

PERSONAL HAZARD ANALYSIS

Employee:	Signature:	Date:
Supervisor:	Signature:	Date:

The Job Hazard Analysis (JHA) and associated activities, controls, hazards and requirements below are provided as the minimum standards and requirements based on the employee's "My Safety Worksheet" record in Digital Measures. Employees and their supervisors are encouraged to provide additional hazards and associated controls specific to their work activities and environment by inserting them in the "ADDITIONAL ACTIVITIES AND TRAINING" section at the end of this document. If the employee's duties and responsibilities change so that the information below is no longer accurate, the employee should update their existing "My Safety Training" record and regenerate their JHA by running the "My JHA" report.

All chapters and appendices to the USGS Occupational Safety and Health Program Requirements Handbook (SM 445-2-H) referenced below are available at: <http://www.usgs.gov/usgs-manual/handbook/hb/445-2-h.html>. Similarly, all references to DOI Learn include the full DOI Learn course name followed by the ID number (in parentheses) are available at <http://www.doi.gov/doilearn/index.cfm>

GENERAL EMPLOYMENT/VOLUNTEER CONDITIONS

ACTIVITY	LOCATION	HAZARD/REQUIREMENT	CONTROLS
All CRU employees staff and students	All Locations	<p>REQUIRED TRAINING</p> <p>Complete each module for your position-based orientation course (as indicated on the right) and then enroll in the orientation course to document completion.</p> <p>CRU specific instructions for creating DOI Learn accounts for non-federal staff and students are available thru your unit admin staff or by contacting Don Dennerline.</p>	<p>Complete a USGS Safety Orientation Course appropriate for your position thru DOI Learn.</p> <p><u>Safety: USGS Field Employee Safety Orientation</u> for non-supervisory employees who work in the field or laboratory.</p> <p>This orientation includes the following courses: SAFETY: 1300 USGS Safety Program Requirements; SAFETY: 1304 USGS Industrial Hygiene Program Requirements; SAFETY: 1315 USGS Safety and Occupational Health Program Overview; SAFETY: 1338 USGS Authorities, Roles, and Responsibilities; Safety: DOI Safety and Occupational Health Overview.</p>

GENERAL WORKING CONDITIONS

ACTIVITY	LOCATION	HAZARD/REQUIREMENT	CONTROLS
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All Activities	All Locations	REQUIRED REPORTING	<ul style="list-style-type: none"> All work related accidents must be reported to your immediate supervisor Supervisors will enter all accidents into DOI's Safety Management Information System (SMIS; https://www.smis.doi.gov/) as appropriate.
Office work	Office	Eye strain	<ul style="list-style-type: none"> Ensure proper lighting Reduce computer screen glare by installing anti-glare/anti-static screens
		Wrist strain	<ul style="list-style-type: none"> Ensure computer keyboards are adjusted so that the elbows are at a 90-degree angle and arms and hands are parallel to the floor Use wrist rests or other support so that wrists are maintained in a neutral position
		Neck/shoulder fatigue	<ul style="list-style-type: none"> Ensure video display terminals are properly adjusted so that the top of the screen is slightly below eye level and the screen is between 18 and 28 inches away Document or copy holders should be at the same height and distance as the monitor
		Injury to self or coworkers	<ul style="list-style-type: none"> Know the location of the nearest first aid kit and Automated External Defibrillator (AED) Make your supervisor or facility manager aware of any unsafe conditions such as: Tripping or falling hazards; or noxious fumes
		Fire	<ul style="list-style-type: none"> Know location of fire exits Know location of fire extinguishers Keep fire doors closed at all times

LABORATORY ACTIVITIES AND TRAINING

You participate in laboratory activities as part of your official duties. The laboratory activities, controls and hazards below are provided as the minimum standards and requirements. Certain lab activities may require additional training. Consequently, you should review the following chapter(s) in the USGS Safety Handbook to ensure you are familiar with your responsibilities regarding DOI/USGS Training Requirements:

- [SM 445-2-H Chapter 21: USGS Laboratory Protection Program](#)
- [SM 445-2-H Chapter 22: USGS Formaldehyde Protection Program](#)

