

INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

**REQUEST FOR AN ADVISORY OPINION SUBMITTED BY THE COMMISSION OF
SMALL ISLAND STATES ON CLIMATE CHANGE AND INTERNATIONAL LAW**

WRITTEN STATEMENT OF THE INTERNATIONAL SEABED AUTHORITY

16 JUNE 2023

TABLE OF CONTENTS

List of Annexes	2
I. Introduction.....	3
II. General considerations.....	5
III. The protection and preservation of the marine environment under Part XII of UNCLOS.....	7
IV. Part XI of UNCLOS, the protection of the marine environment and the role of the International Seabed Authority.....	12
V. Measures taken by the International Seabed Authority to incorporate VI. climate change considerations into its rules, regulations and procedures.....	18
VII. The International Seabed Authority's role in promoting and encouraging marine scientific research in the Area.....	22
VIII. Conclusions.....	25

List of Annexes

- 1) Letter from the ISA Secretary-General to the ITLOS President, 20 February 2023 (**Annex 1**)
- 2) Letter from the ITLOS Registrar to the Secretary-General of the International Seabed Authority, 24 February 2023 (**Annex 2**).
- 3) Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, ISBA/19/C/17 (**Annex 3**)
- 4) Regulations on prospecting and exploration for Polymetallic Sulphides in the Area, ISBA/16/A/12/Rev.1 (**Annex 4**)
- 5) Regulations on prospecting and exploration for Cobalt-rich Ferromanganese Crusts in the Area, ISBA/18/A/11 (**Annex 5**)
- 6) Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (ISBA/25/LTC/6/Rev.2) (**Annex 6**)

Case No. 31

Request for an advisory opinion submitted by the Commission of Small Island States on Climate Change and International Law

Written Statement submitted by the International Seabed Authority

I. Introduction

1. On 12 December 2022, a Request for an advisory opinion was submitted to the International Tribunal for the Law of the Sea (“the Tribunal”) by the Commission of Small Island States on Climate Change and International Law (“COSIS” or “Commission”), pursuant to article 2(3) of the COSIS Agreement,¹ on States Parties’ obligations under the United Nations Convention on the Law of the Sea (“UNCLOS” or “the Convention”) to combat climate change.
2. On 16 December 2022, the President of the Tribunal issued Order 2022/4 on the conduct of the proceedings. By that Order, the Tribunal, *inter alia*, *decided*, in accordance with article 133, paragraph 2 of the Rules of the Tribunal, that certain intergovernmental organizations were “considered likely to be able to furnish information on the questions submitted to the Tribunal for an advisory opinion”. Pursuant to article 133, paragraph 3 of the Rules of the Tribunal, he invited “the States Parties to the Convention, the Commission and the other organizations referred above to present written statements on the questions submitted to the Tribunal for an advisory opinion” by 16 May 2016. By Order 2023/1 of 15 February 2023, the President extended the time-limit within which written statements may be presented to the Tribunal, to 16 June 2023.

¹ Agreement for the establishment of the Commission of Small Island States on Climate Change and International Law, signed by Antigua and Barbuda, and Tuvalu, on 31 October 2021. Available at <https://www.cosis-ccil.org/>

3. On 20 February 2023, the Secretary-General of the International Seabed Authority (“the Authority”) requested the President of the Tribunal to consider the Authority as an intergovernmental organization considered likely to be able to furnish information on the questions submitted to the Tribunal and, therefore, to invite the Authority to present its written statement within the above-mentioned time-limit.²
4. By a communication dated 24 February 2023, the Registrar of the Tribunal informed the Authority of the decision of the President to consider the Authority as an intergovernmental organization likely to be able to furnish information on the questions submitted to the Tribunal for an advisory opinion, and to invite the Authority to do so within the extended time limit fixed by the President’s Order of 15 February 2023.³ At the same time, the Registrar recalled that, pursuant to such order, further procedural steps, including with respect to oral proceedings, would be taken in due course.
5. The following statement is presented on behalf of the International Seabed Authority, in order to assist the Tribunal in addressing the two questions posed by COSIS. The obligations referred to in the questions, to prevent, reduce and control pollution of the marine environment and to protect and preserve the marine environment, are set out in Part XII of UNCLOS, which also applies to activities in the Area (the international seabed Area). As explained in this Written Statement, activities in the Area are organized, carried out and controlled by States Parties through the Authority. The Authority is entrusted with important responsibilities in relation to the protection of the marine environment to manage the effects of activities in the Area pursuant to Part XII of UNCLOS, which has to be read together with the 1994 Implementation Agreement.⁴ Another fundamental competence of the Authority relates to the promotion, encouragement, and coordination of marine scientific research in the Area, as well as the dissemination of its available results and analysis.

² Letter from the ISA Secretary-General to the ITLOS President, 20 February 2023 (**Annex 1**).

³ Letter from the ITLOS Registrar to the Secretary-General of the international Seabed Authority, 24 February 2023 (**Annex 2**).

⁴ Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (hereafter “Implementation Agreement” or “1994 Agreement”. For a Consolidation of Part XI of the Convention and the Implementation Agreement, see the International Seabed Authority’s publication ISA/98/04.

6. The remainder of the present Written Statement is organized as follows:

- II. General considerations
- III. The protection and preservation of the marine environment under Part XII of UNCLOS
- IV. Part XI of UNCLOS, the protection of the marine environment and the role of the International Seabed Authority
- V. Measures taken by the International Seabed Authority to incorporate climate change considerations into its rules, regulations and procedures
- VI. The International Seabed Authority's role in promoting and encouraging marine scientific research in the Area
- VII. Conclusions.

