



# Safety Guidelines for Field Research, Study Abroad and Global Travel

## **Virginia Tech**

Office of Research and Innovation

Global Education Office

Environmental Health and Safety

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## 1. General Policies and Procedures

University [Policy 1070](#) applies to any university-supported travel and to students, employees, and other approved participants. All employees and students traveling outside the United States of America for university-supported purposes must follow the [Global Education Office](#)'s procedures to register their travel in the Global Travel Registry before their expected departure date, and should provide updates as additional information becomes available or changes occur during the trip, including cancellations and travel to additional countries. For information on Virginia Tech's required travel accident insurance for all university-related international travel, visit [Risk Management and Insurance](#).

If you are traveling on behalf of Virginia Tech, you or a delegate are required to complete a preapproval in the [Chrome River system](#) for international travel. You must also comply with the travel-related [policies and procedures](#) of the Virginia Tech Controller's Office. Finally, the university requires that all Virginia Tech faculty, staff, and documented representatives traveling internationally for business purposes enroll in the university-approved [Global Travel Insurance](#).

All research or instruction activities involving animals (including wild animals), requires an approved protocol from the [Institutional Animal Care and Use Committee](#) (IACUC). Be prepared to complete all required IACUC training and submission of the protocol well in advance of the initiation of any activities.

All research and instruction involving pathogens, recombinant DNA, or human cell lines requires registration and approval from the [Institutional Biosafety Committee](#) (IBC). Be prepared to complete all required IBC training and submission of the protocol well in advance of the initiation of any activities.

All work activities performed, regardless of location, must comply with [Environmental Health and Safety's](#) programs and guidelines, or the laws and regulations of the country or locality, whichever are stricter.

Departments must ensure that a project-specific [Field Safety Plan](#) is developed by the principal investigator/project manager or instructor prior to the start of fieldwork. Hazard-specific safety training and personal protective equipment may be required in some situations, as well as appropriate medical surveillance and health services.

Field Safety Plans ([template](#)) should include the following information:

- General description of fieldwork to be conducted;
- Itinerary, including location(s) of fieldwork, arrival and departure dates, and mode(s) of transportation;

- Team member names, addresses, phone numbers, and emergency contacts;
- Local contacts who can reach you, if necessary;
- Local emergency contacts and/or procedures (emergency medical services, local hospitals, fire departments, etc.);
- First aid/CPR training for participants;
- Location hazard assessment - hazardous plants, animals, insects, diseases, terrain, and weather conditions for the area;
- Safety equipment and other provisions to be taken on the trip;
- Authorizations for access to state, federal, and/or private lands; and
- Permits for sample collections from respective agencies.

## 2. General Field Safety Guidelines

### Preparations and Paperwork

Fieldwork is an important and integral part of teaching and research at Virginia Tech. This document is intended to help you prepare for procedural, health, and safety hazards you might encounter when your fieldwork is performed off campus. For more specific information on fieldwork hazards and precautions, talk to your supervisor or contact Environmental Health and Safety at 540-231-3600. For questions related to animal care, handling and precautions, speak with the University Attending Veterinarian at 540-232-8747.

### Before You Leave

One of the most important phases of your fieldwork experience is planning and preparations before you leave. The following recommendations will help assure you have a safe trip:

- Prepare a written plan for your trip and leave it with a responsible party in your department. Include the following:
  - General nature of your activities
  - Your schedule/itinerary – Locations; arrival and departure dates; names, addresses, and phone numbers of all fieldwork participants
  - Local Contacts – Names of people at or near your fieldwork site who can reach you if necessary and who are familiar with your check-in and checkout arrangements. The local contact should also be informed of any allergies or

other medical conditions of the field team members. If possible, each day field-workers should also inform a local contact about the daily fieldwork location and the approximate time of return. After each day's work, field-workers should notify the contact when they return. The local contact should be provided with the telephone numbers of people to call (local field personnel, emergency personnel and University contacts) if the workers do not return or report in within a predetermined interval of the scheduled return time.

- Home Contacts – The office contact should also have the name and phone number of family to contact in case the researcher is injured or taken ill. Field-workers should check in with their group office regularly and should advise the group office of any changes in the schedule or points of contact.
- Learn about potentially hazardous plants, animals, terrain, and weather conditions in the areas where you plan to work and complete the “Field Safety Plan” (Appendix A).
- In addition to this manual and EHS, your supervisor/sponsor, other field workers, local residents, and authorities, such as state and national parks, game, or refuge personnel, may be able to provide you with invaluable information.
- Take a CPR and First Aid class. Contact Environmental Health and Safety (540-231-3600), the Virginia Tech Rescue Squad ([vtrsoutreach@vt.edu](mailto:vtrsoutreach@vt.edu)), or the [American Red Cross](#) to enroll. Fees may apply.
- Assemble safety provisions before you leave. Safety provisions may include:
  - First aid kit and aid manual (this should be taken on any trip)
  - Medications you regularly take
  - Allergy treatments
  - Sunscreen and hat
  - Water purification tablets or filter devices
  - Vehicle emergency kit
  - Flashlight
  - Flares (and flare gun for remote locations)
  - Two-way radio (if you will be working alone in an isolated or dangerous area)

- Personal protective equipment for fieldwork activities (safety glasses/goggles, gloves, hard hat, sturdy work boots, etc.) EHS can recommend protective equipment depending on your activities and locations)
- Whenever possible, fieldwork activities should be performed in teams of at least two people. The “buddy” system is the safest way to work.
- Carry photo identification with you at all times in case of accident or injury.
- Contact the Controller’s Office at 540-231-6418 or online at <https://www.controller.vt.edu/> to obtain information about travel insurance and waivers.
- Ask your health insurance provider how your coverage applies to medical treatment in the fieldwork locale, should that become necessary.

## Vaccinations

Travel vaccinations may be needed to protect your health and/or may be required by the country to which you are traveling.

Students who are studying abroad or who are receiving course credit, and employees who are traveling for non-research related activities, will need to arrange their own vaccinations. You should determine what vaccinations are recommended for where you are traveling using the [Centers for Disease Control and Prevention guidance](#). Vaccinations may be available through the [Schiffert Health Center](#) or the Virginia Department of Health – [New River Valley District](#) at 540-585-3300. You will be responsible for all costs associated with these vaccines.

Employees who are performing field research and students who are working under an approved protocol and who are not receiving course credit may be eligible to receive vaccinations through Environmental Health and Safety at no cost. Please complete the [EHS Medical Survey](#) so that this determination can be made.

**Please note that it may take a month or longer to receive all required vaccinations, depending on what you need to receive, so plan accordingly!**

## Medical Care and First Aid

The following guidelines apply to all off-campus activities that involve employees and students, including academic field trips, excursions, and field station operation.

1. A first aid kit must be maintained at all times during the activity or exercise. See EHS’ [guidance](#) on what should be in a first aid kit.
2. At least one employee who is trained in first aid must be present during all fieldwork.

3. At permanent University field stations, written arrangements should be made in advance with local facilities for emergency medical treatment. If you are working from a field station, you should find out what the arrangements are for emergency care.

If a University employee suffers a job-related injury or illness, his or her supervisor must be notified immediately. The supervisor should provide guidance on physicians and file the necessary paperwork with the Human Resources Benefit's Office. Once an employee reports a job-related injury, the supervisor must immediately file the "[Employer's Accident Report Form](#)".