ACTIVITY	LOCATION	HAZARD/REQUIREMENT	CONTROLS
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Lab Work	Lab	REQUIRED TRAINING	<ul style="list-style-type: none"> You will successfully complete laboratory safety training that covers, as a minimum: your rights as an employee; best laboratory safety practices; understanding chemical labels and MSDS sheets Additional local training may be required for learning standard operating procedures; how to use specific equipment; or how to minimize hazards exposure/risk specific to your duties (for example, working with zoonotic diseases or hazardous chemicals) Laboratory Safety Training can be obtained thru your university, if available, or thru DOI Learn's Safety: Laboratory Safety (88738)
		REQUIRED DOCUMENT (if using hazardous materials)	<ul style="list-style-type: none"> A laboratory-specific Chemical Hygiene Plan (CHP) shall be developed for each laboratory using hazardous materials (see OSHA Fact Sheet). Most universities should have a generic CHP template that can be modified to meet your local needs based on the activities and materials you use.
		Personal Safety and Best Practices	<ul style="list-style-type: none"> Properly store and label all chemical containers within the workplace. Practice good personal hygiene around hazardous materials such as washing hands after handling chemicals, using and maintaining the clean condition of required PPE, not smoking, and not consuming or storing food/drink in areas where hazardous materials are used/stored. Report to the line supervisor any hazardous conditions, exposures, or unusual circumstances associated with assigned operations. Provide input in the development of CHP's and SOP's and plan and conduct all laboratory operations in accordance with established guidelines. Participate in maintaining chemical inventories for your areas. Participate in related safety, health, and environmental training programs.
		Personal safety/injury	<ul style="list-style-type: none"> Have MSDS sheets for all chemicals you use posted and readily available

		Chemical spills	<ul style="list-style-type: none"> Have university emergency contact information posted and readily available.
		Properly functioning controls	<ul style="list-style-type: none"> Laboratory controls such as fume hoods should be inspected by your university's safety office at least annually.
		Fire	<ul style="list-style-type: none"> Store all flammable materials in a storage cabinet appropriate for the quantity and class of flammable material being stored.

FIELD ACTIVITIES AND TRAINING

General Field Activities

You perform one or more field-related activities as part of your official duties. The activities, hazards, requirements and controls provided below represent those associated with major USGS Safety Programs. Other field activities may require additional training. Consequently, you should review the following chapter(s) in the USGS Safety Handbook to ensure you are familiar with your responsibilities regarding DOI/USGS Training Requirements:

- [SM 445-2-H Chapter 14: USGS Safety & Health Training](#)
- [SM 445-2-H Appendix 14-1: USGS Master Training Requirements](#)
- [SM 445-2-H Chapter 24: USGS Lyme Disease Protection Program](#)
- [SM 445-3-H Safety and Health for Field Operations \(operational complement to SM-445-H-2\)](#)

ACTIVITY	LOCATION	HAZARD/REQUIREMENT	CONTROLS
General Field Work	Field locations	REQUIRED TRAINING	<ul style="list-style-type: none"> At a minimum, you will maintain current certifications in Basic First Aid and Adult CPR from a reputable, national organization such as the American Red Cross or American Heart Association. If you work more than an hour from a medical facility, you will maintain certification in Advanced or Wilderness First Aid.
		Foot and ankle injuries	<ul style="list-style-type: none"> Wear appropriate safety shoes/boots for the task you are performing and the terrain and conditions you will be working in.
		Eye injuries	<ul style="list-style-type: none"> Wear appropriate eye protection as necessary.
		Hand injuries	<ul style="list-style-type: none"> Wear appropriate gloves as necessary.
		Noise	<ul style="list-style-type: none"> Wear proper hearing protection devices.
		Slips, trips or falls	<ul style="list-style-type: none"> Wear proper footwear and be observant of terrain and trail conditions.

			<ul style="list-style-type: none"> For stream related work, wear felt bottom boots and use a wading rod when appropriate.
		Lifting	<ul style="list-style-type: none"> Use proper lifting techniques. Get assistance when necessary. When lifting, keep the load close to the body and lift with the legs.
		Snake bites	<ul style="list-style-type: none"> Wear proper field boots or snake chaps. Do not handle/harass/kill snakes unless they are a required part of your research.
		Animal bites	<ul style="list-style-type: none"> Use caution when encountering animals and do not approach or handle animals unless they are a required part of your research.
		Animal attack (REQUIRED in specific locales)	<ul style="list-style-type: none"> Take animal awareness and avoidance training (every three years) if working in field locations where dangerous wild animals may be encountered.
		Insect bites and stings	<ul style="list-style-type: none"> Knowledge and avoidance of such insects. Caution and knowledge of any allergies to such bites or stings. Do not wear perfume or cologne. Know where to obtain first aid.
		Poisonous plants	<ul style="list-style-type: none"> Knowledge and avoidance of such plants. Wash after contact.
		Exposure to the elements	<ul style="list-style-type: none"> Check the weather forecast for your area prior to departure Wear appropriate clothing for the working conditions. Be aware of exposure duration and limit duration if necessary. Know the symptoms of exposure related illnesses such as heat stroke and hypothermia.
		Emergency communication	<ul style="list-style-type: none"> Carry a cell phone, satellite phone, SPOT™ Unit or other similar device appropriate for the area you will be in. Leave your itinerary with someone and have a call-in procedure to “check in” with someone every night you are in the field.
		Lyme disease (LD)	<ul style="list-style-type: none"> Review SM 445-2-H Chapter 24 Know the signs and symptoms of LD Wear proper clothing in field Use insect repellent Inspect your and co-workers clothes for ticks often while in the field.

