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Microplastic Dynamics in Estuaries

D.Sous, S.Defontaine, M.Monperrus, V.Lenoble, L.Lanceleur, J.Tesan, S.Mounier

Plastics : a global threat

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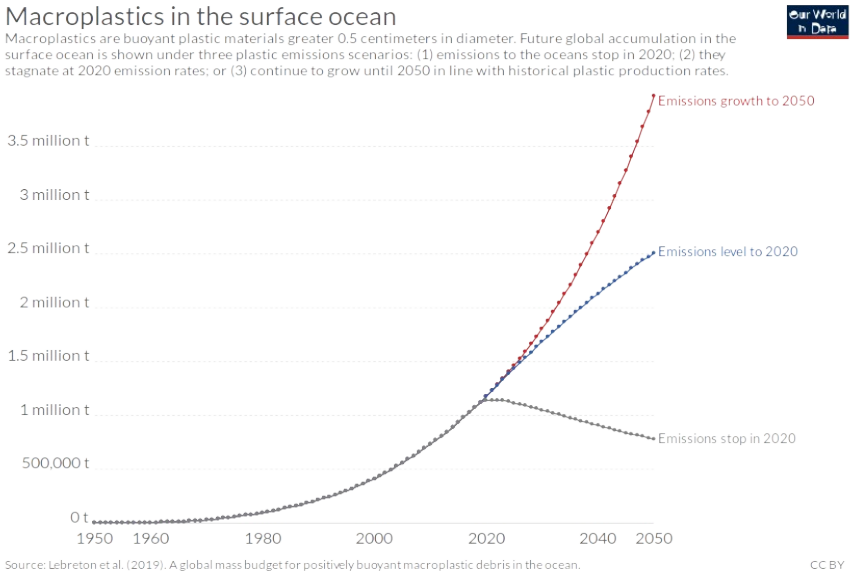
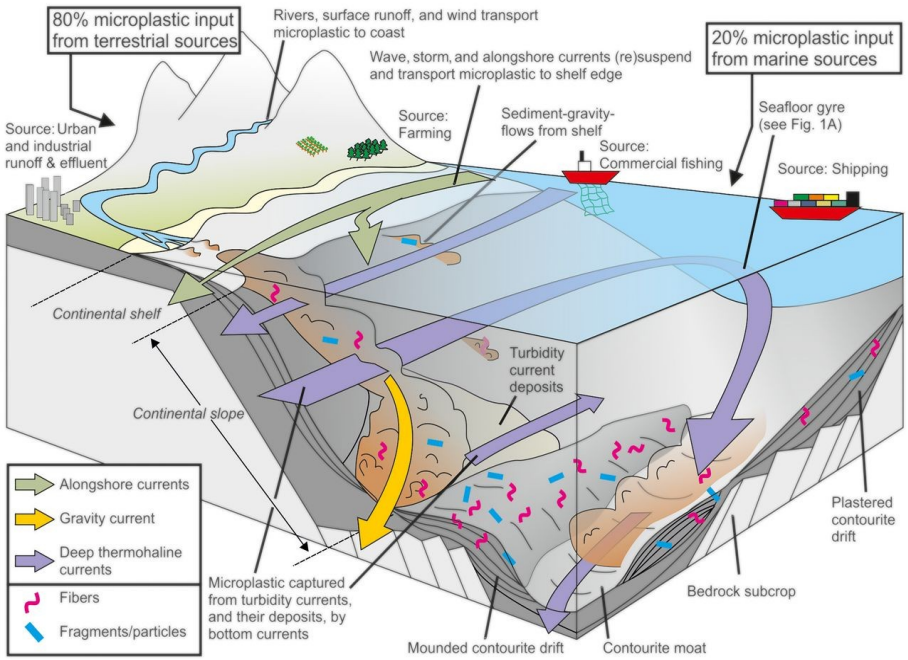
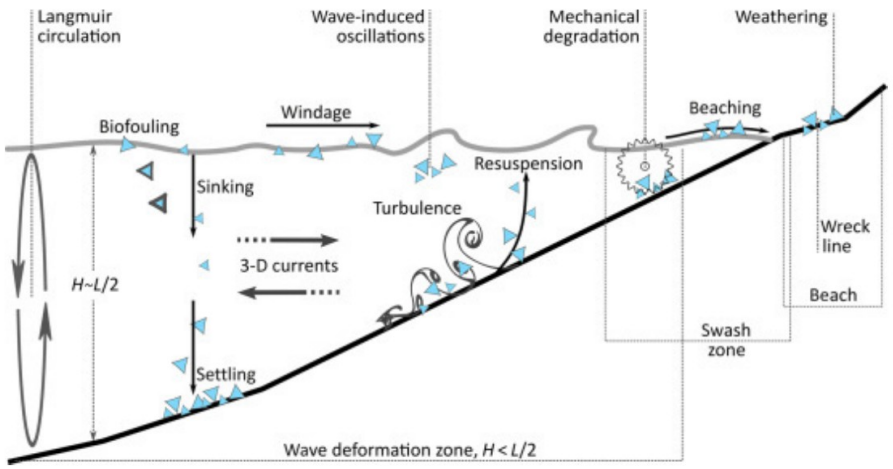
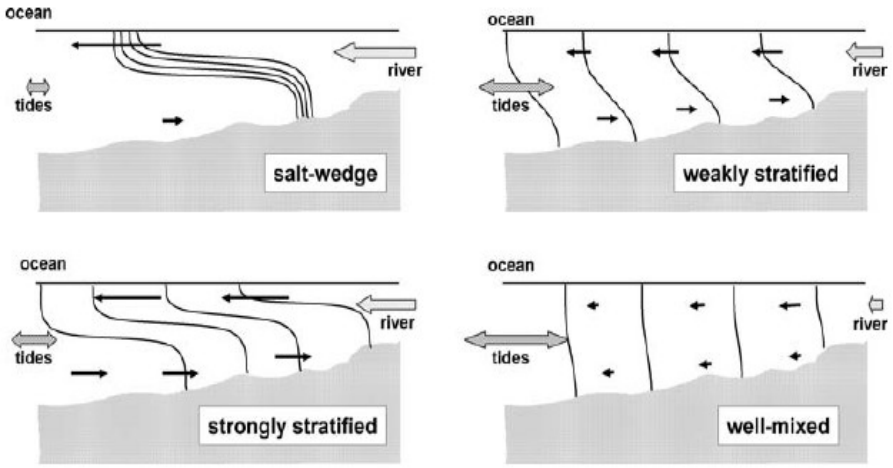


