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## Guidelines of the Department of Earth Sciences (D-ERDW) for conducting excursions and field courses

Excursions, field courses and fieldwork conducted by the Department of Earth Sciences at ETH Zurich inevitably involve a certain risk for staff members and students participating. To provide guidelines for dealing with such risks, a document was issued on 1 August 2017 entitled "[Study trips, field trips and excursions conducted by members of ETH Zurich in the framework of courses: Handling Risks](#)", to be consulted by the excursion leader (organiser) during the planning phase of any trips, excursions or field courses which involve risk.

In accordance with the Labour Law<sup>1</sup>, Art. 6, the "employer is obliged to take all measures, applicable with current technology and in line with the conditions of operation, deemed necessary by experience to ensure employee safety". The employee, in turn, is "obliged to assist the employer in the implementation of provisions to safeguard health". Thus, there is a mutual obligation and responsibility on the part of employees and employers with regard to the planning and implementation of safety measures.

Note: To facilitate readability of the following text, the term "excursion" will be in general use, also when referring to field courses, field courses and fieldwork.

The greatest care is required when planning and conducting excursions. The responsible lecturers of the excursion (excursion leader) have to provide detailed information on any potential risks and inform the participants in a clear and comprehensive way. Even when precautions are taken and safety measures followed, there is always a slight chance of an accident or damage occurring.

The most important points and questions that arise during the planning of an excursion are listed below.

### 1. Assignment of category (Appendix I)

The Department of Earth Sciences (D-ERDW) classifies the excursions in three categories: A, B or C (refer to Appendix I). The excursion leader is responsible for the assignment of the correct category.

### 2. Confirmation of General Terms and Conditions for Excursions and Field Trips D-ERDW

For every excursion, the participating students are informed about the [General terms and conditions for excursions and field trips of D-ERDW \(AGB\)](#) and acknowledge their receipt.

### 3. Insurance Coverage

Insurance is the responsibility of the participants. ETH offers no insurance for its students.

Accident insurance coverage is provided for ETH Staff through the Swiss National Accident Insurance Fund (Suva) and for students (health insurance company)<sup>2, 3</sup>. This insurance coverage is in effect regardless of whether the accident took place on the way to or from the office or train station or the excursion destination.

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<sup>1</sup> "Federal Act on Work in Industry, Commerce and Trade" (Labour Law) of 20 March 1998. Version 1.12.2013

<sup>2</sup> see [Insurance and pension for employees](#)

<sup>3</sup> see [Information sheet: Insurance for students](#)

**4. Documentation and information materials for the excursion (Appendix II)**

In order to provide participants with comprehensive information, the documents listed below under a - e are to be compiled during the planning phase and distributed to the participating students and the co-organiser and/or assistants of the excursion (examples in Appendix II):

- a. Detailed course programme
- b. List of equipment
- c. Complete list of participants
- d. Information on reachability for group or institute secretariat
- e. Emergency numbers (at the trip destination)

**5. Arrival and departure (means of transport)**

The journey to the meeting point occurs individually and at students own expense. The onward transfer to the destination is by public transport, or ETH or rental vehicles. Private vehicles may not be used.

Rental vehicles and those belonging to ETH may be driven by participating students, providing they fulfil the conditions set by the rental company in question (Europcar), i.e. be in possession of a valid driver's licence, and have reached the required age.

If the journey, using ETH or rental vehicles, will take several hours, sufficient time including breaks must be allotted for the trip. Substitute or relief drivers are strongly recommended for longer trips. Traffic regulations are to be strictly observed and capacity limits (passengers and load) for the relevant vehicle complied with. If the transport of hazardous substances as defined by the ADR/SDR is planned (this includes chemicals, bottled gas and fuel), the ETH hazardous goods specialist must be consulted beforehand.

**6. Excursions and field courses of several days duration**

In the case of excursions lasting several days, it is often difficult to differentiate between work and free time. It is thus recommended to draw up a daily schedule with set start and end times. If a participant is planning to undertake a free time activity after the official end time of the excursion, the excursion leader should be informed. Free time activities with higher risks (e.g. climbing) are not allowed.

