Collecting Imagery to Showcase the Visible Effects of Beach Pollution

Orthomosaic obtained from the processing of the captured images

OVERVIEW	
Flying Labs	Peru Flying Labs
Geographic area	Playa Chocalla, Lima, Peru
Date range	January 21, 2022
Sector program	EcoRobotics
Main SDGs	GOAL 13: Climate Action GOAL 17: Partnerships to achieve the Goal

SCOPE	
Project stakeholders	Globhe Drones AB
People impacted	• Citizens of the Chocalla Beach in Asia, Lima • Asia Municipal Office
Number of people impacted	About 35 households that live near the beach area.
Problem Statement	• GLOBHE alongside its Crowddroning community set the challenge to raise awareness on climate change on a global scale by collecting as many images as possible from all around the world. • At the same time, they aim to break a Guinness World Record in the amount of drone images collected, in order to highlight the collaboration of local communities and bring importance of collecting drone data.

Scope	• Collect aerial imagery to be stitched together to create an orthomosaic showcasing of the visible effects of climate change in different parts of the world. • Peru Flying Labs carried out a photogrammetric survey to make visible the pollution on the coast of Lima.
Outcome	Find appropriate weather conditions to fly in the coastal area since the project was carried out in the foggy season.
Impact	The long-term goal of this global initiative is to present the data collected as a tool in documenting the diverse effects of climate change in different parts of the world. Also to bring attention to areas that are not frequently displayed in the media to showcase the local effects. Learn about environmental projects with a scientific teaching approach through georeferenced images obtained by drones.
Next steps	We don't know further steps about this.

COMMUNITY ENGAGEMENT AND STAKEHOLDER SUPPORT	
Consent for data acquisition	The permission for taking the data was granted by the Asia Municipal Office.
Activities to engage with the community	No activities that involved the community were done.
Community groups engaged with	No community groups were engaged.
Community attendance	-
Community feedback	-
Stakeholder support	Our work by capturing data of the beach contributes to a bigger initiative that involves multiple stakeholders around the globe. The community members that participated on this project will have access to this data to raise awareness of climate change on a global scale showing the effects on different parts of the world.

DATA ACQUISITION	
Size of area	21 ha / 0.21 km2
Drone	DJI Phantom 4 Pro
Sensor(s)	RGB Integrado
Flight plan software	DroneDeploy
Flight height	75 meters above ground
GSD (Accuracy)	2.2 cm/pix
Number of images acquired	329 images
Number of flights	2

Time invested in data acquisition	2 hours
Georeferencing	With onboard GPS

DATA PROCESSING & ANALYSIS	
Processing software	DroneDeploy
Processing time	3 hours
Data products	Orthomosaic, DTM
Analysis tools	PIX4Dreact
Analysis outputs	Analysis of contaminants on the coast
Final outputs shared with stakeholders	1. Raw data 2. Orthophoto 3. Digital elevation model (DEM)
Data sharing	1. Google Drive 2. Email