

# RED TIDE TOOLKIT

HARMFUL ALGAL BLOOM  
AWARENESS & RESPONSE MESSAGES



# ABOUT

**Harmful algal blooms (HABs) pose risks to the health and economy of coastal communities in Florida. Learn about resources to aid in your communication about HABs in this toolkit.**



The UF/IFAS Center for Public Issues Education in Agriculture and Natural Resources curated the following materials in partnership with Florida Sea Grant. The purpose of these materials is to educate various audiences about harmful algal blooms (HABs) and their effects on humans, animals and the ecosystem. This toolkit includes social media content, educational print pieces, Powerpoint presentations, an informational video and instructions for how to access and use the materials.

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This publication was supported by the National Sea Grant College Program of the U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), Grant No. NA18OAR4170085. The views expressed are those of the authors and do not necessarily reflect the view of these organizations. Additional copies are available by contacting Florida Sea Grant, University of Florida, PO Box 110409, Gainesville, FL, 32611-0409, (352) 392.2801, [www.flseagrant.org](http://www.flseagrant.org).

# TOOLKIT INDEX

**Social Media Posts:** Pre-made graphics accompanied by text, ready for you to post to your social media pages. Includes posts for emergency response as well as general red tide information.

**Rack Card:** Uses colorful images and text to display information so readers can understand red tide health and safety.

**Issue Guide:** Uses text and graphics to display information so readers can understand how red tide forecasts are produced.

**Powerpoint Presentations:** Colorful presentations on general red tide information and forecasting technology.

**Informational Video:** Short kinetic typography video explaining how red tide forecasts are produced.

**Instructions:** Detailed instructions on how to download materials and recommended usage.

# SOCIAL MEDIA

The Red Tide Toolkit provides social media posts ready for you to publish to your organization's social media accounts. The posts are categorized into two kits: emergency response and red tide information. Every post has a graphic paired with an accompanied text. People are more likely to read posts that contain graphics than posts without graphics.

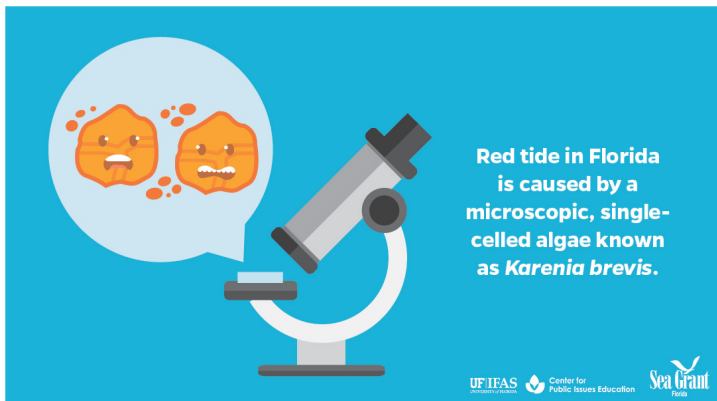
Social media is a great way to reach a diverse audience. The content in this toolkit is formatted to be educational and understandable for the general public.

Visit <https://www.flseagrant.org/habs/> to view all social media content and graphics and to download your own.

# SOCIAL MEDIA


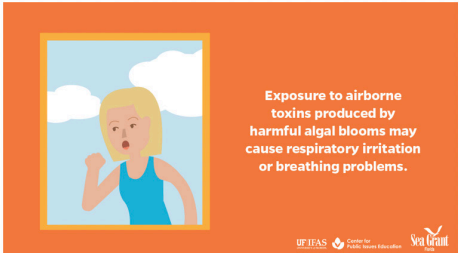


Here is an example of a post from the Red Tide Emergency Response Toolkit educating the public on how to protect their pets during a red tide event.



Here is an example of a post from the Red Tide Informational Toolkit explaining what species of algae causes red tide.

