

# Dover AFB Hurricane Orientation

- Location-specific procedures on preparing for and making it through a hurricane
- Evacuation information
- Local community resources



Hurricane Sandy as seen from NOAA's GOES-13 satellite on October 28, 2012. (Credit:NOAA/NASA)

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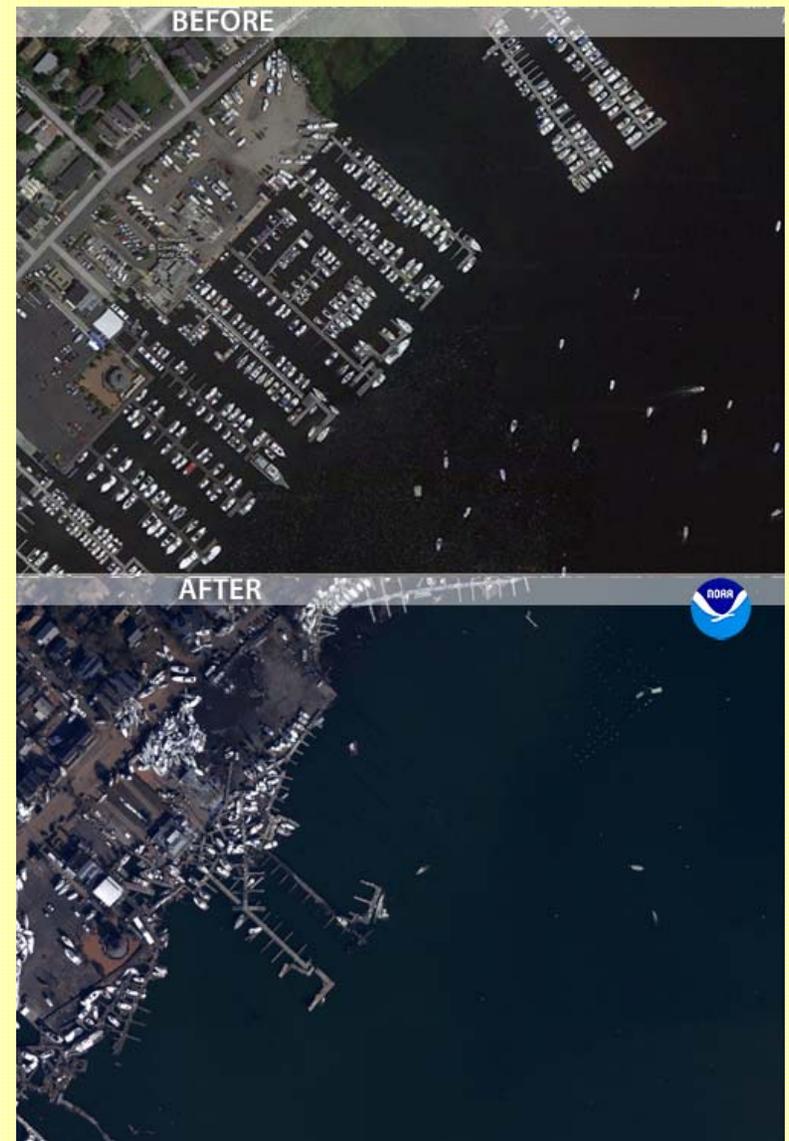
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# *What is a hurricane?*

A hurricane is a tropical storm whose winds reach sustained wind speeds of >74 mph. Hurricane conditions (*HURCONs*) have changed to begin tracking the hurricane when it reaches wind speeds of 58 mph and is 96 hours away. Hurricanes produce violent winds, torrential rains, incredible waves, and floods. Some hurricanes may be over 400 miles in diameter. Hurricanes may last a few days or several weeks.

Storm season runs from June through November with the peak months being August and September. Hurricanes consist of winds exceeding 74 mph, accompanied by intense rain, dangerously high tides, and possible flooding. Side effects of a hurricane include severe thunderstorms, tornadoes, and flooding. These can occur before, during, and after a hurricane passes over a given location.



(Credit:NOAA/NASA)

# Terms to know

**Tropical Storms:** Form in the Atlantic near the equator just off the western coast of Africa. These storms are an area of low barometric pressure called a tropical depression with circulating winds and associated thunderstorms. When these winds become greater than 35 mph the storm is upgraded to a tropical storm and named.

