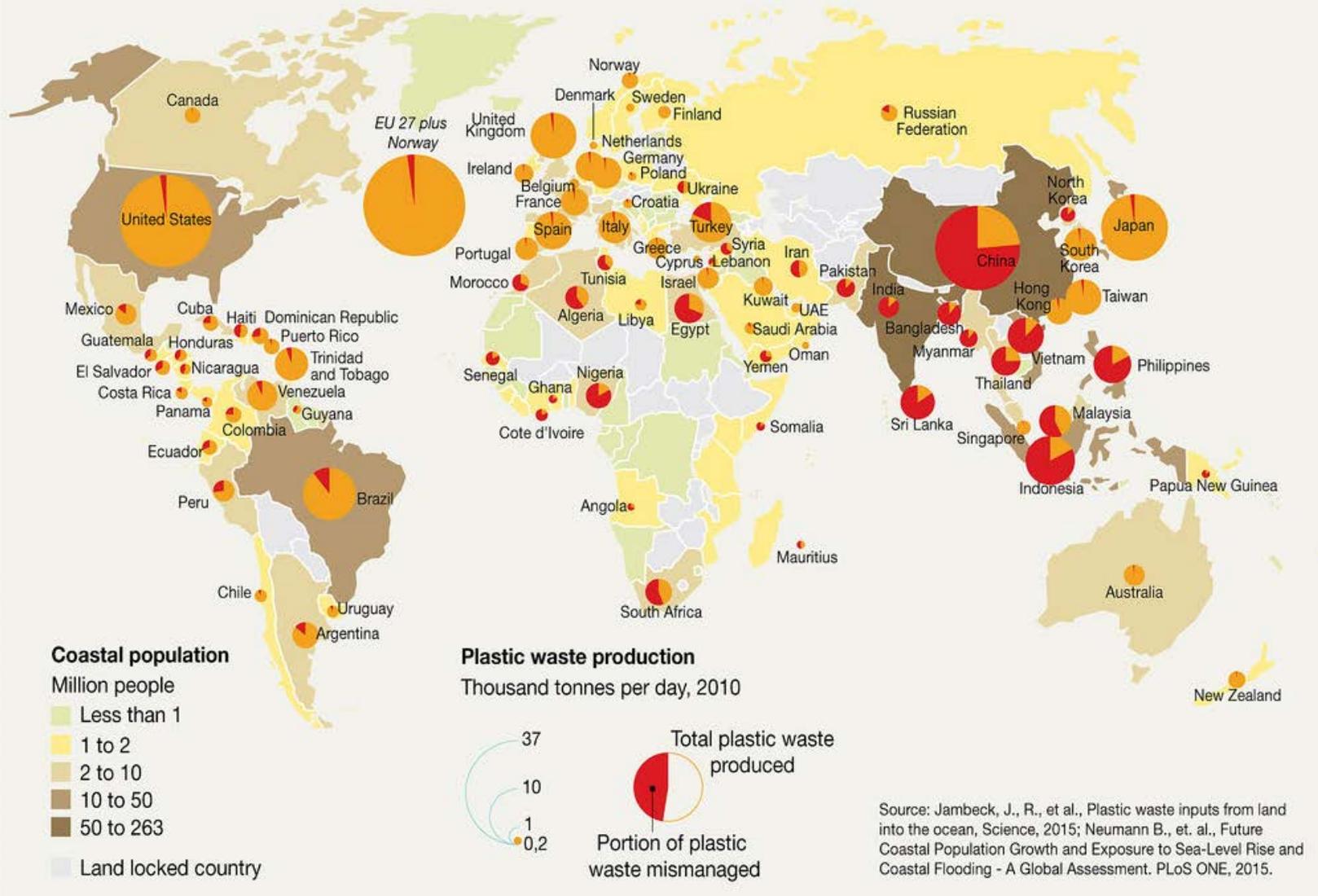


## Les déchets marins

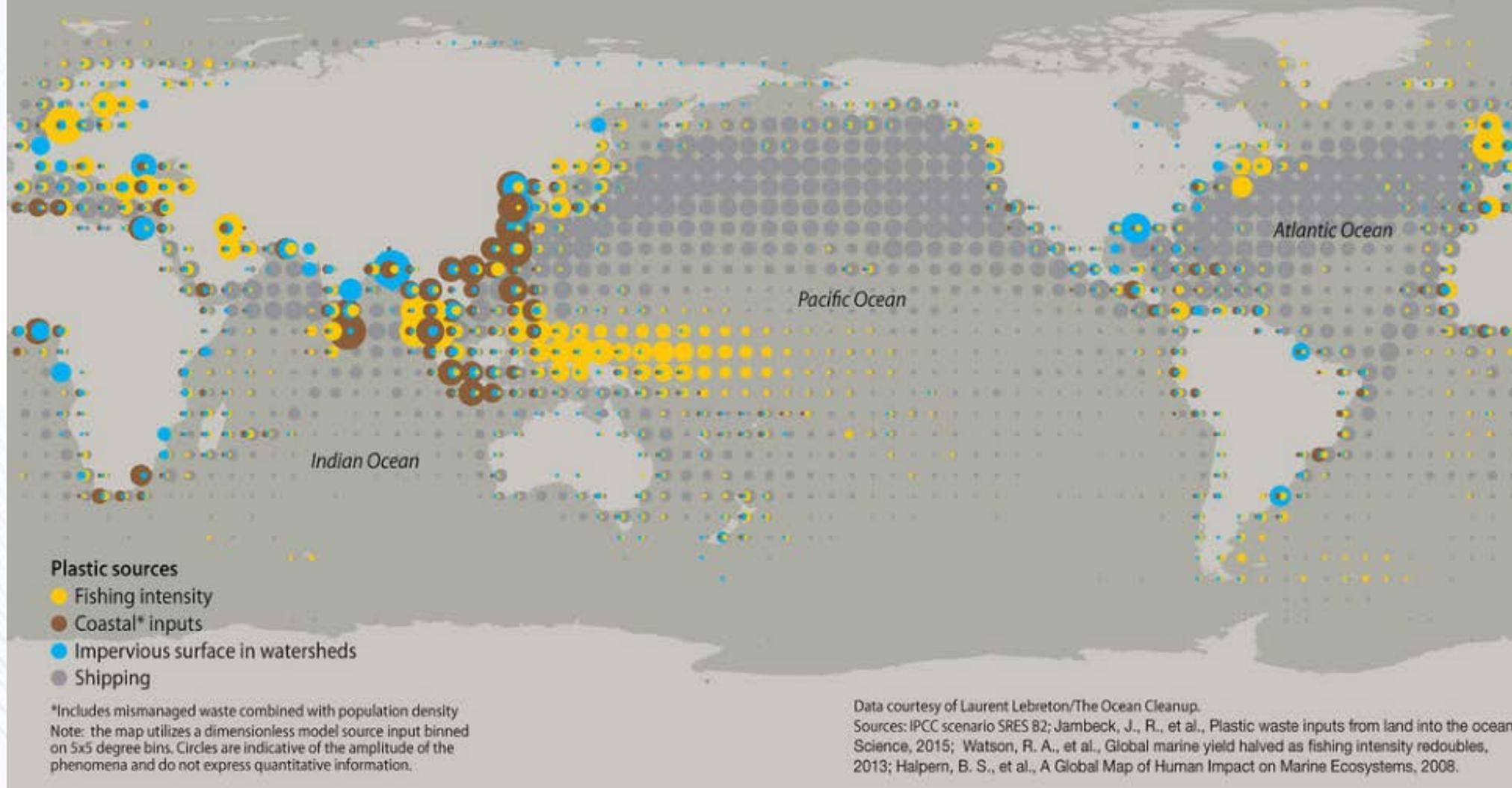


# Plastic waste produced and mismanaged



Marine Litter Vital Graphics

# Plastic input into the oceans

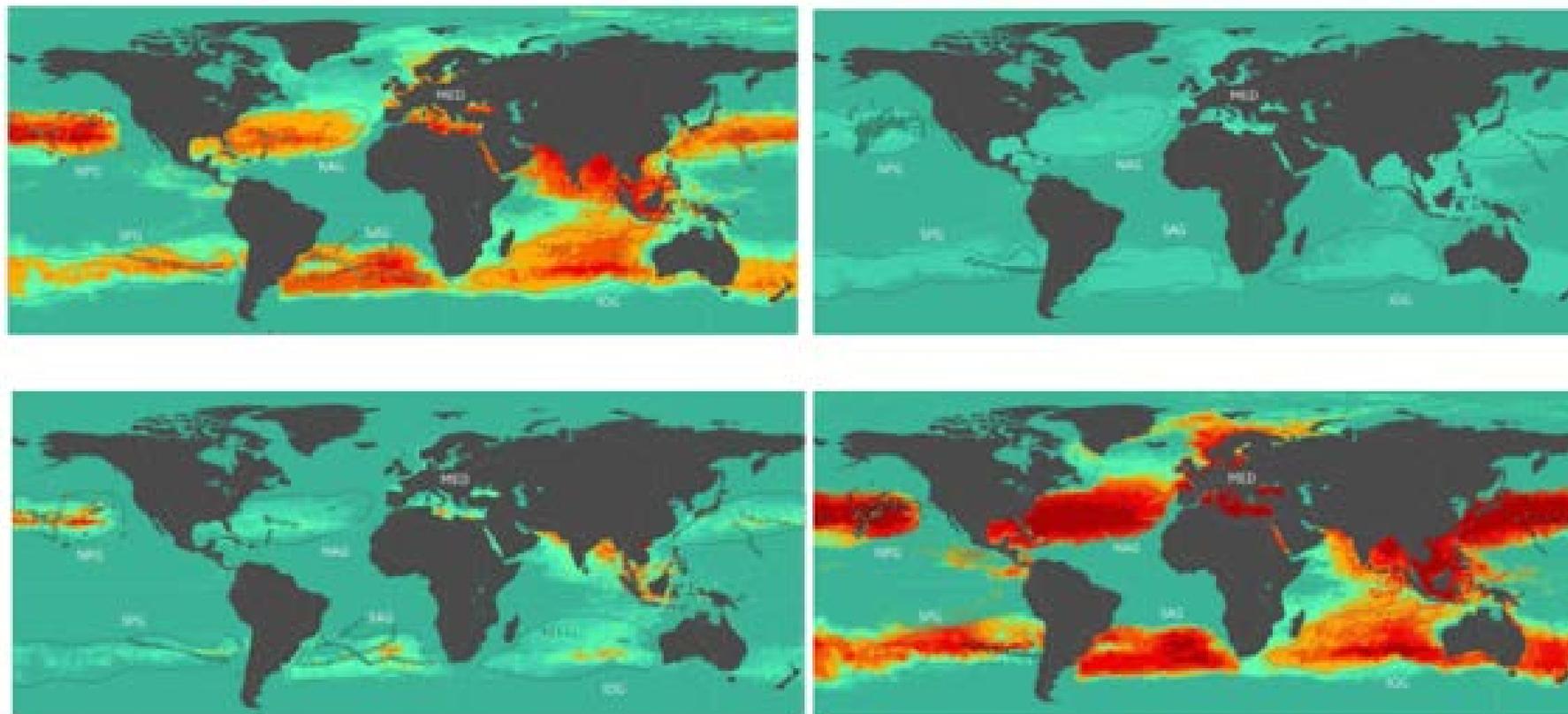


Country	Coastal population <sup>2</sup>	Waste generation rate [kg/person/day] <sup>3</sup>	Plastic waste generation [kg/day] <sup>7</sup>	Plastic waste littered [kg/day] <sup>7</sup>
Belgium	4 747 957	1,33	375 730	7 515
Bulgaria	1 002 695	1,28	153 372	3 067
Cyprus	840 556	2,07	207 924	4 158
Denmark	5 376 386	2,34	245 324	4 906
Estonia	878 021	1,47	154 238	3 085
Finland	2 927 674	2,13	682 836	13 657
France	17 287 280	1,92	3 302 562	66 051
Germany	8 837 035	2,11	4 279 290	85 586
Greece	9 794 702	2	1 949 146	38 983
Iceland	292 708	1,56	81 964	1 639
Ireland	3 749 576	3,58	1 604 106	32 082
Italy	33 822 532	2,23	4 487 743	89 755
Latvia	1 432 078	1,03	176 267	3 525
Lithuania	443 894	1,1	58 350	1 167
Malta	404 707	1,78	86 085	1 722
Netherlands	8 971 770	2,12	3 794 520	75 890
Poland	3 272 933	0,88	315 380	6 308
Portugal	8 507 951	2,21	2 246 907	44 938
Romania	875 170	1,04	35 952	719
Slovenia	336 594	1,21	48 670	973
Spain	22 771 488	2,13	6 281 173	125 623
Sweden	6 202 234	1,61	294 575	5 892

