Comparison of the accuracy of citizen science and expert data collection in marine plastic pollution survey

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Marine plastic debris pollution is becoming a highly concerned issue around the world due to its potential hazardous effects on the environment as well as human health. However, given the wide spatial distribution of marine plastic debris versus limited time and people engagement, little is known about the quantity of marine plastic debris in vast areas of the globe. Citizen science (CS) is considered one of the useful methods to fill in data gaps on spatial and temporal distribution of plastic. The citizen scientistsupported sampling activity expands the study area along with decreasing the cost of human resources. Simultaneously, CS also increases the awareness of the marine environment within the public. Despite the growth in the number of citizen science projects, scientists remain concerned about the accuracy of citizen science data. Several studies have compared citizen-scientist-collected data to those collected by professional scientists. However, most of such studies concentrate on biodiversity and species distribution. Only few explore the accuracy and precision in the field of marine plastics pollution sampling. In an attempt to validate the data by CS, this thesis aims to compare the difference in the density, composition, and the size of marine plastics to explore the accuracy of sampling data from Flanders Marine Institute (VLIZ) CS projects and professional researchers.

Keywords
Plastic Pollution; Marine Plastic Debris Sampling; Citizen Science; Data Accuracy