

From Mid to High Latitudes: Marine Litter Research at the Alfred Wegener Institute (AWI)

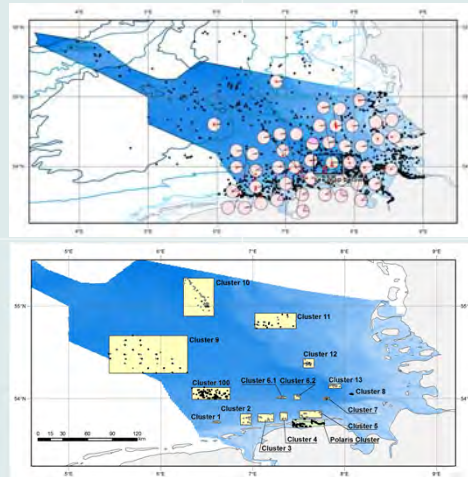
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Litter at the Arctic deep-sea observatory HAUSGARTEN



- Litter quantities doubled between 2002 and 2010 → densities > Lisboa Canyon
 - ~60% of the litter was plastics
 - >60% of the litter was associated with fauna
 - Source: rising ship traffic in this remote region as a result of reduced sea ice cover and/or import of litter with Atlantic water masses?
- (responsible: melanie.bergmann@awi.de)

Litter and ghost nets on the seafloor of the German Bight



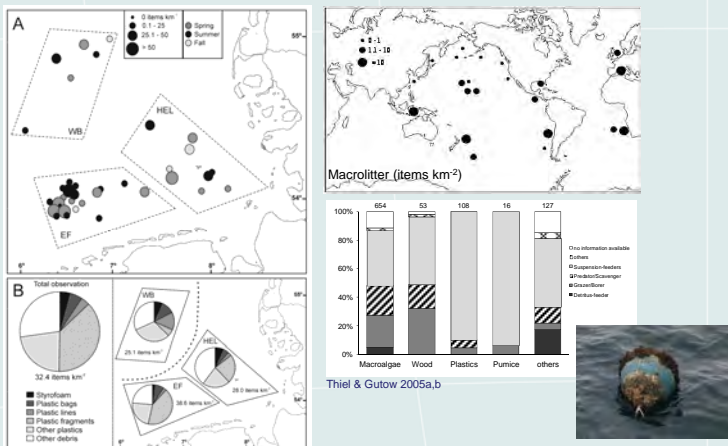
- Analysis of bottom trawl protocols and ship wreck videos
 - Ghost nets have been found entangled with 83% of the wrecks investigated
 - Litter densities on the seafloor will be available for coastal and offshore waters
- (responsible: roland.krone@awi.de)

Task Force „Students Against Marine Pollution: Litter Monitoring on the Beaches of Sylt“



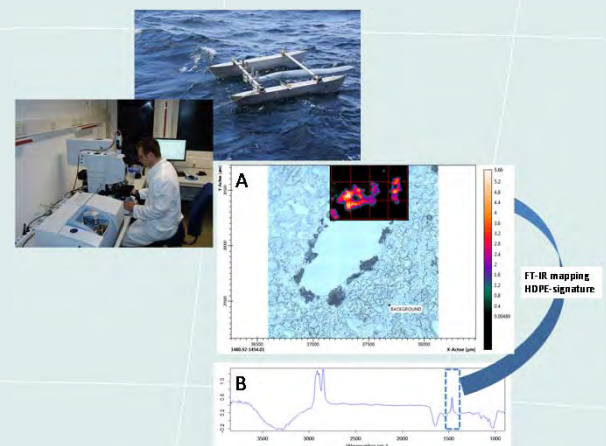
- Pilot study in March 2013; extensive campaign to be conducted in summer 2013
 - Joint activity of AWI and Naturschutzgemeinschaft Sylt e.V.
 - Standardised sampling of different coastal habitats
 - Scientific education of young citizen scientists
- (responsible: naturschutz-sylt@t-online.de)

Distribution of floating litter and bio-geographic implications



- Uneven global distribution of marine litter
 - Litter quantities in the North Sea increased 10-fold in 30 years
 - Marine litter allows for rafting dispersal over vast oceanic distances
- (responsible: lars.gutow@awi.de)

Detection of microplastics in field and tissue samples



- Development of standardised analysis procedures based on FT-IR microspectroscopy (MICROPLAST project)
 - Detection of microplastics in mussel tissue
 - Uneven regional distribution of microplastics in the North and Baltic Sea
- (responsible: gunnar.gerdts@awi.de)