



The Law of the Sea

Marine Scientific Research

**A revised guide to the implementation of the relevant
provisions of the United Nations Convention
on the Law of the Sea**



United Nations

**Division for Ocean Affairs and the Law of the Sea
Office of Legal Affairs**

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Foreword

The 1982 United Nations Convention on the Law of the Sea sets out the legal framework within which all activities in the oceans and seas must be carried out. The Convention, in its Preamble, recognizes “the desirability of establishing [...] a legal order for the seas and oceans which will [...] promote [...] the study [...] of the marine environment”. Part XIII of the Convention is entirely devoted to the subject of marine scientific research. The General Assembly of the United Nations has consistently highlighted the importance of marine science for eradicating poverty, contributing to food security, conserving the world’s marine environment and resources, helping to understand, predict and respond to natural events and promoting the sustainable development of the oceans and seas.

One of the tasks of the Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, is to assist States in the uniform and consistent application of the Convention, including through the preparation of relevant publications. In this connection, the Division has revised the United Nations publication, produced in 1991, entitled “Marine Scientific Research: A guide to the implementation of the relevant provisions of the United Nations Convention on the Law of the Sea”. In this work, the Division was assisted by a Group of Experts which met at United Nations Headquarters in April 2009 for this purpose.

The present Guide, among other things, includes practical guidance on the implementation of the provisions of the Convention relating to marine scientific research based on the outcome of the meeting of the Group of Experts.

The Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, is grateful to the Experts for their valuable contribution. Their names are listed in Annex II to this publication.

Introduction

The 1991 Guide “Marine Scientific Research: A Guide to the implementation of the relevant provisions of the United Nations Convention on the Law of the Sea” advises States of the means by which articles in the Convention could be implemented by coastal and researching States. It has proven useful in implementing the marine scientific research regime as contained in the Convention. However, in almost two decades, several trends have become apparent that suggested a need to reassess the Guide. Of particular importance are trends in marine data acquisition, marine data dissemination, and the emergence of large-scale, international collaborative programmes.

With regard to marine data acquisition, marine scientific research is increasingly conducted from autonomous platforms that can be either fixed or mobile, within the ocean (in-situ) or remote, manned or unmanned, and powered by nature or by humans. One of the key drivers of this autonomous technology has been the increased cost of ship-borne research coupled with the growing demand for continuous, high-resolution, long-term ocean observations for both research and societal needs. Equipment and sensors for marine scientific research have also been improved to enhance both the accuracy and duration of their performance, and to increase the ability to sample in areas of extreme environmental conditions.

With regard to marine data dissemination, an analysis of the trends indicates that intergovernmental and international organizations have facilitated the adoption of standards and protocols to enhance data exchange resulting from marine scientific research. Greater use of national, regional and global oceanographic data centres have likewise become more commonplace. The establishment and use of these data centers promotes access to large volumes of data, making collaborative efforts to interpret the results of research necessary.

Finally, the continued emergence of large-scale, international collaborative programmes often occurs across many areas within as well as beyond the limits of national jurisdiction. The scope and scale of these activities require the efforts of all States – both developed and developing. Thus, capacity-building and technology transfer are critical to the success of the research objectives of these types of programmes. For instance, the need to better understand the oceans’ role in climate change, as well as the impacts of human activities on ocean resources have driven this need.

This revised Guide takes these trends into account and attempts to inform all those stakeholders involved in marine scientific research of the significance of the relevant provisions of the United Nations Convention on the Law of the Sea.

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Part I

Provisions of the Convention related to marine scientific research

This section presents a brief legislative history of the provisions of the Convention related to marine scientific research and provides an overview of those provisions with a focus on Part XIII of the Convention.

A. Brief legislative history of the provisions of the Convention related to marine scientific research

1. The 1958 Geneva Conventions

1. Until the 1950s, marine scientific research was not regulated under any international treaty. Customary law provided the main source of law in this field. An increase in scientific research in the oceans and technology development after World War II, together with their gradual application to resource exploration and exploitation and military purposes, prompted the international community to develop and codify the international legal framework in this regard.

2. Marine scientific research was first considered during the first United Nations Conference on the Law of the Sea in 1958. Among the four 1958 Geneva Conventions,¹ the Convention on the Continental Shelf specifically provides in its art. 5, para. 8, that “[t]he consent of the coastal State shall be obtained in respect of any research concerning the continental shelf and undertaken there. Nevertheless the coastal State shall not normally

¹ The four 1958 Conventions, which were adopted in Geneva on 29 April 1958, include: the Geneva Conventions on the High Seas, on the Territorial Sea and Contiguous Zone, on the Continental Shelf and on Fishing and Conservation of the Living Resources of the High Seas.

withhold its consent if the request is submitted by a qualified institution with a view to pure scientific research into the physical or biological characteristics of the continental shelf, subject to the proviso that the coastal State shall have the right, if it so desires, to participate or to be represented in the research, and that in any event the results shall be published". The elements contained in art. 5 of the 1958 Convention on the Continental Shelf would become the basis for the development of detailed provisions of the regime for marine scientific research contained in the 1982 Convention. Marine scientific research was not specifically addressed in the Convention on the High Seas.²

2. Committee on the Peaceful Uses of the Seabed and the Ocean Floor Beyond the Limits of National Jurisdiction ("Seabed Committee")

3. Discussions on marine scientific research took place within the Seabed Committee to study various aspects of the problem and to indicate practical means to promote international cooperation.³ Several proposals submitted to the Committee contained specific references to marine scientific research.⁴ In 1970, the General Assembly adopted the Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction, in which States were urged to promote international cooperation in scientific research exclusively for peaceful purposes through international programmes, publication and dissemination of information as well as the strengthening of the research capabilities of developing States. The Seabed Committee was later tasked with preparing work for the Third United Nations Conference on the Law of the Sea. In its report to the Conference, the Committee had listed scientific research as one of the subjects to be discussed in the Third United Nations Conference on the Law of the Sea, as well as transfer of technology, scientific research on the continental shelf and scientific research in the exclusive economic zone.

² *Yearbook of the International Law Commission, 1956*, vol. II (United Nations publication, Sales No. 1956.V.3.), chapter III, commentary to art. 27, para. 2, p. 278.

³ The General Assembly established the Ad Hoc Committee to Study the Peaceful Uses of the Seabed and the Ocean Floor beyond the Limits of National Jurisdiction by its resolution 2340 (XXII) of 18 December 1967. One year later, the Ad Hoc Committee was replaced by the Committee on the Peaceful Uses of the Seabed and the Ocean Floor beyond the Limits of National Jurisdiction established under the General Assembly resolution 2467 A (XXIII) of 21 December 1968. Its terms of reference contained a specific reference to marine scientific research.

⁴ See for example, *Official Records of the General Assembly, Twenty-fifth Session, Supplement No.21*, (A/8021); *Twenty-sixth Session, Supplement No.21*, (A/8421); *Twenty-seventh Session, Supplement No.21*, (A/8721). See also *Official Records of the Committee on the Peaceful Uses of the Seabed and the Ocean Floor beyond the Limits of National Jurisdiction*, Vol. 8 and 33.

3. Third United Nations Conference on the Law of the Sea

4. Substantial developments took place in the Third United Nations Conference on the Law of the Sea, which was held from 1973 to 1982 over eleven sessions. The negotiations were conducted on the basis that nothing was agreed until everything was agreed and therefore the draft text represented a package that had to be accepted in its entirety.⁵ The Third United Nations Conference on the Law of the Sea was confronted with conflicting positions on many issues, inter alia, the distinction between “pure” and “applied” research; freedom of scientific research and coastal States’ control over marine scientific research, in particular, in the exclusive economic zone and on the continental shelf and dispute settlement. The emerging new concept of an exclusive economic zone of 200 nautical miles under the expanded coastal State’s jurisdiction required new responses regarding the rights, obligations and duties of coastal and researching States. A balance needed to be found to accommodate the concerns of major researching States, mostly developed countries and coastal States, most of which were newly independent and developing States. Researching States considered that the limitations to research that would be introduced by the coastal State, would constitute an infringement on the traditional freedom of marine scientific research, which would not only adversely affect the advancement of science, but also deny its potential benefits to all nations in fields such as weather forecasting and the study of effects of ocean currents and the natural forces at work on the ocean floor. On the other hand, many developing States were promoting a marine scientific research regime which adequately protected their natural resources and guaranteed peace and development.

5. During the Conference, scientific research was addressed by the Third Committee which was also mandated to address the preservation of the marine environment, and development and transfer of marine technology. As many issues were, by nature, interrelated, the other two Committees of the Conference⁶ also conducted some negotiations on marine scientific research in so far as it was necessary within their respective contexts of work. That is why in addition to Part XIII of the Convention on marine scientific research, other relevant provisions include arts. 19, 21 and 52 (innocent passage), art. 40 (transit passage), art. 54 (archipelagic sea lanes passage), arts. 56 and 62 (exclusive economic zone), art. 87 (high seas), art. 123 (enclosed or semi-closed sea), and arts. 143 and 155

⁵ See Tommy T.B. Koh and Shanmugam Jayakumar, “The Negotiating Process of the Third United Nations Conference on the Law of the Sea”, in *United Nations Convention on the Law of the Sea, 1982: a commentary*, Myron H. Nordquist, ed. (Leiden, Martinus Nijhoff, 1985).

⁶ First Committee on Seabed Mining, the Area; and Second Committee on: Territorial Sea, Innocent Passage, Straits Used for International Navigation, Archipelagic States, the Exclusive Economic Zone, the Continental Shelf and High Seas, Regime of Islands, Enclosed or Semi-enclosed Seas, and Right of Access of Land-locked States to and from the Sea and Freedom of Transit.

(the Area)⁷. Part XII on “Protection and preservation of the marine environment”, Part XIV on “Development and transfer of marine technology”, Part XV on “Settlement of disputes” and Annex VIII (“Special arbitration”), are also relevant. These provisions constitute together the first comprehensive set of rules on marine scientific research, which aim to strike a balance between various States’ interests. The core provisions dealing with marine scientific research are to be found in the twenty-eight arts. that constitute Part XIII of the Convention (arts. 238-265).

B. General aspects of marine scientific research under the Convention

6. In addition to the specific rules regulating marine scientific research in the maritime areas defined under the Convention, some general aspects of the Convention’s regime may be highlighted.

1. What is marine scientific research under the Convention?

7. The term “marine scientific research” is not defined in the Convention, despite the number of proposals that were made for a definition during the negotiations for the Convention, particularly during the Third United Nations Convention on the Law of the Sea.

8. During the Second Conference on the Law of the Sea,⁸ the following general definition of marine scientific research was proposed: “any study, whether fundamental or applied, intended to increase knowledge about the marine environment, including all its resources and living organisms, and embraces all related scientific activity”⁹.

9. In 1973, during the Third United Nations Conference on the Law of the Sea, the Third Committee continued discussing the development of a definition of marine scientific research. The following description of what was termed “scientific research in the world ocean” was put forward: “... any fundamental or applied research and related experimental work, conducted by States and their juridical and physical persons, as well as by international organizations, which does not aim directly at industrial exploitation but is designed to obtain knowledge of all aspects of the natural processes and phenomena occurring in the ocean space, on the seabed and subsoil thereof, which is necessary for the peaceful activity of States for the further development of navigation and other

⁷ For the definition of the “Area”, see art. 1 (1) of the Convention on the use of terms and scope. See also para. 58 below.

⁸ The Second Conference on the Law of the Sea took place in 1960 for six weeks, but did not yield any agreement.

⁹ *Official Records of the General Assembly, Twenty-seventh Session, Supplement No.21, (A/8721)*, documents annexed to Part IV, document A/AC.138/SC.III/L.18 (Canada), Preamble, para. 2, and principle 2.

forms of utilization of the sea and also utilization of the airspace above the world ocean”.¹⁰ With this definition, marine scientific research was recognized as a right “only with regard to research of no direct significance for the exploration and exploitation of marine resources, to be conducted in maritime zones not subject to the jurisdiction of coastal States”.¹¹

10. Thereafter, in 1974, a draft art. 1 on definitions was proposed as follows: “(a) Marine Scientific Research is any study or investigation of the marine environment and experiments related thereto; (b) Marine Scientific Research is of such a nature as to preclude any clear or precise distinction between pure scientific research and industrial or other research conducted with a view to commercial exploitation or military use”.¹² Following this proposal, some concerns were expressed¹³ that it was impossible to make a distinction between pure scientific research and industrial or other research, and that rather “... a fundamental distinction should be made between open basic scientific research, carried out for the benefit of the community, without concern for profit, and industrial research”.¹⁴ It was argued that the main difference lay “in the possibility of immediate utilization of industrial research for economic purposes, while scientific research, which did not involve the same restraints on time and efficiency for the sake of specific results, yielded data which were accessible to all, were not of a secret nature, and were public property”.¹⁵ The difficulty of clearly distinguishing between research directed towards the exploration and exploitation of marine resources and research not directed towards those purposes became the core issue of the negotiations.

