

Urban River As Living Infrastructure: Tidal Flooding And Sea Level Rise In A Working Waterway In Hampton Roads, Virginia

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Abstract : Existing conceptions of urban flooding caused by tidal fluctuations and sea-level rise have been inadequately conceptualized by metrics of resilience and methods of flow modeling. While a great deal of research has been devoted to the effects of urbanization on pluvial flooding, the kind of tidal flooding experienced by locations like Hampton Roads, Virginia, has not been adequately conceptualized as being a result of human factors such as urbanization and gray infrastructure. Resilience from sea level rise and its associated flooding has been pioneered in the region with the 2015 Norfolk Resilience Plan from 100 Resilient Cities as well as the 2016 Norfolk Vision 2100 plan, which envisions different patterns of land use for the city. Urban resilience still conceptualizes the city as having the ability to maintain an equilibrium in the face of disruptions. This economic and social equilibrium relies on the Elizabeth River, narrowly conceptualized. Intentionally or accidentally, the river was made to be a piece of infrastructure. Its development was meant to serve the docks, shipyards, naval yards, and port infrastructure that gives the region so much of its economic life. Inasmuch as it functions to permit the movement of cargo; the raising and lowering of ships to be repaired, commissioned, or decommissioned; or the provisioning of military vessels, the river as infrastructure is functioning properly. The idea that the infrastructure is malfunctioning when high tides and sea-level rise create flooding is predicated on the idea that the infrastructure is truly a human creation and can be controlled. The natural flooding cycles of an urban river, combined with the action of climate change and sea-level rise, are only abnormal so much as they encroach on the development that first encroached on the river. The urban political ecology of water provides the ability to view the river as an infrastructural extension of urban networks while also calling for its emancipation from stationarity and human control. Understanding the river and city as a hydrosocial territory or as a socio-natural system liberates both actors from the duality of the natural and the social while repositioning river flooding as a normal part of coexistence on a floodplain. This paper argues for the adoption of an urban political ecology lens in the analysis and governance of urban rivers like the Elizabeth River as a departure from the equilibrium-seeking and stability metrics of urban resilience.

Keywords : urban flooding, political ecology, Elizabeth river, Hampton roads

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