

# Warren County, VA

## Risk-assessment baseline packet

Unit **County area 51187**    Release **2026-10**    As of **2026-09-28**    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.**

A starting point for the plan's risk assessment (FEMA Local Mitigation Plan Review Tool, Element B). It does not replace local data or FEMA review. Section headings say which FEMA review item each table supports; whether an item is satisfied is decided by the plan and its reviewers.

### OPENFEMA DISCLAIMER

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## Plan clock

|          |                              |         |                                                                             |
|----------|------------------------------|---------|-----------------------------------------------------------------------------|
| Status   | Approved, expires 2028-09-11 | Plan    | PDC 07 Northern Shenandoah Valley Hazard Mitigation Plan (FEMA plan 109283) |
| Approved | 2023-09-12                   | Expires | 2028-09-11                                                                  |
| As of    | 2026-09-28                   | Days    | 714 days to expiry                                                          |

### What changed since your last plan (approved 2023-09-12)

|                          |                                                           |                                     |                                                    |
|--------------------------|-----------------------------------------------------------|-------------------------------------|----------------------------------------------------|
| New federal declarations | <b>EM-3631-VA (1 declaration row; 1 counted incident)</b> | Storm Events records since approval | <b>75 (data through 2026-06-30)</b>                |
| Repetitive loss now      | <b>FMA RL 1, SRL 11 (44 CFR 77.2); any definition: 83</b> | Repeat-flood change                 | <b>First release: no prior release to compare.</b> |

**SOURCES:** FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API); FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API); NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>; FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)

## Plan status for every jurisdiction listed in this county

| Jurisdiction                                   | Type                     | Status                                                                   | Plan                                                                                               | Approved                                 | Expires                 | Days to expiry<br><i>negative = days since expiry</i> | Update underway                                       | Notes                                      |
|------------------------------------------------|--------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------|-------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|
| Warren County                                  | County                   | Approved, expires 2028-09-11                                             | PDC 07 Northern Shenandoah Valley Hazard Mitigation Plan (FEMA plan 109283)                        | 2023-09-12                               | 2028-09-11              | 714                                                   |                                                       | member approved 2023-12-13                 |
| Front Royal town                               | Town                     | Plan 109283 approved 2023-09-12, pending adoption here; not yet eligible | PDC 07 Northern Shenandoah Valley Hazard Mitigation Plan (FEMA plan 109283), pending adoption here | 2023-09-12 by FEMA; not yet adopted here | 2028-09-11 once adopted |                                                       | FEMA tracker shows a plan approvable pending adoption | Not yet eligible: adopt the approved plan. |
| Northern Shenandoah Valley Regional Commission | Regional Planning Agency | Approved, expires 2028-09-11                                             | PDC 07 Northern Shenandoah Valley Hazard Mitigation Plan (FEMA plan 109283)                        | 2023-09-12                               | 2028-09-11              | 714                                                   |                                                       | member approved 2024-01-18                 |

Plan 109283 lists 18 other participants not on this page, 8 of them not covered by it yet (named in the XLSX file).

**SOURCE:** FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

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

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Supports B1-a: hazards

Hazards NRI does not cover: check locally

- 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)

| Rank by EAL | Hazard          | NRI risk rating | EAL rating          | EAL buildings modeled dollars per year | EAL agriculture modeled dollars per year | EAL population equivalence statistical value of life and injury, \$13.7M per life, not property damage | EAL total (see note) modeled dollars per year | Storm Events records since 1996 count | Evidence for an omission NRI Not Applicable, no declaration and no Storm Events record since 1996 | Storm Events coverage note                                                                                          |
|-------------|-----------------|-----------------|---------------------|----------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 1           | Inland Flooding | Relatively Low  | Relatively Low      | \$9,295,093                            | \$29,812                                 | \$681,471                                                                                              | \$10,006,376                                  | 115                                   |                                                                                                   |                                                                                                                     |
| 2           | Strong Wind     | Relatively Low  | Relatively Moderate | \$116,013                              | \$60,312                                 | \$417,596                                                                                              | \$593,921                                     | 169                                   |                                                                                                   | Includes 20 High Wind records and 10 Strong Wind records, event types the NRI definition of this hazard leaves out. |
| 3           | Tornado         | Very Low        | Relatively Low      | \$253,947                              | \$166                                    | \$196,689                                                                                              | \$450,802                                     | 2                                     |                                                                                                   |                                                                                                                     |
| 4           | Heat Wave       | Relatively Low  | Relatively Low      | \$18                                   | \$10                                     | \$445,474                                                                                              | \$445,502                                     | 39                                    |                                                                                                   |                                                                                                                     |
| 5           | Drought         | Relatively Low  | Relatively Low      |                                        | \$278,667                                |                                                                                                        | \$278,667                                     | 10                                    |                                                                                                   |                                                                                                                     |
| 6           | Lightning       | Relatively Low  | Relatively Low      | \$16,946                               |                                          | \$255,247                                                                                              | \$272,193                                     | 6                                     |                                                                                                   |                                                                                                                     |
| 7           | Earthquake      | Very Low        | Very Low            | \$209,287                              |                                          | \$55,256                                                                                               | \$264,543                                     |                                       |                                                                                                   | Not in Storm Events. Storm Events coverage of this hazard is limited; absence is not evidence of low risk.          |
| 8           | Hurricane       | Relatively Low  | Relatively Low      | \$231,917                              | \$20,266                                 | \$10,874                                                                                               | \$263,058                                     | 0                                     |                                                                                                   | Declared 5 times; no Storm Events record of this type.                                                              |
| 9           | Hail            | Relatively Low  | Relatively Low      | \$164,220                              | \$746                                    | \$34,640                                                                                               | \$199,605                                     | 29                                    |                                                                                                   |                                                                                                                     |

| Rank<br>by<br>EAL | Hazard            | NRI risk<br>rating | EAL rating     | EAL<br>buildings<br><i>modeled<br/>dollars per<br/>year</i> | EAL<br>agriculture<br><i>modeled<br/>dollars per year</i> | EAL population<br>equivalence<br><i>statistical value of life and<br/>injury, \$13.7M per life,<br/>not property damage</i> | EAL total<br>(see note)<br><i>modeled dollars<br/>per year</i> | Storm<br>Events<br>records<br>since 1996<br><i>count</i> | Evidence for an omission<br><i>NRI Not Applicable, no declaration<br/>and no Storm Events record since<br/>1996</i> | Storm Events coverage note                                                                                                                                     |
|-------------------|-------------------|--------------------|----------------|-------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10                | Cold Wave         | Very Low           | Very Low       | \$54,264                                                    | \$8,631                                                   | \$15,424                                                                                                                    | \$78,318                                                       | 82                                                       |                                                                                                                     | Includes 43 Frost/Freeze records, event types the NRI definition of this hazard leaves out.                                                                    |
| 11                | Winter Weather    | Relatively Low     | Relatively Low | \$22,149                                                    | \$4                                                       | \$42,613                                                                                                                    | \$64,766                                                       | 231                                                      |                                                                                                                     |                                                                                                                                                                |
| 12                | Wildfire          | Very Low           | Very Low       | \$20,939                                                    | \$16                                                      | \$5,460                                                                                                                     | \$26,414                                                       | 1                                                        |                                                                                                                     |                                                                                                                                                                |
| 13                | Landslide         | Relatively Low     | Relatively Low | \$7,534                                                     |                                                           | \$13,417                                                                                                                    | \$20,951                                                       | 0                                                        |                                                                                                                     | Declared 1 time; no Storm Events record of this type. Storm Events coverage of this hazard is limited; absence is not evidence of low risk.                    |
| 14                | Ice Storm         | Very Low           | Very Low       | \$6,181                                                     |                                                           | \$657                                                                                                                       | \$6,838                                                        | 12                                                       |                                                                                                                     |                                                                                                                                                                |
| 15                | Avalanche         | Very Low           | Very Low       | \$0                                                         |                                                           | \$672                                                                                                                       | \$672                                                          | 0                                                        |                                                                                                                     | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                                                       |
|                   | Coastal Flooding  | Not Applicable     | Not Applicable |                                                             |                                                           |                                                                                                                             |                                                                | 0                                                        | NRI rates coastal flooding Not Applicable for this county, and no federal declaration for this county names it.     | No recorded events in Storm Events since 1996 (data through 2026-06-30).                                                                                       |
|                   | Tsunami           | Not Applicable     | Not Applicable |                                                             |                                                           |                                                                                                                             |                                                                | 0                                                        | NRI rates tsunami Not Applicable for this county, and no federal declaration for this county names it.              | No recorded events in Storm Events since 1996 (data through 2026-06-30). Storm Events coverage of this hazard is limited; absence is not evidence of low risk. |
|                   | Volcanic Activity | Not Applicable     | Not Applicable |                                                             |                                                           |                                                                                                                             |                                                                | 0                                                        | NRI rates volcanic activity Not Applicable for this county, and no federal declaration for this county names it.    | No recorded events in Storm Events since 1996 (data through 2026-06-30). Storm Events coverage of this hazard is limited; absence is not evidence of low risk. |

