Invitation of abstracts

Special issue: The Changing Water Cycle of the Indogangetic plains

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Context and scope

The Indogangetic plains basin of Northern India and Bangladesh are not only crucial for the socio-economic development of the region but also provides quite unique cases of large-scale groundwater-dominated systems undergoing rapid hydrological change. Since the middle of the 20th century, the Indian green revolution has transformed the Indus-Ganges system from a low intensity agricultural system to the largest contiguous irrigated area in the world, as well as one of the world's most densely populated regions. The water cycle of the region supports currently the livelihoods of over a billion people.

Studying the hydrological changes of rivers such as the Indus and the Ganges is complicated, not only because of the multitude and complexity of anthropogenic change but also because of the scarcity of available data on both the natural processes and human water use. The Ganges basin in particular exhibits extreme hydrological behaviour, including but not limited to the extent of human irrigation, the size and human use of its groundwater resources, the speed of land-use change, and the magnitude and seasonality of the Indian monsoon.

This special issue aims to reflect the state of science on the water cycle of the Indogangetic plains. Contributions are invited on various aspects of the study of hydrological and hydrogeological processes, subsurface – surface – climate interactions, water resources and risks, socio-hydrological interactions, and the relation between the water cycle and human development.