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| Susquehanna Shale Hills  Field Safety protocols | This is a living document for maintaining field safety. The document will be updated at least annually.  Brandon Forsythe |

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# Field Safety

# Emergency Contacts

1. General guidelines
2. Logistics
3. Weather
4. Animals
5. Plants
6. Water

## Emergency Contacts

* Ambulance, Fire, Police: **911**
* Penn State University Police: **(814) 863-1111**
* Penn State University Health and Safety

(814) 865-6391

<http://www.ehs.psu.edu/>

* Mount Nittany Medical Center **(814) 231-7000**

1800 East Park Ave

State College, PA

* JC Blair Hospital **(814) 643-2290**

1225 Warm Springs Ave

Huntingdon, PA 16652

## Accident Reporting

Reporting of an accident follows Penn State University Safety Policies:

[SY01 Environmental Health and Safety Policy](https://policy.psu.edu/policies/sy01#H)

[SY03 Emergencies Involving Students](https://policy.psu.edu/policies/sy03)

[SY04 Employee Accidents Reporting and Investigation](https://policy.psu.edu/policies/SY04)

[SY05 Injuries to any Person, and Reporting Incidents Involving Other than Employees](https://policy.psu.edu/policies/sy05)

## General Guidelines

**YOU ARE IN CHARGE OF YOUR OWN PERSONAL SAFETY**

* If you are uncomfortable or do not feel safe make Brandon Forsythe or other field staff/personnel/colleagues aware of the condition(s) so it can be fixed or an alternative can be found.
* Use common sense!
* Do not wonder off by yourself; let someone know where you are:
  + Departure time
  + Expected return time:
  + Contact information:
    - Cell phone numbers
    - Vehicle descriptions
* Ideally at least one person should have a cell phone in case of emergencies
* Not all places have cellular reception
* Wear appropriate field clothing
* Closed toed shoes such as hiking boots or sneakers
* Long pants and long sleeve shirts are recommended to protect against ticks and other hazards
* Sunblock, sun glasses, hat
* Rain gear

## Logistics

* Plan ahead
* Email field plans to Watershed Specialist
  + Watershed Specialist will help schedule other colleagues to help in field
  + Schedule will be posted to the Field Calendar
  + If schedule changes notify Watershed Specialist to change calendar
* Have a field buddy – a 2nd person can help get work done and can obtain help in case of emergency; especially where no cell signal is available

## Weather

Weather conditions can change rapidly and vary between campus and field work locations. Have appropriate clothing, food, and water while in field.

### Lightning

* Seek shelter early – building or vehicle
  + Stay sheltered for 30 minutes after last lightning or thunder strike
  + If no shelter stay low to the ground – DO NOT be the tallest thing around
* Lightning kills an average of 47 people per year (<http://www.lightningsafety.noaa.gov/>)
* OSHA guidelines for lightning when working outdoors <https://www.osha.gov/Publications/OSHA3863.pdf>

### Heat/Sun Exposure

* Cover your skin – tightly woven fabrics
* Use sunscreen – SPF 15 or greater; follow directions on the bottle
* Wear a hat – wide brim hats are idea to protect the ears, nose, necks, eyes
* Sunglasses – should block 99 to 100% of UVA and UBA radiation
* Try to limit direct exposure time – UV rays are strongest between 10am and 4pm

#### Heat Stroke, Heat Exhaustion, Heat Cramps

These definitions come directly from the American Red Cross (redcross.org)

Further guidance and information can also be obtained from OSHA at the following links:

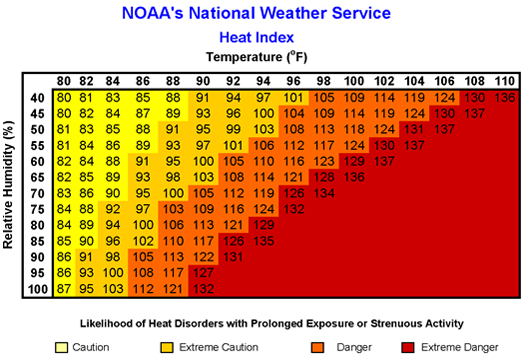
<https://www.osha.gov/SLTC/heatstress/heat_illnesses.html>

Heat Stroke - a life-threatening condition that usually occurs by ignoring the signals of heat exhaustion. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. ***Heat stroke is a medical emergency that can result in death. Call 911 immediately!!!***

Heat Exhaustion - a more severe condition than heat cramps. Heat exhaustion often affects athletes, firefighters, construction workers and factory workers. It also affects those wearing heavy clothing in a hot, humid environment. Signs of heat exhaustion include cool, moist, pale, ashen or flushed skin; headache; nausea; dizziness; weakness; and exhaustion.

Heat Cramps - are muscular pains and spasms that usually occur in the legs or abdomen. Heat cramps are often an early sign that the body is having trouble with the heat.

