

SEMINOLE COUNTY GOVERNMENT
AGENDA MEMORANDUM

SUBJECT: Hurricanes 2004 - After-Action Report

DEPARTMENT: Public Safety **DIVISION:** Emergency Management

AUTHORIZED BY: Kenneth M. Roberts *[Signature]* **CONTACT:** Alan Harris **EXT.** 5017

Agenda Date <u>3/8/05</u>	Regular <input type="checkbox"/>	Consent <input type="checkbox"/>	Work Session <input type="checkbox"/>	Briefing <input checked="" type="checkbox"/>
	Public Hearing – 1:30 <input type="checkbox"/>		Public Hearing – 7:00 <input type="checkbox"/>	

MOTION/RECOMMENDATION:

Briefing – Hurricanes 2004 After-Action Report

BACKGROUND:

Seminole County experienced three hurricane situations in 2004 which took place between the period of August 13th and September 28th – Hurricanes Charley, Frances, and Jeanne. The attached After-Action report provides an overview of Seminole County's preparedness, response, and recovery efforts. Also identified in the report are strategic action items that will enhance our ability to respond during a disaster.

Reviewed by:
Co Atty: _____
DFS: _____
Other: _____
DCM: <i>[Signature]</i> _____
CM: <i>[Signature]</i> _____
File No. – BPS01

EXECUTIVE SUMMARY

The Seminole County Division of Emergency Management has conducted a performance audit and review to discuss the preparedness, response, and recovery efforts for the hurricanes of 2004.

The purpose of this document is to explain the processes used to prepare and respond to Hurricanes Charley, Frances, Jeanne and Ivan. Information discussed in this report will include a historical perspective of the events; the weather model forecast used for 2004 and how it relates to the next storm season forecast; major issues that occurred during the storms; and a strategic plan of action for improvements to response and recovery.

The goals of the after action report are to understand and explore the operational-level issues associated with disaster preparedness, response, and recovery including public education and awareness, weather forecasting, and comprehensive emergency management planning. In addition, Seminole County Emergency Management examined major issues of the events, the training conducted in preparation of the 2004 Hurricane Season, and resources used in disaster operations.

The elements identified throughout this report address major issues associated with response and recovery. The report will provide suggested steps to enhance county and regional interagency coordination and cooperation, through continued disaster planning and an all-hazards approach to mitigation.

FLORIDA HURRICANE TRACKS

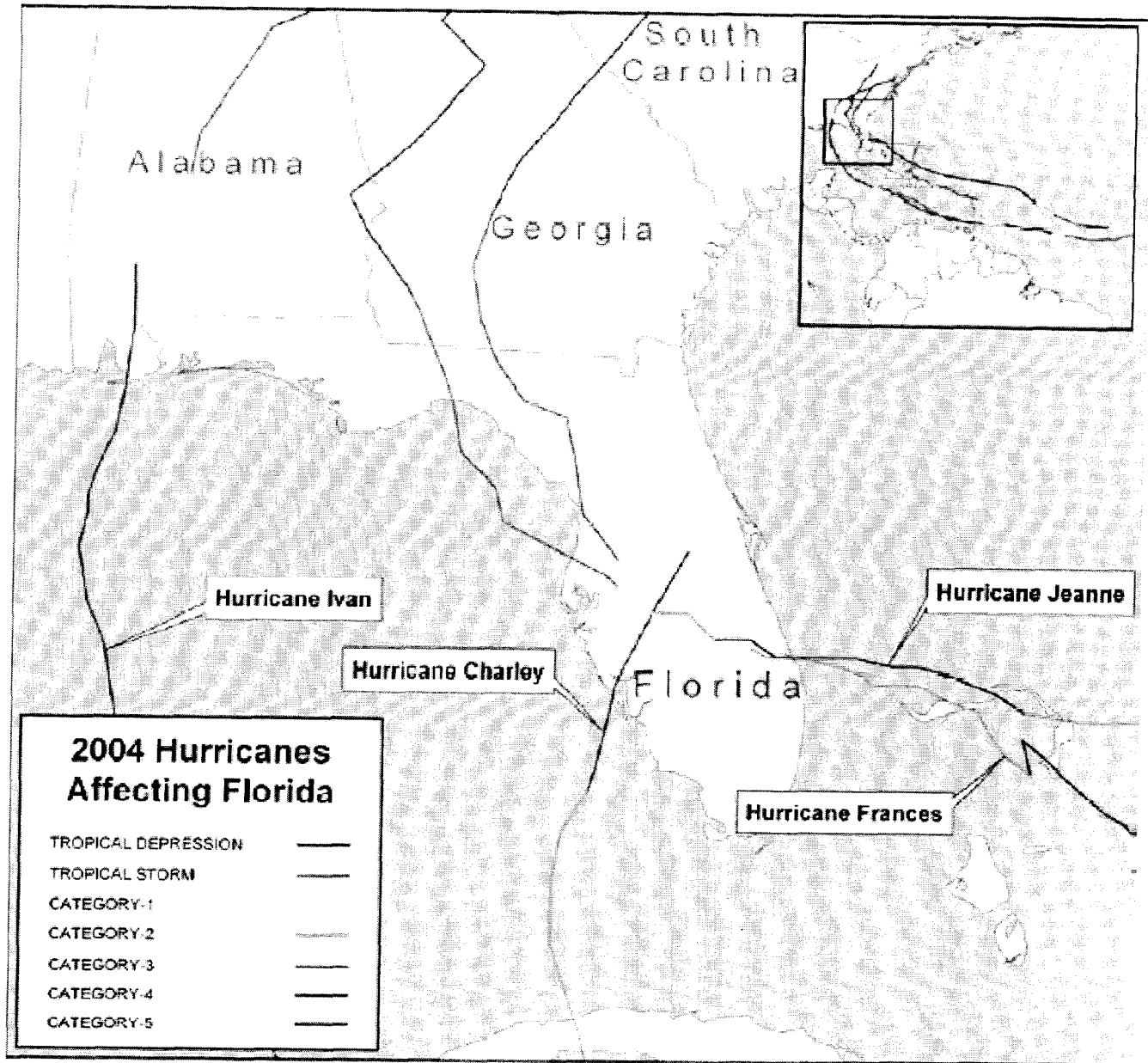


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PREFACE/INTRODUCTION

The year 2004 was the busiest hurricane season in Seminole County's recorded history. Three hurricanes caused extensive damage and flooding over most of the County. When it became apparent that there was a strong possibility that three of the four hurricanes would strike Seminole County, the Emergency Operations Center (EOC) was activated to "Level 1", 24 hour-a-day coverage of all Emergency Support Functions, Local Government Agencies, and Support Organizations. All three activations took place between August 13th and September 28th. The events described herein correspond chronologically with the sequence of events (daily activities).



The Seminole County Comprehensive Emergency Management Plan (CEMP) was put into effect during each of the storms. Because of the widespread area affected and the magnitude of the wind and flood damage experienced in Seminole County, the preparation of an After Action Report was determined to be warranted.