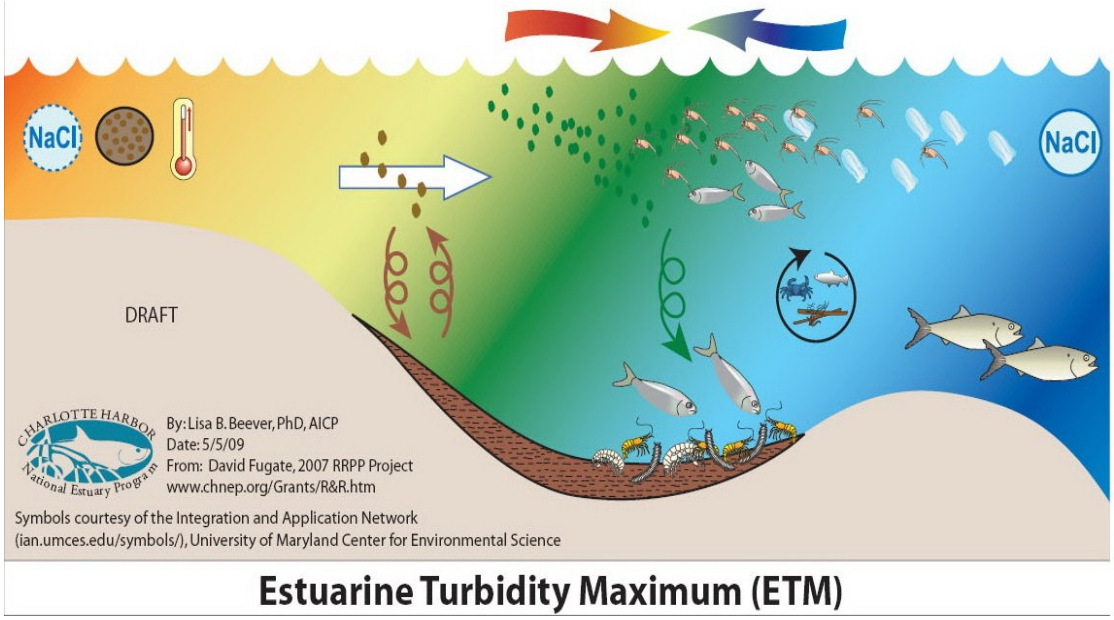
Plastics : a global threat





Estuarine dynamics





Estuarine Turbidity Maximum (ETM)

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Mission pour les initiatives transverses et interdisciplinaires

Soutenir les prises de risques, la rupture et l'émergence

cnrs

Durée: 2019-2020
Budget: 55 ke
PI : D.Sous

SIAME
Océanographie physique
Processus de transport

IPREM & MIO
Chimie environnementale
Caractérisation MPs

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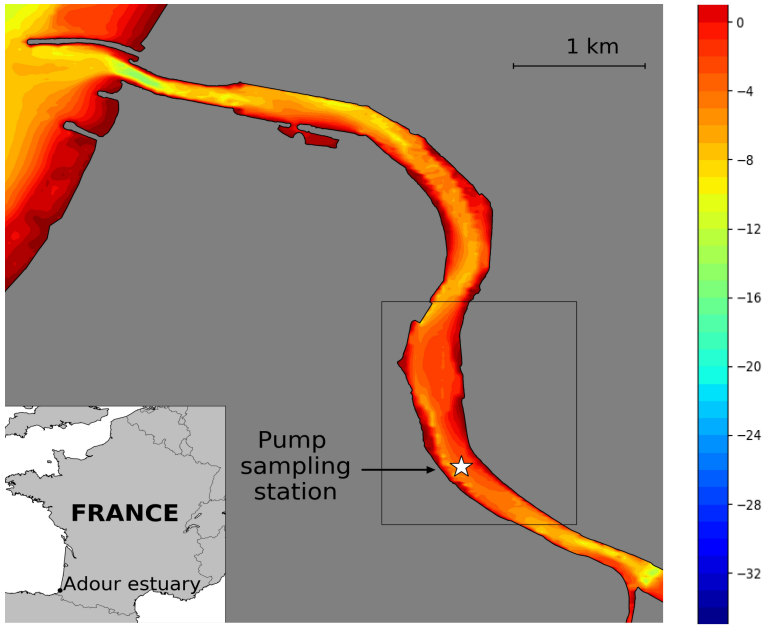
1 km
Pump
sampling
station
FRANCE
Adour estuary
0
−4
−8
−12
−16
−20
−24
−28
−32