* Prevention - [https://www.osha.gov/SLTC/heatstress/prevention.html\](https://www.osha.gov/SLTC/heatstress/prevention.html/)
  + Stay hydrated – small amounts more frequently
  + Wear light colored clothing
  + Take breaks in shade
  + Avoid caffeine, alcohol, and sugars
  + Work in shaded areas when possible
  + Ask your doctor if you have concerns about your health and medications



| **Heat Index** | **Risk Level** | **Protective Measures** |
| --- | --- | --- |
| Less than 91°F | [Lower (Caution)](https://www.osha.gov/SLTC/heatillness/heat_index/protective_low.html) | Basic heat safety and planning |
| 91°F to 103°F | [Moderate](https://www.osha.gov/SLTC/heatillness/heat_index/protective_mod.html) | Implement precautions and heighten awareness |
| 103°F to 115°F | [High](https://www.osha.gov/SLTC/heatillness/heat_index/protective_high.html) | Additional precautions to protect workers |
| Greater than 115°F | [Very High to Extreme](https://www.osha.gov/SLTC/heatillness/heat_index/protective_veryhigh.html) | Triggers even more aggressive protective measures |

# Animals

Ticks – 25 known species identified in Pennsylvania; 4 Major Ticks in this region are:

A close up of a spider

Description automatically generated with medium confidenceA picture containing arthropod, invertebrate, acarine

Description automatically generated

Black Legged or Deer Tick

Lonestar Tick

A picture containing invertebrate, arthropod, acarine

Description automatically generatedA picture containing acarine, invertebrate, arthropod

Description automatically generated

Groundhog Tick

Dog Tick

* Frequently check yourself for ticks. Ticks like the warm moist areas.
* Prevention and control:
  + Wear light colored clothing, long sleeve shirt and long pants
  + Tuck pants into socks, boots, or gaitors
  + Use Tick repellents
    - Permethrin products
      * **Use on clothing only**
      * Follow product instructions carefully
    - DEET
      * 30-40% DEET
      * Can use on skin and clothing

## Snakes

Three venomous snakes in PA

A snake on the ground

Description automatically generated with medium confidenceA group of brown leaves on the ground

Description automatically generated with low confidence

Timber Rattlesnake

Northern Copperhead

A picture containing reptile, snake, outdoor

Description automatically generated

Eastern Massasauga Rattlesnake (rare - Northwestern PA)

* Do not get close to snakes – typically they will not bother you if you let them alone. ***KEEP YOUR DISTANCE!***
* Rattle snakes typically give a warning by rattling their tails and visually coil up
* Copperheads will coil up sometimes but not always
* Snakes blend into their surrounding very well
  + Pay attention to your surroundings and Look before you step or reach down

## Bees & Hornets

* Bees and hornets (wasps) can have nests just about anywhere. Be on the lookout in some of these common places
  + Stumps
  + Logs
  + Hanging nests
  + Around any data logger boxes or other structures
* If allergic, be sure to have your medicine with you
  + Let others know so they can help you
  + Show them how to administer an Epi-Pen if you have one

# Plants

* The three main poisonous plants are:
  + Poison Oak
  + Poison Sumac
  + Poison Ivy
* More information can be found at [The Virtual Nature Trail at Penn State New Kensington (psu.edu)](https://www.dept.psu.edu/nkbiology/naturetrail/speciespages/specieslist.htm)

Background pattern

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# Water Safety

* Work in or around water that you are comfortable with
  + If you cannot swim do not try to wade rivers
* OSHA regulation 29 CFR 1926.106
  + “Employees working over or near water, where the danger of drowning exists, shall be provided U.S. Coast Guard approved life jacket or buoyant work vests.”
  + This includes walking over bridges to collect samples from the bridge
* Powered Boating Crafts
  + PA requires all operators, regardless of age, to complete boater education
  + [Boat (fishandboat.com)](https://www.fishandboat.com/Boat/Pages/default.aspx)

# Tower Safety

* Individuals must complete a commercial tower training certification prior to climbing any tower
* In addition, you must complete the Fall Protection Safety Training available through PSU EHS: [EHS Course Registration: Course List (psu.edu)](https://apps.opp.psu.edu/ehs_training/course_list.cfm?page_action=ViewClasses&course=473)
* During time climbing be sure to check weather conditions
  + Winds cannot exceed 15 mph
  + Do Not climb in rain or snow
  + Be sure to check tower for ice during winter months
* Must have minimum of 2 certified people on site during the entire climb
  + Prefer an additional third person when feasible
* All participants must wear helmet
* Two certified climbers must have harness on at all times

# Vehicle

* University Policy [BS20](https://webaccess.psu.edu/?factors=dce.psu.edu&cosign-guru.psu.edu&https://guru.psu.edu/policies/psu/BS20.html) requires employees between ages 18 and 21 to complete the [Online Driver Safety Training Course](https://psu.csod.com/samldefault.aspx?returnurl=%252fDeepLink%252fProcessRedirect.aspx%253fmodule%253dlodetails%2526lo%253dff603703-37e3-43ce-b59a-824f93ddead1) (PSU Web Access Required).
  + Our group requires ALL users that drive a University vehicle (CZO field vehicle) complete the above course.