

As residents of Puerto Rico, we're intimately familiar with the ferocity and unpredictability of hurricanes. Each year, our island faces the looming threat of these powerful storms, underscoring the importance of preparedness and resilience. With the 2024 hurricane season on the horizon, it's crucial to delve into the intricacies of La Niña and El Niño, understand their implications for hurricane activity, and equip ourselves with the knowledge and resources needed to weather the storm.

La Niña and El Niño: Decoding the Climate Patterns

La Niña and El Niño are two phases of the El Niño-Southern Oscillation (ENSO) cycle, which play a significant role in shaping global weather patterns. During La Niña, intensified trade winds drive warm surface waters westward, resulting in cooler-than-average sea surface temperatures in the central and eastern Pacific Ocean. This shift in oceanic conditions can enhance hurricane activity in the Atlantic basin, including the Caribbean, by reducing wind shear and fostering atmospheric instability conducive to storm formation and intensification.

Conversely, El Niño is characterized by weakened trade winds and warmer sea surface temperatures in the central and eastern Pacific Ocean. This disruption in ocean-atmosphere interactions can suppress hurricane activity in the Atlantic basin by increasing wind shear and inhibiting the development of tropical cyclones. However, El Niño can also bring its own set of challenges, including altered rainfall patterns and increased flooding, underscoring the complex interplay between climate phenomena and hurricane dynamics.

The 2024 Hurricane Season Forecast: Bracing for Impact

Forecasts from Colorado State University (CSU) paint a sobering picture of the 2024 Atlantic hurricane season, projecting heightened activity compared to historical averages. The transition from El Niño to La Niña conditions is expected to create a conducive environment for hurricane formation and intensification, with CSU predicting an above-average number of named storms, hurricanes, and major hurricanes. This forecast serves as a stark reminder of the need for vigilance and preparedness in the face of impending natural hazards.

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Forecast Parameters	CSU Forecast for 2024*	Average for 1991-2020
Named Storms	23	14.4
Named Storm Days	115	69.4
Hurricanes	11	7.2
Hurricane Days	45	27.0
Major Hurricanes	5	3.2
Major Hurricane Days	13	7.4
Accumulated Cyclone Energy (ACE)+	210	123
ACE West of 60 degrees longitude	125	73

*CSU released its first seasonal forecast for 2024 on Thursday, April 4.

SOURCE: <https://tropical.colostate.edu/forecasting.html>

The Importance of Being Prepared: A Call to Action

Preparedness lies at the heart of resilience, empowering individuals and communities to mitigate the impact of hurricanes and safeguard lives and property. Developing a comprehensive family emergency plan is the first line of defense, outlining evacuation routes, designated meeting points, and communication strategies to ensure cohesion and coordination during times of crisis. Assembling an emergency kit stocked with essential supplies, including non-perishable food, water, medications, flashlights, batteries, and first aid supplies, is equally vital for weathering the storm and sustaining oneself in the aftermath.

Securing property against potential damage is another critical aspect of preparedness, requiring proactive measures such as trimming trees, securing loose objects, reinforcing windows and doors, and installing hurricane shutters or impact-resistant glass. Staying informed about weather forecasts and evacuation orders issued by local authorities, the National Weather Service (NWS), and the National Hurricane Center (NHC) is paramount for making timely and informed decisions about evacuation and sheltering.

Mitigation: Investing in Resilience

Mitigation holds the key to reducing the risk and impact of hurricanes, offering a pathway to resilience and sustainability. By investing in mitigation measures such as reinforcing structures, implementing flood-resistant infrastructure, and practicing sustainable land use planning, communities can enhance their ability to withstand and recover from natural disasters.

Importantly, mitigation not only saves lives but also saves money, with studies showing that for every \$1 invested in mitigation, approximately \$6 in potential future damages can be avoided.

	ADOPT CODE	ABOVE CODE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
Overall Benefit-Cost Ratio	11:1	4:1	4:1	4:1	6:1
Cost (\$ billion)	\$1/year	\$4/year	\$520	\$0.6	\$27
Benefit (\$ billion)	\$13/year	\$16/year	\$2200	\$2.5	\$160
Riverine Flood	6:1	5:1	6:1	8:1	7:1
Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
Wind	10:1	5:1	6:1	7:1	5:1
Earthquake	12:1	4:1	13:1	3:1	3:1
Wildland-Urban Interface Fire	not applicable	4:1	2:1	not applicable	3:1

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TABLE 1. Nationwide average benefit-cost ratio by hazard and mitigation measure. BCRs can vary geographically and can be much higher in some places. Find more details in the report.

SOURCE: https://www.nibs.org/files/pdfs/ms_v3_federalgrants.pdf

The Importance of Insurance: Safeguarding Against Uncertainty

Insurance serves as a critical safety net in disaster preparedness and recovery, providing financial protection against the devastating effects of hurricanes. Homeowners insurance offers coverage for damages caused by hurricanes, including wind damage, storm surge, and flooding, while flood insurance is essential for mitigating the risk of flood-related losses in flood-prone areas like Puerto Rico. Having adequate insurance coverage can provide peace of mind and financial assistance for rebuilding and recovery efforts, alleviating the burden on individuals and communities in the aftermath of a disaster.

In conclusion, as we navigate the complexities of the 2024 hurricane season, understanding the nuances of La Niña and El Niño, embracing preparedness initiatives, investing in mitigation, and securing adequate insurance coverage are essential steps in building resilience and safeguarding our communities against the impact of hurricanes. By working together and taking proactive measures, we can weather the storm and emerge stronger and more resilient in its wake.