SNAPSHOT 2026

The Use Of Artificial Intelligence In Ocean Conservation and Management

OCTO
OPEN COMMUNICATIONS FOR THE OCEAN

About the survey

From November 2025 to February 2026, OCTO conducted the most comprehensive survey to date on how artificial intelligence (AI) is being used in the global ocean conservation and management field. OCTO asked its large communities of ocean professionals about:

- How they are currently using AI tools and how they would like to use them in the future
- The obstacles they face in applying these tools
- Their hopes for and concerns about AI in ocean conservation and management

Methods

OCTO surveyed its user communities on how they are applying AI in their work. The 10-question survey was distributed to members of OCTO's global discussion communities on sustainable ocean management (EBM Help, 16,000 members), marine protected areas (MPA Help, 14,000 members), and plastic pollution (OceanPlastic List, 6500 members), as well as OCTO's webinar announcements list (OCTO Updates, 20,000 members). A total of 190 ocean professionals responded to the survey.

Several questions were open-ended and optional. As a result, not all survey participants responded to every question. The number of responses to each question is noted in the results.

To help identify broad themes in the responses, OCTO used large language models, specifically ChatGPT and Claude, on unattributed batches of responses. OCTO staff also analyzed the responses independently, and made the final determinations on themes and categorizations. In many instances, responses were assigned to multiple themes. It is likely that the survey undercounts actual AI use, as some survey participants may not have cited AI embedded in tools they already commonly use, such as web search engines.

All quotes from survey participants in this report have been anonymized, and some have been edited for length or clarity. The survey also collected information on the types of institutions where respondents work, their years in the marine field, and their work's regional focus.

Institution type

- 35% of respondents work for NGOs or Indigenous or local organizations
- 27% for academic or research institutions
- 24% for government or intergovernmental organizations
- 14% as consultants or in other private sector roles

Experience

- 27% of respondents have worked in ocean conservation and management for 5 years or less
- 20% for 6–10 years
- 25% for 11–20 years
- 29% for more than 20 years

Ocean Voices: What are your hopes for AI?

> ***I hope AI empowers us to do data analysis more quickly, on management-relevant timescales. The traditional pace of academic and government research does not keep up with management's information needs.***

- Researcher, USA/Canada, 6-10 years in field

> ***I hope AI will help teams with limited resources have a greater impact.***

- NGO professional, Oceania, 6-10 years in field

> ***My hope is that AI in its various forms will unlock new solutions for marine conservation and sustainable development.***

- NGO professional, Global/Multiregional, over 20 years in field

> ***Hopes: Enhanced monitoring of species, bycatch, illegal fishing, and habitat changes. Improved efficiency for data-poor regions through automated analysis and real-time reporting.***

- Researcher, Africa, 6-10 years in field

> ***AI holds immense potential to transform ocean conservation and management - from more efficient and accurate monitoring of marine ecosysrtems, to enhanced predictive modeling of oceanic changes, to data-driven policy decisions for sustainable resource management.***

- Researcher, Asia, 0-5 years in field

> ***My hope is that damages to the oecan can be seen as fast as possible and even predicted.***

- Government professional, Latin America/Caribbean, 0-5 years in field

> ***I hope AI will lower the barrier to entry for genuine mass participation by traditional owners, citizens, etc. This is needed if we are going to have any hope of turning this ship around and saving reefs.***

- Researcher, Oceania, 11-20 years in field

> ***My biggest hope is that AI will help us automate and streamline the boring and repetitive bits of ocean conservation and management, freeing up more time for humans to think creatively.***

- Government professional, Oceania, 0-5 years in field

Section 1: Current and desired uses of AI

Are you currently using AI in your conservation and management work?

