Hurricane Isabel
Bahamas
Prepared By:
Global Center for Disaster Management and Humanitarian Action at USF
September 2003

This report reviews two key elements of the Bahamas Hurricane Isabel Disaster Operation. First, a brief meteorological history of the development and path of Hurricane Isabel is provided as well as an overview of the disaster response operation by the Bahamian National Disaster Management and Preparedness Office. This report is generated from the perspective of the Global Center for Disaster Management and Humanitarian Action (Global-CDMHA) at the University of South Florida. Global-CDMHA has worked in conjunction with The Bahamas National Disaster Management and Preparedness Office since March of 2003, to facilitate the upgrade, enhancement, and development of a comprehensive emergency management plan. Observed was the command and control structure of the national Emergency Operations Center (EOC) in Nassau, housed at the Churchill Building. (Photographs 1-3 show the structure and location of the National EOC.)

PHOTOGRAPH 1: The National EOC is housed on the first floor of the Churchill Building. (Located at: N 25°04.704 and W 077° 20.419 – elevation 2.3ft)
PHOTOGRAPH 2: The National EOC is housed on the first floor of the Churchill Building. (Located at: N 25°04.704 and W 077° 20.419 – elevation 2.3ft)

PHOTOGRAPH 3: The National EOC is housed on the first floor of the Churchill Building. (Located at: N 25°04.704 and W 077° 20.419 – elevation 2.3ft)
Thursday - September 11, 2003

➤ HURRICANE ISABEL STATUS:

According to the U.S. National Weather Service (NWS), Hurricane Isabel was a category four hurricane. As of 5am EDT, Isabel was located about 1050 miles east of the northern Leeward Islands of the Caribbean Sea, moving toward the west-northwest at 14 mph. This motion was expected to continue for the next 24 hours. Maximum sustained winds had increased and were now near 135 mph. Isabel’s well-defined eye and cloud structure remained impressive. Some additional strengthening was possible in the next 24 hours followed by slow weakening.

➤ NATIONAL EOC OPERATIONS:

Through the use of conference calls and internet communication the Global-CDMHA made contact with the National Disaster Management and Preparedness Office. Pre-activation preparedness and planning activities were being conducted at this time.

- EOC location was established and back-up facilities located.
- Contact was made with members of the Disaster Preparedness Committee and all relevant organizations were notified of possible EOC activation.
- Communication with the Family Islands was established to monitor the preparedness level of the islands and to facilitate information exchange.
- The Royal Bahamas Defense Force worked closely with the National Disaster Office to establish pre-deployment teams for the Family Islands.
- Staging of necessary response supplies was organized.
- Direct communication with international disaster organizations was established to clarify roles and responsibilities if the hurricane impacted the nation. Organizations contacted include: PAHO, USAID, OFDA, G-CDMHA, CDERA
- Continual communication with the national meteorology office was also established to monitor the approaching storm.
Friday - September 12, 2003

➢ HURRICANE ISABEL STATUS:

According to the NWS, at 5:00 a.m. Isabel was located about 455 miles east-northeast of the northern Leeward Islands and was moving west at approximately 9 mph. Sustained winds remained at 160 mph, making Isabel a Category 5 hurricane on the Saffir-Simpson scale.

➢ NATIONAL EOC OPERATIONS:

Communication and preparedness activities were continued in preparation for possible landfall. The U.S. State Department issued a travel warning, advising tourists to avoid the Bahamas due to the approaching storm. Authorized Departure status was granted for all non-emergency U.S. Government employees and family members of U.S. government employees in The Bahamas.

- The national media was contacted and information was provided to aid the citizens of the Bahamas in preparing for the storm.
- Members of the Disaster Preparedness Committee met to share information and ensure all relevant agencies were prepared for a possible EOC activation.
- The National Disaster Office continued to work closely with the Royal Bahamas Defense Force to facilitate the deployment of four teams to the Family Islands in advance of the storm.
- Direct Communication with the Family Islands continued and scheduled up-date times were established.
- Communication with international disaster organizations continued.
- Monitoring of the hurricane was done through the use of the national meteorology office, international news stations, and internet.

Saturday - September 13, 2003

➢ HURRICANE ISABEL STATUS:

According to the NWS, Hurricane Isabel a powerful Category 5 storm maintained its strength in the Atlantic Ocean, with winds near 160 mph. Isabel remained still days away
from possible landfall, which hurricane center forecasters said could occur on the East Coast of the United States. At 5 a.m. EDT, Isabel's center was about 340 miles (545 km) north of San Juan, Puerto Rico, moving to the west-northwest near 13 mph (20 km/h).

