



The international laws for Ocean and Climate

Bleuenn Guilloux

The interactions between Ocean and Climate Systems are difficult to envisage together legally, because existing frameworks are fragmented and complex to grasp. On the one hand, the international ocean law can be characterized as a comprehensive framework, erecting a global architecture. It consists of a broad range of sectoral and regional arrangements, within the unified legal framework of the 1982 UN Convention on the Law of the Sea (hereinafter UNCLOS)¹. The “constitution for the oceans” (T.B. Koh, 1982) is the result of the codification process of the Law of the sea and the formation of new legal rules (e.g., the Exclusive Economic Zone (EEZ) or the status of archipelagic States). It defines the rights and obligations of States conducting maritime activities (navigation, exploitation of biological and mineral resources, marine scientific research, etc.), according to a zonal division of seas and oceans into zones under national sovereignty or jurisdiction (internal waters, territorial sea and contiguous zone, EEZ, continental shelf) and, zones beyond the limits of national jurisdiction (High seas, the Area)². Since it came into force on the 16th November 1994, more than ten years after its signature in Montego Bay (Jamaica), the International Community has shown a growing concern for many issues related to the uses of seas and oceans and the protection of the marine environment. The topics of major concern are the collapse of most fisheries stocks, the destruction of marine and coastal habitats and biodiversity loss, the sustainable use and conservation of biodiversity of areas beyond national jurisdiction, land-based and marine pollution, and, in recent years, climate change impacts.

Rather than a comprehensive regulatory framework, the climate international law can be described, on the other hand, as a “regime complex”, *i.e.* a network of partially overlapping and non-hierarchical regimes governing a common subject-matter³. The UN climate regime is the cornerstone of the international Law on climate change. It has developed through arduous and protracted international negotiations, aiming at consensus among States and group of States with diverging interests, goals and expectations. The 1992 UN framework convention on Climate Change (hereinafter UNFCCC), which came into force the same year as the UNCLOS in 1994, provides the framework for stabilizing GHG atmospheric concentrations “at a level which would prevent dangerous anthropogenic

1 The UNCLOS was signed on December 10, 1982 (1833 UNTS 3) and entered into force on November 16, 1994. It has 168 State parties in July 2019.

2 For a general schematic of these zones, see <https://www.geoportail.gouv.fr/donnees/delimitations-maritimes> (last consulted July 2019) and of France, <https://limitesmaritimes.gouv.fr/ressources/references-legales-en-vigueur-limites-despace-maritime> (last consulted July 2019).

3 R. O. Keohane, D. G. Victor, “The Regime Complex of Climate Change”, *Perspectives on Politics*, Vol. 9, No.1 (March 2011).



interference with the climate system” (Art. 2)⁴. The UNFCCC has been complemented by the 1997 Kyoto Protocol to the UNFCCC (hereinafter KP), setting quantified emission limitation and reduction commitments for developed Parties⁵. The 2015 Paris Agreement (hereinafter PA) specifies the UNFCCC ultimate objective, by setting the result-based temperature objective for all Parties “of holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” (Article 2(1)(a))⁶. Besides the UN treaty-based regimes, the climate regime is prone to virtually encompass all sectors of activity or environmental problems through Conferences of parties (hereinafter COP) and Meetings of Parties to the KP (hereinafter MOP), to integrate new regimes or, to coordinate or cooperate with other regimes and fields of international law such as trade law, human rights and the law of the sea.

As framework conventions, the UNCLOS and the UNFCCC are the starting point of new specific legal regimes which evolve over time. With their respective “ethos”, context of negotiation, legal scope and character, objectives and mandate, membership, norms, underlying principles and experts, they are loosely coupled. They only intertwine, overlap and occasionally interact on the legal and institutional level. The consideration of climate change under the UNCLOS is mostly interpretative. As ocean-relevant issues, they are under-represented in the consecutive treaties and on the climate agenda, although the vivid nature of climate negotiations does not exclude a greater emphasis in the future.