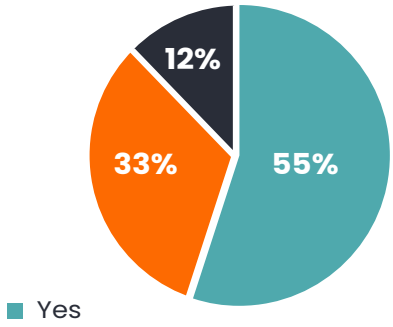


Figure 1a. Percentage of respondents currently using AI. 190 respondents.

Takeaways

- Over half of the respondents are already using AI. An additional third want to learn more about AI and/or are planning to use it.
- These results suggest AI usage in ocean conservation and management is already relatively high and likely to grow.
- A relatively small percentage of respondents – 12% – are not currently using AI, have no interest in learning more about the technology, and are not planning to use it. The qualitative responses from this group suggest that many of them are opposed to the use of AI due to mistrust of AI results and concerns about its environmental impacts (see Figure 3).

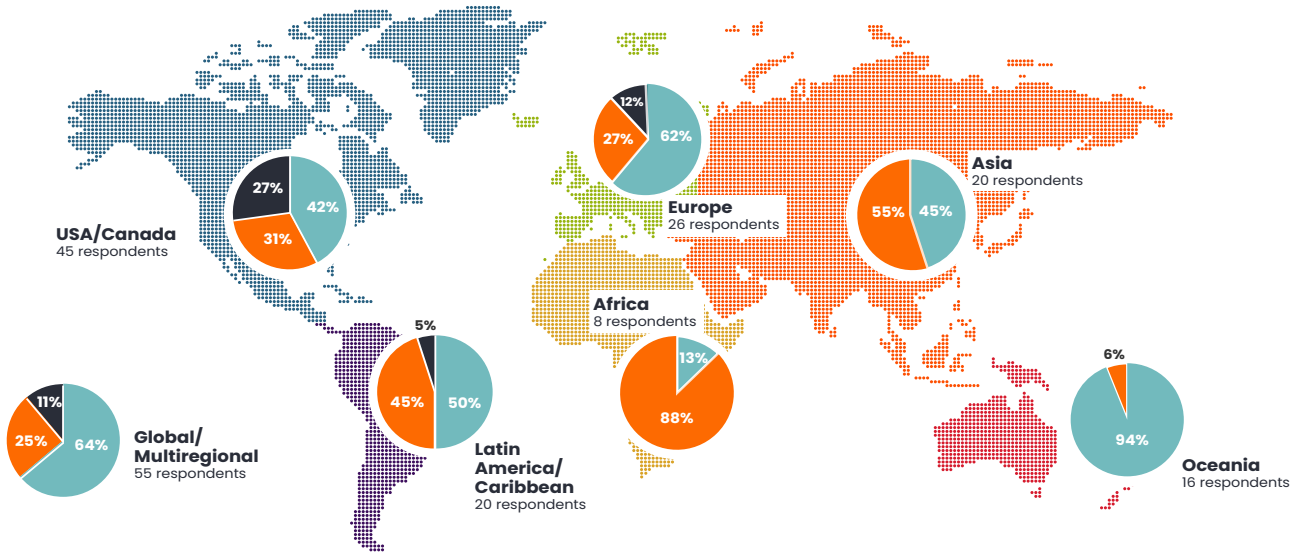


Figure 1b. Percentage of respondents currently using AI by region. 190 respondents.

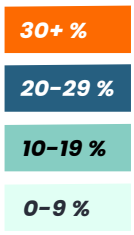
Takeaways

- Current AI usage and interest vary by region. There appears to be greater unmet demand in Africa, Asia, and Latin America/Caribbean, although sample sizes for these regions are relatively low. There appears to be greater resistance to using AI from professionals working in USA/Canada and Europe and at a global or multiregional level.
- There were no clear relationships between AI use/interest and respondents' institutions or years worked in the field (results not shown).

How are you currently using AI, and are there ways you would like to use it but aren't yet?

