
My NASA Data - Interactive Models

Phytoplankton Distribution and Watersheds

Grade Band

- 3-5
- 6-8
- 9-12

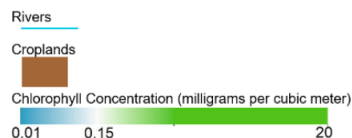
Time

- 30 minutes

Directions

1. Using an internet accessible device, students open the link to the [Phytoplankton Distribution and Watersheds Interactive Model](#) to begin their exploration of this phenomenon.
2. Distribute the [Phytoplankton Distribution and Watersheds Interactive Model Student Sheet](#) (optional). Have students navigate on their own through the interactive model to answer the questions and complete the activities on their student sheet.

Chlorophyll at the Coast

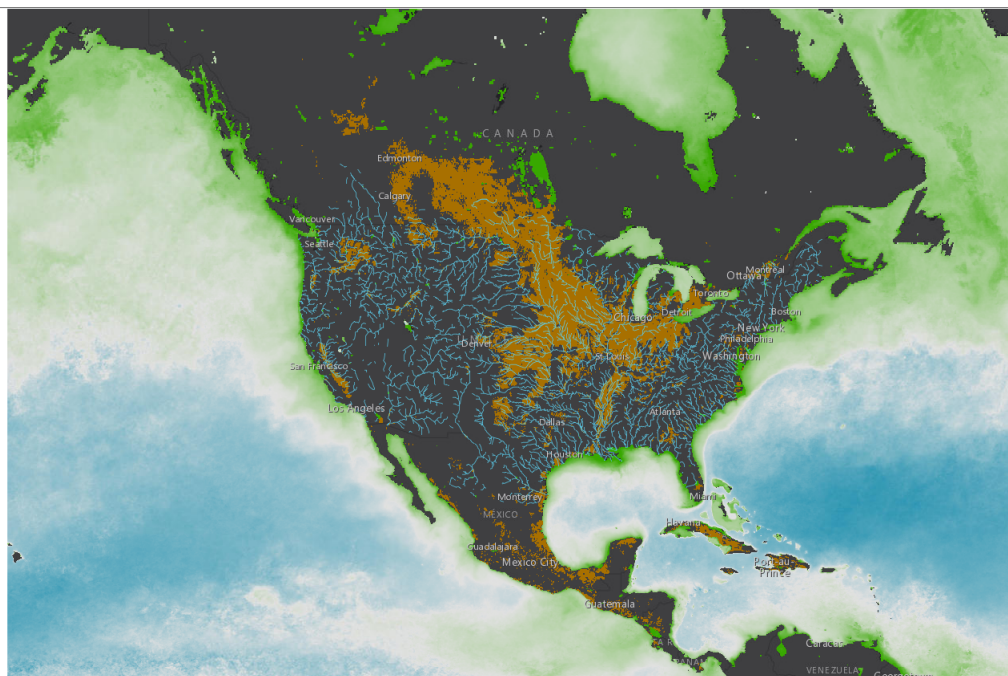


The map to the right displays chlorophyll concentration at the Gulf Coast, and features characteristics of the land surface. In the southeastern United States, you will see rivers represented as blue lines and croplands in dark green.

- Analyze the legend and map of rivers, croplands, and chlorophyll concentration

Questions:

- What can you claim about the relationship between phytoplankton and watersheds?



CLICK HERE

Teacher Note

At the bottom of the ocean's food chain, phytoplankton account for roughly half of the net photosynthesis on Earth. Their photosynthesis consumes carbon dioxide and plays a key role in transferring carbon from the atmosphere to the ocean. Unlike the plant ecosystems on land, the amount of phytoplankton in the ocean is always followed closely by the abundance of organisms that eat phytoplankton, creating a perpetual dance between predators and prey.

To learn more, visit:

- The [Phytoplankton Distribution Phenomena](#) page for background information

Teachers who are interested in receiving the answer key, please complete the [Teacher Key Request and Verification Form](#). We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

NGSS Three Dimensional Learning

NGSS Disciplinary Core Ideas

- LS2B: Cycles of Matter and Energy Transfer in Ecosystems
- ESS2A: Earth Materials and Systems

Crosscutting Concepts

- Patterns

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- Systems and System Models

Science and Engineering Practices

- Developing and Using Models
- Analyzing and Interpreting Data
- Constructing Explanations and Designing Solutions

Learning Objectives

- Students will analyze and describe the distribution of phytoplankton over time and space.
- Students will identify patterns in chlorophyll concentration data to formulate their explanations of phytoplankton distribution.

Essential Questions

- What can you claim about the relationship between phytoplankton and watersheds?
- What questions could you ask about these data?

Google Docs Interactive Files

[Student Sheet](#)