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**Annual report of the Secretary-General under article 166,
paragraph 4, of the Convention**

Implementation of the action plan for marine scientific research of the International Seabed Authority in support of the United Nations Decade of Ocean Science for Sustainable Development

Report of the Secretary-General

I. Introduction

1. The present report provides an annual update on the implementation of the action plan for marine scientific research of the International Seabed Authority in support of the United Nations Decade of Ocean Sciences for Sustainable Development. Adopted by the Assembly of the Authority in 2020, the action plan serves as the global agenda for deep-sea research.¹

2. Marine scientific research is one of the core elements upon which the legal regime of the Area lies. The United Nations Convention on the Law of the Sea and the Agreement relating to the Implementation of Part XI of the Convention mandate the Authority to promote and encourage the conduct of marine scientific research in the Area, coordinate and disseminate the results when available and carry out marine research concerning the Area.² Activities to fulfil the mandate are intertwined with those aimed at delivering the Authority's responsibility under the Convention to take measures to promote and encourage the transfer of scientific knowledge and technology to strengthen the capacity of developing and technologically less developed States, including by setting up appropriate programmes.³

3. In 2017, the General Assembly proclaimed the United Nations Decade of Ocean Science for Sustainable Development to advance “the science we need for the ocean

* [ISBA/30/A/L.1](#).

¹ For the action plan and previous reports, see [ISBA/29/A/5](#), [ISBA/28/A/8](#), [ISBA/27/A/4](#) and [ISBA/26/A/4](#).

² United Nations Convention on the Law of the Sea, art. 143 (2).

³ Ibid., art. 144.



we want” (see resolutions [72/73](#), para. 292, and [75/239](#), para. 306). It designated the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization as the coordinating body for its implementation. The General Assembly also invited UN-Oceans and its participating organizations to support the delivery of the Decade in line with their respective mandates (see resolution [75/239](#), para. 307).

4. The Authority participates in UN-Oceans and signed a memorandum of understanding with the Intergovernmental Oceanographic Commission in 2020 (see [ISBA/6/A/9](#), para. 13). In the same year, the Assembly of the Authority formalized six strategic research priorities by adopting the action plan. This framework is the global deep-sea research agenda in support of the strategic directions endorsed by the Authority through the strategic plan for the period 2019–2025 (see [ISBA/28/A/18](#), para. 48).

5. The year 2025 marks the midpoint of the Decade. To commemorate this milestone, the Intergovernmental Oceanographic Commission organized the Ocean Decade Conference, held in Barcelona, Spain, from 10 to 12 April 2024, in which the secretariat actively participated.⁴

6. Sections II to IV below outline the progress made in knowledge generation in support of the Decade, highlight engagement with partners and other global processes, describe resource mobilization efforts and present the next steps to support the implementation of the action plan.

II. Progress in knowledge generation

7. The present section serves to take stock of the contributions to the scientific objectives of the Decade and describe the progress made under the six strategic research priorities of the action plan from June 2024 to June 2025.

A. Contributions to the scientific objectives of the Decade

8. Substantial progress has been made on global deep-sea science through the Authority and its efforts to catalyse and incentivize global deep-sea research. Through actions implemented directly or with the support of its partners, the Authority has advanced global knowledge of the deep sea. To highlight this, the Authority’s efforts in promoting marine scientific research, including the scientific output generated through exploration activities in the Area, are examined.

9. The secretariat commissioned a stocktaking report on the implementation of the action plan,⁵ which highlights how activities undertaken by the Authority contribute to addressing the 10 challenges of the Decade.⁶ The report acknowledges progress made in promoting scientific research, establishing strategic partnerships and raising awareness of scientific activities and outputs among States and other stakeholders. It also recognizes the value of collaborative research and investment.

⁴ See www.isa.org.jm/news/isa-concludes-engagement-at-the-2024-ocean-decade-conference-with-renewed-support-and-commitment-towards-its-msr-action-plan-in-support-of-the-un-decade-of-ocean-science.

