MA - Methodology Areas | Abstract Only

OC - (26481) - DECISION SUPPORT MODEL FOR CLIMATE RISK MANAGEMENT: A CASE STUDY IN A BRAZILIAN CITY

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Climate change and the resulting impacts of urbanization have led to hydrological disasters in various regions around the world, causing significant losses and, in severe cases, loss of human life. In this context, it is essential to identify and map areas vulnerable to such extreme events in order to guide investments and emergency actions. However, in large urban centers, this task is challenging due to the heterogeneity of risk factors—such as vulnerability, exposure, and hazard—distributed across the territory. Listing and classifying these areas requires an approach that considers hydrological aspects, social factors, population density, infrastructure, the influence of climate change, and other relevant elements. This study proposes the development of a decision-making framework to classify risk areas and recommend appropriate interventions. The project involves hydraulic and hydrological modeling of extreme events in Brazilian cities, aiming to provide data grounded in the physical principles governing these phenomena. A case study was conducted in the city of Recife, Pernambuco. The main contribution of this work is to support decision-makers in addressing extreme hydrological disasters, enabling the effective implementation of mitigation measures to reduce the damage caused by such events.

Palavras-chave : Climate Risk Management, Decision Support Model, Disaster Risk Reduction