Hazard Management Cayman Islands (HMCI)

Building Resilient Communities Today for Disasters of Tomorrow

2018

ANNUAL REPORT

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Foreword from the Director



HMCI started the year with a wakeup call; a Tsunami alert on 9th January which served as a stark reminder to the public that Hurricanes aren't the only dangers we face but also to HMCI who have since taken action to ensure a smooth, timely and more effective response to all sudden onset hazards. Significant work has also been done during 2018 to initiate a National Early Notification System (NENS) with Phase I (Radio interrupt) being introduced in March 2019 to coincide with the Tsunami regional exercise. Stakeholder engagement continued throughout 2018 to determine the most suitable implementation plan for a robust and cost effective early notification system.

A number of significant staff changes occurred in 2018 with the retirement of my predecessor McCleary Frederick from the role of Director, the transfer of the Communications team and Finance Officer to the Department of Public Safety Communications (DPSC) to support the National Public Safety Radio System and an Executive Officer to the Ministry for professional development and succession planning, We also successfully recruited the long-awaited and much needed Mitigation Officer and provided a number of staff members with opportunities to act up to more senior roles on a rotational basis for their professional development.

We will continue to build on the positive achievements of 2018 and implement the plans laid for further transition and development to enhance our efficiency and effectiveness and elevate our reputation both locally and regionally.



Ms. Danielle Coleman
Director, Hazard Management Cayman Islands (HMCI)
December 2018

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Our Vision

HMCI's VISION for the Cayman Islands is:
A country that is resilient and prepared, able to withstand and recover from all major crises.

Mission Statement

Enhance the Cayman Island's resiliency to disasters with full community involvement. This will be achieved through participation in the national approach to comprehensive hazard management through mitigation, preparedness, response and recovery thereby ensuring the preservation of human life, property, and economic recovery.

As part of a World-Class Civil Service, we recognize that our success is built on a foundation that starts with our employees. Our values of Passion, Integrity, Commitment and Professionalism, are therefore important guides to our interactions with colleagues within the Ministry and broader Government, as well as with the public, our customers and stakeholders.

Values:

Passion	**I**ntegrity	**P**rofessionalism
Enthusiasm	**A**ccept responsibility	**S**eek continuous improvements
Dedication	**T**rust of Community	**T**ransparent and accountable
Connectivity	**H**onest and dignified	**E**fficient and timely
Commitment	**H**umility	**C**ompassion

About Us
Organizational History

The Cayman Islands has had an official Hurricane Plan since the early 1970s. Regular revision kept the plan current; however, lessons learned from Hurricane Ivan in 2004 changed the approach to Disaster Management.

The Cayman Islands National Strategic Plan 1998-2008 included "comprehensive contingency planning" and the establishment of a "national emergency management agency" among its strategies. The document also mentioned prevention and mitigation as desirable activities to be undertaken to safeguard the country. The proposal to form a national agency with a comprehensive mandate to lead the risk management process was therefore in keeping with the plans for national development.

In January 2007, Hazard Management Cayman Islands (HMCI) was established as the government agency responsible for the coordination of all programs dealing with national disasters, whether natural or human-made. HMCI has overall responsibility for the national hazard management program, including preparedness, response, mitigation, and recovery.

The agency deals with all hazards and is permanently staffed and ready to operate at all times. HMCI is responsible for the National Emergency Operations Centre (NEOC) which is located at the Government Administration Building in George Town. The NEOC is activated as required to direct and coordinate the response to national threats. HMCI also has responsibility for maintaining the National Hazard Management plans for threats such as hurricanes and earthquakes.

Hazard Management Cayman Islands (HMCI) National Emergency Management (NEM) Outputs

HMCI has six outputs that establish our priorities and define the expenditure and performance indicators within the immediate fiscal year. A summary of the outputs for the 2018 fiscal year is provided below.

NEM 1 - National Disaster Preparedness

Maintain a state of maximum preparedness through the provision of necessary resources and ensure the existence of hazard management plans from the community to the national level. Coordinate and monitor the implementation of the national disaster risk management program through public awareness training development and maintenance of disaster plans.

NEM 2 - Policy & Ministerial Advice

Provide policy advice to the Ministers, Deputy Governor, Chief Officers, Government Departments and others on matters relating to national hazard management and disaster preparedness. The provision of technical advice to the Ministry, Government agencies and the private sector on telecommunication matters.

NEM 3 - Hazard Mitigation

A proactive, cooperative partnership of the public and private sectors to build a culture of safety and resilience, to encourage and facilitate implementation of mitigation measures and minimize the consequences of natural and other disasters.

NEM 4 - National Disaster Response

Provide the tools and support needed to ensure national response readiness in the event of any national disaster. The provision of assistance during or immediately after a disaster for the preservation of life and the provision of basic essential supplies and services for those people affected.

NEM 6 - Emergency Shelters Management and Preparedness Activities

Provide shelter management training activities and ensure availability of shelters during and after a disaster. Maintain emergency generators and other essential facilities for shelter operations.

NEM 8 - Technical Services for Telecommunication System

Provision of technical services required for the planning, operating and maintaining of the telecommunication system infrastructure: switching, radio communication and ancillary equipment to support all government agencies.

