EMERGE Institute Field Safety & Logistics Handbook

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EMERGE Institute
Field Safety & Logistics Handbook

Drafted by Dr. Sophia A. Burke (Sophia.Burke@unh.edu) with iterative contributions from Dr. Ruth K. Varner, Dr. Virginia Rich, the 2021 EMERGE Field Team and others in the EMERGE Community

Last Updated: March 2022
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ABSTRACT

The EMERGE Institute, a NSF-funded Biology Integration Institute, consists of over ninety participants at varying career stages and disciplines from universities around the globe. The central aim of EMERGE is to investigate the Emergent Ecosystem Response to Change in the model peatland ecosystem Stordalen Mire, located in subarctic Sweden using a broad sweep of scientific sampling and analytical techniques. EMERGE uses a multi-pronged approach to foster an inclusive transdisciplinary research environment for all EMERGE participants through mentorship and training.

Annual fieldwork campaigns to Stordalen Mire, a semi-remote field site in northern Sweden, are an integral part of the Institute and involve the strategic coordination of EMERGE team members from the five main research activities ranging in discipline from microbiology to remote sensing. The EMERGE Field Team (FT) spans graduate students, post-docs, and faculty members as well as a group of undergraduate students participating in a Research Experience for Undergraduates (REU) program. The EMERGE FT lives together at the Abisko Scientific Research Station (ANS) and works intensively together at Stordalen Mire, in the ANS laboratories, and at other nearby field sites.

This comprehensive Field Safety & Logistics Handbook (hereafter referred to as ‘handbook’) was created to act not only as a framework for discussing fieldwork safety policies and procedures among the EMERGE FT leading up to and during each year’s field campaign, but also as a way for EMERGE to set standards for safety training, communication, and conduct. This handbook contains sections on Field Site Information, Fieldwork Preparation, the FT Community Agreement, the Inclusive Risk Assessment (EMERGE-IRA) and Emergency Response Procedures and more. Each member of the FT is expected to complete a Pre-Departure Checklist before departing for fieldwork, which includes providing detailed travel and lodging information, travel insurance information for their home institution, and completing several required trainings including a First Aid & CPR course, a sexual harassment in fieldwork prevention training, and reading materials on local and Indigenous cultures in Sweden. The handbook is reviewed in detail by members of the FT at several Pre-Departure meetings in addition to discussing sampling protocols. FT members are able to provide suggestions and modifications to the FT Community Agreement during these meetings. The EMERGE-IRA is also discussed in detail during the pre-departure meetings with FT members discussing strategies for physical and psychological hazard mitigation, paying attention to the unique risk factors of marginalized geoscientists.

This handbook is part of a larger ‘toolkit’ in development by EMERGE which shares a thorough series of research and training tools for conducting transdisciplinary research that is not only cutting-edge but also inclusive. The complete toolkit will be made available on the EMERGE website.
Goal of this Handbook

The goal of this Field Safety & Logistics Handbook (hereafter referred to as ‘handbook’) is to clearly lay out the plans, policies, and expectations of the EMERGE Team (including Executive Committee, Fieldwork Team) when preparing for and participating in fieldwork associated with the EMERGE-Biology Integration Institute. As scientists we strive to discover answers to complex questions about our planet all while maintaining a positive environment where our team members grow as scientists and as people; one where they can learn from, teach, and motivate one another as well as those outside the project.

The content in this handbook is intended to provide guidance on how to conduct successful fieldwork that promotes the physical, social, and mental wellbeing of team members. This handbook was inspired by the recent publication in Nature Ecology and Evolution, Safe fieldwork strategies for at-risk individuals, their supervisors and their institutions (Demery and Pipkin, 2021) in that it not only describes policies that promote physical safety but also policies that promote the psychological safety of the field team, taking special care to acknowledge the experiences and needs of underrepresented communities.

It is important to note that this document does not work in isolation but is part of the EMERGE Institute’s larger strategic approach to inclusive research and fieldwork practices that includes training on safety, mentorship and team science. This handbook will be part of the EMERGE Institute’s Toolkit for conducting inclusive interdisciplinary research. A link to this toolkit once developed will be available on the EMERGE website.

This handbook also draws upon information shared via the University of California Field Research Safety Center of Excellence as well as the University of California: Riverside, 2021 Fieldwork Toolkit Leadership Training Series. At the end of this document there is a list of additional resources and references cited herein.

How to use this Handbook

This handbook can be used as reference for all things related to fieldwork conducted in association with the EMERGE project. The information in this handbook should be reviewed on an annual basis by the EMERGE Executive Committee and the EMERGE Fieldwork Team.
Table 1. Summary of Fieldwork, Field Team Members, and dates of travel. This table should be updated with the current field team’s information. Tables from previous field seasons should be moved to the Supplemental Section for reference. See Appendix V: Field Team Info from Previous Years.

<table>
<thead>
<tr>
<th>Field Site Location:</th>
<th>Stordalen Mire, Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Description:</td>
<td></td>
</tr>
<tr>
<td>Date(s) of Travel:</td>
<td></td>
</tr>
<tr>
<td>Field Team (FTL) Leader</td>
<td></td>
</tr>
<tr>
<td>Fieldwork Safety Leader (FSL)</td>
<td></td>
</tr>
<tr>
<td>Field Team Members</td>
<td></td>
</tr>
</tbody>
</table>

Statement of Funding

This handbook is a contribution of the EMERGE Biology Integration Institute, funded by the National Science Foundation, Biology Integration Institutes Program, Award # 2022070.

ROLES & RESPONSIBILITIES

EMERGE Executive Committee

The Executive Committee (EC) of EMERGE is comprised of Dr. Virginia Rich (Ohio State University) and Dr. Ruth Varner (University of New Hampshire) (Co-Directors of EMERGE), Dr. Scott Saleska (University of Arizona), Dr. William Riley (Lawrence Berkeley National Laboratory), Dr. Matthew Sullivan (Ohio State University) and Dr. Michael Ibba (Chapman University). The Field Team Leader should be in communication with the EC regularly with updates on the progress of fieldwork. The EC should draft official documentation, on university letterhead, outlining the goals and associated tasks of the fieldwork campaign. This documentation will be provided to each member of the FT and available at all times while in the field.

EMERGE Fieldwork Team

The EMERGE Fieldwork Team (FT) will be referred to interchangeably as ‘Fieldwork Team’ and ‘Field Team’.

Structure of the FT
The structure of the FT will vary from year to year but will consist of FT Leader(s) (FTLs) and FT Members (FTMs) and On-Call Mentors.

The FT Leader is the most senior member of the FT and is responsible for spearheading the FT in the completion of the tasks to be completed during the fieldwork campaign. Seniority is determined by a combination of previous experience in the field site and career level. The EC has final say on who is to be considered the FTL during a given field season.

The FT Members consist of all other members of the FT that do not have a leadership role in the field work campaign. FT Members will look to the FT Leader for guidance regarding their work.

Every night, a senior member of the FT (graduate student, faculty, staff) will be considered “On-Call”. This person will be available if any safety issues arise among the FT. The On-Call member of the field team must abstain from consuming any alcohol on the night they are “On-Call” in case an trip to the hospital is warranted.

Summer REU Program

In addition to regular field work activities, a summer Research Experience for Undergraduates (REU) Program will be run simultaneously with fieldwork, beginning Summer 2022. Undergraduate students will be paired with members of the EMERGE team, who will serve as their project mentors. REU project mentors may not join the FT in the field each year, which will require other members of the FT to act as mentors (field mentors) during a field campaign. Members of the REU program will also be considered FT Members and will look first to their field mentor for guidance on projects in the field, followed by the FT Leader if necessary.

FIELD SITE INFORMATION

This section was adapted from the EH&S Field Safety Plan Template put forth by the UC Berkeley Office of Environment, Health & Safety (UCB EH&S, 2021), the Duke University Fieldwork Safety Plan put forth by the Occupational & Environmental Safety Office at Duke University (DU O&ESO, 2021), and the Fieldwork Safety Guidelines and Checklist from the Climate Impact Research Centre at Umeå University (CIRC, 2021).
Stordalen Mire, Abisko, Sweden

Location

Stordalen Mire (68°22'N, 19°03' E) is located 10 km east of the village of Abisko, Sweden and about an hour west of Kiruna, Sweden.

Site Access

The E10 is a narrow highway with an inconsistent shoulder. This road is not safe to walk on unless wearing a high-vis vest. The FT will drive southeast from Abisko village on the E10 for 10 minutes. Though the field site is not marked with a sign, a boardwalk is located along the edge pointing into the mire on the left side as you drive along the road into a low-lying area (Figure 1).

There is a car pull off area for several cars on the right side across from the boardwalk where the Field Team will park their vehicle(s) (Figure 1). Make sure to look both ways before attempting to cross the road as cars and semi-trucks travel this road at high speeds. Stordalen Mire is accessed by following the boardwalk for about 0.4 miles northeast until you reach the start of the Stordalen Mire area (Figure 2).

