

# Marin County, CA

## Risk-assessment baseline packet

**County FIPS:** 06041    **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 2029-01-30. Plan: Marin County (FEMA plan 109560), approved 2024-01-31.  
Since the plan was approved on 2024-01-31: no new federal declaration.  
NOAA Storm Events records since that date: 45 records (data through 2026-06-30).  
Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Inland Flooding (\$116,012,090 a year), Earthquake (\$109,667,898) and Coastal Flooding (\$19,783,282).  
Repetitive-loss flood properties now: FMA RL 4, SRL 30 (44 CFR 77.2); any definition: 235.  
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; 06041 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 2029-01-30 | Plan:           | Marin County (FEMA plan 109560) |
| Approved: | 2024-01-31                   | Days to expiry: | 853                             |

What changed since your last plan (approved 2024-01-31)

|                           |                                                     |                                      |                                       |
|---------------------------|-----------------------------------------------------|--------------------------------------|---------------------------------------|
| New federal declarations: | none                                                | Storm Events records since approval: | 45 records (data through 2026-06-30)  |
| Repetitive loss now:      | FMA RL 4, SRL 30 (44 CFR 77.2); any definition: 235 | 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: 18 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<br>expiry<br><small>negative =<br/>days since<br/>expiry</small> | Notes                                    |
|----------------------------------------------|-----------------------------|------------------------------|-----------------------------------------------------------|------------|------------|--------------------------------------------------------------------------|------------------------------------------|
| Marin County                                 | County                      | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-03-22 |
| Belvedere city                               | City                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-09-19 |
| Corte Madera town                            | Town                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      |                                          |
| Fairfax town                                 | Town                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-07-16 |
| Larkspur city                                | City                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-09-23 |
| Mill Valley city                             | City                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-09-19 |
| Novato city                                  | City                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-09-19 |
| Ross town                                    | Town                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-08-12 |
| San Anselmo town                             | Town                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-09-19 |
| San Rafael city                              | City                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-10-23 |
| Sausalito city                               | City                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-04-22 |
| Tiburon town                                 | Town                        | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-07-24 |
| Bolinas Community Public<br>Utility District | Electric/Power<br>Authority | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-07-22 |
| Las Gallinas Valley<br>Sanitary District     | Water/Sewer<br>Authority    | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-09-30 |
| Marin County Transit<br>District             | Special District            | Approved, expires 2027-11-09 | Metropolitan Transportation Commission (FEMA plan 110161) | 2022-11-10 | 2027-11-09 | 405                                                                      | this jurisdiction<br>approved 2024-09-03 |
| Marin Municipal Water<br>District            | Water/Sewer<br>Authority    | Approved, expires 2027-03-20 | Marin Municipal Water District (FEMA plan 107927)         | 2022-03-21 | 2027-03-20 | 171                                                                      |                                          |
| North Marin Water District                   | Water/Sewer<br>Authority    | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-07-18 |
| Southern Marin Fire<br>Protection District   | Fire/EMS District           | Approved, expires 2029-01-30 | Marin County (FEMA plan 109560)                           | 2024-01-31 | 2029-01-30 | 853                                                                      | this jurisdiction<br>approved 2024-10-23 |

## 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<br><i>modeled dollars per year</i> | EAL agriculture<br><i>modeled dollars per year</i> | Cost of expected deaths and injuries<br><i>FEMA's dollar value per year, not property damage</i> | EAL total (see note)<br><i>modeled dollars per year</i> | Storm Events records, 1996 to 2026-06-30<br><i>count</i> | Why this hazard can be left out<br><i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i> | Storm Events coverage note                                               |
|-------------|------------------|---------------------|---------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 1           | Inland Flooding  | Relatively High     | Relatively High     | \$115,135,489                                    | \$315,166                                          | \$561,435                                                                                        | \$116,012,090                                           | 114                                                      |                                                                                                                    |                                                                          |
| 2           | Earthquake       | Relatively High     | Relatively High     | \$83,866,586                                     | n/a                                                | \$25,801,313                                                                                     | \$109,667,898                                           |                                                          |                                                                                                                    | Storm Events does not record earthquakes.                                |
| 3           | Coastal Flooding | Very High           | Very High           | \$19,709,910                                     | n/a                                                | \$73,378                                                                                         | \$19,783,282                                            | 27                                                       |                                                                                                                    |                                                                          |
| 4           | Tsunami          | Relatively Moderate | Relatively Moderate | \$6,374,117                                      | n/a                                                | \$0                                                                                              | \$6,374,117                                             | 0                                                        |                                                                                                                    | No recorded events in Storm Events since 1996 (data through 2026-06-30). |
| 5           | Wildfire         | Relatively Moderate | Relatively Moderate | \$3,460,593                                      | \$1,063                                            | \$154,697                                                                                        | \$3,616,353                                             | 23                                                       |                                                                                                                    |                                                                          |
| 6           | Landslide        | Relatively High     | Relatively High     | \$783,700                                        | n/a                                                | \$1,130,250                                                                                      | \$1,913,950                                             | 31                                                       |                                                                                                                    |                                                                          |
| 7           | Heat Wave        | Relatively Low      | Relatively Low      | \$69                                             | \$327                                              | \$1,300,244                                                                                      | \$1,300,639                                             | 22                                                       |                                                                                                                    |                                                                          |
| 8           | Tornado          | Very Low            | Very Low            | \$180,823                                        | \$86                                               | \$61,554                                                                                         | \$242,464                                               | 1                                                        |                                                                                                                    |                                                                          |
| 9           | Drought          | Relatively Low      | Relatively Low      | n/a                                              | \$183,012                                          | n/a                                                                                              | \$183,012                                               | 0                                                        |                                                                                                                    | Declared 1 time; no Storm Events record of this type.                    |
| 10          | Lightning        | Relatively Low      | Relatively Low      | \$7,957                                          | n/a                                                | \$138,348                                                                                        | \$146,305                                               | 2                                                        |                                                                                                                    |                                                                          |

