

## Hurricane Preparedness Plan

In accordance with the requirements of the Occupational Safety and Health Administration and the campus Emergency Operations Plan (EOP), UNH has developed this planning and preparedness plan for hurricanes.

The Hurricane Preparedness Plan (HPP) is designed to provide planning information and procedures prior to and after a hurricane event. The HPP is designed to work in conjunction with the UNH Emergency Procedures Plan (EPP), the UNH Integrated Contingency Plan (ICP) and the UNH Emergency Operations Plan (EOP) for evacuation and shelter-in-place procedures.



Hurricane Maps, Courtesy National Oceanic and Atmospheric Administration








Satellite Image of Hurricane Isabel, September 2003, Courtesy National Oceanic and Atmospheric Administration

## Categories

Hurricanes are rated into five categories. They are characterized by their sustained winds with category one being the least severe and category five being the most severe. The following scale was developed to categorize hurricanes:

### Saffir/Simpson Hurricane Scale

Category	Winds & Effects	Storm Surge	Examples
<b>1</b>	<p><b>74-95 mph (64-82 kt)</b></p> <p>No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery and trees. Also, some coastal flooding and minor pier damage.</p>	<b>4-5 ft</b>	<p><b>Category 1</b> Minimal 74-95 mph winds</p> 
<b>2</b>	<p><b>96-110 mph (83-95 kt)</b></p> <p>Some roofing material, door and window damage. Considerable damage to vegetation, mobile homes, etc. Flooding damages piers and small craft in unprotected moorings may break their moorings.</p>	<b>6-8 ft</b>	<p><b>Category 2</b> Moderate 96-110 mph winds</p> 
<b>3</b>	<p><b>111-130 mph (96-113 kt)</b></p> <p>Some structural damage to small residences and utility buildings, with a minor amount of curtain-wall failures. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris. Terrain may be flooded well inland.</p>	<b>9-12 ft</b>	<p><b>Category 3</b> Extensive 111-130 mph winds</p> 
<b>4</b>	<p><b>131-155 mph (114-135 kt)</b></p> <p>More extensive curtain-wall failures with some complete roof structure failure on small residences. Major erosion of beach areas. Terrain may be flooded well inland.</p>	<b>13-18 ft</b>	<p><b>Category 4</b> Extreme 131-155 mph winds</p> 
<b>5</b>	<p><b>&gt;155 mph (135 kt)</b></p> <p>Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Flooding causes major damage to lower floors of all structures near the shoreline. Massive evacuation of residential areas may be required.</p>	<b>&gt;18 ft</b>	<p><b>Category 5</b> Catastrophic Winds over 155 mph</p> 

## Definitions

<b>Hurricane Season</b>	May 15 through November 30
<b>Hurricane Watch</b>	The first notification by the National Weather Service that a hurricane is a definite threat to a geographic region of the United States. Landfall is uncertain and broad geographic areas are alerted. It is normally given 36 hours before the storm is expected to strike.
<b>Hurricane Warning</b>	Notification by the National Weather Service, normally 24 hours before the storms is expected to strike; more accurate landfall is predicted, with narrower geographic boundaries.
<b>Hurricane Alert</b>	Notification by the National Weather Service issued when Hurricane Force winds are imminent.
<b>Hurricane Shelters</b>	Areas of refuge to be used in the event of a hurricane should be a substantial building with limited glass.

## Hurricane Shelters

Campus buildings that may be used as shelters during hurricanes, tornadoes or other high winds include:

- Whittemore Center
- Field House

## Hurricane Preparedness

UNH has established emergency plans including an overall Emergency Operations Plan (EOP), Integrated Contingency Plan (ICP) and an Emergency Procedures Plan (EPP) for building evacuation and shelter-in-place, and other area specific plans to prepare for and respond to emergencies. This Hurricane Preparedness Plan has been developed to work in conjunction with the EOP, ICP and EPP, with specific procedures that are necessary when the National Weather Service has declared a Hurricane Watch.

## Suspension of Services

All instructions such as canceling classes, closing of buildings, releasing of employees, special instructions and the relocation of students will be done by email or phone.

Students in University dormitories should notify the Departments of Housing and Residential Life if they plan to evacuate from campus. This notification will assist with the accountability and planning efforts.

## 72 Hours before Hurricane Landfall

- University Emergency Group may be activated to review current conditions and discuss general plans and readiness.
- Review Hurricane Preparedness Plan, Emergency Operations Plan, Integrated Contingency Plan, and Emergency Procedures Plan as needed.
- Begin frequent monitoring of weather related media sources including but not limited to the National Weather Service, NOAA, FEMA, and NHBOEM.
- Consider available supplies of food, water and fuel.
- Check grounds and remove dead limbs, clean up loose debris and begin moving all loose equipment and materials.
- Make sure the UNH Police Department, Facilities Management, Hospitality Services and others have current telephone numbers for support responders such as water suppliers, emergency generator suppliers, fuel suppliers, food suppliers and others as needed. Ensure emergency generators and all vehicles are fueled and serviced. UNHM Facilities and UNH Security will coordinate as appropriate for UNHM.