Generally speaking, activities closely related to the excursion are considered part of the programme (e.g. cooking together), in which case ETH is normally liable for any property damage incurred toward a third party by an ETH employee or student.

If, however, a student or employee incurs damage beyond the realm of said programme due to careless or neglectful behaviour, this person alone is personally responsible for the damage.

**7. Lack of proper equipment or inappropriate behaviour**

During the planning of an excursion, participants must be informed about special equipment required or the need for good physical condition and state of health. Should a participant clearly be ill at the time of departure (e.g. suffering from flu), intoxicated, or not properly equipped, he or she can be barred from participating. This is the responsibility of the excursion leader.

**8. Accidents or emergencies**

It is recommended that each co-organiser or assistant be given a first aid/emergency kit (one per group), issued by ETH First Aid team ([sgu\\_betriebssanitaet@ethz.ch](mailto:sgu_betriebssanitaet@ethz.ch)).

Rescue services are available in mountainous regions of Switzerland; please refer to “[Alpine Rettung Schweiz](#)” (Swiss Alpine Rescue Service) or call the Air Rescue emergency number of [REGA 1414](#)<sup>4</sup>. In the event of an accident or emergency on ETH premises, dial the internal number 888 for the ETH Emergency Desk.

If the excursion is taking place abroad, the local emergency phone number is to be distributed before the trip begins (document e“Emergency numbers at the trip destination”).

Close relatives of the accident victim, insofar as they are known, must be notified immediately. Should an ETH staff member be involved in an accident, Human Resources is to be notified immediately in order for the accident to be reported to [Suva](#). For accidents involving students, the professor in charge must notify the Academic Services as soon as possible. If the media are involved, the Corporate Communications Media Desk, +41 44 632 41 41, must be consulted for support before dealing with the press. If it is considered a crisis situation, the Media Desk should also be contacted, the Media Desk informs the Safety, Security, Health and Environment department, if deemed necessary.

**More detailed information relating to ETH excursions is provided under [FAQ \(Frequently Asked Questions\) for Study Trips](#) (German only).**

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<sup>4</sup> The yearly membership fee for REGA is CHF 40.- (Rescue flights carried out by REGA for members of the REGA organisation are performed free of charge)

## APPENDIX I

### Assignment of categories

In order to limit the administrative effort required for the assessment of risk involved in each of a wide variety of excursions, the Department of Earth Sciences has issued the document “Guidelines for conducting excursions and field courses”. The assignment to three different categories is based on many years of experience in conducting a wide range of excursion types.

**Category A**     Hiking excursions

**Category B**     (High-) Alpine excursions (glaciers, non-existent or unmarked routes)

**Category C**     Excursions abroad

Recommendations have been drawn up, with a view to the potential risks, for each of these categories to provide support to the excursion leaders in the planning and preparation of excursions.

The Study Coordinator must be notified when planning an excursion for the first time. The excursion leader is responsible for the assignment of a category to the excursion. The most recent version, updated annually, is available on the [D-ERDW excursion webpage](#).

In addition, the [SAC \(Swiss Alpine Club\)](#), the [bfu \(Swiss Council for Accident Prevention\)](#) and [Suva](#) provide comprehensive information materials on their websites for the planning of hikes and alpine tours (consult the link list in Appendix III).

### Category A: Hiking excursions

This category includes hiking excursions in Switzerland or countries assessed as being Safety Level 1 or 2 as defined in the document published by the [BMEIA](#)<sup>5</sup>. For this category of excursion, the participants must be informed of the normal risks or those encountered in general in mountain regions while hiking.

Category A excursions are those found within Levels T1 –T3 of the scale as determined for mountain and alpine hikes by the [SAC](#) (refer also to “Further Information and links” in the appendix). It must be noted that the assignment of categories relates to favourable conditions (good weather, clear visibility, dry terrain, etc.).

Documentation and information materials, in addition to those relating to the specific character and programme for the excursion in question, must be prepared in accordance with points 1-7 of the guidelines of D-ERDW.