STRATEGIC PLAN 2016 - 2021

The Strategic Plan 2016-2021 was revised to reflect changes from a review of the department's operations and previous plan as well as incorporate the changes due to the shift in Ministerial responsibility. The following are some of the key strategies of the plan:

- Ensure the best possible shelter environment for the population of the Cayman Islands through continued development and enhancement of infrastructure and equipment
- Ensure that the Islands have adequate early warning and notification systems for all hazards (improving early warning systems) and enhance emergency communication
- Enhance the country's resilience through an informed public and facilitate the strengthening of community resilience through organization and training (building community resilience)
- Provide guidance and a legal framework for the reduction of risk and vulnerability to the physical and built environment through mitigation
- Comprehensive disaster plan development
- Dedicated recovery fund provisions to be made via annual contribution to a disaster recovery fund

The plan also identified service needs and gaps such as:

- Seismic data analysis - no local resource to scientifically analyze the information that is generated following a seismic event

STRATEGIC GOALS 2018-2019

Strategic Goal 1: Preparedness

HMCI will improve the national resilience by raising awareness of life-saving techniques and best practices which will aid in citizens preparing for all hazards; provide the knowledge and skills needed to assist in the aftermath of disasters; develop, review, maintain hazard plans.

HMCI is also working to improve not only internal communication through cross-training of roles for contingency and succession planning but also external communication with national/international stakeholders to ensure a more coordinated response.

HMCI continues to make progress in increasing and sustaining the national preparedness of the Cayman Islands.

Objective 1 : Refine existing and develop additional national disaster plans

Objective 2 : Enhance the country's resilience through public education and training of Community Emergency Response Teams (CERTS) and Volunteer Agency Responders (VARS)

Objective 3 : Improve internal and external communication

Strategic Goal 2: Mitigation

Reducing the damage and economic losses caused by natural or human-made hazards remains a top priority. HMCI began the process of developing, implementing and managing mitigation activities and developing a National Mitigation Strategy through the hiring of a Mitigation Officer.

Continuous efforts will be made to establish a system whereby the Cayman Island's population at large can be alerted to an impending hazard and can respond accordingly. These actions will assist in strengthening the Islands' institutional capacity.

Objective 4 : Strengthen institutional capacity

Objective 5 : Improve early warning systems especially for sudden onset hazards

Objective 6 : Provide guidance and a legal framework for the reduction of risk and vulnerability

Strategic Goal 3: Response

Throughout 2018/2019 support will be provided to NEOC members to ensure they are ready and trained to respond to all potential emergencies when the NEOC is activated.

The National Public Safety Radio Communication System which provides first responders and emergency personnel with the capability to communicate during emergencies and other incidents was transferred to the Department of Public Safety Communications (DPSC) in 2018. HMCI continues to work closely with DPSC to ensure the system provides reliable communication in emergencies to first responders and relevant government agencies.

In addition, significant steps are planned to improve the shelter environment and allow the accommodation of pets in the shelter. HMCI recognizes that lives are at risk because residents opt to remain at home with their pets as opposed to seeking safer sheltering facilities.

Objective 7: Ensure National Emergency Operations Centre can be set up within 1.5 hours

Objective 8: Provide support needed to ensure national response readiness

Objective 9 : Improve the shelter environment for Cayman Islands population and incorporate sheltering for pets

Objective 10: Strengthen emergency Communication WebEOC and Radio Communications

Strategic Goal 4: Recovery

HMCI will continue to promote good practices, provide support and assist in the coordination of all actors and sectors required for the recovery process after a major disaster.

Objective 11: Effectively coordinate disaster recovery

Performance & Key Achievements Summary

Public Awareness and Education

17 School Outreach Sessions

13 Conferences & Workshops



35 Radio and TV Interviews

27% Increase in Social Media Engagement in 2018

Projects & Programmes

- Development of Phase I National Emergency Notification System (NENS) Implementation Plan
- Flood Mapping
- Warehouse Reorganization & Management
- Crisis Hub Platform for Disaster Response – Concept Paper
- Development of Sudden Onset Framework for NENS
- Revision and Update of Duty Officer's Standard Operating Procedure Manual for Hurricane/Tropical Storm

Key Achievements



- Hurricane Simulation Exercise 2018
- Establishment of the Cayman Brac Community Emergency Response Team (CERT)
- Development of Hazardous Materials (HAZMAT) Plan
- Development of Pet Shelter Strategy
- Implementation of Emergency Situational Awareness Dashboard



Capacity Building and Training

- WebEOC training for several Government Stakeholders
- **52** CERT volunteers trained in Cayman Brac
- **72** First Responders trained in Mass Casualty Management (MCM) and Incident Command Systems (ICS)
- Shelter Management Training for **186** volunteers and **49** shelter managers and district representatives

Operational Overview

Hurricane Season 2018

The 2018 hurricane season officially ended on November 30, 2018. However, for the fourth year in a row, a storm formed before the official start of the season on June 1. On May 21, a broad area of low pressure formed over the southwestern Caribbean Sea and drifted northward. By May 25th, the low pressure had organized sufficiently to be classified as Subtropical Storm Alberto. In response, HMCI issued a bulletin encouraging residents to monitor the progress of the storm and the National Weather Service issued a marine warning for small craft and advised residents of the possibility of locally heavy rain, flooding of low lying areas and fresh winds. Alberto passed west of Grand Cayman with minimal impact.