Facilities

There is no running water at this site. There is an outhouse located just outside of the Villa Instrument Shelter (magenta circle, Figure 1) that should be used for solid waste (and toilet paper) only. Make sure to bring your own toilet paper if you think you’ll need it. Regarding peeing at the field site, choose a spot at least 5 meters away from any ongoing experimentation (autochambers, meteorological tower etc.). The area immediately behind the Villa provides adequate coverage from onlookers.

If you are a menstruating individual, you may use the outhouse for changing pads/tampons or emptying menstrual cups but please refrain from urinating in the outhouse whenever possible (this will inhibit the decomposition process). Please pack out all used tampons, pads, wrappers.

Security
This is considered a relatively remote field site. However, it is located within a National Park and is open to the public. Stordalen Mire is popular among bird enthusiasts and, at certain times of the season, Cloudberry pickers. It is possible someone may come up to you and ask what you are doing. Refer to the Public Engagement section of the Handbook to learn more about talking to the public about what you are doing at Stordalen.

**Expected Weather**

The weather has been known to change quickly at this site. FT members should be prepared for all weather, even during the summer months. The most accurate weather reports can be viewed via the following websites: [www.yr.no](http://www.yr.no) and [www.smhi.se](http://www.smhi.se).

**Access to Shade and Shelter**

The best place for shade/shelter at Stordalen is the Villa Instrument Shelter located on the shore of the small lake Villasjön. This building is kept locked at night. The Shack Instrument Shelter is also locked; The FT Leader will be made aware of the location of the appropriate keys for these buildings.

**High Heat Procedure**

Strenuous tasks during high temperature field days should be limited to morning or late afternoon hours. Rest breaks in shade must be provided at least 10 minutes every 2 hours (or more if needed). The Villa Instrument Shelter is a suggested location for these breaks. FT members should monitor each other for signs of heat related illness and communicate with each other and the FT Leader about how they are feeling (UCB EH&S, 2021).

Rest breaks are encouraged during hot field days. The Villa Instrument Shelter is the best for taking these breaks.

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**Abisko Scientific Research Station, Abisko, Sweden**
Location

The Abisko Scientific Research Station (ANS) has been operating since 1913 and is located just outside of Abisko village (address: Vetenskapens Väg 38, 981 07, Abisko, Sweden) about an hour’s drive west down the E10 from Kiruna. There is a train station located within Abisko Village, where trains to and from Stockholm can be taken. ANS is also located 1.8 km from the STF Abisko Turiststation located within Abisko National Park. The tourist station has a restaurant and information regarding local sites.

Available Facilities

The ANS complex provides both places to stay (bunkrooms, shared kitchen space, apartments) and work (library, laboratory space, lecture hall). All buildings are locked and accessible with a key card. Typically, members of the EMERGE FT will stay in bunkrooms, where they will share a room with up to four people (Figure 4). Communal kitchen space is available for people to use to cook and eat in. Several saunas are available for sign-out, with two in the main building and one located at the edge of Lake Torneträsk (see Saunas at The Research Station for more details).

A large meeting room, located in the main building, is used for daily Fika, or coffee hour. Fika usually occurs between nine and ten o’clock every weekday morning and is an important part of Swedish culture (see Cultural Information for more details). This is a time for folks at ANS to sit down, chat, have a cup of coffee (or tea) together. Members of the EMERGE FT should try to attend Fika at least once a week. This may require some arranging of field work schedules to accommodate this.

Laundry facilities are available on the premises, though the systems are different from those in the USA. For example, the dryer has a water receptacle that must be emptied between uses, otherwise the clothes will not dry. Alternatively, drying rooms are available for clean laundry. Directions are available on their usage though some nuances are missing (e.g., which bay in the washer does the laundry soap go into?). The power to the machines is also often shut off at the wall via an outlet switch.

Laboratory facilities are available upon request (Figure 5). Effort should be made to contact ANS as soon as field plans begin to materialize so that reservations for space can be made. It is imperative that any laboratory facilities used by the EMERGE FT are always kept organized and tidy.
Cars with standard transmission are available at the station for use by visiting researchers but need to be signed out in advance. This is not great for extended use. Rental cars are also available at the Kiruna airport (see below).

**Points of Contact**

Through our work at ANS over the years, we have developed several close contacts at ANS. All communication with ANS staff should first be discussed with the FT Leader. A staff directory is available on the [ANS website](#).

**Nearby Facilities**

**Gas Stations & Grocery Stores**

The nearest gas station for both ANS and Stordalen Mire is located within Abisko Village. This gas station also serves as the local grocery store.

- **Bilisten**, Kalle Jons väg 1, 981 07 Abisko, Sweden; +4611280000
  - Store Hours: OPEN 24 HOURS, seven days a week

There are several much larger grocery stores and hardware stores located in Kiruna. Produce is available in more variety and freshness in Kiruna. Trips to these places for supplies should be coordinated to coincide with folks arriving at the Kiruna airport.

- **Grocery Store**: ICA Kvantum, Österleden 2, 981 38 Kiruna, Sweden
  - Store Hours: 7 days a week: 8AM – 10PM

- **Grocery Store, with large hardware section**: Stora Coop, Österleden 12, 981 28 Kiruna, Sweden
  - Store Hours: 7 days a week: 8AM – 10PM

- **Hardware Store**: XL-BYGG Kiruna, Linbanevägen 1, 981 41 Kiruna, Sweden
  - Store Hours: M-F: 7AM – 5PM; Sat: 10AM – 2PM; closed Sundays.

- **Liquor Store**: Systembolaget, Geologgatan 7B, 981 31 Kiruna, Sweden
  - Store Hours: M-Th: 10AM - 6PM; F: 10AM - 7PM; Sa: 10AM - 3PM; closed sundays.

The drinking age in Sweden is 18 years old to purchase at bars and restaurants. To buy alcohol from anywhere other than a bar/restaurant, you must be 20
years of age or older. To regulate consumption, the Swedish government controls national alcohol sales via Systembolaget stores. This is where one can buy alcoholic beverages with an alcohol content above 3.5%. Local stores and gas stations cannot sell wine or hard alcohol but they can sell beer at or below 3.5% alcohol content (Kavanagh, 2017). Driving a vehicle with a blood alcohol content of 0.02% or higher is considered a crime (Ministry of Foreign Affairs, 2016).

**Airports & Car Rental Services**

The closest airport to Abisko, SE is located in Kiruna, SE (KRN). Flights to and from Kiruna and Stockholm typically occur only twice a day. Cars are available for rental at this airport via Avis, Hertz, Europcar and Sixt Biluthyrning.

Flygfältsvägen, 981 41 Kiruna, Sweden, +46101094600; 1hr 12 minute drive west down E10 to Abisko, SE

There is another airport located in Narvik, Norway.

Harstad/Narvik Airport (EVE), Harstad/Narvik lufthavn, 8536 Evenes, Norway, +4767034100; 1hr 45 minute drive east down the E10 to Abisko, SE

**General Timeline for Arrival**

Flights from the USA are routed first to Stockholm Arlanda International Airport (ARN) and then another flight is taken to Kiruna (KRN). Once the FT has arrived in Kiruna, the rental cars can be picked up at the Kiruna airport. The FT typically makes initial grocery and hardware store stops while in Kiruna. The FT will discuss their specific needs before arriving in Kiruna so that trips to the necessary stores can be conducted efficiently. FT members should consider planning their meals and getting fresh produce and bulk items while in Kiruna. Once supplies are picked up, the FT drives to Abisko and checks into the research station. If time permits on the arrival day, the FT may decide to stop at Stordalen Mire for an initial scouting trip, otherwise the FT heads straight to ANS.

**FIELDWORK PREPARATION PROCEDURES**

**Fieldwork Pre-Departure Checklist**

Each FT Member is required to fill out a checklist ([Appendix I: Fieldwork Pre-Departure Checklist](#)) that outlines important steps for fieldwork preparation. These steps include:

1. Fieldwork Risk Assessment Acknowledgement
2. Review of Community Agreement
3. Trip Registration
4. Institution International Travel Insurance
FT Members must turn in their completed Pre-Departure Checklist to the EMERGE EC and the FT Leader at least two weeks before their departure date. If a FTM has completed a Pre-Departure Checklist for a previous field season (and some of their training certifications are still valid) they should still fill out a Pre-Departure Checklist but make note of their valid certifications at the bottom of the page. Medical forms in association with the Pre-Departure Checklist will be shared with the FT Leader only. Copies of the medical forms will be carried by the FT Leader during the Field Campaign. A PDF of this document can be found: Appendix I: Fieldwork Pre-Departure Checklist.

