

Contra Costa County, CA

Risk-assessment baseline packet

County FIPS: 06013 Release: 2026-10 Data as of: 2026-09-30 Storm Events data through: 2026-06-30

Hazard Plain is an independent product built from public federal data. It is not a FEMA document and is not reviewed or endorsed by FEMA or any state agency.

Summary

Plan status as of 2026-09-30: Approved, expires 2029-09-21. Plan: Contra Costa County (FEMA plan 110171), approved 2024-09-22.
Since the plan was approved on 2024-09-22: no new federal declaration.
NOAA Storm Events records since that date: 25 records (data through 2026-06-30).
Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Earthquake (\$518,775,051 a year), Inland Flooding (\$412,454,327) and Heat Wave (\$17,836,600).
Repetitive-loss flood properties now: FMA RL 5, SRL 8 (44 CFR 77.2); any definition: 77.
The tables that follow are organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B (B1-a to B2-c); each heading says which item its tables support.

TERMS USED

EAL: expected annual loss: FEMA's modeled average yearly loss from a hazard.
NRI: FEMA's National Risk Index (version 1.20, December 2025).
NFIP: National Flood Insurance Program.
RL, SRL: repetitive loss and severe repetitive loss: flood-insured properties with repeated claims (definitions in B2-c).
FMA, HMGP: Flood Mitigation Assistance and Hazard Mitigation Grant Program, FEMA mitigation grants.
PA: FEMA Public Assistance: disaster aid to governments and some nonprofits.
Zone-level: NOAA logged the event for a National Weather Service forecast zone, which may include parts of neighboring counties.
County-coded: NOAA logged the event to this county.
FIPS: the federal code for a place; 06013 is this area.
D0 to D4: U.S. Drought Monitor categories, from abnormally dry (D0) to exceptional drought (D4).
F/EF, EFU: Fujita and Enhanced Fujita tornado ratings; EFU is an unrated tornado.
kt, CONUS: knots (1 kt is about 1.15 mph); the contiguous United States.
CFR: Code of Federal Regulations.
A4-a, E1-a: other items of FEMA's Local Mitigation Plan Review Tool (sources, and changes since the last plan).
Dollars: nominal (as reported, labeled with the year), not adjusted for inflation.

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Plan clock

Status:	Approved, expires 2029-09-21	Plan:	Contra Costa County (FEMA plan 110171)
Approved:	2024-09-22	Days to expiry:	1,087
What changed since your last plan (approved 2024-09-22)			
New federal declarations:	none	Storm Events records since approval:	25 records (data through 2026-06-30)
Repetitive loss now:	FMA RL 5, SRL 8 (44 CFR 77.2); any definition: 77	Repeat-flood change:	this release sets the baseline count.
Sources: 1, 2, 4, 6 (numbered list at the end)			

Plan status for every jurisdiction listed in this county: 44 rows, in the section "Plan clock: Plan status for every jurisdiction listed in this county" on the following pages.

State plan status and tribal plans in this state: see the state page.

Plan clock

Plan status for every jurisdiction listed in this county

Source: 1

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry negative = days since expiry	Notes
Contra Costa County	County	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2024-11-16
Antioch city	City	Approved, expires 2031-06-18	City of Antioch (FEMA plan 111781)	2026-06-19	2031-06-18	1,722	
Brentwood city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-07-16
Clayton city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-10-22
Concord city	City	Approved, expires 2028-04-17	Concord, City of (FEMA plan 109001)	2023-04-18	2028-04-17	565	
Danville town	Town	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-06-16
El Cerrito city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-07-16
Hercules city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-06-16
Lafayette city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13
Martinez city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-06-16
Moraga town	Town	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-07-16
Oakley city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13
Orinda city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-08-18
Pinole city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-08-18
Pittsburg city	City	Approved, expires 2028-04-17	Pittsburg, City of (FEMA plan 108877)	2023-04-18	2028-04-17	565	
Pleasant Hill city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-04-11
Richmond city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
San Pablo city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-04-11
San Ramon city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13
Walnut Creek city	City	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-08-18

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry	Notes
						negative = days since expiry	
Livermore Valley Joint Unified School District	School/School District	Expired on 2018-06-17	Livermore Valley Joint Unified School District (FEMA plan 102619)	2013-06-17	2018-06-17	-3,027	
*West County Wastewater District	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-04-11
Bethel Island Municipal Improvement District	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2024-11-20
Central Contra Costa Sanitary District	Water/Sewer Authority	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-05-09
Central Contra Costa Transit Agency	Special District	Approved, expires 2027-11-09	Metropolitan Transportation Commission (FEMA plan 110161)	2022-11-10	2027-11-09	405	this jurisdiction approved 2022-12-15
Contra Costa County Fire Protection District	Fire/EMS District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
Contra Costa County Flood Control and Water Conservation District	Flood Control District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-08-18
Contra Costa County Water District	Water/Sewer Authority	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-04-11
Diablo Water District	Water/Sewer Authority	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2024-09-19
Ironhouse Sanitary District	Water/Sewer Authority	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
Kensington Police Protection and Community Services District	Community Services District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13
Kensington Fire Protection District	Fire/EMS District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13
Mt. View Sanitary District	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-04-11
Pleasant Hill Recreation and Parks District	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-04-11
Reclamation District 830	Flood Control District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
Reclamation District No. 2025	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
Reclamation District No. 2026	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
Reclamation District No. 2065	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-07-16
Reclamation District No. 2137	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-09-11
Reclamation District No. 799	Special District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry <i>negative = days since expiry</i>	Notes
Rodeo-Hercules Fire Protection District	Fire/EMS District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-05-09
San Ramon Valley Fire Protection District	Fire/EMS District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-07-16
Town of Discovery Bay Community Services District	Community Services District	Approved, expires 2029-09-21	Contra Costa County (FEMA plan 110171)	2024-09-22	2029-09-21	1,087	this jurisdiction approved 2025-03-13
Western Contra Costa Transit Authority	Special District	Approved, expires 2027-11-09	Metropolitan Transportation Commission (FEMA plan 110161)	2022-11-10	2027-11-09	405	this jurisdiction approved 2023-07-13

Supports FEMA checklist item B1-a: hazard identification

Hazards NRI does not cover (local data needed)

- dam failure (incl. upstream dams)
- levee failure
- flash flood as its own subtype
- ice jams
- debris flows
- erosion (riverine and coastal)
- land subsidence and sinkholes
- expansive soils

The 18 National Risk Index hazards, ranked by expected annual loss (EAL)

Sources: 5, 6

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
1	Earthquake	Relatively High	Very High	\$375,458,982	n/a	\$143,316,070	\$518,775,051			Storm Events does not record earthquakes.
2	Inland Flooding	Very High	Very High	\$410,426,488	\$1,004,826	\$1,023,013	\$412,454,327	71		
3	Heat Wave	Relatively High	Relatively High	\$1,714	\$36,705	\$17,798,180	\$17,836,600	25		
4	Wildfire	Relatively Moderate	Relatively High	\$9,873,528	\$488	\$911,255	\$10,785,271	14		
5	Drought	Relatively High	Relatively High	n/a	\$2,845,788	n/a	\$2,845,788	0		Declared 1 time; no Storm Events record of this type.

