Geography · GS - I

Examine the role of Bay of Bengal low-pressure systems in the spatial and temporal distribution of southwest monsoon rainfall over India. How can improved forecasting help reduce agricultural and hydrological risks?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 12/11/2026	GS - I	Geography

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Monsoon depressions, moisture transport, rainfall variability, regional distribution, monsoon trough, IMD forecasting, agriculture, reservoir management, flood preparedness, early-warning systems.

Model Answer

Introduction

Bay of Bengal low-pressure systems are important synoptic features of the Indian southwest monsoon. Their movement towards the mainland contributes significantly to rainfall distribution across eastern, central and northern India.

Role in Monsoon Rainfall

These systems transport moisture from the Bay of Bengal and interact with the monsoon trough, producing widespread rainfall. Their tracks influence the geographical distribution and intensity of precipitation. Changes in frequency, movement and intensification can contribute to regional rainfall deficits or excess rainfall.

Importance of Improved Forecasting

Accurate forecasts help farmers plan sowing, irrigation, harvesting and fertiliser application. Reservoir authorities can optimise water storage and releases, while disaster-management agencies can prepare for floods, landslides and waterlogging. District-level warnings also improve preparedness among vulnerable communities.

Challenges

Uncertainty in system formation, movement and intensification, along with local variations in rainfall, can limit forecast precision. Better observation networks and improved numerical weather prediction are therefore essential.

Conclusion

Bay of Bengal low-pressure systems strongly influence India's monsoon variability. Reliable early warnings, climate-resilient agriculture and coordinated water management can reduce the economic and human costs of rainfall uncertainty.

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