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

**SOURCES**  
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)  
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Check your state hazard mitigation plan's hazard list for this county; explain any hazard you drop.

## Supports B1-b: location

### Where each hazard occurs

| Hazard           | Location                                                                                                                           | Census tracts rated<br><i>rated of all tracts</i> |
|------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Avalanche        | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet. | 3 of 9                                            |
| Coastal Flooding | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet. | 0 of 9                                            |

| Hazard            | Location                                                                                                                                                                                                  | Census tracts rated<br><i>rated of all tracts</i> |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Cold Wave         | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |
| Drought           | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 5 of 9                                            |
| Earthquake        | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 9 of 9                                            |
| Hail              | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |
| Heat Wave         | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |
| Hurricane         | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 9 of 9                                            |
| Ice Storm         | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |
| Inland Flooding   | The FEMA Flood Insurance Rate Map (FIRM) is the required location source for flooding. See the FEMA Flood Map Service Center ( <a href="https://msc.fema.gov">https://msc.fema.gov</a> ) for this county. | 9 of 9                                            |
| Landslide         | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 9 of 9                                            |
| Lightning         | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |
| Strong Wind       | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |
| Tornado           | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 9 of 9                                            |
| Tsunami           | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 0 of 9                                            |
| Volcanic Activity | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 0 of 9                                            |
| Wildfire          | Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.                                                                        | 9 of 9                                            |
| Winter Weather    | Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.                                                                                           | 9 of 9                                            |

**SOURCE**  
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)

## Supports B1-c: extent

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

| Hazard                                   | Scale                         | Records<br><i>count, years</i>   | Observed range                                             | Worst recorded event                                      | Most damaging<br>(when different) | How it applies to members                                                                           | Note                                                             |
|------------------------------------------|-------------------------------|----------------------------------|------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Avalanche                                | none (count and damage)       | 0                                |                                                            |                                                           |                                   |                                                                                                     | Physical measure: in event narratives only; local data required. |
| Coastal Flood, Storm Surge/ Tide         | none in data (FIRM for depth) | 0                                |                                                            |                                                           |                                   |                                                                                                     | Flood depth: see the FEMA Flood Insurance Rate Map.              |
| Cold/Wind Chill, Extreme Cold/Wind Chill | wind chill                    | 39, 1998 to 2026 (39 zone-level) | 1 day to 11 days (median 2 days); 28 with a recorded value | 11 consecutive days, 2026-01-23 to 2026-02-02, zone-level |                                   | Zone-level records: applies countywide; national data do not locate these events within the county. | Wind chill: in event narratives only; local data required.       |

| Hazard                                                   | Scale                                | Records<br><i>count, years</i>          | Observed range                                                      | Worst recorded event                                                                                                                                                                                   | Most damaging<br>(when different)                                                                                  | How it applies to members                                                                              | Note                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------|--------------------------------------|-----------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frost/Freeze<br>(outside NRI<br>Cold Wave<br>definition) | crop damage                          | 43, 1997 to<br>2021 (43 zone-<br>level) |                                                                     | Frost/Freeze, 1997-04-10,<br>\$400,000 crop damage,<br>reported for the zone<br>(1997 dollars); NWS zone<br>VAZ030 (WARREN), zone-<br>level: may include parts of<br>neighboring counties              |                                                                                                                    | Zone-level records: applies countywide; national data do not<br>locate these events within the county. | Temperature: in event<br>narratives only; local<br>data required.                                                                                                                                                                                                                          |
| Drought                                                  | US Drought<br>Monitor D-<br>scale    | 10, 1997 to<br>2007 (10 zone-<br>level) | 21 days to 140 days<br>(median 31 days); 5<br>with a recorded value | 140 days (about 4.6<br>months), 1999-05-01 to<br>1999-09-17, a run of 5<br>consecutive Storm Events<br>drought records, zone-<br>level                                                                 | Drought, 1999-08-01,<br>property not<br>reported; \$1,700,000<br>crops, reported for<br>the zone (1999<br>dollars) | Zone-level records: applies countywide; national data do not<br>locate these events within the county. | Storm Events enters a<br>drought at D2 or worse<br>east of the Rockies and<br>D3 or worse from the<br>Rockies west (NWS<br>Instruction 10-1605);<br>NRI drought counts D3<br>and D4 only.                                                                                                  |
| Earthquake                                               | Modified<br>Mercalli (local<br>data) | 0                                       |                                                                     |                                                                                                                                                                                                        |                                                                                                                    |                                                                                                        | No Storm Events<br>record; local data<br>required (e.g., USGS).                                                                                                                                                                                                                            |
| Hail                                                     | hail size<br>(inches)                | 33, 1960 to<br>2025                     | 0.75 in to 2.75 in<br>(median 1 in); 32 with<br>a recorded value    | 2.75 in hail, 1977-08-15                                                                                                                                                                               |                                                                                                                    | Event records naming member places: Front Royal town (8<br>records).                                   |                                                                                                                                                                                                                                                                                            |
| Excessive<br>Heat, Heat                                  | heat index<br>(narratives)           | 39, 1996 to<br>2025 (39 zone-<br>level) | 1 day to 8 days<br>(median 2 days); 27<br>with a recorded value     | 8 consecutive days,<br>2002-08-12 to<br>2002-08-19, zone-level                                                                                                                                         |                                                                                                                    | Zone-level records: applies countywide; national data do not<br>locate these events within the county. | Heat index: in event<br>narratives only; local<br>data required. Heat<br>records from November<br>to March (unseasonable<br>warmth, not a heat<br>wave) are counted but<br>not used for the longest<br>run.                                                                                |
| Hurricane,<br>Tropical Storm,<br>Tropical<br>Depression  | Saffir-Simpson                       | 0                                       |                                                                     |                                                                                                                                                                                                        |                                                                                                                    |                                                                                                        | Storm Events files<br>every zone of a storm's<br>episode under the<br>storm's event type and<br>category, so a<br>Hurricane (Typhoon)<br>record, especially an<br>inland or remnant one,<br>does not by itself mean<br>hurricane-force winds<br>here; read the damage<br>and wind columns. |
| Ice Storm                                                | Sperry-Piltz<br>(local data)         | 12, 1998 to<br>2025 (12 zone-<br>level) |                                                                     | Ice Storm, 1998-02-04,<br>\$15,000 property;<br>\$150,000 crops, reported<br>for the zone (1998<br>dollars); NWS zone<br>VAZ030 (WARREN), zone-<br>level: may include parts of<br>neighboring counties |                                                                                                                    | Zone-level records: applies countywide; national data do not<br>locate these events within the county. | Ice thickness: in event<br>narratives only; local<br>data required.                                                                                                                                                                                                                        |

