

**Project Thesis  
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## Ice Loads on Dams

During planning and designing of dams, ice loads are usually classified as secondary or exceptional loads. Although dams in Switzerland are often situated at high altitude in the Alps, no clear recommendations exist for accurately predicting the magnitude of ice loads. For small and medium sized dams this problem is of particular importance. The determination of ice loads is high in uncertainty and literature values often vary between 20 and 300 kN/m.



Fig. 1: Ice pressed against the Lago Bianco dam (Source: BFE)

The main objective of this work is to investigate ice loads on dams. This will be achieved by a literature review in which the relevant parameters and factors governing ice loads are identified. Furthermore, a practical decision aid, capable of predicting site specific ice loads, is to be developed. Finally, a parameter study will relate static ice loads to other loads acting on dams.

The project thesis will be followed by the Swiss Federal Office of Energy SFOE.

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hafsteinsson@vaw.baug.ethz.ch**Remarks:**Research oriented work including a literature review;  
Group work for 2 civil engineering students.