DEPARTMENT OF HUMAN RESOURCES
DIVISION OF PUBLIC HEALTH
EMERGENCY OPERATIONS PLAN:
SEVERE WEATHER RESPONSE
STANDARD OPERATING GUIDELINE
SUPPORT ANNEX A14, APPENDIX II
6 June 08
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Plan</td>
<td>3</td>
</tr>
<tr>
<td>Attach I, Severe Heat Response</td>
<td>9</td>
</tr>
<tr>
<td>Attach II, Tropical Storms and Hurricanes</td>
<td>17</td>
</tr>
<tr>
<td>Attach III, Storm Watches and Warnings</td>
<td>24</td>
</tr>
</tbody>
</table>
I. PURPOSE
This Standard Operating Guideline (SOG) provides guidance for the alert and notification of the Georgia Division of Public Health (DPH) Emergency Preparedness Coordinators (EC) at the State and District levels before, during and after severe weather events. This SOG will assist the Department of Human Resources (DHR) Emergency Manager, Public Health Leadership, and Public Health District Director’s staff to contact and notify the appropriate level ECs of situations or events that have the potential to be of Public Health significance.

This SOG is not all inclusive, supporting only 3 of the primary weather related events DPH may have to respond to/support in their ESF 8 role and support of ESF 6.

II. SITUATION

All incidents occur locally and are handled by the local jurisdiction, as stated in the National Incident Management System (NIMS) guidance, as well as through Department of Homeland Security-Federal Emergency Management Agency (DHS-FEMA) and Georgia Emergency Management Agency (GEMA). As incidents mature, assistance may be requested from other agencies, including DHR and/or Public Health.

The Division and Districts are the lead state and “local” agencies for Emergency Support Function 8 (ESF 8), Health and Medical. Most severe weather usually has a minimal impact on ESF 8, other than to be aware of the situation, closely coordinate with their Emergency Management Agency (EMA) and possible related issues. Generally, the exception to this is hurricanes.
III. ASSUMPTIONS

The affected District is aware of its Public Health and non-Public Health capabilities and resources, as related to the primary role of Emergency Support Function (ESF) 8 and support of Emergency Support Function 6. During an event related to severe weather, the affected District will not only use its available resources, but will request and coordinate assistance from adjacent Districts through official and unofficial Memorandum of Understandings (MOUs) or Memorandum of Agreement (MOAs).

The Division Emergency Coordinator (EC) may be aware of events throughout the State, due to alerts/notifications from GEMA, other partners and the media. Therefore, the Division EC is expected to contact the respective District on call EC, briefing them of the situation and requesting periodic feedback from the District EC staff.

With the exception of severe thunderstorm activity with tornado activity and landfall hurricanes, the majority of ESF 8 related activity is to be aware of the weather and to support the EMA as requested. In the various specific weather attachments, we will review some of the ESF 8 related implications. The implications will be general in nature and it is incumbent upon the EC (Division and District) to provide the necessary support as the situation demands.

IV. ROLES AND RESPONSIBILITIES

(a) Division EC (not all inclusive and not in any particular order):
- be aware of approaching severe weather (media, Georgia Emergency Management Agency alerts, other reliable services),
- notify the Division’s Health Emergency and Resource Team (DivHEART), DivHEART Leadership and District ECs of approaching/forecasted severe weather via email only if it is for information only, not if it is potential impact type event,
- if there is an immediate threat, notify the affected District’s EC via SouthernLINC, then follow-up with an email if possible (for further details, refer to Emergency Preparedness Coordinator Alert and Notification SOP, Support Annex A1),
- if there is an immediate threat to a large geographical area (multiple counties, multiple districts, metropolitan area such as Atlanta or Savannah), do an immediate all-call on the State Talk Group (State TG) on SouthernLINC, then follow-up with an email notification,
- coordinate with the Assistant Secretary for Preparedness and Response (ASPR) section, to monitor the hospital emergency management tool, LiveProcess,
- if there is multiple District ESF 8 related activity, consider starting a WebEOC (web-based virtual emergency management tool) Incident, notifying the DivHEART, DivHEART Leadership and EC’s on the SouthernLine State TG and via GroupWise
- considering the extent of event and coordinating with the DHR Emergency Manager (DHR EM), consider activating the DHR Emergency Operations Center (DHR EOC), as detailed in **EOC Activation/Deactivation SOP, Support Annex A14, Appendix 1**.

  (b) District EC (not all inclusive and not in any particular order):
  - be aware of approaching severe weather (media, Georgia Emergency Management Agency alerts, other reliable services, Division EC),
  - notify the appropriate District staff and Division’s EC of approaching/forecasted severe weather via email only if it is for information only, not if it is potential impact type event,
  - if there is an immediate threat, notify the Division’s EC via SouthernLinc, then follow-up with an email if possible (for further details, refer to **Emergency Preparedness Coordinator Alert and Notification SOP, Support Annex A1**),
  - if there is an immediate threat to a large geographical area (multiple counties, or metropolitan area), do an immediate all-call on the State Talk Group (State TG) on SouthernLINC, then follow-up with an email notification,
  - monitor the hospital emergency management tool, LiveProcess,
  - if there is ESF 8 related activity, consider starting a WebEOC (web-based virtual emergency management tool) Incident, notifying the Division’s EC on SouthernLinc and via GroupWise,
  - considering the extent of event, consider activating the District Emergency Operations Center (DEOC), as detailed in **EOC Activation/Deactivation SOP, Support Annex A14, Appendix 1**.
VI. CONCEPT OF OPERATIONS:

This SOG supports the PH EOP’s 3 phases of emergency management:

Phase I: Preparedness and Prevention
Phase II: Detection and Response
Phase III: Recovery and Mitigation

Phase I: PREPAREDNESS/PREVENTION

This phase includes preparation for an event of public health significance and prevention of circumstances leading to emergencies.