| Rank<br>by<br>EAL | Hazard               | NRI risk<br>rating | EAL rating                      | EAL buildings<br><i>modeled dollars<br/>per year</i> | EAL agriculture<br><i>modeled<br/>dollars per<br/>year</i> | Cost of<br>expected<br>deaths and<br>injuries<br><i>FEMA's dollar value<br/>per year, not<br/>property damage</i> | EAL total (see<br>note)<br><i>modeled dollars<br/>per year</i> | Storm Events<br>records, 1996<br>to 2026-06-30<br><i>count</i> | Why this hazard can be left out<br><i>NRI Not Applicable, no declaration and no<br/>Storm Events record since 1996</i>                                                                    | Storm Events coverage note                                                                                                            |
|-------------------|----------------------|--------------------|---------------------------------|------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 11                | Strong<br>Wind       | Very Low           | Very Low                        | \$45,791                                             | \$8                                                        | \$50,207                                                                                                          | \$96,006                                                       | 186                                                            |                                                                                                                                                                                           | Includes 61 High Wind and 121 Strong Wind records (NOAA non-thunderstorm wind types, outside NRI's Strong Wind definition).           |
| 12                | Hail                 | Very Low           | Very Low                        | \$6,571                                              | \$531                                                      | \$1,556                                                                                                           | \$8,658                                                        | 12                                                             |                                                                                                                                                                                           |                                                                                                                                       |
| 13                | Winter<br>Weather    | Very Low           | Very Low                        | \$56                                                 | under \$1                                                  | \$3,060                                                                                                           | \$3,116                                                        | 2                                                              |                                                                                                                                                                                           |                                                                                                                                       |
| 14                | Volcanic<br>Activity | Very Low           | Very Low                        | under \$1                                            | n/a                                                        | \$56                                                                                                              | \$56                                                           | 0                                                              |                                                                                                                                                                                           | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                              |
| 15                | Cold Wave            | No Rating          | No Expected<br>Annual<br>Losses | \$0                                                  | \$0                                                        | \$0                                                                                                               | \$0                                                            | 12                                                             |                                                                                                                                                                                           | Includes 10 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<br>Applicable  | Not<br>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).                                                              |
|                   | Ice Storm            | Not<br>Applicable  | Not<br>Applicable               |                                                      |                                                            |                                                                                                                   |                                                                | 0                                                              |                                                                                                                                                                                           | Declared 1 time; no Storm Events record of this type.                                                                                 |

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 tsunami 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: avalanche. 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, Ice Storm, 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<br><i>NRI risk rating, score 0 to 100</i>                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------------|
| Earthquake        | tract 1122.02 (Very High, 99.6); tract 1121 (Very High, 98.8); tract 1110.02 (Very High, 98.6)                               |
| Hurricane         | no tract has a National Risk Index rating for this hazard                                                                    |
| Landslide         | tract 1330 (Very High, 99.9); tract 1322 (Relatively High, 99.9); tract 1311 (Relatively High, 99.8)                         |
| Tornado           | tract 1122.02 (Very Low, 18.4); tract 1101 (Very Low, 17.4); tract 1102 (Very Low, 16.8)                                     |
| Tsunami           | tract 1302.04 (Relatively Moderate, 93.0); tract 1122.02 (Relatively Moderate, 92.3); tract 1321 (Relatively Moderate, 91.0) |
| Volcanic Activity | tract 1031 (Very Low, 73.4); tract 1101 (Very Low, 72.5); tract 1041.02 (Very Low, 72.0)                                     |
| Wildfire          | tract 1330 (Very High, 99.3); tract 1031 (Relatively High, 97.5); tract 1130 (Relatively High, 97.2)                         |

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 1122.02 is Census Tract 1122.02). 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<br><i>count and years</i>        | Observed range                 | Worst recorded event                                                                              | Most damaging<br>(when different) | How it applies to jurisdictions  | Note                                                       |
|---------------------------------------------------|----------------------------------|------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|------------------------------------------------------------|
| Coastal Flood, Storm Surge/ Tide                  | none in data (flood depth: FIRM) | 27 records, 2005 to 2026 (27 zone-level) |                                | Coastal Flood, 2005-12-31, \$340,000 property; crops not reported (2005 dollars); NWS zone CAZ505 |                                   | Countywide (zone-level records). | Flood depth: see the FEMA Flood Insurance Rate Map.        |
| Cold/Wind Chill, Extreme Cold/Wind Chill          | wind chill                       | 2 records, 2013 to 2017 (2 zone-level)   | 1 day; 2 with a recorded value | 1 consecutive day, 2017-04-08, zone-level                                                         |                                   | Countywide (zone-level records). | Wind chill: in event narratives only (local data needed).  |
| Frost/Freeze (outside NRI's Cold Wave definition) | crop damage                      | 10 records, 2007 to 2023 (10 zone-level) |                                | Frost/Freeze, 2007-01-06, \$3,000,000 crop damage (2007 dollars); NWS zone CAZ506                 |                                   | Countywide (zone-level records). | Temperature: in event narratives only (local data needed). |

