

THE FUTURE SHORELINE: METRO MANILA REDRAWN BY A 5M SEA LEVEL RISE



Elevation-Based Inundation Modeling Using DEM and World Population Under the SSP5-8.5 Emissions Pathway

New Geography of Metro Manila After 5m Sea Level Rise

Infra damage due to habagat, cyclones reaches over P9 billion – NDRRMC

By: John Eric Mendoza – Reporter / @JEvmendoza
11:46 AM July 30, 2025

These cyclones damaged at least 1,536 infrastructures in 10 regions nationwide, costing more than P9.4 billion.

Damage to infrastructure caused by storms, habagat still rising

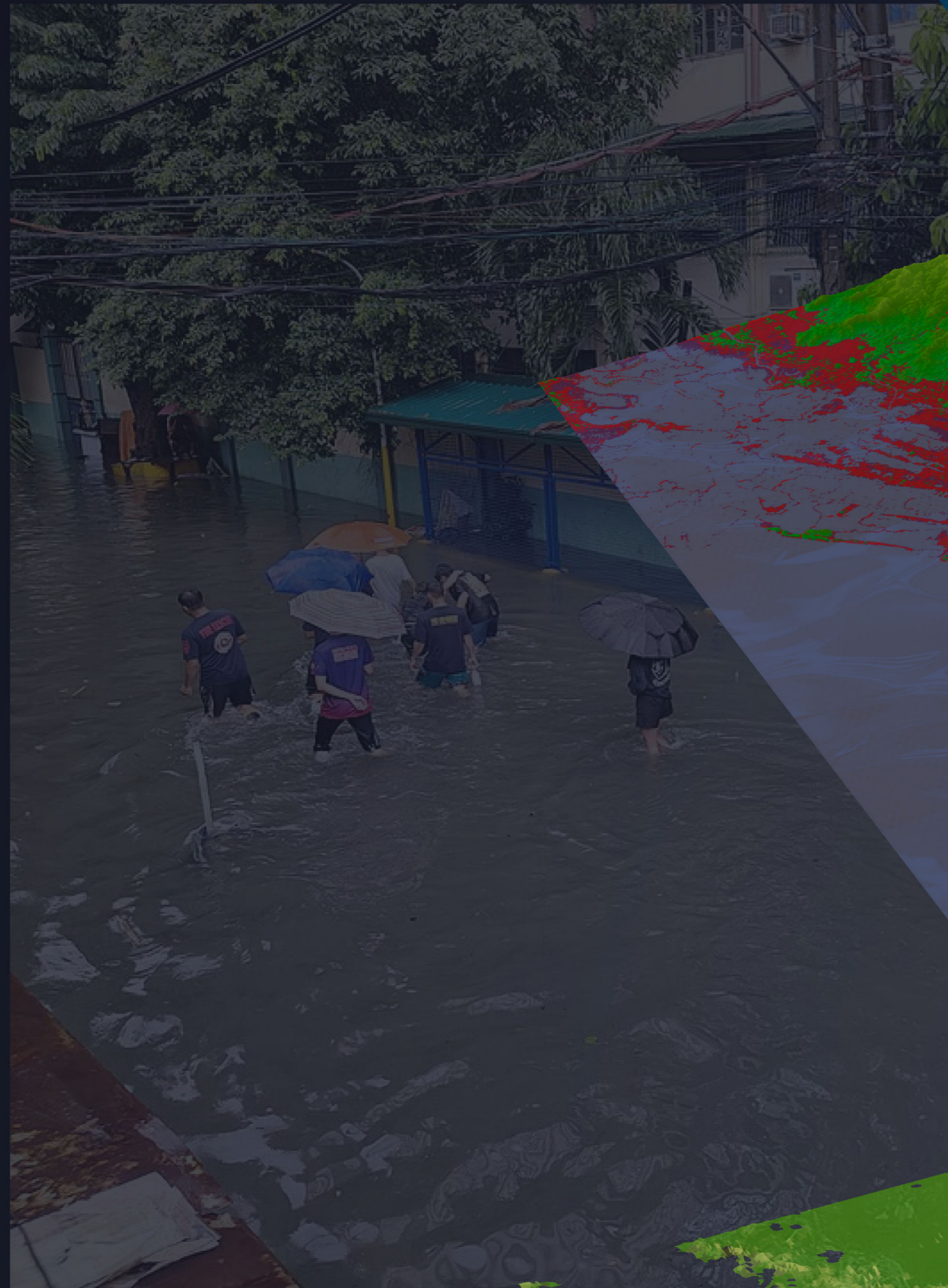
Jonathan L. Mayuga – August 11, 2025 – 2 minutes

As of August 11, with reports from the regions still coming in, the NDRRMC said a total of 2,433 public infrastructure were damaged, with an estimated cost reaching up to P16.5 billion. **BusinessMirror**

IMPLICATIONS:

Current damage estimates are already extensive from a financial perspective. In a country currently facing existing **economic pressures**, recurring monsoon events such as the habagat further intensifies this burden. Under future climate scenarios, such as rising sea levels, these **costs could escalate** to astronomical levels.

