Environmental factors controlling microbial colonization of plastics in the North Sea

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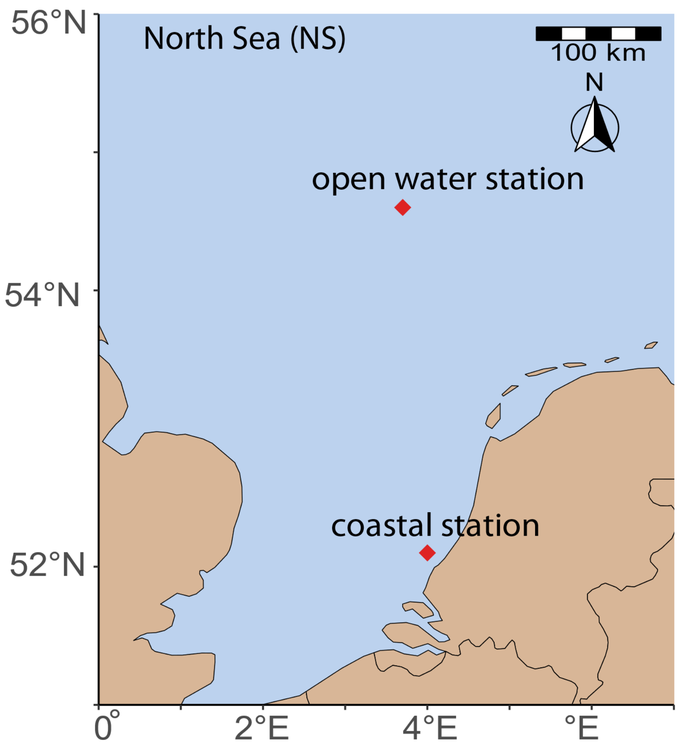
Background

Several million tons of plastic enter the ocean each year

The interactions between marine plastic debris and environmental microorganisms not well constrained