If an employee or student injury or illness occurs outside of the United States, do the following:

**Tend to their immediate needs:**

- Go to the local clinic/hospital, or
- Call the local 911 equivalent, or
- Contact the nearest U.S. Embassy/Consulate

**Contact your local support network**

**Contact Virginia Tech**

On Call International (security assistance provider)

- Outside the U.S. - +1 603-952-2660
- Within the U.S. - 1-877-714-8179 or mail@oncallinternational.com
- VT Global Safety +1 540-750-5747 or [vtglobalsafety@vt.edu](mailto:vtglobalsafety@vt.edu)
- Virginia Tech Police Department +1 540-231-6411 (ext. 1)

For more information, please see the [Global Education Office's guidance](#).

Those employees needing immediate medical treatment for serious injuries may visit the emergency room and will need to report the injury as Workers' Compensation at the time treatment is received. Please note that Workers Compensation and medical coverage is not available for students, stipend or volunteer personnel, and will not provide coverage for nonwork-related injuries.

### **3. Physical and Environmental**

**General Hazards:**

Many general physical and environmental hazards exist in nearly every location worldwide. All persons, regardless of the work location, should read through Table 1 to learn more about some general physical and environmental hazards. If your work will be performed in North America, please read Table 2. If your work will take you out of North America, please read Table 3.

**Table 1. Physical and Environmental Hazards Found Worldwide**

<b>Hazard</b>	<b>Location</b>	<b>Cause</b>	<b>Symptoms</b>	<b>First Aid</b>	<b>Prevention</b>
Travel-related accident	Worldwide	Fatigue; Impaired operation; Operator error; Environmental factors; Equipment factors.	Physical injury and/or death.	Call Local Emergency Line. Secure the scene. Administer basic first-aid and/ or CPR. Seek medical attention as soon as possible.	Be familiar and trained in the safe operation of the vehicle or craft you will operate. Use only licensed pilots or operators.
Hazardous terrain	Worldwide	Walking or hiking in steep or rocky areas.	Physical injury (sprains, fractures, bruises, contusions) and/ or death.	Call Local Emergency Line. Administer basic first-aid and/ or CPR. Seek medical attention as soon as possible.	Wear appropriate shoes. Carry needed items in a well-balanced pack. Use rappelling equipment and hiking poles if needed.
Dehydration	Worldwide	Not enough water intake.	Dry or sticky mouth Dark urine Lethargy Light-headedness Headache	Drink plenty of fluids, take frequent rest breaks, and minimize intake of beverages containing caffeine.	Drink plenty of water (at least 2 quarts of water per day). Drink more if working strenuously or in a warm climate.
Impure Water	Worldwide	Harmful organisms and pathogens living in water sources.	Gastrointestinal illness Flu-like symptoms	Drink clear liquids. Slowly introduce mild foods, such as rice, toast, crackers, bananas, or applesauce. See a doctor if there is no improvement.	Carry your own water. Treat water before use with tablets, purifiers, or by boiling for more than 3 minutes. Wash hands with purified water.
Sunburn	Worldwide	Excessive exposure to the sun.	Irritated skin, pink or red in color.	Apply cool water, aloe, or other cooling lotion to affected area.	Wear long sleeved clothing and a hat. Apply SPF > 30 sunblock. Wear sunglasses.



Hazard	Location	Cause	Symptoms	First Aid	Prevention
Heat Exhaustion	Worldwide: hot climates	Prolonged physical exertion in a hot environment.	Fatigue Excessive thirst Heavy sweating Cool and clammy skin	Cool the victim, treat for shock, and slowly give water or electrolyte replacer.	Acclimate to heat gradually. Drink plenty of liquids. Take frequent rest breaks.
Heat Stroke	Worldwide: hot climates	Prolonged physical exertion in a hot environment.	Exhaustion Light-headedness Bright red skin which is warm to the touch.	Cool the victim at once, replenish fluids, and seek medical attention immediately.	Acclimate to heat gradually. Drink plenty of liquids. Take frequent rest breaks.
Frostbite	Worldwide: cold climates	Exposure to cold temperatures.	Waxy, whitish numb skin. Swelling, itching, burning, and deep pain as the skin warms.	<b>Do not</b> rewarm affected area until you can <b>keep</b> it warm. Slowly warm the affected areas (do NOT rub) and seek medical attention as soon as possible.	Dress in layers. Cover your extremities with warm hats, facemask, gloves, socks, and shoes.
Hypothermia	Worldwide: cold climates	Prolonged exposure to cold temperatures.	Shivering Numbness Slurred speech Excessive fatigue	Remove cold, wet clothes. Put on dry clothes or use a blanket or skin-to-skin contact to warm up. Drink warm liquids and seek medical attention as soon as possible.	Dress in layers. Wear appropriate clothing. Avoid getting damp from perspiration. Use working animals to keep you warm.
Carbon Monoxide	Worldwide	Running a vehicle or burning a fuel stove in an enclosed space.	Severe headaches Disorientation Agitation Lethargy Stupor Coma	Remove the victim to fresh air immediately and perform CPR if needed. Seek medical attention.	Keep areas adequately ventilated when burning fuel. Ensure snow or other debris does not cover vehicle tailpipe.

Hazard	Location	Cause	Symptoms	First Aid	Prevention
	Worldwide	Snow squalls, blizzards, lightning, tornadoes, hurricanes, monsoon rains, floods.	Severe weather can result in physical injury and/or death.	Seek shelter immediately.	Be aware of special weather concerns. Bring appropriate equipment to deal with severe weather.
High Altitude Illness	Worldwide: high altitudes	Decreased oxygen and increased breathing rate.	Headache Nausea Weakness	Use supplemental oxygen and decrease altitude.	Allow your body to acclimatize by gaining elevation slowly.
Drowning	Worldwide	Inhalation of water leading to respiratory impairment	Apnea (suspension of breathing) Death	Take victim out of water. Turn head to side to allow water to drain out. Perform CPR if needed. Seek medical attention as soon as possible.	Know how to swim before performing field activities in water or on boats. Be aware of water safety recommendations for swimming in strong currents if necessary. Always have life preservers and rescue equipment available.
Electric shock	Worldwide	Damaged electric cords Improper electrical wiring Improper grounding	Cardiac arrest, muscle contractions/ shaking, numbness, paralysis, or other neurological symptoms. Burns or other physical injuries.	Provide burn first aid as needed. Go to the nearest emergency room for physical injuries, severe burns, or cardiac arrest.	Inspect cord for damage and replace damaged cords or have them repaired by a qualified person.
Burns	Worldwide	Touching a hot surface (especially metal). Contact with flames.	Pain, redness, swelling, tissue damage. Blisters (2nd degree) Charring (3rd degree)	Cool the burn with cool (not ice) water, cover with sterile bandage, take pain reliever. For 2nd and 3rd degree burns seek medical treatment.	Use gloves when handling hot objects. Avoid open flames.
Assault	Worldwide	Criminal activity, ex. robbery.	Physical injury	Remove victim to a safe location if possible and seek medical attention if needed. Report assault immediately to local authorities.	Be aware of your surroundings. When possible, avoid being alone after dark, especially in high-crime areas. If assaulted, run away if possible, or make noise to attract help.

Table 2. Physical and Environmental Hazards Found in North America

Hazard	Location	Cause	Symptoms	First Aid	Prevention
Hunting Season	United States, Canada, and Mexico	Local hunting seasons and regulations vary.	A hunting accident may result in serious injury or death.	Seek medical attention for serious injuries or wounds.	Wear blaze orange safety vest.  Avoid animal-like behavior (e.g. hiding in thickets).
Poison Plants	North America	Exposure to poison ivy, poison oak, or poison sumac plants.	Itchy rash Red, swollen skin	Apply a wet compress with baking soda or vinegar or use a topical ointment. Avoid scratching the rash.	Avoid contact with poison plants.  Wash clothes and skin with soap and water after exposure.  If sensitive, use Tecnu or similar product to help remove rash-causing oil if exposure occurs.

