

**When Disaster Strikes:
A Simulation in Emergency Management**

Overview

Students will learn about the roles of local government agencies and experience the fast paced, challenging environment in which government officials must function by participating in an Emergency Management simulation.

Grade

10

North Carolina Essential Standards for Civics & Economics

- CE.C&G.2.1 - Analyze the structures of national, state and local governments in terms of ways they are organized to maintain order, security, welfare of the public and the protection of citizens (e.g., federalism, the three branches, court system, jurisdictions, judicial process, agencies, etc.)
- CE.C&G.2.2 - Summarize the functions of North Carolina state and local governments within the federal system of government (e.g., local charters, maintain a militia, pass ordinances and laws, collect taxes, supervise elections, maintain highways, types of local governments, etc.).
- CE.C&G.2.7 - Analyze contemporary issues and governmental responses at the local, state, and national levels in terms of how they promote the public interest and/or general welfare (e.g., taxes, immigration, naturalization, civil rights, economic development, annexation, redistricting, zoning, national security, health care, etc.)

Essential Questions

- How does North Carolina prepare for disaster relief?
- What local government agencies and officials come together to provide disaster relief?
- What kind of relief is provided by these agencies?
- How do local government agencies attempt to balance interests and resolve conflicts?

Materials

- Emergency Management Works handout, to be provided to students for a homework reading prior to simulation; optionally, teachers may want to provide specific information about your county's emergency management services
- Emergency Management Roles, handout attached
- Sample County Population Report, Public Schools List, & County Maps
 - Samples or a population report and school list are provided from past Nash County reports (attached). It is recommended that teachers compile updated information for their own county, to make the activity more localized and realistic.
- Internet access, optional
- Emergency Management Personnel to serve as a resource person (optional)
 - Contact the person of your choice 2-4 weeks in advance of this lesson to explain the activity and to ask for assistance in coaching students during their Emergency Management

Simulation (it is important this person does not come to give a “speech,” but rather is prepared to engage with the students as they work on their tasks and to participate in dialogue with the class). After making an initial contact, follow up with an e-mail including the date, time, location, parking arrangements, school procedures for guests, and a complete set of materials for the activity. It is highly recommended to invite a resource person with emergency management knowledge to your classroom when doing this activity, not only provide valued assistance, but also to speak to what happens in actual emergency situations. This also gives your students a chance to interact with and learn from a local government official.

Duration

60 minutes

Teacher Preparation

- Teachers may want to teach this lesson in a space more conducive to group work, such as the library.
- Before class, make two copies of the attached Emergency Management Roles, one for each student to use as a name tag (hand these out as students enter) and one to mark assigned seats throughout the classroom or library.
- Arrange your classroom or alternate space into six major sections as noted below to mirror an Emergency Operations Management Center (see layout map below). Tape a copy of each Emergency Management Role to the appropriate table, so that students know where to sit.
- At each grouping of desks or tables, place copies of all materials needed for the activity, such as county maps, population information, and a list of schools. (Samples are attached, or teachers may want to collect information from the county in which students reside.) If laptops with Internet access are available, you may want to place one at each table for research purposes (optional).
- Emergency Operations Center (EOC) Layout

Head Table: The county-level Director of Emergency Management, Commissioners, County Manager, Public Information Officer

This table communicates with the state, nearby counties, county leaders, municipalities within the county, and all private industries providing services within the county (i.e. Progress Energy)

Fire Department: Fire deputies and other department members

This group provides tree removal, house checks, and protection for people living in incorporated and unincorporated parts of the county.

Police Department: County sheriff, policemen

This group provides tree removal, house checks, and protection for people living in incorporated and unincorporated parts of the county.

Finance: County Budget Director, County Purchasing Director, Information Technology Specialist

This table will make decisions about money allocation and purchases

Human Services: EMS, County Director of Public Health, County Director of Social Services, County Director of Mental Health, the Red Cross

This table devises plans to care for the injured and ill, provides services at shelters as people arrive, distributes/delivers food and water), and may perform rescues if needed.

Environmental: Employees who deal with animal control, storm water and drainage services, solid waste collection, County/Municipal pollution, soil erosion, water and sewer.

This table works to protect the water supply, provides information on safe drinking water, removes hazardous waste, retrieves lost/abandoned animals, clears solid wastes, etc.

