URGE
Unlearning Racism in Geoscience

PennState
College of Earth
and Mineral Sciences

Department of Meteorology and
Atmospheric Science

Safety Plan and Code of Conduct for Penn State University, College of Earth and Mineral Sciences, and the Department of Meteorology and Atmospheric Science

GUIDING PRINCIPLES AND SAFETY-PLAN-DEVELOPMENT CHECKLIST FOR PIS, INSTRUCTORS, AND TRIP LEADERS IN THE DEPARTMENT OF METEOROLOGY AND ATMOSPHERIC SCIENCE AT PENN STATE

Field research, lab and research-group settings, courses, and conferences can pose risks to participants, particularly BIPOC people and people from minoritized and marginalized groups and should have safety plans. This document provides an initial draft of guiding principles from which all activities should be designed and a checklist of considerations that should be evaluated and managed for each activity. Through our participation in URGE, we provided input (highlighted in yellow below) for our college Field Research Safety Plan form and developed an example code of conduct for research groups in our department.

DEPARTMENTAL VALUES & GUIDING PRINCIPLES FOR SAFETY AND INCLUSION

- We value the safety and inclusion of all members of our community
- We engage in experiences that help us grow as scientists and community members
- We communicate openly and transparently about risks, needs, and ideas
- We look out for one another and advocate for our own safety and the safety of others in our group
- We engage with local communities and invest in relationships that support regional safety networks
- We recognize that different people will face different types of risks; leaders work to become aware of these risks and design activities that prioritize learning and participant safety
- We provide resources to engage safely in field, lab, research, and conference settings
- We aim for universal design in field and lab experiences
- We make space and time for rest and care for physical, emotional, and spiritual needs

- We listen to each other and believe each other when someone has a concern
- We consistently prioritize safety and enforce consequences for safety infractions
- We expect the unexpected, plan buffers, and adapt flexibly if unforeseen or dangerous situations arise

CHECKLIST FOR CLASS, TRIP, OR LAB GROUP SAFETY PLANS

It is the leaders' responsibility to identify and learn about potential risks and develop a plan for managing them that is specific to the activity. The checklist, below, outlines issues to consider.

- PIs and Lab Leaders should develop and discuss safety plans for their research group activities (including lab, field, and conference activities).

- Group leaders should communicate openly and frankly about potential risks or challenges in order to destigmatize discussion of these topics and model clear and open communication.
    - Participants should be encouraged to report microaggressions, and group leaders should regularly promote resources to do so, as this information will inform more targeted efforts to reduce microaggressive behavior.

- Multiple avenues of communication should be available to participants and students for reporting incidents, raising issues, and discussing concerns.
    - For trips, including field research, class trips, and conference travel, PIs and instructors should attempt to establish an individualized avenue for communication, either through one-on-one meetings or via surveys.
    - Instructors are encouraged to distribute a survey in the early and middle portions of the semester to assess student inclusion and belonging in courses.

- Bystander intervention training, conflict mediation skills, and basic safety training is recommended for all program facilitators.

- Useful resources to regularly promote:
    - 10 steps to protect BIPOC scholars in the field: https://eos.org/opinions/ten-steps-to-protect-bipoc-scholars-in-the-field
    - 10 steps to build an anti-racist lab: https://urgeoscience.org/wp-content/uploads/sites/33/2021/03/Ten-Simple-Rules-for-Building-an-Antiracist-Lab.pdf

What are the potential risks in the activity? Consider each issue and develop a plan for mitigating the risk or acting to ensure participant safety. If risks can't be effectively managed, develop alternate activities in safer locations.

- Other students or participants – harassment, assault risks? (Are the codes of conduct clear, emphasized, and are there specific, enforceable consequences for violations? How are violations reported? How are reports handled?)
    - Clancy et al. (2014) Survey of Academic Field Experiences (SAFE): Trainees Report Harassment and Assault: https://doi.org/10.1371/journal.pone.0102172

    - Check and discuss codes of conduct and reporting procedures for conferences or field trips run by entities outside Penn State
- Law enforcement risks?
    - Provide official documentation, letters on letterhead, and logo-emblazoned field gear to help convey that participants are engaging in official business.
    - Note that campus security may fall into this category for individuals that might not be profiled as "traditional" students/faculty/staff (consider introducing lab group to campus security if late-night lab visits are part of research work)
- Hostile locals / landowners?
- Specific risks to Black participants or participants of color?
    - https://www.nature.com/articles/d41586-020-02328-y
- Specific risks to LGBTQIA+ participants?
    - https://www.imperial.ac.uk/news/198915/geoscience-course-stops-running-oman-fieldtrip/
- Specific risks to women, nonbinary, or gender-nonconforming participants?
- Specific risks to transgender participants?
- Specific risks to participants with accessibility needs?
- Mental health/stress risks?
- Driving risks?
- Wilderness risks?
    - Hydration?
    - First aid?
    - Equipment needs?
- Lab risks?
    - Dangerous equipment?
    - Chemicals?

