# Reducing Plastic Pollution in Oceans

*U.S. Department of State & The Wilson Center*

**Challenge:** Create open data sets and engaging digital tools that complement existing citizen science plastics data, to help the public understand the amount of plastic on local beaches and in the ocean, where such plastic comes from, and actions that can be taken to alleviate the problem.

**Executive champions:**

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- Anne Bowser, Director of Innovation, The Wilson Center

**Problem:** Plastic Pollution is a pervasive and global issue. 8.3 billion tonnes of plastics are estimated to have been produced since the 1950s. While the production of plastic products has grown exponentially, today only 9% is recycled. Inefficient recycling systems and chemical compositions that limit decomposition create new problems for our planet and our health — we see plastics on our beaches, in our oceans, and in the stomachs of animals and people (UN Environment). While many agencies and citizen scientists collect data through activities including beach clean-ups, there is a need for coordination between different data sources to understand plastic pollution at local, national and global scales. Further, different stakeholders, including the general public and federal agencies, need to more easily understand how pollution quantity and type varies by location and where different types of pollution might come from. On the citizen level, such accessible information is important for education and behavior change. On the government level, information is needed to manage resources, set policies, and contribute to our international agreements, like reporting America's progress against the Sustainable Development Goals (SDGs).

**Why this problem matters:** Ocean plastics directly impact more than 800 species world-wide. Further, because plastics never completely degrade, microplastics in the environment threaten human as well as environmental health. Participation in citizen science shows that the public clearly cares. Citizen scientists do not always stay engaged and keep sharing data over time. In addition, citizen science volunteers do not always have access to contextual information on why plastic might be there and what they can do. The lack of data on plastics pollution and related information prevents citizen scientists and the public policy community from fully understanding the extent of the problem and making informed choices to reduce the growing threat of plastic pollution to human and environmental health.

**Vision for sprint outcomes:** Engaging digital tools and open data enable members of the public, as well as governments to understand both the extent of plastic pollution locally and globally, and how they can help create solutions to make a difference.

**Target end users:** Engaged citizens passionate about reducing plastic pollution, rural or tribal communities, as well as policymakers, advocates, and researchers

**Related open data sets:**

- **Earth Challenge 2020** Data through the Citizen Science Cloud (link)
- **NOAA** Marine Debris Monitoring and Assessment Project information (link) and Citizen Science Data (link)
- Ocean Conservancy **TIDES** Coastal Cleanup Data (link) and Citizen Science Data (link)
- **Commonwealth Scientific and Industrial Research Organization's** Marine Debris List (link) and Database (link)
- **OGC SensorThings API** (link)
- **Marine Litter Watch**, European Environment Agency (link)
    - Citizen Science Data (link)
- **Additional Citizen Science Plastics Program datasets**
  The below datasets can be combined with NOAA, EEA, TIDES, and Earth Challenge 2020 data to provide additional information/analysis.
    - Litterati, captures photos of plastics pollution (link)
    - Project Aware - Divers Against Debris, captures data about plastics on the seafloor (link)
    - Global Alert - Floating Trash (link)

**Lead POCs**:

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