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<sup>5</sup> Determination of Safety/Risk Levels as per the Austrian Federal Ministry of Europe, Integration, and Foreign Affairs ([BMEIA](#)).

## Category B: (High-) Alpine excursions

This category includes alpine excursions in Switzerland or countries assessed as being Safety Level 1 or 2, as defined in the document published by the [BMEIA](#)<sup>6</sup>. (High-) Alpine excursions are rated with Level T4 –T6 of the mountain and alpine hikes scale (or mountain and high-elevation tours scale) as determined by the [SAC](#) (refer also to “Further Information and links” in appendix III).

Category B excursions must be planned with a view to the specific nature of the terrain, and a safety concept drawn up in accordance with the ETH document entitled “[Study trips, field trips and excursions conducted by members of ETH Zurich in the framework of courses: Handling Risks](#)”, attachment 1b, “Elevated Risks in general”, points 1-3. If an excursion requires the use of safety ropes, an appropriately trained or experienced person must participate in the excursion or a professional expert (e.g. mountain guide) must be hired. All participants must be equipped as the terrain demands.

In keeping with the SAC document “[Empfehlungen für Lehrpersonen \(PDF\)](#)” alpine hikes designated as T4 level of difficulty or more are considered as having elevated risks and are not recommended to school classes.

Documentation and information materials, in addition to those relating to the specific character and programme for the excursion in question, must be prepared in accordance with points 1-6 of the Guidelines of the Department of Earth Sciences for conducting excursions, field courses and fieldwork.

In addition, when the safety concept is drawn up, it must be submitted for assessment to the Safety, Security, Health and Environment department (SGU/SSHE), the Financial Services department, and to Academic Services.

## Category C: Excursions abroad

For excursions abroad, it must be clarified whether the destination is located in a country or region with elevated risk (as determined by the [BMEIA](#)<sup>1</sup>)

If a target destination for the excursion can be considered as not having elevated risk (Level 1 or 2, as per the definition) then it can be assigned to Category A or B and the appropriate planning and preparation undertaken.

Should, however, a destination be considered as elevated risk (Level 3 or more) then a detailed [risk analysis in accordance with the provisions of the SGU/SSHE](#) must be completed and the ETH Directive “[Study trips, field trips and excursions conducted by members of ETH Zurich in the framework of courses: Handling Risks](#)” strictly must be followed.

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<sup>6</sup> Determination of Safety/Risk Levels as per the Austrian Federal Ministry of Europe, Integration, and Foreign Affairs ([BMEIA](#)).

## Assignment of categories

The excursion leader is responsible for the correct assignment of the category. This is done during the yearly planning of the excursions and published on [“Excursions and field courses”](#).

