

Safety regulations and code of conduct for excursions and fieldwork

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1 Regulations for Safety in Fieldwork

1.1 Introduction

Fieldwork and excursions are essential components of the study of Earth Sciences. Lectures and textbooks can never replace reality. Because of fieldwork and excursions, the study of Earth Sciences distinguishes itself from other studies, since a considerable part of the study period will be spent in the field. This specific study condition requires special attention to safety while working in nature. This document contains regulations to secure safety for participants in excursions and fieldwork and to set down responsibilities of the teaching institute and organisation, teachers and students. Such regulations do not reduce the responsibility of students and teachers for their own safety and health as well as for that of others during fieldwork.

This individual responsibility is not restricted to activities in the field or, in other words, activities as part of the excursion or the carrying out of field assignments, but also includes attitude and all other activities of the participants during the period in which the fieldwork or excursion takes place. Basically, individual responsibility can never be refused.

1.2 Responsibilities

Teaching Institute

The board of the teaching institute of Earth Sciences is responsible for the issuing of regulations concerning safety during the carrying out of fieldwork and excursions and for the compliance with the regulations in general. The board is responsible for all measures necessary for the carrying out of the safety regulations. This includes supplying means for first aid training, helmets and, if necessary, car or van drivers. Objects that can reasonably be part of the standard equipment for fieldwork (mountain shoes, rain clothes, sun lotion, etc.) are at the expense of the participants.

The director of teaching notifies heads of the departments as well as individual teachers (including PhD's etc.) and students (study guide and intranet) of these regulations. He checks that the teacher responsible informs the participants to fieldwork and excursions in advance about the report 'risks assessment and safe work methods' (see below). This assessment is to be made by the teacher responsible, for each specific field activity. Afterwards the director of the teaching institute will check, as part of quality assurance policy, with students and teachers, if any safety problems occurred during the fieldwork or excursion and, if so, which.

Students will be informed about safety risks and precautions in excursions and fieldwork prior to the first field activity (clothing, code of behaviour in the field). More specific items (such as organisation, fieldwork safety) will be explicitly dealt with during the preparation of the activity. This information is part of the curriculum. Students are also offered a voluntary short first aid course.

Fieldwork leader

The fieldwork leader, the teacher responsible for an excursion or fieldwork, oversees making the report "Risk assessment and safe work methods" for the activity; this report should also contain the guidelines issued by the faculty. The fieldwork leader must inform students and other teachers in advance and see to it that the other teachers as well as students act in accordance with the safety regulations. He will also focus on junior employees, in particular. The fieldwork leader is also

responsible for imposing ad hoc sanctions on those students or teachers, who jeopardise safety (see also Other teachers).

Other teachers

Teachers supervising (groups of) students need to act expressly in accordance with the safety regulations during fieldwork and excursions, to set an example for the participating students. These teachers will follow the fieldwork leader's directions and, if necessary, issue extra guidelines and advice to students. They will also check that students observe the safety regulations.

Students

Students can be expected, in view of their age and level of education and combined with good instruction, not to behave irresponsibly or to take unnecessary risks. If they do, they will be held liable for damage caused to themselves or to a third party. This particularly applies to activities not related to their study, whether or not undertaken in their spare time. These activities also include the use of alcoholic drinks, even if this cannot be qualified as abuse.

Students primarily bear their own responsibility; the more they lack expertise and experience concerning specific fieldwork risks, the more the duty of supervision will increase. Each participant to excursions and fieldwork (including each participating student) has the responsibility to carry out all activities of this part of the curriculum as safely as possible, not only for themselves, but also for the other participants as well as for outsiders. They must act in accordance with the safety regulations as issued by the faculty, as well as with the possibly extra safety guidelines given by the teachers. Failure to follow these guidelines and/or rules of conduct can lead to sanctions (putting an immediate end to the student's field activities).

Students who experience obstructing (health) conditions to attend fieldwork and/or an excursion should - in advance - consult a medical specialist. Think of, for example, allergies, dizziness, heart problems, Pfeiffer's disease, etc., etc. The purpose of this consultation is to determine whether these (health) conditions can influence personal safety or that of persons in the immediate surroundings. See also form "report circumstances that may influence the execution of fieldwork and/or excursion".

