

State Overview California

Flood risk is increasing in the state of California. 1,090,900 properties currently have a substantial risk* of flooding. Over the next 30 years, the number of properties with this risk will increase by another 5.5%, bringing the total number of properties with substantial risk to 1,150,800.

To understand personal flood risk, Americans leverage the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). These maps identify 495,400 properties as having substantial risk in the state of California. In comparison, the First Street Foundation Flood Model identifies 2.2 times the number of properties as facing this same level of risk. This discrepancy exists because the Foundation uses the current climate data, maps precipitation as a stand-alone risk, and includes areas that FEMA has not mapped. These new methods uncover an additional 595,500 properties currently not identified by FEMA as having substantial risk. When adjusting for future environmental changes, the FEMA gap further widens to 655,400 by the year 2050.

Total properties at substantial risk*

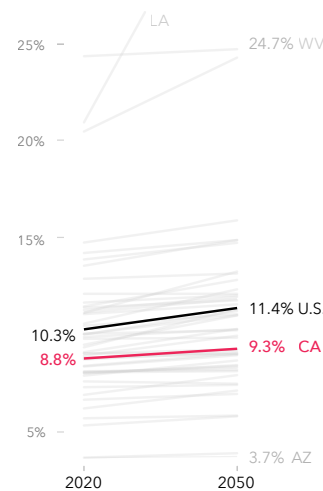
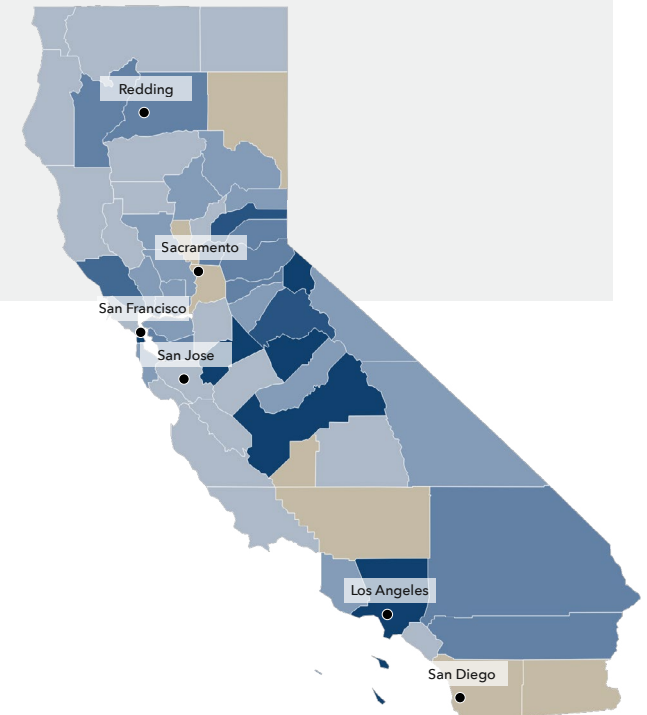
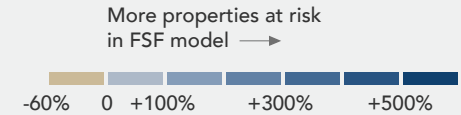
In 2020 **1.09M** In 2050 **1.15M**

30-year change
▲ **+59,900 (+5.5%)**

Central Valley cities like Sacramento see riverine and stormwater flood risk. Dams and levees designed to protect the city often fail and drainage issues cause flooding in some areas during storms. San Bernardino County experiences rainfall flooding, causing flows and land erosion, posing risks to people and property. City and county projects seek urban stormwater improvement, reinforcement of the Rialto Channel, and regrading detention basins to address risks.

Difference in number of properties currently at substantial risk compared to FEMA**

▲ **+595,500**



Percent of properties at substantial risk compared to other states

The First Street Foundation Flood Model finds 10.3% of all properties across the contiguous United States at substantial risk of flooding today, and 11.4% at substantial risk in 30 years. California has a smaller proportion of properties at substantial risk, with 8.8% at substantial risk today and 9.3% at substantial risk in 2050.

* Substantial risk is calculated as inundation 1 cm or more to the building in the 100 return period (1% annual risk) and rounded to the nearest 100 properties. See methodology for full model details.
 ** Comparison of count of properties within a Special Flood Hazard Area (1 in 100 layer) versus those with 1% risk from the First Street Foundation Flood Model. Some counties may show higher FEMA counts due to a variety of factors, including the generalization of SFHAs, assumptions around flood protection measures, and local context. FEMA zones are estimated by MassiveCert, Inc.

