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- News: Tropical Cyclones
- Recently, a study has been published in the journal Proceedings of National Academy of Sciences, where researchers have claimed that wind speed during a hurricane can cross 309 km/hour and therefore wind scale must add a Category 6.

Key Highlights of the Study

Reconsideration of Saffir-Simpson (SS) Scale

- There are concerns about the adequacy of the Saffir-Simpson (SS) Hurricane Wind Scale, which has been used for over 50 years to communicate hurricane risk based solely on wind speed.
- There are five categories on the SS hurricane wind scale — category 1 to category 5 — with category 5 wind speed exceeding 252 km/hour.
- The combined effects of wind, storm surge, and rainfall in a category 5 impact would completely raze any structure.
- The open-ended Category 5 may no longer be sufficient to communicate the increasing risk of hurricane damage in a warming climate.

Introduction of Hypothetical Category 6

- Due to Global Warming, there is now a need to define a category 6 cyclone.
- The warming can be observed not only at the sea surface, but also in the depths of the ocean, which increases the heat content of the ocean and thus favours the intensification of tropical cyclones.
- To address the limitations of the existing scale the introduction of a hypothetical Category 6 to the Saffir-Simpson Wind Scale is proposed with the wind speed above 309 km/hour.

Impact of Global Warming on Hurricane Intensification

- Increased greenhouse gas emissions have caused the Earth to warm by about 1.10 degrees Celsius since pre-industrial times and caused more intense tropical cyclones in the oceans.
- For every degree of warming, the strongest cyclones are getting 12% stronger, making them 40% more destructive.
- As the oceans warm, cyclones also strengthen faster and spend more lifetime over the oceans.
- In 2023, tropical cyclone Freddy spent 37 days over the oceans, making it the longest-lived cyclones ever recorded.

Implications for Risk Messaging

- The findings underscore the importance of revising risk messaging to better inform the public about the increased risk of major hurricanes due to global warming.
- SS Scale does not address issues related to inland flooding and storm surge, which are also critical components of hurricane risk.
- Therefore, changes in messaging beyond wind-based scales are necessary to adequately communicate the full spectrum of hurricane hazards.