Anthropocene rivers - case study in NW Romania

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Climate models suggest that the NW region of Romania will become wetter over the years and warmer in winter, both likely leading to an increase in flood frequency. This could lead to increased risks to human settlements and activities, most of which are located in large floodplains that cross the region. To prevent them, flood risk management strategies extensive flood protection structures for the near future. Additionally, hydropower is listed as an environmentally friendly alternative to fossil energy, while aggregate channel and floodplain mining is expected to grow to support large-scale construction projects in Romania and the surrounding region. All these projections and scenarios suggest the imminence of a new wave of intensive pressure on the rivers in this area.
To better understand appropriate management measures, we argue for the need to place the current state of rivers and their possible future trajectories in a broader historical context. We exemplify this idea by discussing the current morphodynamics of the rivers in the Someș hydrographic basin in the context of the Holocene fluvial dynamics. In a first attempt to define the characteristics of the Anthropocene rivers in this region, the key aspects addressed here are the definition of the natural reference dynamics and the relationship of the present-day fluvial trends to them.