# SOCIAL MEDIA

Post	Graphic
<b>Red Tide Response</b>	
<p>Toxins from red tide can accumulate in filter feeders, such as clams and oysters, and may lead to Neurotoxic Shellfish Poisoning in people who consume contaminated shellfish. Shellfish purchased through a licensed dealer or at a restaurant are safe to eat during a harmful algal bloom as they will have been harvested from waters outside of the bloom area. Learn more about harmful algal blooms at <a href="https://www.flseagrant.org/habs/">https://www.flseagrant.org/habs/</a>.</p>	 <p>Only purchase shellfish from a licensed restaurant or dealer during an active bloom.</p> <p>UF IFAS Center for Public Waters Education Sea Grant</p> <p>This graphic features a blue background with a white circle containing an illustration of a scallop and a shrimp. The text is centered in white, and logos for UF IFAS, the Center for Public Waters Education, and Sea Grant are at the bottom.</p>
<p>During an active red tide, healthy individuals may experience some irritation from exposure to aerosolized or airborne toxins, but these symptoms typically subside once they leave the impacted area. Individuals with respiratory conditions can experience more severe and prolonged breathing problems. Learn more about harmful algal blooms at <a href="https://www.flseagrant.org/habs/">https://www.flseagrant.org/habs/</a>.</p>	 <p>Exposure to airborne toxins produced by harmful algal blooms may cause respiratory irritation or breathing problems.</p> <p>UF IFAS Center for Public Waters Education Sea Grant</p> <p>This graphic has an orange background. On the left is a framed illustration of a woman with blonde hair looking surprised or concerned. The text is on the right in white, and logos for UF IFAS, the Center for Public Waters Education, and Sea Grant are at the bottom.</p>

On the website <https://www.flseagrant.org/habs/>, you can download .png files of each graphic as well as a PDF document with suggested captions and schedule of posting (pictured above).

# PRINT MATERIALS



**USING FORECASTING TO TRACK HARMFUL ALGAL BLOOMS**

**WHAT ARE HARMFUL ALGAL BLOOMS?**  
Harmful algal blooms, or HABs, occur when colonies of algae — simple plants that live in the sea and freshwater — grow out of control and produce toxic or harmful effects on people, animals or ecosystems. Florida experiences HABs like red tide (caused by *Karenia brevis* in coastal waters) and blue-green algal blooms (caused by different species of cyanobacteria).

HAB forming algae produce different types of toxins. Exposure to these toxins can result in different symptoms. Respiratory irritation, skin irritation and itchy eyes are potential symptoms of exposure to HAB toxins. Since HABs can be detrimental to the health of humans, pets, livestock and wildlife, it is important to stay aware of water conditions and avoid active bloom areas.

**HOW ARE HAB FORECASTS PRODUCED?**  
All algae require nutrients to grow. When nutrients are present in high concentrations, algal blooms form. During blooms, color pigments contained in algae cells produce a visible change in water color which can be detected by satellites monitoring the Earth. Most ocean color imagery uses a color scale ranging from purple to red as algae concentration increases.

Satellite color data helps scientists locate and track HABs, providing an early warning to people. Satellites are able to cover much larger areas than a person could on the water. They are also more sensitive than the human eye, meaning they can detect changes in water color that scientists might otherwise miss.

However, there are limitations to satellite imaging. Satellite data does not identify what species of algae are responsible for the change in water conditions.

Satellite images tell scientists how big a bloom is and what direction it is heading.

To determine if an algal bloom is harmful, oceanographers must combine satellite images with field samples.

Along the Gulf Coast of Florida, *K. brevis* red tide respiratory forecasts are produced regularly by the Gulf of Mexico Coastal Ocean Observing System (GCOOS). The forecasts can be used the same way a weather forecast is used — to plan beach walks, waterfront dining and other outdoor activities. These forecasts are communicated to the public via the HABscope website (<https://habscope.gcoos.org/>) in near real-time, projected over 24 hours and updated with the latest wind models every three hours.

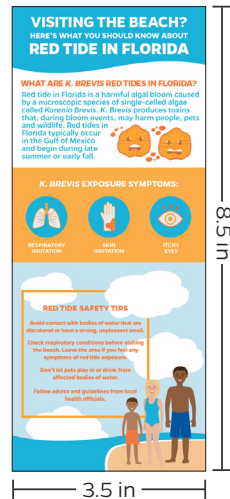
Satellite imaging and forecasting not only helps scientists identify and monitor HABs, it allows citizens to make informed decisions while visiting bodies of water that are experiencing blooms.

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**Sea Grant UFIFAS** Center for  
Coastal and Estuarine Public Issues Education  
For more information, visit: <https://www.flseagrant.org/habs/>

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**VISITING THE BEACH?  
HERE'S WHAT YOU SHOULD KNOW ABOUT  
RED TIDE IN FLORIDA**

**WHAT ARE *K. BREVIS* RED TIDES IN FLORIDA?**  
Red tide in Florida is a harmful algal bloom caused by a microscopic species of single-celled algae called *Karenia brevis*. *K. brevis* produces toxins that, during bloom events, may harm people, pets, and wildlife. Red tides in Florida typically occur in the Gulf of Mexico and begin during late summer or early fall.

