SAFETY GUIDELINES
For Field Research

Department of Integrative Biology
University of South Florida

Updated: 2022-01-07

Special thanks to Arizona State University, the University of Texas at Austin, and the University of South Florida, whose safety guides served as the model for this document.

Contents

Introduction

Fieldwork is an important part of teaching and research at the University of South Florida, particularly in the Department of Integrative Biology (IB). Since fieldwork activities take you off campus, this guide is intended to help you plan and prepare for health and safety problems you might encounter in the field. It is modeled on the general USF Field Safety Manual, so much of the information overlaps, but this IB guide includes additional resources and details relevant to our department and courses.

Fieldwork is defined as research and educational activities taking place outside of the traditional classroom or lab setting. Conducting field work is an exciting and important component of USF's teaching and research programs, but precautions must be taken to ensure a safe and productive experience. Special risks related to travel, being outside, and interactions with strangers are inherent to field work. This manual provides useful information regarding health and safety issues that may arise in the field and how they should be dealt with while physically away from the USF campus support system.

Planning for work in the field should include local emergency contact information, appropriate communication equipment (radio, cell, or satellite phone), personal protective equipment, first aid supplies, and boat/vehicle emergency kits. Appropriate training, standard operating procedures, insurance, permitting, and vaccinations should be obtained. A Field Research Plan containing the names and emergency contact information of all participants must be supplied to a person outside of the field team who will communicate with the team and be responsible for acting on their behalf should an emergency arise. Please report all incidents.

This document is meant to be a general guide to assist faculty, staff, students, and volunteers in the planning of field work. It is not intended to be all-inclusive, and individuals are encouraged to further investigate the specific hazards associated with their research. Please refer to the back of this manual for important resources, references and checklists to use in planning field work.

General Field Safety Guidelines

The following safety guidelines apply to all off-campus operations including field stations, academic field trips, field research, excursions, etc. that involve employees and students. Of course, each field trip is unique and the best way to address your specific hazards is to prepare your own Safety Plan.

For more specific information on fieldwork hazards and precautions, talk to your supervisor or contact Environmental Health & Safety (EHS) or Student Health Services. Also, contact USF World before your trip for information on travel authorization and reimbursements. Contact information for all relevant USF and off-campus offices can be found in the Resources section of this guide.

Before You Leave

- ☐ Prepare a Safety Plan
- ☐ Get vaccinations and make medical preparations
- ☐ Verify insurance coverage is adequate
- ☐ Assemble safety gear and provisions
- ☐ Obtain training and standard operating procedures for field activities
- ☐ Obtain permits as needed, including USF approvals and local permits
- ☐ If traveling internationally, save the USF Global Assistance phone number

Prepare a Safety Plan

Prepare a written Safety Plan of your trip that summarizes important information about the field work. This includes team leader designation, itinerary, emergency, and local contact information, a check-in schedule, and a description of the field work, and anticipated hazards associated with it. As you prepare your Safety Plan, talk with other fieldworkers, local residents, and authorities, such as state and national park services' personnel who may be able to provide you with helpful information.

A template for a Safety Plan is presented in the Resources section and may be used by the Principal Investigator, or Project Lead, to assist with the development of your specific Safety Plan. The completed Safety Plan should be shared with all the members of the field research team and provided to the IB Office so it can be kept on file. Multiple trips to the same location can be covered by a single Safety Plan. The Safety Plan should be revised whenever a significant change to the location, the team, or the scope of field work occurs. Scientific divers and boaters should file a float plan with the Scientific Diving and Boating Offices. The USF IB Safety Committee is available to assist in completion or review of the Safety Plan. Ask at IB Office for contact information, as committee members rotate annually.

Get vaccinations and make medical preparations

If your trip involves travelling outside of the country, you should contact Student Health Services or USF World to learn about the required and recommended vaccinations for your location. The Centers for Disease Control and Prevention website provides detailed information regarding travel vaccinations and the Hillsborough County Health Department has an Immunization Clinic. Some countries require proof of

vaccinations prior to entry. A travel appointment should be scheduled as far in advance as possible since some vaccines are given as a series over a six-month period. Tetanus immunizations should be current.

If you take medications regularly, be prepared to pack a sufficient quantity for the trip plus a buffer of at least a few days in case of delays. If your medications involve syringes or liquid preparations, consider carrying a note from your physician documenting your need for such due to airline or country-specific restrictions.

Verify insurance coverage is adequate

The State of Florida provides basic insurance coverage for University-owned buildings and building contents for specific causes of loss, as well as liability coverage for USF faculty, staff, and official volunteers for their actions within the course and scope of their jobs. However, the University does not automatically extend coverage for scientific equipment, electronics, or other property brought into the field, including vehicles. Therefore, equipment that is damaged in the course of field work will likely not be covered by insurance. For more information regarding insurance coverage options for scientific or other equipment, or for other questions regarding insurance or liability, contact the USF Division of Environmental Health and Safety at 813-974-4036. Note that students are not covered by USF general or automobile liability insurance. Students must make sure that they have adequate coverage, especially if they will be travelling outside of the country and/or operating a vehicle, whether owned by USF or not, and whether here or abroad. Contact USF World to obtain information about travel insurance and waivers. Ask your health insurance provider about how your coverage applies to medical treatment in the fieldwork location should it become necessary. High quality, inexpensive diving accident insurance is offered by Divers Alert Network (DAN). See www.diversalertnetwork.org

Assemble safety gear and provisions

All field work provisions should include a first aid kit containing equipment for treating wounds and appropriate medicines such as allergy or seasickness tablets. Consider any special medical needs of team members. Depending on the type of work being done, safety gear may include steel-toed or snake-proof boots, hard hats and gloves, vehicle emergency kits, sunscreen, sunglasses, hats, water, insect repellant, flashlights, flares (do not take on planes), and batteries. If chemically processing samples in the field, bring personal protective equipment (e.g. nitrile gloves, goggles, lab coat). All field work should be conducted with at least two people. Appropriate thought should be given to the type of communication equipment (cell phone, radio, satellite phone) that will be most reliable where the field work is to be conducted. Create a gear list and check everything before you leave.

Obtain training and standard operating procedures for field activities

The team leader should have up-to-date CPR and First Aid certification or make sure that someone on the team does. For Scientific Diving, the USF Diving Safety Office requires Scientific Diving Certification. Individuals required to operate a small boat for research must also complete vessel training with the Boating Safety Office. Standard operating procedures should describe the work being done, the equipment needed, and safety precautions for the specific field activities. If such protocols are not yet in place, they should be written in advance of travel.

Obtain permits as needed, including USF approvals and local permits

All field work must comply with USF and local guidelines. The exact permitting requirements will vary with the type of research being performed. Consider the following resources when planning your field activities.

USF Research Integrity and Compliance (RIC)

The Institutional Animal Care and Use Committee (IACUC) must approve use of vertebrate animals in experiments. The Institutional Biosafety Committee (IBC) must approve any work involving recombinant DNA (rDNA), infectious agents, select agents, and/or biological toxins. The Institutional Review Board (IRB) must approve studies involving the participation of human beings. The Diving Safety Office oversees scientific diving for all disciplines on all campuses as well as the FIO ships and FIO Keys Marine Lab. The Boating Safety Program oversees the operation of small vessels used for research, regardless of ownership. Operators must take a required USF Boating Safety Course. The Radiation Safety Office must approve of research activities using radioactive materials, X-rays, or lasers.

The Florida Fish and Wildlife Conservation Commission (FWC)

Within Florida, the FWC manages permits for research involving wildlife.

International Union for Conservation of Nature (IUCN)

Internationally, IUCN manages permits for the transportation of endangered wildlife through the Convention on International Trade in Endangered Species (CITES).

The Department of Transportation (DOT)

The transportation of hazardous materials by road in the United States is regulated under this federal agency. DOT regulations do not apply to transportation of hazardous materials in personal vehicles, but this practice is not recommended. Insurance companies may not cover claims involving the transportation of hazardous materials.

If traveling internationally, save the USF Global Assistance phone number

USF Global Assistance provides a dedicated phone number (+00-1-813-317-5815) that can be called direct or collect from anywhere in the world and is monitored 24 hours a day, 7 days a week, 365 days a year to support all members of the USF community who are traveling abroad on university business or through Education Abroad. These individuals may be faculty, staff, students, volunteers, alumni, donors, contractors, colleagues from other institutions, government officials, and anyone else participating on USF-sanctioned international travel.