**Pre-Departure Field Team Meetings**

Every year in preparation for fieldwork, all members of the FT should meet at least two months in advance to discuss the contents of this document; in particular: the Fieldwork Pre-Departure Checklist and the FIELDWORK TEAM COMMUNITY AGREEMENT and the INCLUSIVE RISK ASSESSMENT.

Before this meeting, FT members should read through the contents of this document and bring any comments, questions, additions to share during the meeting. Personal field gear needs and any field gear acquisition should be discussed if necessary (see Field Gear Acquisition section for more details).

FT members should be given the opportunity to decide to no longer participate in fieldwork if they feel their needs will not be met by the Community Agreement and Inclusive Risk Assessment.

An additional meeting will occur later discussing specific sampling protocols and sampling equipment needs. If more than one meeting is needed to discuss the Pre-Departure Checklist, Community Agreement and Inclusive Risk Assessment, more meetings should be scheduled.

**FT Communication Plan during Field Campaign**

**Nightly De-brief and Planning Meeting**

Every evening during fieldwork, the FT will meet and debrief about the successes and struggles of the day and plan for the following day in the field. FT Members are
Each member of the FT is expected to attend these nightly meetings. If the FTM needs to skip a nightly meeting due to unexpected circumstances (e.g., not feeling well) or due to things associated with their work (e.g., sample processing or analysis) they may do so. If a FT member is continuously missing a nightly meeting due to their work, the FT Leader should consider rescheduling the nightly meeting so that it can accommodate all FT Members.

**In-Field Communication Plan**

Each FT Member will be paired up with a “buddy” with whom they should be in regular contact throughout the field day. FT members will strive to remain within eyesight (earshot is always best) of their buddy while out at the field site. Buddies should be paired based on overlapping fieldwork tasks and/or location within the field site FT Members are working.

FT Members will be provided with a cellphone with an activated SIM card that contains the numbers of the other team cell phones as well as pertinent ANS and emergency contacts (see Table A. 2). If FT members outnumber the available cellphones, at least one cellphone will be provided for each set of buddies.

**Public Engagement**

There is potential that while out working at Stordalen Mire, FT Members will be asked by other researchers or members of the public what they are doing there. Most often, the site is visited by other scientists and researchers staying at ANS. However, occasionally, members of the public will visit the site, as it is part of a National Park and is an excellent place for birdwatching and cloudberry picking (Figure 3). FT Members should be prepared to speak to the public about the basic components of their project, the goals of EMERGE and the institutional partners associated with the project. As mentioned earlier, each FT Member can carry official documentation from the EMERGE EC, outlining the goals of the project, should it be requested.
Cultural Information

Sweden vs. the USA

There are several aspects of Swedish culture that differ from ours in the USA. For example, Swedes can appear quiet and reserved when you first meet them. It is helpful to read up about these cultural differences before arriving in Sweden to ensure a smooth transition. See the following links to read up about Swedish Culture:

- Sweden.se - 20 Things to Know
- Lund University: Swedish Culture and Tradition
- Cultural Atlas: Swedish Culture

Sápmi and the Sámi people

It is important to acknowledge that our fieldwork at Stordalen Mire occurs on the unceded homeland of the Sámi people, known as Sápmi, which covers much of northern Scandinavia and some areas of western Russia.

As a part of the requirements outlined in the Appendix I: Fieldwork Pre-Departure Checklist, FTMGs should explore the following website that contains information about the history and culture of Sámi.

Saunas at The Research Station

As mentioned in the Available Facilities for Abisko Scientific Research Station, saunas are available for sign-out (though with current ANS specific policies regarding COVID-19, this might not be the case). Saunas are rooms, usually wooden, that contain a wood stove (or another heat source) and sometimes a box of large rocks and tiered bench seating. When the wood stove is lit and water is poured over the rocks, steam is created and fills the room. People will sit in the heat at the end of the day as a way to relax. The higher up on the bench tier, the warmer you will feel. It is common practice in Sweden for individuals to sauna without clothes on, wrapped in a towel (or not) though given the station is often filled with international researchers, people are known to wear bathing suits as well, in line with their comfort levels. There are showers nearby (if using the saunas in the station) or a large lake (if using the ‘sauna by the lake’) to cool off in. Field Team members can sign out the sauna if they wish but are encouraged to do so in groups. FT members are also strongly encouraged not to drink alcohol while using the sauna as this can be dangerous.

Personal Field Gear
Field Gear List

The following is a suggested Gear List, in addition to everyday clothing and other personal items, for fieldwork associated with the EMERGE Project.

<table>
<thead>
<tr>
<th>Clothing</th>
<th>Other Suggested Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Waterproof/windproof layer</td>
<td>1. Reusable Lunch bag/Tupperware</td>
</tr>
<tr>
<td>2. Extra socks</td>
<td>2. Small bag for trash</td>
</tr>
<tr>
<td>3. Waterproof hiking boots with ankle support or rubber boots</td>
<td>3. Backpack to carry gear</td>
</tr>
<tr>
<td>4. Warm Hat</td>
<td>4. Gaiters can be nice on days when you don’t plan to stand in deep water</td>
</tr>
<tr>
<td>5. Sun hat</td>
<td>5. Pocket Knife</td>
</tr>
<tr>
<td>6. Gloves windproof and waterproof</td>
<td>6. Camera for documenting fieldwork and your trip, phone camera works just fine</td>
</tr>
<tr>
<td>7. Long sleeve shirt polypro and/or fleece are nice for warmth</td>
<td>7. European plug adapter and voltage converter</td>
</tr>
<tr>
<td>8. Long pants polypro and/or fleece are nice for warmth</td>
<td>8. Travel alarm clock your phone may or may not work in SWE</td>
</tr>
<tr>
<td>9. Short it can be warm there too!</td>
<td></td>
</tr>
<tr>
<td>10. Socks Four pairs is recommended, synthetic or wool</td>
<td></td>
</tr>
<tr>
<td>11. Fleece and/or wool sweater</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment</th>
<th>ANS Specific Clothing/ Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Water bottle(s) with at least 2L of water</td>
<td>1. Indoor shoes</td>
</tr>
<tr>
<td>2. Backpack hiking quality or school backpack</td>
<td>2. Bathingsuit for sauna-ing</td>
</tr>
<tr>
<td>3. Cloth Mask</td>
<td>3. Personal Towel</td>
</tr>
<tr>
<td>4. Bug Spray</td>
<td>4. Tupperware/baggies for lunch</td>
</tr>
<tr>
<td>5. Head net/bug net</td>
<td>5. a thermos</td>
</tr>
<tr>
<td>6. Personal first aid kit</td>
<td>6. Reusable shopping bags</td>
</tr>
<tr>
<td>7. Sunglasses</td>
<td>7. Eye mask most dorms have blackout shades but just in case, these are handy to have</td>
</tr>
<tr>
<td>8. Whistle</td>
<td></td>
</tr>
</tbody>
</table>

Field Gear Acquisition

Funds for the purchase of field equipment (boots, clothing, backpacks etc.) that are needed by members of the FT will be made available on a case-by-case basis. FT members in need of equipment should contact the EMERGE EC to discuss their needs. The EMERGE EC will then determine whether equipment can be borrowed or if equipment should be purchased for the FT Member’s use during fieldwork.
**Personal Items as a part of Field Gear**

Members of the FT are allowed to bring any personal items that they feel are necessary for them to be able to participate fully in fieldwork, within reason.

Personal items such as shampoo, soap, toothpaste that are available for purchase in Kiruna are likely different to the brands FT Members are used to back in the US. Therefore, FT Members who use particular products are encouraged to pack as much as they would need to last the duration of the field campaign. For example, limited options for hair care products specially formulated for hair types other than straight exist at the main grocery stores in Kiruna. Also, menstruation products may also differ in brand, type etc. between Sweden and the USA. FT members are encouraged to bring any supplies they need in bulk. If a FT Member is at all concerned about this, they should speak to the FT Leader.

Similarly, access to certain over the counter medications easily accessed in the USA are difficult to access in Sweden. If you regularly take over the counter medication to combat pain (e.g. Advil, Ibuprofen), we suggest you bring your own supply. The EMERGE First Aid Kit will also have some supplies available for emergencies.

**Field First Aid Kit**

It is the intent of the EMERGE EC to have all members of the FT to hold current certification in Basic First Aid/CPR. Such certifications should be received before leaving for field work. Receipt of training should be noted in the Fieldwork Pre-Departure Checklist.

Certifications can be earned via American Red Cross Adult First Aid/CPR/AED training. The cost of this certification ($35.00) should be the responsibility of the advisor of the FT member (except in the case of REU students, EMERGE will cover the cost).

A fully stocked First Aid Kit will be brought into the field every day and held by the FT Leader. Individual FT members are encouraged to carry a more basic personal first aid kit with them for minor cuts, blisters, and make sure to carry any medication that they should require.

