

Howard County, MD

Risk-assessment baseline packet

County FIPS: 24027 Release: 2026-10 Data as of: 2026-09-30 Storm Events data through: 2026-06-30

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

Summary

Plan status as of 2026-09-30: Approved, expires 2028-11-05. Plan: Howard County Hazard Mitigation Plan (FEMA plan 109068), approved 2023-11-06.

Since the plan was approved on 2023-11-06: 1 new hazard declaration (1 incident) and 69 NOAA Storm Events records; details under "What changed since your last plan".

Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Inland Flooding (\$29,889,959 a year), Heat Wave (\$4,812,016) and Hurricane (\$3,698,776).

The tables that follow are organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B (B1-a to B2-c); each heading says which item its tables support.

TERMS USED

EAL: expected annual loss: FEMA's modeled average yearly loss from a hazard.

NRI: FEMA's National Risk Index (version 1.20, December 2025).

NFIP: National Flood Insurance Program.

RL, SRL: repetitive loss and severe repetitive loss: flood-insured properties with repeated claims (definitions in B2-c).

FMA, HMGP: Flood Mitigation Assistance and Hazard Mitigation Grant Program, FEMA mitigation grants.

PA: FEMA Public Assistance: disaster aid to governments and some nonprofits.

Zone-level: NOAA logged the event for a National Weather Service forecast zone, which may include parts of neighboring counties.

County-coded: NOAA logged the event to this county.

FIPS: the federal code for a place; 24027 is this area.

D0 to D4: U.S. Drought Monitor categories, from abnormally dry (D0) to exceptional drought (D4).

F/EF, EFU: Fujita and Enhanced Fujita tornado ratings; EFU is an unrated tornado.

kt, CONUS: knots (1 kt is about 1.15 mph); the contiguous United States.

CFR: Code of Federal Regulations.

A4-a, E1-a: other items of FEMA's Local Mitigation Plan Review Tool (sources, and changes since the last plan).

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

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Plan clock

Status:	Approved, expires 2028-11-05	Plan:	Howard County Hazard Mitigation Plan (FEMA plan 109068)
Approved:	2023-11-06	Days to expiry:	767

What changed since your last plan (approved 2023-11-06)

New federal declarations:	1 new hazard declaration (1 incident): EM-3634-MD (Severe Winter Storm)	Storm Events records since approval:	69 records (data through 2026-06-30)
Repetitive loss now:	FMA RL 9, SRL 6 (44 CFR 77.2); any definition: 47	Repeat-flood change:	this release sets the baseline count.

Sources: 1, 2, 4, 6 (numbered list at the end)

Plan status for every jurisdiction listed in this county

Source: 1

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry <i>negative = days since expiry</i>
Howard County	County	Approved, expires 2028-11-05	Howard County Hazard Mitigation Plan (FEMA plan 109068)	2023-11-06	2028-11-05	767

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

Supports FEMA checklist item B1-a: hazard identification

Hazards NRI does not cover (local data needed)

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

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

Sources: 5, 6

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Storm Events coverage note
1	Inland Flooding	Relatively Moderate	Relatively Moderate	\$26,098,580	\$13,730	\$3,777,649	\$29,889,959	161	
2	Heat Wave	Relatively Moderate	Relatively Moderate	\$2	\$55	\$4,811,959	\$4,812,016	20	
3	Hurricane	Relatively Low	Relatively Moderate	\$3,443,564	\$142,012	\$113,199	\$3,698,776	1	
4	Strong Wind	Relatively High	Relatively High	\$720,633	\$51,945	\$2,446,432	\$3,219,010	331	Includes 6 High Wind and 1 Strong Wind records (NOAA non-thunderstorm wind types, outside NRI's Strong Wind definition).
5	Earthquake	Relatively Low	Relatively Low	\$1,792,631	n/a	\$443,499	\$2,236,130		Storm Events does not record earthquakes.
6	Cold Wave	Relatively Low	Relatively Moderate	\$91,294	\$31,667	\$1,661,819	\$1,784,780	31	Includes 23 Frost/Freeze records (outside NRI's Cold Wave definition; counted in this table and in B1-d, not in the B1-e descriptor).
7	Tornado	Relatively Low	Relatively Low	\$1,275,871	\$512	\$298,140	\$1,574,522	15	
8	Lightning	Relatively High	Relatively High	\$88,656	n/a	\$1,402,150	\$1,490,807	7	
9	Drought	Relatively Moderate	Relatively Moderate	n/a	\$1,167,602	n/a	\$1,167,602	0	No recorded events in Storm Events since 1996 (data through 2026-06-30).
10	Hail	Relatively Low	Relatively Moderate	\$1,007,021	\$8,275	\$1,629	\$1,016,925	49	
11	Winter Weather	Relatively High	Relatively High	\$42,819	\$11	\$802,647	\$845,477	98	

