

Moca Municipio, PR

Risk-assessment baseline packet

County FIPS: 72099 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 2026-11-04. Plan: Moca 2021 (FEMA plan 102679), approved 2021-11-05.

Since the plan was approved on 2021-11-05: 3 new hazard declarations (2 incidents): EM-3583-PR (Tropical Storm Fiona), DR-4671-PR (Hurricane Fiona), EM-3610-PR (Tropical Storm Ernesto).

NOAA Storm Events records since that date: 43 records (data through 2026-06-30).

Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Hurricane (\$13,053,234 a year), Earthquake (\$7,252,033) and Landslide (\$4,324,680).

Repetitive-loss flood properties now: FMA RL 0, SRL 0 (44 CFR 77.2); any definition: 0.

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; 72099 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 2026-11-04	Plan:	Moca 2021 (FEMA plan 102679)
Approved:	2021-11-05	Days to expiry:	35
Update underway:	none recorded in FEMA's plan tracker		

What changed since your last plan (approved 2021-11-05)

New federal declarations:	3 new hazard declarations (2 incidents): EM-3583-PR (Tropical Storm Fiona), DR-4671-PR (Hurricane Fiona), EM-3610-PR (Tropical Storm Ernesto)	Storm Events records since approval:	43 records (data through 2026-06-30)
Repetitive loss now:	FMA RL 0, SRL 0 (44 CFR 77.2); any definition: 0	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>
Moca Municipio	County	Approved, expires 2026-11-04	Moca 2021 (FEMA plan 102679)	2021-11-05	2026-11-04	35

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	Cost of expected deaths and injuries				Storm Events records, 1996 to 2026-06-30 count	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
				EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	<i>FEMA's dollar value per year, not property damage</i>		EAL total (see note) <i>modeled dollars per year</i>		
1	Hurricane	Insufficient Data	Relatively High	\$12,024,577	\$0	\$1,028,657		\$13,053,234	6	
2	Earthquake	Insufficient Data	Relatively Moderate	\$3,459,567	n/a	\$3,792,466		\$7,252,033		Storm Events does not record earthquakes.
3	Landslide	Insufficient Data	Relatively High	\$4,025,778	n/a	\$298,902		\$4,324,680	25	
4	Inland Flooding	Insufficient Data	Very Low	\$2,259,745	\$0	\$2,287		\$2,262,032	79	
5	Lightning	Insufficient Data	Relatively Moderate	\$9,557	n/a	\$413,688		\$423,245	3	
6	Tornado	Insufficient Data	Very Low	\$7,020	\$0	\$10,090		\$17,110	5	
7	Hail	Insufficient Data	Very Low	\$2,135	\$0	\$526		\$2,661	2	
8	Coastal Flooding	Insufficient Data	No Expected Annual Losses	\$0	n/a	\$0		\$0	6	
9	Cold Wave	Insufficient Data	No Expected Annual Losses	\$0	\$0	\$0		\$0	0	No recorded events in Storm Events since 1996 (data through 2026-06-30).
10	Drought	Insufficient Data	No Expected Annual Losses	n/a	\$0	n/a		\$0	2	
11	Heat Wave	Insufficient Data	No Expected Annual Losses	\$0	\$0	\$0		\$0	26	

Rank by EAL	Hazard	NRI risk rating	EAL rating	Cost of expected deaths and injuries			EAL total (see note) modeled dollars per year	Storm Events records, 1996 to 2026-06-30 count	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
				EAL buildings modeled dollars per year	EAL agriculture modeled dollars per year	FEMA's dollar value per year; not property damage				
12	Strong Wind	Insufficient Data	No Expected Annual Losses	\$0	\$0	\$0	\$0	22		Includes 3 Strong Wind records (a NOAA non-thunderstorm wind type, outside NRI's Strong Wind definition).
13	Winter Weather	Insufficient Data	No Expected Annual Losses	\$0	\$0	\$0	\$0	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
	Volcanic Activity	Not Applicable	Not Applicable					2	NRI rates this Not Applicable, but 2 Storm Events records of this type exist since 1996; review before omitting.	
	Wildfire	Insufficient Data	Insufficient Data	n/a	n/a	n/a	n/a	4		

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 cold wave and winter weather 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, ice storm and tsunami. That is the evidence for leaving them out of the plan.

