

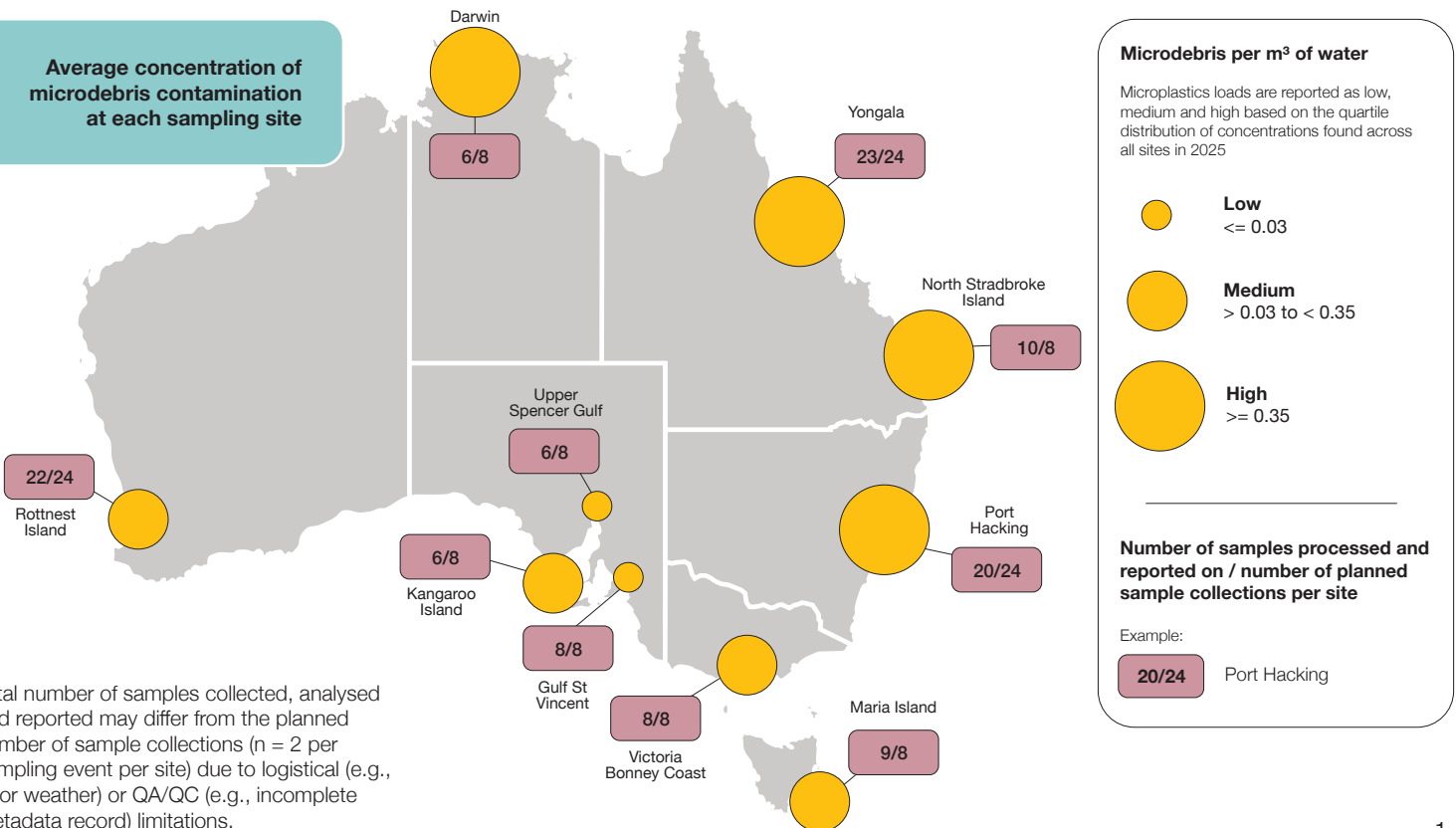
## Program overview

Marine microdebris is comprised of anthropogenic solid waste, including microplastics (plastics smaller than 5 mm in length), that has been inadvertently or intentionally disposed in marine environments. With global plastic production rising, microdebris contamination is predicted to increase.