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
6	Landslide	Relatively High	Relatively High	\$2,265,900	n/a	\$102,750	\$2,368,650	16		
7	Lightning	Relatively High	Relatively High	\$39,097	n/a	\$1,418,631	\$1,457,728	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
8	Tornado	Relatively Low	Relatively Low	\$1,017,719	\$237	\$414,985	\$1,432,940	3		
9	Tsunami	Relatively Low	Relatively Low	\$1,025,241	n/a	\$0	\$1,025,241	1		
10	Coastal Flooding	Relatively Moderate	Relatively Moderate	\$998,875	n/a	\$1,747	\$1,000,622	4		
11	Strong Wind	Relatively Low	Relatively Low	\$153,749	\$25	\$244,129	\$397,903	190		Includes 69 High Wind and 118 Strong Wind records (NOAA non-thunderstorm wind types, outside NRI's Strong Wind definition).
12	Hail	Very Low	Relatively Low	\$60,194	\$281	\$96,057	\$156,532	12		
13	Winter Weather	Very Low	Very Low	\$81	under \$1	\$7,965	\$8,045	5		
14	Volcanic Activity	Very Low	Very Low	\$1	n/a	\$342	\$343	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
15	Avalanche	Very Low	Very Low	\$1	n/a	\$2	\$3	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
16	Cold Wave	No Rating	No Expected Annual Losses	\$0	\$0	\$0	\$0	4		Includes 3 Frost/Freeze records (outside NRI's Cold Wave definition; counted in this table and in B1-d, not in the B1-e descriptor).
	Hurricane	Not Applicable	Not Applicable					0	NRI rates hurricane Not Applicable for this county, and no counted federal declaration for this county names it (EM-3248-CA names it but is not counted as a local occurrence; see B1-d).	No recorded events in Storm Events since 1996 (data through 2026-06-30).

Total = buildings + agriculture + population equivalence; FEMA values each expected death (or 10 injuries) at \$13.7 million (2024 dollars).

NRI risk rating combines expected annual loss with social vulnerability and community resilience; EAL rating rates expected annual loss alone. Both compare this county with all U.S. counties.

Local data needed: state and local lightning and volcanic activity records (Storm Events records these hazards only in part).

Not applicable to this county per NRI, with no federal declaration and no Storm Events record since 1996: ice storm. That is the evidence for leaving them out of the plan.

The state hazard mitigation plan also lists hazards for this county; FEMA asks the plan to explain any hazard it leaves out.

Supports FEMA checklist item B1-b: hazard location

Affects the whole county (national data give no location within it): Cold Wave, Drought, Hail, Heat Wave, Lightning, Strong Wind and Winter Weather.

Coastal Flooding and Inland Flooding: The FEMA Flood Insurance Rate Map (FIRM) is the required location source for flooding. See the FEMA Flood Map Service Center (<https://msc.fema.gov>) for this county.

Hazards that vary within the county: highest-rated census tracts

Source: 5

Hazard	Highest-rated census tracts <i>NRI risk rating, score 0 to 100</i>
Avalanche	tract 3553.06 (Very Low, 1.5); tract 3462.05 (Very Low, 1.4); tract 3551.12 (Very Low, 1.3)
Earthquake	tract 3780 (Very High, 99.9); tract 3050 (Very High, 99.8); tract 3270.01 (Very High, 99.8)
Hurricane	no tract has a National Risk Index rating for this hazard
Landslide	tract 3551.12 (Relatively High, 99.9); tract 3560.02 (Relatively High, 99.8); tract 3551.07 (Relatively High, 99.7)
Tornado	tract 3050 (Very Low, 29.3); tract 3270.01 (Very Low, 29.2); tract 3780 (Very Low, 26.7)
Tsunami	tract 3780 (Relatively Moderate, 88.0); tract 3800.02 (Relatively Low, 75.7); tract 3090 (Relatively Low, 75.4)
Volcanic Activity	tract 3020.07 (Very Low, 81.0); tract 3031.06 (Very Low, 79.9); tract 3032.02 (Very Low, 79.8)
Wildfire	tract 3551.12 (Relatively High, 98.8); tract 3560.02 (Relatively High, 98.3); tract 3040.01 (Relatively High, 98.1)

Up to 3 census tracts per hazard, highest National Risk Index rating first, then highest score; a tract number is the Census tract number (for example 3553.06 is Census Tract 3553.06). FEMA's Resilience Analysis and Planning Tool maps the National Risk Index for every tract: <https://www.fema.gov/emergency-managers/practitioners/resilience-analysis-and-planning-tool>

Supports FEMA checklist item B1-c: hazard extent

Extent: scale, observed range and worst recorded event per hazard

Sources: 6, 7

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Avalanche	none (count and damage only)	0					Physical measure: in event narratives only (local data needed).
Coastal Flood, Storm Surge/ Tide	none in data (flood depth: FIRM)	4 records, 2020 to 2026 (4 zone-level)		No damage reported in 4 records.		Countywide (zone-level records).	Flood depth: see the FEMA Flood Insurance Rate Map.
Cold/Wind Chill, Extreme Cold/Wind Chill	wind chill	1 record, 2022 (1 zone-level)	1 day; 1 with a recorded value	1 consecutive day, 2022-12-02, 1 direct death, zone-level		Countywide (zone-level records).	Wind chill: in event narratives only (local data needed).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Frost/Freeze (outside NRI's Cold Wave definition)	crop damage	3 records, 2007 to 2021 (3 zone-level)		Frost/Freeze, 2007-01-06, \$400,000 crop damage (2007 dollars); NWS zone CAZ508		Countywide (zone-level records).	Temperature: in event narratives only (local data needed).
Drought	U.S. Drought Monitor scale (D0 to D4)	0					Storm Events enters a drought at D2 or worse east of the Rockies and D3 or worse from the Rockies west (NWS Instruction 10-1605); NRI drought counts D3 and D4 only.
Earthquake	Modified Mercalli (local data)	0					Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	hail size (inches)	14 records, 1983 to 2020	0.25 in to 0.75 in (median 0.25 in); 14 with a recorded value	0.75 in hail, 1983-04-29; same size also recorded on 1983-04-29		Event records naming jurisdictions in the plan: Concord city (2 records), Pleasant Hill city (2 records), Danville town (1 record), El Cerrito city (1 record), Lafayette city (1 record), Martinez city (1 record), Orinda city (1 record), San Ramon city (1 record).	
Excessive Heat, Heat	heat index (in event narratives)	25 records, 2006 to 2026 (25 zone-level)	1 day to 7 days (median 1 day); 17 with a recorded value	7 consecutive days, 2022-09-04 to 2022-09-10, zone-level	Heat, 2009-05-17, \$20,000 property; \$0 crops, reported for the zone (2009 dollars)	Countywide (zone-level records).	Heat index: in event narratives only (local data needed). Heat records from November to March (unseasonable warmth, not a heat wave) are counted but not used for the longest run.
Hurricane, Tropical Storm, Tropical Depression	Saffir-Simpson	0					Storm Events files every zone of a storm's episode under the storm's type; flooding from the storm is filed as Flood or Flash Flood records.
Flash Flood, Flood, Lakeshore Flood	damage and flood days (flood depth: FIRM)	71 records, 1996 to 2026		Flood, 2006-01-01, \$22,000,000 property; crops not reported (2006 dollars)		Event records naming jurisdictions in the plan: Orinda city (8 records), Walnut Creek city (8 records), Richmond city (3 records), Clayton city (2 records), Hercules city (2 records), Pittsburg city (2 records), San Ramon city (2 records), Danville town (1 record), El Cerrito city (1 record), Martinez city (1 record); and 3 more jurisdictions (see the Excel file).	Flood depth: see the FEMA Flood Insurance Rate Map. Storm Events damage is often \$0 or blank for floods, major ones included; FEMA Public Assistance by declaration (B1-d) shows which floods cost the most.

