Analyzing Seasonal Phytoplankton & Energy Flow: Student Activity

Monthly Average Chlorophyll Concentration:
North Atlantic 2016 - 2018

Student Directions

Analyze the line plot displaying Monthly Flow of Energy into Surface by Shortwave Radiation between the years of 2016 and 2018 in the North Atlantic Ocean and then answer the following questions.

The flow of energy into surface by shortwave radiation represents visible light coming from the Sun. The units of these data Watts per square meter, which is the flow of energy spread out over an area. Five Watts per square meter is equivalent to the power used by a standard cell phone charger (5 Watts) passing through a square piece of paper with length and width of 1 meter.

1. What variable is represented on the x-axis? What is the range of values?
2. What variable is represented on the y-axis? What is the range of values?
3. Describe the pattern that is revealed over the three years.
4. Make a prediction about what chlorophyll data collected over the same location in the North
Atlantic over 2016-2018 will show.

Average Monthly Flow of Energy into Surface by Shortwave Radiation:
North Atlantic 2016 - 2018

Teachers, these mini lessons/student activities are perfect “warm up” tasks that can be used as a hook, bellringer, exit slip, etc.

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