**Storm Surge:** The rotating winds and forward movement of the storm create a wave in front of the hurricane that can reach incredible heights. As the storm makes landfall, this wave is pushed inland and causes a majority of the damage and flooding to coastal areas. If the hurricane makes landfall at high tide, this effect is increased. The angle at which the storm hits the coast and the geography of the shoreline affect the storm surge height.

**Eye of the Hurricane:** Winds and rain rotate around a central area of the storm called the “eye.” This area is relatively calm and is roughly 20-50 miles wide. If the storm center passes over your area, the wind will calm down for a period lasting a few minutes to half an hour. Do not be fooled into thinking the hurricane has passed. Many people lose their lives by making this mistake. When the winds begin again, they rapidly increase to hurricane force, and come from the opposite direction.

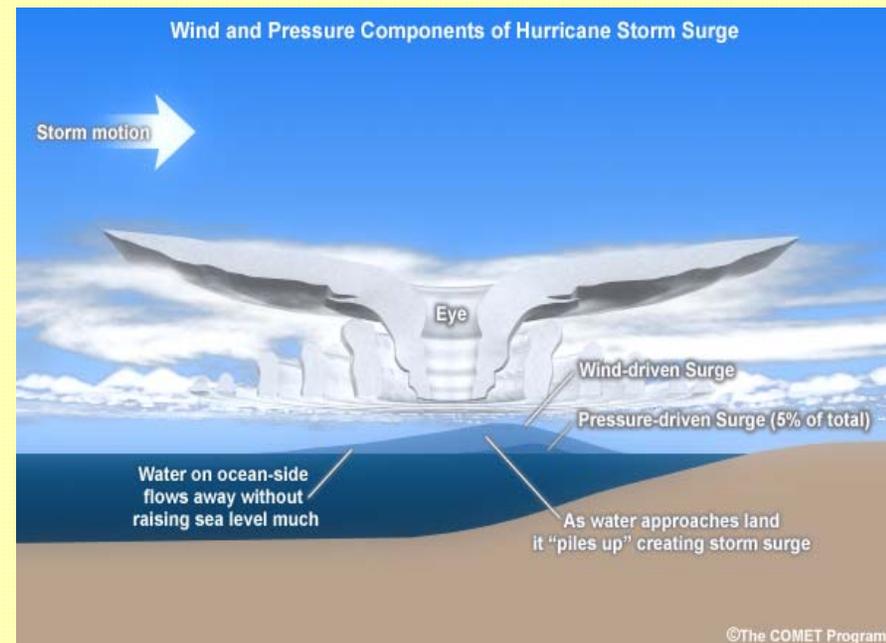


Image source: <http://www.nhc.noaa.gov/surge/>

# *What are HURCONs?*

**Hurricane Conditions:** Dover Air Force Base issues Hurricane conditions/HURCONs for Dover AFB based on information provided by the National Hurricane Center. These conditions indicate when sustained winds of 50 Knots or 60 mph or greater are estimated to reach DAFB, and are prescribed by AFMAN 10-2504. They are based on our preparedness measures and alert levels, similar to FPCONs.

*These conditions should not be confused with the Saffir-Simpson Hurricane scale.*

## **DAFB Hurricane Conditions**

- ◆ **HURCON 5** – General Hurricane Season, 1 June through 30 November.
- ◆ **HURCON 4** – Alert Phase. Indicates surface winds in excess of 58 mph and could arrive within 96 hours. This is the point when DAFB starts tracking and notifying members about a hurricane.
- ◆ **HURCON 3** – Preparation Phase. Indicates surface winds in excess of 58 mph and could arrive within 72 hours.
- ◆ **HURCON 2** – Final Preparation Phase. Indicates surface winds in excess of 58 mph and could arrive within 48 hours.
- ◆ **HURCON 1** – Secure Phase. Indicates surface winds in excess of 58 mph and could arrive within 24 hours.
- ◆ **HURCON 1E** – Indicates surface winds in excess of 58 mph are occurring and other dangerous conditions associated with the storm are present. All outside activity is strictly prohibited.
- ◆ **HURCON 1R** – Indicates life threatening storm hazards have passed but damage may persist and only emergency responders and damage assessment personnel are released to move about.

# *What is the Saffir-Simpson Hurricane Scale?*

The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous, however, and require preventative measures.

