

National Oceanography Centre – Written evidence (UNC0022)

National Oceanography Centre submission to the House of Lords International Relations and Defence Committee inquiry on UNCLOS: fit for purpose in the 21st century?

1. The UK's National Oceanography Centre (NOC) is one of the world's leading oceanographic institutions with a remit to deliver research from the coast to the deep ocean. Our activities span numerous disciplines, from ocean physics to numerical modelling, marine biology, climate change, marine geophysics and technology innovation. We manage two of the UK's national fleet of oceanographic research vessels and serve the needs of the UK's marine science community through the National Marine Equipment Pool and the British Oceanographic Data Centre.
2. We welcome the opportunity to provide written evidence to the International Relations and Defence Committee inquiry into UNCLOS (United Nations Convention on the Law of the Sea). NOC would be delighted to provide any additional written or oral evidence to the Committee.

Executive Summary

3. NOC welcomes the opportunity to provide evidence to the Committee on UNCLOS and its future. Despite varying interpretations, the overarching principles of the Convention are beyond reproach. We would therefore suggest that, rather than re-negotiate UNCLOS, implementing agreements and best practice governance should be developed or international rules and standards delivered through UN agencies.
4. Regarding future priorities for the UK, we suggest the following:
 - The UK's departure from the European Union provides the opportunity to exercise a greater independent voice to promote the Convention as the framework of governance for the world's ocean and seas.
 - The UK should continue to be seen as a global leader in protecting and preserving the ocean, by, but not limited to, articulating how the Convention helps deliver Agenda 2030 (SDGs); continued presence at UN fora; and by continuing to sign global agreements such as the Leaders Pledge for Nature.
 - The UK should engage more with the UK Overseas Territories in educating, advising and supporting their ambitions to manage their marine estates.
 - Leadership should be provided in improved international cooperation to enable developing states to undertake marine scientific research.
 - Ensure that the Biodiversity Beyond National Jurisdiction (BBNJ) negotiations do not diminish the ability to undertake marine science research on the High Seas.

- Continue to recognise and promote the mandates of UN agencies and where there are overlapping mandates look to ensure a coherent 'UN' approach.
- Ensure that the relevant framework Articles of the Convention allow for the implementation of the future IMO legislation relating to Marine Autonomous Surface Ships (MASS) and the legal regime developed with respect to Autonomous Underwater Vehicles (AUVs).
- In the context of Part XIII of the Convention, ensure that guidance acknowledges the growth of both philanthropic and citizen marine science research so that they are covered by the rights, duties and obligations contained.
- Within the Convention Part XIII, promote the concepts of monitoring, operational oceanography and sustained observations as agreed in the recent G7 announcement.
- Ensure that the UK leads on the assimilation of the use of autonomy and Artificial Intelligence (AI) within the existing Convention framework.

Introduction

5. The National Oceanography Centre's [NOC] mission is "*is to make sense of changing seas, upon which future human prosperity and wellbeing depends*". This will only be achievable within the framework of the United Nations Convention on the Law of the Sea (the Convention). NOC is governed by the Convention, and is an agent for keeping the Convention relevant to the delivery of marine scientific research (MSR) as laid out in Part XIII. It achieves this through engaging with UN Agencies, providing the UK Delegation to the Intergovernmental Oceanographic Commission of UNESCO [IOC] and has scientists involved in other governance organisations such as G7 and the Global Ocean Observing System (GOOS). NOC provides technical and policy support to the FCDO in delivery of UK Government Policy in the following areas of the Convention:
 - Part VI - Continental Shelf beyond 200 nautical miles – their delineation and delimitation.
 - Part XIII – Marine Scientific Research, including diplomatic clearance for research vessels, availability of data, especially those acquired within other States' jurisdiction and generation and sharing of knowledge and information.
 - Part XIV – the Transfer of Marine Technology, including Capacity Development.
 - Part XI - The Area – providing expertise to support the FCDO and delivering independent advice to the International Seabed Authority [ISA].
 - Supporting the current negotiations on the implementation of a legal regime under the framework of the Convention to establish a new treaty for areas beyond national jurisdiction (BBNJ).
6. *The Integrated Review of Security, Defence, Development and Foreign Policy (2021)* recognises the Convention as an enabler of global prosperity, security and a healthy planet, delivered by research, sharing of

knowledge and development of technology. The UK promotes and leads on the application of the Convention and supports development of implementing agreements that address real or perceived shortfalls.

