USVI-LANDS SUSCEPTIBLE TO SEA LEVEL RISE

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Methodology:

Using Standard License for ESRI's ArcGIS Desktop 10.3.1 projection set to NAD_1983_HARN_StatePlane_Puerto_Rico_Virgin_Islands_FIPS_5200; a shoreline polygon was built from the polyline Ocean_Shoreline.shp using advancing editing tool converting polyline to polygon. Then using the slr data as source and shoreline as target, use advance editing tool "split" shoreline polygon to 2ft slr and 6ft slr respectively. Re-calculate area and re-compute the percent land impacted.

Results:

SLR Scenarios	Miles^2	KM^2	% of coastal lands that will be flooded by SLR
2050: 2 feet (0.5 m)	2	5	1.47%
2100: 6.5 feet (2 m)	6	16	4.57%

Using NOAA's sea level rise high scenario of 6.5 feet (2.0 meters) for 2100, up to 16 km^2 or 4.6% of total coastal land area could be flooded.

Sources:

Shoreline: Ocean_Shoreline.shp: 2013 NOAA Topographic Lidar: US Virgin Islands Breaklines. (ftp://csc.noaa.gov/pub/DigitalCoast/lidar1_z/geoid12a/data/3669/supplemental/usvi2013_stc_stj_stt_m3669_qa_report.pdf)

Sea Level Rise Scenario: USVI_slr_final_dist.gdb: 2012 National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Coastal Services Center (CSC). OAA Coastal Services Center Sea Level Rise Data. (https://coast.noaa.gov/slr)

Flooding Impacts (https://coast.noaa.gov/slr/)

NOAA, Sea Level Rise and Coastal

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