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Debris Flow	none (count and damage only)	16 records, 2006 to 2019 (7 zone-level)		Debris Flow, 2006-04-06, \$11,000,000 property; crops not reported (2006 dollars); NWS zone CAZ510		Event records naming jurisdictions in the plan: Clayton city (2 records), Brentwood city (1 record), Danville town (1 record). Zone-level records (7) apply countywide.	Physical measure: in event narratives only (local data needed).
Lightning	annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names)	0					Storm Events lists lightning with damage or casualties; physical measure in event narratives only (local data needed).
High Wind and Strong Wind (outside NRI's Strong Wind definition)	wind speed (kt and mph)	187 records, 2005 to 2026 (187 zone-level)	22 kt (25 mph) to 96 kt (110 mph) (median 43 kt (49 mph)); 183 with a recorded value	96 kt (110 mph) measured gust, High Wind, 2008-01-04; NWS zone CAZ511	High Wind, 2009-10-13, \$2,500,000 property; \$0 crops, reported for the zone (2009 dollars)	Countywide (zone-level records).	Speeds under 20 kt (likely entry errors) are left out of the observed range.
Thunderstorm Wind	wind speed (kt and mph)	4 records, 1994 to 2024	50 kt (58 mph) to 55 kt (63 mph) (median 50 kt (58 mph)); 3 with a recorded value	55 kt (63 mph) measured gust, Thunderstorm Wind, 2020-08-16	Thunderstorm Wind, 1994-02-07, \$50,000 property; crops not recorded (1994 dollars)	No event record names a jurisdiction in the plan.	
Tornado	Enhanced Fujita (Fujita before Feb 2007)	4 records, 1989 to 2010	F/EF0 to F/EF1 (median F/EF0); 4 with a recorded value	EF1 tornado, 2010-01-23, 1.64 mi within this county, 2 yd wide, \$25,000 property; \$0 crops (2010 dollars)	Tornado, 1998-12-05, \$200,000 property; crops not reported (1998 dollars)	Event records naming jurisdictions in the plan: Brentwood city (2 records), Richmond city (1 record).	Before 1996 a tornado is listed once, under the county where it began, with its whole path's rating and length; from 1996 on, each county lists its own segment. Length is not used to rank tornadoes (see Methods).
Tsunami	none (count and damage only)	1 record, 2011 (1 zone-level)		Tsunami, 2011-03-11, \$50,000 property; \$0 crops (2011 dollars); NWS zone CAZ508		Countywide (zone-level records).	Physical measure: in event narratives only (local data needed).
Volcanic Ash, Volcanic Ashfall	Volcanic Explosivity Index (local data)	0					Physical measure: in event narratives only (local data needed).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Wildfire	acres burned (local data)	14 records, 2019 to 2025 (14 zone-level)		Wildfire, 2019-08-07, \$5,000 property; \$0 crops (2019 dollars); NWS zone CAZ510		Countywide (zone-level records).	Acres burned: in event narratives only (local data needed).
Winter Storm, Heavy Snow, Blizzard, Lake- Effect Snow, Winter Weather, Sleet	none in data (snowfall: local data)	5 records, 2009 to 2020 (5 zone-level)		No damage reported in 5 records.		Countywide (zone-level records).	Snow depth: in event narratives only (local data needed).

Where a hazard names more than 10 jurisdictions, the table lists the 10 with the most records; every one is in the Excel file, sheet "B1-c Extent".

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records whose zone no NWS zone-county file places in this county (mostly before 2020) are not counted here (the Methods page explains the zone matching).

Dollars are nominal (as reported), labeled with the year; not adjusted for inflation.

Supports FEMA checklist item B1-d: previous occurrences

Federal declarations for this county: 21 declarations covering 17 separate hazard incidents counted in this packet (declarations for the same incident count once; non-natural and evacuation-only declarations are not counted).

