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

Daniele Strigaro¹, Massimiliano Cannata¹, Fabio Lepori¹, Camilla Capelli³, Michela Rogora², and Maria Brovelli³

¹SUPSI, Istituto scienze della Terra, DACD, Canobbio, Switzerland (daniele.strigaro@supsi.ch)
²CNR Water Research Institute, L.go Tonolli 50, I 28922 Verbania Pallanza
³Politecnico di Milano, P. zza Leonardo da Vinci, 32 - Building 3 - 20133 Milano

Lakes are an invaluable natural and economic resource for the insubric area, identified as the geographical area between the Po River (Lombardy, Italy) and the Monte Ceneri (Ticino, Switzerland). However, the increased anthropic activity and the climate change impacts are more and more threatening the health of these resources. In this context, universities and local administrations of the two regions, that share the trans-boundary lakes, joined their efforts and started a project, named SIMILE, to develop a system for the monitoring of lakes' status providing updated and continuous information to support the management of the lakes. This project results from a pluriannual collaboration between the two countries, Switzerland and Italy, formalized in the CIPAIS commission (www.cipais.org). The aim is to introduce an innovative information system based on the combination of advanced automatic and continuous observation system, high resolution remote sensing data processing, citizen science and ecological and physical models. The project will capitalize the knowledge and experience of the resource managers with the creation of a Business Intelligence platform based on several interoperable geospatial Web services. The use of Open software and data will facilitate its adoption and will contribute to adequately keep the costs limited. The project, started few months ago is here presented and discussed.