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Data Integration Assignment

The data set that I decided to explore is the Socioeconomic Data and application center (SEDAC) because I thought that it would tie in nicely with my AP environmental science class. I think it would be interesting for students to explore trends in the maps of how humans have altered the earth. I would like to integrate this data into unit 5 which is about land and water use. This data could be used as an introductory 'explore' piece to get students thinking about the different issues and relate it to geography and different human populations. The new objectives that I would like to incorporate is having student-led inquiry questions based on the area of the world they are researching and be able to use the information to tie into unit 6 about human population pressures on the environment. Hopefully this will spark better student discussion and create interest in the students by having them answer their own generated questions based on the data.

Several maps were interesting to use as a comparison for data. I want to use the anthropogenic biomes maps as an opening research discussion with students at the start of the year to explore areas of the earth that have changed from the 1700s to the 21st century. In groups students can look at different parts of the world and make observations of how the land use has changed over the years. They can also start to question what the different types of biome changes are and how it ties into each unit of study for AP environmental science. I would print off the two different maps and then give them an organizer with 5 observations, 4 questions, 3 trends or changes, 2 generalizations and 1 research question that the group would want to find answers to.

For an interdisciplinary STEM component. I would like to bring in the subject area of math. Looking at raw data, the students could calculate percent change questions based on the questions that they generated in a country of focus. For example, the percent change of the type of urban land use could be calculated from the 1700s to the 21st century. I would also

bring in land conversion units in order for students to become familiar with converting between square meters and hectares. Another conversion math exercise would be to convert from smaller to larger units for conversion math problems. Students could also manipulate the data online to create their own maps in order to integrate technology into their own research and calculations of each country's different land use.

Overall, this website gives a lot of data to students to analyze, on an inquiry level by studying maps and more in depth as they study their own research questions and come up with their own set of data in order to answer their own questions of how the use of land has changed over time. I think it would give a lot of student-led opportunity to ask and answer their own questions.

Websites:

SEDAC's main page and user information start page:
https://earthdata.nasa.gov/eosdis/daacs/sedac

Anthropogenic Biomes of the World, v2 (1700)
https://sedac.ciesin.columbia.edu/data/set/anthromes-anthropogenic-biomes-world-v2-1700

Anthropogenic Biomes of the World, v1 (2001–2006)
https://sedac.ciesin.columbia.edu/data/set/anthromes-anthropogenic-biomes-world-v1