What have been the main successes and accomplishments of the Convention over the past 40 years?

7. In 1982, on the first day that the Convention was opened for signature, 119 delegations signed the Agreement, an unprecedented event in the history of treaty law. The Convention is recognised as the international rules-based system by signatories and non-signatories alike. It provides the framework to establish sovereign rights and reminds members of obligations to protect the global ocean. It works to enable mankind to benefit from resources in areas beyond national jurisdiction that will be critical in achieving net zero; this will help eradicate bad practices employed by those mineral mining states where child slave labour is commonplace. Through its provisions on scientific research and the transfer of technology, the Convention brings opportunities for all states to benefit from activities that few are able to undertake.
8. The Convention has allowed States Parties [Researching States] to undertake global marine scientific research that provides data that contributes to knowledge of global issues, such as climate change and ocean acidification. It has promoted the use of technologies and marine autonomous platforms [see Part XIII Article 258], a particular area of focus for NOC, as a world leader in developing the next generation of marine autonomous technology. The framework for MSR has not only benefitted Researching States but also States Parties [Coastal States] who approve MSR within their maritime boundaries. These benefits and duties are listed in Articles 248 and 249 of Part XIII. NOC's delivery of the UK Government's funded global ocean scientific research over the last 40 years has not been hindered by complying with the Convention.

Which countries are the key international actors influencing the international law of the sea? What are their approaches towards the Convention?

9. The Convention provides a framework that signatories apply in a way consistent with their domestic policies. There are ambiguities, arguably intentionally, in the text which can lead to varying interpretation. However, the overarching principle of the Convention is beyond reproach and the majority of member states recognise this.
10. There are some State Parties who seek to be influencers in the application of the Convention e.g. China, Russia and the USA; (the USA is not a signatory). Recognising that, at the 2017 UN Ocean Conference, initiatives undertaken by the UK were insufficiently visible, since then the UK has been more proactive and, with Brexit and the government's Global Britain agenda, a sustained focus has arguably led to a more prominent UK voice. That said, the key players stem from established alliances within the UN family and, as prescribed in Part XI, Part XII, Part XIII and Part XIV of the Convention, international cooperation alliances, such as the

Major Maritime Powers group, G7, G20, G77 and China, SIDS and the Regional Groups. These alliances work within the Convention framework to achieve geo-political objectives. There are instances where maritime powers have sought to either ignore the rules or have applied their own interpretation.

11. There are cases of Coastal States exploiting the leeway in some Part XIII articles e.g. delaying issue of the diplomatic permit confirming access to its waters [Article 246 Paragraph 3] until the UK's Royal Research Ships (RRS) are on their EEZ boundary, waiting to commence Marine Scientific Research (MSR) for which an application has been made in good time. In one instance the reason related to a dispute over sovereignty of a UK overseas territory, but ultimately the MSR activity went ahead.

How is the Convention enforced and how successful is its enforcement? How successful is dispute resolution under the Convention?

12. NOC has not had to rely on the enforcement or dispute resolution parts of the Convention. We have not been subject to, or applied, the settlement of dispute measures provided for by Part XIII, Article 264. Neither are we aware that this provision is often used, which is testament to States' pragmatic approach to the application of Part XIII given there is no agreed definition of MSR. We have, however been subject to challenges, most recently relating to Mauritius' claims to the British Indian Ocean Territory (BIOT), where tide gauge installations classified as located on territory with the name 'BIOT' were disputed. And there are growing concerns relating to toponomy, where some states are insisting that local naming conventions are used in publications, rather than the conventional names of features/sea areas, and where pressure is being placed on publishers to reject papers that don't comply with that country's preferences. However, we have been advised on navigating specific difficulties by the Legal Directorate of the FCDO, in particular its Ocean Policy Unit and or through collaborative frameworks as provided by the aforementioned (in Q2) alliances, some of which include non-parties to the Convention but who accept it as customary international law.

What are the other important international agreements and treaties which complement the Convention?

