

26642-FS2025

# Field course on Geomorphology at the Swiss National Park (GR)

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# Summary and aims

- > In an impressive **Alpine landscape** with an almost **natural** evolution
- > a unique opportunity to explore and learn about **natural geomorphic processes**
- > **open-air laboratory** to observe and understand how nature develops with **minimum human interference**
- > to **shift the focus** from natural hazards to understanding **natural processes and disturbances** in a dynamic natural landscape
- > To explore **diverse process domains** to understand better how geomorphological forces shape **ecosystems**
- > Combining **hands-on fieldwork** with **analytical** office tasks
- > The course includes **participation in a scientific symposium** to discover ongoing work in park management and conservation

# Learning Outcomes

By the end of this course, you will be able to:

- > **Identify** and **describe** key geomorphic **processes** shaping Alpine landscapes
- > **Analyze** geomorphic **features** through field **observations** and **measurements**
- > **Evaluate** the influence of geomorphic **processes** on **ecosystems** and biodiversity
- > **Discuss** the role of **minimal human interference** in landscape evolution
- > **Engage** with current research in **geomorphology** and **conservation**
- > **Synthesize** field data into coherent **scientific reports** and **presentations**

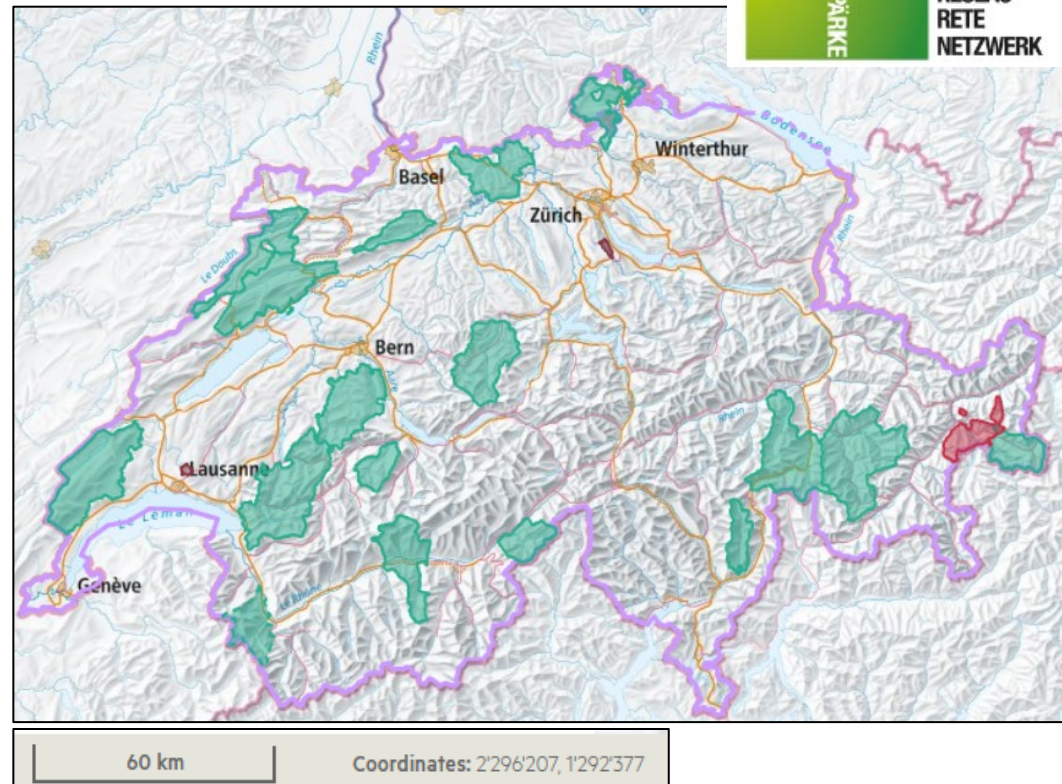


# The Swiss National Park

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- > Founded in 1914, the Swiss National Park (SNP) is the oldest national park in the Alps and the largest wilderness area in Switzerland
- > with 100 km of marked hiking trails
- > is a reserve in category 1a (highest class of protection, wilderness area)
- > Animals, plants, habitats and natural processes are protected against all human interference