11. By 1975 other formulations were put forward describing marine scientific research as: (a) “any study of, or related experimental work in, the marine environment that is designed to increase man’s knowledge and is conducted for peaceful purposes”;¹⁶ and (b) “... any study and related experimental work conducted in the marine environment designed to increase mankind’s knowledge thereof”.¹⁷

¹⁰ Committee on the Peaceful Uses of the Seabed and the Ocean Floor beyond the Limits of National Jurisdiction, vol. 8, Subcommittee III, A/AC.138/SC.III/L.31 (Bulgaria, Poland, Ukrainian SSR and USSR), arts. 1 and 2.

¹¹ United Nations Convention on the Law of the Sea, 1982: *a commentary*, Myron H. Nordquist, ed. (Dordrecht, Martinus Nijhoff Publishers, 1991), vol. IV, Part XIII, Section I, para. 238.4, p. 442.

¹² *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. III (United Nations publication, Sales No. E.75.V.5), Trinidad and Tobago: draft arts. on marine scientific research, art. 1, paras. (a) and (b), p. 252.

¹³ *Ibid.*, vol. II (United Nations publication, Sales No. E.75.V.4), Third Committee, 7th meeting, paras. 11 and 19.

¹⁴ *Ibid.*, 13th meeting, para. 24.

¹⁵ *Ibid.*, para. 25.

¹⁶ *Ibid.*, vol. IV (United Nations publication, Sales No. E.75.V.10), Bulgaria, Byelorussian Soviet Socialist Republic, Czechoslovakia, German Democratic Republic, Hungary, Mongolia, Poland, Ukrainian Soviet Socialist Republic and Union of Soviet Socialist Republics: draft arts. on marine scientific research, arts. 1 and 2, para. 4.

¹⁷ *Ibid.*, Colombia, El Salvador, Mexico and Nigeria: draft arts. on marine scientific research, arts. 1 and 2.

12. The Informal Single Negotiating Text¹⁸ which was issued in 1976, provided in its draft Part III, art. 48, that: “[f]or the purpose of this Convention, ‘marine scientific research’ means any study or related experimental work designed to increase mankind’s knowledge of the marine environment”.

13. By 1977, an Informal Composite Negotiating Text had been agreed upon but it did not include a definition of “marine scientific research.”¹⁹

14. The Convention does not contain a definition of marine scientific research. It may be noted that “survey activities”, “prospecting” and “exploration and exploitation” are primarily dealt with notably in Parts II, III, XI, Annex III to the Convention, as well as in the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 and related instruments.²⁰

2. General provisions governing the conduct of marine scientific research

15. In art. 240, the Convention identifies general principles for the conduct of marine scientific research. Thus, marine scientific research shall:

- (a) Be conducted exclusively for peaceful purposes (this is in keeping with the general spirit of the Convention to promote the peaceful uses of the seas, as provided for in the preamble of the Convention and reiterated in its various articles, including arts. 88, 143 and 301);²¹
- (b) Be conducted with appropriate scientific methods and means compatible with the Convention;
- (c) Not unjustifiably interfere with other legitimate uses of the sea compatible with the Convention and shall be duly respected in the course of such uses; and

¹⁸ *Ibid.*, vol. V (United Nations publication, Sales No. E.76.V.8), arts. 48 and 49.

¹⁹ *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. VIII (United Nations publication, Sales No. E.78.V.4), art. 239.

²⁰ See, for example, *The 2000 Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area*, available from www.isa.org.jm.

²¹ The discussion about peaceful conduct in the seas was raised during the negotiations, particularly during the Third United Nations Conference on the Law of the Sea, in the context of attempts at defining marine scientific research. This eventually resulted in the phrase “for peaceful purposes”, as regards the conduct of marine scientific research, being incorporated into art. 240. With regard to the question of military research, art. 246, para. 3, of the Convention would appear to address all research aimed at the furtherance of knowledge in general; although this does not pointedly include or exclude research for military purposes (See Wegelein, Florian H. Th., *Marine Scientific Research: The Operation and Status of Research Vessels and Other Platforms in International Law* (Martinus Nijhoff publishers, 2005, p. 95).

- (d) Be conducted in compliance with all relevant regulations adopted in conformity with the Convention including those for the protection and preservation of the marine environment.

16. Furthermore, marine scientific research activities shall not constitute the legal basis for any claim to any part of the marine environment or its resources (art. 241). This is in keeping with the intent of similar provisions with respect to the non-appropriation of the high seas (arts. 89 and 90) and the Area (art. 137, paras. 1 and 3).

17. All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research, subject to the rights and duties of other States as provided for in the Convention (art. 238). Thus, the right to conduct marine scientific research is not an absolute right since it is “subject to the rights and duties of other States”.

18. Although the term “competent international organizations” is not defined in the Convention, it may be considered to generally include inter-governmental organizations which are empowered by their constituting instruments or other rules to undertake, coordinate, or promote and facilitate the development and conduct of marine scientific research. An indicative list of such organizations is provided in Annex VIII to the Convention, art. 2.²²

3. International co-operation

19. The Convention requires cooperation in marine scientific research as follows: between and among States (for example, art. 242, para. 2); between States and international organizations (for example, art. 242, para. 1); and between and among international organizations (for example, art. 278).

20. Part XIII articulates the following provisions on international cooperation:

- (a) States and competent international organizations are required to promote international cooperation in marine scientific research for peaceful purposes in accordance with the principle of respect for sovereignty and jurisdiction and on the basis of mutual benefit (art. 242, para. 1);
- (b) A State must provide, as appropriate, other States with a reasonable opportunity to obtain from it, or with its cooperation, information necessary to prevent and control damage to the health and safety of persons and to the marine environment (art. 242, para. 2);

²² See also *Law of the Sea 1996*, Bulletin No. 31, pp. 93-95 (United Nations publication).

- (c) States and competent international organizations are also required to cooperate through the conclusion of bilateral and multilateral agreements, to create favourable conditions for the conduct of marine scientific research in the marine environment and to integrate the efforts of scientists in studying the essence of phenomena and processes occurring in the marine environment and interrelations between them (art. 243);
- (d) States and competent international organizations are also required to make available by publication and dissemination through appropriate channels information on proposed major programmes and their objectives, as well as knowledge resulting from marine scientific research (art. 244, para. 1);
- (e) States, both individually and in cooperation with other States and with competent international organizations, shall actively promote the flow of scientific data and information and the transfer of knowledge resulting from marine scientific research, especially to developing States, as well as the strengthening of the autonomous marine scientific research capabilities of developing States, through, inter alia, programmes to provide adequate education and training of their technical and scientific personnel (art. 244, para. 2).

21. Other relevant provisions in other parts of the Convention include art. 143, para. 3, which encourages the promotion of international cooperation in relation to marine scientific research in the Area. Article 123 of the Convention provides that States bordering enclosed and semi-enclosed seas should cooperate with each other in the exercise of their rights and in the performance of their duties under the Convention. They are required to endeavour, directly or through an appropriate regional organization to, inter alia, coordinate their scientific research policies and undertake joint programmes of scientific research in the enclosed or semi-enclosed sea, and invite, as appropriate, other interested States or international organizations to cooperate to this end.

22. Also particularly relevant to marine scientific research is art. 197 of the Convention, which encourages States to cooperate on a global and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with the Convention,

for the protection and preservation of the marine environment, taking into account characteristic regional features (see also section H of the present Part).

4. Promotion and facilitation of marine scientific research

23. States and competent international organizations have the obligation to promote and facilitate the development and conduct of marine scientific research in accordance with the Convention (art. 239).

24. States are required to promote through competent international organizations the establishment of general criteria and guidelines to assist in ascertaining the nature and implications of marine scientific research (art. 251).

25. States are required to adopt reasonable rules, regulations and procedures to promote and facilitate marine scientific research beyond their territorial sea and facilitate, subject to the provisions of their laws and regulations, access to their harbours and promote assistance for marine scientific research vessels (art. 255).

C. Marine scientific research in internal waters, archipelagic waters and the territorial sea

26. Coastal States, in the exercise of their sovereignty, have exclusive rights to regulate, authorize and conduct marine scientific research in their territorial sea. Therefore, marine scientific research in the territorial sea may only be conducted with the express consent of and under the conditions set forth by the coastal State (art. 245). In straits used for international navigation and in archipelagic sea lanes, foreign ships, including marine scientific research and hydrographic survey ships, may not carry out any research or survey activities without the prior authorization of the States bordering straits during their transit passage or archipelagic sea lanes passage (arts. 40 and 54).²³

²³ Note that a broad reference to “any research or survey activities” is used in these provisions to include all kinds of research and survey activities. With respect to the different terminology used in art. 245 (express consent) and art. 40 (prior authorization), the Drafting Committee (see *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. XII (United Nations publication, Sales No. E.80.V.12)), explained in one of its reports that “it should aim for standardization in translation of expressions such as ‘consent’ or ‘authorization’, but that standardization of expressions within each language may not be possible”. Based on the afore-mentioned explanation, it could be concluded that, in the context of arts. 245 and 40 of the Convention, “consent” has the same meaning as “authorization”.

D. Marine scientific research in the exclusive economic zone and on the continental shelf

1. Overview of rights and duties of the coastal State relating to the granting and withholding of consent

27. Coastal States, in the exercise of their jurisdiction, have the right to regulate, authorize and conduct marine scientific research in their exclusive economic zone and on their continental shelf. Research in those maritime areas may only be conducted with the consent of the coastal State (art. 246, paras. 1 and 2).

28. In normal circumstances, a coastal State is under a duty to grant its consent to marine scientific research to be carried out in accordance with the Convention exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind (art. 246, para. 3).²⁴

29. According to art. 246, para. 5, a coastal State may, in its discretion, withhold consent for the conduct of marine scientific research in four specified cases. The information provided to the coastal State pursuant to art. 248 (see para. 38) is particularly important to the coastal State in its assessment of whether to withhold consent or not. The four cases specified in art. 246, para. 5, are the following:

a. Marine scientific research projects of direct significance for resource exploration and exploitation

30. Article 246, para. 5 (a), refers to a research project which “is of direct significance for the exploration and exploitation of natural resources, whether living or non-living”. Such research projects may generally be considered to be those which can reasonably be expected to produce results enabling resources to be located, assessed and monitored with respect to their status and availability for commercial exploitation.

31. Notwithstanding the provisions of para. 5, coastal States may not exercise their discretion to withhold consent under subpara. (a) in respect of marine scientific research projects to be undertaken in accordance with the provisions of Part XIII on the continental shelf, beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, outside those specific areas which coastal States may at any time publicly designate as areas in which exploitation or detailed exploratory operations focused on those

²⁴ The Third United Nations Conference on the Law of the Sea did not make a general distinction between so-called “pure” scientific research and “applied” scientific research; art. 246 (3) and (5) apply different rules in the two scenarios.

areas are occurring or will occur within a reasonable period of time. Coastal States are required to give reasonable notice of the designation of such areas, as well as any modifications thereto, but shall not be obliged to give details of the operations therein (art. 246, para. 6).

32. The above provision is without prejudice to the coastal States' rights over the continental shelf as established in art. 77 according to which the rights of the coastal State over its continental shelf do not depend on occupation, effective or notional, or on any express proclamation (art. 246, para. 7).

b. Marine scientific research projects involving drilling, use of explosives or introduction of harmful substances

33. Research involving drilling into the continental shelf and the use of explosives can be regarded as examples of marine scientific research activities which can provide information of direct significance for the exploration of natural resources. In this respect, para. 5 (b) may be considered a further specification of para. 5 (a). In addition, drilling and the use of explosives have a common aspect with the third activity referred to in the subparagraph, namely research involving the introduction of harmful substances into the marine environment: they can cause harmful effects on the marine environment.

c. Marine scientific research projects involving artificial islands, installations and structures

34. According to art. 246, para. 5 (c), the coastal State may, in its discretion, withhold consent to conduct marine scientific research involving the construction, operation or use of artificial islands, installations or structures as referred to in arts. 60 and 80 of the Convention.

35. The wording of the latter two arts. would seem to imply that they refer to stationary (fixed and anchored) installations and structures including those penetrating the surface of the sea, as well as those remaining entirely sub-surface.

d. Marine scientific research projects containing inaccurate information or to be conducted by a State or competent international organization having outstanding obligations

36. According to art. 246, para. 5 (d), the coastal State may exercise its discretion to withhold consent if the information received from the researching State or competent international organization pursuant to art. 248 regarding the nature and objectives of the research project is inaccurate. Only information regarding the nature and objectives of the project (art. 248, para. (a)) is mentioned, thus seemingly leaving the other information to be provided pursuant to art. 248 beyond the scope of para. 5 (d).

37. The coastal State may also exercise its discretion to withhold consent if the researching State or competent international organization has outstanding obligations to that coastal State from a prior research project. It may be assumed that the coastal State may do so only when each outstanding obligation becomes overdue.