| Hazard                                                         | Scale                                                                              | Records<br><i>count, years</i>    | Observed range                                                                      | Worst recorded event                                                                                                                                                               | Most damaging<br>(when different)                                                              | How it applies to members                                                                                    | Note                                                                                                                                                                                                                            |
|----------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash Flood, Flood, Lakeshore Flood                            | damage and flood days (FIRM for depth)                                             | 115, 1996 to 2025 (12 zone-level) |                                                                                     | Flood, 1996-09-06, \$40,000,000 property; \$2,000,000 crops, reported for the zone (1996 dollars); NWS zone VAZ030 (WARREN), zone-level: may include parts of neighboring counties |                                                                                                | Event records naming member places: Front Royal town (22 records). Zone-level records (12) apply countywide. | Flood depth: see the FEMA Flood Insurance Rate Map. Storm Events damage can be \$0 or blank even for a major flood, so the worst record here may not be the worst flood; compare FEMA Public Assistance by declaration in B1-d. |
| Debris Flow                                                    | none (count and damage)                                                            | 0                                 |                                                                                     |                                                                                                                                                                                    |                                                                                                |                                                                                                              | Physical measure: in event narratives only; local data required.                                                                                                                                                                |
| Lightning                                                      | annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names) | 6, 1996 to 2008                   |                                                                                     | Lightning, 2002-08-03, \$195,000 property; crops not reported (2002 dollars)                                                                                                       |                                                                                                | Event records naming member places: Front Royal town (3 records).                                            | Storm Events lists lightning with damage or casualties; physical measure in event narratives only; local data required.                                                                                                         |
| High Wind and Strong Wind (outside NRI Strong Wind definition) | wind speed (kt and mph)                                                            | 30, 1996 to 2026 (30 zone-level)  | 30 kt (35 mph) to 61 kt (70 mph) (median 50 kt (58 mph)); 19 with a recorded value  | 61 kt (70 mph) measured gust, High Wind, 2019-02-24; NWS zone VAZ507 (NORTHERN VIRGINIA BLUE RIDGE), zone-level: may include parts of neighboring counties                         | High Wind, 1996-09-06, \$5,000 property; \$500,000 crops, reported for the zone (1996 dollars) | Zone-level records: applies countywide; national data do not locate these events within the county.          |                                                                                                                                                                                                                                 |
| Thunderstorm Wind                                              | wind speed (kt and mph)                                                            | 154, 1958 to 2026                 | 40 kt (46 mph) to 65 kt (75 mph) (median 50 kt (58 mph)); 123 with a recorded value | 65 kt (75 mph) estimated gust, Thunderstorm Wind, 2023-08-07; same speed and measurement basis also recorded on 2004-06-17                                                         | Thunderstorm Wind, 2023-07-25, \$250,000 property; crops not reported (2023 dollars)           | Event records naming member places: Front Royal town (44 records).                                           |                                                                                                                                                                                                                                 |

| Hazard                                                                      | Scale                                   | Records<br><i>count, years</i>     | Observed range                                         | Worst recorded event                                                                                                                                                                      | Most damaging<br>(when different) | How it applies to members                                                                           | Note                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------|-----------------------------------------|------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tornado                                                                     | Enhanced Fujita (F before Feb 2007)     | 3, 1970 to 2004                    | F/EF0 to F/EF1 (median F/EF0); 3 with a recorded value | F1 tornado, 2001-05-27, 4 mi within this county, 100 yd wide, \$65,000 property; crops not reported (2001 dollars)                                                                        |                                   | Event records naming member places: Front Royal town (1 record).                                    | From 1996 on, tornado records are per-county segments and length is the path length within this county (NWS Instruction 10-1605); records before 1996 may give the whole path length, including the path outside this county, and before 1996 a tornado is listed once, under the county where it began, with the whole path's rating; counties farther along the path may not list it. Length is not used to rank tornadoes. |
| Tsunami                                                                     | none (count and damage)                 | 0                                  |                                                        |                                                                                                                                                                                           |                                   |                                                                                                     | Physical measure: in event narratives only; local data required.                                                                                                                                                                                                                                                                                                                                                              |
| Volcanic Ash, Volcanic Ashfall                                              | Volcanic Explosivity Index (local data) | 0                                  |                                                        |                                                                                                                                                                                           |                                   |                                                                                                     | Physical measure: in event narratives only; local data required.                                                                                                                                                                                                                                                                                                                                                              |
| Wildfire                                                                    | acres burned (local data)               | 1, 2008 to 2008 (1 zone-level)     |                                                        | No damage reported in 1 records.                                                                                                                                                          |                                   | Zone-level records: applies countywide; national data do not locate these events within the county. | Acres burned: in event narratives only; local data required.                                                                                                                                                                                                                                                                                                                                                                  |
| Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet | none in data (snowfall local)           | 231, 1996 to 2026 (231 zone-level) |                                                        | Winter Storm, 2003-02-14, \$1,300,000 property; crops not reported, reported for the zone (2003 dollars); NWS zone VAZ030 (WARREN), zone-level: may include parts of neighboring counties |                                   | Zone-level records: applies countywide; national data do not locate these events within the county. | Snow depth: in event narratives only; local data required.                                                                                                                                                                                                                                                                                                                                                                    |

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records are placed with NWS zone-county files, which exist from 2020 on; an earlier record is placed by its zone number in the nearest later file only when its zone name matches that file, records from zones NWS renumbered are placed by name or left out, and a record whose zone is in no known file is left out of every count, so counts before 2020 can be low. Some current zones are also missing from the NWS files, so recent counts can be low too.

