Seminário de Oceanografia Física

10/10

14h30

Anfiteatro do Instituto Oceanográfico

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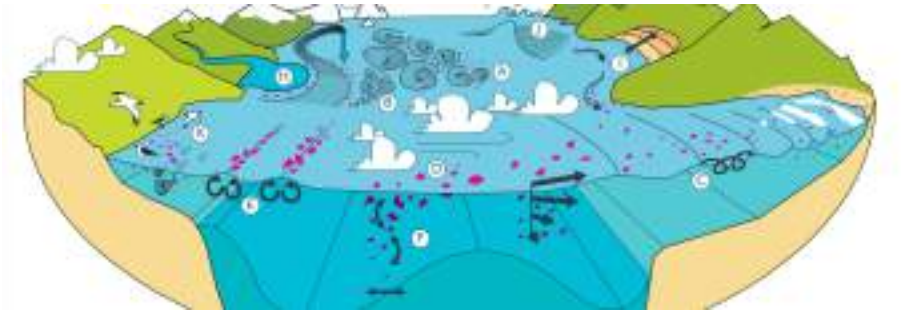
Whose plastic is that? Combining ocean physics with Bayesian inference to attribute sources of marine plastic pollution

The world's ocean currents have the potential to transport material like plastic over vast scales, connecting leakage on one continent to impacts on another. Yet, it had recently become clear that most plastics found at any particular location are relatively local, often originating from within the same country. Effective policies to reduce the impact of plastic pollution require knowledge of whose plastic ends up where.

In this seminar, I will present some recent work on using a Bayesian framework to analyze the sources of plastics found on beaches around the world. The input to this analysis comes from Lagrangian ocean analysis simulations with the OceanParcels.org tool, which I will also showcase. I will particularly highlight results from the Indian Ocean, the Galapagos, the South Atlantic and the North Sea.



Erik van Sebille is professor of oceanography and public engagement at Utrecht University. He investigates how ocean currents move 'stuff' around. He is co-author of the textbook 'Ocean Currents – Physical Drivers in a Changing World' with Professor Robert Marsh. He led the European Research Council Starting Grant project 'Tracking Of Plastics in Our Seas'. In parallel to his ongoing work in physical oceanography, he has recently started a new research team on how scientists can be effective and inclusive in their communication and engagement with society, specifically on the climate crisis.