

Panel Proposal: Governance of Land-Water Dynamics

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Resources systems are considered to be linked, when processes (physical, biological or man-made) or outcomes in one system affects processes or outcomes in another one (and vice-versa). The land-water nexus is an example of such a linked system. A wide range of habitats and ecosystems can be found at such an interface – forests, grasslands, freshwater and marine habitats, or aquatic and terrestrial ecosystems (Talley et al. 2006). Geographically, such areas are known by names such as deltas, estuaries, wetlands, streambeds, riverbanks, flood plains etc. (Swanson et al. 1982). Various kinds of man-made infrastructure such as dams, polders, recycling plants etc. may be associated with such linked systems (Benedict and McMahon 2012).

Such areas are hotbeds of ecological activity. A wide range of plants, animals and insects, some threatened, live in such areas (Swanson et al. 1982). Such linked resource systems are also characterized by a wide range of physical, chemical and biological processes (Persson et al. 1988). In other words, the land-water nexus is highly dynamic in nature (Décamps and Naiman 1990). It provides a wide range of ecosystem services (Zedler and Kercher 2005). No wonder then that such regions are often densely populated, heavily engineered, and are therefore characterized by a wide range of economic activities (Syvitski et al. 2009).

Consequently, regions located at the land-water nexus have witnessed significant amounts of resource deterioration due to man-made activities. This has affected livability in these areas – for humans, and for other forms of life (Pringle and Barber 2000; Syvitski et al. 2009). Deteriorating living conditions in such areas has led to increased conflict. The management and governance of resources at the land-water nexus is thus one of the major challenges of the 21st century (Pringle and Barber 2000).

Therefore, this panel seeks to study the governance of resources associated with the dynamic nature of the land-water interface. Such resources may be public, private or shared. Varied theoretical lenses may be used for the conceptualization of such resource systems: social-ecological systems (Ostrom 2009), socio-hydrological systems (Sivapalan et al. 2012), socio-technical systems (Trist 1981) etc.. A wide range of entities (communities, non-governmental organizations, the private sector and the public sector), characterized by a wide range of governance modes, may be involved in the governance of such resources (Driessen et al. 2012). Such resources may be witnessing the effects of telecoupling (Liu et al. 2013) or the behavior of a wide range of actors located at different levels (ranging from the local to the global) could be influencing outcomes in such resources (Ostrom 2010). Dynamics within such systems may be studied using ideas drawn from multiple theoretical traditions: panarchy, resilience, vulnerability, adaptive capacity etc. (Gallopín 2006).

In short, this panel seeks to develop a broad, holistic perspective on various dynamics which characterize resources located at the interface of land and water, in order to understand how such resources can be better governed in the future.

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