**An Overview of the Research Project: *Quantifying the Greenhouse Gas Emissions in the Counties of Washington State***

Approximately 35% of your grade will revolve around how well you conduct a research project. We will all be working as a big team to collect data we can use to generate 2 maps and a short analysis. The goal is to publish these maps in the UWB Policy Journal and/or other venues.

We will work together to quantify the variability in greenhouse gas emissions from county to county in Washington state. As far as the professor can determine, this analysis of the environmental geography of our state has never been done.

You will work in pairs on this research project. Each pair will be assigned a specific parameter (for example cattle emissions) and it will be their task to: determine how to calculate the carbon dioxide equivalent emissions for their parameter; find the data to plug into their formula; dutifully list the sources of their information; generate maps comparing the emissions of their parameter in each WA county; and assess the assumptions and sources of uncertainty in their calculations. Then we will all share our data and make a set of maps revealing the differences in greenhouse gas emissions for all parameters between the counties. To create our final maps, **we are relying on all members of the class to complete their research mission**.

Aside from collaborating on the generation of these maps, and submitting sub-assignments with your research partner, each student will turn in a final (individual) report that will include…

1. The maps that you created from the class data, with your own captions, legends, and titles.
2. An evaluation of the emission formula you generated for your parameter and of the data you used to calculate the greenhouse gas emissions. What are the assumptions that go into your formula and what are the sources of uncertainty in the data you used and values you calculated?
3. An analysis and evaluation of the maps. Which do you think is the best map? How did you decide to categorize the counties? What is driving the differences in greenhouse gas emissions from county to county? Which parameters are most important? Why does any of this matter?
4. A bibliography of all your sources of information.

To spur you on and help ensure a better final product, there will be two sub-assignments to submit. These sub-assignments include the Emission Formulas and Discussion (due February 17) and the Spreadsheet and Maps (due February 24). You will receive detailed guidance on how to prepare these draft products. You will also get feedback from the professor on these draft products prior to the finalization of your research deliverable. Many useful references will be available to you on Blackboard.