NOAA National Centers for Environmental Information (NCEI) Global Marine Microplastic Database Initiative

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NOAA-NCEI
NOAA NCEI

• **Mission statement**
  • responsible for preserving, monitoring, assessing, and providing public access to the Nation's treasure of geophysical data and information

• **Other relevant general background info**
  • NCEI is the Nation’s leading authority for environmental info
  • NCEI has experience in providing quality environmental data
  • Over 25 petabytes of comprehensive atmospheric, coastal, oceanic, and geophysical data
NOAA NCEI

- Tiers of data stewardship

1. Long-Term Preservation and Basic Access
2. Enhanced Access and Basic Quality Assurance
3. Scientific Improvements
4. Derived Products
5. Authoritative Records
6. National Services and International Leadership
NCEI Interests in Marine Debris

• lack of extensive database on marine microplastic

• concentrate on one specific type of marine debris - microplastics in order to establish NCEI as the primary location for data management

• collate, and provide a **one-stop repository** for info needed for marine debris study

• complimentary data: Global Ocean Current Database, World Ocean Database, and Surface Underway Marine Database
Activities related to Marine Debris in NOAA NCEI

• Database development: identify, acquire and upload

• Marine Debris Program and NCEI: Marine Debris Clearing house

• User engagement and information services

• Develop microplastic sensor measurement

• Provide ArcGIS visualization to facilitate data retrieval of underway microplastics sensor data
Resources/Expertise Available at NOAA NCEI

• Resources:
  • Database tools
  • Geo- database (ArcGIS)
  • IT Infrastructure: large servers and storage

• Expertise
  • Environmental data collection
  • Database development
  • Archiving
  • Transformative technologies (e.g. cloud computing, AI)
NCEI Archive Services

- Supports different data types

- Data discovery and access – advanced search and visualization tools to optimize data query

- Data Identification and Attribution – e.g. Digital Object Identifiers (DOIs)

- Data preservation
Opportunities/Needs for Interagency Collaboration

• Resources & Expertise:
  • computer resources and technology
  • database management
  • existing databases
  • easy application of GIS analysis of data

• Joint/coordinated activities:
  • data sharing
  • developing international standards for data reporting
  • database development/maintenance
  • establish contacts in the microplastics sensor community
Microplastics – Research Interests

- gather global information and create database
- transports & fate
- numerical modelling & predictions
- remote sensing