VIDEO 4. Impacts and Examples of Harmful Algal Blooms (HABs)

What are harmful algal blooms (HABs)?
- HABs are algal blooms that threaten the health of people, animals, and aquatic ecosystems.
- Only some HABs are known to produce toxins, but HABs do not need to produce toxins to be considered harmful or have negative effects.

Impacts of HABs
- Health impacts
  - Toxins produced by HABs can have minor to life-threatening health effects.
  - The type of toxins produced depends on the species of algae. Different types of toxins affect specific systems within the body.
- Economic impacts
  - Increased costs associated with HABs may be in the billions of dollars due to:
    - Beach closures and loss of tourism revenue;
    - Increased medical expenses and lost work days due to respiratory and gastrointestinal illnesses from toxin exposure;
    - Declining property values;
    - Loss revenue when commercial fisheries and aquaculture are shut down;
    - Increased cost of water treatment for drinking water.
- Ecological impacts
  - Algae can clog fish gills and prevent light from reaching aquatic plants and coral reefs during a HAB event.
  - Toxins produced by HABs can kill fish, manatees, dolphins, birds, and turtles.
  - HABs can also deplete oxygen levels and cause fish kills.

Examples of HABs
- Red tide
  - Red tides are caused by a species of dinoflagellates in saltwater.
  - The water can appear red to brown or even purple, green, or have no change in color.
  - Red tides can contain toxins.
  - Karenia brevis is a species of dinoflagellate that causes red tide on Florida's west coast and can produce brevotoxins.
Cyanobacteria blooms

- Cyanobacteria blooms are also referred to as blue-green algae or cyanoHABs.
- These blooms are caused by certain species of cyanobacteria in freshwater ecosystems.
- Cyanobacteria blooms can contain cyanotoxins.

References

Health impacts

- HAB-associated illness, CDC.

Economic impacts

- Harmful algal blooms - economic impacts, Florida Health