The Division and District ECs must be aware of their ESF 6 and 8 capabilities and resources and be aware of the impact of severe weather in their area of responsibility. The District Health Director’s staff should also be aware of the local Emergency Medical Services (EMS), hospital capabilities, Emergency Management Agency (EMA), local Red Cross chapter, Division of Family and Children Services (DFCS), nursing home and other resources and capabilities within their District. This awareness will assist the District Health Director’s staff to know when and how to request resources from outside the district. The District staff needs to be aware that the DPH staff is available to assist them during an event. Being aware of the procedure to request the appropriate DPH assistance is critical to acquiring that aid quickly.

Refer to the multiple available PH Emergency Operations Plan Support and Incident Annexes to assist with the decision making process. Some specific weather related guidances are located in the Attachments of this document. Please refer to other guidance as found through the CDC website, FEMA website, GEMA and other websites.

Generally, for “watches”, the Emergency Coordinator needs to be aware of the situation and have access as needed to resources such as local news/weather channels, “The Weather Channel”, national and local news and the myriad of web resources, including the National Weather Serve, The Storm Prediction Center, to name a couple. Ensures all radios and cell phones are charged and radio, go-bag is ready, and communicates as situation dictates with the, County/District staff local/county EMA and with the State EC on call.
Phase II: DETECTION/RESPONSE
This phase includes the detection of and response to an event of public health significance. Depending upon the nature of the incident, the appropriate response will be determined and acted upon using appropriate annexes, Standard Operating Procedures (SOP) and Standard Operating Guides (SOG).

As the impacted/State EC sees fit, entries will be entered onto WebEOC, under “Significant Events”. Refer to the WebEOC Manual and the Communications (Equipment, Services, Information Technology), Support Annex A9 for further guidance to open a new District specific or Statewide Incident.

The Emergency Coordinator needs to be aware of the situation and have access as needed to resources such as “The Weather Channel”, national and local news and the myriad of web resources, including the National Weather Serve, The Storm Prediction Center, to name a couple. Ensures all radios and cell phones are charged and radio, go-bag is ready, and communicates as situation dictates with the, County/District staff local/county EMA and with the State EC on call.

Generally, for “warnings”, and at the earliest convenience, the affected District Health Director’s staff should notify the Division EC (via SouthernL:INC radio or other device), that an event is pending/occurring in their District. The District EC (or on call person), will ensure the safety of District personnel, as necessary. If required, the affected EOC (District/Division) will relocate per their “Relocation Plan”. As soon as possible all parties will be notified of the relocation (Districts, Division, EMAs, etc).

The Division EC will ensure appropriate State, regional and/or federal personnel are notified per protocol or based on the event. As a minimum, the Division EC may notify other members of the PH Emergency Preparedness Team, the DivHEART, DHR Emergency Manager and OHS-GEMA SOC.

As an event matures, the Division EC is responsible to coordinate resource needs for the affected district(s). Most responses can be coordinated while at their work station or offsite (home, business meeting, etc). As the event becomes more complex, the Division EC may require additional PH and DHR personnel to assist in the response. As those personnel are contacted, the Division EC will coordinate with the DHR Emergency Manager, opening the DHR EOC (see EOC Activation/Deactivation SOP, Support Annex A14, Appendix 1). The Division EC and DHR Emergency Manager will coordinate with appropriate DHR and DPH management personnel to staff the OHS-GEMA SOC.

Refer to the multiple available PH Emergency Operations Plan Support and Incident Annexes to assist with the decision making process. Specific weather related guidances are located in the Attachments of this document.
Phase III: RECOVERY/MITIGATION
Recovery is the transition to normal operations. Short-term recovery actions are taken to assess damage and return vital life-support systems to minimum operating standards. Long-term recovery may go on for years and involve the development, coordination, and execution of services. Mitigation minimizes the adverse impact of an emergency and reduces vulnerability to future emergencies. Mitigation measures may be implemented at any time.

If the situation dictates, implement the District/Division Continuity of Business and Continuity of Operations Plans. Coordinate the recovery with the respective EMA, keeping other Districts/Division aware of needs and progress. The District EC and the Division EC will coordinate appropriate after action reviews, determining the strengths and weaknesses of the response process. These reviews will help modify this SOP and focus on those areas that need improvement.

VII. ADMINISTRATION AND LOGISTICS:
Refer to the PH EOP for pertinent liability related issues (same title).

VIII. PLAN DEVELOPMENT AND MAINTENANCE:
Per the PH EOP, this plan will be reviewed yearly by both the Division and the District.

IX. AUTHORITIES AND REFERENCES:
Refer to the PH EOP (same title).
Purpose:
- Limit the adverse Public Health effects from excessive heat
- Identify conditions that would warrant activation of the Heat Emergency Response Plan
- Provide a framework for coordinating the efforts of Georgia DPH, county, city and other agencies that provide services to the homeless, seniors and medically-at-risk persons, to reduce the health risks associated with extreme hot weather

Situation and Assumptions:
Exposure to excessive heat can cause illness, injury and death. Nationwide, approximately 400 people die each year from direct exposure to heat due to weather conditions. Many more people die from health conditions that are exacerbated by exposure to excess heat. The elderly, the very young, and people with chronic health problems are most at risk. However, even young and healthy individuals can succumb to heat if they participate in strenuous physical activities during hot weather. Additionally, some behaviors also put people at greater risk: drinking alcohol; taking part in strenuous outdoor physical activities in hot weather; and taking medications that impair the body’s ability to regulate its temperature or that inhibit perspiration. 1.

http://www.bt.cdc.gov/disasters/extremeheat/program.asp

In the summer of 2005, a prolonged heat wave resulted in the deaths of several people in the Phoenix metropolitan area. By recognizing a heat wave in its developmental stages, counties, cities and other agencies can take actions that will enable the public to prevent a heat related illness or death.