*The next few pages will outline specific categories on the scale and their potential for destruction.*

# *Saffir-Simpson Hurricane Wind Scale*

## **Category 1**

*Sustained winds 74-95 mph*

*(64-82 kt, 119-153 km/h)*

### ***Potential Impact***

**People/pets/livestock:** Could be injured or killed if struck by flying or falling debris..

**Mobile Homes:** Older (pre-1994) construction could be destroyed, especially if not anchored properly. Newer homes anchored properly can sustain damage involving removal of roof/siding as well as damage to exterior structures.

**Frame Homes:** May experience major damage if poorly constructed, to include removal of roof/siding as well as damage to exterior structures. Unprotected windows may break, masonry chimneys may fall. Well-constructed homes could have damage to roof shingles, vinyl siding, soffit panels and gutters.

**Apartments/Shopping Centers/Industrial Buildings:** Some roof coverings could be partially removed. Unprotected windows may break, overhead doors may fail.

**Power/Water:** Near-total power loss is expected with outages that could last up to weeks. Potable water could become scarce as filtration systems begin to fail

**Summary:** Very dangerous winds will produce some damage.

# *Saffir-Simpson Hurricane Wind Scale*

## **Category 2**

*Sustained winds 96-110 mph*

*(83-95 kt, 154-177 km/h)*

### ***Potential Impact***

**People/pets/livestock:** Substantial risk of injury or death due to flying and falling debris.

**Mobile Homes:** Older homes (pre-1994 construction) have a very high chance of being destroyed and the debris generated can shred nearby mobile homes. Newer homes can also be destroyed.

**Frame Homes:** Poorly constructed frame homes have a high chance of having their roof structures removed especially if they are not anchored properly. Unprotected windows will have a high probability of being broken by flying debris. Well-constructed frame homes could sustain major roof and siding damage. Failure of aluminum screened-in swimming pool enclosures will be common.

**Apartments/Shopping Centers/Industrial Buildings:** Substantial percentage of roof and siding damage to apartment and industrial buildings. Unreinforced masonry walls can collapse.

**Power/Water:** Near-total power loss is expected with outages that could last up to weeks. Potable water could become scarce as filtration systems begin to fail

**Summary:** Extremely dangerous winds will cause extensive damage.

# *Saffir-Simpson Hurricane Wind Scale*

## **Category 3**

*Sustained winds 111-129 mph*

*(96-112 kt, 178-208 km/h)*

### **Potential Impact**

**People/pets/livestock:** *High risk of injury or death due to flying and falling debris.*

**Mobile Homes:** *Nearly all older (pre-1994) homes will be destroyed. Most newer homes will sustain severe damage with potential for complete roof failure and wall collapse.*

**Frame Homes:** *Poorly constructed home can be destroyed by removal of roof/ exterior walls. Unprotected windows will be broken. Well-built homes can experience major damage involving the removal of roof decking and gable ends.*

**Apartments/Shopping Centers/Industrial Buildings:** *High percentage of roof and siding damage to apartment/industrial buildings. Isolated structural damage to wood or steel framing can occur. Complete failure of older metal buildings is possible, and unreinforced masonry buildings can collapse.*

**Power/Water:** *Electricity and water will be unavailable for several days to a few weeks after the storm passes.*

**Summary:** *Devastating damage will occur.*

# *Saffir-Simpson Hurricane Wind Scale*

## **Category 4**

*Sustained winds 130-156 mph*

*(113-136 kt, 209-251 km/h)*

### **Potential Impact**

**People/pets/livestock:** *Very high risk of death or injury due to flying and falling debris.*

**Mobile Homes:** *Nearly all older (pre-1994) homes will be destroyed. High percentage of newer homes will also be destroyed.*

**Frame Homes:** *Poorly constructed homes can sustain complete collapse of all walls, loss of roof structure. Well-built homes can also sustain severe damage with loss of most of the roof structure and/or exterior walls. Extensive damage to roof, windows, and doors will occur. Large amounts of windborne debris will be lofted into the air and this debris will break most unprotected windows as well as breach some protected windows.*

**Apartments/Shopping Centers/Industrial Buildings:** *High percentage of structural damage to top floors of apartment buildings. Steel frames in older industrial buildings can collapse. High percentage of collapse to older unreinforced masonry buildings.*