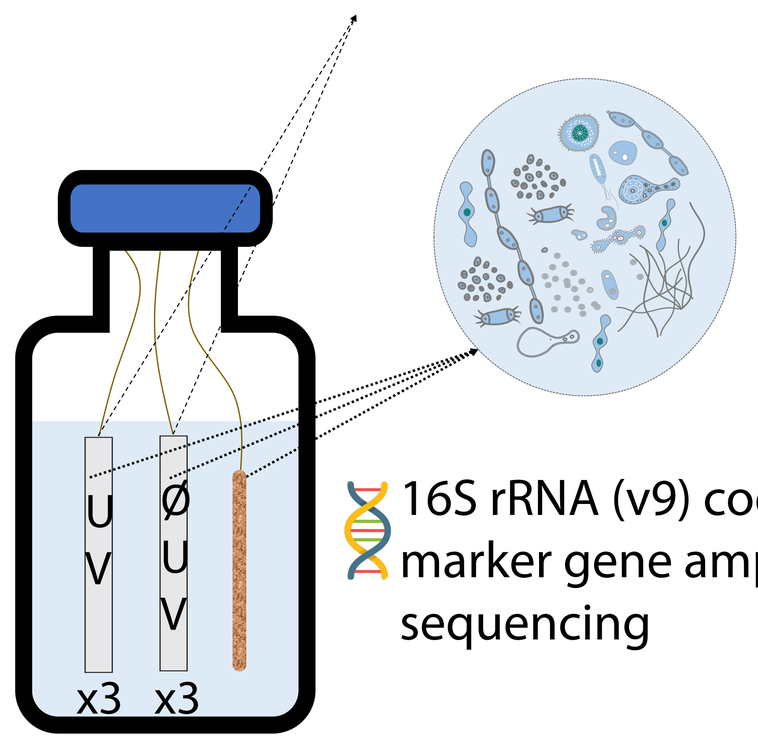
Methods

Water sampling for ex-situ incubations



4 polymers: PE, PS, PET and Nylon-6

UV ~

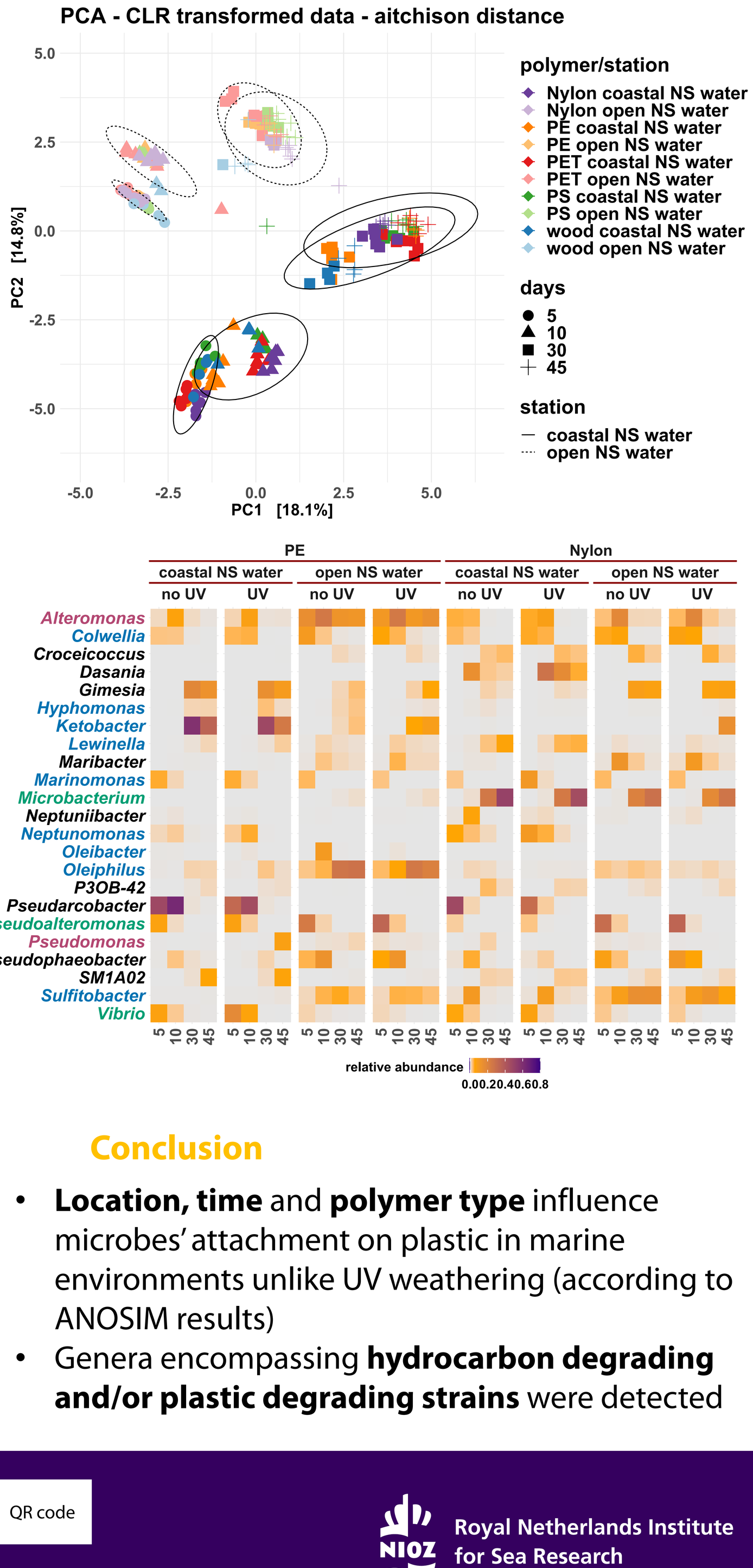


16S rRNA (v9) coding marker gene amplicon sequencing

4 sampling timepoints

5 10 30 45 (days)

Results



Conclusion

- **Location, time** and **polymer type** influence microbes' attachment on plastic in marine environments unlike UV weathering (according to ANOSIM results)
- Genera encompassing **hydrocarbon degrading and/or plastic degrading strains** were detected

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Scan me :)

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