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HORIZON

CARICAD
Caribbean Centre for Development Administration

Celebrating 45 Years Of Service

2025 Special Hurricane Edition Newsletter

Beryl's BRUTAL VISIT

Many of the photographs in this Special Hurricane Edition of the CARICAD Horizon were graciously donated by Gregory King, a resident of St. Vincent and the Grenadines, just after the arrival of Hurricane Beryl in the region. CARICAD reminds everyone to take all of the necessary precautions to avoid this level of destruction as we continue to keep those affected in our prayers.

I AM JE SUIS IK BEN CARICOM

I AM CARICOM

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Storm damage in the Grenadines. (***Photos by Gregory King***)

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NOTE: (CARICAD's Supplementary Associate Franklyn Michael was deputed by the Executive Director to write this article.)

From the desk of the EXECUTIVE DIRECTOR

Devon Rowe,
Executive Director
CARICAD

The advent of the 2025 Hurricane season reminds us that we will not only be challenged by the headwinds of global trade changes and the fall-out from various conflicts but potentially, by the real winds of storms and hurricanes.

In his book, Crunch Point: The 21 Secrets to Succeeding When It Matters Most (AMACOM, 2006), management and personal success expert Brian Tracy writes:

> *"It is estimated that every business has a crisis every two to three months that, if not handled quickly and effectively, can threaten the very survival of the enterprise. And each person has a crisis — personal, financial, family or health — every two or three months that can knock you off center as well."*

The information in the bullets below was shared recently in a webinar by CARICAD's strategic partner Caribbean Catastrophe Risk Insurance Facility — CCRIF SPC.

- *Apart from natural hazard risks, Caribbean countries are also subject to a myriad of other risks.*
- *These risks oftentimes do not stop at individual island national borders but are part of a complex globally interconnected system – for example, the risks associated with climate change are borderless.*
- *Adaptation to this compendium of risks places enormous pressure on regional governments, who are charged with the responsibility of maintaining critical infrastructure while balancing lives and economic livelihoods under increasing budgetary constraints.*
- *Within this context, prioritising risks and the actions necessary for effective adaptation becomes a point of concern. Risk management is a process which governments can harness to determine their priorities in advance and in order where possible to minimise risks.*
- *Risk Management involves a thorough examination of current situations, as well as a constant awareness of the ever-changing risk landscape, and offers insight into opportunities and mechanisms which can be used to anticipate, adapt to and mitigate against present and future risks.*

We often make the assertion that Risk is of greater concern to the private sector than the public sector but is that really so? Think of the experiences that our region has gone through since 2020. Start with the COVID-19 pandemic and then continue to volcanic eruptions, earthquakes, high temperatures, droughts and Hurricane Beryl.

I invite you to reflect on the tariffs imposed on trading partners by the USA and the implications of the repatriation of Caribbean nationals from the USA. Those reminders should be enough for us to take time to ponder the importance of Risk for the Public sector. We are moving into an era in which Risks are not only highly probable but have great potential negative impacts. We are indeed in the era of polycrises. That term "polycrisis" has been attributed to French philosopher Edgar Morin in his 1993 book, Terre-Patrie, and has been popularised by historian Adam Tooze.

CARICAD is advocating for a renewed emphasis on *Leadership and Management for Mindset Change.* Our new realities require a new mindset in the public sector. The polycrisis realities are different, the implications and consequences of risk-driven work are different. We are rapidly moving away from a people-focused world to a technology-dependent world. Clearly, advances in technology have brought great efficiencies to all aspects of life but our level of Risk may now be even greater. Constant exposure to storms and hurricanes is part of that Risk. CARICAD continues to produce our special hurricane season edition of our newsletter in the hope that we will be stimulating thought and promoting a commitment to action on the part of public sector leaders/managers. Those leaders/managers may not decide on policy, but they research and present information and advice to Ministers as individuals and Cabinet as a whole that may ultimately determine policy stances on matters relating to Risks. The Leadership/Management interface is what often determines how much we are able to reduce the negative consequences of risks and how quickly we can resume our journey on the road to Resilience.

When it comes to preparing for storms and hurricanes each year we must embrace our responsibilities at every level — individual, family, organisational, neighbourhood, community and country. This 2025 edition of our newsletter seeks to promote and reinforce the importance of readiness at all levels.

However, I invite us to consider using a similar mindset to that with which we prepare for storms and hurricanes as the foundation for the mindset we need to face and respond to all Risks. We must not only Prepare but we must Perform and Transform.

BENT, NOT BROKEN

A Virgin Islander's Story of Hurricane Irma

By Angelique Lettsome

A Storm We'll Never Forget

September 6th, 2017 — a date forever etched in the minds of the Virgin Islanders who lived through its sunrise and sunset. A day through which we are forever linked as its life-altering memory sent shockwaves across our territory. Homes were destroyed, families were displaced and our once vibrant territory bustling with life came to a deafening hush. It felt like we were living in a post-apocalyptic world, and the worst part was that nobody saw it coming.

Life Before The Storm

Here in the Virgin Islands, our calendar has a natural rhythm. January starts slow as folks ease into the new year, recovering from all of grandma's good food and guavaberry rum from Christmas time. March brings Easter break with beach picnics and kite-flying. August is for Festival, filled with music, mas, and emancipation, while September marks the return to school. But June through November is hurricane season. A phrase we used to toss around casually back then, before it carried the weight it does now.

I was two months shy of my fifteenth birthday when word of the storm began hitting the airwaves. During that time, I was living in a quiet area nestled between Long Look and East End called Old Plantation, on the island of Tortola. I had just entered fourth form which would be my junior year based on the American system. This was a significant time in the lives of myself and my classmates as we could finally see the light at the end of that high school tunnel. It was a time many of us saw as an opportunity to step up and prove ourselves. Life felt promising. School had only just reopened two days before, and everything still had that fresh, back-to-school energy. New notebooks, new teachers, new goals. But just as we were settling in, talk of a storm began to pick up.

I remember how unfazed we all were. My classmates and I didn't take it seriously. Hurricanes were like a seasonal ritual for us, a bit of wind, a definite blackout, some flooding, and a few cozy days indoors with snacks and devices. We had no concept of what was really coming. The storm's category rose quickly, but from what I remember most people in the community stayed calm. The last big one most could remember was Hugo, and even that felt like ancient history.

The Storm

The morning of the storm, everything still felt eerily normal. My cousin and I were charging our devices, ready to pass the time like it was just another passing system. Meanwhile, my parents moved around the house in hurricane mode, locking the shutters, checking the water supply, and setting the battery-powered

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radio. I remember that radio clearly, the voice of the announcer cutting through the hum of worry that hadn't yet reached full volume.

I stood by the front door and watched the breadfruit tree swaying, wondering to myself, when is this storm even going to start? And as the winds picked up slowly, I noticed my neighbours boarding up windows and running last-minute errands outside. Surprisingly seeing all the extra efforts to board up didn't ring any alarm bells for me, even with Irma already having developed into a category five storm. Perhaps it was the fact that at that point I had yet to experience a true natural disaster, or maybe the stillness of the sky and the calm but forceful breeze fooled me into believing everything would be alright. But that didn't last long.

A voice on the radio filled the room with commentary on the storm. Then suddenly, that same voice started calling names. People whose homes had already been breached were crying out for help live on the air. And then, silence.

The radio went dead. And the world outside got loud.

The wind roared like a living thing. The air pressure inside the house shifted. It felt thick, like we were underwater. Everything happened so fast it was like time collapsed. The calm forceful breeze was but a distant memory as it began lifting any and everything in its path. I looked out through a crack in our shutters and saw our washer and dryer being tossed around like empty soda cans. I immediately grew concerned as our dog was outside and I feared she'd be crushed or blown away. Simultaneously water began pooling at my feet as the wind swept the rain under the cracks of our door. My dad was already searching for towels while my mom went to check the bedroom.

And then came the scream.