**Power/Water:** *Power outages will last weeks to possibly months. Long-term water shortages will increase human suffering. Most of the area will be uninhabitable for weeks to months.*

**Summary:** *Catastrophic damage will occur.*

# *Saffir-Simpson Hurricane Wind Scale*

## **Category 5** *Sustained winds 157 mph or higher (137 kt /252 km/h or higher)*

### **Potential Impact**

**People/pets/livestock:** *Very high risk of injury/ death from flying/ falling debris, even if indoors.*

**Mobile Homes:** *Almost complete destruction of all mobile homes will occur, regardless of age or construction.*

**Frame Homes:** *High percentage of homes will be destroyed, with total roof failure and wall collapse. Extensive damage to roof covers, windows, and large doors will occur. Windborne debris damage will occur to nearly all unprotected windows and many protected windows. Large amounts of windborne debris will be lofted into the air.*

**Apartments/Shopping Centers/Industrial Buildings:** *Significant damage to wood roof commercial buildings will occur due to loss of roof sheathing. Complete collapse of many older metal buildings can occur. Most unreinforced masonry walls will fail which can lead to the collapse of the buildings. High percentage of industrial buildings and low-rise apartment buildings will be destroyed.*

**Power/Water:** *Power outages will last for weeks to possibly months. Long-term water shortages will increase human suffering. Most of the area will be uninhabitable for weeks to months.*

**Summary:** *Catastrophic damage will occur.*

# *Emergency Notifications*

Advanced warning and special instructions will be disseminated throughout the base and surrounding areas by the Installation Notification and Warning System (giant voice, telephone alert system, desktop alert), organizational mailboxes, and Delaware Emergency Notification Systems (DENS) as well as the following local radio and televisions stations.

## **Television Emergency Broadcasting System:**

WBOC-TV 16  
WMDT-TV 47

## **Radio stations**

### **New Castle County:**

WAFT - 89.1 FM  
WMPH - 91.7 FM  
WAFL - 97.7 FM  
WTMC - 1380 AM  
WILM - 1450 AM

### **Kent County:**

WDSB - 92.9 FM  
WRDX - 94.7 FM  
WDOV - 1410 AM

### **Sussex County:**

WZBH - 93.5 FM  
WSTW - 93.7 FM  
WRBG - 107.9 FM  
WJWL - 900 AM

### **Statewide traffic alerts:**

1380 AM

## **Delaware Emergency Notification System (DENS)**

FirstCall Network's Registration Line is a toll-free number for citizens who wish to be notified by local authorities via their cellular phones in a disaster/emergency event.

Registration Line is **(866) 484-3264**.

*Only one phone number per address.*

- ◆ This process is very user friendly. Callers will be prompted while using the system.
- ◆ The system will ask for: Caller's name, phone number, street address, city, state, zip code.
- ◆ Once the information has been entered, the caller will receive a confirmation call back from the system.
- ◆ The information is protected, under the normal non-disclosure agreement between **FirstCall** and the State of Delaware.

## **Emergency Preparedness Voluntary Registry**

Citizens who have special needs or notification requirements, or who would require assistance with a natural disaster evacuation are encouraged to register with local authorities. For more information or to register, please

visit: [www.de911assist.delaware.gov](http://www.de911assist.delaware.gov)

# *What can I do now?*

- ◆ Prepare a family disaster plan. <http://www.prepared.org/> can help you get started. Review the plan with all members of your family.
- ◆ **Create an Emergency Contact Plan:** Choose an out-of-town contact your family will call to check on each other. Your contact should live far enough away that they are not affected by the same event and be informed they are your contact. Make sure each household member has each other's telephone numbers (home, work, and cell). Leave these contact numbers at your children's schools/aftercare and at your workplace.
- ◆ **Establish a Meeting Place:** Having a predetermined meeting place away from your home will save time, and minimize confusion should your home be affected or the area evacuated. You may even want to make arrangements to stay with a family member or friend in case of an emergency. Be sure to include any pets in emergency planning considerations.
- ◆ **Assemble a Disaster Supplies Kit:** If you need to evacuate your home or are asked to "shelter-in-place," having some essential supplies on hand will make you and your family more comfortable.
- ◆ Make sure you know where all of your important paperwork is and that it can be retrieved quickly. Documents and family photographs are the hardest things to replace.