The scope of this report focuses on actions taken and recommended changes to the Seminole County emergency response procedures. Although Seminole County's response to the storms improved with each event, there are additional opportunities for improvement. An after-action meeting was held to discuss recommendations for improvement at the Emergency Operations Center. Meetings were also held with the State of Florida, Division of Emergency Management and the Federal Emergency Management Agency (FEMA).

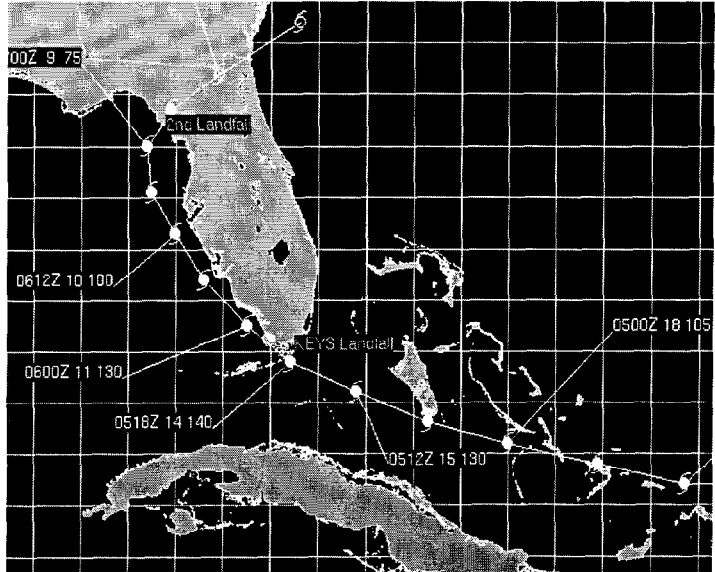
The Seminole County Division of Emergency Management places high emphasis on meeting the needs of disaster victims and taking care of responders. In 2004, Emergency Management officials were tasked like never before. Property loss, injuries, and possible loss of life was minimized due to increased public awareness, mitigation initiatives prior to the storms and quick emergency response.



DISASTER PREPAREDNESS

Statewide Hurricane Exercise

In an effort to better plan response to a major hurricane in Seminole County, Seminole County Emergency Management conducted an exercise named “Hurricane Zane” on May 6, 2004. This exercise gave participants an opportunity to evaluate their current response concepts, plans, communication, and capabilities for response to a natural disaster event in Seminole County. The exercise focused on key local and private emergency responder coordination, critical decisions, and the integration of local, State and Federal assets necessary to save lives and protect property and public health following a natural disaster.

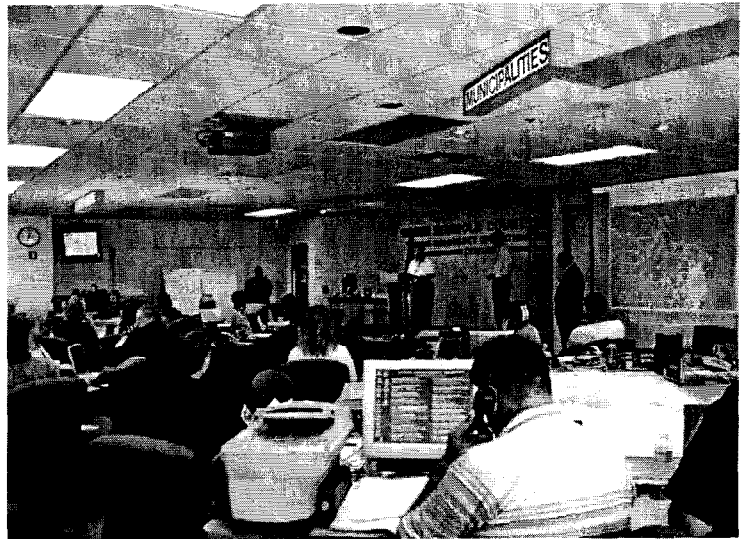


“Hurricane Zane” focused on Seminole County’s and local municipalities’ roles in response to the potential consequences of a natural disaster. Emphasis was on coordination, integration of capabilities, communication, problem identification, and resolution. This provided Seminole County Division of Emergency Management with suggestions for improvements to the Emergency Operations Center, thus enhancing our response capabilities for future events.

EOC Improvements

The following process modifications were implemented as Hurricane Charley threatened Seminole County:

- To facilitate better communication inside the Emergency Operations Center, pertinent information on current events was placed on projection screens. This information included shelter openings, road closures, evacuation zones, utility outages, etc.
- An easy to read description of each Emergency Support Function’s role was placed on each EOC computer screen. The change to the screen improved information sharing and resource management during the actual event.



- Public Information Officers found difficulty in relaying information to all members of the public. Media releases were made available on the internet to help improve communication with the media and the general public.
- Regular weather updates were provided at each briefing and were also displayed on video screens and televisions. Emergency Support Function and municipal team members were able to make better informed strategic decisions due to these reports.
- After the hurricane exercise, a standardized situation report (SITREP) was developed to improve communication between the State of Florida and EOC team members. Additional training will be offered to staff on SITREP reporting.

The modifications identified helped to improve communication and coordination in response and recovery efforts during the hurricanes of 2004.

FORECASTS

Weather Forecasts for 2004

Although meteorologists did forecast an above-average 2004 season (14 Named Storms, 8 Hurricanes, 3 Intense Hurricanes), they lowered the forecast slightly (13 Named Storms, 7 Hurricanes, 3 Intense Hurricanes) in early August. There is no way meteorologists could have foreseen the number of Atlantic basin major hurricanes (6) that occurred during August-September, or the large impact this activity would have on southeastern U.S. residents. This year was unlike any other year studied.

Special conditions which occurred in the low latitude central and eastern Atlantic which caused so many storms to form was:

1. very warm sea surface temperatures
2. high low-level horizontal wind shear
3. strong low-level convergence as illustrated by positive rainfall anomalies
4. low values of tropospheric vertical wind shear

The five named storms (4 hurricanes, 3 major hurricanes and 1 tropical storm) that affected Florida over a 48 day period are unprecedented in terms of records dating back 130 years, although they are well within the range of natural climate fluctuations. What makes August-September 2004 so special in regards to land-falling hurricanes in Florida is the unusual combination of high hurricane activity and very favorable surrounding hurricane steering currents that moved the hurricanes from the deep tropics across Florida. (Forecast Report: Colorado State University: October 1, 2004)

Future Forecasts

It is important that citizens of Seminole County and all Floridians view this unusually active hurricane season from a longer period perspective. Overall, Florida has been extremely fortunate in recent years. Between 1966-2003 (37 years) the Florida Peninsula has experienced the landfall of only one major hurricane (Andrew, 1992). But, in this long major hurricane lull period since the mid-1960s, Florida's population and coastal development has exploded.

Few of the new residents in Florida have experienced a major hurricane hit. Most Floridians were not prepared for this unusual onslaught of four devastating storms in such a short period of time.