USES OF AI	CURRENT	DESIRED
Group 1: Remote monitoring, other data analysis, modeling, and decision support		
Species identification and monitoring	22	34
Habitat and ecosystem mapping and monitoring	9	21
Marine debris/pollution detection, classification, and monitoring	7	8
Human activity at sea monitoring and surveillance	5	13
Modeling, forecasting, scenario planning, risk assessment, and decision support	6	21
Qualitative data analysis (e.g., interviews, comments, laws, regulations etc.)	9	7
Idea development/brainstorming and framework development	13	4
Other/unspecified data processing and analysis	16	28
Group 2: Communications		
Writing and editing assistance (including document organization)	37	11
Translation and language support	10	2
Visual content and graphics creation	7	8
Other/unspecified communications and outreach tasks	9	4
Group 3: Administrative and capacity enhancement		
Literature review and research assistance	32	7
Document summarization and synthesis	22	5
Coding assistance/debugging and app development	14	3
Other/unspecified administrative and capacity enhancement tasks	18	15

Figure 1c. Percentage of respondents currently using AI for a particular purpose (CURRENT) or who want to use AI for that purpose but are not doing so yet (DESIRED). 100 respondents described one or more current uses of AI; 92 respondents described one or more desired uses.



Takeaways

- The most common current uses of AI are assistance with writing, editing, literature review, and research – where AI is being used primarily to increase productivity.

- The professionals surveyed want to move toward more analytical applications of AI to inform science and management decisions – e.g., species and habitat monitoring; remote surveillance; modeling and forecasting; and other data analysis.

Ocean Voices: How are you currently using AI?

> ***We use AI tools for grant applications. The funds available to our commercial business are mainly Government schemes, which have a great deal of policy and regulatory sections that require detailed information. LLM tools are able to produce this quickly and accurately, which lets us focus our time instead on the project delivery sections.***
>
> - Private sector professional, Europe, 11-20 years in field

> ***I use computer vision to collect data on plastic pollution item types removed from rivers.***
>
> - Researcher, USA/Canada, 6-10 years in field

> ***I've found that different LLMs have different strengths. Notebook LM is good for developing internal libraries that can be queried. Other LLMs, like Claude or ChatGPT, are good for broader queries and scanning the internet. All of this work needs to be verified and further developed with human input, but these tools are good ways to help brainstorm and organize thoughts.***
>
> - Private sector professional, Global/Multiregional, over 20 years in field

> ***I use AI for rapid code prototyping, condensing older scripts into cleaner workflows or functions, and debugging.***
>
> - Government professional, Oceania, 0-5 years in field

> ***We are using fish identification training modules to extract data from underwater video surveys.***
>
> - NGO professional, Global/Multiregional, 11-20 years in field

> ***I'm using AI to help correct and shorten captions for conservation-related social media posts.***
>
> - NGO professional, USA/Canada, 0-5 years in field

> ***I use AI like an administrative assistant and first-pass copy editor. I also frequently use it as a 'dummy check' to understand what audiences might think if they looked up terms that I used, or if they asked AI to summarize my paper for key takeaways.***
>
> - NGO professional, Global/Multiregional, 6-10 years in the field

> ***As English is not my main language, I use AI to help translate and write reports in a more formal manner.***
>
> - Private sector professional, Global/Multiregional, 11-20 years in field

Section 2: Obstacles to AI use

What obstacles are you encountering in using AI?