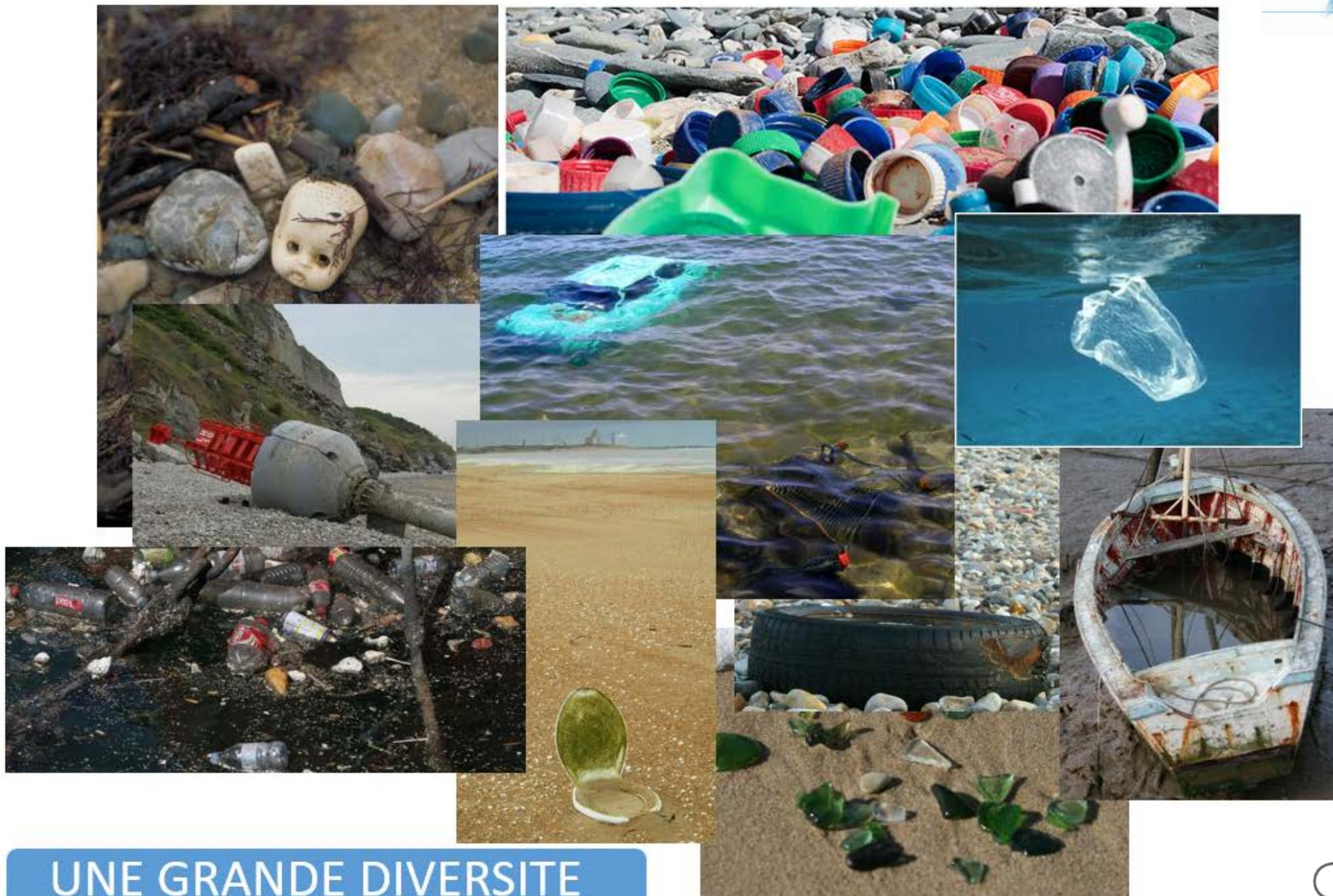
**Total Europe : 617,2 tonnes / jour, 225 000 tonnes/ An**

Quelle situation en Europe?