**Table 3. Physical and Environmental Hazards Found Internationally**

<b>Hazard</b>	<b>Location</b>	<b>Cause</b>	<b>Symptoms</b>	<b>First Aid</b>	<b>Prevention</b>
Poison/Toxic Plants (i.e. Poison wood, Upas, Manchineel Tree, Nettles)	International (especially in subtropical and tropical environments)	Exposure to a large variety of dangerous plants.	Rash, burning sensation, inflammation, blisters, paralyzes, death.	Wash affected area with soap and water. Apply corticosteroid ointment, and cover blisters with sterile gauze. Seek medical attention for serious reactions.	Do Not Touch these plants.  Wear long protective clothing, and gloves.  Wash hands with soap and water frequently (or with alcohol-based sanitizer).
Large Scale Violence	International	Political unrest Military conflict		Leave the area as soon as it is safe to do so.	Be aware of current travel advisories (see Section V).

## 4. Animals and Pests

### General Hazards

Dangerous animals and other pests are present worldwide. General safety rules can help protect you from these hazards. All persons, regardless of the work location, should read through Table 4 for some general guidelines to avoid unwanted animals and pests. If your work will be performed in North America, please also read Table 5. If your work will take you out of North America, please also read Table 6 about International animals.

A number of animals and pests may be encountered in fieldwork. Follow these general guidelines to reduce your risk of exposure:

1. Wear insect repellent – mosquito-borne illnesses are responsible for more than a million deaths each year.
2. Use netting to keep pests away from food and people.
3. Keep garbage in rodent-proof containers and stored away from your campsite or work area. Food crumbs and debris may attract insects and animals.
4. Thoroughly shake all clothing and bedding before use.
5. Do not camp or sleep near obvious animal nests or burrows.
6. Carefully look for pests before placing your hands, feet, or body in areas where pests live or hide (e.g., woodpiles or crevices).
7. Avoid contact with sick or dead animals.
8. Wear long clothes made of tightly woven materials and tuck pants into boots.
9. Minimize the amount of time you use lights after dark in your camp or work site because they may attract pests and animals.
10. Carry a first aid manual and kit with you on any excursion so you can treat bites or stings. If the pest is poisonous or if the bite does not appear to heal properly, seek medical attention immediately.
11. Be aware of the appearance and habitat of likely pests, such as those described in the following pages.
12. Perform good wound management (clean, treated and covered) for all bug bites, scratches, punctures, or other open wounds.

### Rodent Hazards

Steps should be taken to reduce the risk of rodent-borne diseases. If possible, make the area unattractive to rodents by covering or repairing holes leading into a building to prevent unwanted access, keep area clean of trash and food waste, and store food so as to prevent attracting rodents. Do not camp near rodent burrows. If rodent feces or dead rodents are discovered the following precautions will help reduce the risk of exposure to rodent-borne diseases;

1. If at all possible, avoid infested living areas unless they can be safely cleaned.
2. When cleaning in enclosed spaces DO NOT STIR UP DUST.
3. Ventilate the area by opening doors and windows for at least 30 minutes.
4. Spray rodent droppings with 1 part bleach to 9 parts water; let them soak for 5

minutes.

5. With the area cross-ventilated and ONLY while wearing gloves and a properly fitted respirator, wipe up the droppings, place them in a sealable plastic bag and discard. (Please contact EHS well before heading into the field in order to be fit-tested and obtain a respirator.)
6. To remove dead rodents: wear gloves and respirator, spray the rodent and nest material with the same bleach solution as above, let them soak for 5 minutes, place them in sealable plastic bags and discard.

### **Animal Feces Handling**

Many studies involve the collection or examination of animal feces. Minimally, when handling any animal feces, disposable latex gloves and facemask should be worn. Certain feces handling situations, such as non-human primate feces or feces with the potential to contain human transmittable diseases will require a more regimented collection and handling procedure. In any situation where the feces being handled has the potential to be a bio-risk for the researcher, please contact the Environmental Health and Safety at [ehs-g@vt.edu](mailto:ehs-g@vt.edu) or 540-231-3600 for guidance on the recommended handling method, personal protective equipment (PPE), and regulatory requirements before initiating the project.

**Table 4. Animals and Pests found Worldwide**

<b>Type</b>	<b>Location</b>	<b>Most Dangerous Species</b>	<b>Defensive Action</b>	<b>First Aid</b>	<b>Prevention</b>
Mosquitoes	Worldwide, especially wet areas conducive to breeding	Refer to Section IV: Diseases	Avoid contact with mosquitoes whenever possible	Use topical ointment to relieve itching.	Use insect repellent to deter mosquitoes. Don't leave standing pools of water.
Rodents	Worldwide	Refer to Section IV: Diseases	Do not touch a rodent, dead or alive.	Clean wounds thoroughly if bitten or scratched.	Keep areas clean to avoid attracting rodents. Keep food stored in sealed containers.
Triatomine ("Cone-nosed", "Kissing" or "Assassin") Bugs	North and South America	May cause allergies in some people. Refer to Section IV: Diseases	Avoid contact with Triatomine bugs whenever possible.	Use topical ointments to sooth itching. Take victim to the hospital in case of anaphylactic shock.	Use caution when working near animal resting areas, rock structures, or substandard housing.
Sharks	Worldwide: Shores of oceans, including the U.S., Africa, Central and South America, Australia, and the Pacific Islands	Great White, Bull, Tiger, Oceanic Whitetip	Call for help. Swim towards safety. Punch or kick the shark if necessary.	Seek medical attention for serious injuries or wounds.	Never swim alone. Don't wear sparkling jewelry. Don't enter the water when bleeding.
Crocodiles and Alligators	Worldwide: Tropics and sub- tropics of North America, Australia, eastern China, and Africa	American Alligator (North America), American Crocodile (South Florida), Estuarine Crocodile (Australia), Nile Crocodile (Africa)	Do not provoke an alligator or crocodile.	Seek medical attention for serious injuries or wounds.	Avoid waters known to be home to crocodiles or alligators. Keep at least 30 feet away from any crocodile or alligator.

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Water Dwellers - i.e., Octopus, Jellyfish, Stonefish, Stingrays.	Worldwide, especially Australia, also in other tropical and subtropical areas	Blue Ringed Octopus, Box Jellyfish, and Irukandji Jellyfish (Australia). Stonefish (worldwide). Stingrays (worldwide).	Never touch an unidentified octopus or jellyfish. Avoid stepping on any water dwelling species.	<p><b>ALL – Seek Emergency Medical Attention</b></p> <p>Jellyfish sting: Use seawater to remove nematocysts. Pour vinegar on the wound.</p> <p>Stonefish sting: Rinse in hot water (45°C or 113°F).</p> <p>Blue-ringed octopus sting: Provide CPR and/or supportive care to the patient and seek medical attention IMMEDIATELY.</p> <p>Stingray sting: irrigate wound to remove spine fragments; apply pressure to stop bleeding; soak wound in hot water or apply heat packs; remove sting pieces, then clean wound.</p>	<p>Avoid going in waters known to be inhabited by jellyfish and octopus.</p> <p>Wear sandals in the water to avoid stepping on a stonefish. Shuffle in the water or throw stones in before wading to avoid stepping on stingrays.</p> <p>Wear a wet suit to protect from stings and hypothermia.</p> <p>Wear protective clothing (gloves, aprons, etc.) if you must handle one of these species.</p>