CLIMATE CHANGE WITHIN THE OCEAN INTERNATIONAL LAW

The UNCLOS makes no explicit reference to climate change. Prima facie, the reduction of Greenhouse Gases (hereinafter GHG) to protect and preserve the marine environment falls outside its scope. The Convention shall nonetheless be interpreted and applied in good faith, considering any relevant rules of international law applicable in the relations between the parties, which encompasses the climate UN regime. In that respect, climate change has emerged in recent years beyond the UN climate regime and the fragmentation of international law, leading ocean specialists and policymakers to tackle this urgent challenge.

The interpretative consideration of certain aspects pertaining to climate change in the UNCLOS

The UNCLOS was negotiated during the third UN Conference on the Law of the Sea (1973-1982) at a time climate change was not on international environmental agenda. If the UNCLOS does not directly address climate change, it can be interpreted and applied to it, particularly through its provisions on “Protection and Preservation of the marine environment” (Part XII) and on “Marine Scientific Research” (Part XIII).

The Protection and the Preservation of the Marine Environment from climate impacts

The UNCLOS provides provisions enabling the conservation and enhancement of GHG sinks and reservoirs and, the protection of the marine environment from

4 The UNFCCC was adopted in New York on May 9, 1992 (1171 UNTS 107). It was opened for signature at the Rio De Janeiro Earth summit of June 1992 and came into force on March 21, 1994. It comprises 197 Parties in July 2019, including 196 States and the EU.

5 The PA on Climate (Annex of the decision 1/CP.21) was signed on December 10, 2015 and entered into force in a record time on November 4, 2016 (183 Parties in August 2019).

6 The UNFCCC was adopted in New York on May 9, 1992 (1171 UNTS 107). It was opened for signature at the Rio De Janeiro Earth summit of June 1992 and came into force on March 21, 1994. It comprises 197 Parties in July 2019, including 196 States and the EU.



atmospheric pollution and degradation. This possible linkage operates through its provisions on the “protection and preservation of the marine environment” (Part XII). The conventional and customary obligation to protect and preserve the marine environment embedded in article 192 UNCLOS is relevant for climate change and potentially, GHG emissions impacting the marine realm and its biodiversity. This general obligation may apply to rare or fragile ecosystems like coral reefs, wetlands, vents and seamounts, as well as to habitats of depleted, threatened or endangered species and other marine life forms (Article 194(5)) affected by ocean acidification, deoxygenation or warming. It limits the States’ right to exploit their natural resources (Article 193).

The obligation to protect and to preserve the marine environment is supplemented with other provisions tackling marine environment pollution. These provisions include general measures to prevent, reduce and control pollution from any source (art. 194), and specific measures such as measures to combat pollution from land-based sources (art. 207), pollution by dumping (art. 210), pollution from vessels (art. 211) and pollution from or through the atmosphere (art. 212). While dumping of wastes at sea, vessel-source oil and other pollutions have been controlled very effectively since the 1970s, land-based and atmospheric pollution of the marine environment have largely escaped regulation. Around 80% of pollution that entering the marine environment comes from land-based discharges and atmospheric sources.

Even if GHG are not specifically mentioned in UNCLOS as a source of pollution of the marine environment, the precautionary approach is applicable if there is evidence of a risk of serious or irreversible harm to the marine environment. It is also possible to interpret Part XII to include this type of pollution given the broad definition of marine pollution in article 1(14) and the indicative list of sources of pollution in article 194(3). The definition of marine pollution is significant as it provides criteria to determine a type of “substance or energy” is a marine pollution. It triggers the application of many pollution-related treaties. Not only GHG emissions from ships but a wide range of

marine activities (mining extraction, shipping, etc.), as well as terrestrial activities (on land industrial activities, mining, deforestation, etc.) could possibly be covered, as sources of GHG, by the obligation of due diligence set in Article 194. Combined, Articles 194, 207 and 212 could cover all airborne sources of marine pollution comprehensively, including GHG. The relevant obligations of States can be inferred from the UNCLOS and underpins in a mutually supportive manner the UN climate change regime, the International Maritime Organization (hereinafter IMO) regime or the regional seas conventions and action plans¹.

