire size doubled since 1960s
- **Santa Ana Wind:** events increasing, dry air can trigger wildfires
- **Air quality:** LA basin smoggiest in the nation; wildfires increase particulate matter pollution; significant health impacts

Housing risk in LA County

- **121,589 homes** face extreme or high wildfire risk—most in CA
- **227 subsidized residential properties**—containing over 14,000 affordable homes—are within a half mile of a Very High Fire Hazard Severity Zone

FLOODS



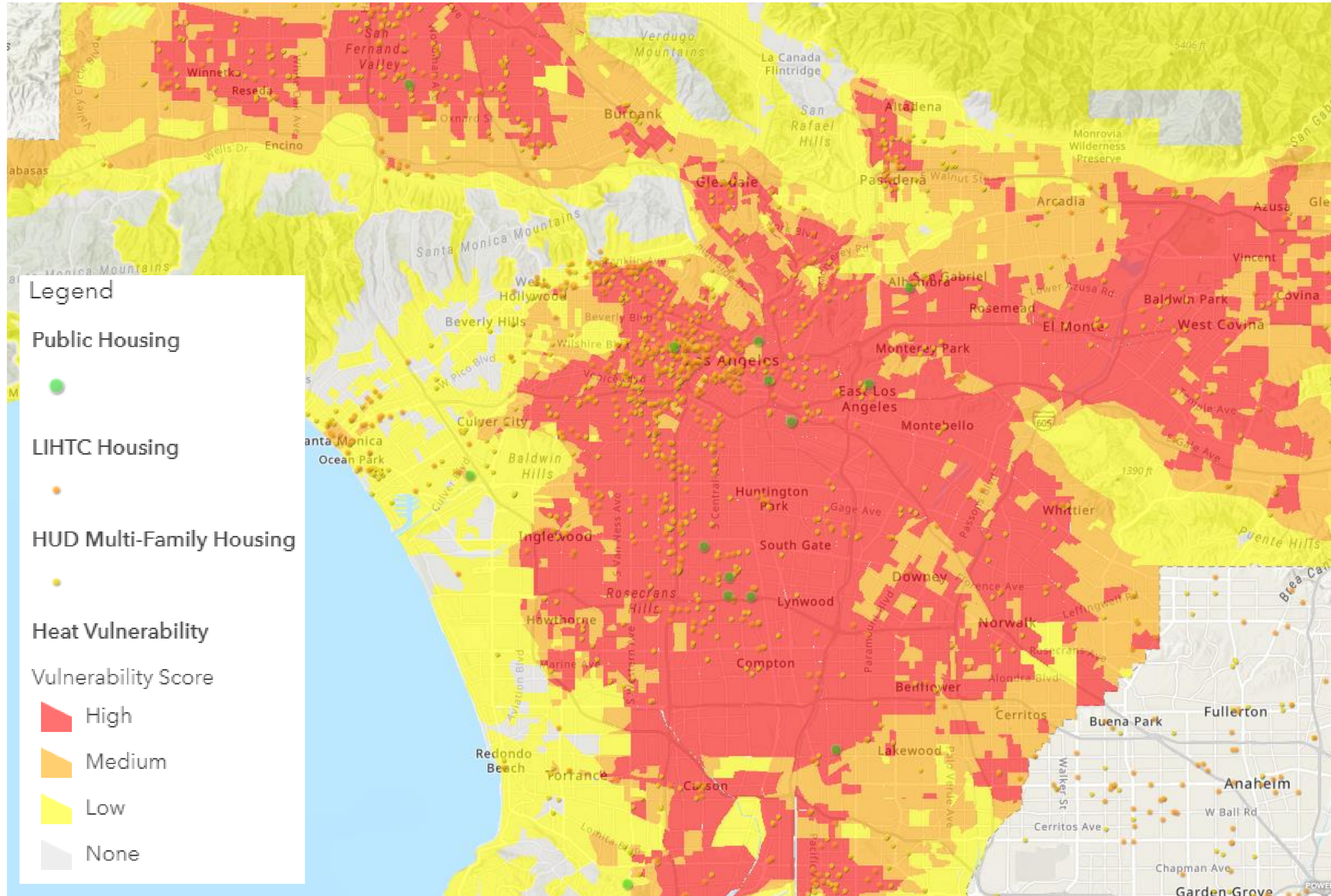
LA Region Climate Assessment

- **Precipitation:** dry and wet extremes expected to increase in the future, increasing risk of flood and drought
- **Extreme Storms:** length of rainy season and number of atmospheric river events projected to increase 40%, creating more floods and mudslides
- **Sea Level Rise:** projected to rise 6-7 inches by 2050 and 25-50 inches by 2100; increasing impacts of wave and surge events from coastal storms

Southcoast Floodplain

- **10,678 residential structures** in the Southcoast 500-year floodplain
- **3.41 million people** in the Southcoast 500-year floodplain
- **\$230B:** value of structures in the Southcoast 500-year floodplain

EXTREME HEAT




LA Region Climate Assessment

- **Warming** is expected to increase across LA in the coming decades
- **Interior regions** are expected to experience the highest amounts of warming, up to 10°F in the late-21st century
- The number of **extremely hot days** is expected to increase in the future. E.g. LAX historically experiences less than 15 days per year with temperatures at least 90°F; by the end of the century, LAX is projected to experience 50–90 such days per year

FRONTLINE COMMUNITIES





preparedness
An ounce of ~~prevention~~
is worth a pound of ~~cure.~~
response

Benjamin Franklin