The National Weather Service (NWS) issues three types of heat-related messages.
1. **Heat Advisory** – issued when the temperature is forecast to be unusually hot but not life-threatening
2. **Excessive Heat Watch** – issued when conditions are likely to result in a life-threatening heat emergency within the next 24 to 48 hours.
3. **Excessive Heat Warning** – issued when a life-threatening heat emergency exists or is imminent.

These bulletins are based on four factors – temperature, humidity, amount of cloudiness, and the expected duration of these conditions. The combination of factors that
will trigger one of these heat-related messages varies according to the time of year. These warnings may be issued for a single county or a larger portion of the state.

**Roles and Responsibilities:**
Office has been working together to establish a statewide Heat Emergency Response Plan to identify the roles and responsibilities of the state, county, city and other responsible agencies; and to establish a response upon the issuing of heat warnings. This plan does not take into account any power outages associated with an excessive heat wave.

This Plan will focus on following:

- Education to the public on the significance of a heat advisory, excessive heat watch and excessive heat warning
- Information of available resources for special needs populations
- Protection to vulnerable segments of the population during periods of excessive heat warning.
- Appropriate interventions, as necessary.

Many of the partners include, but are not limited to:
- Georgia Division of Public Health Office of Emergency Preparedness,
- GEMA,
- Health Districts,
- County Health Departments,
- State, Area and County EMAs,
- Housing Authorities,
- Emergency Preparedness Working group for Individuals with Disabilities and the Elderly,
- American Red Cross Chapters

**Concept of Operations:**
As an agency that receives federal funding, the Georgia Division of Public Health (DPH) must incorporate elements of the National Incident Management System (NIMS) into its emergency response plans. The Division’s incident command structure is NIMS compliant. Although daily planning and issues are handled by various DPH programs, the ICS response is undertaken when a Public Health emergency arises. For this response plan, not all elements of the ICS structure may need to be activated at once. However, if necessary, the DPH DIRECTOR may recommend the declaration of a statewide emergency to the Governor and the scope of ICS activation may increase.
The activities in this plan are based on the heat-related message categories from the National Weather Service (NWS) and the specific instruction from the Incident Manager, regardless of DHR EOC activation level (see Emergency Operations Center Activation/Deactivation SOP, Support Annex A14, Appendix I).

1.a Heat Advisory

_Incident Manager (Division)_

- Notifies the DivHEART and the District ECs, via GroupWise
- Makes recommendations to Districts to review and update their heat emergency response plans, coordinating with their EMAs and healthcare organizations, determining what ESF 8 assistance might be required
- Makes recommendations to counties to notify cities, towns and other agencies regarding emergency actions for special healthcare needs populations.

_Incident Manager (District)_

- Notifies the District staff
- Makes recommendations to District Health Director and County staff to review and update their heat emergency response plans, coordinating with their EMAs and healthcare organizations, determining what ESF 8 assistance might be required
- Makes recommendations to counties to notify cities, towns and other agencies regarding emergency actions for special healthcare needs populations.

_Command Staff/Public Information Officer/Risk Communicator (Division and District)_

- Drafts heat health alert messages for the public
- Updates scripts for English/Spanish messages that can be provided to the media the
- Disseminates the information on the DPH 24-hour information line (866-PUB-HLTH), available resources and public health information via e-mail to the affected District Risk Communicators
- Sends heat and other health alerts to various groups (healthcare providers, health officers, local health departments, stakeholders) via the Health
Alert Network (HAN) and to hospital emergency departments statewide via the EMSystem.

Office of Regulatory Services, Office of Aging, ASPR Coordinator (Division):

- Identifies licensed facilities by type (e.g. behavioral health, assisted living, long-term care) in affected area(s) to target communication with those facilities or identify potential intake locations in the event that there is inadequate cooling for individuals.

- Provides technical assistance to licensed providers by answering questions about licensing requirements, identifying nearby or unaffected facilities for emergency transfers, and passing on public health information.

2.a Excessive Heat Watch
In addition to above activities:

Incident Manager

- Notifies District EC to implement their heat emergency response plans

- Notifies MHDDAD EC to increase outreach efforts and contact outreach teams as applicable.

- Informs ASPR EC, ORS and Aging that conditions are likely to result in a life-threatening heat emergency within the next 24 to 48 hours.

In turn, CSBs and providers will:

- Activate their agency’s Heat Emergency Response plan and increase surveillance efforts pertaining to heat-related deaths and injuries.

- Post and distribute heat warnings and guidance materials at all clinics and service provider locations.

3.a Excessive Heat Warning
In addition to above activities:

Incident Manager (Division)

- Notifies District Health Department ECs to implement their heat emergency response plans and increase surveillance for heat related illness
• May consider opening the Department of Human Resources Emergency Operations Center (DHR EOC)

• Keeps the DivHEART and DivHEART Leadership Team informed.

• Community Service Board staff, Office of Regulatory Services and Office of Aging will immediately coordinate when there are any reports of a facility licensed by (including behavioral health and supervisory care homes) exceeding temperatures or experiencing air conditioning operational issues. Community Service Board staff, Office of Regulatory Services and Office of Aging will assist in relocation of residents if needed.

• Community Service Board staff, Office of Regulatory Services and Office of Aging will serve in any capacity necessary to assist consumers and providers of health care and child care in licensed facilities during a response to extreme heat.

