



**Thursday 16 June 2022**

Onsite: h.16 - Aula Ruffini *Dipartimento di Scienze della Terra, Torino*

Remote: [via webex at this LINK](#)

# Glacier shrinkage and new lake formation as evident effects of ongoing climate change on the alpine cryosphere

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*Italian Glaciological Committee*

Ongoing climate change is deeply impacting high-mountain areas and glacier shrinkage is one of the most evident consequences. The general and progressive retreat of glaciers started in the European Alps at the end of the Little Ice Age (LIA, ca. 1850 AD) and it is expected to continue in the future. As a direct consequence, newly deglaciated areas progressively become exposed and offer suitable geomorphological conditions for glacier lakes formation. Updated glacier and glacier lake inventories are essential for providing an overview of the phenomenon and improving the knowledge about the spatiotemporal interactions between glacier and related glacier lakes. Thus, it is important to collect and analyse a diversity of data from different time periods (e.g. historical topographic maps and digital orthophotos) in order to produce inventories for different time steps. Dedicated models then allow to predict the suitable locations of potential future glacier lakes over large glacierized areas. Finally, since glacier lakes may represent both opportunities (tourism, exploitation as water reservoir and/or for hydropower production, biodiversity and geodiversity enhancement) and risks (outburst flood), regional scale assessment of glacier lakes value from a “human perspective” becomes essential for identifying “hot-spot lakes” as sites to prioritize for valorization, enjoyment, fruition, and towards their sustainable management from the socio-environmental point of view.



## The Speaker

Cristina Viani is a physical geographer, she obtained her PhD in Earth Sciences in 2018 with a thesis in glaciology and has collaborated on international projects (NextData and GLIMS) on the same topic. After her PhD, she worked as a research fellow at the Research Institute for Geo-Hydrological Protection of the Italian National Research Council and at the Department of Earth Sciences of the University of Turin. She is a member of the Italian Glaciological Committee and carries out observation of some glaciers in the Western Alps as a glaciological operator.