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

Supports FEMA checklist item B1-b: hazard location

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

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

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

Source: 5

Hazard	Highest-rated census tracts <i>NRI risk rating, score 0 to 100</i>
Earthquake	no tract has a National Risk Index rating for this hazard
Hurricane	no tract has a National Risk Index rating for this hazard
Landslide	no tract has a National Risk Index rating for this hazard
Tornado	no tract has a National Risk Index rating for this hazard
Volcanic Activity	no tract has a National Risk Index rating for this hazard
Wildfire	no tract has a National Risk Index rating for this hazard

Up to 3 census tracts per hazard, highest National Risk Index rating first, then highest score; a tract number is the Census tract number. 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)	6 records, 2006 to 2026 (6 zone-level)		Coastal Flood, 2026-02-03, \$20,000 property; \$0 crops (2026 dollars); NWS zone PRZ010		Countywide (zone-level records).	Flood depth: see the FEMA Flood Insurance Rate Map.
Cold/Wind Chill, Extreme Cold/Wind Chill	wind chill	0					Wind chill: in event narratives only (local data needed).
Frost/Freeze (outside NRI's Cold Wave definition)	crop damage	0					Temperature: in event narratives only (local data needed).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Drought	U.S. Drought Monitor scale (D0 to D4)	2 records, 1997 to 2003 (2 zone-level)	31 days; 2 with a recorded value	31 days (1 month), 2003-03-01 to 2003-03-31, zone-level		Countywide (zone-level records).	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)	2 records, 2001 to 2007 (2 zone-level)		No hail record can stand as this county's largest: the 2 records with a recorded size reached this county only through an NWS zone that covers more than one county, so the hail may have occurred outside this county (zone-level); they are counted as occurrences.	Hail, 2007-09-12, \$1,000 property; \$0 crops, reported for the zone (2007 dollars)	Countywide (zone-level records).	
Excessive Heat, Heat	heat index (in event narratives)	26 records, 2023 to 2024 (26 zone-level)	1 day to 30 days (median 1.5 days); 16 with a recorded value	September 2023 (1 monthly summary record), zone-level		Countywide (zone-level records).	Heat index: in event narratives only (local data needed).
Hurricane, Tropical Storm, Tropical Depression	Saffir-Simpson	6 records, 2000 to 2024 (6 zone-level)		Strongest recorded: Hurricane (Typhoon) record (NOAA's event type name), 2000-08-22 to 2000-08-23, \$41,000 property; crops not reported (2000 dollars); NWS zone PRZ010		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.
Flash Flood, Flood, Lakeshore Flood	damage and flood days (flood depth: FIRM)	79 records, 2000 to 2026 (64 zone-level)		Flash Flood, 2001-05-06, \$8,000,000 property; \$2,000,000 crops (2001 dollars); NWS zone PRZ010		No event record names a jurisdiction in the plan. Zone-level records (64) apply countywide.	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)	25 records, 2003 to 2026 (17 zone-level)		Debris Flow, 2006-05-30, \$4,000 property; crops not reported (2006 dollars); NWS zone PRZ010		No event record names a jurisdiction in the plan. Zone-level records (17) apply countywide.	Physical measure: in event narratives only (local data needed).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Lightning	annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names)	3 records, 2002 to 2009 (2 zone-level)		Lightning, 2009-06-27, \$0 property; \$0 crops (2009 dollars), 1 direct death	Lightning, 2002-08-22, \$10,000 property; crops not reported, reported for the zone (2002 dollars)	No event record names a jurisdiction in the plan. Zone-level records (2) apply countywide.	Storm Events lists lightning with damage or casualties; physical measure in event narratives only (local data needed).
High Wind and Strong Wind (outside NRI's Strong Wind definition)	wind speed (kt and mph)	3 records, 2003 to 2026 (3 zone-level)	22 kt (25 mph) to 45 kt (52 mph) (median 35 kt (40 mph)); 3 with a recorded value	45 kt (52 mph) estimated gust, Strong Wind, 2003-10-24; NWS zone PRZ010		Countywide (zone-level records).	
Thunderstorm Wind	wind speed (kt and mph)	19 records, 2000 to 2025 (9 zone-level)	30 kt (35 mph) to 45 kt (52 mph) (median 35 kt (40 mph)); 10 with a recorded value	45 kt (52 mph) estimated gust, Thunderstorm Wind, 2013-07-26	Thunderstorm Wind, 2008-07-16, \$15,000 property; \$0 crops, reported for the zone (2008 dollars)	No event record names a jurisdiction in the plan. Zone-level records (9) apply countywide.	
Tornado	Enhanced Fujita (Fujita before Feb 2007)	5 records, 2001 to 2011 (4 zone-level)	F/EF0; 1 with a recorded value	EF0 tornado, 2011-08-07, 0.8 mi within this county, 80 yd wide, \$80,000 property; \$0 crops (2011 dollars)		No event record names a jurisdiction in the plan. Zone-level records (4) apply countywide.	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).
Volcanic Ash, Volcanic Ashfall	Volcanic Explosivity Index (local data)	2 records, 2001 to 2003 (2 zone-level)		No damage reported in 2 records.		Countywide (zone-level records).	Physical measure: in event narratives only (local data needed).
Wildfire	acres burned (local data)	4 records, 2005 to 2024 (4 zone-level)		Wildfire, 2005-02-01, \$200,000 property; crops not reported (2005 dollars); NWS zone PRZ010		Countywide (zone-level records).	Acres burned: in event narratives only (local data needed).
Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet	none in data (snowfall: local data)	0					Snow depth: in event narratives only (local data needed).