Have you considered potential needs of participants? Design activities to accommodate needs of a broad range of participants.

- Religious needs (e.g., Ramadan, prayer/worship time, kosher/halal meals)?
- Medical needs (e.g., conditions that might require support or assistance or change participation status, medication access, allergies, etc.)?
- Menstruation needs of participants (e.g., supplies, time, private space)?
    - Periods + Field research: https://youtu.be/jjFZ1nzijrI
- Bathroom needs (e.g., are there adequate stops or access to facilities)?
- Personal care needs?
- Group leaders and participants should be made aware of penalties for actions that go against the guidelines of the Safety Plan, so that all are held accountable.

Have you located and provided safety resources for participants?

- Group leader and participant contact information?
- Safety monitor/support person (someone serving in a non-instructor and non-participant role, at least temporarily or on a rotating basis)?

    - https://pubs.geoscienceworld.org/books/book/1275/Field-Safety-in-Uncontrolled-EnvironmentsA-Process
- Emergency contact information (local first responders; local lodging/park/land management contacts)?
- Directions to hospitals/emergency rooms?
- Reporting information (Penn State or other relevant organizations)
    - Are there multiple pathways for reporting?
    - Is the bar for reporting low (i.e. is it acceptable to raise minor concerns)?
- Safety gear that fits each individual (hard hats, appropriate footwear, etc.)?
    - https://www.bustle.com/articles/173930-7-tips-for-wearing-a-helmet-with-afro-textured-hair-photos
    - Cost of field gear: Abeyta et al. (2021), https://eartharxiv.org/repository/view/2091/

Are any special resources or training required or recommended (e.g., for instructors)?

- Basic (Red Cross) First Aid?
- Wilderness First Aid?
- Language skills
- Safer people/safer places training – at least instructors/PIs should participate (2-part)
- Not much university standardization of field research safety plans,

Acknowledgment: The Department of Geosciences at Penn State completed URGE training and deliverables during the spring of 2021. As their department is in the same college within the same university, many of our policies and procedures are the same. We have thus relied on the deliverables of their pod, adjusting and updating as appropriate.

Field Research Safety Plan for the College of EMS

(METEO URGE pod suggestions highlighted in yellow)

Scope

This Field Research Safety Plan should be completed before personnel perform field research activities where **any** of the following apply:

Remote location (i.e., removed from modern care facilities or amenities)	Camping, caving, climbing, watercrafts, or other outdoor activities

Field site without cellular service (or if unknown)
Field site characterized by outdoor and environmental hazards (e.g., wildlife, weather)
Travel to countries considered "dangerous"
Risk of limited life sustaining provisions (e.g., food, water, shelter)

This form is also a useful tool to assess hazards during instructional activities and field trips. This form is not required for non-research activities that are part of daily job functions such as grounds-care and landscaping, farm operations and maintenance, and operations not covered by the Laboratory and Research Safety Program. This document does not apply to Penn State Health or the College of Medicine. This form does not serve as an approval mechanism. Any high-risk activities need to be approved through appropriate means (i.e., EHS, Risk Management).

Purpose and Instructions

Field research involves hazards that are unique and sometimes difficult to predict. The purpose of this plan is to guide your thinking through those potential hazards to facilitate their identification and mitigation.

The Principal Investigator (PI), Professor, Instructor, Supervisor or other knowledgeable member of the research group (part of data collection) appointed by the Supervisor should complete the Field Safety Plan prior to conducting field work. The form should be completed collaboratively with members of the group who will be conducting field work and exposed to hazards, but ultimately, hazard identification and control is the responsibility of the Supervisor. At a minimum, the completed plan should be shared with all the members of the field research team. All members of the research team and a University Emergency Contact should read the document and sign to certify their understanding, support, contribution, and compliance.

Multiple trips to the same location (or multiple trips to various locations for the same research project), can be covered by a single plan. If two or more groups are collaborating on the same field trip, a single plan can be used. The plan should be revised whenever a significant change to the location or scope of fieldwork occurs (i.e., work tasks change, new hazards identified, after an incident). EHS is available to assist with the completion or review of the plan.

