

# Modelling the three-dimensional distribution of plastics in the global ocean



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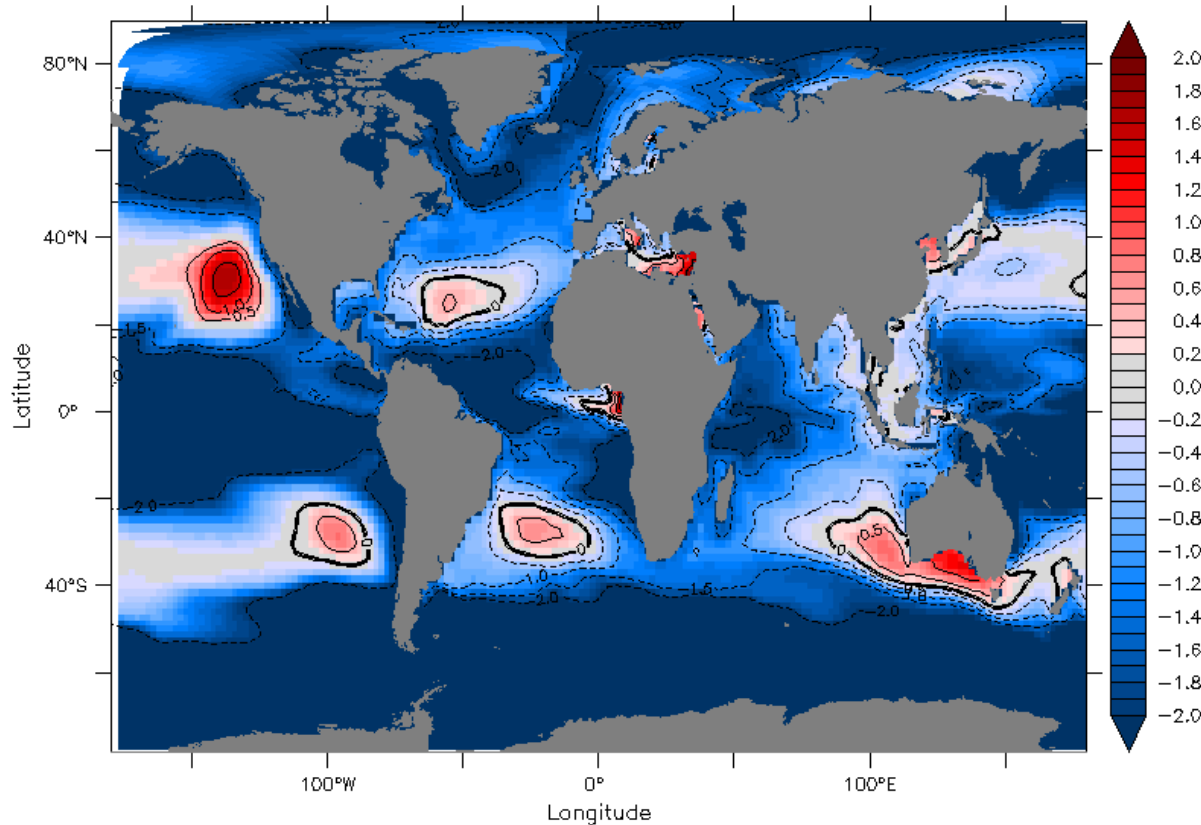