Student Preparation

- On the day before the simulation, let students know what to expect. Explain that when they enter class, they will be assuming the role of an important county official who assists citizens in the case of an emergency. Tell students they will be responsible for working diligently together to try and protect our county in the aftermath of something serious.
- Remind students of classroom expectations for effective and respectful group work.
- Prior to the day of the simulation, teachers should assign a reading for homework regarding the responsibilities of emergency management, such as the attached “Emergency Management” worksheet; ideally students will also read about their own county’s response team and practices.

Procedure

Setting the Stage for Emergency Response – Who Are the Key Players?

1. Meet students at the door and distribute the attached name tags for Emergency Management Roles and direct them to find their matching seat assignment. (25 roles have been provided. If you need to create additional roles, add students to the least populated tables and create an extra representative from that department.)
2. Once all students are seated, spend a few moments discussing their homework reading as a class and take any questions students may have.
3. Next, assume the role of the Emergency Management Director and explain the information in the box below. Teachers should try to speak in character, with seriousness and urgency. You may wish to project pictures from hurricanes throughout this activity as you speak to set the mood

(example images attached) or even play storm sounds throughout the simulation, raising the volume at appropriate times.

Our county is in a serious situation right now. I have called you all in because you are the key players in our county who handle emergency response. This is what we are trained for, so let's work together to get our citizens safe! You may have already heard that Hurricane Jackson has become a category four hurricane and poses a dangerous threat not only to our coast, but also to our inland communities.

Coastal cities have already evacuated, and those residents will be coming to our community. High winds are already affecting our power and phone lines. Large amounts of rain are causing flooding in some areas. Progress Energy is predicting 10,000 homes will be without power within the next hour.

Before we begin addressing our local problems, you must each do the following:

- Research your job to find out what you do within your community. What are your responsibilities?
- Speculate what a person with your job might do in the Emergency Management Operations center in the event of a natural disaster.
- You may use the Internet, and your textbooks to complete this task. You have 5-8 minutes to finish. Raise your hand if you need assistance.

➤ **Notes:**

- If Internet access is not available, teachers should print out information on the various jobs for students to read during this time.
- If a resource person is joining class for this activity, introduce him/her and what that person's job is in real emergency situations. Let students know that this visitor is available to assist them as they research what their own role is.

4. Once students have finished their research, instruct them to spend 5-10 minutes sharing their job titles, their employer, their job duties, and their speculated disaster duties with their group. Also, instruct them to discuss why they believe people with their jobs are seated together for this activity (infer how they might work together). At this point, students may help each other if they are unclear of their role or had difficulty finding the correct information.

Once students have finished sharing, ask each table to report back to the larger group by introducing themselves by assigned role, explaining what they do in the community, and by stating the job they believe they will carry out in an emergency situation. Tell students to pay careful attention as their classmates share, since they will need to know this information throughout the simulation. Clarify these reports using the Emergency Management Works handout if necessary. (A resource person will also be beneficial here for clarification if available.) At the end of the reports, each group should have a clear understanding of what his/her table might do during a natural disaster.

The Disaster Worsens: What Will You Do?

5. Explain to students that they are going to now assume these roles during a hurricane emergency. Tell them to have pencils handy for note-taking, and to be ready to work together in a high stress situation. Let students know that while they will predominantly work among themselves at their table, they will also at times need to collaborate with other divisions. Again assume the role of the Emergency Management Director by saying the following:

In the last hour, many trees and branches have fallen, pulling down power and phone lines; evacuees have begun to arrive; 15,000 homes have lost power; and we have a report that the generator at the local hospital is down. We must respond immediately, and we have only 5-10 minutes to make our first response. Please listen carefully while everyone receives their task.