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

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

A monthly summary record covers most or all of a month; it does not count days at wave conditions.

Supports FEMA checklist item B1-d: previous occurrences

Federal declarations for this county: 20 declarations covering 15 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
2024-08-13	2024-08-13	EM-3610-PR	Emergency	Tropical Storm Ernesto	Hurricane; Inland Flooding; Landslide	no Public Assistance recorded	new since last plan; within last 5 years	
2022-09-21	2022-09-17	DR-4671-PR	Major disaster	Hurricane Fiona	Hurricane	\$2,017,096.57	new since last plan; within last 5 years	
2022-09-18	2022-09-17	EM-3583-PR	Emergency	Tropical Storm Fiona	Hurricane	no Public Assistance recorded	new since last plan; within last 5 years	same incident as DR-4671
2020-08-22	2020-08-21	EM-3537-PR	Emergency	Tropical Storm Laura	Hurricane	no Public Assistance recorded		
2020-07-29	2020-07-27	EM-3532-PR	Emergency	Potential Tropical Cyclone Nine	Hurricane	no Public Assistance recorded		
2020-03-27	2020-01-20	DR-4493-PR	Major disaster	COVID-19 Pandemic	Non-natural, not counted	no Public Assistance recorded		
2020-03-13	2020-01-20	EM-3452-PR	Emergency	COVID-19	Non-natural, not counted	no Public Assistance recorded		same incident as DR-4493
2020-01-16	2019-12-28	DR-4473-PR	Major disaster	Earthquakes	Earthquake	PA not declared for this county		
2020-01-07	2019-12-28	EM-3426-PR	Emergency	Earthquakes	Earthquake	no Public Assistance recorded		same incident as DR-4473
2019-08-27	2019-08-26	EM-3417-PR	Emergency	Tropical Storm Dorian	Hurricane	no Public Assistance recorded		
2017-09-20	2017-09-17	DR-4339-PR	Major disaster	Hurricane Maria	Hurricane	\$54,650,002.92		
2017-09-18	2017-09-17	EM-3391-PR	Emergency	Hurricane Maria	Hurricane	no Public Assistance recorded		same incident as DR-4339
2011-08-22	2011-08-21	EM-3326-PR	Emergency	Hurricane Irene	Hurricane	no Public Assistance recorded		
2004-09-17	2004-09-14	DR-1552-PR	Major disaster	Tropical Storm Jeanne and Resulting Landslides and Mudslides	Hurricane; Landslide	\$4,088.54		
2001-05-16	2001-05-06	DR-1372-PR	Major disaster	Severe Storms, Flooding and Mudslides	Inland Flooding; Landslide	\$28,643.02		
1999-11-17	1999-11-17	EM-3151-PR	Emergency	Hurricane Lenny	Hurricane	no Public Assistance recorded		
1998-09-24	1998-09-20	DR-1247-PR	Major disaster	Hurricane Georges - 18 Sep 98	Hurricane	no Public Assistance recorded		
1996-09-11	1996-09-09	DR-1136-PR	Major disaster	Hurricane Hortense	Hurricane	PA not declared for this county		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance	Flags	Notes
						<i>federal share obligated, nominal dollars</i>		
1986-07-10	1986-04-25	DR-768-PR	Major disaster	Heavy Rains, Flooding & Mudslides	Inland Flooding (primary); also designated: Landslide	no Public Assistance recorded		
1975-09-19	1975-09-19	DR-483-PR	Major disaster	Tropical Storm Elioise	Inland Flooding (primary); also designated: Hurricane	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
1998-09-21	1998-09-20	EM-3130-PR	Emergency	Hurricane Georges (Direct Federal Assist First 72 Hrs)	Hurricane
1964-05-26	1964-05-26	DR-170-PR	Major disaster	Extreme Drought Conditions	Drought
1956-08-18	1956-08-18	DR-62-PR	Major disaster	Hurricane	Hurricane (primary); also designated: Inland Flooding

