



Functional Ecology
Laboratory

Functional Ecology Lab

Fieldwork reminder



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This document is intended to help you prepare for your riding season, but is not an official document.

During the course of your project, you may be required to work outdoors to collect samples, carry out field inventories, go on excursions with students and so on. This document sets out the main points to consider when working outdoors as part of a master's or thesis project, in order to limit the risk of accidents.

As part of your master's or thesis project, if you're going to be working in the field:

- ❖ Your supervisor must discuss the risks with you.
- ❖ If you have any doubts about the dangerousness of the sites you have chosen, don't hesitate to discuss them with your supervisor.
- ❖ No one can force you to go into a dangerous area if you don't feel comfortable or if the context frightens you.

It's not improbable that during your outings, various problems may prolong the day beyond what was initially planned. Good preparation beforehand will save you a lot of trouble and make you feel more at ease.

In all cases, [check these rules](#)

BEFORE DEPARTURE

Transport

Institute's car

Make sure your car is in good condition and that you have the emergency numbers in case of breakdown or accident.

Postbus/funicular/ cable car

Please check the timetable if you need to use these means of transport.

Personal car

If no car is available, you can use your own vehicle, but you must ask your supervisor and provide a justification for the kilometers driven (photo of the dashboard before/after the trip) + an expense report.

Emergency numbers

Prepare and carry with you a list of emergency numbers

- 112** European emergency numbers (European)
- 117** Police
- 118** Fire brigades
- 144** Ambulance, urgent medical calls throughout Switzerland
- 145** [Intoxication](#)
- 1414** *[Rega](#), medical assistance by air,
- 1415** [Air-Glacier](#), medical assistance by air

*If you are a Rega member, please take your membership card with you!

Route and weather forecast

Get informed

Get informed and equip yourself accordingly (protection against heat and cold, UV rays, etc.) In alpine environments, the weather changes rapidly! Do you know what time the sun sets? Start your hike as early as possible, especially if it's a long one and the route you plan to take is at high altitude. If a thunderstorm threatens, turn back, leave the ridges, stay away from cables and streams, seek shelter but not under an isolated tree. In the event of lightning, if no shelter exists, look for a depression, don't keep your sticks or other metal objects with you, sit on your pack, knees close to your body, touching the ground on as small and compact a surface as possible and wait for the storm to move away (REF_unil)

Stay informed!

Use the various apps to plan/track your itinerary offline and keep up to date with the weather:

- [Swisstopo](#) for route planning and maps
- [Swiss phone app](#) for weather forecast

Route

Plan your route or explore the terrain you'll study. You can check the following points for a better fieldwork experience:

- Starting point, end point and route.
- [Distance and topography](#)
- [Official routes](#)
- Time required and safety margin
- Alternative routes: examine the possibility of bypassing difficult sections or shortening the hike.
- Other route features: find out about exposed sections, steep sections, refreshment facilities, altitude, etc.

Hiking trail category

Road conditions: even several days after an episode of rain, the roads can still be wet and slippery, making exposed sections particularly dangerous. In early summer, there is often still snow at mid-altitude. You can find out about current conditions from hut wardens or lift stations, via webcams or Internet portals.

Huts: if you're planning to eat or sleep in a hut, find out exactly where it is, check that it's in operation and find out when it's open. Berths must be reserved. If you don't need them after all, be sure to let the hut know, so that other people can make use of them.

Trails and off-trail activities

A significant part of the excursions and fieldwork for a Master's project takes place off-trail. Sturdy, high-cut, ankle-hugging shoes are therefore essential to protect against sprains and involuntary kicks against rocks or pebbles rolling down the slope. They also provide protection against brambles and other rough edges (branches) at ground level. For the same reasons, shorts are not recommended in the field. In marshes or along rivers, knee-high boots are recommended.

Working in steep terrain

Some of our excursions may take place in steep terrain, such as clifftops or steep slopes. Be careful not to get too close to the cliff edge (slipping), nor too close to the foot of the cliffs (rock falls). In the event of a master's project requiring prolonged work at the foot of a cliff, be sure to wear a helmet. On steep slopes, progress slowly, making sure you never lose your balance.