7. The present Statement does not address questions of jurisdiction and/or admissibility.

II. General Considerations

8. The questions asked by COSIS read as follows:

“What are the specific obligations of State Parties to the United Nations Convention on the Law of the Sea (UNCLOS), including under Part XII:

(a) to prevent, reduce and control pollution of the marine environment in relation to the deleterious effects that result or are likely to result from climate change, including through ocean warming and sea level rise, and ocean acidification, which are caused by anthropogenic greenhouse gas emissions into the atmosphere?

(b) to protect and preserve the marine environment in relation to climate change impacts, including ocean warming and sea level rise, and ocean acidification?”

9. Two preliminary points should be made, indicating the appropriateness of the present request:

- First, the Seabed Disputes Chamber of ITLOS has already made “an important contribution to the work of the Authority concerning activities in the Area”⁵ through its Advisory Opinion of 1 February 2011.⁶
- Second, the Tribunal has already contributed much to the international environmental law.⁷

10. The Authority considers it not only apposite but necessary to submit its observations in this case because the legal questions submitted are specifically framed in terms of UNCLOS. The Authority is one of the three international institutions established by the Convention and the rules governing its role, functions, and organs are contained in the same instrument. In this regard it is one of the institutions that contributes, inter alia, by the exercise of its regulatory powers, to ocean governance and the rule of law in the ocean, as well as the progressive development of international law. As the Seabed Disputes Chamber has explained:

*“The Authority is the international organization established by the Convention in order to “organize and control activities in the Area” (article 157, paragraph 1, of the Convention and section 1, paragraph 1, of the Annex to the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea;”*⁸

11. The Authority’s mandate is a key element of UNCLOS. It is entrusted with the stewardship of *the Area*, defined in article 1(1) of the Convention as “the seabed and ocean floor and

⁵ Albert J. Hoffmann, “The Role of the Seabed Disputes Chamber in Dispute Settlement Relating to Activities in the Area”, in Alfonso Ascencio-Herrera and Myron H. Nordquist (eds.), *The United Nations Convention on the Law of the Sea, Part XI Regime and the International Seabed Authority. A Twenty-Five Year Journey* (2022), p. 139 at p. 142.

⁶ *Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS Reports 2011*, p. 10 (hereafter “2011 Advisory Opinion”).

⁷ See Boyle, Alan “The Environmental Jurisprudence of the International Tribunal for the Law of the Sea”, *International Journal of Marine and Coastal Law*, vol. 23, no. 3, (2007), p. 389; Heidar, Tomas, “The Contribution of the International Tribunal for the Law of the Sea to the Protection of the Marine Environment”, *The Korean Journal of International and Comparative Law* 9, 2 (2021), p. 354-369.

⁸ 2011 Advisory Opinion, p. 23, para. 26.

subsoil thereof, beyond the limits of national jurisdiction”, and declared together with its resources to be “the common heritage of mankind” (article 136). The regime is extensively developed in Part XI and Annex III of the Convention as well as the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 which is to be read and interpreted together with Part XI as a single instrument..

12. The request of COSIS refers in particular to Part XII of the Convention, which pertains to the protection and preservation of the marine environment. Part XII applies in general to all maritime zones identified by the Convention but also has specific provisions related to the Area, which fall within the jurisdiction of the Authority as set out inter alia in Part XI of the Convention. The Authority’s functions concerning the administration of activities in the Area, which extend to regulatory powers, encompass important responsibilities in relation to the protection of the marine environment. In the exercise of such competencies by the Authority related to the marine environment, which include those that may derive from climate change considerations, States have specific obligations that need to be considered by the Tribunal.

13. Another fundamental competence of the Authority relates to the promotion, encouragement, and coordination of marine scientific research in the Area as well as dissemination of its results and analysis, when available. Since the assessment of the impacts of climate change is an essential part of marine scientific research, the role and obligations of the Authority as well as States Parties in supporting marine scientific research pursuant to the Convention must be considered in the context of the questions posed by COSIS. Effective protection of the marine environment requires a comprehensive and integrated approach, considering the whole legal system and with all institutions of ocean governance and actors involved.

III. The protection and preservation of the marine environment under Part XII of UNCLOS

14. The Convention aims to establish a comprehensive and holistic framework to regulate the seas and oceans. That overarching objective is reflected in the provisions for the protection and conservation of the marine environment throughout the Convention. In the preamble to the Convention, “conscious that the problems of ocean space are closely interrelated and need to be considered as a whole”, it is recognized that the legal order for the seas and oceans established by UNCLOS is intended to promote “the conservation of their living resources, and the study, protection, and preservation of the marine environment”.⁹
15. Part XII of the Convention primarily consists of broad and inclusive provisions aimed at safeguarding the marine environment in its entirety against various forms and sources of marine pollution. It is important to note that the scope of protection is not limited to ocean space (when activities conducted in other areas such as land or the atmosphere could result in adverse effects to it)¹⁰ but also extends beyond the regulation of sources of marine pollution,¹¹ to encompass measures of preservation of both living¹² and non-living resources, the protection and preservation of rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species and other forms of marine life. It further entails various obligations of cooperation, monitoring, environmental assessment, consultation, and due regard. Its provisions underlie the concepts of sustainable utilization, the application of the precautionary approach, due diligence, and the protection of biodiversity.
16. The articles referred to specifically in the questions put before the Tribunal (arts. 192 and 194) are within Part XII of the Convention and are applicable to all maritime areas. The second question concerns the general obligation to protect and preserve the marine environment (article 192), while article 194 (linked to the first question) is concerned with “pollution of the marine environment”, as defined in article 1(1)(4) of UNCLOS.