In addition, the primarily responsible teacher must be informed that there are circumstances that may influence the student's performance during fieldwork and/or excursion, and/or the working conditions for others that are present.

In addition, students must behave to the Code of Conduct on (sexual) intimidation, aggression, violence and discrimination (pursuant to Article 1.12 of the Collective Labour Agreement of the Dutch Universities). It is forbidden to use discriminating terms related to a person's race, colour, religion, sex, handicap, familial status, or national origin. It is forbidden to compel someone to commit humiliating acts, to infringe on someone's physical integrity or to make sexually explicit remarks. Students can read the text at <https://www.uu.nl/en/organisation/profile/codes-of-conduct/misconduct> .

1.3 General faculty regulations

1. Risk assessment ("Risk assessment and safe work methods")

Prior to each excursion or fieldwork, the fieldwork leader, who carries main responsibility, writes a risk assessment. The aim of such an assessment is to acknowledge important and predictable risks, in

order to reduce those risks to an acceptable level, to prepare participants for these risks as thoroughly as possible, to be able to take precautionary measures and to be able to act effectively in case of possible accidents.

This risk assessment must be given (as part of the excursion or fieldwork guide) to and discussed with the participants of the excursion or fieldwork. One copy of the risk assessment is given to the director of the Teaching Institute of Earth Sciences.

The following subjects, if applicable, must be discussed:

Responsible supervisor, sharing of tasks among the supervisors, location and nature of the field area, expected weather conditions, recommended clothing and shoes, safety devices (helmet, goggles, shoes, whistle, first aid kit), required physical condition, specific local health risks, compliance with the local code of behaviour, first aid arrangements (e.g. first aid kit, local emergency number, mobile phone), transport (drivers), contact between participants and supervisors (location, phone numbers), fieldwork permit, safety regulations.

The faculty board assumes that the 'Guidelines for Safety in Fieldwork' will be used for the writing of this risk assessment, in so much as these guidelines are relevant.

2. Signing the risk assessment and additional regulations

Students have to sign the report 'Risk assessment and safe work methods' to be allowed to participate in fieldwork activities. This document needs contain the following extra stipulations:

- a) The undersigned acknowledges to have received and read the document 'Regulations for Safety in Fieldwork' as well as the risk assessment of the fieldwork/excursion mentioned and commits himself/herself to meet the obligations stated in these documents.
- b) If the undersigned fails to comply with these obligations, the fieldwork leader is entitled to exclude the student immediately from further participation in the relevant activity, and, in the event of a repeated failure to meet these obligations, is also authorised to exclude him/her from participating in further fieldwork.
- c) Utrecht University/Faculty of Geosciences/Teaching Institute Earth Sciences is not liable for any damage caused by any failure to meet the obligations set out in the documents referred to above under a., or any failure to do so properly or in full. Utrecht University/Faculty of Geosciences/Teaching Institute Earth Sciences will recover any damage caused by any failure to meet these obligations, which it and/or any third party for which it is liable suffers, from the person who failed to meet his/her obligations.

The faculty board is authorised to take disciplinary actions in the event of misbehaviour and/or not observing the regulations by teachers and/or students.

- d) The undersigned has a personal insurance on Third Party Liability which covers also liability abroad.
- e) The undersigned has a health insurance covering health cost abroad.
- f) The undersigned has a travel and accident insurance that also covers fieldwork activities (including hiking outside trails).
- g) The undersigned is registered as a student at the School of Earth Sciences of Utrecht University.

3. No fieldwork in case of a negative travel advice from the Ministry of Foreign Affairs.

The faculty wishes to emphasise that excursions and fieldwork in areas for which the Ministry of Foreign Affairs has issued a negative travel advice are not allowed and must be cancelled. Travel advice can be obtained from: http://www.minbuza.nl/nl/reizen_en_landen/reisadviezen.

Due to COVID-19 restrictions, it may be necessary to make last minute changes to the course compared to what has been described in the UU courses catalogue or the course manual. E.g., lectures or exams may be held online, or an exam may be replaced by an assignment. The course coordinator will keep students up to date with the latest information through blackboard.