⁵ Fifteen independent experts participated in the process, which was led by the Secretary-General with support from the National Oceanography Centre of the United Kingdom of Great Britain and Northern Ireland (see [ISBA/29/A/5](#), para. 42).

⁶ See www.isa.org.jm/wp-content/uploads/2024/12/Report_Contribution-of-ISA-to-the-scientific-objectives-of-the-UN-Decade.pdf.

10. Seven recommendations were put forward to further strengthen the impact of the action plan. Each recommendation emphasizes fostering collaboration, raising awareness or encouraging innovative approaches aligned with the expectations of decision makers and the broader scientific community.

11. In terms of investment, the Authority has allocated \$8.4 million of its regular budget over the past 10 years to programmatic expenditure aimed at promoting marine scientific research in the Area. Member States, United Nations entities and research institutes have provided extrabudgetary contributions in support of this, totalling \$1.9 million.⁷ In 2022, the Authority established the International Seabed Authority Partnership Fund, a multi-donor trust fund to ensure a steady stream of financing for marine scientific research and capacity development (see [ISBA/27/A/10](#)). To date, the Fund has financed 14 projects totalling \$1.26 million, supported by donations from eight member States.⁸

12. Since 2020, the secretariat, in collaboration with various experts, scientific institutions and partner organizations, has published four technical studies on scientific topics, namely a regional environmental assessment of the northern Mid-Atlantic Ridge and studies on remote monitoring systems, technological advancements and potential interactions between fishing efforts and activities in the Area.⁹

13. Since 2020, the secretariat has organized 29 events to promote deep-sea research, including online and in-person workshops, webinars, information series and side events, securing the participation of 879 experts, of whom a quarter have been from developing countries. In addition, the secretariat has forged 44 partnerships and obtained financial support from 19 member States and the European Union.

B. Recent progress towards the six strategic research priorities of the action plan

Strategic research priority 1: advancing scientific knowledge and understanding of deep-sea ecosystems, including biodiversity and ecosystem functions, in the Area

14. Under this strategic research priority, the secretariat facilitates activities to develop a robust scientific knowledge base to support decision-making processes.

15. A regional environmental characterization report was prepared to inform the workshop on the development of the regional environmental management plan for the Area of the Indian Ocean, to be held in Qingdao, China, from 27 April to 1 May 2025. The report contained a synthesis and compilation of the best available scientific data on the marine environment and information on human activities specific to that region.¹⁰

16. The secretariat contributed to global scientific reports, in particular in relation to activities coordinated by the Division for Ocean Affairs and the Law of the Sea. First, inputs were provided for the chapter on deep-sea minerals of the *World Ocean Assessment*, with a focus on benefit-sharing and the socioeconomic implications of exploration activities in the Area as part of the third Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including

⁷ Contributions have been made by China, France, Ghana, Monaco and the United Kingdom and by the African Development Bank, the National Marine Biodiversity Institute of Korea, the Norwegian Agency for Development Cooperation, and the Pew Charitable Trusts.

⁸ See www.isa.org.jm/isa-partnership-fund. Donations have been provided by China, France, Ireland, Mexico, Monaco, the Russian Federation, Spain and Switzerland.

⁹ See www.isa.org.jm/publications.

¹⁰ See www.isa.org.jm/events/workshop-on-the-development-of-a-remp-for-the-area-of-the-indian-ocean.

Socioeconomic Aspects.¹¹ Second, the secretariat contributed to the report of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea to the General Assembly, highlighting new developments in technology and capacity development.¹² Lastly, the secretariat co-authored the United Nations report on marine geospatial information management and described the importance of DeepData in supporting evidence-based decision-making.¹³

17. The secretariat launched an open-source bibliographic repository on the Authority's website that brings together the scientific outputs reported by contractors in their annual reports from the past four years. The repository currently contains 431 peer-reviewed scientific publications and will be updated annually.¹⁴

Strategic research priority 2: standardizing and innovating methodologies for deep-sea biodiversity assessment, including taxonomic identification and description, in the Area

