Sea Level Course and Experiments for High School Students

The Colorado Association of Black Professional Engineers and Scientists (CABPES) is a non-profit organization dedicated to encouraging African-American and underrepresented youth to pursue careers in the engineering and applied science professions. The goal is to increase the number of minority scientific and technical professionals to a level that better represents the minority population, while assisting in meeting the growing demand for engineers and scientists. CABPES works primarily with underrepresented students from grades 6 through 12 and offers assistance with schoolwork as well as counseling for students preparing for college. Professional engineers and scientists volunteer their time and effort to provide this help to students.

While CABPES offers several after-school courses focusing on engineering and math, there is considerable interest in educating and informing students about the growing field of climate science. CABPES, however, lacks the resources and advisors capable of teaching students climate science. To meet this interest and to fill a gap in their curriculum, we are providing resources and materials to the students and instructors at CABPES that will increase their interest in research and scientific activities, develop their knowledge of climate science (specifically sea level change and variability), and provide them with research and hands-on experience that will aid them in future scientific endeavors. The main thrust of this project involves providing 8-week courses on climate change and sea level change twice yearly to CABPES students. Here, we discuss the ongoing development of this course, including new experiments designed to teach students about sea level, satellite altimetry and climate change. The creation of a website intended to share the course and experiments with a wider audience is also presented. Finally, results from the most recent course are discussed, and the successes and failures are considered in terms of the future direction of the course.