

The Truth About Algal Bloom and the Tourist Boom



Green algae in Boracay

What are green algal blooms?

The algae causing the blooms are normal components of a clean, healthy reef. But when the reef is destroyed, they are the only ones that can easily grow fast since there are no more fish to eat them. They are brought to shore by waves, and in the presence of nutrients, algae bloom.

Green algae bloom when the temperature is high, when exposed to sunlight, in favorable water movement (i.e., slow moving water), and with presence of excessive nutrients such as nitrates and phosphates, as it serves as fertilizers to algae. Common sources of excessive nitrates are septic tanks and untreated wastewater from hotels and households.



Hotel staff raking green algae from the sand

Are green algal blooms new to Boracay?

No. Algae naturally occur in many beaches. They bloom when exposed to hot temperature and sunlight. Algal blooms have been witnessed by residents before tourism development. However, green algal blooms in Boracay have become more frequent, thicker, and muckier in recent years.



Normal green tide

- Clinging to rocks when exposed to sun
- Moderate to rough water movement
- No nutrients



Unusual green tide

- Exposure to sun and high temperature
- Excessive nutrients

Since 2008, satellite images show that abnormal algal blooms have occurred in January-May, August, October, and December.



Satellite image of Boracay, taken in 2012

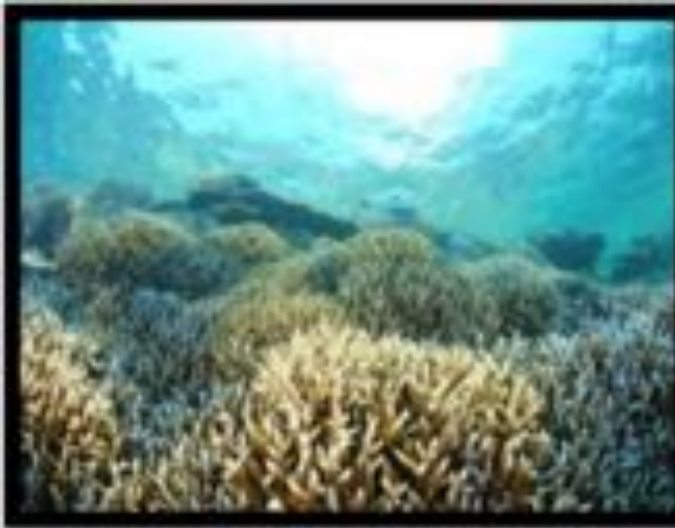


Untreated wastewater in Boracay

Should we be concerned about green algae in Boracay?

Yes. While green algal blooms are natural, the presence of excessive nutrients, composed mostly of nitrates and phosphates from untreated wastewater and septic tanks, provides the best and optimal condition for the excessive algal growth we see today in Boracay.

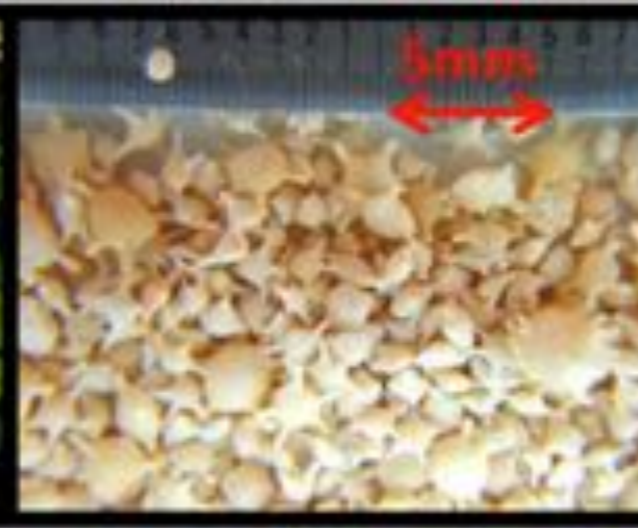
Algal blooms can be an indicator of imbalanced marine ecosystem. This condition deprives most other organisms of oxygen, even killing them. Then, bacteria decompose their bodies. The process uses up all the remaining oxygen, further killing other living organisms.



Corals



Halimeda



Foraminifera



Shells

What's the source of Boracay's powdery white sand?

According to sediment analysis made by the CECAM Project (Fortes & Nadaoka 2015), Boracay's sand is composed of coral fragments, *Halimeda* (a kind of green algae), foraminifera, and shell remains.

The calcium carbonate-forming algae that makes up part of the powdery white sand is NOT the same species as the soft, slimy algae that washes up on the shores of Boracay. The green algal bloom in Boracay turns white when dead due to the loss of the chlorophyll (green pigment) from the algal cells, but it does not become sand.



Boracay sunset

What can be done about the green algal blooms in Boracay?

The LGU needs to ensure that the pertinent laws are enforced. Boracay already has municipal ordinances on water quality, building permits, discharge of pollutants, mooring of boats, and waste reduction, among others.

Businesses should translate their corporate social responsibility into something tangible and for the good of Boracay and its locals.

*For more information and ways to help, please get in touch with **Blue Cares**, Department of Geodetic Engineering CE, University of the Philippines at +63 2 981 8500 loc. 3124 or email acblanco.updge@gmail.com.*