<b>Excursions / Field Courses</b>	<b>Excursion Leader</b>	<b>Cat.</b>
Aargauer Jura / Frick	Klug	tbd
Alpenquerschnitt: Fribourg-Valais-Simplon (Geol. der Alpen)	Mancktelow / Picotti	tbd
Alpine Engineering Geology Excursions, Campo-Maggia-Flims-Pola	Löw	tbd
Alpine Field Course (Dolomites)	Brack / Ulmer	tbd
Alpnach	Gilli / Picotti	tbd
Alpstein - Churfirsten	Eglinton	tbd
Aosta - Brusson	Driesner / Heinrich	tbd
Borehole Geophysics	Gischig / Maurer	tbd
Breggia - San Giorgio	Bernasconi / Brack	tbd
Einsiedeln	Gilli	tbd
Engineering Geology - Field Course I (Soils)	Thuro / Leith	tbd
Engineering Geology - Field Course II (Rocks)	Ziegler / Manconi	tbd
Engineering Geology: Hydrogeological Field Course	Klepikova / Fisch	tbd
Field Course Glaciology	Bauder	tbd
Fluviatile Sedimente	Gilli / Picotti	tbd
Geological Field Course IV - Morocco	Mancktelow	tbd
Geologischer Feldkurs I - Maniva, S-Alpen	Brack	tbd
Geologischer Feldkurs II - Sacmentente (Gemmi)	Mancktelow / Picotti	tbd
Geologischer Feldkurs III - Kristallin (Adamello)	Ulmer	tbd
Geomicrobiology & Biogeochemistry	Eglinton / Vance / Gilli	tbd
Geophysical Field Work and Processing	Schmelzbach	tbd
Geophysikal. Feldpraktikum	Obermann	tbd
Glarnerland	Frehner / Mancktelow	tbd
Glarner-Überschiebung / Glarus overthrust	Frehner	tbd
Gotthard	Brack / Reusser	tbd
Höngau	Reusser	tbd
Hydrogeologie	Klepikova	tbd
Hydrogeologie und Quartärgeologie	Ivy Ochs / Haldimann	tbd
Hydrosohäre	Roques	tbd
Ingenieurgeologie I (Rutschungen, Bergstürze)	Löw	tbd
Ingenieurgeologie II (Untertagebau)	Löw	tbd
Landfills and Contaminated Sites	Huggenberg	tbd
Landslide Analysis 1 (Brienz)	Löw	tbd
Landslide Analysis 2 (Mutschingen)	Wolter	tbd
Landslide Analysis 3 (Preonzo)	Löw	tbd
Liguria	Schmidt / Ulmer	tbd
Molasse	Müller	tbd
Mont Terri Underground Lab; Landfills & Deep Geological Disposal	Gautschi	tbd
Oberalp-Lukmanier	Reusser / Ulmer	tbd
Ore deposits (Romania)	Von Quadt / Heinrich	tbd
Ossola - Ivrea	Brack / Ulmer	tbd
Ostjura	Gilli / Deplazes	tbd
Quaternary Geology and Geomorphology of the Alps	Ivy Ochs	tbd
Sedimentary rocks and processes	Picotti / Gilli / Willett	tbd
Structural geology	Mancktelow	tbd
Tectonic Geomorphology	Picotti / Gallen	tbd
Trias Süddeutschland	Hautmann / Klug	tbd
Underground Excavations 1 (Kandertal)	Löw	tbd
Underground Excavations 2	Perras	tbd
Val Malenco / Bergell / Ivrea	Reusser / Galli	tbd
Verzasca I / II	Schmidt / Mancktelow	tbd
Volcanology (Southern Italy)	Bachmann	tbd

## APPENDIX II

### a. Detailed programme for an excursion (example)

The example below shows all information to be included in an excursion programme. **The completeness of the documentation must be checked and updated by the excursion leader for every excursion.**

Programme	
<b>Title of excursion</b>	<i>Description and indication of LE number</i>
<b>Destination</b>	<i>Indication of destination, country, region, locality, cabin, etc.</i>
<b>Excursion leader (organiser)</b>	<i>Institute, first name, surname, phone, mobile, etc.</i>
<b>Date</b>	<i>Departure date, duration, return date</i>
<b>Accommodation</b>	<i>Exact address of accommodation (hotel, cabin, camping, youth hostel, etc.), phone</i>
<b>Meeting place</b>	<i>Day, time, meeting point on departure day</i>
<b>Costs</b>	<i>Costs of excursion (usually to be paid in advance)</i>
<b>Extras</b>	<i>Full board, half board, lunch required for several days, etc.</i>

Details	
<b>Daily or weekly programme</b>	<i>Description and details of the excursion, programme incl. daily start and end-time</i>
<b>Locality, region, area</b>	<i>Overview on the area, map, coordinates, etc.</i>
<b>Characteristics and duration of hikes</b>	<i>Description of the hikes incl. duration, distance, vertical heights, etc.</i>  <i>Level of difficulty scale by SAC:</i> <a href="http://www.sac-cas.ch/unterwegs/schwierigkeits-skalen.html">www.sac-cas.ch/unterwegs/schwierigkeits-skalen.html</a>  <i>Rule of thumb for calculation of hiking time (without breaks):</i> <i>Hiking time in hrs = (vertical heights in m / 400) + (horizontal distance in km / 4)</i>
<b>Prerequisites for participation</b>	<i>Students must in any case be informed if an excursion requires special level of fitness or other preconditions</i>
<b>Weather</b>	<i>Link to MeteoSwiss or other weather app</i>

## b. List of equipment for participants (example)

The clothing and technical equipment must be adapted to the weather and field conditions of each excursion. Special caution and protection goggles are mandatory when working with a geological hammer (sunglasses do not protect against splints or hydrochloric acid). The following equipment list is an example.