Completed plans should be submitted by email to a University contact for the group who is not going into the field (emergency contact, part of the University) and the Department Safety Officer.

Completed plans should be retained by the research group(s) such that they can be referenced in the field (e.g., hard copy, saved to tablet or mobile device). Completed plans should be an amendment to the research group's Unit Specific Plan (i.e., part of lab safety binder) and retained for at least one year.

Certification of Agreement and Roster

By signing this section, all personnel certify they have read, understand, and will execute the provisions of this Field Safety Plan. The purpose of this section is to document that the hazards, mitigations, and emergency plan identified in this plan are communicated to personnel conducting the field work and affected by the provision of the plan. This section also serves to compile emergency contact information for those working in the field. This document and Certification of Agreement should be complete before the trip occurs to acknowledge the plan will be followed.

Name of Person Completing Assessment: _____

Name and Signature of PI(s)/Supervisor(s) to Certify: _____

_____

Date of Certification: _____

Name and Signature of University Emergency Contact: _____

_____

Field Crew Members

Name	Cell Phone Number	Emergency Contact Name	Emergency Contact Phone Number	Crew Member Signature

General Description of Fieldwork

Supervisor Cell Phone Number	Supervisor Email	Campus & Department(s)
Briefly describe the fieldwork to be conducted:		

Itinerary

The purpose of this section is for University personnel to know where you are and how you will get there. If something happens, this information will help the University facilitate timely response.

Location(s) of fieldwork *(coordinates, country, state/province, geographical site, nearest city, etc.):*	Departure date: Arrival date (to field site): Return date: (or) Describe if multiple visits:
Description of overnight accommodations. If remote location, describe GPS location and/or approximate coordinates:	
Describe modes of transportation. If using personal vehicle, list make/model and license plate. If renting a vehicle, describe the reservation provider and contact information:	
Describe any specific concerns or threats to safety concerning travel and modes of transportation to be used to/from/on site. Describe how risk will be minimized:	

Communications

The purpose of this section is to create a contingency plan if field workers become unaccounted for and think through reliable communications methods during field work. A plan should be in place that establishes an expected time frame for when a University emergency contact will expect to hear from you. If the plan is not followed, the University contact should execute an emergency plan to facilitate investigation or help. Some field sites can lack cell phone service. There should be a plan in place that will allow for reliable means to contact someone from the field site in the event of an emergency.

On Site Team Leader:	University emergency contact not working in the field:
Leader phone & email:	University contact phone & email:
Means of Communication - What means of communication (equipment) will be available during fieldwork and justify its reliability given field site and location: Note: Lab groups should consider renting/purchasing a satellite phone if cell-service is a concern. SPOT phones allow you to track assets, send and receive messages, send your GPS position and status, mark waypoints, track your progress on SPOT Mapping, and notify search and rescue officials in the event of an emergency.	
Communication Plan - Describe your protocol and frequency for maintaining contact with a University representative *(e.g., phone call each day) Frequency depends on risk, communication limitations, and other factors. When will field team check-in with a University representative?:*	
Action Plan - Describe your protocol/timeline for alerting authorities to begin search and rescue if the communication plan above is not met:	

*In the event of an emergency of failure to hear from the field crew, the University Emergency Contact should follow the action plan above. It is recommended that the first action is to inform Unit leadership (i.e., Department Head) and University Police (814-863-1111) as needed. Refer to the Missing Student Policy if applicable.

Proximate Contacts

The purpose of this section is to identify the closest means of medical care. At some remote sites, direct contact or travel to a hospital might not be feasible. Emergency response might require working through a reliable local contact (e.g., ranger station). You should be aware of the most efficient way to receive emergency response services while conducting field work.

Nearest hospital:	Location:
Emergency Services (police, fire, rescue):	Phone/radio:
Other Local Contact (if applicable) (e.g., park ranger station):	Phone/radio:

Sequence and Logistics

The purpose of this section is to identify the sequence of tasks that participants will complete. Include aspects of logistics or travel from one location to another. During each task, think about potential hazards (unsafe acts and conditions) and how risk will be minimized. Consider physical, environmental, and social threats for employees and students. Consider that some field workers may have little to no experience conducting field trips. Hazards and mitigations will be detailed in the next section. The tasks in sequence must include travel to the site, fieldwork set up, research tasks, fieldwork "tear-down", travel returning from the site, and any logistics in between.