Federal disaster declarations for this county

Sources: 1, 2, 3

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance <i>federal share obligated, nominal dollars</i>	Flags	Notes
2023-01-14	2022-12-27	DR-4683-CA	Major disaster	Severe Winter Storms, Flooding, Landslides, and Mudslides	Inland Flooding (primary); also designated: Landslide, Winter Weather	\$17,792,168.86	within last 5 years	
2023-01-09	2023-01-08	EM-3591-CA	Emergency	Severe Winter Storms, Flooding, and Mudslides	Inland Flooding (primary); also designated: Landslide, Winter Weather	no Public Assistance recorded	within last 5 years	same incident as DR-4683
2020-03-22	2020-01-20	DR-4482-CA	Major disaster	COVID-19 Pandemic	Non-natural, not counted	\$91,287,836.85		
2020-03-13	2020-01-20	EM-3428-CA	Emergency	COVID-19	Non-natural, not counted	no Public Assistance recorded		same incident as DR-4482
2017-04-01	2017-02-01	DR-4308-CA	Major disaster	Severe Winter Storms, Flooding, and Mudslides	Inland Flooding (primary); also designated: Landslide, Winter Weather	\$16,188,708.87		
2017-03-16	2017-01-18	DR-4305-CA	Major disaster	Severe Winter Storms, Flooding, and Mudslides	Inland Flooding (primary); also designated: Landslide, Winter Weather	\$421,877.58		
2017-02-14	2017-01-03	DR-4301-CA	Major disaster	Severe Winter Storms, Flooding, and Mudslides	Inland Flooding; Landslide; Winter Weather	\$3,284,744.41		
2006-02-03	2005-12-17	DR-1628-CA	Major disaster	Severe Storms, Flooding, Mudslides, and Landslides	Inland Flooding; Landslide	\$3,702,888.12		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance	Flags	Notes
						<i>federal share obligated, nominal dollars</i>		
2005-09-13	2005-08-29	EM-3248-CA	Emergency	Hurricane Katrina Evacuation	Hurricane: evacuation support, not a local hazard event; not counted	no Public Assistance recorded		
1998-02-09	1998-02-02	DR-1203-CA	Major disaster	Severe Winter Storms and Flooding	Inland Flooding; Winter Weather	no Public Assistance recorded		
1997-01-04	1996-12-28	DR-1155-CA	Major disaster	Severe Storms, Flooding, Mud and Landslides	Inland Flooding; Landslide	no Public Assistance recorded		
1995-03-12	1995-02-13	DR-1046-CA	Major disaster	Severe Winter Storms, Flooding Landslides, Mud Flow	Inland Flooding; Landslide; Winter Weather	no Public Assistance recorded		
1995-01-10	1995-01-03	DR-1044-CA	Major disaster	Severe Winter Storms, Flooding, Landslides, Mud Flows	Inland Flooding; Landslide; Winter Weather	no Public Assistance recorded		
1993-02-03	1993-01-05	DR-979-CA	Major disaster	Severe Winter Storm, Mud & Land Slides, & Flooding	Inland Flooding (primary); also designated: Landslide, Winter Weather	no Public Assistance recorded		
1989-10-18	1989-10-17	DR-845-CA	Major disaster	Loma Prieta Earthquake	Earthquake	no Public Assistance recorded		
1986-02-21	1986-02-12	DR-758-CA	Major disaster	Severe Storms & Flooding	Inland Flooding	no Public Assistance recorded		
1983-02-09	1983-01-21	DR-677-CA	Major disaster	Coastal Storms, Floods, Slides & Tornadoes	Coastal Flooding; Inland Flooding; Landslide; Tornado	no Public Assistance recorded		
1982-01-07	1981-12-19	DR-651-CA	Major disaster	Severe Storms, Flood, Mudslides & High Tide	Inland Flooding (primary); also designated: Landslide	no Public Assistance recorded		
1980-02-01	1980-02-01	EM-3078-CA	Emergency	Torrential Rain, High Tide & Winds	Coastal Flooding	no Public Assistance recorded		
1977-01-20	1977-01-20	EM-3023-CA	Emergency	Drought	Drought	no Public Assistance recorded		
1969-01-26	1969-01-26	DR-253-CA	Major disaster	Severe Storms & Flooding	Inland Flooding	no Public Assistance recorded		

School districts and special districts in this county: \$2,926,476.55 (included in the county total above). Public Assistance matched by applicant name to the school districts and special districts FEMA lists as plan participants in this county. They have no row of their own in the jurisdiction table, so their total is listed here. These dollars are already included in the county PA column of the declarations table (the FEMA record places each applicant in this county), so this line is not added to it.

County Public Assistance: applicants the FEMA record places in this county, including any state agencies FEMA files there; statewide rows are listed on the state page; federal share obligated, nominal dollars.

Statewide declarations

Source: 2

Declared	Incident began	FEMA number	Type	Title	Mapped hazard
1964-04-01	1964-04-01	DR-169-CA	Major disaster	Seismic Sea Wave	Tsunami
1963-12-21	1963-12-21	DR-161-CA	Major disaster	Flood Due to Broken Dam	Other, not an NRI hazard; not counted
1963-02-25	1963-02-25	DR-145-CA	Major disaster	Severe Storms, Heavy Rains & Flooding	Inland Flooding
1962-10-24	1962-10-24	DR-138-CA	Major disaster	Severe Storms & Flooding	Inland Flooding
1962-03-06	1962-03-06	DR-122-CA	Major disaster	Floods	Inland Flooding
1961-11-16	1961-11-16	DR-119-CA	Major disaster	Fire (Los Angeles County)	Wildfire
1958-04-04	1958-04-04	DR-82-CA	Major disaster	Heavy Rainstorms & Flood	Inland Flooding
1956-12-29	1956-12-29	DR-65-CA	Major disaster	Forest Fire	Wildfire
1955-12-23	1955-12-23	DR-47-CA	Major disaster	Flood	Inland Flooding
1954-02-05	1954-02-05	DR-15-CA	Major disaster	Flood & Erosion	Inland Flooding

FEMA recorded these with designated area Statewide and no county, so they are listed on every county page in the state and not counted with county rows. Local data needed: whether each one affected this county.

5 Fire Management declarations (1977-08-07 to 1988-09-13) FEMA filed as Statewide with no county; each names one local fire. Listed on the state page.

Previous occurrences by hazard, with explicit no-event rows

Sources: 2, 6, 7

Hazard	Storm Events records, all years on file <i>(years in the Period column)</i>	Since plan approval <i>records</i>	In the 12 months before plan approval <i>records</i>	Last 5 years <i>records</i>	Declared incidents, all years <i>separate disasters</i>	Declared since approval <i>separate disasters</i>	Period	Statement
Avalanche	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Coastal Flooding	4	1	0	1	2	0	1996 to 2026-06-30	
Cold Wave	4	0	0	1	0	0	1996 to 2026-06-30	Includes 3 Frost/Freeze records.
Drought	0	0	0	0	1	0	1996 to 2026-06-30	No Storm Events records of this type; 1 federal declared incident (see declarations table)
Earthquake	0	0	0	0	1	0		Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	14	0	0	0	0	0	1955 to 2026-06-30	
Heat Wave	25	2	0	9	0	0	1996 to 2026-06-30	
Hurricane	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Inland Flooding	71	9	7	17	14	0	1996 to 2026-06-30	

Hazard	Storm Events records, all years on file <i>(years in the Period column)</i>	Since plan approval <i>records</i>	In the 12 months before plan approval <i>records</i>	Last 5 years <i>records</i>	Declared incidents, all years <i>separate disasters</i>	Declared since approval <i>separate disasters</i>	Period	Statement
Landslide	16	0	0	0	11	0	1996 to 2026-06-30	
Lightning	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Strong Wind	191	12	3	29	0	0	1955 to 2026-06-30	Includes 69 High Wind and 118 Strong Wind records.
Tornado	4	0	0	0	1	0	1950 to 2026-06-30	
Tsunami	1	0	0	0	0	0	1996 to 2026-06-30	
Volcanic Activity	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Wildfire	14	1	0	2	0	0	1996 to 2026-06-30	
Winter Weather	5	0	0	0	8	0	1996 to 2026-06-30	