| Hazard                                         | Scale                                     | Records<br><i>count and years</i>        | Observed range                                           | Worst recorded event                                                                                                                                            | Most damaging<br>(when different)                                                | How it applies to jurisdictions                                                                                                                                                                                                              | Note                                                                                                                                                                                                          |
|------------------------------------------------|-------------------------------------------|------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)                        | 12 records, 1996 to 2021                 | 0.25 in; 11 with a recorded value                        | 0.25 in hail, 2021-03-10; same size also recorded on 2017-11-04, 2018-01-25, 2018-03-02, 2018-03-03, 2018-03-17, 2018-04-16, 2019-12-25, 2020-03-25, 2020-08-17 | Hail, 2019-12-25, \$500 property; \$0 crops (2019 dollars)                       | Event records naming jurisdictions in the plan: Corte Madera town (2 records), San Rafael city (2 records), Sausalito city (2 records), Ross town (1 record).                                                                                |                                                                                                                                                                                                               |
| Excessive Heat, Heat                           | heat index (in event narratives)          | 22 records, 2006 to 2026 (22 zone-level) | 1 day to 6 days (median 1 day); 14 with a recorded value | 6 consecutive days, 2024-10-02 to 2024-10-07, zone-level                                                                                                        | Heat, 2023-07-16, \$0 property; \$10 crops, reported for the zone (2023 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.                                                                  |
| Ice Storm                                      | Sperry-Piltz ice scale (local data)       | 0                                        |                                                          |                                                                                                                                                                 |                                                                                  |                                                                                                                                                                                                                                              | Ice thickness: in event narratives only (local data needed).                                                                                                                                                  |
| Flash Flood, Flood, Lakeshore Flood            | damage and flood days (flood depth: FIRM) | 114 records, 1997 to 2025                |                                                          | Flood, 2006-01-01, \$108,000,000 property; crops not reported (2006 dollars)                                                                                    |                                                                                  | Event records naming jurisdictions in the plan: Larkspur city (7 records), Corte Madera town (3 records), Novato city (3 records), San Anselmo town (2 records), San Rafael city (2 records), Fairfax town (1 record), Ross town (1 record). | 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<br><i>count and years</i>          | Observed range                                                                       | Worst recorded event                                                                                                                       | Most damaging<br>(when different)                                                            | How it applies to jurisdictions                                                                                                                | Note                                                                                                                                                                                                                 |
|------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Debris Flow                                                      | none (count and damage only)                                                       | 31 records, 2006 to 2021 (7 zone-level)    |                                                                                      | Debris Flow, 2006-04-01, \$14,400,000 property; \$20,000,000 crops (2006 dollars), 1 direct death (reported for the zone); NWS zone CAZ506 |                                                                                              | Event records naming jurisdictions in the plan: Sausalito city (7 records), Larkspur city (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) | 2 records, 2009 to 2019                    |                                                                                      | Lightning, 2009-09-12, \$30,000 property; \$0 crops (2009 dollars)                                                                         |                                                                                              | No event record names a jurisdiction in the plan.                                                                                              | 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)                                                            | 182 records, 2005 to 2026 (182 zone-level) | 22 kt (25 mph) to 94 kt (108 mph) (median 45 kt (52 mph)); 177 with a recorded value | 94 kt (108 mph) measured gust, High Wind, 2025-12-24; NWS zone CAZ502                                                                      | Strong Wind, 2006-12-27, \$500,000 property; \$0 crops, reported for the zone (2006 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, 2004 to 2025                    | 50 kt (58 mph) to 78 kt (90 mph) (median 60.5 kt (70 mph)); 4 with a recorded value  | 78 kt (90 mph) measured gust, Thunderstorm Wind, 2025-12-25                                                                                |                                                                                              | Event records naming jurisdictions in the plan: Sausalito city (1 record).                                                                     |                                                                                                                                                                                                                      |
| Tornado                                                          | Enhanced Fujita (Fujita before Feb 2007)                                           | 1 record, 1996                             | F/EF1; 1 with a recorded value                                                       | F1 tornado, 1996-12-23, 6 mi within this county, 20 yd wide, \$200,000 property; \$5,000 crops (1996 dollars)                              |                                                                                              | No event record names a jurisdiction in the plan.                                                                                              | 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)                                                       | 0                                          |                                                                                      |                                                                                                                                            |                                                                                              |                                                                                                                                                | 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<br><i>count and years</i>              | Observed range | Worst recorded event                                                                         | Most damaging<br>(when different) | How it applies to jurisdictions  | Note                                                              |
|---------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------|----------------|----------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|-------------------------------------------------------------------|
| Wildfire                                                                                    | acres burned<br>(local data)              | 23 records,<br>2013 to 2024<br>(23 zone-level) |                | Wildfire, 2013-05-01,<br>\$500,000 property; \$0<br>crops (2013 dollars); NWS<br>zone CAZ507 |                                   | Countywide (zone-level records). | Acres burned: in event<br>narratives only (local<br>data needed). |
| Winter Storm,<br>Heavy Snow,<br>Blizzard, Lake-<br>Effect Snow,<br>Winter<br>Weather, Sleet | none in data<br>(snowfall: local<br>data) | 2 records,<br>2006 to 2011<br>(2 zone-level)   |                | No damage reported in 2<br>records.                                                          |                                   | Countywide (zone-level records). | Snow depth: in event<br>narratives only (local<br>data needed).   |

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: 26 declarations covering 22 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<br>began | FEMA<br>number | Type              | Title                                                                                | Mapped hazard                                                               | County Public Assistance<br><i>federal share obligated, nominal<br/>dollars</i> | Flags                                                            | Notes                       |
|------------|-------------------|----------------|-------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------|
| 2023-04-03 | 2023-02-21        | DR-4699-CA     | Major<br>disaster | Severe Winter Storms, Straight-Line<br>Winds, Flooding, Landslides, and<br>Mudslides | Ice Storm; Inland Flooding;<br>Landslide; Strong Wind; Winter<br>Weather    | \$1,043,154.35                                                                  | in the 12 months before<br>plan approval; within last 5<br>years |                             |
| 2023-01-14 | 2022-12-27        | DR-4683-CA     | Major<br>disaster | Severe Winter Storms, Flooding,<br>Landslides, and Mudslides                         | Inland Flooding (primary); also<br>designated: Landslide, Winter<br>Weather | \$1,915,579.25                                                                  | within last 5 years                                              |                             |
| 2023-01-09 | 2023-01-08        | EM-3591-CA     | Emergency         | Severe Winter Storms, Flooding, and<br>Mudslides                                     | Inland Flooding (primary); also<br>designated: Landslide, Winter<br>Weather | no Public Assistance recorded                                                   | within last 5 years                                              | same incident<br>as DR-4683 |
| 2020-03-22 | 2020-01-20        | DR-4482-CA     | Major<br>disaster | COVID-19 Pandemic                                                                    | Non-natural, not counted                                                    | \$38,113,244.59                                                                 |                                                                  |                             |
| 2020-03-13 | 2020-01-20        | EM-3428-CA     | Emergency         | COVID-19                                                                             | Non-natural, not counted                                                    | no Public Assistance recorded                                                   |                                                                  | same incident<br>as DR-4482 |
| 2019-05-17 | 2019-02-24        | DR-4434-CA     | Major<br>disaster | Severe Winter Storms, Flooding,<br>Landslides, and Mudslides                         | Inland Flooding; Landslide;<br>Winter Weather                               | \$319,460.10                                                                    |                                                                  |                             |
| 2019-05-01 | 2019-02-13        | DR-4431-CA     | Major<br>disaster | Severe Winter Storms, Flooding,<br>Landslides, and Mudslides                         | Inland Flooding; Landslide;<br>Winter Weather                               | \$1,935,611.28                                                                  |                                                                  |                             |
| 2017-04-01 | 2017-02-01        | DR-4308-CA     | Major<br>disaster | Severe Winter Storms, Flooding, and<br>Mudslides                                     | Inland Flooding (primary); also<br>designated: Landslide, Winter<br>Weather | \$2,943,087.60                                                                  |                                                                  |                             |

| Declared   | Incident began | FEMA number | Type           | Title                                                 | Mapped hazard                                                        | County Public Assistance                        | Flags | Notes |
|------------|----------------|-------------|----------------|-------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|-------|-------|
|            |                |             |                |                                                       |                                                                      | <i>federal share obligated, nominal dollars</i> |       |       |
| 2017-02-14 | 2017-01-03     | DR-4301-CA  | Major disaster | Severe Winter Storms, Flooding, and Mudslides         | Inland Flooding; Landslide; Winter Weather                           | \$3,809,032.93                                  |       |       |
| 2006-06-05 | 2006-03-29     | DR-1646-CA  | Major disaster | Severe Storms, Flooding, Landslides, and Mudslides    | Inland Flooding; Landslide                                           | \$3,066,789.36                                  |       |       |
| 2006-02-03 | 2005-12-17     | DR-1628-CA  | Major disaster | Severe Storms, Flooding, Mudslides, and Landslides    | Inland Flooding; Landslide                                           | \$10,238,711.78                                 |       |       |
| 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                   |       |       |
| 1991-02-11 | 1990-12-19     | DR-894-CA   | Major disaster | Severe Freeze                                         | Cold Wave                                                            | PA not declared for this county                 |       |       |
| 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                   |       |       |
| 1977-01-20 | 1977-01-20     | EM-3023-CA  | Emergency      | Drought                                               | Drought                                                              | no Public Assistance recorded                   |       |       |
| 1973-02-08 | 1973-02-08     | DR-364-CA   | Major disaster | Severe Storms, High Tides & Flooding                  | Inland Flooding (primary); also designated: Coastal Flooding         | no Public Assistance recorded                   |       |       |
| 1970-02-16 | 1970-02-16     | DR-283-CA   | Major disaster | Severe Storms & Flooding                              | Inland Flooding                                                      | no Public Assistance recorded                   |       |       |
| 1969-01-26 | 1969-01-26     | DR-253-CA   | Major disaster | Severe Storms & Flooding                              | Inland Flooding                                                      | no Public Assistance recorded                   |       |       |
| 1964-12-24 | 1964-12-24     | DR-183-CA   | Major disaster | Heavy Rains & Flooding                                | Inland Flooding                                                      | no Public Assistance recorded                   |       |       |

School districts and special districts in this county: \$1,890,005.91 (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.