USF Global Assistance is not just for emergencies. You can contact this number any time you have a travel-related question or concern, or even if you have something positive to share with the USF community about your trip. Broad categories of events that warrant the Global Assistance number include: any crime that may impact you directly or indirectly; interaction with law enforcement; health issues requiring professional care; mental health issues or concerns; discipline problems that are affecting you; discrimination, harassment, or retaliation; alcohol-related issues that are affecting you; missing students; natural disasters; and civil unrest. USF 24/7 International Assistance is also there to support USF international travelers' concerned family, friends, and colleagues. Share this phone number with anyone monitoring your travel.

While You Are Working

- Fieldworkers should check in with their group office regularly, and should advise the group office of any changes in schedule or points of contact.
- Fieldworkers should also consider informing someone in their local community (for example, local search and rescue personnel, police, sheriff, or motel employees) each day about the daily fieldwork location and the approximate time of return.
- After each day's work, the fieldworkers should notify the contact when they return.
- The local contact should be provided with the telephone numbers of people to call (group office, university contact, etc.) if the workers do not return or report in within a predetermined interval of the scheduled return time.
- Whenever possible, fieldwork activities should be done in teams of at least two people. The "buddy" system is the safest way to work. Always make sure your supervisor knows where you will be and when you will return.

Medical Care and First Aid

- A first aid kit should be maintained at all times during the operation or exercise. First aid kits are highly recommended for all off-campus operations. Kits and refills may be ordered from safety supply companies. EHS can assist with identifying vendors.
- At least one employee who is trained and certified in first aid and CPR should be present during operations.
- 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, they must notify their supervisor within 24 hours. The employee's department/supervisor must complete the Laboratory/Studio and Field Incident Report. If the injury is "serious" (amputation, permanent disfigurement, overnight hospital stay, fatality) notify your supervisor immediately. USF Global Assistance can assist with emergency medical evacuation to the nearest hospital meeting international standards of care and repatriation of mortal remains.

Personal Safety

Research can place workers in vulnerable situations. They may face the risk of violence from strangers or psychological stress from the working environment. Using this guide as a resource, complete a risk assessment identifying risks associated with travel, location, and study subjects, and consider controls, such as training and emergency communication, for each risk. When in the field, work with a partner, do not give out personal information, and consider scheduling interviews in a neutral location. When traveling abroad, dress and act in alignment with local laws and customs. Visit www.travel.state.gov for more information and to sign up for STEP, a free traveler alert program. USF Education Abroad provides risk and safety resources for international work. For more tips, see the following article:

"Personal safety in dangerous places" (Terry *et al.* 1992 *Journal of Contemporary Ethnography*):
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2757080/

Mitigating Risks for Minoritized Individuals

The article by Demery & Pipkin linked below provides excellent information to assist both students and advisors with developing strategies to mitigate risks for minoritized members of field teams. As the authors point out, "it is an unfair burden that at-risk populations must take additional precautions to protect themselves," so we encourage all individuals on the team to read and be willing to discuss the information provided in the article. Key suggestions are summarized after the link.

"Safe fieldwork strategies for at-risk individuals, their supervisors and institutions" (Demery & Pipkin 2020 *Nature Ecology and Evolution*)
https://www.nature.com/articles/s41559-020-01328-5

For field workers:

1. Talk with colleagues and supervisors about risks, preparations, and reporting.
2. Be aware of the scale of risk in the location of the fieldwork; abide by local laws/customs.
3. Contact others who have previously worked in the location.
4. Take advantage of field safety trainings.
5. Know who manages field sites and inform them of when/where you will be working.
6. Introduce yourself to neighbors surrounding the field property or leave note w/contact info.
7. Engage in field work with another individual if possible.
8. Always carry credentials (photo ID, permits, anything that affiliates you with USF).
9. If you ever feel unsafe, contact your supervisor.

For supervisors:

1. Self-educate on the experience of your team member's identity and the field site's local culture, politics, and demographics to better understand potential risks.
2. Prior to field work, contact institutional safety officers to identify risks.
3. Create a field risk management plan that discusses/documents risks at the field site.
4. Provide materials to clearly identify field workers and their purpose (e.g. signs for vehicles).

5. Converse with all members of the team regarding risks and mitigation strategies prior to work. Clarify that there may be elevated risk for certain demographics.
6. If field workers bring up potential or experienced risk, validate their experience and assist in modifying the project to minimize the risk.
7. Assist field workers in establishing safe housing before arriving at the field site.
8. When possible, introduce researchers to field site managers via email or in person.

Additional Resources for Mitigating Risks for Minoritized Individuals

AdvanceGeo Partnership, Carleton College (summary discussion of discrimination and bias in the field for geoscientists, with additional resources for promoting safe and inclusive fieldwork)
https://serc.carleton.edu/207372

Geological Society of America (recordings of a seminar on the topic of how to confront barriers to inclusion in the geosciences)
https://go.nature.com/2ZZs4JS

NeurOnline (Guidelines for supervisors on how to mentor diverse graduate students)
https://go.nature.com/3mTw7RR

Rackham Graduate School, University of Michigan (guidelines for supervisors on how to mentor all graduate students)
https://go.nature.com/3iX6OvH

Graduate Mentoring Network, University of Nebraska-Lincoln (resources outlining mentoring needs for a diverse community organized by demographics—that is, age, experience, family needs, gender, race and so on)
https://go.nature.com/3609LI9

Anonymous (blog with anonymous documentation of microaggressions with examples organized by demographic group i.e., race, gender and so on)
https://www.microaggressions.com/

Travis Blooms, The Wildlife Society (challenges to inclusion and tolerance of LGBTQIA+ professionals in the biological sciences)
https://go.nature.com/3cswcai

The Fieldwork Initiative
http://fieldworkinitiative.org/

Sexual Harassment

USF policy defines sexual harassment as “conduct on the basis of sex/gender or that is sexual” that satisfies one or more of the following:

1. Quid Pro Quo: A USF employee, conditions the provision of an aid, benefit, or service of the University, on an individual’s participation in an unwelcome sexual conduct.
2. Unwelcome conduct, determined by a reasonable individual, to be so severe, and pervasive, and objectively offensive, that is effectively denies an individual equal access to the University’s education program or activity.

In the context of field safety, it is important to recognize that instances of sexual harassment in the field or at field stations are disturbingly common. In particular, students don’t often recognize the importance of “power differentials” or “quid pro quo” between supervisors and trainees (which includes graduate students training undergraduates or postdoctoral scholars training students at any level). Any students or faculty in a supervisory role must be aware of and review the relevant USF policies related to sexual harassment, and have a clear understanding of their subtleties and how different scenarios might play out. A few of the most relevant USF policies related to sexual harassment are provided below:

USF6.0021 Student Code of Conduct

(4.14) Sexual Harassment – unwelcome conduct directed at a person based on the person’s gender or sexual orientation that is so sufficiently severe, persistent, or pervasive that it unreasonably interferes with, denies, or limits someone's ability to participate in or benefit from the college's educational program and/or activities, and is based on power differentials (quid pro quo), the creation of a hostile environment or retaliation, which includes unwelcome sexual advances, requests for sexual favors, and other verbal, nonverbal, or physical conduct of a sexual nature. The prohibited conduct may include actions, which meet the definition provided by criminal statutes such as battery or assault. For additional information, reference *Policy 0-004 Sexual Misconduct/Sexual Harassment (Including Sexual Violence)*.

Policy Number: 0-004

Title: Sexual Misconduct/Sexual Harassment (Including Sexual Violence)

Part D. Consensual amorous or sexual relationships

The USF System strives to create and maintain a professional, collegial environment for work and study. Professional and collegial relationships are based on mutual respect and trust. When persons in positions of unequal power engage in amorous or sexual relationships, they should be aware that they may be at risk of being accused of sexual harassment (including sexual violence), either during the relationship or after the relationship ends, or being accused of having a conflict of interest. For additional information concerning conflicts of interest, please refer to Chapter 112, Part III, Florida Statutes, the applicable collective bargaining agreement, Board of Governors Rules/Regulations and USF System Regulations.

Not sure what to do? Contact the Center for Victim Advocacy 24/7 at **(813) 974-5757** to confidentially explore your options.