2. Procedure for requesting and granting consent

a. Request by the researching State or competent international organization to conduct marine scientific research

38. At least six months in advance of the expected starting date of the research activities, a full description of the research project must be provided to the coastal State in accordance with art. 248, as follows:

- (a) The nature and objectives of the project;
- (b) The method and means to be used, including name, tonnage, type and class of vessels and a description of scientific equipment;
- (c) The precise geographical areas in which the project is to be conducted;
- (d) The expected date of first appearance and final departure of the research vessels, or deployment of the equipment and its removal, as appropriate;
- (e) The name of the sponsoring institution, its director, and the person in charge of the project; and
- (f) The extent to which it is considered that the coastal State should be able to participate or to be represented in the project.

39. All communications are to be made through appropriate official channels, unless otherwise agreed (art. 250).

b. Response by the coastal State

40. Article 246, para. 3, establishes the conduct of the coastal State in response to requests for consent to conduct scientific research in its exclusive economic zone or on its continental shelf. It provides for the coastal State to grant, in normal circumstances, its consent for marine scientific research projects by other States or competent international organizations to be carried out in accordance with the Convention.

41. With regard to the references to delays in granting consent, art. 246, para. 3, recognizes the importance for the researching State or competent

international organization to know at an early stage whether the research will be allowed to proceed. The mere absence of diplomatic relationships between the coastal and researching States does not necessarily mean that the situation is “not normal” (art. 246, para. 4).

42. The consent of the coastal State to a request to conduct marine scientific research in its exclusive economic zone or on its continental shelf can be granted either expressly (art. 246) or implicitly (art. 252).

43. Under art. 252 of the Convention, the marine scientific research project may begin six months after the date upon which the information required under art. 248 was provided by the researching State or competent international organization to the coastal State, unless the coastal State has informed the researching State or competent international organization within four months of the receipt of the communication that it does not grant its consent, or that the information given does not conform to the manifestly evident facts, or that the coastal State requires more, or that outstanding obligations exist with respect to a previous marine scientific research project carried out by that State or organization. If the coastal State does not respond at all, consent may be presumed.

44. According to art. 252, subpara. (c), the coastal State is entitled, within four months of the receipt of a request for consent, to require supplementary information relevant to conditions under art. 249 (see paras. 46, 48 and 52-53) and the information provided for under art. 248 (see para. 38).

45. If a coastal State is a member of or has a bilateral agreement with a competent international organization, which intends to undertake, directly or under its auspices, a research project in that State’s exclusive economic zone or on its continental shelf, the coastal State is presumed to have granted its consent for the project to be executed if it approved the project at the time the international organization took the decision to undertake the project and it has not expressed any objection within four months of the notification of the project to it by the organization (art. 247). This provision is especially relevant for research projects which require access to the maritime areas of several coastal States (see para. 103).

46. Article 249, para. 1, sets out the conditions which have to be complied with by the researching State and competent international organizations. Should the coastal State decide to grant its consent in any of the situations described in paras. 33-37 of this Guide, where it is not under a duty to grant consent, it has the opportunity to require any conditions for the execution of the research project it deems necessary for the protection of its interests (art. 249, para. 2).

47. Any dispute over whether a coastal State has inappropriately withheld its consent under art. 246 is subject to conciliation and the procedure set out in Annex V to the Convention (see section J of the present Part).

3. Conduct during marine scientific research

a. Participation or representation by the coastal State

48. When undertaking marine scientific research in the exclusive economic zone or on the continental shelf of a coastal State, researching States and competent international organizations are subject to a series of obligations set out in art. 249. In particular, they are required, *inter alia*, to ensure the right of the coastal State to participate in or be represented in the project, especially on board research vessels and other craft or scientific research installations, when practicable, without payment of any remuneration to the scientists of the coastal State and without obligation to contribute towards the costs of the project.

b. Rights of neighbouring landlocked and geographically disadvantaged States

49. It should be noted that certain rights for information and participation are also granted to neighbouring landlocked and geographically disadvantaged States with regard to marine scientific research conducted in the exclusive economic zone or the continental shelf of the coastal State, as set out in art. 254.

c. Suspension or cessation of marine scientific research activities

50. Article 253 provides that a coastal State has the right to require the suspension of marine scientific research activities in progress within its exclusive economic zone or on its continental shelf either if they are not being conducted in accordance with the information communicated according to art. 248, upon which the consent of the coastal State was based, or if the researching State or international organization fails to comply with the provisions of art. 249 concerning the rights of the coastal State with respect to the research project.

51. The coastal State may require the cessation of marine scientific research activities if any of the above situations are not rectified within a reasonable period of time or if non-compliance with the provisions of art. 248 amounts to a major change in the research project (art. 253, paras. 2 and 3).

4. Rights and obligations after the completion of the research

52. Following completion of the research, the researching State has a number of obligations, as described in art. 249, including:

- (a) Providing the coastal State, at its request, with the preliminary reports and final results and conclusions;
- (b) Providing access for the coastal State, at its request, to all data and samples derived from the project and with data and samples which may be divided without detriment to their scientific value;
- (c) If requested, providing the coastal State with an assessment of the data, samples and research results or providing assistance in their assessment and interpretation;
- (d) Making internationally available the research results subject to the coastal State's discretion in withholding consent under art. 246, para. 5; and
- (e) Removing the scientific research installations or equipment after the research is completed, unless otherwise agreed.

53. Article 302 of the Convention states that “[...] nothing in this Convention shall be deemed to require a State Party, in the fulfilment of its obligations under this Convention, to supply information the disclosure of which is contrary to the essential interests of its security”. The understanding of the negotiators of the Convention was that this article, did not detract from the obligations under the Convention concerning marine scientific research and transfer of technology.²⁵

E. Marine scientific research beyond areas of national jurisdiction

54. The conduct of marine scientific research beyond areas of national jurisdiction is governed by the general principles of Part XIII of the Convention (see para. 15), as well as specific provisions related to marine scientific research in the high seas/water column beyond the exclusive economic zone and the Area. The question of whether marine scientific research in the water column beyond areas of national jurisdiction should be dealt with in the same context

²⁵ *Report of the President on the work of the Informal Plenary on General Provisions*, in *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. XIV (United Nations publication, Sales No. E.82.V.2).

as marine scientific research on the seabed and subsoil was the subject of discussions at the Third United Nations Conference on the Law of the Sea.²⁶

1. Marine scientific research in the high seas and water column beyond the exclusive economic zone

55. All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research in the water column beyond the limits of the exclusive economic zone (art. 257).²⁷ The reference to “all States, irrespective of their geographical location” ensures that not only coastal States, but also landlocked and other geographically disadvantaged States, have the right to conduct marine scientific research in the high seas.

56. Freedom of scientific research is expressly referred to in the Convention as a freedom of the high seas (art. 87). While art. 257 uses the term “marine scientific research”, art. 87 uses the term “scientific research”.²⁸ Under art. 87, the freedom of scientific research is subject to Part VI on the continental shelf, and Part XIII on marine scientific research. This acknowledges the fact that the continental shelf, over which a coastal State has sovereign rights, may extend beyond 200 nautical miles from the baselines. Also a coastal State may choose not to establish any exclusive economic zone, leaving all superjacent waters as high seas. Freedom of scientific research is to be exercised with due regard for the interests of other States in their exercise of the freedoms of the high seas, and also with due regard for the rights related to activities in the Area (art. 87).²⁹ The freedom envisioned in art. 87 is not limited to marine scientific research but also extends to such activities as hydrographic surveys.

²⁶ The text agreed upon in informal meetings of the Third Committee during the second session read: “In the International area, all States, whether coastal or land-locked, and appropriate international organizations have the freedom to carry out marine scientific research related to the seabed, subsoil and superjacent waters.” See “CRP/SC.Res/40, art. 7”, in *Third United Nations Conference on the Law of the Sea*, vol. X, Renate Platzöder, ed. (Dobbs Ferry, NY, Oceana Publications, 1986), pp 325-326; see also “CRP/Sc.Res./39, art. V”, *ibid.*, pp. 323-324; and “CRP/Sc.Res./40/rev.1, art. 4”, *ibid.*, p.327. Later alternative formulations are contained in “Texts submitted to or elaborated by the informal meetings of the Third Committee on items 13 and 14 (marine scientific research and development and transfer of technology)”, CRP/Sc.Res/41, *ibid.*, pp.328-337.

²⁷ For the various iterations of art. 257, see *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. IV (United Nations publication, Sales No. E.75.V.10) Part II, art. 26; vol. V (United Nations publication, Sales No. E.76.V.8) art. 69; and vol. VIII (United Nations publication, Sales No. E.78.V.4) art. 258. Subsequent revisions to what became art. 257 of the Convention incorporated drafting suggestions from the Drafting Committee, see vol. XII (United Nations publication, Sales No. E.80.V.12); vol. XV (United Nations publication, Sales No. E.83.V.4).

²⁸ The Drafting Committee, established during the Conference to harmonize words and expressions recurring throughout the informal composite negotiating text, pointed to a number of inconsistencies in terms, including between art. 87 and art. 257. The Committee, however, only recommended that the term “marine scientific research” be used consistently in Part XIII and that this term also could be used in art. 123. No mention was made of arts. 87 and 257 in the recommendations of the Committee. See *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. XIV (United Nations publication, Sales No. E.82.V.2).

²⁹ Article 1 of the Convention defines “activities in the Area” as “all activities of exploration for, and exploitation of, the resources of the Area”.

57. Of particular relevance to marine scientific research undertaken in the high seas, are the requirements under arts. 242 to 244 related, respectively, to the promotion of international cooperation, the creation of favourable conditions and publication and dissemination of information and knowledge.

2. Marine scientific research in the Area

58. All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research in the Area (art. 256),³⁰ which is defined in the Convention as the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction (art. 1, para. 1).

59. Such research must be conducted in conformity with Part XI on the Area (art. 256) and exclusively for peaceful purposes and for the benefit of mankind as a whole, in accordance with Part XIII (art. 143, para. 1).

60. The International Seabed Authority has been established by the Convention to organize and control activities in the Area, on behalf of mankind as a whole, particularly with a view to administering the resources of the Area (arts. 153 and 157). In addition to its core responsibilities for the development of mineral resources in the Area, which are the common heritage of mankind (art. 136), the Authority has a general responsibility to promote and encourage the conduct of research, and to coordinate and to disseminate the results of such research and analysis, when available, with particular emphasis on research related to the environmental impact of activities in the Area. The Authority may carry out marine scientific research relating to the Area and its mineral resources and enter into contracts for that purpose (art. 143, para. 2; Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, Annex, sect. 1(5)(h)).³¹

³⁰ During the Third United Nations Conference on the Law of the Sea, the subject of scientific research in the Area was linked to the main questions discussed in the First Committee, including conditions of exploration and exploitation of the resources of the Area. Previous iterations of what was to become art. 256 are included in *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. IV, (United Nations publication, Sales No. E.75.V.10) Part II, art. 25; vol. V, (United Nations publication, Sales No. E.76.V.8) Part III, art. 68; and vol. VIII (United Nations publication, Sales No. E.78.V.4) art. 257. Subsequent revisions incorporated drafting suggestions from the Drafting Committee see, vol. XII (United Nations publication, Sales No. E.80.V.12); vol. XV, (United Nations publication, Sales No. E.83.V.4).

³¹ The institutional framework for marine scientific research in the Area, including the role and power of the Authority, was the subject of considerable discussions both in the Seabed Committee and during the Third United Nations Conference on the Law of the Sea. The various iterations of the draft art. 143 are contained in *Official Records of the Third United Nations Conference on the Law of the Sea*, vol. IV (United Nations publication, Sales No. E.75.V.10) Part I, art. 10; vol. V (United Nations publication, Sales No. E.76.V.8) Part I, art. 10; vol. VIII (United Nations publication, Sales No. E.78.V.4) art. 143.

61. States parties to the Convention are required by art. 143, para. 3, to promote international cooperation in marine scientific research by:

- (a) Participating in international programmes and encouraging cooperation in marine scientific research by personnel from different countries and of the Authority;
- (b) Ensuring that programmes are developed through the Authority or other international organizations for the benefit of developing States and technologically less developed States with a view to strengthening their research capabilities, training their personnel, and fostering the employment of their qualified personnel; and by
- (c) Effectively disseminating the results of research and their analysis, when available, through the Authority or other international channels, when appropriate.

F. Scientific research installations or equipment

62. Marine scientific research can be carried out not only on ships but also on installations or equipment deployed in the marine environment. As a general principle, the conditions prescribed in the Convention for the conduct of marine scientific research in any maritime areas apply also to the deployment and use of installations and equipment for such research in the area concerned (art. 258). Scientific research installations and equipment do not possess the status of islands, and thus they have no territorial sea and their presence does not affect the delimitation of any maritime zones (art. 259). Safety zones of a reasonable breadth (not exceeding 500 meters) may be created around scientific research installations in accordance with all relevant provisions of the Convention and all States shall ensure that such safety zones are respected by their vessels³² (art. 260). The deployment of scientific research installations or equipment shall not constitute an obstacle to established international shipping routes (art. 261).³³ Such installations and equipments shall bear identification

³² Such safety zones do not affect the overflight right in the airspace above such installations. The International Civil Aviation Organization concluded that “no such restrictions would appear to be permitted over the airspace above such installations and the right of overflight cannot be ... curtailed by the coastal States” and that “the Rules of the Air established by ICAO could, if necessary, make special provision for flight to and from or over artificial islands, installations or structures in the EEZ”. See ICAO doc. C-WP/777 (1984, mimeo, para. 11.7) and ICAO doc. C-WP/8077 (1985, mimeo), para. 35, reproduced in 1 NILOS YB (1985), pp. 310 - 318; I AROA 1985-1987, pp. 114-122.