Sequence of Tasks
1. … 2. … 3. …

Social Threats

We acknowledge that people who are members of certain demographic groups, based on race/ethnicity, sexual orientation, disability, gender identity, and/or religion, may be at higher risk of social threats. In addition to a discussion with all participants regarding all safety topics, the supervisor should be available to discuss with any researcher about concerns regarding social threats and proactive measures to mitigate such threats. In addition, the supervisor should consider individual meetings with each participant to address any concerns that they may not feel comfortable raising in a group.

Hazard Assessment

Indicate which hazards pose a risk to personnel during field work activities and how those hazards will be mitigated (eliminated or risk reduced). **USE APPENDIX A TO INFORM YOUR HAZARD ASSESSMENT** (controls that are required are listed as such). **THIS SECTION MUST BE FILLED OUT WITH CONTRIBUTION FROM PERSONNEL WHO WILL BE IN THE FIELD**. Remember, Supervisors' perceived risk can be much different than perceived risks of novice field workers. Research protocols and emergency plans should be proactively designed to minimize risk.

Note: All field research personnel are required to take initial and refresher Laboratory and Research Safety Training.

Hazards	Mitigations	Notes

*__NOTE__: On multi-employer worksites, hazard controls may be dictated by the host employer.

If someone is hurt or becomes ill (needs medical intervention) describe the action plan for person to receive timely medical attention:

*__NOTE__: First aid equipment or appropriate injury treatment supplies are required in remote locations (i.e., field sites that are not in close proximity to an infirmary, care clinic, or hospital). First aid training is available on the LRN (add link).

Post-Trip Review

Were there any lessons learned or unforeseen events that happened during any field trips? If so, this document should be revised, and changes shall be communicated to all affected personnel.

General Notes and Reminders:

- **Consider any NO-GO criteria (e.g., wind speed, temperature, severe weather, political unrest, other specific hazards).** The research group should know and be able to recognize these conditions to cancel the field trip if necessary.
- **Planning to bring chemicals, biologicals, animals, materials, samples, or equipment to or from the field site?**
  - Know requirements for transport of materials, permissions, permits, or import/export rules and regulations before leaving for the field.
- **Transporting hazardous materials or chemicals?**
  - The transport of hazardous materials and chemicals poses a hazard to personnel and the environment. Contact EHS for review and/or approval unless you already have approval for the transport process. Transport of chemicals or hazardous materials in personal vehicles is prohibited.
- **What if someone becomes injured or ill during your field trip?**

- Employees – A Unit representative must complete a First Report of Injury or Illness form. The report must be submitted to the Office of Absence Management in Human Resources within **forty-eight hours** of the accident.
- Non-employees (unpaid students) – A Unit representative must complete a Risk Management Incident Form.
- For more guidance on specific events, visit the EHS website on emergency response.

➢ **Vehicle Incident Response and Reporting**

- Any accident involving a vehicle (university-owned, leased, rented or personally-owned) driven on University business, must be reported by the driver to the Risk Management Office within 24 hours, using the Vehicle Accident Report Form. If a rental or personally owned vehicle is involved in an accident while used on University business, no matter how minor, it must be reported to the Risk Management Office. The Vehicle Accident Report Form may be found in the visor pack of fleet-serviced vehicles. For other vehicles, a copy of the form can be accessed on-line at http://controller.psu.edu/claims (see the "Auto Liability" section). The driver is responsible for completing both sides of the form.
- Driver Responsibilities:
  - In the event of accident resulting in a serious injury, death, non-drivability of the vehicle, or an alleged hit and run, you MUST contact the police.
  - If you are involved in an accident involving serious injuries or death, you should also notify the Risk Management Office at 814-863-5539.
  - If a Fleet vehicle is damaged so extensively that it cannot be driven, you should also notify Fleet Operations at 814-865-7572.
  - Should an accident occur when driving a rental vehicle on University business, the driver must also notify the rental agency as well as the police, no matter how minor the accident.
- For Penn State-owned fleet vehicles, in the event of an accident, call the number of the Accident Report form in the visor. Fleet Services will arrange for a tow truck if the vehicle is not drivable.
- For Department-owned vehicles, the Department is responsible for any protocols related to roadside assistance. It's recommended that field workers travel with a Department credit card to cover unexpected expenses.

