

Visualizing FEMA NRI Data

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FEMA National Risk Index Scores for Counties in California

Set up

```
# Load necessary libraries
library(tidyverse)
library(here)
library(janitor)
library(ggplot2)
```

Import and read data

```
# Read data frame
nri <- read.csv(here("data", "National_Risk_Index_Counties_807384124455672111.csv")) %>%
  clean_names()
```

Identify variables of interest and consider which data types they are

Variables of interest	Type of data
State name	Character
State name abbreviation	Character
County name	Character
National Risk Index Score Composite	Numeric
National Risk Index Rating Composite	Categorical
Expected Annual Loss Score Composite	Numeric

If you just want to type the table yourself in the text area of your .qmd file (outside of an R chunk), you use pipes (|) and hyphens (-).

```
| State name | State name abbreviation | County name | National Risk Index Score Composite | | |
|---|---|---|---|---|---|
| California | CA | Los Angeles | 100.00 | Very High | 99.8 |

## Data cleaning and wrangling

::: {.cell}

```{r .cell-code}
head(nri)
```

```
objectid national_risk_index_id state_name state_name_abbreviation
1 1 C01001 Alabama AL
2 2 C01003 Alabama AL
3 3 C01005 Alabama AL
4 4 C01007 Alabama AL
5 5 C01009 Alabama AL
6 6 C01011 Alabama AL
state_fips_code county_name county_type county_fips_code
1 1 Autauga County 1
2 1 Baldwin County 3
3 1 Barbour County 5
4 1 Bibb County 7
5 1 Blount County 9
6 1 Bullock County 11
state_county_fips_code population_2020 building_value agriculture_value
```

1	1001	58764	10241406107	27630646
2	1003	231365	51602300760	155012958
3	1005	25160	5441822473	135914589
4	1007	22239	3532630882	5410008
5	1009	58992	8773489059	312712010
6	1011	10326	1771888929	86549172
area_sq_mi national_risk_index_value_composite				
1	610.4705		20510899	
2	2047.7388		253268744	
3	913.6465		15998576	
4	632.4868		12672467	
5	657.1966		28705360	
6	631.4545		8886364	
national_risk_index_score_composite national_risk_index_rating_composite				
1		57.56997		Relatively Low
2		96.72392		Relatively High
3		48.12341		Relatively Low
4		39.12214		Very Low
5		68.47964		Relatively Low
6		25.25445		Very Low
national_risk_index_state_percentile_composite				
1		57.56997		
2		96.72392		
3		48.12341		
4		39.12214		
5		68.47964		
6		25.25445		
expected_annual_loss_score_composite expected_annual_loss_rating_composite				
1		59.87005		Relatively Low
2		96.62748		Relatively High
3		30.53837		Very Low
4		31.00248		Very Low
5		62.34530		Relatively Low
6		13.55198		Very Low
expected_annual_loss_state_percentile_composite				
1		56.716418		
2		97.014925		
3		25.373134		
4		28.358209		
5		61.194030		
6		4.477612		
expected_annual_loss_total_composite				
1		19756570		

2	237391155
3	8923878
4	8993704
5	21294674
6	5129262
expected_annual_loss_building_value_composite	
1	13853500
2	208447115
3	5555196
4	6128569
5	13369031
6	2505802
expected_annual_loss_population_composite	
1	0.41282130
2	1.93225863
3	0.17833720
4	0.20599759
5	0.52810234
6	0.08431265
expected_annual_loss_population_equivalence_composite	
1	5655652
2	26471943
3	2443220
4	2822167
5	7235003
6	1155084
expected_annual_loss_agriculture_value_composite	
1	247418.66
2	2472095.78
3	925462.65
4	42968.15
5	690639.40
6	1468376.94
expected_annual_loss_rate_building_composite	
1	0.001518479
2	0.004534566
3	0.001145945
4	0.001947465
5	0.001710553
6	0.001587520
expected_annual_loss_rate_population_composite	
1	7.025071e-06
2	8.351560e-06

3	7.088124e-06
4	9.262898e-06
5	8.952101e-06
6	8.165084e-06
expected_annual_loss_rate_agriculture_composite	
1	0.010051949
2	0.017902190
3	0.007643666
4	0.008915745
5	0.002479223
6	0.019045111
expected_annual_loss_rate_national_percentile_composite	
1	49.72153
2	97.74134
3	23.70050
4	66.95545
5	54.17698
6	69.09035
social_vulnerability_and_community_resilience_adjusted_expected_annual_loss_rate_national_percentile_composite	
1	
2	
3	
4	
5	
6	
social_vulnerability_score social_vulnerability_rating	
1	38.04071 Relatively Low
2	44.24300 Relatively Moderate
3	96.37405 Very High
4	75.25445 Relatively High
5	69.33842 Relatively High
6	97.55089 Very High
social_vulnerability_state_percentile community_resilience_score	
1	9.701493 55.12087
2	9.701493 93.00254
3	88.805970 11.16412
4	41.044776 22.16921
5	29.850746 15.64885
6	94.029851 33.14249
community_resilience_rating community_resilience_state_percentile	
1	Relatively Moderate 76.119403
2	Very High 100.000000
3	Very Low 4.477612

4	Relatively Low	26.865672
5	Very Low	11.940299
6	Relatively Low	47.761194
	community_resilience_value	community_risk_factor_value
1	2.494860	1.038181
2	2.643844	1.066884
3	2.328449	1.792783
4	2.383784	1.409038
5	2.354619	1.348007
6	2.422163	1.732484
	avalanche_number_of_events	avalanche_annualized_frequency
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	avalanche_exposure_impacted_area_sq_mi	avalanche_exposure_building_value
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	avalanche_exposure_population	avalanche_exposure_population_equivalence
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	avalanche_exposure_total	avalanche_historic_loss_ratio_buildings
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	avalanche_historic_loss_ratio_population	
1	NA	
2	NA	
3	NA	
4	NA	

5		NA	
6		NA	
	avalanche_historic_loss_ratio_total_rating		
1		Not Applicable	
2		Not Applicable	
3		Not Applicable	
4		Not Applicable	
5		Not Applicable	
6		Not Applicable	
	avalanche_expected_annual_loss_building_value		
1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	avalanche_expected_annual_loss_population		
1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	avalanche_expected_annual_loss_population_equivalence		
1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	avalanche_expected_annual_loss_total	avalanche_expected_annual_loss_score	
1		NA	NA
2		NA	NA
3		NA	NA
4		NA	NA
5		NA	NA
6		NA	NA
	avalanche_expected_annual_loss_rating		
1		Not Applicable	
2		Not Applicable	
3		Not Applicable	
4		Not Applicable	
5		Not Applicable	

6	Not Applicable	
	avalanche_expected_annual_loss_rate_building	
1	NA	
2	NA	
3	NA	
4	NA	
5	NA	
6	NA	
	avalanche_expected_annual_loss_rate_population	
1	NA	
2	NA	
3	NA	
4	NA	
5	NA	
6	NA	
	avalanche_expected_annual_loss_rate_national_percentile	
1	NA	
2	NA	
3	NA	
4	NA	
5	NA	
6	NA	
	avalanche_hazard_type_risk_index_value	avalanche_hazard_type_risk_index_score
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	avalanche_hazard_type_risk_index_rating	coastal_flooding_number_of_events
1	Not Applicable	NA
2	Not Applicable	NA
3	Not Applicable	NA