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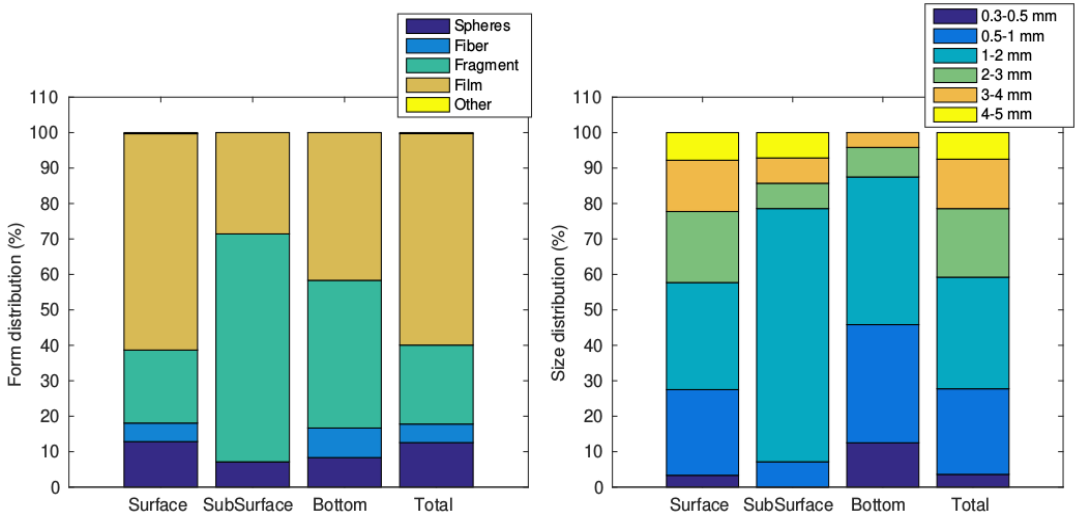
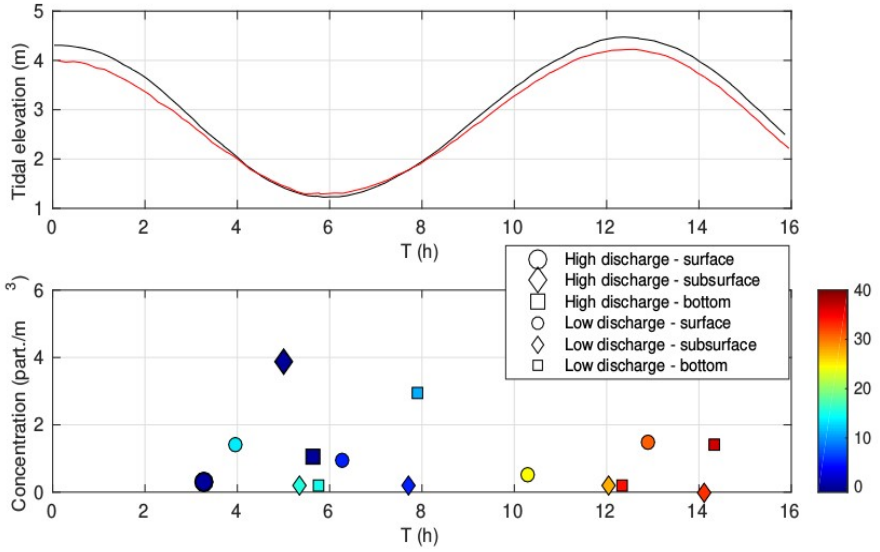

Spheres
Fiber
Fragment
Film
Other
Form distribution (%)
Surface
SubSurface
Bottom
Total
0.3-0.5 mm
0.5-1 mm
1-2 mm
2-3 mm
3-4 mm
4-5 mm
Size distribution (%)
Surface
SubSurface
Bottom
Total


Tidal elevation (m)
T (h)
High discharge - surface
High discharge - subsurface
High discharge - bottom
Low discharge - surface
Low discharge - subsurface
Low discharge - bottom
Concentration (part./m 3)
T (h)