The obligation for States and competent International Organizations to promote Marine Scientific Research, including on the ocean-climate nexus

The UNCLOS Part XIII on Marine Scientific Research (hereafter MSR) provides an innovative legal regime, governing scientific activities carried out by States and competent international organizations anywhere at sea. It includes, inter alia, provisions on the need to promote marine scientific research (art. 239) and international cooperation (art. 242), to create favorable conditions for MSR (Art. 243) and to circulate information and knowledge resulting from MSR by publication and dissemination (art. 244). Under these provisions and by means of synergetic cooperation, several national, regional and global research has been conducted in the marine realm with the aim of better understanding the impacts of climate change on the ocean and its biodiversity. For instance, the

¹ At regional Level, Regional Seas Programmes, traditionally focused on combatting marine pollution, were for a long time “underutilized” for cooperation between States and with regional fisheries management organizations (RFMOs) in addressing the adverse effects of climate change on the ocean. Among few constructive examples, the 2008 Protocol on Integrated Coastal Zone Management in the Mediterranean to the 1976 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (in force since 2011) sets among its objectives the prevention and the reduction of natural hazards, and particularly climate change, which can be induced by natural or human activities (Art. 5 (e)). For more general information, D. Freestone, “Climate Change and the Oceans”, *Carbon & Climate Law Review*, Vol. 3, No. 4, 2009, pp. 383-386; A. Boyle, “Law of the Sea perspectives on Climate change”, *The International Journal of Marine and Coastal Law*, 27(4), 2012, pp. 831-838; J. Harrison, “Saving the Oceans through Law: The international Legal Framework for the protection of the Marine Environment”, Oxford, Oxford University Press, 2017; S. Lee, L. Bautista, “Part XII of the United Nations convention on the Law of the Sea and the Duty to mitigate Against Climate Change: Making out a Claim, Causation, and Related Issues”, *Ecology Law Quarterly*, Vol. 45- Issue 1, 2018, pp. 129- 156.



study of the ocean-atmosphere couple has been strengthened through ocean observing programs and geographic information systems, such as the Global Observation Observing System (GOOS) or the Global Sea Level Observing System (GLOSS). Ultimately, best available science has feed the decision-making process, and has invited States and non-state actors to develop sustainable and resilient ecosystem-based adaptation paths².

Although the ocean science advances, there remain considerable knowledge, information, technological, financial, infrastructural and disciplinary gaps, as well as disparities amongst States. It can hamper the ability of policymakers to make informed decisions, even though ocean science plays a decisive and cross-cutting role in the achievement of the 2030 Agenda. As for the ocean and climate nexus, additional information is still needed in order to better understand sea temperature, sea level rise, salinity distribution, carbon dioxide absorption as well as nutrient distribution and cycling, many of which will be filled by the IPCC Special Report on “the Ocean and Cryosphere in Changing Climate” (SROCC) to be released in September 2019³. The forthcoming UN Decade of Ocean Science for Sustainable Development (2021-2030) carries with it the hope of opening the field of marine science to a more transdisciplinary approach, integrating human, social and legal scientists and stakeholders in the development of adaptive and reflexive socio-ecological solutions⁴.

2 See, in particular, “The first global integrated marine assessment”, under the auspices of the UN General Assembly and its Regular Process for Global Reporting and Assessment of the State of the Marine Environment, 2016, available online: <https://www.un.org/regularprocess/content/first-world-ocean-assessment> (last consulted July 2019); the UNESCO-IOC “Global Ocean Science Report: The Current Status of Ocean Science around the World”, 2017, available online: <https://en.unesco.org/gosr> (last consulted July 2019), The IPBES “Global Assessment Report on Biodiversity and Ecosystem Services”, May 2019, available online: <https://www.ipbes.net/global-assessment-report-biodiversity-ecosystem-services> (last consulted July 2019) and; the IPCC reports including the forthcoming special report (SROCC) on “The Ocean and Cryosphere in a changing Climate”, available online: <https://www.ipcc.ch/reports/> (last consulted in July 2019).