USF Sexual Harassment Website
https://www.usf.edu/student-affairs/victim-advocacy/types-of-crimes/sexual-harassment.aspx

USF Center for Victim Advocacy and Center for Violence Prevention
https://www.usf.edu/student-affairs/victim-advocacy/

USF Student Conduct Policies
https://www.usf.edu/student-affairs/dean-of-students/policies/student-conduct-policies.aspx

Vehicle Use, Boat Safety, and Diving Safety

Field projects incorporating vehicles, boats, and SCUBA diving carry their own inherent risks, and are thus subject to additional safety considerations.

Vehicle Use

Inspect the vehicle to see if it is in safe operating condition and pack appropriate emergency supplies. Become familiar with the vehicle's operation and local laws. Be alert to hazards such as fatigue, animals, logs, rocks, and barbed wire. Do not drive a vehicle into water of unknown depth. If you notice an issue with a university vehicle before or after you take it out, you MUST inform staff in the IB office appropriate for your campus.

Tampa campus:

For details, please see the Integrative Biology Vehicle Procedures and Policies document:
https://www.usf.edu/arts-sciences/departments/ib/documents/vehicleproceduresandpolicies072020.pdf

To sign up for a vehicle, please fill out the smartsheet form:
https://app.smartsheet.com/b/form/5c7baa8f2c80437cb475ca7fe433a215

Boating Safety

The purpose of the Boating Safety Program is to ensure that all USF research related boating is conducted in a manner that will maximize protection of passengers from accidental injury, and to set forth standards for training and certification for USF personnel and their affiliates. Anyone operating a boat under the auspices of USF is required to complete a Boating Safety Course.

To contact Research Integrity and Compliance/Boating Safety:
https://www.usf.edu/research-innovation/research-integrity-compliance/ric-programs/boating/

Diving Safety

The purpose of the USF Scientific Diving Office is to ensure that all scientific diving is conducted in a manner that will maximize protection of scientific divers from accidental injury and/or illness, and to set forth standards for training and certification that will allow a working reciprocity between other research facilities specifically organizational members of the American Academy of Underwater Sciences (AAUS). USF is an active member of the AAUS and thereby complies with all AAUS policy and procedure.

To contact the Research Integrity & Compliance Diving Safety Program:
https://www.usf.edu/research-innovation/research-integrity-compliance/ric-programs/boating/scientific-diving/index.aspx

Environmental Hazards

Check the weather forecast. Be mindful of the danger of sun exposure by using sunscreen and protective clothing and working in the morning and evening. Excessive heat can bring about heat exhaustion and heat stroke. Drink plenty of cool liquids and avoid strenuous activity during hot weather. Take shelter inside a building or vehicle during a thunderstorm. If caught away from shelter, get away from tall objects and crouch on the ground to make yourself as small as possible. Lightning may start wildfires. Find out if the fieldwork area is prone to flooding. It is not safe to be on the water in a thunderstorm. Return to shore if possible. If not, shelter in the boat cabin or keep low in an open boat. See the Resources section for links to hurricane, lightning, and fire safety guides.

Common Environmental Hazards

Hazard	Location	Cause	Symptoms	Prevention
Vehicle accident	Worldwide	Fatigue; impaired driving; driver error; roadway factors; vehicle factors	Trauma injuries; death	Obey traffic laws; wear seatbelt; don't drive impaired; don't speed or drive recklessly
Boating accident	Worldwide	Fatigue; lack of proper training; severe weather; alcohol impairment; dangerous or unfamiliar conditions	Trauma injuries; death	Obtain proper training and certification by appropriate authority; don't drive while impaired; don't speed or drive recklessly
Slips, trips, and falls	Worldwide	Loose, irregular, or slippery surface; wrong footwear; poor lighting; obstruction; improper use of ladders; inattention or distraction	Strains; fractures; bruises and contusions	Proper housekeeping; wear appropriate footwear; adequate lighting; don't carry oversized objects; use ladders appropriately
Dehydration	Worldwide	Not enough water intake	Increased thirst; dry mouth; flushed face; dizziness; headache; weakness; muscle cramps; dark urine	Drink plenty of water (at least 2 quarts per day, and 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	Carry your own water; treat water before use with tablets, purifiers, or by boiling for > 3 minutes
Sunburn	Worldwide	Excessive exposure to the sun	Irritated skin (pink or red in color)	Weal long sleeved clothing and a hat; apply SPF 30 or greater sunblock repeatedly
Heat exhaustion	Hot climates worldwide	Prolonged physical exertion in a hot environment	Fatigue; excessive thirst; heavy sweating; cool, clammy skin	Acclimate to heat gradually; drink plenty of fluids; take frequent rest breaks

Heat stroke	Hot climates worldwide	Prolonged physical exertion in a hot environment	Exhaustion; light-headedness; bright red warm skin	Acclimate to heat gradually; drink plenty of fluids; take frequent rest breaks
Frostbite	Cold climates worldwide	Exposure to cold temperatures	Waxy, whitish numb skin; swelling, itching, burning, and deep pain as the skin warms	Dress in layers; cover your extremities with warm clothing (e.g. hats, facemask, gloves, socks, shoes)
Hypothermia	Cold climates worldwide	Exposure to cold temperatures	Shivering; numbness, slurred speech; fatigue	Dress in layers; wear appropriate clothing; avoid getting damp from perspiration
Carbon monoxide	Worldwide	Running a vehicle or burning a fuel stove in an enclosed space	Severe headaches; disorientation; agitation; lethargy; stupor; coma	Keep areas adequately ventilated when burning fuel; ensure that vehicle tailpipe is not covered by snow
Extreme weather	Worldwide	Snow squalls; blizzards; heavy rains; lightning; tornadoes; hurricanes; flash floods	Various physical injuries; death	Be aware of special weather concerns; bring appropriate equipment to deal with sever weather
High altitude illness	High altitude locations worldwide	Decreased oxygen intake and increased breathing rate	Headache; nausea; weakness	Allow your body to acclimatize by gaining elevation slowly
Water hazards	Worldwide	Currents; waves, turbulent or fast-moving water; drop-offs	Drowning or near-drowning; injuries	Familiarize yourself with water safety practices and techniques; use proper gear including flotation devices; wear protective footwear for wading, marsh, reef, or rocky bottom research
Red/brown tides	Both sides of the Atlantic, off Florida, and along the Pacific coast to Alaska	Algal blooms	Respiratory distress; dead fish; discolored water	Avoid areas where tides are in bloom
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	Pacific coast to Alaska			

North American Environmental Hazards

Hazard	Location	Cause	Symptoms	Prevention
Hunting season	United States	Local hunting seasons and regulations vary	A hunting accident may result in serious injury or death	Wear appropriately colored safety clothing; avoid animal-like behavior (e.g. hiding in thickets)
Poisonous plants	North America	Exposure to poison ivy, poison oak, or poison sumac plants	Itchy rash; red swollen skin; scarring	Avoid contact with poisonous plants; use pre-exposure lotion; wash clothes and skin with soap and water after exposure

International Environmental Hazards

Hazard	Location	Cause	Symptoms	Prevention
Violence caused by political unrest or military conflict	Worldwide	Political unrest or military conflict	Leave the area as soon as it is safe to do so	Be aware of current travel advisories; avoid travel to dangerous locations
Theft	Worldwide (including the United States)	Thieves	Report theft immediately to local authorities	Keep wallet in front pocket; carry shoulder bag diagonally and keep bag in front under your arm; avoid areas where theft is common

Wildlife Hazards

Common wildlife hazards include insects, snakes, bears, alligators, poison ivy, oak, or sumac, red tide, jellies, and sharks. Become familiar with the types of wildlife that may be encountered and learn how to avoid attacks and treat stings and bites. Wear protective clothing. Shake clothing and bedding before use and don't set up near nests or burrows. Wildlife may transmit diseases like rabies, Lyme disease, tetanus, West Nile virus, and St. Louis encephalitis. Microorganisms in water cause giardiasis and other ailments. Carry drinking water, use purification tablets, or bring water to a rolling boiling for at least one minute before consuming.

