

Coming soon to Florida beaches: Massive, messy and maybe record mounds of seaweed

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A giant blob of seaweed, spanning 5,000 miles and weighing an

estimated 6.1 million tons, threatens to blanket Florida beaches and Caribbean islands with smelly piles of decaying brown goop.

Sargassum—the scientific name for the brown seaweed often found strewn across South Florida beaches—could start piling up in the Florida Keys in the next few days. Scientists expect Miami Beach to become a hot spot later in the [sargassum](#) season, which runs from March through October.

This year's sargassum bloom is shaping up to be one of the biggest ever recorded. Since 2011, a combination of human activity and [climate change](#) has created a string of unusually large seaweed blobs. Every year for the past five years has set a new record for the biggest blob ever.

"We cannot predict whether this year will set a new record," said Chuanmin Hu, who is part of a team of University of South Florida oceanography professors who track sargassum blooms via satellite and publish monthly bulletins on their outlook. "All we can say is this year will be another major sargassum year on the level of the average for the past five years."

The problem with sargassum

The seaweed itself is harmless. But it does harbor jellyfish, sea lice, and other stinging and biting sealife. When sargassum washes ashore in big quantities, it can create headaches. "It rots under the Florida sunshine quickly," said Hu. "It smells very bad and chases away tourists."

The rotten egg odor of decaying seaweed, caused by the release of hydrogen sulfide, can create health issues for residents who have chronic respiratory problems. Heavy seaweed deposits can also smother the young turtles that typically hatch on the beaches between August and October.

Plus, seaweed is expensive to deal with. Miami-Dade County spends millions of dollars a year clearing seaweed piles, either by cutting them up and mixing them into the sand, or by hauling truckloads of sargassum off to landfills.

Where will the seaweed blob go?

Hu stressed that seaweed won't blanket Florida beaches evenly. The eastern seaboard of the United States will bear the brunt of the onslaught, he said, because the Gulf Stream pulls ocean debris, including seaweed, north from the Gulf of Mexico and Caribbean and drags it along the Atlantic coast. In Florida, [barrier islands](#) like Miami Beach and West Palm Beach tend to get the worst of it because they jut out closer to the Gulf Stream. But Atlantic beaches in states to the north also could see seaweed.

"Most beaches may be spared," Hu said. Even in hot spots like Miami Beach, sargassum won't pour in every week or even every month between now and October. Instead, it will show up on the [beach](#) in clumps when the tide is high and the wind is blowing in from east to west, pushing seaweed toward shore.

Miami-Dade County has identified four seaweed hot spots on local beaches: beaches in Haulover just north of Haulover Cut; beaches in Bal Harbour just south of Haulover Cut; Miami Beach between 26th Street and 31st Street; and the beaches alongside South Pointe jetty.

Why sargassum blooms are getting bigger

Human activity has helped create the conditions that allow seaweed to grow into huge blobs.

The main nutrients sargassum needs are nitrogen and phosphorus. Humans have raised nitrogen levels by unleashing sewage and fertilizer runoff into the sea. Meanwhile, dust blown over the oceans from the Sahara Desert sprinkles the water with phosphorus. Plus, heavy storms can stir up the nutrient-rich muck at the bottom of the sea.

"Taken together, they've fueled the major sargassum blooms in recent years," said Hu. "It's really difficult to pinpoint which is the dominant factor."

But Hu said scientists believe climate change is contributing to the problem. Heavier-than-usual rainfall flushes more runoff from farms and cities into the ocean and pulls more Saharan dust out of the atmosphere and into the sea. Stronger storms stir up more nutrients from the bottom of the sea.

A slimy new normal

None of the factors that create bigger sargassum blooms are likely to change any time soon. So Florida is probably stuck with major seaweed blobs for the foreseeable future, according to Hu.

"It will become a new normal," Hu said. "Actually, it has already become a new normal compared to 10 years ago."

Hu's research relies on satellite images to track seaweed blobs. Before the 2011 mega-bloom, that would have been impossible. There had never before been enough sargassum in the sea that it could be seen and studied from space.

Now, 5,000-mile seaweed blobs are the norm. This year's blob is the second-biggest on record for February, according to the March outlook report from Hu and his FAU colleagues. But the blob actually shrank by

a third from January to February, in a time period when seaweed blobs usually grow, offering "a glimmer of hope that the overall 2023 bloom may not be as large as previously feared," the scientists wrote in their report.

Instead of shattering records, it may simply be a garden-variety monster seaweed blob—the kind of nuisance local authorities will have to regularly deal with from now on. Like the red tide algae blooms that now routinely massacre fish on Florida's west coast, [seaweed](#) blobs on the east coast are shifting from rare crises to commonplace problems.

"The Miami-Dade parks department has been well aware of this situation not just from this year but from past years," Hu said, "so they are well prepared to deal with it."

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