3 For more information, www.ipcc.ch/report/srocc (last consulted in July 2019).

4 For more information, <https://en.unesco.org/ocean-decade> (last consulted in September 2019).

Climate change: an urgent challenge for ocean governance

The undebated evidence of the cumulative deleterious impacts of anthropogenic climate change on the marine environment (warming, sea-level rise, acidification, deoxygenation, disruption of ocean water masses and currents, loss of polar ice, biodiversity changes, release of methane, etc.), because of their geographic and temporal scales and complexity, as well as a lack of political will, have been slow to be translated into adaptive legal rules. It was only in the 2006 that climate change really started to be discussed by the ocean community and not only by some particularly vulnerable coastal and archipelagic States or active non state-actors⁵. Mitigation and adaptation challenges such as sea-level rise, ocean acidification, fisheries, GHG emissions from shipping, marine geo-engineering activities are still being discussed or even sometimes regulated within and beyond the ocean regulatory framework, without yet reaching a congruent programmatic vision. Two examples of well-advanced climate-related topics are given below.

The Sea-level rise: shifting maritime boundaries and likely disappearance of States

Besides threatening the integrity of marine ecosystems and environment, climate change threatens States’ and population’s integrity by the effect of sea-level rise caused by the melting of continental glaciers and polar caps and warming. Depending on the climate scenario, global mean sea level rise is projected to be between 30 cm and 1.10 m in 2100. The sea-level is not rising uniformly with significant local variations, with some areas experiencing three times the global average. More than 70 States are or are likely to be directly affected by sea-level rise, including many in low-lying least developed coastal States

5 See the two reports on the work of the United Nations open-ended informal Consultative process on the oceans and the Law of the Sea to the UN General Assembly on “The impacts of ocean acidification on the marine environment”, A/68/159, July 17, 2013 and on “The effects of Climate change on the Oceans”, A/72/95, June 16, 2017, available online: https://www.un.org/depts/los/consultative_process/consultative_process.htm (last consulted July 2019). In February 2019, The UNFCCC Secretariats joined UN-Oceans, the interagency mechanism on ocean and coastal issues with the UN System: see UN-Oceans 19th Session Report, Geneva, February 2019, available online: http://www.fao.org/fileadmin/user_upload/unoceans/docs/UN-Oceans19thMeetingReport.pdf (last consulted July 2019).



and small island developing States which are and will be flooded or submerged by seawater. Another quite large number of States is likely to be indirectly affected by the displacement of people or the lack of access to resources.

Sea-level rise prompts several crucial questions relevant to international law and the Law of the Sea: possible legal effects of sea-level rise on the “shifting” baselines and outer limits of the maritime spaces measured from the baselines (territorial sea and contiguous zone, archipelagic waters, EEZ and continental shelf); on the status of natural or artificial islands and coastal States’ maritime entitlements; on maritime delimitation between neighboring States; on maritime spaces under sovereignty and jurisdiction, especially regarding the exploration, exploitation and conservation of resources by the Coastal States, as well as the rights of third States and their nationals (e.g., innocent passage, freedom of navigation, fishing rights). In the most extreme cases, sea-level rise will mean the disappearance of coastal and low-lying islands which will be submerged or rendered uninhabitable. This raises the thorny political, moral and humanitarian issue of the possible loss of Statehood of archipelagic States and, the urgent need for protection of displaced persons which it entails.

Legal solutions are being discussed by legal scholars or have already been put in place to address these challenges: the reinforcement of coasts and islands with barriers or the erection of artificial islands as a means to preserve the statehood of island States against risks of submersion, erosion or salinization of freshwater reserves; the transfer, with or without sovereignty, of a portion of territory of a third State, as in the case of Kiribati purchasing land in Fiji or Tuvalu in New Zealand and Australia; the creation of a legal fiction of the statehood’s continuity of islands States, by freezing baselines and/or outer limits as legally established before islands states were submerged or uninhabitable or; the creation of federations of association between small island developing States and other States to maintain

the former statehood or any form of international legal personality⁶.