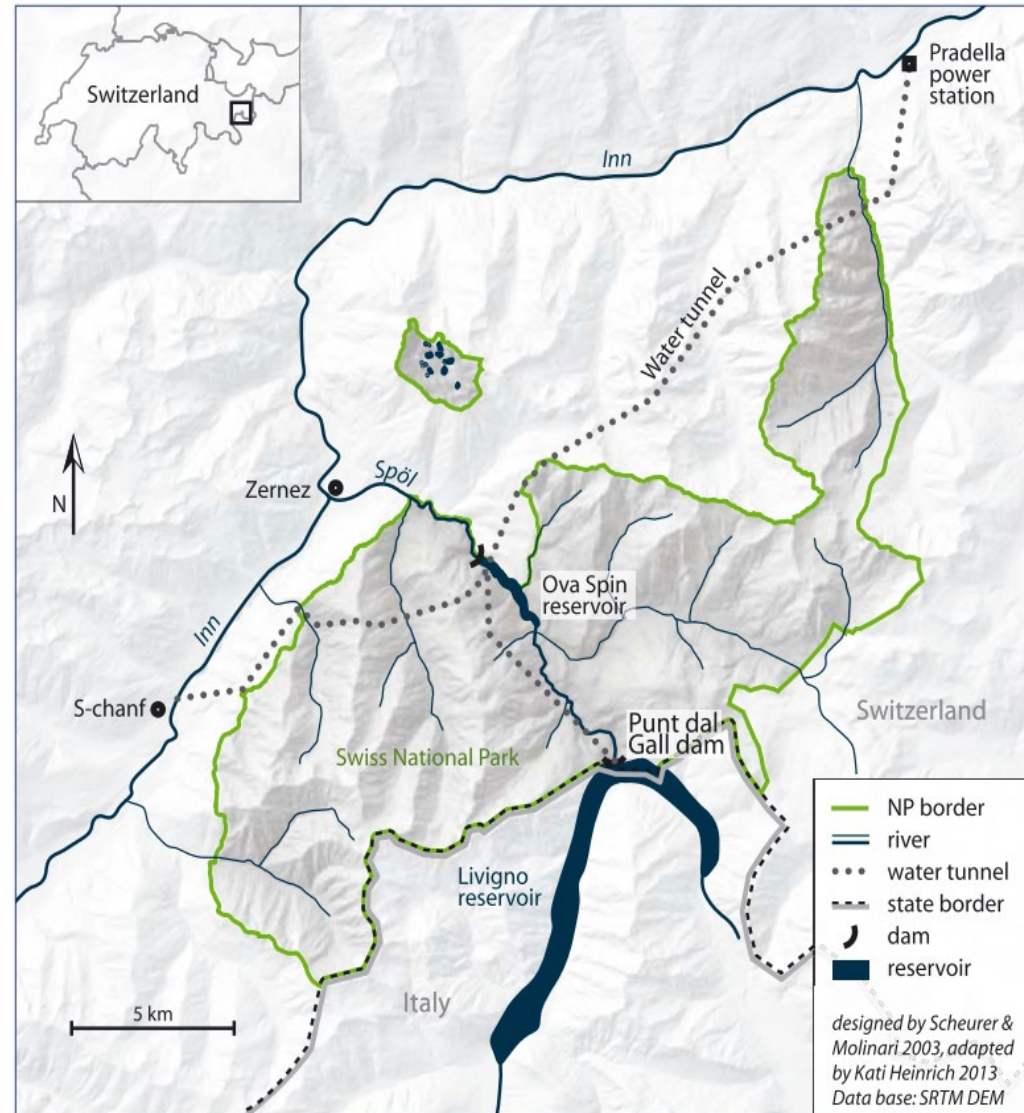


# The Swiss National Park

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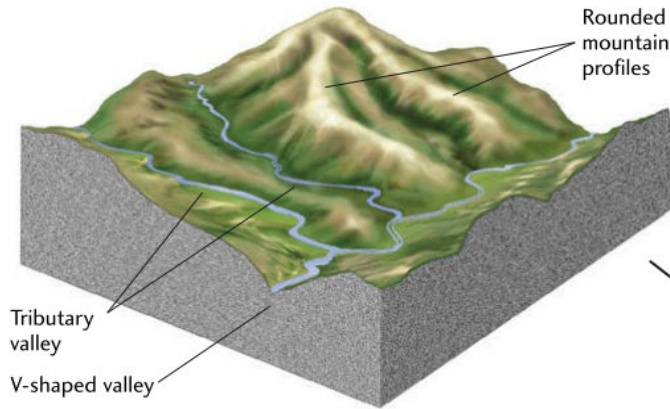
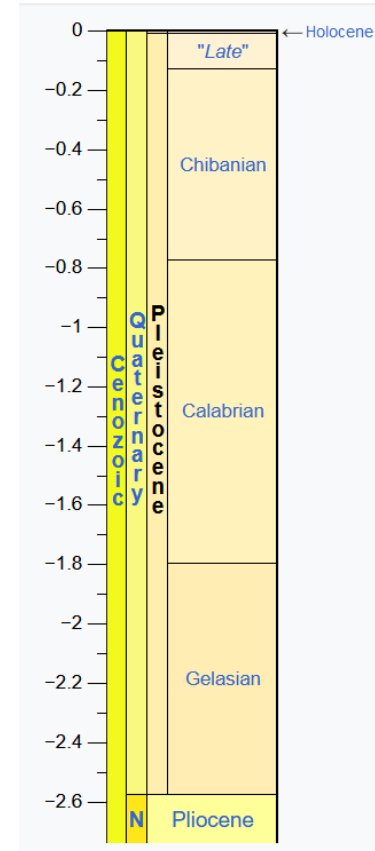
- > The area of the SNP covers 170 km<sup>2</sup>: 28% of subalpine forest, 21% of subalpine meadows and 51% of dolomites and calcareous rocks.
- > The climate is continental (Koppen climate classification), characterized by a high