SOS-WATER: Water Resources System Safe Operating Space in a Changing Climate and Society

SOS-Water is funded through the European Union's Horizon Europe Framework Programme for Research and Innovation and has a budget of EUR 4 million over four years. SOS-Water is coordinated by IIASA International Institute for Applied Systems Analysis, Water Security Research Group.

Water scarcity, water quality degradation and the loss of freshwater biodiversity are critical environmental challenges worldwide, which have primarily been driven by a significant increase in water withdrawals during the last century. In the coming decades, climate and societal changes are projected to further exacerbate these challenges in many regions around the world. As such, defining a safe operating space (SOS) for water resources in a changing climate and society is urgently needed to ensure a sufficient and reliable supply of water of a quality acceptable for human activity and natural ecosystems.

The overarching objective of SOS-Water is to assess and understand the SOS of the entire water resources system based on integrated modelling, monitoring, advanced indicator development, and an inclusive stakeholders' engagement based on true collaboration including co-development of scenarios and management pathways.

SOS-Water will co-create future scenarios and management pathways with stakeholders in five case studies in Europe and abroad.

The results of SOS-Water will help improving the understanding of water resources availability and streamline water planning and management at local to regional levels and beyond, such that the allocation of water among societies, economies, and ecosystems will be economically efficient, socially fair, and resilient to shocks.

The SOS-Water consortium consists of 11 partners from 7 EU countries and 2 non-EU countries Vietnam and Switzerland (the Swiss partner EAWAG will be associated partner in SOS-Water). All partners are nationally and internationally renowned in their fields, and the entirety of the consortium represents the outstanding multi-disciplinary team needed to address the diverse range of water system challenges. Each partner brings in important knowledge and different nuances necessary to design a holistic water system SOS framework. That includes world-leading expertise on integrated hydrological (UU, IIASA), hydro-economic (UPV, IIASA), and biodiversity modelling (FVB-IGB), in water systems planning (POLIMI), water quality (associated partner EAWAG) and quantity (FUTUREWATER SL and its affiliated entity FutureWater-NL) monitoring, multi-objective decision support and stakeholder engagement (AAU, FVB-IGB) and outstanding local expertise in the respective case studies (GeoEcoMar, SIWRP) as well as international multi-disciplinary project management (IIASA, EUTEMA-RS).

Project Key Facts

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