Using data to support learning.

We are currently working in renewing our accreditation with the SACS. As a result, we are putting a lot of effort in strengthening our General Learning Outcomes and our Signature Assessments.

In the past, I incorporated many activities in my courses meant to develop critical thinking, but I have not used data to construct something that reflects or represents a real world process. I am hoping that this workshop will give me access to enough data to do just that.

I am particularly interested in data to enhance my teaching of Global Warming, hydrogeology, weather patterns, air/water pollution, etc… to help students understand how data can be used to show, for example, a correlation between greenhouse gases and the rise of global temperatures, rainfall and variations of the piezometric level, etc…; I want the students to understand such correlations by plotting the data themselves and building their own graphs.

In my courses I used graphs created by researchers or provided by textbooks, but their impact on a student's understanding of the natural process it represents is limited to simply being a fact that lacks tangibility. Once students are able to collect data or, at least, use data to construct their own graph, the impact on their critical thinking will be greater, because the natural process is not observed any more, it is constructed and relived

The way I will integrate data in learning is by creating class activities to support the learning process in some chapters like climate, groundwater, etc.... At the end of every chapter, I will allow the students to pair up and work on a data plotting activity. Then I will ask them to write a short essay that explains what the plot represents in the real world.