Diversity in support of diversity: Diversity of offerings of AMS Climate Studies for a diversity of student population

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1. Motivations

The authors are all alumni of the AMS 2013 Climate Studies Diversity Project Summer Professional Development workshop and presented initial results at the AMS Annual Meeting in Atlanta, Georgia in February 2014. While the student populations of the five campuses involved in this study vary in demographics, students in the study cohort were primarily first generation college attendees and represented a wide range of demographics including a large percentage of Native Hawaiian and Pacific Islander students and students of Hispanic descent at one campus as well as large percentages of African American – and Italian students at other campuses. The majority of enrolled students are non-science majors and intend to pursue careers in mainly the Liberal Arts, Economics and Communication. Students and young people nowadays:

- Spent a considerable amount of time connected to the phone.
- Do many activities using smart phone applications.
- Share pictures and stories, selecting the circles of friends, which might have different levels of overlapping.

Challenges and pre-conditions

Students looking for GE courses in Science tend to:

- Avoid those with too much quantitative requirements – many of these students are taking remedial mathematics courses.
- Enroll in climate courses with the intent to do so in a fashion which is the closest to what they are familiar with from their majors.
- Students who decide to enroll in climate courses do so very often:
  - Are psychology, social studies, humanities, business, and liberal arts students.
  - Are not oriented to start a debate from a physics-oriented statement, rather they might be more sensitive to descriptive statements, which later on might be formulated in terms of law of physics.
  - Are not aware of the potential links between weather and climate and the core disciplines of their majors.
- Due to academic program limitations, either they take weather studies [introduction to Meteorology] or climate studies. In some institutions, weather and climate should be offered as two components of the same course.

Objectives of this Presentation

- To explore the possibilities of implementing Weather and Climate Studies in different educational settings.
- To evaluate the extent students are learning the concepts and connecting them with real scenarios.
- To compare different student bodies across the nation in order to find similarities and differences pointing to key elements that might facilitate the delivery of these courses to these students.
- To evaluate the feasibility of the geographical-area motivated curriculum.

2. St. Thomas University, Miami Gardens, FL

St. Thomas University is located in Miami Gardens, in the northwestern part of the metropolitan Miami area in south Florida. The average enrollment is about 2400 students, and the university is considered a Hispanic Serving Institution. St. Thomas University offers both bachelor and master programs. Nearly half of the student body of Hispanic background, with about 33% being African-Americans, 13% Whites, and 10% another demographics combined 2.

3. University of Texas, El Paso, TX

The University of Texas at El Paso is located in El Paso, Texas, in the southeastern part of the state. The average enrollment is about 19,000 students, of which 59% of the students are Hispanic Serving Institution. The university offers five baccalaureate and five graduate degree programs in mathematics, science, and engineering.

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5. The Art Institute of Ft. Lauderdale, FL

The Art Institute of Ft. Lauderdale (AIFL) is located in Ft. Lauderdale, FL, and about 20 miles north of Miami. Florida. 14% of students attending for 60% or international students with 32 countries. The average enrollment is about 2400 students. The Art Institute of Ft. Lauderdale offers 14 B.S., eight A.S., and five diploma programs, all within fine arts areas of study.

6. Texas A & M University, Kingsville, TX

Texas A&M University has offered Online Weather Studies as well as Online Climate Studies with an adapted version from the AMS site. The courses have been delivered through various perspectives including faculty members of the Department of Physics at A&M and other professionals in the field. The courses meet the requirements for an interdisciplinary course, focusing on how to use interactive animations. Students feedback is positive and also indicates areas for improvements.

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