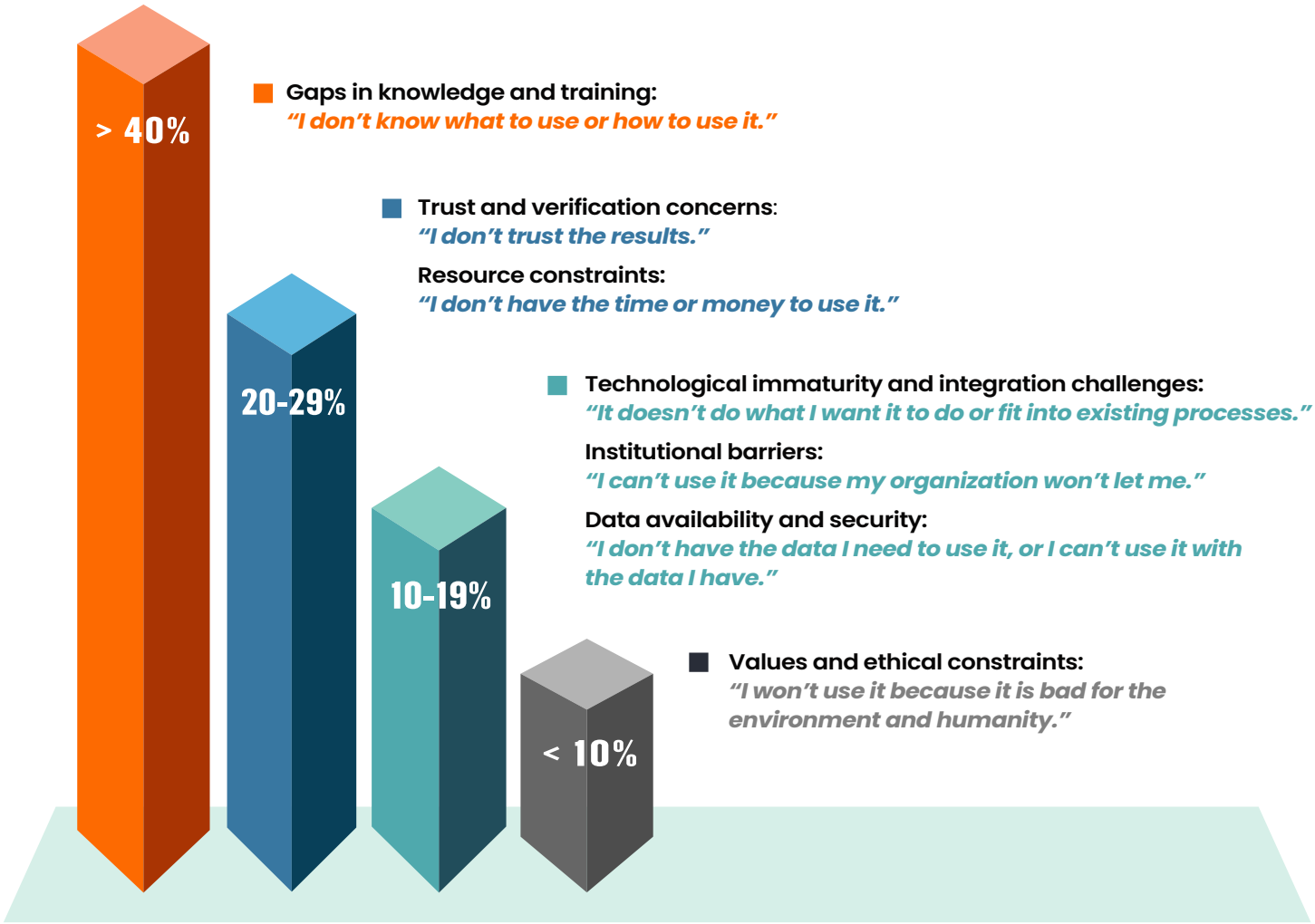


Figure 2. Obstacles to using AI, grouped by percentage of respondents who cited each. 73 respondents cited one or more obstacles.

Takeaways

- Lack of knowledge on how to use AI is the main obstacle encountered by respondents.
- Trust issues and lack of resources are also important obstacles.
- Values-based and ethical concerns about AI are widespread (see Figure 3), but less than 10% of respondents cited these concerns as actual obstacles to using AI.

Ocean Voices: What obstacles are you encountering in using AI?

