Future Projection of Extreme Rainfall for Flood Management due to Climate Change in an Urban Area

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Video title: ***Factoring in Climate Change in Extreme Rainfall Predictions for Urban Areas***

Video Script

Urban heat islands are dense areas that retain more heat than rural areas. Hot air can hold more water than cold air. This leaves these islands at higher risk of extreme rainfall events and consequent flash floods.

Climate change aggravates the effect of urban heat islands. This creates a need for mathematical tools that can better predict rainfall characteristics.

Researchers from India developed a new model to investigate changes in rainfall extremes in Kolkata. They employed a quantile perturbation method to calculate intensity–duration–frequency relationships, leveraging local observations and global data models. Their innovative approach is more computationally efficient than conventional downscaling methods. Moreover, it can be easily applied to existing models. This study sheds light on the impact of climate change on hydrological systems.

Having reliable methods to predict rainfall and assess the risk of flooding is more important than ever. This novel approach will help plan better rainwater management systems and upgrade existing ones.