KARNATAKA

Average southwest monsoon rainfall in Karnataka saw little variation in five decades

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In recent years, however, extreme events have been observed more frequently

Karnataka is still seeing rainy days and the October averages may have soared past normal for many parts. But as far as the southwest monsoon (SWM) goes, the State has witnessed a similar pattern over the last five decades, barring minor variations.

According to data from the Karnataka State Natural Disaster Monitoring Centre (KSNDMC), the State has recorded a normal SWM from 2019, with +14% in 2019 and +17% in 2020 and -8 % in 2021 (normal rainfall). This, officials said, was due to favourable factors which were impacting the monsoonal winds, in turn bringing moist clouds over Karnataka due to large-

scale phenomena such as prevalence of positive Indian Ocean Diapole during 2019, La Nina/neutral condition during 2020 and 2021

KSNDMC officials admitted that though the State as a whole received normal rainfall, distribution of rainfall plays major role, which could have extreme events such as floods in one part and dry spells in another. “For the SWM 2021, we have 25 districts showing normal rainfall, three districts that have received excess rainfall, and three have deficient,” said an official.

While the prolonged monsoon helps in reducing moisture stress, contributes to the second crop for a particular season, and is good for reservoir and water conservation structures, above normal and below normal rainfall for a continuous period could result in natural calamities such as floods and droughts, leading to economic loss, they said. Officials admitted that in the recent years, extreme events had been observed more frequently, and efficient planning and preparedness were needed to minimise their affects.

Rainy days in Karnataka

Meteorological region	Average over last 5 decades	Actual rainy days	Varlance
South-interior Karnataka	27	29	2
North-Interior Karnataka	32	33	1
Malnad	60	58	-2
Coastal	88	89	1
State	40	40	0

SOURCE: KSNDMC

"Adoption of recent developments in the field of disaster management, scientific inputs and creating awareness among the public about the use of weather alerts, safety measures and quick response to warning from administration will help in reducing the impact of damage. All mitigation activities need to be planned keeping weather as the main factor to provide science and technology inputs using the latest tools/technology to specific required fields such as agriculture, construction, development of cities, reservoirs etc," an official said, highlighting also that rainwater harvesting structures in both urban and rural areas would help to reduce, at least some extent, water shortage. Cropping pattern and variety needs to be modified accordingly, they added.

Though the rainfall in October this year is higher than normal, such year-to-year variations are not unusual, said J. Srinivasan, distinguished scientist from the Divecha Centre for Climate Change, IISc. Reacting to rain-induced destruction seen in States such as Uttarakhand, Karnataka, and Kerala, he said heavy rainfall leads to landslips in India because of inappropriate development in the hilly regions. "On account of climate change, heavy rainfall (greater than 100 mm/day) has increased by 50% in the last 50 years. These heavy rains will lead to landslips if roads are built on sloping hillsides without provision for the water to flow freely. In many areas, illegal mining has caused landslips during the rainy season," he added.

He warned that on account of climate change, high rainfall events would increase and we need to plan development to ensure that rainwater was allowed to drain easily and illegal construction that blocks the flow of water must be banned.

Unplanned development

T.V. Ramachandra from the Centre for Ecological Sciences, IISc, who was part of the expert committee that looked into landslips in the Western Ghats, said the causal factors and triggering factors of landslips in all regions were similar. “These are ecologically fragile regions and vulnerable to disaster with the unplanned development activities. Unfortunately, the decision makers of today have not understood the implications of unplanned development activities. We need to understand the cost of damage is much higher than the benefits, evident from the recent calamities in Kerala and Uttarakhand. The cost of loss of life and property due to floods and land/mudslips is at least 25 times higher,” he said.

He added that unplanned development activities leading to large-scale land cover changes with the loss of native forests had been responsible for global warming. This had led to changes in rainfall pattern which had enhanced the susceptibility of landscape. “The current decision makers need to understand that there is a threshold in every landscape. The government should take up natural capital accounting and valuation of ecosystem services to minimise mismanagement of natural resources with consequences of frequent floods, droughts, landslips, mudslips, spread of vector-borne diseases (with increased temperature), instances of zoonotic diseases (KFD, COVI-19), loss of crop productivity, etc,” he added.