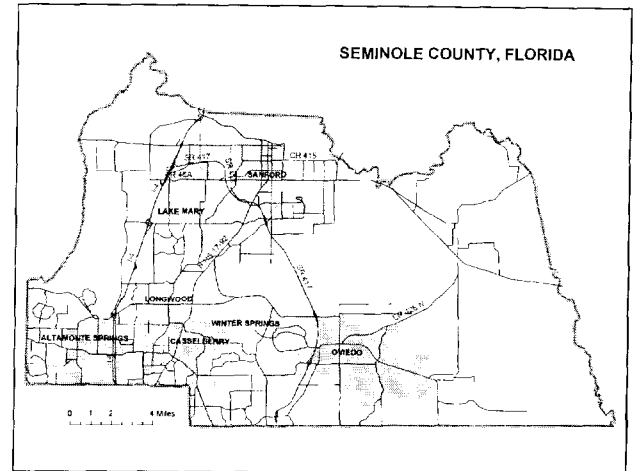
Older residents of Florida who lived in the area in the 1930s through the 1950s well remember that Florida used to be hit by many intense storms. Between 1928-1965 (37 years), the Florida Peninsula experienced 14 major hurricane landfalls (1 per 3 years).

For many years, meteorologists have been discussing how lucky Florida has been with regards to its few land-falling major hurricanes. They reported it was inevitable that this period of few major hurricane strikes would end and that the long period climatology would eventually reassert itself. There was no way, however, of knowing that the law of averages would try to catch up to its deficit so rapidly in one year.

Floridians should view 2004's hurricane activity as a rare anomaly. This year's land-falling hurricane activity did not, by itself, represent the beginning or the end of any cycle or trend for land-falling hurricanes and will have no bearing on what will occur in future years.

OVERVIEW

Seminole County is located in Central Florida just north of Orange County. The County is bordered by the St. John's River to the north, Big Econlockhatchee River to the east, and the Wekiva River to the western boundary. Seminole County is comprised of 344 square miles, including lakes and waterways. The April 2004 population figures indicate there are in excess of 400,000 citizens in the County. There are seven municipalities within the County. The County Seat is Sanford, located in the northern part of the County. Altamonte Springs is located in the southwest part of the County, with Casselberry situated in the south central part of the County. Winter Springs is located to the east of I-4 near the central part of the County, with Oviedo situated in the southeastern area. Longwood is near the center of the County and Lake Mary is located in the northern portion of the County east of I-4. Based on the Florida Statistical Abstract for 2003, the citizenry is representative of 49% living in unincorporated Seminole County, with 51% residing in Seminole County's seven cities. The median average income per household for Seminole County is \$52,991. (US Census Bureau 2003 data).



The response and recovery to the hurricanes was a collaborated effort of both municipal and County governments that represented a truly unified response to the community.

Hurricane Charley made initial United States landfall on August 13, 2004 near Punta Gorda, Florida as a Category 4 hurricane with estimated winds of 145 miles per hour. Charley then moved northeast through the center of the State, severely affecting Central Florida, including: Seminole County, Orange County, and Volusia County before reaching the Atlantic Ocean. Charley made three additional landfalls: first at Cape Romain, SC with estimated winds of 80 miles per hour, a second landfall near Myrtle Beach with estimated winds of 75 miles per hour, and a final landfall on Long Island, NY as a minimal tropical storm with estimated winds of 40 miles per hour. Preliminary damage estimates for this system are between 13-15 billion dollars. Charley is the second most expensive hurricane to hit the United States, behind only Hurricane Andrew of 1992.

On August 11, 2004, the Seminole County Emergency Management team held its first briefing to discuss protective measures. Representatives from each emergency support function and municipality were present to provide information on protective measures being implemented.

The Seminole County Emergency Operations Center operates on various levels of readiness with three (3) being normal operations and one (1) being the highest level of readiness. On August 12, 2004, the EOC went to a Level-1 activation (24 hour-a-day coverage). During the course of the hurricanes, regularly scheduled Executive Group meetings and Emergency Operations Center briefings were held to coordinate response.

The Citizen's Information Line was established to assist citizens in the community with questions about the hurricanes and relief assistance awareness. A local State of Emergency was declared which allowed Seminole County the ability to set curfews, control price gouging, and commandeer resources for public safety procedures. Other efforts included the opening of shelters to provide protection for citizens and

evacuees. Four general population, two special needs and one pet-friendly shelter was established. These shelters housed a total of 1,947 people. One shelter was opened for the families of emergency workers.

A Dialogic telephone communication message was sent to more than 120,000 households explaining the need to take preventative measures or seek shelter immediately. Law enforcement and fire crews were sent to mobile and manufactured home communities to enforce mandatory evacuations.

On August 13, 2004, Hurricane Charley hit Seminole County. More than 128,000 customers lost power during the storm and over 33.25 million dollars in damage was reported throughout Seminole County. The Orlando Sanford International Airport reported over 4 million dollars in damage to its facilities.

This hurricane generated large quantities of debris consisting of downed trees and construction materials. Massive efforts were immediately initiated to open roads, provide medical care, re-establish power and utilities, provide shelter, and disseminate information to the public.

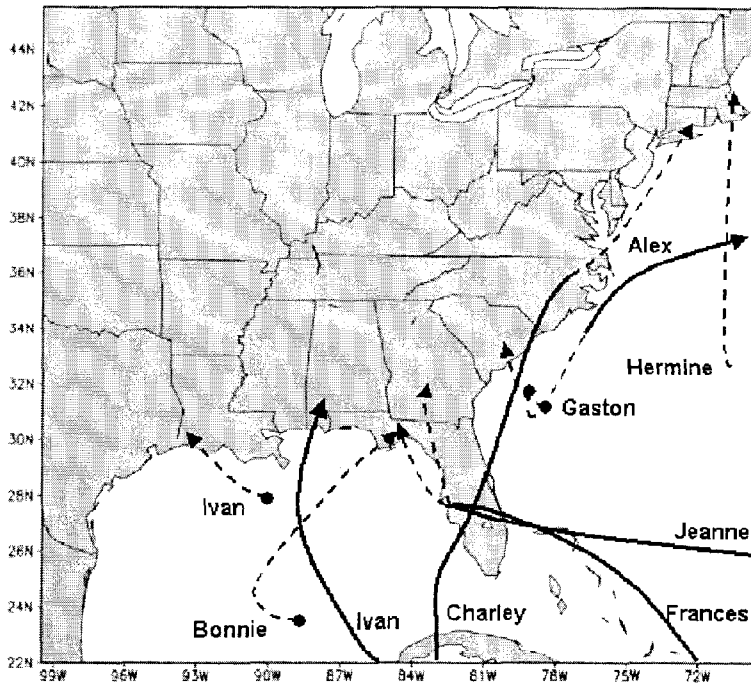
A Logistical Staging Area (LSA) was established at the Seminole Community College. The LSA provided an area for FEMA to deliver products to our community and served as a distribution location for Disaster Relief Centers (DRCs). Disaster Relief Centers were established at various locations throughout Seminole County. More than 1,500 tarps, 13 tractor trailer loads of water, and 7 tractor trailer loads of ice were distributed to the public at these centers. Many areas of Seminole County were without phone service, therefore telecommunication lines were set up at each site allowing citizens the ability to contact family members. As the need for assistance decreased, the Disaster Relief Centers closed and the fire stations continued water distribution.