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Storm Events coverage note
12	Ice Storm	Relatively Low	Relatively Moderate	\$157,218	n/a	\$59,621	\$216,839	0	No recorded events in Storm Events since 1996 (data through 2026-06-30).
13	Wildfire	Very Low	Very Low	\$7,285	\$1	\$1,570	\$8,855	0	No recorded events in Storm Events since 1996 (data through 2026-06-30).
14	Landslide	Very Low	Very Low	\$2,359	n/a	\$212	\$2,571	0	No recorded events in Storm Events since 1996 (data through 2026-06-30).
15	Coastal Flooding	Very Low	Very Low	\$624	n/a	\$8	\$632	0	No recorded events in Storm Events since 1996 (data through 2026-06-30).

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

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

Local data needed: state and local wildfire and landslide records (Storm Events records these hazards only in part).

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

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

Supports FEMA checklist item B1-b: hazard location

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

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

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

Source: 5

Hazard	Highest-rated census tracts <i>NRI risk rating, score 0 to 100</i>
Earthquake	tract 6067.08 (Relatively Low, 74.7); tract 6069.01 (Relatively Low, 71.8); tract 6069.05 (Relatively Low, 67.5)
Hurricane	tract 6067.08 (Relatively Moderate, 81.1); tract 6069.01 (Relatively Moderate, 79.2); tract 6030.04 (Relatively Low, 78.2)
Landslide	tract 6021 (Relatively Low, 86.1); tract 6040.01 (Relatively Low, 84.4); tract 6027 (Relatively Low, 83.2)
Tornado	tract 6067.08 (Relatively Low, 48.3); tract 6069.01 (Relatively Low, 43.9); tract 6030.04 (Relatively Low, 41.2)
Wildfire	tract 6026 (Very Low, 58.9); tract 6069.01 (Very Low, 56.2); tract 6030.01 (Very Low, 54.0)

Up to 3 census tracts per hazard, highest National Risk Index rating first, then highest score; a tract number is the Census tract number (for example 6067.08 is Census Tract 6067.08). FEMA's Resilience Analysis and Planning Tool maps the National Risk Index for every tract: <https://www.fema.gov/emergency-managers/practitioners/resilience-analysis-and-planning-tool>