			<ul style="list-style-type: none"> • Inspect yourself closely after coming in from the field. • Know proper tick removal procedures • See CDC's LD website for more info
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Motor Vehicle Operation

You operate motor vehicles as part of your official duties. Consequently, you should review the following chapter in the USGS Safety Handbook to ensure you are familiar with your responsibilities regarding DOI/USGS Training Requirements:

- [SM 445-2-H Chapter 16: Motor Vehicle Safety](#)

ACTIVITY	LOCATION	HAZARD/REQUIREMENT	CONTROLS
Driving (any vehicle)	City, highway, paved roads, unpaved roads and trails	REQUIRED TRAINING	<ul style="list-style-type: none"> • You must successfully complete Defensive Driver training <i>every three (3) years</i> as required • The recommended course is National Safety Council (NSC) Defensive Driving 9th edition course. CRU Staff and students can access the course by: <ul style="list-style-type: none"> • Go to http://www.safetyserve.com/doi • Register as "New Student" • Complete form using access code usgs019 • If you don't complete the course you can log back in by clicking on the "Returning Student" button using the credentials you provided when you signed up • DO NOT register as a New Student more than once as CRU is charged for each account created • Alternative courses must be approved by USGS Safety Officer and comparable in scope and duration (4 hrs)
		Motor vehicle accidents	<ul style="list-style-type: none"> • Do not operate any type of vehicle while under the influence of alcohol or drugs.
		Slick, snowy, or icy roads	<ul style="list-style-type: none"> • Use studded or chained tires, reduce speed, and increase following distances.
		Deer and other wildlife	<ul style="list-style-type: none"> • Stay alert, use caution, and drive defensively.

Driving passenger vehicles	City, highway, paved roads, unpaved roads	REQUIRED FORM	<i>Annually</i> submit a signed Motor Vehicle Operators Certification form (SM 445-2-H Appendix 16A) verifying you possess a valid State driver's license and will inform your Supervisor if your State driver's license should be suspended, revoked, canceled.
		Motor vehicle accidents	<ul style="list-style-type: none"> • Obey traffic laws. • Adjust vehicle operation to road and weather conditions. • Employ defensive driving techniques. • Drivers and all passengers must wear seatbelts at all times. • Drivers must not use any electronic devices, including cell phones, while the vehicle is moving. • Text messaging is <u>strictly prohibited</u>.
		Reduced visibility	<ul style="list-style-type: none"> • Ensure windows/mirrors are free from snow and ice and windshield wipers are in good condition. • Drive with headlights on. • Reduce speed as appropriate for conditions.

Water and Watercraft Related Activities

You participate in activities that occur “in or on the water” (or ice) or use watercraft as part of your official duties. Consequently, you should review the following chapters in the USGS Safety Handbook to ensure you are familiar with your responsibilities regarding DOI/USGS policies and training requirements:

- [SM-445-2-H Chapter 31: Watercraft Safety](#)
- [SM-445-2-H Appendix 31-5: Airboat Safety](#)
- [SM-445-2-H Appendix 31-6: Non-Motorized Watercraft](#)
- [SM 445-2-H Appendix 14-2: Safety Training for Water-Related Activities](#)

ACTIVITY	LOCATION	HAZARD/ REQUIREMENT	CONTROLS
All water activities performed regardless of watercraft type	Streams, rivers, lakes, reservoirs	REQUIRED TRAINING	<ul style="list-style-type: none"> • You will successfully complete “Over the Water” training with recertification <u>every five (5) years</u> • NOTE: this training can be included as part of MOCC training, but should be documented separately
		REQUIRED PROCEDURE	<ul style="list-style-type: none"> • When using watercraft of any kind, a float plan indicating, at a minimum, your departure location and time, points to be visited, and return destination and time, will be provided to someone that will be responsible for notifying your supervisor if you do not return or “report in” by the specified return time.

