

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 (3.10.0-CAPI-1.16.0). Conversions between both will be slow.
warnings.warn(

```
# Parameters
country = "Seychelles"
```

Exposure files:
Exposure_Com_Seychelles.csv
Exposure_Ind_Seychelles.csv
Exposure_Res_Seychelles.csv

Sanity checks and formats

Seychelles
../Exposure/Africa/Exposure_Com_Seychelles.csv
../Exposure/Africa/Exposure_Ind_Seychelles.csv
../Exposure/Africa/Exposure_Res_Seychelles.csv
Occupants / Dwellings = 3.8
Reference avg household size (2019) = 3.8
Population (exposure / UN_2021) = 0.94
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	93.3K	23,588	\$1,474.8M	89.12%	33.86%
Ind	0.0K	682	\$893.4M	2.58%	20.51%
Com	0.0K	2,196	\$1,987.2M	8.30%	45.63%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	COST_PER_CAPITA	AVG_BUILDING_AREA_SQM	AVG_COST_PER_BLDG
OCCUPANCY					
Total	8,025.2K	\$3,276.4M	\$46.7K	303	
Res	3,009.9K	\$1,182.8M	\$15.8K	128	
Ind	1,543.7K	\$586.5M	\$9.6K	2,262	
Com	3,471.6K	\$1,507.1M	\$21.3K	1,581	

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Baie Saint	\$281.9M	1,713	6,037	6.47%	6.47%	6.47%
Au Cap	\$260.6M	1,584	5,581	5.98%	5.98%	5.98%
Cascade	\$233.0M	1,416	4,990	5.35%	5.35%	5.35%
Anse Royal	\$202.3M	1,230	4,333	4.65%	4.65%	4.65%
La Rivière	\$202.1M	1,228	4,327	4.64%	4.64%	4.64%
Beau Vallo	\$199.8M	1,214	4,279	4.59%	4.59%	4.59%
Baie Lazar	\$198.9M	1,209	4,260	4.57%	4.57%	4.57%
Plaisance	\$197.8M	1,202	4,236	4.54%	4.54%	4.54%
Anse Etoile	\$191.2M	1,162	4,094	4.39%	4.39%	4.39%
Grand Anse	\$180.6M	1,097	3,867	4.15%	4.15%	4.15%
La Digue aux	\$178.8M	1,087	3,829	4.11%	4.11%	4.11%
Glacis	\$173.3M	1,053	3,710	3.98%	3.98%	3.98%
Grand'Anse	\$171.7M	1,043	3,677	3.94%	3.94%	3.94%
Anse Boile	\$171.0M	1,039	3,662	3.93%	3.93%	3.93%
Anse Aux Pins	\$166.7M	1,013	3,569	3.83%	3.83%	3.83%
Pointe La	\$166.3M	1,010	3,560	3.82%	3.82%	3.82%
Bel Ombre	\$156.5M	951	3,350	3.59%	3.59%	3.59%
Les Mamelles	\$154.8M	941	3,315	3.55%	3.55%	3.55%
Takamaka	\$132.8M	807	2,844	3.05%	3.05%	3.05%
Mont Buxton	\$132.2M	804	2,832	3.04%	3.04%	3.04%
Bel Air	\$130.5M	793	2,794	3.00%	3.00%	3.00%
Port Glaud	\$129.0M	784	2,762	2.96%	2.96%	2.96%
Mont Fleur	\$128.9M	783	2,760	2.96%	2.96%	2.96%
Roche Caennaise	\$103.7M	630	2,221	2.38%	2.38%	2.38%
Saint Louis	\$84.8M	516	1,817	1.95%	1.95%	1.95%
Outer Islands	\$26.1M	158	558	0.60%	0.60%	0.60%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MUR	\$1,963.9M	9,715	33,076	45.09%	36.71%	35.46%
ADO/E	\$798.5M	7,251	26,487	18.33%	27.40%	28.40%
W	\$716.4M	5,941	20,844	16.45%	22.45%	22.35%
S	\$323.6M	171	0	7.43%	0.64%	0.00%
RC	\$272.9M	556	2,360	6.27%	2.10%	2.53%
MCF	\$239.1M	666	2,360	5.49%	2.51%	2.53%
OT	\$41.0M	2,167	8,137	0.94%	8.19%	8.72%