1.4 Insurance

Utrecht University/Faculty of Geosciences has legal liability insurance providing coverage for employees and their guests. (Business Travel Insurance by the Chubb European Group SE. UU staff members on fieldwork are insured against legal liability. The insurance is according to Dutch law, meaning that damages such as for personal injury will be assessed by Dutch standards. Coverage is world-wide except for staff performing medical actions in the U.S.A. and Canada.

Students are insured for (group) fieldwork and excursions abroad by an (collective) insurance of Utrecht University, also taken by Chubb European Group SE.

Although UU staff members are insured, an insurance company may decide not to pay out. Using common sense in all situations plays an important role in this decision. If people take irresponsible risks, the insurance company will indeed either not pay out or claim damages from the individual. From this perspective the risk assessment to be made according to this document, 'Regulations for Safety in Fieldwork', is of the utmost importance. Staff and students will be informed not only about the specific hazards but also about appropriate behaviour. The insurance expert consulted to this effect considered this characteristic of a conscientious employer; an employer who attempts to protect staff from risks.

Make sure you have an adequate legal liability insurance and travel insurance.

The company liability insurance combined with the travel and accident insurance offers acceptable coverage towards liabilities. Prevention is, however, better than cure and, moreover, it can never be excluded that the real damage can be more severe than the insured maximum amounts.

Note: every insurance has an own risk budget (and cancelations are not insured).

1.5 Transport of groups for fieldwork and excursions

- a) Mini vans may be used to transport students and staff during fieldwork and excursions. Teachers and student-assistants are allowed to drive and are covered by the legal liability insurance. One condition is that the van is used in accordance with the rules, that is, no more passengers than there are seats, no alcohol etc. (see also 1.4 Insurance).

Students, too, may act as a van driver on request of the teacher responsible. Students will be covered by the insurance in the category 'guest of the UU employee'. The legal liability insurance provides coverage for them as well. Again, an insurance refund will only take place if common sense was used in the circumstances. The faculty board does not encourage students to be involved as a van driver for group transport but does not forbid this either. The board does, however, expect the teacher responsible for the undertaking of the particular study activity to

appoint only students who are considered to have adequate driving experience. This experience is thought to be sufficient two years after having obtained a driver's licence. This must be checked by the teacher responsible.

- b) Student-assistants cannot participate in the field activity as a student simultaneously, unless their job as a driver is limited to trips to and from the fieldwork/excursion area or to other small trips per day.
- c) Drivers are obliged to report information that may influence their capacity as a driver (for instance, a medical condition) to the director of operations (possibly through the 'bedrijfsgezondheidsdienst', the university health service), who will inform the responsible teacher.
- d) If there are no drivers with an employment relation to the UU available, it is necessary to hire a professional driver, or possibly a coach from a transport company.
- e) It is permitted that students use a car during a fieldwork period, driven either by themselves or by another student. Students should, however, be given the choice of a different mode of transport. This can be realised by allocating a fieldwork area within walking or cycling distance to students without a driver's licence or who specifically do not opt for transport by a fellow student, or by organising transport in cars driven by a staff member. Students without a driver's licence can never be forced to do fieldwork if the only means of transport is provided by using a car driven by a fellow student.

Explanation

In the legal sense it is important that responsibilities can only be placed on persons or parties who are competent in this under the law or other rules, and placing responsibilities on students, other than those concerning their own safety, can only be done in accordance with their capacities as a student.

1.6 Conclusion

The code of behaviour stated above has been drawn up with the utmost care. Observance of these rules will contribute to the prevention of unnecessary risks. They are an important help, but not meant as an exhaustive manual for all possibly risky situations. Depending on real conditions specific precautions must be taken. It is primarily the own responsibility of the individual participant to excursions and fieldwork to take care that unsafe situations, not only for himself or herself, should be avoided and that accidents should be prevented. It will be clear that this responsibility will also lead to liability of the individual.

2 Guidelines for Safety in Fieldwork

2.1 Introduction

Although many places and activities will not hold many more dangers than those in daily life, earth-scientific excursions and fieldwork have inherent risks because of their specific character. Such hazardous places could be steep mountain sides, quarries, mines and building sites, outcrops along coasts and rivers, the public road or railway, riverbeds, as well as moors and marshes and mountainous areas. Moreover, inexperienced, untrained and insufficiently informed participants are often not aware of the risks they run.