***K. BREVIS* EXPOSURE SYMPTOMS:**

- RESPIRATORY IRRITATION
- SKIN IRRITATION
- ITCHY EYES

**RED TIDE SAFETY TIPS**

Avoid contact with bodies of water that are discolored or have a strong, unpleasant smell. Check respiratory conditions before visiting the beach. Leave the area if you feel any symptoms of red tide exposure.

Don't let your dog play in or drink from affected bodies of water.

Follow advice and guidelines from local health officials.

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8,5 in

The Red Tide Toolkit includes one double-sided informational rack card and one full page issue guide. These print materials are intended to provide audiences with important information about red tide by using a combination of text and colorful graphics.

The rack card explains what a red tide is, details symptoms of exposure, provides health and safety tips and answers frequently asked questions. This piece is intended to inform tourists visiting Florida's coastal regions about red tide.

The issue guide explains the process of creating red tide forecasts using satellites and water samples. This piece is best suited for use in extension.

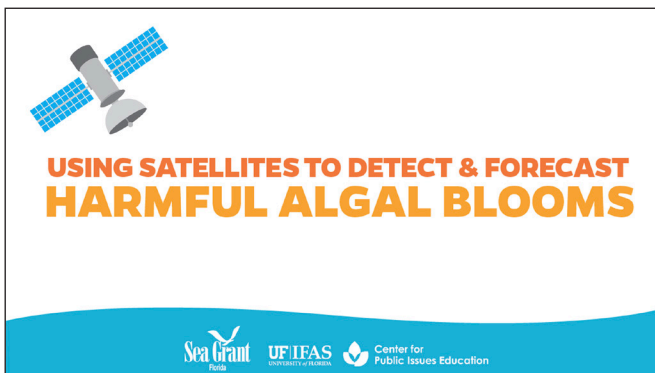
Both of these print pieces are available to download at <https://www.flseagrant.org/habs/>.

# POWERPOINT PRESENTATIONS

This toolkit contains the following Powerpoint presentations available for download at <https://www.flseagrant.org/habs/>:



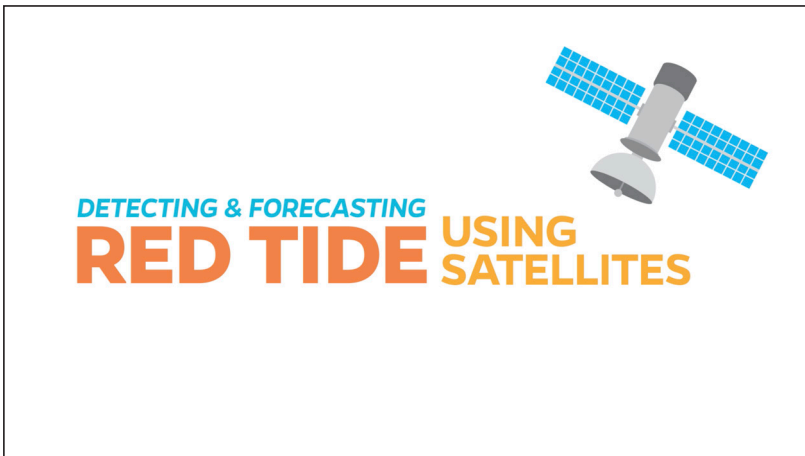
*Powerpoint slides containing text and graphics focused on red tide health and safety.*



*Powerpoint slides containing text and graphics focused on satellite imaging and forecasting.*



# TYPOGRAPHY VIDEO



A short informational video (1 minute 45 seconds) uses moving text and graphics to explain how HAB respiratory forecasts are produced. This video can be shared to social media or used as part of a presentation in addition to the Powerpoints in this toolkit.

The video can be viewed at <https://www.youtube.com/watch?v=EzTo7-tfuPs>.

# INSTRUCTIONS

## **Follow these steps to download each item:**

- 1) Go to <https://www.flseagrant.org/habs/>.
- 2) It is recommended that you create a folder in your computer where each file can be downloaded to. This will help keep everything organized when you post on social media, but it is not necessary.
- 3) Click the file you want to download.
- 4) Save the file into the folder you created.

## **Follow these steps to publish a post on Facebook:**

- 1) Open your organization's Facebook account account.
- 2) Create a new post. There is a text document with suggested captions. Copy and paste the text from word document into post text.
- 3) Click photo/video in Facebook post.
- 4) Select the desired toolkit graphic from your folder you saved it in. (Tip: If you did not save it to a specific folder when downloading, the file may be saved to your download file.)
- 5) Use this link to direct readers toward resources <https://www.flseagrant.org/habs/>.

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**Center for  
Public Issues Education**

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