⁹ UNCLOS, third and fourth preambular paras.

¹⁰ UNCLOS, articles 194, 207, 212, 213, 222.

¹¹ PCA, Chagos Marine Protected Area (Mauritius v. United Kingdom), Award of 18 March 2015, 128-129 (para 320), available at <https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf>

¹² As exemplified in the *Southern Bluefin Tuna Cases*, ITLOS, Southern Bluefin Tuna Cases (New Zealand v. Japan), Provisional Measures, Order of 27 August 1999, ITLOS Report, 280, para 70, available at <https://files.pca-cpa.org/pcadocs/MU-UK%2020150318%20Award.pdf>

17. Article 192 must be understood as general in application, both in its material and spatial application, and comprehensive in nature. It applies to the whole of the marine environment and all maritime zones. It includes all forms and sources of marine pollution.¹³ As the title of the Section indicates, it requires not only “protection” from future damage but also “preservation” of the environment, which implies a positive obligation to take active measures and a negative obligation to maintain the condition of the marine environment and not degrade it.

18. Article 194 is related specifically to *pollution* of the marine environment and the corresponding duty to take measures to prevent, reduce and control it. States have the following obligations:

- (a) To take, individually or jointly, all measures necessary to avoid pollution by reducing and controlling it; to take measures to prevent future pollution, using for this purpose the best practicable means at their disposal and in accordance with their capabilities; and to harmonize their policies (para. 1).
- (b) Not to cause damage by pollution to other States and their environment from the conduct of activities under their jurisdiction or control; coupled with the parallel duty to ensure that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights (para. 2).
- (c) To take measures aimed to minimize to the fullest possible extent the effects of some specific conducts/operations/devices/installations (para. 3).
- (d) To refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention, when adopting these measures (para. 4).

19. The definition of *pollution of the marine environment*, under UNCLOS, in article 1(1) (4), allows the impacts or effects of climate change to be considered within its scope of application. Pollution means “the introduction by man, directly or indirectly”, “of

¹³ Cf. Alan Boyle, *Marine Pollution under the Law of the Sea Convention*, AJIL 79 (1985), 347, 350.

substances or energy into the marine environment”, “which results or is likely to result in such deleterious effects” “as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of seawater and reduction of amenities”. The generation of anthropogenic CO₂ and its introduction (even indirectly) into the marine environment, producing a deleterious effect and harming the marine environment or hindering the legitimate uses of the sea, constitutes “pollution” under UNCLOS and triggers the entire set of obligations set forth for States Parties.

20. More specific obligations related to pollution are set forth in Section 5 of Part XII. For example, article 207 deals with pollution from land-based sources. Article 208 addresses pollution from seabed activities subject to national jurisdiction. Article 212 refers to pollution from or through the atmosphere. All those provisions encompass obligations to adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with certain activities, spaces, vessels flying the flag of States Parties or vessels or aircraft of their registry, or subject to their jurisdiction or under their sovereignty or control. It is established that such laws, regulations, and measures shall be no less effective than international rules, standards, and recommended practices and procedures and there are duties upon States to harmonize their policies at the appropriate regional level or establish global and regional rules, standards and recommended practices and procedures through competent international organizations or diplomatic conferences. The need for re-examination from time to time of all such measures and regulations is expressly recognized.

21. There are also other obligations established by UNCLOS in Part XII with respect to the prevention, reduction, and control of pollution and the protection and preservation of the marine environment, that could be considered relevant, such as:

- (a) The obligation not to transfer damage or hazards from one area to another or transforming one type of pollution into another (article 195);

- (b) Obligations of cooperation globally or regionally, directly or through international organizations, in formulating international rules, standards, and recommended practices for the protection and preservation of the marine environment (article 197); to eliminate the effects of pollution in the affected area and prevent or minimize damage by jointly developing and promoting contingency plans for responding to pollution incidents (article 199); and to promote studies, research programmes, and the exchange of information and data on marine pollution (article 200);
- (c) Duties to provide scientific, educational and technical assistance to developing States (articles 202, 203)
- (d) Duties to establish scientific criteria based on acquired information and data for the formulation of rules (article 201) and to use recognized scientific methods to observe, measure, evaluate, and analyse the risks or effects of marine pollution (article 204), as well as duties to publish reports of the results obtained from monitoring the risks or effects of marine pollution or provide them to competent international organizations (article 205);
- (e) Obligations to conduct environmental impact assessments (article 206).

22. The importance of the set of rules mentioned in paragraphs 18, 20 and 21 above is that, whatever the source of pollution, Part XII and the obligations attached apply to States in respect of that pollution if it has an impact on the ocean, including pollution arising from the anthropogenic introduction of greenhouse gas emissions.