13. The current negotiations for a new Treaty for areas beyond national jurisdiction (ABNJ), *an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ)*, will provide legal certainty on State obligations in ABNJ, in particular in relation to Marine Genetic Resources, including the question on the sharing of benefits, Area Based Management Tools including Marine Protected Areas, Environmental Impact Assessments and Capacity Development. It is only through this Agreement that the ambition to protect 30% of the World's Ocean by 2030¹ can be realised and the goal to enhance the capability of developing States to undertake

¹ <https://www.gov.uk/government/topical-events/global-ocean-alliance-30by30-initiative/about>

marine science on the High Seas will be achieved. Other agreements and treaties of note include:

- The London Convention - Global MSR/Ocean Monitoring programmes are increasingly reliant on sensing technologies and platforms that will not be recovered at the end of their life. Currently, this is not illegal. However, this capability is based on the use of plastics and materials such as lithium and copper and may attract the full weight of legislation such as the London Dumping Convention (LDC).
- CITES – There is a tension between the collection of marine biological samples and the requirement for compliance with CITES.
- International Whaling Commission (IWC) –The use of sound to deliver MSR objectives is finding itself at odds with Conventions such as the IWC which seeks to ban certain types of anthropogenic sound sources.

14. Peripheral treaties that benefit from MSR; include the Comprehensive Test Ban Treaty (monitoring the impact of a nuclear explosion at sea), and its Laws of Armed Conflict.

15. But there remain gaps, for example, Conventions relating to the use of Satellites to make measurements of the ocean. It is questionable whether these should be subject to Part XIII of the Convention, given that Article 258 refers to Scientific Research Installations or Equipment *in* the Marine Environment.

What is the role of the International Maritime Organisation (IMO) and other international organisations in developing the Convention and the law of the sea?

16. NOC is a leading developer and purchaser of marine autonomous systems to deliver its funded MSR programmes. A reliance that will grow with time as it seeks to achieve the Governments' Net Zero targets. NOC and other Marine Autonomous Systems (MAS) users need the IMO to provide the regime for this capability's safe operation. There is a perceived gap in relation to the development of a regime for the safe operation of autonomous underwater vehicles (AUV). However, the current Department for Transport consultation, *Future of transport regulatory review consultation: Maritime autonomy and remote operations* indicates the UK Government's intent to address this within the UK's legislation. NOC will be providing a full response to this consultation in due course.

What are the main challenges facing the effective implementation of the Convention in 2021? We would particularly welcome responses on: Climate change and the impact it has had/will have on the structures and provisions of the Convention (including trading routes, maritime boundaries, and the status of island ocean states)

17. A consequence of sea level rise will be a change in coastlines and the features used to define the Baseline from which maritime zones and boundaries are established, with the potential to impact all coastal States. However we should consider the impacts of coastal change in those

countries that are the most vulnerable e.g. Small Island Developing States (SIDS) which rely on off-shore, low lying features, such as reefs, to define the baselines from which they delineate and delimit their maritime zones.

18. The impact of sea level rise results in (mostly) a receding coastline, resulting in a loss or reduction of maritime space. Indeed, the loss of whole low-lying islands to sea level rise from within archipelagic and small island States could have major implications for maritime boundaries. These impact States' responsibilities with regards to freedom and safety of navigation, rights to resources, policing and access to MSR benefits as captured in Part XIII and Part XIV. By application of the Convention, most features used to define Baselines (Normal Baselines [Article 5], Reefs [Article 6], Straight Baselines [Article 7], Bays [Article 10] and Low-Tide Elevations [Article 13]) use the low-water line or low-water mark i.e. the lowest astronomical tide (LAT) to delineate and delimit maritime zones. However, the LAT occurs only every 18.6 years. Most States rely on a depiction of the LAT on charts which are often inaccurate so the true nature of a baseline is rarely recognised. Under the Convention, unilateral proclamations of maritime space is the privilege of sovereign States and there is nothing in Articles 7, 16 or 47 that suggests they should be changed. Likewise, where States agree bi-/multi-lateral maritime boundaries based on agreed baselines (which can vary from those used for unilateral declarations), Article 62(2) of the Vienna Convention on the Law of Treaties is clear that where agreements are negotiated with an understanding of changing circumstances such agreements cannot be terminated or withdrawn. Similar views have been expressed by the International Law Association in their *International Law and Sea Level Rise interim report (2016)* which favours a presumption of certainty and stability of all boundary treaties.
19. The Convention should provide permanency in the face of change as there are no obligations for a State to unilaterally modify its maritime zones. Permanency provides the necessary understanding of maritime zone(s) for which investment can be determined and rewards from resources realised, allowing a State to prosper whilst protecting and preserving the marine environment. It also provides certainty for the international community wanting to undertake activities including MSR in areas adjacent or within national jurisdiction.
20. Nevertheless, there is a case for an assessment to be made of maritime boundaries potentially at risk of coming into dispute under varying sea-level rise scenarios (bearing in mind sea level rise is not uniform across the ocean and has large regional variation potentially complicating matters considerably).

