

Field Safety Plan Template

A Field Safety Plan serves as a tool to document your hazard assessment, communication plan, emergency procedures, and training. This plan should identify hazards as well as precautions and actions taken to address and mitigate those hazards. Instructions:

1. Review any institutional requirements for group travel, international travel, biosafety, wildlife safety, etc. Then, complete this Field Safety Plan by inserting specifics for your site and operations; delete irrelevant sections.
2. Make a list of appropriate training for your site and operations (e.g., first aid including wilderness first aid, heat illness, task-specific training, Sexual Violence and Sexual Harassment Prevention Training, Safer Science Training, Anti-Racism Training, Conflict Resolution training). Provide or organize relevant training for team members to complete well in advance of the trip. Be sure to check the functionality of all necessary equipment (i.e. satellite communication devices, GPS units) and include training to use equipment for team members.
3. Provide all trip members with information on required or recommended immunizations and travel insurance at affordable rates well in advance of fieldwork. Many university health centers provide discounted services for students embarking on field expeditions.
4. Hold pre-trip meeting(s) with your group and/or supervisor to review your Field Safety Plan, discuss remaining safety concerns, general environmental risks, travel logistics, packing list including first aid kit, and any additional training needs. To increase equitable field opportunities for all members, consider supplying basic field equipment so that individuals do not have to spend their own money. Trip leaders can also make themselves available for individual meetings with participants to address concerns that may be too personal to discuss as a group.
 1. *Consider collectively drafting a Code of Conduct or Community Agreement in pre-fieldwork meetings, which team members can sign and carry during the trip. This may include guidance on interactions within and between groups as well as considerations for interacting with the local community. In many cases, it may be beneficial to consult with the local community on appropriate codes of conduct with regard to their culture and customs.*
 2. *Consider assigning readings about the culture and history of the field site, region, or country to familiarize team members with local communities. If some team members have visited the site(s) on previous scouting or research trips, consider asking them to give a presentation about their experience and review any input from local communities regarding research plans.*
2. Gather signatures to ensure that everyone is familiar with and approves its contents. Distribute copies of the Field Safety Plan among team members.
3. Conduct a post-trip debrief to review and revise safety guidelines for future trips.

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General Trip Information			
Field Site Location	<i>Descriptive name of research location (e.g., Carrizo Plain, CA; Tortuguero, Costa Rica)</i>		
Activity Description	<i>Type, length, and purpose of activity (e.g., hiking 3-4 miles, collecting specimens, etc.)</i>		
Team Name	<i>Name of Research Group / Course / Trip Leader</i>	Date Plan Completed	<i>Mo-Day-Yr</i>
Date(s) of Travel	<i>Start date, duration, expected return to campus</i>		

