

# **Community Response to Hurricane Isabel: An Examination of Community Emergency Response Team (CERT) Organizations in Virginia**

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## **Executive Summary**

The primary research question we examined was to what degree community emergency response teams (CERT) played a role in the experience of Hurricane Isabel in Virginia. We were seeking examples of how these organizations might affect community level preparedness and response or even affect behavior at the individual and household level.

To explore this question, we identified 11 active CERT programs in Virginia and arranged on-site interviews with the program managers and coordinators. Of the 11 programs, 5 were city-based and 6 were county-based. The programs were all located in counties that received federal disaster declarations as a result of the hurricane.

The overall conclusion of this study is that the programs were still in the early stages of development and had yet to create a clear role for themselves in relation to the established emergency management functions. It was clear, however, that the programs were well regarded by those working with them and that there is tremendous potential for these organizations to have a greater impact on individual and household preparedness and to assist first responders when needed. The experience of the hurricane in several cases “sold” the emergency management administrators on the value that these organizations can provide in assisting with response tasks. Because this research only included program managers, it was not possible to determine the effect of the training on individual participants. Follow-up research, through survey or sampled interviews, would help identify the effects of the training on participants.

## **Introduction**

On September 18, 2003, Hurricane Isabel entered Virginia after making landfall along the Outer Banks of North Carolina. Virginia sustained winds near 100 miles per hour and tropical storm winds for 29 hours. Isabel produced a storm surge of five to eight feet along the coast and in the Chesapeake Bay with rainfall totals between 2 and 11 inches along its track. The resulting damage included flooding, electrical outages, debris, transportation interruption, and damaged homes and businesses. During the height of the storm, approximately 6,000 residents were housed in 134 shelters, sewage and water pump stations failed due to power outages, there were problems with a lack of drinking water, over 80,000 residents were without power for longer than a week, and curfews were imposed. Further damage occurred when a series of thunderstorms and tornados came through southeast Virginia on September 23, compounding the problems in the already damaged areas. As a result, a federal disaster declaration was issued for 69 counties and 30 independent cities.

## **What Are CERTs?**

Community emergency response team (CERT) training is designed to give citizens a set of rudimentary emergency response skills in addition to general education regarding disaster preparedness and recovery. The CERT model is premised on the observation that people in disaster situations will take action irrespective of their knowledge base or skill level. The idea is to provide a framework in which they can assist themselves and others. The other driving consideration is that local needs will overtake local capabilities in the short term.

The Federal Emergency Management Agency (FEMA) model made available for free public distribution identifies seven class modules, each designed to be taught in approximately two and one-half hours:

1. Disaster Preparedness
2. Disaster Fire suppression
3. Disaster Medical Operations, Part I
4. Disaster Medical Operations, Part II
5. Light Search and Rescue Operations
6. Disaster Psychology and Team Operations
7. Disaster Simulation

The overall purpose of the CERT organization is to provide private citizens with the basic skills needed to respond to the immediate needs of their communities in the aftermath of a disaster when emergency services are not immediately available.

### **The Virginia CERTs**

The Virginia CERT program falls under the state's larger Virginia Corps movement. Virginia Corps was developed to capture the renewed spirit of volunteer service and community preparedness that has emerged since September 11, 2001. It serves as a central clearinghouse for volunteer opportunities across Virginia, linking citizens with a wide variety of volunteer efforts. Virginia Corps also localizes the national homeland security and preparedness initiative known as Citizen Corps. Virginia's Citizen Corps has a goal of helping residents make their communities safer from emergencies and disasters by getting them involved in preparedness efforts.

The state of Virginia has roughly 29 CERT programs according to the Virginia Corps Web site (<http://www.virginiacorps.org/>). We evaluated CERT programs in the independent cities of Charlottesville, Chesapeake, Colonial Heights, James City, Hampton Roads, and Virginia Beach and the counties of Albemarle, Arlington, Fairfax, Henrico, King William, and York. Only the Hampton Roads program was more than two-years old. The remaining programs were in various stages of development.

The CERT organizations that we interviewed varied in size and organization. The smallest organization had only 10 individuals participating in the program, and the largest organization had approximately 200 individuals. The Hampton Roads program, in existence since 1999, had been in place for the longest period of time.