23. This conclusion is also applicable in the case of the general obligation to protect the marine environment and the specific obligation with respect to pollution from activities in the Area. Section 5 of Part XII contains special provisions with respect to pollution arising from activities in the Area, establishing in article 209(1) a general regulatory obligation, an

obligation on States in article 209(2) and an enforcement mandate in article 215 (referring back to Part XI).¹⁴

24. Article 209(1) sets out the obligation to develop rules, regulations and procedures to prevent, reduce and control pollution of the marine environment from activities in the Area, in accordance with Part XI.
25. Article 209(2) requires States to adopt national laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels, installations, structures and other devices flying their flag or of their registry or operating under their authority, as the case may be. The requirements of such laws and regulations shall be no less effective than the international rules, regulations and procedures referred to in paragraph 1 (i.e., those adopted by the Authority).
26. States have obligations with respect to the protection and preservation of the marine environment individually and collectively. General individual obligations for States are most of the provisions contained in Part XII,¹⁵ while others contain a duty to act, cooperate or adopt certain rules through regional or international organizations, as is the case of the International Seabed Authority that will be developed in the next section.

IV. Part XI of UNCLOS, the protection of marine environment and the role of the International Seabed Authority

27. Part XI on the Area, read together with the 1994 Implementation Agreement, makes specific provision for the protection of the marine environment. Among the “Principles Governing The Area”, set out in Section 2 of Part XI, the protection of the marine environment, enshrined in article 145, is pivotal. Together with establishing a special

¹⁴ Article 215 Enforcement with respect to pollution from activities in the Area: Enforcement of international rules, regulations and procedures established in accordance with Part XI to prevent, reduce and control pollution of the marine environment from activities in the Area shall be governed by that Particle

¹⁵ See , for example, UNCLOS articles 192, 194, 195, 196, 198, 202, 204, 205, 206, 207, 208, 209.2, 210, 211 (2) (3) (5)(6)(7), 212 (1)(2).

regime for the protection of the marine environment with respect to activities in the Area and designating the organization with competence in the matter, Article 145 establishes a specific obligation for States Parties to UNCLOS to adopt, through the Authority, appropriate rules, regulations, and procedures.

28. Article 145 reads:

Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for inter alia:

(a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities;

(b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

29. It is worth noting, for the purposes of the questions submitted to the Tribunal, that the above-mentioned duty of taking measures to ensure effective protection for the marine environment, is triggered when the following conditions are met:

- The activities with respect to which measures are taken are activities in the Area
- The objective is to ensure effective protection of the marine environment from harmful effects, which may arise from such activities.
- The measures must be taken “in accordance with this Convention”.

30. The expression “*activities in the Area*” is a term of art defined in article 1(1)(3) of the Convention as “all activities of exploration for, and exploitation of, the resources of the Area”. For the purposes of Part XI, “resources” are defined as “all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules” (article 133(a)). “[R]esources”, when recovered from the Area, are referred to as “minerals” (article 133(b)). Exploration and exploitation are not defined in the Convention. Article 145 lists, in a non-exhaustive manner, what are considered to be relevant activities. The Seabed Disputes Chamber, in its Advisory Opinion of 1 February 2011, addressed specifically this matter,¹⁶ interpreting the provisions of UNCLOS and the Authority’s Nodules and Sulphides Regulations, and concluded that “activities in the Area”, in the context of both exploration and exploitation, include, first of all, the recovery of minerals from the seabed and their lifting to the water surface,¹⁷ and other directly connected activities such as the evacuation of water from the minerals and the preliminary separation of materials of no commercial interest, including their disposal at sea.¹⁸ The activities mentioned by the Convention as examples of activities in the Area, such as drilling, dredging, coring, and excavation; disposal, dumping, and discharge into the marine environment of sediment, wastes or other effluents; and construction and operation or maintenance of installations, pipelines and other devices related to such activities, are also to be considered.¹⁹ In addition, the “shipboard processing immediately above a mine site of minerals derived from that mine site”²⁰ were also considered as “activities in the Area”. The Chamber further clarified that processing and transporting of minerals are excluded from the notion of “activities in the Area”, as well as their transportation to points on land from the high seas above the area where the contractor operates, except for transportation directly connected with extraction and lifting within the high seas area.²¹

31. As for the second condition, the objective of the measures, there is no express definition of “marine environment” nor of “harmful effects” in the Convention. A comprehensive

¹⁶ 2011 Advisory Opinion, pp. 34-38, paras. 82-97.

¹⁷ *Ibid*, para. 94

¹⁸ *Ibid*, para. 95

¹⁹ *Ibid*, para. 87

²⁰ *Ibid*, para. 88

²¹ *Ibid*, para. 96

interpretation must be undertaken within the entire framework of the Convention and the 1994 Agreement. Article 145 sheds some light on the elements which are considered within each term. Hence, the coastline, the natural resources, the flora and fauna, are part of the marine environment; and pollution and other hazards, interference with the ecological balance of the marine environment, and any kind of damage to it are regarded as harmful effects. The Regulations adopted by the Authority contain definitions of “marine environment”, and “serious harm to the marine environment” that complement the terms of article 145.

- “*Marine environment*” includes the physical, chemical, geological and biological components, conditions and factors which interact and determine the productivity, state, condition and quality of the marine ecosystem, the waters of the seas and oceans and the airspace above those waters, as well as the seabed and ocean floor and subsoil thereof.²²

- “*Serious harm to the marine environment*” means any effect from activities in the Area on the marine environment which represents a significant adverse change in the marine environment determined according to the rules, regulations and procedures adopted by the Authority on the basis of internationally recognized standards and practices.²³

32. Article 145 elaborates on the concrete means to comply with the obligation of taking necessary measures and hence to achieve the purpose of ensuring the effective protection for the marine environment from harmful effects which may arise from activities in the Area: through the adoption, by the Authority, of “*appropriate rules, regulations and procedures*”:

(a) aimed at the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the

²² See, for example, Regulation 1(3) (c) and (f), Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, ISBA/19/C/17, available at <https://www.isa.org.jm/wp-content/uploads/2022/04/isba-19c-17-0-2.pdf> (Annex 3)

²³ Ibid.

ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities;

(b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

33. The Authority's mandate in environmental protection is also evident from other provisions of UNCLOS. Article 165, paragraph 2, of the Convention, states that the Legal and Technical Commission ("LTC") shall, *inter alia*: prepare assessments of the environmental implications of activities in the Area; make recommendations to the Council on the protection of the marine environment; take into account assessments of environmental implications when formulating rules, regulations and procedures referred to in article 162, paragraph 2 (o), of the Convention; and make recommendations to the Council regarding the establishment of a monitoring programme to observe, measure, evaluate and analyse, by recognized scientific methods, on a regular basis, the risks or effects of pollution of the marine environment resulting from activities in the Area. Annex III to the Convention, which sets out the basic conditions of prospecting, exploration and exploitation, also requires the Authority to adopt rules, regulations and procedures on mining standards and practices, including those relating to the protection of the marine environment.

34. Complementing such a framework, and forming a single instrument on the protection marine environment with respect to seabed activities, the 1994 Implementation Agreement requires the Authority, *inter alia*:

(a) To give priority to the adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment;²⁴

(b) To concentrate in the acquisition of scientific knowledge and monitoring of the development of marine technology relevant to activities in the Area, in particular technology relating to the protection and preservation of the marine environment;²⁵

²⁴ 1994 Agreement, Annex, Section 1, para. 5(g)

²⁵ *Ibid*, Section 1, para. 5 (i)

- (c) To promote and encourage the conduct of marine scientific research with respect to activities in the Area and the collection and dissemination of the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area;²⁶
- (d) To elaborate, in a timely manner, the rules, regulations and procedures for exploitation, including those relating to the protection and preservation of the marine environment;²⁷
- (e) To require that every application for approval of a plan of work for exploration is accompanied by an assessment of the potential environmental impacts of the proposed exploration activities and a description of a programme for oceanographic and baseline environmental studies.²⁸

35. There are also duties of cooperation that, when materialized in the adoption of measures affecting the Area, should be implemented in coordination with the Authority. That is the case, for example, of the obligation of cooperate in promoting the transfer of technology and scientific knowledge relating to activities in the Area.²⁹ The 1994 Agreement elaborates this provision by urging States Parties, through the Authority, to promote international technical and scientific cooperation by developing training, technical assistance and scientific cooperation programmes in marine science and technology and the protection and preservation of the marine environment.³⁰ Article 273 of UNCLOS reiterates the obligation of cooperation for States with regard to activities in the Area, expressing that States shall cooperate actively with competent international organizations and the Authority to encourage and facilitate the transfer to developing States, their nationals and the Enterprise of skills and marine technology. Other environmental obligations vis-à-vis States require the competent international organization (i.e., the Authority) to be involved, as in the notification of imminent or actual damage,³¹ contingency plans against pollution,³² the

²⁶ Ibid, Section 1, para. 5 (h)

²⁷ Ibid, Section 1, para 5 (k)

²⁸ Ibid, Section 1, 7.

²⁹ UNCLOS, article 144(2) on Transfer of technology

³⁰ 1994 Agreement, Annex, Section 5 (1)(c)

³¹ UNCLOS, article 198.

³² UNCLOS, article 199.

promotion of studies, programmes of scientific research and exchange of information and data acquired about pollution of the marine environment,³³ among others.

36. Article 153, paragraph 4, of the Convention, stresses that the States have the obligation to assist the Authority in its task of controlling activities in the Area for the purpose of ensuring compliance with the relevant provisions of Part XI of the Convention and related instruments. Such direct obligation is met through compliance with the “due diligence obligation” set out in article 139 of the Convention, to ensure that the activities in the Area conducted by the sponsored contractor are “in conformity” or in “compliance” with those rules.³⁴ In its 2011 Advisory Opinion, the Tribunal clarified that, when a State becomes a sponsoring State, is not limited to the due diligence “obligation to ensure”³⁵, but is also bound by other direct obligations, such as: to apply a precautionary approach; the obligation to apply best environmental practices; the obligation to take measures to ensure the provision of guarantees in the event of an emergency order by the Authority for protection of the marine environment; the obligation to ensure the availability of recourse for compensation in respect of damage caused by pollution; and the obligation to conduct environmental impact assessments.³⁶

V. Measures taken by the International Seabed Authority to incorporate climate change considerations into its rules, regulations and procedures

37. In fulfilment of the mandate set out in article 145 the Authority has adopted three sets of exploration regulations covering, respectively, prospecting and exploration for polymetallic nodules (2000 and revised in 2013) (**Annex 3**), polymetallic sulphides (2010) (**Annex 4**), and cobalt-rich ferromanganese crusts (2012) (**Annex 5**).³⁷ The provisions of each set of

³³ UNCLOS, article 200.

³⁴ Ibid, p. 40, para. 103.

³⁵ Ibid, 44, para. 121.

³⁶ Ibid, 44, para. 122.