4	Not Applicable	NA
5	Not Applicable	NA
6	Not Applicable	NA
	coastal_flooding_annualized_frequency	
1	NA	
2	3.684142	
3	NA	
4	NA	
5	NA	
6	NA	



	coastal_flooding_exposure_impacted_area_sq_mi	
1		NA
2	10.82263	
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_exposure_building_value	coastal_flooding_exposure_population
1	NA	NA
2	8509063318	21575.48
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	coastal_flooding_exposure_population_equivalence	
1		NA
2	295584089100	
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_exposure_total	
1	NA	
2	304093152418	
3	NA	
4	NA	
5	NA	
6	NA	
	coastal_flooding_historic_loss_ratio_buildings	
1		NA
2	0.003426414	
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_historic_loss_ratio_population	
1		NA
2	9.07843e-06	
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_historic_loss_ratio_total_rating	

1	Not Applicable
2	Relatively Moderate
3	Not Applicable
4	Not Applicable
5	Not Applicable
6	Not Applicable
coastal_flooding_expected_annual_loss_building_value	
1	NA
2	3704943
3	NA
4	NA
5	NA
6	NA
coastal_flooding_expected_annual_loss_population	
1	NA
2	0.02522454
3	NA
4	NA
5	NA
6	NA
coastal_flooding_expected_annual_loss_population_equivalence	
1	NA
2	345576.4
3	NA
4	NA
5	NA
6	NA
coastal_flooding_expected_annual_loss_total	
1	NA
2	4050520
3	NA
4	NA
5	NA
6	NA
coastal_flooding_expected_annual_loss_score	
1	NA
2	88.77551
3	NA
4	NA
5	NA
6	NA
coastal_flooding_expected_annual_loss_rating	
1	Not Applicable

2	Relatively High	
3	Not Applicable	
4	Not Applicable	
5	Not Applicable	
6	Not Applicable	
	coastal_flooding_expected_annual_loss_rate_building	
1		NA
2		7.179802e-05
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_expected_annual_loss_rate_population	
1		NA
2		1.090249e-07
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_expected_annual_loss_rate_national_percentile	
1		NA
2		80.78231
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_hazard_type_risk_index_value	
1		NA
2		4321434
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_hazard_type_risk_index_score	
1		NA
2		85.8
3		NA
4		NA
5		NA
6		NA
	coastal_flooding_hazard_type_risk_index_rating	cold_wave_number_of_events
1	Not Applicable	7.00000
2	Relatively High	12.34417

3	Not Applicable	7.00000
4	Not Applicable	9.00000
5	Not Applicable	17.00000
6	Not Applicable	7.00000
	cold_wave_annualized_frequency	cold_wave_exposure_impacted_area_sq_mi
1	0.3684211	610.4705
2	0.8066419	1674.8440
3	0.3684211	913.6465
4	0.4736842	632.4868
5	0.8947368	657.1966
6	0.3684211	631.4545
	cold_wave_exposure_building_value	cold_wave_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326
	cold_wave_exposure_population_equivalence	
1	8.050668e+11	
2	3.169700e+12	
3	3.446920e+11	
4	3.046743e+11	
5	8.081904e+11	
6	1.414662e+11	
	cold_wave_exposure_agriculture_value	cold_wave_exposure_total
1	27630646	8.153358e+11
2	155012958	3.221458e+12
3	135914589	3.502697e+11
4	5410008	3.082123e+11
5	312712010	8.172766e+11
6	86549172	1.433246e+11
	cold_wave_historic_loss_ratio_buildings	
1	8.092943e-07	
2	9.993118e-07	
3	9.406519e-08	
4	1.467217e-06	
5	7.003454e-07	
6	5.403364e-08	
	cold_wave_historic_loss_ratio_population	
1	1.205327e-07	
2	1.423183e-07	
3	2.603147e-08	

4	3.253437e-07
5	1.400142e-07
6	3.195900e-08
cold_wave_historic_loss_ratio_agriculture	
1	0.0012865245
2	0.0007783064
3	0.0008913502
4	0.0007783064
5	0.0007783064
6	0.0008738362
cold_wave_historic_loss_ratio_total_rating	
1	Relatively Low
2	Relatively Low
3	Very Low
4	Relatively Low
5	Relatively Low
6	Relatively Low
cold_wave_expected_annual_loss_building_value	
1	3053.58872
2	38166.04884
3	188.58962
4	2455.16968
5	5497.68686
6	35.27323
cold_wave_expected_annual_loss_population	
1	0.026570536
2	0.257519251
3	0.002456934
4	0.034896855
5	0.075248916
6	0.001237968
cold_wave_expected_annual_loss_population_equivalence	
1	364016.35
2	3528013.74
3	33660.00
4	478086.91
5	1030910.15
6	16960.17
cold_wave_expected_annual_loss_agriculture_value	
1	13096.649
2	94509.770
3	44633.408
4	1994.632

5	217766.870	
6	27863.672	
	cold_wave_expected_annual_loss_total	cold_wave_expected_annual_loss_score
1	380166.59	31.21906
2	3660689.56	81.37376
3	78482.00	13.30446
4	482536.72	36.85025
5	1254174.70	59.77723
6	44859.11	10.39604
	cold_wave_expected_annual_loss_rating	
1	Relatively Low	
2	Relatively Moderate	
3	Very Low	
4	Relatively Low	
5	Relatively Moderate	
6	Very Low	
	cold_wave_expected_annual_loss_rate_building	
1	2.981611e-07	
2	7.396191e-07	
3	3.465560e-08	
4	6.949975e-07	
5	6.266249e-07	
6	1.990713e-08	
	cold_wave_expected_annual_loss_rate_population	
1	4.521567e-07	
2	1.113043e-06	
3	9.765240e-08	
4	1.569174e-06	
5	1.275578e-06	
6	1.198885e-07	
	cold_wave_expected_annual_loss_rate_agriculture	
1	0.0004739900	
2	0.0006096895	
3	0.0003283931	
4	0.0003686929	
5	0.0006963815	
6	0.0003219404	
	cold_wave_expected_annual_loss_rate_national_percentile	
1	51.36139	
2	51.63985	
3	86.63366	
4	30.94059	
5	76.67079	

6		87.46906
	cold_wave_hazard_type_risk_index_value	cold_wave_hazard_type_risk_index_score
1	394681.80	28.18066
2	3905529.87	80.31170
3	140701.18	13.83588
4	679912.34	39.66285
5	1690635.75	63.51781
6	77717.69	10.05089
	cold_wave_hazard_type_risk_index_rating	drought_number_of_events
1	Relatively Low	784
2	Relatively Moderate	609
3	Very Low	1463
4	Relatively Low	931
5	Relatively Low	854
6	Very Low	1106
	drought_annualized_frequency	drought_exposure_impacted_area_sq_mi
1	25.16116	610.4705
2	15.57565	1674.8440
3	47.86185	913.6465
4	29.52790	632.4868
5	28.33446	657.1966
6	39.17002	631.4545
	drought_exposure_agriculture_value	drought_exposure_total
1	12838924	12838924
2	117727632	117727632
3	10715521	10715521
4	2369531	2369531
5	15967913	15967913
6	60006545	60006545
	drought_historic_loss_ratio_agriculture	
1	0.000324501	
2	0.000424452	
3	0.000589763	
4	0.000410236	
5	0.000348237	
6	0.000460271	
	drought_historic_loss_ratio_total_rating	
1	Relatively Moderate	
2	Relatively Low	
3	Relatively Moderate	
4	Relatively Moderate	
5	Relatively Moderate	
6	Relatively Moderate	

	drought_expected_annual_loss_agriculture_value	
1	106181.58	
2	663703.74	
3	304273.58	
4	27361.43	
5	161945.56	
6	1077019.10	
	drought_expected_annual_loss_total	drought_expected_annual_loss_score
1	106181.58	48.09302
2	663703.74	75.78295
3	304273.58	63.68992
4	27361.43	33.24031
5	161945.56	54.17054
6	1077019.10	85.36434
	drought_expected_annual_loss_rating	
1	Relatively Low	
2	Relatively Moderate	
3	Relatively Low	
4	Relatively Low	
5	Relatively Low	
6	Relatively Moderate	
	drought_expected_annual_loss_rate_agriculture	
1	0.0038428918	
2	0.0042816017	
3	0.0022387117	
4	0.0050575588	
