

Safety is an important part of stream gaging

- There are many inherent risks associated with stream gaging activities
- In this module we will discuss some of these risks and what you can do to minimize those risks
- **Remember**, ultimately you are responsible for your own safety... No piece of data is worth risking your life!



Note: Notes and narrations for this module contain the same information that is on the slides.



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Safety is your right AND your responsibility

As a USGS employee you have the right to a workplace that is free from job safety and health hazards, but you are expected to:

- 1) Comply with all applicable work rules and procedures including the use of safety equipment provided to you
- 2) Actively participate in safety and health education and training activities
- 3) Report unsafe and/or unhealthful working conditions
 - Report to supervisors every job-related accident or incident that results in injury, illness, or property damage and any other condition that adversely affects the ability to perform a job in a safe and healthful manner

You can exercise these rights and responsibilities without fear of interference, discrimination, or reprisal for reporting an unsafe or unhealthful condition, or otherwise exercising your rights



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Hydrologic Technicians work in many environments that have inherent dangers. It's important that you know how to protect yourself.

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- Moving water is much more powerful than most people realize
- Cold water conducts heat away from your body 25 times faster than air



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Personal Flotation Devices (PFD's) are required anytime you are on, in or over water

- Exceptions can be granted if there is a Job Hazard Analysis (JHA) that states the specific conditions in which a PFD is not required, the exception must be approved by the supervisor and the Center Director

Inflatable PFD's may be worn but never in a life threatening situation



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Especially when
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Access to gaging stations often requires navigating steep access trails or rough terrain where a slip or fall could result in serious injury

- Climbing on cableway A-frames and tall stilling well ladders also poses a falling hazard



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Fall Protection training is required for anyone who climbs more than 6 feet above the ground

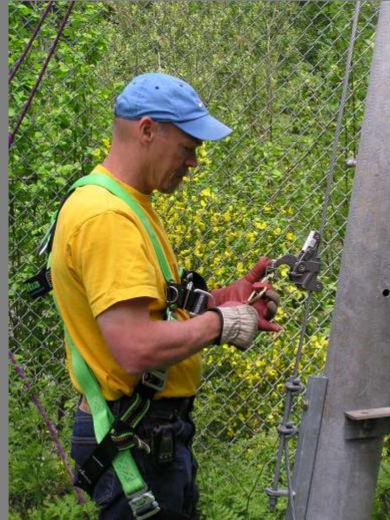
- Anyone who climbs more than 20 feet above the ground must also use fall protection equipment and be attached at all times
- Fixed ladders over 20 feet in length must have fall protection devices
- Platforms more than 4 feet above the ground must have railings



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A fixed cable slide system is the easiest way to equip an A-frame or fixed ladder with fall protection

- All structures over 20 feet above the ground should have a fixed fall protection system
- Users must be trained and deemed “qualified climbers”
- Use of a full body harness is required
- Must have a written Fall Protection Plan
- All cableway users must undergo user training



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What is a Confined Space?

OSHA defines a "confined space" as a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work
2. Has limited or restricted means for entry or exit
3. Is not designed for continuous employee occupancy.

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Stilling wells and other confined spaces have OSHA regulations that must be followed in order to enter and perform work

- Confined Space training is required
- If there is potential for atmospheric hazards or engulfment by water inside the confined space then a permit is required before entry and special precautions must be taken
- A JHA should be included in the site specific plan



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General procedures for entering stilling wells are described in WRD policy Memo 2000.10, and the USGS Safety Manual Chapter 40

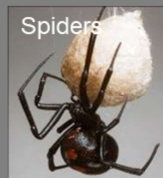
- Provide engineering solutions to reduce the need to enter the stilling well
- Conduct a safety evaluation and use an air monitor to ensure that the atmosphere is safe
- Open all doors and provide mechanical ventilation if necessary
- A minimum of two people are recommended when working in stilling wells



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Be alert for wild animals and insects which you may encounter in the field

- Hostile people may also pose a threat



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Hostile people may also pose a threat.

Be aware of the types of animals or insects in the area and their particular behaviors
Avoid contact if possible

- If you know you are allergic to bees or wasps carry an EpiPen and make sure your co-workers know about your condition and that they know what they should do if you get stung



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Many gages are located in remote settings where even a minor injury can become life threatening

- Your chances of survival decrease the longer it takes before help arrives
- Always make sure someone knows where you are and when you plan to return, have a call-in procedure in place, and be prepared for the worst



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How good is your call-in procedure? Will help arrive in hours or days? Do you have a plan?

