

COUNTRY EXPOSURE MODEL

Review main statistic of a exposure model and create summaries for a given Country.

```
/home/risk/venvs/py38w/lib/python3.8/site-packages/geopandas/_compat.py:111: UserWarning: The Shapely GEOS version (3.9.1-CAPI-1.14.2) is incompatible with the GEOS version PyGEOS was compiled with (3.10.1-CAPI-1.16.0). Conversions between both will be slow.
  warnings.warn(
```

```
# Parameters
country = "Samoa"
```

Exposure files:
Exposure_Com_American_Samoa.csv
Exposure_Com_Samoa.csv
Exposure_Ind_American_Samoa.csv
Exposure_Ind_Samoa.csv
Exposure_Res_American_Samoa.csv
Exposure_Res_Samoa.csv

Sanity checks and formats

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	249.4K	58,977	\$8,335.8M	91.91%	81.01%
Ind	0.0K	509	\$487.2M	0.79%	4.74%
Com	0.0K	4,679	\$1,466.4M	7.29%	14.25%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	8,196.4K	\$7,026.7M	128	\$1,255
Res	6,902.4K	\$6,017.1M	117	\$1,208
Ind	202.9K	\$164.9M	399	\$2,401
Com	1,091.1K	\$844.8M	233	\$1,344

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Eastern	\$4,071.9M	8,256	24,351	39.57%	12.87%	9.76%
Western	\$3,197.8M	8,831	28,941	31.08%	13.76%	11.60%
Tuamasaga	\$2,112.2M	24,361	99,364	20.53%	37.97%	39.84%
Manu'a	\$226.3M	589	1,216	2.20%	0.92%	0.49%
A'ana	\$153.7M	4,780	23,265	1.49%	7.45%	9.33%
Fa'asaleleaga	\$150.9M	3,694	13,566	1.47%	5.76%	5.44%
Atua	\$105.0M	4,616	21,670	1.02%	7.19%	8.69%
Palauli	\$83.3M	2,335	9,300	0.81%	3.64%	3.73%
Vaisigano	\$54.2M	1,560	6,543	0.53%	2.43%	2.62%
Gagaifomauga	\$37.1M	1,343	4,878	0.36%	2.09%	1.96%
Satupa'itea	\$36.3M	1,457	5,261	0.35%	2.27%	2.11%
Gaga'emauga	\$27.7M	1,048	4,383	0.27%	1.63%	1.76%
Aiga-i-le-Tai	\$25.7M	977	5,029	0.25%	1.52%	2.02%
Va'a-o-Fonoti	\$7.3M	318	1,621	0.07%	0.50%	0.65%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column						
	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
RC	\$4,025.1M	8,786	26.4K	39.12%	13.69%	10.58%
MUR	\$3,459.7M	8,607	27.3K	33.62%	13.41%	10.95%
W	\$1,664.3M	33,059	142.9K	16.17%	51.52%	57.31%
MCF	\$760.9M	9,025	33.1K	7.40%	14.07%	13.27%
S	\$379.5M	4,688	19.7K	3.69%	7.31%	7.88%

Exposure by taxonomy

Showing only taxonomies that represent 90% of the total `COST_USD`

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
MUR	MUR/LWAL+DNO/HBET:1-2/RES	\$3,295.2M	8,475	35.81%	13.88%
RC	CR+CIP/LWAL+DUL/HBET:1-2/RES	\$2,982.3M	7,669	32.41%	12.56%
W	W+WLI/LFBR+DUL/H:1/RES	\$516.0M	13,431	5.61%	22.00%
MCF	MCF/LWAL+DUL/H:1/RES	\$471.9M	7,330	5.13%	12.01%
W	W+WLI/LPB+DUL/HBET:1-2/RES	\$328.3M	847	3.57%	1.39%
RC	CR+CIP/LFINF+DUL/HBET:2-3/COM	\$288.7M	221	3.14%	0.36%
MCF	MCF/LWAL+DUL/H:1/COM	\$277.8M	1,644	3.02%	2.69%
W	W+WLI/LPB+DUL/EWO+WOL/RWO5/H:1/RES	\$271.7M	15,207	2.95%	24.91%
RC	CR+CIP/LFINF+DUL/HBET:2-3/RES	\$214.1M	483	2.33%	0.79%
W	W+WLI/LFBR+DUL/H:1/COM	\$187.3M	1,515	2.04%	2.48%
RC	CR+CIP/LWAL+DUL/HBET:1-2/COM	\$145.0M	134	1.58%	0.22%
S	S+SL/LPB+DUL/EWO+WOL/H:1/RES	\$121.5M	4,034	1.32%	6.61%
RC	CR+CIP/LWAL+DUL/HBET:1-2/IND	\$101.8M	60	1.11%	0.10%

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