- **Human Services:** Trouble shoot ideas to get our hospital operational. This is priority. Also, we will need to open shelters at three public schools. Select three specific schools within twenty miles of all county citizens. Here is a list of all schools in our county, population information, and county maps to assist you (all forms are attached). I need all of your ideas in writing ASAP.
- **Head Table:** We have 15,000 homes without power. Progress Energy has projected a 1-2 day minimum of restoring power. Determine which areas of the county we need to restore power first in and why. Plot those areas on the map. Then, devise a plan for how we can communicate to residents when their power will be restored. I need a short memo from you stating this action plan, as well as your plotted map, within 15 minutes.
- **Police:** Our juvenile detention center is being threatened by flood waters. We need to identify a location to which we can evacuate these juveniles and a process for doing so. Determine three possible safe locations and how we will secure these locations to hold these juvenile offenders and still keep the public at large safe. I need the projected locations and a safety memo in 15 minutes.
- **Fire Department:** We anticipate numerous downed trees in the roads and on houses. We need to develop a process for removing these trees as soon as possible and be prepared to evacuate anyone who has been injured by these fallen trees. Create a list of all problems you anticipate and possible solutions. **Environmental Services:** We cannot allow pets to come to the shelters, so please identify available shelters for animals, develop a plan to get pets to these shelters, labeling them, and a process for pet owners to pick up their pets once the disaster is over. Work with the Head Table to communicate the “No Pet Shelter” policy to the public.
- **Finance:** We are anticipating 3,000 evacuees from the coast and 1,000 of our own. Three shelters need to be opened. Create a list of supplies that will be needed for each shelter and estimate the cost for all categories. Consider the staffing needs for each shelter and how much salaries may run the county as well.

Let's move people! We have serious work to do!

6. As students work, be creative to make the situation as high stress as possible. For example, you can play loud TV or audio clips of hurricanes/storms, have a tape of ringing phones playing, ask other school employees to rush into the room or yell from the hall with emergency messages or updates, etc.)

7. Before tables have had time to finish their task completely, interrupt and say the following:

- Alright people, our next report has just come in, and it's not looking good. Listen carefully until I am done speaking. Some of this information impacts all of us, and some of your plans will change.
- **Environmental Services:** There have been reports of flooded areas near two of our hog farms. We cannot allow hog waste to enter into our water system. Develop a plan to prevent this from occurring and a contingency plan for alternative water sources in case we cannot prevent the hog waste from entering the water system. Work with the Head Table to develop a communications plan should the water become unsafe for drinking.
- **Human Services:** Those in the field are reporting that the schools you are examining for shelters are no longer available. The roof on one has collapsed, the gymnasium is flooded in another, and the third is without power. Please alter your plans accordingly and choose new locations.
- **Police:** There are reports of looting in the downtown area. Quickly develop a plan of attack for apprehending the culprits, recovering the stolen goods, and compensating the owners of these homes and businesses.
- **Fire Department:** We have a report of 50 or more cars that are stuck in standing water with people trapped inside. You have to create a plan on how to get to them, the problems you may encounter along the way and once you arrive, and what to do with those citizens that are rescued. Work quickly...this could turn in to a life and death situation!
- **Head Table:** We've got hog waste that's getting closer and closer to contaminating our part of our water system. You have to figure out a way to inform the public, even though they have no power. Also, the area that is likely to be contaminated is near a community that is largely non-English speaking. You must figure out a way to communicate this information to them. Work with Environmental Services on this.
- **Finance:** We have new numbers of evacuees projected, and you need to rework your budget to prepare for 5,000 people. Not only that, we've been informed that we have only been approved for a budget of \$_____ (tell the group a number that is less than what they have budgeted for thus far). We also need you to prepare an estimate of what employee overtime costs are going to be. Our EMTs, Police, and other rescue personnel are going to be working all night.
- **Human Services:** I just got another report that the standing water in several communities is bad. Create a list of all problems that could arise from the standing water and develop a plan of action.
- **Head Table:** Progress Energy is now reporting 24,000 homes without power. We've got to address all of the concerns this creates. Work with the Police to address crime concerns. Work with the Firemen to address safety concerns. Create lists of all possible problems and brainstorm solutions.
- **Environmental Services:** Revisit your plan to transport house pets, and please note that we have 9,000 additional homes without power, making a total of 24,000. What changes need to be made to handle these additional numbers?
- Alright people, let's get to it! Hustle, hustle, HUSTLE!!!

8. As students work, continue to deliver tasks and keep the environment high paced. Finally, end the activity by saying:

Everyone, listen up! Our next report has just become available and this is the most serious situation yet. Things have gotten more complicated and I have critical information here...

(Reassume your regular role as teacher.) Actually, we are going to stop here. You have all done a wonderful job. Give yourselves a hand!

