

## 29 districts in Gujarat vulnerable to extreme climate events: CEEW

*Storm surges and cyclones have increased three-fold in Gujarat between 1970 and 2019.*

**Ahmedabad, 18 May 2021:** As many as 29 districts in Gujarat, which are home to ~62.83 million people, are exposed to extreme climate events such as cyclones, floods and droughts, according to an independent analysis released today by the Council on Energy, Environment and Water (CEEW). Districts in the Saurashtra region like Amreli, Gir Somnath, Junagadh, and Porbandar are especially vulnerable to intensified cyclones and storm surges, which have increased three-fold between 1970 and 2019. These are worrying signs, given that Arabian Sea cyclones have battered India's west coast at the rate of one per year since 2018, a frequency not seen in five decades.

Abinash Mohanty, Programme Lead at CEEW, said, "The trail of destruction left behind by Cyclone *Tauktae* is a grim reminder of India's vulnerability to extreme climate events. Estimates suggest that surface temperatures over the Arabian Sea have increased by 1.2-1.4°C in the last two decades, increasing the frequency of cyclonic events on the west coast. The implementation of the National Cyclone Risk Mitigation Project, approved in 2015, should consider such worrying trends. Further, climate-vulnerable states such as Gujarat must accelerate the climate-proofing of critical infrastructure, industry and communities. They must carry district-level climate risk assessments periodically and set up an unified emergency response framework to better tackle the compounded impacts of extreme climate events, and aid recovery and reconstruction."

According to CEEW analysis, after 2005, the yearly average of Indian districts affected by cyclones tripled and the cyclone frequency doubled. In the last decade alone, 258 districts were affected. The last 50 years also recorded a 12-fold surge in the number of associated cyclonic events such as extreme rainfall, floods, sea-level rise, and thunderstorms.

Arunabha Ghosh, CEO, CEEW, said, "Cyclone *Tauktae* has once again brought the climate crisis to the forefront during the ongoing pandemic. With rising frequency and intensity, it won't be the last. Climate-vulnerable states such as Gujarat need to have a razor-sharp focus on building climate resilience, especially at the local and regional levels. Further, they must invest in cost-effective (and nature-based) resilient infrastructure. There is a need to develop decentralised capacity to respond to climate shocks and design salient public information campaigns to prepare vulnerable communities against climate risks. At the national level, India needs new institutions. A Climate Risk Commission with statutory authority to convene key stakeholders and publish detailed climate risk assessments on a periodic basis must be established. It should be supported by a Climate Risk Atlas with district-level information. Finally, we need new insurance schemes to provide the safety net for livelihoods, not just the saving of lives."

Apart from cyclones, parts of Gujarat often experience extreme heat waves during the peak summer season. The CEEW analysis also highlighted that droughts have increased nine-fold in the state between 1970 and 2019. Ahmedabad, Bharuch, Jamnagar, Kheda, Rajkot, Surendranagar, and Vadodara are among the state's drought hotspots. Further, extreme flood events in Gujarat have increased four-fold in the last 50 years. Major flood hotspots include Anand, Bharuch, Narmada, Sabarkantha, Surat, and Vadodara districts.

According to the CEEW analysis, it is also increasingly common for one set of Gujarat districts to experience droughts while another suffers floods in the same season. Further, traditionally drought-prone districts like Jamnagar, Rajkot, Surat, and Valsad have witnessed a shift towards extreme floods and storm surges in the last decade. These changing patterns are due to

microclimatic changes that are triggered by local climate change drivers such as land-use-surface change, deforestation, encroachments upon wetlands and water bodies. Their unpredictability makes disaster management harder and places severe strain on the state's economy.

*The analysis is based on the methodology used in the CEEW study '[Preparing India for Extreme Climate Events: Mapping Hotspots and Response Mechanisms](#)' released in December 2020.*

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### **About CEEW**

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