Outdated drainage system responsible for recurring flooding in Mumbai after rains

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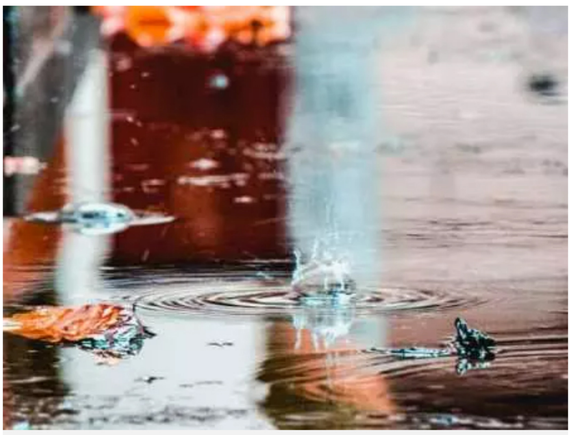
11 July 2022 12:51 PM



Flooding after rainfall is frequent in Mumbai. (Image credit: Vishal Joshi/Unsplash)

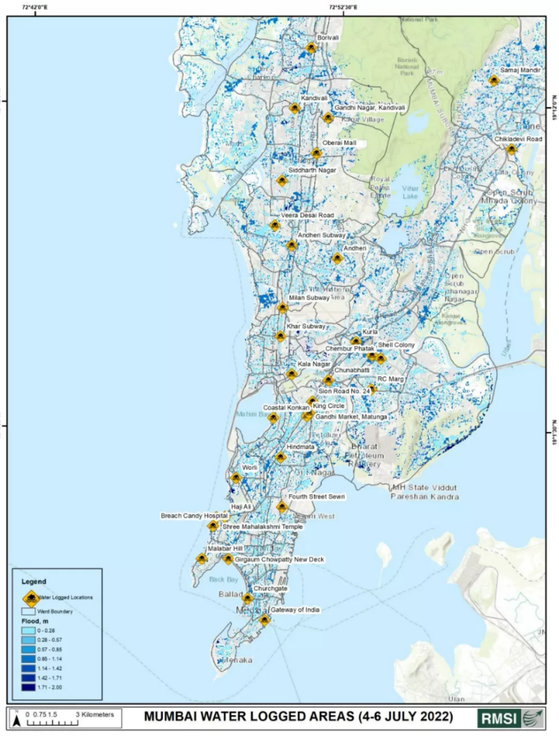
The 2,500 kilometre stormwater drainage network is not designed to handle climate change influenced rainfall

News

- Mumbai has recieved 958 mm of rainfall since June 1, including over 630 mm in July.
- The IMD has issued a Red Alert for Mumbai and adjoining areas.
- The core of the stormwater drainage system is seventy years old.

Flooding after heavy rains is a recurring problem in Mumbai, which typically, the South West Monsoons hit the city of **Mumbai** in July. The city has already received 43 per cent of the average seasonal rainfall since June 1, 2022. The IMD has issued a Red Alert for Mumbai and surrounding regions until July 11, predicting extremely heavy rainfall. Waterlogging in disrupts the public transport in the city, with residents either stranded or forced to wade through water. According to experts, the periodic **flooding** of the city after rains, is because of the outdated **stormwater drainage system** that is not capable enough to handle rainfall under the influence of climate change.

The rains have resulted in landslides, and some bridges have also collapsed. Changing climatology because of human activities is producing heavy downpours over short periods of time, overwhelming the existing stormwater drainage network. The core of the network is around 70 years old, comprising of underwater drains and laterals. Parts of the stormwater drainage system is 140 years old. Every year, the city experiences heavy rainfall, well in excess of the 25mm of rainfall per hour that the drainage network is capable of handling. The design assumes that 50 per cent of the rainfall flows through the drains, while the rest percolates into groundwater. The entire system has deteriorated over time because of the concretisation of open spaces, and a lack of enhancement of the carrying capacity of the stormwater drainage network.



Noida based consultancy firm, RMSI has analysed the rainfall and modelled the flooding. Heavy rainfall has resulted in a flood-like situation in Mumbai every time over the last two decades, and the outdated stormwater drainage system is responsible for this. Senior Vice President of Sustainability at RMSI says, "The stormwater drainage system of Mumbai is age-old, with a capacity of only 25mm per hour of rainfall, and not designed for the kind of rainfall that Mumbai is experiencing under the influence of climate change. What Mumbai needs is an overhaul of the 2500 kilometre stormwater drainage network, out of which about 500 kilometre is underground and rest is over the ground, to increase its capacity to carry more water load. A short-term solution could be to bring temporary flood control measures for low-lying or flood-prone areas and block the water from entering there, diverting the water away to other parts."