The activation of CERT programs during Hurricane Isabel also provided insight into the relative stages of organization and development of the programs. The interviews indicated that some CERT volunteers, while they may not have been activated as a team, took the initiative to talk with neighbors and perform immediate tasks in their neighborhoods. Some programs used their volunteers to assist with phone hotlines, releasing other first responder personnel for more pressing jobs. The organized programs interacted with fire departments and were focused as much on preparation as they were on postdisaster cleanup.

### **Methodology**

The methodology employed here utilized Web and document searches, case study development, and key informant interviews as the main sources of data. The research team

completed a comprehensive Web-based search, including the FEMA Web site, the Virginia Emergency Management Web site, and CERT organizations' Web sites, looking specifically for information about activities related to Isabel's response and recovery phases.

Twenty-nine CERT organizations were identified through this process. We contacted all 29 organizations and informed them of our study. Eleven programs were selected based on their activities during the hurricane and interest in the study. Many of the remaining 18 programs had not actually formed CERT groups. They had either just received funding to do so or were in the earliest stages of formation and had not graduated any trainees.

Key informant interviews, in this case with the program director or coordinator, were conducted on-site for each of the eleven programs over a three-day period. The interviews were conducted about six weeks after the hurricane. The base interview questions were developed to help gain a sense of the programs' foundations and help develop profiles of the programs' interactions with volunteers. Beyond a standard set of base questions, we used a very open-ended and exploratory interview technique, allowing for flexibility and examination of the varying response activities performed by the individual programs.

## **Findings**

Based on our digitally recorded interviews and Web-based searches about the programs, case study profiles were developed that examined four areas of interest: program history, unique features and Isabel actions, lessons learned from Isabel, and future goals.

### **Who Were the Program Directors?**

Of the 11 program directors interviewed, none were full-time CERT coordinators. The majority of the CERT directors were associated with their local fire departments emergency management programs. One director served as the emergency services coordinator for three regions in his area. Only one program director interviewed was a volunteer and did not have a connection to the local fire department.

### **Program History**

The Hampton Roads CERT program, which started in 1999, was the oldest. With the exception of the Arlington County program (started after September 11, 2001), the other programs had been around for a year or less. Most of the programs used funding from grants distributed through the Virginia Department of Emergency Management (VaDEM). James City's program was funded through the local fire department's education fund, but the director was in the process of applying for a VaDEM grant. All of the programs utilized local fire departments for training sites and for the trainers themselves, which was typically done on a volunteer basis. Table 1 indicates the age of the program, the number of classes held, and the number of volunteers trained.

### **Unique Features and Isabel Activity**

The programs generally followed the FEMA CERT program modules and established classes to train their local citizens. The local coordinators adjusted the training material to fit

their community's needs. Some programs looked outside the local first responder community to find expertise, such as local meteorologists and intelligence experts. At the time of the interviews, all of the programs were working to evaluate their experiences during the hurricane.

Kaye Harden was the CERT program director for three separate areas located 175 miles inland: the city of Charlottesville, Albemarle County, and the University of Virginia. The combined efforts allowed the CERT program access to more resources, though effective communication was identified as a challenge. Harden's jurisdictions were not directly affected by Isabel. They were more affected by the severe storm spin-offs from Isabel and loss of power. Harden's county served as an evacuation location for coastal evacuees. The CERT volunteers in Harden's area were used to answer the phones of a neighborhood information line. Thus, first responders were able to divert nonemergency calls and still provide the local community with the information services that were needed.

The city of Hampton Roads is 30 miles inland from the coast and is located at the mouth of the Chesapeake Bay. In this program, CERT teams were used to conduct initial damage assessments and to report to the city's emergency operations center any observed instances of downed power lines, flooding, or blocked roadways within their neighborhoods. After the power had been out for over a week, CERT members delivered informational fact sheets and updates to the affected communities.

In the city of Colonial Heights, 82 miles inland, CERT members monitored rising water levels. During the evacuation, CERT members were paired with local firefighters to allow for a wider dissemination of information. CERT members performed utility shut-offs in evacuated residences and completed damage assessments for 6,000 households.

