IMPACT PILLAR: CREATING A DIGITAL OCEAN

Liberating data to inform solutions for ocean health

THE CHALLENGE

Managing and restoring the ocean requires the right information at the right time, generating high-quality data in formats that governments, businesses and communities can use. Unfortunately, too much of the ocean remains unknown, with 80% still unexplored. The ocean also suffers from a global digital divide, where many places lack data science capacity or the basic IT infrastructure to access datasets.

Luckily, we are in the midst of an explosion of new ocean knowledge. New research vessels, expanded observing systems and innovative data collection techniques – from environmental DNA sampling to mobile applications powering participatory science – mean that more ocean data in recent years have been gathered than in the prior century. Advances in data processing and visualization are rapidly expanding our ability to extract information from those data, and are enabling a wide array of decision-making tools for policy-makers, resource managers, businesses, resource users and consumers.

To capitalize on this information
revolution, we will need breakthroughs in how ocean data are collected, shared, used and managed. The amount of digital data is expected to double every two years, with data from ocean sensors growing faster than general data growth. Current ocean data infrastructure is not equipped to make use of this exponential increase. Ocean data serve a wide diversity of goals, motivations and needs, and are collected by a multitude of actors, each one holding a different portion of ocean data assets. We need new partnerships, policies and data platforms to connect these data sources, systemize data for better analyses, and return value to data creators for their contributions. By weaving together this richer data tapestry for the ocean, we will be able to tackle the major challenges facing marine conservation and evaluate the progress of our interventions.

PAST ACHIEVEMENTS

Friends of Ocean Action is helping to drive a new era of accessible, equitable and usable information about the ocean to support SDG 14 and the other SDGs that connect to the ocean. In Phase 1 (2018-2020), Friends of Ocean Action collaborated with REV Ocean to establish the Ocean Data Platform (ODP). This is a global, open-source, integrated data digital platform built to pilot and support new data-driven tools and improve ocean health and productivity. The ODP is working with the Intergovernmental Oceanographic Commission of UNESCO to host hundreds of ocean datasets, and has grown thanks to the merger with the Centre for the Fourth Industrial Revolution (C4IR) Ocean – an affiliate centre of the World Economic Forum and a partner organization of Friends of Ocean Action.

CURRENT ACTIVITIES

In Phase II, Friends of Ocean Action will continue to work on the ODP and expand efforts along the following themes, in alignment with the UN Decade of Ocean Science for Sustainable Development and the High Level Panel for a Sustainable Ocean Economy:
• Increasing ocean data access
• Improving ocean data governance
• Advancing ocean technology and computational innovation

Data access
Friends of Ocean Action will work to increase data literacy by improving the quality and quantity of available ocean data. These efforts will include raising the baseline understanding of what data is, how to make it fit for purpose and use it responsibly, and building up data capacity in underserved places and communities. Some of the targets of these efforts may already work with data, such as scientists and managers, but lack the skills and support to open that data up to a broader audience. Additionally, data literacy can empower data sharing into trusted discussion platforms, thereby facilitating explorations into past, present and future ocean conditions and choices. Improving core data skills, as well as actual internet bandwidth, can prepare ocean-dependent communities to fully engage in both critical decision-making and the digital economy.

Data governance
The data governance theme encompasses changes to data policy and standards, and the systems of human agreements that shape data value chains. It includes support for collaborations on key data gaps, including public-private partnerships and data collaboratives, as well as pioneering new types of data agreements driven by indigenous and local communities. It is structured to be the main point of connection with the World Economic Forum’s data policy work, such as the Cross-Border Data Flows project and the C4IR Data for Common Purpose Initiative.
Technology and computational innovation
This work will incentivize the development and deployment of hardware and software innovations for ocean monitoring across all ocean basins that deliver accessible, timely and actionable data and information to all users. This includes work with the ODP on a comprehensive digital representation of the ocean, including a dynamic ocean map, along with advances in artificial intelligence and other data analytics tools to accelerate ocean understanding.

About Friends of Ocean Action
Friends of Ocean Action is a unique, informal group of over 65 global leaders from a range of sectors who are fast-tracking scalable solutions to the most pressing challenges facing the ocean. The Friends focus their attention on achieving the targets of the Sustainable Development Goal for Life Below Water, SDG14, through five key and interconnected impact pillars – creating a digital ocean, building a resilient ocean, activating ocean finance, nourishing billions and UpLink Ocean – as well as cross-cutting themes of a just ocean and advancing wider sustainable development through ocean action.

For more information, contact us by email at ocean@weforum.org, visit us at www.friendsofoceanaction.org and follow us on Twitter @FriendsofOcean.