Table 5. Animals and Pests found in North America

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Bears	North America	<p>Black Bears (N.A). Grizzly (Brown) Bear (Alaska, Western Canada, Rocky Mountain West). Polar Bear (Arctic).</p> <p>Note that some grant funding agencies may require you have an armed bear spotter in the Arctic or Antarctic, and it may be prudent regardless!</p>	<p><b>All – Never Run</b> <b>All – Use pepper spray if attacked.</b></p> <p>Black Bears – Use loud voice and make yourself look larger, if attacked fight back. Grizzly Bears – Back slowly away, if attacked play dead in the fetal position and protect head.</p>	Seek medical attention for serious injuries or wounds.	<p>Keep food out of sleeping area and out of bears reach.</p> <p>Never approach a bear or bear cub.</p> <p>Wear a bell or other noisemaker or sing while walking.</p> <p>Stay away from a bear’s food supply.</p>
Mountain Lions	Western Canada south throughout western United States and Texas South into Central America. Small population in South and Central Florida.	All	<p><b>DO NOT RUN</b>, back away slowly. Make yourself look larger (arms overhead). Use loud voice. Throw sticks or rocks. If attacked – fight back and protect your head and neck. Use pepper spray.</p>	Seek medical attention for serious injuries or wounds.	<p>Avoid activities alone when mountain lions are most active – dawn, dusk, night.</p> <p>Avoid dense growth areas, rock outcroppings, and ledges.</p> <p>Be aware of surroundings above and behind you.</p> <p>Do not attract deer.</p>

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Large Ungulates	North America	Moose, Elk, Bison	Keep a safe distance at all times.	Seek medical attention for serious injuries or wounds.	Keep a safe distance at all times especially from males during breeding season. Do not disturb or startle.
Snakes	North America	Rattlesnakes, Coral Snakes, Moccasins, and Copperheads	Do not pick up, disturb, or corner a snake. Move away from the snake.	Let the wound bleed freely for 30 seconds. Apply a cold pack. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).	Walk in open areas. Wear heavy boots. Use a stick to disturb the brush in front of you.
Scorpions	North America, especially Mexico, Arizona, southeastern California, and Utah	All	Avoid contact with scorpions whenever possible.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Use painkiller or antihistamine if desired. Take victim to hospital if he or she shows no signs of improvement.	Always shake out clothing and bedding before use. Avoid lumber piles and old tree stumps.
Spiders	North America	Black Widow and Brown Recluse	Do not pick up or disturb a spider.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible)	Use care around rock piles, logs, bark, outdoor privies, and old buildings. Shake out clothing and bedding before use. Wear thick gloves.

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Bees and Wasps	North America	Bees, wasps, hornets, and yellow jackets, Africanized Killer Bees (southeastern U.S.)	Avoid contact when possible. Avoid bright colors, flower prints or perfume. Move slowly – do not swat.	Remove the stinger quickly. Place an ice pack and elevate to heart level. Use an antihistamine if needed.	Bring medication if you have an allergy (the sting may be fatal). Keep scented foods and meats covered.
Fleas and Ticks	North America	Refer to Section IV: Diseases	Avoid contact with animals or areas where fleas and ticks might be found when possible. Apply repellent to clothing.	Remove the flea or tick with tissue or tweezers and clean wound with antiseptic. Pay attention for signs of illness (see Section IV: Diseases) and seek medical attention if needed.	Wear long clothing of tightly woven material. Tuck pants into boots. Wear Repellent. Drag cloth across campsite to check for fleas or ticks.

Table 6. Animals and Pests found Internationally

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Bears	Worldwide: Artic, South America, Europe, Asia	Polar Bears – Greenland, and northern Russia Spectacled Bears – western South America Asiatic Black Bears – East and Southeast Asia into Afghanistan and Pakistan Brown Bears – northern and mountain regions of Europe, Mountain regions of Middle East, Russia, Asia, and northern Japan. Sloth Bears – India, Nepal, Bhutan, Bangladesh, Pakistan, and Sri Lanka	<b>All – Never Run</b> All – Use pepper spray Asiatic Black and Spectacled Bears – Use loud voice and make yourself look larger, if attacked fight back. Polar, Brown, and Sloth Bears – Back slowly away, if attacked play dead in the fetal position and protect head.	Seek medical attention for serious injuries or wounds.	Keep your camp area free of garbage and food waste. Never feed or approach a bear, especially a cub. Stay away from the bear’s food. Make noise while traveling in bear occupied areas.
Big Cats	South America, Africa, Asia, and Russia	Jaguar – Central and South America Cougar – Central and South America Lion – Africa Leopard – Africa, Middle East, India, Asia, and Russia Tiger - Asia	<b>DO NOT RUN.</b> Do not startle or provoke. Don’t look into eyes. Make yourself look large. If attacked – fight back, protect your head and neck.	Seek medical attention for serious injuries or wounds.	If possible stay inside vehicle. Do not camp in Big Cat inhabited areas. Do not provoke. Be alert at all times.

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Other Large Land Animals	Africa and Asia	Hippos, African Elephant, Rhinos, and Buffalo (Africa), Asian Elephants, Takin	Do not provoke. Do not startle.	Seek medical attention for serious injuries or wounds.	If possible stay in a vehicle. Do not camp near areas frequented by large animals. Stay alert and look out for the animals.
Snakes	Worldwide	Russel’s Viper and Indian Cobra (India); Tiger, Black, Brown and Sea Snakes (Australia); Egyptian Cobra, Puff Adder, and Saw Scaled Viper (Africa); Ferdelance (Central and South America)	Do not pick up, disturb, or corner a snake. Move away from the snake.	Let the wound bleed freely for 30 seconds. Apply a cold pack sparingly. Do NOT tourniquet. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).	Walk in open areas. Wear heavy boots. Use a stick to disturb the brush in front of you.
Spiders	Worldwide	Funnel Web and Redback Spiders (Australia); Brazilian Wandering Spider, Brown Recluse, and Tarantula (South America)	Do not pick up or disturb a spider.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Take victim to hospital (alert them first). Kill spider for positive ID (if possible).	Use care around rock piles, logs, bark, outdoor privies, and old buildings. Shake out clothing and bedding before use. Wear closed shoes. Wear gloves when working outside.

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Scorpions	Worldwide, especially North Africa, the Middle East, South America, and India	All	Avoid contact with scorpions whenever possible. Do not pick up or disturb scorpions	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Use painkiller or antihistamine if desired. Seek medical attention if no signs of improvement.	Always shake out clothing and bedding before use. Avoid lumber piles and old tree stumps. Wear closed shoes. Wear gloves when working outside.

## 5. Diseases

### General Hazards

There are diseases caused by viruses, bacteria, fungi, and parasites cause diseases in nearly every location worldwide. Some diseases, which are carried or transmitted by an animal, are known as “vector-borne” diseases. Where appropriate, the scientific name of the disease organism, or vector, is included in italics in tables 7 and 8.

This guide is not intended to cover every health risk in every location, but it provides information about some common diseases.

Always check with your health care provider, or the local Department of Health before travelling out of the country to learn about specific health risks for the region in which you will traveling.

All persons working in the field, regardless of the work location, should read through Table 7 to learn more about some general diseases that exist worldwide. If your work will be performed in North America, please also read Table 8. If your work will take you out of North America, please also read Table 9.

You should plan to carry or create potable water for use in remote locations, which will be required for general consumption, cooking and hygiene. Keep bites/scratches/wounds clean and possibly cover the wound while in the field. Hand hygiene or showering with non-potable water is not recommended. If clean water is not available for hand or general hygiene, consider using premixed disinfectants suitable for skin contact.

Consider rescheduling the trip if you are on any medications that suppress your immune system.