³³ Arts. 60, 147 and 261 use different terminology regarding shipping routes, that is “sea lanes essential to international navigation” (arts. 60 and 147, para. b), “international sea lanes” (art. 147, para. c) and “international shipping routes” (art. 261). The Drafting Committee of the Third United Nations Conference on the Law of the Sea acknowledged, in one of its reports, that “the language used is not consistent, for example, art. 147, para. 2 (c), refers to international sea lanes whereas art. 261 speaks of international shipping routes. It then clarified that “Both could be referring to the same maritime area. Moreover, the term “sea lanes” is used in a specific sense in some arts. ... in a general sense in, for example, art. 60, para. 7 and art. 147. The specific usage of the term is frequently associated with traffic separation schemes”. See A/CONF.62/L.40, sect. 12-II, p.12. .

markings indicating the State of registry or the international organization to which they belong, and have adequate internationally agreed warning signals to ensure safety at sea and the safety of air navigation (art. 262).

G. Development and transfer of marine technology

63. Adequate technology is a necessary underpinning factor for the conduct and promotion of marine scientific research as required under Part XIII of the Convention.

64. Transfer of technology was first addressed by Sub-Committee III of the Seabed Committee and later on by the Third Committee of the Third United Nations Conference on the Law of the Sea, along with the topics of marine scientific research and the protection and preservation of the marine environment. By and large this shows the inherent link between all three issues, although Part XIV of the Convention, which addresses the topic, is not limited to technology related to marine science and the marine environment. Part XIV should also be read in conjunction with Annex VI to the Final Act, which contains a Resolution on Development of National Marine Science, Technology and Ocean Service Infrastructure.

65. Emphasis is placed in Part XIV on cooperation for both the development and transfer of marine technology. States, directly or through competent international organizations, are required to cooperate in accordance with their capabilities to promote actively the development and transfer of marine science and marine technology on fair and reasonable terms and conditions (art. 266). Marine scientific research is specifically mentioned as an area for which States shall promote the development of the marine scientific and technological capacity of States which may need and request technical assistance in this field, particularly developing States with regard to the exploration, exploitation, conservation and management of marine resources (art. 266, para. 2). In doing so, States must have due regard for all legitimate interests including, *inter alia*, the rights and duties of holders, suppliers and recipients of marine technology (art. 267).³⁴

66. In art. 268, the Convention provides that States, directly or through competent international organizations, shall promote a number of basic objectives as follows:

- (a) The acquisition, evaluation and dissemination of marine technological knowledge and facilitation of access to such information and data;

³⁴ During the negotiations of the Convention, the issue of patented technology proved contentious. This article therefore tries to achieve a balance between various interests in that regard.

- (b) The development of:
 - (i) Appropriate marine technology;
 - (ii) Necessary technological infrastructure to facilitate transfer of marine technology;
 - (iii) Human resources through training and education of nationals of developing States and countries and especially the nationals of the least developed among them; and
- (c) International cooperation at all levels, particularly at the regional, subregional and bilateral levels.

67. A number of measures to achieve such basic objectives are provided in art. 269, including:

- (a) The establishment of programmes of technical cooperation for the effective transfer of all kinds of marine technology to States which may need and request technical assistance in this field, particularly the developing landlocked and geographically disadvantaged States, as well as other developing States which have not been able either to establish or develop their own technological capacity in marine science and in the exploration and exploitation of marine resources or to develop the infrastructure of such technology;
- (b) The promotion of favourable conditions for the conclusion of agreements, contracts and other similar arrangements, under equitable and reasonable conditions;
- (c) Holding of conferences, seminars and symposia on scientific and technological subjects, in particular on policies and methods for the transfer of marine technology;
- (d) The promotion of the exchange of scientists and of technological and other experts; and
- (e) Undertaking of projects and promotion of joint ventures and other forms of bilateral and multilateral cooperation.

68. The establishment of national and regional marine scientific and technological research centres is also to be promoted (Part XIV, sect. 3). Prompt dissemination of the results of marine scientific research in readily available publications is one of the functions envisaged by the Convention for the regional centres (art. 277).

69. International cooperation must be carried out, where feasible and appropriate, through existing bilateral, regional or multilateral programmes, and also through expanded and new programmes in order to facilitate marine scientific research, the transfer of marine technology, particularly in new fields, and appropriate international funding for ocean research and development (art. 270).

70. States, directly or through competent international organizations, are required to promote the establishment of generally accepted guidelines, criteria and standards for the transfer of marine technology on a bilateral basis or within the framework of international organizations and other forums, taking into account, in particular, the interests and needs of developing States (art. 271) (see para. 125).

71. The competent international organizations referred to in Part XIV and in Part XIII are required to take all appropriate measures to ensure, either directly or in close cooperation among themselves, the effective discharge of their functions and responsibilities related to the transfer of marine technology (art. 278).

H. Protection and preservation of the marine environment

72. The study of, and increase in, scientific knowledge of the marine environment for the benefit of all mankind are the objectives of marine scientific research as provided for in the Convention (Preamble and arts. 243 and 246(3)).

73. Marine scientific research is to be conducted in compliance with all relevant regulations adopted in conformity with the Convention, including those for the protection and preservation of the marine environment (art. 240). As a result, the provisions of Part XII of the Convention, which address the protection and preservation of the marine environment, apply to the conduct of marine scientific research.

74. Article 194 sets out the measures to be taken to prevent, reduce and control pollution from any source, including installations and devices operating in the marine environment. States are also required to take all measures necessary to prevent, reduce and control pollution resulting from the use of technologies under their jurisdiction or control (art. 196). Articles 204 to 206 require States, when they have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, to assess the potential effects of such activities on the marine environment and communicate reports of the results of such assessments.

75. Art. 200 requires cooperation among States, directly or through competent international organizations, for the purpose of promoting studies, undertaking scientific research programmes, and encouraging the exchange of information and data about pollution of the marine environment. That article also requires States to participate actively in regional and global programmes to acquire knowledge for the assessment of the nature and extent of pollution,³⁵ exposure to it, and its pathways, risks and remedies. Article 201 requires States to cooperate in establishing appropriate scientific criteria for the development of rules, standards and recommended practices and procedures for the prevention, reduction and control of pollution of the marine environment. In the context of international cooperation in marine scientific research, States are also required to provide other States with a reasonable opportunity to obtain from them, or with their cooperation, information necessary to prevent and control damage to the marine environment, among others (art. 242).

76. Article 236 excludes from the application of the provisions of the Convention regarding the protection and preservation of the marine environment, *inter alia*, vessels or aircraft owned or operated by a State and used only on government non-commercial service. However, this article requires the flag State to ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practical, with the Convention.

77. Article 237 of the Convention addresses the relationship between the Convention and other conventions and agreements relating to the protection and preservation of the marine environment. It provides that specific obligations assumed by States under special conventions with respect to the protection and preservation of the marine environment should be carried out in a manner consistent with the general principles and objectives of the Convention. In that regard, marine scientific research should be undertaken consistent with the measures and regulations adopted pursuant to those instruments provided that those are consistent with the general principles and objectives of the Convention.

I. Responsibility and liability

78. The Convention requires States parties to fulfill in good faith the obligations they assume under it and to exercise the rights, jurisdiction and freedoms recognized in the Convention in a manner which would not constitute an abuse of right (art. 300).

³⁵ For a definition of “pollution” under the Convention, see art. 1, para. 4.

79. According to art. 263, States and competent international organizations involved in marine scientific research, whether undertaken by them or on their behalf, are:

- (a) Responsible for ensuring that it is conducted in accordance with the Convention;
- (b) Responsible and liable for the measures they take in contravention of the Convention in respect of marine scientific research by other States, their natural or juridical persons or by competent international organizations, and shall provide compensation for damage resulting from such measures; and
- (c) Responsible and liable pursuant to art. 235 for damage caused by pollution of the marine environment arising out of marine scientific research undertaken by them or on their behalf.

80. Article 235, para. 2, in Part XII requires States to ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.

81. Article 235, para. 3, further requires States to cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage caused by pollution of the marine environment and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

82. Article 304 provides that the provisions of the Convention with regard to responsibility and liability are without prejudice to the application of existing rules and the development of further rules regarding responsibility and liability under international law.

J. Settlement of disputes

83. Due to the fact that marine scientific research can be conducted in areas within national jurisdiction, there is potential for a dispute between the rights and duties of the coastal State and those of the researching State, with regard to, for example, issues of consent (express or implied) and the conduct of the researching State during and after the research. Likewise, disputes could also possibly arise with respect to the conduct of marine scientific research in the high seas and the Area and other activities occurring in those areas.

84. The dispute settlement procedures with regard to marine scientific research are set out in Part XIII, sect. 6, and Part XV of the Convention. Article 264 in Part XIII provides that all disputes concerning the interpretation or application of the provisions of the Convention with regard to marine scientific research shall be settled in accordance with Part XV, sects. 2 and 3. Sect. 2 of Part XV provides for compulsory procedures entailing binding decisions,³⁶ while sect. 3 outlines various limitations and exceptions to the applicability of sect. 2.³⁷ The procedures outlined in Part XV are open to States parties to the Convention and to other entities only as specifically provided for in the Convention.³⁸

85. Article 264 is complemented by art. 265, which provides for interim measures pending the settlement of a dispute. In this case the State or competent international organization authorized to conduct a research project, shall not allow research activities to commence or continue, without the express consent of the coastal State concerned.

86. In any dispute concerning the interpretation or application of the Convention, States are required to settle their disputes by peaceful means (arts. 279 and 280 (Part XV, sect. 1) and art. 286 (Part XV, sect. 2)). To this end, States must seek a solution by the means provided for in Article 33, para. 1, of the Charter of the United Nations, that is, negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.³⁹

87. Article 297, para. 2(a), provides that coastal States shall not be obliged to accept the compulsory procedures regime described in sect. 2 of Part XV for any dispute arising out of:

- (a) The exercise by the coastal State of a right or discretion in accordance with art. 246; or
- (b) A coastal State's decision to order suspension or cessation of a research project in accordance with art. 253.

88. Thus disputes concerning allegations by the researching State that, with respect to a specific project, the coastal State is not exercising its rights under arts. 246 and 253 "in a manner compatible with the provisions of the

³⁶ Compulsory procedures include: the International Tribunal for the Law of the Sea; the International Court of Justice; an arbitral tribunal constituted in accordance with the Convention; and a special tribunal constituted in accordance with the Convention.

³⁷ With respect to marine scientific research, see art. 297, para. 2 of sect. 3 of Part XV of the Convention.

³⁸ See art. 305 of the Convention.

³⁹ Available from www.un.org/aboutun/charter.

Convention” can be submitted at the request of either party, to conciliation under Annex V, sect. 2. The conciliation commission, however, is not empowered to question the coastal State’s exercise of its discretionary power to designate specific areas referred to in art. 246, para. 6, or to withhold consent in accordance with art. 246, para. 5.⁴⁰

89. Article 286 (Part XV, sect. 2), provides that where the parties to a dispute have been unable to reach a settlement by recourse to sect. 1, then the dispute may “be submitted at the request of any party to the dispute to the court or tribunal having jurisdiction” under sect. 2. The courts and tribunals referred to here, as provided in art. 287, include the International Court of Justice; the International Tribunal for the Law of the Sea; an arbitral tribunal constituted in accordance with Annex VII to the Convention; and a special arbitral tribunal constituted in accordance with Annex VIII for one or more of the categories of disputes specified therein.

90. If States decide to use, for example, the compulsory procedure of a special arbitral tribunal, it should be noted that in accordance with Annex VIII, art. 2, the Intergovernmental Oceanographic Commission of UNESCO maintains a list of experts in marine scientific research. As of April 2009, 41 States have submitted names for the list of experts, but thirteen States have only submitted names for one expert, instead of two as States are entitled to under Annex VIII, art. 2, para. 3.⁴¹

⁴⁰ Reference is made to art. 297, para. 2(b), of the Convention.

⁴¹ The list of experts can be found on the website of the Intergovernmental Oceanographic Commission, at <http://ioc3.unesco.org/abelos/>.

Part II

Experience of States in implementing the provisions of the Convention related to marine scientific research

This section provides some information on the experience of States in implementing the provisions of the Convention on marine scientific research. This information, which is publicly available, is drawn from, inter alia, the results of Questionnaire No. 3 on marine scientific research and transfer of marine technology of the Advisory Body of Experts on the Law of the Sea of the Intergovernmental Oceanographic Commission,⁴² as well as information from the experience of the Group of Experts.