5	0.0005178744	
6	0.0124440139	
	drought_expected_annual_loss_rate_national_percentile	
1	65.45736	
2	67.16279	
3	54.38760	
4	70.97674	
5	33.61240	
6	85.95349	
	drought_hazard_type_risk_index_value	drought_hazard_type_risk_index_score
1	110235.72	45.64249
2	708094.68	74.52290
3	545496.46	70.03817
4	38553.29	33.87405
5	218303.68	55.18448
6	1865918.21	90.99873
	drought_hazard_type_risk_index_rating	earthquake_number_of_events



1	Relatively Low	NA
2	Relatively Moderate	NA
3	Relatively Moderate	NA
4	Relatively Low	NA
5	Relatively Low	NA
6	Relatively High	NA
earthquake_annualized_frequency earthquake_exposure_impacted_area_sq_mi		
1	0.001897	610.4705
2	0.001262	1674.8440
3	0.001397	913.6465
4	0.002262	632.4868
5	0.002587	657.1966
6	0.001693	631.4545
earthquake_exposure_building_value earthquake_exposure_population		
1	17389364250	58805
2	88075559159	231767
3	9883965773	25223
4	6126312123	22293
5	15015589156	59134
6	3111958158	10357
earthquake_exposure_population_equivalence earthquake_exposure_total		
1	8.056285e+11	8.230179e+11
2	3.175208e+12	3.263283e+12
3	3.455551e+11	3.554391e+11
4	3.054141e+11	3.115404e+11
5	8.101358e+11	8.251514e+11
6	1.418909e+11	1.450029e+11
earthquake_historic_loss_ratio_buildings		
1	0.014152456	
2	0.006040816	
3	0.010088041	
4	0.019326856	
5	0.013814331	
6	0.015491384	
earthquake_historic_loss_ratio_population		
1	1.566277e-04	
2	6.094363e-05	
3	1.116029e-04	
4	1.701636e-04	
5	9.799669e-05	
6	1.951592e-04	
earthquake_historic_loss_ratio_total_rating		
1	Relatively Low	

2	Very Low	
3	Relatively Low	
4	Relatively Low	
5	Relatively Low	
6	Relatively Low	
	earthquake_expected_annual_loss_building_value	
1	466855.91	
2	671444.84	
3	139294.66	
4	267826.12	
5	536622.23	
6	81617.06	
	earthquake_expected_annual_loss_population	
1	0.0174723	
2	0.0178254	
3	0.0039325	
4	0.0085808	
5	0.0149915	
6	0.0034220	
	earthquake_expected_annual_loss_population_equivalence	
1	239370.51	
2	244207.98	
3	53875.25	
4	117556.96	
5	205383.55	
6	46881.40	
	earthquake_expected_annual_loss_total	earthquake_expected_annual_loss_score
1	706226.4	67.63614
2	915652.8	71.25619
3	193169.9	45.35891
4	385383.1	57.33292
5	742005.8	68.62624
6	128498.5	38.21163
	earthquake_expected_annual_loss_rating	
1	Relatively Low	
2	Relatively Low	
3	Very Low	
4	Relatively Low	
5	Relatively Low	
6	Very Low	
	earthquake_expected_annual_loss_rate_building	
1	4.558514e-05	
2	1.301192e-05	

3	2.559706e-05	
4	7.581492e-05	
5	6.116406e-05	
6	4.606217e-05	
earthquake_expected_annual_loss_rate_population		
1	2.973300e-07	
2	7.704450e-08	
3	1.562997e-07	
4	3.858447e-07	
5	2.541277e-07	
6	3.313965e-07	
earthquake_expected_annual_loss_rate_national_percentile		
1		55.01238
2		31.68317
3		43.50248
4		72.71040
5		71.07054
6		52.87748
earthquake_hazard_type_risk_index_value		
1	733191.0	
2	976895.0	
3	346311.7	
4	543019.2	
5	1000228.7	
6	222621.5	
earthquake_hazard_type_risk_index_score		
1	67.84351	
2	72.39186	
3	53.72137	
4	62.43639	
5	72.77354	
6	45.48346	
earthquake_hazard_type_risk_index_rating hail_number_of_events		
1	Relatively Low	100.40305
2	Relatively Low	56.99235
3	Very Low	67.72260
4	Relatively Low	122.15326
5	Relatively Low	180.73870
6	Very Low	83.29802
hail_annualized_frequency hail_exposure_impacted_area_sq_mi		
1	2.646739	610.4705
2	1.462595	1674.8440
3	1.779561	913.6465

4	3.214698	632.4868
5	4.756310	657.1966
6	2.191940	631.4545
	hail_exposure_building_value	hail_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326
	hail_exposure_population_equivalence	hail_exposure_agriculture_value
1	8.050668e+11	27630646
2	3.169700e+12	155012958
3	3.446920e+11	135914589
4	3.046743e+11	5410008
5	8.081904e+11	312712010
6	1.414662e+11	86549172
	hail_exposure_total	hail_historic_loss_ratio_buildings
1	8.153358e+11	4.677834e-06
2	3.221458e+12	3.896846e-06
3	3.502697e+11	2.291055e-06
4	3.082123e+11	2.584154e-06
5	8.172766e+11	9.416817e-07
6	1.433246e+11	2.816460e-06
	hail_historic_loss_ratio_population	hail_historic_loss_ratio_agriculture
1	3.858473e-08	6.953655e-05
2	3.858473e-08	7.280498e-06
3	3.858473e-08	2.781710e-04
4	3.416060e-10	1.227620e-04
5	4.474400e-10	3.953458e-05
6	3.858473e-08	1.569340e-04
	hail_historic_loss_ratio_total_rating	
1	Relatively Low	
2	Very Low	
3	Relatively Low	
4	Very Low	
5	Very Low	
6	Relatively Low	
	hail_expected_annual_loss_building_value	hail_expected_annual_loss_population
1	125690.01	5.958791e-03
2	255149.06	1.149748e-02
3	22985.10	1.772234e-03
4	29559.95	2.457714e-05

5	39266.63	1.254589e-04
6	11036.79	8.811446e-04
hail_expected_annual_loss_population_equivalence		
1	81635.4307	
2	157515.4420	
3	24279.6104	
4	336.7068	
5	1718.7868	
6	12071.6806	
hail_expected_annual_loss_agriculture_value hail_expected_annual_loss_total		
1	4931.998	212257.43
2	1407.645	414072.15
3	61966.929	109231.63
4	2165.053	32061.71
5	58848.685	99834.10
6	29788.054	52896.53
hail_expected_annual_loss_score hail_expected_annual_loss_rating		
1	48.34109	Relatively Low
2	65.27132	Relatively Low
3	33.11628	Very Low
4	13.48837	Very Low
5	31.50388	Very Low
6	20.00000	Very Low
hail_expected_annual_loss_rate_building		
1	1.227273e-05	
2	4.944529e-06	
3	4.223786e-06	
4	8.367688e-06	
5	4.475600e-06	
6	6.228828e-06	
hail_expected_annual_loss_rate_population		
1	1.014021e-07	
2	4.969411e-08	
3	7.043857e-08	
4	1.105137e-09	
5	2.126710e-09	
6	8.533261e-08	
hail_expected_annual_loss_rate_agriculture		
1	1.784974e-04	
2	9.080821e-06	
3	4.559255e-04	
4	4.001941e-04	
5	1.881881e-04	

6	3.441749e-04	
	hail_expected_annual_loss_rate_national_percentile	
1		24.58915
2		16.18605
3		43.47287
4		32.93023
5		38.60465
6		40.86822
	hail_hazard_type_risk_index_value	hail_hazard_type_risk_index_score
1	220361.68	44.30662
2	441766.81	63.19975
3	195828.61	41.38041
4	45176.16	13.10433
5	134577.02	31.71120
6	91642.38	24.01399
	hail_hazard_type_risk_index_rating	heat_wave_number_of_events
1	Relatively Low	157.0000
2	Relatively Low	120.7742
3	Relatively Low	146.0000
4	Very Low	157.0000
5	Very Low	94.0000
6	Very Low	146.0000
	heat_wave_annualized_frequency	heat_wave_exposure_impacted_area_sq_mi
1	9.526316	610.4705
2	9.294483	1674.8440
3	8.947368	913.6465
4	9.473684	632.4868
5	5.894737	657.1966
6	8.947368	631.4545
	heat_wave_exposure_building_value	heat_wave_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326
	heat_wave_exposure_population_equivalence	
1	8.050668e+11	
2	3.169700e+12	
3	3.446920e+11	
4	3.046743e+11	
5	8.081904e+11	
6	1.414662e+11	

	heat_wave_exposure_agriculture_value	heat_wave_exposure_total
1	27630646	8.153358e+11
2	155012958	3.221458e+12
3	135914589	3.502697e+11
4	5410008	3.082123e+11
5	312712010	8.172766e+11