Site Information			
<i>Copy this box if travel to more than one site is anticipated</i>			
Coordinates	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Latitude: XX.XX (from GPS/Map) <i>(if unavailable, consider providing a general description of the site instead, or provide the coordinates of the park entrance or another relevant location)</i> </td> <td style="width: 40%; padding: 5px;"> Longitude: XX.XX (from GPS/Map) </td> </tr> </table>	Latitude: XX.XX (from GPS/Map) <i>(if unavailable, consider providing a general description of the site instead, or provide the coordinates of the park entrance or another relevant location)</i>	Longitude: XX.XX (from GPS/Map)
Latitude: XX.XX (from GPS/Map) <i>(if unavailable, consider providing a general description of the site instead, or provide the coordinates of the park entrance or another relevant location)</i>	Longitude: XX.XX (from GPS/Map)		
Terrain	<i>Elevation, terrain, environment.</i>		
Access	<i>How will participants get to the field site? Note any dangerous roads or other conditions. Are there any restrictions or challenges to accessing the site for all members of potential field teams, including those with disabilities? For disabled individuals requiring adaptive wheelchairs, electric bikes, mobility scooters, consider how their equipment can be brought to field sites or if renting equipment at the site is a possibility. Consider mobility accommodations, which may include purchasing extra leg room or space for equipment (such as mobility equipment) or asking team members to take the elevator or escalator rather than stairs. Make special note if the site is isolated or lacks basic services. Provide information on whether young children may accompany team members and what accommodations exist for nursing or pregnant team members. Note any alternate routes or suggested parking areas, gate access codes, etc.</i>		
Weather	<i>Inform team members of expected weather during the trip (season-dependent) including cold, rain, wind, etc. Check with team members to make sure that they are prepared with appropriate clothing and equipment for the expected weather. Note extreme conditions that could impact the trip or require additional planning (e.g., high heat, wind, rain, snow, approaching storm).</i>		
Sleeping Accommodations	<i>Where will participants be staying? What privacy will they have access to? Will participants be expected to share beds, rooms, tents? How will participants be engaged in conversations about accommodations in a way that ensures everyone feels safe and has access to appropriate privacy?</i>		
Cell Phone and Internet	Cell network reception: <i>good, spotty, none</i> Nearest location with cell or landline services: <i>_</i> Internet access: <i>Will internet access be available at the field site? If not, when and where would participants have access to the internet?</i>		
Water	<input type="checkbox"/> Natural source (e.g., nearby lake or stream water); check which purification method(s) will be used: <input type="checkbox"/> Filtration <input type="checkbox"/> Boiling <input type="checkbox"/> Chemical disinfection <input type="checkbox"/> Plumbed water available <input type="checkbox"/> Water cooler with ice provided <input type="checkbox"/> Bottled water provided		
Food	<i>Ensure that food meets dietary requirements and restrictions for all team members throughout the trip. Consider how food will be prepared and by whom to minimize risk of contamination. Bring plenty of high-energy snacks and ask whether there are specific dietary needs to prevent physical exhaustion during hiking and other work.</i>		
Nearby Facilities	<i>Provide information on facilities that are available at or near the site, or along the route, including restrooms, water, gas, public phone, store. Also consider whether these</i>		

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	<i>facilities are accessible and open to team members of all identities and ability status, and adjust accordingly if not.</i>
No Go Criteria	<p><i>Consider the conditions under which travel to - or activities at - the site should be stopped or canceled, e.g., heavy rains, electrical storms, snow, extreme temperatures, high tides or waves, civil unrest, unexpected illegal activity, increased police activity, lack of approval from local communities, etc.</i></p> <p><i>You may also consider using the GAR Risk Management Model. If based in the USA, you may also sign up for travel alert through the US Department of State smart travel program: https://step.state.gov</i></p>

Equipment and Activities	
Research Activities	<i>Briefly describe the goal of your field operations, e.g., collection of samples, observation of animals/environment, interviews with human subjects, etc....</i>
Field Transportation	<i>What vehicles will be used during field operations (e.g., chartered boat, paddle craft, car, ATV, truck with trailer, snowmobile, chartered plane or helicopter, etc.)? Review your institution's policy regarding vehicle insurance while traveling. Coverage may differ between staff and students. Include any insurance information here. Also consider detailing what steps should be taken in the event of a motor vehicle accident.</i>
Research Tools	<i>Briefly describe tools or equipment that will be used to access the site or during research activities. Indicate specific training required for using items such as sharps (knives, razors, needles, machetes), electronic devices (communication and GPS devices/apps for taking waypoints and navigation such as Gaia, GPS Tracks, onX), hand tools, chainsaws, power tools, heavy machinery, tractors, specialty equipment, firearms, lasers, portable welding/soldering devices, other hazardous equipment or tools.</i>
Other Required Field Gear	<i>Provide field teams with a list of required field gear (e.g., boots, safety glasses, PFDs, hardhats, etc.) and recommended gear (walking sticks, gloves, long pants, hats, insect repellent, sunscreen, extra batteries, chargers including solar-powered ones). Consider providing certain recommended items such as sunscreen, insect repellent, and batteries or chargers for any shared equipment such as GPS devices if funds allow, to decrease the burden on students and field participants. Be clear about what will be supplied and what participants will need to bring.</i>
Protocol for Disinfecting Equipment	<i>The spread of some pathogens may be connected to field biologist activities, thus it is important to disinfect equipment, especially when traveling across continents. Describe the protocol for disinfecting field gear prior to, during, and after fieldwork is completed. Will gear be cleaned between sites and/or between animals? What cleaning agent will be used, at what concentration, and for how long?</i>
International Requirements	<i>Check with your institution regarding required approvals. Visas, permits, import/export controls, transportation of specialized equipment, and data security must be considered. See permit flowchart and checklist or more details regarding necessary documents related to land access and specimen collection, import, and export.</i>

