

Global plastic pollution survey

OCEANS AND ATMOSPHERE
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Image: Sustainable Coastlines

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This new global project will provide the most accurate baseline of plastic leakage to date, from land to the marine environment

Identifying solutions to reduce land-based plastic waste and improve local livelihoods

Concern over plastic pollution in the ocean is growing. Plastic is ubiquitous in the ocean, increasing rapidly, and affecting wildlife, economies, and potentially human health.

Recent modelling suggests that approximately 8.4 million tons of plastic flows to the ocean each year, primarily from major urban centers, with more than half of the 10 top polluting countries located in the Asia Pacific region (Jambeck et al. 2015). However, there has been very little data collected to empirically document the existence of these extensive plastic plumes around

major urban centers and to validate the model estimates of mismanaged waste.

Understanding the transport of plastics from land into marine systems is critical for modelling the distribution and trends of plastic in the ocean and estimating its impact on regional economies. This project will clarify the magnitude of this pollution to the public, to industry, and to policy-makers.

With a robust, comparable baseline of information, we stand poised to evaluate policy effectiveness and change through on-ground activities at local, national and international scales. With appropriate sampling protocols in place, we are also ideally situated to further the conversation with manufacturing and the plastics industry, leading the way for science to drive marine litter action.

We're working with partners from around the world

Outcomes

This project will quantify links between land-based waste management and pollution of the marine environment.

We are engaging and training local partner institutions.

We are building capacity in measuring, analysing, and mapping plastic pollution.

Learnings from the project can serve as a basis for advocacy, supporting social pressure for investment in infrastructure and regulation for improved waste management.

Our results will also be used to engage with industry regarding best-practices.

We are also identifying opportunities for improved waste management and valuing plastic to reduce poverty and create alternative livelihoods.

Partnering countries to date include:

- *+ AUSTRALIA
- * BANGLADESH
- * CHINA (April)
- *+ INDONESIA
- PHILIPPINES
- *+ SOUTH AFRICA
- *+ SOUTH KOREA
- *+ TAIWAN
- * VIETNAM (April)
- USA

- * Training completed
- + Surveys completed



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Please contact us if you're interested in participating.

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UPLAND: where do we find waste ?



1



2

RIVERINE: how does waste move along waterways ?

How much waste enters our oceans?

Objective

We are using field sampling to measure and mathematical modelling to estimate the distribution and movement of plastic waste near urban centers, along waterways, on the coast and in the ocean.

Outputs

We are designing robust sampling plans tailored for each country involved. These plans can be adapted for other participating countries.

These data will comprise a comprehensive dataset of plastics on land, along rivers, at the coastal interface, and in the ocean for major coastal cities around the world.

We will use these data with statistical models to produce maps that highlight the plumes of plastic emerging from urban centres and nearby areas.

We will then estimate the amount of plastic from the plumes that is lost to the open ocean or redeposited back to land.

NEARSHORE: how far does the plastic plume spread ?

4

3

COASTAL: how does waste move from land to sea and back ?



Chandpur, Bangladesh, one of our study sites.

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We are developing a world-first empirical baseline estimate of mismanaged waste entering the marine environment. Results will be publicly available through visual products to increase awareness, inspire change, and transform the global conversation around plastic usage and its environmental impacts.