



Concept Note

Climate Risk Assessment Tool for the Union Territory of Puducherry

Climate change poses an increasing risk worldwide, including India. Extreme weather events triggered by changes in climate threaten lives and livelihoods. Puducherry, a coastal union territory (UT), faces acute risk of climate change due to its proximity to the ocean. With a 45 km coastline, its low-lying areas are highly susceptible to sea level rise, storm surges, and coastal flooding. The UT has witnessed frequent natural disasters, including cyclones, underscoring the urgent need for climate adaptation, which requires a comprehensive understanding of regional climate risks.

The Center for Study of Science, Technology and Policy (CSTEP), in collaboration with the Puducherry Climate Change Cell (PCCC) in the Department of Science, Technology and Environment (DSTE), Government of Puducherry, has developed a Climate Risk Assessment Tool (CRAT) to assess the climate risk across key sectors—agriculture, livestock, water, fisheries, health, tourism, and urban infrastructure—for the UT of Puducherry. The assessment, which is for current and future climate scenarios, uses the Intergovernmental Panel on Climate Change's (IPCC's) Fifth Assessment Report (AR5) risk framework. CRAT evaluates climate risk as an interaction of three key components: hazard, exposure, and vulnerability.

CRAT is one of the first tools in the country that integrates risk components in a user-friendly manner. The tool is envisaged to help policymakers, practitioners, academicians, and interested citizens to visualise the climate hazards to the regions, evaluate the extent of exposure of critical assets, understand the inherent vulnerability of the regions and assets, and finally, assess the overall climate risk. The data-driven tool offers a dynamic visual interface, enabling users to view overall risk or focus on risk components through interactive maps. Moreover, the tool provides businesses and investors with an evidence base to make climate-informed decisions.