In conducting earth-scientific fieldwork risks should be kept as limited as possible. Each risk that cannot be reduced to small proportions must be avoided. This addition to the policy document 'Regulations for Safety in Fieldwork' will deal with both a general code of behaviour and potentially risky situations. Unsafe circumstances and accidents do not only occur in the field. Most accidents of the last years had no relation whatsoever with fieldwork but did take place during a fieldwork period. The most important causes were irresponsible behaviour on the road or sporting activities.

This text aims to contribute to a growing awareness of teachers and students of hazardous situations. This document can also be used as a checklist from which teachers, when making risk assessments, can extract those situations that are important for the fieldwork that will take place under their supervision and responsibility.

2.2 General code of behaviour

- Behave well-organised and composed during excursions and fieldwork.
- Respect local customs regarding clothing and behaviour. Note that people in most countries are not as tolerant as those in the Netherlands. Your behaviour can be interpreted differently by local people. Don't let your behaviour and clothing be the cause of misinterpretation.
- Respect other people's properties, not only in the field, but also in coach, hotel and camp site.
- Always ask permission to set foot on private property. Shut gates, and don't leave litter or refuse behind. Don't leave rock fragments or holes in fields or roads that may damage cattle or be a danger for traffic or other passers-by. Outcrops should not be left dangerous for those coming after you.
- Observe the conduct code in the countryside and be informed of local regulations. Be attentive and environmentally conscious. Avoid unnecessary disturbance of life in nature.

2.3 Be informed and give information

- Make sure that the people at home can reach you; let them know where you are.
- Make sure that, prior to the fieldwork period, you know the type of area and the possible weather conditions: this is essential for the choice of appropriate clothing and footwear. This information, as well as any other facts necessary to assess the risks of the fieldwork, must be given to the students by the teacher responsible.
- Don't go to the field without leaving a message about where you are going (possibly with map), and when you will be back. If others are involved in this, don't forget to let them know when you are back. Make sure you have your address and phone number, so that you can report any delay you might have. In case others do not report their return: warn the supervisors and agree who will call the local police.

2.4 Alcohol, smoking, drugs

- Experience has taught that the highest risk of accidents is related to the use of motorised vehicles, whether or not combined with alcohol consumption and negligence in general.
- Use of alcohol (in working hours) during fieldwork and excursion activities is not allowed.
- Don't smoke in dry areas.

- Possession and use of drugs during fieldwork and excursions is not allowed. This regards the whole period and not alone working hours!!)

2.5 Traffic

- Don't use alcohol when taking part in road traffic and avoid excessive alcohol consumption on the night prior to taking part in the traffic.
- Drive quietly and defensively; keep passengers and car undamaged. Take care to return your rented car undamaged after the fieldwork period.
- When driving in country lanes, know when to stop and continue on foot.
- Inform yourself (for instance, through the ANWB) about different traffic rules abroad.

2.6 Clothing

- Use trousers in the field, also in warm areas, to avoid grazes or worse. Protect your head with a hat in warm areas. Use of sun lotion, preferably with protection factor 20 or more, is essential in a warm climate.
- In fieldwork areas with considerable rainfall, one will easily feel wet, cold and miserable: this can result in not only quick and extreme cooling, but also in an increased risk of accidents because of diverted attention.
- Consequently, make sure that you always wear clothes suitable to the weather: shirt, loose-fitting trousers, warm sweater, brightly coloured waterproof hooded anorak.
- If the weather is very wet, also wear waterproof trousers. Tight jeans are utterly unsuitable in wet weather: wet jeans will not dry, and in strong cold wind there is a considerable risk of hypothermia.
- An umbrella might seem handy in rainy weather but is certainly not in a rough area: you will have only one hand to protect yourself when losing your balance.
- Standard footwear in the field is mountain shoes with rubber grip soles, preferably waterproof. Definitely no sports shoes, since these will increase the risk of accidents and injuries. Rubber boots are fine on wet and muddy soil.
- Use a safety helmet in any place where stones or other objects may come down: old quarries, cliffs, steep mountain sides, scree slopes. The use of a helmet is obligatory when visiting working quarries, mines and building sites.
- Consult the weather forecast daily. Pay attention to changes of the weather during your work. Don't hesitate to return home if the weather deteriorates. Always take waterproof clothing when you intend to work in the field for several hours. Look for shelter at the signs of a thunderstorm.