Public Assistance filed under this county for declarations that do not list it: 2 rows, \$44,496.59

Sources: 2, 3

| FEMA number | Declared   | Title      | Applicant                               | PA obligated<br><i>federal share obligated, nominal dollars</i> |
|-------------|------------|------------|-----------------------------------------|-----------------------------------------------------------------|
| DR-4344-CA  | 2017-10-10 | Wildfires  | Sonoma-Marín Area Rail Transit District | \$36,185.19                                                     |
| DR-4193-CA  | 2014-09-11 | Earthquake | North Coast Railroad Authority          | \$8,311.40                                                      |

FEMA's Public Assistance summaries file these applicants under this county, but FEMA's declaration rows for these disasters do not designate it (an electric cooperative or district serving several counties, for example). Not in any declaration row above and not counted.

Previous occurrences by hazard, with explicit no-event rows

Sources: 2, 6, 7

| Hazard           | Storm Events records,<br>all years on file<br><i>(years in the Period column)</i> | Since plan<br>approval<br>records | In the 12 months before<br>plan approval<br>records | Last 5<br>years<br>records | Declared incidents,<br>all years<br><i>separate disasters</i> | Declared since<br>approval<br><i>separate disasters</i> | Period             | Statement                                                                                  |
|------------------|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------|----------------------------|---------------------------------------------------------------|---------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------|
| Coastal Flooding | 27                                                                                | 5                                 | 1                                                   | 9                          | 2                                                             | 0                                                       | 1996 to 2026-06-30 |                                                                                            |
| Cold Wave        | 12                                                                                | 0                                 | 0                                                   | 1                          | 1                                                             | 0                                                       | 1996 to 2026-06-30 | Includes 10 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.       |

| <b>Hazard</b>        | <b>Storm Events records,<br/>all years on file</b><br><i>(years in the Period column)</i> | <b>Since plan<br/>approval</b><br><i>records</i> | <b>In the 12 months before<br/>plan approval</b><br><i>records</i> | <b>Last 5<br/>years</b><br><i>records</i> | <b>Declared incidents,<br/>all years</b><br><i>separate disasters</i> | <b>Declared since<br/>approval</b><br><i>separate disasters</i> | <b>Period</b>         | <b>Statement</b>                                                                              |
|----------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------|
| Hail                 | 12                                                                                        | 0                                                | 0                                                                  | 0                                         | 0                                                                     | 0                                                               | 1955 to<br>2026-06-30 |                                                                                               |
| Heat Wave            | 22                                                                                        | 6                                                | 2                                                                  | 13                                        | 0                                                                     | 0                                                               | 1996 to<br>2026-06-30 |                                                                                               |
| Hurricane            | 0                                                                                         | 0                                                | 0                                                                  | 0                                         | 0                                                                     | 0                                                               | 1996 to<br>2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA<br>NCEI Storm Events                             |
| Ice Storm            | 0                                                                                         | 0                                                | 0                                                                  | 0                                         | 1                                                                     | 0                                                               | 1996 to<br>2026-06-30 | No Storm Events records of this type; 1 federal<br>declared incident (see declarations table) |
| Inland<br>Flooding   | 114                                                                                       | 13                                               | 5                                                                  | 21                                        | 19                                                                    | 0                                                               | 1996 to<br>2026-06-30 |                                                                                               |
| Landslide            | 31                                                                                        | 0                                                | 0                                                                  | 0                                         | 13                                                                    | 0                                                               | 1996 to<br>2026-06-30 |                                                                                               |
| Lightning            | 2                                                                                         | 0                                                | 0                                                                  | 0                                         | 0                                                                     | 0                                                               | 1996 to<br>2026-06-30 |                                                                                               |
| Strong Wind          | 186                                                                                       | 20                                               | 5                                                                  | 35                                        | 1                                                                     | 0                                                               | 1955 to<br>2026-06-30 | Includes 61 High Wind and 121 Strong Wind<br>records.                                         |
| Tornado              | 1                                                                                         | 0                                                | 0                                                                  | 0                                         | 1                                                                     | 0                                                               | 1950 to<br>2026-06-30 |                                                                                               |
| Tsunami              | 0                                                                                         | 0                                                | 0                                                                  | 0                                         | 0                                                                     | 0                                                               | 1996 to<br>2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA<br>NCEI Storm Events                             |
| Volcanic<br>Activity | 0                                                                                         | 0                                                | 0                                                                  | 0                                         | 0                                                                     | 0                                                               | 1996 to<br>2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA<br>NCEI Storm Events                             |
| Wildfire             | 23                                                                                        | 1                                                | 0                                                                  | 1                                         | 0                                                                     | 0                                                               | 1996 to<br>2026-06-30 |                                                                                               |
| Winter<br>Weather    | 2                                                                                         | 0                                                | 0                                                                  | 0                                         | 9                                                                     | 0                                                               | 1996 to<br>2026-06-30 |                                                                                               |