Supports FEMA checklist item B1-c: hazard extent

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

Sources: 6, 7

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Coastal Flood, Storm Surge/ Tide	none in data (flood depth: FIRM)	0					Flood depth: see the FEMA Flood Insurance Rate Map.
Cold/Wind Chill, Extreme Cold/Wind Chill	wind chill	8 records, 2018 to 2026 (8 zone-level)	1 day to 11 days (median 2 days); 7 with a recorded value	11 consecutive days, 2026-01-23 to 2026-02-02, zone-level		Countywide (zone-level records).	
Frost/Freeze (outside NRI's Cold Wave definition)	crop damage	23 records, 2015 to 2021 (23 zone-level)		No crop damage reported in 23 records.		Countywide (zone-level records).	
Drought	U.S. Drought Monitor scale (D0 to D4)	0					Storm Events enters a drought at D2 or worse east of the Rockies and D3 or worse from the Rockies west (NWS Instruction 10-1605); NRI drought counts D3 and D4 only.
Earthquake	Modified Mercalli (local data)	0					Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	hail size (inches)	55 records, 1976 to 2025	0.75 in to 3.5 in (median 1 in); 55 with a recorded value	3.5 in hail, 1990-06-08; same size also recorded on 1990-06-08	Hail, 2000-05-24, \$10,000 property; crops not reported (2000 dollars)	No event record names a jurisdiction in the plan.	
Excessive Heat, Heat	heat index (in event narratives)	20 records, 2016 to 2024 (20 zone-level)	1 day to 3 days (median 1 day); 12 with a recorded value	3 consecutive days, 2019-07-19 to 2019-07-21, zone-level		Countywide (zone-level records).	
Hurricane, Tropical Storm, Tropical Depression	Saffir-Simpson	1 record, 2020 (1 zone-level)		Strongest recorded: Tropical Storm record, 2020-08-04, \$5,000 property; \$0 crops (2020 dollars); NWS zone MDZ506		Countywide (zone-level records).	Storm Events files every zone of a storm's episode under the storm's type; flooding from the storm is filed as Flood or Flash Flood records.
Ice Storm	Sperry-Piltz ice scale (local data)	0					
Flash Flood, Flood, Lakeshore Flood	damage and flood days (flood depth: FIRM)	161 records, 1996 to 2025		Flash Flood, 2016-07-30, \$22,400,000 property; \$0 crops (2016 dollars), 2 direct deaths		No event record names a jurisdiction in the plan.	Flood depth: see the FEMA Flood Insurance Rate Map. Storm Events damage is often \$0 or blank for floods, major ones included; FEMA Public Assistance by declaration (B1-d) shows which floods cost the most.
Debris Flow	none (count and damage only)	0					

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Lightning	annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names)	7 records, 1996 to 2023		Lightning, 2002-08-03, \$500,000 property; crops not reported (2002 dollars)		No event record names a jurisdiction in the plan.	Storm Events lists lightning with damage or casualties.
High Wind and Strong Wind (outside NRI's Strong Wind definition)	wind speed (kt and mph)	7 records, 1997 to 2025 (6 zone-level)	50 kt (58 mph) to 52 kt (60 mph) (median 50 kt (58 mph)); 6 with a recorded value	52 kt (60 mph) estimated gust, High Wind, 2017-02-12; NWS zone MDZ506	Strong Wind, 1997-11-02, \$1,000 property; crops not reported (1997 dollars)	No event record names a jurisdiction in the plan. Zone-level records (6) apply countywide.	
Thunderstorm Wind	wind speed (kt and mph)	350 records, 1969 to 2026	40 kt (46 mph) to 70 kt (81 mph) (median 52 kt (60 mph)); 296 with a recorded value	70 kt (81 mph) estimated gust, Thunderstorm Wind, 2019-05-23	Thunderstorm Wind, 2022-06-08, \$1,000,000 property; crops not reported (2022 dollars)	No event record names a jurisdiction in the plan.	
Tornado	Enhanced Fujita (Fujita before Feb 2007)	20 records, 1975 to 2026	F/EF0 to F/EF2 (median between F/EF0 and F/EF1); 20 with a recorded value	F2 tornado, 2001-09-24, 6 mi within this county, 100 yd wide, \$1,000,000 property; crops not reported (2001 dollars)	Tornado, 2024-06-05, \$3,000,000 property; crops not reported (2024 dollars)	No event record names a jurisdiction in the plan.	Before 1996 a tornado is listed once, under the county where it began, with its whole path's rating and length; from 1996 on, each county lists its own segment. Length is not used to rank tornadoes (see Methods).
Wildfire	acres burned (local data)	0					
Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet	none in data (snowfall: local data)	98 records, 2014 to 2026 (98 zone-level)		No damage reported in 98 records.		Countywide (zone-level records).	

In event narratives only (local data needed): wind chill, temperature, heat index, ice thickness, acres burned and snow depth; any physical measure of debris flow and lightning.

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

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

Supports FEMA checklist item B1-d: previous occurrences

Federal declarations for this county: 22 declarations covering 18 separate hazard incidents counted in this packet (declarations for the same incident count once; non-natural and evacuation-only declarations are not counted).