Appendix A – Hazard Assessment Checklist

Hazards	Controls	Training or Certifications
Personal Protective Equipment Assessment		
Eye hazards (from flying debris, liquid chemicals, radiation)	Safety glasses or protective eyewear (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan
Eye hazards (from hazardous gases or vapors)	Goggles (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan
Face hazards (hazardous chemical splash or sparks to face)	Face shield (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan
Head hazards (impact from falling objects, electrical exposure to head)	Hard hat (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan
Hand hazards (cuts, abrasions, chemicals - during material handling)	Appropriate gloves (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan
Foot hazards (heavy objects likely to fall or roll-on foot)	Protective footwear (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan

Excessive noise	Hearing protection (required if above action level, contact EHS for assessment if needed)	PPE specific training required via this form or Unit Specific Plan Included in Hearing Conservation Program (required only for employees if above action level)
Uncontrolled respiratory hazards	Respirators (required if above permissible exposure limit, contact EHS for assessment if needed)	Medical evaluation, fit test, and respirator specific training required for employees only Required EHS training (online)
Low visibility hazards (e.g., hunting, road work)	Fluorescent orange or reflectorized vests (required)	PPE specific training required via this form or Unit Specific Plan
Fire hazards from welding, cutting	Flame-resistant or flame-retardant clothing (required if not otherwise controlled)	PPE specific training required via this form or Unit Specific Plan
Fall hazards without fall prevention	Personal fall arrest system (required) Fall rescue plan (required)	Required EHS training online PPE specific training required via this form or Unit Specific Plan
Slip / trip hazards	Appropriate footwear Flashlight or headlamp for night travel	
Working in/on/over water	Floatation devices (i.e., life jackets available) Waiters	PPE specific training required via this form or Unit Specific Plan
Physical and Equipment Hazards		
Animal handling	Approved IACUC review (required) Animal barriers, enclosures Animal exposure treatment and first aid supplies available	Specific animal handling information or training First aid training
Work on/near energized electrical >50vac (including voltage testing)	Arc flash and shock protective PPE required Buddy system (required in remote locations) Appropriate first aid equipment and AED (required in remote locations)	Required EHS NFPA70E training (online and hands-on) First Aid and CPR Certification (required in remote locations)
Confined space entry (any space large enough to bodily enter, not intended for continuous occupancy, and has limited means of entry/egress)	Confined space assessment, classification required Confined space permit and rescue plan required if permit required Buddy system required for permitted required spaces Appropriate first aid equipment and AED (required for permit required spaces in remote locations)	Required EHS training for permit required spaces (online and hands-on) First Aid and CPR Certification required for attendants of permit required spaces
Cave diving, spelunking	Cave safety protocols defined Buddy system	
Exhaustion	Work/rest cycle defined Adequate hydration supplies	
Manual lifting of heavy objects	Proper lifting equipment Load securing devices	Ergonomic training available from EHS upon request

Underwater, diving, snorkeling	Properly inspected and rated SCUBA gear	Certified SCUBA Diver Snorkeling training/experience
Climbing, rappelling	Buddy system Rescue plan in place Appropriate first aid equipment	Climbing, rappelling or belay certification/training First Aid training
Aerial Lifts	Fall arrest (if manufacturer requires) Operators manual available for equipment	Required EHS Aerial Lift training (online and hands-on)
Use of power tools and machinery	Required guarding in place Operators manual available for equipment	Machine specific training required to be provided by qualified person
Ladders	Ladder inspected (before field trip) and safe for intended use (required)	Ladder Safety training required (online)
Chain Saws	Chain saw protective equipment and chaps (required) Appropriate first aid equipment Buddy system	Chain saw training required to be provided by qualified person First Aid training
Scaffolds	Scaffold inspected (before field trip) and safe for intended use	Required EHS Scaffold User training (online)
Excavations and Trenching	Utility locations verified before digging per local requirements Operators manual available for equipment	Excavation training required for Students (non-PSU employee) in the LRN. Excavation training required for PSU Employees (in-person Competent Person Training required. Contact EHS.)
Forklift	Operators manual available Pre-use inspection documented (required)	Required EHS Power Industrial Truck training (online and hands-on)
Hazardous energy sources	Energy control procedures (required if multiple sources of energy or stored energy) Lockout tagout equipment (required)	Required EHS Lockout Tagout training (in person)
Lasers (3b or 4)	Protective laser eyewear (contact EHS for assessment) Registered with LSO (required)	EHS Laser Safety training
Boating	Floatation devices	Boating license and/or local required training for motorboat
Firearms	Eye and hearing protection (required)	Federal firearm certification/training Local firearm certification/training
All-Terrain Vehicles (ATVs)	Operators manual available	ATV training or familiarization from a qualified person (required)
Pesticide use, transport, or application	Protective equipment per label requirements	Certified Pesticide Applicator Check Worker Protection Standard for applicable requirements
Environmental Hazards		
Serious injury in remote location (not near care/treatment facility)	Buddy system required Radio system in use to contact emergency assistance	Basic First Aid training Wilderness First Aid training