18. The reporting period marks the third year of the Sustainable Seabed Knowledge Initiative, a flagship initiative aimed at catalysing biodiversity research and capacity to support global policy agendas and ensure effective protection of deep-sea ecosystems in the Area. The Initiative provides the framework to advance strategic research priority 2 by promoting activities to increase biodiversity knowledge, as well as enhancing the exchange of biological data and taxonomic skills. Two new financial partners, the Governments of Ireland and China, joined the Initiative's founding donors – the European Commission and the Governments of the Republic of Korea and France – while other member States have committed funds for the Initiative's 2025–2026 workplan.¹⁵

19. In March 2025, the second edition of the “One Thousand Reasons” campaign to accelerate species descriptions and enhance consistency in taxonomic practices was launched, with a voluntary contribution by the Government of Ireland to the Partnership Fund.¹⁶ This edition is specifically designed to support scientists in developing member States. The first edition led to the description of 90 new species and resulted in the publication of over 30 scientific papers. The new taxonomic data are uploaded to the Authority's DeepData database and will also be shared with the Ocean Biodiversity Information System, with which the secretariat partners to promote broader data accessibility.¹⁷ As of April 2025, the System contains 133 data sets covering the period from 2004 to 2023, with data for 863 species.

20. The secretariat continued its collaboration with the Institut français de recherche pour l'exploitation de la mer to enhance scientific capacity in biodiversity assessment and increase deep-sea biodiversity knowledge, undertaking two initiatives. In January 2025, the fellowship of a taxonomist from India was extended so that she could continue her work on describing species and studying ecological adaptation to abyssal plain habitats. A new edition of the MeioScool workshop and fellowship will bring together experts in meiofauna to raise awareness of the role of meiofauna in marine ecosystems, and train students and young researchers from developing countries in

¹¹ See www.un.org/regularprocess/woa3.

¹² See www.un.org/depts/los/consultative_process/consultative_process.htm.

¹³ The report was prepared at the invitation of the Secretary-General of the United Nations in reference to paragraph 388 of General Assembly resolution 77/248 and is available at www.un.org/Depts/los/doalos_publications/publicationtexts/MarineGeospatialInfoMgmt.pdf.

¹⁴ See www.isa.org.jm/marine-scientific-research.

¹⁵ See www.isa.org.jm/sski.

¹⁶ See www.isa.org.jm/news/call-for-taxonomy-projects-to-describe-deep-sea-species.

¹⁷ See <https://obis.org>.

the latest methodologies. Both initiatives are funded by voluntary contributions from France to the Partnership Fund.

21. To support global decision-making processes, the secretariat attended the twenty-sixth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity, held in Nairobi from 13 to 18 May 2024. The work of the Authority relevant to the objectives of that Convention was presented and the secretariat engaged in discussions with other competent organizations, in particular on issues related to the implementation of the Kunming-Montreal Global Biodiversity Framework and linkages with future implementation of the 2023 Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction. Similarly, the secretariat participated in the sixteenth meeting of the Conference of the Parties to the Convention on Biological Diversity in Cali, Colombia, from 21 October to 1 November 2024. Meetings with the Executive Secretary of the Convention and representatives of other relevant international organizations and stakeholders provided opportunities to promote the Authority's work on increasing deep-sea knowledge and protecting deep-sea biodiversity. The secretariat also co-organized a side-event with Argentina, the Republic of Korea, Singapore, the Convention secretariat and the National Marine Biodiversity Institute of Korea to engage other stakeholders and mobilize partners for efforts to advance deep-sea biodiversity knowledge.

22. Considering the scientific advances towards using environmental DNA (eDNA) for deep-sea biodiversity assessments, the secretariat published a policy brief highlighting the role of the Authority in addressing the challenges and opportunities of using eDNA approaches.¹⁸ The publication reinforces the importance of advancing identification, including the sequencing of deep-sea species, and collaboration between scientists and the private sector to ensure that eDNA tools are used effectively for the sustainable development of resources in the Area.