Federal disaster declarations for this county

Sources: 1, 2, 3

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance <i>federal share obligated, nominal dollars</i>	Flags	Notes
2026-01-24	2026-01-23	EM-3634-MD	Emergency	Severe Winter Storm	Winter Weather	no Public Assistance recorded	new since last plan; within last 5 years	
2020-03-26	2020-01-20	DR-4491-MD	Major disaster	COVID-19 Pandemic	Non-natural, not counted	\$301,886.86		
2020-03-13	2020-01-20	EM-3430-MD	Emergency	COVID-19	Non-natural, not counted	no Public Assistance recorded		same incident as DR-4491
2018-07-02	2018-05-27	DR-4376-MD	Major disaster	Severe Storm and Flooding	Inland Flooding	\$10,323,093.42		
2016-09-16	2016-07-30	DR-4279-MD	Major disaster	Severe Storm and Flooding	Inland Flooding	\$6,494,759.83		
2016-03-04	2016-01-22	DR-4261-MD	Major disaster	Severe Winter Storm and Snowstorm	Winter Weather	\$1,757,903.22		
2014-04-10	2014-02-12	DR-4170-MD	Major disaster	Snowstorm	Winter Weather	\$715,738.01		
2012-11-20	2012-10-26	DR-4091-MD	Major disaster	Hurricane Sandy	Hurricane	\$692,463		
2012-10-28	2012-10-26	EM-3349-MD	Emergency	Hurricane Sandy	Hurricane	no Public Assistance recorded		same incident as DR-4091
2011-10-05	2011-09-06	DR-4038-MD	Major disaster	Remnants of Tropical Storm Lee	Inland Flooding (primary); also designated: Hurricane	\$1,515,490.62		
2011-08-27	2011-08-26	EM-3335-MD	Emergency	Hurricane Irene	Hurricane	\$322,782.05		
2010-05-06	2010-02-05	DR-1910-MD	Major disaster	Severe Winter Storms and Snowstorms	Winter Weather	\$919,980.66		
2010-02-19	2009-12-18	DR-1875-MD	Major disaster	Severe Winter Storm and Snowstorm	Winter Weather	\$834,620.90		
2005-09-13	2005-08-29	EM-3251-MD	Emergency	Hurricane Katrina Evacuation	Hurricane: evacuation support, not a local hazard event; not counted	\$2,599.58		
2003-09-19	2003-09-18	DR-1492-MD	Major disaster	Hurricane Isabel	Hurricane	\$704,431.93		
2003-03-14	2003-02-14	EM-3179-MD	Emergency	Snow	Winter Weather	\$353,878.88		
2000-04-10	2000-01-25	DR-1324-MD	Major disaster	Severe Winter Storm	Winter Weather	\$205,066.85		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance	Flags	Notes
						<i>federal share obligated, nominal dollars</i>		
1996-01-11	1996-01-06	DR-1081-MD	Major disaster	Blizzard of 96 (Severe Snow Storm)	Winter Weather	no Public Assistance recorded		
1993-03-16	1993-03-13	EM-3100-MD	Emergency	Severe Snowfall & Winter Storm	Winter Weather	no Public Assistance recorded		
1975-10-04	1975-10-04	DR-489-MD	Major disaster	Heavy Rains & Flooding	Inland Flooding	no Public Assistance recorded		
1972-06-23	1972-06-23	DR-341-MD	Major disaster	Tropical Storm Agnes	Inland Flooding (primary); also designated: Hurricane	no Public Assistance recorded		
1971-08-17	1971-08-17	DR-309-MD	Major disaster	Severe Storms & Flooding	Inland Flooding	no Public Assistance recorded		

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

Statewide declarations

Source: 2

Declared	Incident began	FEMA number	Type	Title	Mapped hazard
1962-03-09	1962-03-09	DR-127-MD	Major disaster	Severe Storms, High Tides & Flooding	Inland Flooding (primary); also designated: Coastal Flooding

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

Public Assistance not placed in any Maryland county: 1 row, \$112,415.86; listed on the Maryland state page.