Exposure by taxonomy

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

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
ADO/E	MUR+ADO/LWAL+CDN/H:1/COM	\$198.9M	263	5.11%	1.08%
W	W/LWAL+CDL/H:1/COM	\$192.6M	240	4.94%	0.99%
MUR	MUR+CB/LWAL+CDN/H:1/COM	\$191.0M	208	4.90%	0.86%
ADO/E	MUR+ADO/LWAL+CDN/H:2/RES	\$184.7M	2,444	4.74%	10.05%
	MUR+ADO/LWAL+CDN/H:2/COM	\$183.5M	263	4.71%	1.08%
W	W/LWAL+CDL/H:2/COM	\$177.6M	240	4.56%	0.99%
	MUR+CB/LWAL+CDN/H:2/COM	\$176.2M	208	4.52%	0.86%
MUR	MUR+CB/LWAL+CDN/H:2/RES	\$172.1M	2,002	4.42%	8.23%
	MUR+CB/LWAL+CDN/H:1/IND	\$157.5M	151	4.04%	0.62%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	\$132.9M	2,507	3.41%	10.30%
S	S/LFM+CDL/H:1/IND	\$132.3M	70	3.40%	0.29%
MUR	MUR+CB/LWAL+CDN/H:1/RES	\$123.9M	2,053	3.18%	8.44%
S	S+SL/LFM+CDL/H:1/IND	\$110.4M	58	2.84%	0.24%
W	W+WWD/LWAL+CDN/H:1/RES	\$108.2M	2,859	2.78%	11.75%
	MUR+CL/LWAL+CDN/H:1/COM	\$101.0M	110	2.59%	0.45%
MUR	MUR+CL/LWAL+CDN/H:1/IND	\$93.7M	90	2.41%	0.37%
	MUR+CL/LWAL+CDN/H:2/COM	\$93.2M	110	2.39%	0.45%
	MUR+CL/LWAL+CDN/H:2/RES	\$88.6M	1,031	2.28%	4.24%
W	W/LWAL+CDL/H:3/COM	\$77.5M	120	1.99%	0.49%
MUR	MUR+STRUB/LWAL+CDN/H:1/IND	\$69.9M	72	1.79%	0.30%
W	W+WWD/LWAL+CDN/H:2/RES	\$64.5M	1,195	1.66%	4.91%
	MUR+CL/LWAL+CDN/H:1/RES	\$63.8M	1,057	1.64%	4.34%
MUR	MUR+STRUB/LWAL+CDN/H:1/COM	\$52.8M	62	1.36%	0.25%
	MUR+CB/LWAL+CDN/H:2/IND	\$52.5M	50	1.35%	0.21%
ADO/E	MUR+ADO/LWAL+CDN/HBET:3-6/COM	\$51.3M	28	1.32%	0.11%
	MUR+STDRE/LWAL+CDN/H:1/COM	\$50.0M	55	1.28%	0.22%
MUR	MUR+CB/LWAL+CDN/HBET:3-6/COM	\$49.2M	22	1.26%	0.09%
	MUR+STRUB/LWAL+CDN/H:2/COM	\$48.7M	62	1.25%	0.25%
	MUR+STDRE/LWAL+CDN/H:2/RES	\$46.4M	540	1.19%	2.22%
	MUR+STDRE/LWAL+CDN/H:2/COM	\$46.1M	55	1.18%	0.22%
RC	CR/LFINF+CDL/H:3/RES	\$45.0M	175	1.16%	0.72%
S	S/LFM+CDL/H:2/IND	\$44.1M	23	1.13%	0.10%
MUR	MUR+STRUB/LWAL+CDN/H:2/RES	\$41.5M	517	1.07%	2.13%
W	W/LWAL+CDL/H:2/RES	\$40.1M	531	1.03%	2.18%
S	S+SL/LFM+CDL/H:2/IND	\$36.8M	19	0.95%	0.08%
MUR	MUR+STDRE/LWAL+CDN/H:1/IND	\$35.4M	34	0.91%	0.14%
	CR/LFINF+CDL/H:1/IND	\$35.4M	19	0.91%	0.08%
RC	CR/LFINF+CDL/HBET:4-7/COM	\$35.0M	9	0.90%	0.04%
	CR/LFINF+CDL/H:2/COM	\$34.0M	22	0.87%	0.09%
	CR/LFINF+CDL/H:2/RES	\$33.4M	219	0.86%	0.90%
MUR	MUR+STDRE/LWAL+CDN/H:1/RES	\$33.4M	553	0.86%	2.27%
MCF	MCF+CB/LWAL+CDL/H:1/COM	\$33.4M	20	0.86%	0.08%
ADO/E	EWV/LN+CDN/H:1/RES	\$32.4M	1,712	0.83%	7.04%
OT	ME+MEO/LWAL+CDN/H:1/RES	\$31.7M	1,673	0.81%	6.87%
MUR	MUR+CL/LWAL+CDN/H:2/IND	\$31.2M	30	0.80%	0.12%
MCF	MCF+CB/LWAL+CDL/H:2/COM	\$30.8M	20	0.79%	0.08%
MUR	MUR+STRUB/LWAL+CDN/H:1/RES	\$29.9M	530	0.77%	2.18%