Involving high school students in meteorological research: the SF-ROCKS experience

Elizabeth Frieberg, San Francisco State University, San Francisco, CA

The Reaching Out to Community and Kids with Science in San Francisco (SF-ROCKS) program at San Francisco State University (SFSU) is a five-year project funded by the National Science Foundation aimed at increasing the number of students from minority groups who enter college as geoscience majors through a collaborative research project that provides teacher training, student education, and several tiers of mentoring relationships. SF-ROCKS high school students participated in enrichment activities in the various fields of the geosciences. Meteorology activities included visits to the National Weather Service forecasting office, to local television stations and to the local utility, the Pacific Gas and Electric Company. The aim of these field trips was to expose the students to the variety of career opportunities in the field, ranging from the preparation of forecasts at the NWS and PG and E offices, to the “behind the scenes” role of the weather producer in weathercasting and the delivery of weather information by the “on-air talent”.

The research component of the SF-ROCKS summer-fall institute involved a summer institute, where two select groups of high school students spent two weeks in August (2003 and 2004) at SFSU during which they worked closely with faculty and graduate students to define and plan specific research projects in different fields within the geosciences (examples have included “water”, “sediments”, “soils”, “earthquakes” and “weather” groups.) Following the August institute, the students in the research groups continued coming to campus for weekly meetings with the SFSU faculty and graduate students to continue working on their projects. The project results were presented at the Fall meetings of the AGU in San Francisco in 2003 and 2004. The 2003 “weather group” conducted a comparison of five forecasting techniques (persistence, climatology, the official National Weather Service forecasts, their individual forecasts and the “consensus” of the four student forecasters in the weather group) at four California locations (San Francisco, Oakland, Sacramento and Truckee). Forecasts were made twice weekly for fourteen weeks. The 2004 weather group examined the effects of onshore and offshore winds on the summer climate of San Francisco.

This poster will give an overview of these research activities and discuss the potential impact these activities could have in the formation of future meteorologists and other geoscientists.