The IMOS Marine Microplastics sub-Facility, established in 2021, monitors temporal and spatial variations of microplastics in Australian waters to inform environmental management and policy.

This series of Marine Microplastics report cards documents the extent of contamination at each sampling site and summarises trends in pollution levels. This 2025 report provides a comprehensive annual summary for all monitored sites January to December 2025, offering an ongoing assessment against the baseline established in 2021. This, and future reports, leverages year-on-year comparable data to identify contamination hotspots, support pollution target-setting, and evaluate the effectiveness of local management practices.

Findings are reported as microplastic abundance per cubic metre of water (MPs m<sup>-3</sup>), along with diagnostic physical and chemical characteristics — essential data for identifying sources, assessing ecological risks and informing policy decisions.

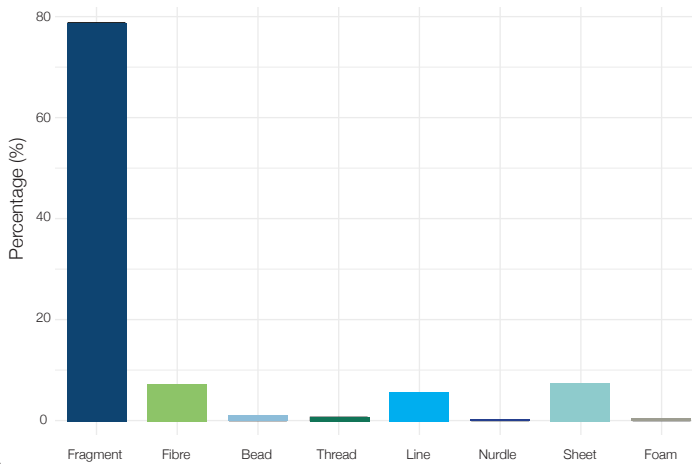


# Microdebris up close: What it looks like

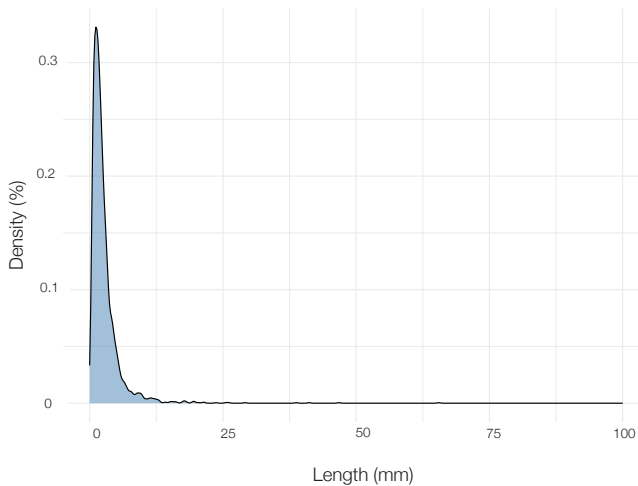
Shape, colour, size and chemical composition characteristics are presented for all microdebris found in 2025. This is a representation across all sites.

Refer to the site-specific graphs for the most common polymer types found at each site for the year.