On August 22, a FEMA Disaster Recovery Center (DRC) opened to provide Family Grants, Tax Relief, Crisis Counseling, and Small Business Loan Programs. The center was located at the old Kash-N-Karry Plaza, 1491 E. State Road 434, Suites 103 & 104, Winter Springs.

The Seminole County Emergency Operations Center resumed normal operation on August 23, 2004. Recovery programs continued under normal activation levels.

Hurricane Frances made landfall as a Category 2 hurricane near Sewall's Point, Florida on September 5, 2004 with maximum winds estimated at 105 miles per hour. Frances slowly tracked west-northwest across the State before emerging into the Gulf of Mexico. Frances made a second landfall as a 65 mph tropical storm near St. Marks, Florida on September 6th. Damage from Frances was estimated at 4 billion dollars, bringing the total damage estimate to 8 billion dollars for the State. Frances was responsible for at least 24 deaths across the state.

On August 31, 2004, Seminole County Emergency Management held the first Emergency Operations Center (EOC) briefing for Hurricane Frances. This hurricane posed a greater threat to citizens in



Seminole County due to the damage already caused by Hurricane Charley. Information on preparedness was paramount for this storm. Additional shelters were placed on stand-by due to the projected increase in numbers of evacuees. The EOC remained at a “Level-3” operational level with anticipation to increase to “Level-1” activation within two days.

The Seminole County EOC was placed on a “Level-2” activation on September 1, 2004 (partial coverage). As a preemptive measure, a local State of Emergency was declared for Seminole County. The FEMA DRC was closed. Debris removal efforts were temporarily suspended and debris sites secured. In an effort to minimize property loss, injuries, and possible loss of life, the Citizens Information Line was activated for citizens with questions about hurricane preparedness and sandbags were made available to citizens at the Seminole County Five Points complex.

On September 2, 2004, a mandatory evacuation was enforced for all manufactured homes and low lying areas. Also, a dusk-to-dawn curfew was established. In support of the mandatory evacuations and the anticipation of an increase in the number of evacuees, the Seminole County EOC activated to a “Level-1” on September 3rd. Shelters were opened to provide a safe haven to evacuees. This included nine general population, two special needs, one pet-friendly and two dependent shelters. By September 5th, over 3,379 people had evacuated to shelters, doubling the number from Hurricane Charley. Hurricane Frances was an extremely slow moving storm. This meant citizens had to stay in their homes and shelters much longer than the previous storm.

Continuous press briefings were held on a regular basis to help disseminate information to citizens. Representatives from municipalities and responding private organizations participated in these media conferences.

Immediately following the storm, the Seminole County Logistical Staging Area (LSA) was re-established at the Seminole Community College. Disaster Relief Centers were established at various locations throughout Seminole County. Food, water and ice were distributed at each of the centers. All supplies were also available at the FEMA DRC.

On September 6, 2004, the curfew for Seminole County was lifted. Unlike Hurricane Charley, a tremendous amount of rain accompanied this storm causing the St. Johns River to reach flood levels. This prompted the opening of a shelter for citizens living along the banks of the river. It was forecasted that the St. Johns River would crest over the next few weeks causing additional flooding. Efforts were underway to distribute additional sandbags for residents living along the river. In addition, the Central Florida Regional Hospital was in eminent danger of flooding and possible evacuation. Seminole County and other supporting agencies provided assistance with sandbagging and other precautions. Due to these coordinated efforts and the river rise subsiding, some evacuations were found to be unnecessary.

This hurricane added to the quantities of debris consisting of downed trees and construction materials. Massive efforts were immediately initiated to reopen roads, provide medical care, re-establish power and utilities, provide shelter, and disseminate information to the public.

In order to monitor ongoing events and recovery efforts, the Seminole County EOC was placed at a “Level-2” activation on September 7th.

Hurricane Ivan made landfall on September 16, 2004 near Palm Shores, AL as a Category 3 hurricane with maximum winds at landfall estimated at 130 miles per hour. Extensive destruction occurred in Pensacola and its suburbs. Ivan was responsible for death and destruction along the entire East Coast of the United States with over 50 deaths attributed to the system in the United States. The remnants of Ivan later tracked southwestward over the Atlantic Ocean, across the State of Florida, and then back into the

Gulf of Mexico. Once in the Gulf, the system regenerated and made a second landfall in Cameron Parish, LA as a minimal tropical storm with maximum winds estimated at 40 miles per hour. Initial estimates of insured damage losses from Ivan range from 3-6 billion dollars, bringing the total damage estimate to between 6-12 billion dollars Statewide.

The Seminole County Emergency Management office held normal briefings to continue recovery efforts for both Hurricane Frances and Hurricane Charley. During those briefings, up-to-date weather information was provided on Hurricane Ivan. When it became apparent that Hurricane Ivan would not hit Central Florida, steps were taken to make sure all available personnel able to deploy to the panhandle were placed on stand-by. An analysis of essential personnel was conducted to ensure recovery efforts for Hurricanes Frances and Charley were continued.

Hurricane Jeanne made landfall late on September 25th on the southern part of Hutchinson Island, Florida, as a Category 3 hurricane with maximum sustained winds estimated at 120 miles per hour. Jeanne was the fourth hurricane to affect the State of Florida in a span of six weeks. Nine deaths were reported in the United States from this hurricane, and initial estimates of insured damage range from 4-8 billion dollars, according to Risk Management Solutions. This puts estimated total damage between 8-16 billion dollars. In addition, Jeanne was responsible for between 1,500 to 2,000 deaths along the northern coast of Haiti.

The first briefing for Hurricane Jeanne was held at 3:00 pm on September 23rd. It was projected that hurricane bands would reach Seminole County on the evening of September 25th. The Citizen's Information Line was activated. An Executive Order was issued for mandatory evacuations from manufactured homes and voluntary evacuations for low-lying and flood prone areas. Sandbags were made available at Soldier's Creek Park.



On September 25th, the Seminole County Emergency Operations Center, which was operating at a "Level-2" activation, was elevated to a "Level-1" in anticipation of Hurricane Jeanne. Six shelters opened, housing between 1400 to 1500 citizens. In the interest of public safety, a curfew was established for evacuated areas to protect personal property. A subsequent curfew was enacted county-wide to protect citizens later that evening.

This hurricane, again added to the quantities of debris consisting of downed trees and construction materials. Massive efforts were immediately initiated to reopen roads, provide medical care, re-establish power and utilities, provide shelter, and disseminate information to the public.

After the storm passed, all recovery efforts resumed for Hurricanes Charley, Frances, and now, Jeanne. The same Logistical Staging Area and Disaster Relief Centers were utilized to provide food, water, and ice to the public. Flooding along the St. Johns River was one of the most serious problems with this storm. River levels continued to rise over the next three weeks. The Seminole County EOC returned to a normal operational level on September 28, 2004.