A. International cooperation

91. Recent progress in marine sciences has been achieved through cooperation, coordination and planning among States by a variety of ways, including by their participation in relevant international organizations. In this regard, the effective implementation of the provisions of the Convention on international cooperation is evident in the proliferation of organizations that share information, catalyze partnerships and promote the transfer of knowledge about the oceans throughout the world. In addition to the competent international organizations referred to in the Convention, such as the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, many non-governmental

⁴² Practices of States in the Fields of Marine Scientific Research and Transfer of Marine Technology: An Update of the 2005 Analysis of Member State Responses to Questionnaire No. 3, document IOC/ABE-LOS VIII/8.

organizations, including professional societies, also facilitate cooperation in marine scientific research. States, through their formal or informal participation in these organizations and negotiation of bilateral and regional partnerships to address marine scientific issues of common interest, are also building capacity for a better understanding of the oceans' environment.

92. The United Nations Educational, Scientific and Cultural Organization, is the recognized United Nations mechanism for global cooperation in the study of the oceans. In this capacity, the Intergovernmental Oceanographic Commission has been promoting international collaboration in all aspects of marine scientific research since its inception in 1960. It established the Advisory Body of Experts on the Law of the Sea to deal with many of the issues arising under the Convention.

93. States have started implementing art. 251, related to the establishment of criteria and guidelines to assist States in ascertaining the nature and implications of marine scientific research, by participating in the Intergovernmental Oceanographic Commission/Advisory Body of Experts on the Law of the Sea, which provides advice on the Intergovernmental Oceanographic Commission's role in relation to the Convention, and in particular, Parts XIII and XIV.⁴³

94. International cooperation is also ongoing to establish the data format standards which may have an impact on the comparability and use of data among States.⁴⁴

B. The planning stage

95. Experience shows that researching States have found it helpful to establish collaboration at the planning stage, in advance of the research project, with the scientists of the coastal State, in particular, to strengthen the coastal State's involvement and promote the objectives of the marine scientific research project.

96. The results of the Questionnaire indicate that 39 out of 72 Member States (54%) of the Intergovernmental Oceanographic Commission have national legislation regarding marine scientific research.⁴⁵ In this regard, when planning a research project, it is advisable that researching States take into full consideration the coastal State's rules, regulations and procedures pursuant to art. 255, including any administrative fees established by the coastal State.

⁴³ IOC Resolution XIX-19.

⁴⁴ For more information on issues related to data exchange, see www.iode.org.

⁴⁵ Practices of States in the Fields of Marine Scientific Research and Transfer of Marine Technology: An Update of the 2005 Analysis of Member State Responses to Questionnaire No. 3, document IOC/ABE-LOS VIII/8.

C. Marine scientific research within areas of national jurisdiction

1. Submitting the request for consent

97. As regards art. 248, available experiences show that coastal States may wish to consider, when requiring additional information further to this article, the practicality of obtaining such information within the relevant established deadline. In addition, art. 248 should also be read within the context of the modern means of conducting marine scientific research.

98. When, in application of art. 249, para. 1 (f), a researching State has immediately informed the coastal State, through official channels, of a major change in the research programme, the coastal State may consider providing a clear indication to the researching State of the impact of such change on the marine scientific research project.

2. Response by the coastal State

99. The Convention does not define what marine scientific research is. The available information on experiences shows that the validation by the coastal State of a given project is what, in practice, defines its nature.

100. In general, States have used express consent regarding marine scientific research applications. Implied consent has been used by some States.⁴⁶

101. The Convention provides for a number of instances for coastal States to withhold their consent (see paras. 29-37). Available practice shows that States have a very high approval rate for marine scientific research applications.⁴⁷ In furtherance of that approval rate and in those cases where the coastal State exercises its discretion to withhold consent in accordance with art. 246, para. 5, the coastal State may consider offering additional information about its decision to withhold consent in order for the researching State to avoid repeating a situation similar to that which lead to the withholding of consent.

102. In relation to the implementation of the provisions of art. 246, paras. 5 and 6, of the Convention, an element of relevance may be the delineation by coastal States of their extended continental shelf on the basis of the recommendations of the Commission and the deposit by them of charts and geodetic data permanently describing the outer limits of their continental shelf (see para. 31).

⁴⁶ IOC Questionnaire No. 3, document IOC/ABE-LOS VIII/8, p. 6 and 9.

⁴⁷ IOC Questionnaire No. 3, document IOC/ABE-LOS VIII/8, p. 9.

103. In order to implement art. 247 of the Convention, which provides for a simplified consent regime for the conduct of marine scientific research by or under the auspices of international organizations in the exclusive economic zone or on the continental shelf of a coastal State, the twenty-third session of the Intergovernmental Oceanographic Commission's Assembly⁴⁸ adopted a "Procedure for the application of art. 247 of the Convention by the Intergovernmental Oceanographic Commission" which was also welcomed by the General Assembly.⁴⁹

104. A review of State practice reveals that applications for coastal State consent, barring bureaucratic error, were approved in time prior to the proposed start of the research.

105. In implementing art. 249, para. 1 (a), and taking into account that marine scientific research projects provide a capacity-building opportunity, States are encouraged to designate as participants, where practicable, scientists whose area of knowledge is related to the research project with the view to their active involvement therein. In this regard, capacity-building opportunities offered by researching States and organizations which facilitate the participation of young scientists in marine scientific research projects are welcome.⁵⁰

3. Conduct during marine scientific research

106. *Ensuring the participation of the coastal State.* Coastal State participation can occur prior to, during, and following the proposed research programme. In practice, the researching State often carries the expenses of the coastal State's participant who could not otherwise participate since the travel was not predicted and thus not adequately financed. The cost of accommodating a participant during research vessel-based operations can be substantial if such participant is not appointed by the coastal State with sufficient lead time or if the research plan does not bring the research vessel near shore or to a port that is convenient for the boarding of the participant.

107. *Participation of landlocked or geographically disadvantaged States in marine scientific research.* Notwithstanding art. 254 of the Convention, there is little evidence of any particular landlocked or geographically disadvantaged State requesting to be informed of any particular marine scientific research activity.

⁴⁸ IOC resolution XXIII-8, document IOC-XXIII/3 of 30 July 2005.

⁴⁹ General Assembly resolution 60/30, para. 88.

⁵⁰ For capacity-building activities of the Scientific Committee on Oceanic Research (SCOR), see www.scor-int.org/capacity.htm; for the International Seabed Authority Endowment Fund activities, see www.isa.org/jm/en/efund.

108. *Minimizing impact to the marine environment and areas of ecological and/or cultural significance.* In recognition of the vulnerability of some marine ecosystems to disturbances resulting from marine scientific research, the scientific community has voluntarily established various codes of conduct to minimize their impact.

109. Environmental impact assessments may be required under national regulations (see para. 143). An example of current State practice⁵¹ relates to the undertaking of marine scientific research in designated special areas of conservation, a form of marine protected area. As the incidence of the designation of offshore marine protected areas by coastal States is on the increase, researching States should bear constraints in mind when conducting marine scientific research.

110. A number of area-based management tools have been put in place at the regional and national levels with a view to minimizing the impacts of human activities on the marine environment. These include marine protected areas, specially protected areas, and biosphere reserves.⁵² The degrees of protection which can be adopted in such areas are very different, ranging from areas of strict protection where uses are excluded to areas where multiple uses are allowed and regulated.⁵³ In some cases, scientists wishing to undertake research may be required to obtain a prior permit from the coastal State's relevant authorities or a notification system may be in place. Research vessels also need to be aware of special measures applicable in Special Areas designated pursuant to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and, particularly sensitive sea areas.

111. *Ensuring safety of navigation.* To ensure the safe navigation of vessels and other mobile craft within territorial waters, the researching State relies to a great extent on the accuracy of navigational charts and availability of ship routing measures, including those aimed at protecting areas of ecological and/or cultural significance. Global rules and regulations governing safety of navigation and prevention of pollution from ships are developed primarily by the International Maritime Organization (IMO), but also involve other international organizations.⁵⁴

⁵¹ Available from www.npws.ie/en/WildlifePlanningtheLaw/Permits/MarineScientificResearch/.

⁵² Report of the Secretary-General on oceans and the law of the sea, A/62/66/Add.2.

⁵³ *Ibid.*

⁵⁴ The International Maritime Organization (IMO) Secretariat stated that "IMO would appear to be the most appropriate body for developing international rules and standards on warning signals for such installations and equipment to ensure safety at sea". (See "Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization", IMO document, LEG/MISC.6, part II, chapter IV, subsect. C). IMO, issued several resolutions regarding ship's routing, safety zones and safety navigations around offshore installations and structures and the removal of offshore installations and structures on the continental shelf and in the exclusive economic zone.

112. *Suspension or cessation of marine scientific research activities.* A review of the practice of coastal States that have granted consent to conduct marine scientific research indicates that orders of suspension or cessation were a very rare occurrence.⁵⁵

4. Rights and obligations after the completion of the research

113. A challenge encountered by the coastal State relates to appropriate storage and handling of research results. Also, while data delivery and management systems have made marine scientific research data more readily available, the requisite technology in order to access and assess this data, samples and research results may not be available to the coastal State.

114. Article 249 requires the researching State to share samples, data, and analyses, with the coastal State. Experience shows that, when implementing this obligation, the specific modalities for this sharing have been dealt with bilaterally, taking particularly into account the intellectual property aspects that may be involved.

D. Marine scientific research beyond areas of national jurisdiction

115. While there is not much information about State practice regarding marine scientific research beyond areas of national jurisdiction, it is noted that the financial costs of undertaking marine scientific research in remote locations of the high seas and the Area can be a constraint, in particular for developing countries.

116. *Sharing of data.* In practice, data acquired from marine scientific research conducted in the high seas is made available via international data repositories and international journals, both in print and on-line. Some of these databases include the Ocean Biogeographic Information System, Biocean, the databases of the Census of Marine Life, RIDGE Multibeam Synthesis, and Petrological Database of the Ocean Floor.

117. *The role of the International Seabed Authority.* The workshops of the Authority on the scientific and technical nature of its work relating to the deep seabed mining of minerals, its work on the environmental impacts of such exploration and on how the data and information collected by the various scientific institutions can be standardized and shared, serve as a catalyst for

⁵⁵ IOC Questionnaire No. 3^o; IOC/ABE-LOS VIII/8.

collaboration and exchange of information among the scientific community.⁵⁶ With a view to further promoting marine scientific research in the Area, the International Seabed Authority established an Endowment Fund in 2006. The Fund promotes and encourages the conduct of collaborative marine scientific research in the Area by supporting the participation of qualified scientists and technical personnel from developing countries in marine scientific research programmes and activities, and by providing opportunities to these scientists to participate in relevant initiatives.⁵⁷ To date, three collaborative marine scientific research activities have been undertaken by the Authority and its partners to predict and manage the impacts of deep seabed mining, and increase international knowledge of the deep seabed environment.⁵⁸

E. Scientific research installations and equipment

118. The increasing sophistication of research platforms and other means of collecting data should be taken into account in the application of the relevant provisions of the Convention (see Introduction).

119. The Advisory Body of Experts on the Law of the Sea of the Intergovernmental Oceanographic Commission is addressing the impacts of such sophistication through the development of practical guidelines based on the relevant provisions of the Convention. For instance, it has adopted “Guidelines for the implementation of resolution XX-6 of the IOC Assembly regarding the deployment of profiling floats in the high seas within the framework of the Argo⁵⁹ Programme” (“Argo Guidelines”).⁶⁰

120. *Safety zones around and removal of installations.* As regards installations, the International Maritime Organization has developed a number of instruments of relevance to artificial islands, installations and structures addressed in arts. 60 and 80 of the Convention.⁶¹ In its resolution A.572(14) on General Provisions on Ships’ Routeing, States are recommended to avoid establishing, as far as practical, oil rigs, platforms and other similar structures within routeing systems adopted by the International Maritime Organization or near their terminations. If such establishment cannot be avoided, the traffic separation scheme should be amended.

⁵⁶ See www.isa.org/jm/en/scientific/workshops.

⁵⁷ See www.isa.org/jm/en/efund/fund.

⁵⁸ See www.isa.org/jm/en/scientific.

⁵⁹ Array for Real-time Geostrophic Oceanography (Argo); see also report of the Secretary-General on oceans and the law of the sea, A/56/58, para. 484.

⁶⁰ EC-XLI.4, document IOC/EC-XLI/3 prov., annex II.

⁶¹ IMO document, LEG/MISC.6, “Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization”, part II, chapter I, subsect. 9.

121. International Maritime Organization Assembly resolution A.671(16) on Safety Zones and Safety of Navigation around Offshore Installations and Structures of 19 October 1989, which addresses artificial islands, installations or structures under arts. 60 and 80 of the Convention, recommends that States study the pattern of shipping traffic at an early stage in order to assess potential interference with marine traffic passing close to or through resource exploration areas.