My mother's voice, sharp and panicked, rang through the house. The bedroom window had blown in. Wind, water, and glass burst into the room. My parents rushed to shut the door and yelled for my cousin and me to get to the kitchen and sit on the floor. That's when I heard the commotion upstairs. We live in an apartment-style family home. Our relatives on the top floor were suddenly evacuating because the roof had peeled off. This led to even more water leaking into our home from above. I remember crouching low, stricken with fear, praying in whispers and then singing Sunday school hymns out loud to calm myself. My mind couldn't keep up. I was so overwhelmed that everything went blank. I just kept repeating to myself, God, please protect us. I don't want to die.

Then came the eye.

The Eye of The Storm

The winds died down and for a moment there was just silence. It was as if the world itself was holding its breath. We used that sliver of calm to attempt an evacuation to a nearby shelter, only to find it had already been destroyed. Its windows were shattered. The roof was torn off. Cars were flipped over or crushed by debris, and the ground was littered with glass and power lines.

It didn't feel real.

We rushed back home, because ironically our damaged house had become the safer option. We rode out the rest of the storm that night in darkness, soaked in fear and disbelief.

The Aftermath

Stepping outside the following morning felt like walking onto a movie set. I remember thinking back to an attraction at Universal Studios based on the movie Twister. I had gone on that ride multiple times as a child, and even then, it scared me. The sound of the wind, the rumble, the way the storm tore everything apart in seconds. But that? That was nothing compared to what I saw in real life.

It looked like a bomb had dropped on my beautiful Virgin Islands.

The vibrant greens we were known for were gone. The hillsides were stripped bare. Debris blanketed every inch of road. Power lines were tangled like webs. Wood, concrete, metal, and plants were scattered as far as the eye could see. It was surreal; and I wasn't alone in my shock. All around me, people stepped out of their homes like survivors in a dystopian film, slowly taking in the devastation that surrounded us.

The days that followed blurred together. I remember news crews flying in, their cameras aimed directly at my community. My home became a backdrop for the

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world to witness our pain. The UK military arrived soon after, not just with supplies but allegedly with body bags. They probably expected mass casualties and honestly, I couldn't blame them. It's a miracle so many of us made it out alive. But maybe that's just a reflection of the deep spiritual covering over our islands. Our ancestors don't play about us.

The Months That Followed

In the months that followed we managed the best we could as survival became our full-time jobs. Water was stored in coolers, gas station lines felt endless, and our cars became our only source of power. For a while, that was our new normal, until a few months later when my mom's friend sent us a generator which greatly enhanced our experience.

At that time school felt like a distant memory. The idea of studying, graduating, or even returning to class dropped to the bottom of my priorities. My mind was focused on survival, on processing what had happened, on holding it together. But my parents had other ideas as they began discussion about sending me to Puerto Rico to finish the school year. Then Hurricane Maria hit the following week, and that plan disappeared overnight.

So I stayed.

I waited.

And I felt stuck.

There was nowhere to go, and nothing to do but survive. And surviving is exactly what we did. The months that followed are tangled together in my mind, blurry and heavy. But the feelings never left. The stress, fear and constant uncertainty linger. They live in me. And even now, when the wind howls a little too loud, my heart still skips a beat.

The Gift Hidden In The Storm

But even with the trauma, I carry gratitude. That experience taught me to value life's smallest moments. To appreciate calm. To understand that

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everything, absolutely everything, can change in a flash. Irma stripped us bare, but she also revealed our roots. Our resilience. Our strength. And the quiet power of community.

If I could speak to the 14-year-old me huddled on that kitchen floor, knees to chest and praying beneath the howl of the storm, I'd tell her this moment won't last forever.

Life has a rhythm of its own, always flowing, always shifting. What feels like the end is usually just a passage. Even in the middle of chaos, there is beauty in motion. And that's the lesson that's stayed with me. Gratitude.

Gratitude became my lifeline. Yes, the days were hard. Months without power. The daily struggle to find food. My mom and I traveling to random buildings just to charge our devices. Most of my classmates had already left the island. Our class of 19 became just 10. But even then, I had breath in my body and some kind of future waiting for me. I held onto that. I finished school. I graduated. I kept going.

If I had the chance to speak to anyone facing a storm, literal or otherwise, I'd tell them this. Life can strip you of everything except your faith. Whether it's faith in the Most High, the universe, or simply in the belief that things will get better, that faith is what keeps your spark alive.

My generation jokes about being delusional. But honestly? It works. That deep, unwavering belief that every road somehow leads to a better ending? That's what gets you through. That's what carried me forward. It's what still carries me now.

Resilience Personified

When I hear the word resilience, I picture a tree rooted firmly in the earth. Its trunk steady, even as the winds of life whip it back and forth. Storm after storm, you'll see leaves fall. Branches snap. And sometimes, the wind bends it so low to the ground you'd swear it's about to break.

But it doesn't.

Instead of breaking, it bends into a new shape. One carved by every gust, every blow, every challenge it's survived. That tree becomes a living reflection of strength, of growth, of endurance. That's how I define resilience. The ability to bend, weep, and endure, but never stop bearing fruit.

That's exactly what I've witnessed in the British Virgin Islands. We've weathered so much. From back-to-back hurricanes in 2017 to a global pandemic just three years later. Our economy took major hits. Our population changed. And yet, the spirit of our people remains unshaken. Our numbers show recovery, yes. But more importantly, so do our stories, our voices, and our drive to move forward.

What I hope this message leaves behind is simple. Don't let your current reality dictate how you move through life. The world will always have its storms. There will always be economic downturns, disasters, grief, and uncertainty. That part doesn't change.

But you can.

What does change is how you choose to face those challenges, how you grow through them, and how you use those lessons to light the way for others. That's what community is about. Surviving, healing, and building together.

Angelique Lettsome is a 22-year-old Virgin Islander and proud graduate of both H. Lavity Stoutt Community College and the University of the Virgin Islands. She holds an associate's degree in general science and a bachelor's degree in biology with minors in psychology and communications. Angelique is passionate about storytelling, and community resilience and believes in using her voice to spark healing and to inspire others, especially youth, to rise from challenges with strength and purpose.

HURRICANE HUGO

On My Mind, But I Was Away From Home

By Melissa O'Garro

My very first emotion when I heard my island might be impacted by Hurricane Hugo, was one of disappointment. Disappointment because anyone that knows me well, knows that it may be unusual but I love storms. The torrential rains, the loud thunder and the energy from the lightning give me a special feeling of being close to nature. Against that background, imagine me sitting in Jamaica in 1989, more than a thousand miles away from my island home — Montserrat — when it was threatened by Hurricane Hugo. I was in Jamaica participating in a training programme at a small CARICOM institute in the hills, on the outskirts of Ocho Rios. There I was contemplating the fact that my home island was probably going to feel the impacts of a "glorious storm" and I was going to miss the experience!

I spoke to my family at home the morning when the hurricane actually hit. That was September 17th, 1989. They were busy preparing for the impact of the storm. My sisters were packing up clothes and shoes, taking the knick-knacks off the space saver. They used garbage bags to cover anything they felt might get wet. My mother was busy baking up a storm as she normally did in those days and my dad was puttering around the yard moving smaller items that might be blown away. My sisters said the freezer was full of meat and the fridge full of food. In hindsight, we had absolutely no idea of exactly what a hurricane was or the damage and impact it would have on our lives for years to come. I feel confident in saying that no one expected a hurricane the strength and size of Hugo to sit over Montserrat for almost 12 hours. We all felt, as in previous hurricane warnings, that the storm would by-pass us and we would spend the following day walking or driving on the roads to see what damage was done and catch up on gossiping with friends. There had been no major hurricane impact in Montserrat since the 1950s.

On September 18th I woke up to the news that Montserrat was virtually destroyed. The initial news reports I got in Jamaica were very vague but gave the impression that the island was totally decimated. All I felt was fear, my stomach turned to water as I sent up some quick prayers that my family and loved ones would remain safe.

