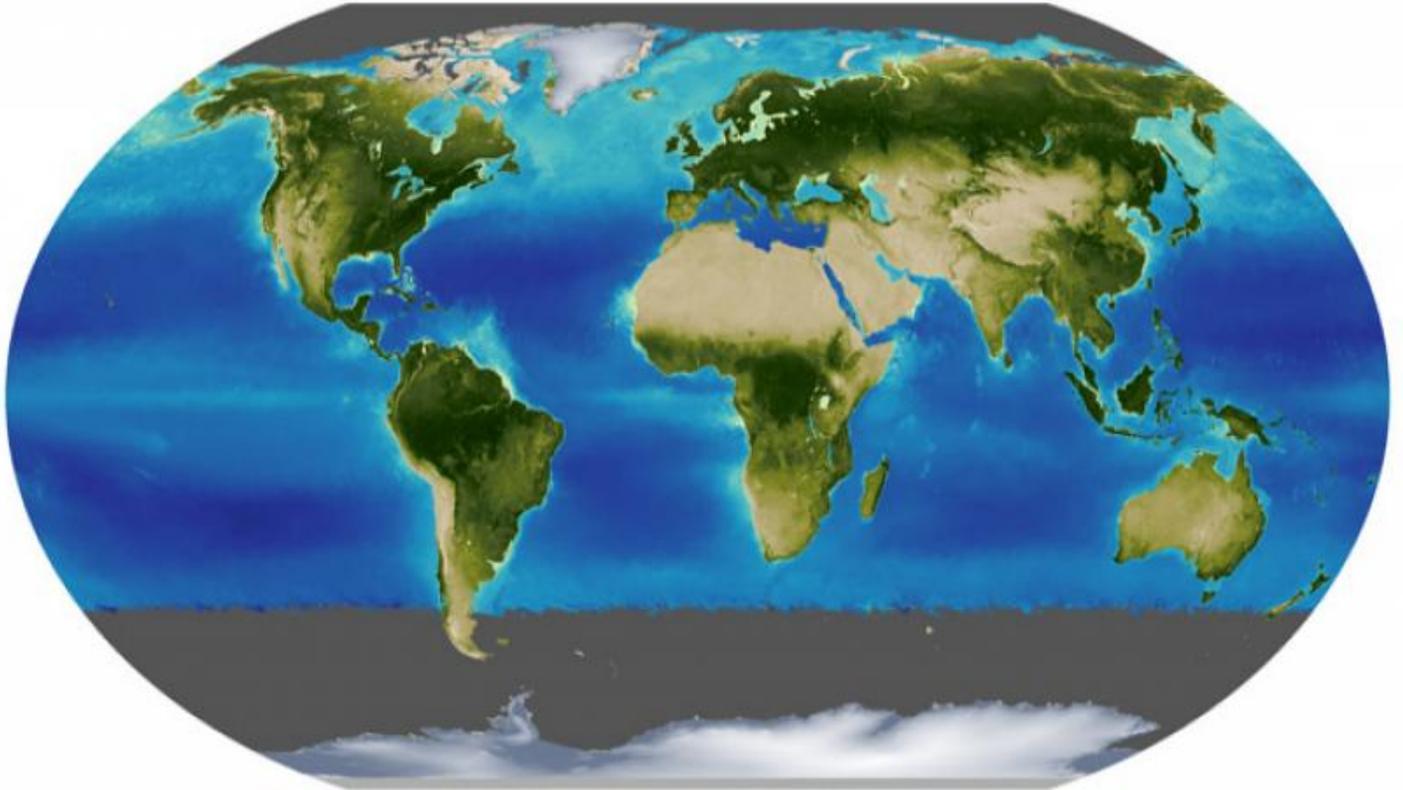


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## My NASA Data - Maps, Data, and Models

