

Use the local ecological knowledge of fishermen to understand historical red tide severity patterns

Lin Shuang Zhao*

Department of Civil and Environmental Engineering, University of Shantou, China

Received: 31-May-2023; Manuscript No: JAEFR-23-108638; Editor assigned: 02-June-2023; Pre QC No: JAEFR-23-108638 (PQ); Reviewed: 16-June-2023; QC No: JAEFR-23-108638; Revised: 21-June-2023 (R); Manuscript No: JAEFR-23-108638 (R); Published: 28-June-2023; DOI: 10.3153/JAEFR.9.6.051

Introduction

Harmful Algal Blooms (HABs) occur when colonies of marine and freshwater algae-like organisms grow out of control and become toxic or harmful to humans, fish, crustaceans, marine mammals, and birds [1-3]. Human illnesses caused by HABs, although rare, can be debilitating and even fatal. Many people refer to these blooms as "red tides," but scientists prefer the term noxious algal blooms. One of his most famous HABs in the US occurs on the Gulf Coast of Florida almost every summer. This bloom, like many of his HABs, is caused by microscopic algae that produce toxins that kill fish and render crustaceans unsafe for consumption. As the name suggests, algae flowers often turn the water red. HAB has been reported in all US coastal states, and its incidence may be increasing. However, not all Algal Blooms are harmful. Most flowers are actually useful, as small plants are food for sea animals. In fact, they are the main source of energy that powers the marine food web. However, a small proportion of algae produce powerful toxins that kill fish, crustaceans, mammals, and birds and directly or indirectly cause disease in humans. Also includes flowers of non-poisonous species that give. For example, when a mass of algae dies and decomposes, the decomposition process depletes the oxygen in the water, making it starved of oxygen and causing animals to abandon the area or die.

Description

Scientists at the National Ocean Service have observed and studied this phenomenon for years to determine how to locate and predict blooms. The goal is to provide advance warning to communities so that the adverse environmental and health impacts associated with these "red tide" events can be appropriately planned and managed. However, not all Algal Blooms are harmful. Most flowers are actually useful, as small plants are food for sea animals. In fact, they

are the main source of energy that powers the marine food web. It is the etymology of the word "red tide". When these toxins are present in dinoflagellates that cause a "red tide" they are called Harmful Algal Blooms (HABs). In such cases, these HABs are eaten by fish, birds, marine mammals, and humans, causing unwanted symptoms and sometimes death. Toxins can also become airborne. For example, when swarms of red algae develop off the coast of Florida and winds pick up inland, the number of people being rushed to hospital emergency rooms with asthma attacks increases. Most phytoplankton species are harmless to humans [4,5]. However, sometimes phytoplanktons grows (bloom) too quickly and appear on the surface of the water. In this case, the term 'algal bloom' is used to describe the different types of phytoplankton involved.

Conclusion

Most phytoplankton species are harmless to humans. However, sometimes phytoplankton grows (bloom) too quickly and appear on the surface of the water. In this case, the term 'algal bloom' is used to describe the different types of phytoplankton involved. Different types of phytoplankton contain different colours of pigment, from green to brown to red, so the water can turn different colours depending on which type of phytoplankton is overgrown. The water can appear white to nearly black, but usually, the water appears reddish or brown depending on the species. Because of this colour variation, scientists usually prefer the term "algal bloom" to "red tide." Red tide is most commonly used in the United States, while the algal bloom is more commonly used in other parts of the world.

Acknowledgement

None.

Conflict of Interest

The author declares there is no conflict of interest in

publishing this article.

Reference

1. Gravinese PM, Munley MK, Kahmann G, et al. The effects of prolonged exposure to hypoxia and florida red tide (*karenia brevis*) on the survival and activity of stone crabs. *Harmful Algae.* 2020; 98:101897.
2. Brand LE, Compton A. Long-term increase in *karenia brevis* abundance along the southwest florida coast. *Harmful Algae.* 2007; 6(2):232-52.
3. Dauer D, Simon JL. Repopulation of the polychaete fauna of an intertidal habitat following natural defaunation: Species equilibrium. *Oecologia.* 1976; 22(2):99-117.
4. Drew JA. Use of traditional ecological knowledge in marine conservation. *Conserv Biol.* 2005; 19(4): 1286-93.
5. Hind E. A review of the past, the present, and the future of fishers knowledge research: A challenge to established fisheries science. *ICES J Mar Sci.* 2015; 72(2): 341–58.

*Corresponding to

Lin Shuang Zhao

Department of Civil and Environmental Engineering,
University of Shantou, China

Email: lsh_zhao@stu.edu.cn