On July 3rd, the National Hurricane Centre (NHC) began tracking a vigorous tropical wave over the Atlantic and by July 7th the system developed into Hurricane Beryl. Early forecast tracks suggested that Beryl might enter the Caribbean Sea, potentially posing a threat to the Cayman Islands, but due to the small size of the system, there was higher than usual uncertainty in both the forecast track and intensity. Beryl subsequently faced a hostile environment with strong westerly shear and dry air affecting the system, so by July 8th, Beryl degenerated into an open tropical wave tracking north of the Caribbean Sea and posing no threat to the Cayman Islands.

On September 2nd, the NHC began monitoring another tropical wave as it came off Africa. Residents monitored the system for several days as it tracked west and on September 8th, the system intensified into Tropical Storm Isaac.

On September 10, the system was forecast to enter the Caribbean Sea and strengthened into a Category 1 hurricane. Once again environmental conditions were unfavorable for the storm with westerly wind shear weakening Isaac causing the system to degenerate into an elongated trough on September 15th. In the following days, the remnants of Isaac passed south of the Cayman Islands bringing rainy conditions, moderate seas and southeasterly winds, but fortunately no impacts. HMCI used the passage of Isaac to conduct an internal hurricane activation exercise.

Early on October 2nd, the NHC began monitoring a broad area of low pressure that had developed over the southwestern Caribbean Sea. The disturbance gradually became better organized as it generally drifted northward. On October 7th, the system developed into Tropical Storm Michael. The following day Michael rapidly intensified and became a hurricane. Hurricane Michael caused large swells that impacted the west coast of Grand Cayman as it passed the western coast of Cuba, however again damage was minimal in the Cayman Islands except for one vessel that broke free of its mooring and grounded off Lobster Pot restaurant.

Hurricane Michael continued and made landfall in Florida on October 10th with sustained winds of 155 miles per hour. The hurricane caused over 10 billion dollars' worth of damage in the United States and impacts were felt in Florida, Georgia, North Carolina and Virginia.

In total there were 15 named storms in 2018 and 8 of these became hurricanes.



Hurricane Exercise Debriefing in June 2018

1. Preparedness & Awareness

HMCI conducted a media blitz for the start of the hurricane season that included partner agencies who are involved in the national response mechanism. There were numerous media appearances on radio and television, speeches and statements issued by His Excellency the Governor, Hon. Minister and Hon. Premier and content provided for hurricane supplements. A message from HMCI

Director, Danielle Coleman was also produced and prominently featured in the Compass hurricane supplement.

The use of social media was a key component of HMCI's public education outreach plan in 2018; and Hazard Management's Twitter and Facebook pages have made great forward strides in both reach and relevance in 2018. We intend to continue to grow and develop our social media capacity in 2019.

One hundred and thirteen postings were made on Facebook which generated 242,437 views with 2,647 people currently following HMCI's page at December 31 (24 % annual increase).

Fifty-seven posts were made on HMCI's Twitter page which generated 103,073 views. 701 persons follow HMCI's page at December 31 (23% annual increase).

HMCI's website Caymanprepared recorded 66,616-page views in 2018 with 26,899 new visitors to the website. 49 press releases posted (34% increase).

In addition to the social media campaign representatives of HMCI made 18 appearances on radio stations in 2018 (such as Talk Today, For the Record and the Business Buzz).

HMCI also made 17 appearances on television (CITN, Cross Talk and CIGTV).

Public Education Programme

HMCI conducted eight hazard awareness presentations to Churches, Civic Organizations and community groups in 2018. In April, HMCI also provided Damage and Needs Assessment Training for the Red Cross's National Intervention Team. Displays were set up for the Seventh Day Adventist (SDA) Health Expo in June and at the Elderly Day event in October.

Government Departments and Statutory Authority Training and Advice

Following on from the Tsunami Watch issued on the heels of the January earthquake off Honduras, HMCI provided a Tsunami awareness seminar for the RCIPS Senior Command Team.

HMCI staff also presented on Hazmat issues to a Ministry of Health stakeholders group and Initial Damage Assessment methodology to the Planning Department. Moreover, as in past years, HMCI continued offering hazard awareness training to health care workers and Customs and Immigration Officers with eight presentations being offered to representatives from these sectors. 2018 saw a significant increase in outreach efforts to Cayman Brac as HMCI provided awareness sessions in April, in addition to the Brac CERT development and the Brac Shelter Management training.

Private Sector Training and Advice

Hazard Management provided six presentations to private sector entities in 2018 including to the Kimpton Hotel, the Uniregistry Company, as well as to advocacy groups such as the Seven Mile Watch group which advocates for the interests of numerous businesses along the Seven Mile Beach corridor.

Agriculture Show

Every year, HMCI erects a display at the Agriculture Show and this year the focus was on the tsunami and earthquake hazards. Thousands of residents attend the Agriculture Show and HMCI was able to engage several hundred in discussions about planning for seismic threats and provided educational material and advice on mitigating the threats.