> ***I have this instinct that AI could greatly support my work but I honestly don't know how to integrate it.***
>
> - Researcher, Europe, 11-20 years in field

> ***The main obstacle is trusting the results. I can't be sure if the results are done correctly or just made-up numbers.***
>
> - Researcher, USA/Canada, 6-10 years in field

> ***I'm interested in using AI tools for monitoring mangroves, chlorophyll content, and contaminants in surface waters. But we've not yet been able to apply it due to lack of expertise, required software licenses, and necessary equipment.***
>
> - Researcher, Latin America/Caribbean, over 20 years in field

> ***Because the big AI companies use inputs to continue to train their models, we can't feed the AI any inputs that include data provided to us in confidence, like protected fisheries information.***
>
> - Government professional, USA/Canada, 11-20 years in field

> ***Our institution does not permit us to use AI in any form until it is fully vetted, which can take months. This would have to be done for each and every program that has AI as a component.***
>
> - Government professional, USA/Canada, 0-5 years in field

> ***There are several ways I hope to use AI in my research but have not yet been able to implement. These include automated species identification from field images and videos, which is limited by lack of region-specific training datasets; predictive modeling of bycatch hotspots, which is constrained by insufficient integrated data and computing capacity; and AI-based community reporting apps for fishers, for which we are limited by technical expertise and funding.***
>
> - Researcher, Africa, 6-10 years in field

> ***When fully developed, image analysis tools will be of great use to our video seabed surveys and microscope analysis of taxonomic and plankton samples. But we are unclear on the range of tools available and whether they are proven in these contexts.***
>
> - Private sector professional, Europe, over 20 years in field

> ***People who understand AI are very excited. The biologists are deeply mistrustful.***
>
> - NGO professional, Asia, over 20 years in field

Section 3: Concerns about AI

What concerns do you have about the use of AI in ocean conservation and management?

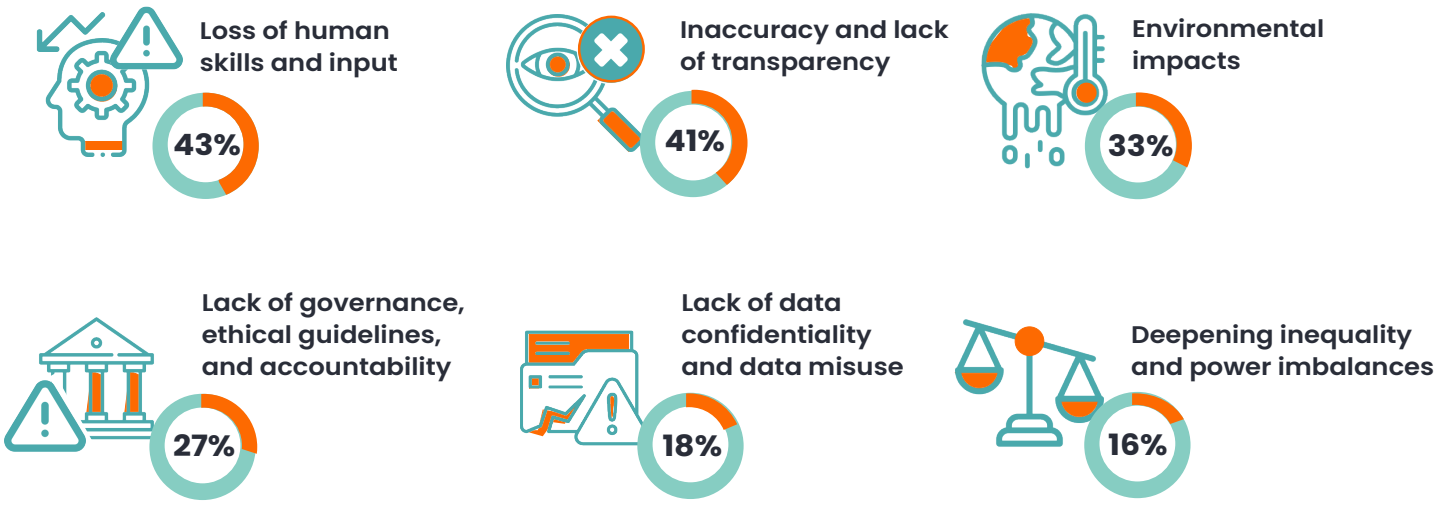


Figure 3. Concerns about the use of AI in ocean conservation and management, with percentage of respondents who cited each. 135 respondents cited one or more concerns.

