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CLEAN CURRENTS COALITION DATA DASHBOARD README

Last updated May 17, 2021

INTRODUCTION

The data displayed on the Clean Currents Coalition data dashboard were collected by Clean Currents Coalition teams in river systems around the world starting in May 2020. Most teams deployed their capture systems at different times throughout 2020 and 2021, as project timelines were adapted to the localized impacts of the COVID-19 pandemic. Each team started reporting data as soon as they started operations. These data are reported monthly to the Benioff Ocean Initiative, and then verified and cleaned by Benioff Ocean Initiative project scientists. The data dashboard is built in Tableau Desktop 2021.1

DESCRIPTION OF DASHBOARD METRICS

- **Debris by country**
 - Map displays the geographic locations of the Coalition projects.
 - Tool tips display the river name, the organization(s) leading the project, the total weight of plastic waste collected by the project (by the plastic capture device(s) and by manual cleanups or by boat), the number of events hosted, and the number of people engaged in events.
 - Note that the Athi River project in Kenya aggregates several sites on multiple rivers that are connected in the region, including the Nairobi and Ngong Rivers.
- **Total plastic collected**
 - Projects report the total kilograms of plastics collected monthly. The plastics are collected mostly by the plastic capture devices, but there are community engagement events where plastics are also collected by hand or boat. Note that some teams weigh plastics when they are still wet and dirty and others weigh them when dry and clean; we prioritize reporting the weight of dry and clean plastics when available.



- Each project has a specific plastic collection and sorting methodology based on the plastic capture device and site characteristics. See below for project-specific details.
- **Plastic destination**
 - Projects send captured plastics to three main destinations:
 - **Recycled:** different polymers are recycled in recycling facilities, which varies from one location to another. The most common recyclable polymers are the higher-value PET (e.g., bottles) and HDPE (e.g., bottle caps).
 - **Repurposed:** repurposing includes waste to energy (e.g., pyrolysis), manufacturing building materials, fills, etc.
 - **Landfilled:** plastics that were not recycled or repurposed are delivered to legal landfills for proper management.
- **Plastic type**
 - Projects can report on 8 types of synthetic polymers that are captured from the river. Categories include low-density polyethylene (LDPE), high-density polyethylene (HDPE), polypropylene (PP), polyvinyl chloride (PVC), polystyrene (PS), nylon, polytetrafluoroethylene (Teflon/PTFE), and polyethylene terephthalate (PET).
- **People engaged**
 - Displays the number of people engaged in virtual or in-person events organized or hosted by Coalition projects
- **Events**
 - Number of virtual or in-person events organized or hosted by Coalition projects, for instance webinars, conferences, talks, training, cleanups.

Some of the additional metrics that are being collected by members of the Coalition but that are not presently represented in this version of the dashboard include:

- Types of plastics, such as hard, soft and foam
- Different types of common items, such as plastic bottles, food wrapping, grocery shopping bags, tires
- Information on the local recycling facilities
- Hydrological characteristics of the river, such as flow velocity, discharge, width and depth
- Number of related events organized by other organizations, and the number of people engaged in those events (when Coalition projects were invited to participate)
- Social media interactions
- Traditional media coverage



Users may notice that some projects are currently missing data. As more of the Coalition projects bring their plastic capture devices into the operations phase, and as the lessening of COVID-19 pandemic restrictions allows for more community engagement activities over time, more data will become available through the dashboard.

It is important to note that each of the Coalition projects has unique data collection approaches based on the need to adapt the project to the unique characteristics of each plastic capture device and project location requirements. The Coalition projects have been specifically adapted to the local river systems and communities in which they operate, which necessitates differences in the approach to data collection. Further information about these project-specific data collection approaches is documented below.

CHEMOLEX / SMART VILLAGES - KENYA

Athi River (Ngong and Nairobi Rivers)



SMART VILLAGES
New thinking for off-grid communities worldwide



- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**
 - Plastics are captured by booms and are brought to the riverbank with the help of a conveyor belt. The Chemolox team weighs the trash while still wet and then sorts it on the river bank into 4 primary categories of waste: organics, plastics, metal, and other (low value items, e.g., clothes, shoes, bags, medical waste).
 - Plastics are sorted by polymer and transported to the recycling facility where they are cleaned and dried. LDPE, HDPE & PP will be shredded and then melted for the production of pavement blocks, which will be sold.
- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**
 - Cleanup activities with the community are frequent and plastics are processed the same way as the ones captured by the device.
- **COMMUNITY ENGAGEMENT**
 - Chemolox is engaging the local community by organizing in-person activities, such as riverbank cleanup activities and reclaiming illegal dump sites by turning them into gardens where the community are growing kale and spinach. They are reforesting the riverbank with native species and bamboo to improve water quality. They also maintain a presence in social



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media to keep the community informed about the plastic problems in the region.

- Chemolex has been working with local restaurants and clubs to recover PET that would likely be dumped in the river otherwise.