**Components of Fully Stocked First Aid Kit**

The following is a suggested list of contents for the Fully Stocked First Aid Kit to be carried in the field by the FT Leader. This list is courtesy of the NASA ABoVE program.

| Wound and Injury Care | Drug and Relief |
Components of Personal First Aid Kit

The following is a suggested list of contents for the small Personal First Aid Kit each FT Member is encouraged to carry with them in addition to the Fully Stocked First Aid Kit. Certain items such as antibacterial ointment and Moleskin can be bought in bulk by EMERGE and distributed to FT members as needed. More personal items such as chapstick, hand sanitizer and ibuprofen/advil should be acquired by the FT Members to meet their personal needs.

1. Set of band aids in varying sizes
2. Antibacterial ointment
3. Chapstick
4. Moleskin (for blisters)
5. Hand sanitizer
6. Ibuprofen/Advil
7. Any medication that you might need for the day

Mental Health in the Field
Fieldwork experiences can be highly stimulating and overwhelming which makes care for the mental health of fieldwork participants important to ensure the experience leads to positive personal growth (John & Khan, 2018). It is important to remember that every individual comes into a fieldwork situation with their own perspective and perceived level of challenge and risk. Those with more fieldwork experience may be better equipped to handle various fieldwork situations. Several suggested things FTLs can do to help mitigate negative impacts on mental health include (but are not limited to): clear communication with FT members what the field plans are, create opportunities for team bonding to reduce feelings of isolations and ensure FT members have the ability to communicate with their support systems at home while away (John & Khan, 2018).

When fieldwork is conducted in remote locations, far from the everyday environments FT members are used to, both work hours and off hours are conducted around the same group of people, the Field Team. This prolonged and consistent interaction between members of the FT can be taxing and lead to conflict (Palinkas & Suedfeld, 2008). Also, when conducting fieldwork in a high latitude area where daylight hours can stretch to twenty-four hours in high summer, as is true for EMERGE fieldwork, negative effects on sleep can have compounding negative effects on mental health (Palinkas & Suedfeld, 2008, and the references therein; John & Khan, 2018).

In order to mitigate the negative impacts of fieldwork on mental health, EMERGE FT members will be encouraged to share their trails and successes of each field day, as well as share openly how the fieldwork activities are impacting them during the Nightly De-brief and Planning Meetings that will occur every evening during the Field Campaign. The FT will also discuss potential stressors and difficulties that can arise during fieldwork during the Pre-Departure Field Team Meetings, using the INCLUSIVE RISK ASSESSMENT as a guide. FT members are encouraged to seek adequate opportunities to spend time alone if they should wish during the Field Campaign. FT members should ensure they tell at least two other members of the FT if they are leaving the field station on their own for a hike or walk (see Group Norms of Community Mutual Aid and Care below). In regards to difficulties adjusting to the daylight hours at a high latitude fieldwork location, windows at the station typically have blackout shades which can be used to help FT members fall asleep (see Abisko Scientific Research Station, Abisko, Sweden for description of accommodations).

FIELDWORK TEAM COMMUNITY AGREEMENT

Group Norms of Community Mutual Aid and Care

This section contains a description of general group norms and expectations that apply to all field work teams. Specific group norms should be discussed at length with each field seasons’ FT at their Pre-Departure Field Team Meeting. The group norms listed below should be added to/modified each field season by the FT. Group norms should be considered as applying to interactions with both members of the FT as well as
members of ANS community and the public. Failure to follow the group norms listed below could result in disciplinary action (see Disciplinary Action and Conflict Resolution section).

1. FT members are expected to always behave professionally and respectfully, in all settings during the Fieldwork Campaign including during fieldwork, at the lodgings and during off-hours. FT Members are not only representing their home institution but also the EMERGE Institute during fieldwork expeditions. How FT members behave reflects on future project/job/collaboration opportunities
   a. Harassment\(^1\) and sexist, racist, or exclusionary jokes are not appropriate at any time.
   b. FT members asked to stop any harassing behavior are expected to comply immediately.
2. FT members are encouraged to ask for help whenever they feel they need it and should look to assist others when they need help.
3. FT members should practice flexibility in planning and goal setting and should expect field plans to change at a moment’s notice.
4. FT members should recognize they are working in and interacting with members of a foreign country whose culture and social norms are different from those in the US.
5. FT members should consider and openly discuss cultural differences in behavior and participation in fieldwork depending on fieldwork location or cultural origin of the FT member.
6. FT members should feel no obligation to spend off-hours with the rest of the FT. They can take personal time to do whatever they’d like alone within reason just as long as they let at least two other members of the FT know what their plans are and communicate their departure and return.

**Communication Skills: Active Listening, Inviting & Giving Feedback, Addressing Conflict**

Effective communication skills are essential for a productive work environment. Poor communication can lead to more accidents, lead to less enjoyable/rewarding fieldwork experience, and cause lasting psychological damage (Lay, 2021).

Issues with communication can arise in a group setting from several factors: Group Dynamics (negative group norms, power dynamics, inclusivity issues), person-to-person (gossip, conflict between individuals), intra-personal (an individual is

\(^1\) Harassment “may take the form of unwelcome sexual advances or other verbal or physical conduct of a sexual nature, graffiti, jokes, pranks, slurs, insults, threats, remarks made in the person’s presence, interference with the person’s work or academic life, vandalism, assignment of unpleasant duties, or even physical assault directed against any member of a protected class” ([UNH.V.B.5.4.3](https://unh.co.uk), as of May 2021).
well outside group norms). The FT leader has the most leverage over the group and can set the precedent for the group when issues arise (Lay, 2021).

FT members should strive to participate in Active Listening, Inviting & Giving Feedback, and Addressing Conflict to foster a productive and rewarding work environment for all members of the research community.

**Active Listening**

The EMERGE FT will strive for Active Listening in all group communication. There are several levels of Listening that are worth mentioning first: (1) ignoring, (2) pretending to listen, (3) selective listening, (4) listening in order to respond, and (5) listening in order to understand.

A way to promote Active Listening is to practice LARA Dialog:

- **Listen** very carefully
  - Set aside your own agenda and pay attention to the speaker’s feelings and what the speaker means by what they are saying (their intention)
- **Affirm** a feeling or value you share with the speaker
  - The goal is to build common ground
- **Respond** directly to the concerns/questions the speaker has
  - Make sure you understand what the speaker means
  - Show the speaker the respect they deserve
- **Ask** questions or add information
  - Open ended questions are good
  - Only after listening and understanding the speaker can you add your own story/opinion

**Inviting and Giving Feedback**

Feedback is an important aspect of communication as it helps individuals improve and build confidence (Hardavella et al. 2017). Some tips for providing effective feedback are as follows: (1) Think about what you want to share before sharing, (2) feedback that’s provided privately instead of publicly is often more well received, (3) be specific in your feedback, (4) encourage self-reflection (5) summarize the feedback in a follow up email (Hardavella et al., 2017). When providing feedback, one should acknowledge any cultural differences that exist between you and the feedback recipient (Lay, 2021). A similar approach can be taken when giving feedback.

**Addressing Conflict**

Addressing conflict can be very uncomfortable in the moment but for the sake of the group, this should be done as soon as conflict arises. Conflicts can become more serious and can become more difficult to address the longer they remain unresolved.
Conflicts can arise in a group in several ways which include: (1) Roles and expectations are unclear, (2) Information is inadequately communicated or misunderstood, (3) Individuals’ needs are not being met, (4) Roles and expectations need to be modified, (5) Commitment to a safe learning/working environment is not universally held (Lay, 2021).

FT Members are encouraged to bring up any issues they have with other members of the FT as well as anyone they’ve encountered in the field or at ANS during the Nightly De-brief and Planning Meetings.

If a FT Member does not feel comfortable addressing issues and/or conflicts directly in the debrief meets, the following course of action is suggested:

1. The FT Member should choose a member of the FT they feel most comfortable to confide in and tell that person of the issue/conflict they are experiencing.
2. The receiver of the information is then encourage to bring the issue/conflict up during the debrief meeting
3. Another option is for the receiver of the information to tell the FT Leader of the issue/conflict so that the FT Leader can bring it up with the group anonymously at the next debrief meeting.
4. **If the FT Leader is the source of conflict**, the FT Member is encouraged to contact an Science of Team Science EMERGE Team Member to discuss the situation.

Open the Front Door

Open the Front Door, or OTFD (Quantum Learning, 2021), is a helpful model for addressing interpersonal conflict. FT members are encouraged to use this framework when addressing conflict with FT members or other members of the community during the field campaign. It involves the following steps:

- **Observe** - start by sharing what you experienced in the situation that caused conflict, make sure these are objective and nonjudgmental.
- **Thoughts** - share the meaning you are gathering from the observations mentioned above.
- **Feelings** - how do these thoughts and observations make you feel? Make sure you are avoiding use of phrases like ‘X made you feel’, own how you feel!
- **Desires** - what outcome would you like to see come out of this situation?

