



## PRESS RELEASE

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### COP26 – MESSAGE IN A BOTTLE – OCEAN PLASTIC EXACERBATING CLIMATE CHANGE

**Study tracking movement of plastic bottles in the ocean sheds light on the dangerous interaction between ocean plastic and climate change.**

**Glasgow** – On the penultimate day of #COP26, scientists have deployed plastic pollution tracking devices into the ocean around Scotland. The devices will help scientists understand how plastic bottles move in the ocean and their interaction with climate change impacts, wildlife and weather patterns.

The 'Message in a Bottle' tracking project is being run by – Arribada Initiative; The University of Exeter; The University of Plymouth and the Zoological Society of London, with support from #OneLess and OneOcean. Designed to mimic a single-use plastic drinks bottle, the devices will respond to currents and winds as real bottles do. Stage one of the project launched on [World Ocean Day June 8<sup>th</sup> during the G7](#) in Cornwall, and has already seen seven devices travel hundreds of miles over the past five months. In stage two, the four new tracking devices could pass over deep ocean trenches, across major migratory routes for marine mammals and birds, possibly beaching on distant shores.

A [recent study](#) released by ZSL (Zoological Society London) and Bangor University revealed links between the global climate crisis and plastic pollution, including the impact of extreme weather worsening the distribution of microplastics into pristine and remote areas. With all eyes on COP26 nearing its completion in Glasgow, the four devices have been named "**Heat**", "**Acidity**" "**Deoxygenation**" and "**Pollution**" to draw attention to the need to adequately address these ocean crises in tandem and to ensure that a recurring ocean climate dialogue is fundamental to future COPs.

Professor Heather Koldewey of the Zoological Society of London (ZSL) and University of Exeter, lead scientist on the project and Director of the #OneLess campaign said "Through our research we've seen that plastic and climate change are fundamentally and intrinsically linked. Plastic is made from fossil fuels, generating greenhouse gasses at every step of its life cycle and the impact of both plastic pollution and climate change are both prevalent around the world. These crises are truly interconnected. There is only one ocean and by tracking the flow of plastics we are trying to demonstrate the connectedness and the wide-reaching impact that humans are having on our planet. There is an urgency to acknowledge that the climate crisis is the ocean crisis."

Mirella von Lindenfels, Director of the International Programme on the State of the Ocean (IPSO) said: "The ocean regulates our climate and buffers us from the full force of climate change by absorbing our excess heat and over a third of our CO2 emissions. Any irreversible and significant changes to the ocean could have profound economic and ecological consequences. We have named our new bottles "**Heat, Acidity,**

**Deoxygenation and Pollution**” to highlight how these climate-driven impacts on the ocean will affect life on Earth. As new research reveals, climate change cannot be treated independently of the marine plastic crisis, so must be tackled in tandem to synergistically reduce greenhouse gas emissions.”

Dr Phil Hosegood, Associate Professor in Physical Oceanography at the University of Plymouth, said: “The bottles released during the G7 have already shown how plastics released offshore readily find their way back to our coastlines. Released off the coasts of Cornwall, they washed up on beaches not just nearby but also in the Channel Islands and France. It demonstrates a strong connectivity between currents in the open ocean and those flowing along our shores and beaches. However, it also shows this isn't an issue one nation can tackle alone, but that actions taken locally to prevent waste flowing from land to ocean could have a positive impact on our planet as a whole.”

Over 359 million tonnes of plastic is produced annually and production has been predicted to double in the next 20 years.<sup>[4, 72]</sup> With more than 40% of this amount allocated for single-use applications some groups, such as London’s [#OneLess campaign](#), have decided to start tackling the plastic pollution problem close to home. Over the past 6 years #OneLess has catalysed a change in the way Londoners drink water, from single-use plastic water bottles to refilling and reusing.

“Through our collaborative approach to this issue we’ve managed to bring together individuals, businesses, local authorities and the Mayor of London to identify the barriers to reducing plastic pollution and strategically choose actions that are turning the tide on single-use plastic water bottles in London.” said Professor Koldewey. “We’ve shown that there are very tangible and immediate steps we can all take to reducing the amount of plastic that ends up in our waterways and eventually the ocean.”

The launch of the latest group of devices also coincides with COP26’s Cities Day. The group hopes that this latest data on the movement of ocean plastic will inspire other cities across the globe to take steps to curb single-use plastic pollution for the sake of our ocean.

The #OneLess campaign works with scientists, businesses, visitor attractions and governments to reduce the reliance on and numbers of single use plastic water bottles. They have recently launched [a practical guide](#) aimed at organisations, campaigns and cities around the world that are interested in #OneLess as a systems change approach to environmental conservation.

**ENDS**

For further information, images, access to spokespeople and the launch boats please contact:

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## SPOKESPEOPLE

Dr Phil Hosegood, Associate Professor in Physical Oceanography at the University of Plymouth

Mirella von Lindenfels, Director International Program on the State of the Ocean

## MESSAGE PROJECT

The open source tracking data will be connected to satellites and be available on the #OneLess Website <https://www.onelessbottle.org/oceantracking/> and OneOcean website <https://www.oceanprotect.org/>

Scientists have tracked bottles over a period of at least 6 months from the G7 Summit through to COP26.

This latest round of bottles have been named: Heat, Pollution, Deoxygenation, and Acidity to highlight the following:

- The ocean has absorbed 93% of excess **heat** generated by greenhouse gas emissions over the past 50 years, and as a result has warmed by an estimated 1°C since the Industrial Revolution.
- This is leading to an increase in the intensity and duration of extreme weather events, causing sea levels to rise and changes in ocean circulation, and driving the redistribution of marine species.
- Warming is also reducing the oxygen content in the ocean, resulting in **deoxygenation**. Oxygen is critical to a healthy ocean, and deoxygenation will lead to significant losses in biodiversity.
- As well as absorbing the majority of excess heat, the ocean has absorbed 28% of all man-made carbon dioxide emissions since 1750, leading to a decrease in ocean pH, equivalent to a 26% increase in **acidity**. More acidic conditions will affect species such as reef-building corals, molluscs, and some phytoplankton, impacting their ability to build and maintain their hard structures and shells.

## #ONELESS

In 2016, ZSL and partners (Forum for the Future, Communications In and Thames Estuary Partnership) launched the [#OneLess project](#), which is working to tackle ocean plastic pollution by reducing the amount of single-use plastic water bottles used in London. London is linked to the ocean by the River Thames, and the daily actions that citizens take in London impact upon both the river, and the ocean. #OneLess is working to create systemic change, transforming London into a place where polluting single-use bottled water is a thing of the past and where plastic waste is drastically reduced for the sake of the ocean. [www.onelessbottle.org](http://www.onelessbottle.org)

## ONEOCEAN

The OneOcean Flotilla is a collective of non-governmental organisations, seeking to influence ocean protection through aligned, impactful communication. Their objective is a better protected ocean. Their approach to this is through strategic communication: raising the voice of the ocean community together, with the right message, at the right time. <https://www.oceanprotect.org/>