In case of a thunderstorm: look for shelter and make yourself as little as possible but never under a tree! Make sure you reach the highest point of a walk around noon!!

2.7 Hypothermia (severe loss of body heat) and hyperthermia (sunstroke or heatstroke)

Hypothermia is the result of a dangerous loss of body heat. The main cause is cooling off by the wind (wind chill) when wearing not enough or wet clothes. The first symptoms are uncontrolled shivering, pale skin and aggressive response to advice and questions. The next phases are lethargy and lack of body co-ordination. The victim will feel warm and sleepy. The best treatment is a 40°C bath; and if this is not possible: extra clothing and protection (emergency blanket). Prevention is better than cure: use clothes suitable for the weather conditions.

Hyperthermia is the result of a dangerous gain in body heat. The main cause is physical activity in warm weather or with high air temperatures (for instance, in a deep mine). High atmospheric humidity will worsen the situation because this reduces the possibility of the body cooling by perspiration. Cancel all activities, rest in the shade. Drink cold water, but moderately to avoid stomach cramps. Sponge off the victim with lukewarm water to stimulate cooling by evaporation. A heat stroke is a further advanced stage: wrap the victim up in a sheet and keep this wet with lukewarm water. Call a doctor immediately. Again, prevention is better than cure. Wear clothes that protect against sun heat (hat, thin shirt with long sleeves), drink much water and take salt to prevent dehydration. Sun lotion, preferably with protection factor 20 or more, is an essential part of fieldwork equipment.

2.8 Health

- Make sure your physical condition is good. Fieldwork usually requires more effort than normal work, and the days are often long.
- Inform the supervisors about a possible disease, allergy, physical defects, or of the necessity of special medical care, before the start of the excursion or field work. If necessary, ask your family doctor to contact the supervisors.
- Immediately inform the supervisors of possible problems during the excursion or fieldwork; and tell them directly if you have problems with keeping pace with the group: never lag behind a group.
- Get a tetanus shot before the fieldwork. Ask the supervisor if more vaccinations are necessary, particularly if the fieldwork is in non-western countries. You can also make inquiries with the 'GGD' (municipal health service).
- If you are uncertain about the state of your teeth, have a dental check before the start of a fieldwork in an isolated spot.
- Don't delay seeing a doctor during the fieldwork. Do you have your health insurance papers with you?
- Always take a small first aid kit to the field. Do you know how to use all the things in the first aid box? And what to do in case of small accidents, grazes, insect bites? Take a first aid course. Immediately look after any wound, however small; in warm climates wounds are easily infected. For information on ticks: <https://www.rivm.nl/tekenbeten-en-lyme>

2.9 Code of behaviour for specific locations

Visit to quarries

- Never enter a working quarry without first having been to the quarry office. Always ask for permission (written or oral) for the visit. For each visit report your arrival and departure.
- Get information about the condition of the quarry: ask local people where visitors are allowed to go, which are the local dangers that have to be avoided, and at which places of the quarry samples can be taken.
- Make sure that you know the warning signals for dynamiting.
- Give precise instructions to the participants about the quarry visit.
- Be aware of falling stones; quarry sides – also of sand or clay quarries – can be very dangerous and can collapse without any warning. In quarries the use of helmets is obligatory, stout shoes are advised. Only take samples from quarry sides when others keep watch for falling stones.
- Keep distance from vehicles and machines, never touch machines.
- Never touch or pick up unexploded explosives, wires or igniters: if you spotted these, immediately warn the quarry manager.
- Be aware of mud ponds and quicksand.

Outcrops along railways

- For visiting outcrops along a railway permission is always required.
- Working along railways is particularly dangerous; you must reckon that wagons always stick out considerably beyond the track; make sure there is sufficient space for you if a train is passing.
- Never walk through tunnels or over bridges for railway traffic.

During an excursion, participants must be appointed to check that everybody keeps away from the track and to warn when a train is coming. In some countries trains ride on different side than expected.

