

Climate Risk Solutions, Sovereigns

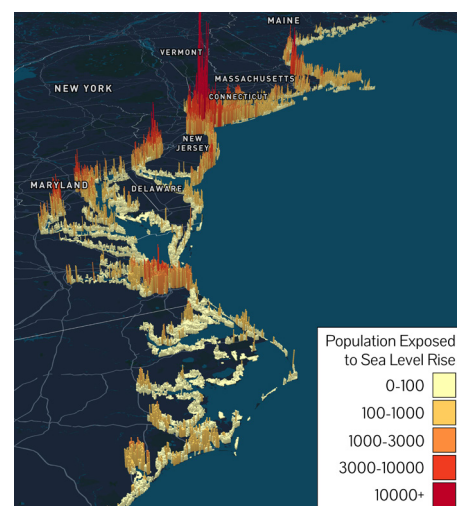
Understanding a sovereign's exposure to climate risk is essential for managing fixed income portfolios. Moody's ESG Solutions provides forward-looking, location-specific and globally comparable data on physical climate risks and energy transition risks.

Physical Risk

- Inform risk management with aggregated climate risk scores for each sovereign, based on the total and percent of agriculture, population and GDP (Purchasing Power Parity) exposed
- Explore different dimensions of risk with exposure scores for floods, heat stress, hurricanes and typhoons, sea level rise, water stress and wildfires
- Understand risk drivers with detailed metrics capturing the percentage and total exposure of population, GDP (PPP) and agriculture for each country and hazard

Population exposed to sea level rise in the US

16 million people and \$2.3 trillion are highly exposed to sea level rise by 2040, equivalent to 10% of the total US GDP (PPP). Bars show areas highly exposed to sea level rise with higher bars and redder colors indicating higher population densities.

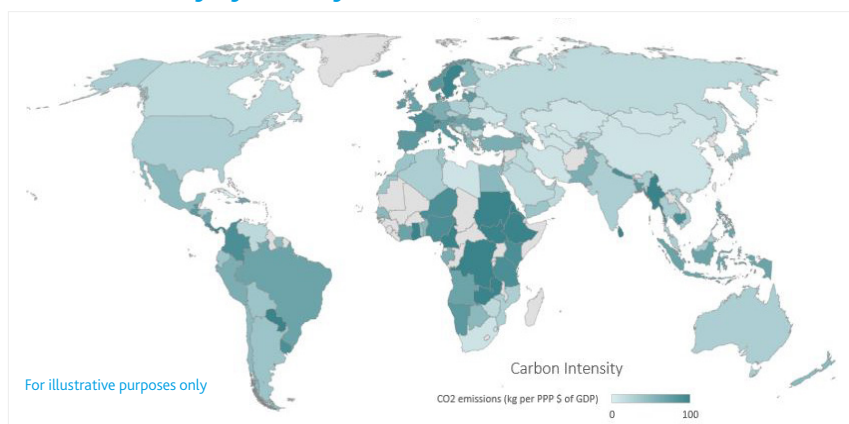


For illustrative purposes only

Carbon Footprint and Energy Transition

- Assess a country's emissions with carbon footprint data covering country-wide, production-based emissions and carbon intensity (emissions per unit of GDP)
- Leverage energy transition assessments to understand how a country's institutional systems and public policies integrate climate objectives tied to the transition to a low-carbon economy

Carbon intensity by country



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Sample Data - Key Indicators

Spain	% population exposed	% GDP (PPP) exposed	% agricultural land exposed
Flood	23%	13%	22%
Heat Stress	29%	32%	29%
Hurricanes & Typhoons	0%	0%	0%
Sea Level Rise	6%	17%	0%
Water Stress	74%	78%	92%
Wildfires	31%	30%	35%



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