Strategic research priority 3: facilitating technology development for activities in the Area, including ocean observation and monitoring

23. Developments in technology are a fundamental enabler of activities in the Area. The Authority is mandated to acquire technology and scientific knowledge relating to activities in the Area and take measures to promote and encourage the transfer of technology to developing States of such technology and scientific knowledge so that all States Parties benefit.¹⁹ With this mandate, the secretariat aims to serve as a focal point for acquiring, evaluating and disseminating relevant technological knowledge and to facilitate the use of such knowledge, including by developing appropriate tools and platforms.

24. Under this strategic research priority, initiatives are being implemented across five priority domains: ocean observation and communication; monitoring; autonomy, automation and robotics; machine learning and artificial intelligence; and mining, energy and metal processing. The secretariat monitors technology development in these areas, including when led by contractors, through participation in international conferences. For example, it participated in the Underwater Mining Conference organized by the International Marine Minerals Society, in Rarotonga, Cook Islands, from 15 to 21 September 2024.²⁰

¹⁸ See www.isa.org.jm/wp-content/uploads/2024/07/ISA_Policy_brief_Environmental_DNA_studies_have_the_potential_to_advance_deep-sea_biodiversity_knowledge.pdf.

¹⁹ United Nations Convention on the Law of the Sea, art. 144.

²⁰ See www.sbma.gov.ck/news-3/article-166.

25. Building on the success of the workshop on advanced technologies for the priority domains, held in Portugal in April 2024, the secretariat has been invited by Kobe University and its Kobe Ocean-Bottom Exploration Centre to organize a second workshop in Kobe, Japan, in June 2025. The workshop will focus on emerging technologies for designing monitoring schemes in the context of potential future activities. Participants will also examine the implications of technological innovations for regional monitoring and thresholds and identify capacity development needs to ensure that all countries can benefit from technological advancement.

Strategic research priority 4: enhancing scientific knowledge and understanding of potential impacts of activities in the Area

26. Increasing scientific knowledge of the potential impacts of activities in the Area is crucial to discharging the Authority's mandate to take necessary measures with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects that may arise from such activities.²¹

27. To this end, the secretariat delivered a policy brief on plastic in the deep sea, highlighting the growing body of scientific studies on this topic over time.²² The brief also underscores the need to establish a baseline, in particular in the light of ongoing negotiations on the international legally binding instrument on plastics pollution (see [UNEP/PP/INC.5/4](#)).

28. The secretariat also published two fact-checks. The first summarizes the results of the Authority's technical study on the potential interactions between fishing and mineral resource-related activities in areas beyond national jurisdiction. It highlighted limited overlap between fishing and potential deep-sea mining areas, though further study is needed on indirect impacts.²³ The second fact-check presents factors involved in the complex interplay of potential deep-sea mining with global carbon cycle processes. It indicates that while global impacts on the carbon cycle are unlikely due to the small footprint of potential exploitation compared with the vastness of the ocean, local effects may occur, underscoring the need for a strong environmental baseline and monitoring.²⁴

29. Scientific understanding of sediment plumes has made substantial progress. Scientific cruises – conducted through a joint effort between two contractors, the Federal Institute for Geosciences and Natural Resources of Germany and Global Sea Mineral Resources, and scientists from the MiningImpact consortium – funded by the Joint Programming Initiative for Healthy and Productive Seas and Oceans obtained quantitative data for the modelling of mining-related impacts.²⁵ For example, it was demonstrated that the height of the plume did not rise above the collector vehicle.²⁶ Recognizing the importance of these and related findings, the Partnership Fund Board approved a project valued at \$100,000 to develop a methodology for the adaptive management of sediment plumes from deep-sea mining activities.

²¹ United Nations Convention on the Law of the Sea, art. 145.

²² See www.isa.org.jm/publications.

²³ See www.isa.org.jm/publications/technical-study-33-potential-interactions-between-fishing-and-mineral-resource-related-activities-in-areas-beyond-national-jurisdiction-a-spatial-analysis and www.isa.org.jm/isa-fact-check-2024-2.

²⁴ See www.isa.org.jm/isa-fact-check-2024-1.

