The Puerto Climate Change and Human Health Teaching Model

María C. Ortiz, MSEM, PhD(c) & Carlos Morales Agrinzoni, MSEM
School of Environemntal Affairs, Universidad Metropolitana, Puerto Rico

Participating in the workshop of Climate Diversity Project from the American Meteorological Society held at Silver Spring in Virginia was my first formal training on climate change. Each day of AMS workshop was a great experience full of new and refreshing knowledge. All lecturers provided countless information and how to get free online resources. The three site visits complemented the real application of climate studies at the National Centers for Weather and Climate Prediction, NOAA, NASA Goddard Space Flight Center and the Atmospheric and Astronomical Observatory of the Department of Physics and Astronomy of Howard University. The contacts I made there, facilitated me to include other projects on climate change in a Spanish publication for Puerto Ricans that I am editing right now. This workshop opened my eyes to work on different creative ideas. My gain from AMS experience helped me in different ways: revise curriculum including knowledge and evidence on climate change, such as NOAA and NASA simulations and additional references.

Currently, I am an associate professor and the dean of the School of Environmental Affairs in Universidad Metropolitana (UMET), an accredited non-profit Hispanic Serving Institution located in San Juan, Puerto Rico. During the last 17 years, UMET's School of Environmental Affairs (SEA) has impacted K-16+ education through 33 teacher training projects in environmental sciences, impacting over 2,100 teachers (269 at the elementary level) and sixty-two (62) school directors. These projects have been funded by a variety of agencies, including the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the Environmental Protection Agency, and the Department of Labor, among others.

Under our lead, the School will implement *The Puerto Climate Change and Human Health Teaching Model* (funded by the Environmental Protection agency) to develop a team teaching education model throughout junior high schools across Puerto Rico to better prepare science teachers on climate change and air quality. The project will be developed around four (4) specific measurable educational objectives: 1- By October 2015, offer a series of four (4) professional development workshops for the team teachers on Climate Change and Coastal Areas, Air Quality, curriculum integration strategies, research skills, critical thinking skills, and GIS and technology-related skills. 2- By November 2015, implement a team-teaching environmental education model at ten (10) public schools (grades 7-9) across Puerto Rico joining graduate environmental sciences students and junior high school teachers on a weekly basis, with a focus on climate change and improving air quality to protect human health and the environment. 3- By January, 2016, provide a series of monthly climate change and environmental quality activities to enhance the professional development of teachers with regards to research and science fair projects, to implement school strategies that student can address environmental stewardship in their local educational community context and encourage interest in careers in environmental fields. 4- By August 2016, publish a readily accessible and online bilingual Educational Activity Guide on Climate Change and Improving Air Quality: Effects on Human Health and the Environment developed with place-based lessons and activities and conceptualized and written by the project team.

This project have eleven partners to successfully implement the project plan: Ten (10) public junior high schools across the island and the Organization for Sustainable Environment, in English, a non-governmental organization that leads the Eco School Program in Puerto Rico.

The project team will participate in professional development activities to improve their environmental education teaching skills and facilitate knowledge transfer on climate change, improving air quality, protecting human health and the environment. The academia-school collaboration enables swift provision of objective and scientifically-sound information so that the teachers can make informed environmental decisions and take responsible actions, as well as engage their students to do so, as well. This model also fosters the development of an integrated education curriculum that provides facts but also encourages the development of the skills required of an environmentally literate citizen who is prepared to respond to climate change issues. This project will prepare professionals for building resilience within school communities, and to develop leaders that will have the ability to cope and withstand external perturbations to their infrastructure caused by climate variability, and their implication over social and economic aspects, and to recover from such perturbations.