Table 7. Diseases Found Worldwide

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Food-borne: Campylobacter	Worldwide	Poultry Products, unpasteurized milk or water contaminated with <i>Campylobacter</i>	Diarrhea Gastrointestinal symptoms Fever	Drink plenty of fluids. Seek medical attention if symptoms persist for longer than 3 days.	Always cook food thoroughly. Never drink water from an impure source. Do not drink unpasteurized milk Wash hand with soap and water frequently.
Food-borne: Cholera	Africa, Asia, Latin America	Contaminated food and water contaminated with <i>Vibrio cholerae</i>	Diarrhea Gastrointestinal symptoms	Drink plenty of fluids. Seek medical attention if symptoms persist for longer than 3 days.	Always cook food thoroughly. Never drink water from an impure source. Wash hands with soap and water frequently.
Food-borne: <i>E. coli</i>	Worldwide	Beef, unpasteurized milk, unwashed raw vegetables, contaminated water	Diarrhea Gastrointestinal symptoms	Drink plenty of fluids. Seek medical attention if symptoms persist for longer than 3 days.	Always cook food thoroughly. Wash vegetables before consuming. Never drink water from an impure source. Wash hands with soap and water frequently.
Food-borne: Hepatitis A - <b>Vaccine available</b>	Worldwide (under- developed countries)	Contaminated water, shellfish, unwashed raw vegetables	Diarrhea Gastrointestinal symptoms	Drink plenty of fluids. Seek medical attention if symptoms persist.	<b>Obtain a vaccine.</b> Consult with your doctor at least 1 month prior to departure. Always cook food thoroughly. Wash vegetables before consuming. Never drink water from an impure source. Wash hands with soap and water frequently.
Food-borne: Salmonella	Worldwide	Beef, poultry, milk, eggs, unwashed raw vegetables	Diarrhea Gastrointestinal symptoms	Drink plenty of fluids. Seek medical attention if symptoms persist.	Always cook food thoroughly. Wash vegetables before consuming. Wash hands with soap and water frequently.



Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Food-borne: Typhoid Fever - <b>Vaccine available</b>	Worldwide	Contaminated water, shellfish, and unwashed raw vegetables.	Diarrhea Gastrointestinal symptoms	Drink plenty of fluids. Seek medical attention if symptoms persist more than 3 days.	<b>Obtain a vaccine.</b> Consult with your doctor at least 1 month prior to departure. Always cook food thoroughly. Never drink water from an impure source. Wash hands with soap and water frequently.
Histoplasmosis	Worldwide (especially Miss. & Ohio River Valleys)	Inhalation of fungus <i>Histoplasma capsulatum</i> from soil contaminated with bat or bird droppings	Mild flu-like symptoms Occasionally can turn into acute pulmonary histoplasmosis	See a doctor if you suspect histoplasmosis. Typically clears up in 3 weeks.	Use caution when disturbing dry soils or working near bat or bird droppings. Keep surfaces wet to reduce dust. PPE may be needed (Consult EHS)
Leptospirosis	Worldwide	Ingestion, swimming, or other activities in water that is contaminated with the <i>Leptospira</i> bacteria. Contact with infected animal blood or body fluids.	Flu-like Occasionally more serious symptoms such as high fever, headache, meningitis, vomiting, jaundice, liver and kidney failure.	See a doctor if you suspect leptospirosis.	Use care when working in the water, especially after a flooding event. Avoid entering the water with open wounds. Handle potentially infected animals with gloves.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Bubonic or Sylvatic Plague	Worldwide	Flea-borne (bites) - Fleas are infected by rodents with <i>Yersinia pestis</i> . Direct contact with infected tissues or fluids from sick or dead animals.	Flu-like Nonspecific Swollen and painful lymph nodes (bubonic)	See a doctor if you suspect plague.	Use care when working in areas where plague is found. Use caution and wear PPE when working with wild rodents. Wear gloves and wash hands frequently
Rabies - <b>Vaccine available</b>	Worldwide	Infection from bite of animal infected with <i>Lyssavirus</i> (Typical carriers are raccoons, skunks, bats, foxes, coyotes, dogs, and cats) Bat bites may be difficult to see and may not be felt. Exposure is also possible when a bat is found in living or sleeping quarters.	<b>FATAL</b> (within days of onset of symptoms) without immediate treatment. Early – fever, headache, malaise, spasms. Later – insomnia, anxiety, confusion, paralysis, hallucinations, difficult swallowing, fear of water.	Disinfect and wash the wound and then see a doctor <b>IMMEDIATELY</b> if bitten by a rabies-carrying species (e.g. bats, carnivores). If possible collect the animal for testing. Seek medical attention immediately <b>EVEN</b> if you are vaccinated as you may still need a post-exposure booster.	<b>Obtain the vaccine</b> series if you will be working with bats or other carnivores. Use extreme caution when handling these animals and wear thick gloves and other necessary PPE.
Tetanus - <b>Vaccine available</b>	Worldwide	A wound becomes infected with <i>Clostridium tetani</i> and the toxin produced attacks the nervous system.	Early – lockjaw, stiffness in neck and abdomen, difficulty swallowing. Later – painful muscle spasms, seizures, nervous system disorders.	See a doctor for any wounds (punctures, crushing, burns, frostbite) contaminated with dirt, feces, or saliva.	Obtain a tetanus shot every 10 years and immediately follow-up with any wound suspected to be contaminated.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Typhus Fever	Worldwide	Infection from bite of lice, fleas, ticks, or mites infected with <i>Rickettsiae</i> species	Headache Fever Rash	See a doctor if you suspect typhus fever. Treatable with antibiotics	Use insect repellents. Wear long sleeved shirts. Tuck pants into boots.
Human Immuno-deficiency Virus / Acquired Immune Deficiency Syndrome (HIV/AIDS)	Worldwide	Exposure to blood or body fluids infected with HIV (or SIV – from non-human primates). Having sex or sharing needles with someone infected with HIV.	Flu-like symptoms for 14-60 days post infection. Attacks the immune system and may eventually result in opportunistic infections or cancers.	None. Blood test needed for diagnosis. Treatment with antiretroviral drugs for long term maintenance.	Strictly adhere to blood borne pathogen training when handling any unfixed human or non-human primate blood, body fluids or tissue. Do not engage in risky activities.
Influenza (seasonal)	Worldwide Pandemic strains have been reported in Africa, Asia, Europe, Near East, Mexico and occur primarily in in birds.	Inhalation of the virus from infected people OR Direct contact with birds infected with influenza.	Fever (usually high) Headache Extreme tiredness Dry cough Sore throat Runny or stuffy nose Muscle aches Stomach symptoms (nausea, vomiting, diarrhea) more common in children.	Flu antiviral drugs can treat or prevent infection but should be started within 48 hours of getting sick. Antiviral drugs can be 70-90% effective in preventing infection Seek medical attention.	<b>Routine flu vaccination.</b> Cover your nose or mouth when you cough and sneeze. Wash hands with soap and water frequently or with alcohol based sanitizer. Stay away from people who are sick Avoid unprotected contact with birds, especially in areas of concern. If you get sick, stay home.
Norovirus “Norwalk-like viruses” (NLV) Gastroenteritis	Worldwide	Foodborne – food, water, surfaces or objects contaminated with <i>Norovirus</i> . Direct contact with another infected person	Nausea, Vomiting, diarrhea, stomach cramping. Some people also have a low-grade fever, chills, headache, muscle aches, malaise.	Stay hydrated	Wash hands with soap and water frequently. Wash fruits/vegetables & steam oysters. Clean and disinfect contaminated surfaces immediately after illness using bleach-based cleaner. Wash contaminated clothing or linens.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Anthrax – <i>Bacillus anthracis</i>	Worldwide - most commonly seen in ruminants, also occurs in horses and pigs and rarely in dogs and cats.	Anthrax spores found in soil. Infection can be transmitted by contact with infected animals or animal products. Can enter directly through cut/abrasions or by breathing in anthrax spores from infected animal products (wool, hides, etc.) Humans can also develop gastro-intestinal infection by eating undercooked meat from infected animals.	Animals – Sudden death with little bloat, exhibit little rigor mortis, and bleed discharge that do not clot.  Human - skin: most common, localized, painless ulceration w/ central black scab. Human – Pulmonary: flue like with subsequent development of respiratory distress and failure. Human – Intestinal/GI: rare, fever, anorexia, vomiting, and bloody diarrhea.	Seek Medical Attention	Get the Vaccine (if at high risk) If suspected in animals then do not disturb the carcass and do not perform a necropsy. Wear gloves and closed shoes and long clothing. Wash hand with soap and water frequently. Avoid suspected infected animals or wear mask. Always cook meat thoroughly. Avoid any unfixed animal skin from endemic countries (i.e. natural drum skins, or artifacts).
Brucella – <i>Brucella spp.</i>	Worldwide - occurs in cattle, buffalo, dogs, goats, and pigs. Rarely in rodents, horses and dogs.	Ingestion of unpasteurized milk or cheese. Contact of wounds or mucous membranes with placental tissues, vaginal secretions, blood, urine, etc. Inhalation of aerosolized organisms.	Animals – abortion, testicular infection, arthritis.  Humans – flu-like, recurrent fevers, extreme fatigue, arthritis. Occasionally abortion and testicular inflammation.	Seek Medical Attention	Wash hands with soap and water, especially after handling animals. Do not drink raw unpasteurized milk. Wear gloves, mask, and overalls Apply ABSL-3 protocols when working with potentially infected animals.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Q Fever (Coxiellosis) – <i>Coxiella burnetii</i>	Worldwide – primarily found in cattle, sheep and goats but also found in other wildlife, livestock and pets.	Transmission usually occurs by inhalation of contaminated dried placental material, birth fluids, and excreta from infected animals. It can also be transmitted through the consumption of unpasteurized milk or in rare cases through tick bites.	Animals – normally none, rarely abortions in sheep and goats.  Humans – sudden onset of high fever lasting 1-2 weeks, severe headaches, weakness, muscle pain, nausea, vomiting, abdominal or chest pain.	Seek Medical Attention  People with cardiac valve issues are at increased susceptibility.	Always wear gloves and face mask when handling placenta, birth fluids, neonates, and when cleaning birthing areas. Use disposable coveralls and boot covers while working in and around birthing areas. Utilize boot sanitization stations and autoclave clothes from personnel involved in handling potentially infected individuals. Wash hands with soap and water after handling animals. Do not drink raw unpasteurized milk.
Giardia – <i>Giardia lamblia</i>	Worldwide – found in soil, food, water, or surfaces contaminated by feces of infected humans or animals.	Most commonly ingested both directly and indirectly through objects contaminated with feces. Especially water sources.	Diarrhea, gas/flatulence, abdominal cramps, nausea, “greasy” appearing feces.	Treatment not always necessary as the infection usually resolves itself. If persistent or acute seek medical attention. Stay hydrated.	Avoid drinking natural water sources or likely contaminated sources. Filter or boil all questionable water. Always wear gloves if in contact with fecal material.