³⁷ ISA adopted three sets of exploration regulations covering the prospecting and exploration for polymetallic nodules in 2000 and revised in 2013 (ISBA 19/C/17), available at https://www.isa.org.jm/wp-content/uploads/2022/04/isba-19c-17_0-2.pdf; polymetallic sulphides in the Area in 2010 (ISBA/16/A/12/Rev.1), available at https://www.isa.org.jm/wp-content/uploads/2022/04/isba-16a-12rev1_0.pdf; and for cobalt-rich ferromanganese crusts in the Area (ISBA/18/A/11) in 2012, available at https://www.isa.org.jm/wp-content/uploads/2022/04/isba-18a-11_0.pdf

regulations are quite similar and for ease of reference they are referred to collectively in the following paragraphs as “the Regulations”. Each of these three sets of regulations dedicates a special part to the “Protection and preservation of the marine environment” (beyond the requirements set out for prospectors and applicants). The provisions of this part of the regulations (which are similar in all three sets of regulations) create obligations for the Authority, the Legal and Technical Commission, the sponsoring States, other interested States or entities and the exploration contractors.

38. The Regulations contain, *inter alia*, fundamental definitions such as *marine environment* and *serious harm to the marine environment*; and provide (implementing article 145 of the Convention) that they may be supplemented by further rules, regulations, and procedures, in particular on the protection and preservation of the marine environment. The environmental rules, regulations, and procedures must be kept under periodic review by the Authority, to ensure effective protection for the marine environment from harmful environmental effects which may arise from activities in the Area.³⁸ The Authority is required to apply the precautionary approach, as reflected in principle 15 of the Rio Declaration on Environment and Development, and best environmental practices.³⁹
39. The Regulations impose different levels of duty for prospectors and contractors, but both categories have a standard base obligation to take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment arising from their activities in the Area as far as reasonably possible, applying a precautionary approach and best environmental practices, and implementing programmes for monitoring and evaluating the impacts of deep seabed mining on the marine environment.⁴⁰ In the case of applicants for a contract of exploration, the regulations impose requirements related to environmental baseline studies; assessment of the potential impact of the proposed activities on the marine environment (including, but not restricted to the impact on biodiversity); proposed measures for the prevention, reduction, and control of pollution and other hazards, as well

³⁸ See, for example, Regulation 31, Regulations on Polymetallic Nodules in the Area, ISBA/19/C/17, cited at footnote 22.

³⁹ Ibid, Reg. 2 and Reg. 31(2)

⁴⁰ Ibid, Reg. 5 and Reg 31(5)(6)

as possible impacts to the marine environment. If the application ends with a contract, the Regulations require that the contract obliges the contractor to gather environmental baseline data and to establish environmental baselines against which to assess the likely effects of its programme of activities under the plan of work for exploration on the marine environment and a programme to monitor and report on such effects. As recalled by the Tribunal in its 2011 Advisory Opinion, “[w]hile the applicable contract is a contract between the Authority and the contractor only and as such does not bind the sponsoring State, the sponsoring State is nevertheless under an obligation to ensure that the contractor complies with its contract.”⁴¹ The section on Protection and preservation of the marine environment also includes provisions on Emergency orders, Rights of coastal States, etc.

40. This normative structure is binding to all States Parties to the Convention, all of which are *ipso facto* members of the Authority (article 156(2)).

41. In 2001, the LTC issued a series of Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from the exploration for polymetallic nodules in the Area.⁴² These were revised in 2010 in light of increased scientific understanding.⁴³ Following the approval of the Regulations on prospecting and exploration for polymetallic sulphides in the Area in 2010,⁴⁴ and for cobalt-rich ferromanganese crusts in the Area in 2012,⁴⁵ it was decided that there was a need to create a combined set of environmental guidelines that included guidance with regard to exploration for all types of minerals. In 2019, the LTC issued a further revised version of Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (“the 2019

⁴¹ 2011 Advisory Opinion, pp. 73, para. 238.

⁴² ISBA/7/LTC/1/Rev.1 (2001), Recommendations for the guidance of the contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area, issued by the Legal and Technical Commission.

⁴³ ISBA/16/LTC/7. (2010), Recommendations for the guidance of the contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area, issued by the Legal and Technical Commission.

⁴⁴ ISBA/16/A/12/Rev.1, cited in footnote 34.

⁴⁵ ISBA/18/A/11, cited in footnote 34.

Environmental Recommendations”) (**Annex 6**).⁴⁶ As explained at paragraph 39 above, the contractor is required to submit to the Authority prior to the commencement of exploration activities:

- (a) An impact assessment of the potential effects on the marine environment of all proposed activities, excluding those activities considered by the Legal and Technical Commission to have no potential for causing harmful effects on the marine environment;
- (b) A proposal for a monitoring programme to determine the potential effect on the marine environment of proposed activities; and to verify that there is no serious harm to the marine environment arising from the prospecting and exploration for minerals;
- (c) Data that could be used to establish an environmental baseline against which to assess the effect of future activities.

