

GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
**RAJYA SABHA**  
**UNSTARRED QUESTION No. - 828**  
ANSWERED ON 27/07/2023

**RISING INCIDENTS OF EXTREME WEATHER EVENTS**

828. SHRI JOSE K. MANI:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether Government has data regarding the rising incidents of extreme weather events in the country over the last five years;
- (b) if so, the details thereof;
- (c) steps taken by Government to protect the lives and property from these extreme weather events;
- (d) whether Government has any State specific plans to mitigate the risk of extreme weather events that caters to the specific need of every State in country: and
- (e) if so, the details thereof?

**ANSWER**  
THE MINISTER OF EARTH SCIENCES  
(SHRI KIREN RIJJU)

- (a) Yes Sir.
- (b) The details of extreme weather events are given in Annexure-I.
- (c) Like many other countries, India is also vulnerable to climate change. It is reflected with the increase in the frequency of extreme weather events due to which several parts of the country are affected with meteorological hazardous events. India Meteorological Department (IMD) issues various outlook/forecast/warning for Public as well as Disaster Management Authorities for the preparedness of extreme weather events for adaptation and mitigation of various climate related risks. While issuing the warning suitable colour code is used to bring out the impact of the severe weather expected and to signal the Disaster Management about the course of action to be taken with respect to impending disaster weather event. Green color corresponds to no warning hence no action is needed, yellow color corresponds to be watchful and get updated information, orange color to be alert and be prepared to take action whereas red color signals to take action.

IMD started issuing Impact Based Forecast (IBF) recently which give details of what the weather will do rather than what the weather will be. It contains the details of impacts expected from the severe weather elements and guidelines to general public about do's and don'ts while getting exposed to severe weather.

IMD has recently brought out a web based online “Climate Hazard & Vulnerability Atlas of India” prepared for the thirteen most hazardous meteorological events, which cause extensive damages, economic, human, and animal losses. The same can be accessed at <https://imdpune.gov.in/hazardatlas/abouthazard.html>. The climate Hazard and vulnerability atlas will help state government authorities and Disaster Management Agencies in planning and taking appropriate action to tackle various extreme weather events. This product is useful in building Climate Change resilient infrastructure.

IMD has launched seven of its services (Current Weather, Nowcast, City Forecast, Rainfall Information, Tourism Forecast, Warnings and Cyclone) with ‘UMANG’ mobile App for use by public. Moreover, IMD had developed mobile App ‘MAUSAM’ for weather forecasting, ‘Meghdoot’ for Agromet advisory dissemination and ‘Damini’ for lightning alert. The common Alert Protocol (CAP) developed by NDMA is also being implemented for dissemination of warning by IMD.

- (d) Yes Sir.
- (e) Guidelines for preparedness are finalised in collaboration with National Disaster Management Authority (NDMA) and respective State Govts and is already implemented successfully for extreme weather events such as cyclone, heat wave, thunderstorm and heavy rainfall. IMD issues the necessary warnings and advisories to the country as a whole, well in advance for preparedness and possible mitigation.

**Annexure-I**

<b>YEAR</b>	<b>Number of Cyclones</b>		<b>Number of stations Reported during SW Monsoon season (June to September)</b>	
	<b>TOTAL</b>	<b>Severe Cyclone</b>	<b>V. Heavy Rainfall</b>	<b>Extremely Heavy Rainfall</b>
2018	7	6	2181	321
2019	8	6	3056	554
2020	5	4	1912	341
2021	5	4	1653	281
2022	5	2	1875	296

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