<b>Safety equipment<sup>7</sup></b>	
	Protection goggles, mandatory when working with a hammer or acids
	Safety jacket, mandatory on roadsides
	Helmet, mandatory for tunnels or caves
<b>Technical equipment / field equipment</b>	
	Hiking or mountaineering boots adapted to the terrain (lug soles)
	Hiking sticks
	Backpack
	Geological hammer
	Magnifier
	Compass
	Binoculars
	Altimeter
	Hydrochloric acid
<b>Clothing / garments</b>	
	Warm and appropriate hiking outfit
	Rain cover, wind protection, gloves, cap
	Spare clothes
	Sun cap, sunscreen
<b>Map and writing materials</b>	
	Course documentation (see detailed programme)
	Writing materials
	Field book
<b>Extras</b>	
	Tent
	Sleeping bag, inlet
	Toilet requisites
	Pocketknife
	Mini rescue bag
	Headlamp
	Mobile phone
	Half Fare Travelcard, GA Travelcard, SAC card
	Snacks (for the entire week like chocolate, cereal bar, etc.)
	Drinking bottle, thermos bottle
	Towel
	Photo camera
	Rope, harness
	Ski touring equipment
	Ice axe, crampons

<sup>7</sup> To be provided by D-ERDW. The safety equipment provided by D-ERDW is stored in the cupboard NO D 073 (next to NO D 55)



### c. Complete list of attendances (example)

The registration list must be checked at the start of the excursion in order to have an updated and final list of participants. The final attendance list has to be sent to the group or institute secretariat.

### d. Information on reachability for group/institute secretariat (example)

The information on reachability during the excursion must be provided for the group/institute secretariat incl. the names of all excursion leaders and accompanying staff (co-organiser and assistants).

<b>Reachability</b>	
<b>Excursion title</b>	<i>Description and indication of LE number</i>
<b>Destination</b>	<i>Indication of destination, country, region, locality, cabin, etc.</i>
<b>Date</b>	<i>Departure date, duration, return date</i>
<b>Accommodation</b>	<i>Exact address of accommodation (hotel, cabin, camping, youth hostel, etc.), phone</i>
<b>Extras</b>	<i>Full board, half board, lunch required for several days etc.</i>
<b>Excursion leader (organiser)</b>	<i>Institute, name, surname, phone, mobile, etc.</i>
<b>Co-organiser</b>	<i>Institute, name, surname, phone, mobile, etc.</i>
<b>Assistants</b>	<i>Institute, name, surname, phone, mobile, etc.</i>
<b>Further accompanying person</b>	<i>Institute, name, surname, phone, mobile, etc.</i>

### e. Emergency numbers (example)

In case of an emergency in mountain or alpine regions call the alpine rescue, i.e. REGA (1414). In the event of an accident or emergency on ETH premises, dial the internal number 888 for the ETH Emergency Desk.

A list of emergency numbers must be provided for each excursion. For Switzerland the numbers are:

<b>Swiss Emergency Numbers</b>
1414 – Rega, Air-rescue
1415 – Air-Glacier
112 – International Emergency Call
117 – Police
118 – Fire Service
140 – Vehicle breakdown service
143 – Crisis Line
144 – Ambulance
145 – Toxicological Institute (in case of poisoning)
147 – Children, youth emergency call
163 – Traffic and travel news
187 - Avalanche bulletin
061 284 81 11 – Tropical Institute
044 211 22 22 – Animal Rescue Service