²⁵ See www.jpi-oceans.eu/en/miningimpact.

²⁶ Carlos Muñoz-Royo and others, "An in situ study of abyssal turbidity-current sediment plumes generated by a deep seabed polymetallic nodule mining preprototype collector vehicle", *Science Advances*, vol. 8, No. 38 (2002).

Strategic research priority 5: promoting dissemination, exchange and sharing of scientific data and deep-sea research outputs and increasing deep-sea literacy

30. Scientific data form the cornerstone of research, serving as the foundation for environmental baseline studies and enabling informed decision-making. The Authority's global online repository, the DeepData database, is instrumental in fulfilling its mandate of sharing scientific data. All non-confidential data from exploration activities in the Area are made publicly available, following findable, accessible, interoperable and reusable principles.²⁷ Since its launch in 2019, DeepData has amassed over 14 terabytes of structured and unstructured data collected in the Area. The DeepData website has had approximately 19 million hits from over 321,000 visitors, who downloaded approximately 600 gigabytes of data from the database.

31. To support public understanding of the repository, a data visualization tool and communication products have been developed.²⁸ The DeepData dashboard interface enables users to answer queries in the database. A video series entitled "DeepData for Dummies" was premiered during the twenty-ninth session of the Council in July 2024. The secretariat also contributed a chapter on the Authority's progress on data management under a series on deep-sea mining, which is currently under review with the publisher.

32. To enhance the accessibility and discoverability of information, oceanographic data from 800 DeepData sampling stations were integrated into the Ocean Data and Information System.²⁹ Coordinated by the International Oceanographic Data and Information Exchange of the Intergovernmental Oceanographic Commission, the System is a global network of interconnected platforms designed to support interoperable data-sharing.

33. To advance deep-sea literacy, two initiatives supported by the Partnership Fund are under way: a pilot project (\$20,000) was launched in Mozambique, targeting early-career ocean professionals; and funding was allocated for the development of a data visualization platform for activities in the Area (\$125,000).

Strategic research priority 6: strengthening deep-sea scientific capacity of Authority members, in particular developing States

34. Capacity-development efforts have been integral to the Authority's activities since its establishment in 1994. In line with its mandate to foster international cooperation on marine scientific research for the benefit of developing member States, the secretariat facilitates a range of training programmes guided by the Authority's capacity development strategy (ISBA/27/A/5).

35. As part of the contractors' training programme, in line with their legal obligations, the Authority's exploration contractors provided 83 new training opportunities during the reporting period, offered by 12 contractors under 19 contracts for exploration.³⁰ One third involved at-sea on-board training, while others included fellowships (including Master's programmes), internships, seminars, autonomous underwater vehicle training, expert deployments and practical courses. Of the placements, 41 per cent were awarded to women and 23 per cent to candidates from the least developed countries and small island developing States. With this latest round, the total number of training opportunities offered since 1994 has surpassed 500.

²⁷ See <https://data.isa.org.jm/isa/map>.

²⁸ See www.isa.org.jm/deepdata-database/deepdata-dashboard.

²⁹ See <https://odis.org>.

³⁰ See www.isa.org.jm/capacity-development-training-and-technical-assistance/contractor-training-programme.

36. Two deployments of national experts to the secretariat were supported by the Authority's joint project framework with the Technology Bank for Least Developed Countries, established in 2022 to strengthen the capacities of the least developed countries in emerging blue economic sectors.³¹ A geologist from Nepal assessed sediment characteristics within the Clarion–Clipperton Zone, while a marine scientist from the United Republic of Tanzania advanced sediment plume modelling.³²

37. Joint Training and Research Centres support the Authority in fulfilling its mandate to build capacity.³³ The first national Centre was launched in 2020 in collaboration with China and has trained 80 experts in two training workshops. It will organize a third training workshop from 23 to 27 April 2025 in Qingdao, China, on tools and methodologies for the development of regional environmental management plans. In April 2025, the Centre launched its first call for joint research projects with a focus on data and biodiversity.³⁴ In 2024, the Authority established its first regional Joint Training and Research Centre in collaboration with Egypt. With financial support from the Partnership Fund and Greece, the Centre held the first-ever training course on environmental impact assessments for exploration activities in the Area, in Alexandria, Egypt, from 14 to 26 September 2024.³⁵ During the reporting period, the two Centres have strengthened the capacity of 41 experts from 29 countries – including 8 small island developing States and 5 least developed countries – with 40 per cent of participants being women.

