

Drinking Water

Access to safe drinking potable water is critical in any response. If local drinking water supply systems are not available or water supplies are deemed potentially compromised, store containerized potable water in an accessible location, protected from direct sunlight and high temperatures. Plan on 3 gallons of water per day per person for consumption and minimal hygiene purposes. When bottled water is used, change out the supplies if stored for longer than 3 months. If disrupted by the hurricane, restoring the municipal supply service may take several days or longer. Members may be assigned to help homeowners reoccupy houses, and the water service to the house should be checked. Ensure that all water lines within the home are disinfected (if possible) and flushed for a minimum of 5 minutes prior to consumption, subsequent to using the building's water system once again.

Figure 1. Fluid Replacement and Work/Rest Guide

Heat Cat	WBGT Index, °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	Water Intake (Qt/H)	Work/Rest (min)	Water Intake (Qt/H)	Work/Rest (min)	Water Intake (Qt/H)
1	78° - 81.9°	NL	½	NL	¾	40/20	¾
2	82° - 84.9°	NL	½	50/10	¾	30/30	1
3	85° - 87.9°	NL	¾	40/20	¾	30/30	1
4	88° - 89.9°	NL	¾	30/30	¾	20/40	1
5	> 90°	50/10 min	1	20/40	1	10/50	1

Easy Work = Walking hard surface 2.5 miles per hour (mph) <30# load, Weapon maintenance, Marksmanship training

Moderate Work = Patrolling, Walking in sand 2.5 mph no load, Calisthenics

Hard Work = Walking in sand 2.5 mph with load, Field assaults

WBGT: wet bulb globe temperature

Supply Information

Item	NSN
Sunscreen Lotion	6505-01-121-2336
Non-alcohol Lotion Base Sunscreen	6505-01-267-1486
DEET Insect Repellent	6840-01-284-3982
20% Picaridin Insect Repellent Pump Spray	6840-01-619-4795
IR3535 Insect Repellent Pump Spray	6840-01-656-7707
Hearing Protection - Sound Guard Earplugs	*
Eye Protection	**

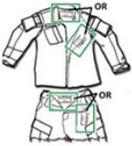
* Department of the Army Pamphlet (DA PAM) 40-501, Table 7-3

** Authorized Protective Eyewear List (APEL)

Insects

Initially, the number of flying insects will be reduced by the storm. However, within 7 to 10 days after the storm, numbers of mosquitoes and flies can rebound to very high levels. To reduce exposure to harmful insects, use the Department of Defense (DoD) insect Repellent System.

(DoD) insect Repellent System

	+		+		+	
PERMETHRIN-TREAT UNIFORM		DEET, PICARIDIN, OR IR3535		PROPERLY WORN UNIFORM		PERMETHRIN-TREAT BED NET
Use ALL elements for maximum protection						

Displaced Animals

Stress can change the temperament of normally friendly pets. Wild and domesticated animals will seek shelter in unusual places to avoid the rising waters.

Do not handle displaced animals. Do not keep as pets/mascots. Contact animal control specialists for help. If you've been bitten or scratched by any wildlife or unfamiliar animals, you should talk with a healthcare or public health professional to determine your risk for rabies or other illnesses. Wash any wounds immediately with soap and water, and then plan to see a healthcare provider. Immediately report any animal bites.

Hazardous Plants

Some plants can irritate the skin if touched. When burned, they can irritate the skin and lungs. Avoid skin contact with plants when possible, and wash contaminated skin and clothing after contact—Leaves of three – leave them be.

Personal Protective Equipment (PPE)

The level of PPE required will depend upon your role in the effort. Anticipate and bring items such as a hard hat, goggles, heavy work gloves, steel-toed boots, and hearing protection. Some PPE items may not be standard issue for most U.S. military personnel.

Military Vaccine Requirements

Refer to <https://www.health.mil/Military-Health-Topics/Health-Readiness/Immunization-Healthcare/Vaccine-Recommendations> for up-to-date vaccine requirements.



For more information, contact your installation's Department of Public Health.



Hurricane Response Deployment Guide

This deployment health guide provides information to disaster response personnel, Service members, military leaders, crisis response personnel, and the general public for awareness of hurricane response and preparedness. This guide can help reduce risk of injury and disease when deployed in response to a hurricane or other disaster. The Defense Health Agency Procedural Instruction 6490.03, Deployment Health Procedures (<http://www.health.mil/Reference-Center/Policies>; search 6490.03), requires actions to be taken pre-deployment, during deployment, and post-deployment including Health Threat and Countermeasure Briefings.

Overview

Hurricanes are severe and often destructive tropical storms with sustained winds of 74 miles per hour or more. Hurricane force winds may extend as much as 150 miles from the storm center. Tropical storm-force winds (39 – 73 miles per hour) from a hurricane may extend as much as 300 miles from the storm center. Hurricanes can produce extreme waves, violent winds, torrential rain, and floods. The main hazards associated with hurricane response are exposure to floodwater, electrical hazards, carbon monoxide, hazardous materials, physical injury, heat and cold stress, unstable structures, fire, and confined spaces. "Hurricane Season" is from June 1 to November 30 although they have occurred outside this timeframe.



ARMY PUBLIC HEALTH CENTER (APHC)

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Authority and Communication

Other Federal, state, and local officials may have higher authority than your agency, and they may be coordinating the on-scene efforts. Communicate with them and understand how your mission fits into the response efforts.

Site Safety

Before you begin any response efforts, an on-scene safety officer should brief you about site safety and health issues. As conditions and missions change, the safety officer should provide updated information to allow for adjustments in safety measures.