The Four Part Apology
An additional resource for addressing conflict is the Four-Part Apology (Quantum Learning, 2021). This can be used in conjunction with OTFD when addressing interpersonal conflict.

**Acknowledge** the harm that has occurred

**Apologize** for the results of your actions

* I apologize for how my actions made you feel

**Make it Right** by asking what you can do to rectify the harm that was caused

**Recommit** by making sure the person knows you are committed to changing your behavior so the issue does not occur again. Share with them concrete steps you are taking to change your behavior.

**Disciplinary Action and Conflict Resolution**

FT Members are expected to uphold the group norms and expectations throughout the field campaign – including during leisure times (see FIELDWORK TEAM COMMUNITY AGREEMENT).

If a FT member does not uphold these expectations, the first incident will be met with the following procedure:

1. The FT Member will meet privately with the FT Leader, where the FTL will discuss what group norms have been violated.
2. The FTM will be given an opportunity to explain their reasoning for violating the group norms.
   a. Consideration should be given to modifying the violated group norm to prevent further issues if appropriate. Then this should then be brought up with the rest of the FT at the nightly meeting.
3. The FTL will outline clear guidelines for the FTM to follow so that future violation of the group norms will not occur.
   a. The FTM could be asked to apologize to the rest of the FTM during the nightly meeting
4. A written list of guidelines will be provided to the FTM
5. The FTL will check-in with the FTM to ensure they are following the guidelines laid out.

If there is a conflict between the FTM and FTL, or the FTL feel they are unable to respond in an impartial way a Science of Team Science EMERGE Team Member should be brought in to facilitate in the event that in order to mediate the conflict.
If a FT member fails to uphold the group norms for a second time, they will be sent back to the US. This is at the discretion of the FTL and the EC. This should be considered a last resort.

**INCLUSIVE RISK ASSESSMENT**

The [US Equal Employment Opportunity Commission](https://www.eeoc.gov) declares that no employee can be discriminated against by their employer based on race, color, national origin, sex (which includes pregnancy, sexual orientation or gender identity), age, disability and genetic information (e.g., familial medical history). The [National Science Foundation](https://www.nsf.gov) follows that any awardee of funding from NSF must comply with current civil rights laws.

When evaluating risk for EMERGE fieldwork, an inclusive risk assessment (EMERGE-IRA) will be performed following the model presented by Prior-Jones et al. (2020) (example can be seen in Table 1 below). An EMERGE-IRA table is located in Appendix II (see Appendix II, Inclusive Risk Assessment Table) of this document, modified from the table presented by Prior-Jones et al. (2020) which lists hazards, risk level pre-mitigation implementation, and risk mitigation strategies.

Every field season, members of EMERGE who are familiar with the field site (including EMERGE EC) will review the EMERGE-IRA for fieldwork tasks to be performed that season (see Inclusive Risk Assessment Table in Appendix II). This will comprise of the listing of potential hazards that could be seen in (or on route to) the field, paying particular attention the unique experiences of marginalized communities within the geosciences (BIPOC, LGBTQ+, women and researchers with disabilities; Anadu et al., 2020, Marshall & Thatcher, 2019; Olcott & Downen, 2020). They will review suggested mitigation strategies based on the likelihood each hazard may occur. Once the EMERGE-IRA is filled out, FTMs will review it and be able to provide anonymous feedback on its completeness. The EMERGE-IRA will be discussed in tandem with the results of the anonymous survey in detail at one of several Pre-Departure Meetings. Mitigation strategies will be updated based on the discussions that occur in those meetings.

*It is essential for it to be understood that this Inclusive Risk Assessment is not to be used as a release of liability for EMERGE, but as a tool for discussing risk among FT Members and how risk level might vary depending on the identities of the FT Members.*

A conceptual model of risk is used by EMERGE to evaluate the level or risk (likelihood of occurrence multiplied by severity of outcome), where the more likely a hazard will occur and the larger severity of the outcome will make for a larger risk (Figure 6; Prior-Jones et al., 2020). The model used by EMERGE is based on that which was published by Prior-Jones et al. (2020) but adds ‘psychological effects’ to the risk
Fieldwork hazards can not only result in serious physical effects but also psychological effects (Figure 6). **The need to reduce both physical risk and psychological risk should be considered equally important when discussing mitigation strategies.**

During the Pre-Departure Meeting(s), mitigation strategies should be planned based on the highest risk level a category has been assigned. Then FTMs should consider the suggested mitigation strategies and determine whether the risk level can be lowered for a particular risk category. If risk remains at a medium level (Orange) for a particular task, additional mitigation strategies should be implemented. If risk remains high (Dark Red), then the activity should be reviewed by the EMERGE EC and determined whether such tasks should be pursued (Prior-Jones et al., 2020).
Table 1. Example of the Inclusive Risk Assessment Table. Each potential hazard is detailed with their associated problems, the risk level before any mitigation strategies are applied and details of the mitigation strategies to be applied. An expanded table is available in Appendix II, Inclusive Risk Assessment Table.

<table>
<thead>
<tr>
<th>HAZARD CATEGORY</th>
<th>ASSOCIATED PROBLEMS</th>
<th>RISK LEVEL PRE-MITIGATION</th>
<th>MITIGATION STRATEGIES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard A</td>
<td>Problems A, B, C</td>
<td>3</td>
<td>Strategies A, B, C</td>
<td></td>
</tr>
</tbody>
</table>

The EMERGE-IRA should be reviewed by the FT during the Pre-Departure Field Team Meeting. Edits should be made if FTMs feel certain risks have not been considered. Each FTM should be given the opportunity to reassess their willingness to participate in fieldwork after reviewing the risks. If FTMs still wish to participate in fieldwork, they should acknowledge they understand the risks in their Pre-Departure Checklist.

SAFETY POLICIES

COVID protocols and Field Work

Sweden

The following is a list of regulations and restrictions currently held in Sweden (as of Summer 2021).

- Gatherings of eight or more people are banned when seating is not designated, or social distancing cannot be maintained.
- Masks should be worn on all public transportation.

To return to the US, FT Members should plan for getting a COVID test before departure from Kiruna.

Updates to COVID-19 regulations and recommendations in Sweden should be checked via the Public Health Agency of Sweden. Travel restrictions to and from Sweden can be viewed on The Swedish Police Authority website.

ANS specific policies

ANS has provided us with their own policies regarding COVID-19 restrictions at the station. The policies for the 2021 field season can be found here. These policies should be reviewed by each member of the FT.
Field Day No Go Criteria

No Go Criteria for a given Field Day will be somewhat dependent on what work is planned (coring vs. UAS flying vs. gas sampling etc.). At the Fieldwork Debrief and Planning Meeting the previous evening for each fieldwork day, the weather will be checked (see Expected Weather for websites) and discussed with the FT in addition to the tasks the FT would like to complete.

If the weather will make the FT’s tasks dangerous to complete (e.g., raining on UAS flight day) then FT task’s will be altered to accommodate the weather. If the weather is severe enough to make all FT tasks dangerous to complete, then fieldwork should be canceled for that day.

Weather can change rapidly in the field. If the FT finds the weather has changed in a way to make tasks unsafe to complete while they have been out in the field, they will discuss as a group whether to return to the Research Station early.

Non-Fieldwork Related (e.g., Leisure Time) Safety Procedures/Expectations

FTMs should remember they are representatives of their institution and of the EMERGE Institute both during fieldwork and after-hours.

Alcohol Consumption

Since we are here for a short period of time for the purpose of collecting data, every field day counts. Therefore, members of the FT are expected to consume alcohol responsibly during After-Hours. Missing fieldwork due to a hangover will not be tolerated. Swedish cultural approaches to alcohol should be discussed during the FT Pre-Departure Meeting (see Pre-Departure Field Team Meeting section for more details). If FT members are using the saunas at the station (see the Available Facilities section and Saunas at The Research Station), they are strongly encouraged to refrain from consuming any alcohol during this time.

Mentors who are “On-Call” are responsible for the safety of FT Members after hours (e.g. if someone needs to be driven to the hospital) and should therefore consume no alcohol while they are On-Call.

Side Trips

A common side trip that requires some driving is for folks to drive across the border to Norway but rules regarding tolls/border crossings with a rental car have changed in recent years so make sure to check with the rental car company before driving across the border.
Side trips that do not require a car (e.g., hiking around Abisko) are encouraged to be done in pairs but if not, the individual will make sure at least two members of the FT (with one being the FTL) know their plans (including planned route and expected return time) BEFORE they depart.

Individuals going on a side trip should make sure they always have a working communication device with them. One communication device is required for each side trip group.

