

Florida's Red Tide: Possible causes, Who's to blame?

Jim Roemer (A.K.A. Dr. Weather) has been forecasting for the commodity and ski industry for over 30 years . He splits his time between Sarasota, Florida and Vermont, and has a deep passion and concern about the environment and climate. We found his work titled, "Florida's Red Tide: Possible causes, Who's to blame? Implications to humans and how it can be resolved," to be interesting and of interest to our audience. With his permission and our thanks to Jim, we share it with you today. You can find out more about Jim Roemer at his website, <https://www.bestweatherinc.com>.

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Florida's Red Tide: Possible causes, Who's to blame? Implications to humans and how it can be resolved

by [Jim Roemer](#) | Aug 29, 2018

As a steward of trying to bring more awareness to people about global warming and protecting our environment, seeing and smelling, the Red Tide Algae in Florida, is particularly bothersome.

THE FIRST THING you notice is the smell. It's not a scent,

exactly, but a tingling in the nose that quickly spreads to the throat and burns the lungs. But then you see the carcasses.

I moved to Florida 10 years ago to enjoy the Florida beaches, but have seen first hand how Red Tide has gotten worse over the years. In the past, hurricanes such as Katrina, Irma, etc. were thought to add to the problem, but actually, **we need some sort of tropical weather system to churn up the waters. This would potentially mix up and move toxins**, if only temporarily. It's ironic to think about a hurricane actually benefiting Florida, after the many disasters the Sunshine State has witnessed over the years. However, a weak system could actually be beneficial to Florida.

RED TIDE—"It's killing sea life, battering our economy and making people sick," says a recent Florida TV ad. "Red tide continues to devastate our area. And many feel it's fair to blame Rick Scott." The blame assertion is lifted from an Orlando Sentinel editorial, which appears on screen.

Please see a most recent TV ad and how once again the Florida legislature is more concerned with money in their pockets and big business, rather than helping the environment.

COULD A TROPICAL STORM CLEAN UP THE RED TIDE?

In a study I did last May, I was one of the first to predict a pretty inactive hurricane season this year, due to a combination of cooler Atlantic ocean temperatures, compared to last year; a possible weak El Nino developing and African dust that could hurt hurricane activity. The oceans are presently warming a bit more than the 1994 analog (below), so the hurricane season will start perking up. **Nevertheless, the odds of a major hurricane hitting Florida or the Gulf coast this fall, is greatly reduced, compared to last year's devastating season.** That's of course a good thing.

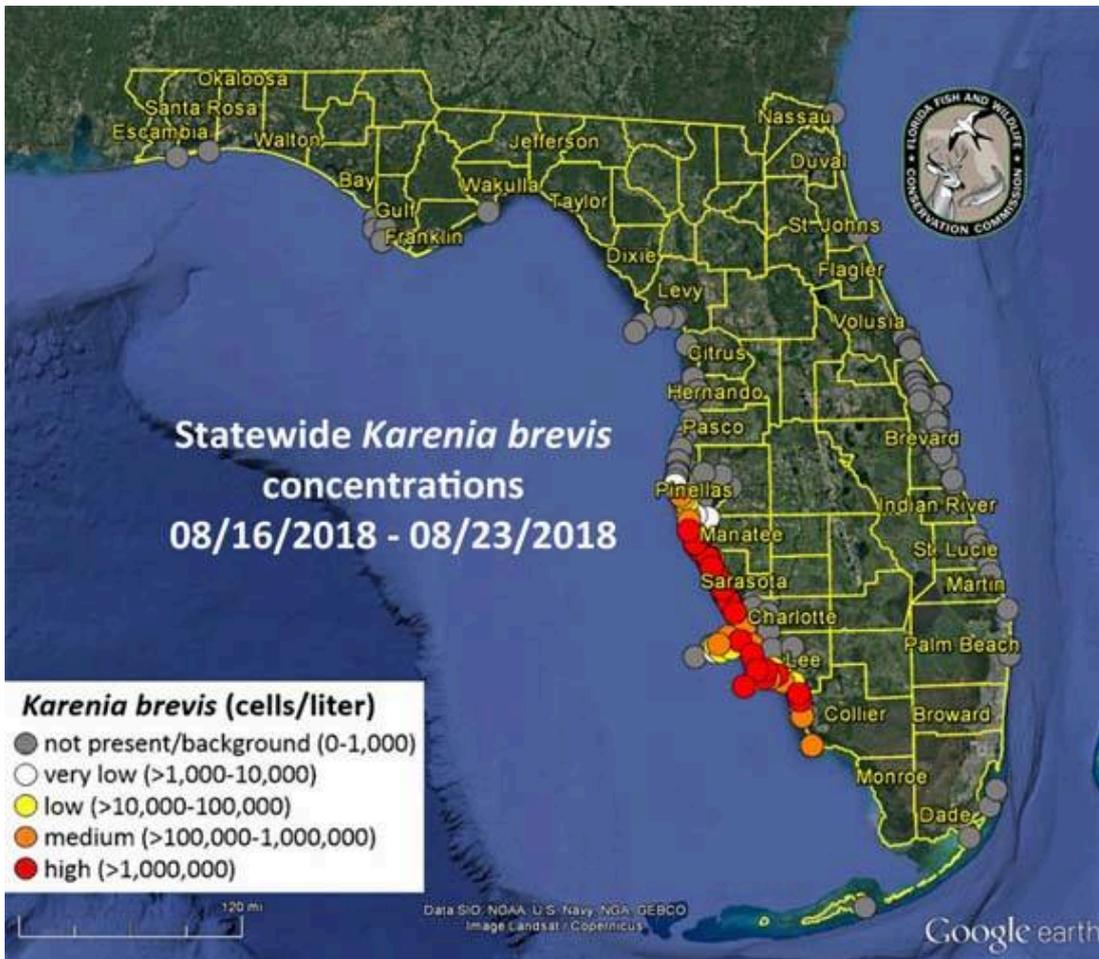
(How can African dust can kill the Atlantic hurricane season?)