Incident Manager (District)

• Notifies county health departments to implement their heat emergency response plans and increase surveillance for heat related illness

• May consider opening the District Emergency Operations Center (DEOC)

• Notifies affected Community Service Boards to initiate outreach efforts and utilize available clinic staff to assist with communication and welfare checks for vulnerable populations and clients who may be at risk of severe health impacts due to extreme heat.

• Works in conjunction with local providers to advise area hospitals of the excessive heat warning and urge them to consider the extreme weather conditions when discharging patients.

• Coordinates with local health and emergency management departments, Red Cross, Salvation Army and others to have Community Service Board providers and trained Crisis Intervention Specialists, if needed, provide behavioral health screening, coordination and crisis counseling at cooling stations, hydration centers, emergency shelters or other locations established by the city or county as a result of the emergency.

2.a Education Campaign:
The DPH heat emergency education campaign will be coordinated with the education campaigns of the National Weather Service, counties, Community Service Boards (CSB) and other volunteer organizations throughout the State. The Incident Manager and the
Public Information Officer will work with Epidemiology, MHDDAD and ASPR Director to draft and release English and Spanish messages for electronic, written and media outlets in advance of excessive hot temperatures.

Epidemiology, MHDDAD, Public Information/Risk Communications and Nursing will create a brochure containing frequently asked questions (FAQ) on health information and taking necessary precautions during a heat wave. This and other materials will emphasize what portion of the population is at risk, how to recognize and prevent heat stroke, and the importance of receiving a minimum of two to four hours of cooling per day during periods of heat. Additional information will include the need to look out for neighbors and older adults, heat-related risks to family pets, medication-associated risks and where to call for assistance.

The brochure and educational materials will be distributed to the CSBs, Mental Health providers and medical clinics and through community service organizations such as Salvation Army, United Way, American Red Cross (to name a few) to be distributed among the homeless and other at risk populations. DPH will also encourage jurisdictions to create local heat related resource cards listing information such as locations of water stations, cooling stations and agencies providing extended hours of medical and shelter services for the homeless population and who to contact for “well watch” services.

3.a Recommendations for District/County Heat Emergency Response Plans

In addition to listing activities in accordance with each of the three National Weather Service warnings, the following components are recommended to be part of a District/county heat emergency response plan:

- Declaring a local Public Health emergency
- Notification protocol
- District/County EOC activation
- Education campaign
- Information distribution systems and methods
- Use of volunteers
- Roles and responsibilities of District/county departments
- Coordinating plans with county EMAs, Community Service Boards, faith based organizations, Salvation Army, United Way, to name a few organizations/agencies
4.a Community Service Boards (CSB) Heat Emergency Response Plans:

All CSBs will be required to develop their own agency heat emergency response plans to incorporate specific regional activities that will be undertaken in a heat emergency. The CSB heat emergency response plans should be reviewed at least annually with the MHDDAD Emergency Coordinator and District EC and should address the following:

• Homeless outreach activities and information published through media press releases or distributed to contracted providers.

• Outreach and home visits to elderly, individuals with a serious mental illness, homeless, medically frail and/or shut-ins CSB’s should develop a list of individuals who may be at risk, prior to the alert.

• Consider extended work hours and prepare for individuals spending extended hours at facilities to avoid heat.

• Develop transportation plans as a part of the heat emergency response plan, including plans to transport individuals who have increased risk and are unable to access public transportation to RBHA appointments or to pick up medications.

• Provide crisis mobile teams and other outreach teams working in the community with additional water and information on local resources.

• Display information in agency lobbies and develop distribution mechanisms for materials addressing individual protection and appropriate measures to follow during extreme heat.

• Publicize heat emergency response plans at RBHA Community Forums, newsletters, etc.

• Provide training on recognizing symptoms and providing first aid for heat related illness.

Plan Maintenance:

It is the responsibility of the DPH Heat Emergency Response Plan committee to ensure that the plan is reviewed and updated on an annual basis. The debriefing and review will consist of:

• Reviewing plan implementation, coordination and activation of what worked and which of the above action steps require further refinement.

• Establishing an on-going core team of emergency contacts or their designees.
• Identifying all agencies contacted and any additional steps needed from their perspective.

• Making necessary changes to the protocol based on information gathered and available resources.

• Evaluating responses and developing recommendations for improvement in subsequent years.
Purpose:

Situation and Assumptions:
Hurricanes are inevitable and considered a part of the “normal” weather cycle for Georgia and the rest of the southeast. The hurricane season is 1 June-1 Nov yearly. Hurricane prediction usually begins early spring of every year and provides us a possible glimpse of the upcoming season. Not only are the numbers and types of storms forecasted, but also their intensity and numbers of US landfall. The actual season, though, is difficult to forecast and not truly known until final analysis by the National Weather Service after the season has ended.

For this Attachment, there are 3 (three) assumptions:

a). Regardless of the intensity of the storm and its end-impact, GA will most likely have a role
b). The Saffir-Simpson Scale is accepted and referenced:
The Saffir-Simpson Hurricane Scale

The Saffir-Simpson Hurricane Scale is a 1-5 rating based on the hurricane’s present intensity. This is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale, as storm surge values are highly dependent on the slope of the continental shelf and the shape of the coastline, in the landfall region. Note that all winds are using the U.S. 1-minute average.

**Category One Hurricane:**
Winds 74-95 mph (64-82 kt or 119-153 km/hr). Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage. Hurricane Lili of 2002 made landfall on the Louisiana coast as a Category One hurricane. Hurricane Gaston of 2004 was a Category One hurricane that made landfall along the central South Carolina coast.