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

#### SOURCES

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>

## Supports B1-d: previous occurrences

Declaration rows

23

Counted incidents

19

### Federal disaster declarations for this county

| Declared   | Incident began | FEMA number | Type            | Title                                                                               | Mapped hazard                                                        | County Public Assistance<br><i>federal share obligated,<br/>nominal dollars</i> | Flags                                    | Notes                    |
|------------|----------------|-------------|-----------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------|--------------------------|
| 2026-01-23 | 2026-01-22     | EM-3631-VA  | Emergency       | SEVERE WINTER STORM                                                                 | Winter Weather                                                       | none found                                                                      | new since last plan; within last 5 years |                          |
| 2020-04-02 | 2020-01-20     | DR-4512-VA  | Major disaster  | COVID-19 PANDEMIC                                                                   | Non-natural, not counted                                             | \$398,081.77                                                                    |                                          |                          |
| 2020-03-13 | 2020-01-20     | EM-3448-VA  | Emergency       | COVID-19                                                                            | Non-natural, not counted                                             | none found                                                                      |                                          | same incident as DR-4512 |
| 2018-09-11 | 2018-09-13     | EM-3403-VA  | Emergency       | HURRICANE FLORENCE                                                                  | Hurricane                                                            | none found                                                                      |                                          |                          |
| 2016-03-07 | 2016-01-22     | DR-4262-VA  | Major disaster  | SEVERE WINTER STORM AND SNOWSTORM                                                   | Winter Weather                                                       | \$212,840.28                                                                    |                                          |                          |
| 2012-11-26 | 2012-10-26     | DR-4092-VA  | Major disaster  | HURRICANE SANDY                                                                     | Hurricane                                                            | none found                                                                      |                                          |                          |
| 2012-10-29 | 2012-10-26     | EM-3359-VA  | Emergency       | HURRICANE SANDY                                                                     | Hurricane                                                            | none found                                                                      |                                          | same incident as DR-4092 |
| 2012-07-27 | 2012-06-29     | DR-4072-VA  | Major disaster  | SEVERE STORMS AND STRAIGHT-LINE WINDS                                               | Strong Wind                                                          | \$8,019.65                                                                      |                                          |                          |
| 2011-02-20 | 2011-02-19     | FM-2860-VA  | Fire management | SMITH FIRE                                                                          | Wildfire                                                             | none found                                                                      |                                          |                          |
| 2010-04-27 | 2010-02-05     | DR-1905-VA  | Major disaster  | SEVERE WINTER STORMS AND SNOWSTORMS                                                 | Winter Weather                                                       | \$124,980.08                                                                    |                                          |                          |
| 2005-09-12 | 2005-08-29     | EM-3240-VA  | Emergency       | HURRICANE KATRINA EVACUATION                                                        | Hurricane: evacuation support, not a local hazard event; not counted | none found                                                                      |                                          |                          |
| 2003-09-18 | 2003-09-18     | DR-1491-VA  | Major disaster  | HURRICANE ISABEL                                                                    | Hurricane                                                            | \$50,202.58                                                                     |                                          |                          |
| 2003-03-27 | 2003-02-15     | DR-1458-VA  | Major disaster  | SEVERE WINTER STORM, RECORD/NEAR RECORD SNOWFALL, HEAVY RAIN,FLOODIND, AND MUDSLIDE | Inland Flooding; Landslide; Winter Weather                           | \$57,576                                                                        |                                          |                          |
| 2000-02-28 | 2000-01-25     | DR-1318-VA  | Major disaster  | SEVERE WINTER STORMS                                                                | Winter Weather                                                       | \$19,446.37                                                                     |                                          |                          |
| 1996-09-06 | 1996-09-05     | DR-1135-VA  | Major disaster  | HURRICANE FRAN AND ASSOCIATED SEVERE STORM COND                                     | Hurricane                                                            | none found                                                                      |                                          |                          |
| 1996-01-27 | 1996-01-19     | DR-1098-VA  | Major disaster  | FLOODING, HIGH WINDS, AND WIND DRIVEN RAIN                                          | Inland Flooding (primary); also designated: Strong Wind              | none found                                                                      |                                          |                          |
| 1996-01-13 | 1996-01-06     | DR-1086-VA  | Major disaster  | BLIZZARD OF 96 (SEVERE SNOW STORM)                                                  | Winter Weather                                                       | none found                                                                      |                                          |                          |
| 1995-07-01 | 1995-06-22     | DR-1059-VA  | Major disaster  | SEVERE STORMS AND FLOODING                                                          | Inland Flooding                                                      | none found                                                                      |                                          |                          |
| 1993-03-25 | 1993-03-13     | EM-3112-VA  | Emergency       | SEVERE WINTER STORM                                                                 | Winter Weather                                                       | none found                                                                      |                                          |                          |
| 1985-11-09 | 1985-11-09     | DR-755-VA   | Major disaster  | SEVERE STORMS & FLOODING                                                            | Inland Flooding                                                      | none found                                                                      |                                          |                          |
| 1977-07-23 | 1977-07-23     | EM-3046-VA  | Emergency       | DROUGHT                                                                             | Drought                                                              | none found                                                                      |                                          |                          |

| Declared   | Incident began | FEMA number | Type           | Title                    | Mapped hazard                                         | County Public Assistance                            | Flags | Notes |
|------------|----------------|-------------|----------------|--------------------------|-------------------------------------------------------|-----------------------------------------------------|-------|-------|
|            |                |             |                |                          |                                                       | <i>federal share obligated,<br/>nominal dollars</i> |       |       |
| 1972-10-10 | 1972-10-10     | DR-359-VA   | Major disaster | SEVERE STORMS & FLOODING | Inland Flooding                                       | none found                                          |       |       |
| 1972-06-23 | 1972-06-23     | DR-339-VA   | Major disaster | TROPICAL STORM AGNES     | Inland Flooding (primary); also designated: Hurricane | none found                                          |       |       |

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

SOURCES

FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)  
FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)  
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

Statewide declarations

| Declared   | Incident began | FEMA number | Type           | Title                                | Mapped hazard                                                | Flags | Notes |
|------------|----------------|-------------|----------------|--------------------------------------|--------------------------------------------------------------|-------|-------|
| 1963-03-21 | 1963-03-21     | DR-149-VA   | Major disaster | FLOODS                               | Inland Flooding                                              |       |       |
| 1962-03-09 | 1962-03-09     | DR-123-VA   | Major disaster | SEVERE STORMS, HIGH TIDES & FLOODING | Inland Flooding (primary); also designated: Coastal Flooding |       |       |
| 1957-02-01 | 1957-02-01     | DR-68-VA    | Major disaster | FLOODS                               | Inland Flooding                                              |       |       |

FEMA recorded these with designated area Statewide and no county. Listed on every county page in the state; not counted with county rows.

SOURCE

FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)

Previous occurrences by hazard, with explicit no-event rows

| Hazard           | Storm Events records<br><i>full period</i> | Since plan approval<br><i>records</i> | During plan review<br><i>records</i> | Last 5 years<br><i>records</i> | Declared incidents<br><i>distinct incidents</i> | Declared since approval<br><i>distinct incidents</i> | Period             | Statement                                                                                   |
|------------------|--------------------------------------------|---------------------------------------|--------------------------------------|--------------------------------|-------------------------------------------------|------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------|
| Avalanche        | 0                                          | 0                                     | 0                                    | 0                              | 0                                               | 0                                                    | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                              |
| Coastal Flooding | 0                                          | 0                                     | 0                                    | 0                              | 0                                               | 0                                                    | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                              |
| Cold Wave        | 82                                         | 13                                    | 4                                    | 18                             | 0                                               | 0                                                    | 1996 to 2026-06-30 | Includes 43 Frost/Freeze records, event types the NRI definition of this hazard leaves out. |
| Drought          | 10                                         | 0                                     | 0                                    | 0                              | 1                                               | 0                                                    | 1996 to 2026-06-30 |                                                                                             |
| Earthquake       | 0                                          | 0                                     | 0                                    | 0                              | 0                                               | 0                                                    |                    | No Storm Events record; local data required (e.g., USGS).                                   |
| Hail             | 33                                         | 1                                     | 1                                    | 2                              | 0                                               | 0                                                    | 1955 to 2026-06-30 |                                                                                             |
| Heat Wave        | 39                                         | 4                                     | 0                                    | 4                              | 0                                               | 0                                                    | 1996 to 2026-06-30 |                                                                                             |
| Hurricane        | 0                                          | 0                                     | 0                                    | 0                              | 5                                               | 0                                                    | 1996 to 2026-06-30 | No Storm Events records of this type; 5 federal declared incidents (see declarations table) |

| <b>Hazard</b>     | <b>Storm Events records</b><br><i>full period</i> | <b>Since plan approval</b><br><i>records</i> | <b>During plan review</b><br><i>records</i> | <b>Last 5 years</b><br><i>records</i> | <b>Declared incidents</b><br><i>distinct incidents</i> | <b>Declared since approval</b><br><i>distinct incidents</i> | <b>Period</b>      | <b>Statement</b>                                                                                                    |
|-------------------|---------------------------------------------------|----------------------------------------------|---------------------------------------------|---------------------------------------|--------------------------------------------------------|-------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------|
| Ice Storm         | 12                                                | 1                                            | 1                                           | 2                                     | 0                                                      | 0                                                           | 1996 to 2026-06-30 |                                                                                                                     |
| Inland Flooding   | 115                                               | 13                                           | 0                                           | 24                                    | 6                                                      | 0                                                           | 1996 to 2026-06-30 |                                                                                                                     |
| Landslide         | 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)                          |
| Lightning         | 6                                                 | 0                                            | 0                                           | 0                                     | 0                                                      | 0                                                           | 1996 to 2026-06-30 |                                                                                                                     |
| Strong Wind       | 184                                               | 10                                           | 6                                           | 24                                    | 2                                                      | 0                                                           | 1955 to 2026-06-30 | Includes 20 High Wind records and 10 Strong Wind records, event types the NRI definition of this hazard leaves out. |
| Tornado           | 3                                                 | 0                                            | 0                                           | 0                                     | 0                                                      | 0                                                           | 1950 to 2026-06-30 |                                                                                                                     |
| Tsunami           | 0                                                 | 0                                            | 0                                           | 0                                     | 0                                                      | 0                                                           | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                                                      |
| Volcanic Activity | 0                                                 | 0                                            | 0                                           | 0                                     | 0                                                      | 0                                                           | 1996 to 2026-06-30 | No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events                                                      |
| Wildfire          | 1                                                 | 0                                            | 0                                           | 0                                     | 1                                                      | 0                                                           | 1996 to 2026-06-30 |                                                                                                                     |
| Winter Weather    | 231                                               | 33                                           | 10                                          | 53                                    | 7                                                      | 1                                                           | 1996 to 2026-06-30 |                                                                                                                     |