Source: 3

Previous occurrences by hazard, with explicit no-event rows

Sources: 2, 6, 7

Hazard	Storm Events records, all years on file <i>(years in the Period column)</i>	Since plan approval <i>records</i>	In the 12 months before plan approval <i>records</i>	Last 5 years <i>records</i>	Declared incidents, all years <i>separate disasters</i>	Declared since approval <i>separate disasters</i>	Period	Statement
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	31	4	1	5	0	0	1996 to 2026-06-30	Includes 23 Frost/Freeze records.
Drought	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Earthquake	0	0	0	0	0	0		Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	55	1	1	2	0	0	1955 to 2026-06-30	
Heat Wave	20	1	1	2	0	0	1996 to 2026-06-30	

Hazard	Storm Events records, all years on file <i>(years in the Period column)</i>	Since plan approval <i>records</i>	In the 12 months before plan approval <i>records</i>	Last 5 years <i>records</i>	Declared incidents, all years <i>separate disasters</i>	Declared since approval <i>separate disasters</i>	Period	Statement
Hurricane	1	0	0	0	5	0	1996 to 2026-06-30	
Ice Storm	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Inland Flooding	161	8	0	15	6	0	1996 to 2026-06-30	
Landslide	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Lightning	7	0	1	1	0	0	1996 to 2026-06-30	
Strong Wind	357	29	15	52	0	0	1955 to 2026-06-30	Includes 6 High Wind and 1 Strong Wind records.
Tornado	20	2	0	2	0	0	1950 to 2026-06-30	
Wildfire	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Winter Weather	98	24	2	35	9	1	1996 to 2026-06-30	

Notable Storm Events records

Sources: 1, 6, 7

Date	Event type	Magnitude or extent	Damage <i>nominal dollars</i>	Deaths, injuries <i>direct only</i>	Location	Flags	Why listed
2026-01-23	Extreme Cold/ Wind Chill		\$0 property; \$0 crops (zone total, 2026 dollars)	0, 0	NWS zone MDZ506 (CENTRAL AND SOUTHEAST HOWARD), zone-level	new since last plan; within last 5 years	B1-c worst recorded: Cold/Wind Chill, Extreme Cold/Wind Chill
2020-08-04	Tropical Storm		\$5,000 property; \$0 crops (zone total, 2020 dollars)	0, 0	NWS zone MDZ506 (CENTRAL AND SOUTHEAST HOWARD), zone-level		B1-c worst recorded: Hurricane, Tropical Storm, Tropical Depression
2019-07-19	Excessive Heat		damage not reported	0, 0	NWS zone MDZ505 (NORTHWEST HOWARD), zone-level		B1-c worst recorded: Excessive Heat, Heat
2019-05-23	Thunderstorm Wind	70 kt (81 mph) estimated gust	damage not reported	0, 0	SAVAGE		B1-c worst recorded: Thunderstorm Wind
2018-05-27	Flash Flood		\$10,500,000 property; \$0 crops (2018 dollars)	1, 0	ELLCOTT CITY		deaths or injuries recorded
2017-02-12	High Wind	52 kt (60 mph) estimated gust	damage not reported	0, 0	NWS zone MDZ506 (CENTRAL AND SOUTHEAST HOWARD), zone-level		B1-c worst recorded: High Wind and Strong Wind
2016-07-30	Flash Flood		\$22,400,000 property; \$0 crops (2016 dollars)	2, 0	ELLCOTT CITY to BRINKLEIGH MANOR		deaths or injuries recorded
2015-05-19	Flood		\$10,000 property; \$0 crops (2015 dollars)	1, 0	SAVAGE		deaths or injuries recorded
2002-08-03	Lightning		\$500,000 property; crops not reported (2002 dollars)	0, 0	CLARKSVILLE		B1-c worst recorded: Lightning
2001-09-24	Tornado	F2, 6 mi within this county, 100 yd wide	\$1,000,000 property; crops not reported (2001 dollars)	0, 0	NORTH LAUREL		B1-c worst recorded: Tornado
1997-11-02	Strong Wind	speed not recorded	\$1,000 property; crops not reported (1997 dollars)	0, 0	LONG CORNER		B1-c most damaging: High Wind and Strong Wind
1990-06-08	Hail	3.5 in	damage not recorded (pre-1996 record)	0, 0	location not recorded		B1-c worst recorded: Hail

The full list is in the Excel file, sheet "B1-d Storm Events history" (750 rows).

