

Oceanic junk ranges from Legos to suspected jet wreckage

August 14 2015, by Tim Sullivan



In this Aug. 13, 2015 photo, a sandal lies among other debris washed ashore on the Indian Ocean beach in Uswetakeiyawa, north of Colombo, Sri Lanka. For years along the Cornish coast of Britain, Atlantic Ocean currents have carried thousands of Lego pieces onto the beaches. In Kenya, cheap flip-flop sandals are churned relentlessly in the Indian Ocean surf, until finally being spit out onto the sand. In Bangladesh, fishermen are haunted by floating corpses that the Bay of Bengal sometimes puts in their path. And now, perhaps, the oceans have revealed something else: parts of Malaysian Airlines Flight 370, the jetliner that vanished 17 months ago with 239 people on board. (AP Photo/Gemunu Amarasinghe)

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And now, perhaps, the oceans have revealed something else: parts of Malaysia Airlines Flight 370, the jetliner that vanished 17 months ago with 239 people on board.

Experts believe it crashed into the vast emptiness of the Indian Ocean, somewhere between Africa and Australia. While some wreckage presumably sank, some is also thought to have joined the millions of tons of oceanic debris—from Legos accidentally spilled from cargo ships to abandoned fishing nets to industrial trash—that can spend years being carried by the Earth's currents, sometimes turning up thousands of miles away from where they entered the water.

So there was little surprise among oceanographers when part of a jet's wing, suspected wreckage from the vanished Boeing 777, was found two weeks ago along the shores of Reunion, a French island off the African coast.

"The ocean is not a bathtub. It's in constant motion," said Erik van Sebille, an oceanographer with the Grantham Institute at Imperial College London who has spent years studying how currents carry debris. "At the surface it's this giant, churning machine that moves things from A to B," he said. "And it's connecting all the areas of the globe."

Often, that giant churning machine also moves in fairly predictable ways, with currents and winds moving in predictable directions and speeds.

Malaysian investigators were also dispatched this week to the Maldives, a South Asian archipelago nation, to examine debris that had recently washed ashore there. But on Friday the country expressed pessimism that it was related to the plane.

Transport Minister Liow Tiong Lai said most of the Maldives items examined "are not related to MH370 and they are not plane material." He did not say whether every piece of debris had been ruled out.

Charitha Pattiaratchi, an oceanographer at the University of Western Australia, used computer modeling last year to predict that debris from Flight 370 might end up somewhere near Reunion, or nearby Madagascar, about now. But he said that if the wing part found on Reunion turns out to be from Flight 370—French investigators are still examining it, though Malaysian officials have said it definitively came from the disappeared jet—then he doubts the debris found in the Maldives is also from the jetliner.

Because the Maldives lie north of the equator and Reunion Island is to the south, finding wreckage in both spots is highly unlikely, he said. Ocean currents and winds make it extremely difficult for flotsam to cross the equator.

Plus, Pattiaratchi adds, it would be exceedingly difficult for any Flight 370 debris to have ended up in the Maldives at all by now. To reach there, the wreckage would have had to float west from the current search area off Australia and toward Africa, then turn north and travel along the African coast past Somalia and into the Arabian Sea, before turning south and east toward the Maldives. That would be a massive journey to make in just 17 months; debris found on Reunion, in contrast, could have traveled in a relatively simple counterclockwise arc.



In this June 8, 2013 file photo, volunteers and environmentalists remove dirt and garbage that were washed ashore at a bird sanctuary, known as "Freedom Island," during a World Ocean Day event at Paranaque, south of Manila, Philippines. For years along the Cornish coast of Britain, Atlantic Ocean currents have carried thousands of Lego pieces onto the beaches. In Kenya, cheap flip-flop sandals are churned relentlessly in the Indian Ocean surf, until finally being spit out onto the sand. In Bangladesh, fishermen are haunted by floating corpses that the Bay of Bengal sometimes puts in their path. And now, perhaps, the oceans have revealed something else: parts of Malaysian Airlines Flight 370, the jetliner that vanished 17 months ago with 239 people on board. (AP Photo/Bullit Marquez, File)

"If it is from MH370, then that's a very hard thing to explain. Not entirely impossible, because we're talking about nature," he said.

Flight 370 disappeared March 8, 2014, on its way from Kuala Lumpur to Beijing. While officials believe it crashed in the Indian Ocean, killing all

aboard, the wreckage and cause remain elusive despite a vast ongoing search led by Australia.

Finding anything specific amid the oceanic junk piles requires immense effort.

Just how much debris is out there? No one knows, though certainly the scale is enormous.

