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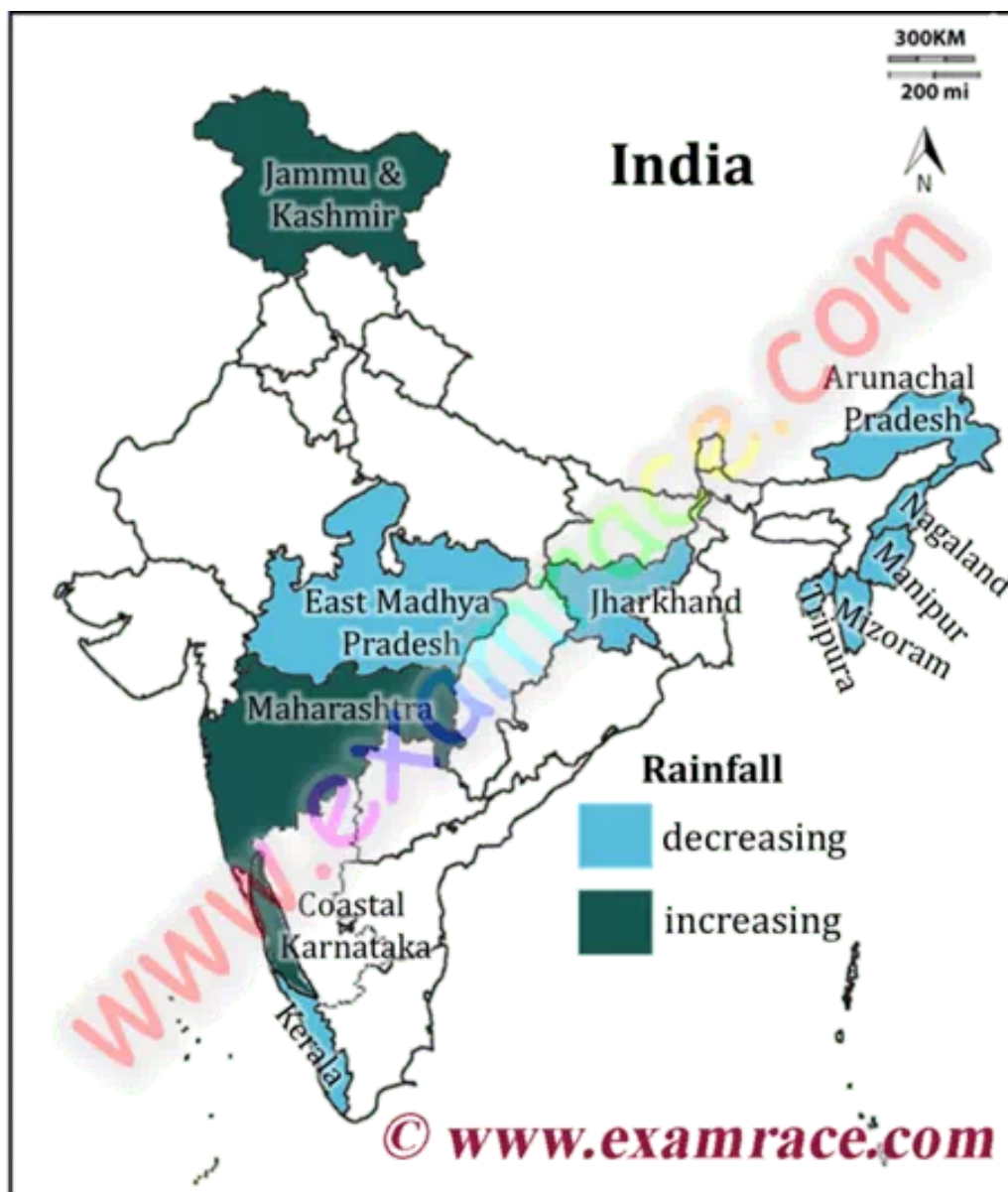
**Examrace**

▶ Examrace 463K

## Effect Climate on Rainfall Distribution Pattern of India. is It Due to Global Warming? (Important) (Download PDF)

(February 14, 2018)

Government has undertaken many research studies to analyze the impact of global warming and climate change on rainfall pattern in India using observed rainfall data from more than 3000 rain-gauge stations spread over the country for 115 years (1901 - 2015).



Map of Climate Change on Rainfall Pattern in India

### Major Inferences Include:

- The analysis of 115 years of monsoon rainfall data suggests that there is no long term change or trend in the monsoon rainfall averaged over the country

- Few areas witness significant change (increase or decrease) in rainfall

## **Which Metrological Sub Divisions Are Showing Decreasing Trend In Rainfall? (Important)**

The metrological sub divisions, which are showing decreasing trend in rainfall are

- Kerala
- East Madhya Pradesh
- Jharkhand
- Arunachal Pradesh
- Nagaland
- Manipur
- Mizoram
- Tripura

## **Which Metrological Sub Divisions Are Showing Increasing Trend In Rainfall?**

The metrological sub divisions, which are showing decreasing trend in rainfall are

- Coastal Karnataka
- Maharashtra
- Jammu and Kashmir

## **Alarming Inferences for India?**

- There is a general tendency of increasing frequency of extreme rainfall (heavy rainfall events) over India, especially over the central parts of India during the southwest (June- September) monsoon season.
- There is growing evidence suggesting that increasing frequency of extreme rainfall is due to global warming.
- The climate change assessment made by the Intergovernmental Panel on Climate Change (IPCC) suggest that in future, frequency of extreme rainfall may increase over India due to increase in global warming.

## **Positive Inferences for India?**

- There are NO long-term changes or trends in rainfall over India, which can be attributed to global warming.

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- The Indian Monsoon is found to be a stable system.

## Types of Forecasts Are Issued by Indian Metrological Department of India?

India Meteorological Department (IMD) issues three types of forecasts during the monsoon season based on dynamic and statistical model

- seasonal forecast (for the whole season)
- extended range forecast (10 - 30 days)
- short-medium range forecast (0 - 10 days)

## Which Prediction Model is Developed under NMM?

Under the 'National Monsoon Mission' (NMM), a state-of-the-art **dynamical prediction model** has been developed and is being used operationally by IMD. It provides

1. Improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season)
2. Improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days)

## Other Models Implemented by IMD?

- An improved suite of prediction models has been implemented operationally at India Meteorological Department (IMD) for enhanced short-range weather forecasting capability through assimilation of all available conventional and satellite data.
- IMD operates 24X7 monitoring of satellite and Doppler Weather Radar (DWR) based weather monitoring over the potential cyclonic zones of the Bay of Bengal and Arabian Sea for monitoring and forecasting of tropical cyclones.

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