[See here for a recent article\)](#)

Come late fall and winter, however, when we begin to see occasional cool fronts come in from the north, this would more likely “ease” the Red Tide problem. The longer it takes to get a tropical system to hit Florida, or a major cool front to come down from the north, the longer the Red Tide problem could remain along Florida’s west coast costing billions of dollars to the Sunshine State’s tourism.

How Can Red Tide be Mitigated? History

In Florida, Mote Marine scientists have been developing a patented system to mitigate the red tide’s toxic effects. It uses the highly reactive molecule ozone—which is composed of a trio of oxygen atoms—to destroy all organic compounds, including algae and brevetoxins, while oxygenating the water. They’ve successfully tested the system in a 25,000-gallon tank and are now prepping for a pilot project in a local canal, clarifying around 600,000 gallons of water.



For now, however, scientists are continuing to monitor the blooms in Florida, hoping eventually to be able to forecast these events. But the death toll continues to climb. “Wildlife is kind of the proverbial canary in the coal mine,” says CROW’s Barron. “And right now, the canary just died.

RED TIDE and its History

Red tide is a phenomenon caused by algal blooms (Wikipedia definition) during which algae become so numerous that they discolor coastal waters (hence the name “red tide”). The algal bloom may also deplete oxygen in the waters and/or release toxins that may cause illness in humans and other animals.

Spanish explorers documented seeing it back in the 1500s. However, it remained poorly understood until a scientist named Karen Steidinger of the Florida Fish and Wildlife Research Institute in St. Petersburg spent decades putting it under her microscope. In tribute, scientists renamed the species to

honor her, changing *Gymnodinium breve* to *Karenia brevis*.

Major factors influencing red tide events include warm ocean surface temperatures, low salinity, high nutrient content, calm seas, and rain followed by sunny days during the summer months . In addition, algae related to red tide can spread or be carried long distances by winds, currents, storms, or ships.

Another factor is likely that phosphorous levels in the lake are high. This is due to back-pumping water from sugar cane farms to the south. Then, due to a high amount of debris from Hurricane Irma in all lakes, rivers, and estuaries, oxygen levels in freshwater bodies have dropped. This causes levels of iron to increase in the water running off into the Florida coast. Both nutrients, phosphorous and iron, can cultivate algae like red tide.

Recent decades have brought intense blooms to Florida. A particularly bad bloom came in 1947. The brevetoxins in the air were so thick, the residents of Naples, Florida, thought armed forces had poured nerve gas into the Gulf—an observation that helped [scientists discover](#) the algae's irritating fumes.

Charlotte and Lee counties are experiencing some of the highest concentrations of red tide in recent memory, and it's creeping north into Sarasota. Facebook videos of dead manatees and sea turtles have gone viral, but dying gamefish like snook and endangered redfish scare Greer most.

Presently, roughly 20 million algal cells color this swath of red that recently lingered off of Florida's southwest coast. The red tide began in October 2017, and there are no signs that the toxic plume will lift anytime soon. But the problem is not limited to Florida alone, there seems to be a global expansion of these harmful blooms, with China waters seeing a huge increase the last few years.

IS GLOBAL WARMING ACCELERATING THE PROBLEM?