A number of animals and pests may be encountered during fieldwork. Follow these general guidelines to prevent close encounters of the painful kind:

- Wear insect repellent. Mosquito-borne illnesses are responsible for more than a million deaths each year. If possible, make sure you are up-to-date on vaccinations for diseases that may be found in field sites. Visit the "Traveler's Health" page on the Center for Disease Control and Prevention site: https://wwwnc.cdc.gov/travel
- Use netting to keep pests away from food and people.
- Keep garbage in rodent-proof containers and stored away from your campsite or work area. Food crumbs and debris may attract insects and other animals.
- Thoroughly shake all clothing and bedding before use to prevent possible interactions with venomous arthropods (e.g., spiders, scorpions, centipedes, etc.) or other organisms.
- Do not camp or sleep near obvious animal nests or burrows.
- Carefully look for pests before placing your hands, feet or body in areas where pests live or hide (wood piles, crevices, etc.) and use protective clothing (such as gloves) when possible.
- Avoid contact with sick or dead animals.
- Wear clothes made of tightly woven materials, and tuck pants into boots. This can help reduce insect bites and hitchhiking arthropods such as chiggers and ticks.
- Minimize the amount of time you use lights after dark as they may attract pests and/or predatory animals.
- Carry a first aid kit with you on any excursion so you can treat bites or stings. If the biting organism is venomous or if the bite does not appear to heal properly, seek medical attention immediately. In North America call 911 and Poison Control (1-800-222-1222).
- Be aware of the appearance and habitat of pests likely to be found in field sites, such as those described in the following tables.

Common Wildlife Hazards

Type	Location	Most Dangerous Species	What to Do	Prevention
Oysters, shells, corals	Worldwide: freshwater and marine habitats	Some carry bacteria (*Vibrio*, *Staphylococcus*), which can cause potentially life-threatening infection; some corals have venomous stings; some *Conus* snails have potentially-lethal stings	Move away from area; seek medical treatment immediately; Immediate cleansing and treatment of any wounds	Wear clothing to avoid stings and scratches; avoid touching or handling
Mosquitos	Worldwide - especially wet areas	*Anopholes, Aedes,* and *Culex*		Use insect repellant; don't leave standing pools of water; use bed nets
Flies	Worldwide	Flies can serve as vectors for many diseases including: conjunctivitis, poliomyelitis, typhoid fever, tuberculosis, anthrax, leprosy, cholera, diarrhea and dysentery	Remove insects from the area if possible; avoid areas with heavy fly infestations	Use insect repellant; use pest strips in areas of high human traffic; keep areas clean of food and refuse to avoid attracting flies
Conenose "kissing" bugs	North and South America	May cause allergies in some people. In Latin America they sometimes carry the protozoan *Trypanosoma cruzi*, which causes Chagas' disease.	Remove the bug from the premises	Use caution when working near nests and wood rat dens; use extra caution when working near rock shelters
Sharks	Worldwide: oceans – US, Africa, Central and South America, Australia, Pacific Islands	Great white, bull, tiger, oceanic whitetip	Call for help; swim towards safety; punch or kick the shark, if necessary	Never swim alone; don't wear sparkling jewelry; don't enter water when bleeding
Stingrays	Worldwide: freshwater and marine habitats	All	Do not provoke or feed; shuffle feet to let stringrays know you are there; move to another area if possible	Stingray encounters usually happen when walking in shallow water; shuffle feet while wading
Fish	Worldwide: freshwater and marine habitats	Barracuda, piranha, moray eel, stonefish, scorpionfish	Do not provoke or feed; work somewhere else if possible	Be aware of which fish you might encounter in which habitats; wear sturdy, puncture-proof gloves if handling fish

Crocodilians	Worldwide: tropics and subtropics; North America, Australia, Africa, eastern China	American alligator (North America), saltwater crocodile (Australia and Asia), Nile crocodile (Africa)	Do not provoke; do not feed; move away from area	Avoid waters known to be home to crocodilians; keep at least 30 feet away from any crocodile or alligator
Rodents	Worldwide		Don't touch a rodent, dead or alive	Keep areas clean to avoid attracting rodents; store food in sealed containers

North American Wildlife Hazards

Type	Location	Most Dangerous Species	What to Do	Prevention
Fleas and ticks	North America	Black-legged (deer) ticks, lone-star ticks, and dog ticks can all carry diseases and bite humans frequently	Brush away if not attached; if attached, remove quickly; remove from premises	Wear long clothing with tightly woven material; wear insect repellent; tuck pants into boots; drag cloth across campsite to check for fleas/ticks; avoid shrubbery; stay on widest part of path
Hymenoptera	North America	Bees, wasps, hornets, yellowjackets, Africanized "killer" bees (southeast US); fire ants	Do not swat or kill – this may elicit an attack response from other bees/wasps; leave the area immediately and quickly; if being chased move into a closed area if possible; cover face	Bring medication if you have an allergy (the sting may be fatal); keep scented foods, drinks and meats covered; wear shoes outside; avoid wearing bright colors, flower prints and perfume; move slowly or stand still (don't swat at insects)
Spiders	North America	Black widow and brown recluse	If you cannot leave/avoid the area, remove the spider from the area without using hands directly	Use care around rock piles, logs, bark, gardens, outdoor privies, old buildings; wear gloves when working outside; shake out clothing and bedding before use; do not pick up or disturb a spider; avoid locations where spiders may be, such as dark places
Scorpions	North America – especially Arizona, southeast California, Utah, and Mexico	All	If you cannot leave/avoid the area, remove the scorpion from the area without using hands directly	Shake out clothing and bedding before use; avoid lumber piles and old tree stumps; wear gloves when working outside; do not pick up or disturb a scorpion; avoid locations where scorpions may be

Snakes	North America, Mexico	Rattlesnakes, cottonmouths (moccasins), coral snakes, and copperheads	Back away slowly while keeping an eye on the snake; do not make fast movements	Walk in open areas; wear heavy boots; use a stick to disturb the brush in front of you; do not pick up, disturb, or corner a snake; back away from a snake; avoid locations where snakes may be
Alligators	Southeastern United States	American alligator	Monitor and move slowly away from the animal, making sure to note your surroundings, as others may be present; be aware when spotting small juveniles that a protective adult female may be nearby; nests may also be protected by adult females; if an alligator moves towards you, retreat.	Be aware of surroundings; most alligators will retreat when in the presence of an adult human. The animals that don't retreat are usually the most problematic, and this indicates some form of human habituation such as feeding. Most human-alligator conflicts arise with animals that have been fed by humans and expect to be fed again. DO NOT FEED wild alligators.
Bears	North America	Black bear (North America), grizzly bear (Alaska, western Canada, Pacific northwest), polar bear (Arctic)	Do not run; move slowly and speak in a low, soft voice; if attacked, lay in the fetal position and protect head; play dead	Keep food and garbage out of sleeping areas; never approach a bear (or bear cub); wear a bell or other noisemaker; stay away from the bear's food supply
Mountain lions	North, Central, and South America	All	Do not run, back away slowly, do not corner it; do not play dead, look it in the eyes; make yourself look larger (arms overhead), do not bend down; use a loud voice; throw sticks or rocks; fight back, poke it in the eye with your thumb; protect your neck and head	Do not leave children or pets unattended; do not feed deer; avoid hiking, biking, jogging alone or other outdoor activities when mountain lions are most active (dawn, dusk, and night); avoid walking near dense growth, rock outcroppings, ledges; always look up and behind you; carry pepper spray

International Wildlife Hazards

Type	Location	Most Dangerous Species	What to Do	Prevention
Marine water-dwelling invertebrates	Worldwide (especially Australia)	Blue-ringed octopus, box jellies (including Irukandji jellies; Australia); stonefish (worldwide)	Never touch an unidentified octopus or jelly	Avoid going in waters known to be inhabited by jellies and octopus; use protective footwear in the water to protect against stonefish spines
Spiders	Worldwide	Funnel-web and redback spiders (Australia); Brazilian wandering spider, brown recluse, black widow, and tarantulas (South America)	If you cannot leave/avoid the area, remove the spider from the area without using hands directly	Use care around rock piles, logs, bark, gardens, outdoor privies, old buildings; wear gloves when working outside; shake out clothing and bedding before use; do not pick up or disturb a spider; avoid locations where spiders may be, such as dark places
Scorpions	Worldwide (especially North Africa, the Middle East, South America, and India)	All	If you cannot leave/avoid the area, remove the scorpion from the area without using hands directly	Shake out clothing and bedding before use; avoid lumber piles and old tree stumps; wear gloves when working outside; do not pick up or disturb a scorpion; avoid locations where scorpions may be
Snakes	Worldwide	Russel's viper, Indian cobra (India); tiger, black, brown snakes (Australia); Sea snakes and sea kraits (throughout Pacific and Indian oceans); Egyptian cobra, puff adder, gaboon viper (Africa); saw-scaled viper (India to northern Africa); Fer-de-lance, bushmaster (Central and South America)	Back away slowly while keeping an eye on the snake; do not make fast movements	Walk in open areas; wear heavy boots; use a stick to disturb the brush in front of you; do not pick up, disturb, or corner a snake; back away from a snake; avoid locations where snakes may be
Bears	Worldwide (Arctic, South America, Asia)	Polar bears (Greenland and north Russia), spectacled bears (north and west South America), Asiatic black bears (south and east Asia)	Do not run; move slowly and speak in a low, soft voice; if attacked, lay in the fetal position and protect head; play dead	Keep food and garbage out of sleeping areas; never approach a bear (or bear cub); stay away from the bear's food supply
Lions	Africa and Asia	All	Do not startle; do not run; do not look in the eye; make yourself look larger	Stay inside vehicle if travelling near lions; do not camp in areas frequented by lions; do not sleep outside; do not provoke