Exposure to Floodwater

Flooding can cause the disruption of water purification and sewage disposal systems as well as overflowing of toxic waste and chemical storage sites. Most floods do not cause serious outbreaks, but they can cause sickness in workers who encounter contaminated floodwater. Avoid unnecessary contact with any floodwater. Assume that floodwater is not safe unless authorities have specifically declared it safe. To avoid disease, wash hands with soap and water or use hand sanitizer at every opportunity. Before entering floodwaters, you should don plastic or rubber gloves, boots, and other protective clothing needed to avoid contact with floodwater. Use life jackets as warranted.

Electrical Hazards

If there has been water anywhere near electrical circuits and electrical equipment, turn off the power at the main breaker or fuse on the service panel.

Do not turn the power back on until the electrical equipment has been inspected by an electrician.

If you must work near a downed power line, contact the utility company to de-energize and ground or shield the power lines. If power is out, use flashlights instead of candles.

Carbon Monoxide

Carbon monoxide is a colorless and odorless gas, and it can kill you. Gasoline- or diesel-powered pumps, generators, and pressure washers produce carbon monoxide. Never operate gasoline-powered equipment indoors. Symptoms of low-level exposure include shortness of breath, mild nausea, and mild headaches. If you suspect carbon monoxide exposure, move to fresh air immediately and seek medical attention.

Physical Injury

Moving debris can cause cuts, scrapes, bruises, and sprains especially to the hands, back, knees, and shoulders. Wear leather gloves, safety goggles, and steel-toed shoes. Avoid lifting more than 50 pounds per person. Be sure you've had a tetanus vaccination within the past 10 years. Get first aid quickly to treat any wounds and prevent infection.

Heat and Cold Stress

Heat:

- Full heat acclimatization takes 7-14 days of physical exertion in the heat. Physical exertion should start slowly then increase in intensity and duration.
- Drink enough water to remain hydrated. If your urine becomes dark yellow and infrequent, drink more water.
- Use work-rest cycles, and when possible, work during the cooler hours of the day. (See figure 1).
- Get medical attention for heat cramps, exhaustion, or stroke. Becoming a heat casualty increases the likelihood of subsequent episodes.
- Use sunscreen.

Cold:

- Remember **C-O-L-D**: keep clothing **C**lean, avoid **O**verheating, wear clothing **L**oose and in layers, and keep clothing **D**ry.
- Standing or working in water that is cooler than 75° F will remove body heat faster than it can be replaced and can result in hypothermia. Take frequent breaks **out of the water**.
- Change your socks frequently to keep your feet dry.
- Use the buddy system to check for signs of cold injury.
- Get medical help for loss of sensitivity in any body part, mental slowness, or uncontrollable shivering.

Unstable Structures

Flood waters can damage walkways, parking lots, roads, buildings, and open fields. Don't work around any flood-damaged building until it has been certified safe by an engineer or architect.

Assume all structures are unsafe until they are inspected. Leave at once if shifting or noise signals a possible collapse.

There are risks to consider when driving in flooded areas. Vehicles can stall or be swept away in moving water. Roads can become unstable and collapse. Do not drive on flooded roads unless authorities have specifically declared it safe.

Hazardous Materials

Flood waters may dislodge tanks, drums, and pipes containing hazardous materials. Contact the local fire department or hazardous materials team before moving unidentified containers. In contaminated areas, wear protective clothing and respirators. Wash exposed skin areas frequently.

Fire

Fire protection systems may be inoperable. Bring two or more fire extinguishers with an Underwriters Laboratory [UL®] rating of at least 10A (suitable for putting out wood, paper and cloth fires) to each cleanup job.

Confined Spaces

Toxic gases, a lack of oxygen, or explosive conditions may exist in a confined area. Because many toxic gases and vapors cannot be seen or smelled, never enter a confined space unless you have been properly trained, even to rescue a fellow worker! Call 911 for help.

If you are properly trained and have the necessary equipment to enter a hazardous confined space, consider other hazards, including:

Molding or fermenting agricultural materials in confined spaces may generate large amounts of toxic gases, which could cause lung damage or death if inhaled.

Turn on ventilation in silos and other storage areas at least 30 minutes before entering, and leave them on while working.

Agricultural materials can easily shift and engulf entrants.

Bloodborne Pathogens

If you come in contact with blood or other body fluids, treat the blood and body fluids as infectious. Wear gloves and eye protection. If necessary, you can improvise with a towel or plastic bag to avoid contact.

Respiratory Infections

If there is potential for exposure to infectious respiratory particles (SARS-CoV-2, influenza, etc.) follow DoD guidance on required face coverings or PPE.

Dealing with Human Remains

In disasters, there is the possibility of coming in contact with people who have died under tragic circumstances. Leave remains in place, and notify mortuary affairs or your chain of command. They will notify the appropriate authorities to handle the remains. Note that human and animal remains do not pose a disease threat for people not directly involved with recovery.

If you are directed to work with remains:

- Protect your face (eyes – glasses/goggles/face shield; nose and mouth – surgical mask/cloth over nose and mouth) from splashes.
- Wear a combination of a cut-proof inner layer glove and a latex or similar outer layer glove.
- Handle remains with dignity, and respect at all times.
- Use screens and barriers to reduce others from viewing human remains.
- Properly dispose of all items after use, and clean your hands and exposed areas with soap and clean water.
- It is natural to experience a variety of responses such as anxiety, sadness, trouble concentrating or sleeping, or continuously thinking about what happened. Do not keep these emotions inside, they are normal and are best worked through by talking with your team. In some cases these responses may continue for more than 2 weeks and interfere with everyday life. If they are not getting better over time, it is important to seek professional help.

Do not hesitate to talk with a chaplain or with a behavioral health provider in your area.