**Table 8. Diseases Found in North America**

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Coccidioidomycosis – “Valley Fever”	North and South America: Arid Regions	Fungus is inhaled when soil is disturbed.	Flu-like symptoms. Occasionally becomes severe lung disease.	See a doctor if you suspect Valley Fever.	Use caution when in close contact with soil or dust and keep surfaces wet to reduce dust. African Americans, Filipinos, and immuno-compromised are at greater risk than others.
Encephalitis	North and South America (St. Louis Encephalitis) and the U.S. (West Nile Virus)	Infection from bite of an infected mosquito.	Mild: fever and headache Severe: headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, very occasionally, death.	Seek medical attention immediately if you suspect encephalitis.	Use mosquito repellents. Wear long pants and long-sleeved shirts. Avoid being bitten by mosquitoes. Avoid areas of standing water where mosquitoes breed.
Lyme Disease ( <i>Borrelia burgdorferi</i> )	United States, Europe, and Asia	Infection through the bite of an infected tick.	Spreading rash. Early: flu-like symptoms Later: arthritis and neurologic problems	See a doctor if you suspect Lyme Disease.	Avoid tick-infested areas. Wear long pants and long-sleeved shirts. Use tick repellent. Check clothing and hair for ticks and remove any ticks.
Rocky Mountain Spotted Fever ( <i>Rickettsia rickettsii</i> )	United States, southern Canada, Mexico, and Central America	Infection through the bite of an infected tick.	Sudden onset of fever, headache, muscle pain, spotty rash.	See a doctor if you suspect Rocky Mountain Spotted Fever.	Avoid tick-infested areas. Wear long pants and long-sleeved shirts. Use a tick repellent. Check clothing and hair for ticks and remove any ticks.

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Hantavirus Pulmonary Syndrome (HPS)/ Sin Nombre Virus	North America	Inhalation of dusts or aerosols from the infected rodent's feces, urine, or saliva.  Vector: Deer mouse (Peromyscus maniculatus)	Early (1 to 5 weeks): Fatigue, fever, muscle aches, and sometimes headaches, dizziness, chills, and abdominal problems. Late (4 to 10 days after early symptoms): coughing, shortness of breath.	Seek medical attention IMMEDIATELY if you suspect HPS. The likelihood of survival is greatly increased with early diagnosis and treatment.	Avoid contact with rodents, especially their feces. Wear appropriate PPE if working around or handling rodents. See page 10 for details on how to clean and dispose of a rodent infected area.
Arenavirus (White Water Arroyo— WWA)	North America	Inhalation of dusts or aerosols from infected rodent's feces, urine, or saliva.  Vectors include: Woodrats (Neotoma fuscipes) and other Neotoma species.	Fever. Headache. Muscle aches. Severe respiratory distress (occasionally).	Seek medical attention IMMEDIATELY if you suspect WWA. The likelihood of survival is greatly increased with early diagnosis and treatment.	Avoid contact with rodents, especially their feces. Wear appropriate PPE if working around or handling rodents. See page 10 for details on how to clean and dispose of a rodent-infected area.

Table 9. Diseases Found Primarily Outside of North America

Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Dengue Fever	Africa, Southeast Asia and China, India, the Middle East, South and Central America, Australia and the Pacific Islands	Infection from the bite of an infected mosquito	Flu-like symptoms. Rash. Takes up to 1 month to recover.	See a doctor if you suspect Dengue Fever.	Wear long sleeved shirts and long pants. Use mosquito repellents. Use a mosquito net.
Malaria - <b>Effective prevention with proper drug regime</b>	Central and South America, Hispaniola, Africa, India, Southeast Asia, the Middle East, and Oceania	Infection from the bite of an infected mosquito.	May take 10 to 30 days for symptoms to appear. Flu-like symptoms. Anemia. Jaundice. Can be fatal.	See a doctor if you suspect Malaria.	Visit doctor 4 to 6 weeks before travel for anti-malarial drugs. Wear long pants and long sleeved shirts. Use mosquito repellents. Use a mosquito net especially at night.
Yellow Fever - <b>Vaccine Available</b>	South America and Africa	Infection from the bite of an infected mosquito.	Flu-like symptoms. Jaundice. Can be fatal.	See a doctor if you suspect Yellow Fever.	Visit doctor at least 10 days before travel for vaccine. Wear long pants and long-sleeved shirts. Use mosquito repellents Use a mosquito net.
Hantavirus and Arenavirus	Central and South America and Asia	Inhalation of dusts/ aerosols from infected rodent’s feces, urine, or saliva. Vector: Rodents; especially Neotoma and Peromyscus species.	Fever. Headache. Muscle aches. Severe respiratory distress (occasionally).	Seek medical attention IMMEDIATELY if you suspect hanta or arenavirus. Early treatment greatly increases the odds of survival.	Avoid contact with rodents, especially with their feces. Wear appropriate PPE if working around or handling rodents. See page 10 for details on how to clean and dispose of a rodent infected area.