Emergency and Organization Contacts
<i>These resources should be displayed prominently, every team member should have access to at least one communication device and resource list, and no one team member should be in sole possession of communication devices or resource lists.</i>

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Off-Site Contact Information	Designated Institutional Contact: <i>Name, email, phone # of a Professor/PI, department contact, supervisor back on campus, or another person not on the trip. Provide them with a copy of this plan.</i>
	Frequency of Check-ins: <i>Daily, at end of workday, etc.</i>
On-Site Contact Information	Primary Field Team Leader: <i>Name, phone number or other contact information during fieldwork</i>
	Secondary Field Team Leader: <i>Name, phone number or other contact information during fieldwork</i>
	Team Member Roster: <i>List here or "See signature page"</i>
	Satellite Device carried? <input type="checkbox"/> yes <input type="checkbox"/> no Type (satellite phone, satellite messenger)/number: <i>Provide any additional information that would be necessary to reach team members on the device (e.g., an app or code)</i>
	Field Site(s): <i>Name, address, email, phone # of a colleague, institutional office, reserve manager, USFS office, etc. near or at each field site.</i>
	Lodging: <i>Name, address, phone # for lodging at each field site.</i>
On-Site Emergency Services	Emergency Medical Services: <i>Provide procedures for contacting emergency medical services. Include who will pay for emergency care if necessary and where team members can obtain insurance in advance (e.g., through GeoBlue, geo-blue.com)</i>
	Nearest Emergency Services: <i>Provide an evacuation plan and transportation options to the nearest Emergency Clinic or Hospital; include estimated transport time, contact information and driving directions from the site to the nearest provider of emergency medical care. Attach a map with specific directions. You may wish to check if the Emergency Department has personnel trained to handle SVSH cases and/or hate crimes, and select care facilities accordingly.</i>
	Local Police Department: <i>Include information for contacting the local police department as well as addresses and maps as needed.</i>
	Emergency Evacuation Protocols: <i>What physical, political, or mental health scenarios would result in an emergency evacuation? In which cases would the entire team versus only a portion of the team evacuate? Consider the safety of team members leaving or staying in either scenario.</i>
	First Aid Training and Supplies: <i>Check with your institution regarding requirements for having personnel trained in first aid (with current certification) for work at remote sites. CPR is also recommended. List team members trained in first aid, the type of training received, and the date of last certification. Describe contents of first aid kit, where it is stored, and how to access it.</i>
	SVSH contacts: <i>List designated SVSH contacts on the trip who have received prior training in handling SVSH incidents. Be mindful of power dynamics within field teams and the greater community; consider having a non-trip leader take one of these roles. Also consider a scenario in which the person designated to report the situation is the harasser; ideally multiple individuals should be prepared to act in such situations.</i>
	Other Contacts at Home Institution
Reporting Injuries: <i>List appropriate contacts for reporting workplace injuries.</i>	
Institutional Health Services: <i>List any relevant contacts for health services.</i>	
Institutional Environmental Safety Services: <i>List any relevant contacts for environmental safety services, e.g., to contact if a large chemical spill occurs.</i>	

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	<p>Reporting SVSH Incidents: <i>List appropriate channels for reporting SVSH incidents to the institution(s) applicable, considering that appropriate institutions may vary depending on the offending individual(s). For more considerations regarding reporting SVSH, see SVSH Incidents.</i></p> <p>Other: <i>e.g., Equal Opportunity Offices, Diversity and Equity Offices, Disability Services</i></p>
Additional Resources	<i>In addition to communication considerations outlined above, consider adding phone numbers for 24/7 hotlines, Enquiry Offices, and/or human resources where applicable.</i>

