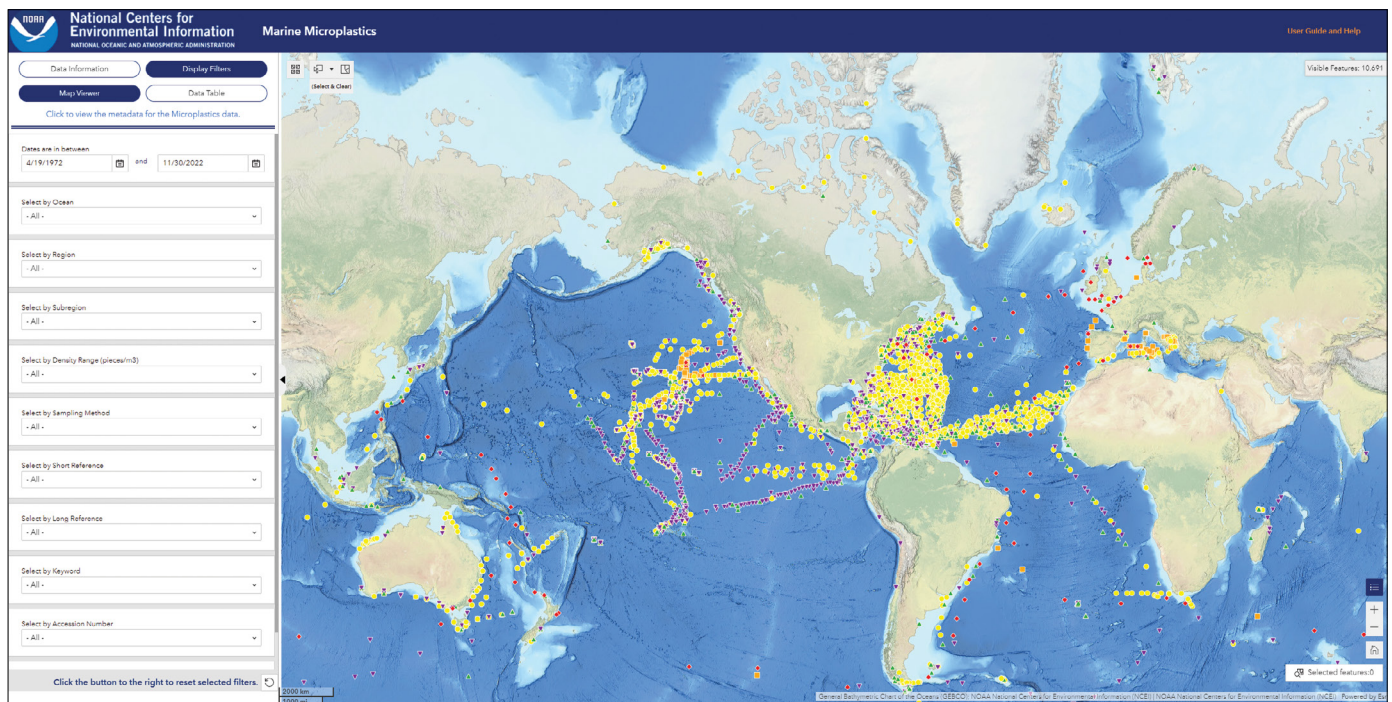


# MARINE MICROPLASTICS MAP PORTAL

## What are microplastics?

Microplastics are plastics that are smaller than 5 mm (about the size of a sesame seed) that primarily come from plastic materials such as bottles, bags, clothes, and cosmetics. Most microplastics start on land and are carried by rivers and wind to the ocean. Once plastics enter the ocean, wave action and sunlight can weaken large items and break them into smaller pieces.



## Why is this important?

Marine plastics have been found from the sea surface to the sediment covering the ocean floor. The increase in microplastics pollution is a growing concern, affecting coastal communities, marine ecosystems, marine life, human health, and the economy.

## What is the Marine Microplastics Map Portal?

The National Centers for Environmental Information (NCEI) Marine Microplastics Map Portal is a tool that allows users to view, filter, and download archived marine microplastics data sets. The portal includes information on the

occurrence, distribution, and quantity of global microplastics. The portal uses a GIS-based map that shows the global distribution of the data submitted to the database. It allows users to download an entire dataset, or a subset of data for a particular region and time period.

Information from the portal is used to improve water quality and protect the Earth's ecosystem, especially coastal ecological habitats such as salt marshes and mangrove forests that help recycle nutrients, serve as breeding grounds, and permanent homes for oysters and other coastal marine wildlife.





# NOAA's Efforts in Marine Microplastic Monitoring

**NEED:** A large-scale, long-term, comprehensive database and archive for marine microplastics.

**VISION:** Establish a global, microplastic database that will serve a diverse international customer base, who will use it, together with other NCEI archived data to attain a holistic understanding of the global microplastic problem.

## GOALS:

- 1) Provide a robust, open access repository for archived information needed for marine microplastic debris monitoring.
- 2) Advance a database and GIS web portal in concert with other microplastic observing efforts.

## How is the database developed?

- 1) Literature review is conducted to identify published microplastic studies.
- 2) Principal investigator, authors, and research groups are contacted to obtain permission to add and archive their data to the database.
- 3) Data is acquired, processed, and quality controlled. The data is checked for consistency in date, location, and units of measurements of microplastics data. Duplicates and outliers are flagged for further consultation with data submitter.
- 4) Data (original and metadata) is archived in NOAA's national data archive.
- 5) Data is then added to the aggregated geodatabase for ArcGIS visualization to facilitate review, analysis, and retrieval of microplastics data by others.

## What data is available?

The database is a repository for multiple datasets of marine microplastics from around the world. Data are aggregated, archived, and publicly available in CSV, JSON, and GeoJSON formats. Data comes from various research cruises and field work.

## What kind of data is needed?

Date when data was collected, latitude and longitude of location where data was collected, the instrument used to collect the microplastics data (e.g. manta net, neuston net, glass jar), microplastics concentrations (reported as particle counts per m<sup>3</sup>).

## How do I download data?

A [help document](#) is provided on our web portal to guide you to download the entire dataset or a subset of the data

## Interested in sharing your data?

NCEI is always looking for data to share and this database would not exist without those who contribute their data. To make this project grow, we need the support of the community. Submitting your data will make your research more visible and accessible, as well as help quantify and stop the global spread of plastic particles.

If interested in sharing, NCEI recommends using ASCII character encoding (e.g., comma-separated values (CSV) or NetCDF). To submit your microplastic data to the archive please contact NCEI at [ncei.info@noaa.gov](mailto:ncei.info@noaa.gov)

SGEB-90



Contact Information  
[ncei.info@noaa.gov](mailto:ncei.info@noaa.gov)



Want to learn  
more about  
the portal?



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