## APPENDIX III

### Further information and links

Links	
SAC hiking scale	<a href="https://www.sac-cas.ch/en/ausbildung-und-sicherheit/tourenplanung/grading-systems/">https://www.sac-cas.ch/en/ausbildung-und-sicherheit/tourenplanung/grading-systems/</a>
PEAK	<a href="https://www.sicher-bergwandern.ch/de/selbsttest">https://www.sicher-bergwandern.ch/de/selbsttest</a>
MeteoSwiss	<a href="https://www.meteoswiss.admin.ch/">https://www.meteoswiss.admin.ch/</a>
Campaign “Safe Hiking”	<a href="https://www.sicher-bergwandern.ch/">https://www.sicher-bergwandern.ch/</a>
Swiss Council for Accident Prevention (bfu)	<a href="https://www.bfu.ch/de/ratgeber/wandern-bergwandern">https://www.bfu.ch/de/ratgeber/wandern-bergwandern</a>
Swiss Alpine Club (SAC)	<a href="https://www.sac-cas.ch/de/ausbildung-und-sicherheit/tourenplanung/alpinmerkblaetter/">https://www.sac-cas.ch/de/ausbildung-und-sicherheit/tourenplanung/alpinmerkblaetter/</a>
Guide Safety in mountainous terrain	<a href="https://static.tourist-online.de/ebook/Bergsicherheits-Guide092016.pdf">https://static.tourist-online.de/ebook/Bergsicherheits-Guide092016.pdf</a>
Rega (Air rescue)	<a href="https://www.rega.ch/en/">https://www.rega.ch/en/</a>
Alpine Rescue Switzerland	<a href="https://www.alpinerettung.ch/">https://www.alpinerettung.ch/</a>
Swiss Emergency Numbers	<a href="https://www.notfallnummern.ch/">https://www.notfallnummern.ch/</a>
Natural Hazards Switzerland	<a href="https://www.natural-hazards.ch/">https://www.natural-hazards.ch/</a>
Swiss Institute for Snow and Avalanche Research	<a href="https://www.slf.ch/en/index.html">https://www.slf.ch/en/index.html</a>
Swiss Seismological Service (SED)	<a href="http://www.seismo.ethz.ch/en/home/">www.seismo.ethz.ch/en/home/</a>
Federal Office for the Environment	<a href="https://www.bafu.admin.ch/bafu/en/home.html">https://www.bafu.admin.ch/bafu/en/home.html</a>
Hazard maps	<a href="https://www.planat.ch/en/authorities/hazard-maps/">https://www.planat.ch/en/authorities/hazard-maps/</a> or refer to the GIS of the cantons <a href="https://www.bafu.admin.ch/bafu/en/home/topics/natural-hazards.html">https://www.bafu.admin.ch/bafu/en/home/topics/natural-hazards.html</a>
Apps	
	- iRega – Emergency-App for Air Rescue Service Rega
	- MeteoSwiss – Natural Hazards Warning and Information
Excursions abroad	
EDA-Travel Advice	<a href="https://www.eda.admin.ch/eda/de/home/vertretungen-und-reisehinweise/laenderunabhaengigereiseinformationen.html">https://www.eda.admin.ch/eda/de/home/vertretungen-und-reisehinweise/laenderunabhaengigereiseinformationen.html</a>
EDA-Travel Checklist	<a href="https://www.eda.admin.ch/content/dam/eda/de/documents/vertretungen-reisehinweise/Reisecheckliste_DE.pdf">https://www.eda.admin.ch/content/dam/eda/de/documents/vertretungen-reisehinweise/Reisecheckliste_DE.pdf</a>
BMEIA	<a href="https://www.bmeia.gv.at/reise-services/reisewarnungen/">https://www.bmeia.gv.at/reise-services/reisewarnungen/</a>

## SAC – Hiking and Mountaineering Scale

Trail Signs in the Swiss Alps are standardised and marked with yellow (mountain trails), blue (alpine/glacier routes) or pink (winter trails) arrows.