Autonomous maritime vehicles (both commercial and military), cybersecurity, and other new technologies.

21. See comments in Q5. It should be noted that the marine science community is one of the biggest developers, purchasers and operators of autonomous maritime vehicles. In some cases, eclipsing their use by both defence and the commercial sectors. The main challenge with Part XIII

and Part XIV is that currently access to this MSR delivery capability is limited to mostly developed nations. Equitable access to this technology will allow countries such as the SIDS to undertake MSR in their waters. Greater use/application of the Convention Part XIV by the UN family would redress this inequality.

Regulation of access to economic resources, including on the deep seabed and in the water column, fishing, and the protection of resources such as undersea cables

22. Given the 2019 amendment of the UK Climate Change Act 2008 committing to net zero by 2050, there will be an increase in demand for materials to produce renewable energy and electric power vehicles. The deep sea and its manganese nodules, seafloor massive sulphides and cobalt rich crusts will be a significant source of the minerals and metals required to meet this increased demand.
23. The UN's International Sea Bed Authority (ISA) is mandated under the Convention to organize, regulate and control all mineral-related activities in the international seabed area for the benefit of mankind. The ISA is both the provider of contracts and the regulator. Given the Area is the common heritage of mankind the ISA can establish the Enterprise for the benefit of all, and has the enviable opportunity to develop best practice before exploitation commences, unlike a number of existing industries (including oil and gas) which have developed regulations as lessons are learnt.
24. NOC provides robust, independent scientific advice which enables the ISA to fulfil its duty to ensure the effective protection of the marine environment from harmful effects that may arise from deep-seabed related activities.
25. The ISA has a mandate to carry out MSR, even entering into contracts to do so, and promote MSR in the Area [Article 143], to facilitate the transfer of marine technology (TMT) [Article 144] and promote and provide capacity development [Article 148]. Under the current administration there is ample evidence of the ISA delivering on its mandate. This is particularly important as the ISA develops deep sea mineral exploitation regulations, arguably heightened following Nauru's submission of a letter² triggering the so-called 'two year rule' which means exploitation may start in 2023, regardless of what regulatory framework exists.
26. Given that pre-EU exit, the UK's contributions to the current treaty negotiations for BBNJ were as part of the EU and Member States Delegation, it was challenging to effect decisions that were solely of UK interest. This model was a consequence of a decision at the outset of the Preparatory Committee proceedings. However, since exiting the EU the UK can voice its independent positions and influence decisions in the UK's interest. The BBNJ will be critical in developing the regime to manage resources in the water column in areas beyond national jurisdiction i.e.

² <https://isa.org.jm/files/files/documents/NauruLetter-Notification.pdf>

pelagic marine genetic resources. As such, UK participation in negotiations is critical to influence an outcome that supports UK positions and policies e.g. a robust regime that supports the establishment of marine protected areas that will deliver the UK's policy to protect 30% of the world's ocean by 2030 (see Q4 also). Likewise, the UK's participation at the Convention on Biological Diversity (CBD) in negotiating a new global biodiversity framework, will ensure governance of exploitation of pelagic marine genetic resources within national jurisdiction.

27. Given that 95% of global communications/data are transmitted via submarine cables³ it is important that the powers in the Convention, Articles 79 and 112 in particular, are respected. It should also be noted that the application of Part XI Article 143 and Part XIII is a valuable framework by which the laying of cables can be done in areas that reduce potential risk from abrasion (across the mid-ocean ridges) and breakages (through submarine landslides).

