



Plastic burial in deep-sea sediments.

Sampling, analysis, experimentation and modelling.

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Transport of plastic particles via submarine canyons is an efficient funneling mechanism that buries plastics in deep-sea sediments.

• Plastic particles are buried in sea floor deposits: 700 to 20,000 particles per kg sediment.

- Plastic polymers with densities smaller than or equal to sea water are also buried in sea floor sediments.
- Terrestrial perspectives on sediment transport and deposition do not explain transport and burial observations in deep-sea events.

Sampling and analysis demonstrates high abundance of plastic particles buried in sea floor sediments, including polymers with densities lower than sea water.



Example of a polyethylene parti-

Laboratory experiments reveal modes of transport and deposition of plastic particles in deep-sea events.





cle that was extracted from buried sediments retrieved from beneath the sea floor in the Congo Submarine Fan, at 2057 m water depth.

https://www.bbc.com/news/av/science-environment-52489130

Models for sediment transport in rivers do not translate straightforwardly to deep-sea transport.





(Pohl et al., 2020)

References

Pohl, F., Eggenhuisen, J.T., Kane, I.A., and Clare, M.A. (2020) Transport and Burial of Microplastics in Deep-Marine Sediments by Turbidity Currents. Environmental Science and Technology, 54, 4180-4189, https://doi.org/10.1021/acs.est.9b07527