Classification of river morphology and hydrology to support management and restoration (Rinaldi et al 2016) [1]

As part of an hierarchical, multi-scale, hydromorphological framework for European rivers that has been developed within the REFORM project, a procedure for classifying rivers has been devised. The procedure includes components that categorise river channel morphology, floodplain morphology, flow regime, and groundwater—surface water interactions, and is designed for operational use in the context of river management.

Channel morphology is classified at a first level by a basic river typology interpreted using remotely sensed images, and at a second level by an extended river typology that integrates information from field observations. Floodplains are classified by adopting the Nanson and Croke typology with specific reference to the types of floodplain that are most likely to be encountered widely across Europe. Nine flow regime types are identified using a series of hydrological indicators. Finally, where groundwater has a significant influence on river flows, a range of potential groundwater—surface water interactions are identified reflecting the morphological river type and its geological and climatic setting. Within the REFORM project, the river typology has been tested using case studies representative of a wide variety of European catchment conditions. Four case studies are used to illustrate the classification procedure and to discuss its main strengths and limitations.

Keywords: River classification, Channel morphology, Floodplain, Flow regime, Groundwater

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http://dx.doi.org/10.1007/s00027-015-0438-z [2]

Links
[1] https://reformrivers.eu/classification-river-morphology-and-hydrology-support-management-and-restoration-rinaldi-et-al-2016
[2] http://dx.doi.org/10.1007/s00027-015-0438-z

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