28. However, submarine cables are increasingly being used as infrastructure upon which to mount underwater sensors (Smart Cables). There is ambiguity as to the 'status' of such installations and i.e. operational oceanography vs. MSR. An issue recognised by the International Telecommunication Union (ITU), the IOC-UNESCO and the World Meteorological Organization (WMO) Joint Task Force (JTF) on SMART cable systems who, in their 2019 paper⁴, note the absence of a definition of MSR and suggest that SMART cables should be subject to less legal process than other transboundary programmes, such as Argo⁵, as they argue that the Convention does not regulate for dual-purpose use. Given the critical importance of submarine cables this appears to be an area where further work on their governance is required.

In light of these challenges, is the Convention still fit for purpose? Can or should the Convention be renegotiated to better address these challenges?

29. Whilst there are gaps and ambiguities in the Convention text, rather than re-negotiate we should develop implementing agreements or apply international rules and standards that can be instigated by groups within UN agencies. In addition, efforts should be made at a national level to recognise the benefits of the Convention.

What is your assessment of the UK's policy and practice within the current legal framework of the international law of the sea? Are the Government currently working to address any of the challenges outlined above?

30. With respect to the application of a number of Parts of the Convention, in particular Part XIII, the UK, through the Ocean Policy Unit of FCDOs Legal Directorate and Polar Regions Unit and the International Marine

³ <https://globalmarine.co.uk/about-us/history-achievements/>

⁴ <https://www.frontiersin.org/articles/10.3389/fmars.2019.00424/full>

⁵ <https://argo.ucsd.edu/>

Environment Team at Defra provide a UK Government framework that is well established to manage issues relating to the Convention.

31. Both FCDO and Defra, through their engagement at fora such as the ISA, BBNJ, UN Regular Process or at the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) demonstrate leadership and are an exemplar to others. The UK is setting the standard to areas of Part XIII that involve marine autonomous technology and international cooperation.

32. It is imperative that given the heightened importance of the ocean to society and elevating visibility in political circles that such a function is maintained, even bolstered.

What should be the priorities for the UK Government regarding the future of the Convention and the international law of the sea? In what areas can or should the UK be a leader?

33. We consider the following priorities for the UK with respect to the future of the Convention:

- [1] The UK should take advantage of its recent independence from collective EU arrangements to promote the Convention as the framework of governance for the world's ocean and seas - its application helps to understand the link between the ocean and climate change.
- [2] That the UK is seen as a global leader in protecting and preserving the ocean and there are many ways by which this can be achieved, such as:
 - articulating how the Convention helps deliver Agenda 2030 (SDGs);
 - continued presence at UN fora and, in particular, within the decision making/influencing components of those organisations e.g. Council, Executive Council;
 - by continuing to sign global agreements such as the Leaders Pledge for Nature⁶;
 - Continue to use platforms such as the Presidency of the G7⁷ to develop programmes that support governance of the ocean;
 - The inclusion of UK representatives on international frameworks. The current Secretary General of the ISA is from the UK, the UK has been a member of the ISA Legal and Technical Commission for the past 20+ years, and two recent members were provided by NOC. The UK also recently submitted a nomination for a member of the UN Decade of Ocean Science for Sustainable Development (2021-2030) Advisory Board. However, the last time a UK Judge sat at the ITLOS was in 1996 to 2005 and the UK has never had a member of the Commission on the Limits of the Continental Shelf.

⁶ https://www.leaderspledgefornature.org/wp-content/uploads/2021/06/Leaders_Pledge_for_Nature_27.09.20-ENGLISH.pdf

⁷ <https://www.gov.uk/government/publications/g7-climate-and-environment-ministers-meeting-may-2021-communicue/g7-ocean-decade-navigation-plan>