Debriefing the Simulation

9. Debrief the simulation with students by asking the following questions:
 - What did it feel like to participate in this activity?
 - Share with me some of the things your group did to respond to this disaster. What was most challenging?
 - How were you prepared to act? How were you unprepared?
 - Did you notice any conflicts in your group? Explain. How did you resolve these conflicts?
 - What characteristics do employees of these local government agencies need to encompass to do their jobs effectively and why?
 - How do local government agencies work together?
 - What consequences could we face if our local government agencies are not prepared for such emergencies?
 - How do the decisions of local government officials impact each of us?
 - Would you want to be a local government employee who does this type of work? Why or why not?
 - Tell me the main lesson you take away from this simulation.
10. If a resource person is visiting, have him/her speak about actual situations that have occurred, and address how realistic the simulation is compared to actual situations. Allow students to ask questions as well.
11. Explain to students that the purpose of this exercise was to show that local government is working all the time, even when a disaster strikes. The public may not understand exactly what happens behind the scenes when disaster strikes, but our officials are dealing with challenging tasks in a fast paced environment. Often times we as the public take for granted all of the work that goes in to being prepared for pending natural disasters, but each of these local government officials makes decisions that impact the safety and security of every citizen.

Optional Culminating Activities

- Instruct students to assume the roll of the media and prepare a newscast or a news article evaluating the performance of the local government agencies in dealing with this hurricane.
- Have students research a recent natural disaster that occurred in North Carolina (such as a recent hurricane) and read about how our state and local governments worked together in response.

Name: _____

Emergency Management

General Background

Emergency Management is one of nine divisions of the Department of Crime Control and Public Safety, which is one of the ten departments in the NC Governor's Cabinet. The Emergency Management Act of 1977 (NC General Statute 166A) created the division and indicated the division would be responsible for "protecting the people of North Carolina from the effects of disasters, natural and manmade;" generally, manmade is thought of as technological.

Reorganized in 1997 to model the structure of the federal Emergency Response Team, North Carolina Emergency Management is divided into "six major functional sections, which are Public Information, Hazard Mitigation, Operations, Logistics, Information and Planning, and Finance." These six sections are mirrored at the local government level in North Carolina, and these jobs are carried out at the county level with municipal support.

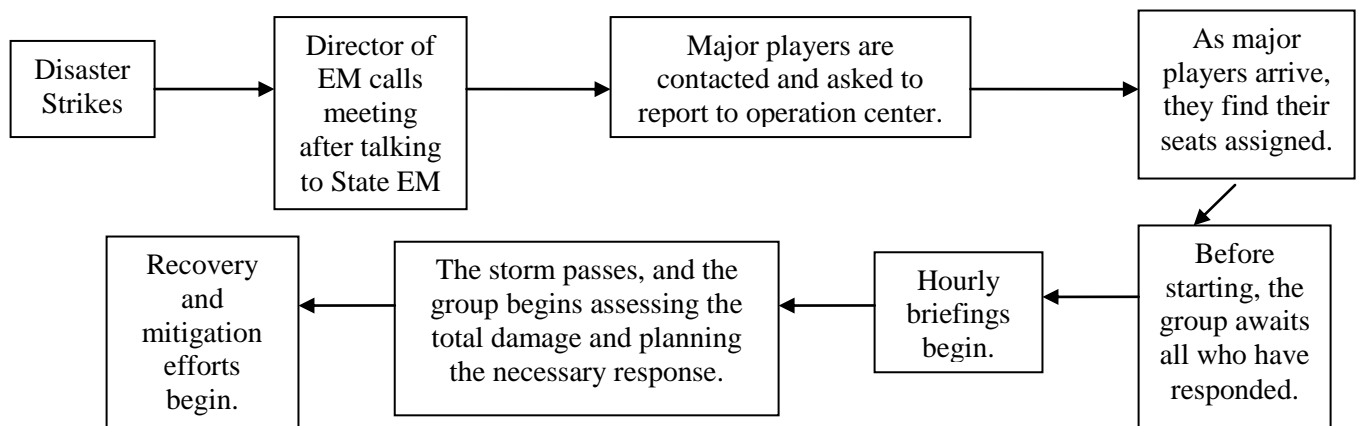
Functions

Emergency Management has four key functions: Preparedness, Response, Recovery, and Mitigation.

- I. **Preparedness** involves the organization's duty to maintain public awareness of possible disasters by exhibiting information in high-traffic areas and by conducting workshops. Local Emergency Management divisions work with the state to identify possible hazards in their local community.
- II. **Response** refers to the state, or a community's, Emergency Operations Center. Once a disaster strikes, key leaders come together at the Emergency Operations Center to provide basic services such as tree removal, shelters, food and water, and other emergency services. When response services are beyond the scope of a local government, the state steps in; likewise, when response services are beyond the scope of state government, mutual aid agreements among states and/or the federal government respond.
- III. **Recovery** efforts are meant to restore a local community or a state. Restoration efforts encompass everything from housing to agriculture. Redevelopment efforts frequently rely upon mitigation efforts, attempting to make the area more livable and sustainable than before.
- IV. **Mitigation** efforts are made to reduce the future impact of natural and technological disasters after a disaster occurs. Most mitigation efforts are made at the local level where we make decisions about land use and building codes and where community members can be encouraged to purchase insurance based on their demographic.