variation in temperature, cold winters (on average 0 C°) and warmer summers.
- > In Zernez, the average amount of precipitation per year is around 750 mm, and August is the wettest month (~100 mm).



# The Swiss National Park

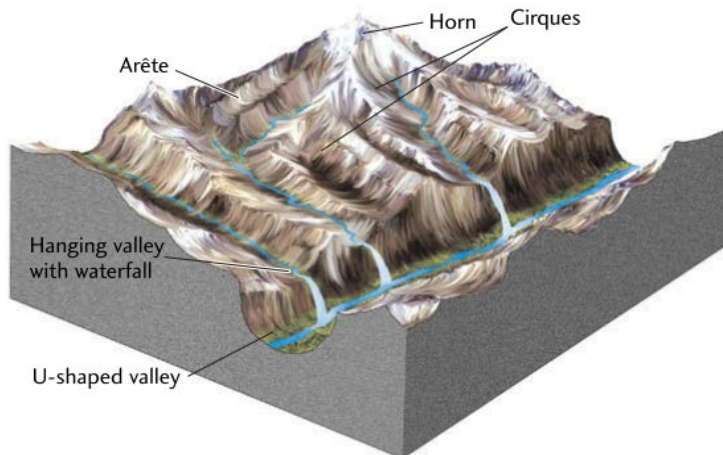
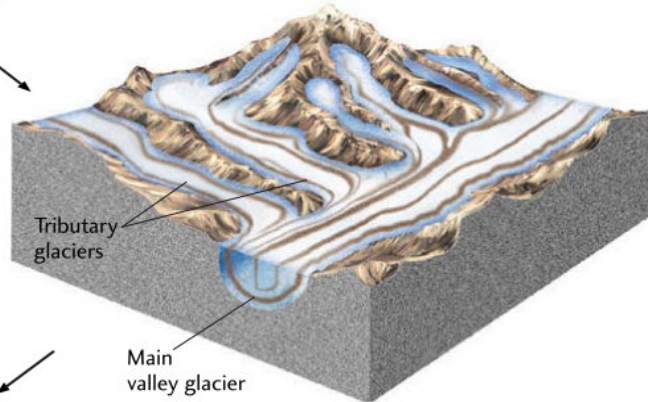
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**1 Before glaciation**, a mountain river cuts through a V-shaped valley.