Potential Risks and Mitigation Strategies	
Working or Traveling Alone	<p>Is anyone working or traveling alone? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>If yes, develop a communications plan with strict check-in procedures; if cell coverage is unreliable, carry a satellite communication device or personal locator beacon.</i></p> <p><i>Consider traveling in pairs or groups to mitigate the risk of a targeted attack against at-risk team members. If traveling separately is required, be sure to brief team members in advance and consider providing credentials to all team members so that they may show them to authorities if needed.</i></p>
Security Risks and Guidelines	<p><i>Discuss personal safety risks during work hours and free time, e.g., alcohol or drug use, leaving the group, situational awareness, cultural differences between research site and home institution that can result in serious misunderstandings, risk of sexual harassment, or local crime/security concerns. Review expectations and set the tone for a safe, successful trip. When working in high-risk areas, review institutional guidance and support in advance of travel. You can also provide information on whether side trips are planned or allowed during free time, as well as before or after the planned activities.</i></p> <p><i>For international travel from the USA, check the U.S. State Department travel site for current travel alerts; look up the security rating for your destination via the Worldcue Trip Planner.</i></p>
Physical Demands	<i>List any physical demands and training/certification required for this trip, e.g., diving, swimming, hiking, climbing, high altitudes, heights, confined or restricted spaces, respirators, etc. Consult with your institution's environmental health and safety regulations regarding appropriate training & documentation. Given that not all participants have the same physical requirements, also consider the strengths each team member can contribute that do not require physical exertion.</i>
Mental Demands	<i>List any unique mental demands required for this trip, e.g., long travel and/or work days, high stress environments, different cultural norms, etc. Trip leaders can consider creating space for check-ins with group members throughout the trip regarding the mental demands of fieldwork. Leaders can also allocate rest days to all members throughout the trip to avoid feelings of burn-out.</i>
Other Research Hazards	<i>Describe other potential research-associated hazards and dangerous wildlife, insects, endemic diseases, poisonous plants, etc. that participants may encounter. Examples include handling or shipping hazardous materials (chemical, biological, radiation, explosives); handling animals including toxic/venomous animals; possible interactions with dangerous animals such as bears, tigers, lions; climbing or working at heights; rigging, shoring/trenching, digging/entering excavations, caves, other confined spaces; drone use. Discuss precautions or mitigation measures with the team prior to the trip.</i>
Medical Information	<p><i>List required immunizations/prophylaxis or required medical evaluation, if applicable. For travel-related immunizations or medical advice, contact the relevant travel clinic at least 8 weeks prior to your trip.</i></p> <p><i>Participants may voluntarily share relevant information such as medication they carry, allergies, or action plans for known medical conditions and should be encouraged to discuss medical concerns with their medical provider or the travel clinic before the trip. For</i></p>

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	<i>sensitive information, participants can keep information in sealed folders or password-protected online spaces with the understanding that it will only be accessed in case of an emergency, either by the trip leader(s) or a medical provider.</i>
Common Ailments	<i>What types of ailments might be expected on your trip (i.e. heat exhaustion, altitude sickness, bacterial infection)? See First Aid Reference for Common Risks in the Field for specific procedures, and add information for other risks that may be encountered.</i>
Getting Lost	<i>Describe mitigation strategies for avoiding getting lost in the field, e.g., hiring guides familiar with field sites, carrying whistles, using compasses, paper maps, handheld GPS units, or smartphone Apps such as Gaia, GPS Tracks, onX, TerraMap, or others. When relying on devices or apps, what needs to be done to ensure these are useful resources (e.g., downloading offline maps in cases of no cell coverage, carrying extra batteries or portable phone chargers, initializing routes every time you leave a field station, etc.)? What are the protocols if one or more field members get lost? Based on designated check-in frequency, when should help be called? Discuss as a team strategies that are most appropriate based on your field site(s).</i>