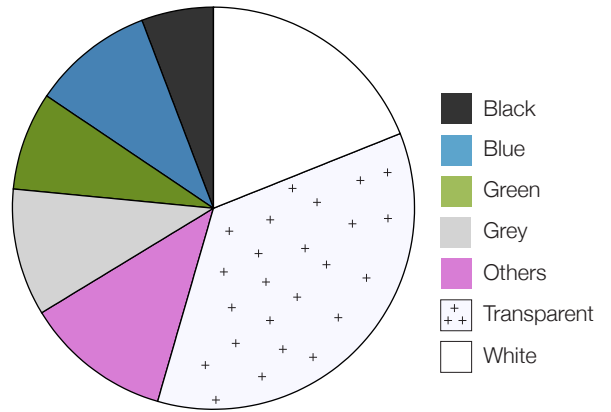
## Shape %



## Size %

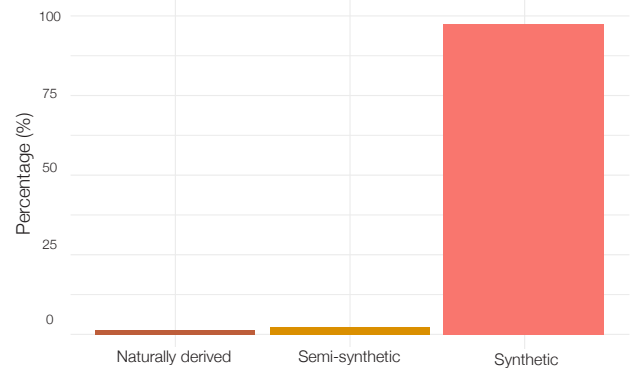


## Colour %

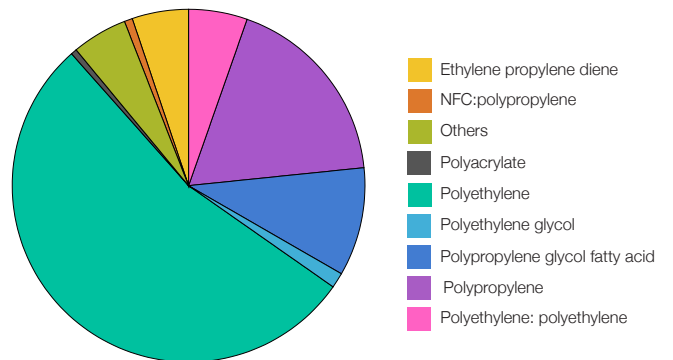


## Chemical composition %

### Percentage of