6	86549172	1.433246e+11
	heat_wave_historic_loss_ratio_buildings	
1	6.75528e-10	
2	6.98075e-10	
3	6.75528e-10	
4	6.75528e-10	
5	7.20391e-10	
6	6.75528e-10	
	heat_wave_historic_loss_ratio_population	
1	2.36052e-07	
2	1.02924e-07	
3	1.38172e-07	
4	1.21107e-07	
5	1.17213e-07	
6	1.42389e-07	
	heat_wave_historic_loss_ratio_agriculture	
1	7.44074e-06	
2	4.85805e-07	
3	4.20060e-06	
4	3.20575e-05	
5	9.78287e-06	
6	8.18823e-06	
	heat_wave_historic_loss_ratio_total_rating	
1	Relatively High	
2	Relatively Moderate	
3	Relatively Moderate	
4	Relatively Moderate	
5	Relatively Moderate	
6	Relatively Moderate	
	heat_wave_expected_annual_loss_building_value	
1	65.90645	
2	326.15029	
3	32.89145	
4	22.60792	
5	37.25676	
6	10.70965	
	heat_wave_expected_annual_loss_population	

1	0.15841898	
2	0.26406483	
3	0.03728973	
4	0.03058909	
5	0.04886485	
6	0.01577129	
heat_wave_expected_annual_loss_population_equivalence		
1	2170340.1	
2	3617688.2	
3	510869.3	
4	419070.6	
5	669448.4	
6	216066.6	
heat_wave_expected_annual_loss_agriculture_value		
1	1958.5685	
2	701.3291	
3	5108.2707	
4	1643.1293	
5	18033.3570	
6	6340.8758	
heat_wave_expected_annual_loss_total heat_wave_expected_annual_loss_score		
1	2172364.5	86.82074
2	3618715.7	91.75515
3	516010.4	59.61899
4	420736.3	56.58963
5	687519.0	67.55153
6	222418.2	43.16052
heat_wave_expected_annual_loss_rating		
1	Relatively Moderate	
2	Relatively Moderate	
3	Relatively Low	
4	Relatively Low	
5	Relatively Low	
6	Relatively Low	
heat_wave_expected_annual_loss_rate_building		
1	6.435293e-09	
2	6.320460e-09	
3	6.044198e-09	
4	6.399740e-09	
5	4.246516e-09	
6	6.044199e-09	
heat_wave_expected_annual_loss_rate_population		
1	2.695851e-06	



2	1.141334e-06	
3	1.482104e-06	
4	1.375471e-06	
5	8.283300e-07	
6	1.527337e-06	
heat_wave_expected_annual_loss_rate_agriculture		
1	7.088392e-05	
2	4.524325e-06	
3	3.758442e-05	
4	3.037203e-04	
5	5.766762e-05	
6	7.326327e-05	
heat_wave_expected_annual_loss_rate_national_percentile		
1		50.28107
2		32.26109
3		73.76640
4		62.08620
5		85.75890
6		86.66458
heat_wave_hazard_type_risk_index_value heat_wave_hazard_type_risk_index_score		
1	2255308.0	85.90238
2	3860748.6	92.19653
3	925094.7	69.46050
4	592833.3	59.69814
5	926780.1	69.49261
6	385335.9	49.96789
heat_wave_hazard_type_risk_index_rating hurricane_number_of_events		
1	Relatively Moderate	26
2	Relatively Moderate	100
3	Relatively Low	42
4	Relatively Low	22
5	Relatively Low	12
6	Relatively Low	40
hurricane_annualized_frequency hurricane_exposure_impacted_area_sq_mi		
1	0.07914897	610.4705
2	0.23635980	1674.8440
3	0.11480027	913.6465
4	0.06567182	632.4868
5	0.03861104	657.1966
6	0.12178739	631.4545
hurricane_exposure_building_value hurricane_exposure_population		
1	10238974847	58748.67
2	51601828725	231362.82

3	5441822473	25160.00
4	3532630882	22239.00
5	8773228158	58989.06
6	1771888929	10326.00
	hurricane_exposure_population_equivalence	
1	8.048568e+11	
2	3.169671e+12	
3	3.446920e+11	
4	3.046743e+11	
5	8.081501e+11	
6	1.414662e+11	
	hurricane_exposure_agriculture_value	hurricane_exposure_total
1	27499630	8.151232e+11
2	154998947	3.221427e+12
3	135914589	3.502697e+11
4	5410008	3.082123e+11
5	311686938	8.172350e+11
6	86507256	1.433246e+11
	hurricane_historic_loss_ratio_buildings	
1	0.000817589	
2	0.011967574	
3	0.001038720	
4	0.000193193	
5	0.000123335	
6	0.001835101	
	hurricane_historic_loss_ratio_population	
1	6.50e-07	
2	8.82e-06	
3	7.62e-07	
4	1.61e-07	
5	9.70e-08	
6	8.88e-07	
	hurricane_historic_loss_ratio_agriculture	
1	0.02389528	
2	0.04418233	
3	0.02879113	
4	0.02133846	
5	0.01500499	
6	0.02658374	
	hurricane_historic_loss_ratio_total_rating	
1	Relatively Low	
2	Very High	
3	Relatively Moderate	

4	Very Low
5	Relatively Low
6	Relatively Moderate
hurricane_expected_annual_loss_building_value	
1	633591.11
2	150899001.47
3	612108.31
4	43837.45
5	42636.47
6	403182.75
hurricane_expected_annual_loss_population	
1	0.0028929092
2	0.4994660984
3	0.0021024458
4	0.0002298890
5	0.0002250358
6	0.0011369581
hurricane_expected_annual_loss_population_equivalence	
1	39632.856
2	6842685.549
3	28803.507
4	3149.480
5	3082.991
6	15576.326
hurricane_expected_annual_loss_agriculture_value	
1	52355.321
2	1684756.880
3	490513.304
4	7579.473
5	176218.599
6	280371.138
hurricane_expected_annual_loss_total hurricane_expected_annual_loss_score	
1	725579.28 71.38833
2	159426443.90 99.23541
3	1131425.12 74.48692
4	54566.41 47.36419
5	221938.06 60.04024
6	699130.21 70.94567
hurricane_expected_annual_loss_rating	
1	Relatively Low
2	Very High
3	Relatively Low
4	Very Low

5	Relatively Low	
6	Relatively Low	
	hurricane_expected_annual_loss_rate_building	
1	6.186564e-05	
2	2.924269e-03	
3	1.124822e-04	
4	1.240929e-05	
5	4.859693e-06	
6	2.275440e-04	
	hurricane_expected_annual_loss_rate_population	
1	4.922928e-08	
2	2.158780e-06	
3	8.356303e-08	
4	1.033720e-08	
5	3.814684e-09	
6	1.101063e-07	
	hurricane_expected_annual_loss_rate_agriculture	
1	0.0018948280	
2	0.0108684906	
3	0.0036089820	
4	0.0014010095	
5	0.0005635172	
6	0.0032394433	
	hurricane_expected_annual_loss_rate_national_percentile	
1		68.89336
2		98.87324
3		79.35614
4		55.57344
5		60.24145
6		81.73038
	hurricane_hazard_type_risk_index_value	hurricane_hazard_type_risk_index_score
1	753282.76	72.09011
2	170089467.65	99.24906
3	2028399.60	79.97497
4	76886.11	50.06258
5	299173.96	62.99541
6	1211231.81	76.17856
	hurricane_hazard_type_risk_index_rating	ice_storm_number_of_events
1	Relatively Low	28
2	Very High	11
3	Relatively Low	27
4	Very Low	28
5	Relatively Low	36

6	Relatively Low	34
	ice_storm_annualized_frequency	ice_storm_exposure_impacted_area_sq_mi
1	0.4020250	610.4705
2	0.1809756	1674.8440
3	0.3916563	913.6465
4	0.4130497	632.4868
5	0.5246322	657.1966
6	0.4938238	631.4545
	ice_storm_exposure_building_value	ice_storm_exposure_population
1	10241406107	58764.00
2	51602300760	231365.00
3	5439743279	25143.57
4	3532630882	22239.00
5	8773489059	58992.00
6	1771888929	10326.00
	ice_storm_exposure_population_equivalence	ice_storm_exposure_total
1	8.050668e+11	8.153082e+11
2	3.169700e+12	3.221303e+12
3	3.444669e+11	3.499066e+11
4	3.046743e+11	3.082069e+11
5	8.081904e+11	8.169639e+11
6	1.414662e+11	1.432381e+11
	ice_storm_historic_loss_ratio_buildings	
1	1.201483e-05	
2	4.461639e-06	
3	5.359539e-06	
4	1.068534e-05	
5	9.940137e-06	
6	4.727637e-06	
	ice_storm_historic_loss_ratio_population	
1	3.820473e-08	
2	3.771703e-08	
3	3.771703e-08	
4	3.936282e-08	
5	2.131958e-08	
6	3.787451e-08	
	ice_storm_historic_loss_ratio_total_rating	
1	Very Low	
2	Very Low	
3	Very Low	
4	Very Low	
5	Very Low	
6	Very Low	

	ice_storm_expected_annual_loss_building_value	
1	49468.681	
2	50479.951	