- Make sure you have communication
 - Radios, cell phones, satellite phones, or personal locator beacons may be necessary
- Tell someone if your plans change
- Make sure you have enough food, water and equipment to be able to spend the night in the wilderness



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When working from bridges or roadways you are responsible for yourself, other pedestrians and roadway users

- Follow the Manual of Uniform Traffic Control Devices (MUTCD) traffic safety plan by using truck warning lights, signs and cones



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- Hi-visibility vests and PFD's are required when working on roadways and bridges

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Some sites are only accessible by Helicopter or fixed wing aircraft

- Only Office of Aircraft Services (OAS) approved pilots and aircraft can be used
- Training for all crewmembers must be current in B3 (basic aviation safety)
- Flight following procedures must be in place
- Any incidents must be reported using SAFECOM



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Watercraft is frequently used for collection of hydrologic data

- All boat operators must take the Department of the Interior (DOI) Motorboat Operators Certification Course (MOCC) and keep their certification current
- Watercraft must be operated in accordance with Federal, State and local laws



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All watercraft must be in safe working condition

- Watercraft must meet U.S. Coast Guard design, equipment, and inspection and certification requirements
- Watercraft must be outfitted with appropriate safety equipment for the expected conditions

All personnel must wear USGC approved PFD's that are international orange or neon yellow in color with reflective material

Cold weather equipment will be provided when appropriate



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What do you do when you have an accident?

1. Take care of yourself, use your first aid training to stabilize the victim
2. Call for help, have the numbers for the local sheriff or search and rescue authorities handy
3. Call your supervisor tell them what happened



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Resources:

The USGS Safety Manual (also known as the Occupational Safety and Health Program Requirements Handbook 445-2-H) was developed to provide specific guidance, policies and standard operating procedures for typical USGS activities

- The safety manual currently has 45 chapters that describe policy, and safety requirements for a wide variety of USGS activities
- The safety manual is available on-line at:
<https://www.usgs.gov/about/organization/science-support/survey-manual/445-2-h-occupational-safety-and-health-program2-h-occupational-safety-and-health-program>



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Web Based Resources

- Each Cost Center should have their own internal Safety web page
- Each Region also has an internal Safety web page
- The Bureau Safety Page
<http://internal.usgs.gov/ops/safetynet/index.html>
- The Department of Interior Safety Page
<https://internal.usgs.gov/ops/safetynet/>
- Water Resources Safety Page
<https://water.usgs.gov/osw/pubs/memo.summaries.html#10>



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Training:

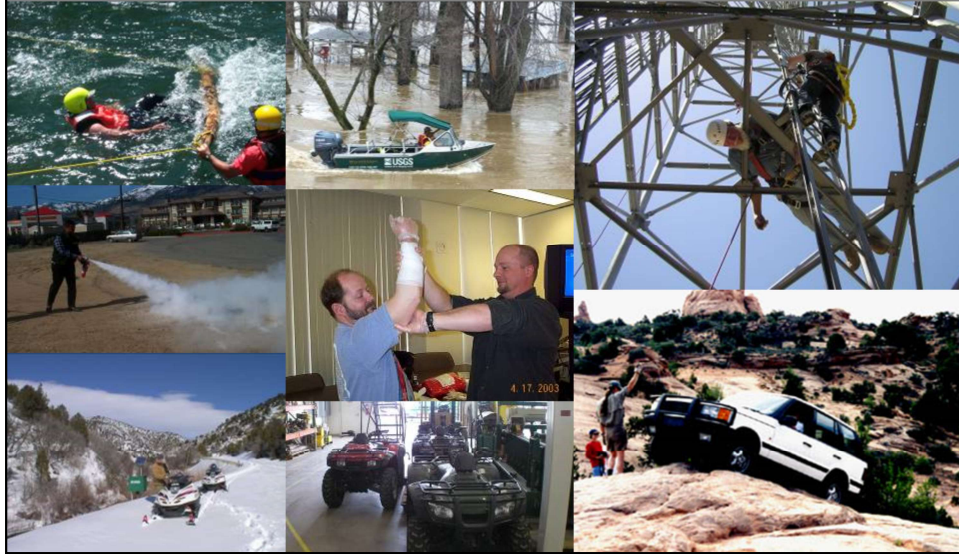
In addition to technical training Hydrographers may be required to receive the following safety training based on their work activities

- Safety orientation
- Basic, Advanced or wilderness first aid and CPR
- Aviation training (B-3)
- Animal awareness
- Cableway safety for users or inspectors
- Confined Space
- Defensive Driver
- Fall Protection
- In-the-water or swift water awareness
- Survival training
- Fire extinguisher
- Firearms (Alaska or where applicable)
- Laboratory Safety
- Motor boat operators certification course



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DOI Talent is a good source for on-line training but Hands-on training is always preferable.



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The Class Assessment Follows.

- The assessment that follows contains five questions.
- Once you have successfully completed tests for all modules you will be given instructions on how to print out a certificate that documents successful completion of the Surface Water Procedures Training Class



You don't have to wear a personal flotation device (PFD) when making discharge measurements when water in the stream is less than 0.5 ft deep.

- ☐ True
- ☐ False

Lesson Assessment

Quiz - 5 questions

Last modified: Monday, March 2, 2020 at 2:13:04 PM

Properties

On passing, 'Finish' button: [Goes to next slide](#)

On failing, 'Finish' button: [Goes to next slide](#)

Allow user to leave quiz: [At any time](#)

User may view slides after quiz: [After passing quiz](#)

Show quiz in menu as: [Single Item](#)

 Edit in Quizmaker

 Edit Properties

Lesson Assessment

End of class module

- Please close this window and take the next module.