International Day for Disaster Risk Reduction (IDDR)

International Day of Disaster Reduction (IDDR), was celebrated on 13 October and HMCI marked the occasion with a press release, interviews on CIGTV and an official message from the Minister for Financial Services & Home Affairs, Hon. Tara Rivers, JP. The focus of IDDR in 2018 was on how people and communities around the world are reducing their exposure to disasters, specifically as it relates to reducing economic loss in relation to GDP.

In her official message, Hon. Minister Tara Rivers, JP focused on the numerous areas that have been worked on to build capacity and resilience over the years since the passage of Hurricane Ivan, as well as those currently in focus and those that require additional work to strengthen Cayman and further reduce the possibility of significant losses and impacts.

School Outreach with Cayman Islands Red Cross (CIRC)

The school awareness program continues to be refined with new presentations being developed and more active participation with Cayman Islands Red Cross (CIRC). In 2018, HMCI conducted 17 awareness sessions that reached approximately 2000 students.

January 9	Prospect Primary
April 18	Cayman Brac Schools (X 4)
October 8	Montessori by the Sea
October 9	Clifton Hunter
October 9	Bodden Town Primary
October 10	Clifton Hunter
October 10	CIFEC
October 10	George Town Primary
October 11	John A. Cumber Primary
October 12	Truth for Youth
October 25	Wesleyan Christian Academy
November 6	UCCI
November 21	John Gray High School (Year 9)
November 23	John Gray High School (Year 7)

HMCI attended several safety meetings at St. Matthew's University and in September HMCI had a table at the CIFEC Career Fair. The Agency also assisted UCCI nursing student Roxine Bodden with information for her university project. Miss Bodden subsequently designed a display on hazards and the health care sector.

National Day of Preparedness

May 21st was observed as National Day of Preparedness in the Cayman Islands. National Day of Preparedness has historically been observed on a public holiday, Discovery Day, and is intended to encourage residents to take the opportunity to review their respective family plans and prepare for the hurricane season and any other natural disaster.

National Day of Preparedness activities are featured on CITN news, CIGTV news, Social Media (Facebook, Twitter), Print Media, Government Websites (GIS, GOV, and Cayman Prepared) and on Radio Cayman. An official message was also delivered by Minister for Financial Services & Home Affairs, Hon. Tara Rivers, JP. HMCI staff visited several local hardware stores on weekends in May and June to directly engage residents about disaster preparedness and their family preparedness plans, encourage them to assemble a disaster preparedness kit and provide brochures and other disaster preparedness information. This year over 300 residents entered the draws to win a preparedness kit, with each of the five hardware stores donating a kit and the winners being selected in a random draw.



Mass Casualty Management

HMCI hosted two five-day PAHO Mass Casualty Management (MCM) and Incident Command Systems (ICS) training courses in 2018. In April, 32 people from departments including the Royal Cayman Islands Police Service (RCIPS), Emergency Medical Service (EMS), Health Services and the Cayman Islands Fire Service (CIFS) completed the training and in October a further 40 first responders completed the course successfully.

Mass Casualty Management training helps to ensure a coordinated, efficient response to major incidents involving multiple injuries and possibly fatalities. The Incident Command Systems (ICS) training covers the structure, functions and responsibilities of managing incident sites and overall coordination of multiple agency responses. A multi-agency response is much more complicated as agencies need to work together in a unified manner.

Continuity of Operations Plans (CoOp)

HMCI assisted the newly formed Office of the Ombudsman with the development of their CoOP plan and also gave a presentation to staff from the Portfolio of the Civil Service (PoCS) about continuity planning and development. PoCS has operational oversight of CoOP plans which are required to be updated and submitted to both PoCS and HMCI each year.

2018 saw a decline in the number of Continuity Plans that were submitted by Government Departments and Agencies and HMCI intends to revamp the CoOP program in 2019; designing new model plans that are more relevant and applicable. HMCI will also assist PoCS with additional quality control and oversight of the plans as they are submitted, to ensure they are comprehensive and robust to increase the likelihood of a speedy recovery process and that critical functions continue to be delivered in the aftermath of an impact.

Older Persons Policy

HMCI developed various plans, policies, and recommendations focused on reducing the impact of disasters and hurricanes on elderly persons in the Cayman Islands. HMCI staff met with representatives from home care agencies such as "Meals on Wheels" and the Department of Children and Family Services with the result that new initiatives providing additional safeguards and support for the elderly will be rolled out in 2019.

HMCI intends to provide significantly more public outreach and hazard awareness for elderly persons and their caregivers in 2019, as lessons learned from the 2017 hurricane season and statistics showing elevated levels of post-impact mortality, indicate that the frail elderly are often more vulnerable following disasters.

Earthquakes

On January 9th at 9:52 pm local time, an earthquake of magnitude 7.6 struck 191 miles south-west of George Town. The event was large enough to generate a tsunami watch from the Pacific Tsunami Warning Centre for the Cayman Islands and other Islands in the Caribbean Sea.

This incident highlighted many challenges associated with such rapid onset events, not the least of which is the need for timely dissemination of information to residents outside normal working hours when radio and television stations are airing programmed content (without a live presence in the studios). This was exacerbated by the lack of notice, given that the projected arrival time from the time of initial warning was only 41 minutes.
The tsunami sensor in George Town Harbour recorded an 8-inch tsunami, so the threat, in this case, was minimal but still generated significant concern for residents.