TERRACYCLE FOUNDATION - THAILAND

Lat Phrao Canal



- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**
 - Terracycle Thai Foundation uses trash traps to collect the debris, which is transported by boat to the canal bank and weighed before being taken by truck to a sorting facility. At the facility, the trash is dried for 24 hours.
 - The trash is then sorted into 3 main categories: organics, recyclables, and non-recyclables. Organics are sent to composting facilities, and recyclables are weighed and sorted into more specific categories, including plastics, glass, and metals. Plastics are sorted by colors and then washed and shredded into flakes that are processed into pellets. The finer the sorting, the easier it is to find buyers for them.
 - Recyclables are sent to Terracycle, Inc. and/or local plastic recyclers for processing.
 - Only waste that is severely degraded is repurposed via waste to energy
- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**
 - Terracycle Foundation organizes cleanup activities with the local community, authorities and even influencers. The trash is collected from a boat or from the canal banks and then processed the same way as described above.
- **COMMUNITY ENGAGEMENT**
 - The local community is invited to participate in cleanup activities and there are volunteers working with the local team to inspire others to keep the canal cleaner.



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WILDCOAST - MEXICO

Los Laureles Canyon (Tijuana River affluent)

WILDCOAST
COSTASALVAJE

- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**

- Trash is collected by the device--a boom with a galvanized steel screen--then manually pulled and sorted out. A local team of 7 people sorts the trash. The recyclable items are taken by 4Walls International and a local community team (Ecoce), and the non-recyclable items are sent to the local landfill. Due to the great number of car tires captured, they are considered their own category. Long term, WILDCOAST anticipates repurposing plastic into park benches, and tires can be used as land retainers.

- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**

- Once the conditions allow, the team plans to include the local community in cleanup activities.

- **COMMUNITY ENGAGEMENT**

- Wildcoast has been organizing virtual forums with the local community as well as small in-person gatherings. The purpose is to communicate about the project and increase awareness of the plastics problem globally and locally.
- Suggestions boxes have been placed in local stores so people can communicate with the team and make their suggestions to improve the operations.
- People are encouraged to drop their recyclable items in bins that have been recently put along the community to prevent them from ending up in the canyon. These plastics are then processed the same way as the ones captured by the device.

OCEAN CONSERVANCY - VIETNAM

Song Hong River



- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**

- The Ocean Conservancy and their partner organization MCD use trash trappers to collect the debris. The trappers are cleaned every three days



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and the trash is weighed and manually sorted. Then, the trash is transported by a trolley or motorbike to the corresponding facilities.

- The team of 10 people classifies 3 types of waste: organics, plastics and other. Plastics and other waste are categorized as recyclable and non-recyclable. Organic waste is buried near the river bank and recyclables are sent to the recycling facility. Non-recycled, non-organic waste is brought to the "trash gathering point" of the commune where all the waste is collected before moving to treatment.

- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**

- The team plans to involve the local community in cleanup activities once COVID-19 restrictions are lifted, leveraging Ocean Conservancy's years of experience organizing beach cleanups through the International Coastal Cleanup.

- **COMMUNITY ENGAGEMENT**

- MCD, the local partner working directly with the community in Vietnam, plans on having cleanup and recycling activities once it is safe to have in-person gatherings.

ICHTHION - ECUADOR

Portoviejo River



ICHTHION

- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**

- Trash is collected by the device--the Azure system--composed of a barrier and a conveyor belt. Trash is brought to a collection and sorting space where two people manually separate organics and inorganics. Trash is sorted by material type and weighed while wet, then stored until it is transferred to the appropriate destination.
- The organic trash is collected every other day and disposed of by the municipality; the team is exploring ways to compost or otherwise use these materials. The recyclable glass collector comes every four days, and Ichthion is exploring local capacity to recycle different plastic polymers.

- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**



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- Ichthion plans to work with the local people to capture plastics by hand as part of their community engagement activities. They will process the waste in the same way as the plastics captured by the device.
- **COMMUNITY ENGAGEMENT**
 - Ichthion's community engagement activities include virtual forums, webinars and conferences.
 - Once COVID-19 conditions permit, in-person activities will include cleanup activities as mentioned above.

RENEW OCEANS - INDIA

Assi River (Ganges affluent)



Renew Oceans' leadership of the project was discontinued as of January 2021.

- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**
 - The trash was collected by the Refences (barriers) and manually weighed while dirty and wet. All the trash was sent to landfill for proper management.
- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**
 - There were no manual cleanup activities.
- **COMMUNITY ENGAGEMENT**
 - Plans for engaging the community had to be paused due to COVID-19.

GREENERATION FOUNDATION - INDONESIA

Citarum River



- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**
 - *Coming soon*
- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**
 - *Coming soon*
- **COMMUNITY ENGAGEMENT**
 - *Coming soon*



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THE OCEAN CLEANUP - JAMAICA

Kingston Harbour



- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**
 - *Coming soon*
- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**
 - *Coming soon*
- **COMMUNITY ENGAGEMENT**
 - *Coming soon*

MAREA VERDE - PANAMA

Juan Díaz River



- **PLASTICS COLLECTED BY THE PLASTIC CAPTURE DEVICE**
 - *Coming soon*
- **PLASTICS COLLECTED BY PEOPLE (MANUAL CLEANUPS)**
 - *Coming soon*
- **COMMUNITY ENGAGEMENT**
 - *Coming soon*