polymer category



## Polymer type distribution

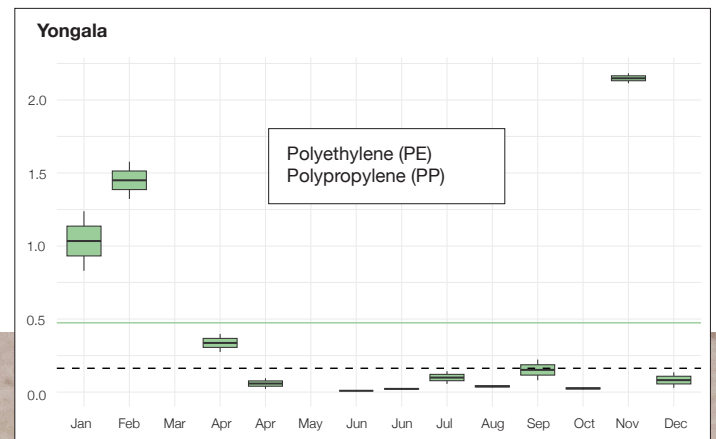
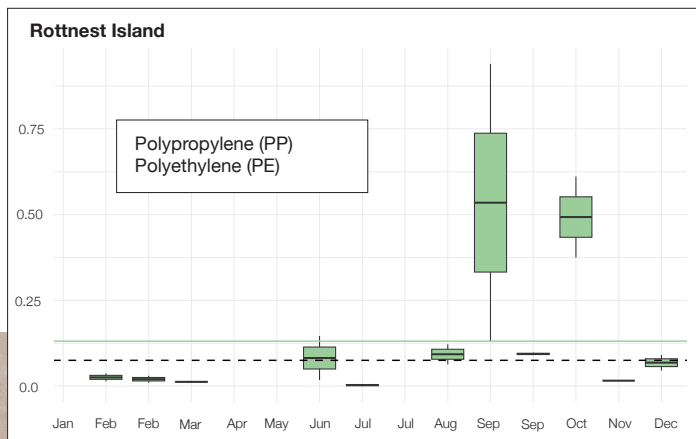
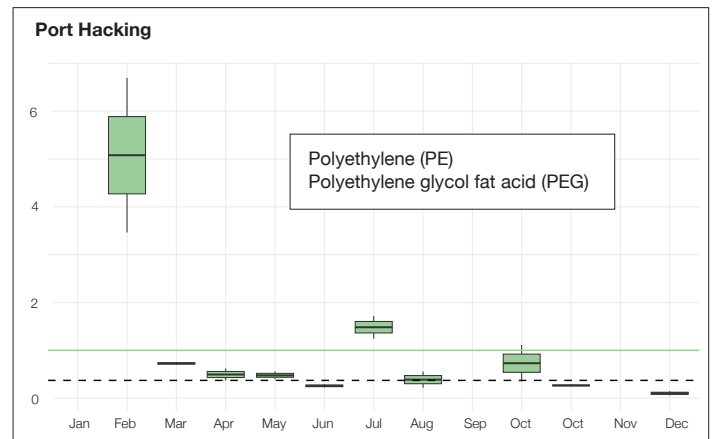
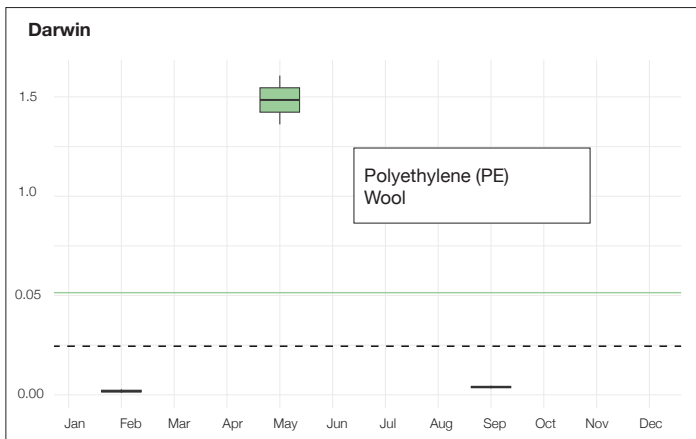