**SOURCES**

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)

NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>

**Notable Storm Events records**

| <b>Date</b> | <b>Event type</b>           | <b>Magnitude or extent</b>    | <b>Damage</b><br><i>nominal dollars</i>              | <b>Direct deaths, injuries</b><br><i>indirect not counted</i> | <b>Location</b>                                                                                       | <b>Flags</b>                                                                      | <b>Why listed</b>                                                                   |
|-------------|-----------------------------|-------------------------------|------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 2026-01-23  | Extreme Cold/<br>Wind Chill |                               | damage not reported                                  | 0, 0                                                          | NWS zone VAZ507 (NORTHERN VIRGINIA BLUE RIDGE), zone-level: may include parts of neighboring counties | new since last plan; within last 5 years                                          | B1-c worst recorded: Cold/Wind Chill, Extreme Cold/Wind Chill                       |
| 2023-08-07  | Thunderstorm Wind           | 65 kt (75 mph) estimated gust | \$50,000 property; crops not reported (2023 dollars) | 0, 0                                                          | LINDEN                                                                                                | during plan review, check whether your last plan included it; within last 5 years | B1-c worst recorded: Thunderstorm Wind                                              |
| 2019-02-24  | High Wind                   | 61 kt (70 mph) measured gust  | damage not reported                                  | 0, 0                                                          | NWS zone VAZ507 (NORTHERN VIRGINIA BLUE RIDGE), zone-level: may include parts of neighboring counties |                                                                                   | B1-c worst recorded: High Wind and Strong Wind (outside NRI Strong Wind definition) |
| 2008-06-04  | Thunderstorm Wind           | 50 kt (58 mph) estimated gust | \$22,000 property; \$0 crops (2008 dollars)          | 0, 2                                                          | WATERLICK                                                                                             |                                                                                   | deaths or injuries recorded                                                         |

| Date       | Event type        | Magnitude or extent                      | Damage<br><i>nominal dollars</i>                                               | Direct deaths,<br>injuries<br><i>indirect not counted</i> | Location                                                                        | Flags | Why listed                                               |
|------------|-------------------|------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------|-------|----------------------------------------------------------|
| 2002-08-12 | Heat              |                                          | damage not reported                                                            | 0, 0                                                      | NWS zone VAZ030 (WARREN), zone-level: may include parts of neighboring counties |       | B1-c worst recorded: Excessive Heat, Heat                |
| 2002-08-03 | Lightning         |                                          | \$195,000 property; crops not reported (2002 dollars)                          | 0, 0                                                      | COUNTYWIDE                                                                      |       | B1-c worst recorded: Lightning                           |
| 2001-05-27 | Tornado           | F1, 4 mi within this county, 100 yd wide | \$65,000 property; crops not reported (2001 dollars)                           | 0, 0                                                      | ASHBY                                                                           |       | B1-c worst recorded: Tornado                             |
| 2000-06-15 | Thunderstorm Wind | speed not recorded                       | \$40,000 property; crops not reported (2000 dollars)                           | 0, 1                                                      | COUNTYWIDE                                                                      |       | deaths or injuries recorded                              |
| 1999-05-01 | Drought           |                                          | damage not reported                                                            | 0, 0                                                      | NWS zone VAZ030 (WARREN), zone-level: may include parts of neighboring counties |       | B1-c worst recorded: Drought                             |
| 1998-05-06 | Flood             |                                          | \$6,000 property; crops not reported, reported for the zone (1998 dollars)     | 1, 0                                                      | NWS zone VAZ030 (WARREN), zone-level: may include parts of neighboring counties |       | deaths or injuries recorded                              |
| 1996-09-06 | Flood             |                                          | \$40,000,000 property; \$2,000,000 crops, reported for the zone (1996 dollars) | 0, 0                                                      | NWS zone VAZ030 (WARREN), zone-level: may include parts of neighboring counties |       | B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood |
| 1977-08-15 | Hail              | 2.75 in                                  | damage not recorded (pre-1996 record)                                          | 0, 0                                                      | location not recorded                                                           |       | B1-c worst recorded: Hail                                |

**The full list is in the XLSX file, sheet "B1-d Storm Events history" (716 rows).**

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records are placed with NWS zone-county files, which exist from 2020 on; an earlier record is placed by its zone number in the nearest later file only when its zone name matches that file, records from zones NWS renumbered are placed by name or left out, and a record whose zone is in no known file is left out of every count, so counts before 2020 can be low. Some current zones are also missing from the NWS files, so recent counts can be low too.

**SOURCES**

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>  
 NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>  
 FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

State-declared emergencies are not in federal data. Add them from your state emergency management agency.