The regulation of GHG emissions from ships

Considering the importance of maritime transport (about 90% of trade is carried out on the oceans and seas) and its GHG emissions accounting for roughly 2.2% of total carbon emissions, control and reduction of GHG emissions from international shipping are a major challenge for ocean governance. Most of the GHG emissions from ships are emitted in or transported to the marine boundary layer where they affect atmospheric composition. In general, the link between the UNFCCC bodies and COP and, the IMO is more co-operative than conflictive. Co-operation with the IMO (174 Member States and 3 associate members) has become a regular agenda item of the UNFCCC Subsidiary Body for Scientific and Technological Advice (hereinafter SBSTA), under which the IMO reports its progress in accordance with the climate law objectives. The IMO was and still is a catalyst for co-operation, even if the negotiations on GHG emissions reduction have been shaped by tensions between developed and developing States.

Shortly before the Kyoto conference, the Conference of Parties to the 1973/78 convention for the Prevention of Marine Pollution (hereinafter MARPOL) adopted on 26 September 1997 a new Annex VI on “Regulations for the Prevention of Air pollution from Ships”, setting out modest non-mandatory standards to reduce air pollution from all ships, with emphasis on Sulphur Oxide (SOx) and nitrogen oxide (NOx). Following the entry

⁶ These solutions, already studied by the International Law Association since 2012, will be the subject of a future report by the International Law Commission on “Sea-Level Rise in relation to International Law” as recommended in decision A/73/10 of 2018, available online: http://legal.un.org/ilc/guide/8_9.shtml (last consulted July 2019). For more information: D. Vidas, “Sea-Level Rise and International Law: At the Convergence of Two Epochs”, 2014, *Climate Law*, 4, pp. 70-84; C. Schofield and A. Arsana, Climate change and the limits of maritime jurisdiction, in R. Warner, C. Schofield (ed.), “Climate Change and the Oceans: Gauging the Legal and Policy Currents in the Asia Pacific and Beyond”, Cheltenham, UK/ Northampton, MA, USA, Edward Elgar, 2012, p. 127-152; J. G. Xue, Climate Change and the Law of the Sea: Challenges of the Sea Level Rise and the Protection of the Affected States, in K. Zou (ed.), “Sustainable Development and the Law of the Sea”, Leiden/Boston, Nijhoff-Brill, 2016, pp. 243-277; K. N. Scott, “Climate Change and the Oceans: Navigating Legal Orders”, in M. H. Nordquist, J. N. Moore, R. Long (ed.), *Legal order in the World’s Oceans: UN Convention on the Law of the Sea*, 2017, Leiden/Boston, Brill-Nijhoff, pp. 124-164.



into force of Annex VI on 19 May 2005, the Marine Environment Protection Committee (MEPC) agreed to revise MARPOL Annex VI with the aim of significantly strengthening the emission limits via technological improvements and implementation experience. After three years of examination, the MEPC adopted the revised MARPOL Annex VI and the associated NOx Technical Code in October 2008, which both entered into force on 1 July 2010. Contracting Parties to Annex IV has increased rapidly (from 91 in July 2018 to 143 a year later), including the States accounting for almost all global tonnage.

In July 2011, the MEPC 62 adopted the first mandatory global GHG reduction regime for an entire industry sector and the first legally binding agreement instrument to be adopted since the KP, which entered into force on 1st January, 2013, applicable to all ships navigating under the flag of States Parties. It adds to MARPOL Annex VI a new Chapter 4 entitled “Regulations on energy efficiency for ships”, which makes the Energy Efficiency Design Index (EEDI) mandatory for new ships and the Ship Energy Efficiency Plan (SEEMP) for all ships over 400 gross tonnage. It requires ships to be constructed according to a design, named Energy Efficiency Design index (EEDI), which sets a minimum energy-efficiency level for different ship types and sizes. In October 2016, the MEPC 70 approved a Roadmap for developing a comprehensive IMO strategy on reduction of GHG emissions from ships, which provides for an initial GHG reduction strategy to be adopted in 2018 and a revised Strategy by 2030.

