

A vibrant underwater scene featuring a diverse coral reef with various species of coral in shades of pink, purple, and blue. Numerous small fish are swimming throughout the water, and a scuba diver is visible in the background, exploring the reef. The overall atmosphere is serene and highlights the beauty of marine life.

**ECONOMIST
IMPACT**

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Workshop summary

How to build a collaborative ocean data ecosystem

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Post-workshop summary

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Despite gaps in our understanding of the ocean, useful data exists across public agencies, research institutions, industry, civil society and coastal communities. Yet too much of it remains fragmented, difficult to discover, hard to combine, or locked behind technical, legal and institutional barriers. Participants returned to a common point: the priority is not simply to collect more data, but to make existing data more usable, connected and trusted.

This is not just a technical challenge. It is a question of governance, incentives and judgement. Participants cited weak interoperability, inconsistent standards, uneven access rules, poor metadata, limited skilled staff and unclear ownership and consent. These constraints weigh most heavily on smaller institutions, remote communities and countries that are wary of contributing data into systems that do not protect sovereignty or reflect local priorities.

What emerged from the roundtables was a practical agenda. Participants were less interested in creating another abstract vision for ocean data than in identifying the steps that would make sharing and interoperability more normal over the next year. The recommendations below reflect that discussion.



Key takeaways

1. Focus on making existing data usable before building new systems.

A large volume of ocean data already exists across seabed mapping, physical and chemical oceanography, biodiversity monitoring, fisheries, seafood supply chains and underwater video systems. Yet much of it is sitting idle because it is not stored in usable formats, is poorly documented, behind paywalls, or cannot be connected with other datasets. Collection was not generally seen as the main bottleneck (though a more challenging funding environment was certainly noted). Rather, storage, access, standardisation, metadata and integration were viewed to be the more immediate - and in some ways more actionable - constraints. Improving discoverability and usability of what is already there was a common refrain.

2. Build interoperability around summaries, metadata and clear standards.

Several groups converged on the need for a lighter, more practical model of integration. There were calls for a shared platform or federated approach that allows organisations to publish structured summaries of the data they hold, alongside better

metadata, common standards and clearer routes for access. That would help researchers, officials and investors understand what exists, who holds it, and how it might be used, without forcing a one-size-fits-all model for every dataset. The point is not centralisation for its own sake, but rather making data legible across institutional boundaries.

3. Treat data sharing as a question of trust, not just openness.

One of the strongest themes in the workshop was that data sharing cannot be reduced to a simple open-versus-closed debate. For many countries, communities and indigenous groups, reluctance to share is not resistance to collaboration. It reflects legitimate concerns about ownership, consent, extractive practice and loss of control. Participants argued for a more graduated model of sharing, with clearer norms around safe access, reciprocity and stewardship. Progress, as one contribution put it, moves at the speed of trust. Any credible ocean data ecosystem will need to recognise data sovereignty, respect different levels of access, and create incentives that make sharing worthwhile for those generating the data in the first place.



4. Invest in the people who make data usable.

The workshop repeatedly returned to a shortage of human capacity across the data pipeline. The gap is not only in data collection, but in the specialist work required to clean, document, interpret, manage and connect datasets over time. Participants noted that data expertise is often missing precisely where it is most needed, including in remote areas and smaller organisations. Legacy datasets are another overlooked challenge. Decades of information exist in archives but remain poorly digitised, weakly documented or difficult to retrieve. Better infrastructure matters, but so do the people who maintain it. Investment in data managers, curators, translators and community-facing intermediaries is essential if ocean data is to inform real decisions.

5. Communicate data in ways that non-specialists can use.

A recurring frustration was that valuable data often fails to travel beyond technical communities. Participants pointed to compliance data, navigational information, academic research and species monitoring as examples of material

that exists but is hard to interpret, inaccessible to non-specialists, or trapped in formats that limit wider use. Better communication is not a cosmetic issue. It shapes whether policymakers, communities and the public can act on the evidence. Several discussions stressed the need for stronger storytelling, clearer contextualisation, better categorisation of data, and more effort to translate specialist knowledge into decision-useful information. Concerns about misinformation also surfaced, along with the lack of robust mechanisms to check and challenge false claims in the ocean data space.

6. Connect scientific, public and commercial data without losing the public interest.

Participants noted that the financing landscape around ocean data is shifting. Public funding is tightening in some places, while industry is playing a larger role in data collection, technical development and research partnerships. That creates opportunities, but also raises difficult questions. Commercial actors often hold valuable datasets that are not shared because they are treated as proprietary. At the same time, long-term public



goods such as maintaining archives, improving databases and revisiting older datasets can struggle to attract support because they are less visible than new technologies. The workshop did not suggest a simple answer, but there was broad agreement that future models will need better partnerships between science, policy and finance, with clearer arrangements on access, value and responsibility.

7. Use the next 12 months to strengthen what already exists.

When participants were asked what practical step could make sharing and interoperability more normal within a year, the answer was not to launch a wholly new architecture. It was to make better use of existing initiatives, standards and coordination mechanisms. Suggestions included building on established UN Ocean Decade structures, Seabed 2030 regional centres, EMODnet, the Ocean Best Practices System and emerging clearing-house mechanisms, while improving mapping of what data already exists across national, regional and subregional systems. The underlying message

was pragmatic. The ocean community already has many of the building blocks. The more urgent task is to connect them, support them and use them consistently.

8. Keep future integration in view from the start.

A final point from the workshop was that data should not only be fit for its current purpose. It should be prepared for future integration. Participants noted the growing importance of combining ecological, operational, social and legal data across different timescales and geographies, whether for marine spatial planning, wildlife protection, finance, coastal adaptation or compliance. That requires more than technical compatibility. It requires foresight in how datasets are structured, described and governed from the beginning. The costs of failing to do this are already visible. In one example cited during the discussion, only a small minority of datasets proved usable because of weak quality control. Better integration starts upstream, with more disciplined data stewardship at the point of creation.

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