**EMERGENCY RESPONSE PLAN**

**If a Medical Emergency Occurs in the field**

If a FTM has a medical emergency\(^2\) while in the field\(^3\) the following steps should be taken:

1.) The FTM should be immediately moved to a safe location if possible. If the emergency involves an attack by another person, make sure that the FTM is separated from their attacker.
2.) The FTL\(^4\) should be informed immediately when an incident has occurred
3.) The FTL should contact the International Insurance Company that covers the FTM to seek advice if possible (see the Institution International Travel tab within the EMERGE Field Team Travel Information 2021 Google Doc)
4.) The FTL will contact Emergency Services if needed (see Table A. 2; Local Emergency Numbers section)
5.) The FTL will alert EMERGE EC of the incident as appropriate (see Table A. 3; EMERGE Contact section)
6.) If the FTM is unable to contact their institution, the FTL will report the incident to the FTM’s institution, via their reporting teams (see Table A. 3)
7.) The Emergency Contact of the FTMr will be informed of the incident.

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\(^2\) Potential incidents of sexual violence should be treated as a Medical Emergency.

\(^3\) This procedure also applies for emergencies that occur while on route to the field site and/or at the lodging as well.

\(^4\) If the FTL is the instigator of the emergency, the victim is encouraged to tell another member of the FT and that person will take the place of ‘FTL’ in the list above.
REFERENCES AND RESOURCES


Fieldwork Pre-Departure Checklist
Field Campaign: Summer 2022

Full Name: ___________________________ Email: ___________________________
Primary Institution: ___________________________ Advisor: ___________________________

Field Campaign:

Please review and mark as completed the following and return to the FTL at least two weeks before your scheduled departure date:

Fieldwork Risk Assessment Acknowledgment
☐ Have you reviewed the Inclusive Risk Assessment Table with the other members of the EMERGE Field Team, discussed mitigation strategies for reducing risk, and conclude you still wish to participate in fieldwork this season?

Review of Field Team Community Agreement
☐ Have you reviewed the Field Team Community Agreement with the other members of the EMERGE Field Team and added any additions you feel are important?
☐ Do you commit to upholding the Group Norms of Community Mutual Aid and Care outlined in the Field Team Community Agreement?

Field Gear Needs
☐ Have you reviewed the items listed in the Field Gear List and determined whether you need any items from the list? If so, have you spoken with the FTL about acquiring the items that you need before departure?

* THIS VERSION OF THE CHECKLIST IS FOR REVIEW ONLY.
Trip Registration
☐ Have you registered/informed your home institution of your travel, lodging, transportation details relating to this Fieldwork Campaign?

Institution International Travel Insurance
☐ Have you added the contact information and policy number for your institution’s International Travel Insurance Company to the EMERGE Field Team Travel Information 2021 spreadsheet?

Flight Information
☐ Have you added your flight information to the EMERGE Field Team Travel Information 2021 spreadsheet, under the Flights Tab?
   Details to include Flight number, Departure Date/Time, Departing Location for flights both to and from the field site.

Lodging Details
☐ Have you added your lodging information in the EMERGE Field Team Travel Information 2021 spreadsheet under the Lodging Tab?
   Details to include Name of Lodging, Location, Dates of Stay

Emergency Contact Information
☐ Have you added contact information for your personal emergency contact in the EMERGE Field Team Travel Information 2021 spreadsheet under the Emergency Contact Tab?

Swimming Competency
Are you able to do the following actions in water (from American Red Cross)?:
☐ Step/Jump into water over your head
☐ Swim to the surface and tread water for one minute
☐ Turn around in a full circle and find a way to exit the water
☐ Swim 25 yards (75 ft) to the exit
☐ Exit the water without the assistance of a pool ladder

Required Trainings
The following trainings/readings should be completed BEFORE leaving for fieldwork:
☐ Participate in the Fieldwork Initiative to Stop Sexualized Trauma Training administered by the Fieldwork Initiative

6 If you did not make your lodging reservations yourself, please acquire a copy of the details and add them to the sheet, or direct the individual who made the booking to the EMERGE Field Team Travel Information 2021 sheet.

7 If you have completed this Pre-Departure Check-List during the previous field season (and your CPR certification is still valid) please make note of this at the bottom of this page.
Explore the information presented on this website about the Sámi people in Sweden
   Particularly the following sections:
   Sámi and the state
   The colonization of Sápmi

Read these articles about Swedish vs. USA culture
   Sweden.se - 20 Things to Know
   Lund University: Swedish Culture and Tradition
   Cultural Atlas: Swedish Culture

Complete Adult First Aid/CPR/AED Training, provide EMERGE EC with a copy of your Certificate upon completion, upload a copy of your Certificate of Completion to the Field Planning Folder of the EMERGE Google Drive.
   Online course available from the American Red Cross
   This course costs $35.00 and should be covered by your advisor. Make sure to save the receipt for reimbursement or discuss with your advisor about having them cover the transaction.

Watch this video on Continuous Chest Compression CPR Method
Read this article and this article on Wildlife Safety in Sweden

Pertinent Health Conditions
   Do you have any health conditions that require you to modify your fieldwork schedule for any reason?
   Yes – Submit a filled out Medical Form to the EMERGE FTL, informing them of your circumstances
   No – no further action needs to be taken
## Appendix II. Inclusive Risk Assessment Table

Table A. 1 EMERGE-IRA listing the potential risks posed by EMERGE fieldwork. Each risk category is given an initial risk level designation based on the risk matrix shown in Figure 4. The risk level of each risk category should be reassessed assuming the mitigation strategies listed below are implemented. If the risk level remains at a medium level (between 6 and 9) then additional mitigation strategies should be implemented. If the risk level remains at a high level (<10) then the associated activities should be assessed and approved by the EMERGE EC. A copy of the Country Report from International SOS (the international insurance company for UNH students/faculty/staff is available in the Travel folder on Google Drive.

<table>
<thead>
<tr>
<th>HAZARD CATEGORY</th>
<th>ASSOCIATED PROBLEMS</th>
<th>RISK LEVEL PRE-MITIGATION</th>
<th>MITIGATION STRATEGIES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTERPERSONAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflict – between the group and members of the public and/or ANS community</td>
<td>Localized tensions or fighting that could result in outbreak of hostilities</td>
<td></td>
<td>FTMs are encouraged to share issues regarding conflict with members of the local community and/or other members of ANS during the Nightly Debrief and Planning Meeting. Other FTMs are encouraged to rally around a FTM who experiences conflict with members outside the group and make sure they feel comfortable moving around ANS and around Abisko village.</td>
<td></td>
</tr>
<tr>
<td>Conflict – within the group</td>
<td>Tension, arguments,</td>
<td></td>
<td>FTMs are encouraged to openly share feedback with other members of</td>
<td></td>
</tr>
<tr>
<td>Harassment</td>
<td>conflict within the FT</td>
<td>FTMs will travel in pairs. FTMs who experience harassment of any kind should report incidents to the FTL. Incidents that involve other FTMs will be dealt with by the FTL following the steps outlined in Disciplinary Action and Conflict Resolution section.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidnap</td>
<td>abduction/kidnapping</td>
<td>FTMs will always travel in pairs. Fieldwork will be conducted using the buddy system, where FTMs will be paired with another that is working within earshot (at least eyesight). FTMs will check in several times during the day with their 'buddy'. During leisure times, if a FTM is leaving ANS to go on a hike/run/other reason they will tell at</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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8 Risk level is highly subjective and will vary depending on the person and their identity. Care should be taken to plan for the highest risk level pre-mitigation.
<table>
<thead>
<tr>
<th>Threat</th>
<th>Occurrence</th>
<th>Beyond regular precautions taken during travel (e.g., don’t walk alone at night, avoid crowded areas) no additional mitigation strategies are needed.</th>
<th>According to International SOS, Petty crime is a risk – particularly in Stockholm. Full Country Report for Sweden is available on Google Drive.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crime</td>
<td>theft, scams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political</td>
<td>Civil unrest, strikes, etc.</td>
<td></td>
<td>According to International SOS, some demonstrations have occurred that have led to some rioting/unrest though these are controlled quickly.</td>
</tr>
<tr>
<td>INFRASTRUCTURE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medical Capabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hospital proximity, methods of payment for treatment, access to doctor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Given the remote location of Stordalen Mire, care will be taken to avoid medical emergencies. A fully stocked First Aid kit will be carried in the field by the FTL and FTM s are strongly encouraged to carry with them their own First Aid Kits. See the Field First Aid Kit section of this document for more details.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>According to International SOS, the following is a suggested list of Vaccinations and Immunizations: Routine Vaccinations should be current. These include: Measles-Mumps-Rubella, Polio, Tetanus-Diphtheria-Pertussis, and Varicella Annual influenza vaccination Hepatitis A &amp; B are recommended for at-risk individuals (gay, bisexual men, and men who have sex with other men; see US CDC for more details). International travelers should encounter little trouble getting required medical treatment. Most doctors speak English.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Contaminated Food** |
| allergies, food poisoning |
| FTM s will take care to properly handle, store, prepare, cook their food. |
| According to International SOS, there is an outbreak of Salmonella Braenderup that can be transmitted via contaminated food. Careful selection, preparation, and cooking of food is suggested. |
| Contaminated Water & drinking water | transmission of diseases via contaminated drinking water | FTMs will drink water only from faucets at ANS. FTMs will not drink water from stagnant water though they can drink safely from streams and rivers as long as they are flowing. |
| Utilities | Compatibility of equipment, voltage | FTMS are encouraged to acquire the correct adapters and voltage converters for plugs in Sweden. *If they do not already have an adapter, they should contact their advisor or the EMERGE EC to see if one can be made available to them.* |
| Transportation | local driving standards, safety belts, hazardous terrain | Beyond regular precautions taken during travel (e.g., driving the speed limit, wearing a seatbelt at all times) no additional mitigation strategies are needed. |