In May 2019, MEPC 74 progressed in the implementation of its initial strategy by, among others, planning to amend MARPOL Annex VI at MEPC 75 in April 2020 to strengthen the existing EEDI for some categories of new ships forward from 2025 to 2022 with lower emission reduction targets, adopting a resolution on “Invitation to Member States to encourage voluntary cooperation between the port and shipping sectors to contribute to reducing GHG emissions from ships” and, approving a “Procedure for assessing impacts on States of candidate measures for reduction of GHG emissions from ships”.

Despite these measures, an increase of shipping’s GHG emissions of 50-250% is foreseen by 2050. The impacts of EEDI on reduction of shipping emissions are estimated to be small. Since the EEDI regulation affects only new build ships, most of ships will not be covered by EEDI before 2040. Furthermore, GHG emissions are not the only aspect of shipping which may affect marine environment. The use of high-density fuel oil in or near the Arctic Ocean produces harmful and significantly higher emissions of Sulphur oxide (SOx) and nitrogen oxide (NOx) that contribute to accelerated snow and ice melt. More generally, although the amendments to Annex VI will have a relatively small impact in controlling global GHG emissions. To avoid emissions “leakage” and be synergetic, GHG reduction efforts from shipping must be correlated with reduction efforts in aviation and land transportation and beyond, with technology, operations and alternative energy sectors⁷.

OCEAN WITHIN THE CLIMATE INTERNATIONAL LAW

In a disconcerting *trompe-l’oeil* effect, the realistic legal imagery of the climate international law creates the forced illusion that the ocean does not appear to be relevant to climate change or at least, only as a background image in climate negotiations and treaties. This is not so much due to the absence of the ocean in the UN climate regime, but to the lack of overall treatment and effectiveness of the specific legal provisions applicable to it. The ocean is marginally considered by the UNFCCC and the KP, whereas the extent to which the PA is applicable to it remains progressive and therefore, uncertain in its legal effect. However, the vivid nature of climate negotiations pro-

7 For more information, D. Bodansky, “Regulating Greenhouse Gas emissions from Ships: The Role of the International Maritime Organization”, in H. Scheiber, N. Oral and M. Kwon (eds.), *Ocean Law Debates: The 50-Year Legacy and Emerging Issues for the Years Ahead*, Leiden/Boston, Brill-Nijhoff, 2018, pp. 478-501; A. Chircop, M. Doelle and R. Gauvin, “Shipping and Climate Change International Law and Policy Considerations”, Special Report of the Center for International Governance Innovation, 2018, 92 p., available online: https://www.cigionline.org/sites/default/files/documents/Shipping%27s%20contribution%20to%20climate%20change%202018web_0.pdf (last consulted July 2019).



bably foresees a greater emphasis of ocean-related issues in the future.

The trompe l'oeil view of the ocean in the UNFCCC and the KP

The preamble (recital 4) of the UNFCCC expressively refers to the role and importance of sinks and reservoirs of GHG in marine ecosystems. Article 4 (1) d) states that all Parties, “[...] shall promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including [...] oceans as well as other [...] coastal and marine ecosystems”. The UNFCCC apprehends the ocean through this “narrow but significant prism”⁸. As for measures related to “integrated plans for coastal zone management” (Art. 4 (1) e)) or the possible adverse effects of sea-level rise on islands and coastal areas (Preamble, recital 12), they are equally vague because adaptation was originally not clearly or only theoretically defined in the UN climate regime.

In the KP, the ocean remains marginally considered. The only notable provision concerns the reduction in GHG from maritime transport sector. Article 2(2) of the KP provides that “the Parties which accounted in total for at least 55 % of the total carbon dioxide emissions for 1990 (Annex I) shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol [...] from marine bunker fuels, working through [...] the International Maritime Organization”, mandating this specialized UN organization to take more specific mitigation measures in this sectoral area. To track these measures, the IMO Secretariat is regularly reporting to the UNFCCC subsidiary Body for Scientific and Technological Advice (SBSTA) under the agenda item on “emissions from fuel used for international aviation and maritime transport” and participate in UN system activities including side events parallel to COP-MOP-CMA.

