



About Red Tide

BACKGROUND

Algae are vitally important to marine ecosystems, and most species of algae are not harmful. However, under certain environmental conditions, microscopic marine algae called *Karenia brevis* (*K. brevis*) grow quickly, creating blooms that can make the ocean appear red or brown. People often call these blooms “red tide.”

K. brevis produces powerful toxins called brevetoxins, which have killed millions of fish and other marine organisms. Red tides have damaged the fishing industry, shoreline quality, and local economies in states such as Texas and Florida. Because *K. brevis* blooms move based on winds and tides, pinpointing a red tide at any given moment is difficult.

Red tides occur throughout the world, affecting marine ecosystems in Scandinavia, Japan, the Caribbean, and the South Pacific. Scientists first documented a red tide along Florida’s Gulf Coast in fall 1947, when residents of Venice, Florida, reported thousands of dead fish and a “stinging gas” in the air, according to Mote Marine Laboratory. However, Florida residents have reported similar events since the mid-1800s.

ASSESSING THE IMPACT ON PUBLIC HEALTH

In addition to killing fish, brevetoxins can become concentrated in the tissues of shellfish that feed on *K. brevis*. People who eat these shellfish may suffer from neurotoxic shellfish poisoning, a food poisoning that can cause severe gastrointestinal and neurologic symptoms, such as tingling fingers or toes.

The human health effects associated with eating brevetoxin-tainted shellfish are well documented. However, scientists know little about how other types of environmental exposures to brevetoxin—such as breathing the air near red tides or swimming in red tides—may affect humans. Anecdotal evidence suggests that people who swim among brevetoxins or inhale brevetoxins dispersed in the air may experience irritation of the eyes, nose, and throat, as well as coughing, wheezing, and shortness of breath. Additional evidence suggests that people with existing respiratory illness, such as asthma, may experience these symptoms more severely.

For more information about red tides, and to learn how CDC is studying environmental exposures to brevetoxins, visit CDC’s red tide Web site at <http://www.cdc.gov/hab/redtide/>.