Type	Location	Exposure Route	Symptoms	First Aid	Prevention
Schistosomiasis	Brazil, Egypt, sub-Saharan Africa, southern China, the Philippines, and Southeast Asia	Transmitted by swimming in contaminated fresh water.	Can be asymptomatic. Acute (2 to 3 weeks): fever, lack of appetite, weight loss, abdominal pain, weakness, headaches, joint and muscle pain, diarrhea, nausea, and cough. Chronic: disease in the lungs, liver, intestines, or bladder.	See a doctor if you suspect schistosomiasis.	Avoid freshwater wading or swimming in endemic regions. Heat bath water over 50°C for at least 5 minutes before use.

## Other Diseases (Vector-Borne)

Many other vector-borne diseases may pose a problem when travelling out of the country. Always check with the health department to learn the specific threats in your location of study. Some other vector-borne diseases include:

- A. African Sleeping Sickness: carried by the tsetse fly in Africa
- B. Chagas Disease: transmitted by the Triatomine (“Cone-nosed”, “Kissing” or “Assassin”) bug in Central and South America
- C. Encephalitis: carried by mosquitoes in Asia and eastern Russia
- D. Leishmaniasis: transmitted by sand flies in the tropics and subtropics
- E. Filariasis: carried by mosquitoes in the tropics
- F. Onchocerciasis causes “river blindness” and is carried by black flies in Africa, Arabia, and Central and South America.

## Other Diseases (General)

There are other diseases to be aware of when travelling outside the United States. While risk of infection is generally low, it is important to be aware of them and take appropriate precautions to guard against diseases such as tuberculosis, HIV/AIDS, SARS, and viral hemorrhagic fevers. Always check with your health care provider to learn more about specific diseases that exist in the region where you will be conducting your research.

## 5. Resources

Many available resources may provide more in-depth information regarding your research environment. Please use the references in this section for further information on topics discussed in this manual.

### On Campus

**Environmental Health and Safety (EHS)** actively promotes a positive, responsible, integrated safety culture at all levels of the university community, advocates providing a safe and healthy living, learning, and working environment for all, and assists departments with complying with regulations and mandates. They can be reached at 540-231-3600 or online at <https://ehs.vt.edu/>.

**Schiffert Student Health Center** provides patients with a broad spectrum of care that is both preventative and curative. Services include care for acute illnesses and injuries, as well as more chronic conditions. The health center can be reached at 540-231-6444 or online at <http://www.healthcenter.vt.edu>.

**The Office of Export and Secure Research Compliance (OESRC)** can assist with export and sanction determinations related to your international travel. They can provide helpful

information concerning international travel procedures and best practices to ensure compliance with federal regulations. OESRC can also provide assist with waivers and travel insurance. They can be reached at 540-232-8573 or online at <https://www.research.vt.edu/oesrc.html>.

**The Office of Research and Innovation (ORI)** provides professional administrative and support staff to oversee university community compliance with applicable laws, regulations, and guidelines associated with research and teaching at Virginia Tech. Compliance assurance in all of the affected areas is required to ensure continued permission by the government to conduct research at our institution. Information is available online at <https://www.research.vt.edu/> or individual committee information is available online at: Institutional Animal Care and Use Committee (IACUC) - <https://www.research.vt.edu/iacuc.html>, Institutional Review Board (IRB) - <https://www.research.vt.edu/sirc/hrpp/institutional-review-board.html>, Virginia Tech Institutional Biosafety Committee - <https://www.research.vt.edu/ibc.html>.

**The Human Resources Office** is available for questions about workers' compensation coverage and injury reports. They can be reached at (540) 231-9331 or online at <https://www.hr.vt.edu/benefits.html>.

**First Aid/CPR Training** is available on campus from the Virginia Tech EHS 540-231-3600 and the Virginia Tech Rescue Squad at [vtrsoutreachlt@vt.edu](mailto:vtrsoutreachlt@vt.edu).

## Off Campus

**General:** The Centers for Disease Control and Prevention (CDC) offers a web site that describes many topics related to travel, both domestic and international: <https://wwwnc.cdc.gov/travel>.

**Travel Warnings** are issued when long-term, protracted conditions make a country dangerous or unstable, resulting in State Department recommendations for Americans to avoid or consider the risk of travel to that country. More information can be found online at <https://travel.state.gov/content/travel.html>.

**International Travel Vaccinations:** The Virginia Department of Health – New River Health District can provide International travel consultations and vaccinations. They can be reached at 540-585-3300 or online at <https://www.vdh.virginia.gov/new-river/>.

**Medical Information** about a variety of illnesses, including dehydration, carbon monoxide poisoning, sunburn, excessive heat, hypothermia, and high-altitude sicknesses, can be found on-line at <http://www.webmd.com>.

**Diseases:** The CDC offers more detailed information about many diseases on their web site at <https://wwwnc.cdc.gov/travel>.

**Weather:** More information on extreme weather and how to protect yourself can be found from the National Weather Service at <https://www.weather.gov/safety/>.

**Impure Water:** For more information about water-borne diseases, the CDC provides information on-line at <https://www.cdc.gov/healthywater/index.html>.

**Hantavirus:** The CDC has detailed information about hantavirus available at <https://www.cdc.gov/hantavirus/>.

**Hunting Season:** To get more information concerning hunting seasons and regulations, contact the U.S. Forest Service on-line at <https://www.fs.usda.gov/visit/know-before-you-go/hunting>.

**Lyme Disease:** The American Lyme Disease Foundation provides information about the disease at <http://www.aldf.com/>.

**Poisonous Plants:** More information about poison plants, including photos, can be found at <https://med.virginia.edu/brpc/the-learning-center/the-socrates-project/>  
[\(format for Appendix A to start on a new page with portrait orientation\)](#)

# Field Safety Plan

This form may be used by the Principal Investigator (PI), or Project Lead, to assist with the development of a Field Safety Plan. The completed plan should be shared with all the members involved in the fieldwork and kept on file at campus. Multiple trips to the same location, for the same type of work, can be covered by a single plan. The plan should be revised whenever a significant change to the location or scope of fieldwork occurs. Environmental Health and Safety (EHS) is available to assist with the completion or review of the plan.