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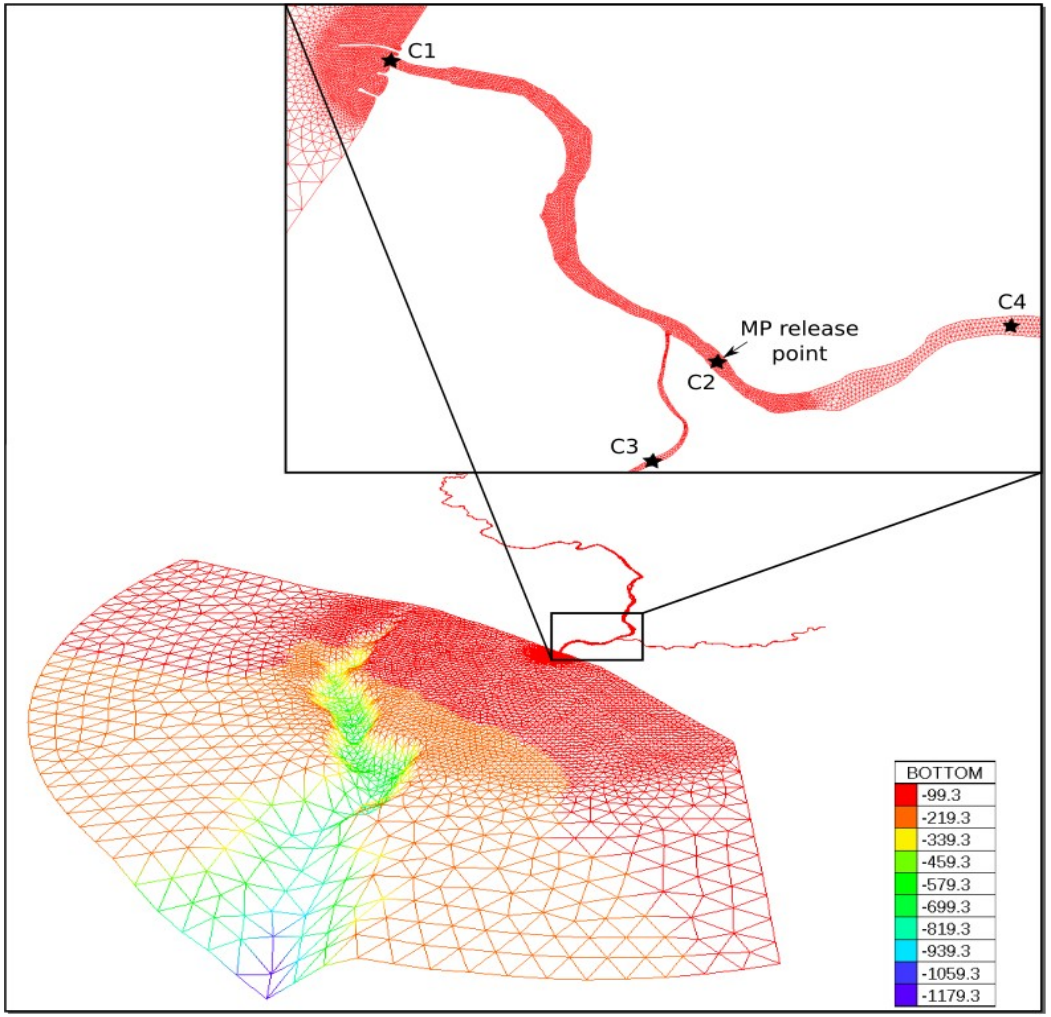
C1
C2
C3
C4
MP release point
BOTTOM
-99.3
-219.3
-339.3
-459.3
-579.3
-699.3
-819.3
-939.3
-1059.3
-1179.3