# Production de plastique: # 350 M tons en 2018

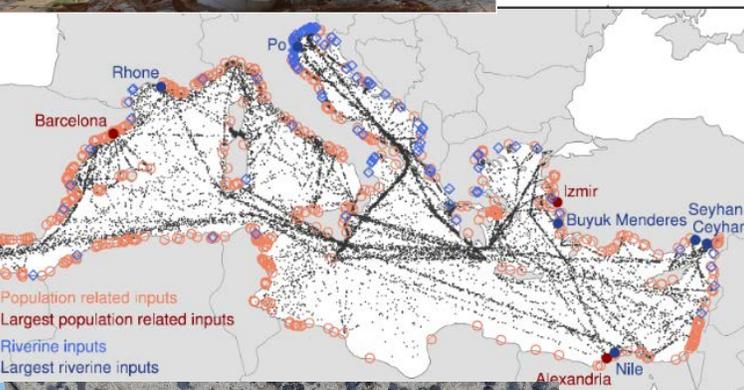


8 M tons entrent dans les oceans chaque année



UNE GRANDE DIVERSITE

# Sources très variées: fleuves, navires, peche, tourisme, eaux usées, évènements extremes, atmosphere, individus, etc.

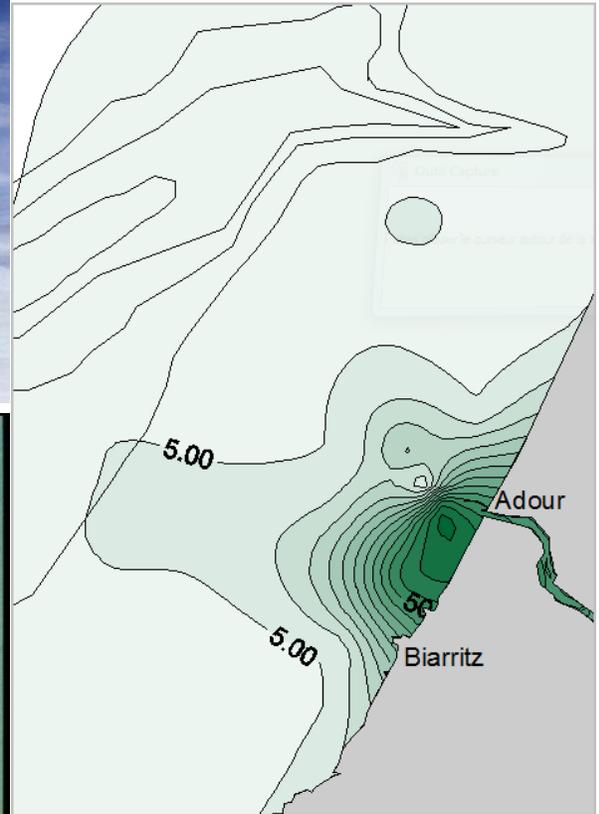
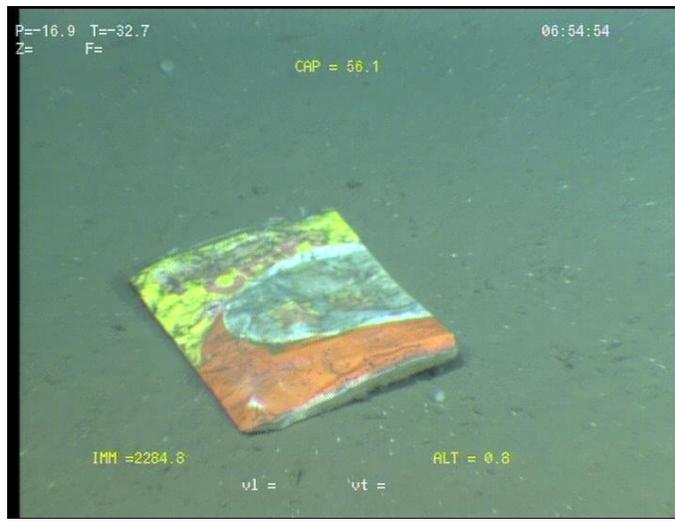
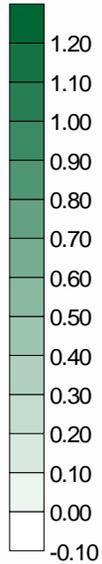
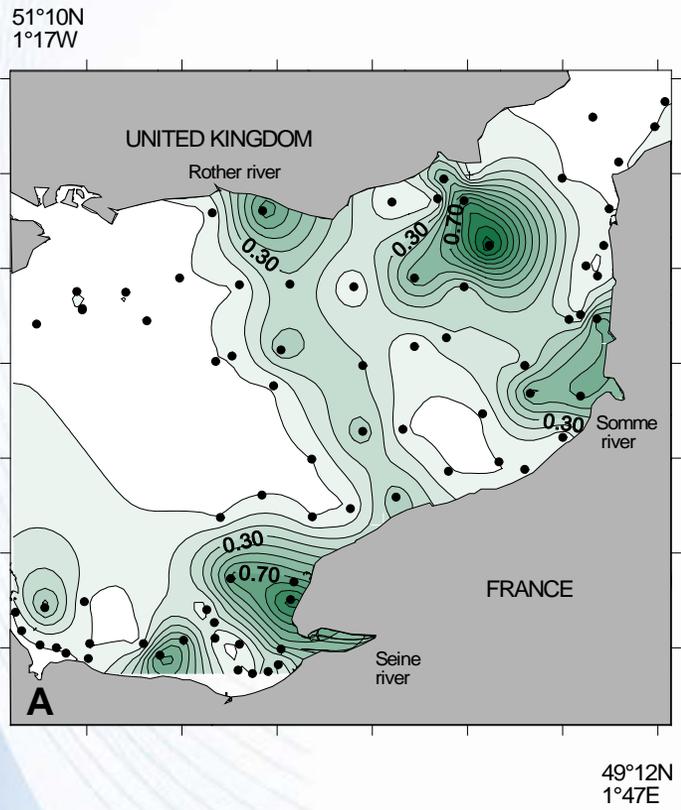


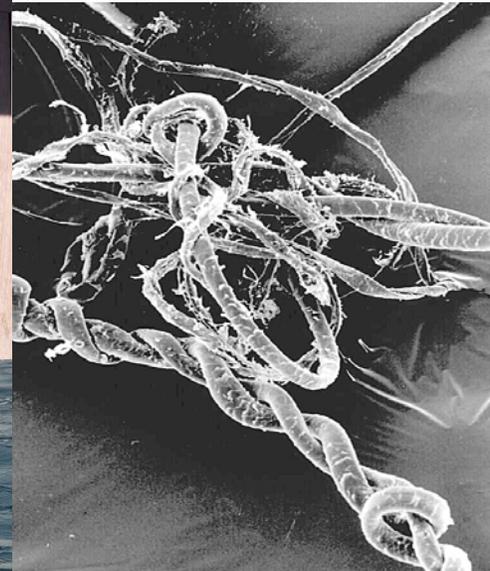
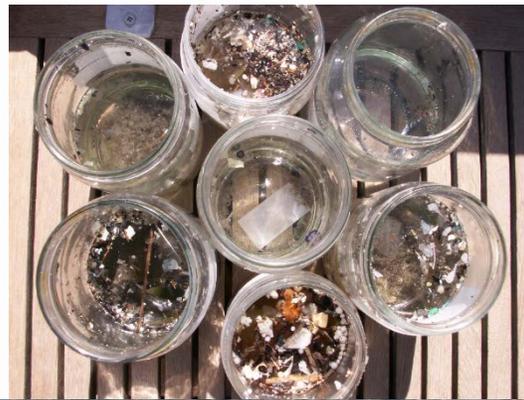
30°E

