Addressing Pollutants in U.S. Marine Waters

The National Centers for Coastal Ocean Science (NCCOS) protects Americans by monitoring, assessing, and abating harmful pollutants from our coastal waters. Clean water and healthy environments support boating, fishing, swimming, and seafood security. Pollutants in coastal waters cause acute and long-term harm to the economy, ecosystems, humans, and animals—from shellfish to pets. NCCOS continuously monitors harmful pollutants throughout coastal waters and provides regional assessments of ecosystem health. NCCOS' work in monitoring and assessment is congressionally mandated by several statutes including the National Coastal Monitoring Act, the Clean Water Act, and the Oil Pollution Act.

Monitoring through the NCCOS Mussel Watch Program has produced the largest and most comprehensive data set of coastal chemical pollutants in the U.S. This enables specific assessments of ecosystem health to guide response and restoration efforts. NCCOS makes all data available in the Coastal Pollution Data Explorer, which provides users with chemical, physical, biological and toxicological data on pollutants, including DDT, PFOS/PFAS, and oil-products/byproducts, from 1984 to the present, across the coastal U.S.

NCCOS is working in all coastal states (including the Great Lakes) to improve water quality. Explore several examples below.

North Carolina

- **Polyfluoroalkyl substances (PFAS):** Determining how cancer causing-PFAS bioaccumulates in commercially and recreationally harvested shellfish while developing patented ozone bubble technology to break down PFAS in water.

California

- **Tijuana River Pollution:** Funding research that is uncovering how ocean pollutants from the Tijuana estuary become aerosolized and transported through the air to inland locations.

Louisiana

- **Oil Spill Impacts:** Assessing and documenting the damage and long-term effects of oil (including Deepwater Horizon) on aquatic organisms and ecosystems. Analyzing water and sediment samples from the oil spill near Louisiana's Garden Island Bay to determine the level of toxicity within the environment.

Texas

- **Cleaning up Marine Debris:** Developing a drone-based machine-learning system to more efficiently identify and respond to marine debris near Corpus Christi.

Alaska

- **PFAS:** Researching how harmful PFAS accumulates in Alaskan Chinook Salmon, which constitute a commercially, culturally, and recreationally important fishery. NCCOS was the first to discover the contaminant in this fishery.

South Carolina

- **Marine Debris:** Investigating how marine debris impacts coastal ecosystems: the transfer of microplastics from water into shellfish, fish, and cetaceans (including bottlenose dolphins and harbor porpoises) is being documented in partnership with the South Carolina Department of Natural Resources.

Florida

- **Coral Health:** Identified offshore sewage outfalls as sources of pollution to the south Florida Reef Tract. Identified contaminants harmful to coral health in Port Everglades including PAHs, butyltins, metals and sediments. NCCOS leads the Coral Disease and Health Consortium.
- **Sargassum:** Studying how contaminants—such as heavy metals, and PAHs—are transported by Sargassum. Determining how to dispose of the algae, and funding work to predict where and when Sargassum will land ashore.
- **Sport Fish Health:** Funding work to monitor contaminant levels in four popular recreational fish species in Tampa Bay.