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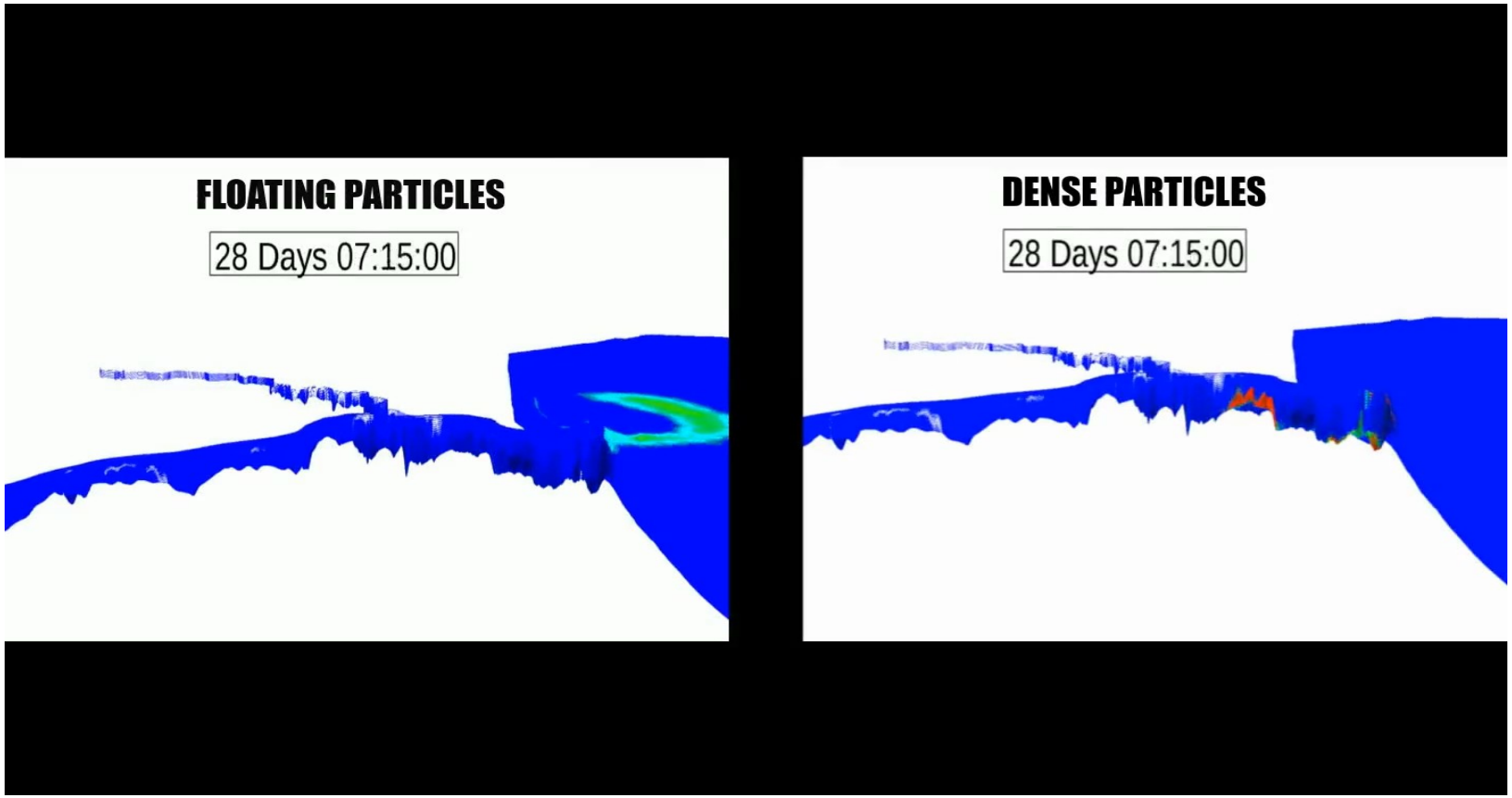
FLOATING PARTICLES
28 Days 07:15:00
DENSE PARTICLES
28 Days 07:15:00

Poursuite des travaux

- Collaboration UPPA (IPREM-SIAME), UTLN (MIO), EPOC
- Analyse des campagnes automne 2020
- Mesure vitesse de chute/remontée des MP (stage M2)
- Poursuite du développement du modèle
- Extension du domaine amont-aval
- Contrôle sources
- Zone littorale : projet PLASTICBEACH

Limitations et enjeux

- Contrainte métrologique : prélèvement > 300µm
- Besoin d'explorer la contamination à plus petite échelle
- Effets écotoxiques, vecteurs pour les contaminants