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

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	6	3	0	3	0	0	1996 to 2026-06-30	
Cold Wave	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Drought	2	0	0	0	0	0	1996 to 2026-06-30	
Earthquake	0	0	0	0	1	0		Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	2	0	0	0	0	0	1955 to 2026-06-30	
Heat Wave	26	26	0	26	0	0	1996 to 2026-06-30	
Hurricane	6	1	0	1	12	2	1996 to 2026-06-30	
Inland Flooding	79	5	0	5	4	1	1996 to 2026-06-30	
Landslide	25	3	1	3	4	1	1996 to 2026-06-30	
Lightning	3	0	0	0	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
Strong Wind	22	4	0	4	0	0	1955 to 2026-06-30	Includes 3 Strong Wind records.
Tornado	5	0	0	0	0	0	1950 to 2026-06-30	
Volcanic Activity	2	0	0	0	0	0	1996 to 2026-06-30	
Wildfire	4	1	0	1	0	0	1996 to 2026-06-30	
Winter Weather	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events

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
2026-02-03	Coastal Flood		\$20,000 property; \$0 crops, reported for the zone (2026 dollars)	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level	new since last plan; within last 5 years	B1-c worst recorded: Coastal Flood, Storm Surge/Tide
2023-09-01	Excessive Heat		\$0 property; \$0 crops, reported for the zone (2023 dollars)	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level	new since last plan; within last 5 years	B1-c worst recorded: Excessive Heat, Heat
2013-07-26	Thunderstorm Wind	45 kt (52 mph) estimated gust	\$5,000 property; \$0 crops (2013 dollars)	0, 0	MOCA		B1-c worst recorded: Thunderstorm Wind
2011-08-07	Tornado	EF0, 0.8 mi within this county, 80 yd wide	\$80,000 property; \$0 crops (2011 dollars)	0, 0	MOCA		B1-c worst recorded: Tornado
2009-06-27	Lightning		\$0 property; \$0 crops (2009 dollars)	1, 0	MOCA		deaths or injuries recorded
2006-05-30	Debris Flow		\$4,000 property; crops not reported, reported for the zone (2006 dollars)	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		B1-c worst recorded: Debris Flow
2004-09-14	Tropical Storm		damage not reported	1, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		deaths or injuries recorded
2003-10-24	Strong Wind	45 kt (52 mph) estimated gust	\$5,000 property; crops not reported, reported for the zone (2003 dollars)	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		B1-c worst recorded: High Wind and Strong Wind
2003-09-12	Flash Flood		\$7,000 property; crops not reported, reported for the zone (2003 dollars)	1, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		deaths or injuries recorded
2003-03-01	Drought		damage not reported	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		B1-c worst recorded: Drought
2001-05-06	Flash Flood		\$8,000,000 property; \$2,000,000 crops, reported for the zone (2001 dollars)	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood
2000-08-22	Hurricane (Typhoon), NOAA's event type name		\$41,000 property; crops not reported, reported for the zone (2000 dollars)	0, 0	NWS zone PRZ010 (MAYAGUEZ AND VICINITY), zone-level		B1-c worst recorded: Hurricane, Tropical Storm, Tropical Depression