In those days, we did not have cell phones or WhatsApp and the only telephone access I had to home was through collect calls (reversed charges) from the training centre's office using a telephone system that required dialing 10 numbers before actually putting in the numbers you required. My friend and colleague (the only other Montserratian in the programme) and I literally ran to the office, begging for access to the phones and started calling our home numbers. No answers! We called different numbers, No answers! I was scared out of mind; I felt as if I was really losing my mind, and I actually felt guilty about being upset that I was missing a big storm. Imagine being in Jamaica with absolutely no access to, or communication with, anyone at home and looking at all the devastation on the television news. Finally, my brother called me; he was also studying overseas in Toronto, Canada and was calling all the numbers he knew at home trying to get any information that he could. Believe it or not, he actually got through to one of his friends at home in Montserrat. His friend's mother answered the phone screaming hysterically that everything was gone! She was unaware that their phone still worked despite the devastation and was caught off guard when she heard it ringing. My brother managed to calm her down. She was able to confirm that although the island was badly damaged, my relatives were all unharmed and safe. It's difficult to put into words my terror when I could not contact anyone at home or the relief I felt just knowing they were safe.

In the days and weeks that followed, as the telephone service was restored, I found out from my sisters about the absolute terror they endured, hiding in the closet for many hours as my mother prayed feverishly and my father just sat there! The stories they shared about looking outside and being able to see clearly from one side of our island to the next because all the trees that were left standing, were devoid of leaves. They spoke of my mother's dismay when they looked across to my aunt's house and saw them waving and she thought that only her house roof was destroyed without realising that the reason she could see them so clearly was because all of their windows were blown out. There were also stories about the food that had to be dumped; the lack of water and electricity, driving miles from home to a

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location known as Foxes Bay to reach a public "standpipe" with running water, to do the laundry. That meant washing by hand. I felt informed but it increased my sense of isolation, my sense of loss and a deep feeling of regret for not being home to assist with the clean up or really just to be there.

My family was clearly traumatised and as the days progressed you could sense they were getting quite exhausted from it all. But there were also the stories about the kindness of neighbours and friends. They spoke about the group of men who came and covered the destroyed portions of our roof and even assisted in repairing it when that time came later. My mother and others cooked for the teams of workmen from the Public Works Department who worked tirelessly to ensure that roofs were covered with plastic and that roads were cleared.

I lived for the calls home and all of the stories; some of which were quite funny. The stories that kept me updated with how the island was rebounding. The news items that we heard and saw on television in Jamaica were more sensational and never as detailed or informative as those telephone calls from home in Montserrat.

It is amazing how nature bounces back. I reached back home in December; three months after Hurricane Hugo wreaked havoc on my island. The trees were lush and green again. The mountains looked verdant from a distance, the seawater looked blue and inviting. The only visual impression I got that a hurricane had devastated the island was the large number of homes that still had blue plastic sheeting on the roofs. My home from the outside was practically back to normal…. except when I went looking for my clothes. Many of my clothes were missing. In discussions with my sister, I found out that it was just too much to get them all washed and dried in the days following the storm so everything that had mildew was dumped. They regaled me with stories about improvisation, including using an old sugar factory vat for laundry. They tried to make me understand what it was like to live for weeks without running water or electricity. What it was like not being able to iron clothes.

It is now almost 40 years later but the trauma of Hurricane Hugo still lingers on in our beloved island. It has been 30 years since the onset of volcanic activities here in Montserrat in 1995, but the impact of Hurricane Hugo remains at least in our minds. Every time Radio Montserrat gives notice that a hurricane is in the region one sister, who lives here, literally panics. Her preparations are a frenzy of activity and her mental anguish is clearly evident. Both of my sisters now just tolerate corned beef after having that as one of the staples they ate for weeks during the aftermath of the hurricane. I still love corned beef but then I did not experience Hugo the same way.

My response is a lot slower and a little more laid back as I am convinced that there is no need to fill every available container with water or cover every appliance with garbage bags. One sister's often screaming response to my tardiness is that I know nothing about hurricanes!

Melissa O'Garro is a native Montserratian with a passion for nature and outdoors. That passion motivated her to pursue a career in Agriculture, later completing a Bachelor of Science degree in General Agriculture from the University of the West Indies. She later completed an MSc in Marine Management at the University of Dalhousie in Nova Scotia, Canada. Following those periods of study, she returned home to Montserrat to contribute to the development of the Agricultural sector in particular and the Montserratian community in general. Her passion and commitment to task helped her progress up the ranks over the years. She was the first woman appointed to the position of Director of Agriculture. She served in that capacity for 15 years and to date, remains the only woman to have held the post. Melissa is a member of a large family whose patriotic public service, voluntary efforts and cultural prowess are renowned locally, regionally and internationally. She remains dedicated to the well-being and welfare of her daughter and the celebrated extended family.In her quiet moments alone, Melissa enjoys reading or simply relaxing by the sea enjoying the calming sounds of the waves.

HURRICANES
A Global Tropical Threat

By Franklyn Michael, Supplementary Associate, CARICAD

Since 1950, the Caribbean region has been hit on average, by seven disasters per year that have killed hundreds of thousands of people and affected millions more. Annual damage in the Caribbean accounts for 40% of global damage. Caribbean small states have suffered more damage and at greater frequency than both other small and larger states. Climate change is expected to exacerbate these effects by increasing the frequency and severity of natural disasters, affecting the ***livelihood of the populations****, and* ***harming the essential assets their insufficiently diversified*** *economies rely on.*

Dr. Asha Kambon – Public Policy Expert – Caribbean personality

On average over time, we can see that countries in the Caribbean suffer yearly losses due to storm damage equivalent to 17% of their GDP (for years that they were hit by storms). *Of course, this varies greatly across nations both due to the severity of storms as well as the size of countries' GDP – ranging from an average loss of 1% in Trinidad and Tobago to an average loss of 74% in Dominica. In 2017 alone,* ***Dominica lost the equivalent of 253% of its GDP*** *(during Hurricane Maria). This was just two years after it lost the equivalent of 92% of its GDP (during Hurricane Erika). These losses are compounded by losses resulting from other extreme natural events, such as earthquakes, floods and droughts.*

SOURCE: UNDP

https://www.undp.org/latin-america/after-rain-lasting-effects-storms-caribbean

The Caribbean has been particularly hard-hit by devastating hurricanes since 2014, with the 2017 Atlantic hurricane season standing out as historic both in terms of storm strength and damage.

SOURCE: UNICEF 2019

Those three quotations set the context for us to reflect on the importance of tropical storms and hurricanes in the Caribbean. In particular, they point to the challenges to efforts to achieve resilient and sustainable development. It would be easy against that background, to think that the Caribbean is singular or on its own, in relation to the threat of storms and hurricanes. That is not so. Tropical Cyclones are a global threat.

The National Hurricane Centre defines a tropical cyclone as, "*A warm-core non-frontal scale cyclone, originating over tropical or subtropical waters, with organised deep convection and a closed surface wind circulation about a well-defined centre. Once formed, a tropical cyclone is maintained by the extraction of heat energy from the ocean at high temperatures and heat export at the low temperatures of the upper troposphere. In this they differ from extratropical cyclones, which derive their energy from horizontal temperature contrasts in the atmosphere.*"

Tropical Cyclones are huge cyclonic systems with sustained winds of 74 miles per hour or greater. They have the potential to release hundreds of tonnes of rainfall and create storm surges that can reach inland for huge distances, in low-lying areas. They also have massive thunderstorms embedded in them. Almost 90% of these storms form within 20° north or south

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A Global Tropical Threat

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of the Equator. Almost 100 such storms occur globally each year.

These weather systems are remarkably similar in how they are created but they are called by different names in different parts of the world as we show below.

AREA OF THE WORLD	NAMES GIVEN TO CYCLONES
Atlantic Basin and the Caribbean	Hurricanes
Eastern, Northern Pacific Ocean	Hurricanes
Western Pacific Ocean	Typhoons
Southern Hemisphere	Cyclones
Australia (informally)	Willy-willy

The table illustrates the fact that Tropical Cyclones are found in both the Northern and Southern Hemisphere. Caribbean countries are located north of the equator and south of the Tropic of Cancer (23.5° north). That means that they are in the Northern Hemisphere.

Professor Stephen Nelson of Tulane University estimates that 12% of tropical cyclones arise in the Atlantic Ocean while 15% develop in the Eastern Pacific Ocean, 30% in the Western Pacific, 24% in the Indian Ocean and 12% in the southern Pacific Ocean.