Prior to this event the government had already approved Phase 1 of the National Emergency Notification System (NENS); a radio interrupt system that will enable Government to interrupt radio broadcasts with emergency notifications as needed.

On January 21st at 10:22 A.M. a 4 M earthquake occurred 45 miles southeast of Grand Cayman and on September 3rd at 2:23 P.M. a 4.7 M earthquake was recorded 120 miles south of Cayman. There were no reports of damage in the Cayman Islands from any seismic activity.

Community Emergency Response Teams (CERTs)

HMCI trained 52 volunteers in Cayman Brac with the aim of enhancing the Sister Islands ability to respond to any event at a community level. Given Cayman Brac's distance from Grand Cayman, establishing a CERT was vital.

HMCI in partnership with Red Cross Cayman Islands is actively working on developing a training calendar to engage all CERT members throughout the year and ensure sustainability in the years to come. CERT members are often the first to respond in their communities before emergency personnel can arrive on the scene. As such, CERT members require opportunities to practice their skills even if they do not activate during the year. Therefore, the training sessions will not only aim to enhance the current skills but to also provide them with new skills.

As a result of resource challenges, the 2018 annual CERT challenge was postponed until 2019 but HMCI is confident that planned engagement for 2019 will ensure this does not re-occur.

2. Hazard Mitigation

Disaster Web Portals

HMCI in collaboration with DPSC and Department of Planning embarked on a pilot project to implement a Disaster Web Portal for the Cayman Islands. The Disaster Web Portal facilitates the search and retrieval of geospatial data from the databases. The disaster management application provides a ready-to-operate solution that provides a geospatial framework for immediate situational awareness needs for disaster response.

National Emergency Notification System (NENS)

The ability for local public safety professionals to be able to communicate with the public during emergencies is a critical function. The public looks to public safety officials to warn them of danger and inform them of actions to keep them safe. In October 2017, HMCI made a proposal for an Emergency Alert System for the Cayman Islands.

This proposal presented a comprehensive solution encompassing alert origination (dispatch terminals) at each terminal in the DPSC Communication Centre and the NEOC Communications Room, plus radio interrupt for 14 radio stations broadcast from 7 studio locations. In 2018, HMCI in collaboration with DPSC, commenced the installation of an integrated, versatile radio-interrupt alert system solution to support emergency alerts for the Cayman Islands, which is of critical importance particularly in the face of sudden onset events.



2018 Aerial Satellite of Imagery of Grand Cayman used for pre-disaster impact assessment

Pre-Disaster Impact Analysis/Assessment – Hurricanes (Flooding/Storm Surge)

Pre-disaster impact analysis is a rapid impact assessment methodology. The method adopted an evolving and innovative natural hazard risk modeling technology in order to fulfill pre-event damage assessments. A storm surge vulnerability assessment of the Cayman Islands for damage to housing and critical infrastructure was conducted using a Geographic Information System (GIS).

3. Response

HMCI's ability to activate expeditiously is required to ensure an effective and efficient response to any event. The response readiness of HMCI for 2019 will include quarterly NEOC drills with support from Computer Services Department and Facilities Management. These drills will ensure that all members of HMCI are well versed in setting up the NEOC in a real event; and are ready to activate at a moment's notice throughout the year.

Pet Shelters

HMCI is committed to ensuring the safety of all persons residing on the Islands. In past events, pet owners who were unable to find safe sheltering for their pet may have placed themselves in harm's way by sheltering in unsafe locations. This year HMCI worked closely with St. Matthews University, Department of Agriculture and the Education Department
And identified two pet-friendly shelters.

HMCI is working closely with the Department of Agriculture to develop proper pet shelter guidelines, to ensure the safety of occupants and animals. Site visits were conducted to develop a floor plan of how to house animals in the designated areas. HMCI intends to make pet shelters a reality in time for hurricane season 2019.

Tsunami Exercise

On the 15th March 2018, the Cayman Islands joined other localities in the Caribbean to participate in the CARIBE Wave 18 Tsunami exercise. The tsunami exercise was accompanied by a vigorous public relations campaign, with public service announcements and messages going out on radio, television and social media. The purpose of the exercise was to evaluate HMCI's response readiness and alerting capabilities. The exercise also provided an opportunity for HMCI to partner with the local radio station, 89.9fm, to test the new radio interrupt software.

CARIBE Wave 18 simulated a tsunami generated by an 8.1 magnitude earthquake off the coast of Colombia. As a result, a widespread Tsunami watch was generated throughout the Caribbean. Although the threat was not significant enough to trigger a response, it provided an opportunity to test our activation and communication capabilities.

The exercise identified areas for improvement in respect to the familiarization of roles and responsibilities in a sudden onset event, and communicating warning messages to the public/appropriate stakeholders promptly.