			<ul style="list-style-type: none"> All USGS watercraft will be inspected <u>annually</u> and inspection records will be properly documented and available upon request.
		USGS Identification	<ul style="list-style-type: none"> All USGS owned watercraft must have the USGS identifier, appropriately sized for the watercraft, on port and starboard sides.
		Drowning	<ul style="list-style-type: none"> All persons aboard any non-motorized, personal, Class A or Class 1 watercraft must wear a properly fitted USGS approved personal flotation device (PFD) at all times PFD's must be international orange or high-visibility green and equipped with 31 in² ANSI approved retro-reflective tape on front and back Auto-inflate PFD's must be serviced and inspected <u>annually</u> per SM-445-2-H 31.4.A.6 and documented with a maintenance log that is readily available.
		Hypothermia	<ul style="list-style-type: none"> Cold-water protective equipment (e.g., exposure suits, coveralls, jackets, and/or immersion suits) should be used whenever the water and air temperatures pose a hypothermia hazard
		Personal safety/injury	<ul style="list-style-type: none"> All watercraft (regardless of type) will have USGS and state required safety equipment specific to the watercraft type and operating environment and at a minimum will include: visual distress signals (in open water), a bailing device, anchor and line appropriate for the craft and operating conditions, and functional navigational lights for the class of watercraft (class A or class 1) and area of operation. For all types of watercraft, a pre-departure checklist is strongly encouraged to ensure all required safety and mission critical equipment is onboard the watercraft prior to departure Never exceed the rated capacity of the watercraft and account for all cargo, passengers, fuel, etc. when calculating weight load
		Lightning	<ul style="list-style-type: none"> Get out of the water if there is lightning in the area.

		Communication	<ul style="list-style-type: none"> All watercraft will have a means of communication with proven reliability for the area they are working in. Do not rely solely on cell phones in remote areas until service availability has been determined for the area.
		Other water/ice related hazards	<ul style="list-style-type: none"> You and your supervisor should discuss additional training or controls needed specific for the hazards you will encounter and environments you will be operating in These additional controls can be added at the end of this JHA
Working on ice covered lakes and rivers		Personal safety and injury	<ul style="list-style-type: none"> The controls provided below are common controls for those working on ice. Because working on ice can be extremely hazardous, you should review the following USGS resources for additional controls for the specific tasks you'll be performing. <ul style="list-style-type: none"> SM-445-3-H Topic 34: Working on Ice-Covered Rivers USGS JHA for Working on Ice-covered Rivers
		<p>Falling through the ice into the river, hypothermia, drowning.</p> <p><i>The danger of working on ice-covered streams should never be underestimated. Ice thickness may be irregular, especially late in the season when a thick snow cover may act as an insulator. Water just above freezing can slowly melt the underside of the ice, creating thin spots. Ice bridged above water may be weak, even though relatively thick.</i></p> <p><i>If temperatures have been or will be above freezing, snowmelt may increase the stage and this pressure on the ice sheet may cause the ice to breakup rapidly (sometimes within a matter of minutes).</i></p>	<ul style="list-style-type: none"> Establish a rescue plan before you go onto the ice. Revise rescue plan to address current conditions Wear clothing that will help protect you against hypothermia and provide flotation such as a float coat or anti-exposure worksuit At least two workers should be present. One of the two must be experienced working on ice-covered rivers Get additional information about the ice conditions from local officials or local residents (date of ice formation, open water, sources of warmer water, previous history). Check weather forecasts Visually estimate the condition of the ice if possible: <ul style="list-style-type: none"> Color - blue ice is the strongest and grey ice is generally poor Snow cover - snow insulates ice, which may prevent strong ice formation and bridge open water Cracks - intersecting cracks are the most dangerous. Ice buildup on the banks could conceal thin ice and can be difficult to traverse.