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

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

FEMA's declaration data list no tribal or special-area declarations for this state.

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

Probability: FEMA annualized frequency and descriptor per hazard

Sources: 5, 6

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Coastal Flooding	0.012	events per year at a location (modeled)	about 0.012 per year at a given location in the county		Storm Events records in 0 of 30 years, 1996 to 2025 (0%)	not shown	modeled	see B1-f	No descriptor: no Storm Events record 1996 to 2025
Cold Wave	1.6	event-days per year	about 1.6 days per year	Likely	Storm Events event-days in 4 of 30 years, 1996 to 2025 (13.3%)	30.4	2005-11-12 to 2024-11-12 (19 years)	countywide	
Drought	5.33	event-days per year	about 5.33 days per year		Storm Events event-days in 0 of 30 years, 1996 to 2025 (0%)	161	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	No Storm Events drought record, 1996 to 2025
Earthquake	0.00101	annual probability at a location	chance a given location in the county has at least minor-damage shaking in a year: 0.101%			not shown	modeled	see B1-f	No descriptor (Storm Events does not record earthquakes).
Hail	3.68	events per year	about 3.68 per year	Highly likely	FEMA annualized frequency (modeled)	139.8 (modeled)	1986 to 2023 (38 years)	countywide	
Heat Wave	5.32	event-days per year	about 5.32 days per year	Likely	Storm Events event-days in 8 of 30 years, 1996 to 2025 (26.7%)	91.5	2005-11-12 to 2024-11-12 (19 years)	countywide	
Hurricane	0.0971	events per year	about 1 in 10 years	Possible	FEMA annualized frequency (modeled)	30	1851 to 2024 (Atlantic)	see B1-f	NRI counts hurricane and tropical storm tracks passing within storm-force wind range; federal declarations are in B1-d.
Ice Storm	0.892	event-days per year	about 0.892 days per year		Storm Events event-days in 0 of 30 years, 1996 to 2025 (0%)	60	1946-12-31 to 2014-02-12 (67 years)	countywide	No Storm Events ice storm record, 1996 to 2025
Inland Flooding	2.57	event-days per year	about 2.57 days per year	Likely	Storm Events event-days in 25 of 30 years, 1996 to 2025 (83.3%)	72	1996 to 2023 (28 years)	see B1-f	
Landslide	0.237	events per year (modeled)	about 1 in 4 years	Likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Lightning	38.4	days per year with a strike	about 38.4 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	
Strong Wind	8.04	events per year	about 8.04 per year	Highly likely	FEMA annualized frequency (modeled)	306	1986 to 2023 (38 years)	countywide	
Tornado	0.188	events per year	about 1 in 5 years	Likely	FEMA annualized frequency (modeled)	not shown	1950 to 2023 (EF2+); 1986 to 2023 (EF0-1)	see B1-f	
Wildfire	0.0000278	annual probability at a location	chance a given location in the county burns in a year: 0.00278%		Storm Events records in 0 of 30 years, 1996 to 2025 (0%)	not shown	modeled	see B1-f	No descriptor: no Storm Events record 1996 to 2025
Winter Weather	12	event-days per year	about 12 days per year	Likely	Storm Events event- days in 11 of 30 years, 1996 to 2025 (36.7%)	229	2005-11-12 to 2024-11-12 (19 years)	countywide	

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

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

Descriptor scale used in this packet (defined per unit)

Sources: 5, 6

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

Intensity bands: historical frequency (Storm Events)

Source: 6

Hazard	Band	Years	Events <i>county-coded records</i>	Years in period	Events per year <i>events / years</i>
Hail	1.00-1.99 in	1996 to 2025	36	30	1.2
Hail	2.00 in+	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	50-64 kt	1996 to 2025	274	30	9.13
Thunderstorm Wind (counted as NRI Strong Wind)	65 kt+	1996 to 2025	5	30	0.167
Thunderstorm Wind (counted as NRI Strong Wind)	unmeasured or below 50 kt	1996 to 2025	32	30	1.07
Tornado	EF0-1	1996 to 2025	13	30	0.433
Tornado	EF2-3	1996 to 2025	1	30	0.0333
Tornado	EF4-5	1996 to 2025	0	30	0
Tornado	unrated (EFU)	1996 to 2025	0	30	0