Notable Storm Events records

Sources: 1, 6, 7

Date	Event type	Magnitude or extent	Damage <i>nominal dollars</i>	Deaths, injuries <i>direct only</i>	Location	Flags	Why listed
2023-03-21	Strong Wind	35 kt (40 mph) estimated gust	\$10 property; \$0 crops, reported for the zone (2023 dollars)	1, 1	NWS zone CAZ510 (EAST BAY INTERIOR VALLEYS), zone-level	within last 5 years	deaths or injuries recorded
2022-09-04	Heat		\$0 property; \$0 crops, reported for the zone (2022 dollars)	0, 0	NWS zone CAZ508 (SAN FRANCISCO BAY SHORELINE), zone-level	within last 5 years	B1-c worst recorded: Excessive Heat, Heat
2020-08-16	Thunderstorm Wind	55 kt (63 mph) measured gust	\$0 property; \$0 crops (2020 dollars)	0, 0	WALNUT HGTS		B1-c worst recorded: Thunderstorm Wind
2019-08-07	Wildfire		\$5,000 property; \$0 crops, reported for the zone (2019 dollars)	0, 0	NWS zone CAZ510 (EAST BAY INTERIOR VALLEYS), zone-level		B1-c worst recorded: Wildfire
2012-03-15	Strong Wind	35 kt (40 mph) estimated gust	\$12,500 property; \$0 crops, reported for the zone (2012 dollars)	1, 4	NWS zone CAZ508 (SAN FRANCISCO BAY SHORELINE), zone-level		deaths or injuries recorded
2011-03-11	Tsunami		\$50,000 property; \$0 crops, reported for the zone (2011 dollars)	0, 0	NWS zone CAZ508 (SAN FRANCISCO BAY SHORELINE), zone-level		B1-c worst recorded: Tsunami
2010-01-23	Tornado	EF1, 1.64 mi within this county, 2 yd wide	\$25,000 property; \$0 crops (2010 dollars)	0, 0	BRENTWOOD		B1-c worst recorded: Tornado
2009-06-27	Heat		\$0 property; \$0 crops, reported for the zone (2009 dollars)	1, 1	NWS zone CAZ510 (EAST BAY INTERIOR VALLEYS), zone-level		deaths or injuries recorded
2008-01-04	High Wind	96 kt (110 mph) measured gust	\$0 property; \$0 crops, reported for the zone (2008 dollars)	0, 0	NWS zone CAZ511 (EAST BAY HILLS AND THE DIABLO RANGE), zone-level		B1-c worst recorded: High Wind and Strong Wind
2006-04-06	Debris Flow		\$11,000,000 property; crops not reported, reported for the zone (2006 dollars)	0, 0	NWS zone CAZ510 (EAST BAY INTERIOR VALLEYS), zone-level		B1-c worst recorded: Debris Flow
2006-01-01	Flood		\$22,000,000 property; crops not reported (2006 dollars)	0, 0	COUNTYWIDE		B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood
1983-04-29	Hail	0.75 in	damage not recorded (pre-1996 record)	0, 0	location not recorded		B1-c worst recorded: Hail

The full list is in the Excel file, sheet "B1-d Storm Events history" (349 rows).

Location is the place NOAA recorded, as written in its data; it need not be a jurisdiction in this plan.

Local data needed: state-declared emergencies, from your state emergency management agency (federal data do not include them).

Tribal and special-area declarations in this state are listed on the state page.

Supports FEMA checklist item B1-e: probability of future events

Probability: FEMA annualized frequency and descriptor per hazard

Sources: 5, 6

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Avalanche	0.01	events per year	about 1 in 100 years	Possible	FEMA annualized frequency (modeled)	0	1994 to 2023 (30 years)	see B1-f	0.01 is NRI's minimum avalanche frequency for a county in an avalanche susceptibility zone; NRI records no avalanche here, so the descriptor reflects the floor, not local events.
Coastal Flooding	1.53	events per year at a location (modeled)	about 1.5 per year at a given location in the county	Highly likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	Descriptor from NRI: the rate at a location is 1 or more a year, so the county rate is at least that.
Cold Wave	0	event-days per year	none modeled	Possible (from Storm Events: 1 of 30 years)	event-days in 1 of 30 years, 1996 to 2025 (3.33%)	0	2005-11-12 to 2024-11-12 (19 years)	countywide	NRI models no cold wave event-days here (2005-11-12 to 2024-11-12, 19 years); Storm Events has a record in 1 of 30 years. The descriptor comes from Storm Events, which records events NRI's definition leaves out.
Drought	55.9	event-days per year	about 55.9 days per year		event-days in 0 of 30 years, 1996 to 2025 (0%)	2,492	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	No Storm Events drought record, 1996 to 2025
Earthquake	0.127	annual probability at a location	chance a given location in the county has at least minor-damage shaking in a year: 12.7%			not shown	modeled	see B1-f	No descriptor (Storm Events does not record earthquakes).
Hail	0.0429	events per year	about 1 in 23 years	Possible	FEMA annualized frequency (modeled)	1.7 (modeled)	1986 to 2023 (38 years)	countywide	
Heat Wave	8.49	event-days per year	about 8.49 days per year	Likely (from Storm Events: 8 of 30 years)	event-days in 8 of 30 years, 1996 to 2025 (26.7%)	101	2005-11-12 to 2024-11-12 (19 years)	countywide	
Hurricane		events per year					1851 to 2024 (Atlantic); 1949 to 2024 (Pacific)	see B1-f	Not Applicable in NRI for this county; no descriptor.
Inland Flooding	1.18	event-days per year	about 1.18 days per year	Likely (from Storm Events: 17 of 30 years)	event-days in 17 of 30 years, 1996 to 2025 (56.7%)	33	1996 to 2023 (28 years)	see B1-f	
Landslide	19.8	events per year (modeled)	about 19.8 per year	Highly likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area- weighted, so can be fractional)	NRI period	Location	Note
Lightning	4.45	days per year with a strike	about 4.45 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	
Strong Wind	0.0405	events per year	about 1 in 25 years	Possible	FEMA annualized frequency (modeled)	2	1986 to 2023 (38 years)	countywide	
Tornado	0.0953	events per year	about 1 in 10 years	Possible	FEMA annualized frequency (modeled)	not shown	1950 to 2023 (EF2+); 1986 to 2023 (EF0-1)	see B1-f	
Tsunami	0.342	annual probability at the most exposed location (used in place of a county value)	chance at the county's most exposed location in a year: 34.2%	Possible (from Storm Events: 1 of 30 years)	Storm Events records in 1 of 30 years, 1996 to 2025 (3.33%)	not shown	modeled	see B1-f	Descriptor from Storm Events, not NRI.
Volcanic Activity	0.0003	annual probability	about 1 in 3,333 years	Unlikely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Wildfire	0.00476	annual probability at a location	chance a given location in the county burns in a year: 0.476%	Likely (from Storm Events: 5 of 30 years)	Storm Events records in 5 of 30 years, 1996 to 2025 (16.7%)	not shown	modeled	see B1-f	Descriptor from Storm Events, not NRI.
Winter Weather	0.444	event-days per year	about 0.444 days per year	Likely (from Storm Events: 3 of 30 years)	event-days in 3 of 30 years, 1996 to 2025 (10%)	7.63	2005-11-12 to 2024-11-12 (19 years)	countywide	

FEMA annualized frequency (modeled) is the National Risk Index v1.20 (December 2025) estimate of how often a hazard affects this county in a year; it is not recorded events divided by years, and its unit differs by hazard (events, event-days, or days with a lightning strike per year). For earthquake, wildfire, coastal flooding and tsunami the value is the chance (or number of events) at a location in the county, not across the county, so no "1 in N years" is given and the descriptor comes from Storm Events where it has a record (none for earthquake). The Methods page gives each hazard's method, from FEMA's National Risk Index Technical Documentation v1.20.