Annual Hurricane Exercise

The annual hurricane exercise was held on May 1st & 2nd 2018 at the NEOC. The objectives of the exercise were to:

- Promote inter-agency coordination in disaster situations
- Review Plan checklists to amend and revise as appropriate
- Practice coordination and communication activities between response sections
- Provide an orientation to the process of working in groups for NEOC operations and procedures
- Enhance the understanding of disaster roles and responsibilities
- Provide a refresher on WebEOC
- Identify areas that may need strengthening and develop training opportunities to meet the response and recovery objectives

The exercise was well attended with 80% of all emergency support teams represented. Before providing scenario injects, a tabletop exercise was conducted requiring each Emergency Support Team (EST) to answer questions about pre-impact phases of the hurricane. This provided a continued opportunity for clusters to become familiar with the roles and responsibilities of each EST. Upon completion, injects were disseminated through WebEOC to allow all members to actively participate throughout the exercise. A summary of lessons was recorded along with suggestions for improving WebEOC.

Consulate

HMCI is committed to increasing the Cayman Islands resiliency and ensuring the Islands are prepared for and can respond to all hazards. All consular representatives were invited to participate in the annual hurricane exercise. Representatives were required to provide feedback regarding the actions they would take during each stage of the alert, watch and warning phases.

National Public Safety Radio System Upgrade

The Communications Team transferred in early 2018 to DPSC, however HMCI and DPSC continue to work closely together to implement the National Public Safety Radio system upgrade. Significant work was undertaken in 2018 to strengthen the communications infrastructure within the Cayman Islands via an agreement between the Government and Motorola Solutions which will result in a modern, public safety emergency communications radio system that will support all first responders, including those activated in a disaster.

The new "P25" system will replace the existing outdated, analog radios with digital radios that include features such as GPS location, text messaging and encryption. Upgrades will also include the addition of three new radio frequency sites to address areas where analog radio reception has been weak.

WebEOC

An essential three-day training session occurred in October 2018. WebEOC is a vital tool used during the NEOC activation. The Cayman Islands has been very fortunate to be spared from numerous events that could have required the activation of the NEOC; however, this good fortune also results in members only accessing the software during the annual hurricane exercise. This training provided hands-on training in the use of WebEOC. It also aimed to identify ways to increase the user-friendliness of the software.

End-users provided feedback which has been utilized to enhance the boards located on WebEOC. Enhancing the usability on the boards removes added stress in an already stressful environment.

Shelter Management

Shelter Inspections

The National Disaster Plan calls for an annual inspection of the emergency shelters to ensure that they are in a state of readiness for any emergency. During the inspection process, each shelter is checked for accessibility and adequate parking spaces. The building structures are checked for visible hazards, leaking roofs and condition of the windows and shutters. The amenities and services are also reviewed.

A generator inspection was conducted, which included fuel level checks and startup of the generator. All faucets, showers and toilets were assessed to ensure they are in working order and accessible for physically disabled persons. The food storage areas were assessed for cleanliness, security and contents suitability. There was also a necessary check for sanitation and vector control.

On April 9th through to the 11th, 2018, the Shelter Inspection Team which consisted of representatives from HMCI, Department of Children and Family Services (DCFS), Public Works Department (PWD), The Health Services Authority (HSA), Facilities Management and

Education Department conducted an assessment of the 16 Class "A" Emergency Shelters on Grand Cayman. Additionally, in June 2018, representatives from the Department of Environmental Health visited the Class "A" shelters to conduct sanitary inspections of the premises, their surroundings and the cisterns.

The general conditions of the Shelter Facilities were satisfactory at the time of the inspections. Most defects could be repaired during the general maintenance of the premises. However, it is a concern that several shelters are not fully accessible for persons with physical disabilities.

Shelter Management Training

On May 8th and 9th, HMCI in partnership with DCFS, provided Shelter Management Training to 166 volunteers. Additionally, a customized Shelter Management Training was conducted in Cayman Brac on September 27. Twenty additional volunteers were trained on that occasion. During both training sessions, the volunteers were given an overview of the shelter program, processes and roles and responsibilities. Furthermore, on June 14th, HMCI and DCFS delivered a new in-depth training to 49 shelter managers and district representatives. During this training the managers and district representatives were given real-life scenarios and were able to put their knowledge to the test and become more familiar with the processes, equipment and premises.

In addition to the training, HMCI updated:

- The Administration Bins in each shelter
- The Shelteree Admission Form
- Shelter Rules Signs
- Shelter Liability Wavier for Shelterees

Shelter Stock

In early August, the shelter supplies that were approaching expiration were taken out of each shelter and given to DCFS for distribution to their clients. Replacement goods were then procured and on August 23rd, HMCI conducted a cross-training exercise to sensitize all staff members of the distribution process for all supplies.

At this training exercise, the new goods were separated and allocated to each shelter and expiration dates were recorded. This made it easier for the distribution team to replace the goods in the shelters.

In addition, HMCI created an audit sheet to track and record the donations of expiring stock to DCFS. This is a new procedure that enhances HMCI's transparency and accountability.

HMCI also assisted Cayman Brac with the replenishmwnt of their expired shelter supplies in September 2018.

4. Regional Collaboration

With the intention of significantly increasing Cayman's visibility in the region in disaster preparedness, mitigation, response and recovery, HMCI, in partnership with the Governor's Office and CIRC, are leading on a number of initiatives to promote the adoption of new ideas and the sharing of best practice across the Overseas Territories (OT).