Policies and Strategies for Team Safety	
Institutional Policies	<i>What policies, codes of conduct, and requirements related to sexual harassment, violence, and discrimination are enforced by your institution? These may include: departmental or professional organization Codes of Conduct, University Student Codes of Conduct, University SVSH policies, Institutional Non-Discrimination Policies, Title IX rights, etc. You may wish to also review and attach any field station policies regarding sexual harassment, violence, discrimination, and diversity. Consider how well the field site or company's policies align with those of your institution and/or local, state and federal law.</i>
Required and Recommended Trainings	<i>List required or recommended training for Sexual Violence and Sexual Harassment (e.g., including topics on the impact of sexual harassment and violence, relevant definitions, resources for supporting healthy relationships and communication, power and privilege, the use of alcohol and drugs in perpetrating sexual violence), conflict resolution, and strategies for being an active bystander (e.g., Hollaback!'s 5D's: Distract, Delegate, Document, Delay, and Direct) and fostering a respectful community while in the field (examples may be found at ADVANCEGeo, GreenDot, Hollaback!, and Building a Better FieldWork Future). These educational opportunities are most effective when led by trusted peers and modified to fit group needs; however, it is important to consult experts in the development of the content. As a team, you may wish to discuss when and how to intervene when a team member is being targeted by harm or harassment. Behavior does not need to rise to the level of illegality to be harmful; early intervention can help avoid more serious transgressions in the future. See On-Site Emergency Services section above for information and recommendations in relation to first-aid training.</i>
Team Code of Conduct	<i>Community-generated codes of conduct can help set behavioral expectations while encouraging group buy-in and responsibility. Codes may include guidance on within and between group interactions, as well as considerations for interacting with the local community. In many cases, it may be beneficial to consult with the local community on the appropriate codes of conduct with regard to their culture/customs (e.g., clothing, gestures, etc). Plans may include language and actions to de-escalate situations, guidelines for who should carry copies of policies or details regarding reporting</i>

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	<p><i>mechanisms following your institution’s guidelines, as well as specific information on how to contact or report to specific offices (e.g., Equal Opportunity Offices, Diversity and Equity Offices, or Disability Services).</i></p> <p><i>Consider adding addendums to Memorandum of Understandings (MOU) with organizations, companies, and field work sites to align with prohibited behaviors in your institution’s SVSH Policy, as well as the equity, inclusion, and prevention strategies developed by and for your department or program. The addendum can ensure that both students and sites are aware of the commitment being made to address sexual violence.</i></p>
<p>What to Do When Things Go Wrong</p>	<p><i>Review the mental, physical, and political risks described above in Potential Risks and Mitigation Strategies, taking into account that some members may be more at-risk based on their identities or physical abilities. Provide general protocols for relevant worst-case scenarios including at what point the team should exit the site. Develop a team exit or re-location strategy for situations where a team or team member is unsafe (including mental instability, medical emergencies, and SVSH incidents); the strategy should not impact the member’s educational opportunities. Discuss protocols with the team prior to the trip to ensure that all relevant scenarios are included and addressed adequately.</i></p>
<p>SVSH Incidents</p>	<p>Supporting Team Members Impacted by SVSH: <i>Provide questions or other talking points to debrief with the victim. Consider if/how you will get the victim to safety, which may mean ending the trip early. Listen and believe the victim, and reassure them that the incident was not their fault. You may need to clarify your role as a responsible employee, i.e. by saying “I have a responsibility to notify our campus Title IX office when I learn about an incident like this; I’m letting you know so that you can choose what else you share and what happens next.” You may also wish to connect them with the appropriate resources. Having a reliable means of communication, such as a cell phone or satellite phone with the appropriate numbers pre-programmed, can be helpful in such situations. Affirm their decisions in the aftermath, whether that be to report the incident, cooperate with law enforcement, seek counseling, etc., and close with support, i.e. “You deserve support, I’m so glad you are seeking resources”</i></p> <p>Reporting: <i>Clearly communicate options for reporting to all team members prior to fieldwork. This may include establishing a reporting channel accessible to team members while in the field, identifying whether that channel is confidential or how it can be made confidential, and establishing/identifying the chain of command to receive reports.</i></p> <p><i>Field research often involves multiple institutions, which can make jurisdictions unclear in cases of misconduct. In cases of reported harassment, assault, or other misconduct, reports and any investigation findings may be shared with home institutions and funders of alleged perpetrators, in addition to the institutions hosting the research.</i></p> <p>Responsible Employee Obligations: <i>Ensure that all employees are aware of their roles and limits to confidentiality. If you are unsure, contact your institution. Make sure responsibilities are clear if an employee receives information in violation of the SVSH Policy. In most cases, they do NOT need to decide whether something actually occurred and they should NOT investigate the incident.</i></p>