Disease Hazards

There are many diseases caused by viruses, bacteria, fungi, and parasites worldwide. This guide is not intended to cover every health risk in every location, but it provides information about some more common diseases. Always check with your health care provider, Student Health Services, or another travel health clinic before travelling out of the country to learn about specific health risks for the region in which you will conduct your research.

Common Disease Hazards

Type	Location	Exposure Route	Symptoms	Prevention
Campylo-bacteriosis	Worldwide	Foodborne – poultry products, unpasteurized milk or water contaminated with *Campylobacter*	Diarrhea; gastrointestinal symptoms; fever	Always cook food thoroughly; never drink water from an impure source; do not drink unpasteurized milk; wash hands with soap and water frequently
Cholera	Africa, Asia, Latin America	Foodborne – food and water contaminated with *Vibrio cholerae*	Diarrhea; gastrointestinal symptoms	Always cook food thoroughly; never drink water from an impure source; wash hands with soap and water frequently
Coronavirus (vaccine available)	Worldwide	Inhalation of coronavirus	Fever; cough; shortness of breath; loss of taste or smell; headache; fatigue; sore throat; runny or stuffy nose; muscle aches; stomach symptoms (nausea, vomiting, diarrhea)	Stay away from people who are sick; if you get coronavirus, stay home from work or school; obtain vaccination
E. coli O157:H7 and Shiga toxin-producing *E. coli* gastroenteritis	Worldwide	Foodborne – beef, unpasteurized milk, unwashed raw vegetables, water contaminated with *Escherichia coli*	Diarrhea; gastrointestinal symptoms	Always cook food thoroughly; wash vegetables before consuming; never drink water from an impure source; wash hands with soap and water frequently
Hepatitis A (vaccine available)	Worldwide (underdeveloped countries)	Foodborne – water, shellfish, unwashed raw vegetables contaminated with Hepatitis A virus	Diarrhea; gastrointestinal symptoms	Obtain a vaccine; always cook food thoroughly; wash vegetables before consuming; never drink water from an impure source; wash hands with

				soap and water frequently
Histoplasmosis	Worldwide (especially Miss. & Ohio River Valleys)	Inhalation of fungus *Histoplasma capsulatum* from soil contaminated with bat or bird droppings	Mild flu-like symptoms; rarely can be acute pulmonary histoplasmosis	Use caution when disturbing dry soils or working near bat or bird droppings; personal protective equipment may be needed
Influenza (vaccine available)	Worldwide	Inhalation of influenza virus; contact with birds or other animals infected with influenza	Fever (usually high); headache; fatigue; dry cough; sore throat; runny or stuffy nose; muscle aches; stomach symptoms (nausea, vomiting, diarrhea) more common in children	Stay away from people who are sick; if you get the flu, stay home from work or school; obtain vaccination
Leptospirosis	Worldwide	Ingestion, swimming, or other activities in water contaminated with *Leptospira*	Flu-like symptoms; occasionally more serious symptoms	Use care when working in the water, especially after a flooding event; avoid entering the water with open wounds
Norovirus "Norwalk-like viruses" (NLV) gastroenteritis	Worldwide	Foodborne - food, water, surfaces or objects contaminated with Norovirus; direct contact with another person who is infected	Nausea, vomiting, diarrhea, stomach cramping; some people also have a low-grade fever, chills, headache, muscle aches, malaise	Wash hands with soap and water frequently; wash fruits and vegetables, and steam oysters; clean and disinfect contaminated surfaces immediately after illness using a bleach-based cleaner; remove and wash contaminated clothing or linens
Plague	Worldwide	Flea-borne - from rodents infected with *Yersinia pestis* to humans; direct contact with infected tissues or fluids from sick or dead animals	Flu-like; swollen and painful lymph nodes (bubonic)	Use care when working in areas where plague is found; use caution when working with wild rodents

Rabies (vaccine available)	Worldwide	Infection from bite of an animal (e.g., raccoons, skunks, bats, foxes, coyotes, dogs, cats) infected with the rabies virus; bat bites are difficult to see and may not be felt; exposure is also possible when a bat is found in living or sleeping quarters.	Fatal without immediate treatment (within days of the onset of symptoms); early symptoms include fever, headache, malaise; later symptoms include insomnia, anxiety, confusion, paralysis, hallucinations, hypersalivation, difficulty swallowing, fear of water	Obtain a vaccine; if you will be working with high rabies risk species; use extreme caution handling these animals; vaccinate pets; do not handle or feed stray animals or wild mammals
Salmonellosis	Worldwide	Foodborne – beef, poultry, milk, eggs, unwashed raw vegetables contaminated with *Salmonella* bacteria	Diarrhea; gastrointestinal symptoms	Always cook food thoroughly; wash vegetables before consuming; wash hands with soap and water frequently
Typhoid fever (vaccine available)	Worldwide	Foodborne – food and water contaminated with *Salmonella typhi*	Diarrhea; gastrointestinal symptoms	Obtain a vaccine; always cook food thoroughly; never drink water from an impure source; wash hands with soap and water frequently
Tetanus (vaccine available)	Worldwide	A wound that is infected with *Clostridium tetani*; tetanus toxin is produced by the bacteria and attacks nerves	Early symptoms include lockjaw, stiffness in the neck and abdomen, difficulty swallowing; later symptoms include muscle spasms, seizures, nervous system disorders	Obtain a vaccine for tetanus every 10 years or immediately following a suspect wound or injury; once the disease starts it must run its course
Typhus fever	Worldwide	Infection from bite of lice, fleas, ticks, or mites infected with *Rickettsiae* species	Headache; fever; rash	Use insect repellant; wear long sleeve shirts; tuck pants into boots

North American Disease Hazards

Type	Location	Exposure Route	Symptoms	Prevention
Coccidiodomycosis ("Valley fever")	North and South America semiarid regions	*Coccidioides* species fungus inhaled from dry soil	None in most people (~60%); flu-like symptoms (fever, cough, rash, headache, muscle aches); occasionally, chronic pulmonary infection or	Wet soil before digging; if you are immunocompromised, wear a mask when digging; stay inside during dust storms in areas where *Coccidioides* fungus is present; keep doors

			widespread disseminated infection	and windows tightly closed
St. Louis encephalitis	North and South America	Mosquito-borne; bite from a mosquito infected with St. Louis encephalitis virus	Mild: fever and headache; severe: headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and rarely death	Use insect repellent; many mosquitoes are most active at dusk and dawn, so consider staying indoors during these hours; wear long sleeves and pants; avoid areas of standing water where mosquitoes breed
Lyme disease	United States, Europe, and Asia	Tick-borne; bite from tick infected with *Borrelia burgdorferi* (U.S.), *Borrelia afzelii,* or *Borrelia garinii* (Europe)	Spreading rash ("bullseye"); early symptoms: flu- like; later symptoms: arthritis and neurological problems	Avoid tick infested areas; wear long sleeves and pants; use insect repellant; check clothing and hair for ticks and remove any ticks
Rocky Mountain spotted fever	United States, southern Canada, Mexico, and Central America	Tick-borne; bite from tick infected with *Rickettsia rickettsii*	Sudden onset of fever; headache; muscle pain; spotty rash	Avoid tick infested areas; wear long sleeves and pants; use insect repellant; check clothing and hair for ticks and remove any ticks
Hantavirus pulmonary syndrome (HPS) or "Sin nombre virus"	North America	Rodent-borne; inhalation of dusts or aerosols from an infected rodent's feces, urine, or saliva; the primary vector is the deer mouse (*Peromyscus maniculatus*)	Early (1-5 weeks): fatigue, fever, muscle aches, chills, headaches, dizziness, sometimes abdominal problems; late (4-10 days after early): coughing, shortness of breath	Avoid contact with rodents, especially their feces
Arenavirus (white water arroyo)	North America	Rodent-borne; inhalation of dusts or aerosols from an infected rodent's feces, urine, or saliva; the primary vector is woodrats (*Neotoma fuscipes*)	Fever; headache; muscle aches; severe respiratory distress (occasionally)	Avoid contact with rodents, especially their feces