42. The 2019 Environmental Recommendations contain specific details on the methods and technologies to be used by contractors for acquiring baseline data and the monitoring to be performed during and after any activities in the exploration area with potential to cause serious harm to the environment. They also include an “Explanatory commentary” in an annex, aimed at providing guidance on the current best available technologies and methodologies to support contractors in implementing the recommendations (it should be understood that they are likely to change based on future research). Among the activities that the Plan of Work of Exploration should include (as an environmental requirement) is:

- (a) *Establish an environmental baseline study against which to compare background variability, climate change and impacts caused by mining activities;*⁴⁷

43. In the work currently being done by the Council of the Authority preparing the Regulations for the Exploitation of Marine Minerals in the Area, factors related to climate change are more extensively being considered in the draft texts on environmental matters, as evidence

⁴⁶ ISBA/25/LTC/6/Rev.2 (2019), Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area, issued by the Legal and Technical Commission.

⁴⁷ Annex I, 2 (a), ISBA/25/LTC/6/Rev.2, available at https://www.isa.org/jm/wp-content/uploads/2023/05/ISBA_25_LTC_6_Rev.2-2211076E.pdf

of the growing concern and of the indispensable connection between all measures and regimes dealing with the protection and preservation of the environment in general. Those are future binding rules for the States which will need to be considered in the landscape of duties and responsibilities in the context of UNCLOS when referring to the Area.

VI. The International Seabed Authority's role in promoting and encouraging marine scientific research in the Area

44. The importance of marine scientific research (“MSR”) for the assessment of the current and future state of the oceans and the marine environment in particular with respect to the possible effects of climate change is manifest, including as it relates to the Area. Through international collaboration in MSR it has been possible to increase knowledge about the seabed, the deep sea, and associated ecosystems to an extent that would have been unthinkable decades ago, which has helped to better understand the importance of the deep ocean and its interrelation with the atmosphere and land mass. Science has characterized the global marine carbon budget. The seabed is the largest reservoir of organic matter on Earth and is a long-term sink for biomass produced in the ocean or supplied from rivers or the atmosphere. The oceans are sequestering about 25% of the annual anthropogenic CO₂ emissions released into the atmosphere. Since pre-industrial time, in total about 50% of the anthropogenic CO₂ emission have been taken up by the global oceans. Marine sediments stabilize the global atmospheric CO₂ content on time scales of ~100 ka, the global atmospheric CO₂ content on time scales of ~2.4 Ma. Only 0.5-1% of the annual global primary production (53 Gt carbon per year) are reaching the deep seafloor (0.34-0.6 Gt carbon per year), where 70-90% of it is remineralized in the bioturbated surface layer (top 10 cm).⁴⁸ In the deep ocean water column 84% of the annual global primary production are remineralized (12.5% and 72% below and within the mixed surface layer (0 – 100 m),

⁴⁸ Jørgensen, B.B., Canfield, D.E., Regnier, P., et al. "Sediment oxygen consumption: Role in the global marine carbon cycle." *Earth-Science Reviews* 228 (2022): 103987. doi:10.1016/j.earscirev.2022.103987. See also Tjiputra, J., et al. "Anthropogenic carbon dynamics in the changing ocean." *Ocean Science* 6, no. 3 (2010): 365-381. doi:10.5194/os-6-365-2010., and Watson, A.J., et al. "Revised estimates of ocean-atmosphere CO₂ flux are consistent with ocean carbon inventory." *Nature Communications* 11 (2020): 4422. doi:10.1038/s41467-020-18203-3.

respectively).⁴⁹ Suspension of the surface sediments by anthropogenic activities will temporarily release particulate carbon as a short-term effect into the bottom water which will resettle on the seafloor. The effect of seabed mining on the global carbon cycle is minimal, because of the overall very small contribution of the global deep ocean floor to the carbon cycle.⁵⁰

45. Similarly, through MSR the acquisition of fundamental environmental data relating to the Area is facilitated and has reached new levels of understanding with respect to the assessment of the potential effects of climate change and potential preventive measures. The compilation of scientific data on the marine environment is a fundamental part of the research conducted during exploration. These data are analysed and based on the results necessary measures are taken to protect the marine environment. Furthermore, the knowledge obtained from such scientific research is, in accordance with UNCLOS, made broadly available for the benefit of all mankind.
46. While MSR, in general, is addressed by Part XIII of UNCLOS, including MSR in areas beyond national jurisdiction, UNCLOS contains specific provisions relating to the conduct of MSR in the Area in Part XI, particularly articles 143 and 256.
47. Under article 143(1) "*Marine scientific research in the Area shall be carried out exclusively for peaceful purposes and for the benefit of mankind as a whole, in accordance with Part XIII*". The Authority is mandated by article 143(2) to promote and encourage MSR in the Area and to coordinate and disseminate the results of such research and analysis when available. In certain circumstances, it is envisaged that the Authority may conduct MSR in the Area on its own behalf or in collaboration and cooperation with States Parties.

⁴⁹ Sarmiento, J.L., & Gruber, N. *Ocean Biogeochemical Dynamics*. Princeton University Press, 2006, 503p. See also Riebesell, U., et al. "Sensitivities of marine carbon fluxes to ocean change." *Proceedings of the National Academy of Sciences* 106, no. 49 (2009): 20602-20609. doi:10.1073/pnas.0813291106. Corpus ID: 27526419.; and Burdige, D.J. "Preservation of organic matter in marine sediments: controls, mechanisms, and an imbalance in sediment organic carbon budgets." *Chemical Reviews* 107, no. 2 (2007): 467-485.

⁵⁰ Vonnahme, T.R., et al. "Effects of a deep-sea mining experiment on seafloor microbial communities and functions after 26 years." *Science Advances* (2020). doi: 10.1126/sciadv.eaaz5922.

