

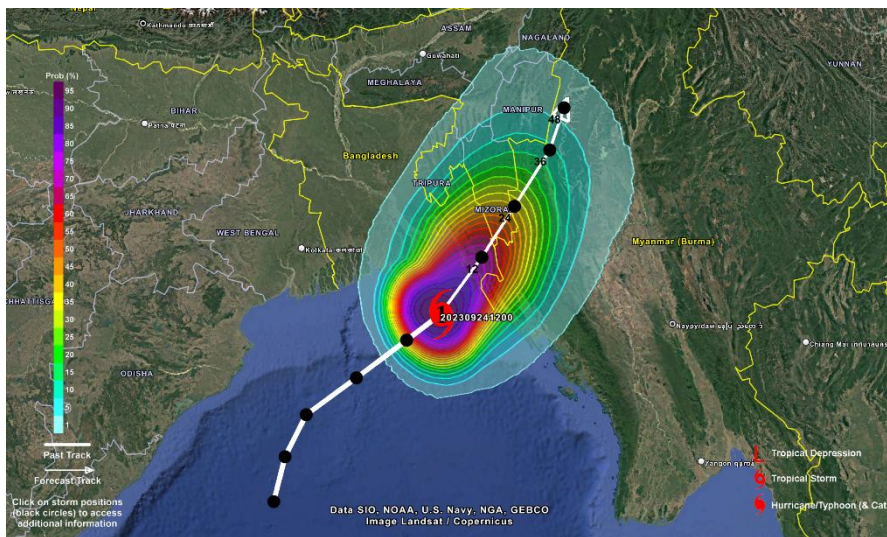
## “Zero-Error” Cyclone Forecasts Aid JICA’s Humanitarian Response

The Japan International Cooperation Agency (JICA) plays a pivotal role in supporting socioeconomic development in over 154 countries and regions. JICA is the world’s largest bilateral aid provider – they collaborate with various stakeholders, including governments, NGOs, and private entities, to provide financial assistance for disaster risk reduction and management. Since 2011, JICA has been leveraging Tropical Storm Risk (TSR) data to mitigate the impact of tropical storms and cyclones.

### TSR’s Storm Tracker & Email Alerts

JICA’s Bangladesh-based team use TSR’s Storm Tracker and Email Alerts to assess the likelihood of Tropical Storm strength winds (39+ mph) and Category 1+ strength winds (74+ mph) affecting specific towns and cities. The resulting risk assessment is used to advise shareholders on the necessity and urgency of evacuations and rescue operations. This is especially important in areas vulnerable to cyclones, floods, and earthquakes, such as the Ganges-Brahmaputra-Meghna River Basin, in the Bay of Bengal.

The alignment between TSR’s data and local meteorology enhances disaster preparedness and response efforts. The modelled cyclone forecasts have been described as “zero-error” by the team, with examples shown by highly accurate storm tracks and landfall forecasts for Cyclone Komi (2015), Cyclone Mocha (2023) and Cyclone Hamoon (2023). Anticipating cyclonic wind speeds up to 120 hours ahead allows JICA to pre-position essential supplies such as medicine, food, and water. JICA can also prioritise emergency maintenance of critical infrastructure to minimise the impact on livelihoods, particularly among marginalised communities.



*Figure 1: TSR’s probabilistic forecast for TS+ strength winds modelled during Cyclone Hamoon, taken from JTWC’s advisory on 12:00 UT, 24<sup>th</sup> October 2023. The storm position, past storm track, and forecast track out to 48 hours is shown, which is the duration Hamoon was expected to last from this advisory.*

JICA’s partnership with TSR underscores the importance of leveraging predictive models to address complex challenges posed by tropical storms. JICA has significantly enhanced cyclone preparation in Bangladesh, enabling timely and coordinated responses to mitigate the impact on vulnerable people and places. TSR also supports the activities of other development partners in Bangladesh such as UN agencies, USAID, the World Bank, the Asian Development Bank, UK AID, and the European Union. Their Humanitarian Task Teams and Local Emergency Response Groups use TSR’s information to design their support for the affected areas.

Looking ahead, JICA’s continued collaboration and investment in advanced tropical storm data will be essential to further strengthen resilience and ensure sustainable development in natural disaster-prone regions.