There is now broad agreement on the conditions that create these storms. They include:

- Warm ocean water of at least 80° Fahrenheit
- Enough moisture in the atmosphere to sustain the storm
- An initial atmospheric disturbance such as an Easterly Wave, in which warm, moist air converges and circulates
- Very little wind shear in the upper atmosphere

In the Atlantic Basin and the Caribbean region, the storms that can become hurricanes, occur most frequently during the designated hurricane season that extends from June 1st to November 30th. There is a statistical peak in September. The Caribbean is particularly vulnerable to hurricanes due to its location in the Atlantic "hurricane belt". While the hurricane season extends from June to November, such storms can occur throughout the year. There has been at least one hurricane-type storm in each month of the year.

In the eastern, Northern Pacific Ocean region, the storms are most common from May to November. There is a contrast with the Indian Ocean. In that area, the storms are common from April until December. Strikingly, there is a double peak in storm activity, one in May and another in November each year. It is notable that with the reversal of seasons in the hemispheres, storms in the Southern Hemisphere are more common closer to the end of the calendar year or early in the year – from November to April.

The following classification of Tropical Cyclones was taken from the World Meteorological Organisations 2023 fact sheet.

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A Global Tropical Threat

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knot	km/h	Beaufort	South West Indian Ocean*	Arabian Sea and Bay of Bengal**	North West Pacific**	North Atlantic and North East Pacific***	South West Pacific and South East Indian Ocean*
Average wind speed			knot km/h	knot km/h		Knot km/h mi/h	knot km/h
			Zone of disturbed weather	Low pressure area			Tropical disturbance
17 27	31 50	6	Tropical disturbance	Depression	Tropical depression	Tropical depression	Tropical low/depression
28 33	51 62	7	Tropical depression	Deep depression			
34 40 47	63 88	8 9	Moderate tropical storm	Cyclonic storm	Tropical storm	34 39 Tropical storm	Tropical cyclone (gale) / Category 1
48 52 63	89 117	10 11	Severe tropical storm	Severe cyclonic storm	Severe tropical storm	73	Tropical cyclone (storm) / Category 2
64	118	12	64 Tropical cyclone	64 Very Severe Cyclonic Storm	Typhoon	64 Hurricane CAT 1 82 153 95	64 Severe tropical cyclone (hurricane) / Category 3
						83 154 96 Hurricane CAT 2 95 177 110	
			89 165	89 166		96 178 111 Hurricane CAT 3 112 208 129	85 159
			90 166 Intense tropical cyclone 115 212	90 167 Extremely Severe Cyclonic Storm 119 221		113 209 130 Hurricane CAT 4 136 251 156	86 160 Tropical cyclone / Category 4 107 199
			116 213 Very intense tropical cyclone	120 222 Super cyclonic storm		137 252 157 Hurricane CAT 5	>107 >200 Tropical Cyclone / Category 5

*The Saffir-Simpson Hurricane Wind Scale is a **1 to 5** rating based only on a hurricane's maximum sustained wind speed. **This scale does not take into account other potentially deadly hazards such as storm surge, rainfall flooding, and tornadoes.***

The Saffir-Simpson Hurricane Wind Scale estimates potential property damage. While all hurricanes produce life-threatening winds, hurricanes rated Category 3 and higher are known as major hurricanes. Major hurricanes can cause devastating to catastrophic wind damage and significant loss of life simply due to the strength of their winds. Hurricanes of all categories can produce deadly storm surge, rain-induced floods, and tornadoes. These hazards require people to take protective action, including evacuating from areas vulnerable to storm surge.*

In the western North Pacific, the term "super typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph*. **SOURCE: NATIONAL HURRICANE CENTRE

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Category	Winds	Damage
One	74-95 mph	Some Damage
Two	96-110 mph	Extensive Damage
Three	111-129 mph	Devastating Damage
Four	130-156 mph	Catastrophic
Five	Greater than 156 mph	Catastrophic

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A Global Tropical Threat

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The naming of storms is an especially important principle of Crisis Management. Storms can last for more than a week and there can be many storms in the same region in the same week. Tropical cyclones around the globe are named by the World Meteorological Organization (WMO). The names are taken from an agreed list of names. There is a certain cultural awareness and sensitivity attached to the names selected. In the Atlantic and Caribbean region, the names often have English, Spanish or French influence. This means that there are guidelines and rules for names for each tropical region. The names are published in alphabetical order, with women's and men's names alternated. The names are created originally by regional meteorological centres (RSMCs) and associated Tropical Cyclone Warning Centres (TCWCs). There are six RSMCs and five TCWCs. The names for the Atlantic and Caribbean region for 2025 have been included in this newsletter.

Older readers might recognise that a cyclone's name is retired and replaced by another name if the cyclone was particularly deadly or costly. There will never be another Hurricane Donna, Andrew, Hugo, David or Irma.

The story of how gender balance came into the names is interesting. Prior to 1975, storms and hurricanes were given only women's names. However, it is reported that in recognition of International Women's Year, former Australian Minister of Science Bill Morrison decided to start naming storms after both males and females. This was quickly adopted as a standard global practice. (https://www.eliteias.in/how-are-cyclones-named-in-the-world/.

In terms of duration, on average, tropical cyclones last for six days – some last as long as 14 days and others only one or two days. In terms of size, tropical cyclones are usually bigger in the Pacific Ocean.

Tropical cyclones are a major concern for all areas at risk. This is because our lived experience and the historical record tell us that the effects and devastating impacts of the storms when they make landfall, (even glancing blows) can last for decades. Those events change societies in unimaginable ways. Since the turn of the century, we can remember Hurricane Katrina in 2005, Typhoon Haiyan in 2013, Hurricanes Irma and Maria in 2017. The impact can remain with the affected communities and relevant locations for several generations.

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HURRICANES

A Global Tropical Threat

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Each year, tropical cyclones cause multiple casualties, deaths, and significant damage to property and infrastructure in the immediate term.

- *Over the past 50 years, 1,945 disasters have been attributed to tropical cyclones, which killed 779,324 people and caused US$1.4 trillion in economic losses – an average of 43 deaths and US$78 million in damages daily.*
- *Tropical cyclones represented 17% of weather-, climate- and water-related disasters and were responsible for one third of both deaths (38%) and economic losses (38%) over the 50-year period.*
- *In the longer term, such as with 2005's Hurricane Katrina, Typhoon Haiyan in 2013, Hurricanes Irma and Maria in 2017, and Tropical Cyclone Harold in 2020, the impact can persist for many years, with communities still trying to recover from the destruction and displacement that occurred.*
- *Climate change is linked not only to an increased likelihood of major hurricanes, but also to direct increases in their destructive power.*
- *Socioeconomic impacts related to tropical cyclones are increasing worldwide due to a rise in coastal physical infrastructure and people living in coastal regions.*

The increase in the destructive power of a tropical cyclone emphasizes the importance of ensuring all people and property are protected by early warning systems.

SOURCE: https://wmo.int/topics/tropical-cyclone

We tend to be familiar with the most powerful and devastating hurricanes in the Atlantic basin and the Caribbean region, but the list below, derived from a Google search, tells the story elsewhere.

1. *Bhola Cyclone (1970): Estimated to have killed between 300,000 and 500,000 people in what is now Bangladesh due to a storm surge.*
2. *Great Calcutta Cyclone (1737): An estimated 300,000 deaths.*
3. *Coringa Cyclone (1839): Estimated to have killed 300,000 people in the coastal town of Coringa, India.*
4. *Haiphong Typhoon (1881): Considered one of the deadliest typhoons, with an estimated 500,000 deaths.*
5. *Typhoon Nina (1975): A Category 4 typhoon that killed around 171,000 people in China.*
6. *Cyclone Nargis (2008): Caused extensive damage and an estimated 138,366 deaths in Myanmar.*

***Most Intense**:*

1. *Typhoon Tip (1979): Known for its immense size and high sustained winds.*
2. *Typhoon Haiyan (2013): Made landfall in the Philippines with winds estimated at 305 km/h (190 mph).*
3. *Cyclone Winston (2016): Considered the strongest tropical cyclone ever recorded in the Southern Hemisphere, reaching maximum sustained winds of around 297 km/h (185 mph).*
4. *Typhoon Iris (1951): Reached sustained wind speeds of 280 km/h (170 mph).*
5. *Typhoon Vera (1959): Made landfall in Japan with estimated sustained winds of 260 km/h (160 mph).*

Other Notable Cyclones:

- *Typhoon Hagibis (2019): The costliest typhoon on record in Japan, causing $15 billion in damage.*
- *Tropical Cyclone Drena (1997): Caused significant damage and one death in New Zealand.*
- *Cyclone Fergus (1996): Brought heavy rainfall to the Coromandel region of New Zealand.*

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Storm damage in the Grenadines. (***Photo by Gregory King)***

HURRICANES
A Global Tropical Threat

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This article serves to emphasise the importance of the Comprehensive Disaster Management (CDM) approach promulgated and championed in our region by CDEMA. In that regard, we leave readers a few points for reflection and discussion.