MAJOR ISSUES

Debris:

Debris pickup activities began as soon as conditions permitted after Hurricane Charley. The County committed to remove all storm-generated debris placed along any roadway in Seminole County. To assure reimbursement from FEMA for the massive cost of debris pickup, the County worked to follow strict FEMA pickup guidelines. The County's Solid Waste Management Division supervised the debris cleanup effort. Every day after the storm, more contract pickup crews and more FEMA required contract monitors were added to the debris removal efforts. Within weeks after the storm more than 300 trucks, supervised by more than 100 monitors, were deployed in the cleanup effort. Crews worked 12 hours each day, 7 days a week to pickup debris. The debris effort ceased only when more hurricanes impacted Seminole County. The cleanup started again after the storms passed.

The County set up four temporary debris staging areas throughout the County to help assure that the pickup was conducted as quickly as possible. Vegetative debris delivered to the staging site at the landfill was burned in air-curtain incinerators. Vegetative debris was ground into mulch at the three remote sites, and the mulch hauled for final disposal. Any building debris was disposed of in the landfill.

Efforts were made to keep the public apprised of the progress of the debris pickup effort. A map of the progress of the pickup crews was posted daily to the County web site, and County staff answered telephone information lines seven days a week.

In an effort to protect neighborhoods and decrease the possibility of damage caused by flying debris, temporary citizen debris drop-off sites were created as additional hurricanes approached Seminole County. These sites, located at Jetta Point and, then at the Soldier's Creek Park logged deliveries from thousands of citizens. Fees were waived, allowing all citizens the option of disposing of debris at the sites.

The debris collection effort began in August 2004 and continued into January 2005. More than 1.3 million cubic yards of debris was collected and properly disposed. The estimated cost for the debris pickup effort is 33 million dollars. It is expected that the vast majority of debris collection costs will be reimbursed by FEMA because of the controls exercised over the pickup process.

Special Needs

Seminole County provides a special needs registration program throughout the year. As a result of this ongoing preparedness effort, Emergency Management tracks special needs persons to provide preparedness information, transportation assistance, and medical information before shelters open. During the course of these events, more than 200 individuals were housed at these facilities. These special needs shelters were strategically located in the center of the County at Layer and Bentley Elementary Schools.



Special Needs registration was a challenge for Seminole County Emergency Management (SCEM) and Seminole County Health Department (SCHD) officials. The influx of unregistered special needs persons attempting to phone in applications prior to each storm, made it difficult for Citizen Information Line operators to handle any other calls. In addition, due to the age of the database used for special needs registration, information sharing between the Emergency Management Office and the Health Department was difficult. Home health care providers that had not registered their special needs clients prior to hurricane operations, resulted in some special needs persons not being accounted for during the planning phase for shelter openings.

Shelter managers adapted to the challenge by screening victims at the special needs shelters. Although this method was time consuming at the specific locations, it decreased long delays on Citizen Information Lines.

Lack of public preparedness placed an additional strain on local government resources. An example of this was the failure of some home health care providers to have realistic plans to support their clients. This resulted in patients on home oxygen systems not being adequately prepared and the rapid exhaustion of available oxygen supplies. The Seminole County Health Department was forced to secure a supply of replacement oxygen tanks to assist residents until the home health care providers reopened for business.

During the recovery phase of each hurricane, Emergency Management was challenged in supporting Assisted Living Facilities (ALF) and Nursing Homes with temporary generators. In order to alleviate this problem, there has been discussion across the State to require emergency power generators at all Assisted Living Facilities and Nursing Homes. This issue is a state-wide issue and is being addressed at various levels.

A Special Needs working group has been established in Seminole County. In light of the recent events, it has been determined the existing database that houses information regarding special needs clients is no longer sufficient. Seminole County currently has in its possession the EM2000 computer software program. This program will be evaluated to determine its ability to improve the process of registering and tracking special needs citizens in Seminole County. All information should be moved to EM2000 before next Hurricane Season pending results of the analysis.

Shelter Management/Operations

Shelters were provided in strategic locations throughout Seminole County to assist those families in need. During the course of the three storms, more than 5,000 people evacuated to shelters. Shelters were located at a total of 12 schools and 2 churches.

Seminole County Emergency Management has been working with the Seminole County School Board over the past 5 to 7 years to provide wind-resistant shelters. Grants from the State of Florida, Division of Emergency Management funded additional protection of windows and doors to those facilities.

Seminole County had not been hit by a major hurricane in a number of years. Hurricane Charley was considered to be a very dangerous hurricane. However, residents anticipated that the hurricane would weaken once it finally reached Seminole County. Most believed they could ride the storm out in their homes. Unfortunately, some found they could not reach shelters when they realized they needed them. This experience suggested the Seminole County shelters would face a large increase in population during the next event.

There was general agreement that public education messages needed to stress that Hurricane Charley was a very dangerous storm and that persons could shelter at home if they did not reside in a low-lying (flood-prone) area, and/or mobile/manufactured home. Experience gained in Charley also reinforced the need to stress that preparedness for survival for 72 hours remains an individual responsibility.

Shelter management was an especially challenging issue related to American Red Cross (ARC) staffing. Coordination and the availability of trained ARC shelter managers was a primary concern. Shelters were opened and operated by Seminole County School Board untrained personnel.

Shelter reporting flowed through multiple channels which caused significant confusion as to the number of shelters opened and the occupancy of each shelter. In order to correct the confusion, Radio Amateur Civil Emergency Services (RACES) volunteers were sent to all shelters to obtain information on population and needs.

There was a minimal amount of cots available for use in general population shelters. It is important to note, Seminole County Emergency Management does not currently provide bedding at general (non-special needs) shelters. Cots were distributed on a priority basis to shelter staff who were required to remain at the shelter for as long as it was open and to those who would experience difficulty getting up from the floor.

Schools designated as shelters experienced difficulty while on electrical power generators. Some shelters remained without power, while other areas of the schools were on generator power. Selected newer schools have plans for larger generators which should improve shelter operations related to power. Future planning for shelters should include the acquisition and testing of generators in advance. This effort will be coordinated with the Seminole County School Board.

Due to suspended air travel, the Orlando-Sanford International Airport became an impromptu shelter for passengers. As an unanticipated shelter issue, this facility presented challenges in food preparation, power, and housing. In order to provide assistance, staff from Seminole County Emergency Management queried multiple individuals from the Orlando-Sanford International Airport, American Red Cross, RACES, and Community Emergency Response Team to obtain a list of needs and provide support.



Seminole Community College provided a facility to house family members of emergency workers. It was by design that families at this shelter had to be self-sufficient. Concerns did arise relating to the emergency workers ability to communicate with those family members. Even though efficient in size, the facility lacked backup generator support.

An unanticipated occurrence happened when members of different protected groups were housed in the same facility (i.e., Boys Ranch, Safe House, Battered Women's Home, etc.). The conflicting requirements of privacy, documentation, and disaster inquiry remained an issue. The American Red Cross provides privacy protection of shelterees through restriction of data on where individuals are sheltered, or even if they are sheltered. The inclusion of waivers to allow release of the information may address some of the concerns, while protecting those who need protection. Persons with medical requirements also fall under the protection of the Health Insurance Portability and Accountability Act of 1996 (United States 1996).