Where NRI gives event-days, the descriptor comes from the share of years with a Storm Events record; NRI's source records more events, so the two differ.

Descriptor scale used in this packet (defined per unit)

Sources: 5, 6

Unit	Descriptor	Definition
events per year	Highly likely	1 or more per year
events per year	Likely	about once in 1 to 10 years
events per year	Possible	about once in 10 to 100 years
events per year	Unlikely	less than once in 100 years
annual probability	Likely	10% to under 100% chance in a given year
annual probability	Possible	1% to under 10% chance in a given year
annual probability	Unlikely	under 1% chance in a given year
event-days (share of years)	Highly likely	event-days recorded in 90% or more of years
event-days (share of years)	Likely	event-days recorded in 10% to under 90% of years
event-days (share of years)	Possible	event-days recorded in some years but under 10% of years
lightning strike-days	Highly likely	cloud-to-ground strikes on 1 or more days per year

Intensity bands: historical frequency (Storm Events)

Source: 6

Hazard	Band	Years	Events <i>county-coded records</i>	Years in period	Events per year <i>events / years</i>
Hail	1.00-1.99 in	1996 to 2025	0	30	0
Hail	2.00 in+	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	50-64 kt	1996 to 2025	3	30	0.1
Thunderstorm Wind (counted as NRI Strong Wind)	65 kt+	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	unmeasured or below 50 kt	1996 to 2025	0	30	0
Tornado	EF0-1	1996 to 2025	3	30	0.1
Tornado	EF2-3	1996 to 2025	0	30	0
Tornado	EF4-5	1996 to 2025	0	30	0
Tornado	unrated (EFU)	1996 to 2025	0	30	0

The bands show how often events of each severity were recorded in this county, to profile how severe events have been (FEMA's probability item asks for the range of intensities).

Hail smaller than 1 inch is not counted: on 2010-01-05 the National Weather Service raised its severe-hail threshold from 3/4 inch to 1 inch, so smaller reports became less common after 2009 (NWS Service Change Notice 09-52). NRI hail frequency uses a 0.75 inch threshold.

Optional: future conditions. Not a required item in the 2025 FEMA Local Mitigation Planning Policy Guide; some states ask for it. The federal Climate Mapping for Resilience and Adaptation (CMRA) site gives county exposure to future climate conditions (<https://resilience.climate.gov/>).

Supports FEMA checklist item B1-f: hazards that vary across jurisdictions

Range of census tract risk within the county

Source: 5

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Avalanche	3 of 241	1.3	1.4	1.5	Very Low 3, Not Applicable 238
Coastal Flooding	27 of 241	70.6	84.7	96.8	Relatively High 3, Relatively Moderate 6, Relatively Low 12, Very Low 6, No Rating 214
Cold Wave	0 of 241				No Rating 241
Drought	43 of 241	69.0	80.2	99.3	Relatively High 4, Relatively Moderate 4, Relatively Low 15, Very Low 20, No Rating 198
Earthquake	241 of 241	78.6	94.3	99.9	Very High 48, Relatively High 169, Relatively Moderate 24
Hail	241 of 241	1.2	14.9	27.8	Very Low 241
Heat Wave	241 of 241	10.5	67.0	88.2	Relatively High 6, Relatively Moderate 190, Relatively Low 41, Very Low 4
Hurricane	0 of 241				Not Applicable 241
Inland Flooding	241 of 241	0.4	81.0	99.9	Very High 44, Relatively High 81, Relatively Moderate 74, Relatively Low 35, Very Low 7
Landslide	220 of 241	9.4	78.9	99.9	Relatively High 6, Relatively Moderate 50, Relatively Low 52, Very Low 112, No Rating 21
Lightning	241 of 241	3.2	29.0	56.0	Relatively Moderate 7, Relatively Low 204, Very Low 30
Strong Wind	241 of 241	1.9	11.6	19.1	Very Low 241
Tornado	241 of 241	1.7	12.2	29.3	Very Low 241
Tsunami	21 of 241	12.1	50.1	88.0	Relatively Moderate 1, Relatively Low 10, Very Low 10, No Rating 6, Not Applicable 214
Volcanic Activity	241 of 241	41.5	62.9	81.0	Very Low 241
Wildfire	203 of 241	18.6	70.4	98.8	Relatively High 13, Relatively Moderate 50, Relatively Low 39, Very Low 101, No Rating 38
Winter Weather	42 of 241	10.5	14.3	28.6	Relatively Low 9, Very Low 33, No Rating 199

Drought: Agriculture is all of NRI's expected annual loss for this hazard in the county, so the tract range mostly reflects where crop and livestock value is.

Rated tracts only: No Rating (score 0.0), Not Applicable and Insufficient Data tracts are counted but not used for the minimum, median and maximum.

The score ranks a tract against all U.S. tracts (100 = highest). The rating is FEMA's category for the tract's risk value, computed differently, so the two can disagree.

Frequency data for drought, hail, heat wave, lightning, strong wind and winter weather are county-wide or coarse (49 km grid or NWS zone), the same for every jurisdiction; the tract range mostly reflects where buildings and people are (crop and livestock value where a line above names agriculture).

Each jurisdiction (starting figures from federal data)

Sources: 1, 3, 4, 6

Jurisdiction	Type	Plan status	Repetitive loss <i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i>	Public Assistance to this jurisdiction <i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i>	Event records naming this place <i>all years; since its plan</i>	Notes
Contra Costa County	County	Approved, expires 2029-09-21	FMA RL 1, SRL 2; any 25	\$88,513,252.09	0 total; 0 since its plan	Includes \$82,185,315.56 for declarations not counted as hazard incidents (DR-4482-CA).
Antioch city	City	Approved, expires 2031-06-18	FMA RL 0, SRL 3; any 11	\$561,108.64	0 total; 0 since its plan	
Brentwood city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	\$102,777.25	3 total; 0 since its plan	
Clayton city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	\$477,110.07	4 total; 0 since its plan	
Concord city	City	Approved, expires 2028-04-17	FMA RL 0, SRL 0; any 2	\$855,744.07	2 total; 0 since its plan	Includes \$192,481.15 for declarations not counted as hazard incidents (DR-4482-CA).
Danville town	Town	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	\$1,300,460.68	3 total; 0 since its plan	Includes \$34,048.48 for declarations not counted as hazard incidents (DR-4482-CA).
El Cerrito city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 3	\$177,488.25	2 total; 1 since its plan	
Hercules city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	no Public Assistance recorded	2 total; 0 since its plan	
Lafayette city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 2	\$275,407.20	1 total; 0 since its plan	
Martinez city	City	Approved, expires 2029-09-21	FMA RL 1, SRL 1; any 11	\$1,421,000.99	2 total; 0 since its plan	Includes \$50,820.85 for declarations not counted as hazard incidents (DR-4482-CA).
Moraga town	Town	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	\$1,695,432.20	0 total; 0 since its plan	Includes \$4,721.53 for declarations not counted as hazard incidents (DR-4482-CA).
Oakley city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	\$78,013.02	0 total; 0 since its plan	Includes \$78,013.02 for declarations not counted as hazard incidents (DR-4482-CA).
Orinda city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 2	\$1,268,192.90	9 total; 2 since its plan	
Pinole city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 0	\$383,523.51	1 total; 1 since its plan	
Pittsburg city	City	Approved, expires 2028-04-17	FMA RL 0, SRL 0; any 1	\$565,424.98	2 total; 0 since its plan	Includes \$87,727.63 for declarations not counted as hazard incidents (DR-4482-CA).
Pleasant Hill city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 4	\$49,440.28	3 total; 0 since its plan	
Richmond city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 1; any 5	\$9,401,514.89	4 total; 2 since its plan	
San Pablo city	City	Approved, expires 2029-09-21	FMA RL 2, SRL 0; any 7	\$354,039.09	1 total; 0 since its plan	Includes \$154,770.77 for declarations not counted as hazard incidents (DR-4482-CA).

