Caribbean Officials Ponder Regional Response to Seaweed Influx

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by Gregory Scruggs
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The first named storm of the Atlantic hurricane season, Danny, fizzled this week into even less than a tropical storm. While that development boded well for the Caribbean, which forecasters have predicted will experience a mild hurricane season, a different environmental phenomenon has been affecting the region’s economy for months. Sargassum, pungent seaweed from the North Atlantic, continues to wash up on shorelines throughout the Caribbean basin. The thick algae make beach access difficult and have negatively impacted the tourism sector. However, marine scientists argue that sargassum provides turtle habitats and has other ecosystem benefits and agricultural uses.

The last major sargassum invasion occurred in 2011, but experts concur that this year’s trend is much more severe, having clogged beaches from Barbados to Belize. "This has been the worst year we’ve seen. We need to have a regional effort because this unsightly seaweed could end up affecting the image of the Caribbean," said Christopher James, chair of the Tobago Hotel and Tourism Association. On Aug. 3, the Tobago House of Assembly declared the sargassum invasion a "natural disaster."

While sargassum can be found in every ocean but the Arctic, the largest concentration is generally in the North Atlantic. Typically, lower ocean temperatures in the cooler months of the year check the seaweed’s growth and confine it to the 2 million sq mile Sargasso Sea, named for the algae. Increasingly warm ocean temperatures and high nutrient flows from the Amazon and Orinoco Rivers have encouraged equatorial growth of sargassum, resulting in an exceptional bloom that has spilled into the Atlantic along the Caribbean archipelago and into the Caribbean Sea.

Regional response

For most countries along the Caribbean basin, tourism is the main economic driver. The immediate response to the influx of sargassum has thus been alarm, with local officials seeking to remove sargassum as quickly as possible. While there are no regionwide studies of canceled or shortened vacations on account of sargassum, anecdotal reports abound of disappointed holidaymakers. Images of beaches stacked high with sargassum have circulated widely on social media, and online forums receive constant queries and regular updates about affected beaches.

In some locations, sargassum has piled up to 10 ft high, which has physically obstructed access to beaches. The seaweed also has an odor akin to rotten eggs, which can make any seaside activity unpleasant. While hardly every beach on every island has been inundated, the overall perception of a sargassum invasion has generated widespread concern. With just a few months before the beginning of the high season for Caribbean tourism, the issue has reached the highest levels of government.

On Aug. 17, the Caribbean Community (CARICOM) and the University of West Indies (UWI) Cave Hill campus in Barbados, one of the many islands affected, held a sargassum symposium. "This is a threat not only to our tourism product, it is also a threat to our regional economy. ... We have a
tourism brand and we have a product and that product is built around the beauty of our marine ecologies and our beaches. ... This phenomenon is a threat to this brand and therefore we must do all we can to protect this brand," said Sir Hilary Beckles, vice chancellor of UWI Cave Hill.

Mexican officials in the Yucatán peninsula, home to tourism destinations like Cancún, have been the most proactive thus far. They have pledged US$9.1 million to hire 4,600 temporary workers and employ heavy machinery, including tractors, to clear sargassum off the beaches. At the UWI symposium, however, Beckles warned that a similar effort to alleviate sargassum in all the CARICOM countries affected would cost 13 times as much and require 20 times as many workers as the Mexican strategy.

"What you are looking at is maybe US$120 million ... and probably we would have to deploy over 100,000 people to carry out a similar strategy across the Caribbean space to make our beaches available to those who wish to use them for their multiple purposes," Beckles said. Thus far, efforts by individual countries have been more modest. The Tobago House of Assembly has designated TT$3 million (US$475,000) to beach cleanup efforts. The Barbadian government has allocated BB$1 million (US$500,000) to the Ministry of Environment.

In light of concerns that global climate change could make the current sargassum influx into the "new normal," Beckles called for a regionally coordinated, proactive approach to deal with sargassum before it even hits land. "I believe we need some institution building. We need a Sargassum Emergency Agency since this is going to be the new normal. We need institutional development to accommodate the sustainability of the necessary research and policy formulation," he said.

**Environmental benefits**

While tourism officials wring their hands at the aesthetic and olfactory downsides of sargassum, marine biologists and agricultural scientists have encouraged officials to look at the bright side. Regular amounts of sargassum in the ocean provide habitats for shrimp, crabs, and fish that have adapted to the floating algae. On shore, sea turtles use sargassum as a nesting area.

However, there is also such a thing as too much sargassum even for animals that nest in it. "We have heard reports of recently hatched sea turtles getting caught in the seaweed. If removal of seaweed involves large machinery, that will also impact the beaches and the ecosystems," said Faith Bulger, program officer at the Washington-based Sargasso Sea Commission.

As public officials continue to collect and bundle up sargassum, they have begun to consider alternative uses for it. David Bynoe works at the Barbados office of the UN Development Programme (UNDP). He has encouraged Caribbean officials to think differently about sargassum. "See it as an opportunity ... when you are going to use seaweed as a fertilizer, when you are going to use seaweed as a mulch, because these things are not just threats or crises but they really present a tremendous opportunity for some value added," he said.

Before the advent of the tourism industry, colonial and postcolonial Caribbean economies were based on agriculture. Sargassum could represent a new agricultural export for the region. "From the seaweed you can have several products both in terms of animal feed, fertilizer, iodine, and there are so many other beneficial uses of seaweed," Bynoe said. "There are places where you grow it just for the Japanese market. So we need to think about these things in a very scientific way."
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