

EGU21-12404, updated on 27 Jan 2022

<https://doi.org/10.5194/egusphere-egu21-12404>

EGU General Assembly 2021

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SIMILE: An integrated monitoring system to understand, protect and manage sub-alpine lakes and their ecosystem

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Lakes are a fundamental resource for the Insubric region (cross-border area that includes Ticino, North Lombardy and west Piedmont regions). Therefore the quality of their waters must be protected from the risks caused by the increased anthropogenic pressure and climate change. The main objective of the interreg project named SIMILE (https://interreg-italiasvizzeria.eu/database_progetti/simile/) is to support decision making in the definition of management policies through an advanced information system based on data obtained from innovative monitoring systems (automatic, diversified, cost-effective and with high spatial and temporal resolution). The information system will also facilitate the identification of possible critical issues understanding the specific causes in a timely manner by using a common methodology across Switzerland and Italy: specifically for Lake Lugano, Lake Maggiore and Lake Como. The project aims at capitalizing and sharing the experiences of the project partners in the field of monitoring and management of water resources in the project area, in particular in the context of the CIP AIS programs (IT-CH international water protection commission). The information system, fully open, is designed to offer an effective, lowcost and sustainable solution that can be maintained by the project partners beyond the end of the project. From a scientific and technical point of view the project is based on the combination of advanced automatic and continuous observation systems, high resolution remote sensing data processing, citizen science and ecological and physical models. In this presentation we will discuss experiences gained from the deployment of cost-effective monitoring platform and open technologies used for data collection, archive, processing and dissemination.

