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 = "Anguilla"
```

```
Exposure files:
  Exposure_Com_Anguilla.csv
  Exposure_Ind_Anguilla.csv
  Exposure_Res_Anguilla.csv
```

Sanity checks and formats

```
Anguilla
  Exposure/Exposure/Exposure_Com_Anguilla.csv
  Exposure/Exposure/Exposure_Ind_Anguilla.csv
  Exposure/Exposure/Exposure_Res_Anguilla.csv
  Occupants / Dwellings = 4.8
  No refence household size data available
  Population (exposure / UN_2021) = 0.98
Exposure models  OK
```

Exposure at National level

Summary by occupancy type

OCCUPANCY	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
Res	14.8K	3,012	$214.5M	82.27%	54.36%
Ind	0.0K	86	$15.2M	2.35%	3.85%
Com	0.0K	563	$165.0M	15.38%	41.80%

Other metrics to consider

OCCUPANCY	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
Total	1,228.9K	$270.2M	336	$321
Res	1,061.2K	$160.5M	352	$202
Ind	19.0K	$7.6M	221	$797
Com	148.6K	$102.1M	264	$1,110

Exposure summary at Admin level 1

NAME_1	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
Anguilla	$394.7M	3,661	14.8K	100.00%	100.00%	100.00%

Exposure by simplified taxonomy

```
Adding `MACRO_TAXO` column
```

MACRO_TAXO	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
RC	$298,786.7K	3,179	14,658	75.71%	86.83%	99.30%
W	$74,047.3K	229	74	18.76%	6.26%	0.50%
S	$18,376.0K	222	0	4.66%	6.06%	0.00%
MCF	$3,086.0K	26	0	0.78%	0.71%	0.00%
OT	$372.7K	5	30	0.09%	0.14%	0.20%

Exposure by taxonomy

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

MACRO_TAXO	TAXONOMY	COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
RC	CR/LFINF+CDL+DUL/HEX:1/RES	$169.9M	2,498	49.14%	75.29%
W	W+WLI/LWAL+CDM+DUM/HEX:2/COM	$71.5M	191	20.67%	5.76%
	CR/LFINF+CDL+DUL/HEX:2/RES	$41.7M	471	12.04%	14.20%
RC	CR/LFINF+CDM+DUM/HEX:2/COM	$34.3M	6	9.93%	0.18%
	CR/LFINF+CDL+DUL/HEX:1/COM	$28.4M	152	8.22%	4.58%