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Human-flood systems: Why “pluralistic floods research” is a conceptual breakthrough?

Alberto Viglione¹ and Jenia Mukherjee²

¹Politecnico di Torino, Department of Environment, Land and Infrastructure Engineering, Department of Environment, Land and Infrastructure Engineering, Torino, Italy (alberto.viglione@polito.it)

²Indian Institute of Technology Kharagpur, Department of Humanities and Social Sciences

Floods are concurrently natural and social phenomena. Though generally represented as “natural calamity” and described as ‘phenomena of an atmospheric, hydrological or oceanographic nature’, floods are strongly dependant on territorial as well as historicized dynamics and negotiations. Moreover, as floods offer aggravated threats in the Anthropocene, marked by unpredictable climatic perturbations, impacting marginalized communities inhabiting vulnerable landscapes, it is imperative to collectively understand human-flood systems to craft sustained solutions. Socio-hydrological contribution on human-floods system, building upon ‘complex web of interactions and feedback mechanisms between hydrological and social processes in settled floodplains’, can be considered a significant advancement from hardcore flood hydrology confined to risk analysis through geomorphological accounting of river systems. With the hydrological science as a background, while the methods of socio-hydrology often rely on quantitative or mathematical modeling approaches to represent the human-floods systems, hydro-social analysis, emanating from political ecology, explores power equations in water-society relationship. Though the hydro-social literature mainly dealt with political and social injustices around utilities in urban landscapes for a long time, recently, the thrust has shifted to study stakeholders’ controversies in river basin (co)management and governance. We are in the process of establishing a team of experts from the physical and social sciences who are asked to provide a synthesis of the existing methodological frameworks on coupled human-flood systems, within the Panta Rhei IAHS initiative. Our work identifies and lays out converging possibilities along multiple paradigms, finally proposing a strong case for “pluralistic floods research” (see Evers et al., 2017, <https://doi.org/10.3390/w9120933>). We argue that a robust understanding of the human-flood systems imbining “pluralistic floods research” can meaningfully contribute to ongoing debates on flood risk governance, facilitating spatially-informed and historically-contingent interventions, beyond purely technical approaches.