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

## Supports B1-e: probability

### Probability: FEMA annualized frequency and descriptor per hazard

| Hazard              | FEMA<br>annualized<br>frequency<br>(modeled)<br><i>unit per row</i> | Unit                                          | In plain terms                                                                                               | Descriptor       | Descriptor<br>basis                                         | NRI events or days in<br>its record period (hail,<br>wind and tornado are<br>area-weighted, so can<br>be fractional) | NRI period                                          | Location   | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avalanche           | 0.01                                                                | events per year                               | about 1 in 100<br>years                                                                                      | Possible         | FEMA<br>annualized<br>frequency<br>(modeled)                | 0                                                                                                                    | 1994 to 2023<br>(30 years)                          | see B1-f   | 0.01 is NRI's minimum avalanche frequency for a county in an avalanche susceptibility zone; NRI records no avalanche here, so the descriptor reflects the floor, not local events.                                                                                                                                                                                                                                                                                     |
| Coastal<br>Flooding |                                                                     | events per year<br>at a location<br>(modeled) |                                                                                                              |                  |                                                             | not shown                                                                                                            | modeled                                             | see B1-f   | Not Applicable in NRI for this county; no descriptor.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Cold Wave           | 1.95                                                                | event-days per<br>year                        | about 1.95 days<br>per year                                                                                  | Likely           | event-days in<br>13 of 30 years,<br>1996 to 2025<br>(43.3%) | 37.1                                                                                                                 | 2005-11-12 to<br>2024-11-12<br>(19 years)           | countywide | NRI gives about 1.95 cold wave event-days a year here (its annualized frequency over 19 years; not its event count divided by the years), but Storm Events has a record in only 13 of 30 years. NRI counts from a different source that records far more events than Storm Events, so this descriptor reads much lower than NRI's frequency; read the two together. Frost/Freeze records are not counted in this descriptor: they record crop freezes, not cold waves. |
| Drought             | 3.33                                                                | event-days per<br>year                        | about 3.33 days<br>per year                                                                                  | Likely           | event-days in 4<br>of 30 years,<br>1996 to 2025<br>(13.3%)  | 84                                                                                                                   | 2000 to 2025<br>(25.25 years;<br>D3 and D4<br>only) | countywide | NRI gives about 3.33 drought event-days a year here (its annualized frequency over 25.25 years; not its event count divided by the years), but Storm Events has a record in only 4 of 30 years. NRI counts from a different source that records far more events than Storm Events, so this descriptor reads much lower than NRI's frequency; read the two together.                                                                                                    |
| Earthquake          | 0.00122                                                             | annual<br>probability at a<br>location        | chance a given<br>location in the<br>county has at<br>least minor-<br>damage<br>shaking in a<br>year: 0.122% |                  |                                                             | not shown                                                                                                            | modeled                                             | see B1-f   | Descriptor not assigned: the NRI value is the chance at a location in the county, not how often the hazard affects the county, and Storm Events does not record earthquakes.                                                                                                                                                                                                                                                                                           |
| Hail                | 3.27                                                                | events per year                               | about 3.27 per<br>year                                                                                       | Highly<br>likely | FEMA<br>annualized<br>frequency<br>(modeled)                | 124.2 (modeled)                                                                                                      | 1986 to 2023<br>(38 years)                          | countywide |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Heat Wave           | 3.23                                                                | event-days per<br>year                        | about 3.23 days<br>per year                                                                                  | Likely           | event-days in<br>17 of 30 years,<br>1996 to 2025<br>(56.7%) | 57.6                                                                                                                 | 2005-11-12 to<br>2024-11-12<br>(19 years)           | countywide |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Hazard               | FEMA<br>annualized<br>frequency<br>(modeled)<br><i>unit per row</i> | Unit                                                                                             | In plain terms                                                         | Descriptor       | Descriptor<br>basis                                                  | NRI events or days in<br>its record period (hail,<br>wind and tornado are<br>area-weighted, so can<br>be fractional) | NRI period                                         | Location   | Note                                                                                                                                                                |
|----------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hurricane            | 0.0766                                                              | events per year                                                                                  | about 1 in 13<br>years                                                 | Possible         | FEMA<br>annualized<br>frequency<br>(modeled)                         | 22                                                                                                                   | 1851 to 2024<br>(Atlantic)                         | see B1-f   | NRI counts hurricane and tropical storm tracks passing<br>within storm-force wind range; federal declarations are<br>counted separately in B1-d and need not match. |
| Ice Storm            | 0.68                                                                | event-days per<br>year                                                                           | about 0.68 days<br>per year                                            | Likely           | event-days in<br>11 of 30 years,<br>1996 to 2025<br>(36.7%)          | 46                                                                                                                   | 1946-12-31 to<br>2014-02-12<br>(67 years)          | countywide |                                                                                                                                                                     |
| Inland<br>Flooding   | 2.21                                                                | event-days per<br>year                                                                           | about 2.21 days<br>per year                                            | Likely           | event-days in<br>24 of 30 years,<br>1996 to 2025<br>(80%)            | 62                                                                                                                   | 1996 to 2023<br>(28 years)                         | see B1-f   |                                                                                                                                                                     |
| Landslide            | 0.399                                                               | events per year<br>(modeled)                                                                     | about 1 in 3<br>years                                                  | Likely           | FEMA<br>annualized<br>frequency<br>(modeled)                         | not shown                                                                                                            | modeled                                            | see B1-f   |                                                                                                                                                                     |
| Lightning            | 39.6                                                                | days per year<br>with a strike                                                                   | about 39.6 days<br>per year                                            | Highly<br>likely | FEMA<br>annualized<br>frequency<br>(modeled)                         | not shown                                                                                                            | 1995 to 2023<br>(29 years;<br>CONUS)               | countywide |                                                                                                                                                                     |
| Strong<br>Wind       | 5.82                                                                | events per year                                                                                  | about 5.82 per<br>year                                                 | Highly<br>likely | FEMA<br>annualized<br>frequency<br>(modeled)                         | 222                                                                                                                  | 1986 to 2023<br>(38 years)                         | countywide |                                                                                                                                                                     |
| Tornado              | 0.106                                                               | events per year                                                                                  | about 1 in 9<br>years                                                  | Likely           | FEMA<br>annualized<br>frequency<br>(modeled)                         | not shown                                                                                                            | 1950 to 2023<br>(EF2+); 1986<br>to 2023<br>(EF0-1) | see B1-f   |                                                                                                                                                                     |
| Tsunami              |                                                                     | annual<br>probability at the<br>most exposed<br>location (used in<br>place of a county<br>value) |                                                                        |                  |                                                                      | not shown                                                                                                            | modeled                                            | see B1-f   | Not Applicable in NRI for this county; no descriptor.                                                                                                               |
| Volcanic<br>Activity |                                                                     | annual<br>probability                                                                            |                                                                        |                  |                                                                      | not shown                                                                                                            | modeled                                            | see B1-f   | Not Applicable in NRI for this county; no descriptor.                                                                                                               |
| Wildfire             | 0.00126                                                             | annual<br>probability at a<br>location                                                           | chance a given<br>location in the<br>county burns in<br>a year: 0.126% | Possible         | Storm Events<br>records in 1 of<br>30 years, 1996<br>to 2025 (3.33%) | not shown                                                                                                            | modeled                                            | see B1-f   | Descriptor from Storm Events, not NRI: the NRI value is<br>the chance at a location in the county, not how often the<br>hazard affects the county.                  |
| Winter<br>Weather    | 12                                                                  | event-days per<br>year                                                                           | about 12 days<br>per year                                              | Highly<br>likely | event-days in<br>30 of 30 years,<br>1996 to 2025<br>(100%)           | 228                                                                                                                  | 2005-11-12 to<br>2024-11-12<br>(19 years)          | countywide |                                                                                                                                                                     |

FEMA annualized frequency (modeled) comes from the National Risk Index v1.20 (December 2025). It is not recorded events divided by years, and what it measures depends on the hazard. For most hazards it estimates how often the hazard affects this county each year: it counts events or event-days (drought, heat wave, cold wave, winter weather, ice storm and inland flooding are in days per year; lightning is the number of days per year with a recorded cloud-to-ground strike, from the NOAA Storm Prediction Center daily lightning climatology); it may count events in the surrounding area (hail, strong wind, tornado, hurricane and ice storm use a 49 km grid and buffers) and is averaged over the county's area; and some hazards use a minimum value for places with no recorded event. Earthquake, wildfire and coastal flooding are different: FEMA computes them for each census block and averages them over the county, so the value is the chance (for coastal flooding, the modeled number of floods per year) at a location in the county, which is lower than the chance that the hazard strikes somewhere in the county. Earthquake is the chance of at least minor-damage shaking (U.S. Geological Survey model); wildfire is the chance that a location burns in a large fire (U.S. Forest Service burn probability); coastal flooding comes from FEMA flood zones and NOAA high-tide flooding, so it can be above 1 where high-tide flooding is frequent. Tsunami is the value at the county's most exposed location, from recorded events and modeled return periods. For these four hazards the packet gives no "1 in N years" and takes the descriptor from Storm Events (none for earthquake) unless the value is 1 or more a year. Landslide is a U.S. Geological Survey modeled county rate spread by slope susceptibility. Volcanic activity is the chance that a volcano affecting the county erupts in a year. Drought counts only extreme and exceptional drought (D3 and D4). Source: FEMA, National Risk Index Technical Documentation v1.20, sections 5.2.2 (Table 5), 5.2.3, 7.4, 10.4, 16.5, 17.1, 17.3.1, 17.5, 20.3.1, 21.4, 22.4 and 6 to 23.

**SOURCES**  
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)  
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Descriptor scale used in this packet (defined per unit)

| 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       |

**SOURCES**  
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)  
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Intensity bands: historical frequency (Storm Events)

| 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 | 20                                    | 30              | 0.667                                    |
| Hail                                    | 2.00 in+                  | 1996 to 2025 | 0                                     | 30              | 0                                        |
| Strong Wind (Thunderstorm Wind records) | 50-64 kt                  | 1996 to 2025 | 114                                   | 30              | 3.8                                      |
| Strong Wind (Thunderstorm Wind records) | 65 kt+                    | 1996 to 2025 | 2                                     | 30              | 0.0667                                   |
| Strong Wind (Thunderstorm Wind records) | unmeasured or below 50 kt | 1996 to 2025 | 21                                    | 30              | 0.7                                      |

| Hazard  | Band          | Years        | Events<br><i>county-coded records</i> | Years in period | Events per year<br><i>events / years</i> |
|---------|---------------|--------------|---------------------------------------|-----------------|------------------------------------------|
| Tornado | EF0-1         | 1996 to 2025 | 2                                     | 30              | 0.0667                                   |
| 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                                        |

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.

**SOURCE**  
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

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.