Local details

California

The First Street Foundation Flood Model calculates the number of properties facing any risk* of flooding. When looking at this broader level of risk, the data identifies 2,287,200 properties in California as at risk over the next 30 years. Of these properties, 108,500 were categorized as facing almost certain risk, with a 99% chance of flooding at least once over the next 30 years.

The city of Los Angeles has the greatest number of properties at risk of flooding in the state with 132,000 currently at risk, or 20% of its total number of properties. However, smaller cities or municipalities in the state, with fewer properties, may have a greater proportion of their total properties at risk. For example, 100% of properties in Yuba City are at risk of flooding. Other municipalities will see the greatest increase in risk over the next 30 years. Wasco, for example, will see a % increase in the number of properties at risk.

Click [here](#) for a full breakdown of counties, cities, zip codes, and congressional districts in California at risk.

Greatest proportion of properties at risk*

Municipality	2020	2050	Change
Yuba City	19,174 100%	19,193 100%	+19 +0.1%
Orland	2,994 100%	3,004 100%	+10 +0.3%
Country Club	3,624 100%	3,625 100%	+1 +0.0%
Foster City	7,234 99%	7,236 99%	+2 +0.0%
August	2,089 98%	2,102 98%	+13 +0.6%
Lemon Hill	3,074 96%	3,105 97%	+31 +1.0%
Colusa	1,934 96%	1,947 97%	+13 +0.7%
Farmersville	2,595 96%	2,654 98%	+59 +2.3%
Linda	5,628 94%	5,705 96%	+77 +1.4%
Stockton	76,446 92%	77,918 94%	+1472 +1.9%

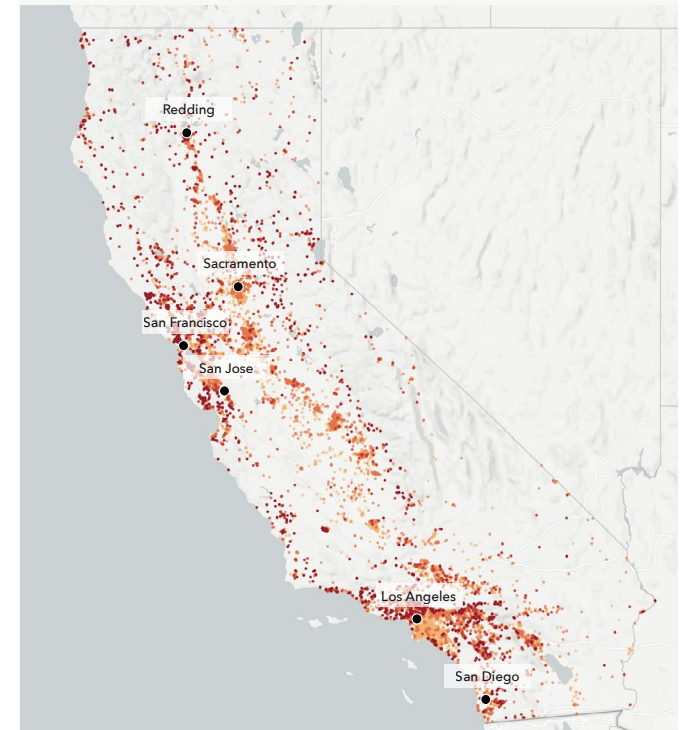
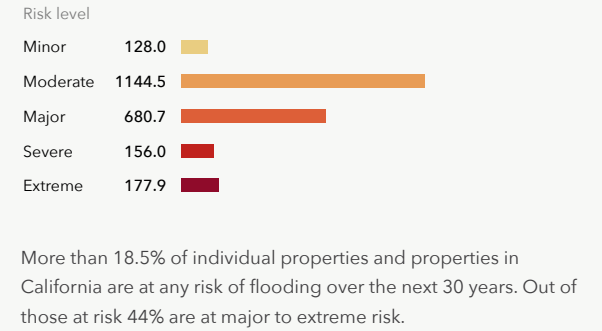
Greatest number of properties at risk*

Municipality	2020	2050	Change
Los Angeles	132,046 20%	135,515 20%	+3,469 +2.6%
Sacramento	101,792 68%	109,416 74%	+7,624 +7.5%
Stockton	76,446 92%	77,918 94%	+1,472 +1.9%
San Jose	56,243 25%	59,298 26%	+3,055 +5.4%
Fresno	54,255 39%	55,332 39%	+1,077 +2.0%
Long Beach	31,565 36%	34,811 40%	+3,246 +10.3%
Bakersfield	20,430 18%	21,051 19%	+621 +3.0%
Santa Rosa	19,914 37%	20,917 39%	+1,003 +5.0%
Yuba City	19,174 100%	19,193 100%	+19 +0.1%
Visalia	18,946 43%	20,077 46%	+1,131 +6.0%