West Nile virus	North America	Mosquito-borne; bite from a mosquito infected with West Nile virus; handling infected birds	None in most people (~80%); mild: fever, headache, body aches, nausea, vomiting, and sometimes swollen glands or a rash on the chest, stomach and back; severe: high fever, neck stiffness, stupor, muscle weakness, disorientation, coma, tremors, convulsions, vision loss, numbness, paralysis	Use insect repellent; many mosquitoes are most active at dusk and dawn, so consider staying indoors during these hours; wear long sleeves and pants; avoid areas of standing water where mosquitoes breed; don't handle dead birds with your bare hands

International Disease Hazards

There are many vector-borne diseases that may pose a problem when traveling out of the country. Always check with a healthcare professional to learn the specific threats to your location of study. Some other vector-borne diseases include:

- African Sleeping Sickness - carried by the tsetse fly in Africa
- Chagas Disease - transmitted by the triatomine bugs (a.k.a., conenose or “kissing” bug) in Mexico, Central and South America
- Encephalitis - carried by mosquitoes in Asia and Eastern Russia
- Leishmaniasis - transmitted by sand flies in the tropics and subtropics
- Filariasis - carried by mosquitoes in the tropics
- Onchocerciasis - causes ‘river blindness’ and is carried by black flies in Africa, Arabia, and Central and South America.

There are other diseases to be aware of when traveling outside the United States. While the risk of infection is generally low, it is important to take appropriate precautions to guard against diseases such as Tuberculosis, Viral Hemorrhagic Fevers, etc. Always check with your health care provider to learn more about specific diseases that exist in the region you will be conducting your research.

Type	Location	Exposure Route	Symptoms	Prevention
Dengue fever	Africa, Southeast Asia, China, India, Middle East, South and Central America, Australia and the Pacific Islands	Mosquito-borne; bite from a mosquito infected with 1 of 4 dengue viruses	Flu-like; sudden high fever; severe headache; pain behind eyes; nausea/vomiting; rash	Wear long sleeves and pants; use insect repellent; use a mosquito net

Malaria (preventable with drugs)	Central and South America, Hispaniola, Africa, India, South Asia, Southeast Asia, the Middle East, and Oceania	Mosquito-borne; bite from an infected female *Anopheles* mosquito; blood transfusion; contaminated needles/syringes	May take 10 days to 1 year for symptoms to appear; flu-like; fever, sweats, chills, headache, malaise, muscle aches, nausea, vomiting, jaundice; may cause severe complications including death if untreated	Wear long sleeves and pants; use a mosquito net; use insect repellent; take antimalarial drugs (visit your health care provider 4-6 weeks before travel)
Severe acute respiratory syndrome (SARS)	North America, South America, Europe, and Asia	Close person-to-person contact; inhalation of respiratory droplets produced when an infected person coughs or sneezes; touching surface or object contaminated with infectious droplets and then touching mouth, nose, or eye(s)	Begins with a high fever (>100.4°F [38.0°C]); headache; malaise; some have mild respiratory symptoms at the outset; 10-20% have diarrhea; after 2 to 7 days may develop a dry cough; most develop pneumonia	Wash your hands with soap and water or an alcohol-based hand rub frequently; travelers to China should avoid live food markets and contact with civets and other wildlife
Yellow fever (vaccine available)	South America and Africa	Mosquito-borne; bite from a mosquito infected with Yellow fever virus	Flu-like; jaundice; can be fatal	Visit doctor at least 10 days before travel for vaccine; wear long sleeve shirts and pants; use insect repellant; use a mosquito net
Hantavirus (sin nombre virus) and arenavirus (white water arroyo)	Central and South America and Asia	Rodent-borne; inhalation of dusts or aerosols from the infected rodent's feces, urine, or saliva; vector: *Peromyscus* and *Neotoma* species	Fever; headache; muscle aches' severe respiratory distress (occasionally)	Avoid contact with rodents, especially their feces
Schistosomiasis (or bilharzias)	Brazil, Egypt, sub-Saharan Africa, southern China, Philippines, and Southeast Asia	Transmitted by swimming in contaminated freshwater	Can be asymptomatic; accute (2-3 weeks): fever, weight loss, weakness, cough, headaches, abdominal, joint, and muscle pain, diarrhea, nausea; chronic: disease in lungs, liver, intestines	Avoid fresh-water wading or swimming in endemic regions; heat water over 50°C for at least 5 minutes before use

Resources

There are many resources available that may provide more in-depth advice regarding your research environment. Please use the references in this section for further information on many of the topics discussed in this guide.

On Campus Contact Information

Environmental Health & Safety: EHS is available for various hazard information and hazard evaluations.
(813) 974-4036
https://www.usf.edu/administrative-services/environmental-health-safety/

Student Health Services: SHS is available for travel health consultations, travel vaccinations, and other health related information.
(813) 974-2331
https://www.usf.edu/student-affairs/student-health-services/

Institutional Animal Care and Use Committee (IACUC): Research with vertebrate animals, including wild animals, must be review approved by the committee prior to beginning research. Information is available from USF Research and Innovation.
(813)-974-5638
https://www.usf.edu/research-innovation/research-integrity-compliance/ric-programs/iacuc/resources.aspx

Institutional Biosafety Committee (IBC): Research with biohazardous microorganisms (including isolating, concentrating, culturing or growing field samples) or recombinant DNA must be reviewed and approved by the committee prior to beginning research. Information and forms are available from USF Research and Innovation.
(813) 974-5638
https://www.usf.edu/research-innovation/research-integrity-compliance/ric-programs/biosafety-program/index.aspx

USF World: For travel policies, travel authorizations, insurance, and 24/7 global assistance.
(813) 974-5102
https://www.usf.edu/world/index.aspx

International Travel (for students): Part of USF World, this site provides useful information tailored to students.
(813) 974-5102
https://www.usf.edu/world/for-global-travelers/for-students/index.aspx

International Travel (for faculty and staff): Part of USF World, this site provides useful information tailored to faculty and staff.
(813) 974-5102
https://www.usf.edu/world/for-global-travelers/for-faculty-staff/index.aspx

Travel and Procurement: For details on travel authorization and travel expense reporting processes.
(813) 974-3780
https://www.usf.edu/engineering/resource-management/support-services/travel.aspx

Education Abroad: For study abroad information.
(813) 974-4314
https://www.usf.edu/world/education-abroad/

Workers Compensation: For questions about workers' compensation coverage and injury reports.
(813) 974-4036
https://www.usf.edu/administrative-services/environmental-health-safety/programs-services/risk-management/workers-comp.aspx

SCUBA Diving Safety: Addresses safe diving practices and AAUS requirements.
(813) 974-5638
https://www.usf.edu/research-innovation/research-integrity-compliance/ric-programs/boating/scientific-diving/index.aspx

Boating Safety: Addresses field operations aboard small boats and watercraft.
(813) 974-5638
https://www.usf.edu/research-innovation/research-integrity-compliance/ric-programs/boating/

Research Vessels: Lists large research vessels and educational opportunities.
(727) 553-1634 (St. Petersburg)
https://www.usf.edu/marine-science/research/research-vessels.aspx

First Aid/CPR/AED Training: First Aid, CPR, and AED training are available from USF Recreation and Wellness.
(813) 974-7084
https://campusrecshop.usf.edu/Program/GetProgramDetails?courseId=cebb03d0-ef54-4458-ae7a-4d37a3c64652&semesterId=d7a40940-4187-4c81-9517-88d70c958256

USF Hurricane Safety Guide:
https://www.usf.edu/administrative-services/emergency-management/hazards/hurricane.aspx