There is much debate on exactly “what is causing these blooms to expand.” *I am a firm believer that climate change is one of the culprits. This is because these toxins thrive in warmer waters.* Of course, increasing nutrient runoff is also a major issue due to the sugar industry around Lake Okeechobee and the rapid housing boom along the Florida coast. Decades of nutrient pollution mixed with heavy rainfall and warm temperatures helped create toxic algae in Lake Okeechobee. At one point this year, blue-green algae covered 90 percent of the lake.

In a controversial study in 2008, University of Miami scientists Larry Brand and Angela Compton [examined the last 50 years of data](#) on *K. brevis* blooms, reporting that between 1994 and 2002, the blooms were 13 to 18 times more abundant than those striking from 1954 to 1963.

(For a great source for more information about Red Tide, please visit [here:](https://serc.carleton.edu/microbelife/topics/redtide/index.html)
<https://serc.carleton.edu/microbelife/topics/redtide/index.html>
)

RED TIDE'S EFFECT ON HUMANS

(Information below is from the Florida Fish and Wildlife Conservation Commission, National Oceanic and Atmospheric Administration and Mote Marine Laboratory.)

Does Red Tide Effect Humans?

Yes, although not with such finality. The latest state report shows people at beaches from Sarasota to Naples reporting breathing problems as a result of encountering the Red Tide bloom. Usually the toxins cause only mild irritation and coughing, but they can produce serious problems for people with asthma and other respiratory problems. Health officials advise against eating shellfish from Red Tide areas because the toxins can accumulate in their bodies, poisoning humans.

Is it OK to eat seafood right now?

Most seafood restaurants aren't serving fish and crustaceans that were caught locally, so you'll be fine. If you want to eat a fish you caught yourself, be careful. Make sure it's alive when you reel it in. Only eat the muscle tissue of the fish, nothing else.

Can I go swimming in the Red Tide?

If you can get past all the coughing and wheezing and dead fish floating in the water, sure! Most people don't develop the skin irritation that bothers a few who swim through the algae bloom. However, you should be sure to shower off thoroughly when you're done.

Can I still take my dog for a walk on the beach?

Yes, but don't let Fido play with any dead fish or foam on the beach, and give him a thorough rinse with freshwater when he's done – before he gets in your car, not after.

Should we find a way to destroy all algae in the ocean so we can avoid having this happen again?

No. Most blooms are beneficial because the tiny plants serve as food for animals in the ocean. They are the major source of energy in the ocean food web.

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Markets and Midterms

The countdown to midterms is now in full force, and the ads, emailings, snailmailings, and robo-phone-call invasions into our personal lives will all combine to show us the worst of America's political ugliness as it now descends on our country. For confirmation, one need only be in Florida and watch the blur from Nelson (<https://www.nelsonforsenate.com/>) versus Scott (<https://rickscottforflorida.com/>) or DeSantis (<https://rondesantis.com/>) versus Gillum (<https://andrewgillum.com/>) or (in my town and county) Buchanan (<https://buchanan.house.gov/>) versus Shapiro (<https://voteshapiro2018.com/>).



I will comment on the last one. I've met both incumbent Buchanan and challenger Shapiro.

What I see is a repeating TV ad where Buchanan walks along a pretty Florida-esque backdrop holding hands with an (apparent) grandchild and offers a soft message. He does not disclose any Republican Party connection, doesn't promote his role in the House, and never mentions Trump. That tack may change over the next 60 days, but that is what I have personally seen so far.

Meanwhile, Buchanan's attack ads on Shapiro are mean-spirited and vicious. They rely on visual distortion, innuendo, and charges that are intended to entice the viewer emotionally into a love-Buchanan / hate-Shapiro mindset. Thus Buchanan's ads portray the same incumbent person with two different personalities. The messages were each professionally created, and they were approved by Buchanan. Shapiro seems more muted so far. He may not have the money for an ad war. And he is challenging a strong, multi-term incumbent who is in a Republican-leaning district, while Shapiro is new to this game. We shall see how this contest unfolds.

Suffice it to say, we expect the next two months to be extremely ugly and full of campaign deceit and distortion.

In Florida, all the incumbents and all the challengers are running as environmentalists. In Florida, two issues loom large: the red tide and blue-green algal blooms, and the sugar lobby's funneling money to candidates while the sugar biz continues to poison Lake Okeechobee.

Detailed research shows that both political parties and their leaders have repeatedly promised action on these issues during their campaigns and subsequently done nothing about them once they've been elected. That includes the current governor, Rick Scott, who as a now-term-limited governor wants to defeat Nelson and be a US Senator. Scott portrays himself as an environmental champion. The messaging doesn't include his history of echoing disbelief on the climate change issue or mention how he is now distancing himself from Trump on these issues. The press in Florida has documented this history and published it in editorials and columns. (See <https://www.washingtonpost.com/energy-environment/2018/08/09/florida-an-environmental-crisis-takes-center-stage-tight-senate-race/> for an analysis of the tussle between Scott and Nelson over environmental issues.)