		<p><i>Ice buildup in the river channel often constricts the flow causing faster deeper water.</i></p> <p><i>Breaking through the ice into deep flowing water could easily sweep you downstream under the ice.</i></p>	<ul style="list-style-type: none"> • Ice near the banks, near piers and rocks can be softer than the surrounding ice. • Ice thickness is not the best measure of strength. Test the ice continually as you walk using solid blows of a sharp ice chisel. If, after repeated blows, the ice remains sound then proceed. If the ice chisel penetrates to the water, go back to the bank immediately. When working on the ice stay in close proximity to the area that has been tested.
		<p>Rescue attempts:</p> <p>Rescue attempts on thin ice, snow bridges or overflow can be very dangerous to the rescuer.</p>	<ul style="list-style-type: none"> • Breaking through the ice on streams with high velocities or depths in excess of three feet is life threatening. The suggestions below are considered to be only marginally effective. No reliable method has been identified that will ensure a safe return if you fall through the ice. Therefore considerable effort must be undertaken to establish the strength of the ice. When in doubt, discontinue the work. • Always have a rescue plan formulated before beginning work on an ice-covered river. Have the proper rescue equipment on hand and use it according to your plan. Make sure you have emergency communication capability in case of an accident. • Some possible rescue aids if someone breaks through the ice: <ul style="list-style-type: none"> • Wear a PFD, float coat, immersion suit or inflatable suspenders to keep you afloat if you go in. • The lead person could be attached to a lightweight inflatable to be used as support and flotation in case the ice breaks. A long rope could be dragged behind the inflatable in case a rescuer needs to pull the inflatable out of danger. • The lead person can be attached to a float tube, large inner tube, or large Styrofoam block using a harness and about five feet of rope. The lightweight flotation gear is dragged behind as one walks across the ice. • Carry a pair of ice picks (sharpened metal rods in wooden handles) to help grab the ice

			<ul style="list-style-type: none"> • Use a rescue pole to help pull a victim out of the water (a sealed PVC pipe with rope running through the inside with each end capped but drilled to allow the rope to exit the pole.) The pole is used to extend a rescue rope to the victim • Keep a throw bag easily accessible • Keep rescue equipment at site that is difficult to transport every trip. For example, an extension ladder can be used for many tasks or rescue • When at a cableway location, a safety rope can be used to secure an employee to the cableway or cablecar in case of ice failure. • If working under a bridge, a safety line could be attached to the bridge structure. Use the bridge-safety plan for your site if a co-worker will be working on the bridge deck with a safety line. • If a safety line is attached to the lead person, DON'T attach the other end to someone else who may potentially be pulled in.
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Electrofishing

You indicated that you do not participate in electrofishing activities as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate your "My JHA" report.

Aviation Activities and Training

You indicated that you do not use any aircraft (other than commercial airlines) as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate your "My JHA" report.

Firearms

You indicated that you do not carry or use firearms as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate your "My JHA" report.

Bear Spray Use

You indicated that you do not carry bear (pepper) spray for protection from wild animals as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate your "My JHA" report.

Blasting and Explosives

You indicated that are not involved with any activities involving explosives or blasting as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate this JHA.

Wildlife Netting

You indicated that are not involved with any wildlife netting activities involving propellants as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate this JHA.

Underwater Diving

You indicated that you do not participate in any underwater diving activities as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate your "My JHA" report.

Other Field Activities

You indicated that you do not participate in participate in any other field activities such as chainsaw or power tool use as part of your official duties. If this is not accurate, please update your "My Safety Worksheet" in Digital Measures and regenerate your "My JHA" report.

Other Field Activities

You and your supervisor can add additional activities, hazards and associated controls as needed below:

ACTIVITY	LOCATION	HAZARD/TRAINING	CONTROLS
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Current Training Records

Training Category	Required	Most Recent Training Record	Expiration Date
Orientation	Yes	Safety: Field Employee Orientation (DOI Learn #94782)	None
Basic Laboratory Training	Yes	Safety: Laboratory Safety	
CPR and AED Certification	Yes	CPR and AED First Aid (Desert mountain Medicine) DesertMountainMedicine.com	
Basic First-Aid	No	Wilderness Anaphylaxis Training (WAT) (Desert Mountain Medicine) www.Desert Mountain Medicine.com	
Wilderness/Advanced First-Aid	Yes	16-24 hour Wilderness First Aid (Desert Mountain Medicine) DesertMountainMedicine.com	
Defensive Driving	Yes	Defensive Driving Online Course	
OHV/ATV Training	No		
Over-the-Water Training	Yes	Over Water Safety Training	
Non-motorized Watercraft Training	No		
Personal Watercraft Training	No		
MOCC Certification/Recertification	No		
Air Boat Training	No		
Electrofishing Certification Course (28+ hrs for crew leaders)	No		
Electrofishing Safety Training (2 hrs for crew members)	No	Electrofishing Safety	
Basic (B3) Aviation Training	No		
Supervisor (M3) Aviation Training	No		
Certification/Recertification for Collecting Specimens	No		
Certification/Recertification for Protection From Wild Animals	No		
Bear Spray Certification/Recertification	No		
Blasting Training	No		
Wildlife Netting Training	No		
Scuba Certification	No		
USGS Certification/Checkout Dive	No		
Chainsaw Training	No		

Power Tool Training

No
