

ODISHA USES SATELLITE IMAGERY TO CREATE UNIQUE FLOOD HAZARD ATLAS

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Odisha has come out with a unique flood hazard atlas on the basis of historic flood inundation captured through satellite imagery over the period from 2001 to 2018, which is expected to help the State manage floods more efficiently.

The National Remote Sensing Centre (NRSC) of the Indian Space Research Organisation (ISRO), Hyderabad had taken the study on flood hazard zonation for Odisha. The atlas was released by Chief Minister Naveen Patnaik at the State-level Natural Calamity Meeting here on Saturday.

Vast areas of the State are inundated when there is flooding every year in major rivers, namely, the Mahanadi, Brahmani, Baitarani, Subarnarekha and Rushikulya. Some of the rivers like, the Vamsadhara and Budhabalanga, also cause flash floods due to instant run-off from their hilly catchments.

According to Bishnupada Sethi, Managing Director, Odisha State Disaster Management Authority (OSDMA), damages due to floods are caused mainly by the Mahanadi, the Brahmani and the Baitarani, which have a common delta where floodwaters intermingle, and, when in spate simultaneously, wreak considerable havoc.

The entire coastal belt is prone to storm surges, which is usually accompanied by heavy rainfall, thus making the estuary region vulnerable to both storm surges and river flooding. Few districts in the western and southern part of Odisha are prone to flash floods, he pointed out.

The NRSC analysis says about 8.96% (13.96 lakh hectares) of land in Odisha was affected by floods during 2001-2018. Out of total flood-affected area (13.96 lakh hectares), about 2.81 lakh hectares of land falls under high (inundated seven-nine times) to very high (inundated 10-14 times) flood hazard categories.

Eight out of 30 districts such as Bhadrak, Kendrapara, Jagatsinghapur, Balasore, Puri, Jajpur, Khordha and Cuttack districts are more flood-affected districts. As high as 77% of Bhadrak and 70% of the Kendrapara district have been categorised as flood hazard.

According to P. G. Diwakar, Director of Earth Observation, Application and Disaster Management Support Programme Office of ISRO, "A large number of satellite images acquired over 18 years (2001-2018) were used. All satellite data sets were analysed and flood layers were extracted. All the flood layers corresponding to a year are combined as one inundation layer, so that this layer represents the maximum flooded area in one year."

'Useful resource'

"All such combined flood layers for 18 years were integrated into flood hazard layer representing the observed flood-inundated areas with different frequencies. This layer was integrated with the digital database layers of Odisha," said Dr. Diwakar. The atlas would serve as a useful resource of information for policy makers, planners and civil society groups, said Chief Secretary A. P. Padhi.

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