



## Hydrological AnthroScenes

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The Anthropocene concept encapsulates the planetary-scale changes resulting from accelerating socio-ecological transformations, beyond the stratigraphic definition actually in debate. The emergence of multi-scale and proteiform complexity requires inter-discipline and system approaches. Yet, to reduce the cognitive challenge of tackling this complexity, the global Anthropocene syndrome must now be studied from various topical points of view, and grounded at regional and local levels. A system approach should allow to identify AnthroScenes, i.e. settings where a socio-ecological transformation subsystem is clearly coherent within boundaries and displays explicit relationships with neighbouring/remote scenes and within a nesting architecture. Hydrology is a key topical point of view to be explored, as it is important in many aspects of the Anthropocene, either with water itself being a resource, hazard or transport force; or through the network, connectivity, interface, teleconnection, emergence and scaling issues it determines. We will schematically exemplify these aspects with three contrasted hydrological AnthroScenes in Tunisia, France and Iceland; and reframe therein concepts of the hydrological change debate.

Bai X., van der Leeuw S., O'Brien K., Berkhout F., Biermann F., Brondizio E., Cudennec C., Dearing J., Duraiappah A., Glaser M., Revkin A., Steffen W., Syvitski J., 2016. Plausible and desirable futures in the Anthropocene: A new research agenda. *Global Environmental Change*, in press, <http://dx.doi.org/10.1016/j.gloenvcha.2015.09.017>

Brondizio E., O'Brien K., Bai X., Biermann F., Steffen W., Berkhout F., Cudennec C., Lemos M.C., Wolfe A., Palma-Oliveira J., Chen A. C-T. Re-conceptualizing the Anthropocene: A call for collaboration. *Global Environmental Change*, in review.

Montanari A., Young G., Savenije H., Hughes D., Wagener T., Ren L., Koutsoyiannis D., Cudennec C., Grimaldi S., Blöschl G., Sivapalan M., Beven K., Gupta H., Arheimer B., Huang Y., Schumann A., Post D., Taniguchi M., Boegh E., Hubert P., Harman C., Thompson S., Rogger M., Hipsey M., Toth E., Viglione A., Di Baldassarre G., Schaeffli B., McMillan H., Schymanski S., Characklis G., Yu B., Pang Z., Belyaev V., 2013. "Panta Rhei – Everything Flows": Change in hydrology and society – The IAHS Scientific Decade 2013-2022. *Hydrological Sciences Journal*, 58, 6, 1256-1275, DOI: 10.1080/02626667.2013.809088