## I. General Description of Fieldwork

Principal Investigator/Instructor:	Department:
Phone number:	E-mail address:
Briefly describe the fieldwork to be conducted:	

## II. Itinerary

Location(s) of fieldwork (country, state/province, nearest city, geographical site, etc.):	Arrival date:  Departure date:
Accommodations for overnight travel:	
Modes of transportation (including registration numbers of vehicles/boats that are owned/leased:	

## III. Communications

Team Leader:	University contact:
Phone/email:	Phone/email:

<input type="checkbox"/> Attach a list of all team members to this plan, including names, addresses, phone numbers, and emergency contact information.
What means of communication will be available during fieldwork (equipment):
Communication Plan (describe your protocol/schedule for maintaining contact with the university representative):
Action Plan (describe your protocol/timeline for alerting authorities to begin search and rescue if the communication plan is not met):

#### IV. Local Contacts

Local (field) Contact:	Phone/email:
Nearest hospital:	Phone/location:
Emergency Services (police, fire, rescue):	Phone/radio:

#### V. Risk Assessment and Emergency Procedures

Risk:	Emergency Planning:
<input type="checkbox"/> Infectious diseases	Identify and obtain vaccines/immunizations.
<input type="checkbox"/> Animal handling	Review with EHSS and IACUC.
<input type="checkbox"/> Local hazardous plants	Identify and define prevention techniques.
<input type="checkbox"/> Local wildlife	Identify and define protocols and training.
<input type="checkbox"/> Local insects/arthropods	Identify and define protocols and anti-venoms.
<input type="checkbox"/> Water hazards	Define protocols and training.
<input type="checkbox"/> Ice hazards	Define protocols and training.
<input type="checkbox"/> Electrical hazards	Define protocols and training.
<input type="checkbox"/> Wildfires	Define protocols and training.
<input type="checkbox"/> Confined spaces (ex. caves)	Define rescue protocols and plan.

<input type="checkbox"/> Heights (ex. trees, cliffs)	Define rescue protocols and plan.
<input type="checkbox"/> Unusual terrain	Define protocols and training.
<input type="checkbox"/> Historical structures	Define protocols and training.
<input type="checkbox"/> Disaster area	Define protocols and training.
<input type="checkbox"/> Violence (ex. political, military)	Define protocols.
<input type="checkbox"/> Adverse weather conditions	Define prevention and sheltering methods.

## VI. Safety Equipment and Other Provisions

<p><b>Work-Related Hazards:</b></p> <input type="checkbox"/> Animal handling <input type="checkbox"/> Flying debris or impact (eyes) <input type="checkbox"/> Impact or electrical contact (head) <input type="checkbox"/> Excessive noise <input type="checkbox"/> Cuts, abrasions (hands) <input type="checkbox"/> Impact or compression (feet) <input type="checkbox"/> Fall hazards <input type="checkbox"/> Water hazards <input type="checkbox"/> Low visibility hazards (hunting, road work, etc.) <input type="checkbox"/> Electrical <input type="checkbox"/> Fire hazards (welding, cutting) <input type="checkbox"/> Other:	<p><b>Personal protective equipment:</b></p> <input type="checkbox"/> Barriers for direct contact with animals <input type="checkbox"/> Safety glasses/goggles/face shield <input type="checkbox"/> Hard hat (with/without headlight) <input type="checkbox"/> Hearing protection <input type="checkbox"/> Gloves (as appropriate) <input type="checkbox"/> Work boots (as appropriate) <input type="checkbox"/> Personal fall arrest system <input type="checkbox"/> Floatation devices <input type="checkbox"/> Fluorescent orange or reflectorized vests <input type="checkbox"/> Flame-resistant or flame-retardant clothing <input type="checkbox"/> Portable fire extinguisher <input type="checkbox"/> Other:
<p><b>Environmental Hazard:</b></p> <input type="checkbox"/> Excessive heat/sunlight <input type="checkbox"/> Excessive cold <input type="checkbox"/> Under water/diving <input type="checkbox"/> Remote location <input type="checkbox"/> Insects/Ticks/Spiders <input type="checkbox"/> Other:	<p><b>Clothing/Equipment/Provision:</b></p> <input type="checkbox"/> Light clothing, wide-brimmed hat, sunscreen <input type="checkbox"/> Thermal clothing, blankets, etc. <input type="checkbox"/> Wet suit <input type="checkbox"/> Whistle, matches, compass, maps <input type="checkbox"/> Insect repellent, appropriate clothing <input type="checkbox"/> Other:
<p><b>Emergency:</b></p> <input type="checkbox"/> Injury or medical emergency <input type="checkbox"/> Flat tire, out-of-gas, etc. <input type="checkbox"/> Night work, caving, etc.	<p><b>Equipment/Provision:</b></p> <input type="checkbox"/> First aid kit and manual <input type="checkbox"/> Vehicle emergency kit <input type="checkbox"/> Flashlight with extra batteries

<input type="checkbox"/> Lost, trapped, stranded <input type="checkbox"/> Other:	<input type="checkbox"/> Flares or chemical light sticks <input type="checkbox"/> Two-way radio and/or cellular phone <input type="checkbox"/> Flagging tape or entrance marker flag <input type="checkbox"/> Shovel, rakes, hand tools <input type="checkbox"/> Generator with sufficient fuel <input type="checkbox"/> Extra food, water, and clothing <input type="checkbox"/> Other:
<b>Personal Health:</b> <input type="checkbox"/> Medical conditions <input type="checkbox"/> Allergies (food, plant, insect, etc.) <input type="checkbox"/> Inadequate food source <input type="checkbox"/> Inadequate drinking water source	<b>Preparedness:</b> <input type="checkbox"/> Medications (taken on a regular basis) <input type="checkbox"/> Allergy treatments (as needed) <input type="checkbox"/> Adequate food supplies <input type="checkbox"/> Water purification tablets or filter devices

## VII. Training and Certification

<b>Hazard/Equipment/Work:</b> <input type="checkbox"/> Injury – remote location, high hazard <input type="checkbox"/> Aerial Lifts <input type="checkbox"/> Confined Space Entry <input type="checkbox"/> Electrical Hazards <input type="checkbox"/> Fall Hazards <input type="checkbox"/> Ladders <input type="checkbox"/> Chain Saws <input type="checkbox"/> Scaffolds <input type="checkbox"/> Excavations and Trenching <input type="checkbox"/> Forklift <input type="checkbox"/> Mobile Cranes <input type="checkbox"/> Chemicals, biological, radiation <input type="checkbox"/> Hazardous energy sources <input type="checkbox"/> Work-related health exposures <input type="checkbox"/> Lasers (3b or 4) <input type="checkbox"/> Highway or construction sites <input type="checkbox"/> Other:	<b>EHS Services and Training:</b> <input type="checkbox"/> First Aid and CPR Certification <input type="checkbox"/> Aerial Lift Operator Certification <input type="checkbox"/> Confined Space Entrant/Attendant/Supervisor <input type="checkbox"/> Electrical Awareness or Qualified Person <input type="checkbox"/> Fall Protection User <input type="checkbox"/> Ladder Safety <input type="checkbox"/> Chain Saw Safety <input type="checkbox"/> Scaffold Competent Person <input type="checkbox"/> Excavation Competent Person <input type="checkbox"/> Forklift Operator Certification <input type="checkbox"/> Crane Safety <input type="checkbox"/> Chemical/Biological/Radiation Safety <input type="checkbox"/> Lockout/Tagout Authorized Person <input type="checkbox"/> Medical Surveillance <input type="checkbox"/> Laser registration and review <input type="checkbox"/> Flagger Certification/Reverse Signal Operations <input type="checkbox"/> Other:
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Hazard/Equipment/Work:	External Training, Certifications, Plans:
<input type="checkbox"/> Boating	<input type="checkbox"/> Boating license
<input type="checkbox"/> Fire arms	<input type="checkbox"/> Federal firearm certification (annual)
<input type="checkbox"/> Caving	<input type="checkbox"/> Cave Work Plan
<input type="checkbox"/> SCUBA Diving	<input type="checkbox"/> Certified SCUBA Diver
<input type="checkbox"/> All Terrain Vehicles (ATVs)	<input type="checkbox"/> ATV Safety