38. To advance women's empowerment, the Authority advanced three initiatives under its Women in Deep-Sea Research project. First, the pilot of the global mentoring programme See Her Exceed, consisting of 16 mentors and mentees, will be completed in July 2025.³⁶ The programme will deliver guidelines aimed at encouraging the greater participation of women in offshore deep-sea research cruises. It will also deliver an analysis of the scientific output reported in exploration activities. To further mobilize resources and partners, the secretariat promoted the programme through a dedicated communication booth during the twenty-ninth session of the Authority. In addition, the Secretary-General, together with France, organized a side event during the thirtieth session of the Council in March 2025 to call upon member States to support the initiative and ensure its long-term outcomes. Second, the Women in Blue initiative was organized by the National Research Council of Italy. A winter school on marine geology and deep sea frontiers was organized from 27 to 31 January 2025, co-funded through the Partnership Fund (\$98,000). It provided training in marine geology, including at-sea experience, for 10 women from 10 countries.³⁷ Third, nearly all contractors pledged to allocate half of their training opportunities to qualified women, where appropriate.

³¹ See www.isa.org.jm/capacity-development-training-and-technical-assistance/untblde.

³² Kabita Karki, geologist at the Department of Mines and Geology, Ministry of Industry, Commerce and Supplies, Nepal; and Fadhili Malesa, marine scientist at the School of Aquatic Sciences and Fisheries Technology, Dar es Salaam University, United Republic of Tanzania.

³³ United Nations Convention on the Law of the Sea, arts. 276 and 277.

³⁴ See www.isa.org.jm/capacity-development-training-and-technical-assistance/isa-china-joint-training-and-research-centre-2.

³⁵ See www.isa.org.jm/news/first-ever-worldwide-environmental-impact-assessment-training-course-for-activities-conducted-in-the-area-completed-at-the-isa-egypt-joint-training-and-research-centre.

³⁶ See www.isa.org.jm/capacity-development-training-and-technical-assistance/widsr-project/see-her-exceed.

³⁷ See www.isa.org.jm/women-in-blue-initiative. Participants were from Argentina, Bangladesh, Ghana, India, Kiribati, Mauritius, Nepal, Nigeria and Tonga.

39. Finally, under the DeepDive virtual e-learning platform, two cohorts comprising 57 experts were trained, including on topics related to marine scientific research in the deep sea.³⁸

III. Stakeholder engagement and mobilization of partners for the implementation of the action plan

40. Increasing visibility, reinforcing political support and ensuring alignment with global priorities are essential to expand partnerships and mobilize more resources to accelerate the implementation of the action plan. To this end, the secretariat engages in global forums, including two key examples described below.

41. First, the Secretary-General will participate in the third United Nations Ocean Conference, in Nice, France, from 9 to 13 June 2025. In preparation for the conference, the secretariat contributed to background papers on topics relevant to the Authority's work. In collaboration with eight partners, an application for a side event has been submitted to showcase progress achieved and highlight upcoming opportunities to accelerate global actions for enhanced deep-sea research and capacity development in support of Sustainable Development Goal 14.

42. On the margins of the Ocean Conference, a letter of cooperation will be signed with the Chief Executive Officer of the Commonwealth Scientific and Industrial Research Organisation to strengthen collaboration, focusing on cumulative impact assessments. In addition, a memorandum of understanding will be signed with the Food and Agriculture Organization of the United Nations to facilitate data-sharing and strengthen scientific collaboration between the two organizations.