122. With respect to the removal of offshore installations or structures addressed in para. 3 of art. 60 of the Convention, International Maritime Organization Assembly resolution A.672(16) on Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone of 19 October 1989 defines the standards to be followed by the coastal State when making decisions regarding the removal of abandoned or disused installations and structures.⁶²

123. The transport of marine scientific instrumentation and samples can be challenging where there are delays caused by customs requirements.⁶³ Many times, timing is critical not only for ensuring compliance with authorization procedures but also to guarantee the integrity of samples taken from the ocean. In addition, many research platforms must be outfitted with specific features that may not be available prior to the start of the research. Consequently, a delay caused by customs entry or exit procedures may have negative impacts on the conduct and or results of the research project. The same comment may apply to the retrieval of lost moorings or autonomous deployments, which can likewise be impacted by restrictive customs practices.

124. Other challenges for researching and coastal States include the need to protect instruments and equipment deployed at sea for marine scientific research from damage and/or loss.⁶⁴ This is a problem that particularly affects floating high-tech research equipment as well as moored oceanographic instruments. In this regard, a correlation has been found between mooring's data return and fishing activities in the oceans.⁶⁵

F. Development and transfer of marine technology

125. With a view to assisting the implementation of Part XIV of the Convention, the Intergovernmental Oceanographic Commission's Assembly adopted "Criteria and Guidelines on Transfer of Marine Technology" (CGTMT)

⁶² Ibid.

⁶³ Immigration requirements may also pose challenges with regard to travel of the research personnel.

⁶⁴ Report of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea on the work of its second session, A/56/121, para. 17.

⁶⁵ Ibid., para. 67.

in 2003. The guiding principle of the CGTMT is that the transfer of marine technology must always be conducted based on fair and reasonable terms and conditions and should enable all parties concerned to benefit on an equitable basis from developments in marine science related activities, particularly those aimed at stimulating the social and economic contexts in developing countries.⁶⁶

126. The Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization has, through its capacity-building development programme, established a global project to strengthen marine science institutes at multiple levels through training in leadership, fundraising and technology transfer. One resource developed by the Intergovernmental Oceanographic Commission is “Ocean-Expert”, a database of scientific and technical expertise.⁶⁷ Another resource is the clearing-house mechanism to assist interested developing and developed countries that are seeking appropriate partnerships for technology transfer.⁶⁸

127. A review of the Intergovernmental Oceanographic Commission’s Member States practice⁶⁹ indicates that States usually have institutions for marine scientific research/transfer of marine technology, but rarely have a single focal point for the purposes of transfer of marine technology. The Intergovernmental Oceanographic Commission’s regional subsidiary bodies have sometimes been used for the purposes of transfer of marine technology. Limited human and financial resources pose constraints to the transfer of marine technology for both the supplier and the receiver. Some additional difficulties relate to issues of language and customs limitations. Partnerships and joint ventures are the preferred form of transfer of marine technology for both suppliers and recipients.

G. Settlement of disputes

128. At the time of preparation of this Guide, there had not been any recourse to the procedures for the settlement of disputes under Part XV of the Convention as regards marine scientific research.

⁶⁶ IOC Resolution XXII-12 and IOC-XXII/2 Annex 12 Rev.

⁶⁷ See www.iode.org/.

⁶⁸ See <http://ioc3.unesco.org/abelos>.

⁶⁹ IOC Questionnaire No. 3, document IOC/ABE-LOS VIII/8.

Part III

Practical guidance on the implementation of the provisions of the Convention on marine scientific research

Based on the provisions of the Convention on marine scientific research and taking into account the available information on State practice relating to marine scientific research, this Part identifies some practical guidance that States may wish to consider when implementing marine scientific research projects according to the relevant provisions of the Convention, while taking into account also the relevant provisions of other conventions as discussed in section III.

A. General considerations

129. States are strongly encouraged to harmonize their national legislation with the provisions of the Convention and, where applicable, relevant agreements and instruments, to ensure the consistent application of those provisions.⁷⁰

130. In art. 255, the Convention states, and this Part seeks to emphasize, what should be considered as the adoption of reasonable rules. The idea of reasonableness is taken to encompass the rules relating to the duties of both the researching State and the coastal State. The adoption of rules that are reasonable relates to the content of any documentation supplied or required, and the timeliness of the application for consent. This notion should also take into account the advisability of a timely response by the coastal State.

⁷⁰ General Assembly resolution 63/111, para. 5.

B. The planning stage

131. During the early planning stages of a marine scientific research project, it is advisable to consider a number of factors including the following:

- (a) Specificities of the area(s) of planned research;
- (b) Overall cooperation with the coastal State;
- (c) Outstanding obligations from previous research.

132. States, when planning marine scientific research or when reviewing a marine scientific research application, should take into account rules established under national legislation or other relevant international conventions. When there is any question regarding the applicability or implementation of such rules, clarification should be obtained through appropriate official channels.

133. It is suggested that the following additional considerations related to the requirements under the consent regime for marine scientific research should also be borne in mind:

- (a) Timely efforts should be made to obtain the consent of the coastal State(s) concerned;
- (b) Efforts should be made to ensure, that no outstanding obligations exist from previous research projects conducted in the waters of the coastal State concerned, by scientific institutions located in the same State as the institution planning the project (see paras. 37 and 43);
- (c) Preparations should be made for additional funding that may be required in connection with the participation or representation of the coastal State on board, provision of reports and other assistance as requested by the coastal State.

134. As the exact requirements may vary from one coastal State to another, they should be considered well in advance.

135. It is often desirable and useful in the planning stage of a project to consult early with coastal State's scientists who might be involved in the project. While this is neither required by the Convention nor necessarily a factor in the consent process, it is considered beneficial to the overall project and contributes to the creation of a climate of trust and favourable conditions for the conduct of research.

136. States should also be aware of the opportunity that the marine scientific research project presents for capacity-building of the coastal State.

137. It would also be useful for the researchers to take into account the possibility of an extended continental shelf in the area envisaged for the research project (see para. 56).

138. Researching States are encouraged to seek information from the coastal State on the timeframe for the removal of the scientific installation and equipment as well as whether the coastal States would request an additional authorization for the removal. In the implementation of art. 249, para. 1 (g), the researching State is also encouraged to inform the coastal State of situations where the removal of scientific equipment or installations would not be feasible.

C. Submitting the request for consent

1. Submission through official channels

139. The coastal State is encouraged to decide which channels it will designate for the purpose of submission of the request. Unless the coastal State has designated other channels, and unless the States concerned otherwise agree, the request for consent should be submitted through diplomatic channels. In general, communications should be transmitted through the diplomatic mission of the researching State to the Ministry of Foreign Affairs of the coastal State. There may be some exceptional cases, however, where the coastal State requires such communications to be transmitted through its diplomatic mission located in, or responsible for activities in, the researching State.

2. Scheduling considerations relating to a marine scientific research project application

140. As provided for in art. 248, six months is the maximum period that the coastal State may require for a request for consent to be submitted. Researching States are encouraged to ascertain the lead-time required by the coastal State regarding the submission of the request for consent.

141. Whenever practicable, requests for consent should be made earlier than is required by the coastal State. Early contacts between the scientists involved and the offices concerned of the researching State and the coastal State would also be useful in facilitating expeditious consent. This may also prevent problems concerning time schedules for the execution of the project which may arise from requests for supplementary information from the coastal State. Moreover, it would be helpful for the scientific institution planning the project to know well in advance if the cruise can be carried out in accordance with the

plans. Furthermore, early contact with scientists of the coastal State concerned and early notification of the project would assist both the coastal State and the research institution in making timely preparations for the participation of the coastal State in the project.

3. Information to be provided to the coastal State

142. The information submitted should include both the data required by art. 248 and the proposed ways to implement the conditions listed in art. 249 (see paras. 46 and 52). In particular, the researching State must ensure the right of the coastal State, if it so desires, to participate or be represented in the research project, in accordance with art. 249, para. 1(a).

143. It is suggested that applicants present the rationale for complex research methodologies in a manner that non-scientists can understand and evaluate to determine appropriate action or response. When deciding on a research application, the coastal State will count on the full disclosure of details by the researching State, particularly regarding the research sponsors, collaborators and participants as well as the nature and proposed use of the data collected. Since marine scientific research applications are passed through official channels, it is in the best interests of the researching State to clearly and fully disclose the facts of the proposed marine scientific research. In addition, it may be required to submit to the coastal State, in support of a marine scientific research application, the results of a risk assessment/environmental impact assessment evaluating the possible impact on the marine environment of the proposed research activity.

144. The use of a standard application form, indicating precisely what information should be provided, could facilitate the processing of the request for consent. A model form for this purpose is attached as draft standard form A in Annex I, to the present guide. The request for consent (the filled-out standard form) should be submitted in the language designated for the purpose by the coastal State. From a practical point of view, it may be advantageous, in consultation with the coastal State, to select a language which is acceptable to both scientific communities.

145. When the research project includes the participation of scientists from the coastal State, those scientists can serve as additional references for the project, and this could therefore be indicated in the application for consent.

146. Given the unique characteristics of autonomous platforms, such characteristics, including the type and frequency of the information to be collected, should be included in the application for consent of a marine scientific research project involving the use of such platforms.

D. Response by the coastal State

1. General

147. It is desirable that all coastal States consider, as far as feasible, centralizing and simplifying the processing of applications for consent, for example by identifying a specific focal point for such process. It is recommended that the coastal State consider elaborating a manual on procedures for the application for marine scientific research projects, and as appropriate, making it publicly available.

148. Coastal States are encouraged to consider the use of draft standard form A and draft standard form B (see Annex I to the present guide) to provide the granting of the consent by the coastal State. These forms could be adapted to reflect requirements under national laws and regulations adopted in accordance with the Convention (see paras. 131-138)

2. Request for supplementary information

149. The coastal State is encouraged to actively seek early clarification if sufficient information is not provided in the application for consent (see draft standard form A).

3. Consent in normal circumstances

150. Article 246, para. 3, establishes the conduct to be followed by the coastal State in response to requests for consent to conduct scientific research in its exclusive economic zone or on its continental shelf. For the purposes of the marine scientific research project, it would be helpful if the coastal State could respond as quickly as can reasonably be expected to requests for consent. Coastal States are required by the Convention to establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably.

151. Some guidance regarding the term “normal circumstances”, can be found in art. 246 itself (see para. 41). From para. 4, it follows that, in those situations where the coastal State and the researching State do not maintain diplomatic relations, or where the researching State intends to have on board its vessel scientists from a State with which it has no diplomatic relations, the coastal State may not be entitled to invoke automatically the existence of abnormal circumstances. An obvious example of abnormal circumstances would be a situation of imminent danger of armed conflict. Another example may be where there is a jurisdictional dispute over the area for which the request is being made.

4. Discretionary power to withhold consent

152. Apart from the exceptional situations in which the coastal State may refuse consent, the coastal State also has the discretion to withhold consent for the conduct of marine scientific research in the four situations specified in art. 246, para. 5, of the Convention (see paras. 29-37). The researching State and the coastal State are encouraged to consult among themselves in cases where consent is withheld.

153. With respect to marine scientific research conducted by a State or international organization having outstanding obligations as referred to in art. 246, para. 5 (d), it would be important for those States in which there are a number of institutions engaged in marine scientific research in the exclusive economic zone or on the continental shelf of another State to centrally monitor and ensure compliance by their research institutions with the conditions laid down in art. 249 (see para. 52).

5. Conditions imposed when granting consent

154. In order to ensure full compliance by researching States with all conditions required by the coastal State when granting consent in accordance with art. 249, coastal States are encouraged to inform researching States of those conditions.

6. Additional information of importance to the researching State

155. It is recommended that the coastal State inform the researching State of areas which are, inter alia, of ecological and/or cultural significance, for example those that have been identified as marine protected areas or, as appropriate, particularly sensitive sea areas and any prerequisites for research to be conducted within such areas or measures applicable to research vessels. It is also suggested that the coastal State inform the researching State of the specific coordinates of those areas.

7. Research by or under the auspices of international organizations

156. States are encouraged to use the available "Procedure for the Application of art. 247 of the Convention" of the Intergovernmental Oceanographic Commission (see para. 103), taking particularly into account the opportunity that such procedure provides to the coastal State to be actively involved in the project.

E. Conduct during marine scientific research

1. Participation by the coastal State

157. The concepts of “participation” and “representation” have not been defined in the Convention. Presumably, “participation” means that one or more scientists from the coastal State work together on the project with the scientists from the researching State or competent international organization. It could even be possible that the coastal State participates in the project with its own research platform. “Representation” would refer to the situation in which one or more observers appointed by the coastal State are present on board the research platform during the project.

158. Taking into account the opportunity that the involvement of coastal States represents for the marine scientific research project, researching States should endeavour to maximize, as far as feasible, the involvement of the coastal State in all the stages of the project, that is, the preparatory stage, the actual field work and the evaluation stage at the completion of the field work.

159. In order to assist developing coastal States in capacity-building in marine scientific research, and for the purposes of facilitating the success of a marine scientific research project, researching States should consider the feasibility of supporting also, on an equitable basis, the transportation and other related expenses of a participant of the coastal State. The availability of funds provided by international organizations could be explored to this end.