**2 During glaciation**, cirques and arêtes form. The glacier moving down from its cirque creates a U-shaped valley.



**3 After glaciation**, when ice melts and retreats, the tributary valleys are left as hanging valleys.

The Pleistocene (2.58 – 0.0117 Ma) glacial erosion exerted a strong influence on the morphology



# The Swiss National Park

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The footprint of active rock falls, debris flows and highly dynamic fluvial processes can be easily observed



# The Swiss National Park

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(C) House of Switzerland, Switzerland Tourism



# The Swiss National Park

## Protection regulations

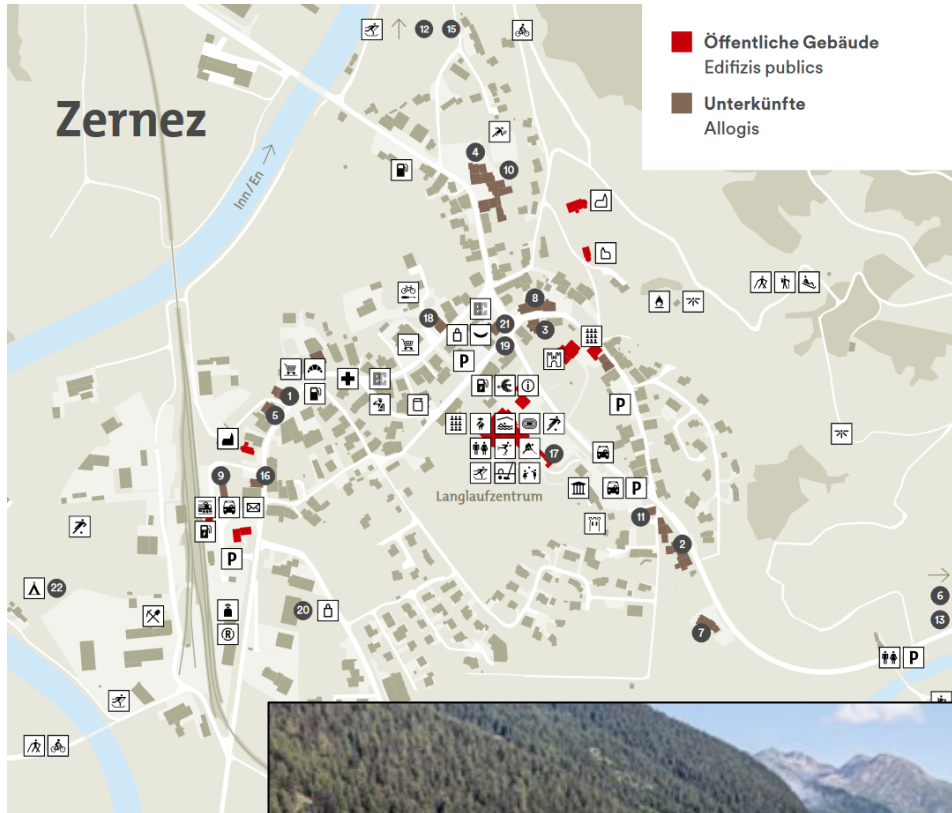


- > The nature conservation regulations are based on the National Park federal law and are listed in detail in the ordinance.
- > it is strictly forbidden to leave the marked paths as well as the resting areas marked with posts
- > no littering
- > no natural object may be picked or removed: animals, plants, sticks, stones, etc.
- > Visiting the National Park is only permitted during the day. Daytime is defined as the time from the beginning of the so-called civil twilight in the morning until the end of the civil twilight in the evening. The same applies to overnight vehicle stays alongside the Pass dal Fuorn (Ofenpass) road.
- > Dogs are not allowed in the Park, not even on a lead.
- > Bathing in lakes, pools, streams and rivers is not permitted.
- > No campfires
- > No cycling or flying of any kind (e.g. drones) are permitted (see Civil Office of Aviation website).
- > Nature must be left undisturbed.
- > The National Park is closed in winter, and entry is forbidden (Designated wildlife area).

# Accommodation: Zerne

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## Directions



3h 56m  
from Bern



3h 34m  
302 km





# Accommodation: Zernez

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8-9 nights:

- > only accommodation and breakfast = 60CHF/night/person
- > Accommodation, dinner and breakfast = 95 CHF/night/person