## Notable Storm Events records

Sources: 1, 6, 7

| Date       | Event type        | Magnitude or extent                     | Damage<br><i>nominal dollars</i>                                                | Deaths,<br>injuries<br><i>direct only</i> | Location                                                                                | Flags                                    | Why listed                                               |
|------------|-------------------|-----------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------|
| 2026-03-21 | Strong Wind       | 26 kt (30 mph)<br>estimated gust        | \$0 property; \$0 crops, reported for the zone (2026 dollars)                   | 1, 1                                      | NWS zone CAZ505 (COASTAL NORTH BAY INCLUDING POINT REYES NATIONAL SEASHORE), zone-level | new since last plan; within last 5 years | deaths or injuries recorded                              |
| 2025-12-25 | Thunderstorm Wind | 78 kt (90 mph)<br>measured gust         | \$0 property; \$0 crops (2025 dollars)                                          | 0, 0                                      | WOODACRE                                                                                | new since last plan; within last 5 years | B1-c worst recorded: Thunderstorm Wind                   |
| 2025-12-24 | High Wind         | 94 kt (108 mph)<br>measured gust        | \$0 property; \$0 crops, reported for the zone (2025 dollars)                   | 0, 0                                      | NWS zone CAZ502 (MARIN COASTAL RANGE), zone-level                                       | new since last plan; within last 5 years | B1-c worst recorded: High Wind and Strong Wind           |
| 2024-10-02 | Heat              |                                         | \$0 property; \$0 crops, reported for the zone (2024 dollars)                   | 0, 19                                     | NWS zone CAZ506 (NORTH BAY INTERIOR VALLEYS), zone-level                                | new since last plan; within last 5 years | B1-c worst recorded: Excessive Heat, Heat                |
| 2020-08-17 | Wildfire          |                                         | damage not reported                                                             | 3, 5                                      | NWS zone CAZ507 (NORTH BAY MOUNTAINS), zone-level                                       |                                          | deaths or injuries recorded                              |
| 2013-05-01 | Wildfire          |                                         | \$500,000 property; \$0 crops, reported for the zone (2013 dollars)             | 0, 0                                      | NWS zone CAZ507 (NORTH BAY MOUNTAINS), zone-level                                       |                                          | B1-c worst recorded: Wildfire                            |
| 2009-09-12 | Lightning         |                                         | \$30,000 property; \$0 crops (2009 dollars)                                     | 0, 0                                      | MILL VLY                                                                                |                                          | B1-c worst recorded: Lightning                           |
| 2006-04-01 | Debris Flow       |                                         | \$14,400,000 property; \$20,000,000 crops, reported for the zone (2006 dollars) | 1, 0                                      | NWS zone CAZ506 (NORTH BAY INTERIOR VALLEYS), zone-level                                |                                          | B1-c worst recorded: Debris Flow                         |
| 2006-03-11 | Winter Weather    |                                         | damage not reported                                                             | 2, 15                                     | NWS zone CAZ505 (COASTAL NORTH BAY INCLUDING POINT REYES NATIONAL SEASHORE), zone-level |                                          | deaths or injuries recorded                              |
| 2006-01-01 | Flood             |                                         | \$108,000,000 property; crops not reported (2006 dollars)                       | 0, 0                                      | COUNTYWIDE                                                                              |                                          | B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood |
| 2005-12-31 | Coastal Flood     |                                         | \$340,000 property; crops not reported, reported for the zone (2005 dollars)    | 0, 0                                      | NWS zone CAZ505 (COASTAL NORTH BAY INCLUDING POINT REYES NATIONAL SEASHORE), zone-level |                                          | B1-c worst recorded: Coastal Flood, Storm Surge/Tide     |
| 1996-12-23 | Tornado           | F1, 6 mi within this county, 20 yd wide | \$200,000 property; \$5,000 crops (1996 dollars)                                | 0, 0                                      | TOMALES                                                                                 |                                          | B1-c worst recorded: Tornado                             |

The full list is in the Excel file, sheet "B1-d Storm Events history" (432 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)<br><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                                                                                                                                                                                                                |
|------------------|------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coastal Flooding | 1.62                                                       | events per year at a location (modeled) | about 1.6 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: 2 of 30 years) | event-days in 2 of 30 years, 1996 to 2025 (6.67%)  | 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 2 of 30 years. The descriptor comes from Storm Events, which records events NRI's definition leaves out. |
| Drought          | 29                                                         | event-days per year                     | about 29 days per year                                                                   |                                             | event-days in 0 of 30 years, 1996 to 2025 (0%)     | 959                                                                                                      | 2000 to 2025 (25.25 years; D3 and D4 only)      | countywide | No Storm Events drought record, 1996 to 2025                                                                                                                                                                        |
| Earthquake       | 0.0975                                                     | annual probability at a location        | chance a given location in the county has at least minor-damage shaking in a year: 9.75% |                                             |                                                    | not shown                                                                                                | modeled                                         | see B1-f   | No descriptor (Storm Events does not record earthquakes).                                                                                                                                                           |
| Hail             | 0.0199                                                     | events per year                         | about 1 in 50 years                                                                      | Possible                                    | FEMA annualized frequency (modeled)                | 0.8 (modeled)                                                                                            | 1986 to 2023 (38 years)                         | countywide |                                                                                                                                                                                                                     |
| Heat Wave        | 4.53                                                       | event-days per year                     | about 4.53 days per year                                                                 | Likely (from Storm Events: 8 of 30 years)   | event-days in 8 of 30 years, 1996 to 2025 (26.7%)  | 43.4                                                                                                     | 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.                                                                                                                                                               |
| Ice Storm        |                                                            | event-days per year                     |                                                                                          |                                             |                                                    |                                                                                                          | 1946-12-31 to 2014-02-12 (67 years)             | countywide | Not Applicable in NRI for this county; no descriptor.                                                                                                                                                               |
| Inland Flooding  | 2.11                                                       | event-days per year                     | about 2.11 days per year                                                                 | Likely (from Storm Events: 19 of 30 years)  | event-days in 19 of 30 years, 1996 to 2025 (63.3%) | 59                                                                                                       | 1996 to 2023 (28 years)                         | see B1-f   |                                                                                                                                                                                                                     |
| Landslide        | 12                                                         | events per year (modeled)               | about 12 per year                                                                        | Highly likely                               | FEMA annualized frequency (modeled)                | not shown                                                                                                | modeled                                         | see B1-f   |                                                                                                                                                                                                                     |

