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Water Governing Systems: addressing conflicts between hydrological and institutional scales

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The human-generated systems typically meet biophysical ones within different geographical terrains. The space where those systems face each other is framed at the human-crafted and natural scales. Conventionally such sphere is a contestation field where various levels of contributing scales confront to embed a functional system. The water governing systems are as of the frequently debated of such systems. They resemble controversial evidence in the course of conflicts between hydrological and administrative/institutional scales. Indeed, due to the dominancy of human-determined objectives to the environmental requirements, the water governing systems have not considered reasonably the requisite of natural cycles in many areas. This issue produces externalities and mismatches between human-formulated and hydrological systems. To enhance the governance, there is a need to detect problems which arise from unfit of those systems in associated levels. Therefore, an inferential methodology which is able to capture and project the water (demand/supply) governing system state is being developed. The methodology encompasses incorporation of a system cost formulation approach. Besides, the system status in relation to microscopic configurations of its components is appraised through the method. This inscribed that a unique macroscopic state driven by a certain configuration is reflectable as a cost system bears in respect to its structure. Such cost is a theoretical estimate to measure the impact of a confiscated structure on the effectiveness of governing system. Correspondingly, the induced inefficiencies by the misfit between human-designed and biophysical systems are diagnosable through the comparison of system costs associated to pertinent structures/configurations.