8 B. Guilloux, R. Schumm, “Which international Law for Ocean and climate?”, Ocean & Climate platform Scientific Note, 2016, p. 84, available online: https://youthforocean.files.wordpress.com/2017/06/161026_scientificnotes_guilloux.pdf (last consulted July 2019).

In both treaties, the extent to which the ocean and the marine ecosystems can be conserved and enhanced as GHG sinks and reservoirs to mitigate anthropogenic climate change remains vague, without further detailed provisions or reference to the UNCLOS or other relevant agreements. This can partially be explained by the broad scope of the UNFCCC and the fact that the UN climate negotiations has traditionally focused on land based GHG emissions in the atmosphere. If States have however been encouraged to protect and enhance sinks and reservoirs of GHG, only terrestrial sinks or considered as such like mangroves have been utilized by States to meet the emission targets⁹. Ocean sinks, which are nevertheless the most important climate mitigator, remain mostly ignored because they are naturally occurring, rather than directly attributable to human activities.

A progressive consideration of the Ocean within the PA framework

The PA is built up on the 2009 Copenhagen (minimalist) Accord¹⁰ and the 2010 Cancun Agreements¹¹. It broadens the UN climate regime to encompass the GHG emissions of emerging economies such as China, India and Brazil. Contrary to the internationally negotiated and legally binding emissions targets of the KP, it involves a bottom-up process in which States make Nationally Determined Contributions (NDCs), specifying their plan to limit their domestic emissions (Art. 3) vis-à-vis the temperature limitation goals set for all States in Article 2¹².

The inclusion of a reference to the ocean in the preamble of the PA acknowledges a renewal of how the ocean is considered by the Climate law, since it is explicitly mentioned as such, albeit only in general terms and in non-operative part: “noting the im-

9 Hence blue carbon coastal ecosystems have not become a new climate mitigation and co-beneficial adaptation option under the UN climate regime, but they have been partially included in existing market-based mechanisms. For example, mangroves only are eligible under The UN collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation (REDD+).

10 Decision 2/CP.15.

11 COP 16/CMP 6.

12 The Agreement provides for emission reduction commitments for all States, “holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels” (Article 2 (1) (a)).

portance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth [...]” (Preamble, Recital 13). This Recital responds to a long-standing concern that marine biodiversity and ecosystem integrity risks are not sufficiently considered by Parties when taking climate action. Such a clause can assume a function of integration and of conflict avoidance with the ocean international law. Although essentially symbolic and political, its legal effect is linked to the universal scope of and the twilight legal effect on the PA itself.

The PA also gives adaptation prominence, which is an important dimension of climate action for several biodiversity, fishery and regional seas instruments. Parties recognize that adaptation is a multiscale global challenge and a key component of the long-term global response to climate change to protect people, livelihoods and ecosystems, particularly in vulnerable developing countries (Art. 7). Therefore, it can serve as a potential common denominator to improve legal and political synergies between ocean and climate regimes. Like the UNFCCC and the KP, the PA remains elusive about ocean-related issues, both in terms of mitigation and adaptation¹³. This lack of consideration must not appear to foreshadow a disappointing legal future, insofar as the implementation of the PA is based on a progressive bottom-up approach¹⁴.

Towards a greater emphasis on the ocean in the climate regime?

¹³ Article 5(1) specifically emphasizes the role of forests in conserving and enhancing GHG sinks and reservoirs. The ocean is not explicitly mentioned which indicates that it is not a priority focus. Moreover, no further reference to the IMO is made in either the PA, nor the decisions to implement the Agreement, including the pre-2020 ambition and action.