| <b>Hazard</b>        | <b>FEMA<br/>annualized<br/>frequency<br/>(modeled)<br/><i>unit per row</i></b> | <b>Unit</b>                                                                                   | <b>In plain terms</b>                                                  | <b>Descriptor</b>                                 | <b>Descriptor basis</b>                                              | <b>NRI events or days in its<br/>record period (hail, wind<br/>and tornado are area-<br/>weighted, so can be<br/>fractional)</b> | <b>NRI period</b>                               | <b>Location</b> | <b>Note</b>                                           |
|----------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|-------------------------------------------------------|
| Lightning            | 3.29                                                                           | days per year with<br>a strike                                                                | about 3.29 days<br>per year                                            | Highly likely                                     | FEMA annualized<br>frequency<br>(modeled)                            | not shown                                                                                                                        | 1995 to 2023<br>(29 years;<br>CONUS)            | countywide      |                                                       |
| Strong<br>Wind       | 0.0315                                                                         | events per year                                                                               | about 1 in 32 years                                                    | Possible                                          | FEMA annualized<br>frequency<br>(modeled)                            | 1                                                                                                                                | 1986 to 2023<br>(38 years)                      | countywide      |                                                       |
| Tornado              | 0.0498                                                                         | events per year                                                                               | about 1 in 20 years                                                    | Possible                                          | FEMA annualized<br>frequency<br>(modeled)                            | not shown                                                                                                                        | 1950 to 2023<br>(EF2+); 1986 to<br>2023 (EF0-1) | see B1-f        |                                                       |
| Tsunami              | 0.342                                                                          | annual probability<br>at the most<br>exposed location<br>(used in place of a<br>county value) | chance at the<br>county's most<br>exposed location in<br>a year: 34.2% |                                                   | Storm Events<br>records in 0 of 30<br>years, 1996 to<br>2025 (0%)    | not shown                                                                                                                        | modeled                                         | see B1-f        | No descriptor: no Storm Events record<br>1996 to 2025 |
| Volcanic<br>Activity | 0.0001                                                                         | annual probability                                                                            | about 1 in 10,000<br>years                                             | Unlikely                                          | FEMA annualized<br>frequency<br>(modeled)                            | not shown                                                                                                                        | modeled                                         | see B1-f        |                                                       |
| Wildfire             | 0.00256                                                                        | annual probability<br>at a location                                                           | chance a given<br>location in the<br>county burns in a<br>year: 0.256% | Likely (from<br>Storm Events:<br>7 of 30 years)   | Storm Events<br>records in 7 of 30<br>years, 1996 to<br>2025 (23.3%) | not shown                                                                                                                        | modeled                                         | see B1-f        | Descriptor from Storm Events, not NRI.                |
| Winter<br>Weather    | 0.392                                                                          | event-days per year                                                                           | about 0.392 days<br>per year                                           | Possible (from<br>Storm Events:<br>2 of 30 years) | event-days in 2 of<br>30 years, 1996 to<br>2025 (6.67%)              | 4.82                                                                                                                             | 2005-11-12 to<br>2024-11-12 (19<br>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<br><i>county-coded records</i> | Years in period | Events per year<br><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 | 1                                     | 30              | 0.0333                                   |
| Thunderstorm Wind (counted as NRI Strong Wind) | unmeasured or below 50 kt | 1996 to 2025 | 0                                     | 30              | 0                                        |
| Tornado                                        | EF0-1                     | 1996 to 2025 | 1                                     | 30              | 0.0333                                   |
| 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<br><i>rated of all</i> | NRI risk score, 0 to 100 |        |       | Tracts by rating                                                                                    |
|-------------------|-------------------------------|--------------------------|--------|-------|-----------------------------------------------------------------------------------------------------|
|                   |                               | Min                      | Median | Max   |                                                                                                     |
| Coastal Flooding  | 39 of 62                      | 70.9                     | 95.3   | 100.0 | Very High 9, Relatively High 10, Relatively Moderate 10, Relatively Low 7, Very Low 3, No Rating 23 |
| Cold Wave         | 0 of 62                       |                          |        |       | No Rating 62                                                                                        |
| Drought           | 16 of 62                      | 69.5                     | 79.0   | 94.7  | Relatively Moderate 3, Relatively Low 5, Very Low 8, No Rating 46                                   |
| Earthquake        | 62 of 62                      | 80.0                     | 92.9   | 99.6  | Very High 10, Relatively High 40, Relatively Moderate 12                                            |
| Hail              | 62 of 62                      | 1.1                      | 2.4    | 14.0  | Very Low 62                                                                                         |
| Heat Wave         | 62 of 62                      | 2.9                      | 24.5   | 51.3  | Relatively Low 43, Very Low 19                                                                      |
| Hurricane         | 0 of 62                       |                          |        |       | Not Applicable 62                                                                                   |
| Ice Storm         | 0 of 62                       |                          |        |       | Not Applicable 62                                                                                   |
| Inland Flooding   | 62 of 62                      | 4.0                      | 84.2   | 99.7  | Very High 16, Relatively High 19, Relatively Moderate 17, Relatively Low 8, Very Low 2              |
| Landslide         | 61 of 62                      | 20.9                     | 96.2   | 99.9  | Very High 1, Relatively High 4, Relatively Moderate 29, Relatively Low 20, Very Low 7, No Rating 1  |
| Lightning         | 62 of 62                      | 1.5                      | 12.4   | 24.2  | Relatively Low 7, Very Low 55                                                                       |
| Strong Wind       | 62 of 62                      | 3.5                      | 10.5   | 16.2  | Very Low 62                                                                                         |
| Tornado           | 62 of 62                      | 2.2                      | 7.1    | 18.4  | Very Low 62                                                                                         |
| Tsunami           | 38 of 62                      | 12.9                     | 64.9   | 93.0  | Relatively Moderate 8, Relatively Low 19, Very Low 11, Not Applicable 24                            |
| Volcanic Activity | 58 of 62                      | 40.7                     | 55.9   | 73.4  | Very Low 58, No Rating 4                                                                            |
| Wildfire          | 56 of 62                      | 19.5                     | 81.9   | 99.3  | Very High 1, Relatively High 3, Relatively Moderate 14, Relatively Low 25, Very Low 13, No Rating 6 |
| Winter Weather    | 57 of 62                      | 10.8                     | 14.7   | 19.1  | Relatively Low 1, Very Low 56, No Rating 5                                                          |

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<br><i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i> | Public Assistance to this jurisdiction<br><i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i> | Event records naming this place<br><i>all years; since its plan</i> | Notes                                                                                   |
|-------------------|--------|------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Marin County      | County | Approved, expires 2029-01-30 | FMA RL 3, SRL 11; any 83                                                             | \$31,488,275.47                                                                                                                   | 0 total; 0 since its plan                                           | Includes \$27,573,213.69 for declarations not counted as hazard incidents (DR-4482-CA). |
| Belvedere city    | City   | Approved, expires 2029-01-30 | FMA RL 0, SRL 0; any 2                                                               | no Public Assistance recorded                                                                                                     | 0 total; 0 since its plan                                           |                                                                                         |
| Corte Madera town | Town   | Approved, expires 2029-01-30 | FMA RL 0, SRL 1; any 11                                                              | \$236,377.27                                                                                                                      | 5 total; 0 since its plan                                           |                                                                                         |
| Fairfax town      | Town   | Approved, expires 2029-01-30 | FMA RL 1, SRL 1; any 6                                                               | \$2,016,200.40                                                                                                                    | 1 total; 0 since its plan                                           | Includes \$158,015.60 for declarations not counted as hazard incidents (DR-4482-CA).    |
| Larkspur city     | City   | Approved, expires 2029-01-30 | FMA RL 0, SRL 1; any 7                                                               | \$1,796,426.84                                                                                                                    | 8 total; 2 since its plan                                           |                                                                                         |
| Mill Valley city  | City   | Approved, expires 2029-01-30 | FMA RL 0, SRL 1; any 9                                                               | \$1,522,358.58                                                                                                                    | 0 total; 0 since its plan                                           |                                                                                         |
| Novato city       | City   | Approved, expires 2029-01-30 | FMA RL 0, SRL 2; any 41                                                              | \$284,449.64                                                                                                                      | 3 total; 0 since its plan                                           |                                                                                         |
| Ross town         | Town   | Approved, expires 2029-01-30 | FMA RL 0, SRL 4; any 15                                                              | \$211,944.83                                                                                                                      | 2 total; 0 since its plan                                           |                                                                                         |
| San Anselmo town  | Town   | Approved, expires 2029-01-30 | FMA RL 0, SRL 0; any 4                                                               | \$2,946,674.56                                                                                                                    | 2 total; 0 since its plan                                           | Includes \$18,574.12 for declarations not counted as hazard incidents (DR-4482-CA).     |
| San Rafael city   | City   | Approved, expires 2029-01-30 | FMA RL 0, SRL 7; any 46                                                              | \$2,889,381.91                                                                                                                    | 4 total; 0 since its plan                                           | Includes \$119,580.96 for declarations not counted as hazard incidents (DR-4482-CA).    |
| Sausalito city    | City   | Approved, expires 2029-01-30 | FMA RL 0, SRL 2; any 6                                                               | \$728,566.34                                                                                                                      | 10 total; 0 since its plan                                          |                                                                                         |
| Tiburon town      | Town   | Approved, expires 2029-01-30 | FMA RL 0, SRL 0; any 4                                                               | \$549,751.67                                                                                                                      | 0 total; 0 since its plan                                           |                                                                                         |