## Supports B1-f: variation across the planning area

### Range of census tract risk within the county

| Hazard           | Tracts<br><i>rated of<br/>all</i> | Risk<br>score<br>min<br><i>NRI score,<br/>0 to 100</i> | Median | Max  | Tracts by rating                                           | Note                                                                                                                                                                                                                                                                                                                                                           |
|------------------|-----------------------------------|--------------------------------------------------------|--------|------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avalanche        | 3 of 9                            | 38.1                                                   | 41.3   | 41.5 | Very Low 3, Not Applicable 6                               |                                                                                                                                                                                                                                                                                                                                                                |
| Coastal Flooding | 0 of 9                            |                                                        |        |      | Not Applicable 9                                           |                                                                                                                                                                                                                                                                                                                                                                |
| Cold Wave        | 9 of 9                            | 19.5                                                   | 23.4   | 27.9 | Relatively Low 9                                           | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.                                                                                                                           |
| Drought          | 5 of 9                            | 85.4                                                   | 90.7   | 97.1 | Relatively Moderate 2, Relatively Low 3, No Rating 4       | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. Agriculture is all of NRI's expected annual loss for this hazard in the county, so the tract range above mostly reflects where crop and livestock value is, not where buildings and people are. Confirm locally. |
| Earthquake       | 9 of 9                            | 15.5                                                   | 43.6   | 66.6 | Relatively Low 5, Very Low 4                               |                                                                                                                                                                                                                                                                                                                                                                |
| Hail             | 9 of 9                            | 58.6                                                   | 69.5   | 77.9 | Relatively Moderate 4, Relatively Low 5                    | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.                                                                                                                           |
| Heat Wave        | 9 of 9                            | 43.0                                                   | 53.2   | 69.1 | Relatively Moderate 4, Relatively Low 5                    | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.                                                                                                                           |
| Hurricane        | 9 of 9                            | 53.8                                                   | 59.0   | 69.7 | Relatively Low 9                                           |                                                                                                                                                                                                                                                                                                                                                                |
| Ice Storm        | 9 of 9                            | 3.3                                                    | 10.8   | 13.1 | Very Low 9                                                 | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.                                                                                                                           |
| Inland Flooding  | 9 of 9                            | 32.4                                                   | 81.3   | 95.3 | Relatively High 5, Relatively Moderate 3, Relatively Low 1 |                                                                                                                                                                                                                                                                                                                                                                |

| <b>Hazard</b>     | <b>Tracts<br/><i>rated of<br/>all</i></b> | <b>Risk<br/>score<br/>min<br/><i>NRI score,<br/>0 to 100</i></b> | <b>Median</b> | <b>Max</b> | <b>Tracts by rating</b>                                | <b>Note</b>                                                                                                                                                                                                                          |
|-------------------|-------------------------------------------|------------------------------------------------------------------|---------------|------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Landslide         | 9 of 9                                    | 46.1                                                             | 93.6          | 96.8       | Relatively Moderate 2,<br>Relatively Low 5, Very Low 2 |                                                                                                                                                                                                                                      |
| Lightning         | 9 of 9                                    | 66.0                                                             | 75.8          | 88.4       | Relatively High 4,<br>Relatively Moderate 5            | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally. |
| Strong Wind       | 9 of 9                                    | 73.6                                                             | 82.9          | 89.2       | Relatively High 5,<br>Relatively Moderate 4            | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally. |
| Tornado           | 9 of 9                                    | 36.4                                                             | 45.5          | 51.3       | Relatively Low 9                                       |                                                                                                                                                                                                                                      |
| Tsunami           | 0 of 9                                    |                                                                  |               |            | Not Applicable 9                                       |                                                                                                                                                                                                                                      |
| Volcanic Activity | 0 of 9                                    |                                                                  |               |            | Not Applicable 9                                       |                                                                                                                                                                                                                                      |
| Wildfire          | 9 of 9                                    | 51.5                                                             | 63.7          | 82.3       | Relatively Low 4, Very Low 5                           |                                                                                                                                                                                                                                      |
| Winter Weather    | 9 of 9                                    | 60.9                                                             | 76.1          | 80.2       | Relatively High 2,<br>Relatively Moderate 7            | National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally. |

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.

#### SOURCE

FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)

#### Per-member block (Starter, confirm locally)

| <b>Member</b>    | <b>Type</b> | <b>Plan status</b>                                                       | <b>Repetitive loss<br/><i>FMA RL and<br/>SRL (44 CFR<br/>77.2); repeat-<br/>flood, any<br/>definition</i></b> | <b>Public Assistance<br/>matched<br/><i>federal share obligated,<br/>nominal dollars</i></b> | <b>Event records<br/>naming this<br/>place<br/><i>all years; since the<br/>member's plan</i></b> | <b>Notes</b>                                                                         |
|------------------|-------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Warren County    | County      | Approved, expires 2028-09-11                                             | FMA RL 1, SRL 8; any 65                                                                                       | \$640,117.86                                                                                 | 0; 0                                                                                             | Includes \$398,081.77 for declarations not counted as hazard incidents (DR-4512-VA). |
| Front Royal town | Town        | Plan 109283 approved 2023-09-12, pending adoption here; not yet eligible | FMA RL 0, SRL 3; any 18                                                                                       | \$127,446.26                                                                                 | 78; no approved plan                                                                             |                                                                                      |

Member 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 member row, while the county table counts only its part in this county.

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

#### SOURCES

FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)

FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

## Supports B2-a and B2-b: assets and impacts

Local data required

County-level starter. The plan must describe impacts for each participant and its own assets.

- Critical facilities and lifelines per hazard
- A problem statement per participant 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

| 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> | EAL population equivalence<br><i>statistical value of life and injury, \$13.7M per life, not property damage</i> | EAL as % of exposure<br><i>buildings; agriculture where noted</i> | Storm Events damage since 2023-09-12<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                                                                                                                                                                                                  |
|------------------|---------------------------------------------|------------------------------------------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avalanche        | \$0                                         |                                                | under 1                             | \$0                                              |                                                    | \$672                                                                                                            |                                                                   |                                                                                                           |                                                                                   |                                                                  | building exposure is 0 in NRI                                                                                                                                                                         |
| Coastal Flooding |                                             |                                                |                                     |                                                  |                                                    |                                                                                                                  |                                                                   |                                                                                                           |                                                                                   |                                                                  | Not Applicable in NRI for this county                                                                                                                                                                 |
| Cold Wave        | \$7,827,268,372                             | \$7,579,900                                    | 40,715                              | \$54,264                                         | \$8,631                                            | \$15,424                                                                                                         | 0.000693%                                                         |                                                                                                           | \$0                                                                               |                                                                  |                                                                                                                                                                                                       |
| Drought          |                                             | \$2,735,282                                    |                                     |                                                  | \$278,667                                          |                                                                                                                  | 10.2% (agriculture)                                               |                                                                                                           |                                                                                   |                                                                  | NRI has no building exposure for this hazard; agriculture shown                                                                                                                                       |
| Earthquake       | \$13,146,609,412                            |                                                | 40,727                              | \$209,287                                        |                                                    | \$55,256                                                                                                         | 0.00159%                                                          |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                                                       |
| Hail             | \$7,827,268,372                             | \$7,579,900                                    | 40,715                              | \$164,220                                        | \$746                                              | \$34,640                                                                                                         | 0.0021%                                                           |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                                                       |
| Heat Wave        | \$7,827,268,372                             | \$7,579,900                                    | 40,715                              | \$18                                             | \$10                                               | \$445,474                                                                                                        | under 0.0001%                                                     |                                                                                                           | \$0                                                                               |                                                                  |                                                                                                                                                                                                       |
| Hurricane        | \$7,827,268,372                             | \$7,579,629                                    | 40,715                              | \$231,917                                        | \$20,266                                           | \$10,874                                                                                                         | 0.00296%                                                          |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                                                       |
| Ice Storm        | \$7,827,268,372                             |                                                | 40,715                              | \$6,181                                          |                                                    | \$657                                                                                                            | under 0.0001%                                                     |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                                                       |
| Inland Flooding  | \$7,816,449,451                             | \$1,061,833                                    | 1,315                               | \$9,295,093                                      | \$29,812                                           | \$681,471                                                                                                        | n/a (see note)                                                    | \$0                                                                                                       |                                                                                   |                                                                  | 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. EAL as % of exposure: n/a. |
| Landslide        | \$929,773,238                               |                                                | 6,208                               | \$7,534                                          |                                                    | \$13,417                                                                                                         | 0.00081%                                                          |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                                                       |
| Lightning        | \$7,827,268,372                             |                                                | 40,715                              | \$16,946                                         |                                                    | \$255,247                                                                                                        | 0.000216%                                                         |                                                                                                           |                                                                                   |                                                                  |                                                                                                                                                                                                       |
| Strong Wind      | \$7,827,268,372                             | \$7,579,900                                    | 40,715                              | \$116,013                                        | \$60,312                                           | \$417,596                                                                                                        | 0.00148%                                                          | \$55,000                                                                                                  | \$0                                                                               |                                                                  |                                                                                                                                                                                                       |

