

GOVERNMENT OF INDIA  
MINISTRY OF JAL SHAKTI  
DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION

**RAJYA SABHA**

**UNSTARRED QUESTION NO. 2645**

ANSWERED ON 24.03.2025

**FLOODS IN KARNATAKA**

2645 SHRI G.C. CHANDRASHEKHAR

Will the Minister of **JAL SHAKTI** be pleased to state:

- (a) whether Government is aware of recent heavy rainfall in the State of Karnataka which caused havoc and floods in most of the parts of the State, if so, the details thereof;
- (b) whether Government assessed the loss of property, lives and crops due to recent heavy rainfall, if so, the details thereof along with the physical, financial and technical support extended by the Centre to the State of Karnataka in this regard;
- (c) the reasons for such unprecedented rainfall in the recent past; and
- (d) the steps taken by Government for timely prediction and forecasting of meteorological changes in the country?

**ANSWER**

**THE MINISTER OF STATE FOR JAL SHAKTI**

(SHRI V. SOMANNA)

**(a)** The total Monthly and Seasonal frequencies of Heavy (64.4 mm -114.4 mm), Very Heavy (115.6 mm-204.4 mm), and Extremely Heavy Rainfall (> 204.4 mm) as reported at different locations in Karnataka during 2019-2024 for monsoon season are given at **Annexure**. Analysis of the total frequency of Extremely Heavy Rainfall during 2019 to 2024 shows that it was highest at 59 numbers by different stations in the state of Karnataka during 2019 followed by 2020 and 2024 with 38 and 30 numbers respectively.

**(b)** The damages due to heavy rain and floods are compiled by Central Water Commission (CWC) after receipt of confirmation from respective States/UTs. The CWC publication (2024) on 'Report on Flood Damage Statistics (1953-2022)' is available at <https://cwc.gov.in/sites/default/files/report-flood-damage-statistics.pdf>.

The primary responsibility of disaster management rests with the State Government concerned. The Central Government supplements the efforts of the State Government and provides requisite logistics and financial support. The State Government undertakes assessment of damages caused due to 12 notified natural calamities including rain and floods and provide relief assistance from State Disaster Response Fund (SDRF) already placed at their disposal as per Government of India's approved norms. Additional financial assistance

is provided from National Disaster Response Fund (NDRF), as per laid down procedure in case of disaster of 'severe nature' which includes an assessment based on the visit of an Inter-Ministerial Central Team (IMCT). For Karnataka during the year 2024-25 (as on 12.03.2025), there has been allocation of Rs. 976 cr under SDRF and release of Rs. 366 cr and Rs. 3454.22 cr under SDRF and NDRF respectively.

(c) The heavy rainfall events were higher during 2019, 2022 and 2024 due to favorable regional and large-scale atmospheric and oceanic features, highly favorable synoptic weather system like active off-shore trough, formation of low pressure system overhead Bay of Bengal which moved across central India, enhanced cross equatorial winds and prevailing of stronger south-westerly and westerly wind at lower levels over central and Eastern Arabian Sea and along coast of the state.

(d) The Government has taken various initiatives for reducing impact from extremely heavy rainfall events and associated flood problems in form of continuously upgrading and strengthening the monitoring and forecasting mechanisms of heavy rainfall events in the wake of its increasing frequency and intensity and causing flash floods. Indian Meteorological Department (IMD) has developed a Flash Flood Guidance System (FFGS) for South Asian region. The Flash Flood Guidance supports the development of warnings for flash floods about 6-24 hours in advance at the watershed level with resolution of 4kmx4km.

Central Water Commission (CWC) issues short-range flood forecasts with lead times of up to 24 hours, as well as 7-day Flood Advisory Forecasts through pan India rainfall-based mathematical modelling for major river basins of the country, as a non-structural measure of flood management to concerned State Governments at identified locations, to reduce loss of life and ensure proper reservoir operation.

Presently, flood forecasts are issued by CWC at 340 stations (140 Inflow Forecast Stations + 200 Level Forecast Stations) as per Standard Operating Procedure. The network has been established in consultation with State Govt./Project authorities. There are 15 Flood Forecasting stations in Karnataka. Out of 15 forecasting sites, 1 is level forecasting station and 14 are inflow forecasting stations in river Krishna, Cauvery and Godavari basins. During 2024, total 864 (03 level and 861 inflow) number of forecasts were issued and 823 (03 level and 820 inflow) were within permissible limit (95.25%).

Common Alert Protocol (CAP) alerts are issued for all level forecasts in the Sachet platform <http://platform.sachetdashboard.ndma.gov.in/>.

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ANNEXURE

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 2645 TO BE ANSWERED IN RAJYA SABHA ON 24.03.2025 REGARDING “FLOODS IN KARNATAKA”.

**Total Monthly and Seasonal frequencies of Rainfall Events for Karnataka for the period of 2019-2024**

State	Year	June			July			August			September			Total
		H	VH	EH	H	VH	EH	H	VH	EH	H	VH	EH	EH
Karnataka	2019	75	20	0	224	64	3	298	167	54	136	21	2	59
Karnataka	2020	117	16	0	208	47	2	270	126	19	201	53	17	38
Karnataka	2021	180	36	5	280	77	15	79	17	0	114	13	0	20
Karnataka	2022	104	13	0	457	179	13	264	60	5	131	19	0	18
Karnataka	2023	52	12	0	334	136	18	11	1	0	64	4	0	18
Karnataka	2024	144	38	5	450	152	24	136	43	1	47	6	0	30

**Legends:** H – Heavy: 64.4 mm -114.4 mm, VH – Very Heavy: 115.6 mm- 204.4 mm, and EH – Extremely Heavy: > 204.4 mm

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