**Category Two Hurricane:**
Winds 96-110 mph (83-95 kt or 154-177 km/hr). Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers. Coastal and low -lying escape routes flood 2-4 hours before arrival of the hurricane center. Small craft in unprotected anchorages break moorings. Hurricane Frances of 2004 made landfall over the southern end of Hutchinson Island, Florida as a Category Two hurricane. Hurricane Isabel of 2003 made landfall near Drum Inlet on the Outer Banks of North Carolina as a Category 2 hurricane.

**Category Three Hurricane:**
Winds 111-130 mph (96-113 kt or 178-209 km/hr). Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low -lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Flooding near the coast destroys smaller structures with larger structures damaged by battering from floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low -lying residences with several blocks of the shoreline may be required. Hurricanes Jeanne and Ivan of 2004 were Category Three hurricanes when they made landfall in Florida and in Alabama, respectively.

**Category Four Hurricane:**
Winds 131-155 mph (114-135 kt or 210-249 km/hr). Storm surge generally 13-18 ft above normal. More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low -lying escape routes may be cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km). Hurricane Charley of 2004 was a Category Four hurricane made landfall in Charlotte County, Florida with winds of 150 mph. Hurricane Dennis (pdf) of 2005 struck the island of Cuba as a Category Four hurricane.

**Category Five Hurricane:**
Winds greater than 155 mph (135 kt or 249 km/hr). Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low -lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards
c). The names have already been chosen for the next several years, as indicated:

### Atlantic Names – Pronunciation Guide

<table>
<thead>
<tr>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea</td>
<td>Arthur</td>
<td>Ana</td>
<td>Alex</td>
<td>Arlene</td>
<td>Alberto</td>
</tr>
<tr>
<td>Barry</td>
<td>Bertha</td>
<td>Bill</td>
<td>Bonnie</td>
<td>Bret</td>
<td>Beryl</td>
</tr>
<tr>
<td>Chantal</td>
<td>Cristobal</td>
<td>Claudette</td>
<td>Colin</td>
<td>Cindy</td>
<td>Chris</td>
</tr>
<tr>
<td>Dean</td>
<td>Dolly</td>
<td>Danny</td>
<td>Danielle</td>
<td>Don</td>
<td>Debby</td>
</tr>
<tr>
<td>Erin</td>
<td>Edouard</td>
<td>Erika</td>
<td>Earl</td>
<td>Emily</td>
<td>Ernesto</td>
</tr>
<tr>
<td>Felix</td>
<td>Fay</td>
<td>Fred</td>
<td>Fiona</td>
<td>Franklin</td>
<td>Florence</td>
</tr>
<tr>
<td>Gabrielle</td>
<td>Gustav</td>
<td>Grace</td>
<td>Gaston</td>
<td>Gert</td>
<td>Gordon</td>
</tr>
<tr>
<td>Humberto</td>
<td>Hanna</td>
<td>Henri</td>
<td>Hermine</td>
<td>Harvey</td>
<td>Helene</td>
</tr>
<tr>
<td>Ingrid</td>
<td>Ike</td>
<td>Ida</td>
<td>Igor</td>
<td>Irene</td>
<td>Isaac</td>
</tr>
<tr>
<td>Jerry</td>
<td>Josephine</td>
<td>Joaquin</td>
<td>Julia</td>
<td>Jose</td>
<td>Joyce</td>
</tr>
<tr>
<td>Karen</td>
<td>Kyle</td>
<td>Kate</td>
<td>Karl</td>
<td>Katia</td>
<td>Kirk</td>
</tr>
<tr>
<td>Lorenzo</td>
<td>Laura</td>
<td>Larry</td>
<td>Lisa</td>
<td>Lee</td>
<td>Leslie</td>
</tr>
<tr>
<td>Melissa</td>
<td>Marco</td>
<td>Mindy</td>
<td>Matthew</td>
<td>Maria</td>
<td>Michael</td>
</tr>
<tr>
<td>Noel</td>
<td>Nana</td>
<td>Nicholas</td>
<td>Nicole</td>
<td>Nate</td>
<td>Nadine</td>
</tr>
<tr>
<td>Olga</td>
<td>Omar</td>
<td>Odette</td>
<td>Otto</td>
<td>Ophelia</td>
<td>Oscar</td>
</tr>
<tr>
<td>Pablo</td>
<td>Paloma</td>
<td>Peter</td>
<td>Paula</td>
<td>Philippe</td>
<td>Patty</td>
</tr>
<tr>
<td>Rebekah</td>
<td>Rene</td>
<td>Rose</td>
<td>Richard</td>
<td>Rina</td>
<td>Rafael</td>
</tr>
<tr>
<td>Sebastien</td>
<td>Sally</td>
<td>Sam</td>
<td>Shary</td>
<td>Sean</td>
<td>Sandy</td>
</tr>
<tr>
<td>Tanya</td>
<td>Teddy</td>
<td>Teresa</td>
<td>Tomas</td>
<td>Tammy</td>
<td>Tony</td>
</tr>
<tr>
<td>Van</td>
<td>Vicky</td>
<td>Victor</td>
<td>Virginie</td>
<td>Vince</td>
<td>Valerie</td>
</tr>
<tr>
<td>Wendy</td>
<td>Wilfred</td>
<td>Wanda</td>
<td>Walter</td>
<td>Whitney</td>
<td>William</td>
</tr>
</tbody>
</table>

Experience shows that the use of short, distinctive given names in written as well as spoken communications is quicker and less subject to error than the older more cumbersome latitude-longitude identification methods. These advantages are especially important in exchanging detailed storm information between hundreds of widely scattered stations, coastal bases, and ships at sea.