- **NATIONAL EOC OPERATIONS:**

  Staff from the National Disaster Management and Preparedness Office continued to monitor the category 5 storm. Communication and preparedness activities continued in preparation for possible landfall.

  - Up-dates were provided to the media informing citizens how to prepare for Hurricane Isabel.
  - Members of the Disaster Preparedness Committee were placed on alert for possible EOC activation. After hours contact information was confirmed.
  - The National Disaster Office continued to work closely with the Royal Bahamas Defense Force to monitor the deployment of four teams to the Family Islands in advance of the storm.
  - Direct Communication with the Family Islands continued.
  - Contact was made with the US Embassy.
  - Communication with international disaster organizations continued.
  - G-CDMHA arrived in country and met with staff from the National Disaster Office.
  - Monitoring of the hurricane continued.

**Sunday - September 14, 2003**

- **HURRICANE ISABEL STATUS:**

  According to the NWS, at 5 p.m. EDT, Isabel's maximum sustained wind speed was 155 mph - 1 mph below the minimum for Category 5 - and down 5 mph from earlier measurements. Experts had said it would be extremely unusual for Isabel to maintain Category 5 strength as it moved north over cooler water. The storm was centered about 900 miles southeast of Cape Hatteras, N.C. Hurricane-force wind of at least 74 mph extended 100 miles out from the center. It was moving toward the west-northwest at
about 13 mph, and was expected to continue on that path into Monday, then turn toward the Carolinas, possibly making landfall Thursday or Friday. Forecasters note that hurricanes can be unpredictable, and long-range forecasts have large possibilities for error.  (Photographs 4 and 5 show Hurricane Isabel on Saturday, September 14, 2003)

**PHOTOGRAPH 4:** Satellite image of Hurricane Isabel on September 14, 2003.  ([www.weather.com](http://www.weather.com))

**PHOTOGRAPH 5:** Hurricane Isabel location and path September 14, 2003.  ([www.weather.com](http://www.weather.com))
NATIONAL EOC OPERATIONS:

Staff from the National Disaster Management and Preparedness Office prepared to activate the National EOC on Monday September 15th at 12:00 noon.

- **EOC setup and organization was finalized.**
- An arrangement for telephones and communications equipment was made available to agencies that would be stationed at the National EOC.
- Up-dates continued to be provided to the media informing citizens on how to prepare. Arrangements were also made to facilitate media coverage of the EOC activation; briefing times were established to coincide with live broadcasts.
- Standing communication times were established to facilitate effective information gathering from the Family Islands as well as the Royal Bahamas Defense Force teams that had been deployed.
- Monitoring of the hurricane continued. Reports from the United States Media indicated large ocean swells and dangerous surf conditions were forecast for the Leeward Islands in the northeastern Caribbean.

Monday - September 15, 2003

HURRICANE ISABEL STATUS:

According to the NWS, at noon ET Monday, Isabel’s maximum sustained wind speed was 140 mph, making it a Category 4 storm. Category 5 storms, the most powerful, start at 156 mph. Isabel reached 160 mph at one point Sunday. Fluctuation is common to major hurricanes. Experts had predicted that it would be extremely unusual for Isabel to maintain Category 5 strength as it moved north over cooler water. The storm, which has a 40-mile-wide eye, was centered about 780 miles south-southeast of Cape Hatteras and about 505 miles east of Nassau in the Bahamas. It was expected to take a northwest turn within 24 hours. Hurricane-force winds of at least 74 mph extended 115 miles out from the center. Isabel was moving toward the west-northwest at about 8 mph. (Photograph 6 shows the projected path of the storm)
PHOTOGRAPH 6: The projected path of Hurricane Isabel according to the National Hurricane Center. (www.nationalhurricanecenter.com)

- NATIONAL EOC OPERATIONS:

The Bahamas National Disaster Management and Preparedness Office partially activated its National EOC at 12:00 noon as Hurricane Isabel moved north of the islands. The activation was to facilitate effective emergency response should the hurricane change course and impact the Bahamas. During the partial activation the following organizations and agencies had representation in the EOC.