3	12631.747	
4	16407.910	
5	45018.026	
6	4127.112	
	ice_storm_expected_annual_loss_population	
1	0.0009025715	
2	0.0019456564	
3	0.0004006165	
4	0.0003805396	
5	0.0006505543	
6	0.0001926839	
	ice_storm_expected_annual_loss_population_equivalence	
1	12365.229	
2	26655.493	
3	5488.445	
4	5213.392	
5	8912.594	
6	2639.770	
	ice_storm_expected_annual_loss_total	ice_storm_expected_annual_loss_score
1	61833.910	44.78507
2	77135.444	49.45018
3	18120.193	22.55915
4	21621.303	25.15828
5	53930.620	42.01933
6	6766.881	13.16228
	ice_storm_expected_annual_loss_rating	
1	Relatively Low	
2	Relatively Low	
3	Very Low	
4	Very Low	
5	Relatively Low	
6	Very Low	
	ice_storm_expected_annual_loss_rate_building	
1	4.830263e-06	
2	9.782500e-07	
3	2.321235e-06	
4	4.644672e-06	
5	5.131143e-06	
6	2.329216e-06	
	ice_storm_expected_annual_loss_rate_population	

1	1.535926e-08	
2	8.409467e-09	
3	1.592275e-08	
4	1.711136e-08	
5	1.102784e-08	
6	1.866007e-08	
ice_storm_expected_annual_loss_rate_national_percentile		
1	48.95035	
2	25.49150	
3	35.05498	
4	45.45152	
5	50.88304	
6	31.52283	
ice_storm_hazard_type_risk_index_value ice_storm_hazard_type_risk_index_score		
1	64194.80	42.98567
2	82294.54	48.28391
3	32485.57	29.59014
4	30465.23	28.59047
5	72698.83	45.61813
6	11723.51	16.42786
ice_storm_hazard_type_risk_index_rating landslide_number_of_events		
1	Relatively Low	NA
2	Relatively Low	NA
3	Relatively Low	NA
4	Relatively Low	NA
5	Relatively Low	NA
6	Very Low	NA
landslide_annualized_frequency landslide_exposure_impacted_area_sq_mi		
1	0.6080374	9.844736
2	0.2870436	10.837740
3	0.5232044	4.677953
4	1.1925173	6.499175
5	1.0733445	21.192289
6	0.2357571	2.169914
landslide_exposure_building_value landslide_exposure_population		
1	241709146	1369.4124
2	272324884	1291.8727
3	77638194	360.6112
4	135044989	963.4599
5	563453473	4049.5775
6	29943314	158.9033
landslide_exposure_population_equivalence landslide_exposure_total		
1	18760950535	19002659681

2	17698656060	17970980944
3	4940373499	5018011693
4	13199400340	13334445328
5	55479211700	56042665173
6	2176975246	2206918560
landslide_historic_loss_ratio_buildings		
1	0.000813948	
2	0.001726323	
3	0.000501755	
4	0.000406387	
5	0.000043044	
6	0.000258224	
landslide_historic_loss_ratio_population		
1	3.002444e-07	
2	3.002444e-07	
3	3.002444e-07	
4	3.002444e-07	
5	2.837848e-06	
6	3.002444e-07	
landslide_historic_loss_ratio_total_rating		
1	Relatively Low	
2	Very Low	
3	Relatively Low	
4	Relatively Low	
5	Very Low	
6	Very Low	
landslide_expected_annual_loss_building_value		
1	8024.6890	
2	3754.0146	
3	2217.9510	
4	8793.2167	
5	1831.6780	
6	385.4514	
landslide_expected_annual_loss_population		
1	1.854463e-05	
2	3.217201e-06	
3	5.576693e-06	
4	4.962253e-05	
5	8.665683e-04	
6	2.481168e-06	
landslide_expected_annual_loss_population_equivalence		
1		254.06138
2		44.07565



3		76.40069
4		679.82862
5		11871.98599
6		33.99201
	landslide_expected_annual_loss_total	landslide_expected_annual_loss_score
1	8278.7504	72.50155
2	3798.0902	64.12166
3	2294.3517	57.07635
4	9473.0453	73.64991
5	13703.6639	77.12601
6	419.4434	33.79888
	landslide_expected_annual_loss_rating	
1	Very Low	
2	Very Low	
3	Very Low	
4	Relatively Low	
5	Relatively Low	
6	Very Low	
	landslide_expected_annual_loss_rate_building	
1	7.835534e-07	
2	7.274898e-08	
3	4.075750e-07	
4	2.489141e-06	
5	2.087742e-07	
6	2.175370e-07	
	landslide_expected_annual_loss_rate_population	
1	3.155780e-10	
2	1.390530e-11	
3	2.216492e-10	
4	2.231329e-09	
5	1.468959e-08	
6	2.402836e-10	
	landslide_expected_annual_loss_rate_national_percentile	
1		95.71695
2		84.94724
3		93.73060
4		96.39975
5		44.90999
6		89.29236
	landslide_hazard_type_risk_index_value	landslide_hazard_type_risk_index_score
1	8594.8429	73.50509
2	4052.1204	65.07634
3	4113.2745	65.39440

4	13347.8764	77.86260
5	18472.6292	80.97964
6	726.6789	40.77608
	landslide_hazard_type_risk_index_rating	lightning_number_of_events
1	Relatively Low	105420.70
2	Relatively Low	548407.39
3	Relatively Low	94050.16
4	Relatively Low	80557.59
5	Relatively Low	162157.24
6	Very Low	42493.65
	lightning_annualized_frequency	lightning_exposure_impacted_area_sq_mi
1	68.50062	610.4705
2	84.28896	1674.8440
3	69.38481	913.6465
4	71.06225	632.4868
5	63.77048	657.1966
6	68.49618	631.4545
	lightning_exposure_building_value	lightning_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326
	lightning_exposure_population_equivalence	lightning_exposure_total
1	8.050668e+11	8.153082e+11
2	3.169700e+12	3.221303e+12
3	3.446920e+11	3.501338e+11
4	3.046743e+11	3.082069e+11
5	8.081904e+11	8.169639e+11
6	1.414662e+11	1.432381e+11
	lightning_historic_loss_ratio_buildings	
1	2.532506e-08	
2	1.511820e-08	
3	7.326266e-08	
4	2.527066e-08	
5	3.292619e-08	
6	4.379312e-08	
	lightning_historic_loss_ratio_population	
1	1.416246e-08	
2	1.480652e-08	
3	9.890247e-09	
4	8.500586e-09	

5	1.041512e-08	
6	9.487407e-09	
	lightning_historic_loss_ratio_total_rating	
1	Relatively Moderate	
2	Relatively Moderate	
3	Relatively Moderate	
4	Relatively Low	
5	Relatively Low	
6	Relatively Low	
	lightning_expected_annual_loss_building_value	
1	17599.257	
2	66256.325	
3	27919.940	
4	6348.319	
5	18442.755	
6	5307.712	
	lightning_expected_annual_loss_population	
1	0.056417769	
2	0.292857143	
3	0.017403203	
4	0.013444601	
5	0.039285714	
6	0.006701067	
	lightning_expected_annual_loss_population_equivalence	
1	772923.43	
2	4012142.86	
3	238423.89	
4	184191.03	
5	538214.28	
6	91804.62	
	lightning_expected_annual_loss_total	lightning_expected_annual_loss_score
1	790522.69	83.36437
2	4078399.18	98.85164
3	266343.83	56.02110
4	190539.35	46.67908
5	556657.04	75.82247
6	97112.33	29.11235
	lightning_expected_annual_loss_rating	
1	Relatively Moderate	
2	Very High	
3	Relatively Low	
4	Relatively Low	
5	Relatively Moderate	

6	Relatively Low	
	lightning_expected_annual_loss_rate_building	
1		1.718441e-06
2		1.283980e-06
3		5.130623e-06
4		1.797051e-06
5		2.102100e-06
6		2.995511e-06
	lightning_expected_annual_loss_rate_population	
1		9.600737e-07
2		1.265780e-06
3		6.917012e-07
4		6.045506e-07
5		6.659499e-07
6		6.489509e-07
	lightning_expected_annual_loss_rate_national_percentile	
1		30.32278
2		18.83923
3		84.17132
4		40.96834
5		44.81688
6		63.40782
	lightning_hazard_type_risk_index_value	lightning_hazard_type_risk_index_score
1	820705.8	81.67939
2	4351177.4	98.85496
3	477496.7	67.87532
4	268477.1	52.70356
5	750377.3	79.83461
6	168245.6	40.23537
	lightning_hazard_type_risk_index_rating	inland_flooding_number_of_events
1	Relatively Moderate	26
2	Very High	83
3	Relatively Moderate	7
4	Relatively Low	16
5	Relatively Moderate	36
6	Relatively Low	10