Since 1953, Atlantic tropical storms have been named from lists originated by the National Hurricane Center. They are now maintained and updated by an international committee of the World Meteorological Organization. The original name lists featured only women's names. In 1979, men's names were introduced and they alternate with the women's names. Six lists are used in rotation. Thus, the 2006 list will be used again in 2012. Here is more information about the history of naming hurricanes.

The only time that there is a change in the list is if a storm is so deadly or costly that the future use of its name on a different storm would be inappropriate for reasons of sensitivity. If that occurs, then at an annual meeting by the WMO committee (called primarily to discuss many other issues) the offending name is stricken from the list and another name is selected to replace it.

Several names have been changed since the lists were created. For example, on the 2004 list (which will be used again in 2010), Gaston has replaced Georges and Matthew has replaced Mitch. On the 2006 list, Kirk has replaced Keith. Here is more information about retired hurricane names.

In the event that more than 21 named tropical cyclones occur in the Atlantic basin in a season, additional storms will take names from the Greek alphabet: Alpha, Beta, Gamma, Delta, and so on. If a storm forms in the off-season, it will take the next name in the list based on the current calendar date. For example, if a tropical cyclone formed on December 28th, it would take the name from the previous season's list of names. If a storm formed in February, it would be named from the subsequent season's list of names.
d). Public Health can expect to be active if a Tropical Depression or Tropical Storm approaches GA. The primary ESF 8 related issues include, but are not limited to flooding, severe storms and tornadoes.

e). Some terms to be familiar with:

Easterly Wave – An easterly wave is a type of tropical disturbances that moves generally westward, steered by the tropical easterly winds, and appears on the surface weather map as an inverted trough.

Eye – The typically clear or mostly clear center of a mature hurricane. The winds are light or nearly calm. The eye typically appears when the tropical storm achieves hurricane status.

Eye-wall – The eye-wall is an organized band of convection that immediately surrounds the center (eye) of a tropical cyclone. The fiercest winds and most intense rainfall typically occur near the eye-wall.

Hurricane – A hurricane is a warm-core tropical cyclone in which the maximum sustained surface winds are 74 miles per hour (64 knots) or greater.

Hurricane Warning - An advisory that says hurricane conditions are expected in a specific area within 24 hours. That means a 1-in 2 chance the central part of the warning area will be hit and 1-in-3 chance for the edges of the warning zone. All areas in the warning zone are likely to be affected, even if the hurricane grazes by. Sustained winds are 74 MPH or more.

Hurricane Watch - An advisory issued when hurricane conditions are a threat within 24 to 36 hours. It precedes a Hurricane Warning. Chances are 1-in-3 the center part of the watch area will be hit. There's a 1-in-4 chance any location in the watch area will be hit, a 1-in-5 chance for the edges of the watch area. Sustained winds are between 39 to 73 MPH.

Intertropical Convergence Zone (ITCZ) – The ITCZ is a region of converging, rising air with its axis meandering typically from several degrees north of the equator to 10 or somewhat more degrees south of the equator. It is forced by Northern Hemisphere tropics northeasterly prevailing low-level winds, and Southern Hemisphere tropics southeasterly prevailing low-level winds. The counterclockwise circulation around high pressure systems in the Northern Hemisphere Atlantic and Pacific Oceans, and the clockwise circulation around similar systems in the Southern Hemisphere during the Northern Hemisphere’s hurricane season, create the low-level wind pattern and consequent convergence that result in the Intertropical Convergence Zone.
Mesoscale Convective System (MCS) – An MCS is a relatively large area (150 or more miles – 250 or more kilometers – in average diameter) of organized thunderstorms that persists for at least 15 hours. A tropical disturbance can originate as an MC, e.g., when it forms over equatorial Africa and then moves into the Atlantic Ocean to become the tropical disturbance.

Tropical Cyclone – A tropical cyclone is the generic name for tropical storms, hurricanes and typhoons. It is a warm-core low pressure system with no fronts, that develops over tropical waters or, when just outside the tropics, over waters in tropical conditions, and has an organized circulation.

Tropical Depression – A tropical depression is a tropical cyclone in which the maximum sustained surface winds (1-minute average) are 38 miles per hour (33 knots) or less.

Tropical Disturbance – A tropical disturbance is a discrete system of organized convection that has no fronts associated with it and is migratory, maintaining its identity for 24 hours or longer. It forms in the tropics, or, when forming just outside the tropics, in tropical conditions.

Tropical Storm – A tropical storm is a warm-core tropical cyclone in which the maximum sustained surface winds range from 39 to 73 miles per hour (34 to 63 knots).

Tropical Storm Warning - An advisory issued when winds of 39 to 73 mph are expected. Tropical storm warnings probably will not be issued before hurricane warnings.

Tropical Storm Watch - An advisory issued by the National Hurricane Center when tropical storm conditions, with winds of 39 to 73 mph, could threaten a coastal area within 24 to 36 hours.

Tropical Wave - A large low pressure system in the tropics and subtropics

West African Disturbance Line (WADL) – A WADL is a line of convection averaging about 300 miles – 480 kilometers – long, and is similar to a squall line. It forms over West Africa north of the equator and south of 15°N latitude and can be a seedling for a tropical storm if it moves out over the Atlantic Ocean.
Roles and Responsibilities:

Public Health is a key player during hurricane season. Due to the potential damage from the water (tidal surge, secondary flooding due to Depressions, tornadoes, etc), and the suddenness which water can rise, both the Division and the District EC personnel have to be aware of the resources available to them. The District and Division ECs need to be prepared to assist our HHS Region IV federal and state partners, as well as those victims arriving in GA, seeking aid and comfort.