NATIONAL AGENCIES:

- National Disaster Management and Preparedness Office
- Bahamas Telecommunications Department
- Department of Meteorology
- Ministry of Health
- Ministry of Works and Utilities
- Port Department
- Public Hospital Authority
- Royal Bahamas Defense Force
Royal Bahamas Police Force and Fire Department
Salvation Army
Water and Sewerage Corporation

INTERNATIONAL AGENCIES:
- Global Center for Disaster Management and Humanitarian Action at USF (G-CDMHA)
- Pan American Health Organization (PAHO)

The partial activation was used to test response systems and observe agency interaction. Radio and Communication systems were checked and exercise scenarios were conducted. Live media briefings were held by the Director of the National Disaster Office. Photographs 7-11 document the partial activation of the EOC.

PHOTOGRAPH 7: National Bahamian EOC activation for Hurricane Isabel 9/15/03 (from left to right) 1.) Trevor Baden, Meteorology Department 2.) Carl Smith, Director, National Disaster Management and Preparedness Office 3.) ASP James Wallace, Royal Bahamas Police Force 4.) Major Raphael Mason, Salvation Army
PHOTOGRAPH 8: National Bahamian EOC activation for Hurricane Isabel 9/15/03 (from left to right) 1.) Gayle Moncur, Disaster Management Unit 2.) Harold Bosfield, Royal Bahamas Defense Force 3.) Jerome Darcuiel, Royal Bahamas Defense Force

PHOTOGRAPH 9: National Bahamian EOC activation for Hurricane Isabel 9/15/03 (left to right) 1.) John Gibb, PAHO 2.) Amelia Delrigo, PAHO 3.) Gayle Moncur, National Disaster Management and Preparedness Office.
PHOTOGRAPH 10: National Bahamian EOC activation for Hurricane Isabel 9/15/03 (left to right) 1.) Michael Turner, Ministry of Health 2.) Brent Williamson, Port Department 3.) Paul Newbold, Public Hospitals Authority 4) Bradley King, Ministry of Works

PHOTOGRAPH 11: National Bahamian EOC activation for Hurricane Isabel 9/15/03 (left to right) 1.) John Carey, MP, Parliamentary Secretary, Ministry of Works 2.) Major Raphael Mason, Salvation Army
HURRICANE ISABEL STATUS:

According to the NWS, Isabel had weakened, but remained a major (category 3) hurricane on the Saffir-Simpson scale. The storm was being negatively influenced by a trough of low pressure to its northwest. Outflow inhibition and dry air intrusion had weakened the storm, especially on the western side. Landfall was expected to occur by Thursday, September 18th. The exact spot of landfall may be difficult to predict due to the extreme angle at which the storm could be approaching the coast, especially if it stays out to sea north of Cape Hatteras. A very tiny change in the direction of movement could shift its landfall by a hundred miles or more. Areas from the Middle Atlantic Coast to North Carolina should be on alert, however. Although Isabel is not a particularly large hurricane, its wind field will expand dramatically as it nears the U. S. and encounters a building high-pressure area over the Northeast. Thus, even though the strongest winds should occur someplace along the Mid-Atlantic coast (wherever Isabel comes ashore), gales eventually could pound beaches as far north as Maine. In the meantime, the first effects will be building surf and rip currents along the Eastern Seaboard. No high surf warnings had yet been issued, but that may change soon. **Large swells and dangerous surf are currently battering portions of the Bahamas, Turks and Caicos Islands and the Greater and Lesser Antilles.** (NWS)

NATIONAL EOC OPERATIONS:

The National Disaster Management and Preparedness Office activated the EOC on a partial basis to monitor Hurricane Isabel. The EOC was officially deactivated at 12:00 noon on September 16th after the storm had safely moved north of the Bahamas and confirmation was received that the Family Islands had sustained no damage from the storm.

The U.S. Department of State issued an announcement lifting the Authorized Departure status for non-emergency U.S. Government employees and family members of U.S. government employees in The Bahamas. With the passing of Hurricane Isabel north of the Bahamas without making landfall, the Department of State has given permission for
those U.S Government employees and eligible family members who evacuated ahead of
the storm to return to the Bahamas.