In Arlington, CERT teams conducted damage assessments, distributed ice, and assisted with traffic control during the recovery phase. CERT members were assigned to report to a local fire station and provide assistance.

On the coast in Virginia Beach, CERT teams were used to educate residents about what to expect, including the fact that emergency medical service and fire personnel would not respond if winds exceeded 50 miles per hour. CERT teams had invested in two-way radios and found them to be very beneficial when the power went out. Organized by neighborhood, CERT teams were able to help residents shift resources where needed. For example, an elderly couple needed a generator; a younger couple was asked to give their generator to their neighbor. During the mandatory evacuation, CERT members went up and down the streets and collected the names of those people who were not evacuating. The day after the storm, CERT members conducted damage assessments.

In Chesapeake, CERT members assisted with tree removal and food distribution. The volunteers did not assist with the damage assessment process.

Henrico County is located 89 miles inland. Here, CERT teams were used in the damage assessment process and also for food and water distribution. Henrico had trained its volunteers in the use of the Incident Command System (ICS), which can work well during a disaster, but sometimes not as well when untrained volunteers are working at distribution sites.

The other programs we interviewed did not activate their CERT teams during the hurricane. Some reasons given were that the programs were too new or small or, with the power out, people were not able to contact other members. Each director identified points in the response efforts where they thought CERT members could have been used to greater effect. The directors also identified individuals who had been through the training and, although not officially activated, used their CERT training to help out in their neighborhoods.

## **Lessons Learned from Isabel**

The need for better communication was a recurring theme. Most organizations had originally set up and utilized an e-mail or phone tree, but once the power went out they were unable to use these channels. Virginia Beach decided to order more two-way radios, and other programs sought to either provide hand-held devices or set up signs for teams to self-activate. The coordination of the CERT teams with the firefighters in Colonial Heights enabled a faster turnaround on paperwork and, in turn, FEMA funding. The program directors, overall, were impressed with their CERT volunteers and amazed at the assistance they were willing to provide. The experience gave the programs more legitimacy and helped “sell” their potential to the administrations in these communities.

## **Recruiting**

The programs have taken some very different approaches to recruit members. Arlington built its program from volunteers who assisted during the events of 9/11. The James City director developed a local recruiting video for broadcast on the local city channel. The two tools for program recruitment that were identified by the directors as having the most effect were increased media exposure and simple word of mouth. The programs with less than six months experience had not yet developed neighborhood-based teams. These programs were trying to get enough people trained to build foundations upon which they could build neighborhood networks.

## **Future Goals**

Future goals identified by the program managers focused on funding, shaping the programs based on their lessons learned, and refining team development. The managers had all worked with VaDEM to receive initial funding but were not sure how long VaDEM funds would be available. Because of program growth and expansion, the city of Chesapeake was looking for ways to fund a full-time CERT coordinator.

Each of the programs was looking for ways to develop or improve back-up communication systems, ranging from basic reporting procedures for volunteers to two-way radios. Communication with volunteers was a big concern of all of the program directors.

Refining team development refers to such efforts as establishing train-the-trainer programs and creating a recertification process. Many programs wanted to add a module on tree removal and chain-saw safety. The Arlington program was also looking at establishing a module on the ICS and traffic control.

The programs were evaluating ways to recruit and continue to build their organizations. Some programs were beginning to target other neighborhood-based organizations, such as the neighborhood watch organizations, Boy Scout troops, universities, and gated subdivisions.

## **Conclusions**

By examining the response of CERT organizations to Hurricane Isabel, the case studies indicate the organizations have a great deal of potential for assisting community response efforts. The program responses varied greatly, but the organizations proved to be an effective resource for the local emergency management functions. The CERT program training provided a basic

outline and motivation to improve civilian preparedness and a willingness of the CERT members to look beyond their own needs to those of their neighbors. Examples such as the city of Colonial Heights, where the emergency manager stated that the use of CERT teams as damage assessors allowed him to turn in his paperwork faster and bring funding into the community, indicate that the benefit that CERT provides is well worth the relative low cost of these programs. Similarly, the Virginia Beach CERT coordinator is convinced that the efforts taken three days ahead of the storm by CERT team members to educate their neighbors on preparedness measures were critical.

