

### *Abstract Title:*

Global Environmental Change in the University Classroom

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Sharing Lessons Learned

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### *Abstract:*

The Earth is warming and human activities are the main cause of the present day changing climate. These two scientific claims are central to drawing a real connection between science and policy at any scale - whether it's for a city, county, country, or the entire planet. I have worked to make a place for myself in academia so I can explore how both researchers who thrive on publications and university students who may never publish a scientific paper are confronting the current and on-going global environmental change.

I teach classes in Earth Sciences and Meteorology and, in my role as a teacher scholar, the topics of climate and global environmental change are a part of every one of my courses. My argument is that the scientific evidence overwhelmingly supports not only the claims above, but that the evidence also suggests that global warming has emerged as the scientific issue of our time. A warmer planet has important implications for human civilization, the stability of our built environment, and each and every human being. I also argue that in order to address climate change as a problem, we all need to have a fundamental understanding of the physics and chemistry of the Earth to understand how to define scientifically realistic solution strategies.

In this presentation, I will talk about how I bring my scientific expertise in Atmospheric Sciences to bear on global warming as a researcher and member of my community, and, perhaps most importantly, as a university teacher. True to the discipline of science, I will present quantitative analysis of student perceptions in different types of coursework that discuss global warming, but I will also rely on my own qualitative assessment of student responses to the quantitative information we discuss in my courses. Certainly, climate data is accessible, but are students willing to use it? Are they ready to use it?

My analysis is based on my experiences as a faculty member in the University of North Carolina system with teaching, research, and outreach efforts in the state of North Carolina. I make a specific effort in the classroom to highlight the relevance of a global-scale issue to North Carolina and the United States, since this is the most relevant to students in my classes. An interesting component of climate change pedagogy is, however, how a single person's experience is reflected in the experience of the collective. In other words, no one on Earth experiences the globally averaged surface temperature. This, it turns out, is problematic for North Carolina which has not experienced a temperature trend that is similar to the average temperature trend of the planet or even the USA. So, my presentation will be about both climate change in the classroom and about climate change in a North Carolina university classroom.