Takeaways

- The surveyed professionals hold a wide array of concerns about using AI in ocean conservation and management. Most described at least one concern.

- Some of these concerns are significant enough to be obstacles to using AI: e.g., mistrust of results; concerns about data privacy and security; and concerns about the environmental impacts of AI data centers (see Figure 2.)

- Other concerns (e.g., loss of human skills and input; lack of governance and guidelines; and deepending inequality and power imbalances) do not appear to be significant enough to be widespread obstacles to using AI (see Figure 2).

Ocean Voices: What concerns do you have about the use of AI?

> ***The rise of AI is a growing contributor to global carbon footprints. The single biggest threat to coral reefs is global warming. I feel like every request to ChatGPT should be prefaced by 'This will cost you one coral, do you want to proceed?***
>
> - NGO professional, Asia, over 20 years in field

> ***The information it gives is often not accurate. It's tempting to accept it without verifying with the original sources, and this is dangerous.***
>
> - Researcher, Europe, 0-5 years in field

> ***I'm concerned about data security and how my own work feeds into these models without my knowledge and consent.***
>
> - Researcher, Global/Multiregional, 11-20 years in field

> ***AI does not equitably attribute intellectual authorship, particularly to local and Indigenous knowledge in the conservation field.***
>
> - NGO professional, Global/Multiregional, 6-10 years in field

> ***Blind trust in the use of AI will replace thinking.***
>
> - Researcher, USA/Canada, 6-10 years in field

> ***AI is a great tool – it can process large amounts of data at scales and speeds impossible for humans. But it can also be used by the fishing industry to further exploit resources already in decline.***
>
> - Private sector professional, Africa, 0-5 years in the field

> ***AI could deepen the technological divide, leading to further exclusionary practices within the sector.***
>
> - Private sector professional, Latin America/Caribbean, 11-20 years in field

> ***We are already seeing consultancy and researcher reports that have clearly been produced using LLMs, and which have not been well-reviewed either for accuracy or content. Yet these will be used as evidence in various marine licensing, planning, and advocacy use cases.***
>
> - Private sector professional, Europe, over 20 years in field

Section 4: Opportunities for funders

The survey reveals strong interest in applying AI to ocean conservation and management. At the same time, it highlights significant gaps in knowledge and access, particularly in less-developed regions where there is greater unfulfilled interest in using AI.

To better understand these challenges, respondents were asked what information they needed most about AI. Their answers clustered around two broad themes: AI literacy and practical guidance for responsible AI use.

Build AI literacy

Respondents expressed a need for a range of technical and practical information about AI, including:

- Basic AI knowledge including what AI is, how it works, and how to begin using it
- Information on existing AI tools to address ocean conservation and management needs, including their capabilities, limitations, and practical applications
- Case studies of both successful and unsuccessful AI applications, highlighting lessons learned, benefits, risks, and common pitfalls
- Examples of effective AI use in data-deficient or resource-constrained contexts

Respondents repeatedly expressed a strong desire for peer-to-peer knowledge exchange on existing and emerging AI tools and case studies.

Develop practical and ethical guidelines

Respondents stressed the need for clear frameworks and guidance to support responsible AI adoption, including:

- Assessing trade-offs between the potential benefits of AI and its environmental costs
- Defining the appropriate role of human oversight, and identifying situations where human judgment should take precedence
- Protecting data confidentiality, privacy, and security
- Clarifying legal ownership and governance of data inputs and AI-generated outputs
- Establishing standards and processes for verifying AI-generated results
- Identifying and mitigating bias in AI systems and outputs
- Promoting equitable access to AI tools, infrastructure, and expertise
- Preventing misuse or harmful applications of AI-generated information
- Establishing accountability systems for misuse or harmful use of AI

Ocean Voices: What do you most need to know about AI?

