

LYNGBYA

Algal Blooms



Floating Algal Mats

Lyngbya majuscula is filamentous blue-green algae (cyanobacteria) that lives naturally in Tampa Bay and is found worldwide. Blooms of *Lyngbya* are common annual events in many areas of Florida and can form large, brownish colored floating mats, slimy to the touch and sometimes emit a foul odor.



Though these brown floating clumps of *Lyngbya* may look and smell like what people perceive to be raw sewage, they are not related.

The increased growth of *Lyngbya*, typically in the spring and summer months, may be attributed to warmer temperatures combined with sunlight. There is no evidence linking the *Lyngbya* blooms in Tampa Bay to acute point-source nutrient inputs (e.g. sewage releases).

Cyanobacteria are photosynthetic and, therefore, manufacture their own food. Some Cyanobacteria can also convert atmospheric nitrogen into nitrate or ammonia, which plants, including algae, need for growth.

Lyngbya grows and forms mats in the intertidal areas that are inundated regularly. The dense structure of the mat hampers oxygen diffusion so anaerobic bacteria, such as sulfur bacteria, thrive inside the mat. Winds and current may move the floating mats of *Lyngbya* to the waterfront, where it washes up on beaches and stacks up against seawalls. The exposure to air and intense sunlight lead to its decay and the production of hydrogen sulfide (H₂S) which, like the sulfur bacteria, has a rotten eggs odor.

While a variety of this species has been associated with contact dermatitis - "swimmer's itch"- in Hawaii, Japan and Australia, there is no evidence that the *Lyngbya* in Tampa Bay is capable of inducing skin irritation. There have been no reports of any adverse effects on seagrass, fish or other marine organisms associated with these blooms. On the contrary, *Lyngbya* is beneficial because many microscopic organisms live off of the algae and are associated with the mat.