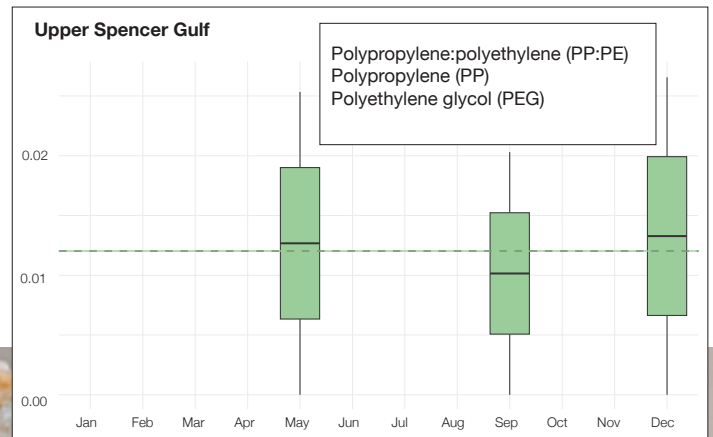
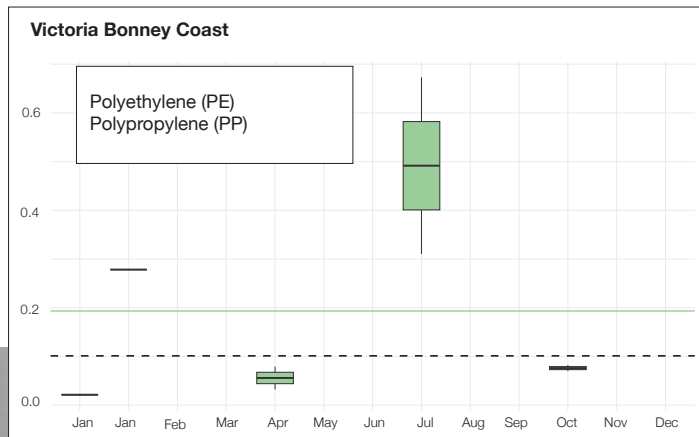
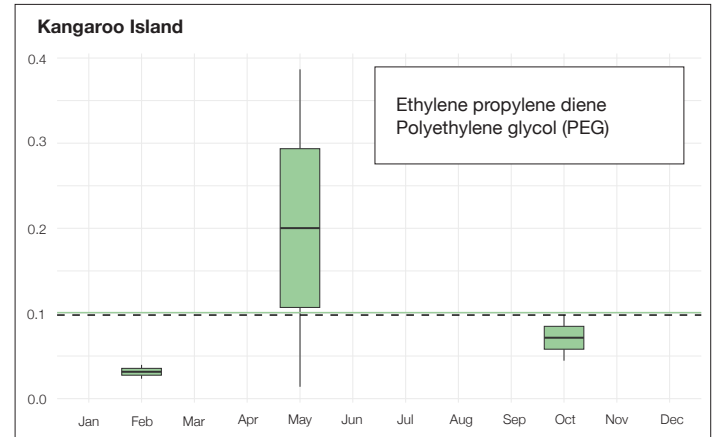
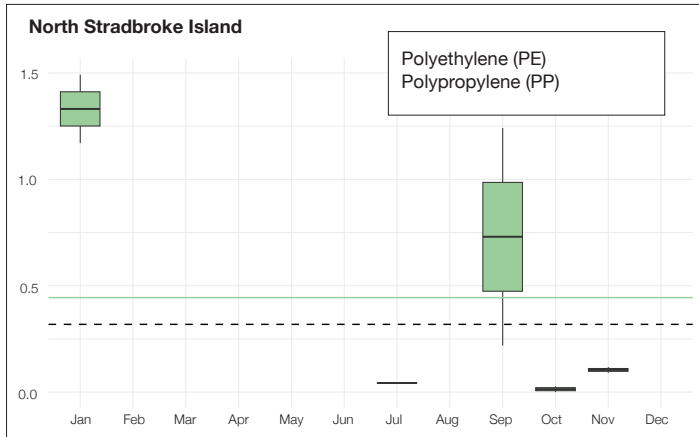
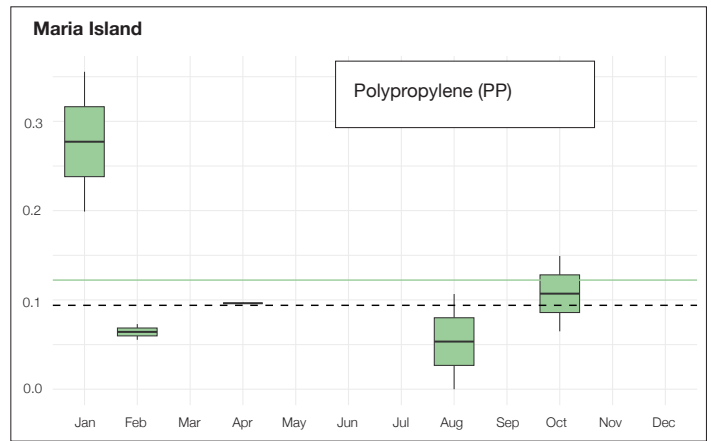
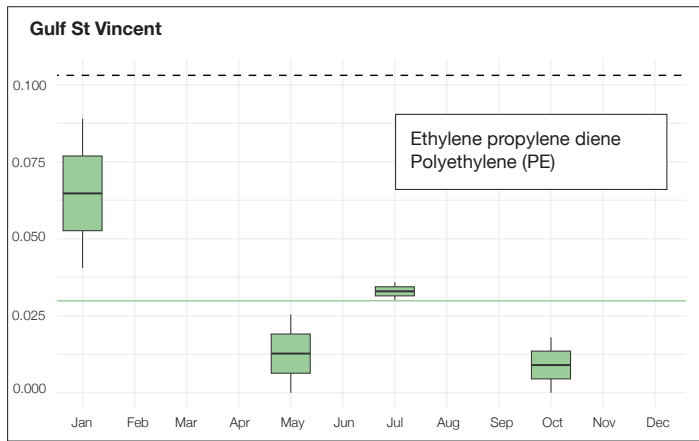
# Where and when: Microdebris levels and characteristics across sites