Jurisdiction	Type	Plan status	Repetitive loss <i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i>	Public Assistance to this jurisdiction <i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i>	Event records naming this place <i>all years; since its plan</i>	Notes
San Ramon city	City	Approved, expires 2029-09-21	FMA RL 0, SRL 0; any 1	\$1,907,212.48	3 total; 0 since its plan	Includes \$238,154.50 for declarations not counted as hazard incidents (DR-4482-CA).
Walnut Creek city	City	Approved, expires 2029-09-21	FMA RL 1, SRL 1; any 3	\$1,318,245.07	8 total; 1 since its plan	Includes \$225,865.27 for declarations not counted as hazard incidents (DR-4482-CA).

Repetitive-loss counts are for whole NFIP communities, which can extend beyond this county (see the note in B2-c).

School districts and special districts get a plan clock row only.

County Public Assistance in B1-d also includes applicants filed under the county that are not jurisdictions in this plan (for example state agencies, special districts and nonprofits), so the jurisdiction rows add up to less.

Supports FEMA checklist items B2-a and B2-b: vulnerability and potential impacts

Local data needed

The table below gives county-level starting figures; the plan describes impacts for each jurisdiction and its own assets.

- Critical facilities and lifelines per hazard
- A problem statement per jurisdiction per hazard
- Changes in development in hazard-prone areas since the last approval, or a statement of none (E1-a)
- Future assets

County-level starter: exposure, expected annual loss and damage since the plan

Sources: 1, 2, 3, 5, 6, 7

Hazard	Building exposure <i>modeled dollars</i>	Agriculture exposure <i>modeled dollars</i>	Population exposed <i>people</i>	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2024-09-22 <i>county-coded records, property plus crops, nominal dollars</i>	Zone-level damage since plan <i>property plus crops, reported for the zone</i>	Public Assistance since plan <i>nominal dollars; see note</i>	Note
Avalanche	\$565,275	n/a	under 1	\$1	n/a	\$2	0.000105%				
Coastal Flooding	\$18,999,118,369	n/a	74,297	\$998,875	n/a	\$1,747	0.00526%		\$0		
Cold Wave	\$0	\$0	0	\$0	\$0	\$0					building exposure is 0 in NRI
Drought	n/a	\$57,538,947	n/a	n/a	\$2,845,788	n/a	4.95% (agriculture)				NRI has no building exposure for this hazard; agriculture shown
Earthquake	\$411,989,805,866	n/a	1,165,927	\$375,458,982	n/a	\$143,316,070	0.0911%				
Hail	\$245,235,094,509	\$107,168,457	1,165,466	\$60,194	\$281	\$96,057	under 0.0001%				
Heat Wave	\$245,235,094,509	\$107,168,457	1,165,466	\$1,714	\$36,705	\$17,798,180	under 0.0001%		\$0		

Hazard	Building exposure <i>modeled dollars</i>	Agriculture exposure <i>modeled dollars</i>	Population exposed <i>people</i>	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2024-09-22 <i>county-coded records, property plus crops, nominal dollars</i>	Zone-level damage since plan <i>property plus crops, reported for the zone</i>	Public Assistance since plan <i>nominal dollars; see note</i>	Note
Hurricane											Not Applicable in NRI for this county
Inland Flooding	\$244,916,885,453	\$59,020,778	29,810	\$410,426,488	\$1,004,826	\$1,023,013	n/a (see note)	\$20			NRI counts the full building value of any census block with some flood loss; this is not the value of buildings in the floodplain. Use local FIRM overlays for B2-a/B2-b.
Landslide	\$27,789,571,833	n/a	122,587	\$2,265,900	n/a	\$102,750	0.00815%				
Lightning	\$245,235,094,509	n/a	1,165,466	\$39,097	n/a	\$1,418,631	under 0.0001%				
Strong Wind	\$245,235,094,509	\$107,168,457	1,165,466	\$153,749	\$25	\$244,129	under 0.0001%		\$40		Storm Events damage since the plan includes 4 zone-level Strong Wind records (\$40): a NOAA non-thunderstorm wind type, outside NRI's Strong Wind definition.
Tornado	\$245,235,094,509	\$107,168,457	1,165,466	\$1,017,719	\$237	\$414,985	0.000415%				
Tsunami	\$16,228,332,519	n/a	11,588	\$1,025,241	n/a	\$0	0.00632%				
Volcanic Activity	\$245,235,094,509	n/a	1,165,466	\$1	n/a	\$342	under 0.0001%				
Wildfire	\$10,265,413,474	\$37,806,658	82,580	\$9,873,528	\$488	\$911,255	0.0962%		\$10		
Winter Weather	\$16,746,982,104	\$2,218,841	68,984	\$81	under \$1	\$7,965	under 0.0001%				

Totals since 2024-09-22 (Storm Events through 2026-06-30): 9 county-coded records, 9 with a damage value recorded (including \$0), \$20; 16 zone-level records, 16 with a damage value recorded (including \$0), \$50 reported for the zone; Public Assistance: no counted declaration since the plan.

FEMA does not split Public Assistance by hazard. A declaration mapped to several hazards is listed under each of them with its full amount, so the per-hazard column does not add up to the total; the unit total counts each declaration once.

NRI computes earthquake exposure on its own basis, so it exceeds the county building value in B2-a.

Supports FEMA checklist item B2-a: vulnerability (county context)

County context

Source: 5

Measure	Value
Population	1,165,466
Building value (total, not at risk)	\$245,235,094,509
Agriculture value (total, not at risk)	\$107,168,457
NRI risk rating (all hazards)	Very High
Expected annual loss, buildings and agriculture, all hazards	\$805,209,918
Expected annual loss, population equivalence, all hazards (NRI values each statistical life at \$13.7M; a modeled value of expected deaths and injuries, not property damage)	\$165,335,125
Social vulnerability rating	Relatively Low
Community resilience rating	Relatively High
NRI version	December 2025

FEMA's all-hazard expected annual loss adds buildings, agriculture and population equivalence; this table gives the property part and the population-equivalence part as separate rows.