# Key points

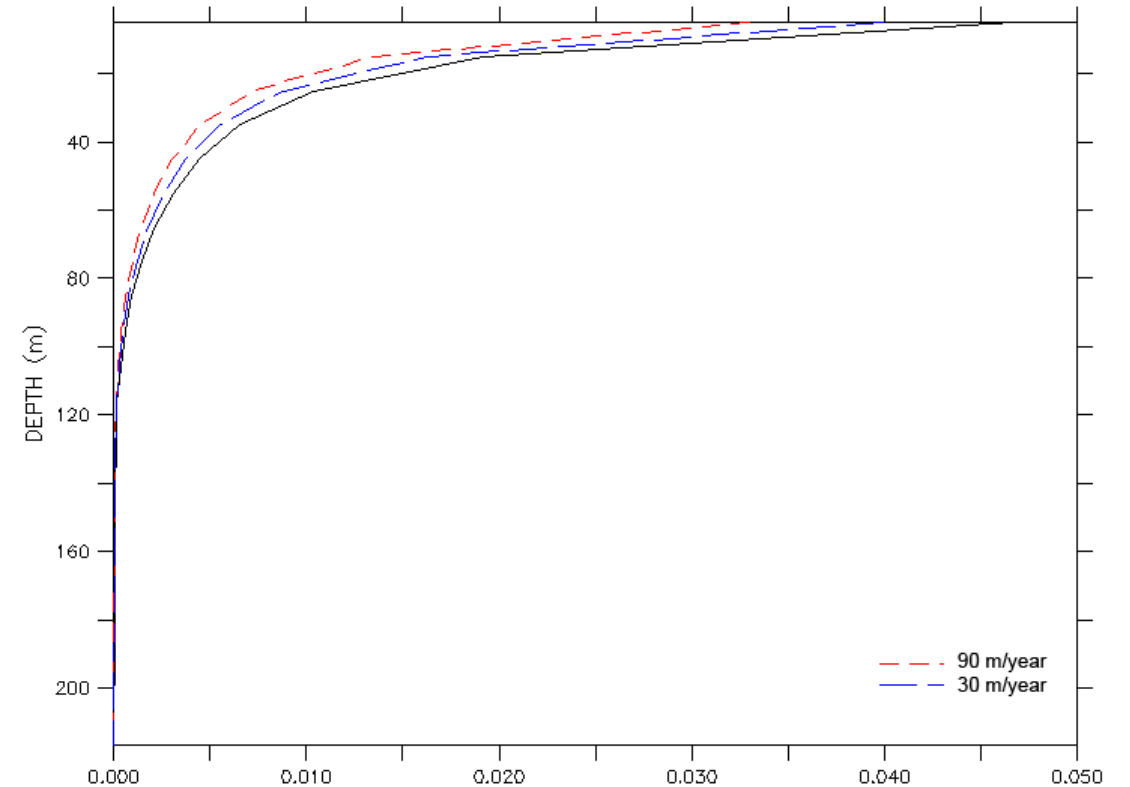
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- 3-dimensional model which includes **positively buoyant** (floating) and **negatively buoyant** (sinking) plastic, and separate simulation focusing on **neutrally buoyant** (passive) plastic
- Plastics present at all depths within model
  - **Positively buoyant** within top ~120 m
  - **Negatively buoyant** with peaks in top 100-200 m and in deep ocean
  - **Neutrally buoyant** within top ~2500 m