# 2025

These graphs illustrate microdebris contamination levels (items per cubic meter of water, MP m<sup>-3</sup>) recorded in 2025, categorised by month and sampling location. Because of logistical constraints, some months may feature multiple sampling events; these months are duplicated on the relevant graph. Months without any sampling events are left blank.

Plots are supplemented with additional data, including annual and cumulative averages of microdebris concentrations for 2025 (represented by a continuous line) and across the entire program timeline 2021–2025 (dashed line). Additionally, the most abundant polymer types identified at each site are provided.





#### Important Notes

- Each microdebris item was physically and chemically characterised using stereomicroscopy and Fourier transform infrared spectroscopy. Potential extraneous contamination (e.g., staff clothing fibres) were excluded following standardised procedures.
- Caution should be taken when comparing data as sampling frequency differs between sites (refer to the map).

[ACCESS THE DATA](#)



# Understanding the impact: What the data tells us

**The IMOS Marine Microplastics sub-Facility aims to provide insightful data for better understanding trends of microplastic contamination over time and across the different sampling locations.**

This dataset complements other IMOS long-term ocean observation datasets (e.g., surface salinity, current, plankton and fish larvae) and will aid in identifying environmental factors that potentially influence the distribution of such contamination or its potential impacts.

The data contributes to determining potential sources, fate, and impacts of microplastics in Australian marine waters thereby informing environmental management at local and national scales.

The IMOS Marine Microplastics sub-Facility is operated by AIMS, in partnership with CSIRO, SARDI, NSW-DCCEE, SIMS, and Deakin University.



## Highlights from 2025

In 2025, data from 118 of the planned 128 sampling events across Australia was published, including baseline data from a new sampling site: the Upper Spencer Gulf (South Australia).

Data from Victoria (Bonney Coast) reflect the impact of preceding heavy rainfall, with a single July sample collected after this event containing over 700 microplastics, highlighting the importance of interpreting microplastic concentrations in context.

For Australia overall, the 2025 data showed the highest levels of contamination (national average 0.38 MPs m<sup>-3</sup>) recorded since the program began in 2021.

Notably, all sites along the north and east coasts (40% of the total sites) fell within the highest contamination range ( $\geq 0.35$  MPs m<sup>-3</sup> average), while only two sites in South Australia reported low levels of contamination ( $\leq 0.03$  MPs m<sup>-3</sup> average).

## Access the data

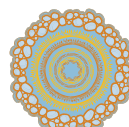
For more information on the program's methodologies and to access the publicly available data, [visit the AODN website](#).

## Get in touch

If you have any questions, please email [microplastic@aims.gov.au](mailto:microplastic@aims.gov.au).



Australia's Integrated Marine Observing System (IMOS) is enabled by the National Collaborative Research Infrastructure Strategy (NCRIS). It is operated by a consortium of institutions as an unincorporated joint venture, with the University of Tasmania as Lead Agent.



IMOS acknowledges the Traditional Custodians and Elders of the land and sea on which we work and observe, and recognise them as Australia's first marine scientists and carers of sea Country. We pay our respects to Aboriginal and Torres Strait Islander peoples past and present.