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

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

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

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

Range of census tract risk within the county

Source: 5

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Coastal Flooding	2 of 59	73.2	74.0	74.7	Very Low 2, No Rating 57
Cold Wave	59 of 59	22.6	33.3	55.0	Relatively Moderate 1, Relatively Low 58
Drought	21 of 59	68.1	86.3	97.4	Relatively Moderate 7, Relatively Low 6, Very Low 8, No Rating 38
Earthquake	59 of 59	22.8	46.2	74.7	Relatively Low 33, Very Low 26
Hail	59 of 59	42.6	60.0	80.5	Relatively Moderate 6, Relatively Low 53
Heat Wave	59 of 59	30.5	64.7	89.5	Relatively High 1, Relatively Moderate 42, Relatively Low 16
Hurricane	59 of 59	55.6	66.4	81.1	Relatively Moderate 2, Relatively Low 57
Ice Storm	59 of 59	5.0	34.7	57.0	Relatively Low 31, Very Low 28
Inland Flooding	59 of 59	5.0	26.8	68.0	Relatively Moderate 9, Relatively Low 33, Very Low 17
Landslide	59 of 59	26.4	55.6	86.1	Relatively Low 6, Very Low 53
Lightning	59 of 59	35.0	64.8	92.1	Relatively High 10, Relatively Moderate 42, Relatively Low 7

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Strong Wind	59 of 59	44.5	74.7	91.2	Relatively High 10, Relatively Moderate 46, Relatively Low 3
Tornado	59 of 59	17.7	31.0	48.3	Relatively Low 35, Very Low 24
Wildfire	59 of 59	19.4	38.6	58.9	Very Low 59
Winter Weather	59 of 59	58.4	82.8	95.9	Very High 1, Relatively High 41, Relatively Moderate 17

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

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

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

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

Each jurisdiction (starting figures from federal data)

Sources: 1, 3, 4, 6

Jurisdiction	Type	Plan status	Repetitive loss	Public Assistance to this jurisdiction	Event records naming this place	Notes
			<i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i>	<i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i>	<i>all years; since its plan</i>	
Howard County	County	Approved, expires 2028-11-05	FMA RL 9, SRL 6; any 46	\$13,631,020.36	0 total; 0 since its plan	Includes \$48,088.47 for declarations not counted as hazard incidents (DR-4491-MD, EM-3251-MD).

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

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

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

Local data needed

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

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

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

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

Hazard	Building exposure <i>modeled dollars</i>	Agriculture exposure <i>modeled dollars</i>	Population exposed <i>people</i>	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2023-11-06 <i>county-coded records, property plus crops, nominal dollars</i>	Zone-level damage since plan <i>property plus crops, reported for the zone</i>	Public Assistance since plan <i>nominal dollars; see note</i>	Note
Coastal Flooding	\$746,723,712	n/a	3,450	\$624	n/a	\$8	under 0.0001%				
Cold Wave	\$73,366,856,902	\$35,092,108	332,270	\$91,294	\$31,667	\$1,661,819	0.000124%		\$0		
Drought	n/a	\$26,244,400	n/a	n/a	\$1,167,602	n/a	4.45% (agriculture)				NRI has no building exposure for this hazard; agriculture shown
Earthquake	\$122,315,617,991	n/a	332,317	\$1,792,631	n/a	\$443,499	0.00147%				
Hail	\$73,366,856,902	\$35,092,108	332,270	\$1,007,021	\$8,275	\$1,629	0.00137%				
Heat Wave	\$73,366,856,902	\$35,092,108	332,270	\$2	\$55	\$4,811,959	under 0.0001%		\$0		
Hurricane	\$73,364,301,263	\$35,092,108	332,252	\$3,443,564	\$142,012	\$113,199	0.00469%				
Ice Storm	\$73,250,144,684	n/a	331,801	\$157,218	n/a	\$59,621	0.000215%				