According to a 2015 study, the world dumps 8.8 million tons of plastic into the world's oceans every year. The study, led by University of Georgia environmental engineering professor Jenna Jambeck, warned that in a decade the plastic trash in the oceans could total 170 million tons.

Sometimes it clusters together. Scientists have identified five garbage patches, gargantuan corrals of debris formed by circular ocean currents. One, the so-called Great Pacific Garbage Patch, could be as large as Texas.

But do not, van Sebille warns, picture masses of garbage floating on the surface of the water. "These are not islands of trash. There are no big pieces that you can stand on, even in the garbage patches," he said. Instead, those millions of tons of plastic quickly disappear from view, reduced to a near-invisible cloud that floats just beneath the surface.

"After a few months, the sea and sun have completely broken down the plastic into a confetti of tiny, tiny pieces," he said. The small size, he notes, doesn't make them environmentally friendly. The minuscule particles can be even more dangerous, he said, because they can easily enter the food chain after being eaten by small fish, and are extremely difficult to clean up.

In Kenya, Julie Church has found a use for some flotsam. The marine conservationist, inspired by village children who turn beach debris into toys, created a company that transforms castoff sandals into bright sculptures and playthings. Today, Ocean Sole recycles an average of 1,000 kilograms (2,200 pounds) of flip-flops each week. Judging by the trash they find around the sandals, Church thinks some footwear floated to Kenya from as far as Indonesia and Malaysia.



In this June 12, 2014 file photo, a boy walks through the Arabian Sea coast after tidal waves receded filling the shore with garbage in Mumbai, India. For years along the Cornish coast of Britain, Atlantic Ocean currents have carried thousands of Lego pieces onto the beaches. In Kenya, cheap flip-flop sandals are churned relentlessly in the Indian Ocean surf, until finally being spit out onto the sand. In Bangladesh, fishermen are haunted by floating corpses that the Bay of Bengal sometimes puts in their path. And now, perhaps, the oceans have revealed something else: parts of Malaysian Airlines Flight 370, the jetliner that vanished 17 months ago with 239 people on board. (AP Photo/Rajanish Kakade, File)

But that's a rare happy ending amid so much debris. More often, it's a litany of the prosaic and the strange.

There are the wealth of goods dumped into the water when hundreds—and sometimes thousands—of shipping containers are lost at sea every year. Those Legos on the Cornish coast come compliments of a container thrown overboard by a rogue wave in 1997.

There are the thousands of buoys that have littered beaches in Alaska, along with building insulation, property stakes and crates used by fishermen. There was the 164-foot ship cast adrift after Japan's 2011 tsunami and sunk by the U.S. Coast Guard in the Gulf of Alaska in 2012 before it could reach shore.

There are the corpses that Mohammed Nasir sees as he fishes in the Bay of Bengal.

"I have seen many such bodies in my life," said the 53-year-old Bangladeshi. "I often think how unlucky they are. They have left their families behind."



In this April 13, 2015, file photo, Erin O'Neill, a student volunteer with the Clean Ocean Action environmental group, holds a poster in Sandy Hook, N.J. showing some of the items of trash that volunteers removed from New Jersey's beaches the previous spring and fall. For years along the Cornish coast of Britain, Atlantic Ocean currents have carried thousands of Lego pieces onto the beaches. In Kenya, cheap flip-flop sandals are churned relentlessly in the Indian Ocean surf, until finally being spit out onto the sand. In Bangladesh, fishermen are haunted by floating corpses that the Bay of Bengal sometimes puts in their path. And now, perhaps, the oceans have revealed something else: parts of Malaysian Airlines Flight 370, the jetliner that vanished 17 months ago with 239 people on board. (AP Photo/Wayne Parry, File)

But mostly? Mostly it's garbage. Thousands and thousands of tons of garbage.

Chris Pallister, president of Gulf of Alaska Keeper, a beach cleanup organization, said by email that nearly everything his crews find is trash.



In this Aug. 13, 2015 photo, a plastic bottle lies among other debris washed ashore on the Indian Ocean beach in Uswetakeiyawa, north of Colombo, Sri Lanka. For years along the Cornish coast of Britain, Atlantic Ocean currents have carried thousands of Lego pieces onto the beaches. In Kenya, cheap flip-flop sandals are churned relentlessly in the Indian Ocean surf, until finally being spit out onto the sand. In Bangladesh, fishermen are haunted by floating corpses that the Bay of Bengal sometimes puts in their path. And now, perhaps, the oceans have revealed something else: parts of Malaysian Airlines Flight 370, the jetliner that vanished 17 months ago with 239 people on board. (AP Photo/Gemunu Amarasinghe)

Sometimes, though, even that has emotional impact.

"Such as shoes, particularly in my case, infant shoes," he said. "When you contemplate where they come from, it can be quite disturbing."

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