The full list is in the Excel file, sheet "B1-d Storm Events history" (182 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	Likely (from Storm Events: 4 of 30 years)	Storm Events records in 4 of 30 years, 1996 to 2025 (13.3%)	not shown	modeled	see B1-f	Descriptor from Storm Events, not NRI.
Cold Wave	0	event-days per year	none modeled		event-days in 0 of 30 years, 1996 to 2025 (0%)	0	2005-11-12 to 2024-11-12 (19 years)	countywide	No Storm Events cold wave record, 1996 to 2025.
Drought	0	event-days per year	none modeled	Possible (from Storm Events: 2 of 30 years)	event-days in 2 of 30 years, 1996 to 2025 (6.67%)	0	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	NRI models no drought event-days here (2000 to 2025, 25.25 years; D3 and D4 only); Storm Events has a record in 2 of 30 years. The descriptor comes from Storm Events, which counts D2 drought that NRI leaves out.
Earthquake	0.0568	annual probability at a location	chance a given location in the county has at least minor-damage shaking in a year: 5.68%			not shown	modeled	see B1-f	No descriptor (Storm Events does not record earthquakes).
Hail	0.0266	events per year	about 1 in 38 years	Possible	FEMA annualized frequency (modeled)	1.0 (modeled)	1986 to 2023 (38 years)	countywide	
Heat Wave	0.0518	event-days per year	about 0.0518 days per year	Possible (from Storm Events: 2 of 30 years)	event-days in 2 of 30 years, 1996 to 2025 (6.67%)	0.984	2005-11-12 to 2024-11-12 (19 years)	countywide	
Hurricane	0.184	events per year	about 1 in 5 years	Likely	FEMA annualized frequency (modeled)	41	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.
Inland Flooding	0.321	event-days per year	about 0.321 days per year	Likely (from Storm Events: 17 of 30 years)	event-days in 17 of 30 years, 1996 to 2025 (56.7%)	9	1996 to 2023 (28 years)	see B1-f	
Landslide	19.4	events per year (modeled)	about 19.4 per year	Highly likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Lightning	67.6	days per year with a strike	about 67.6 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	

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
Strong Wind	0	events per year	none modeled	Unlikely	FEMA annualized frequency (modeled)	0	1986 to 2023 (38 years)	countywide	NRI rates this hazard Insufficient Data for this county; the descriptor applies the scale to FEMA's published frequency of 0.
Tornado	0.00159	events per year	about 1 in 628 years	Unlikely	FEMA annualized frequency (modeled)	not shown	1950 to 2023 (EF2+); 1986 to 2023 (EF0-1)	see B1-f	
Volcanic Activity		annual probability				not shown	modeled	see B1-f	Not Applicable in NRI for this county; no descriptor.
Wildfire		annual probability at a location		Likely (from Storm Events: 3 of 30 years)	Storm Events records in 3 of 30 years, 1996 to 2025 (10%)	not shown	modeled	see B1-f	Descriptor from Storm Events, not NRI.
Winter Weather	0	event-days per year	none modeled		event-days in 0 of 30 years, 1996 to 2025 (0%)	0	2005-11-12 to 2024-11-12 (19 years)	countywide	No Storm Events winter weather record, 1996 to 2025

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.

Descriptor scale used in this packet (defined per unit)

Sources: 5, 6

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

Intensity bands: historical frequency (Storm Events)

Source: 6

Hazard	Band	Years	Events <i>county-coded records</i>	Years in period	Events per year <i>events / years</i>
Hail	1.00-1.99 in	1996 to 2025	0	30	0
Hail	2.00 in+	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	50-64 kt	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	65 kt+	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	unmeasured or below 50 kt	1996 to 2025	10	30	0.333
Tornado	EF0-1	1996 to 2025	1	30	0.0333
Tornado	EF2-3	1996 to 2025	0	30	0
Tornado	EF4-5	1996 to 2025	0	30	0
Tornado	unrated (EFU)	1996 to 2025	0	30	0

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

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

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

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

Range of census tract risk within the county

Source: 5

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Coastal Flooding	0 of 8				Insufficient Data 8
Cold Wave	0 of 8				Insufficient Data 8
Drought	0 of 8				Insufficient Data 8
Earthquake	0 of 8				Insufficient Data 8
Hail	0 of 8				Insufficient Data 8
Heat Wave	0 of 8				Insufficient Data 8
Hurricane	0 of 8				Insufficient Data 8
Inland Flooding	0 of 8				Insufficient Data 8
Landslide	0 of 8				Insufficient Data 8
Lightning	0 of 8				Insufficient Data 8
Strong Wind	0 of 8				Insufficient Data 8

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Tornado	0 of 8				Insufficient Data 8
Volcanic Activity	0 of 8				Not Applicable 8
Wildfire	0 of 8				Insufficient Data 8
Winter Weather	0 of 8				Insufficient Data 8

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.

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>	
Moca Municipio	County	Approved, expires 2026-11-04	FMA RL 0, SRL 0; any 0	\$49,968,002.69	0 total; 0 since its plan	Puerto Rico commonwealth community (720000): this row counts only its properties in this municipio, as the county table does.