Emergency Operations Center Model

Local Emergency Operations Centers are located in various places and operated under various organizational structures. For the purpose of the simulation we will be doing in class, we will employ a general model attending to a hurricane disaster.



Answer:

1. What function of emergency management do you think is most important and why?

2. Why is your county's emergency management division important and relevant to you?

Emergency Management Roles

Director of Local Emergency Management (TEACHER)	County Commissioner 1
County Commissioner 2	County Manager
Public Information Officer	Police Officer 1
Police Officer 2	County Sheriff
Fire Deputy	Fire Deputy

Fire Deputy	County Fire Marshall
County Budget Director	IT Specialist
County Purchasing Director	Director of Social Services
Director of Animal Control	Director of Mental Health
Director of Public Health	EMS Representative

<p style="text-align: center;">American Red Cross Representative</p>	<p style="text-align: center;">Storm water and Drainage Services</p>
<p style="text-align: center;">Toxic Waste Specialist</p>	<p style="text-align: center;">Water and Sewer Management</p>
<p style="text-align: center;">Solid Waste Collection</p>	<p style="text-align: center;">_____</p>
<p style="text-align: center;">_____</p>	<p style="text-align: center;">_____</p>

Sample Population Report

Nash County

Population: 91,378

Persons 65 or older: 11, 879

Persons speaking language other than English: 5483

Housing Units: 39,568

Municipal Reports

Bailey

Population: 670

Persons 65 or older: 121

Housing Units: 302

Battleboro : No information available

Castalia

Population: 340

Persons 65 or older: 45

Housing Units: 132

Dortches

Population: 809

Persons 65 or older: 107

Housing Units: 329

Momeyer

Population: 291

Persons 65 or older: 47

Housing Units: 118

Middlesex

Population: 838

Persons 65 or older: 153

Housing Units: 381

Nashville

Population: 4,309

Persons 65 or older: 702

Housing Units: 1,629

Red Oak

Population: 2,723

Persons 65 or older: 278

Housing Units: 984

Rocky Mount

Population: 55,984

Persons 65 or older: 7,278

