My NASA Data - Mini Lesson/Activity

Clouds and Climate Impacts

Student Directions

Watch the NOVA PBS video - [The Climate Wild Card](#) about the different effects of clouds on climate and Earth's energy budget. Then answer questions and brainstorm to complete a flow chart of events that might occur if the percentage of absorbing clouds increases.

- Working as directed by the instructor (individually or in groups), complete the questions.
  
  1. How will clouds respond as the planet warms?
  2. Could we see an increase in reflecting clouds, which would help to slow the global warming trend?
  3. Or will there be an increase in absorbing clouds, which could dramatically speed up the warming?
  4. How would this warming affect the polar regions and in turn affect coastal areas?

- Share the results with the class.

- As a class, use the Jamboard or worksheet provided to brainstorm the effects of an increase in the percentage of absorbing clouds.

Teachers, these mini-lessons/student activities are perfect "warm-up" tasks that can be used as a
Teachers who are interested in receiving the answer key, please contact MND from your school email address at larc-mynasadata@mail.nasa.gov. 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. To receive the keys please provide the following:

1. The link to the school/institution’s teacher directory where you are employed so we can verify that you are a teacher
2. Ensure that the school email address is provided in your response as we are unable to send to personal email accounts

Access and Explore Data

- Monthly Flow of Energy into Surface by Longwave Radiation (Watts per square met...
- Monthly Flow of Energy into Surface by Shortwave Radiation (Watts per square me...
- Monthly Flow of Energy out of Surface by Longwave Radiation (Watts per square m...
- Monthly Flow of Energy out of Surface by Shortwave Radiation (Watts per square ...