# Accommodation: Zernez

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# Your guides, and team

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Prof. Dr. Virginia  
Ruiz-Villanueva |  
Unit leader



Dr. Mauro  
Fischer  
Senior  
scientist



Maha Sheikh  
PhD candidate



Benjamin  
Siegrist  
Teaching  
assistant

 **scnat**  
akademie der naturwissenschaften  
académie des sciences naturelles  
swiss academy of sciences  
accademia di scienze naturali



parc  
naziunal  
svizzer



# Tentative Program

## 11<sup>th</sup>-20<sup>th</sup> June 2025

- > Day 1: Arrival, introduction and preparation
- > Days 2 and 3: Scientific Symposium
- > **Days 4 and 7: Field excursions, input from different scientists, park staff, etc. covering different processes domains and conservation aspects**
- > Day 8: Analysis and Report Preparation
- > Day 9: Synthesis, Presentations and Course Wrap-Up
- > Day 10: travel back

A detailed timetable of activities will be shared in advance with day-by-day timetables, and morning and evening briefings





# Scientific Symposium

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## Research Commission of the Swiss National Park (FOK-SNP)

FOK-SNP promotes and coordinates research projects in the Swiss National Park, in the Regional Nature Park Val Müstair and in the conservation and development zone of the Engiadina Val Müstair Biosphere Reserve. [more](#)

Image: Meisterfoto, stock.adobe.com

Research in the National Park +

Committee +

Publications

> Research Committee of Swiss National Park



12.-13.6.2025

Conference | Zerne

Main organiser  
FOK-SNP



## Landscapes under the magnifying glass

Research symposium SNP+ 2025

### Venue

Schloss Planta-Wildenberg  
Runatsch 124  
7530 Zerne

**On the 12th and 13th of June 2025, the second 'Research Symposium of the Swiss National Park, the UNESCO Biosphere Reserve Engiadina Val Müstair and the Regional Nature Park Biosfera Val Müstair (SNP+)' will take place in Zerne, Switzerland.**

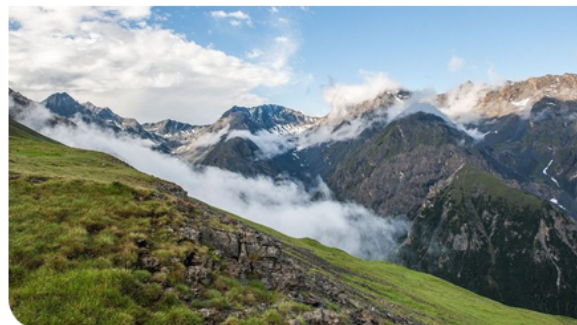


Image: Hans Lozza, SNP

**Thursday, 12th of June:** Symposium on the topic of 'Landscapes under the magnifying glass' with three thematic sessions