# Accumulation sur les plages, en mer et sur les fonds

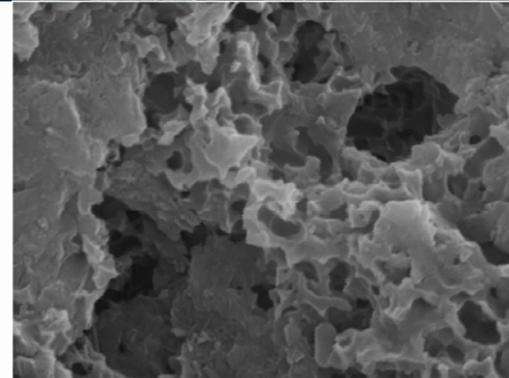


# Des zones sensibles, des zones d'accumulation



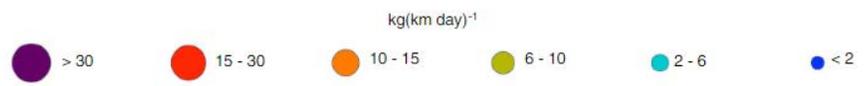
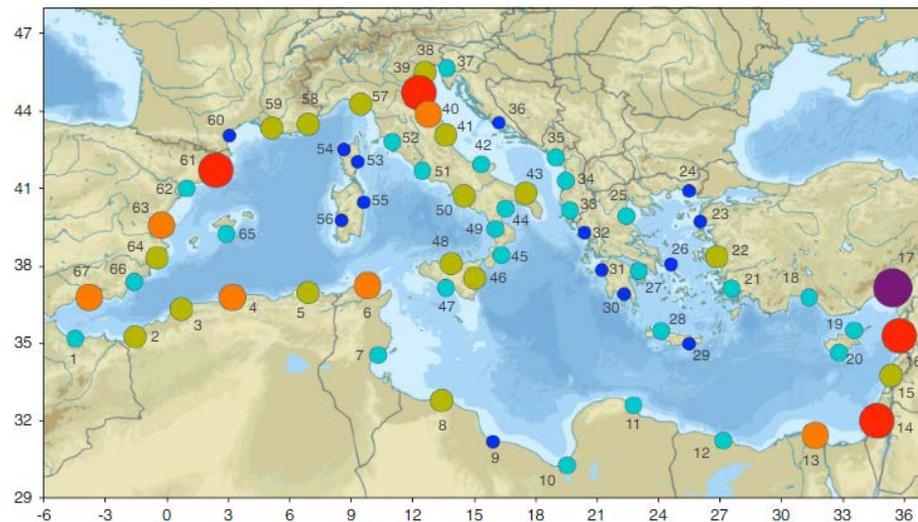
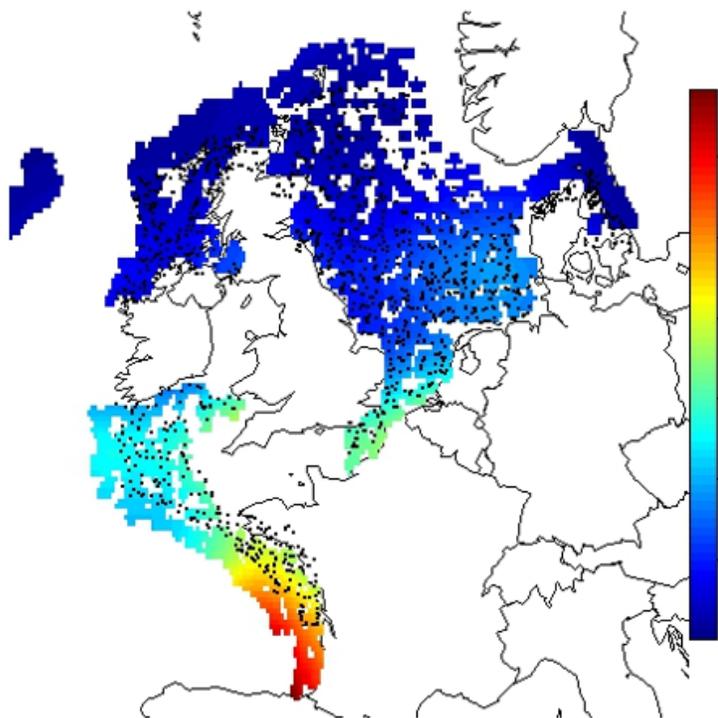