	Satellite phone to contact emergency assistance Alternate means of communication sufficient for location (battery life, transmission distance/reliability) Appropriate first aid equipment (required)	
Wildlife	Protocols to avoid or respond to wildlife interaction Wildlife deterrents, repellents Wildlife exposure treatment capability (i.e., appropriate first aid)	Field-specific procedures communicated to all personnel as needed
Hazardous plants	Plant exposure prevention/treatment techniques defined	Field-specific procedures communicated to all personnel as needed
Insects, ticks, spiders, vermin	Insect repellant Insect treatment techniques defined Appropriate clothing	Field-specific procedures communicated to all personnel as needed
Ice hazards	Appropriate gear and equipment to traverse ice and manage hazards related to ice	Field-specific procedures communicated to all personnel as needed
Wildfire	Wildfire safety protocols defined to avoid smoke and fire exposure	Field-specific procedures communicated to all personnel as needed
High altitude	Protocols defined to prevent altitude sickness	Field-specific procedures communicated to all personnel as needed
Unusual terrain, hiking	Hiking boots, muck boots, specific footwear	
Historical/political structures, disaster area, violence/harassment	Field trip planned to avoid areas of high risk	Training and protocols related to these social threats
Excessive heat, sunlight	Sun-protective hat Sunscreen Adequate water and hydration	
Excessive cold	Thermal clothing, blankets, etc. Heat producing equipment	
Weather	Awareness of local weather condition, seasons, likely events, and contingency plans	Field-specific procedures communicated to all personnel as needed
Health Hazards		
Infectious disease	Obtain required vaccines/immunizations (contact Occupational Medicine)	
Personal medical conditions	Medications (taken on a regular basis)	Communicated as necessary to respond to emergency
Allergies (food, plant, insect, etc.)	Allergy treatments (as needed)	Communicated as necessary to respond to emergency
Inadequate provisions available at site (food, water, shelter)	Adequate food supplies Water purification tablets or filter devices	Field-specific procedures communicated to all personnel as needed

	Adequate provisions packed	
X-ray exposure (e.g., hand held device)	Contact EHS for assessment	
Bloodborne pathogen exposure	Adequate PPE required Clean up materials and disinfectants	Required BBP training
Emergency Situations		
Flat tire, out of gas, roadside	Vehicle emergency kit Roadside assistance service available P-card or credit card available for tow truck or payment to other service	
Night work, work in dark, loss of power, etc.	Flashlight with extra batteries Flares or chemical light sticks Generator with sufficient fuel	
Lost, trapped, stranded	Flagging tape or entrance marker flag Shovel, rakes, hand tools Extra food, water, and clothing Whistle Matches Compass Maps	
Fire, flood, natural disaster	Portable fire extinguisher Access to emergency weather alerts/radio	Portable fire extinguisher training (required if expected to use)
Social Threats		
Other participants (harassment/assault)	For any participant with self-identified potential concerns, an ally (not necessarily traveling with the participant) is identified and known by the supervisor. The ally or participant, as necessary, may contact the EMS Office of Associate Dean for Educational Equity.	Safer People/Safer Places; B.U.I.L.D., Title IX Annual Compliance Training
Law enforcement risks	Provide materials to clearly identify researchers and their purpose (e.g., magnetic signs for vehicles and field sites, safety vests, University apparel, official letter describing field research plans, etc.)	
Hostile locals/landowners	Provide materials to clearly identify researchers and their purpose (e.g., magnetic signs for vehicles and field sites, safety vests, University apparel, official letter describing field research plans, etc.)	

Example Research Group Code of Conduct

Overview
We value the participation of every member of our community and want to ensure everyone has an enjoyable and fulfilling experience, both professionally and personally. Accordingly, all members of our research group are expected to show respect and courtesy to others at all times. We strive to be welcoming, inclusive, understanding, inquisitive, and careful with the words we choose.

Please note that this code of conduct is not a legal document, and supplements but does not override Department-, College-, and University-level policies for your level of employment or study.

