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Alaska Trip Geared to Support K-16 Climate Change Education Initiative

April 01, 2021

[By Joe Garvey](#)

Old Dominion University's Petros Katsiouloudis is heading back to Alaska this month as part of a project that aims to make climate change curriculum more accessible for K-16 education.

Katsiouloudis, professor and chair of STEM education and professional studies in the Darden College of Education and Professional Studies and undergraduate program director of the industrial technology program, will be in Barrow, Alaska, from April 12 to 16 to test up to four drifter buoys at a National Oceanic and Atmospheric Administration (NOAA) research testing center. Over seven months, researchers will examine the efficiency of the buoys' housing.

"Will this battery die in a week? Will this battery last for three months as it's intended?" asks Katsiouloudis, who added that researchers also have been throwing them from helicopters and putting them in minus 80-degree freezers. "Will it leak? Is it waterproof? Is it impact-proof? Will it transmit with snow on top of it? The buoys have to be subjected to the Arctic conditions to test their durability and viability before being permanently deployed."

The buoys were developed in conjunction with researchers from East Carolina University and the University of Maryland. Katsiouloudis and ECU's Daniel Lee Dickerson led the efforts to develop the housing using 3-D printing technology; Maryland researcher Cy Keener created the electronics inside the device. ODU occupational and technical studies graduate student Timothy Ray Edmondson also contributed substantial efforts toward the development of the housing. ECU electrical engineering student Joseph Cole Dickerson worked on the project and helped develop the coding.

But the project has a much larger goal.

The expedition supports the newly founded Extreme Education Experience Consortium (E3c). This initiative, led by ODU and ECU, is developing a climate change curriculum and a visualization platform aimed at students of all ages who are laypeople when it comes to their science of climate change and sea level rise.

ODU researchers have made several trips to Alaska. The most recent was in [2019](#), when Katsiouloudis and Victoria Hill, assistant professor in the Department of Ocean, Earth and Atmospheric Sciences in the College of Sciences, launched Warming and irRadiance Measurement (WARM) buoys in the Arctic Ocean. But those buoys are much larger and collect live data for scientific purpose.

https://www.odu.edu/news/2021/4/petros_katsiouloudis#.YhU_4orMKUm



"The buoys have to be subjected to the Arctic conditions to test their durability and viability before being permanently deployed," Petros Katsiouloudis said.