Persons speaking language other than English: 3,264

Housing Units: 24,167

Sharpsburg

Population: 2,421

Persons 65 or older: 135

Housing Units: 884

Spring Hope

Population: 1,261

Persons 65 or older: 252

Housing Units: 544

Whitakers

Population: 799

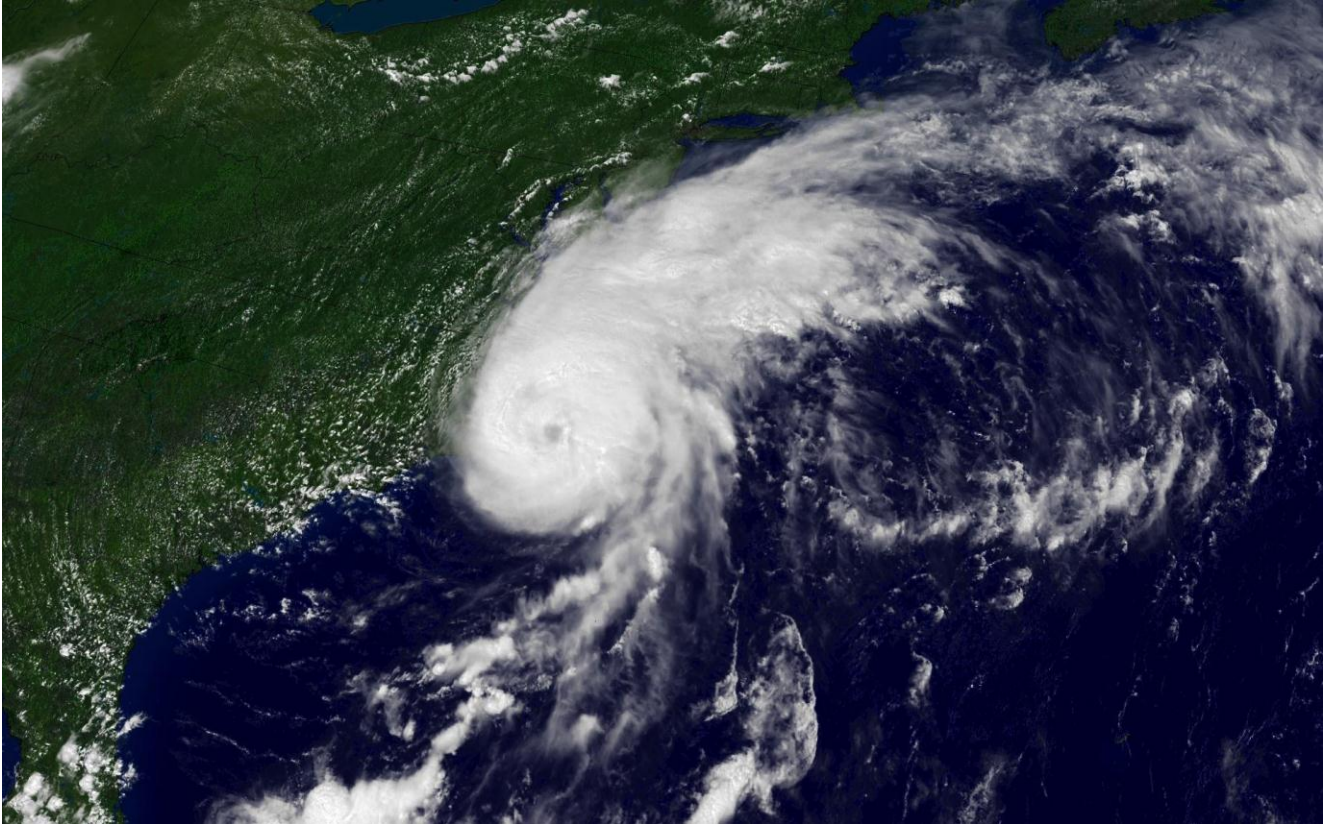
Persons 65 or older: 139

Housing Units: 331

Sample Public School List

School	Address	Municipality	Zip Code
Bailey Elementary	6288 Pine Street	Bailey	27807
Baskerville Elementary	1100 Stokes Avenue	Rocky Mount	27801
Benvenue Elementary	2700 Nicodemus Mile Road	Rocky Mount	27804
Braswell Elementary	224 South Pearl Street	Rocky Mount	27801
Cedar Grove Elementary	8967 Cedar Grove School Loop Road	Nashville	27856
Coopers Elementary	6833 NC Highway 58	Elm City	27822
Englewood Elementary	101 South Englewood Drive	Rocky Mount	27804
Hubbard Elementary	7921 Red Oak-Battleboro Road	Battleboro	27809
Johnson Elementary	600 North Fairview Road	Rocky Mount	27801
Middlesex Elementary	13081 West Haynes Avenue	Middlesex	27557
Nashville Elementary	208 East Virginia Avenue	Nashville	27856
Pope Elementary	226 Coleman Avenue	Rocky Mount	27801
Red Oak Elementary	5603 Red Oak Road - P.O. Box 70	Red Oak	27868
Spring Hope Elementary	401 McLean Street - P.O. Box 10	Spring Hope	27882
Swift Creek Elementary	2420 Swift Creek School Road	Whitakers	27891
Williford Elementary	801 Williford Street	Rocky Mount	27803
Winstead Avenue Elem.	991 South Winstead Avenue	Rocky Mount	27804
Edwards Middle	720 Edwards Street	Rocky Mount	27803
Nash Central Middle	1638 South First Street	Nashville	27856
Parker Middle	1500 East Virginia Street	Rocky Mount	27801
Red Oak Middle	3170 Red Oak-Battleboro Road	Battleboro	27809
Southern Nash Middle	5301 South NC Highway 581	Spring Hope	27882
Nash Central High	4279 Nash Central High Road	Rocky Mount	27804
Northern Nash High	4230 Green Hills Road	Rocky Mount	27804
Rocky Mount High	308 South Tillery Street	Rocky Mount	27804
Southern Nash High	6446 Southern Nash High Road	Bailey	27807
NRMS Early College	530 North Old Carriage Road	Rocky Mount	27804

Sample Hurricane Images
(Project throughout the activity when giving tasks.)



(Courtesy WSOC)