Expectations for Team Culture	
<p>Affirmative Consent and Language</p>	<p><i>How can affirmative consent be used to promote respectful and healthy personal and professional interactions? Discuss as a team when affirmative consent is necessary and/or preferred, and use this space to write agreed upon language expectations.</i></p>

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	<p><i>Example situations that may require affirmative consent include agreeing to collaborate on a project or hugging someone.</i></p> <p><i>In addition to consent, how can affirmative language be used? The team may wish to share pronouns, practice pronunciation of team member names, practice affirming different perspectives and acknowledging contributions by team members, even those that may not speak up as much as others.</i></p>
Inclusivity, Equity, and Empowerment	<p><i>How can the team create and maintain opportunities in the field for women and people of color, as well as other minoritized groups? Use this space to draft ideas for equitable opportunities while in the field. These could include ensuring equitable divisions of labor and providing equitable access to leadership and professional opportunities.</i></p>
Develop Group Cohesion	<p><i>How can collaborative and trusting relationships between members of field teams be built before and during fieldwork? Come up with some team-building activities here.</i></p> <p><i>These opportunities should encourage open, respectful dialogue that promotes inclusion and belonging among team members.</i></p>

Guidelines for Interacting with Local Communities	
Cultural Considerations and Communication Policies	<p><i>How will you communicate with communities at your field sites? Can team members speak or learn to speak the local language(s)? Should translators or interpreters be hired? Keep in mind that not all communication is verbal, and understanding body language and other customs can be just as important as spoken language. What information do team members need to know regarding communication so that they do not inadvertently do/say/wear something that can be offensive and/or unsafe?</i></p> <p><i>How will you explain your research to the communities? When you arrive at a field site, it can be beneficial to introduce the team members and your research. Other things to consider include: explaining the day-to-day work you are hoping to conduct and incorporating suggestions and requirements from community members into your field plans (i.e. not working in certain areas, at certain times of day). Team leaders can recommend or require that participants carry copies of research and land access permits to help assuage any potential conflict.</i></p> <p><i>What considerations need to be taken into account when leaving field sites? Examples include discussing whether or not any equipment can or should be left behind (such as camera traps, weather stations) with the local community and if so, where the best location would be, and explaining when you will return to the field site next.</i></p>
Contaminants and Biohazards	<p><i>How will community member safety be prioritized? Some things to consider are: making community members aware of any dangerous equipment you plan to use or potentially toxic animals and plants that you plan to handle, prioritizing safety when doing day-to-day tasks at field sites, e.g., not doing laundry in streams where communities get drinking water, not leaving food out that can attract animals, getting preventative vaccines (flu shots, COVID vaccines and boosters) so that you do not transmit viruses into the community, and leaving time to quarantine or get tested for viruses such as SARS-CoV-2 when moving between communities. It is also recommended to label hazardous chemicals (e.g., formaldehyde) and animals (e.g., venomous snakes held in captivity) in the local language to avoid human or wildlife accidents.</i></p>
Political Considerations	<p><i>How might your work be viewed by local authorities or governmental agencies? Could it put local communities at risk? Use this space to draft mitigation measures to protect local communities, which may include how you can best communicate</i></p>