- Hospitality Services will review inventory and ensure it can provide food and water for all students and essential staff for at least a 72 hour duration. UNHM will do so as appropriate.
- Jackson Estuarine Lab, Coastal Marine Lab, and Shoals Marine Lab monitor category classification of hurricane and review hurricane surge inundation maps. Check grounds and remove dead limbs, clean up loose debris, prop weakly rooted trees and begin moving all loose equipment and materials. Identify alternate space to move critical equipment, chemicals and supplies that could be damaged from possible storm surge flooding. Consider boarding of windows depending on conditions and the directional approach of the storm. Consult Facilities Management for additional assistance.
- Make sure cellular telephones are fully charged. Install a new battery if needed.
- Make sure all storm drains are clear.
- Verify stock of sandbags and sand
- Verify stock of plastic sheeting
- Verify battery stock

### **48 Hours before Hurricane Landfall**

- University Emergency Group reviews current conditions and recommends actions to the President.
- Facilities Management initiates procedures to protect buildings at risk as identified in the Town of Durham/UNH Hazard Mitigation Plan. Procedures may include providing sandbags and securing the building. UNHM Facilities and UNH Security staff will do the same as appropriate for UNHM.
- Libraries and the Art Gallery begin preparation for priority collections and exhibits.
- Backup of student records, library catalogs, alumni records and other relevant data should occur at this stage.
- The University Information Line (603-862-0000) and University Homepage ([www.unh.edu](http://www.unh.edu)) and Emergency Webpage ([www.unh.edu/emergency](http://www.unh.edu/emergency)) should begin to provide Hurricane Plans and Instructions.
- Ensure that athletic equipment, outdoor research equipment, trash and recyclable receptacles, benches and all other loose items that may become projectiles in high winds are appropriately secured.
- Ensure that contractors working on campus secure all equipment and materials from their site which may become projectiles in high winds.
- Make sure all essential vehicles are fully fueled, stocked and inspected. These include but are not limited to Facilities Management, Public Safety and EMS.
- Turn off unnecessary lighting and appliances, secure windows, doors and shutters, locking when appropriate.
- Make sure all storm response equipment is inspected and ready for operation. This includes but is not limited to chainsaws, blowers, water pumps, tractors and portable generators.
- Jackson Estuarine Lab and Coastal Marine Lab continue to monitor category classification of hurricane and review hurricane surge inundation maps. Review procedures to secure fleet of boats and research vessels.
- Shoals Marine Lab initiates evacuation procedures.
- Housing and Residential Life begin notification to students regarding evacuation procedures, Shelter-in-Place locations and other details. UNHM communicates to all personnel and students evacuation procedures and other details/instructions as received from the UEG, UNH Security, Manchester Police Department (MPD) and Manchester Fire Department (MFD).

### **36 Hours before Hurricane Landfall or 750 miles as noted on Hurricane tracking map**

- Based on the category classification of the hurricane, the Senior Management Group and the University Emergency Group make decision for the evacuation of all students, faculty and non-essential staff and prepare to initiate Shelter-in-Place procedures.

- All University related functions are to be cancelled including classes, sporting events, lectures, and other functions if warranted (given conditions and warnings).
- News Bureau notifies the appropriate media of the UNH Hurricane Preparedness Plans.
- University departments initiate any specific departmental shut down procedures and begin evacuation of faculty and staff.
- Departments should back up computer data at this time by following University guidelines. For essential data that may be necessary during or immediately after the storm, contact Computing and Information Services (862-4242) for specific recommendations.
- Unplug all office equipment including computers and store off the floor.
- Protect books, valuables and equipment by covering with plastic sheeting.
- Close windows, lower all blinds/shades, close slats and draw curtains.
- Remove personal items that may become damaged since they are not covered by University Insurance.
- Research staff shall begin preparations of laboratory facilities by completing experiments, backing up computer data, storing materials and securing rooms.
- Research staff will begin to secure hazardous materials, including chemicals, biological agents and radioactive material.
- Animal Care staff will assess the needs of the animals and prepare for limited staffing until the storm has passed.
- Close non-essential offices and departments at this time.
- Jackson Estuarine Lab, Coastal Marine Lab initiate evacuation procedures.
  
- **Facilities Management hurricane procedures:**
  - All essential personnel report to supervisors for team assignments.
  - Director of Operations should obtain a block of Purchase Order numbers or initiate other process to ensure that services of outside contractors can begin immediately after storm. Facilities will track all work and reconcile with USNH Purchasing when that office resumes business. UNHM Facilities will do the same from UNHM Business Office.
  - Make final checks of roofs for loose debris. Clear roof drains.
  - Open air vents leading to roofs to equalize pressure during storm.
  - Consider taping windows adjacent to Shelter-In-Place locations to prevent personal injury from shattered glass. Consider boarding of windows for more vulnerable buildings depending on conditions such as the directional approach of the storm.
  - Issue plastic sheeting and other protective materials as requested and deemed appropriate.
  
