EGU22-10786
https://doi.org/10.5194/egusphere-egu22-10786
EGU General Assembly 2022

The warmer the better?: the relationship between ecosystem metabolism and temperature, possible implications under climate change – a meta-analysis

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River and stream metabolism have been proposed as an important tool to determine ecological status, as it encompasses most of the environmental interactions. However, some of the factors influencing it have not been studied with enough depth, which is essential to define its utility as a monitoring and diagnostic tool, especially under the variable conditions of the current global changes. One of these understudied factors is temperature, which may become problematic considering the increasing temperatures and heatwaves occasioned by climate change. For instance, increasing temperatures due to climate change or extreme events may favor the proliferation of algal species resistant to high-temperature variability occasioning blooms and altering ecosystem metabolism. Thus, there is a need to understand how temperature affects ecosystem metabolism and its components, to be able to propose better and more integrative measures to counteract negative changes and make predictions of possible scenarios. This work presents a meta-analysis of the current information that is available on the response of ecosystem metabolism to temperature and highlights some of its implications and perspectives. With this information, scientists, managers, and stakeholders might be able to have a wider perspective and propose more adequate measurements in terms of ecosystem metabolism and ecological status.