Inclusivity and diversity
Enjoyable, high-quality research can only be conducted when you feel safe, secure, and supported. All group members are thus dedicated to a harassment-free experience for everyone, regardless of gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age, and/or religion. We do not tolerate harassment by and/or of members of our group in any form, and we ask all members of the community to conform to the following Code of Conduct:

- All communication, be it online or in person, should be appropriate for a professional audience, and be considerate of people from different cultural backgrounds. Sexual language and imagery is not appropriate at any time.
- Be kind to others and do not insult or put down other group members.
- Behave professionally. Remember that harassment and sexist, racist, or exclusionary jokes are not appropriate.
- Harassment includes offensive verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, sexual images in public spaces, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of discussions, inappropriate physical contact, and unwelcome sexual attention.
- Participants asked to stop any harassing behavior are expected to comply immediately.
- Contribute to discussions in meetings with a constructive, positive approach
- Be mindful of talking over others when discussing in groups and be willing to hear out the ideas of others.

- Take care to not interrupt while others are speaking.

In addition to making group members feel safe and secure, diversity and inclusivity has numerous benefits to us all. The greater the mix of people in our group, the greater the mix of skills, experiences, perspectives, and ideas we can collectively draw on. The benefits of diversity and equality cannot be fully achieved without creating an inclusive environment.

We will discuss the Code of Conduct with those who violate these rules, no matter how much they contribute to the group, or how specialized or needed their skill set. If inappropriate behavior persists after this initial discussion, formal processes, in line with Penn State's policies, will be initiated. To report an issue, please contact us; all communication will be treated as confidential. If you do not feel comfortable contacting us directly, please feel free to contact a member of the Committee on Belonging, the ombudspersons, department chair, associate department heads, or any faculty or staff member with whom you are comfortable.

Mental Health

Certain attributes of academic research, including graduate-level studies, may challenge your mental health. Specific factors driving this include:

- Feelings of isolation in your research; e.g. everyone has their own topic and it can often feel as if you are working on your own
- Uncertainty in your research, although it should be noted that, in research of all kinds, it is not just the outcomes that are uncertain, but the questions themselves!
- Uncertainty in your post graduate degree career
- So-called "negative results"; i.e. at some point in your research it is likely that certain questions will be more challenging to answer than anticipated, or that you will feel you have spent days/months/years toiling with little to show
- Burnout; i.e. feeling the need to work endless hours to make up for the above issues, and the subsequent exhaustion

All graduate students come across most of these issues at some level. We strongly encourage everyone in the group to take an active and pre-emptive approach towards the maintenance of their mental health. We assure you that you have the time and resources needed to be successful. If there is anything that is placing undue stress, or preventing you from performing at your potential, please do not hesitate to let us know how we can help. You should also be familiar with resources on campus (Counseling and Psychological Services (CAPS)) and in the community (Centre County Crisis Intervention Services and local mental health providers). Every effort will be made to help you access the right support networks.

Outputs, publication expectations and standards, and open science

Where possible, all research outputs (e.g. papers) will be published 'Open Access' (OA).

Authorship on any manuscript or presentation should include everyone who has made a significant contribution to the work. A "significant contribution" can include but is not limited to, interpretations of primary data and development of ideas presented in the work. The order of authors on a manuscript or presentation should be dictated by the relative contribution made by

each author; in the case these contributions are equal, authors should be listed alphabetically by surname. Typically the student leading the research and writing the paper is first author and the primary advisor(s) are listed second or last. If there is a question as to whether a contribution is significant, we encourage you to ask us and/or the potential co-authors. There should be ample opportunity for co-authors to contribute to the analysis and paper draft.

Papers must be shown to and receive approval from all co-authors prior to submission. Please give co-authors at least two weeks to comment on paper drafts; at busy times of the year, they may need longer. We also strongly suggest that the paper receives reviews from at least two colleagues prior to submission to your supervisors; this will help improve the final product, as well as providing a training opportunity. Upon acceptance (or rejection) of your paper, you must inform **all** coauthors of the outcome as soon as possible and ensure **all** co-authors get a chance to look at and comment on page proofs (errors can be introduced into manuscripts by the journal at this stage).

All computers should be backed up, daily, to at least two locations external to your main PC (e.g., a PC-attached USB hard drive). In addition, at least weekly backups can be made to an off-site, 'cloud'-based storage system such as Google Drive or One Drive.

Upon completion of a project and where data confidentiality allows, all data should be placed on an appropriate repository with a DOI; in the case of publication, these data should be published alongside the manuscript on a repository such as the Penn State DataCommons.

