**Summative Assessment 6: Top 15 World Agricultural Commodities**

**Instructions**

Download the [FAO Top 50 Commodity Changes Key Spreadsheet](https://www.e-education.psu.edu/geog3/sites/www.e-education.psu.edu.geog3/files/Mod6/FAO_top%2020CommodityChanges_Key.xlsx) which has the ranking and total production of the top 50 commodities for 2000 and 2013. In a spreadsheet calculate the percentage of change in the production of 2013’s top 15 commodities. Then, answer the below questions. Analysis and critical thinking about the data are encouraged.

Answer the following questions:

1. Describe the crops that are used to produce the top 15 agricultural commodities with the classification systems you have learned in Module 6.
   1. In what plant families are they?
   2. Are the top agricultural commodities produced from annual or perennial plants or both?
   3. Are they cool season, warm season, C3 or C4 plants?
2. Which four commodities have increased in production the most in comparison to the other top 11 commodities, which had the greatest percentage of increase in production? By what percentage has the production (in weight, not dollars) of the top four agricultural commodities in the most recent year for which data is available changed since 2000?
3. Why has corn production in the US and sugarcane production in Brazil increased recently? What markets, agroecological and socioeconomic factors do the case study readings and FAO video explain have contributed to the increased production of corn in the US and sugarcane in Brazil?
4. What might socioeconomic, agricultural, and environmental factors explain the significant increase of the four commodities that increased most since 2000 on a *global* scale?

Consider how the increased production of these four commodities likely impacts the soil, nutrient cycling, pest populations, and ecology of an agroecosystem? What are the potential *pros and cons* of these crops on soil, nutrient cycling, greenhouse gases, other ecological impacts; What are the socio-economic impacts? Distinguish the most significant impacts, and discuss why there are significant advantages or disadvantages of the expansion of these top 4 commodities. The pros and cons may be socioeconomic and/or environmental.