- Put Contingency Plans in place that underscore the need for flexibility, adaptability, and creativity especially in the Response phase to hurricane impacts. Emphasise the need for redundancy within critical systems, and for indispensable equipment especially communications and information technology
- Emphasise Transformational Leadership with emotionally intelligent, empathetic management in capacity building efforts. Place teamwork, cooperation and coordination in their full context
- Arrange more comprehensive and detailed physical planning (urban and rural) – maintain greater setbacks for critical infrastructure on coastlines
- Expand coastal protection mechanisms
- Retrofit all health-care facilities to make them more hurricane resistant
- Focus on standards, flexibility and adaptability for public buildings
- Be more vigilant with regard to planning for the locations for emergency shelters
- Design and construct affordable and hurricane resistant homes
- Use Cloud Technology as storage for important documents
- Retrofit homes with hurricane straps and hurricane shutters
- Train young people and children in survival skills for hurricane conditions
- Make improved arrangements for care of the aged and the differently abled for protection under hurricane conditions
- Invest in more training and facilities for community-based disaster management voluntary organisations

The people of the Caribbean have learnt many lessons about preparing for hurricanes, but CARICAD would like to see many of those lessons converted into plans and capacity building for greater resilience at the individual, family, community, organisational and national levels.

Storm damage in the Grenadines. (***Photo by Gregory King***)

Synopsis of a Public Advisory FOR STORMS AND HURRICANES

By Franklyn Michael, Supplementary Associate, CARICAD

The provision of early and ideally, accurate information about tropical weather systems (Depressions, Storms and Hurricanes) is vital. It is an integral part of effective **Preparedness**. Weather information can save lives and help to dramatically reduce damage, destruction, disruption, delay, disorder and despair. That is of course assuming that the appropriate **Preparedness** and **Response** actions are taken at the Regional, National, Organisational, Community, Family and Individual levels.

In the CARICAD member state context, whenever there is a significant weather system developing in the Atlantic Ocean, the Caribbean Sea or the Gulf of Mexico, The National Hurricane Centre (NHC) issues a range of advisory information (products). The information is produced both as texts and graphics.

The products are made public at specified times. The main products issued as text are:

- Public Advisory
- Forecast Advisory
- Tropical Cyclone Discussion
- Wind Speed Probability

We may be less familiar with the graphics. They are:

- Track Forecast Cone
- Watch and Warning Graphic
- Wind Speed Probability
- Wind Field Graphic
- Storm Surge – Watch/Warning (USA, Puerto Rico and the Virgin Islands)

The NHC makes the products public at standard times. In the case of the Atlantic Ocean and Caribbean area the times are 5:00 a.m., 11:00 a.m., 5:00 p.m. and 11:00 p.m. Eastern Daylight Time (EDT). EDT coincides with Eastern Caribbean Time in the Northern Hemisphere summer. The NHC issues Intermediate Public Advisories at specific three-hour intervals in between the hours of the regular advisories.

The NHC also issues Special Advisories if there is an unanticipated but significant change regarding a weather system.

Whenever a weather system dissipates the NHC no longer issues advisories on it. However the NHC continues to issue advisories on a tropical system that moves away from the Tropics and becomes a Sub Tropical System.

People who may have a deep interest or specialist weather information needs are encouraged to visit the NHC website for details of the purpose and nature of all the Advisories, both texts and graphics.

However, for our general readership we provide a synopsis of the Public Advisory Text product on the next page.

Tropical Cyclone Public Advisory
The Public Advisory, as the name implies, is for the general public. It may include a Storm or Hurricane Watch or a Warning. In broad terms the Advisory focuses on:

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- The position of the Tropical Cyclone, stated in Latitude and Longitude
- Distances from reference points e.g. Barbados, Antigua, Dominica, Grenada, Jamaica
- The maximum sustained winds
- Current direction of travel of the system
- Speed of motion of the entire system
- Summary of the current coastal watches and warnings and changes to those, if any
- Features of the system such as intensity, pressure
- Spread of storm force winds
- Forecast track for the next 72 hours. Occasionally the next five days
- Anticipated hazards to land during the Watch or Warning period – including storm surge, wind, rainfall and rip current risks

The Public Advisories are normally issued by the NHC using the 24-hour clock based on Universal Time Coordinated (UTC). UTC is also known as Z or Zulu time. The use of a 24-hour clock reduces the chance of confusing the time as to whether it is day or night.

UTC or Z time has replaced what used to be universally known as Greenwich Mean Time (GMT). The official changeover took place in 1972. This means that Eastern Caribbean Time (ECT) remains four hours **BEHIND** UTC time. This means that 21:00 UTC (9:00 p.m.) is 5:00 p.m. ECT. We encourage you to become more familiar with the Public Advisories as they are issued during the hurricane season in particular, especially as the NHC website will be accessible on most technology-driven devices, including your cell phone.

Synopsis of a Public Advisory FOR STORMS AND HURRICANES

Storm damage in the Grenadines. (***Photo by Gregory King***)

The Seasonal FORECAST

Researched and written by Franklyn Michael Supplementary Associate, CARICAD

FORECASTS FOR THE 2025 ATLANTIC HURRICANE SEASON

The Colorado State University (CSU) has provided forecasts for the Atlantic Hurricane Season since 1984. The CSU forecasts often become the foundation upon which other forecasts are made and disseminated by traditional mass media.

The first CSU forecast for 2025 was made on April 3rd. It was delivered at the National Tropical Weather Conference. The updates for this year are scheduled for:

- June 11 – (included in this edition of the newsletter)
- July 9
- August 6

We issue these forecasts to satisfy the curiosity of the public and to bring attention to the hurricane problem. There is a general interest in knowing what the odds are for an active or inactive season. One must remember that our forecasts are based on the premise that those global oceanic and atmospheric conditions which preceded comparatively active or inactive hurricane seasons in the past provide meaningful information about similar trends in future seasons. It is also important that the reader appreciate that these seasonal forecasts are based on statistical and dynamical models which will fail in some years. Moreover, these forecasts do not specifically predict where within the Atlantic basin these storms will strike.

– **Colorado State University, June 11, 2025**

Storm damage in the Grenadines. (***Photo by Gregory King***)

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30-YEAR AVERAGE	APRIL 3	JUNE 11	CHANGE - APRIL TO JUNE
Named Storms — 14.4	**17**	**17**	NONE
Hurricanes — 7.2	**9**	**9**	NONE
Named Storm days — 9.4	**85**	**85**	NONE
Major Hurricanes — 3.2	**4**	**4**	NONE
Hurricane Days — 27	**35**	**35**	NONE
Major Hurricane Days 7	**9**	**9**	NONE
Track though the Caribbean	**56 %**	**56 %**	NONE

The Seasonal FORECAST

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The table above shows elements of the forecast that are particularly relevant for everyday household preparedness and capacity building for students.

COLORADO STATE UNIVERSITY (CSU) FORECASTS FOR APRIL AND JUNE 2025

The April and June forecasts suggest the following significant issues:

- The number of storms is forecast to be 125% of the 30-year average from 1991 to 2020
- The 2024 season was about 130% of the average
- Seventeen storms are likely
- Nine storms are likely to become hurricanes
- Four storms are likely to become major hurricanes
- The landfall probability in the Caribbean for 2025 was stated as 56%

It is immediately noticeable that the April and June forecasts are the same. On that issue, the CSU has stated:

"The CSU forecast is based on rigorous state-of-the-art science. It is respected and highly regarded. However, we must remain mindful that whatever the forecast, preparation and capacity to respond to the reality of hurricanes, remain of paramount importance. Action is required at the regional, national, community, family and individual levels. In that continuum of action, each of us has a role to play."

