

THE GLOBAL STOCKTAKE

CLIMATE DATATHON

PROMPT OWNER

Speed and Scale

PROMPT TOPIC

Ocean Resilience

PROMPT DATASET

Datasets: [WDPA](#), <https://mpatlas.org>, [Ship Positioning Data](#)

TOPIC BACKGROUND

Through data aggregated by Protected Planet, UN Environment, and the IUCN, it has been determined that only 8 percent of the world's oceans are currently under protection. The IUCN calls upon governments to enforce protected areas, characterized as "defined geographical spaces, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values." Oceans generate more than half of the oxygen we breathe, absorb a third of our emissions, and provide a fifth of the animal protein we eat. In the United States alone, the ocean economy produces \$282 billion and is responsible for the jobs of 3 million people. Destruction of the ocean has a significant impact on its ability to transport heat from the equator to the poles and regulate our climate and weather patterns.

In order to preserve our coastal oceans, which are home to aquatic meadows of carbon-absorbing marine vegetation, we have to protect them from pollution and destructive fishing practices. Reefs protect 63 million people worldwide, acting as a barrier from storms by reducing over 97% of wave energy. Additionally, coastal ecosystems store up to ten times the carbon of a forest per unit area. Overfishing can result in dramatic changes in the foodweb structure, devastating species several tiers on the food chain from the impacted population.

The deep ocean is layered with marine sediments, Earth's single largest stockpile of stored carbon. The commercial fishing industry's aggressive bottom trawling—dragging heavily weighted nets across the sea floor—releases carbon dioxide into the seawater. Much of this carbon ultimately goes into the atmosphere.

MAIN PROMPT QUESTION/CHALLENGE

How can we utilize and visualize publically available datasets to stimulate action that will result in the prevention of damage to both coastal and deep-sea ecosystems?

1. "Marine Protected Areas." Protected Planet, <https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas>.
2. "About Marine Protected Areas." About Marine Protected Areas | National Marine Protected Areas Center, <https://marineprotectedareas.noaa.gov/aboutmpas/>.
3. "Why Protect Oceans?" Marine Conservation Institute. Marine Conservation Institute, 28 July 2020, <https://marine-conservation.org/why-protect-the-ocean/>.
4. US Department of Commerce, National Oceanic and Atmospheric Administration. "Why Should We Care about the Ocean?" NOAA's National Ocean Service, 24 May 2017, <https://oceanservice.noaa.gov/facts/why-care-about-ocean.html>.
5. "Coastal Protection." Mapping Ocean Wealth, <https://oceanwealth.org/ecosystem-services/coastal-protection/>.
6. "Share the Facts about Mangroves." *Share the Facts About Mangroves*, <https://www.conservation.org/act/share-the-facts-about-mangroves>.
7. Ecology, BiOME. "Overfishing and the Collapse of Coastal Ecosystems." BiOME Ecology Magazine, 24 Mar. 2020, <https://biomeecology.com/marine-biology/2020/03/overfishing-and-the-collapse-of-coastal-ecosystems/>.

SUPPLEMENTARY QUESTIONS

- What other datasets could be created that might be useful in determining what percentage of the ocean is protected? Examples: A map of global shipping traffic, satellite imagery that can be updated in real time using machine learning, etc.
- What are the key areas in which enforcement and governance of ocean protection is most successful?
- In what ways can we utilize data to highlight the importance of this problem?
- How can we best prioritize areas for protection to minimize the release of carbon into the atmosphere?
- Which countries have bans on deep sea trawling?
- Where are the global deep sea trawling hotspots?
- What visualizations can we use to track this over time and tell the story of coastal protection?
 - What data will be necessary in order to do so?
- These questions are by no means exhaustive and only meant to spur innovative thinking

FURTHER DESCRIPTION: ABOUT SPEED AND SCALE

Speed & Scale is a global initiative to move leaders to act on the climate crisis. With 10 objectives and 55 key results, the Speed & Scale plan shows how we can get to net-zero emissions by 2050—and halfway there by 2030. A well-formed objective is significant, action-oriented, durable, and inspirational. Each objective is supported by carefully chosen and crafted key results. Strong key results are specific, timebound, aggressive (yet realistic) and most of all, measurable and verifiable. Objective 4, key result 2 of Speed & Scale articulates the need to eliminate deep-sea bottom trawling and protect at least 30% of oceans by 2030, 50% by 2050.