HARMFUL ALGAE NEWS No. 72

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Harmful Algae News

An IOC Newsletter on Toxic Algae and Algal Blooms

No. 72 - May 2023 · https://hab.ioc-unesco.org/

Florida's West Coast *Karenia brevis* bloom – Spring 2023

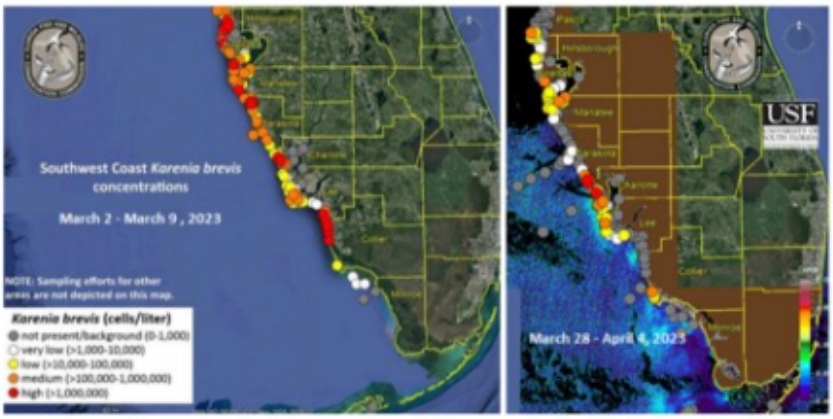

Fig. 1. Mapped Karenia brevis cell concentrations 26 days apart in March 2023. Note the offshore stations on 28 March to 4 April 2023 (gray circles right panel) have no K. brevis cells in surface samples. https://floridadep.gov/algalbloom

On the morning of 6 March 2023, the National Centers for Coastal Ocean Science (NOAA) issued an alert warning of "moderate to high risk of respiratory irritation" due to a *Karenia brevis* bloom along the southwest coast of Florida. This was no surprise to the many beachgoers who walk Florida's shorelines every day and frequently see dead fish washed up on the beaches during harmful algal blooms (HABs). The city or municipal government of the small towns along the west Florida coast routinely budget for beach clean ups during the nearly annual harmful algal blooms. But dead fish are especially problematic during peak holiday seasons or, in this case, spring break week(s) when schools recess and many visitors flock to Florida's wide, warm beaches. The "halo" effect of HABs can cause significant losses in revenue as the news, often exaggerated, is broadcast.

In an interview with the Washington Post (reported by A. Ajasa) Dr. Rick Stumpf (NOAA) noted that *K. brevis* cells often accumulate inshore in late summer and are pushed offshore to the mid shelf area of Florida's west coast) by winter winds associated with high-pressure systems [1,2] the persistent northerly winds do not occur *K. brevis* cells remain inshore. Stumpf speculates this is what happened in March 2023. It should be noted that while *K. brevis* blooms are known to occur at all seasons of the year, there are times when they are more frequent. High inshore cell concentrations are affected by wind patterns of frontal systems, hydrographic conditions like upwelling and in turn, nutrients upwelled to the surface waters [3]. Stumpf added **"If you have a year where we don't get those persistent northerly winds pushing it out it [HABs] can hang around. And that's what's happening this year."**

Florida's coast lines are some of the most closely observed marine areas. A number of State, Federal and non-governmental organizations and university programs contribute their resources to help forewarn citizens, public health officials, resource managers, property owners and tourists of conditions that are conducive to HABs (see below). These agencies also have willing volunteers who serve as citizen scientists and help crowd source data along vast stretches of the 1,062 km west Florida coastline. The most recent reports of the spring 2023 *K. brevis* blooms show a decline in the cell concentrations nearshore and no reports of surface

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