160. Coastal States that may avail themselves of the right to have a participant on-board are encouraged to let their intentions be known as early as possible such that, if necessary, the logistics can be secured for the participant, including the issuance of visas for transit purposes can be arranged.

2. Duty to inform the coastal State of major changes in the research programme

161. In respect of any change made to the details to be provided pursuant to art. 248, it is difficult to indicate in general terms which kinds of changes in research programmes are to be considered major changes for the purposes of this provision. It should also be noted that a change in the nature and objectives of a project could in effect constitute a new project, rather than a major change in the existing one. The consequences of such changes in the research programme should be addressed on a case-by-case basis.

162. The establishment of good communications between the coastal and the researching States will allow changes to be dealt with in a smooth manner. In general, the duration of the lead time for processing requests should not be affected by major changes, unless they involve activities falling under art. 246, para. 5, in which case a new lead time may be required.

3. Suspension or cessation of marine scientific research activities

163. When a coastal State requires the suspension or cessation of a marine scientific research project on the basis of non-compliance with art. 248, it is encouraged to provide information to the researching State regarding the reasons for suspension or cessation.

4. Scientific research installations and equipment

164. In the deployment of and the creation of safety zones around marine scientific research installations, States are encouraged to take note of the General Provisions on Ships' Routeing and the International Maritime Organization Assembly resolution on Safety Zones and Safety of Navigation around Offshore Installations and Structures (see paras. 120-124).

165. In the implementation of art. 249, para. 1(g), the researching State is required to report as soon as possible any loss of scientific equipment or material used in the marine scientific research project.

166. States should promote and, as appropriate, support awareness-raising activities directed at the importance of not damaging scientific equipment used in a marine scientific research project.

5. Port calls

167. When planning for port calls pursuant to art. 255, operators are encouraged to seek the assistance of local agents, possibly including shipping agents.⁷¹

168. When planning port calls, the researching State is also encouraged to utilize such occasions to enhance local awareness of the marine scientific research project. The latter's embassy or consular offices may be able to provide assistance in the planning of such public or private events.

⁷¹ For a description of the functions of the shipping agent, see www.jus.uio.no/lm/un.minimum.standards.shipping.agents.convention.1988/doc.html.

F. Rights and obligations after the completion of the research

1. Provision of preliminary reports and final results

169. Although art. 249, para. 1 (b), provides that preliminary reports and final results need to be formally provided to the coastal State only if it has specifically requested them, it is advisable to make the submission of such reports and results to the coastal State a standard/systematic practice. With regard to the requirement under the Convention to provide the coastal State with preliminary reports as soon as practicable after the completion of the research, the compliance by the researching State with this requirement may be facilitated by the provision by the coastal State of additional details to be contained in the preliminary reports (see draft standard forms A, B and C).

170. *Time period for submission.* No fixed time-limits are set in the Convention for providing the preliminary reports, final results and conclusions of the research to the coastal State. The coastal State, when it gives its consent, could suggest a possible timeframe for the transmission of preliminary reports. Although the time span between the end of the cruise and the availability of the final results can vary substantially depending upon the nature of the research, all efforts should be made to supply the final results and conclusions to the coastal State as soon as they become available. This point should be provided for within the preliminary reports.

171. *Form of submission.* The report should be transmitted through official channels to the coastal State's scientists involved. It is suggested that it may be much easier and more reliable to provide reports in an accessible electronic copy as opposed to sending sometimes long and complex documents by fax or in hard copy. In addition, consideration should be given to providing the coastal State with reports written in a language which can be read by scientists of the coastal State. For the preliminary report, a draft model form is attached as draft standard form C in Annex I, to the present guide.

172. *Ensuring the utility and scientific application of research data.* The researching State is encouraged to deliver research data and results in a form that is useful to the coastal State. This utility can be assured if the coastal State defines its preferences within the authorization documentation (see draft standard form B). Upon receipt of the data results and reports through official channels, the responsibility to disseminate the products to the interested parties at the

national level rests with the coastal State, unless otherwise expressly indicated by the coastal State in the authorization. Enhancing domestic communication networks between those responsible for research authorizations and those within other national ministries, academia and interest groups, may enhance the utility of the outcomes of the research.

2. Access to data and samples

173. In order to retain the results of marine scientific research data in a manner that enables its easy retrieval, a careful cataloguing of research results is advisable. To this end, oceanographic data centers with a common set of data and metadata standards may provide a useful tool if the concerned States so decide.

174. Deployers of Argo floats should take particularly into account that in accordance with the Argo Guidelines (see para. 119), data obtained by the Argo Programme floats in the exclusive economic zone would be made freely available to all States, except where such data is of direct significance for the exploration and exploitation of natural resources, whether living or non-living, and a request for non-distribution has been made by the coastal State concerned.

3. Assessment of data, samples and research results

175. Although it is preferable for the coastal State to indicate a request for assessment of data, samples and research results or assistance in doing so (art. 249, para. (d)) when giving consent for the research project, it may still decide to make such a request after receipt of the final results and conclusions of the research.

4. International availability of research results

176. To facilitate international availability of research results (art. 249, para. 1(e)) and access, and appropriate dissemination of data, the researching State should be encouraged to submit data to data centers affiliated with the International Oceanographic Data and Information Exchange of the Intergovernmental Oceanographic Commission.⁷²

⁷² See www.iode.org.

177. The national and regional marine scientific and technological centers envisaged under Part XIV of the Convention, where they exist, may be used for dissemination purposes, as provided for in the Convention.

5. Fulfillment of obligations

178. It is advisable for a researching State or competent international organization expressly to inform the coastal State involved, after final results and conclusions of a research project have been provided to it, that all obligations related to a specific research project have in its opinion been fulfilled. Such a notice may be useful for the purpose of the application of art. 246, para. 5, which gives the coastal State the discretionary power to withhold consent if the researching State or international organization has outstanding obligations to the coastal State from a prior research project.

Annex I

Documents related to Part III of the guide

Draft standard form A

Application for consent to conduct Marine scientific research

Date: _____

1. General Information

1.1 Cruise name and/or number:	
1.2 Sponsoring institution(s):	
Name:	
Address:	
Name of Director:	
1.3 Scientist in charge of the project:	
Name:	
Country:	
Affiliation:	
Address:	
Telephone:	
Fax:	
Email:	
Website (for CV and photo):	

1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project:	
Name:	
Affiliation:	
Address:	
Telephone:	
Fax:	
Email:	
Website (for CV and photo):	

2. Description of Project

2.1 Nature and objectives of the project:

2.2 If designated as part of a larger scale project, then provide the name of the project and the organization responsible for coordinating the project:

2.3 Relevant previous or future research projects:

2.4 Previous publications relating to the project:

3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude, including coordinates of cruise track/way points)

3.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical areas of the intended work and, as far as practicable, the location and depth of sampling stations, the tracks of survey lines, and the locations of installations and equipment.

4. Methods and means to be used

4.1 Particulars of vessel:	
Name:	
Type/Class:	
Nationality (Flag State):	
Identification Number (IMO/Lloyds No.):	
Website for diagram & specifications:	
Owner:	
Operator:	
Overall length (meters):	
Maximum draught (meters):	
Displacement/Gross tonnage:	
Propulsion:	
Cruising & maximum speed:	
Call sign:	
INMARSAT number and method and capability of communication (including emergency frequencies):	
Name of master:	
Number of crew:	
Number of scientists on board:	
Relevant documents required by international conventions and regulations:	
Other relevant information:	
4.2 Particulars of aircraft:	
Name:	
Make/model:	
Nationality (Flag state):	
Website for diagram & specifications:	

Owner:	
Operator:	
Overall length (meters):	
Propulsion:	
Cruising & Maximum speed:	
Registration No.:	
Call sign:	
Method and capability of communication (including emergency frequencies):	
Name of pilot:	
Number of crew:	
Number of scientists on board:	
Details of sensor packages:	
Other relevant information:	

4.3 Particulars of Autonomous Underwater Vehicle (AUV):	
Name:	
Manufacturer and make/model:	
Nationality (Flag state):	
Website for diagram & specifications:	
Owner:	
Operator:	
Overall length (meters):	
Displacement/Gross tonnage:	
Cruising & Maximum speed:	
Range/Endurance:	
Method and capability of communication (including emergency frequencies):	
Details of sensor packages:	
Other relevant information:	

4.4 Other craft in the project, including its use:

--

4.5 Particulars of methods and scientific instruments

Types of samples and measurements:	Methods to be used:	Instruments to be used:

4.6 Indicate nature and quantity of substances to be released into the marine environment:

--

4.7 Indicate whether drilling will be carried out. If yes, please specify:

--

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name, chemical content, depth of trade class and stowage, size, depth of detonation, frequency of detonation, and position in latitude and longitude:

--

5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and anticipated timeframe for recovery, as far as possible exact locations and depth, and measurements):

--

6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:

--

6.2 Indicate if multiple entries are expected:

--

7. Port calls

7.1 Dates and names of intended ports of call:

--

7.2 Any special logistical requirements at ports of call:

--

7.3 Name/address/telephone of shipping agent (if available):

--

8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research project:

--

8.2 Proposed dates and ports for embarkation/disembarkation:

--

9. Access to data, samples and research results

9.1 Expected dates of submission to coastal State of preliminary report, which should include the expected dates of submission of the data and research results:

--

9.2 Anticipated dates of submission to the coastal State of the final report:

--

9.3 Proposed means for access by coastal State to data (including format) and samples:

--

9.4 Proposed means to provide coastal State with assessment of data, samples and research results:

--

9.5 Proposed means to provide assistance in assessment or interpretation of data, samples and research results:

--

9.6 Proposed means of making results internationally available:

10. Other permits submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or pending):

11. List of supporting documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:

Signature:

Contact information of the focal point:

Name:

Country:

Affiliation:

Address:

Telephone:

Fax:

Email:

Draft standard form B

Consent to conduct marine scientific research

(Complimentary opening)

....and has the honour to refer to (request document from Embassy) dated _____ regarding the proposed marine scientific research of (chief scientist). The Ministry is pleased to advise that approval has been given for the marine scientific research project (reference number of project) proposed in the (Territorial Sea/ Exclusive Economic Zone/Continental Shelf) of (coastal State) from (dates) to (dates) inclusive, subject to the conditions being met as specified below.

- Participation of (name and details of coastal State participant(s)).
- Notifications regarding entry into and departure from the (Territorial Sea/ Exclusive Economic Zone/Continental Shelf), port arrivals and departures, and daily position reports, should be transmitted to (provide channels through which such notifications are to be transmitted).
- Provision of preliminary report(s) within the time frame provided on application _____
- Access to all data and samples derived from the marine scientific research project, including provision of data to participant(s).
- Provision of data which may be copied and samples which may be divided and copies of reports prepared, or alternatively details of where such data and reports can be obtained will be submitted to _____ in a form acceptable to (coastal State) as soon as possible but preferably no later than a 12-month period after the conclusion of the proposed research programme. The information will be treated as public information and may be made available via the internet unless another arrangement is reached with the (coastal State) government.
- Assessment of data, samples and research results /or provision of assistance in such assessment or interpretation.
- Compliance with the attached guidelines (safety, acoustics, map of protected areas, list of relevant endangered species under CITES, etc.).

- Changes to the authorized research programme shall be directed to _____ (name, phone, email of Marine Scientific Research Office or focal point).
- Removal of the scientific research installations or equipment once the research is completed.
- Final report will be provided within a reasonable time-frame.

(Complimentary close)

Date

Diplomatic Seal

Draft standard form C
Preliminary cruise report

Cruise name/number:

Authorizations:		
Coastal State	Authorization Document Number	National Participant(s)

Scientist in charge of reporting:	
Name:	
Country/Nationality:	
Affiliation:	
Address:	
Telephone:	
Email:	
Website (for CV and photo):	

Brief description of scientific objective:

Update on anticipated dates for delivery of final results:	
Metadata:	(locations of stations, variables measured, types of samples)
Raw Data:	
Processed Data:	
Data Analysis:	
WODC Data Registration (if applicable):	Accession number

Append image or URL illustrating the route of the platform, locations where measurements were taken, and actual cruise track:

Annex II

**Extracts from the United Nations
Convention on the Law of the Sea**

Part XIII. Marine scientific research

Section 1. General provisions

Article 238

Right to conduct marine scientific research

All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research subject to the rights and duties of other States as provided for in this Convention.

Article 239

Promotion of marine scientific research

States and competent international organizations shall promote and facilitate the development and conduct of marine scientific research in accordance with this Convention.

Article 240

General principles for the conduct of marine scientific research

In the conduct of marine scientific research the following principles shall apply:

- (a) marine scientific research shall be conducted exclusively for peaceful purposes;
- (b) marine scientific research shall be conducted with appropriate scientific methods and means compatible with this Convention;
- (c) marine scientific research shall not unjustifiably interfere with other legitimate uses of the sea compatible with this Convention and shall be duly respected in the course of such uses;
- (d) marine scientific research shall be conducted in compliance with all relevant regulations adopted in conformity with this Convention including those for the protection and preservation of the marine environment.