Really risky situations shouldn't arise on excursions. However, a passage along a narrow path is never out of the question. If you suffer from vertigo and dare not continue, let the supervisor know. Climbing or slopes in excess of 45° will not occur as part of an excursion and should not be considered for a Biogeosciences master's project. Working in such

conditions can only be done with your supervisor permission, with suitable equipment, accompanied by a specialist and insofar as you are trained yourself.

Rivers, snowfields, glaciers

When working along rivers, beware of unstable banks and keep your distance. A river can erode the foot of its banks from below, leaving the overhanging bank unstable. Avoid approaching rivers during periods of high water.

Find out if there is a dam upstream that could suddenly release large quantities of water. In the mountains, fording rivers can quickly turn out to be dangerous. Cross only with caution, and beware of unstable or slippery rocks. Prefer quiet barefoot crossings, bearing in mind that a strong current at knee level can quickly destabilize you. Don't forget that the flow of Alpine torrents increases during the day under the sun. As a result, a torrent crossed without difficulty in the morning can be very dangerous at the end of the day. Sliding on a névé is fun, but not without risks. Loss-of-control accidents on steep slopes are not uncommon. What's more, névés sometimes form bridges over streams, with several meters of clearance between the snow and the stream. You never know when the bridge will give way. In spring, the path is sometimes cut by a névé that you have to cross on the hillside. Do this only with caution, if the slope is not too steep and the snow not frozen. Or get the right equipment. If you're in a group, go one at a time. Crossing a glacier should not be part of the Biogeosciences Master's program. If such a crossing is unavoidable for your Master's project, get a specialist to assess the risks and equip yourself.

Insects and other animals

Ticks

Ticks, and the diseases they transmit, are certainly the main danger you may encounter on excursions to low and medium altitudes. Ticks can be found on plants up to 1.5 m high. The two main diseases they transmit are:

- **Borreliosis (or Lyme disease)**, which can cause local redness, flu-like symptoms, nervous system damage with pain, sensory disturbance, even partial paralysis, and joint pain. Treated promptly, long-term consequences are generally minimal. Neglected, however, it becomes very difficult to get rid of. No vaccine is available, but treatment with antibiotics is possible.
- **Tick-borne meningoencephalitis** causes flu-like symptoms and headaches, which can progress to inflammation of the nervous system, with paralysis, impaired consciousness and even death. Progression can be very rapid. A vaccine is available, and is strongly recommended for people who regularly spend time in the forest.

In forests and meadows, wear light-colored, well-covered clothing, tuck trouser bottoms into socks and protect yourself with repellents.

Check your skin, especially the folds, as soon as you get home. If a tick becomes attached to your skin, keep an eye on the symptoms over the following weeks, and don't hesitate to consult a doctor.

[More information \(symptoms, behavior\)](#)

Snakes, wasps, bees

Encounters with vipers in Central Europe are rare (unless you're looking for them). Generally speaking, snakes will spot you first and then hide. Bites are not fatal, except in cases of severe allergy. And high shoes greatly reduce the risk of being bitten. This risk is therefore vastly overestimated by most people.

However, be careful on steep south-facing slopes, where there is a slight risk of putting your hand on a snake when trying to hold on to a boulder or a tuft of grass. Wasps, bees and hornets can cause serious problems for allergy sufferers when stung far from away from medical help. If you know you are allergic, take the necessary treatments with you and inform your supervisor.

Cattle and sheep

Hiking in pastures is generally risk-free. However, herds of suckling cows (with calves) should be avoided, and never attempt to pet a calf. Mothers can be very defensive. If cows become nervous, leave the pasture quietly. Quick movements can provoke an attack. Similarly, you should never cross sheep flocks guarded by guard dogs. They will come and bark. Remain calm and continue on your way, bypassing the flock.

Shovels and picks

Pedology and other fields in ecology require walking with shovels, picks, augers or other metal items. Be careful turning when carrying these tools on your shoulder. When assisting someone digging, stay far enough away so as not to receive any blows or stones thrown up by the tool. Maintain a constant dialogue about respective intentions. If the pit is more than one meter deep, it should be shored up. Never stay alone in a deep pit. A wound with a metal tool, as with other natural objects (thorns, pebbles, etc.), can transmit tetanus. The disease is difficult to treat, and can be fatal if detected too late. So, check the validity of your vaccination.