Conferences

Logistics

You will be supported (financially and otherwise) to attend and participate in conferences related to your graduate research. You should use the Penn State Travel website and can either pay conference and travel fees and be reimbursed, or have the fees paid directly by Penn State. In either case, you are expected to register in advance to obtain discounted registration fees. Please ensure reasonable accommodation costs and share hotel rooms if travelling with colleagues. Please book no later than one month in advance of the conference, and preferably earlier to obtain the lowest cost travel costs and accommodations. It is permissible to take some days as vacation (see section below) in the location of the conference, if desired, personally covering the additional food and lodging costs (and rental car if used). For air travel, it is required to obtain a cost comparison for the flight.

Expectations and requirements

Conference abstracts should be e-mailed to all co-authors at least one week before the abstract deadline. Upon acceptance (or rejection) of your abstract, you should inform all coauthors of the outcome as soon as possible. You should also send a final draft of your presentation or poster to all co-authors at least one week before the date of presentation. Ideally, a near-final draft should be completed in time to present at a group meeting; in this way, you will be able to receive feedback from your colleagues. The same applies to papers (see above).

Working hours

We recognize that many of you have personal responsibilities and obligations in addition to your graduate studies, and the traditional 9-to-5 workday may not work for everyone. The exact hours

you choose to work are up to you. Being on campus between 10am and 4pm most days may, however, help facilitate collaborative working and, we hope, lead to a more fulfilling research experience. Where possible, meetings and events will not be arranged outside these hours to allow participation by all group members.

Meetings

Group meetings: Group meetings are typically held monthly; all group members are expected to attend if they are not otherwise engaged in other research-related activities (e.g. at conference, attending training or a lecture, etc). Group meetings are an excellent venue for updating colleagues on project progress, developing research skills, and widening our collective understanding. Meetings provide a forum for the presentation of results, such as 'dry-runs' of conference talks, for which a meeting can be added at the appropriate time.

Project meetings: Project meetings are typically held every other week with many of the same goals as group meetings, but more focused on specific projects.

Individual meetings: Individual meetings are typically scheduled weekly or every other week. These will give you an opportunity to discuss your progress and any administrative issues that need to be addressed. You are encouraged to prepare a small number of slides, ideally containing an overview of what your plans were for the last week, work completed, issues arising, and a forward plan for the next week. Such reports are an important way to self-monitor your progress, as well as keeping your supervisor(s) informed of both positive and negative developments. Please feel free to reach out at other times if you have an issue.

Please inform us of holidays or notable absences in advance. It is important to take breaks from work, respect weekends (or time in lieu) and establish a sustainable work-life balance. It is also important to respect the time and efforts of others, and the contribution of funders, and to note that effective working will improve the quality of your research. When there are key time pressures, it is important to prioritize work.

Teamwork

We encourage you to reach out to others in the group if you are struggling, whether it be with a research problem or coding. Conversely, please help others if you can.

Communication

Response to work-related emails outside of 8am and 6pm should not be expected. Please consider the timing of the email with respect to what the recipient needs to do; for example, try not to send an email at 5:59pm for something that is required for a 10:00am meeting the next day. Prompt replies to emails within working hours are helpful. If you experience any challenges related to flexible working within our group, please do not hesitate to contact us. All communication will be treated as confidential.

We use a group e-mail list and a group Slack channel to help with inter-group communication. Please remember that messages to the group should be polite and respectful.

Social media

In your work-related life, you may wish to engage with social media (e.g. Facebook, Twitter, and Instagram). Please be considerate of others when using these platforms, and respectful for how others may wish to use them. Keep in mind the very public nature of interactions on social media, and that many people (who may not be on a specific platform) will read and hear of online correspondence. We are not compelled to engage with any social media, use any such media for work-related purposes, and we will never pressure each other to 'friend' or 'follow' each other.

Journals

You should be familiar with recently published material relevant to your graduate project.

Signing-up to 'mail alerts' from specific journals and more general publication 'feeds' (e.g. Google Scholar) are highly recommended; by doing this, you can be kept informed of newly published literature related to your studies.

Vacation

In 2023, the official University closures were Memorial Day, Juneteenth, Independence Day, Labor Day, Thanksgiving Day, and Winter Break (Dec 22, 25, 26, 27, 28, 29, and Jan 1, 2024). You are expected to take a reasonable number of additional days per year. We strongly encourage you to take this time so you can relax, visit family and friends, and generally unwind from the rigors of graduate study. Please inform us in advance when you plan to take vacation or if you will not be present at weekly meetings.

Thanks, and please enjoy your time in our research group at Penn State!

This Code of Conduct (CoC) borrows heavily and is modified from the Basin Research Group open source CoC provided as an example by the Unlearning Racism in Geosciences (URGE) program.