> ***All of it: where AI is being successfully used, what the pitfalls are, and which tools are best for what uses in marine management and conservation.***
>
> - Private sector professional, Global/Multiregional, over 20 years in field

> ***How do we know if we can trust AI-generated information or data? And how do we keep ourselves safe and secure while using AI in our organization?***
>
> - NGO professional, Latin America/Caribbean, over 20 years in field

> ***AI's legal limitations, protections, and ownership of inputs/outputs.***
>
> - NGO professional, Global/Multiregional, 11-20 years in field

> ***I'm keen to explore topics related to the ethical and governance aspects of AI, including data transparency, bias mitigation, and equitable access to technology across regions.***
>
> - Researcher, Asia, 0-5 years in field

> ***I want to be able to join a network with similar interests to learn from their experience.***
>
> - Researcher, Latin America/Caribbean, over 20 years in field

> ***AI workshops and trainings for scientists from developing countries could be a game-changer if we want to transform to a sustainable world.***
>
> - Researcher, Asia, over 20 years in field

> ***There are currently few or no assessments of the 'true' costs of AI vs. purported benefits. I want to see that, and widespread adoption of renewable energy, before there's massive uptake of AI as a tool.***
>
> - NGO professional, Global/Multiregional, over 20 years in field

> ***I would like to hear from other organizations how AI has helped them.***
>
> - Indigenous government environmental professional, USA/Canada, 0-5 years

Section 5: Final takeaways

- **AI adoption is already relatively widespread among ocean conservation and management professionals, with strong interest in further uptake across all regions.** Adoption is likely to increase significantly in the coming years.

- **Unmet demand for AI** – defined as professionals who are interested in using AI but are not yet doing so – **is highest in Africa, Asia, and Latin America/Caribbean.**

- **Relatively few ocean professionals are not interested in learning about AI or planning to use it.** These respondents work primarily in USA/Canada and Europe and at a global or multiregional level.

- **At present, AI is used primarily to improve productivity through applications such as writing, editing, literature review, and research support. However, there is strong interest in expanding to more advanced scientific and analytical applications**, including species and habitat monitoring, remote surveillance, and modeling and forecasting. These applications involve processing large and complex datasets beyond human capacity, and have the potential to inform core conservation science and management decisions.

- **The most significant obstacles to broader adoption of AI are limited awareness of available tools; low AI literacy; trust and verification concerns; and resource constraints.**

- **Ethical and practical concerns about AI are widespread – including the loss of human skills and input and the environmental impact of AI infrastructure.** These concerns do not currently appear sufficient to prevent broader adoption in the field, however.

- **Funders have an important opportunity to shape the trajectory of AI adoption in ocean conservation and management.** Strategic investments in guidance for responsible AI use, AI literacy/training, equitable access to tools and infrastructure, and peer learning networks could help ensure that AI adoption is effective, inclusive, and aligned with conservation outcomes.

About this report and OCTO

This "snapshot" survey on AI accompanies OCTO's first annual report on broader trends in the ocean conservation and management field. Each year, the trends report will include a snapshot of a specific subtopic (AI this year) alongside insights on the field as a whole. OCTO will release its inaugural trends report later in 2026.

OCTO connects ocean professionals to the knowledge and networks they need. Each week, tens of thousands of marine resource managers and conservation practitioners use OCTO's core services, including its global discussion communities (MPA Help, EBM Help, Ocean Plastic List) and its webinar series, the largest in the field. By harnessing the field's collective knowledge, OCTO enables ocean professionals to apply best practices worldwide.

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OCTO. (2026). *Snapshot 2026: The Use of Artificial Intelligence in Ocean Conservation and Management.* DOI: 10.5281/zenodo.21510562. https://octogroup.org/programs/ai-snapshot-report-2026/