Manila Bay Coastline
Laguna De Bay Coastline
Ground Elevation (m)
465
-9



Ground Elevation (m)
465
-9

Red Zone = 5m Sea Level Rise

Areas Affected By 5m Sea Level Rise

Estimated People per Pixel (100m Grid) in 5m Inundation

Population Density
1180
0

0 = No people

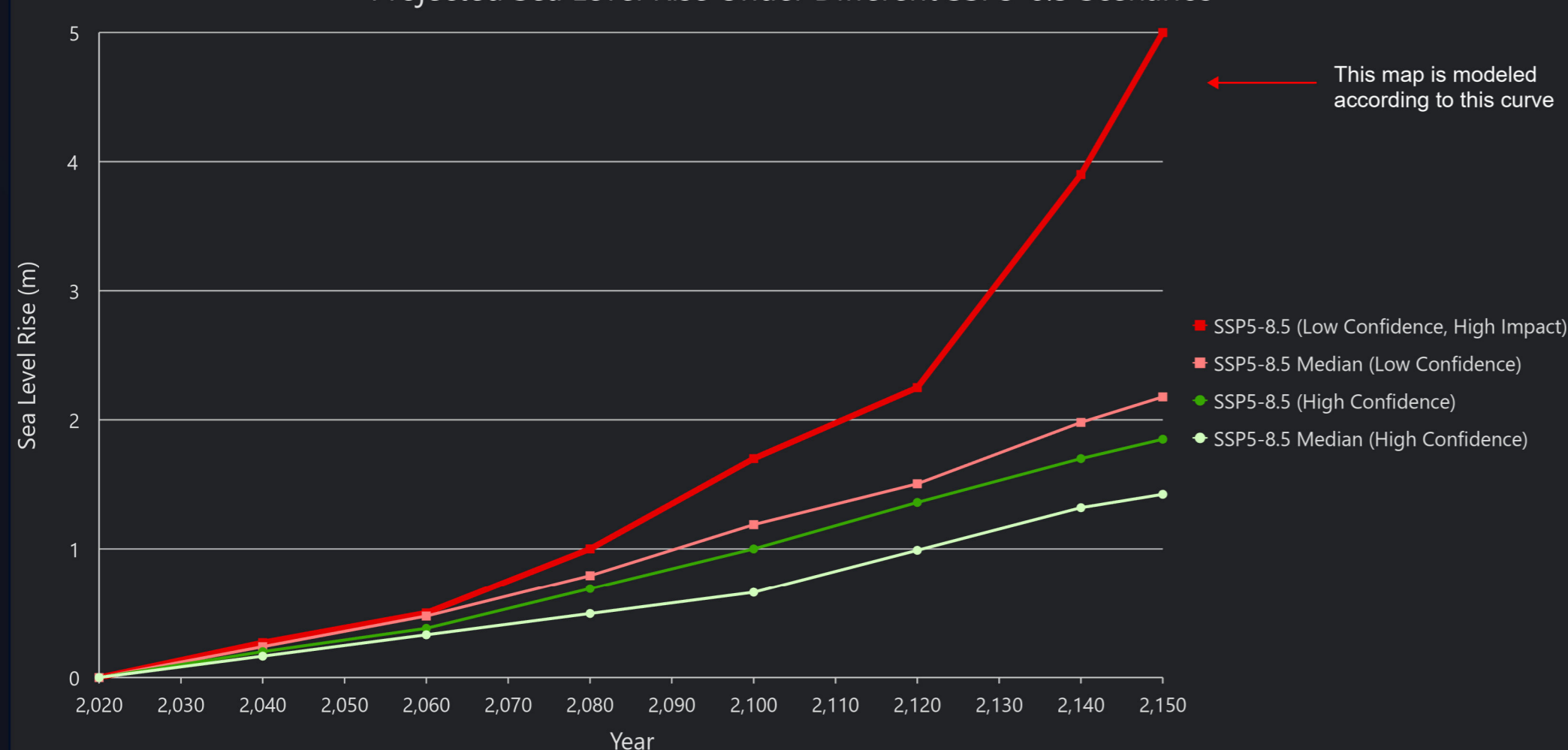
1180 = Highest Population Per Potentially Flooded Grid Cell



0 1 2 4 6 8 Kilometers

Source: Esri, Vantor, Earthstar Geographics, and the GIS User Community, Earthstar Geographics

Projected Sea Level Rise Under Different SSP5-8.5 Scenarios



What Is SSP5-8.5?

SSP5 (Socioeconomic Pathways) 8.5 is a **high emissions** climate scenario used by IPCC (intergovernmental panel for climate change) scientists to model future global warming.

SSP5-8.5 describes an earth's future where industrial growth is accelerated by the continued reliance on **fossil fuels**, with limited emphasis on sustainable or low carbon development. SSP5-8.5 promotes a significant amount of radiative forcing (8.5W/m²) due to the increased concentration of greenhouse gases in earth's atmosphere by the year 2100.

In essence, SSP5-8.5 is the **worst case climate scenario** where fossil fuel use grows and global warming accelerates, which in turn contributes to higher long term sea level rise.