Hazard	Building exposure <i>modeled dollars</i>	Agriculture exposure <i>modeled dollars</i>	Population exposed <i>people</i>	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2023-11-06 <i>county-coded records, property plus crops, nominal dollars</i>	Zone-level damage since plan <i>property plus crops, reported for the zone</i>	Public Assistance since plan <i>nominal dollars; see note</i>	Note
Inland Flooding	\$73,357,672,745	\$534,938	2,738	\$26,098,580	\$13,730	\$3,777,649	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.
Landslide	\$1,974,995,458	n/a	9,077	\$2,359	n/a	\$212	0.000119%				
Lightning	\$73,366,856,902	n/a	332,270	\$88,656	n/a	\$1,402,150	0.000121%				
Strong Wind	\$73,366,856,902	\$35,092,108	332,270	\$720,633	\$51,945	\$2,446,432	0.000982%	\$448,000	\$0		
Tornado	\$73,366,856,902	\$35,092,108	332,270	\$1,275,871	\$512	\$298,140	0.00174%	\$3,200,000			
Wildfire	\$5,671,676,942	\$2,487,225	36,127	\$7,285	\$1	\$1,570	0.000128%				
Winter Weather	\$73,366,856,902	\$35,092,108	332,270	\$42,819	\$11	\$802,647	under 0.0001%		\$0	no Public Assistance recorded (1 declaration)	

Totals since 2023-11-06 (Storm Events through 2026-06-30): 39 county-coded records, 38 with a damage value recorded (including \$0), \$3,648,000; 30 zone-level records, 12 with a damage value recorded (including \$0), \$0 reported for the zone; Public Assistance: none recorded on the 1 counted declaration.

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

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

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

County context

Source: 5

Measure	Value
Population	332,270
Building value (total, not at risk)	\$73,366,856,902
Agriculture value (total, not at risk)	\$35,092,108
NRI risk rating (all hazards)	Relatively Low
Expected annual loss, buildings and agriculture, all hazards	\$36,144,367
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)	\$15,820,534
Social vulnerability rating	Very Low
Community resilience rating	Very High
NRI version	December 2025

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

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

Supports FEMA checklist item B2-c: repetitive loss properties

Repetitive loss in this county, both definitions

Sources: 1, 4

Definition	Properties	Severe repetitive loss	Properties
Repetitive loss, FMA definition (44 CFR 77.2)	9	Severe repetitive loss, FMA definition (44 CFR 77.2)	6
Repetitive loss, NFIP insurance definition	46	Severe repetitive loss, NFIP insurance definition	5

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

Repeat-flood properties: county total and NFIP communities

Sources: 1, 4

Scope	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
County total	9	6	46	5	47	30	29
of which: Howard County (unincorporated area)	9	6	45	5	46	30	29
of which: Unknown (community ID Unknown in FEMA data)	0	0	1	0	1	0	0

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

Sources: 1, 4

Jurisdiction	NFIP community ID	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
Howard County	240044	9	6	45	5	46	30	29

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

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

County repeat-flood properties by occupancy group

Sources: 1, 4

Occupancy group	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
single-family residential	2	2	17	1	18	5	10
2 to 4 unit residential	1	0	4	0	4	2	2
other residential	0	0	2	0	2	2	1
non-residential	6	4	23	4	23	21	16
not reported	0	0	0	0	0	0	0

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

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

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

In this county 0 properties are FMA repetitive loss but not NFIP repetitive loss, and 37 properties are NFIP repetitive loss but not FMA repetitive loss.

Exact counts; no count suppression.

Sources

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

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

7. NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-30, <https://www.weather.gov/gis/ZoneCounty>
8. U.S. Census Bureau, Census 2024 Gazetteer, 2020 place by county, CT county-to-cousub crosswalk, version 2024-gazetteer, pulled 2026-09-30, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_counties_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_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_Gazetteer/2024_Gaz_unsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_elsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_scsd_national.zip, https://www2.census.gov/geo/docs/reference/codes2020/national_place_by_county2020.txt, https://www2.census.gov/geo/docs/reference/ct_change/ct_cou_to_cousub_crosswalk.xlsx (used to match place names and codes; no table prints its values)

What this packet is and what the plan adds

This packet is the federal data for the plan's risk assessment (the summary on page 1 says how it is organized); the plan and FEMA's review decide whether each item is met.

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

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

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