There are specific and immediate needs for sheltering change. The mitigation phase of these storms should include a review of the sheltering policy. Initially, schools offer excellent shelter capacity for impact period sheltering. Thus, immediate shelter needs for large numbers of people are easy to fill on very short notice. However, school systems desire to reopen schools as rapidly as possible to help restore a sense of normalcy. The problem is the difficulty finding long term sheltering for small numbers of people. The critical issues appear to be adequate restrooms and shower facilities. Post-impact sheltering can be enhanced by the development of a list of potential post-impact shelters. Seminole County Emergency Management has been in contact with the American Red Cross chapter to determine requirements and negotiate appropriate agreements with churches and other organizations for future post-impact sheltering.

Water/Ice/Food

The Seminole County Fire Division directed logistics activities and was overall responsible for opening the Disaster Relief Sites. It was essential to have a dedicated staff around-the-clock to handle an operation of this complexity and magnitude. The logistics cell served as the single point of contact between the Local Staging Area (LSA) and the Distribution Sites. Major logistical requirements included food, water and ice distribution and public information. In addition, the staff was responsible for coordinating telecommunications, including telephones and lines needed to support communication between citizens and family members outside of the community.

Security for the distribution sites became a challenge for the logistics staff and required constant supervision. Having a security plan in place that outlines procedures and requirements during the early stages of the operation would have alleviated a number of these issues. The law enforcement community coordinated this effort. The Sheriff's Office, along with other law enforcement agencies, provided security for logistical staging areas and Distribution Sites. The Sheriff's Office also assisted with the direct issuance of water, ice, and other items available at the distribution sites throughout the County.



Along with security issues, the law enforcement community throughout the County maintained a strong presence during each event by patrolling the community supporting citizens' needs and concerns.

Communication between the LSA and the Seminole County Emergency Operations Center became an issue. Requests made by the EOC to the State of Florida were being filled, but the EOC was never notified the equipment and/or products had arrived. This created duplication of some orders for food, water, and ice. A direct communication link must be

established between the EOC and the LSA during future operations.

To enhance the distribution efforts, better coordination should occur between municipal and county operations centers. Improved communication will provide a means to disseminate supplies more effectively.

The State of Florida and the Seminole County Division of Emergency Management tracks all supplies requested, en-route, and arriving in the County using a system called "Tracker." Currently, Emergency Management officials are reviewing procedures and the effectiveness of this system.

Public Information

Providing public information is critical to the overall success of response and recovery efforts. The opportunity for public information coordination was made difficult due to the state-wide area of impact. On a local level, initially, media coverage was intense but highly focused on Orange County and the City of Orlando. Seminole County Community Information Department worked diligently with local media to enhance communication. After the first storm, media outlets went to the county-by-county structure for disseminating information, which greatly improved the situation. An after action meeting was held with the media to discuss overall communication efforts. The Seminole County Community Information Department was praised for being consistent with media briefing times.



Some media briefings were not placed on television due to shortages of manpower at the local television stations. Since most television media outlets are based in Orange County, video technicians from these television stations could pull media briefings directly from Orange TV. The Community Information Department will contact Brighthouse Communications to discuss the availability of connecting SGTV to television outlets in the Orange County market. Television media outlets reported they would use video feeds coming from SGTV and broadcast these briefings on local television stations (i.e. ABC Channel 9, NBC Channel 2, etc.).

The Seminole County Comprehensive Emergency Management Plan (CEMP) calls for establishment of an effective procedure for the continuous flow of emergency information from the EOC. Proposed revisions to the CEMP will call for the establishment of a Joint Information Center (JIC). Representatives from each political jurisdiction, municipality, organization, and agency involved with the disaster should be involved with the JIC.

During and after the hurricanes of 2004 Seminole County used SGTV, media briefings, news releases, the internet and secured a specific time each hour on a commercial radio station during the emergency to provide vital information to citizens. Radio proved to be the most effective and reliable form of emergency communication, due to the widespread use and affordability of battery-powered radios that residents could use in a county-wide emergency situation even when the power was out.

In an effort to provide more comprehensive emergency communications and information to Seminole County residents, staff researched the availability and costs associated with procurement of a radio station for the County to use in this capacity. Based on the research conducted, constructing or purchasing a full power AM or FM radio station does not appear to be a viable option at this time.

On February 8, 2005 the Board of County Commissioners approved staff exploring agreements with commercial and non-commercial AM and FM radio stations for emergency communications during disasters and disseminating vital information afterwards.

Staff has contacted two non-commercial stations, WUCF-FM (University of Central Florida) and WMFE-FM (Public Broadcasting). Both stations expressed an interest in community outreach partnerships and a willingness to work with Seminole County in this regard. These stations may offer the best opportunity to partner with the County for our enhanced emergency communications efforts due to their non-commercial status and stated commitment to community service.

Mitigation/Public Education

Seminole County is the third most densely populated County in the State of Florida. Losses due to natural and man-made disasters may continue to increase because of our continuing population growth and the increase in concentration of growth in vulnerable areas. The scope of disasters requires that Seminole County Emergency Management coordinate efforts for mitigation and education on a regular basis. Advances in the science and technology of hazard mitigation now provide the means to significantly reduce losses from natural and man-made hazards.

Seminole County Government is committed to understanding these hazards and applying techniques to reduce our vulnerability. Seminole County Emergency Management will be exploring the feasibility of a concerted prevention and mitigation effort to minimize the devastating effects of disasters through public education programs and effective early warning initiatives (i.e. weather analysis system).

Due to the length of Hurricanes Frances and Jeanne, it became apparent that Disaster Supply Kits should be designed for extended periods of time. Persons should prepare to be without water, food and power a minimum of 5 days. Discussions have taken place relative to the elimination of the "72 hour" designation when speaking about Disaster Supply Kits. Emphasis should be placed on disaster preparedness public education in the school system and for the general public. It is incumbent upon Emergency Management to explore challenges and opportunities to overcome this by providing local educational and training events throughout the year. Education of our citizens is the key to change.

Power Outages

Seminole County is serviced by two major power utility companies; Progress Energy and Florida Power and Light (FPL). Both companies played a key role inside the Seminole County Emergency Operations Center before, during and after the hurricane events. The partnerships developed with both organizations proved to be beneficial in coordinating power restoration to critical facilities and emergency response to hard hit areas of the County.



To improve communication between the power companies and Seminole County residents, both power companies were represented at the daily press conferences. During these media events, citizens would obtain information on expected power restoration times. Although the times were estimates, this eliminated many phone calls into the Citizens Information Hotline.

The power grid suffered severe damage, which included the destruction of nearly 60 percent of the transmission and distribution systems, prompting both companies to bring in restoration crews from as far away as California, Nevada and Canada to assist in the recovery. Some portions of Seminole County were without power for over 14 days while power crews rebuilt the grid.