USF Hurricane Safety Checklist (especially useful when planning travel during hurricane season; be sure you are prepared to complete each action item at the field location):
https://www.usf.edu/administrative-services/emergency-management/documents/hurricane-checklist-resident.pdf

USF Lightning Safety Guide:
https://www.usf.edu/administrative-services/emergency-management/hazards/lightning-safety.aspx

USF Fire Safety Guide:
https://www.usf.edu/administrative-services/environmental-health-safety/programs-services/fire-safety/index.aspx

Off Campus Contact Information

The Florida Department of Health offers information about infectious diseases in Hillsborough County.
(813) 307-8000
http://hillsborough.floridahealth.gov/programs-and-services/infectious-disease-services/index.html

General: The Centers for Disease Control and Prevention (CDC) offers a website that describes many topics related to travel, both domestic and international:
http://wwwn.cdc.gov/travel/default.aspx

Medical: Information about a variety of diseases and illnesses, including dehydration, carbon monoxide poisoning, sunburn, excessive heat, hypothermia, and high-altitude sicknesses, can be found online at:
http://my.webmd.com

Diseases: The CDC offers more detailed information about many diseases related to travel on their website:
http://wwwn.cdc.gov/travel/contentDiseases.aspx

Weather: More information on extreme weather and how to protect yourself can be found from the National Weather Service.
http://weather.gov/safety.html

Hurricanes: The NOAA National Hurricane Center (NHC) provides storm tracking and predictions.
https://www.nhc.noaa.gov/

Impure Water: The CDC provides information waterborne diseases.
http://www.cdc.gov/healthywater/

Hunting Season: To get more information concerning hunting seasons and regulations, contact the U.S Forest Service.
(800) 832-1355
http://www.fs.fed.us/

General Outdoor Safety: For more information on outdoor and recreational safety.
(800) 832-1355
http://www.fs.fed.us/safety/outdoor/

Poisonous Plants: More information about poisonous plants, including photos.
http://poisonivy.aesir.com/

Hantavirus: The CDC has detailed information about hantavirus.
http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/generalinfoindex.htm

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

Boating: United States Coast Guard Boater's Guide to the Federal Requirements for Recreational Boats and Safety Tips
http://www.uscgboating.org/fedreqs/default.html

SCUBA Diving Insurance and Safety: Diver's Alert Network
http://www.diversalertnetwork.org

International Contact Information

USF 24/7 Global Assistance Emergency Numbers:

USF 24/7 International Assistance Line
+1 (813) 317-5815
EAassist@usf.edu

UHCG Insurance and Evacuation
+1 (410) 453-6330
Assistance@uhcglobal.com

U.S. Embassy American Citizen Services
+1 (202) 501-4444
Country Code and Dialing Instructions
www.howtocallabroad.com/

Travel Health & Outbreaks: Updated information about disease outbreaks and international travel health can be found from the World Health Organization (WHO).
http://www.who.int/ith/en/

Advisories: Travel advisories are announced through the U.S. Department of State. Current travel warnings, public announcements, and consular information sheets can be obtained online. You can also register your travel with the State Department.
http://travel.state.gov/

Additional Field Safety Guideline Links

USF Field Safety Guide (contains similar but less detailed information compared to this IB guide)
https://www.usf.edu/administrative-services/environmental-health-safety/documents/labsafety-fieldsafetyguideupdated.pdf

USF Chemical Hygiene Plan
http://testsite.usf.edu/administrative-services/environmental-health-safety/documents/labsafety-labreviewschp.pdf

University of Texas at Austin Safety Guidelines for Field Researchers
http://www.utexas.edu/safety/ehs/fieldguide/field_guide.pdf

University of California, Berkeley Field Work Safety Reminders
http://ib.berkeley.edu/courses/bio1b/field/pdf/FieldWorkSafetyReminders.pdf

Cornell University Field Safety Guidelines
http://oeh.cals.cornell.edu/pdf/FieldSafetyGuide.pdf

Example Fieldwork Expectations Document

The example below, adapted from a blog post by Sara Perry, could serve as a guide for developing a fieldwork expectation document for an individual lab:
https://saraperry.wordpress.com/2018/05/04/fieldwork-code-of-conduct/

For a similar document that is particularly relevant to marine science, see:
https://www.southernfriedscience.com/creating-healthy-working-cultures-in-marine-science/

Six Fieldwork Expectations

(1) We are committed to working as a team. All aspects of our professional contributions to the project are discussed and agreed upon together, and all tasks – although they might be led by individual team members – are developed through collaborative practice. Devotion to supporting the team, working as a team player, providing constructive critique to your team members, and respecting the interests of the team as a successful working group (without compromising their safety or security, as described below), are paramount.

(2) We are committed to prioritizing and championing the people and communities that host us. Our work is driven by local needs, and decision-making is grounded in evidence and robust data gathered in local contexts. We are critically aware of the existing evidence. We attend events and participate in activities that are organized by our host communities. We respect, care for, and create long-lasting friendships with our hosts. We aim to abide by local expectations around dress and custom. We maintain links with our hosts after the project ends and we support their future professional endeavors.

(3) We are committed to the working hours, professional expectations and responsibilities defined by the overall project directors. We typically work as part of a larger project team guided by wider goals than ours alone. We are aware of their responsibilities, we have read the necessary guidance documents, we have understood and signed the necessary insurance and risk assessment documentation, and in all cases, we respect and abide by the instructions given by the directors. This includes zero tolerance in relation to behavior that compromises the wellbeing, equality, security, or dignity of other human beings, as described below.

(4) We are representatives and extensions of the University of South Florida and its staff, and of the professional bodies to which we and our project leaders are subscribed. We recognize our duty of care to, and our responsibility for professionalism in, not only the communities where we work and reside, but the university and host of surrounding organizations to which we and our project leaders are accountable. Our behaviors reflect on these institutions and we acknowledge that our direct supervisor is (and therefore we too are) bound by the ethical and professional codes of both USF and other institutional affiliations. Considering these obligations, you agree with the following:

I will come to my direct supervisor the moment that I experience problems, challenges, or trouble of any kind. I will keep her informed of any issues that I feel may manifest themselves in relation to myself, my teammates or affiliates while in the field. If I feel I need support beyond my direct supervisor, I will turn to the 2nd lead for their advice. I have already disclosed to my direct supervisor any potential matters of concern (which may include matters relating to health, psychological and physical wellbeing, security,

equality, confidence, interpersonal relations, previous travel or fieldwork experiences, etc.) so that she is aware of them and can mitigate them prior to departing for – and during – fieldwork. If I have not yet disclosed such matters, I agree to do so as soon as possible. I have shared this information in confidence, with an expectation of complete privacy unless urgent medical, safety/security or other legal intervention is required.

(5) We recognize that fieldwork can be intense, emotional and tiring. We understand that things can go wrong, that we may need to compromise, and that in exceptional circumstances, we made need to shorten or modify your work on site to help manage these circumstances. In such cases, we will have a series of conversations about how to deal with difficulties, led by your direct supervisor and/or the 2nd identified lead. If the difficulties are not resolved within 7 days of identification, we will consult with the university for their guidance. If it is agreed with the university that the difficulties are unresolvable in the field, we will help you to organize your safe return home.

(6) We have the right to a safe, secure and non-threatening working and living environment. We do not tolerate any form of discriminatory, abusive, aggressive, harassing, threatening, sexually- or physically-intimidating, or related problematic behaviors that compromise the wellbeing, equality, security or dignity of other human beings (whether those humans are our peers, colleagues, supervisors, collaborators, local community members or any persons at all). Our supervisors are trained in supporting those who have experienced or are experiencing harassment. They are obliged to investigate and respond to observed, implied, or directly reported harassment. Considering this zero-tolerance policy, you agree to the following:

I will not engage in behavior that compromises the wellbeing, equality, security or dignity of other human beings. I recognize that if I am implicated in such behavior, I will be required to leave the project at my own expense and may be subject to criminal investigation. If I witness others being subjected to such behavior, I will report it immediately to my direct supervisor. If I feel I cannot speak to my direct supervisor, I will report it to the 2nd identified lead. If I feel I cannot report it to either my direct supervisor or the 2nd lead, then I will contact USF. If I myself feel unsafe or uncomfortable, I will report it immediately to my direct supervisor. My supervisor will support me and will implement actions to keep me safe while working to stop the behavior. If I feel I cannot speak to my direct supervisor, I will report it to the 2nd identified lead. If I feel I cannot report it to either my direct supervisor or the 2nd lead, then I will contact USF. My commitment to creating and maintaining safety and security for all extends to my online (web and social media) and mobile phone interactions, and I recognize that the process for reporting and acting on threatening online/mobile phone behaviors is the same as above.