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	<i>your research to local agencies, or selecting field sites in areas that are safe from illegal activities or political disputes.</i>
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First Aid Reference for Common Risks in the Field		
Signs & Symptoms	Treatment	Response Action
Heat Exhaustion <ul style="list-style-type: none"> ● Dizziness, headache ● Rapid heart rate ● Pale, cool, clammy or flushed skin ● Nausea and/or vomiting ● Fatigue, thirst, muscle cramps 	<ol style="list-style-type: none"> 1. Stop all exertion. 2. Move to a cool shaded place. 3. Hydrate with cool water. 	<p>Heat exhaustion is the most common type of heat illness. Initiate treatment. If no improvement, call <u>local emergency number</u> and seek medical help. Do not return to work in the sun. Heat exhaustion can progress to heat stroke.</p>
Heat Stroke <ul style="list-style-type: none"> ● Disoriented, irritable, combative, unconscious ● Hallucinations, seizures, poor balance ● Rapid heart rate ● Hot, dry and red skin ● Fever, body temperature above 104 °F (40 °C) 	<ol style="list-style-type: none"> 1. Move (gently) to a cooler spot in shade. 2. Loosen clothing and spray clothes and exposed skin with water and fan. 3. Cool by placing ice or cold packs along neck, chest, armpits and groin (Do not place ice directly on skin) 	<p>Call ___ or seek medical help immediately.</p> <p>Heat stroke is a life threatening medical emergency. A victim can die within minutes if not properly treated. Efforts to reduce body temperature must begin immediately!</p>
Low Blood Sugar <ul style="list-style-type: none"> ● Headache ● Nausea ● Fatigue ● Shakiness ● Irritability 	<ol style="list-style-type: none"> 1. Eat something with simple sugars – fruit, granola bar, sports drink, etc 2. Rest in shade until energy returns 	<p>Initiate treatment. It may take >30 minutes to recover. If no improvement, call <u>local emergency number</u> and seek medical help.</p> <p><i>Precautions: Low blood sugar is common during multi-hour physical exertion, and its symptoms may be unfamiliar for team members who have not previously conducted fieldwork or strenuous activities. Low blood sugar can be prevented by regular snacking (e.g., a candy or energy bar once every 60–120 minutes).</i></p>
Low Blood Sodium <ul style="list-style-type: none"> ● Confusion ● Inability to focus ● Muscle cramping ● Swelling of fingers and toes ● Loss of energy, drowsiness 	<ol style="list-style-type: none"> 1. Eat something salty 2. Rest in shade until symptoms subside 	<p>Initiate treatment. It may take >30 minutes to recover. If no improvement or if more serious symptoms arise (e.g., vomiting, confusion, seizures), call <u>local emergency number</u> and seek medical help.</p> <p><i>Precautions: Low blood sodium can be prevented by consuming electrolytes or snacks when consuming large quantities of water.</i></p>
Altitude Sickness <ul style="list-style-type: none"> ● headache ● dizziness ● tiredness ● loss of appetite ● shortness of breath ● nausea and vomiting 	<ol style="list-style-type: none"> 1. Return to lower elevations slowly 2. Spend time at lower elevation to acclimate (this may take several days) 	<p>Initiate treatment. It may take 24–48hr to recover. Call <u>local emergency number</u> if more serious symptoms arise (e.g., constant vomiting, hallucinations, blue tinge to lips or skin).</p> <p><i>Precautions: even if you have not experienced altitude sickness before, and no matter your</i></p>