After Hurricane Charlie, the local cable provider, Brighthouse Cable, began to work in concert with the power companies to ensure service was restored quickly. Because Seminole Government Television (SGTV) is accessed through Brighthouse, this effort also enabled viewers to gain access to SGTV.



Flooding

Rain from Hurricane Frances and Jeanne caused serious flooding of some streets, roadways and properties. These heavy rainfalls also caused a breach of Sanford's sea wall at Lake Monroe and flooding along the St. John's River on the east side of the County. Roadway damage was evident on U.S. Highway 17-92, where large pieces of asphalt tumbled into the lake.

The St. Johns River, which runs through Lakes Jessup, Harney, and Monroe, is a slow rising river in Seminole County. Some residents that lived along the river had to seek alternative shelter for weeks until the water subsided. Seminole County Emergency Management opened a shelter at the First Baptist Church in Geneva. Seminole County Emergency Management, the National Weather Service in Melbourne and the Southeast River Forecast Center had regularly scheduled daily teleconferences to obtain updates on the progress of the river.

Although the flood waters never reached either facility, Seminole County and City of Sanford workers protected the Central Florida Regional Hospital and Sanford Water Treatment Plant from the threatening rise of the St. John's River. Both facilities are critical to the infrastructure of north Seminole County. Meetings have been held with hospital administration and the water treatment facility to develop contingency plans.

Traffic Issues / Transportation

High winds from the hurricanes caused major damage to traffic systems throughout Seminole County. Intersections were without power and some signals were damaged and destroyed. In addition, citizens were unaware of laws pertaining to the need to make all intersections a "four way stop" if these services were unavailable. Traffic crashes dramatically increased directly following Hurricane Charley. This caused Seminole County Public Works to reorganize their response to disasters.



Plans prior to Hurricane Charley called for the deployment of stop signs on the side of the road at intersections without power or where traffic signals were damaged. Due to the limited visibility of these signs, drivers did not stop at these intersections. It was decided that deployable stop signs would be placed in the center of each intersection. Seminole County Public Works – Sign Shop quickly created the deployable signs. Traffic engineers placed the signs at all major intersections, dramatically decreasing the number of traffic collisions.

In addition, curfews were enacted to prevent driving when visibility was limited. Both of these efforts assisted in providing traffic safety to all drivers in Seminole County. The number of accidents following the last two storms decreased to normal levels due to the changes in response.

Emergency Operations Center

Emergency Operations Center emergency support employees were required to live inside the Public Safety Building during all of the hurricanes. High winds made it unsafe for anyone to leave the building once the hurricane started to threaten Seminole County. Employees were given make-shift sleeping quarters, staffed their respective Emergency Support Function (ESF) table during their shift, and were provided food from Seminole County.

Provisions for food were limited. Seminole County Emergency Management and The Salvation Army have had a long-term partnership to provide food to workers inside the Emergency Operations Center. This worked effectively for Hurricane Charley, but fell short during the last two storms. Due to the need across the State of Florida, The Salvation Army had limited resources they could provide to Seminole County's EOC. Because of this, Seminole County hired an outside caterer during Hurricane Frances. This solution was very popular with the EOC staff, but an extreme financial burden to County Government. Costs were much higher than expected, which caused a shift in plans for Hurricane Jeanne. During Hurricane Jeanne, employees were given the option of having Meals Ready to Eat (MREs). This proved to be very unpopular.

Seminole County Emergency Management is currently researching the costs involved in feeding EOC staff. A plan will be developed prior to the Hurricane Season for 2005.



STRATEGIC ACTION ITEMS

In an effort to improve communication, coordination and response to the citizens, multiple debriefings and after-action meetings were scheduled. These efforts included workshops and strategic planning sessions with the Federal Emergency Management Agency (FEMA), State of Florida, Division of Emergency Management, local media outlets, Regional Emergency Management Offices, and individual Emergency Support Functions and municipalities in Seminole County. During these workshops, Seminole County Emergency Management (SCEM) utilized surveys, questionnaires and brainstorming sessions to come up with improvements to the County's current Comprehensive Emergency Management Plan (CEMP).

All suggested solutions listed in this report should be considered achievable goals. Although some of these solutions were initiated prior to the second and third storms, some of the opportunities for improvement will require long-term attention.

The strategic action items are grouped by Emergency Support Functions (ESF). Although an item may appear under a specific ESF, it may require the participation and coordination from SCEM and multiple disciplines to complete the mission.

Transportation

Responsible for coordinating transportation support to governments and voluntary organizations. Transportation support includes the following: (1) performance of and assisting with evacuation and re-entry; (2) processing of all transportation assistance requests and tasks received in the EOC; (3) prioritizing transportation resources for the transportation of people, materials, and services; (4) performing all necessary actions to assist with recovery operations.

- Transportation Resources
 - Occurrence: Seminole County School Board played a vital role in providing transportation to and from shelters. Once schools resumed normal operations, significant events affecting a large segment of the population or for extended periods of time limited the School Board's ability to respond to transportation needs.
 - Solution: As the local transit provider, Lynx did supply an emergency contact number and an offer of assistance. To enhance our transportation efforts, Lynx should be included as a team member for this Emergency Support Function. In addition, other transportation providers should be invited to assist.

Communications

Responsible for coordinating actions to be taken to assure the provision of required communications (2-way radios) and telecommunications (computer and telephone systems) support to disaster personnel. In addition, this ESF is in charge of restoration of essential communication systems and supervision of personnel for the Community Information Line.

- Citizen's Information Line
 - Occurrence: Communication is one of the most critical elements in disaster response and recovery. Successful communication entails providing accurate and expedient information to the public. During the hurricanes of 2004, the Citizen's Information Line experienced a massive increase in telephone inquiries. The line, previously known as "Rumor Control," had never experienced the number of calls generated from these storms. Volunteers who staffed the first event had limited knowledge of county services. Because of this, the Citizens' Information Line was moved to the Information Technologies Computer Training Room and was staffed by county employees. This allowed easy access to the EOC and computer systems. In addition, bilingual persons staffed the information lines, adding a new dimension to the services provided by the line.
 - Solution: Due to its efficiency, the Citizen's Information Line operators should continue to be staffed by county employees and housed in the Information Technologies - Computer Training Room. Training will be provided to county employees interested in serving as operators. Initial training should be offered before the State of Florida, Hurricane Exercise in May, 2005. Bi-lingual persons should be recruited to assist with this service.
- "On Hold" Recorded Messages
 - Occurrence: As a tool used to provide information, an "on-hold" recorded message was implemented. Individuals waiting in the queue for calls to be answered or placed on hold would hear this recorded disaster related information. Even though helpful, this tool proved to be a challenge when the information was changing so rapidly.
 - Solution: To improve accuracy in information, one person should be assigned to review the on-hold message. Information must be updated before, during and after the emergency. Once the disaster recovery efforts are discontinued, "on-hold" music will resume.
- Wireless Capability in EOC
 - Occurrence: The Emergency Operations Center is currently configured to operate off of multiple data ports. Since this was the main means of communication, the limited number of connections for computers presented a challenge.
 - Solution: As Information Technologies reviews this issue, it may require the purchase of wireless laptops for ESFs. An assessment is needed in order to determine the impact of going to a wireless communication system.

