

## MSc Climate & Environmental Sciences: Graduate Seminar Climate and Cryosphere

Prof. Dr. Thomas Mölg

**Study Program:** MSc (Module Scientific Working II)

**ECTS:** 5 (2 SWS)

**Participants:** max. 20

**Times & Location:** see UNIVIS

**Pre-Meeting:** none

This seminar will address the role of the cryosphere in the climate on Earth. Besides the atmosphere, the ocean, and land surface processes, the cryosphere represents one major component in the climate system. The two large ice sheets Greenland and Antarctica, together with sea-ice coverage, exert a vital influence on the planetary albedo. Moreover, mass loss from the ice sheets is one of the great controls of sea-level rise. Glaciers, on the other hand, are unique indicators of climate change in high-altitude regions, and they affect regional water budgets and natural hazards during periods of mass loss and gain. Permafrost, in turn, is an important storage term in the greenhouse budget of our planet, and is therefore of concern in questions of climate change. The goal of this course is to enhance the understanding of the cryosphere as a key player in the global climate. Incorporation of most recent literature from peer-review journals will be a requirement.



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### **Requirements and responsibilities:**

- Attendance is mandatory
- Missing more than 15% of the meetings will result in a fail grade, regardless of your standing
- Be punctual
- Participate and add to the discussions
- Follow the rules of science ethics