Concept of Operations:

As an agency that receives federal funding, the Georgia Division of Public Health (DPH) must incorporate elements of the National Incident Management System (NIMS) into its emergency response plans. The Division’s incident command structure is NIMS compliant. Although daily planning and issues are handled by various DPH programs, the ICS response is undertaken when a Public Health emergency arises. For this response plan, not all elements of the ICS structure may need to be activated at once. However, if necessary, the DPH DIRECTOR may recommend the declaration of a statewide emergency to the Governor and the scope of ICS activation may increase.

The activities in this plan are based on the heat-related message categories from the National Weather Service (NWS) and the specific instruction from the Incident Manager, regardless of DHR EOC activation level (see Emergency Operations Center Activation/Deactivation SOP, Support Annex A14, Appendix I).

Plan Maintenance:

It is the responsibility of the DPH Heat Emergency Response Plan committee to ensure that the plan is reviewed and updated on an annual basis. The debriefing and review will consist of:

- Reviewing plan implementation, coordination and activation of what worked and which of the above action steps require further refinement.

- Establishing an on-going core team of emergency contacts or their designees.

- Identifying all agencies contacted and any additional steps needed from their perspective.

- Making necessary changes to the protocol based on information gathered and available resources.

- Evaluating responses and developing recommendations for improvement in subsequent years.
Purpose:
Generally, thunderstorms are not, nor do they produce events of PH significance. However, out of severe thunderstorms, tornadoes can form, flooding might occur or lightening induced fires can occur. All of these, depending on where they occur and the population affected, may create a situation of PH significance. Therefore, PH emergency preparedness personnel have to be prepared to respond to these types of activities.

Situation and Assumptions:
Situation:
PH emergency preparedness (EP) personnel, specifically the Emergency Coordinators (EC) and Emergency Preparedness Specialist (EPS), need to understand the significance of the severe thunderstorms and tornadoes, including their watches and warnings. As the storms move through their Districts or as tornadoes are formed near/in their Districts, the EP personnel should know the appropriate action(s) to take.

Assumptions:
The EP staff will respond appropriately and effectively to watches and warnings. This response is based on the knowledge of storms and tornadoes, the interpretation and implications of watches and warnings and the coordination with Emergency Management Agencies (County, Area and State).

To assist the EC, the following Frequently Asked Questions (FAQs) from the Storm Prediction Center (SPC) are meant to assist understanding the issues and definitions:

What is a Severe Thunderstorm or Tornado Watch?
A Severe Thunderstorm Watch outlines an area where an organized episode of hail 3/4 inch diameter or larger and/or damaging thunderstorm winds are expected during a three to eight hour period. A Tornado Watch includes the large hail and damaging wind threats, as well as the possibility of multiple tornadoes. Typical watches cover about 25,000 square miles, or about half the size of Iowa.

What's the difference between a watch and a warning?
A watch means severe weather is possible during the next few hours, while a warning means that severe weather has been observed, or is expected soon.
**Why are watches not issued for all severe storms?**

Many severe thunderstorms affect only a small area for a short period of time, making watches impractical. Watches are issued primarily for areas where well organized or significant severe weather is possible, or the severe weather threat is expected to persist for many hours.

**I noticed the wording "THIS IS A PARTICULARLY DANGEROUS SITUATION" in some of your watches. What does this mean? What is the criteria for a PDS watch?**

The "particularly dangerous situation" wording is used in rare situations when long-lived, strong and violent tornadoes are possible. This enhanced wording may also accompany severe thunderstorm watches for exceptionally intense and well organized convective wind storms. PDS watches are issued, when in the opinion of the forecaster, the likelihood of significant events is boosted by very volatile atmospheric conditions. Usually this decision is based on a number of atmospheric clues and parameters, so the decision to issue a PDS watch is subjective. There is no hard threshold or criteria. In high risk outlooks PDS watches are issued most often.

**What is the watch status line (line with an arrow inside a watch) and how is it interpreted?**

When a watch is issued, the original threat is contained within the entire watch area. When the SPC determines where the severe weather threat continues within a severe thunderstorm or tornado watch, usually on an hourly basis, we issue a watch status message. Unless the whole watch area remains valid, the status report includes points on a line that indicates where the severe weather threat remains from our perspective. The severe weather threat is to the right of that line, as in our outlooks. As adjustments are made to the watch, you will see that yellow "status" line shift across the original watch area. This gives emergency managers, weather forecast offices, media and the general public guidance as to where the threat remains for severe weather.

**Who clears watches?**

It is up to the local NWS forecast offices -- not SPC -- to clear or keep counties within the watch once SPC has issued it. Also, only local NWS offices can cancel a watch. Our status lines (described above) are just for guidance purposes to describe the remaining threat area.

**How does the National Weather Service (NWS) define a severe thunderstorm?**

The term severe thunderstorm refers to a thunderstorm producing hail that is at least penny size, 0.75 inches in diameter or larger, and/or wind gusts to 58 mph or greater, and/or a tornado. Although lightning can be deadly, the NWS doesn't use it to define a severe thunderstorm. If it did, every thunderstorm would be severe, by definition. Also, excessive rainfall may lead to deadly flash flooding, but heavy rain is not a severe criterion either. The flood threat is handled through a separate set of watches and warnings from your local NWS forecast office.

**What is a tornado watch?** A tornado watch defines an area shaped like a parallelogram, where tornadoes and other kinds of severe weather are possible in the next several hours.
It does not mean tornadoes are imminent -- just that you need to be alert, and to be prepared to go to safe shelter if tornadoes do happen or a warning is issued. This is the time to turn on local TV or radio, turn on and set the alarm switch on your weather radio, make sure you have ready access to safe shelter, and make your friends and family aware of the potential for tornadoes in the area.