48. Article 143(3) imposes on States Parties obligations to promote international cooperation in MSR in the Area by:

- (a) participating in international programmes and encouraging cooperation in marine scientific research by personnel of different countries and of the Authority;*
- (b) ensuring that programmes are developed through the Authority or other international organizations as appropriate for the benefit of developing States and technologically less developed States with a view to:
 - (i) strengthening their research capabilities;*
 - (ii) training their personnel and the personnel of the Authority in the techniques and applications of research;*
 - (iii) fostering the employment of their qualified personnel in research in the Area;**
- (c) effectively disseminating the results of research and analysis when available, through the Authority or other international channels when appropriate*

49. To support the implementation of article 143, in 2020 the Authority adopted its Action Plan for Marine Scientific Research in support of the UN Decade of Ocean Science for Sustainable Development.⁵¹ The Secretary-General reports annually on the implementation of the Action Plan to the Assembly.⁵² The Action Plan catalyses the contribution of the Authority to the UN Decade. Six research priorities are put forward to stimulate collaborative research for the global benefit of human kind. The priorities include biodiversity assessment, technology development, impact assessment, data compilation and sharing, the promotion of ocean literacy and capacity development. Together these form a global agenda for deep sea science in support of decision-making.

⁵¹ [ISBA/26/A/4](#)

⁵² [ISBA/27/A/4](#);

50. Framing the regime of MSR in the Area, in the context of the second question formulated by COSIS, i.e., what would be *the specific obligations of State Parties to UNCLOS [...] (b) to protect and preserve the marine environment in relation to climate change impacts[...]*, it could be concluded that:

- (a) The potential impacts of climate change on the global oceans are currently studied in great detail by State Parties to UNCLOS.
- (b) The potential consequences of climate change for the global oceans can be assessed through scientific investigation. The same applies to the elaboration and adoption of measures and/or obligations aimed at protecting and preserving the marine environment based on the best available scientific evidence.
- (c) In the Area, besides the general provisions on MSR set out in Part XIII, special rules are to be applied, as envisaged in article 143.
- (d) States Parties have a duty to implement article 143 by promoting international cooperation in MSR in the Area through the Authority.
- (e) Such obligation of cooperation is satisfied by, inter alia: cooperating with the Authority in scientific research programmes, capacity development, training, and dissemination of knowledge, among others (as detailed in article 143(3)).
- (f) MSR should include scientific research on the impacts of climate change.

VII. Conclusions

51. The Tribunal should recall that States Parties to UNCLOS have specific obligations, described in this Written Statement, in respect of activities in the Area, which they are to organize and control through the International Seabed Authority (article 157).

52. Despite not being expressly referred to in UNCLOS, climate change and its adverse effects on the ocean are to be considered as “pollution” in the terms of article 1(1)(4), no matter the

source, and therefore, the provisions of article 194 to prevent, reduce and control those effects apply, as well as the following obligations established by Part XII.

53. When considering the specific obligations of States Parties to UNCLOS to prevent, reduce and control pollution of the marine environment, but more broadly concerning the second question posed by COSIS, the general obligation to protect and preserve the marine environment in relation to climate change impacts, the Tribunal should take a comprehensive approach including not only all provisions of UNCLOS dealing with environmental matters in addition to Part XII but also the complete regime developed under UNCLOS and the 1994 Implementation Agreement for the Area that falls under the mandate of a competent institution (the Authority).

54. In the case of the protection of the marine environment of the Area, States comply with their obligations in accordance with Part XI,⁵³ that is, through their membership and participation in the Authority.

55. The first and most important obligation that States have in this regard is to adopt, through the Authority, appropriate rules, regulations and procedures for the prevention, reduction and control of pollution and other hazards to the marine environment (including the coastline) from activities in the Area,⁵⁴ of interference with the ecological balance of the marine environment,⁵⁵ as well as for the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.⁵⁶

56. Notwithstanding that the regulatory scope of the Authority is mostly limited to activities in the Area, the responsibilities with respect to the protection of the marine environment are broader both substantively (what is protected) and geographically (what space is protected). While there is little to suggest that activities in the Area are likely to have a significant direct

⁵³ UNCLOS, article 209 (1)

⁵⁴ UNCLOS, article 145 (a)

⁵⁵ *Ibid.*,

⁵⁶ UNCLOS, article 145 (b)

impact or contribution to climate change, the impacts of climate change on the marine environment must be considered in the context of the responsibilities of the Authority to regulate activities in the Area.

57. The obligation to develop a regulatory regime for activities in the Area that protects the marine environment (from harmful effects of activities in the Area) is consistent with the functions assigned to the organs of the Authority (as exemplified in article 165(2)). This obligation is further strengthened in Annex III to the Convention where the regulations required to be adopted are related to mining standards and practices, and include those relating to the protection of the marine environment. In developing that complete legal framework for the protection of the marine environment from harmful effects of activities in the Area, climate change and its deleterious effects should be taken into account by States Parties.

58. UNCLOS also imposes obligations on States to effectively implement article 143 on Marine Scientific Research in the Area through the Authority in the various ways indicated in that article. Such research should also include scientific research on the impacts of climate change on the Area. One way in which States could fulfil such obligation would be to conduct scientific research and monitoring programmes on the impacts of climate change in the Area through the Authority.

A handwritten signature in black ink, appearing to be 'Mariana Durney', with a large, stylized initial 'M' and a horizontal line extending to the right.

Mariana Durney
Legal Counsel
International Seabed Authority