# Positively buoyant plastics

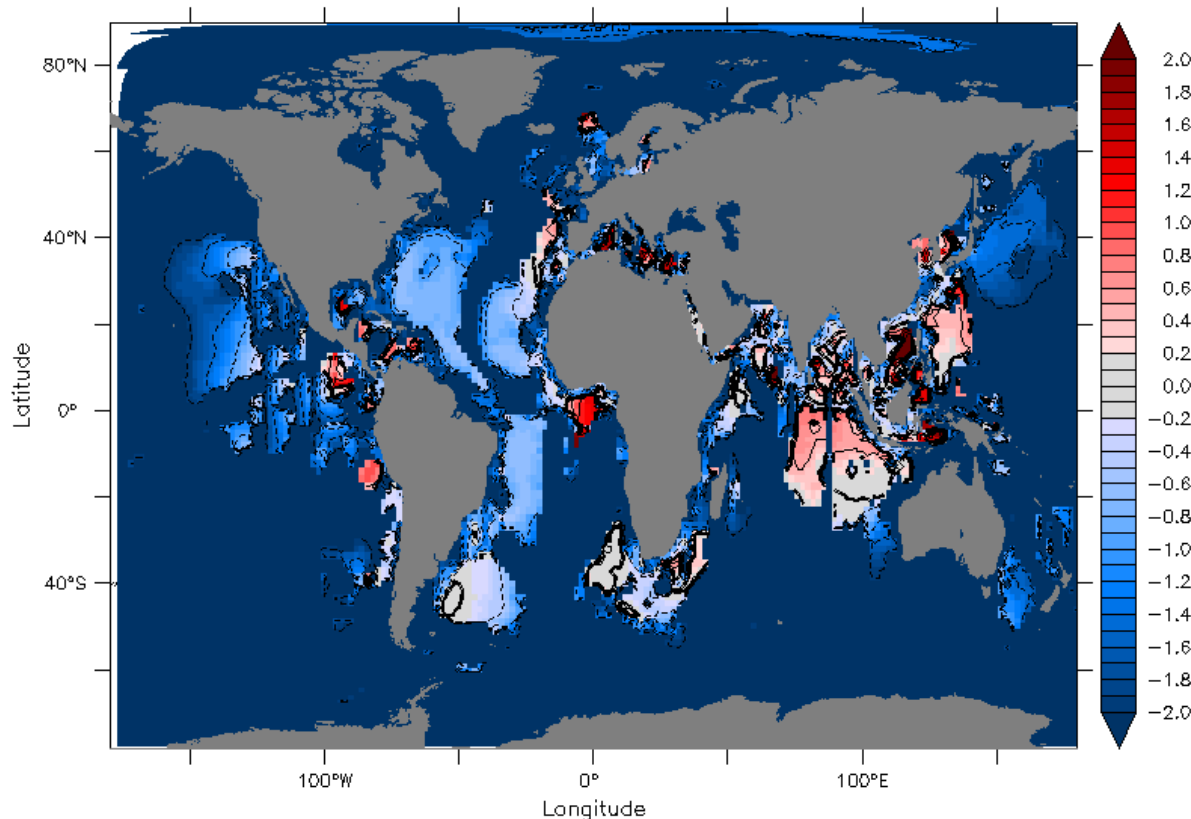


Distribution of positively buoyant plastics  
(normalised by global average concentration per area)