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 2021-11-05 <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	\$20,313,899	n/a	215	\$0	n/a	\$0	0%		\$24,500		
Cold Wave	\$0	\$0	0	\$0	\$0	\$0					building exposure is 0 in NRI
Drought	n/a	\$0	n/a	n/a	\$0	n/a					agriculture exposure is 0 in NRI
Earthquake	\$7,050,244,897	n/a	37,460	\$3,459,567	n/a	\$3,792,466	0.0491%				
Hail	\$4,548,693,747	\$0	37,426	\$2,135	\$0	\$526	under 0.0001%				
Heat Wave	\$4,521,967,170	\$0	37,233	\$0	\$0	\$0	0%		\$0		
Hurricane	\$4,548,691,095	\$0	37,426	\$12,024,577	\$0	\$1,028,657	0.264%		\$0	\$2,017,096.57	
Inland Flooding	\$4,547,619,771	\$0	283	\$2,259,745	\$0	\$2,287	n/a (see note)	\$12,500		no Public Assistance recorded (1 declaration)	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	\$1,262,769,582	n/a	11,556	\$4,025,778	n/a	\$298,902	0.319%	\$2,600		no Public Assistance recorded (1 declaration)	

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 2021-11-05 <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
Lightning	\$4,548,693,747	n/a	37,426	\$9,557	n/a	\$413,688	0.00021%				
Strong Wind	\$4,548,693,747	\$0	37,426	\$0	\$0	\$0	0%	\$4,600	\$4,500		Storm Events damage since the plan includes 1 zone-level Strong Wind record (\$4,500): a NOAA non-thunderstorm wind type, outside NRI's Strong Wind definition.
Tornado	\$4,548,693,747	\$0	37,426	\$7,020	\$0	\$10,090	0.000154%				
Volcanic Activity											Not Applicable in NRI for this county
Wildfire	n/a	n/a	n/a	n/a	n/a	n/a					NRI publishes no building exposure for this county
Winter Weather	\$0	\$0	0	\$0	\$0	\$0					building exposure is 0 in NRI

Totals since 2021-11-05 (Storm Events through 2026-06-30): 11 county-coded records, 11 with a damage value recorded (including \$0), \$19,700; 32 zone-level records, 31 with a damage value recorded (including \$0), \$29,000 reported for the zone; Public Assistance: \$2,017,096.57 on 3 counted declarations, 1 of them with Public Assistance.

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	37,426
Building value (total, not at risk)	\$4,548,693,747
Agriculture value (total, not at risk)	\$0
NRI risk rating (all hazards)	Insufficient Data
Expected annual loss, buildings and agriculture, all hazards	\$21,788,379
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)	\$5,546,615
Social vulnerability rating	Data Unavailable
Community resilience rating	Data Unavailable
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)	0	Severe repetitive loss, FMA definition (44 CFR 77.2)	0
Repetitive loss, NFIP insurance definition	0	Severe repetitive loss, NFIP insurance definition	0

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

Repeat-flood properties: county and state-level rows

Sources: 1, 4

Scope	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
County total	0	0	0	0	0	0	0
Statewide, no county in FEMA's file	54	165	1,572	158	1,574	0	38

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

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

Sources: 1, 4

Jurisdiction	NFIP community ID	RL, FMA properties	SRL, FMA properties	RL, NFIP properties	SRL, NFIP properties	Any category properties	Mitigated properties	Currently insured properties	Note
Moca Municipio	720000	0	0	0	0	0	0	0	Puerto Rico commonwealth community (720000): this row counts only its properties in this municipio, as the county table does.

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: 0 in every occupancy group.

Sources: 1, 4

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 0 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):

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3. FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-29T150754Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
4. FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)
5. FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-30, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)
6. NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-30, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>
7. NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-30, <https://www.weather.gov/gis/ZoneCounty>
8. U.S. Census Bureau, Census 2024 Gazetteer, 2020 place by county, CT county-to-cousub crosswalk, version 2024-gazetteer, pulled 2026-09-30, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_counties_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_place_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_unsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_elsd_national.zip, https://www2.census.gov/geo/docs/reference/codes2020/national_place_by_county2020.txt, https://www2.census.gov/geo/docs/reference/ct_change/ct_cou_to_cousub_crosswalk.xlsx (used to match place names and codes; no table prints its values)

What this packet is and what the plan adds

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

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

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

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

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