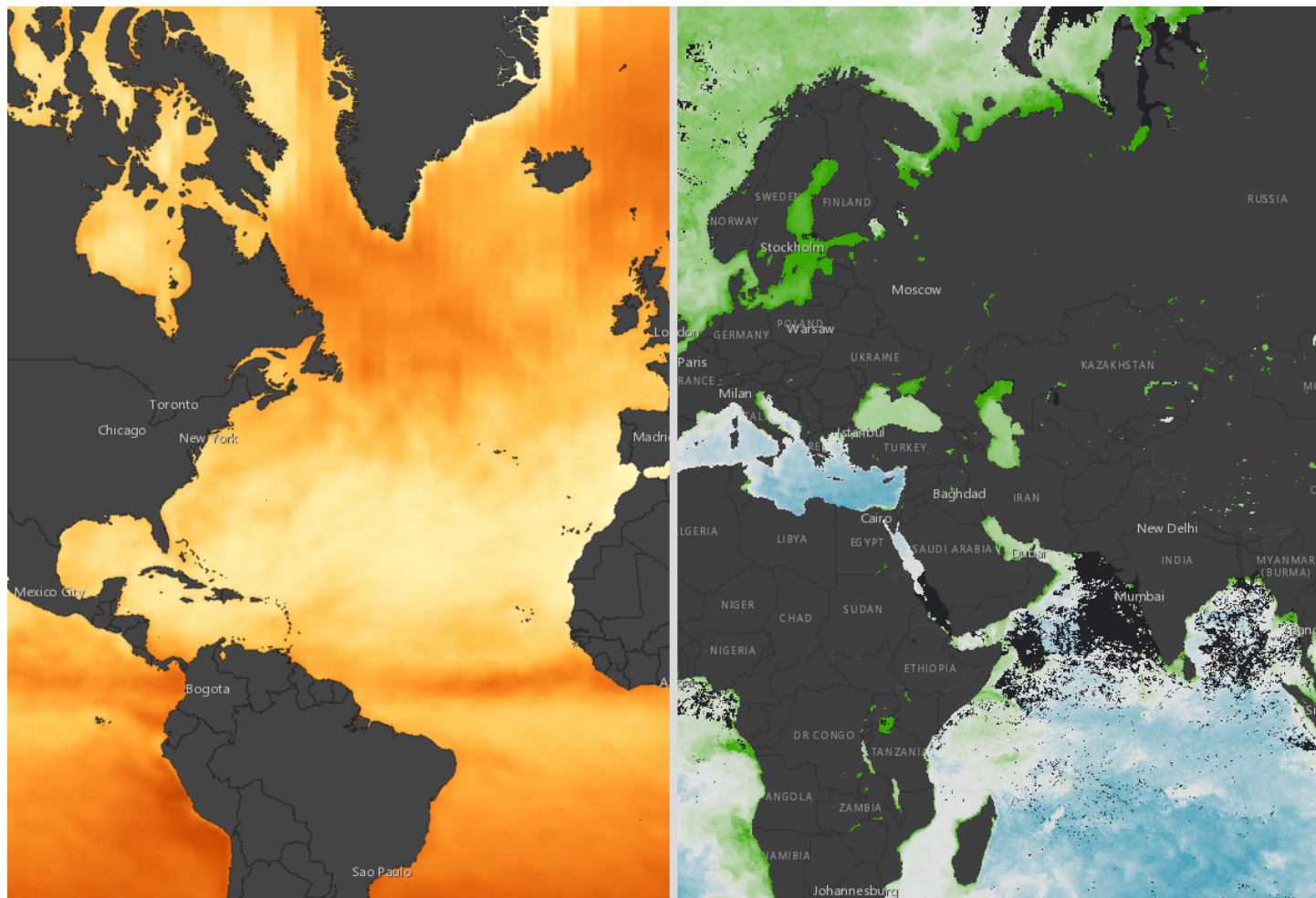# My NASA Data - Interactive Models

Chlorophyll Concentration and Incoming Shortwave Radiation

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.

Grade Band

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

Supported NGSS Performance Expectations

- 4-ESS2-2: Analyze and interpret data from maps to describe patterns of Earth's features.
- 5-ESS2-1: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
- MS-LS2-3: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- HS-ESS2-6: Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.

NGSS Disciplinary Core Ideas

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

Science and Engineering Practices

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

Crosscutting Concepts

- Patterns
- Systems and System Models

Related Resources

- [Chlorophyll Concentration and Incoming Shortwave Radiation Interactive Model](#)