Storm damage in the Grenadines. (***Photo by Gregory King***)

Tropical Cyclone NAMES

ATLANTIC REGION STORM NAMES FOR 2025

Andrea
Barry
Chantal
Dexter
Erin
Fernand
Gabrielle
Humberto
Imelda
Jerry
Karen
Lorenzo
Melissa
Nestor
Olga
Pablo
Rebekah
Sebastien
Tanya
Van
Wendy

The World Meteorological Organization (WMO) maintains lists of hurricanes for each of the tropical cyclone prone areas of the world. The Atlantic area also includes the Caribbean Sea and the Gulf of Mexico. This action is in keeping with a convention that was agreed to in 1950 to formally name Atlantic hurricanes. A list was originally kept by the National Hurricane Centre (NHC) in the USA. The responsibility passed to the WMO in 1953. The storms and hurricanes are referred to as Tropical Cyclones. The **National Hurricane Center** (RSMC Miami, FL), is responsible for the Atlantic basin west of 30°W. If a disturbance intensifies into a tropical storm the Center will give it a name.

In 1953, the United States abandoned a confusing two-year-old plan to name storms by a phonetic alphabet (Alpha, Bravo, Charlie, Delta, Echo, etc.). That year, the weather services began using female names for storms. The practice of naming hurricanes solely after women came to an end in 1978 when men's and women's names were included in the Eastern North Pacific storm lists. In 1979, male and female names were included in lists for the Atlantic and Gulf of Mexico.

The list of names comprises 21 alternating names of men and women. The names of men were not included until 1979. A separate set is used each year beginning with the first name in the set. The list is re-cycled in the sixth year. This means that for example, a list used in 2019 is re-cycled in 2025. The names used in 2022 will be used in 2028 with any required changes. In terms of required changes, the names of hurricanes which prove deadly (loss of life) or costly in terms of damage are retired so they will not be confused with any subsequent storms that could carry the same names. It is also considered as a gesture of human sensitivity.

Whenever there was a need for more than 21 names in a season, the Greek alphabet was used. In cases in which storms occur in December they are given names from the list for the current season. On the other hand, storms which occur very early in the calendar year are given names from the next season's list.

The letters Q, U, X, Y, and Z are not included because of the scarcity of names beginning with those letters. If over 21 named tropical cyclones occur in a year, the Greek alphabet was used following the "W" name. However in 2022 a supplementary of names was used and not the Greek alphabet.

For several hundred years, many hurricanes in the West Indies were named after the particular saint's day on which the hurricane occurred. Ivan R. Tannehill describes in his book *Hurricanes* the major tropical storms of recorded history and mentions many hurricanes named after saints. For example, there was "Hurricane Santa Ana" which struck Puerto Rico with exceptional violence on July 26, 1825, and "San Felipe" (the first) and "San Felipe" (the second) which hit Puerto Rico on September 13 in both 1876 and 1928.

The first known meteorologist to assign names to tropical cyclones was Clement Wragge, an Australian meteorologist. Before the end of the 19th Century, he began by using letters of the Greek alphabet, then from Greek and Roman mythology and progressed to the use of feminine names.

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Tropical Cyclone NAMES

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Experience shows that the use of short, distinctive given names in written as well as spoken communications is quicker and less subject to error than the older more cumbersome latitude-longitude identification methods. These advantages are especially important in exchanging detailed storm information between hundreds of widely scattered stations, airports, coastal bases, and ships at sea.

The use of easily remembered names greatly reduces confusion when two or more tropical storms occur at the same time. For example, one hurricane can be moving slowly westward in the Gulf of Mexico, while at exactly the same time another hurricane can be moving rapidly northward along the Atlantic coast. In the past, confusion and false rumours have arisen when storm advisories broadcast from one radio station were mistaken for warnings concerning an entirely different storm located hundreds of miles away.

The name lists have an international flavour because hurricanes affect other nations and are tracked by the public and weather services of countries other than the United States. Names for these lists are agreed upon by the nations involved during international meetings of the World Meteorological Organization.

As previously stated, the only time that there is a change in the list is if a storm is so deadly or costly that the future use of its name on a different storm would be inappropriate for reasons of sensitivity. If that occurs, then at an annual meeting by the WMO committee (called primarily to discuss many other issues) the offending name is stricken from the list and another name is selected to replace it.

This is the list of primary Atlantic Hurricane names for 2026-2028:

2026	2027	2028
Arthur	Ana	Alex
Bertha	Bill	Bonnie
Cristobal	Claudette	Colin
Dolly	Danny	Danielle
Edouard	Elsa	Earl
Fay	Fred	Farrah
Gonzalo	Grace	Gaston
Hanna	Henri	Hermine
Isaias	Imani	Idris
Josephine	Julian	Julia
Kyle	Kate	Karl
Leah	Larry	Lisa
Marco	Mindy	Martin
Nana	Nicholas	Nicole
Omar	Odette	Owen
Paulette	Peter	Paula
Rene	Rose	Richard
Sally	Sam	Shary
Teddy	Teresa	Tobias
Vicky	Victor	Virginie
Wilfred	Wanda	Walter

Know YOUR LOCATION

A globally accepted system that uses latitude and longitude coordinates allows us to locate any place on the earth's surface. Latitude measures locations on the globe that are north and south of the Equator. The measurements are stated in degrees, minutes and seconds.

The highest numerical readings for latitude are 90°N and 90°S. The Equator is 0°. The Equator divides maps of the earth into Northern and Southern hemispheres. When lines of latitude are shown on a map, a globe or graphic of the earth they are displayed as parallel with the Equator and are equidistant. One degree of latitude is equivalent to 70 miles.

Longitude measures locations east and west of the Prime Meridian. In 1884 it was agreed that the Prime Meridian identified a location in Greenwich, London, England.

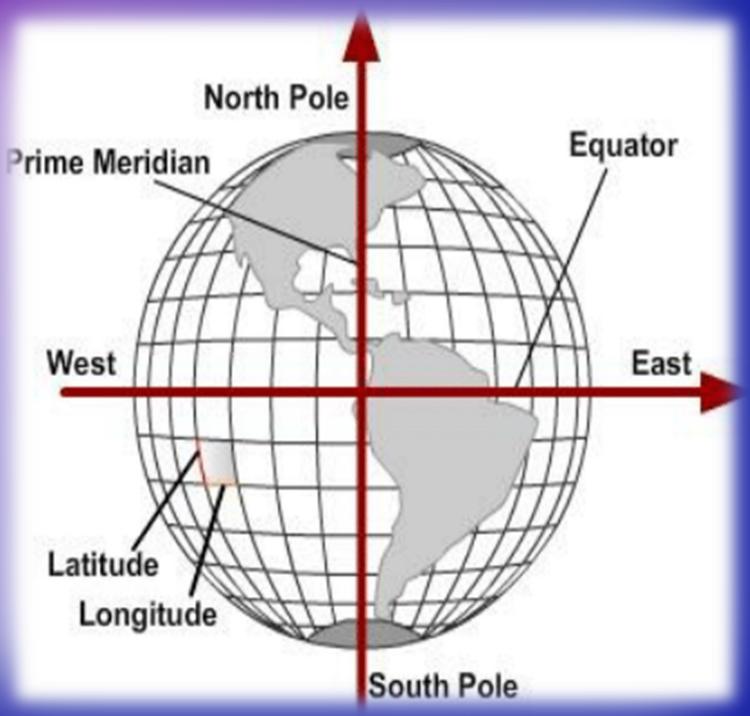
You should note that the most widely used meridian in more modern times is the IERS Reference Meridian. The International Reference Meridian (IERS) was devised from the Greenwich Meridian but it is slightly different. The difference between both is because of variations between astronomical and geodetic coordinates. Those differences are important in this age of satellite imagery.