The Cayman Islands showed significant support to other OTs in 2017 following Hurricane Irma

and Maria, with the deployment of the RCIPS' helicopter and personnel, medical personnel and supplies, response personnel from HMCI and other agencies and relief supplies.

As such, we are building a reputation for response capacity. In order to sustain this reputation and visibility, significant steps were taken in 2018 to ensure disaster response initiatives that have the potential to be implemented in the region.

Crisis Hub

One such initiative is the implementation of the FCO Crisis Hub; an 'affected'/ 'missing' person's tool that will provide a standardized approach for handling casualty tracking, missing persons and evacuations. A proposal to trial Crisis Hub received Cabinet support and key agencies received training on the system including HMCI, RCIPS/Casualty Bureau, DPSC, CIRC and the Department of Tourism (DOT). HMCI ended the year researching the legal implications related to Data Protection and other matters and plans to present a proposal for the implementation of a pilot programme to Cabinet early 2019.

Foreign and Commonwealth Office and Ministry of Defense

HMCI worked closely with the FCO in 2018 and attended several trainings, meetings and presentations throughout the year. These included the FCO Communications Workshop in Miami (February), Hazard presentation to Lord Ahmad of Wimbledon (May), the Miami OT's Disaster Manager's Conference (May) and a meeting/ deployment exercise with RFA Mounts Bay (June).

HMCI also provided assistance to the Head of the Governor's Office (Cayman) in regard to a Hurricane Preparedness Survey (June), the FCO Miami Office in regard to British Consulate Capacity Building Survey (July), and information for the Joint Ministerial Council meeting (October/November) and the FCO's meeting regarding Hydrographic Surveying.

A Critical Infrastructure Mapping exercise with the Ministry of Defense was held in July, whereby Lt. Col Rich Maltby and Sqn Leader John Kirkman worked with the HMCI team and other stakeholders to produce data and maps that would assist both parties in the event of a large-scale disaster. A presentation to Cabinet on Ministry of Defense capabilities and HMCI preparedness was made during the week-long exercise.

Regional Framework for Hurricane Preparedness Collaboration

In April 2018 the Deputy Chief Officer for the Ministry of Financial Services and Home Affairs represented the Cayman Islands at the FCO's Programme for Overseas Territories Disaster Management in London, facilitated by Bournemouth University.

Subsequently the Head of the Governor's Office, Director of HMCI and Deputy Chief Officer attended a meeting hosted by the FCO in London on 28 June 2018. The purpose of the meeting was to facilitate technical discussions on regional support mechanisms and the exploration of opportunities for enhanced collaboration in a number of critical areas including: political and consular assistance, humanitarian assistance and military assistance.

After the meeting, it was agreed that a draft framework for collaboration would be developed and we are committed to continued participation in these discussions.

Caribbean Disaster Emergency Management Agency (CDEMA)

Initial discussions with the Director, Hazard Management and the Head of Governor's Office regarding the potential benefits of CDEMA membership for the Cayman Islands and Bermuda were held during the OT's Disaster Management Conference (8-10th May 2018) in Miami.

From these initial discussions, it appears that membership will provide Cayman with access to specialised support in the event of a disaster which could complement our internal resources and enhance our ability to respond, particularly in the critical early phase. Such support might involve logistics, search and rescue, emergency operations and security personnel if required.

Further research will be conducted early 2019 regarding the potential resources, personnel and other commitments that will be required if the Cayman Islands are to join CDEMA.

Overseas Territory's Rapid Deployment Team

Lessons learned from Hurricanes Irma and Maria in 2017 highlighted the need for an OT's Rapid Deployment Team that could be swiftly deployed to provide support to an impacted territory. By pre-determining and approving access to the required skills and resources, the response and effectiveness will be more timely and efficient, better coordinated and easier to mobilise.

A paper outlining a proposal for such arrangements was drafted and presented by HMCI/Governor's Office at the OT's Disaster Management Conference in May 2018.

While consultation is ongoing, it is envisioned that the agreement will be formalized in a Regional OT Memorandum of Understanding, which will include details of commitments to funding, personnel and other resources, as well as training to be delivered to persons with relevant skills and experience from across the territories.

5. Next Steps Forward

HMCI is striving to continue to be more proactive, more creative and more dynamic; some of the themes moving forward include:

Preparedness and Building Resilience

A Unified Approach to Relief Distribution

Establishing a unified methodology whereby Government, public, HMCI/DCFS/Need Assessment Unit (NAU), private stakeholders, and voluntary agencies such as CIRC and Rotary/Kiwanis/Lions etc. can pool all relief supplies in the aftermath of any large-scale disaster and distribute in accordance with a pre-agreed methodology.

We are also researching the potential implementation of a Cash-Based Relief Distribution process in partnership with other Volunteer Agency Responders (VARs) members.

Volunteer Agency Responders (VARs)

HMCI is re-engaging and developing the Cayman Islands VARs Emergency Support Teams which play a vital role in disaster response. It is crucial that the roles and responsibilities of the volunteer agencies and civic clubs are understood (in particular with the new proposed relief distribution methodology). HMCI will continue to foster collaboration between the volunteer agencies and civic clubs including presentations, training and involvement in simulations.