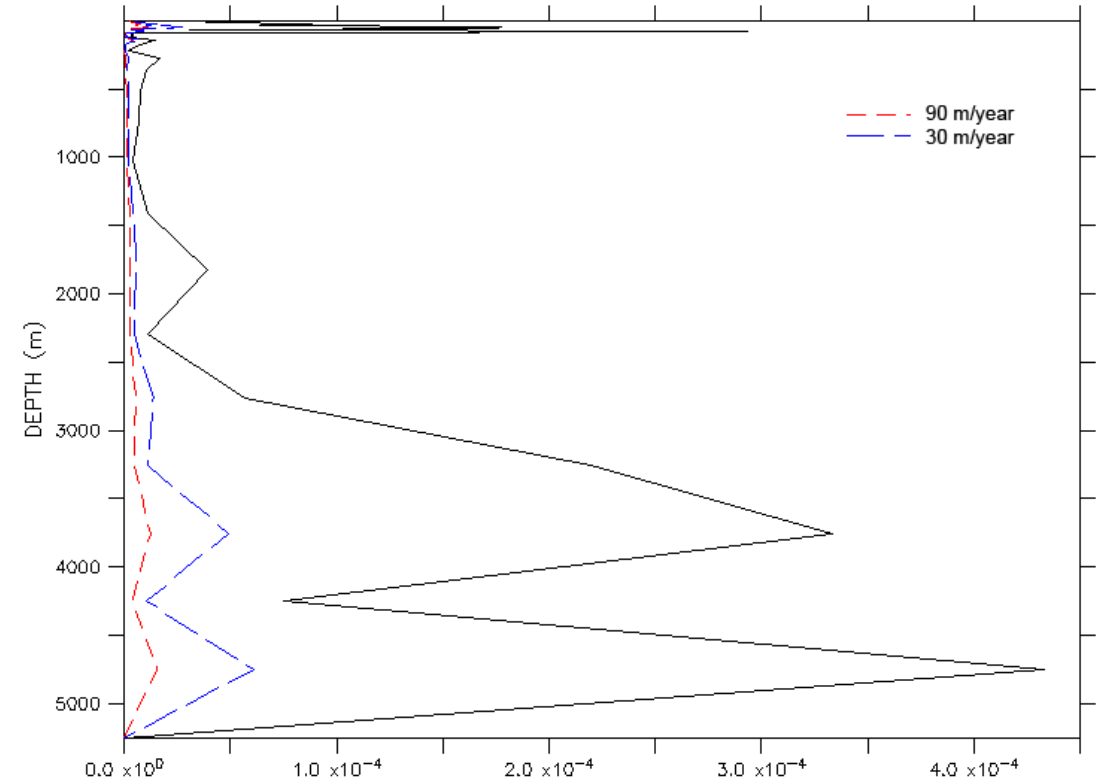


Vertical profile of positively buoyant plastics  
(normalised by total global plastic concentration)

# Negatively buoyant plastics

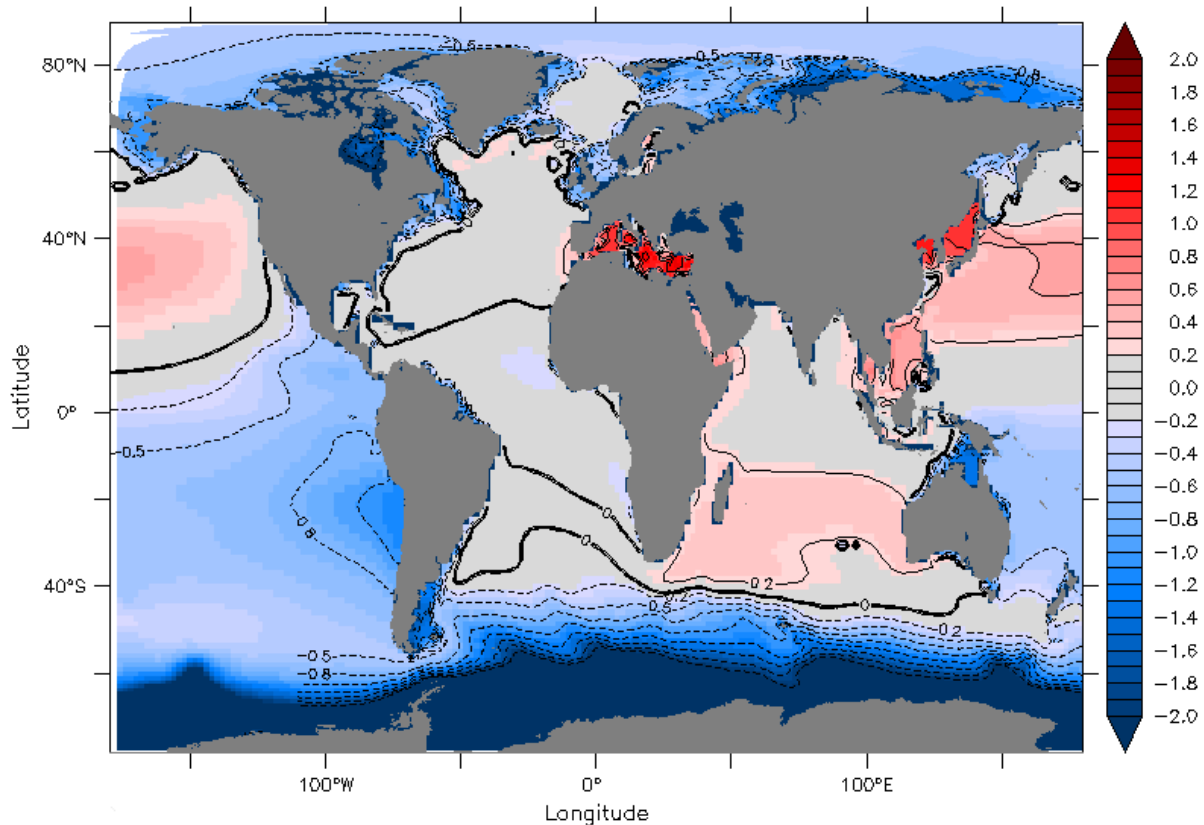


Distribution of negatively buoyant plastics  
(normalised by global average concentration per area)

