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Data Source: GLOBE Visualization System <https://vis.globe.gov/GLOBE/>

This data source vastly improves teaching about climate, which is a unit that I taught my eighth grade students this past school year. The topic of climate included the variables that affect climate: temperature and precipitation. It also included the variables that affect temperature: latitude, altitude, distance from bodies of water, and ocean currents, along with those that affect precipitation: prevailing winds, seasonal winds, and mountain ranges. GLOBE Visualization would provide students with real temperature and precipitation data in different climates. Students would be able to view temperatures at different altitudes, latitudes, and distances from bodies of water. They would also be able to observe precipitation levels near mountain ranges. Students can create real-life climographs based on data they retrieve from the GLOBE visualization system, rather than from random data sets that I provide them.

It is important for teachers to include activities where students are collecting and analyzing data in the science classroom. It is even more important for this data to be authentic. When students observe authentic data and are able to draw conclusions from this data, they will be able to further understand the material since they are able to find real-life evidence of the concepts taught in class. It brings more meaning to the concepts and relationships taught in class. When the data is relevant, the concepts have more context. Students also find the data more interesting and engaging when they know it is authentic, and not just included in one of their worksheets or learning guides. For my climate lesson, students would be able to visually see evidence proving that the relationships between the variables that affect temperature and precipitation are valid based on the map and data provided.

GLOBE Visualization system can be used to collect scientific data to enhance concepts taught in class. It promotes students to engage in scientific practices such as defining problems, analyzing and interpreting data, and constructing explanations. Observing trends and patterns from the data provided in the GLOBE vis can also connect to mathematics practices. Students can create graphs and recognize quantitative relationships between variables based on the data that is collected from the resource. The GLOBE vis can also connect to engineering practices if teachers can design lessons and activities where students can ask questions and define problems based on the data they observe. They can also discuss solutions to problems that the data exposes. For example, when teaching my students about climate and using GLOBE vis data to support the variables that affect climate, students may find that some areas experience more extreme temperatures and precipitation levels. This can spark discussion on the effects of these temperatures and

precipitation amounts, and how students can solve some of the problems that these effects cause in different climates.