Community Emergency Response Teams (CERT)

In partnership with the Cayman Islands Red Cross, HMCI intends to focus in 2019 on rebuilding and strengthening the CERT program, establishing sustainability activities for existing teams and developing new teams in Little Cayman, Savannah and Snug Harbour. In June 2019, we intend to conduct a disaster simulation camp activity for the CERT Challenge.

First Responder Training

HMCI will continue to provide relevant hazard awareness and targeted training to first responders such as Emergency Care and Treatment, Hazwoper, Mass Casualty Management and Incident Command Systems.

Disaster Awareness in Schools

In partnership with the Red Cross, HMCI intends to expand the school disaster awareness program to include all High School, Middle School and Primary Schools in 2019. Outreach in these schools will include interactive presentations, workshops and drills; the school itself will decide which option they would like.

Business Continuity

HMCI plans to offer business continuity training in 2019 to all Government Departments and private entities on request. Also, HMCI seeks to receive at least 80 percent of the Continuity of Operations Plans (CoOP) back from Government Departments and Agencies before the deadline, with more focus on quality and relevance. Significant work will also be carried out on HMCI's CoOP plan to ensure we can share best practices.

Social Media

HMCI intends to increase its Facebook audience by 25% in 2019 and initiate new Instagram and YouTube platforms. We are in the process of investigating new methods for sharing HMCI's messages on preparedness include the creation of documentaries and other mediums to reach a wide range of audiences.

Staff and NEOC Wellness

In 2019, HMCI intends to initiate a more robust staff wellness program both within HMCI and the NEOC structure which would include adding a Psycho-social support Emergency Support Team (under Human Concerns Cluster)/ increasing team building activities, etc.

Mitigation

The year 2019 will see increased mitigation efforts to improve capacity and knowledge generally, and to provide public resources for flood mapping, storm-driven wave impacts, earthquake vulnerability, tsunami evacuation planning, inundation modeling and storm surge modeling etc. We will facilitate additional meetings with key stakeholders such as Lands

and Survey, the Planning Department, Building Control, Utilities, etc.

Hazard Analysis

Storm surge is the number one threat to life and property from hazards in the Cayman Islands. In 2019, we plan to identify a reliable and accurate storm surge modeling system (and associated costs) that will assist the Cayman Islands. We will work closely with Cayman Islands Weather Service and National Oceanic and Atmospheric Administration (NOAA) on this project.

Response

"Response Readiness"- HMCI is moving towards a more 'response ready' environment this year with all kits (shelter management communications and backpacks, grab and go kits, satellite phones, radios and laptops) being checked monthly.

In 2018, HMCI established an operational 'bench' where all equipment can be tested, and staff trained. HMCI Staff members have been trained in setting up the contingency communications equipment, such as VSAT and BGAN equipment, owned by the Governor's Office. Old shelter laptops were given to each staff member to be able to activate at home, and a duty officer phone and laptop rotate between the Acting Deputies.

National Emergency Operations Centre (NEOC)

HMCI will continue to ensure that the NEOC can be activated within 1.5 hours. This will include quarterly staff set up drills (with facilities and IT dept.), and regular meetings with cluster leaders and ESTs. In 2019, HMCI and Facilities Management will conduct a space assessment and mapping exercise for NEOC activation (including Silver Command/ Casualty Bureau/ Search & Rescue/ families and pets).

All NEOC personal will be trained this year in WebEOC. HMCI intends to identify and train 'Champions' within the Ministry to act up in an NEOC capacity (when activated).

Emergency Notification

The Disaster Preparedness and Hazard Management Law, 2016 requires the establishment of an Emergency Notification System which provides a practical solution for distributing critical and sometimes life-saving information promptly to residents and visitors.

The implementation of a National Emergency Notification System is underway with Phase One – Radio Interrupts expected to be finalized by the first quarter of 2019.

This phase of the long-awaited project will allow Government to interrupt radio broadcasts with emergency notifications. Phases two and three, which are still in the planning stages, facilitate the interruption of television broadcasts and the guaranteed timely delivery of emergency notifications to communications devices such as mobile phones.

HMCI will continue collaboration with other public safety agencies including the Department of Public Safety Communications, utility regulator OfReg, and various private telecoms companies to implement all stages of this national system.

Plan Development

We intend to complete the draft of the Earthquake Plan, Oil Spills Plan, the Hazardous Materials Plan and recommendations in 2019 as

well as updating all other National Plans. Given the nature of our work we are developing visual step by step wall charts for sudden and slow onset events.

Emergency Shelters

With currently only 8% of the Grand Cayman population being able to shelter in public shelters, HMCI intends to identify ways to increase capacity in 2019 with the goal of achieving 20% capacity within the next two years.

It has also long been recognized that in an emergency, many persons are not willing to leave their pets behind, even if it means risking their own lives in the face of an impending threat. The development of a "Pet-Friendly Policy" and the identification of "Pet-Friendly Shelters" will provide an option for people with pets who require shelter in a government approved shelter facility.

This positive step could save the lives of both animals and their owners and we aim to make this a reality prior to the commencement of the 2019 hurricane season.

"Hazard Management remains fully committed and determined to make the Cayman Islands safer, stronger, better prepared and more able to withstand and recover from any hazard that threatens the Cayman Islands".



WebEOC Training Session with Government Agencies and Departments in October 2018