- **UNH Police hurricane procedures:**
  - UNH Police personnel reports to Deputy Chiefs for assignments.
  - Begin inspection of campus and help with evacuation of non-essential personnel.
  - Secure unoccupied buildings if building evacuation occurs.
  - Check status of Daycare Center on campus.
  
- **UNH Continuing Education Summer Session hurricane procedures:**
  - Reviews status of programs and plans for camp attendees.
  - Consider changing plans with incoming camps.

- **Student hurricane preparation procedures:**

- Off-campus students should prepare some snack items and water as part of their preparations. Hospitality Services will have food and water at the Dining Halls for students and essential staffs.
- Each student should provide his or her own flashlight to be used during a power failure. Do not use candles or other flame type lighting **under any circumstances**. Fire can be uncontrollable during a hurricane due to high winds and limited access to emergency vehicles.
- Students who have cars on campus should set the emergency brake, close all windows and leave in the designated parking area until after the storm. All private and UNH vehicles should be parked away from trees.
- Students who have access to bathtubs should clean the tub and fill it halfway with water. If the water supply is cut off, the water in the tub may be used for flushing toilets or for washing. Do not drink this water.
- When emergency shelter is provided, students should bring the following items to their temporary assigned living area:
  - ✓ Bedding and pillow
  - ✓ One small bag with clothing, etc...
  - ✓ Needed medications, glasses, etc...
  - ✓ Non-perishable food items
  - ✓ Small toiletry bag

### **24 Hours before Hurricane Landfall or 500 miles as noted on Hurricane tracking map**

- Evacuate buildings at risk as identified in the Town of Durham/UNH Hazard Mitigation Plan. Consider the shut down of utilities in these buildings.
- Evacuate University Center @ UNHM.
- Facilities Management considers particular operational issues for the Central Heating Plant, which will depend on storm specific information and other information.
- Facilities Management refuels all vehicles and continues securing equipment, assessing buildings and protecting properties from storm conditions.
- UNH Police helps verify that all non-essential personnel have evacuated the campus and unoccupied buildings have been secured.
- Student Life will communicate with students that they should plan to stay on campus if they have not already left.
- Consider reducing electrical load to capacity of Co-Gen plant and disconnecting from PSNH

### **During Hurricane Landfall**

- It is essential that all remaining residents stay indoors throughout the entire hurricane. During the storm, for maximum protection, residents should remain in the hallways. If you are not familiar with a hurricane, there is always a lull in the storm when the eye passes through the area. Once the eye passes through, the storm begins again, but from the opposite direction. **STAY INDOORS**.
- Residents should follow the instructions of University officials including UNH Police, Student/Residential Life and from the Durham Fire Department.
- In the event of power failure during the height of a hurricane, there will be no elevator service. Do not attempt to travel between floors using elevators. First Aid and/or food service will be made available whenever the storm passes or when power is restored. Do not use candles during power outages due to the increased fire hazard.
- Do not attempt to open windows or doors to see what is happening outside.

- Report all accidents, injuries, broken windows or excessive water to the UNH Facilities Support Center at 862-1437.
- Telephone calls should be made only in case of emergency since non-emergency calls can overload the phone systems.

### **Resumption of Service**

Following the lifting of the HURRICANE WARNING status, essential staff in Facilities Management and UNH Police will assess and advise the University Emergency Group and Senior Management Group which buildings and facilities can be used safely for classes and other purposes. Recommendations for repair work or building closings will also be made.

The President, upon recommendations from the UEG, will issue necessary directives and instructions concerning the resumption of classes and the use of University buildings and facilities.

Facilities Management and UNH Police will include the following as priorities following the storm:

- Ensure access to Health Services, Emergency Shelters and the University Emergency Coordination Center.
- Assist Durham Public Works in clearing roads to allow the movement of Emergency Vehicles including EMS, Fire and Police. UNHM Facilities will clear UNH property as appropriate.
- Stage water pickups and prepare emergency supplies for rapid distribution.
- Check roof drains to ensure that none are clogged when wind conditions permit.
- Clear storm drains and catch basins
- Inspect roofs, doors and exteriors of buildings for security and loose material.
- Secure campus buildings from unauthorized access and looting.

The Office of Residential Life and the Department of Housing will assist with relocating students back to residence halls. Deans will be available to support students during the process of reopening the University. Information will be communicated through direct emails, the UNH website and local radio and television stations. UNHM will communicate reopening steps to personnel and students. UNH Security will work with MPD and MFD to coordinate appropriate activities.