Trip Safety Checklist

For the Principal Investigator or Project Leader:

- ☐ Create the field research Safety Plan
- ☐ Provide a copy of the Safety Plan to all members of the team and your supervisor
- ☐ Get vaccinations and make medical preparations (confirm for all members of the team)
- ☐ Verify insurance coverage is adequate (confirm for all members of the team)
- ☐ Assemble safety gear and provisions (confirm for all members of the team)
- ☐ Obtain training and standard operating procedures for field activities (confirm for all members of the team)
- ☐ Obtain permits as needed, including USF approvals and local permits (confirm for all members of the team)
- ☐ If traveling internationally, save the USF Global Assistance phone number (confirm for all members of the team)
- ☐ Develop a check-in or buddy system for while you are in the field and ensure that all team members understand it
- ☐ Develop a plan of action and discuss any additional considerations related to minimizing risk for minoritized team members

For the Team Member:

- □ Read and understand the field research Safety Plan
- ☐ Get vaccinations and make medical preparations
- ☐ Verify insurance coverage is adequate
- ☐ Assemble safety gear and provisions
- ☐ Obtain training and standard operating procedures for field activities
- ☐ Obtain permits as needed, including USF approvals and local permits
- ☐ If traveling internationally, save the USF Global Assistance phone number
- ☐ Understand the check-in or buddy system for while you are in the field
- ☐ Discuss with your supervisor any additional considerations related to minimizing risk for minoritized team members

Incoming Student Field Safety Acknowledgement Form

Department of Integrative Biology
University of South Florida

Safety is of paramount importance for any field excursion conducted under the auspices of the University of South Florida Department of Integrative Biology. Whether for research, teaching, or any other purpose, field trips require extra planning to ensure the safety of all individuals. This document confirms my awareness of our department's key safety protocols and my access to safety resources.

I, _____, acknowledge that:
Student Name (print)

□ I have reviewed the USF Department of Integrative Biology's Safety Guidelines for Field Research.
https://www.usf.edu/arts-sciences/departments/ib/about/safetydocuments.aspx

□ I have reviewed the article "Safe fieldwork strategies for at-risk individuals, their supervisors and institutions" and recognize that I have the full discretion and agency to pursue (or not) discussions with my advisor or the IB Safety Committee about core issues of safety and inclusion using this document as a framework.
https://www.nature.com/articles/s41559-020-01328-5

□ I have reviewed USF's policies on sexual harassment and understand that they apply in field research settings and for any interactions between a supervisor and trainee (including graduate students interacting with undergraduates and each other).
https://www.usf.edu/student-affairs/victim-advocacy/types-of-crimes/sexual-harassment.aspx

□ I have reviewed the department's policies for vehicle use and safety, and I will always return vehicles with a full tank of gas, report any damages immediately, and use the Smart Sheet system to make reservations.
https://www.usf.edu/arts-sciences/departments/ib/documents/vehicleproceduresandpolicies072020.pdf

□ I will always prepare a Safety Plan for field excursions and provide a copy to my team members and advisor.

□ I will use the "buddy" system whenever feasible, and always for any excursions that include undergraduate students.

□ I will seek assistance from the IB Safety Committee if I have any questions or concerns about safety-related issues.

_____ _____
Student Signature Date

_____ _____
Advisor Signature Date

Safety Plan Templates

Feel free to use the templates on the following pages to complete your Safety Plan. All templates are identical to those provided in the appendix of the USF Field Safety Guide.

Appendix A: USF Field Research Plan Template

Appendix B: Float Plan Template

Appendix C: Vehicle Checklist

Appendix D: Boat Checklist

Appendix A: USF Field Research Plan

Principal Investigator:	Field Team Leader:
Department:	Department:
Phone Number:	Phone Number:
Email:	Email:
Travel Schedule (dates, times of departure and return)	
Location (address and telephone)	
University Contact (monitors check-ins)	Check-In Schedule
Name:	☐Twice a day ☐Daily
Telephone:	☐Other:
Field Work Summary (list equipment, vehicles, chemicals and potential hazards)	
First Aid Trained Team Members:	
Field Team Member Contact Information (attach another sheet if necessary)	

Name	Phone Number	Emergency Contact Number

Appendix B: Float Plan

All boat operators must complete a USF Boating Safety Course (813-974-5638). Complete the form below and leave it with the University Contact. Dial 1-888-404-3922 or #FWC in case of emergency. Download the US Coast Guard PDF Fillable Form at http://www.floatplancentral.org/download/USCGFloatPlan.pdf

Below is not the actual Float Plan from the link above. The link above is a more thorough float plan.

Radio(s) ☐YES ☐NO		
Frequency:	Call Sign:	
VESSEL AND VEHICLE REGISTRATION		
Vessel Registration Document	Name of Vessel	
Make	Model	Length
Vehicle Make	Vehicle Model	Tag Number
TRIP EXPECTATIONS		
Leaving From	Date & Time	
Boat Ramp	Latitude & Longitude	
Destination		
Returning to	Date & Time	
PERSONS ON BOARD		
Person Filing this Plan	Phone Number	Emergency Contact Number
FIELD TEAM MEMBERS CONTACT INFORMATION		
Name	Phone Number	Emergency Contact Number

Appendix C: Vehicle Checklist

VISIBILITY

- [ ] Lights (headlights, tail lights, brake lights, turn signal lights, hazard lights)
- [ ] Windshield (Cracks, wipers)
- [ ] Mirrors (Side and rearview)
- [ ] Window defroster
- [ ] Horn

MECHANICAL

- [ ] Fluid levels (brake, steering, oil, water, windshield)
- [ ] Fuel
- [ ] Brakes (also parking brake)
- [ ] Seatbelts
- [ ] Running boards, steps
- [ ] Tire air pressure
- [ ] Review maintenance records

EMERGENCY

- [ ] Spare tire, jack and lug wrench
- [ ] Air compressor
- [ ] Foam tire sealant, tire repair kit
- [ ] Cell phone
- [ ] First aid kit
- [ ] Fire extinguisher (charged and inspected)
- [ ] Warning light, hazard triangle, flares
- [ ] Jumper cables or jumper battery pack
- [ ] Flashlight
- [ ] Roadside-assistance number
- [ ] Pen and paper
- [ ] Water and nonperishable food
- [ ] Sleeping bags/blanket
- [ ] Basic tools (socket set, pliers, screwdrivers)
- [ ] Shovel and axe

MISCELLANEOUS

- [ ] Money for tolls

Appendix D: Boat Checklist

All boat operators must complete a USF Boating Safety Course (813-974-5638). **ITEMS IN BOLD ARE REQUIRED BY THE USCG**. The United States Coast Guard website lists size-specific required safety equipment for recreational vessels up to 65 ft. (http://forms.cgaux.org/archive/a7012.pdf)

COMMUNICATION

- ☐ **Vessel lighting (in limited visibility or between sunset and sunrise)**
- ☐ Trailer lights
- ☐ VHF marine radio (batteries) and cell phone
- ☐ Float plan filed
- ☐ Marine forecast checked

MECHANICAL

- ☐ Batterv
- ☐ Fuel
- ☐ Fluid levels
- ☐ Water, bilge pumps
- ☐ Power trim
- ☐ Trailer tire pressure
- ☐ Anchor, line, and rigging
- ☐ Review maintenance record

EMERGENCY

- ☐ **Personal Flotation Devices (PFDs) one per person, Type I, II, or III, USCG approved**
- ☐ **Fire extinguisher (inspected and charged)**
- ☐ **Visual AND Sound-producing distress signal (emergency flares/horns)**
- ☐ First aid kit (sunscreen)
- ☐ Charts
- ☐ Compass
- ☐ Binoculars
- ☐ Water, nonperishable food
- ☐ Bucket, bailer or bilge pump
- ☐ Boat hook, paddle, oar, push pole (extras)
- ☐ Foul weather gear, dry clothes
- ☐ Tools (knife, pliers, screwdrivers)
- ☐ Flashlight/searchlight
- ☐ Signal mirror
- ☐ Spare parts (fuses, hoses, spark plugs, tire for trailer)
- ☐ Spare fuel