Article 241

*Non-recognition of marine scientific research
activities as the legal basis for claims*

Marine scientific research activities shall not constitute the legal basis for any claim to any part of the marine environment or its resources.

Section 2. International cooperation

Article 242

Promotion of international cooperation

1. States and competent international organizations shall, in accordance with the principle of respect for sovereignty and jurisdiction and on the basis of mutual benefit, promote international cooperation in marine scientific research for peaceful purposes.

2. In this context, without prejudice to the rights and duties of States under this Convention, a State, in the application of this Part, shall provide, as appropriate, other States with a reasonable opportunity to obtain from it, or with its cooperation, information necessary to prevent and control damage to the health and safety of persons and to the marine environment.

Article 243

Creation of favourable conditions

States and competent international organizations shall cooperate, through the conclusion of bilateral and multilateral agreements, to create favourable conditions for the conduct of marine scientific research in the marine environment and to integrate the efforts of scientists in studying the essence of phenomena and processes occurring in the marine environment and the interrelations between them.

Article 244

Publication and dissemination of information and knowledge

1. States and competent international organizations shall, in accordance with this Convention, make available by publication and dissemination through appropriate channels information on proposed major programmes and their objectives as well as knowledge resulting from marine scientific research.

2. For this purpose, States, both individually and in cooperation with other States and with competent international organizations, shall actively promote the flow of scientific data and information and the transfer of knowledge resulting from marine scientific research, especially to developing States, as well as the strengthening of the autonomous marine scientific research capabilities of developing States through, inter alia, programmes to provide adequate education and training of their technical and scientific personnel.

Section 3. Conduct and promotion of marine scientific research

Article 245

Marine scientific research in the territorial sea

Coastal States, in the exercise of their sovereignty, have the exclusive right to regulate, authorize and conduct marine scientific research in their territorial sea. Marine scientific research therein shall be conducted only with the express consent of and under the conditions set forth by the coastal State.

Article 246

Marine scientific research in the exclusive economic zone and on the continental shelf

1. Coastal States, in the exercise of their jurisdiction, have the right to regulate, authorize and conduct marine scientific research in their exclusive economic zone and on their continental shelf in accordance with the relevant provisions of this Convention.

2. Marine scientific research in the exclusive economic zone and on the continental shelf shall be conducted with the consent of the coastal State.

3. Coastal States shall, in normal circumstances, grant their consent for marine scientific research projects by other States or competent international organizations in their exclusive economic zone or on their continental shelf to be carried out in accordance with this Convention exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind. To this end, coastal States shall establish rules and procedures ensuring that such consent will not be delayed or denied unreasonably.

4. For the purposes of applying para. 3, normal circumstances may exist in spite of the absence of diplomatic relations between the coastal State and the researching State.

5. Coastal States may however in their discretion withhold their consent to the conduct of a marine scientific research project of another State or competent international organization in the exclusive economic zone or on the continental shelf of the coastal State if that project:

- (a) is of direct significance for the exploration and exploitation of natural resources, whether living or non-living;
- (b) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment;
- (c) involves the construction, operation or use of artificial islands, installations and structures referred to in arts. 60 and 80;
- (d) contains information communicated pursuant to art. 248 regarding the nature and objectives of the project which is inaccurate or if the researching State or competent international organization has outstanding obligations to the coastal State from a prior research project.

6. Notwithstanding the provisions of para. 5, coastal States may not exercise their discretion to withhold consent under subpara. (a) of that paragraph in respect of marine scientific research projects to be undertaken in accordance with the provisions of this Part on the continental shelf, beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, outside those specific areas which coastal States may at any time publicly designate as areas in which exploitation or detailed exploratory operations focused on those areas are occurring or will occur within a reasonable period of time. Coastal States shall give reasonable notice of the designation of such areas, as well as any modifications thereto, but shall not be obliged to give details of the operations therein.

7. The provisions of para. 6 are without prejudice to the rights of coastal States over the continental shelf as established in art. 77.

8. Marine scientific research activities referred to in this article shall not unjustifiably interfere with activities undertaken by coastal States in the exercise of their sovereign rights and jurisdiction provided for in this Convention.

Article 247

*Marine scientific research projects undertaken
by or under the auspices of international organizations*

A coastal State which is a member of or has a bilateral agreement with an international organization, and in whose exclusive economic zone or on whose continental shelf that organization wants to carry out a marine

scientific research project, directly or under its auspices, shall be deemed to have authorized the project to be carried out in conformity with the agreed specifications if that State approved the detailed project when the decision was made by the organization for the undertaking of the project, or is willing to participate in it, and has not expressed any objection within four months of notification of the project by the organization to the coastal State.

Article 248

Duty to provide information to the coastal State

States and competent international organizations which intend to undertake marine scientific research in the exclusive economic zone or on the continental shelf of a coastal State shall, not less than six months in advance of the expected starting date of the marine scientific research project, provide that State with a full description of:

- (a) the nature and objectives of the project;
- (b) the method and means to be used, including name, tonnage, type and class of vessels and a description of scientific equipment;
- (c) the precise geographical areas in which the project is to be conducted;
- (d) the expected date of first appearance and final departure of the research vessels, or deployment of the equipment and its removal, as appropriate;

- (e) the name of the sponsoring institution, its director, and the person in charge of the project; and
- (f) the extent to which it is considered that the coastal State should be able to participate or to be represented in the project.

Article 249

Duty to comply with certain conditions

1. States and competent international organizations when undertaking marine scientific research in the exclusive economic zone or on the continental shelf of a coastal State shall comply with the following conditions:

- (a) ensure the right of the coastal State, if it so desires, to participate or be represented in the marine scientific research project, especially on board research vessels and other craft or scientific research installations, when practicable, without payment of any remuneration to the scientists of the coastal State and without obligation to contribute towards the costs of the project;
- (b) provide the coastal State, at its request, with preliminary reports, as soon as practicable, and with the final results and conclusions after the completion of the research;
- (c) undertake to provide access for the coastal State, at its request, to all data and samples derived from the marine scientific research project and likewise to furnish it with data which may be copied and samples which may be divided without detriment to their scientific value;
- (d) if requested, provide the coastal State with an assessment of such data, samples and research results or provide assistance in their assessment or interpretation;
- (e) ensure, subject to para. 2, that the research results are made internationally available through appropriate national or international channels, as soon as practicable;
- (f) inform the coastal State immediately of any major change in the research programme;
- (g) unless otherwise agreed, remove the scientific research installations or equipment once the research is completed.

2. This article is without prejudice to the conditions established by the laws and regulations of the coastal State for the exercise of its discretion to grant or withhold consent pursuant to art. 246, para. 5, including requiring prior agreement for making internationally available the research results of a project of direct significance for the exploration and exploitation of natural resources.

Article 250

Communications concerning marine scientific research projects

Communications concerning the marine scientific research projects shall be made through appropriate official channels, unless otherwise agreed.

Article 251
General criteria and guidelines

States shall seek to promote through competent international organizations the establishment of general criteria and guidelines to assist States in ascertaining the nature and implications of marine scientific research.

Article 252
Implied consent

States or competent international organizations may proceed with a marine scientific research project six months after the date upon which the information required pursuant to art. 248 was provided to the coastal State unless within four months of the receipt of the communication containing such information the coastal State has informed the State or organization conducting the research that:

- (a) it has withheld its consent under the provisions of art. 246; or
- (b) the information given by that State or competent international organization regarding the nature or objectives of the project does not conform to the manifestly evident facts; or
- (c) it requires supplementary information relevant to conditions and the information provided for under arts. 248 and 249; or
- (d) outstanding obligations exist with respect to a previous marine scientific research project carried out by that State or organization, with regard to conditions established in art. 249.

Article 253
Suspension or cessation of marine scientific research activities

1. A coastal State shall have the right to require the suspension of any marine scientific research activities in progress within its exclusive economic zone or on its continental shelf if:

- (a) the research activities are not being conducted in accordance with the information communicated as provided under art. 248 upon which the consent of the coastal State was based; or
- (b) the State or competent international organization conducting the research activities fails to comply with the provisions of art. 249 concerning the rights of the coastal State with respect to the marine scientific research project.

2. A coastal State shall have the right to require the cessation of any marine scientific research activities in case of any non-compliance with the provisions of art. 248 which amounts to a major change in the research project or the research activities.

3. A coastal State may also require cessation of marine scientific research activities if any of the situations contemplated in para. 1 are not rectified within a reasonable period of time.

4. Following notification by the coastal State of its decision to order suspension or cessation, States or competent international organizations authorized to conduct marine scientific research activities shall terminate the research activities that are the subject of such a notification.

5. An order of suspension under para. 1 shall be lifted by the coastal State and the marine scientific research activities allowed to continue once the researching State or competent international organization has complied with the conditions required under arts. 248 and 249.

*Article 254
Rights of neighbouring land-locked and
geographically disadvantaged States*

1. States and competent international organizations which have submitted to a coastal State a project to undertake marine scientific research referred to in art. 246, para. 3, shall give notice to the neighbouring land-locked and geographically disadvantaged States of the proposed research project, and shall notify the coastal State thereof.

2. After the consent has been given for the proposed marine scientific research project by the coastal State concerned, in accordance with art. 246 and other relevant provisions of this Convention, States and competent international organizations undertaking such a project shall provide to the neighbouring land-locked and geographically disadvantaged States, at their request and when appropriate, relevant information as specified in art. 248 and art. 249, para. 1(f).

3. The neighbouring land-locked and geographically disadvantaged States referred to above shall, at their request, be given the opportunity to participate, whenever feasible, in the proposed marine scientific research project through qualified experts appointed by them and not objected to by the coastal State, in accordance with the conditions agreed for the project, in conformity with the provisions of this Convention, between the coastal State concerned and the State or competent international organizations conducting the marine scientific research.

4. States and competent international organizations referred to in para. 1 shall provide to the above-mentioned land-locked and geographically disadvantaged States, at their request, the information and assistance specified in art. 249, para. 1(d), subject to the provisions of art. 249, para. 2.

*Article 255
Measures to facilitate marine scientific research
and assist research vessels*

States shall endeavour to adopt reasonable rules, regulations and procedures to promote and facilitate marine scientific research conducted in accordance with this Convention beyond their territorial sea and, as appropriate, to facilitate, subject to the provisions of their laws and regulations, access to their harbours and promote assistance for marine scientific research vessels which comply with the relevant provisions of this Part.

Article 256

Marine scientific research in the Area

All States, irrespective of their geographical location, and competent international organizations have the right, in conformity with the provisions of Part XI, to conduct marine scientific research in the Area.

Article 257

*Marine scientific research in the water column
beyond the exclusive economic zone*

All States, irrespective of their geographical location, and competent international organizations have the right, in conformity with this Convention, to conduct marine scientific research in the water column beyond the limits of the exclusive economic zone.

**Section 4. Scientific research installations
or equipment in the marine environment**

Article 258

Deployment and use

The deployment and use of any type of scientific research installations or equipment in any area of the marine environment shall be subject to the same conditions as are prescribed in this Convention for the conduct of marine scientific research in any such area.

Article 259

Legal status

The installations or equipment referred to in this section do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.

Article 260

Safety zones

Safety zones of a reasonable breadth not exceeding a distance of 500 metres may be created around scientific research installations in accordance with the relevant provisions of this Convention. All States shall ensure that such safety zones are respected by their vessels.

Article 261

Non-interference with shipping routes

The deployment and use of any type of scientific research installations or equipment shall not constitute an obstacle to established international shipping routes.

Article 262

Identification markings and warning signals

Installations or equipment referred to in this section shall bear identification markings indicating the State of registry or the international organization to which they belong and shall have adequate internationally agreed warning signals to ensure safety at sea and the safety of air navigation, taking into account rules and standards established by competent international organizations.

Section 5. Responsibility and liability

Article 263

Responsibility and liability

1. States and competent international organizations shall be responsible for ensuring that marine scientific research, whether undertaken by them or on their behalf, is conducted in accordance with this Convention.

2. States and competent international organizations shall be responsible and liable for the measures they take in contravention of this Convention in respect of marine scientific research conducted by other States, their natural or juridical persons or by competent international organizations, and shall provide compensation for damage resulting from such measures.

3. States and competent international organizations shall be responsible and liable pursuant to art. 235 for damage caused by pollution of the marine environment arising out of marine scientific research undertaken by them or on their behalf.

**Section 6. Settlement of disputes
and interim measures**

Article 264

Settlement of disputes

Disputes concerning the interpretation or application of the provisions of this Convention with regard to marine scientific research shall be settled in accordance with Part XV, sects. 2 and 3.

Article 265

Interim measures

Pending settlement of a dispute in accordance with Part XV, sects. 2 and 3, the State or competent international organization authorized to conduct a marine scientific research project shall not allow research activities to commence or continue without the express consent of the coastal State concerned.

Annex III

List of participants in the meeting of the group of experts on marine scientific research, New York, 20 to 24 April 2009

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