

Bihar's Vulnerability to Climate Change

Managing climate risks requires an enhanced understanding of the underlying drivers of hazards; the exposure of regions and populations; the sensitivity of regions and their resulting vulnerability; and the interactions between these components

$$\text{Vulnerability} = \text{Exposure} + \text{Sensitivity} + (100 - \text{Adaptive Capacity})$$

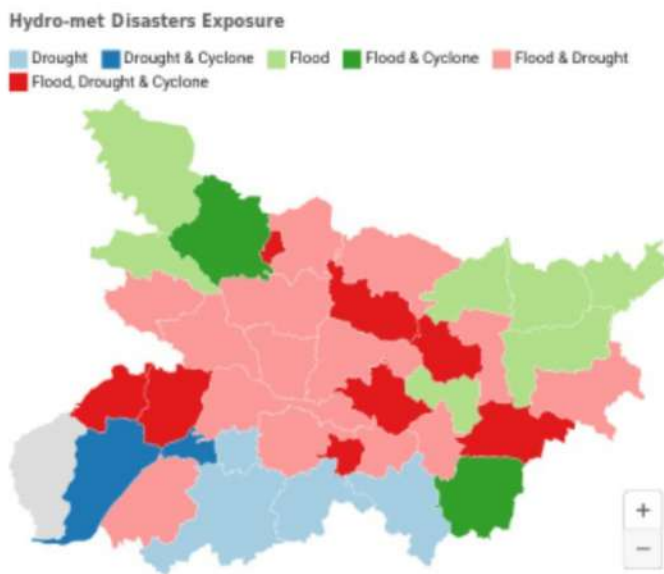
EXPOSURE

Flood

Out of 38, 15 districts are highly vulnerable and 13 districts are vulnerable to flood hazard consisting of 31.46 million people

Earthquake

- Total 15.2% area of Bihar covered in Zone V
- Total 63.7% area of Bihar covered in Zone IV
- Total 21.1% area of Bihar covered in Zone III



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Drought

- Vulnerable District : Gaya, Nawada Jamui, Nalanda, Lakhisarai
- Prone District : Jahanabad, Arwal, Aurangabad
- Likely District : Kaimur, Bhojpur, Buxar, Rohtas, Banka

Cyclonic storm

- Around 86% of area of Bihar is prone to cyclone of 47 m/s intensity
- Around 14% of area of Bihar is prone to Cyclone of lesser intensity

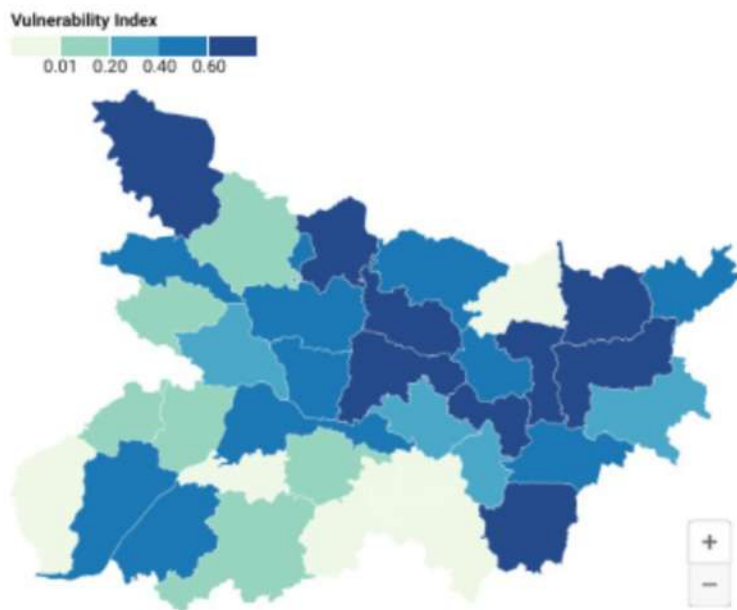
Source: Vulnerability Atlas of India

SENSITIVITY

Hazard	Area worst Hit	Sector worst affected	Population	Property
Earthquake	All	Structure + Infrastructure	All	Livestock+ structure+ wealth
Flood	Largely	Agriculture+ Infrastructure	Largely threshold & marginalized section	Livestock+ structure+ wealth
Cyclonic storm	Largely Rural	Structure	Largely threshold & marginalized section	-
Drought	Rural	Agriculture	Largely threshold & marginalized section	Livestock

Source: State Disaster Management Plan

VULNERABILITY INDICES OF DISTRICTS IN BIHAR



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Bihar ranks 5th in India in terms of vulnerability to climate extremes

Darbhanga, Sitamarhi, Madhepura, Pashchim Champaran, Banka, Khagaria, and Araria districts in Bihar are most vulnerable to all three hydro-met extreme events

Highly vulnerable to hydro-meteorological natural disasters, with North Bihar in general being highly flood-prone, and South Bihar being highly drought prone

Source: <https://www.ceew.in/publications/mapping-climate-change-vulnerability-index-of-india-a-district-level-assessment>