# *What can I do now? (cont.)*

- ◆ Make a record of your personal property. Photograph or video tape the exterior and interior of your home, including your personal belongings. Store these documents in a safe place.
- ◆ **Check the School Emergency Plan:** You need to know if they will send children home on their own, or if they will keep them at school. Be sure the school has updated information about how to reach parents/caregivers to arrange pickups. Ask what type of authorization the school may require to release a child to someone you designate, if you are not able to pick up your child. If you have young children, it may be a good idea to prepare a comfort item and a family photo to be stored at school “just in case.”

# *What should I put in my disaster kit?*

Check <http://www.prepared.org/> for a complete list, but some suggested items:

- ◆ Important paperwork, family photographs/records, local maps
- ◆ 3-5 day supply of non-perishable food (which does not require heat to consume) and can opener, if necessary
- ◆ Potable water (about 1 gallon per person per day is a good planning factor)
- ◆ Sanitation supplies: extra toilet paper, paper towels, sanitary wipes, trash bags
- ◆ Flashlight with extra batteries, candles and matches
- ◆ Clean clothing, work gloves, boots, cold and wet weather gear
- ◆ Clean bedding, comfort items (especially for small children)
- ◆ Tool kit, knife, scissors, bucket, compact shovel
- ◆ Fire extinguisher (A/B/C type, 5 lb or greater)
- ◆ AM/FM or weather radio with batteries
- ◆ First aid supplies to include any prescription/over the counter medications
- ◆ Pet supplies and health/immunization records



# *What about local shelters?*

- ◆ Kent County has a list of identified shelters, but due to the nature of a disaster will release specific locations to the public just-in-time. Most locations are public schools.
- ◆ Most shelters in DE are pet-friendly, but pay attention to emergency broadcasts to be sure before you go.
- ◆ The American Red Cross has developed hurricane apps for smart phones. When shelters are open, the information will be on the app and the ARC website.
- ◆ If directed to shelter, follow directions given to UCCs from the EOC.
- ◆ Natural sheltering normally takes place in the home, workplace, or dormitory. Personnel will remain there unless directed to report to a designated shelter by the 436 AW/CC. Natural Disaster Shelters for Dover AFB are:

<b>Building</b>	<b>Wind Limits</b>	<b>OPR</b>	<b>Capacity</b>	<b>Gen Power</b>
550	105 MPH	436 APS	445	No
206	90 MPH	Det 3 – 373 TRS	600	No
639	90 MPH	436 LRS	500	Yes; Comm section only
203	90 MPH	436 AW/CP	300	Yes
300	90 MPH	436 MDG	380	Yes
714 E/W/C	90 MPH	436 MXS	2200	Yes

# *What to do: Before the storm*

- ◆ Bring in outdoor objects such as lawn furniture and toys. Anchor objects that cannot be brought inside.
- ◆ Turn refrigerator and freezer to coldest setting and only open when absolutely necessary and close quickly.
- ◆ If you own a boat, secure it or move it to a safe place. Use rope or tie downs to secure the boat to its trailer. Use tie downs to anchor the trailer to the ground or house.
- ◆ Store drinking water in clean, closed containers (i.e., jugs, bottles, and sealable containers; you may also use your disinfected bathtub, sinks, etc.). Your water supply may become damaged or contaminated by flood water caused by the hurricane.
- ◆ Use boards or storm shutters to protect your windows.
- ◆ Review evacuation plan and assemble your disaster supply kit.
- ◆ If ordered to evacuate, take personal property records and disaster supply kit. Turn off the main gas valve at the meter, shut off any appliances in case of power surges, and leave the house immediately.

# *What to do: During the storm*

- ◆ Listen to the radio (battery operated or hand held crank type) or television for progress. (Refer to emergency radio stations listed)
- ◆ Take refuge in a small interior room, closet, or hallway in your home. If you are in a multi-story building, go to the first floor and stay in an interior room.
- ◆ Stay inside away from windows, skylights, and glass doors.
- ◆ Keep curtains and blinds closed.

**Do not go outside when the eye passes over.**

The storm is not over. Winds and rain will soon resume.