We expect huge money will be spent on campaigns in Florida. We

also want to see how the newly immigrated Puerto Rican population will turn out and participate. Massive voter registration initiatives are underway. A visitor can encounter them daily. This Saturday, four different people nicely approached me while I was walking in town to the morning market. In some areas of Florida we have seen record turnouts in the primary campaigns of both political parties. Sarasota is one of those areas.

Okay, what is an investor to do?

Here are scenarios and some strategic factors to think about.

Scenario 1 has Republicans holding the House and the Senate. This scenario, should it come to pass, obviously strengthens the Trump trade, tax, and deregulation agenda. Stocks markets don't seem to expect it, so this outcome would be a surprise that could add huge volatility to 2019–2020, with a likely upward bias in US stock prices and downward pressure in foreign markets and especially emerging markets. Markets would assume that the trade war outcomes would worsen.

Scenario 2 seems the most likely one. Democrats capture the House but not the Senate. Currently, the betting odds show this is the majority view of those who are wagering money on the outcome. (Here is a website where you can place bets on the House and Senate outcomes: <https://www.predictit.org>) But betting trends don't make the betters right (note the Brexit vote). The betting odds do, however, provide a market-based pricing of opinion.

In scenario 2 we run up against stalemate for two years, likely investigations and subpoenas, and a possible impeachment process in the House. We have history here. Nixon and Clinton are notorious examples. Government comes to a stop. The media circus intensifies and gets uglier. The political charade ramps up for the 2020 elections. Meanwhile, nearly everyone knows (or can read) the constitutional

definition of impeachment and the rules which require a 2/3 majority in the Senate. Think of it this way: The House impeachment process is akin to a grand jury investigation, but held in public. The Senate is the actual jury. Note that no President of the United States has ever been convicted by the US Senate, even though the House impeachment process has been activated several times.

In scenario 2, the investor has to assume that there are no more positive changes in the tax code or the investment climate. There will be initiatives introduced that will raise taxes and alter deregulation. These may pass the House but are not likely to get through the Senate, nor would they survive a Trump veto.

Scenario 3 is the game changer. In number 3, Democrats gain majorities in both the House and the Senate. The fight over budgets and funding, government shutdowns, and continuing resolutions comes again to the fore. Betting odds suggest that this scenario is also not the most likely outcome.

What is important for investors to realize is that any of these three scenarios are possible. Set aside your personal leanings if you can. A coldly objective and calculated risk analysis suggests that scenario 2 or 3 is much more likely than scenario 1. What action to take now is the question.

First, investors must realize that they are managing a risk profile when uncertainty is huge and events are unfolding at a blistering pace.

Next, they must try to set aside emotions (hate Trump, like Trump, don't care – but making investment decisions on those emotions gains nothing for the investor). Markets are highly susceptible to headline risk, and it is intense. Markets are also transitioning in anticipation of trade war, trade war rhetoric, and economic changes, while central bank policy is also changing and diverging (US Fed tightening, ECB resisting

any tapering).

Lastly, and for planning purposes, any additional stimulus is likely to come only from the lame-duck congressional session that occurs after the midterm and before the winners in scenario 2 are sworn in. Therein lie the mechanisms by which special interest groups can influence legislative outcomes. We will also see leadership fights in both parties. Example: What would you do with housing stocks and banking and mortgages and the GSEs if you saw that Maxine Waters (scenario 2) was going to chair the House Financial Services Committee? Would you buy, sell, or hold?

One final thing. For planning personal financial decisions, discussions with your attorney, adviser, accountant, and planner are important right now. You want to identify what action you can take now to implement some decisions under present law and before any of these scenarios are in force next year to change that law. Remember that on the day a bill is introduced in the new Congress, the outcome from it can be retroactive to that introduction. Also remember that Congress has repeatedly backdated implementations. That is especially true of extender provisions under certain tax laws, which were made retroactive during a lame-duck session.

We close with the famous quotation offered by Sir Winston Churchill in the House of Commons in 1947 when he rose and said, “[I]t has been said that democracy is the worst form of government except for all those other forms that have been tried from time to time...” (<https://winstonchurchill.org/resources/quotes/the-worst-form-of-government/>).

Sir Winston’s wisdom applies. Please register and vote. We will do so early if we can, to be sure nothing derails our intention to express ourselves in the one way that is still protected (hacking notwithstanding) in this great country of ours.

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