# My NASA Data - Mini Lesson/Activity

# Explore Albedo

## Grade Band

- 6-8

## Time

- 15 minutes

## Overview

Students watch a video explaining albedo and its impact on Earth. The video shows visualizations of albedo across Earth and how it can change. Students will interpret the images in the video and answer questions about albedo.

## Student Directions

### What is Albedo?

*Albedo* is the fraction of light that a surface reflects. If it is all reflected, the albedo is equal to 1. If 30% is reflected, the albedo is 0.3. The albedo of Earth's surface (atmosphere, ocean, land surfaces) determines how much incoming solar energy, or light, is immediately reflected back to space. This can have an impact on climate.

Video: ClimateBits: Albedo

### Steps

1. Review the NASA Climate Bits: Albedo video and answer the following questions. (Check with your instructor on how to submit your answers.)

    1. What is albedo?
    2. What do the colors represent in the weekly maps of reflected solar radiation for the past 10 years?
    3. Why is albedo important for Earth's climate?
    4. What pattern did you notice?
    5. Why do you think there are missing data at the poles during their winter seasons?
    6. How can humans impact albedo?

## Teacher Note

Teachers, these mini lessons/student activities are perfect "warm up" tasks that can be used as a hook, bell ringer, exit slip, etc. They take less than a class period to complete. Learn more on the "My NASA Data What are Mini Lessons?" page.

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

- ESS2A: Earth Materials and Systems
- ESS3D: Global Climate Change

### Crosscutting Concepts

- Stability and Change

### Science and Engineering Practices

- Asking Questions and Defining Problems
- Developing and Using Models