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<br><i>modeled dollars</i> | Agriculture exposure<br><i>modeled dollars</i> | Population exposed<br><i>people</i> | EAL buildings<br><i>modeled dollars per year</i> | EAL agriculture<br><i>modeled dollars per year</i> | Cost of expected deaths and injuries<br><i>FEMA's dollar value per year, not property damage</i> | EAL as % of exposure<br><i>buildings; agriculture where noted</i> | Storm Events damage since 2024-01-31<br><i>county-coded records, property plus crops, nominal dollars</i> | Zone-level damage since plan<br><i>property plus crops, reported for the zone</i> | Public Assistance since plan<br><i>nominal dollars; see note</i> | Note                                                                                                                                                                      |
|-------------------|---------------------------------------------|------------------------------------------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coastal Flooding  | \$19,199,217,113                            | n/a                                            | 70,387                              | \$19,709,910                                     | n/a                                                | \$73,378                                                                                         | 0.103%                                                            |                                                                                                           | \$0                                                                               |                                                                  |                                                                                                                                                                           |
| Cold Wave         | \$0                                         | \$0                                            | 0                                   | \$0                                              | \$0                                                | \$0                                                                                              |                                                                   |                                                                                                           |                                                                                   |                                                                  | building exposure is 0 in NRI                                                                                                                                             |
| Drought           | n/a                                         | \$11,007,168                                   | n/a                                 | n/a                                              | \$183,012                                          | n/a                                                                                              | 1.66% (agriculture)                                               |                                                                                                           |                                                                                   |                                                                  | NRI has no building exposure for this hazard; agriculture shown                                                                                                           |
| Earthquake        | \$115,752,540,914                           | n/a                                            | 262,321                             | \$83,866,586                                     | n/a                                                | \$25,801,313                                                                                     | 0.0725%                                                           |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Hail              | \$70,463,360,157                            | \$122,756,581                                  | 262,172                             | \$6,571                                          | \$531                                              | \$1,556                                                                                          | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Heat Wave         | \$70,463,360,157                            | \$122,756,581                                  | 262,168                             | \$69                                             | \$327                                              | \$1,300,244                                                                                      | under 0.0001%                                                     |                                                                                                           | \$0                                                                               |                                                                  |                                                                                                                                                                           |
| Hurricane         |                                             |                                                |                                     |                                                  |                                                    |                                                                                                  |                                                                   |                                                                                                           |                                                                                   |                                                                  | Not Applicable in NRI for this county                                                                                                                                     |
| Ice Storm         |                                             |                                                |                                     |                                                  |                                                    |                                                                                                  |                                                                   |                                                                                                           |                                                                                   |                                                                  | Not Applicable in NRI for this county                                                                                                                                     |
| Inland Flooding   | \$70,166,969,817                            | \$83,284,892                                   | 40,992                              | \$115,135,489                                    | \$315,166                                          | \$561,435                                                                                        | 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         | \$18,483,525,867                            | n/a                                            | 67,047                              | \$783,700                                        | n/a                                                | \$1,130,250                                                                                      | 0.00424%                                                          |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Lightning         | \$70,463,360,157                            | n/a                                            | 262,172                             | \$7,957                                          | n/a                                                | \$138,348                                                                                        | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Strong Wind       | \$70,463,360,157                            | \$122,756,581                                  | 262,172                             | \$45,791                                         | \$8                                                | \$50,207                                                                                         | under 0.0001%                                                     | \$0                                                                                                       | \$50                                                                              |                                                                  | Storm Events damage since the plan includes 5 zone-level Strong Wind records (\$50): a NOAA non-thunderstorm wind type, outside NRI's Strong Wind definition.             |
| Tornado           | \$70,463,360,157                            | \$122,756,581                                  | 262,172                             | \$180,823                                        | \$86                                               | \$61,554                                                                                         | 0.000257%                                                         |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Tsunami           | \$36,914,806,250                            | n/a                                            | 39,734                              | \$6,374,117                                      | n/a                                                | \$0                                                                                              | 0.0173%                                                           |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |
| Volcanic Activity | \$70,463,360,157                            | n/a                                            | 262,172                             | under \$1                                        | n/a                                                | \$56                                                                                             | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                           |

| Hazard         | Building exposure<br><i>modeled dollars</i> | Agriculture exposure<br><i>modeled dollars</i> | Population exposed<br><i>people</i> | EAL buildings<br><i>modeled dollars per year</i> | EAL agriculture<br><i>modeled dollars per year</i> | Cost of expected deaths and injuries<br><i>FEMA's dollar value per year, not property damage</i> | EAL as % of exposure<br><i>buildings; agriculture where noted</i> | Storm Events damage since 2024-01-31<br><i>county-coded records, property plus crops, nominal dollars</i> | Zone-level damage since plan<br><i>property plus crops, reported for the zone</i> | Public Assistance since plan<br><i>nominal dollars; see note</i> | Note |
|----------------|---------------------------------------------|------------------------------------------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|------|
| Wildfire       | \$7,976,111,226                             | \$88,046,523                                   | 35,856                              | \$3,460,593                                      | \$1,063                                            | \$154,697                                                                                        | 0.0434%                                                           |                                                                                                           | \$10                                                                              |                                                                  |      |
| Winter Weather | \$61,479,644,470                            | \$91,765,291                                   | 232,066                             | \$56                                             | under \$1                                          | \$3,060                                                                                          | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |      |