- jusqu'à 64 millions Items/km<sup>2</sup>

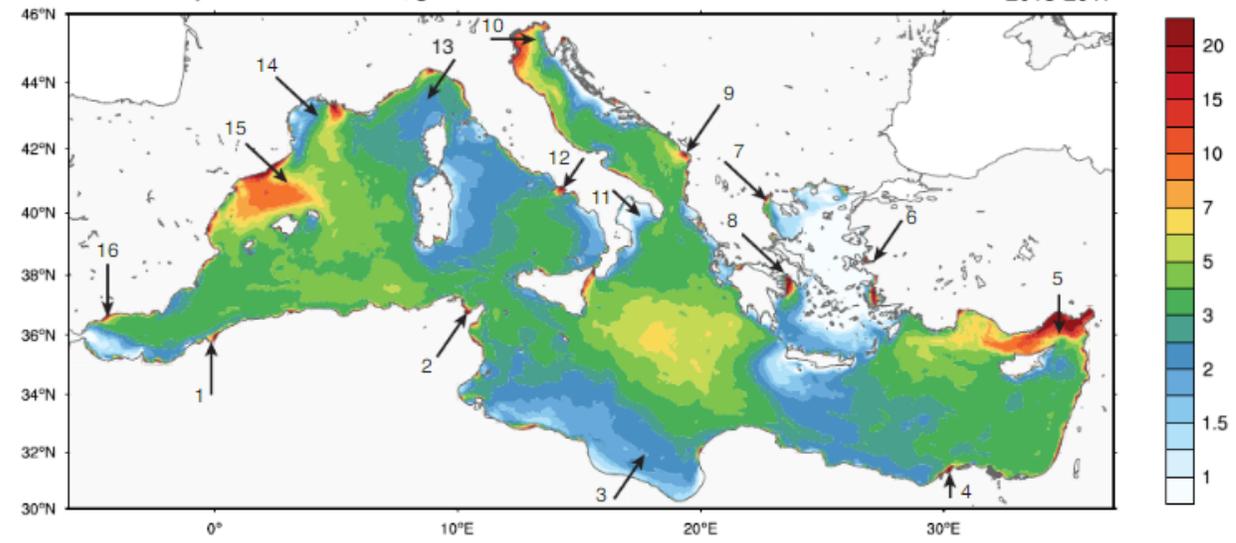


Une dégradation lente, des microplastiques... des nanopolymères?

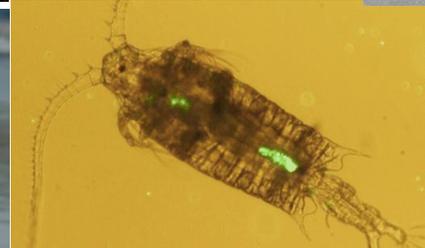
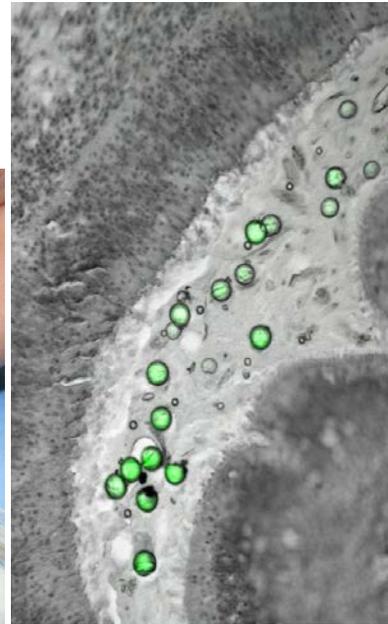
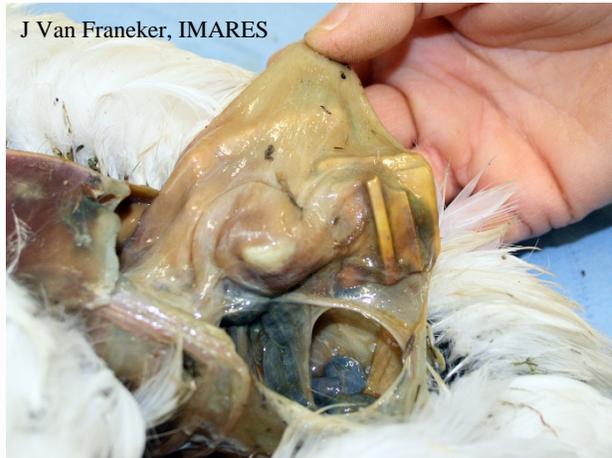
# Des différences régionales



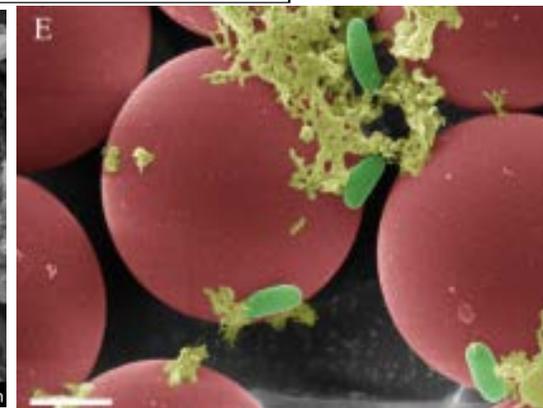
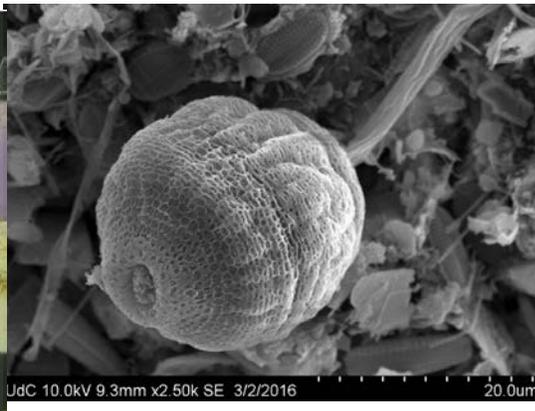
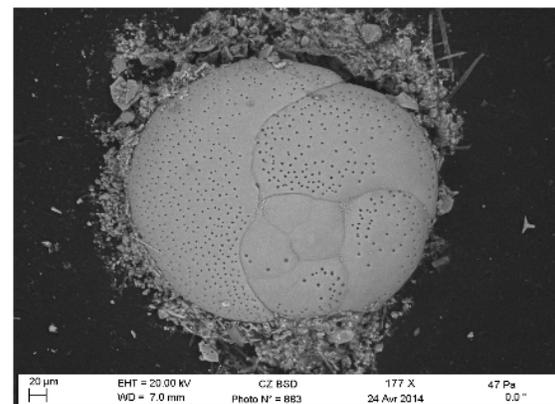
Sea surface plastic concentration,  $g\ km^{-2}$  2013-2017