Greatest relative growing risk*

Municipality	2020	2050	Change
Wasco	0 0%	314 6%	+314 +Inf
Coronado	103 2%	1,142 24%	+1039 +1009%
Newman	51 1%	150 4%	+99 +194%
Ripon	93 2%	267 5%	+174 +187%
Olivehurst	1,369 29%	2,767 59%	+1,398 +102%
Exeter	43 1%	82 3%	+39 +91%
Huntington Beach	11,343 22%	21,431 42%	+10,088 +89%
Vallejo	2,002 5%	3,671 10%	+1,669 +83%
Imperial Beach	149 3%	270 6%	+121 +81%
Alameda	824 4%	1,478 8%	+654 +79%

Flood Factor distribution of properties at risk* (1000s)



* Risk is calculated as inundation of 1 cm or more to the building in the 500 return period (0.2% annual risk). See methodology for full model details. Threshold of at least 2,000 properties for municipalities shown.

Flood History & Protection California

Claims History

155,600 home and property owners in California have made flood damage claims through FEMA since the year 2000.* These claims for reimbursement were made through either the National Flood Insurance Program (NFIP) or Individual Assistance Program (IAP). The greatest number of claims since the year 2000 have been concentrated in Los Angeles, Sonoma, Butte, San Diego, and Napa counties.

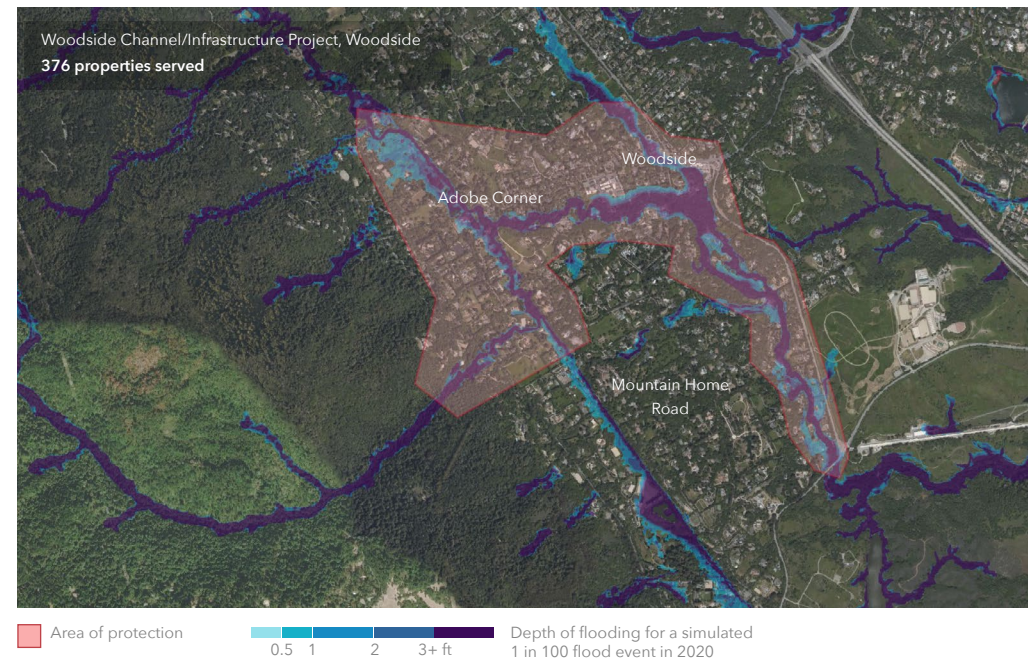
4.85M

Properties served by protection measures

The First Street Foundation Flood Model incorporates 3,815 flood control measures throughout the state which protect 4,854,200 properties.

Top protection measures in state by quantity

Type	# Properties served by type
Channel Example	
• Woodside Channel/Infrastructure Project	3,205,787
Levee Sacramento and Elk Grove	1,689,870
Dam Don Pedro MD 0, Modesto	1,199,667
Sewer upgrade Conveyance Channels, San Bernardino	77,450
Marsh/wetland restoration Huntington Beach Wetland Restoration	20,989



* Source: Fema.gov