



Raising awareness of the impact of climate change on coastal regions. A citizen science-based approach within the SECOSTA project

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Coastal regions will be highly impacted by climate change due to the rise of sea level and the impacts of warmer sea temperatures on coastal ecosystems. Moreover, for those regions whose economy is highly dependent on coastal activities, such as maritime transport or coastal tourism, the assessment of coastal vulnerability to climate change is crucial to guarantee their economic resilience. Since 2018, the SECOSTA project (<https://secosta.wordpress.com/>) has launched different citizen science-based programs (SOCLIMPACT, VENOM, DECIMATE) focused on monitoring the impact of climate change on coastal areas. The goal is twofold. On the one side, the SECOSTA project aims to make high school students aware of climate change and of the work developed by scientists. On the other hand, the students contribute to the acquisition of data that will be used in scientific studies afterwards. The SECOSTA project strategy is the following. First, different low cost and open source devices are designed to measure with a reasonable degree of accuracy several parameters (e.g. sea level, atmospheric pressure, beach topobathymetry, sea temperature). Second, high school teachers are trained in dedicated workshops to build those devices with their students. Third, the teachers develop educational multidisciplinary projects in their schools around a particular topic of interest (e.g. sea level rise, ocean warming...) involving the data acquisition. This phase is guided by the scientists who also provide educational resources to help in the development of the educational projects. Finally, the observations obtained by the students are processed by the scientists and incorporated in several research projects as additional datasets.

The project has been successfully implemented creating a robust synergy among researchers, the regional government and secondary schools. To date, close to 20 different secondary schools have taken part in the different initiatives, involving more than 2,000 students per year in the construction of devices, acquisition and processing of data. In light of the success of previous terms, in 2022, the SECOSTA project is going to hold a conference that will serve as a forum for the participating high schools to present the results of their scientific studies. In this presentation we will describe the different steps of the project along with some recommendations about the lessons learned during these years for a successful deployment of citizen-science based projects in secondary schools.