- [3] That the UK engages more with the UK Overseas Territories in educating, advising and supporting their ambitions to manage their marine estates by applying Parts of the Convention and its Implementing Agreements. The Blue Belt Programme has established large marine protected areas in the less populated Overseas Territories. However, Territories that rely more on their marine space to generate income and that have not benefited from the Blue Belt programme need support to responsibly and sustainably manage their blue economies.
- [4] That the UK provides leadership in improved international cooperation to enable developing states to undertake MSR. We should build on existing models that use ODA funding to help developing states understand and manage their waters e.g. the FCDO managed Commonwealth Marine Economies Programme⁸.
- [5] That the UK pursues an outcome of the BBNJ negotiations that does not diminish the ability to undertake bono fide MSR on the High Seas.
- [6] That the UK continues to recognise/promote the mandates of UN agencies e.g. where the ISA has the mandate for MSR and TMT in The Area, the IOC has the mandate to support global ocean science and services. And where there are overlapping mandates, such as Capacity Development, look to ensure a coherent 'UN' approach.
- [7] That the UK ensures that the relevant framework Articles of the Convention allow for the implementation of the future IMO legislation relating to MASS and the legal regime developed with respect to Unmanned Underwater Vehicles (UUV).
- [8] In the context of Part XIII of the Convention, that guidance acknowledges the growth of both Philanthropic and Citizen MSR such that they benefit from the rights, duties and obligations contained.
- [9] Within the Convention Part XIII, promote the concepts of monitoring, operational oceanography and sustained observations as agreed in the recent G7 announcement.
- [10] That the UK leads on the assimilation of the use of autonomy and Artificial Intelligence (AI) within the existing Convention framework.

⁸ <https://www.gov.uk/guidance/commonwealth-marine-economies-programme>

What will be the most important international partnerships and alliances for the UK in addressing these challenges and upholding its interests with regards to the law of the sea?

34. UN Agencies: DOALOS, ISA and IOC-UNESCO including its regional offices in the Caribbean, Africa and Western Pacific.

35. We note that there are increasing expectations being placed on the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) as a functionally autonomous body with responsibility for ocean sciences and services. The regular budget allocation from within UNESCO is no longer commensurate with its increasingly important role in supporting ocean governance and policy to be underpinned with sound science. The UK should continue to work with like-minded partners to increase the regular budget to IOC-UNESCO:

- Global Groups: G7 incl. the S7, G20, SIDS
- Regional Groups: Secretariat of the Pacific Community (SPC), CARICOM, African Union, EU
- Bi-lateral: Atlantic and Arctic rim countries, BRICS and Minsk countries
- International Research Ship Operators [IRSO]

In light of the challenges posed by climate change to the provisions of the Convention, what considerations should be given to the law of the sea during and after COP26, and what should be the position of the UK Government?

36. The ocean is both a victim of climate change (marine heat waves, acidification, deoxygenation) impacting fragile marine ecosystems and offers solutions (e.g. clean energy and marine Nature Based Solutions). The ocean is the largest sink of mobile carbon on Earth (e.g. 38 Trillion tonnes of dissolved inorganic carbon in the deep sea) and takes up 25% of anthropogenic emissions. Protection of ocean carbon sinks is important to achieve net zero emissions (the ocean carbon sinks are a major part of the 'net' in 'net zero'). Natural, large-scale biogeochemical cycles may already have been impacted by the effects of climate change and there is concern that vast natural carbon sinks may become less efficient or even go into reverse and become carbon sources to the atmosphere (e.g. Southern Ocean). It will be important to monitor ocean carbon uptake long-term, as well as changes in basin scale ocean circulation. These depend on a global ocean sensing infrastructure beyond Exclusive Economic Zones which is presently mostly supported by short-term research projects. There is a strong case to build the necessary underwater ocean sensing infrastructure (for Essential Ocean and Climate Variables not measurable by satellites, that see only the sea surface) with a more robust business model such as involving Nationally Defined Commitments and Contributions to sustaining the Global Ocean Observing System. Protection of marine organic carbon sinks offers a win-win of both affording climate protection and protecting marine biodiversity (CBD COP15) and the ambition of protecting 30% of the ocean by 2030 will be an important step in this direction. For this reason, the ability to

designate Marine Protected Areas in the High Seas and Area Beyond National Jurisdiction will be important and hence the BBNJ Implementing Agreement under UNCLOS.

37. The role of ocean sediments in locking up carbon has received relatively low levels of attention and activities that have the potential to remobilise carbon from sediments, such as from deep sea mining and natural, large scale submarine movements such as landslides, should be examined from this perspective too, as well as in relation to other environmental impacts.

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