Social vulnerability: higher means people are more likely to be harmed and slower to recover. Community resilience: lower means the community is less able to recover. High social vulnerability and low resilience both raise the NRI risk rating.

Supports FEMA checklist item B2-c: repetitive loss properties

Repetitive loss in this county, both definitions

Sources: 1, 4

Definition	Properties	Severe repetitive loss	Properties
Repetitive loss, FMA definition (44 CFR 77.2)	5	Severe repetitive loss, FMA definition (44 CFR 77.2)	8
Repetitive loss, NFIP insurance definition	76	Severe repetitive loss, NFIP insurance definition	8

The state NFIP coordinator's list, the source FEMA's Handbook names, often uses the NFIP insurance definition (second row).

Repeat-flood properties: county and state-level rows

Sources: 1, 4

Scope	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
County total	5	8	76	8	77	0	25
of which: Contra Costa County (unincorporated area)	1	2	24	2	25	0	7
of which: Antioch city	0	3	11	3	11	0	3
of which: Pittsburg city	0	0	1	0	1	0	0
of which: Pleasant Hill city	0	0	4	0	4	0	2

Scope	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
of which: Richmond city	0	1	5	1	5	0	0
of which: San Pablo city	2	0	7	0	7	0	3
of which: San Ramon city	0	0	1	0	1	0	0
of which: Orinda city	0	0	2	0	2	0	1
of which: Concord city	0	0	2	0	2	0	0
of which: El Cerrito city	0	0	3	0	3	0	1
of which: Lafayette city	0	0	2	0	2	0	1
of which: Martinez city	1	1	11	1	11	0	5
of which: Walnut Creek city	1	1	3	1	3	0	2
Statewide, no county in FEMA's file	0	1	3	0	4	1	0

The statewide row counts properties FEMA's file gives with no county in this state; they are listed for reference and are not in this county's counts.

Repeat-flood properties by jurisdiction in the plan (NFIP community)

Sources: 1, 4

Jurisdiction	NFIP community ID	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
Contra Costa County	060025	1	2	24	2	25	0	7
Antioch city	060026	0	3	11	3	11	0	3
Brentwood city	060439	0	0	0	0	0	0	0
Clayton city	060027	0	0	0	0	0	0	0
Concord city	065022	0	0	2	0	2	0	0
Danville town	060707	0	0	0	0	0	0	0
El Cerrito city	065027	0	0	3	0	3	0	1
Hercules city	060434	0	0	0	0	0	0	0
Lafayette city	065037	0	0	2	0	2	0	1
Martinez city	065044	1	1	11	1	11	0	5
Moraga town	060637	0	0	0	0	0	0	0
Oakley city	060766	0	0	0	0	0	0	0
Orinda city	060722	0	0	2	0	2	0	1
Pinole city	060032	0	0	0	0	0	0	0
Pittsburg city	060033	0	0	1	0	1	0	0
Pleasant Hill city	060034	0	0	4	0	4	0	2
Richmond city	060035	0	1	5	1	5	0	0
San Pablo city	060036	2	0	7	0	7	0	3

Jurisdiction	NFIP community ID	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
San Ramon city	060710	0	0	1	0	1	0	0
Walnut Creek city	065070	1	1	3	1	3	0	2

Counts by occupancy group for each jurisdiction are in the Excel file, sheet "B2-c Jurisdictions".

Jurisdiction rows are whole NFIP communities and need not add up to the county total: a community that extends into another county is counted in full on each jurisdiction row, while the county table counts only its part in this county.

County repeat-flood properties by occupancy group

Sources: 1, 4

Occupancy group	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
single-family residential	5	4	51	4	52	0	16
2 to 4 unit residential	0	0	9	0	9	0	2
other residential	0	0	3	0	3	0	0
non-residential	0	4	13	4	13	0	7
not reported	0	0	0	0	0	0	0

FEMA's occupancy groups have no institutional class; institutional properties are counted in non-residential or other residential in the table by occupancy group.

FMA RL and FMA SRL are the Flood Mitigation Assistance definitions (44 CFR 77.2), the ones the FEMA Local Mitigation Planning Policy Guide cites. NFIP repetitive loss (the FEMA insurance definition) is 2 or more claims over \$1,000 in 10 years, and a property can leave that group once it is mitigated. Also shown: NFIP severe repetitive loss, any category, mitigated and currently insured. The Methods page gives the OpenFEMA field details.

Counts are aggregates of FEMA's public NFIP Multiple Loss Properties file (FEMA's data date 2026-08-02; file version 2026-08-04). No property is identified. County assignment is FEMA's geocode.

In this county 1 property is FMA repetitive loss but not NFIP repetitive loss, and 72 properties are NFIP repetitive loss but not FMA repetitive loss.

Exact counts; no count suppression.

Sources

Tables cite these sources by number. The full list, for the plan's bibliography (FEMA review item A4-a):

1. FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-29T134039Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)
2. FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-29T162832Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
3. FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-29T150754Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
4. FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)
5. FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-30, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)
6. NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-30, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>
7. NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-30, <https://www.weather.gov/gis/ZoneCounty>

8. U.S. Census Bureau, Census 2024 Gazetteer, 2020 place by county, CT county-to-cousub crosswalk, version 2024-gazetteer, pulled 2026-09-30, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_counties_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_cousubs_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_place_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_unsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_elsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_scsd_national.zip, https://www2.census.gov/geo/docs/reference/codes2020/national_place_by_county2020.txt, https://www2.census.gov/geo/docs/reference/ct_change/ct_cou_to_cousub_crosswalk.xlsx (used to match place names and codes; no table prints its values)

What this packet is and what the plan adds

This packet is the federal data for the plan's risk assessment, organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B. Each section heading names the item its tables support; the plan and FEMA's review decide whether the item is met.

The plan adds what only the community has: local data on assets, critical facilities, development and each jurisdiction's impacts; local hazard history, including state-declared emergencies; the mitigation strategy; and adoption.

How the federal data are built: National Risk Index values are FEMA's model, not counts of events. Storm Events is more complete from 1996; zone-level records are placed by forecast zone, not by location in the county. Public Assistance for a jurisdiction is matched by applicant name. The Methods page gives every rule and the known edge cases.

OpenFEMA disclaimer

This product uses the Federal Emergency Management Agency's OpenFEMA API, but is not endorsed by FEMA. The Federal Government or FEMA cannot vouch for the data or analyses derived from these data after the data have been retrieved from the Agency's website(s).

Reuse, citation and corrections

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Cite this: Hazard Plain (2026). Contra Costa County, CA: risk-assessment baseline packet, release 2026-10 (data as of 2026-09-30; County FIPS 06013). Automated baseline. <https://hazardplain.org/ca/06013/> Built from FEMA OpenFEMA, the FEMA National Risk Index and NOAA NCEI Storm Events; source versions in the packet's Sources list.

Corrections: to report an error, name the packet, the table and what your records show. Contact: contact@hazardplain.org

Hazard Plain release 2026-10. As of 2026-09-30; Storm Events data through 2026-06-30. Automated baseline.