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	<ol style="list-style-type: none"> 3. Drink water; avoid smoking and alcohol 	<p><i>physical shape, you may experience this condition. Drinking lots of water and ascending <500m per day can help prevent the risk of altitude sickness. You can also ask your doctor for prescription medicine that can help your body adjust to changes in altitude.</i></p>
<p>Anaphylactic Shock</p> <p>Mild symptoms</p> <ul style="list-style-type: none"> ● Itchy or runny nose, sneezing, itchy mouth ● Mild nausea or discomfort in stomach ● Several hives <p>Severe Symptoms</p> <ul style="list-style-type: none"> ● Shortness of breath ● Trouble breathing or swallowing ● Pale skin ● Swelling of tongue or lips ● Vomiting, diarrhea ● Many hives covering entire body or large portions 	<ol style="list-style-type: none"> 1. Determine if symptoms are mild or severe based on the extent of reaction (localized vs. global) 2. Give antihistamines as needed for mild reactions 3. Administer epinephrine for severe reactions* 	<p>Initiate treatment and call local emergency number. If known allergen was likely or definitely eaten or encountered, it may be appropriate to administer treatment even if no symptoms are present.</p> <p>Precautions: collect allergy information from participants prior to trip and plan to accommodate severe allergies. Discuss when epinephrine (Epi-Pen) is needed and who will carry them. *Check with your state about required trainings and certifications to carry and administer epinephrine. The Food Allergy & Anaphylaxis Emergency Care Plan can be found here in English and Spanish, and may be appropriate to bring into the field.</p>
<p>Asthma Attack</p> <ul style="list-style-type: none"> ● Severe shortness of breath ● Chest tightness or pain ● Coughing or wheezing ● Fast or irregular breathing 	<ol style="list-style-type: none"> 1. Help the person to sit upright 2. Eliminate trigger if possible 3. Follow emergency treatment plan i.e. rescue (albuterol) inhaler, bronchodilators 	<p>Initiate treatment. If failure to respond to rescue inhaler or bronchodilator, call local emergency number and seek medical attention.</p> <p><i>Precautions: Avoid triggers to the extent possible. You may also ask your doctor about oral steroids, anti-inflammatory medications, or longer-acting inhalers in addition to rescue inhalers.</i></p>
<p>Gastrointestinal Distress</p> <ul style="list-style-type: none"> ● Loose stools, often more than once per day ● Nausea and/or vomiting ● Abdominal cramps ● Fever 	<ol style="list-style-type: none"> 1. Initiate antibiotics as instructed 2. Hydrate and rest until symptoms subside 	<p>If symptoms do not subside with antibiotics, you become dehydrated, experience a fever, or severe symptoms, call local emergency number and seek treatment.</p> <p><i>Precautions: Treating drinking water and eating cooked foods (rather than raw) can help avoid infection. Carry antibiotics from your doctor when traveling.</i></p>
<p>Harassment / Unsafe Conditions</p> <ul style="list-style-type: none"> ● Withdrawing from group activities ● Avoiding specific person(s) or places ● Unusual behaviors which may include being quiet for a usually talkative person or vice versa, change in sleep patterns, etc. 	<ol style="list-style-type: none"> 1. Create a safe environment to discuss the situation 2. Remove the victim from the perpetrator(s), locate trusted allies that can accompany the victim 3. Come up with a strategy together with the victim, which may include reporting and/or exiting the situation 	<p>Address harassment, microaggressions, or other unsafe interpersonal or group situations early. Know when a situation merits emergency intervention. When you are not sure what to do, reach out to institutional contacts (ombudsmen, SVSH offices, DEI offices, etc), so be sure to write down relevant contact information.</p> <p><i>Precautions: these situations can be difficult to discuss and address for victims and reporters. Building a cohesive and respectful field team, as well as creating and signing Codes of Conduct as a</i></p>

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		<i>group, can help to avoid these situations. Team leaders that are well informed of their institutional policies will be better equipped to deal with scenarios.</i>
<i>Consider adding information regarding other common health risks at your field site (e.g., snake bites, chiggers, etc)</i>		

Include any additional resources: route/location maps, photos of general terrain and areas requiring extra caution, etc.

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References

This document is based on the Field Safety Plan template from UC Berkeley Environmental Health & Safety and was augmented with content from the UC Berkeley Path to Care Center Guide for Field Placements, the Report of the Workshop to Promote Safety in Field Sciences (Kelly & Yarincik 2021), the University of Pittsburgh Field Safety Manual (Kuebbing et al. 2021), the actionable anti-racism plan for geoscience organizations (Ali et al. 2021), additional items from our own experiences, and the literature cited within the companion article to this document (Ramírez Castañeda et al. in prep).

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Post-Fieldwork Safety Debrief

We suggest hosting a meeting specifically dedicated to safety after fieldwork has been completed. As with other sensitive topics, soliciting anonymous feedback and/or having individual meetings may be appropriate. Some questions to consider include:

- In which instances did safety precautions work well? What potential risks were avoided by abiding by the safety guidelines?
- Did any unforeseen risks come up during fieldwork? If medical aid was required, were there problems obtaining emergency care or first aid (was the first aid kit accessible and did it contain sufficient supplies)? How can we modify our safety plan for future expeditions to account for these risks?
- How did appointed safety officers feel about their positions while in the field? Did participants feel comfortable discussing and/or reporting safety concerns to the officers?
- Were the supplies (food, medical, shelter, clothing, PPE) sufficient? What else could have been brought to increase safety or a sense of safety among team members?
- How did team members feel about the housing situations along the trip? Is there room for improvement in housing/shelter?
- Did participants feel sufficiently prepared for the trip? What other types of preparation could be useful for the future?