Sweden has two types of plugs: Type C & Type F (Figure A.1). Sweden voltage supply is 230V and 50Hz

*Figure A. 1. Image of Type C and Type F plugs present in Sweden. From: https://www.electricalsafetyfirst.org.uk/guidance/advice-for-you/when-travelling/travel-adaptor-for-sweden/*
| **Climate conditions** | Exposure to adverse weather (extreme heat, cold, humidity, rain/snow, lightning) | FMs should check the weather the night before each field day and share this information at the Fieldwork Planning Meeting. FMs should make sure to plan plenty of layers (refer to the Field Gear List for more details). FTMs are encouraged to monitor their food and water intake throughout the day to ensure they have adequate energy. FTMs should make sure to wear sunscreen! | Suggested websites to check weather:  
1. [www.yr.no](http://www.yr.no)  
2. [www.smhi.se](http://www.smhi.se) |
| **Contact (with animals)** | Bear, Moose, Reindeer, wolves, bites/stings/rabies | FTMs should remain alert and aware of their surroundings during the field day. They should take note of any wildlife they see in the distance and move away from them if necessary. FTMs are encouraged to read up about how to stay safe around wild animals. | See the following websites for more information:  
[https://sweden.se/nature/how-to-survive-in-swedish-nature](https://sweden.se/nature/how-to-survive-in-swedish-nature)  
[https://sweden.se/climate/nature/which-is-swedens-most-dangerous-animal](https://sweden.se/climate/nature/which-is-swedens-most-dangerous-animal) |
<table>
<thead>
<tr>
<th>Contact (with insects)</th>
<th>bites/stings, Lyme’s disease, malaria, Malaria, Zika Virus</th>
<th>FTMs are encouraged to take precautions (wear long pants, tall socks, long sleeves) and routinely check for ticks at the end of each field day and avoid unpasteurized milk.</th>
<th>According to International SOS, <strong>Tick Borne encephalitis</strong>: No Vaccine is available in the US (only Canada and Europe). There is currently no risk of Malaria or Zika Virus infection in Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Disasters</td>
<td>flooding, tornado, earthquake, snowstorms</td>
<td>No mitigation strategies are needed.</td>
<td>According to International SOS, natural disaster threat is mainly a concern during the winter months where heavy snow can result in vehicle crashes and delays in public transport.</td>
</tr>
<tr>
<td>CULTURAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Local attitudes toward protected classes/ minorities in geoscience research (BIPOC, LGBTQ+, women and researchers with disabilities) | Racism, sexual harassment, inappropriate comments etc., unequal treatment | FTMs will be encouraged to always travel in pairs. EMERGE EC will provide FTMs with documentation that outlines the goals of the field campaign that they can show to anyone who asks. FTMs will tell other members where they are going and when they expect to return if they leave the ANS campus on their own (e.g., to go on a run/walk). | Trans Legislation (see page 167, ILGA World, 2020):
- Amendments make it possible for Trans people to change their names
- Amendments make it possible for Trans people to change their gender markers on official documentation.

LGBTQ+ Legislation (see table on page 329, ILGA World, 2020b):
According to this [LGBTQ+ Danger Index](https://www.ilga-world.org/danger-index/), Sweden is ranked the third safest country for LGBTQ+ travel.

Nationalism:
Sweden Democrats (the nationalist party) is growing in popularity,
with immigration being a polarizing topic within Sweden (Lindeberg & Ummelas, 2021).

<table>
<thead>
<tr>
<th>Local Culture</th>
<th>customs, dress, religion, behavior</th>
<th>FTM are required to read the following articles about Swedish Culture and Sámi culture before departure. See SECTIONS Sweden vs. the USA and Sápmi and the Sámi people.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal differences</td>
<td>local codes/guidance, local statute</td>
<td>If for any reason someone needs to be taken to the hospital after hours, one member of the field team (grad student, faculty, or staff, not an undergrad or REU student) is to be considered ‘on call’ every night and should drink no alcohol when they are on call. In Sweden, driving with a blood alcohol content of 0.02% is considered a crime (Ministry of Foreign Affairs, 2016).</td>
</tr>
<tr>
<td>HAZARDOUS ACTIVITIES</td>
<td>working in remote field location, international site, time zone adjustment, isolation from friends/family,</td>
<td>FTM are encouraged to speak freely about their adjustment to fieldwork in this remote location. Each Fieldwork Planning Meeting will hold space for FTM to share how they are coping mentally</td>
</tr>
<tr>
<td>Hazardous Substances/chemicals</td>
<td>carrying heavy equipment, walking on wet boardwalk, proximity to lakes/ponds</td>
<td>with isolation, time zone adjustment, interaction with fellow scientists etc.</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Other risks specific to this trip or associated activities</td>
<td>contact with acid (sample storage), pressurized gas tanks, exposure to liquid nitrogen</td>
<td>FTMs should make sure to be alert when in a room containing pressurized gas tanks (or outside the Shack Instrument Shelter at Stordalen Mire, where pressurized gas tanks are stored for the autochambers). If FTMs need to prep sample vials for storage using acid, they should wear protective gloves and wash their hands when they are done. Wear protective gloves when handling samples used with liquid nitrogen.</td>
</tr>
<tr>
<td>COVID-19 exposure</td>
<td>All FTMs are required to be fully vaccinated against COVID-19 <strong>before</strong> leaving for fieldwork. FTMs will follow COVID-19 protocols</td>
<td></td>
</tr>
</tbody>
</table>
outlined by the Swedish government and by ANS.
### Appendix III. Sweden Emergency Services and Contact Information

Table A. 2 Emergency Services and Contact Information for the Stordalen Mire field site. This section should be updated annually as new information arises.

<table>
<thead>
<tr>
<th>Emergency Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Contact</strong></td>
</tr>
<tr>
<td>ANS/CIRC Staff. Provide a copy of this document.</td>
</tr>
<tr>
<td><strong>EMERGE Project Contact</strong></td>
</tr>
<tr>
<td>Virginia Rich - <a href="mailto:virginia.isabel.rich@gmail.com">virginia.isabel.rich@gmail.com</a></td>
</tr>
<tr>
<td><strong>Local Emergency Numbers</strong></td>
</tr>
<tr>
<td>Ambulance, Fire, Police: <strong>112</strong> (call)</td>
</tr>
<tr>
<td><strong>0046-63 107 112</strong> (via SMS if call does not go through)</td>
</tr>
<tr>
<td>Local Number for Health Care Advice: <strong>1177</strong></td>
</tr>
</tbody>
</table>

**Be Prepared to share the following information with Emergency Services:**

a. Where are you? Description and name of the location, GPS or map coordinates, or the position, distance and direction from a known map position or obvious landmark.
b. What has happened and the number of injured.
c. Your name and Abisko Scientific Research Station
d. Name and details of the injured person, including, age, sex, previous relevant medical conditions.

| Nearest Hospital  |
| Kiruna Hospital, Thulegatan 29, 981 31 Kiruna, Sweden  |
| **+46 980 730 00**  |
| **1 hour 6-minute drive from Stordalen, (85.6km)**  |

| Nearest US Embassy  |
| Embassy of the United States of America  |
| Dag Hammarskjölds Väg 31, SE-115 89 Stockholm  |
| Tel: 08-783 53 00  |
| Fax: 08-661 19 64  |
| Operating Hours: M- F 08:00 – 16:30  |
| *The Embassy is closed on US and Swedish Holidays*  |

| Nearby Facilities  |
| As mentioned, there is no running water available at Stordalen Mire. There is an outhouse for *solid waste* only. Nearest gas station is in Abisko, a few hundred yards from the ANS on the way to the field site.  |
### IV. Appendix IV. Incident Reporting Procedures by Institution

Table A. 3 Table of reporting procedures for Medical Emergencies and Incidents of Bias and Harassment for the primary institutions of each FTM. This table should be updated annually as the institutional affiliations change and more are added.