Lines of longitude are also stated in degrees, minutes and seconds. Longitude is measured in degrees that extend both east and west of the Prime Meridian to a maximum of 180°E or W.

The International Date line is at 180 degrees. The Prime Meridian is zero degrees. It divides maps of the world into the Eastern and the Western hemisphere.

On a map, the lines of longitude meet at the North and South Poles. At the Equator one degree of longitude is equivalent to about 70 miles.

That distance becomes smaller and smaller until the longitude lines meet at the Poles on a map or a globe. Lines of longitude are known as meridians and not parallels. It is the intersection of the values for latitude and longitude that give a unique position for a specific location.



The locations of storms or hurricanes are given in terms of latitude or longitude for the centre of the system, e.g. 17 degrees North and 60 degrees West. (17°N 60°W). That information makes it possible to track the movement of the system on a map or follow it on technology-created schematics.

When you know the location of your country in latitude and longitude you can get the earliest indication of the proximity of your country to likely effects from the storm.

Additionally, you will get a clearer picture by examining the predicted, projected path of the system as given in weather reports.

Remember that the centre of the hurricane could be anywhere in the "cone of uncertainty' and there is about a thirty per cent chance that the system will also travel outside the cone. You must be mindful that a hurricane can be hundreds of miles across and hurricane conditions might extend for a hundred miles or more from the centre.

We have prepared the table below for your information and convenience. It shows the latitude

- ***Continues on next page***

Know YOUR LOCATION

• ***Continued from previous page***

and longitude of all CARICAD member states. Remember that the precise location within a multi-island state for a particular island in that state could be slightly different from the figures shown.

Further, in geographically large member states such as Guyana, Suriname and Belize the values will be different for different locations within the country.

The **cardinal points** of the compass (north, south, east, and west), and the **intercardinal points** (north-east, north-west, south-east, south-west) allow us to create reference points for tracking weather systems. It is still very useful to refer to Hurricane Tracking Maps or to understand the East/West and North/South locations of Caribbean countries and territories when you see the countries on a screen of an appliance or a device when following or tracking a weather system.

The direction of travel of weather systems, storms and hurricanes may also be given in degrees in addition to North, East, West, South-South-West, North-West or North-North-West. In the Atlantic Ocean and the Caribbean Sea. The systems usually arise off the coast of Africa and travel westward. There are some forces that promote a northward turn in the northern hemisphere. However, not every system curves.

That is why in terms of degrees we usually hear from about 240° ranging around to 340° degrees . It is really interesting to note that in 1999 Hurricane Lenny travelled from West to East.

Note on the compass face illustrated here, due (exactly) East is 90°. Due South is 180°. Due West is 270°. Due north is 0°.

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COUNTRY/TERRITORY	LATITUDE IN DEGREES NORTH	LONGITUDE IN DEGREES WEST
Anguilla	18	63
Antigua & Barbuda	17	61
Bahamas	25	77
Barbados	13	59
Belize	17	88
British Virgin Islands	18	64
Dominica	15	61
Grenada	12	61
Guyana	04	58
Jamaica	18	77
Montserrat	16	62
St. Kitts & Nevis	17	62
Saint Lucia	13	60
St. Vincent & the Grenadines	12	61
Suriname	3.	56
Trinidad & Tobago	10	61
Turks & Caicos Islands	21	71

Source: https://www.nesdis.noaa.gov/imagery/interactive-maps/the-world-real-time

Know YOUR LOCATION

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Note that The Bahamas is the most northerly CARICAD member state, Suriname is the most southerly, Barbados is the most easterly and Belize is the most westerly. Belize and Jamaica both straddle 17°N. Antigua and Barbuda, Dominica and St. Vincent and the Grenadines are about on the same line in terms of East to West location. In earlier years there was a tradition of identifying a 'Hurricane Belt' in the Atlantic Basin.

It encompassed the northern part of the Caribbean Sea as well as the Gulf of Mexico. It also included Florida and the Florida Keys.

There is now a disinclination to consider the *Hurricane Belt* as having statistical certitude in the Caribbean context. It used to be said that Grenada was outside the Hurricane Belt but that kind of thinking started to change when Grenada was devastated by a major hurricane (Ivan) in 2004.

Source: Shutterstock.com

It is worth remembering that in 1955 Hurricane Janet, a category five hurricane, caused widespread damage and several deaths in Barbados, and the Grenadines. The Grenadines were considered to be outside the zone of greatest threat.

There is a simple way to orient yourself on the ground at home. When you face East (where the sun rises) North is on your left and South is on your right. When you face West (where the sun sets) North is on your right and South is on your left. In the old days of physical (printed) maps by convention the top of a map was usually North. Nowadays technology-driven Apps, GPS receivers and cell phones make finding your bearings a lot easier. However, remember that devices that rely on batteries for power will not work if the batteries do not work or if there is no back-up system.

Did You Know...

Facts ABOUT HURRICANES

That there is an average of nine hurricanes in the tropical Atlantic each year

The 2020 hurricane season was the first in which there were three named storms by June 2

The Atlantic Basin includes the Caribbean Sea and the Gulf of Mexico

At least one hurricane has appeared in each month of the year in the Atlantic

September is considered the peak month for Atlantic hurricanes

A storm is not classified as a hurricane until the sustained winds are at least 74 miles per hour

Several hurricanes have occurred on December 25 (Christmas Day) in the Caribbean in historic times

Hurricane Irma in 2017 had sustained wind speeds of at least 185 per hour

Hurricanes are downgraded to tropical storm status if the sustained winds drop below 74 miles per hour

Barbados is the most easterly of the islands in the Caribbean chain

Belize is not a Caribbean island, but it is also subject to the threat of hurricanes

Hurricanes can do extensive damage through heavy (torrential) rainfall even if the winds are of minimal hurricane strength. It has been reported that a hurricane once drenched Texas with 23 inches of rain in 24 hours

A hurricane may be as much as six hundred (600) miles in diameter

The winds in a hurricane spin in an anticlockwise manner

A Knot is a measure of speed. It is one nautical mile per hour. It is slightly longer that a statute mile. You can convert Knots per hour to miles per hour by multiplying the figure by 1.15

Some Sources of Weather Information

- Antigua & Barbuda Meteorological Services
- Bahamas Department of Meteorology
- Barbados Weather
- Bridgetown, Barbados - Weather Forecasts | Maps | News - Yahoo Weather
- National Meteorological Service of Belize
- CDEMA
- Department of Emergency Management (DEM) Barbados
- Grenada Meteorological Service – The official Grenada Meteorological Service website (weather.gd)
- Meteorological Service of Jamaica
- Saint Lucia Meteorological Services
- Trinidad and Tobago Meteorological Service
- NATIONAL Hurricane Centre
- Weather Channel
- Weather Underground
- World Meteorological Organization

Glossary OF STORM/HURRICANE TERMS

CARICAD encourages you to become familiar with the specific terms that are used in official circles in relation to tropical storms and hurricanes. The more familiar you are with the meanings of the terms, the more confident you will be with your own Preparedness and the more likely you will be to help others to prepare. The following are among those terms:

SOURCE – National Hurricane Centre – USA

Advisory:

Official information issued by tropical cyclone warning centres describing all tropical cyclone watches and warnings in effect along with details concerning tropical cyclone locations, intensity and movement, and precautions that should be taken. Advisories are also issued to describe: (a) tropical cyclones prior to issuance of watches and warnings and (b) subtropical cyclones. They are usually issued every six hours. Special advisories are issued when there is a significant change in storm-related weather conditions.

Centre (Center):

Generally speaking, the vertical axis of a tropical cyclone, usually defined by the location of minimum wind or minimum pressure. The cyclone centre position can vary with altitude.

Cyclone:

An atmospheric closed circulation rotating counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Eye:

The roughly circular area of comparatively light winds that encompasses the centre of a severe tropical cyclone. The eye is either completely or partially surrounded by the eyewall cloud.

Eyewall/Wall Cloud:

An organised band or ring of cumulonimbus clouds that surround the eye, or light-wind canter of a tropical cyclone. Eyewall and wall cloud are used synonymously.