What is a tornado warning? A tornado warning means that a tornado has been spotted, or that Doppler radar indicates a thunderstorm circulation which can spawn a tornado. When a tornado warning is issued for your town or county, take immediate safety precautions. Local NWS offices issue tornado warnings.

Another assumption we need to know is what determines the strength of a tornado and the implication of the assumed severity of the tornado. This is known as the Enhanced Fujita Scale (EF-scale):
Enhanced F Scale for Tornado Damage

An update to the original F-scale by a team of meteorologists and wind engineers, to be implemented in the U.S. on 1 February 2007.

<table>
<thead>
<tr>
<th>FUJITA SCALE</th>
<th>DERIVED EF SCALE</th>
<th>OPERATIONAL EF SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>F Number</td>
<td>Fastest 1/4-mile (mph)</td>
<td>3 Second Gust (mph)</td>
</tr>
<tr>
<td>0</td>
<td>40-72</td>
<td>45-78</td>
</tr>
<tr>
<td>1</td>
<td>73-112</td>
<td>79-117</td>
</tr>
<tr>
<td>2</td>
<td>113-157</td>
<td>118-161</td>
</tr>
<tr>
<td>3</td>
<td>158-207</td>
<td>162-209</td>
</tr>
<tr>
<td>4</td>
<td>208-260</td>
<td>210-261</td>
</tr>
<tr>
<td>5</td>
<td>261-318</td>
<td>262-317</td>
</tr>
</tbody>
</table>

*** IMPORTANT NOTE ABOUT ENHANCED F-SCALE WINDS: The Enhanced F-scale still is a set of wind estimates (not measurements) based on damage. Its uses three-second gusts estimated at the point of damage based on a judgment of 8 levels of damage to the 28 indicators listed below. These estimates vary with height and exposure. **Important:** The 3 second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures, using a directly measured, "one minute mile" speed.

Enhanced F Scale Damage Indicators
<table>
<thead>
<tr>
<th>NUMBER</th>
<th>DAMAGE INDICATOR</th>
<th>ABBREVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Small barns, farm outbuildings</td>
<td>SBO</td>
</tr>
<tr>
<td>2</td>
<td>One- or two-family residences</td>
<td>FR12</td>
</tr>
<tr>
<td>3</td>
<td>Single-wide mobile home (MHSW)</td>
<td>MHSW</td>
</tr>
<tr>
<td>4</td>
<td>Double-wide mobile home</td>
<td>MHDW</td>
</tr>
<tr>
<td>5</td>
<td>Apt, condo, townhouse (3 stories or less)</td>
<td>ACT</td>
</tr>
<tr>
<td>6</td>
<td>Motel</td>
<td>M</td>
</tr>
<tr>
<td>7</td>
<td>Masonry apt. or motel</td>
<td>MAM</td>
</tr>
<tr>
<td>8</td>
<td>Small retail bldg. (fast food)</td>
<td>SRB</td>
</tr>
<tr>
<td>9</td>
<td>Small professional (doctor office, branch bank)</td>
<td>SPB</td>
</tr>
<tr>
<td>10</td>
<td>Strip mall</td>
<td>SM</td>
</tr>
<tr>
<td>11</td>
<td>Large shopping mall</td>
<td>LSM</td>
</tr>
<tr>
<td>12</td>
<td>Large, isolated (&quot;big box&quot;) retail bldg.</td>
<td>LIRB</td>
</tr>
<tr>
<td>13</td>
<td>Automobile showroom</td>
<td>ASR</td>
</tr>
<tr>
<td>14</td>
<td>Automotive service building</td>
<td>ASB</td>
</tr>
<tr>
<td>15</td>
<td>School - 1-story elementary (interior or exterior halls)</td>
<td>ES</td>
</tr>
<tr>
<td>16</td>
<td>School - jr. or sr. high school</td>
<td>JHSH</td>
</tr>
<tr>
<td>17</td>
<td>Low-rise (1-4 story) bldg.</td>
<td>LRB</td>
</tr>
<tr>
<td>18</td>
<td>Mid-rise (5-20 story) bldg.</td>
<td>MRB</td>
</tr>
<tr>
<td>19</td>
<td>High-rise (over 20 stories)</td>
<td>HRB</td>
</tr>
<tr>
<td>20</td>
<td>Institutional bldg. (hospital, govt. or university)</td>
<td>IB</td>
</tr>
<tr>
<td>21</td>
<td>Metal building system</td>
<td>MBS</td>
</tr>
<tr>
<td>22</td>
<td>Service station canopy</td>
<td>SSC</td>
</tr>
<tr>
<td>23</td>
<td>Warehouse (tilt-up walls or heavy timber)</td>
<td>WHB</td>
</tr>
</tbody>
</table>
A 95 page PDF file explaining the development and makeup of the Enhanced F-scale now is available, both [here at SPC](#) and from the [Texas Tech server](#).

**Roles and Responsibilities:**
See Basic Plan.
Concept of Operations:
   See Basic Plan

Administration and Logistics:
   For the Division, the Director of Planning, Office of Emergency Preparedness is responsible to coordinate the updating of the plan and the distribution to the appropriate personnel in the Division and Districts.

Plan Development and Maintenance:
   Per the PH EOP, this plan will be reviewed yearly and updated as necessary.

Authorities and References:
   Refer to the PH EOP for the PH authorities. Refer to the National Weather Service and the Storm Prediction Center web sites for further discussion and description of storms. Refer to the Federal Emergency Agency, American Red Cross and Georgia Emergency Management Agency’s web site for additional information.