➢ OBSERVATIONS:
Based on Global-CDMHA’s work over the last six months with the Bahamas National
Disaster Management and Preparedness Office to assist with the upgrade, enhancement,
and development of a comprehensive emergency management plan, the overall disaster
operation was observed to have run smoothly. Several of the elements developed during
the planning process were activated and effectively executed. Clear and effective pre-
disaster communication and planning on the part of The Bahamas National Disaster
Office allowed for successful service delivery. The command and control structure was
effective being inclusive of all organizations, both national and international, that
participate in disaster response and relief operations. Contact with the Family Islands
was established several days in advance of EOC activation to ensure emergency plans
were in place and responsible parties were clear on how to activate assistance if needed.

Monthly Disaster Committee planning meetings facilitated effective communication
among all agencies involved in the disaster operation. Agencies worked together
seamlessly aiding in information flow and pre-impact preparedness. Should the hurricane
have hit the Bahamas, the National Disaster Management and Preparedness Office was
prepared to respond. The proactive measures taken by the National Disaster
Management Office demonstrates a clear understanding of their role as the nation’s
leader in disaster response.

➢ RECOMMENDATIONS:
It is recommended by the Global Center for Disaster Management and Humanitarian
Action at USF that the following areas be reviewed.

- Technology to enhance critical information flow and facilitate timely service
delivery.
- Continuation of monthly meetings to encourage participation by all organizations
and agencies involved in disaster management.
- Development of EOC training programs to ensure all individuals clearly
understand the organizational structure and role of the EOC in disaster response.
HURRICANE ISABEL DEBRIEFING:

An after-action debriefing was conducted by The Bahamas National Disaster Management and Preparedness Office on Friday, October 3rd. Global-CDMHA was invited to attend along with the following agencies to exchange information and evaluate the operation. An informal round table discussion between national and international agencies assisted in determining national disaster preparedness success and lessons learned.

MEETING OF THE DISASTER MANAGEMENT COMMITTEE
CHURCHILL BUILDING, RAWSON SQUARE
3RD OCTOBER, 2003
The following minutes were prepared by
Bahamas Disaster Management and Preparedness Office

Person present:

Randol Coleby    Herbert Bain    Cyril Thompson
HM Prison        RBDF             Bahamas Electricity Corp
James Wallace    Lennard Miller  Erin Hughey
RBPF            D.E.H.S.        G-CDMHA
Kim Sawyer      Oswald Bain     Basil Dean
Dept Social Services    Airport Authority     Met. Department
Michael Stubbs    Beryl Armbrister    Colin Marshall
Met. Dept.       USAID/OFDALAC    Dept. Public Works
Charles Dean      Bradley King     Luke Bethel
Min. of Transport    Ministry of Works    RBDF
David Cates      Gayle Moncur    Carl Smith
DMU             DMU             DMU

Regrets:

Ms. Chrystal Glinton    Chris Symonette    John Gibb
DMU                   BIS             PAHO

Dr. George Buck
G-CDMHA

1. A copy of the Agenda is attached to the Minutes.

1 As of October 16th The Bahamas Disaster Management and Preparedness Office had not yet released the official After Action report.
Mr. Cates welcomed members to the meeting. ASP James Wallace opened the meeting with a prayer.

2. Mr. Cates advised members that the Minutes of the meeting held on 29th August had been circulated by E-mail. He advised that in the future the Minutes would be circulated by E-mail prior to the convening of the next meeting. It is hoped that if members have the Minutes in advance they could have their comments ready thereby reducing the time required for reading them at the beginning of meetings.

3. In considering matters arising from the Minutes of the meeting held on 29th August, it was noted that water had been shipped to Mayaguana to help alleviate the shortage on the island.

4. Mr. Cates advised members that the International Day for Disaster Reduction, to be observed on 8th October, is a part of the UN/ISDR observation of the International Year of Fresh Water. He noted that CDERA would be providing a videocassette highlighting hurricanes, volcanoes and earthquakes for broadcasting on ZNS TV. Hurricanes, volcano eruptions and earthquakes are the three major natural disasters that affect Caribbean countries. Mr. Cates noted that a draft proclamation declaring 8th October 2003 as International Day for Disaster Reduction has been prepared. He inquired as to whether members had any other suggestions for observing the day.

   Mr. Bain suggested that broadcasting the videocassette would be sufficient. Ms. Hughey noted that visits to schools would be a good idea. Mr. Cates noted that school visits have been discussed at several previous meetings. He also advised that Mr. Smith had suggested an interview for ZNS and other media. Ms. Armbrister interjected that disasters need to be looked at in the broadest sense as all types can occur.