# *What to do: After the storm*

- ◆ Stay in a safe location until directed by local authorities it is safe to leave.
- ◆ Stay tuned to local radio stations for information on medical care, and how to apply for assistance.
- ◆ Let emergency contacts know that you are safe, but try to keep phone use to a minimum. Text messages may go through if phone lines are jammed.
- ◆ Do not drink or prepare food from tap water until notified it is safe to do so.
- ◆ Talk to your children about what happened and what they can do to help.
- ◆ Stay away from disaster areas unless authorities request volunteers.
- ◆ Stay away from downed power lines and report them to the power company.
- ◆ If able, open your windows and doors to ventilate and dry your home.
- ◆ Drive only if absolutely necessary, and avoid flooded roads/washed out bridges.
- ◆ If evacuated, do not re-enter the house until it is safe to do so.

# ***DAFB Natural Disaster Evacuation Policy***

*Many members arrive and have questions regarding hurricane evacuation procedures. Every disaster is different and will have tailored guidance, but the basic information is as follows:*

- ◆ **DoD/Military/Dependents:** The decision to evacuate from any local official (*DEMA*) will not be sufficient for DAFB personnel. This decision for DAFB lies with the Wing Commander. He must give an evacuation order. A local official *cannot* obligate the DoD funds needed for an evacuation.
- ◆ **The Wing Commander** may specify a limited evacuation location area. Any Safehaven location distance (i.e. 750 miles radius) from the evacuation location, or any CONUS Safehaven location as appropriate (*JFTR, PARS. US 6051 & U 6052*).
- ◆ **If TDY** outside of the evacuation area, the Wing Commander may extend TDY orders until safe to return to home station.
- ◆ **If on leave status:** The Wing Commander may extend leave or convert to TDY status and report to nearest military installation.
- ◆ **Regular Salary continues** throughout the evacuation in accordance with 5 U.S.C. 5523. Military members will also receive travel, mileage and per diem for the member and dependents.
- ◆ **Prior approval to evacuate must be given** in order to be given any *financial reimbursement* to and from Safehaven. (when directed. “Checking” on damage is not authorized)
- ◆ **If we have to evacuate for severe weather incidents**, more detailed instructions will be provided.
- ◆ To report individual or family member status, contact your unit control center, log into: <https://afpaas.af.mil>, or call 1-800-435-9941.



# *Additional Resources*

## ◆ **National Weather Service**

<http://www.nws.noaa.gov>

*Provides weather, water, and climate data, forecasts and warnings for the entire country.*

## ◆ **Air Force “Be Ready” Campaign**

<http://www.beready.af.mil/>

*Air Force fact sheets on all types of disasters, to include information/coloring sheets for children.*

## ◆ **Federal Emergency Management Agency (FEMA)**

<http://www.fema.gov/>

*National preparedness information from the Department of Homeland Security (DHS).*

## ◆ **National Flood Insurance Program**

<http://www.floodsmart.gov/floodsmart/>

*Information about flood insurance coverage and whether it applies to your home.*

## ◆ **Delmarva Red Cross**

<http://www.redcross.org/de/wilmington>

*The American Red Cross’ local chapter in Wilmington, DE.*

## ◆ **Kids @ Ready.Gov by FEMA**

<http://www.ready.gov/kids>

*Information to help explain disasters and preparedness to children of all ages.*

## ◆ **Delaware Emergency Management Agency**

<http://www.dema.delaware.gov/>

*Local government preparedness and up-to-date hazard information, to include information about natural disaster shelters, local power outages, and evacuation information.*

## ◆ **Delaware Emergency Notification System (DENS)**

<https://alertregistration.com/dema/>

*DE FirstCall Reverse-911 emergency notification system.*

## ◆ **DE Emergency Preparedness Voluntary Registry**

<http://www.de911assist.delaware.gov/>

*DE FirstCall reverse 911 registry for any citizens with special needs. This is voluntary and shares your information with local emergency responders in the event of an emergency or evacuation order.*

## ◆ **PrepareDE**

<http://www.preparede.org/>

*Local information on items to include in a disaster kit and how to make a plan.*

# *Questions?*

## Contact 436 CES/CEX

- ◆ (302)677-6218
- ◆ [436ces.cex@us.af.mil](mailto:436ces.cex@us.af.mil)
- ◆ <https://eim.amc.af.mil/org/436awxp/EM/default.aspx>
- ◆ Physical Address: Bldg. 639, Bay 19

<https://www.facebook.com/DoverAirForceBaseEmergencyManagement>