# Emmêlements, ingestion et transport d'espèces sont les impacts environnementaux les plus conséquents

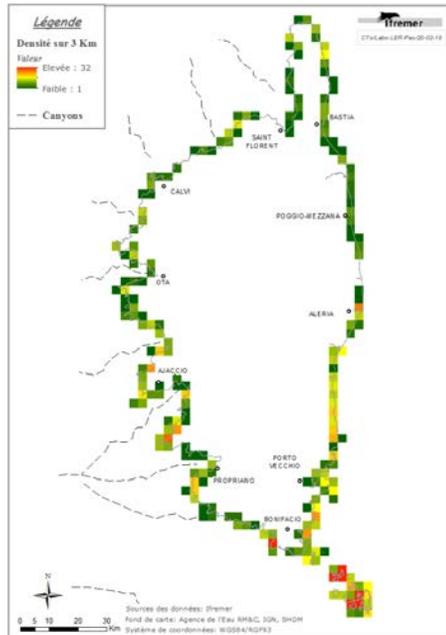
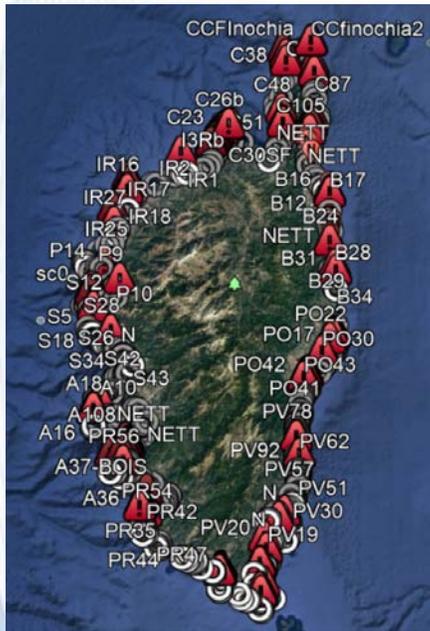


# Des risques mal maîtrisés

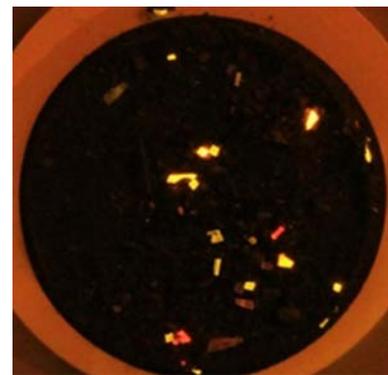
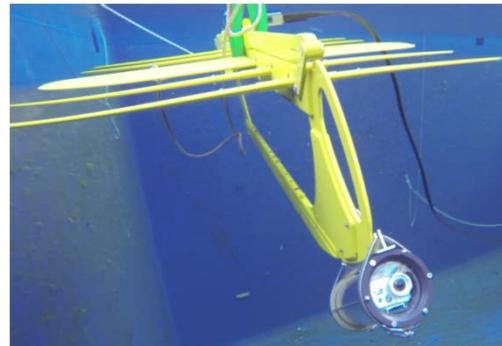


# Des enjeux scientifiques et technologiques

## Méthodes simples

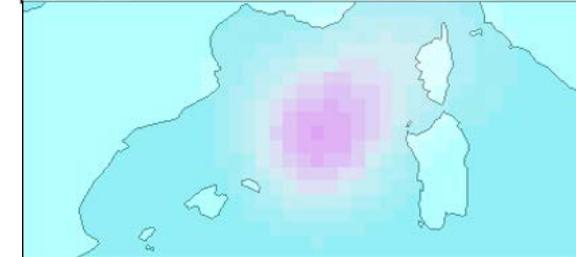
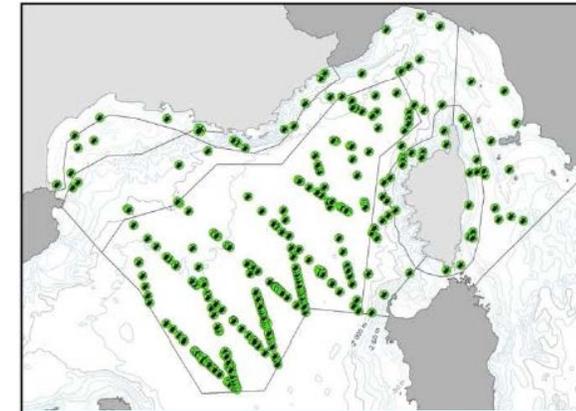