5. In reviewing hurricane Isabel, there was a brief discussion on the Glass Window Bridge. Mr. Marshall noted that the high seas did not shift the structure. It was closed for a period of several days but has since been reopened to one-way traffic. He further noted that a new bridge is scheduled for construction next year.

   During the discussion of this item it was noted that there is a need for a predetermined schedule for releasing hurricane related bulletins. At the present time it seems that news on the progress of systems is buried with other announcements. The public needs to know that at certain times they can turn on their radios and received updated bulletins. The Committee may wish to raise the matter with the Broadcasting Corporation of The Bahamas.

   Mrs. Moncur advised that the EOC was opened on 13th September to deal with the potential threat of hurricane Isabel. The hurricane was not forecast to affect The Bahamas but as personnel had been deployed to various Family Islands, it was decided to take advantage of the situation for a practice run. The EOC was activated for a twenty-four hour period and operated very smoothly. Dr. Buck and Ms. Hughey were invited to observe the operations. The communications system worked well and the fact that
everyone knew each other enhanced the smooth operation. The value of the monthly meetings was clearly evident and enabled everyone to know their roles.

Mr. Smith referred to the recommendations section in the report submitted by Dr. Buck and Ms. Hughey, particularly the need for technology. He noted that Mr. Felix Stubbs of IBM has offered to donate equipment to the EOC. He further noted that the E-Team from Barbados is scheduled to visit The Bahamas to assist with upgrading the operations of the DMC. He also advised that there would be a SUMA workshop later in the month. Mr. Smith also noted that even though the DMU is in frequent contact with counterparts in the Family Islands, he plans to visit the EOCs in the Family Islands. He stated that all of these programmes would further strengthen the DMC.

There was a brief discussion on the availability of funds for emergency travel during which Mr. Smith advised that the Cabinet Office/DMU has two accounts with funds. The funds in one account can only be used for relief and recovery efforts after an event. He is getting details on the use of the other account.

8. In discussing Agenda Item 8, Mr. Smith advised that he had hoped to present the draft legislation but he had not finished formatting it. The old draft is deficient. He has looked at the legislation from Belize and the British Virgin Islands and is formatting their legislation to suit The Bahamas. The draft legislation would address the establishment of a disaster office and the appointment of a director.

During the discussion the urgent need for standard operations procedures was stressed.

6. Preliminary investigations into the explosion at Lyford Cay reveal that there was probably a leak of LPG into the basement of the house. Persons on the scene wanted to rush in to begin search and rescue operations. However, this was deemed unsafe and the RBDF and RBPF controlled the crowd. No control centre had been established and there were seven civilians on the scene who were attempting to search through the rubble. There was a strong smell of LPG and the police treated the area as a crime scene.

During the discussion it was noted that civilians complained in the press that the RBDF and RBPF took too long to respond. This accusation has never been countered by any statements or press releases from relevant agencies. It was further noted that there is an urgent need for specific guidelines to be followed in different types of disasters. Some concern was expressed as to whether government agencies can go onto private property in these types of situations. Mr. Smith suggested that reports should be sent to the Cabinet Office to be collated by the DMU.

Ms. Hughey stated that each Lead Agency should write their purpose and mission statements for the National Disaster Plan. Standard Operations Procedures should be drafted for each ESF. During the discussion of the National Disaster Plan it was noted that the Met Office should be added as a support agency to the Search and Rescue ESF.

Under Any Other Business it was decided that the BEST Commission should be invited to be a member of the DMC. A memo should be sent to the Permanent Secretary, Ministry of Health.
The meeting was adjourned. The next meeting is scheduled for 31st October.

Mr. David Cates took the Minutes.
MEETING OF THE
DISASTER MANAGEMENT COMMITTEE
CHURCHILL BUILDING, RAWSON SQUARE
3RD OCTOBER 2003

AGENDA

1. Welcome and prayer

2. Minutes of Meeting held on 29\textsuperscript{th} August, 2003

3. Matters arising from the Minutes

4. International Day for Disaster Reduction – 8\textsuperscript{th} October, 2003

5. Hurricane Isabel – Emergency Operations Centre

6. Explosion at Lyford Cay – 18\textsuperscript{th} September, 2003

7. National Disaster Plan

8. Distribution of Draft Disaster Reduction Bill

9. Any other business

10. Adjournment – nest meeting 31\textsuperscript{st} October