Public Works

Responsible for providing technical advice and evaluations, engineering systems, construction management and inspection, street signage, traffic flow, and the opening and maintaining of roadways.

- Traffic Signals - Without Power
 - Occurrence: During the hurricane events, power outages impeded traffic flow. The potential for vehicle collisions increases at signaled intersections without power. After Hurricane Charley, additional deployable generators were purchased to run traffic signals.
 - Solution: Additional generators are warranted to ensure better coverage at major intersections throughout the County.
- Traffic Signals - Without Generator Power.
 - Occurrence: Due to the limited number of generators available to the County, stop signs were placed around Seminole County at intersections without signal capability. Stop signs were deployable and placed in the middle of the intersections without traffic signals.
 - Solution: A cache of deployable stop signs should be available to be placed in the middle of intersections without traffic lights, post disaster.

Information & Planning

Responsible for collecting, processing, and disseminating information to facilitate emergency response and recovery efforts. Preparation of special operations plans and damage and needs assessments are handled by this ESF.

- Damage Assessment Information
 - Occurrence: As soon as it is deemed safe, damage assessment teams are deployed to do a comprehensive analysis of those areas impacted. In some instances, the initial damage assessment information was scarce and lacked clear guidelines for reporting.
 - Solution: The damage assessment team should consist of personnel trained in damage assessment techniques, reporting procedures and the distribution of damage assessment kits.
- Damage Assessment Kit
 - Occurrence: Although damage assessment information improved during Hurricanes Frances and Jeanne, it was understood that enhancements should be made to improve ease of information transfer, data collection capability, and a means to establish a comprehensive historical trail.
 - Solution: Kits will be developed for damage assessment teams. These kits should include preparedness information, cameras, initial damage assessment forms, maps, access to current media releases, and other items specific to damage assessment.

Mass Care

Responsible for coordinating efforts to provide shelter, food, and emergency first aid and for coordinating bulk distribution of emergency relief supplies to disaster victims. In addition, Mass Care provides logistical support for lodging needs. Seminole County public schools serve as primary shelter locations for evacuees.

- Shelter Staffing
 - Occurrence: The American Red Cross has been tasked with shelter management throughout the nation. The multiple events throughout the State of Florida placed an unexpected burden on the ARC. This created an issue with providing trained shelter managers at the Seminole County shelters.
 - Solution: Coordination with the American Red Cross and Seminole County Public Schools is needed in order to provide shelter management training. This would enhance our ability to provide this service to our citizens.

Resource Support

Responsible for providing logistical, financial, and resource support to entities involved in delivering emergency response efforts for natural and technological disasters. In addition, supports vehicle maintenance and fuel issues.

- Fuel
 - Occurrence: Fuel shortages were experienced throughout the State of Florida. Seminole County used all means necessary to obtain fuel from any source available.
 - Solution: It was suggested, at an after action meeting, that ESF 7 should obtain additional fuel cards to be signed out when needed after the storm. Seminole County should invest in an additional fuel truck to help refill generators at lift stations / shelters. In addition, research should be conducted on developing a special contract with fuel vendors to provide support during a disaster. A secondary source of fuel should be found prior to the event. We should look at getting a RFP for in-ground fuel and a secondary source.
- Power / Electrical Resources
 - Occurrence: During the hurricane response effort, lack of power posed significant problems. Generators were needed at lift stations and essential working areas. Recovery efforts were more effective and efficient during the last two storms due to the securing and use of additional mobile generators.
 - Solution: The continuation of efforts to provide auxiliary power for lift stations and essential work areas is essential. This can be enhanced by a vigorous program to ensure auxiliary power is available at all critical facilities. A need also exists to work with utility companies to develop a better system for identifying the areas of the County that are without electrical/cable service.

Health Services / Medical

Responsible for coordinating health and medical resources needed to respond to public health and medical care needs prior to, during and following a disaster.

- Special Needs Shelters
 - Occurrence: Seminole County Health Department and Emergency Management provides shelters specifically designated for persons with special needs. At present, Seminole County has designated two schools as Special Needs Shelters. These shelters suffered minor damage during Hurricane Frances. This caused the review of the two schools. As a result of this review, it was determined the two schools need additional construction to harden the facilities. These projects are currently underway with grant funds from the State of Florida, Division of Emergency Management.
 - Solution: Bentley Elementary School is due to be completed in 2005. Layer Elementary School needs to have the front doors hardened to become compliant, which will take place before the next Hurricane Season.
- Discharge Plan for Special Needs Shelters
 - Occurrence: Transportation officials were ready to move special needs patients back to their homes. However, due to the previously mentioned limited amount of information provided at the shelters, officials were unsure if the patients' homes suffered hurricane damage.
 - Solution: Seminole County Emergency Management and the Health Department will meet to develop plans to confirm power availability and structural soundness of residences after the storm has cleared.
- Crisis Intervention
 - Occurrence: Crisis counseling was offered at the Disaster Recovery Center for a short period post hurricane. However, the mental health role needs to be more defined and a plan needs to be developed for implementation.
 - Solution: A Critical Incident Stress Management team is being developed for Seminole County.
- Staffing of Special Needs Shelters
 - Occurrence: Nurses from the Seminole County Health Department provided staffing at the special needs shelters. These resources were stretched due to the duration of the event. Staffing did not allow sufficient support to provide relief and nurses requested through the State never made it to Seminole County.
 - Solution: Advanced requests for nurses should be sent to the State of Florida, Emergency Operations Center, prior to the storm. Additionally, nurses from the community should be solicited to see if any would volunteer to assist during a disaster operation. Due to the limited number of nurses available at hospitals and the requirement of many hospitals to be fully staffed prior to hurricane landfall, nurses from home health care companies and physician's offices should be considered as additional support.

- Oxygen
 - Occurrence: Basic oxygen needs were provided at the special needs shelters. Due to the extended periods of the event, oxygen issues surfaced when patients needed to have tanks refilled at home. The Health Department did make additional oxygen available at their office for those needing refills. This helped to sustain persons until normal home-health care operations resumed.
 - Solution: The Health Department will develop an agreement with local providers to provide oxygen services.

Utility Services

Responsible for coordinating the provision of power to support emergency response and recovery efforts and normalize community functions. ESF 12 provides electric power, distribution systems, water and sewer, and emergency power restoration.

- Lift Station Power
 - Occurrence: Staff was very resourceful in utilizing the number of generators available to power lift stations. Although generator assistance was available through FEMA, the delivery of generators was not timely and in some instances arrived after power had been restored.
 - Solution: Six (6) additional mobile generators were obtained to power lift stations. Additional generators must be acquired to maintain an effective level of readiness.
- Communication with Water Utility Providers
 - Occurrence: Private Utility Providers did not provide assistance during these events. The County was tasked with addressing maintenance problems as well as issuing advisories to the community.
 - Solution: Seminole County must foster a better working relationship with all water utilities in order that citizens are given adequate, accurate information on when to boil water.