Mary Driskell
Astronomy and Space Science
Lesson 3
C. Bernhardt

I chose to do the "Relationship Between Surface Temperature and Vegetation" found at <u>Relationship Between Surface Temperature and Vegetation | MyNASAData</u> website. I decided to do this lesson because I just finished a unit about Human Impact on the environment, and it tied in nicely with what we had just completed. I liked this lesson because it did not take up a lot of time, but it also encouraged the students to have good discussions about what they saw in the maps and make predictions about what was causing the changes in the temperature. I started with a short discussion of how this tied to our last lesson and the expectations. In this activity, the students were asked to review the two Landsat mapped images showing both the vegetation and the surface temperatures of the Atlanta, Georgia region on May 1, 2018, which shows the near-infrared radiation levels that were reflected at the surface and can be used to identify the locations of plants. Then the students are to complete a set of questions tied to the images. Overall the students did a good job answering most of the questions. I plan to improve on this lesson for next year to incorporate it into my Human Impact lesson instead of doing it as a stand-alone lesson. I also plan on using a few other lessons that are available on MyNASAData website.

This lesson is an excellent example of the pedagogical approach to teaching; it shows a clear impact that trees have on helping to lower the temperatures of the Earth's surface. After completing this lesson, my students understood that the temperatures would be lower with more trees and vegetation in urban areas. This lesson also reviewed how important vegetation is to the water cycle, especially the process of transpiration, which helps to cool plants down along with the surrounding environment. This lesson also incorporated authentic space data because it used a Landsat map image showing the vegetation of Atlanta, Georgia, from May 1, 2018. The pictures shown measure the near-infrared radiation and help identify plants' location in the two different areas so the students can compare them and learn about how the plants help cool the land. My students enjoyed doing this lesson for two reasons; one, it was not long. I have learned that high school students can get bored quickly if a lesson is too long, and the second reason is they could relate to it. They all have a knowledge of trees and that they are suitable for the environment, but after completing this lesson, they gained more knowledge about how important trees are to the environment.

These are photographs of the students completing the activity.
https://drive.google.com/file/d/1QLYyMi4clYumeu31wAbCWdablrQPkZok/view?usp=sharing
https://drive.google.com/file/d/1c-9aRxd1QF2odSf-uF0WY6iw9eDuckIS/view?usp=sharing

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https://drive.google.com/file/d/1CBEyvQ3_r4QgkYMZetZ_ECC3Gz8GGFyZ/view?usp=sharing

https://drive.google.com/file/d/1RpaN3gT1ZoluWTPo-ruZJCdLay6hjhZt/view?usp=sharing

The following link is a sample of a few of the students' answers.

https://v8.edvance360.com/repository/filedownload/38375