Gale Warning:

A warning of 1-minute sustained surface winds in the range 34 knots (39 mph or 63 km/hr) to 47 knots (54 mph or 87 km/hr) inclusive, either predicted or occurring and not directly associated with tropical cyclones.

High Wind Warning:

A high wind warning is defined as 1-minute average surface winds of 35 knots (40 mph or 64 km/hr) or greater lasting for 1 hour or longer, or winds gusting to 50 knots (58 mph or 93 km/hr) or greater regardless of duration that are either expected or observed over land.

Hurricane/Typhoon:

A tropical cyclone in which the maximum sustained surface wind (using the U.S. 1-minute average) is 64 knots (74 mph or 119 km/hr) or more. The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline.

Hurricane Season:

The portion of the year having a relatively high incidence of hurricanes. The hurricane season in the Atlantic, Caribbean, and Gulf of Mexico runs from June 1 to November 30. The hurricane season in the Eastern Pacific basin runs from May 15 to November 30. The hurricane season in the Central Pacific basin runs from June 1 to November 30.

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Glossary OF STORM/HURRICANE TERMS

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Hurricane Warning:

A warning that sustained winds 64 kt (74 mph or 119 km/hr) or higher associated with a hurricane are expected in a specified coastal area in 24 hours or less. A hurricane warning can remain in effect when dangerously high water or a combination of dangerously high water and exceptionally high waves continue, even though winds may be less than hurricane force.

Hurricane Watch:

An announcement for specific coastal areas that hurricane conditions are possible within 36 hours.

Indirect Hit:

Generally refers to locations that do not experience a direct hit from a tropical cyclone, but do experience hurricane force winds (either sustained or gusts) or tides of at least four feet above normal.

Landfall:

The intersection of the surface centre of a tropical cyclone with a coastline. Because the strongest winds in a tropical cyclone are not located precisely at the centre, it is possible for a cyclone's strongest winds to be experienced over land even if landfall does not occur.

Major Hurricane:

A hurricane that is classified as Category 3 or higher.

Storm Surge:

An abnormal rise in sea level accompanying a hurricane or other intense storm, and whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the cyclone. Storm surge is usually estimated by subtracting the normal or astronomic high tide from the observed storm tide.

Storm Warning:

A warning of 1-minute sustained surface winds of 48 knots (55 mph or 88 km/hr) or greater, predicted or occurring, not directly associated with tropical cyclones.

Tropical Depression:

A tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) is 33 knots (38 mph or 62 km/hr) or less.

Tropical Disturbance:

A discrete tropical weather system of apparently organised convection — generally 100 to 300 nautical miles in diameter — originating in the tropics or subtropics, having a non-frontal migratory character, and maintaining its identity for 24 hours or more. It may or may not be associated with a detectable perturbation of the wind field.

Tropical Storm:

A tropical cyclone in which the maximum sustained surface wind speed (using the U.S. 1-minute average) ranges from 34 knots (39 mph or 63 km/hr) to 63 knots (73 mph or 118 km/hr).

Tropical Storm Warning:

A warning that sustained winds within the range of 34 to 63 knots (39 to 73 mph or 63 to 118 km/hr) associated with a tropical cyclone are expected in a specified coastal area within 24 hours or less.

Tropical Storm Watch:

An announcement for specific coastal areas that tropical storm conditions are possible within 36 hours.

Tropical Wave:

A trough or cyclonic curvature maximum in the trade-wind easterlies. The wave may reach maximum amplitude in the lower middle troposphere.

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Storm damage in the Grenadines. (***Photo by Gregory King***)

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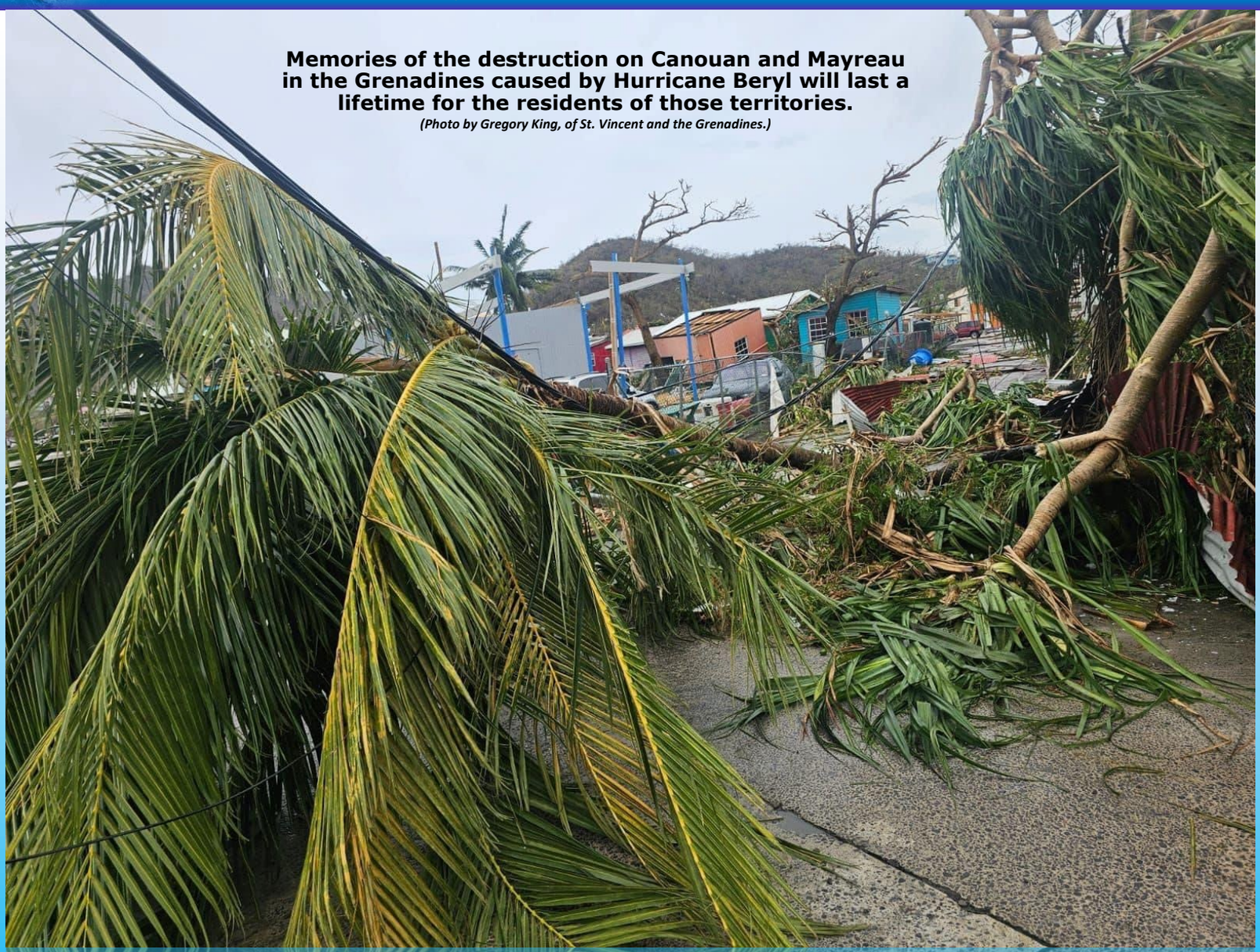
Last updated: 5 May 2025 by Isoke Burnett

Memories of the destruction on Canouan and Mayreau in the Grenadines caused by Hurricane Beryl will last a lifetime for the residents of those territories.

(Photo by Gregory King, of St. Vincent and the Grenadines.)



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The information provided in this newsletter is set in the context of CARICAD'S Memorandum of Understanding (MOU) with CDEMA. The MOU was signed in 2016. It is stated in the Rationale that both CARICAD and CDEMA have the ultimate aim of facilitating and supporting sustainable development and on improving capacity within member states. The two institutions also agreed to continue joint efforts to mainstream Disaster Risk Reduction. Therefore, the contents of this newsletter are not intended to replace, duplicate or supplant any information provided by CDEMA or the National Disaster Offices of CARICAD member states. It is intended to reinforce their efforts.

THE TEAM

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