Outcrops along the public road

- Pay attention to motorised traffic, some drivers keep to the extreme right (or left in some countries).
- In a group (excursions) attention for traffic considerably decreases. Consider wearing a fluorescent vest
- Appoint participants to check that nobody walks on the road. Warn motorists when there is a group on the road.
- Don't leave litter on the road.

Coast outcrops

- Always consult the coast guard or another authority about tides and local dangers such as unstable cliffs.
- Ensure you have an escape route for the incoming tide.
- Don't go further than half a meter into the sea and don't go into the sea with a strong stream. If you happen to get into a rip current, try to come out by swimming along the shore.

Steep rock sides

- Don't climb steep rock faces. Use binoculars to study rocks located in a spot that is too dangerous to climb to.
- Always wear a safety helmet when you work in the neighbourhood of steep sides.
- Don't take risks near unstable rock faces. Make sure you don't dislodge stones, there may be others below you.
- Warn others when you dislodge stones.

Underground

- Make sure that you have the right equipment and the necessary experience when you have to work underground. Never go underground alone.
- Inform someone about your departure, the place where you will work, and how long you will stay. Also report your return.
- When visiting a mine during an excursion: all participants should follow the instructions of the supervisors punctually.
- Never enter deserted mine galleries.

2.10 Individual fieldwork

Some of the following measures are of particular interest for individual fieldwork:

- During fieldwork choose a place (hotel or tent) where other people are also staying. Get information about the nearest phone and medical help, as well as the local emergency phone numbers. Try to learn how to ask for help in the local language.
- On the site, examine possible safety problems or risks before the start of the fieldwork. Make an elaborate work schedule, bear in mind your experience and training, the nature of the terrain, and the weather. Don't overestimate your capacities.
- Make sure that you always know where you are on your map and the shortest way to a safe place. Know what to do in case of emergency (for instance, accident, illness, bad weather, darkness).
- Always take with you the following: a small first aid kit, an emergency ration (chocolates, biscuits, dextrose tablets, water), an emergency blanket (aluminium, or a big plastic bag), whistle, knife, torch, map, compass and watch.

- Think about taking a mobile phone with you but consider that it will not always function in isolated places due to a lack of masts.
- When working in a group always know the location of your partner, agree on clear meeting places and times when you work separately.
- Know how to use the international emergency signal.

Emergency signals

In an emergency the alarm can be called by

- six whistles OR six screams OR six flashes with a torch OR waving six times with a brightly coloured cloth
- one-minute break
- repeat the six whistles, screams, flashes or wavings.

On hearing such signals, the answer is:

- three whistles OR three screams OR three flashes with a torch
- repeat.

If you are in trouble, it is important not to exhaust yourself by whistling or screaming too long.

Take a rest regularly and continue the signals after a while.

2.11 Tasks

Hammers

- Always use a genuine geological hammer in the field.
- Use the geology hammer carefully, and only in places where use of this hammer is allowed. Never hammer fragments out of walls or buildings.
- When hammering on stones or chisels safety goggles will give protection against fragments and splinters flying around.
- Never use a hammer as a chisel by hitting it with another hammer: this causes steel splinters: only use soft-steel chisels.
- Avoid hammering in the neighbourhood of other people, and do not look at other people hammering. In a group always warn when you begin to hammer.
- Don't leave rock fragments lying around, tidy your things away!

Drilling in the field - Hard Rock

Small-diameter core drilling with portable drill equipment is a new method of taking samples of rock outcrops. This method of taking specimens is relatively tidy compared to taking samples with a hammer but could still cause a blot on the outcrop. Always observe the following guidelines:

- Always ask for permission from the owner

- Take cores from places in the side that are least visible from the public road or from the entrance to the outcrop.
- Fill the holes as well as possible with similar rubble, or with cores of a smaller diameter to be drilled out of pieces of stone.
- Respect the feelings of other geologists who have issued a ban on hammering in vulnerable spots.

Drilling in the field - Soft rocks

Again, respect local conditions when drilling.

- Choose a location where nobody will be hindered by the drilling
- Gouge bits have sharp edges, so take care not to cut yourself
- Investigate the drilling location thoroughly: avoid cables, pipelines etc.
- Do not leave an open bore hole behind: try to refill this as well as possible with the sediment recovered.
- Be careful with the transport of drilling rods by bicycle.