43. During the Ocean Conference, the secretariat, together with the Ministry of Oceans and Fisheries of the Republic of Korea, will launch the Authority's Deep-sea Biobank Initiative, aimed at facilitating global access to deep-sea biological samples and genetic data from the Area for the benefit of all humankind.

44. Second, the secretariat will participate in the tenth Our Ocean Conference in Busan, Republic of Korea, from 28 to 30 April 2025 to engage with representatives of member States, scientific institutions and other stakeholders, foster new partnerships and promote the Authority's efforts to advance global deep-sea science and research capacity.³⁹ On the margins of the Conference, a letter of cooperation with the Minister of Oceans and Fisheries of the Republic of Korea will be signed, formalizing the partnership for the implementation of the Deep-sea Biobank.

45. To raise awareness of the added value of the Authority's work through the collective implementation of the action plan, the Secretary-General engaged in 44 meetings and discussions from 5 to 15 February 2025, including 30 high-level engagements with key stakeholders from the United Nations and member States of the Authority. These meetings fostered dialogues on the importance of science in deep-sea governance. In addition, support for the call for action on deep-sea science, technology and innovation, launched on the margins of the Sustainable Development Goals Summit, held in New York in 2023, has grown.⁴⁰ This support creates political momentum to invest more in deep-sea science and technology development and align

³⁸ See www.isa.org.jm/deep-dive.

³⁹ See <https://ourocean2025.kr>.

⁴⁰ See www.isa.org.jm/call-for-action.

research agendas with the global deep-sea agenda. The call has now been endorsed by 16 member States, three scientific institutions and seven contractors.⁴¹

46. The secretariat also participates in the advisory committees of five research and technology projects or initiatives. The common objective is to support the Authority's role in promoting science and identify synergies with existing initiatives to avoid overlap. Two of the projects are funded by the European Union: TRIDENT, which focuses on impact assessment tools for sustainable exploration and exploitation; and DeepRest, which addresses the restoration of ecosystems affected by deep-sea mining.⁴² The other initiatives in which the secretariat is engaged are: the Decade action entitled "Digital deep-sea typical habitats", aimed at enhancing understanding of deep-sea habitats; the SMARTEX project on deep-sea ecosystem resilience to experimental impacts, funded by the United Kingdom of Great Britain and Northern Ireland; and the Deep Ocean Observing Strategy, which supports ocean monitoring efforts.⁴³ Lastly, starting in June 2025, the secretariat will join the board of a project on the ecological aspects of deep-sea mining under the Joint Programming Initiative for Healthy and Productive Seas and Oceans.⁴⁴

IV. Next steps

47. Forthcoming actions will build on the success of existing programmes and the recommendations of the stocktaking report, with particular emphasis on developing flagship initiatives that provide a comprehensive framework for implementing specific strategic research priorities. The secretariat will also continue to explore the broader marine science landscape to identify emerging topics of relevance, with the aim of advancing scientific knowledge in support of regulatory development under the Authority. Lastly, emphasis will be placed on expanding and diversifying content and partnerships, as well as capacity development activities under the action plan.

V. Recommendations

48. **The Assembly is invited to:**

- (a) **Take note of the information provided in the present report;**
- (b) **Request the Secretary-General to continue her efforts to mobilize the resources and partnerships necessary for advancing the implementation of the strategic research priorities under the action plan;**
- (c) **Encourage all members of the Authority, other States, relevant international organizations, academic, scientific and technical institutions, philanthropic organizations, corporations and individuals to contribute to the implementation of the action plan.**

⁴¹ The member States are: Argentina, Bangladesh, China, Cook Islands, Fiji, Ghana, India, Jamaica, Malta, Mauritius, Nauru, Norway, Singapore, Togo, Tonga and United Kingdom. A list of scientific institutions and contractors is available at www.isa.org.jm/call-for-action.

⁴² See <https://deepseatrident.eu> and <https://deep-rest.ifremer.fr>.

⁴³ See <https://smartexccz.org> and www.deepoceanobserving.org/pages/about-dooos.

⁴⁴ See www.jpi-oceans.eu/en/ecological-aspects-deep-sea-mining.