	inland_flooding_annualized_frequency	
1		0.9285714
2		2.9642857
3		0.2500000
4		0.5714286
5		1.2857143
6		0.3571429

	inland_flooding_exposure_impacted_area_sq_mi	
1	38.44449	
2	85.53793	
3	18.65115	
4	18.42915	
5	43.12943	
6	19.52088	
	inland_flooding_exposure_building_value	inland_flooding_exposure_population
1	10232864388	1665.0948
2	51511106459	14431.5515
3	5438301142	369.6507
4	3531074563	737.4141
5	8765463116	860.7218
6	1771341753	345.5152
	inland_flooding_exposure_population_equivalence	
1	22811799317	
2	197712256042	
3	5064214722	
4	10102573407	
5	11791889263	
6	4733557945	
	inland_flooding_exposure_agriculture_value	inland_flooding_exposure_total
1	6060224.0	33050723929
2	551359.4	249223913860
3	4234244.9	10506750109
4	1526254.2	13635174223
5	16709859.6	20574062238
6	10562149.8	6515461848
	inland_flooding_historic_loss_ratio_buildings	
1	0.0011421256	
2	0.0003079860	
3	0.0028986128	
4	0.0023290457	
5	0.0008724106	
6	0.0022741030	
	inland_flooding_historic_loss_ratio_population	
1	2.61034e-06	
2	2.17315e-06	
3	3.72513e-06	
4	2.10199e-06	
5	3.72513e-06	
6	3.72513e-06	
	inland_flooding_historic_loss_ratio_agriculture	

1	0.010956987
2	0.010762316
3	0.010292012
4	0.001206870
5	0.000778774
6	0.010283332
inland_flooding_historic_loss_ratio_total_rating	
1	Relatively Moderate
2	Relatively Low
3	Relatively Moderate
4	Relatively Moderate
5	Relatively High
6	Relatively Low
inland_flooding_expected_annual_loss_building_value	
1	10852415
2	47027498
3	3940882
4	4699448
5	9831964
6	1438648
inland_flooding_expected_annual_loss_population	
1	0.0040360020
2	0.0929657099
3	0.0003442492
4	0.0008857355
5	0.0041223867
6	0.0004596746
inland_flooding_expected_annual_loss_population_equivalence	
1	55293.227
2	1273630.225
3	4716.215
4	12134.576
5	56476.698
6	6297.542
inland_flooding_expected_annual_loss_agriculture_value	
1	61658.810
2	17589.786
3	10894.725
4	1052.566
5	16731.263
6	38790.748
inland_flooding_expected_annual_loss_total	
1	10969367

2	48318718
3	3956493
4	4712635
5	9905172
6	1483736
inland_flooding_expected_annual_loss_score	
1	67.69802
2	91.89356
3	38.30446
4	44.02847
5	65.43936
6	13.70668
inland_flooding_expected_annual_loss_rating	
1	Relatively Low
2	Relatively Moderate
3	Very Low
4	Relatively Low
5	Relatively Low
6	Very Low
inland_flooding_expected_annual_loss_rate_building	
1	0.0010596607
2	0.0009113450
3	0.0007241843
4	0.0013302969
5	0.0011206447
6	0.0008119288
inland_flooding_expected_annual_loss_rate_population	
1	6.868154e-08
2	4.018141e-07
3	1.368240e-08
4	3.982803e-08
5	6.988044e-08
6	4.451623e-08
inland_flooding_expected_annual_loss_rate_agriculture	
1	2.231537e-03
2	1.134730e-04
3	8.015861e-05
4	1.945590e-04
5	5.350374e-05
6	4.481932e-04
inland_flooding_expected_annual_loss_rate_national_percentile	
1	76.36139
2	60.82921

3		39.26361
4		89.07797
5		80.10520
6		51.26856
	inland_flooding_hazard_type_risk_index_value	
1		11388191
2		51550451
3		7093133
4		6640280
5		13352237
6		2570549
	inland_flooding_hazard_type_risk_index_score	
1		65.52163
2		92.20738
3		50.76336
4		48.91858
5		69.46565
6		20.16539
	inland_flooding_hazard_type_risk_index_rating	strong_wind_number_of_events
1	Relatively Low	49
2	Relatively Moderate	60
3	Relatively Low	58
4	Relatively Low	52
5	Relatively Low	166
6	Very Low	60
	strong_wind_annualized_frequency	strong_wind_exposure_impacted_area_sq_mi
1	1.279727	610.4705
2	1.882677	1674.8440
3	1.526485	913.6465
4	1.367932	632.4868
5	4.361082	657.1966
6	1.571969	631.4545
	strong_wind_exposure_building_value	strong_wind_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326
	strong_wind_exposure_population_equivalence	
1		8.050668e+11
2		3.169700e+12
3		3.446920e+11



4	3.046743e+11	
5	8.081904e+11	
6	1.414662e+11	
	strong_wind_exposure_agriculture_value	strong_wind_exposure_total
1	27630646	8.153358e+11
2	155012958	3.221458e+12
3	135914589	3.502697e+11
4	5410008	3.082123e+11
5	312712010	8.172766e+11
6	86549172	1.433246e+11
	strong_wind_historic_loss_ratio_buildings	
1	1.576726e-05	
2	2.185529e-06	
3	8.337606e-06	
4	9.292704e-06	
5	2.748161e-06	
6	1.052940e-04	
	strong_wind_historic_loss_ratio_population	
1	3.890399e-07	
2	2.689778e-07	
3	1.846388e-07	
4	1.391838e-07	
5	2.429975e-07	
6	2.527365e-07	
	strong_wind_historic_loss_ratio_agriculture	
1	1.776860e-04	
2	3.198717e-05	
3	3.036987e-05	
4	1.050690e-04	
5	1.174150e-05	
6	4.599721e-05	
	strong_wind_historic_loss_ratio_total_rating	
1	Relatively Low	
2	Relatively Low	
3	Relatively Low	
4	Relatively Low	
5	Relatively Moderate	
6	Relatively Moderate	
	strong_wind_expected_annual_loss_building_value	
1	195914.49	
2	179826.63	
3	67764.38	
4	44981.27	

5	103628.96	
6	295398.80	
	strong_wind_expected_annual_loss_population	
1	0.027760286	
2	0.100709192	
3	0.006975858	
4	0.004238693	
5	0.061731416	
6	0.004132055	
	strong_wind_expected_annual_loss_population_equivalence	
1	380315.91	
2	1379715.92	
3	95569.26	
4	58070.09	
5	845720.40	
6	56609.16	
	strong_wind_expected_annual_loss_agriculture_value	
1	6374.6304	
2	8099.9786	
3	6481.9744	
4	784.1054	
5	16351.8036	
6	6260.7546	
	strong_wind_expected_annual_loss_total	strong_wind_expected_annual_loss_score
1	582605.0	56.68217
2	1567642.5	85.42636
3	169815.6	22.69767
4	103835.5	16.46512
5	965701.2	73.05426
6	358268.7	40.89922
	strong_wind_expected_annual_loss_rating	
1	Relatively Moderate	
2	Relatively Moderate	
3	Relatively Low	
4	Very Low	
5	Relatively Moderate	
6	Relatively Low	
	strong_wind_expected_annual_loss_rate_building	
1	1.912965e-05	
2	3.484857e-06	
3	1.245252e-05	
4	1.273308e-05	
5	1.181160e-05	

6	1.667141e-04	
	strong_wind_expected_annual_loss_rate_population	
1	4.724029e-07	
2	4.352827e-07	
3	2.772599e-07	
4	1.905973e-07	
5	1.046437e-06	
6	4.001603e-07	
	strong_wind_expected_annual_loss_rate_agriculture	
1	2.307087e-04	
2	5.225356e-05	
3	4.769153e-05	
4	1.449361e-04	
5	5.229030e-05	
6	7.233755e-05	
	strong_wind_expected_annual_loss_rate_national_percentile	
1		45.95349
2		8.27907
3		43.68992
4		44.89922
5		17.55039
6		97.02326
	strong_wind_hazard_type_risk_index_value	
1	604849.6	
2	1672492.2	
3	304442.5	
4	146308.1	
5	1301771.5	
6	620694.8	
	strong_wind_hazard_type_risk_index_score	
1	51.68575	
2	85.11450	
3	29.93003	
4	16.31679	
5	78.88041	
6	52.44911	
	strong_wind_hazard_type_risk_index_rating	tornado_number_of_events
1	Relatively Low	43
2	Relatively High	82
3	Relatively Low	41
4	Very Low	33
5	Relatively Moderate	51
6	Relatively Moderate	22

	tornado_annualized_frequency	tornado_exposure_impacted_area_sq_mi
1	0.5112290	442.5852
2	1.3442028	1263.1049
3	0.7965739	605.5448
4	0.6002962	435.2331
5	0.7179991	511.7147
6	0.5808771	412.6413

  