Grade / Scale	Trail / Terrain	Requirements	Examples
T1 <b>Hiking</b>	Accessible, easy trail, steep sections with steps, areas with the danger of falling or slipping are protected by handrails. Hiking trails make no special demands upon the users, minimum risk of falling if behaving appropriately. <a href="#">Swiss Hiking Trail Signalization</a> yellow	Hiking boots recommended. Orientation easy also without map.	<a href="#">Männlichen - Kleine Scheidegg</a> , Hut trail Jurahaus, Cabane Mont Raimeux, <a href="#">Strada Alta Leventina</a> .
T2 <b>Mountain Hiking</b>	Mountain trail with partly difficult terrain, steep, narrow and exposed in places, secured with ropes or chains. Risk of falling or slipping not excluded. <a href="#">Swiss Hiking Trail Signalization</a> white-red-white	Surefooted hikers, hiking boots recommended. Elementary sense of orientation.	<a href="#">Wildhornhütte</a> , <a href="#">Bergseehütte</a> , <a href="#">Täschhütte</a> from Täschalp, Passo Campolungo, <a href="#">Capanna Cristallina</a> from Ossasco.
T3 <b>demanding Mountain Hiking</b>	Trail not continuously visible. Exposed in places with risk of falling or slipping, secured with ropes or chains, use of hands for balance. Scree slopes without trails. <a href="#">Swiss Hiking Trail Signalization</a> white-red-white (Mountain Trails)	Very surefooted hikers, have a head for heights, solid hiking boots are essential, average sense of orientation, Elementary alpine experience.	<a href="#">Hohtürli</a> , <a href="#">Sefinenfurgge</a> , <a href="#">Fründenhütte</a> , Grosser Mythen, <a href="#">Pizzo Centrale</a> from <a href="#">Gotthardpass</a> .
T4 <b>Alpine Hiking</b>	In places no trail, use of hands for balance or scrambling. Usually exposed terrain, dangerous and steep grass slopes, scree, firn field and snow-free glacier traverses. <a href="#">Swiss Hiking Trail Signalization</a> white-blue-white (Alpine route)  <i>Note: Some older T4 trails might still be marked red-white-red</i>	Familiarity with exposed terrain, solid hiking boots. Some knowledge of terrain judgement and good sense of orientation. Good alpine experience. Retreat might be difficult with sudden change of weather.	<a href="#">Fornohütte</a> , <a href="#">Schreckhornhütte</a> , <a href="#">Dossenhütte</a> , <a href="#">Mischabelhütte</a> , Übergang Voralphütte-Bergseehütte, Vorder <a href="#">Glärnisch</a> , <a href="#">Steghorn</a> (Leiterli), <a href="#">Piz Terri</a> , Pass Casnile Sud.
T5 <b>Demanding Alpine Hiking</b>	Mostly no trail. Some easy climbing sections. Exposed and challenging terrain, steep scree. Snow-free glaciers and firn fields with danger of slipping or falling. If marked: <a href="#">Swiss Hiking Trail Signalization</a> white-blue-white (Alpine route)	Solid mountaineering boots are essential. Experienced in terrain judgement, very good sense of orientation, advanced alpine experience in high alpine terrain. Knowledge of the use of ice axe and rope is essential.	<a href="#">Cabane de la Dent Blanche</a> , <a href="#">Bütlassa</a> , <a href="#">Salbitbiwak</a> , <a href="#">Sustenjoch Nordflanke</a> , <a href="#">Bristen</a> , Pass Cacciabella.
T6 <b>Difficult Alpine Hiking (Mountaineering)</b>	No trail, climbing passage (level II). Very exposed terrain, challenging and steep terrain. Snow-free glaciers with high risk of falling or slipping. Usually not marked.	Distinct sense of orientation, mature alpine experience, Distinct alpine experience and experienced handling technical alpine material.	<a href="#">Niesengrat</a> (Fromberghorn Nord), <a href="#">Glärnisch Guppengrat</a> , <a href="#">Via Alta della Verzasca</a> .

The hiking and mountaineering scale of SAC is used to classify the Swiss Hiking Trails and may help to plan a hiking trip or excursion. It must be noted that the assignment of categories relates to favourable conditions (good weather, clear visibility, dry terrain, etc.).