

# PLASTIC POPULATION



MILLIONS OF TONNES OF PLASTIC END UP IN THE SEAS EVERY YEAR. PREDICTING WHERE IT WILL END UP IS JUST ONE OF THE STEPS NEEDED IN A GLOBAL CLEAN-UP CAMPAIGN

## ROB BUCKLEY

EDITOR

robertbuckley@geoconnexion.com



Plastics are some of the most useful substances we have. Flexible, strong, durable, mouldable and resistant to electricity – and versatile enough that there's probably a variant plastic being used somewhere in the world that has the opposite of each of these features – there's barely an aspect of our lives that it hasn't touched. Clothing, food and drink containers, electrical wiring, healthcare and transport are just some of the many applications of plastics, but the list is much, much longer.

Unfortunately, one of plastic's many strengths is also a weakness – its durability. Plastic doesn't break down easily, which makes it great as a storage medium, but also means it's hard to dispose of. Although some plastics can be recycled, they often end up either in landfills or discarded, after which it will remain littering the landscape for centuries to come. Worse still, plastic often ends up in rivers and then the sea, where currents and eddies take them away from the land to the depths of the oceans. The effects on marine life are, of course, catastrophic.

An estimated eight million tonnes of plastic enter the marine environment each year, but vastly more quantities are already

there at depths of up to 3.5km. The infamous 'great Pacific garbage patch' is now twice the size of France and weighs 80,000 tonnes. This is a revision of previous estimates, which emphasises one big problem with plastic waste – it's hard to know exactly where it is and in what form.

On page 38 of this issue, Gary King reports on one project that uses GNSS and the Internet of Things to study the movement of plastics in the North Sea, off the coast of Germany. The goal is to get a clear picture of drift patterns of plastic debris and to better understand the complex interaction of tides, winds and currents.

Using 'drifters' containing tracking devices, University of Oldenburg researchers are able to measure where plastic is travelling as well as how fast. They then hope to be able to predict future movement of plastic, as well as pass on the information to clean-up projects.

The hope is that as well as more efficient removal of plastic from the environment, the project will lead to legislation mandating more effective decontamination programmes. If that's possible – and can be replicated worldwide – our descendants will thank us.

## Editorial:

Rob Buckley, Editor - GeoInternational  
robertbuckley@geoconnexion.com

Peter FitzGibbon, Editor - GeoUK  
peterfitzgibbon@geoconnexion.com  
+44 (0) 1992 788249

Alan Plumley News Editor  
+44 (0) 1438 715124  
news@geoconnexion.com

## Columnists:

### GeoInternational

Louise Friis-Hansen, FIG

Daniel Katzer, Hinte Messe

Alistair Maclean, Quarry One Eleven

Geoff Sawyer, EARSC

### GeoUK

Chris Harris, Modern Surveying

Merryn Henderson, AGI News

Ann Kemp, Guest Blog

Terri Freemantle, Observations

## Publisher:

Mai Ward

+44 (0) 1223 279151

maiward@geoconnexion.com

## Advertising:

Micki Knight, Sales & Marketing Director

+44 (0) 7801 907666

mickiknight@geoconnexion.com

## Mailing Address & Subscription Enquires:

GeoConnexion Limited,

PO Box 594, Cambridge,

CB1 0FY, United Kingdom

+44 (0) 1223 279151

info@geoconnexion.com

subscription@geoconnexion.com

www.geoconnexion.com

## Design:

Lucy Carnell

AT Graphics Ltd

www.atgraphicsuk.com

### GeoConnexion International

ISSN: 1476-8941 is published by GeoConnexion Limited ten times a year (with combined November/December and July/August issues) and is fully protected by copyright.

Nothing in it may be reprinted or reproduced wholly or in any part without the written permission of the editor.