| 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> | EAL population equivalence<br><i>statistical value of life and injury, \$13.7M per life, not property damage</i> | EAL as % of exposure<br><i>buildings; agriculture where noted</i> | Storm Events damage since 2023-09-12<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                                  |
|-------------------|---------------------------------------------|------------------------------------------------|-------------------------------------|--------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------|
| Tornado           | \$7,827,268,372                             | \$7,579,900                                    | 40,715                              | \$253,947                                        | \$166                                              | \$196,689                                                                                                        | 0.00324%                                                          |                                                                                                           |                                                                                   |                                                                  |                                       |
| Tsunami           |                                             |                                                |                                     |                                                  |                                                    |                                                                                                                  |                                                                   |                                                                                                           |                                                                                   |                                                                  | Not Applicable in NRI for this county |
| Volcanic Activity |                                             |                                                |                                     |                                                  |                                                    |                                                                                                                  |                                                                   |                                                                                                           |                                                                                   |                                                                  | Not Applicable in NRI for this county |
| Wildfire          | \$243,814,744                               | \$1,546,661                                    | 3,868                               | \$20,939                                         | \$16                                               | \$5,460                                                                                                          | 0.00859%                                                          |                                                                                                           |                                                                                   |                                                                  |                                       |
| Winter Weather    | \$7,827,268,372                             | \$7,579,900                                    | 40,715                              | \$22,149                                         | \$4                                                | \$42,613                                                                                                         | 0.000283%                                                         |                                                                                                           | \$0                                                                               | none found (1 declaration)                                       |                                       |

Totals since 2023-09-12 (Storm Events through 2026-06-30): 21 county-coded records, 20 with a damage value recorded (including \$0), \$55,000; 54 zone-level records, 24 with a damage value recorded (including \$0), \$0 reported for the zone; Public Assistance on counted declarations none found (1 declaration, 0 with PA).

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

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 must not be added up; the unit total counts each declaration once.

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

**SOURCES**  
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)  
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>  
NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>  
FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)  
FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)  
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

## Supports B2-a: context

### County context

| Measure                                                                                                                                                                       | Value               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Population                                                                                                                                                                    | 40,715              |
| Building value (total, not at risk)                                                                                                                                           | \$7,827,268,372     |
| Agriculture value (total, not at risk)                                                                                                                                        | \$7,579,900         |
| NRI risk rating (all hazards)                                                                                                                                                 | Very Low            |
| Expected annual loss, buildings and agriculture, all hazards                                                                                                                  | \$10,797,137        |
| 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) | \$2,175,490         |
| Social vulnerability rating                                                                                                                                                   | Very Low            |
| Community resilience rating                                                                                                                                                   | Relatively Moderate |

| Measure     | Value         |
|-------------|---------------|
| NRI version | December 2025 |

FEMA's all-hazard expected annual loss total adds buildings, agriculture and population equivalence; the two parts are shown separately so the property figure is not read as including the statistical value of life.

**SOURCE**  
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, [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)

## Supports B2-c: repetitive loss

### Repetitive loss in this county, both definitions

| Definition                                    | Properties | Severe repetitive loss                               | Properties |
|-----------------------------------------------|------------|------------------------------------------------------|------------|
| Repetitive loss, FMA definition (44 CFR 77.2) | 1          | Severe repetitive loss, FMA definition (44 CFR 77.2) | 11         |
| Repetitive loss, NFIP insurance definition    | 82         | Severe repetitive loss, NFIP insurance definition    | 11         |

Your state NFIP coordinator's list may use the NFIP insurance definition, so its counts can be higher.

**SOURCES**  
FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)  
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

### Repeat-flood properties: county and state-level rows

| Scope                                                | 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> |
|------------------------------------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|
| County total                                         | 1                            | 11                            | 82                            | 11                             | 83                                | 0                              | 12                                     |
| WARREN COUNTY *                                      | 1                            | 8                             | 64                            | 8                              | 65                                | 0                              | 11                                     |
| FRONT ROYAL, TOWN OF                                 | 0                            | 3                             | 18                            | 3                              | 18                                | 0                              | 1                                      |
| State level, not in this county: county not reported | 0                            | 0                             | 4                             | 0                              | 4                                 | 0                              | 0                                      |

**SOURCES**  
FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)  
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

### Repeat-flood properties by plan member (NFIP community)

| Member           | 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> | Note |
|------------------|-------------------|------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|----------------------------------------|------|
| Warren County    | 510166            | 1                            | 8                             | 64                            | 8                              | 65                                | 0                              | 11                                     |      |
| Front Royal town | 510167            | 0                            | 3                             | 18                            | 3                              | 18                                | 0                              | 1                                      |      |

#### Per-member types: XLSX sheet 'B2-c Members'.

Member 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 member row, while the county table counts only its part in this county.

**SOURCES**  
FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)  
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

County repeat-flood properties by occupancy group

| 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 | 1                            | 11                            | 77                            | 11                             | 78                                | 0                              | 11                                     |
| 2 to 4 unit residential   | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| other residential         | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |
| non-residential           | 0                            | 0                             | 5                             | 0                              | 5                                 | 0                              | 1                                      |
| not reported              | 0                            | 0                             | 0                             | 0                              | 0                                 | 0                              | 0                                      |

Institutional properties cannot be separated in this data: FEMA's occupancy groups have no institutional class, so they fall in non-residential or other residential in the table by occupancy group.

SOURCES

FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)  
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

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; OpenFEMA's fmaRI field description omits the Increased Cost of Compliance clause of 44 CFR 77.2(i). NFIP repetitive loss (FEMA insurance definition, nfipRI) is 2 or more claims over \$1,000 in 10 years and can drop to false when a property is mitigated. Also shown: NFIP severe repetitive loss, any category, mitigated and currently insured.

Your state NFIP coordinator's list may use the NFIP insurance definition, so its counts can be higher.

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

Counts may differ from your state NFIP coordinator's list, which is the source the Handbook names.

In this county 1 property is FMA repetitive loss but not NFIP repetitive loss, and 82 properties are NFIP repetitive loss but not FMA repetitive loss.

Exact counts; no count suppression.

Sources

Every table above lists its own sources. The full list, for the plan's bibliography (FEMA review item A4-a):

1. FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)
2. FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
3. FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
4. FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <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 2026-09-28, [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 2026-09-28, <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 2026-09-28, <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 2026-09-28, [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_Gazetteer/2024_Gaz_unsd_national.zip), [https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024\\_Gazetteer/2024\\_Gaz\\_el\\_sd\\_national.zip](https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_el_sd_national.zip)

gazetteer/2024\_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)

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Corrections: to report an error, name the packet, the table and what your records show. Contact: to be added

Hazard Plain release 2026-10. As of 2026-09-28; Storm Events data through 2026-06-30. File hazard-plain\_2026-10\_VA\_51187. Preview: automated baseline.