## automatisation



## Les tres petites particules

## Mieux comprendre les effets



## Evaluation du risque

# Des impacts sociaux économiques, sur la santé



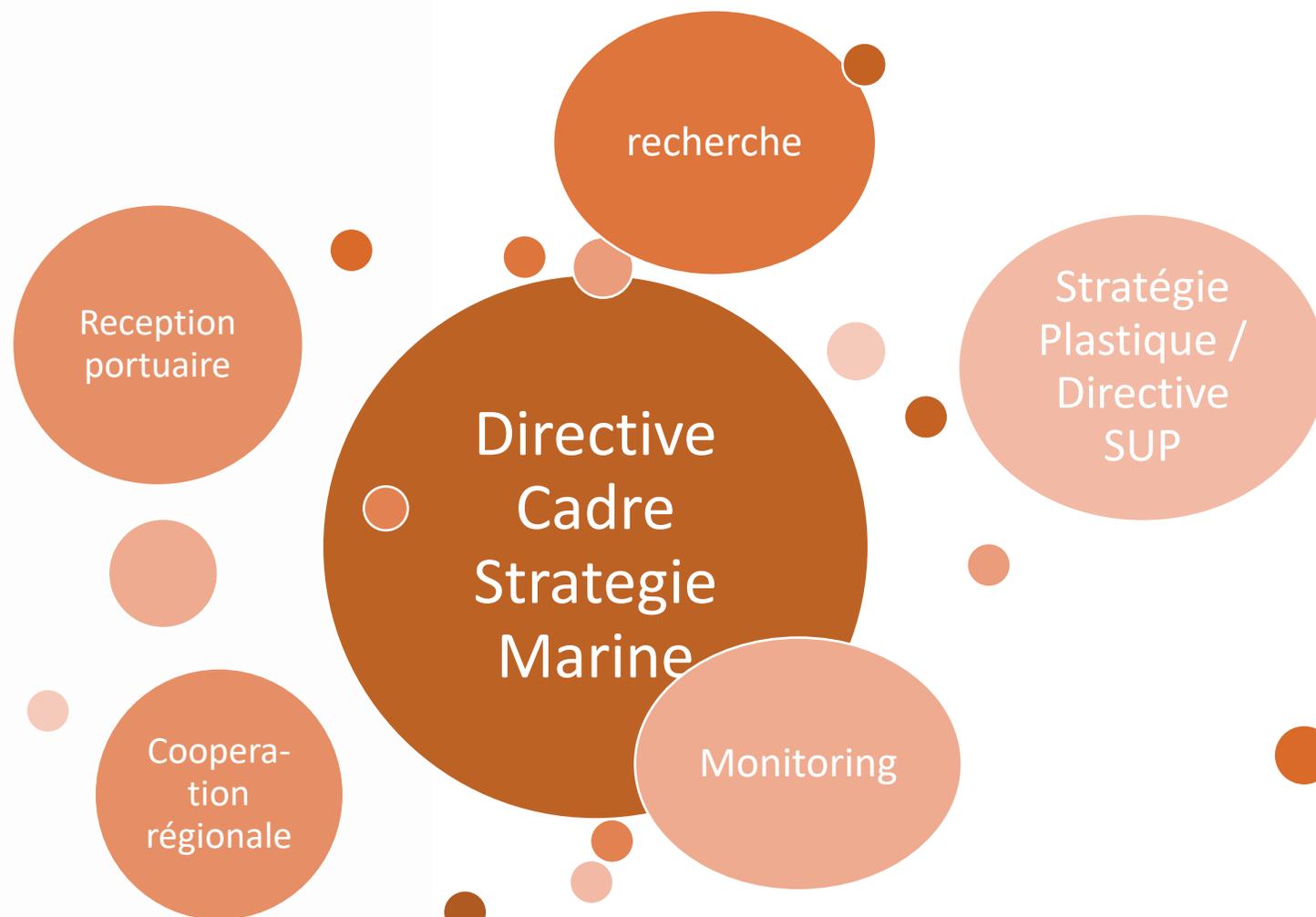


Pas de solution unique

## QUI FAIT QUOI?

- Conventions/ agréments
- MARPOL (73/78), Londres(1972), Bale (1992), conférence de Berlin(2013)
  
- La DCSMM (Europe)
- ONGs (Education, nettoyages, etc.)
  
- Des initiatives globales
  - SDG 14.1/ UN ENV (CMRs, ANUE, Cleanseas)
  - G7 / G20 (2015) 2017, traitement des eaux
  - DAVOS (2017, recyclabilité)
  - Our oceans/ Coalition (plastic bags pollution)

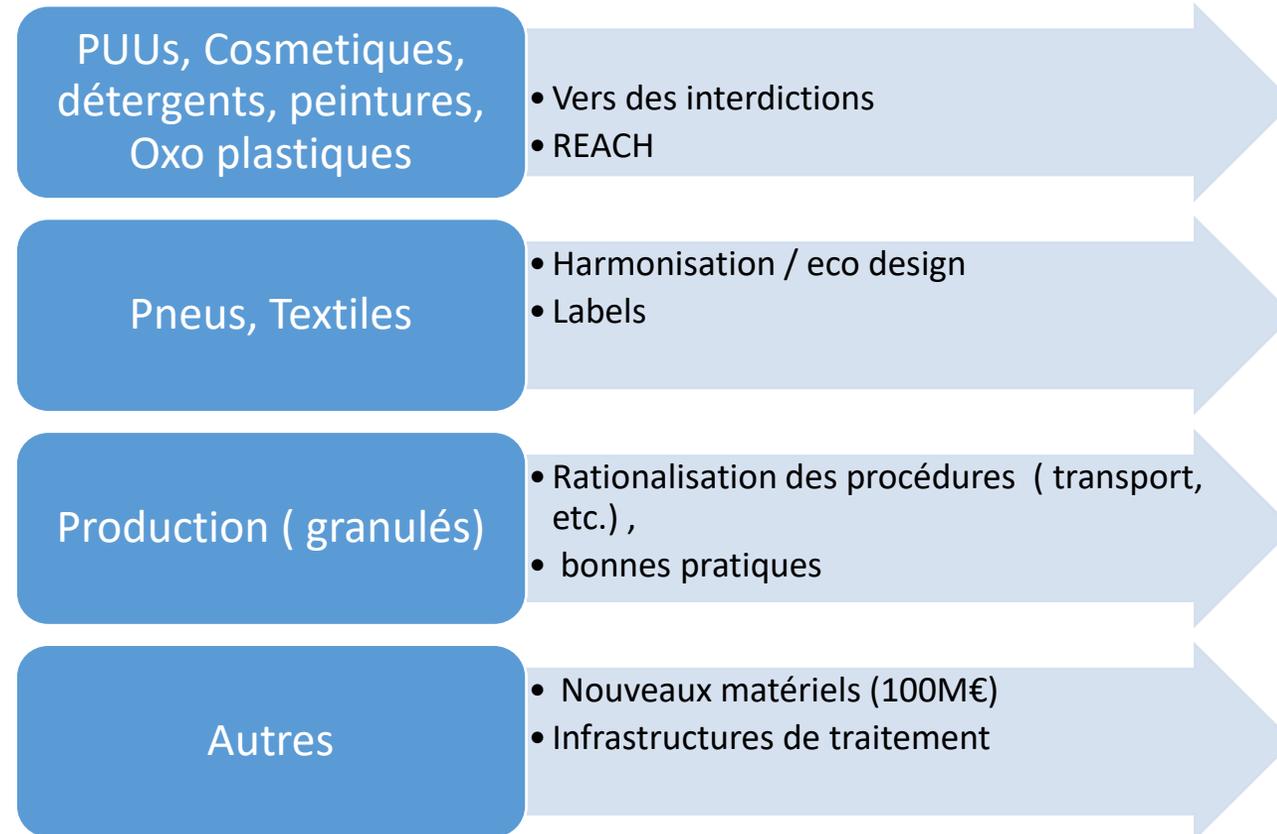
# Que fait l'Europe?



*D'après Sponar et al., IMDC 2018*

# Stratégie Plastique / Economie circulaire

Plastiques 100% recyclables en 2030, 55% recyclés



*D'après Sponar et al., IMDC 2018*