**Friday, 13th of June:** Three excursions to the Swiss National Park, the UNESCO Engiadina Val Müstair Biosphere Reserve and the Val Müstair Regional Nature Park

# Assessment

1. Field Participation (30%)
2. On-site Oral group Presentations (30%)
3. Final group Report (40%)

- > how effectively theoretical knowledge has been applied in a practical, field-based setting
- > engagement and willingness to participate in field activities actively
- > ability to analyze, interpret, and present data gathered in the field
- > ability to communicate findings concisely and engagingly.
- > Field Report: clarity, depth, and accuracy.





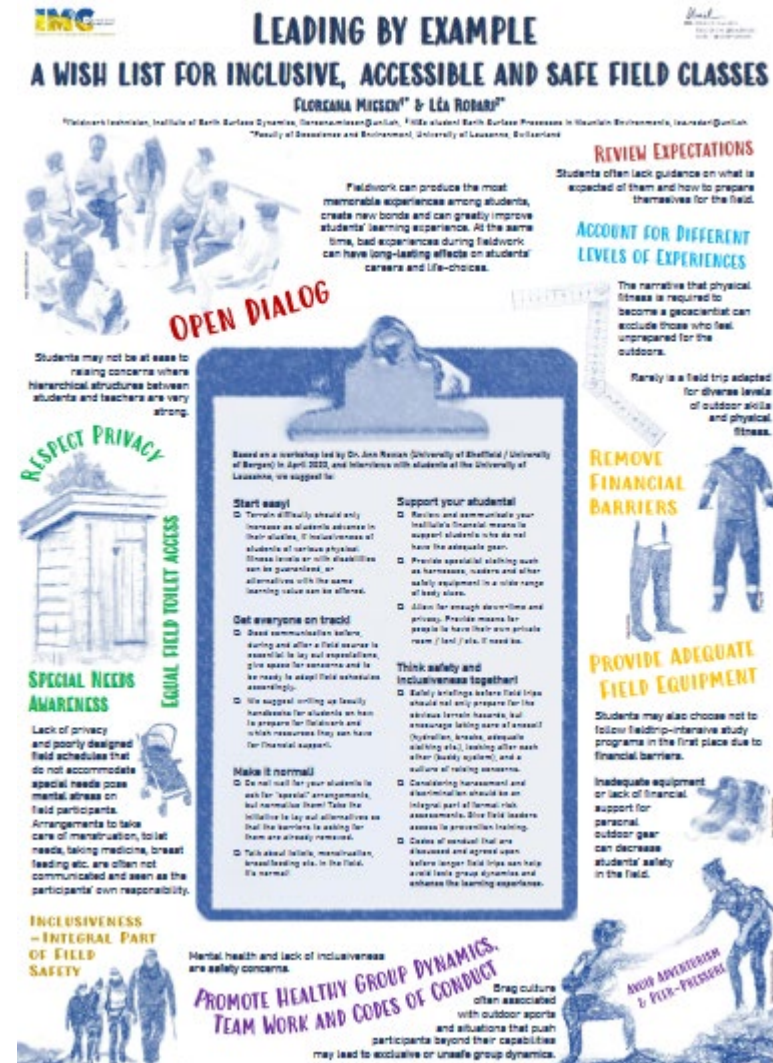
## Required Materials

- > Field notebook
- > Hiking boots and weather-appropriate clothing
- > Laptop with GIS software (e.g., QGIS) installed.
- > Recommended readings will be provided at the start of the course



# Inclusive planning and preparation

- > Effective planning, in collaboration with participants as a foundation of inclusive fieldwork
- > addressing individual concerns and providing clear information
- > Adaption to all needs





# Thank you very much for your attention



## Questions?

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