My NASA Data - Mini Lesson/Activity

Systems and System Models: Observing Our Planet on Fire

Grade Band

- 6-8

Time

- 15 minutes

Overview

Students review a video that models the global impact of smoke from fires to develop an understanding of how models can be used to interpret and forecast phenomena in the Earth System.

Student Directions

Fire is a powerful force on our planet. Whether fires occur naturally or are set by humans, they change more than just the Earth's surface. Combining satellite data of fires with computer models shows us that fires also affect air quality, health, and climate.

Scientists use satellite data to develop models that describe Earth processes. Models allow us to understand processes that are too large or too small for us to observe ourselves. They can also help us make predictions on how a process will respond under different conditions.

Video: Planet On Fire

Steps

1. Review the list of questions before watching the Planet on Fire video.
2. Watch the Planet on Fire video and answer the questions.
3. Check with your instructor on how to submit your answers.

    1. Describe the phenomenon you observe.
    2. What patterns do you see in this model?
    3. What are some limits of this model?
    4. How is this model precise?
    5. What benefits are there in using this model?
    6. Predict the future of the phenomenon based on the model you've observed.
    7. What evidence of Earth System interaction (among Atmosphere, Hydrosphere, Biosphere, Cryosphere, Geosphere) do you see?

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

- ESS3B: Natural Hazards

Crosscutting Concepts

- Patterns
- Systems and System Models

Science and Engineering Practices

- Developing and Using Models
- Analyzing and Interpreting Data