	tornado_exposure_building_value	tornado_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326

  

	tornado_exposure_population_equivalence	tornado_exposure_agriculture_value
1	8.050668e+11	27630646
2	3.169700e+12	155012958
3	3.446920e+11	135914589
4	3.046743e+11	5410008
5	8.081904e+11	312712010
6	1.414662e+11	86549172

  

	tornado_exposure_total	tornado_historic_loss_ratio_buildings
1	8.153358e+11	2.804855e-04
2	3.221458e+12	6.134908e-05
3	3.502697e+11	1.623183e-04
4	3.082123e+11	4.628963e-04
5	8.172766e+11	4.235818e-04
6	1.433246e+11	2.403525e-04

  

	tornado_historic_loss_ratio_population
1	3.714784e-06
2	1.115528e-06
3	5.251746e-06
4	8.391096e-06
5	6.604502e-06
6	8.338736e-06

  

	tornado_historic_loss_ratio_agriculture
1	5.701380e-05
2	3.534510e-06
3	1.112236e-05
4	1.125625e-04
5	1.052845e-04
6	3.422153e-05

  

	tornado_historic_loss_ratio_total_rating
1	
2	
3	
4	
5	
6	

1	Relatively Moderate	
2	Relatively Moderate	
3	Relatively High	
4	Relatively High	
5	Relatively High	
6	Relatively High	
tornado_expected_annual_loss_building_value		
1	1468539.0	
2	4255415.1	
3	703619.5	
4	981629.4	
5	2668293.2	
6	247382.8	
tornado_expected_annual_loss_population		
1	0.11159903	
2	0.34693082	
3	0.10525443	
4	0.11202104	
5	0.27974162	
6	0.05001688	
tornado_expected_annual_loss_population_equivalence		
1	1528907.0	
2	4752951.9	
3	1441985.7	
4	1534688.3	
5	3832460.9	
6	685231.6	
tornado_expected_annual_loss_agriculture_value		
1	805.3535	
2	736.4817	
3	1204.1735	
4	365.5588	
5	23639.2138	
6	1720.4682	
tornado_expected_annual_loss_total tornado_expected_annual_loss_score		
1	2998251.1	76.46512
2	9009103.9	92.65116
3	2146809.4	68.86822
4	2516683.3	72.55814
5	6524394.1	89.11628
6	934334.4	46.04651
tornado_expected_annual_loss_rating		
1	Relatively Moderate	

2	Relatively High	
3	Relatively Moderate	
4	Relatively Moderate	
5	Relatively Moderate	
6	Relatively Low	
tornado_expected_annual_loss_rate_building		
1	1.433923e-04	
2	8.246561e-05	
3	1.292985e-04	
4	2.778749e-04	
5	3.041314e-04	
6	1.396153e-04	
tornado_expected_annual_loss_rate_population		
1	1.899105e-06	
2	1.499496e-06	
3	4.183403e-06	
4	5.037144e-06	
5	4.742026e-06	
6	4.843781e-06	
tornado_expected_annual_loss_rate_agriculture		
1	2.914711e-05	
2	4.751098e-06	
3	8.859781e-06	
4	6.757085e-05	
5	7.559420e-05	
6	1.987851e-05	
tornado_expected_annual_loss_rate_national_percentile		
1	74.88372	
2	52.74419	
3	50.26357	
4	78.04651	
5	81.79845	
6	43.65891	
tornado_hazard_type_risk_index_value tornado_hazard_type_risk_index_score		
1	3112728	74.10941
2	9611666	92.84351
3	3848763	78.62595
4	3546101	77.16285
5	8794926	92.01654
6	1618719	56.74300
tornado_hazard_type_risk_index_rating tsunami_number_of_events		
1	Relatively Moderate	NA
2	Relatively High	NA

3	Relatively Moderate	NA
4	Relatively Moderate	NA
5	Relatively High	NA
6	Relatively Low	NA
tsunami_annualized_frequency tsunami_exposure_impacted_area_sq_mi		
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
tsunami_exposure_building_value tsunami_exposure_population		
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
tsunami_exposure_population_equivalence tsunami_exposure_total		
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
tsunami_historic_loss_ratio_buildings tsunami_historic_loss_ratio_population		
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
tsunami_historic_loss_ratio_total_rating		
1	Not Applicable	
2	Insufficient Data	
3	Not Applicable	
4	Not Applicable	
5	Not Applicable	
6	Not Applicable	
tsunami_expected_annual_loss_building_value		
1	NA	
2	NA	
3	NA	

4		NA
5		NA
6		NA
tsunami_expected_annual_loss_population		
1		NA
2		NA
3		NA
4		NA
5		NA
6		NA
tsunami_expected_annual_loss_population_equivalence		
1		NA
2		NA
3		NA
4		NA
5		NA
6		NA
tsunami_expected_annual_loss_total tsunami_expected_annual_loss_score		
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
tsunami_expected_annual_loss_rating		
1	Not Applicable	
2	Insufficient Data	
3	Not Applicable	
4	Not Applicable	
5	Not Applicable	
6	Not Applicable	
tsunami_expected_annual_loss_rate_building		
1		NA
2		NA
3		NA
4		NA
5		NA
6		NA
tsunami_expected_annual_loss_rate_population		
1		NA
2		NA
3		NA
4		NA



5		NA
6		NA
	tsunami_expected_annual_loss_rate_national_percentile	
1		NA
2		NA
3		NA
4		NA
5		NA
6		NA
	tsunami_hazard_type_risk_index_value tsunami_hazard_type_risk_index_score	
1	NA	NA
2	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA
	tsunami_hazard_type_risk_index_rating volcanic_activity_number_of_events	
1	Not Applicable	NA
2	Insufficient Data	NA
3	Not Applicable	NA
4	Not Applicable	NA
5	Not Applicable	NA
6	Not Applicable	NA
	volcanic_activity_annualized_frequency	
1	NA	
2	NA	
3	NA	
4	NA	
5	NA	
6	NA	
	volcanic_activity_exposure_impacted_area_sq_mi	
1	NA	
2	NA	
3	NA	
4	NA	
5	NA	
6	NA	
	volcanic_activity_exposure_building_value	
1	NA	
2	NA	
3	NA	
4	NA	
5	NA	

6	NA
volcanic_activity_exposure_population	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_exposure_population_equivalence	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_exposure_total	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_historic_loss_ratio_buildings	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_historic_loss_ratio_population	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_historic_loss_ratio_total_rating	
1	Not Applicable
2	Not Applicable
3	Not Applicable
4	Not Applicable
5	Not Applicable
6	Not Applicable

volcanic_activity_expected_annual_loss_building_value	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_expected_annual_loss_population	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_expected_annual_loss_population_equivalence	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_expected_annual_loss_total	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_expected_annual_loss_score	
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
volcanic_activity_expected_annual_loss_rating	
1	Not Applicable
2	Not Applicable
3	Not Applicable
4	Not Applicable
5	Not Applicable
6	Not Applicable
volcanic_activity_expected_annual_loss_rate_building	

1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	volcanic_activity_expected_annual_loss_rate_population		
1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	volcanic_activity_expected_annual_loss_rate_national_percentile		
1			NA
2			NA
3			NA
4			NA
5			NA
6			NA
	volcanic_activity_hazard_type_risk_index_value		
1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	volcanic_activity_hazard_type_risk_index_score		
1		NA	
2		NA	
3		NA	
4		NA	
5		NA	
6		NA	
	volcanic_activity_hazard_type_risk_index_rating	wildfire_number_of_events	