### Global Seasonal Vegetation on Land and Sea

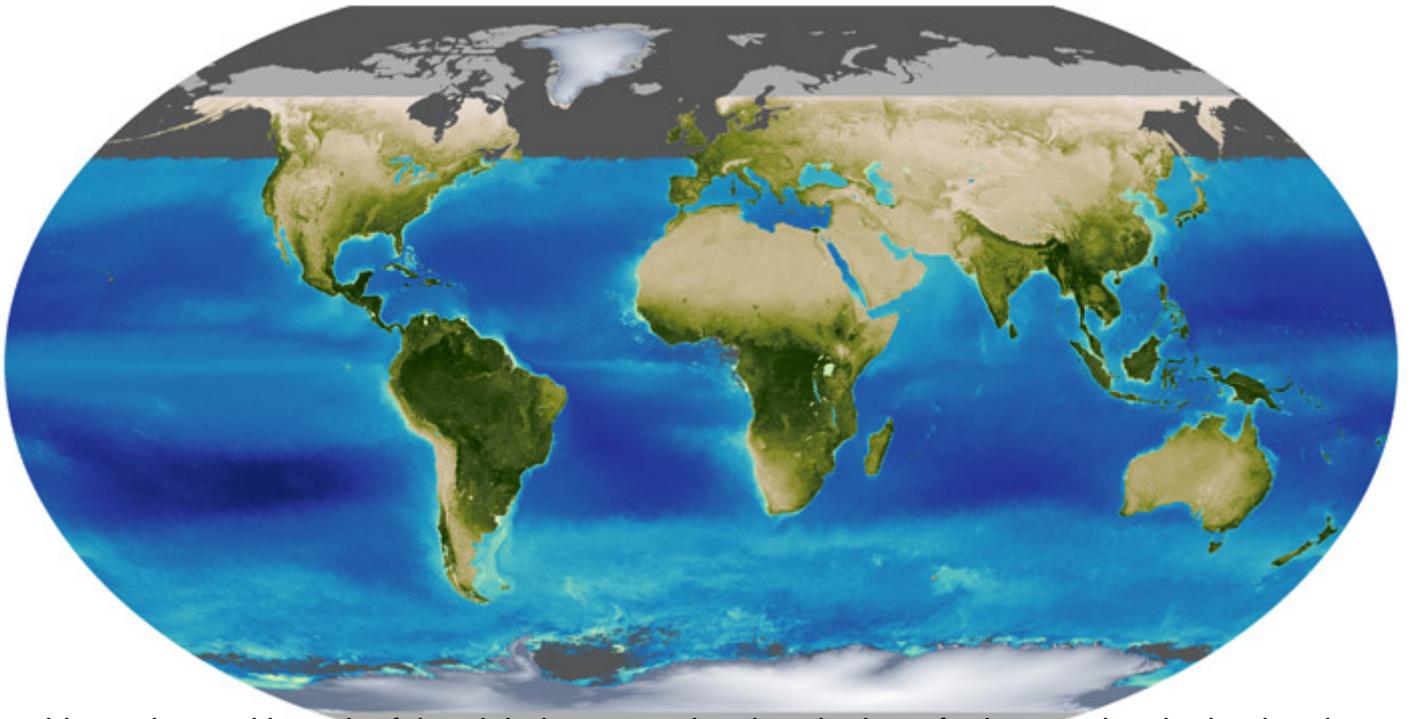


Students explore the seasonal differences of vegetation found on land and sea.

#### **Mini Lesson**

Directions: Provide students with each of the global maps.

Have students compare the two and find the differences between the satellite maps.



Provide students with each of the global maps and review the keys for interpreting the land and ocean data.

**Normalized Difference Vegetation Index (NDVI)**

-0.1                      0.4                      0.9

**Chlorophyll Concentration (mg/m<sup>3</sup>)**

0.1                      1.0                      60

Have students compare the two and find the differences between the satellite images.

- What variable changes the most between the two maps? *Vegetation*
- What season would be associated with each map? *The first map is summer (taken in June) and the second map is winter (observed in December). Depending on the age of the students you can tell them the months.*



## Phenomena: Plant Growth Pattern

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

Directions: Compare the two maps and find the differences. Be ready to share your answers with the class.

1. What variable changes the most between the two maps?
2. What month would be associated with each map?
3. Choose a location or region. During which months does the extreme high and low vegetation pattern occur? What explanations can you suggest for the timing of those extremes?
4. Which regions experience the most extreme change in vegetation? Which regions do not experience much change?
5. Are there regions that remained relatively unchanged over the year? Why do you think this happens?

Choose a location or region. During which months does the extreme high and low vegetation pattern occur? What explanations can you suggest for the timing of those extremes? *One example of an example is- Quebec City Canada; during the month of December you see a lot less vegetation than in the month of June.*

- Which regions experience the most extreme change in vegetation? Which regions do not experience much change? Why do you think this happens? *Generally, latitudes above 60 degrees north experience the most change because they are influenced more by the tilt of the Earth.*
- Are there regions that remained relatively unchanged over the year? Why do you think this happens? *Near the equator, they have a less drastic seasonal change of incoming solar radiation.*

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After several minutes of students working with these questions, ask the group to share with the entire class their discoveries of patterns and their interpretation of those patterns. You can display their answers on chart paper. Show the full video here.

## Sphere(s)

- [Biosphere](#)

## Phenomenon

- [Plant Growth Patterns](#)

## Crosscutting Concepts

- [Patterns](#)
- [Stability and Change](#)

## Tags

- [plants](#)
- [Regions](#)
- [Vegetation Patterns](#)
- [chlorophyll](#)
- [Normalized difference vegetation index](#)

## Related Links

- [The Green Up of the Planet](#)

## Document Resources

Document Resources

- [Vegetation Map in December](#)
- [Vegetation Map in June](#)

- 
- [Student Activity Sheet\\_Plant Growth Patterns.docx](#)
  - [Student Activity Sheet\\_Plant Growth Patterns.pdf](#)