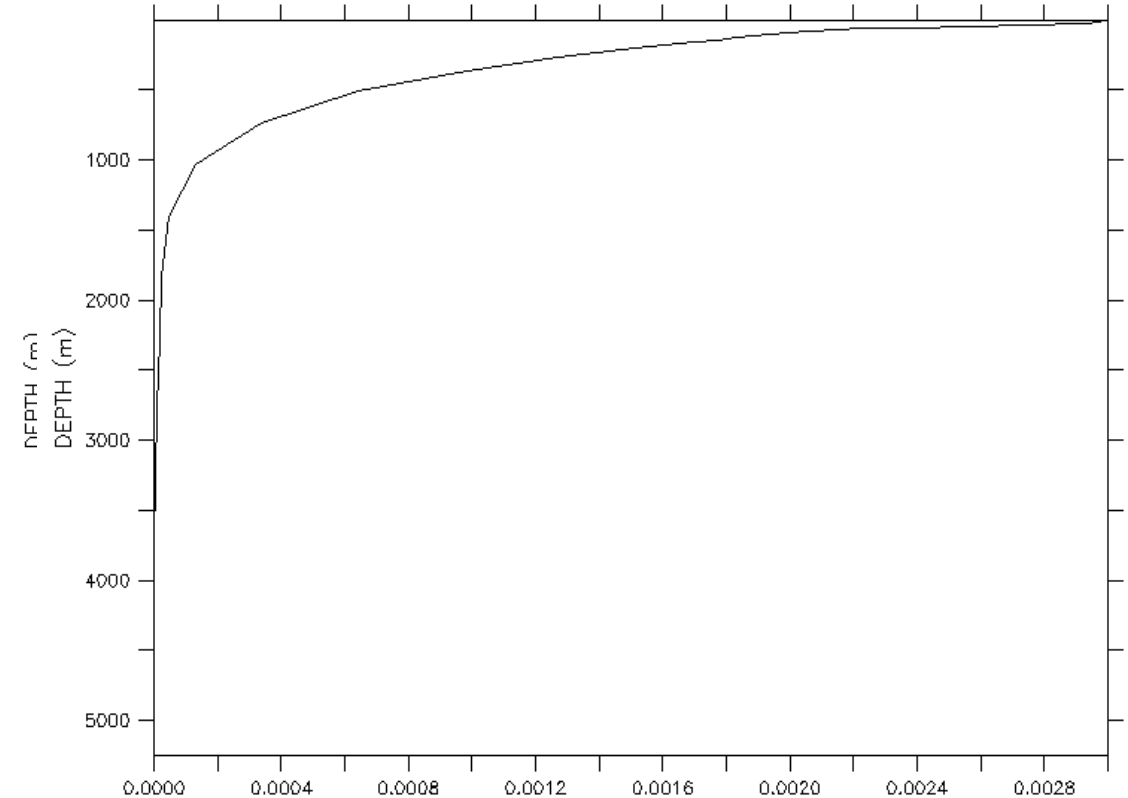


Vertical profile of negatively buoyant plastics  
(normalised by total global plastic concentration)

# Neutrally buoyant plastics



Distribution of neutrally buoyant plastics  
(normalised by global average concentration per area)



Vertical profile of neutrally buoyant plastics  
(normalised by total global plastic concentration)

# Conclusions & thanks

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- Modelling suggests plastics are present at all depths
  - 3-dimensional modelling highlights potential “hotspots” for plastics of different densities to accumulate
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