Totals since 2024-01-31 (Storm Events through 2026-06-30): 15 county-coded records, 15 with a damage value recorded (including \$0), \$20; 30 zone-level records, 30 with a damage value recorded (including \$0), \$60 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                                                                                                                                                                    | 262,172          |
| Building value (total, not at risk)                                                                                                                                           | \$70,463,360,157 |
| Agriculture value (total, not at risk)                                                                                                                                        | \$122,756,581    |
| NRI risk rating (all hazards)                                                                                                                                                 | Relatively High  |
| Expected annual loss, buildings and agriculture, all hazards                                                                                                                  | \$230,071,854    |
| 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) | \$29,276,098     |
| Social vulnerability rating                                                                                                                                                   | Relatively Low   |
| Community resilience rating                                                                                                                                                   | Very 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) | 4          | Severe repetitive loss, FMA definition (44 CFR 77.2) | 30         |
| Repetitive loss, NFIP insurance definition    | 233        | Severe repetitive loss, NFIP insurance definition    | 28         |

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<br>properties | SRL, FMA<br>properties | RL, NFIP<br>properties | SRL, NFIP<br>properties | Any category<br>properties | Mitigated<br>properties | Currently insured<br>properties |
|-------------------------------------------------------|-----------------------|------------------------|------------------------|-------------------------|----------------------------|-------------------------|---------------------------------|
| County total                                          | 4                     | 30                     | 233                    | 28                      | 235                        | 1                       | 81                              |
| of which: Marin County (unincorporated area)          | 3                     | 11                     | 83                     | 11                      | 83                         | 0                       | 22                              |
| of which: Fairfax town                                | 1                     | 1                      | 6                      | 1                       | 6                          | 0                       | 4                               |
| of which: Mill Valley city                            | 0                     | 1                      | 9                      | 1                       | 9                          | 0                       | 2                               |
| of which: Novato city                                 | 0                     | 2                      | 41                     | 2                       | 41                         | 0                       | 22                              |
| of which: Ross town                                   | 0                     | 4                      | 15                     | 3                       | 15                         | 0                       | 9                               |
| of which: San Anselmo town                            | 0                     | 0                      | 4                      | 0                       | 4                          | 0                       | 4                               |
| of which: Sausalito city                              | 0                     | 2                      | 6                      | 2                       | 6                          | 0                       | 1                               |
| of which: Belvedere city                              | 0                     | 0                      | 2                      | 0                       | 2                          | 0                       | 0                               |
| of which: Tiburon town                                | 0                     | 0                      | 4                      | 0                       | 4                          | 0                       | 1                               |
| of which: Corte Madera town                           | 0                     | 1                      | 11                     | 1                       | 11                         | 0                       | 2                               |
| of which: Larkspur city                               | 0                     | 1                      | 7                      | 1                       | 7                          | 0                       | 2                               |
| of which: San Rafael city                             | 0                     | 7                      | 44                     | 6                       | 46                         | 1                       | 12                              |
| of which: Unknown (community ID Unknown in FEMA data) | 0                     | 0                      | 1                      | 0                       | 1                          | 0                       | 0                               |
| 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<br><i>properties</i> | SRL, FMA<br><i>properties</i> | RL, NFIP<br><i>properties</i> | SRL, NFIP<br><i>properties</i> | Any category<br><i>properties</i> | Mitigated<br><i>properties</i> | Currently insured<br><i>properties</i> |
|-------------------|-------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|
| Marin County      | 060173            | 3                            | 11                            | 83                            | 11                             | 83                                | 0                              | 22                                     |
| Belvedere city    | 060429            | 0                            | 0                             | 2                             | 0                              | 2                                 | 0                              | 0                                      |
| Corte Madera town | 065023            | 0                            | 1                             | 11                            | 1                              | 11                                | 0                              | 2                                      |
| Fairfax town      | 060175            | 1                            | 1                             | 6                             | 1                              | 6                                 | 0                              | 4                                      |
| Larkspur city     | 065040            | 0                            | 1                             | 7                             | 1                              | 7                                 | 0                              | 2                                      |
| Mill Valley city  | 060177            | 0                            | 1                             | 9                             | 1                              | 9                                 | 0                              | 2                                      |
| Novato city       | 060178            | 0                            | 2                             | 41                            | 2                              | 41                                | 0                              | 22                                     |
| Ross town         | 060179            | 0                            | 4                             | 15                            | 3                              | 15                                | 0                              | 9                                      |
| San Anselmo town  | 060180            | 0                            | 0                             | 4                             | 0                              | 4                                 | 0                              | 4                                      |
| San Rafael city   | 065058            | 0                            | 7                             | 44                            | 6                              | 46                                | 1                              | 12                                     |
| Sausalito city    | 060182            | 0                            | 2                             | 6                             | 2                              | 6                                 | 0                              | 1                                      |
| Tiburon town      | 060430            | 0                            | 0                             | 4                             | 0                              | 4                                 | 0                              | 1                                      |

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<br><i>properties</i> | SRL, FMA<br><i>properties</i> | RL, NFIP<br><i>properties</i> | SRL, NFIP<br><i>properties</i> | Any category<br><i>properties</i> | Mitigated<br><i>properties</i> | Currently insured<br><i>properties</i> |
|---------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|
| single-family residential | 3                            | 21                            | 171                           | 19                             | 173                               | 1                              | 70                                     |
| 2 to 4 unit residential   | 0                            | 1                             | 11                            | 1                              | 11                                | 0                              | 2                                      |
| other residential         | 0                            | 1                             | 6                             | 1                              | 6                                 | 0                              | 1                                      |
| non-residential           | 1                            | 7                             | 45                            | 7                              | 45                                | 0                              | 8                                      |
| 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 0 properties are FMA repetitive loss but not NFIP repetitive loss, and 229 properties are NFIP repetitive loss but not FMA repetitive loss.

Exact counts; no count suppression.

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## 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](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](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_Gazetteer/2024_Gaz_counties_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_cousubs\\_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\\_Gazetteer/2024\\_Gaz\\_place\\_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\\_Gazetteer/2024\\_Gaz\\_unsd\\_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\\_Gazetteer/2024\\_Gaz\\_elsd\\_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\\_Gazetteer/2024\\_Gaz\\_scsd\\_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/codes2020/national_place_by_county2020.txt), [https://www2.census.gov/geo/docs/reference/ct\\_change/ct\\_cou\\_to\\_cousub\\_crosswalk.xlsx](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)
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## 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.

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## 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).

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## Reuse, citation and corrections

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Cite this: Hazard Plain (2026). Marin County, CA: risk-assessment baseline packet, release 2026-10 (data as of 2026-09-30; County FIPS 06041). Automated baseline. <https://hazardplain.org/ca/06041/> 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](mailto:contact@hazardplain.org)

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