What is less clear is the effect these programs have on individual and household behavior and how these activities may assist with community preparedness collectively. More research is needed that more rigorously examines the individual participants and whether the training has any lasting effects.

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Table 1. CERT Program Characteristics

Program	Date Started	# of Classes	Citizens Trained
City of Charlottesville/Albemarle County/University of Virginia	3/2003	4	81
City of Chesapeake	11/2002	9	136
City of Hampton Roads	1999	10	200
City of Colonial Heights	7/2003	1	16
City of Virginia Beach	6/2003	5	110
Arlington County	9/2002	7	150
Fairfax County	4/2003	1	16
Henrico County	1/2003	2	40
James City County	4/2003	1	8
King William County	7/2003	1	20
York County	5/2003	2	22

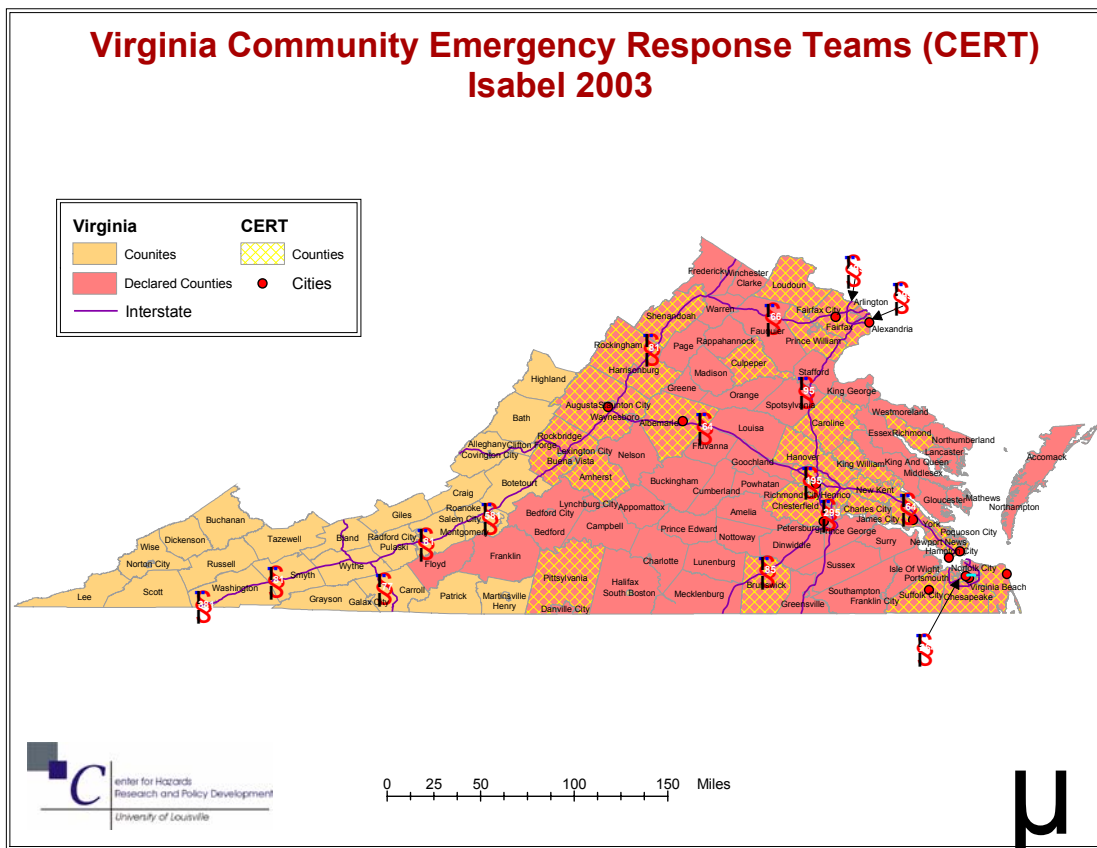


Figure 1: Location of CERT organizations and disaster declarations in Virginia.