1	Not Applicable		NA
2	Not Applicable		NA
3	Not Applicable		NA
4	Not Applicable		NA
5	Not Applicable		NA
6	Not Applicable		NA
	wildfire_annualized_frequency	wildfire_exposure_impacted_area_sq_mi	
1	0.0005687112		23.109638

2	0.0031362165	61.616328
3	0.0006879368	27.486905
4	0.0009985845	8.969916
5	0.0015509504	36.198025
6	0.0012051260	19.917920
wildfire_exposure_building_value wildfire_exposure_population		
1	1367162952	10559.815
2	4042927648	43778.385
3	897476471	5651.492
4	432512644	4526.371
5	780301610	9153.991
6	215030507	2705.883
wildfire_exposure_population_equivalence wildfire_exposure_agriculture_value		
1	144669469075	4004713
2	599763874653	22529897
3	77425435224	28611591
4	62011278410	1181323
5	125409675029	50366257
6	37070594475	14336605
wildfire_exposure_total wildfire_historic_loss_ratio_buildings		
1	146040636740	0.1
2	603829332198	0.1
3	78351523285	0.1
4	62444972377	0.1
5	126240342895	0.1
6	37299961587	0.1
wildfire_historic_loss_ratio_population		
1	0.000117135	
2	0.000117135	
3	0.000117135	
4	0.000117135	
5	0.000117135	
6	0.000117135	
wildfire_historic_loss_ratio_agriculture		
1	0.007141184	
2	0.007141184	
3	0.007141184	
4	0.007141184	
5	0.007141184	
6	0.007141184	
wildfire_historic_loss_ratio_total_rating		
1	Very Low	
2	Relatively Moderate	

3	Very Low	
4	Relatively Low	
5	Relatively Low	
6	Relatively Low	
	wildfire_expected_annual_loss_building_value	
1	30029.76	
2	1282742.39	
3	21611.96	
4	25794.98	
5	73511.67	
6	17730.73	
	wildfire_expected_annual_loss_population	
1	0.0004537281	
2	0.0158468116	
3	0.0003026951	
4	0.0004965110	
5	0.0014068456	
6	0.0003232653	
	wildfire_expected_annual_loss_population_equivalence	
1	6216.075	
2	217101.320	
3	4146.923	
4	6802.200	
5	19273.784	
6	4428.735	
	wildfire_expected_annual_loss_agriculture_value	
1	16.406169	
2	470.262851	
3	150.438881	
4	8.942955	
5	581.805384	
6	134.908015	
	wildfire_expected_annual_loss_total	wildfire_expected_annual_loss_score
1	36262.24	47.10560
2	1500313.98	91.12595
3	25909.32	41.66667
4	32606.12	45.45165
5	93367.26	62.46819
6	22294.38	38.45420
	wildfire_expected_annual_loss_rating	
1	Very Low	
2	Relatively Moderate	
3	Very Low	

4	Very Low	
5	Relatively Low	
6	Very Low	
	wildfire_expected_annual_loss_rate_building	
1	2.932191e-06	
2	2.485824e-05	
3	3.971456e-06	
4	7.301918e-06	
5	8.378841e-06	
6	1.000668e-05	
	wildfire_expected_annual_loss_rate_population	
1	7.721192e-09	
2	6.849269e-08	
3	1.203081e-08	
4	2.232614e-08	
5	2.384807e-08	
6	3.130596e-08	
	wildfire_expected_annual_loss_rate_agriculture	
1	5.937671e-07	
2	3.033700e-06	
3	1.106863e-06	
4	1.653039e-06	
5	1.860515e-06	
6	1.558744e-06	
	wildfire_expected_annual_loss_rate_national_percentile	
1		41.34860
2		67.93893
3		45.64249
4		49.45929
5		51.14504
6		53.88041
	wildfire_hazard_type_risk_index_value	wildfire_hazard_type_risk_index_score
1	37646.77	45.73791
2	1600660.46	90.77608
3	46449.79	48.85496
4	45943.25	48.66412
5	125859.68	65.04453
6	38624.65	46.08779
	wildfire_hazard_type_risk_index_rating	winter_weather_number_of_events
1	Very Low	26.00000
2	Relatively Moderate	10.57465
3	Very Low	16.00000
4	Very Low	47.00000

5	Relatively Low	68.00000
6	Very Low	18.00000
	winter_weather_annualized_frequency	
1	1.3684211	
2	0.6862108	
3	0.8421053	
4	2.4736842	
5	3.5789474	
6	0.9473684	
	winter_weather_exposure_impacted_area_sq_mi	
1	610.4705	
2	1674.8440	
3	913.6465	
4	632.4868	
5	657.1966	
6	631.4545	
	winter_weather_exposure_building_value	winter_weather_exposure_population
1	10241406107	58764
2	51602300760	231365
3	5441822473	25160
4	3532630882	22239
5	8773489059	58992
6	1771888929	10326
	winter_weather_exposure_population_equivalence	
1	8.050668e+11	
2	3.169700e+12	
3	3.446920e+11	
4	3.046743e+11	
5	8.081904e+11	
6	1.414662e+11	
	winter_weather_exposure_agriculture_value	winter_weather_exposure_total
1	27630646	8.153358e+11
2	155012958	3.221458e+12
3	135914589	3.502697e+11
4	5410008	3.082123e+11
5	312712010	8.172766e+11
6	86549172	1.433246e+11
	winter_weather_historic_loss_ratio_buildings	
1	1.606919e-07	
2	4.162683e-07	
3	8.594241e-07	
4	1.675972e-07	
5	7.260871e-08	



6	5.595547e-07
	winter_weather_historic_loss_ratio_population
1	3.977501e-09
2	3.950781e-08
3	4.565266e-09
4	2.901881e-09
5	3.985606e-09
6	3.597021e-09
	winter_weather_historic_loss_ratio_agriculture
1	1.040342e-06
2	1.307012e-06
3	2.060673e-06
4	9.905277e-07
5	4.666358e-07
6	1.063787e-06
	winter_weather_historic_loss_ratio_total_rating
1	Very Low
2	Very Low
3	Very Low
4	Very Low
5	Very Low
6	Very Low
	winter_weather_expected_annual_loss_building_value
1	2252.0264
2	12111.8084
3	3938.3861
4	1464.5668
5	2279.9032
6	939.2863
	winter_weather_expected_annual_loss_population
1	3.198463e-04
2	5.402479e-03
3	9.672598e-05
4	1.596391e-04
5	8.414780e-04
6	3.518795e-05
	winter_weather_expected_annual_loss_population_equivalence
1	4381.895
2	74013.965
3	1325.146
4	2187.055
5	11528.249
6	482.075

	winter_weather_expected_annual_loss_agriculture_value
1	39.33630
2	119.90379
3	235.85370
4	13.25666
5	522.25093
6	87.22432
	winter_weather_expected_annual_loss_total
1	6673.257
2	86245.677
3	5499.386
4	3664.879
5	14330.403
6	1508.586
	winter_weather_expected_annual_loss_score
1	13.095975
2	61.114551
3	11.207430
4	8.947368
5	21.486068
6	5.727554
	winter_weather_expected_annual_loss_rating
1	Very Low
2	Relatively Moderate
3	Very Low
4	Very Low
5	Relatively Low
6	Very Low
	winter_weather_expected_annual_loss_rate_building
1	2.198943e-07
2	2.347145e-07
3	7.237256e-07
4	4.145825e-07
5	2.598628e-07
6	5.301045e-07
	winter_weather_expected_annual_loss_rate_population
1	5.442896e-09
2	2.335046e-08
3	3.844435e-09
4	7.178338e-09
5	1.426427e-08
6	3.407704e-09
	winter_weather_expected_annual_loss_rate_agriculture

1	1.423647e-06	
2	7.735082e-07	
3	1.735308e-06	
4	2.450395e-06	
5	1.670070e-06	
6	1.007801e-06	
winter_weather_expected_annual_loss_rate_national_percentile		
1	27.73994	
2	16.93498	
3	62.29102	
4	37.12074	
5	27.33746	
6	53.77709	
winter_weather_hazard_type_risk_index_value		
1	6928.050	
2	92014.103	
3	9859.205	
4	5163.951	
5	19317.477	
6	2613.600	
winter_weather_hazard_type_risk_index_score		
1	9.038829	
2	59.325271	
3	11.807766	
4	6.938256	
5	20.878421	
6	3.755570	
winter_weather_hazard_type_risk_index_rating national_risk_index_version		
1	Very Low	December 2025
2	Relatively Low	December 2025
3	Very Low	December 2025
4	Very Low	December 2025
5	Very Low	December 2025
6	Very Low	December 2025
shape_area shape_length		
1	2208589004	249970.3
2	5730946668	923868.3
3	3257908650	320882.9
4	2311979257	227920.1
5	2456905601	292630.4
6	2262905807	249092.9

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