Health risks

Apart from allergies to bees and wasps, other predispositions can lead to problematic situations. If you are aware of any health problems (weak heart, severe hay fever, etc.), take the necessary medication and report it to the supervisor.

Physical condition and capabilities

Are you fit, sure-footed and free of vertigo? Is this your first hike of the year?

Get the word out!

Inform at least one of your colleagues of your destination (GPS coordinates), as well as the duration of your absence and the expected date of return.

DURING YOUR FIELD WORK

Remain Reachable

By telephone, radio, etc., and check the condition of your batteries beforehand. If necessary, take a battery with you to recharge your phone, or find out about the nearest place to live (cabin, restaurant, store, etc.).

If you set off alone

Don't go off on your own, but take at least one other person with you. If this isn't possible, make sure someone knows where you are, when you're due back and what to do if they don't hear from you by the time you're due back.

First aid kit

Plan to bring/borrow a first-aid kit adapted to your work outdoors (pocket pharmacy) containing at least:

- Bandages
- Bandages
- Tweezers
- Small scissors/knife
- Basic/personal medication (headaches, nausea, anti-inflammatories)
- Tick and mosquito repellent (depending on location)
- Survival blanket

Personal field equipment (suggestions)

Backpack

Acquire/borrow a backpack of at least 30-40L, and up to 70-80L depending on field work. Note that the heavier the load to be carried (equipment & samples), the better the quality and fit of the bag (back size)!

Shoes

Equip yourself with good hiking boots with a profiled, water-resistant sole. Don't go into the mountains with shoes that aren't suited to the terrain!

Hiking poles

Hiking poles can take the strain off your knees on the way down and help you on the way up.

Clothing

Temperatures can vary very rapidly in Switzerland, particularly in the Alps. Be prepared for any eventuality: the three-layer system is ideal.

- **1st** a breathable layer to wick away perspiration (technical T-shirt in synthetic or merino material)
- **2nd** an insulating layer to retain heat (e.g. a zipped fleece or small down jacket, depending on the season)
- **3rd** a waterproof and windproof layer for protection from the elements (hardshell jacket, Gore-Tex)

Food and water

Take sufficient food and drink (water/hot tea depending on the season):

- Eat nutritious, caloric foods (starchy foods, meat, cheese, fruit, vegetables, nuts).
- If necessary, bring an extra can of water with tap.
- Bring hot tea with you on cold-weather terrain.
- If you're bivouacking, choose foods that keep well and freeze-dried meals (available from sports stores).

Edible plants and berries

We strongly advise against consuming plants, berries and mushrooms picked on a field trip, as this may lead to poisoning.

Direction indicators for hiking trails

Yellow diamonds and arrows

"Hiking trails are generally wide, but can also be narrow and uneven in places. Steep passages are equipped with steps, and places where there is a risk of falling are secured by barriers. Hiking trails marked in yellow make no special demands on users. However, vigilance and caution are essential. We recommend that you wear sturdy shoes with well-profiled soles, bring weather-appropriate clothing and a map."



Yellow with white-red-white tip and white-red-white markings

"Mountain hiking trails are usually narrow, steep and partly exposed. Particularly difficult passages are secured by ropes or chains. To use these paths, you need to be sure-footed, in good physical condition and not suffer from vertigo. You also need to be aware of mountain hazards. In addition to wearing sturdy shoes with well-profiled soles and having the right equipment for the weather conditions, it's a good idea to take a hiking map with you"¹.



Blue with white-blue-white tip and white-blue-white markings

"Alpine hiking trails sometimes cross snowfields, glaciers or scree, or take in cliffs with short climbing passages. The path is not always marked. The presence of facilities is not guaranteed. To use these paths, you need to be sure-footed, in very good physical condition and not suffer from vertigo. You also need to be aware of mountain hazards. In addition to the equipment required for mountain hiking trails, you should also bring a compass, a rope, an ice axe and crampons, depending on the itinerary planned."¹



References

[Master en Biogéosciences UNIL, Information sur les risques en excursions et lors de travail de terrain](#)

[BPA, Accident Prevention Bureau - Good preparation is half the route](#)

[Swiss Alpine Club - Safety when hiking: 10 useful tips](#)

[SUVA: Prevention, insurance and rehabilitation - Ticks](#)