<table>
<thead>
<tr>
<th>Medical Emergency Reporting</th>
<th>Title IV Incident Reporting</th>
<th>Campus Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>University of New Hampshire</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Accident/Injury/Illness Report Form (to be submitted by the injured person within 24 hours of occurrence) | Incident Report Form (of all incidents of (1) discrimination and discriminatory harassment, (2) bias and/or hate crime, (3) retaliation, (4) sexual harassment and/or violence; for students). Privileged Confidential Support Services (for students) | UNH Police Dispatch Phone: **(603) 862-1212**  
UNH SHARPP 24-hour Help Line: **1-603-862-SAFE (7233)**  
International SOS Alarm Center (for international travel): **+1-215-942-8226** |
<p>| | | |
|                             |                             |                |
| <strong>University of Arizona</strong>    |                             |                |
| Injury, incident, claims reporting while traveling abroad (form should be filled out and submitted by home department on injured person’s behalf). | Incident reporting: incidents of descrimination against employee, visitor, contractor or student. | UoA Police Department, Non-Emergency Phone: <strong>(520)-621-8273</strong> |
|                             |                             |                |
| <strong>The Ohio State University</strong>|                             |                |
| Worker’s Compensation Reporting Links | Link to Title IX Office. | Contact: Interim Title IX Coordinator Melissa Mayhan: <a href="mailto:titleIX@osu.edu">titleIX@osu.edu</a> or 614-247-5838. |
| International Risk Management at OSU |                             |                |
|                             |                             |                |
| <strong>Florida State University</strong> |                             |                |</p>
<table>
<thead>
<tr>
<th>Worker’s Compensation Information and Reporting Links</th>
<th>Link to Title IX Office.</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Travel Policy for Faculty and Staff</td>
<td>Contact: Tricia Buchholz</td>
</tr>
<tr>
<td>Comprehensive Emergency Management Plan</td>
<td>Title IX Coordinator</td>
</tr>
<tr>
<td></td>
<td>408-H Westcott Building</td>
</tr>
<tr>
<td></td>
<td>Tallahassee, FL</td>
</tr>
<tr>
<td></td>
<td>(850) 645-2741</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:tbuchholz@fsu.edu">tbuchholz@fsu.edu</a></td>
</tr>
<tr>
<td></td>
<td>knownowmore.fsu.edu</td>
</tr>
</tbody>
</table>

**Colorado State University**

<table>
<thead>
<tr>
<th>Worker’s Compensation and Other Incident Reporting Links</th>
<th>Link to Title IX Office.</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Travel Safety (for Students)</td>
<td>File a Report Here.</td>
</tr>
<tr>
<td>Risk Management and Insurance: International Travel Information</td>
<td>Contact: Interim Coordinator, Diana Prieto, Vice President for Equity, Equal Opportunity and Title IX Programs</td>
</tr>
<tr>
<td></td>
<td>Office Number: (970) 491-1715</td>
</tr>
</tbody>
</table>

**Lawrence Berkeley National Lab/Joint Genome Institute**

<table>
<thead>
<tr>
<th>Accident Reporting</th>
<th><a href="https://diversity.lbl.gov/harassment-discrimination/">https://diversity.lbl.gov/harassment-discrimination/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel Injury Guidance (Word Document)</td>
<td>Contact: Leticia Ericson</td>
</tr>
<tr>
<td></td>
<td>Title VII and Title IX Officer</td>
</tr>
<tr>
<td></td>
<td>Phone: 510-486-7635</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:FAIR@lbl.gov">FAIR@lbl.gov</a></td>
</tr>
</tbody>
</table>

**Case Western Reserve University**

<table>
<thead>
<tr>
<th>Accident Reporting Information</th>
<th><a href="https://case.edu/equity/">https://case.edu/equity/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Protocols, Dept. International Affairs</td>
<td>Contact: Rachel E. Lutner</td>
</tr>
<tr>
<td></td>
<td>Senior Associate Vice President for Equity</td>
</tr>
</tbody>
</table>
2120 Cornell rd.
Cleveland, OH 44106
216-368-3066
rachel.lutner@case.edu

Cleveland Office
Office of Civil Rights
U.S. Department of Education
1350 Euclid Avenue, Suite 325
Cleveland, OH 44115-1812
Telephone: (216) 522-4970
Fax: (216)522.2573
Email: OCR.Cleveland@ed.gov

Office of Civil Rights
400 Maryland Ave, SW
Washington, DC 20202-1100
Customer Service Hotline:
1-800-421-3481
Fax: (202) 453-6012
Email: OCR@ed.gov/ocr

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**University of California Berkeley**

<table>
<thead>
<tr>
<th>Work related Injury and Illnesses</th>
<th><a href="https://ophd.berkeley.edu/">https://ophd.berkeley.edu/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Assistance Links</td>
<td>Contact: Kellie Brennan, Executive Director of Civil Rights &amp; Whistleblower Compliance, 2111 Bancroft Way, Suite 300 Berkeley, CA 94720-1120, Phone: 510-643-7985</td>
</tr>
<tr>
<td>Resources for International Travel</td>
<td><a href="mailto:ask_ophd@berkeley.edu">ask_ophd@berkeley.edu</a></td>
</tr>
</tbody>
</table>

---

**Rochester Institute of Technology**
<table>
<thead>
<tr>
<th><strong>Worker’s Compensation Accident Reporting Form</strong></th>
<th><strong>Link to Title IX Office.</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accident Reporting for Students</strong></td>
<td><strong>Contact:</strong> <a href="mailto:complianceandethics@rit.edu">complianceandethics@rit.edu</a></td>
<td><strong>Office:</strong> (585) 475-6111 <strong>Hotline:</strong> (866) 294-9358 <strong>Ethics and Compliance Hotline</strong></td>
</tr>
<tr>
<td><strong>International Emergency Reporting</strong></td>
<td><strong>Title IX Coordinator:</strong> Stacy DeRooy <strong>Director of Title IX and Clery Compliance</strong> <strong>Compliance and Ethics Finance and Administration</strong></td>
<td><strong>585-475-7158 <a href="mailto:sadcpsa@rit.edu">sadcpsa@rit.edu</a></strong></td>
</tr>
</tbody>
</table>

**SUNY College of Environmental Science and Forestry**

<table>
<thead>
<tr>
<th><strong>Workplace Health and Safety Resources</strong></th>
<th><strong>Link to Title IX Office.</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact:</strong> Rebecca Hoda-Kearse <strong>Title IX Coordinator and Affirmative Action Officer</strong> <strong>Office of Inclusion, Diversity and Equity</strong> <strong>220 Bray Hall</strong></td>
<td><strong>315-565-3012 <a href="mailto:titleix@esf.edu">titleix@esf.edu</a></strong></td>
<td></td>
</tr>
</tbody>
</table>

**Chapman University**

<table>
<thead>
<tr>
<th><strong>Accident reporting resources</strong></th>
<th><strong>Link to Title IX Office.</strong> With Resources and Reporting instructions.</th>
<th><strong>Public Safety Department</strong> <strong>(714) 997-6763</strong> <strong>Available 24 hours 7 days a week</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact:</strong> DeAnn Yocum Gaffney, Ed.D., Associate Vice President for Student Affairs and Senior</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Queensland University of Technology


### Lund University

**In case of Emergency Resources**

**Harassment and Sexual Harassment Policies and Reporting information**

Additional Contact: likavillkor@stu.lu.se

### Umeå University

**Accident Reporting for Students and Faculty**


Contact:
Umeå University Contact: Adrian Löwander, staff representative
Email: adrian.lowander@umu.se

### Stockholm University

**SU Statement on Harassment and Victimization**

V. Appendix V: Field Team Info from Previous Years

*Table A. 4 Copy of Table 1, listing 2021 Field Team summary information.*

<table>
<thead>
<tr>
<th>Field Site Location:</th>
<th>Stordalen Mire, Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Description:</td>
<td>Members of the EMERGE Project will conduct various fieldwork activities including (but not limited to): peat-coring, sampling, and collection; remote sensing</td>
</tr>
</tbody>
</table>
imagery collection using unmanned aerial systems (UAS); gas sample collection using manual collection methods and/or auto-chamber sampling; sample processing and analysis using gas chromatography (GC) and quantum cascade laser (QCL) analysis.

<table>
<thead>
<tr>
<th>Date(s) of Travel:</th>
<th>July 12th – August 8th, 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Team (FT) Leader</td>
<td>Ruth Varner</td>
</tr>
<tr>
<td>FT Members</td>
<td>Sophia Burke, Apryl Perry, Jessica M. Szetela, Scott Saleska, Helene Saleska</td>
</tr>
</tbody>
</table>