## How Climate Change Is Causing Sea Level Rise

## WHAT IS CAUSING SEA LEVEL RISE?

Air and ocean temperatures are markedly increasing due to the rapid buildup of greenhouse gases in the atmosphere from human activity. Warmer ocean water expands ("thermal expansion") and higher temperatures cause ice sheets and glaciers to melt. Both lead to higher sea levels. More severe storms resulting from warmer temperatures also cause episodic sea level rise due to larger storm surges, which are when strong winds push water onshore.

## WHY IS SEA LEVEL RISE HARMFUL?

It puts people, property, and infrastructure at risk due to coastal flooding. Many people have already been displaced, and infrastructure and property have been damaged or destroyed due to sea level rise. Water supplies have been impacted due to saltwater intrusion into fresh groundwater. Sea level rise also threatens coastal habitats like wetlands, mangroves, and shorelines, which are often biodiversity hotspots.

## WHAT CAN WE DO?

- 1. Reduce greenhouse gases released into the atmosphere by transitioning to renewable energy sources ("greening the grid"), stopping deforestation, and electrifying transportation, heating, and cooling.
- 2. Advocate for climate-conscious policy at all levels of government.
- 3. Implement strategies in coastal areas to adapt to rising sea levels.
- 4. Protect and restore natural ecosystems.
- 5. Reduce your carbon footprint.



Prepared by Members of the University of Richmond Osher Special Interest Group on Addressing the Climate Crisis (2024-25)