¹⁴ For further information, see S. Lavallée, S. Maljean-Dubois, « L'accord de Paris : Fin de la crise du multilatéralisme climatique ou évolution en clair-obscur ? », 2016, RJE, pp. 19-36 ; R. Clémenson, “The Two Sides of the Paris Climate Agreement: Dismal Failure or Historic Breakthrough?”, 2016, *Journal of Environment & Development*, Vol. 25(1), pp. 3-24; D. Klein, M.P. Carazo, M. Doelle, J. Bulmer and A. Higham, “The Paris Agreement on Climate change: Analysis and commentary”, Oxford, 2017; D. Bodansky, J. Brunnée and L. Rajamini, “International climate Change Law”, Oxford, 2017; R.J. Salawitch, T.P. Canty, A.P. Hope, W.R. Tribett, B. F. Benett, “Paris Climate Agreement: Beacon of Hope”, Springer, 2017; S. Oberthür, R. Bodle, “Legal Form and Nature of the Paris Outcome”, 2016, *Climate Law*, Vol. 6, pp. 40-57; M. Torre-Schaub, (dir.), « Bilan et perspectives de l'Accord de Paris (COP 21) : regards croisés, IRJS, 2017.

In implementing the PA, States have significant capacity to enhance synergies between the ocean and climate regimes (and avoid conflicts) by adopting congruent NDCs and, by providing incentives for domestic actors to change their behavior in order to contribute to both climate and ocean regimes’ objectives. At International level, it is likely that the ocean will be discussed in formal negotiations, if not as a separate topic, at least in relation to adaptation action.

Valuing the role of Ocean in Nationally Determined Contributions (hereinafter NDCs)

Rather than setting binding targets within the PA itself, all Parties define independently these targets to the global response to climate change within their NDCs, which cover the efforts made by each of them to reduce national GHG emissions and to adapt to the adverse effects of climate change (Art. 4). Article 3 set a general obligation of conduct, *i.e.* to undertake and communicate NDCs of increasing ambition, whereas the overarching temperature goal of Article 2 is an obligation of result¹⁵.

In July 2019, 6183 States and the European Union have submitted a NDC on the dedicated UNFCCC platform, representing all Parties to the PA¹⁶. Many contributions are based on national circumstances, address all national major or most significant sources and sinks of GHG emissions and, include an adaptation component. In framing their NDCs, States have significant capacity to enhance synergies between the ocean and climate regimes (and avoid conflicts) by adopting congruent mitigation and adaptation policies, and by providing incentives for domestic actors to change their behaviour in order to contribute to both climate and ocean regimes’ objectives. Out of 146 coastal or archipelagic States Parties to the PA

¹⁵ J. Pickering, J. S. McGee, S. I. Karlsson-Vinkhuyzen and J. Wenta, “Global Climate Governance Between Hard and Soft Law: Can the Paris Agreement’s ‘Crème brûlée’ Approach Enhance Ecological Reflexivity?”, *Journal of Environmental Law*, 2019, Vol. 31, pp. 1-28; L. Rajamani, “The 2015 Paris agreement: Interplay between hard, soft and non-obligations”, *Journal of Environmental Law*, 2016, Vol. 28, pp. 337-358; N. Höhne, T. Kuramochi, C. Warnecke, F. Röser, H. Fekete, M. Hagemann, T. Day, R. Tewari, M. Kurdziel, S. Sterl and S. Gonzales, “The Paris Agreement: resolving the inconsistency between global goals and national contributions”, 2017, *Climate Policy*, Vol. 17(1), pp. 16-32.

¹⁶ NDC Registry (interim): <https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx>.

which have submitted a determined contribution, 82 have expressively identified key issues relating to the ocean in the context of mitigation or adaptation, among which about 60 of them have established a clear linkage with SDG 14 (Life below Water). 16 other States mention the ocean in a very superficial or only to describe their geographical context. Together, they represent approximately 67% of the total of NDCs registered in 2019. 49 coastal and archipelagic States do not refer to the ocean or ocean-related subject matters (e.g. fisheries, coastal ecosystems, sea-level rise) at all, including some with very large marine areas such as USA, Australia and the Russian Federation. Surprisingly, some States which do not address ocean-related actions in their NDCs (for e.g. Monaco or Norway) are very active on the international scene. The Annex I countries remain systematically focused on climate change as more a problem of mitigating emissions and neglect the ocean (for e.g. the EU member States), which demonstrate a caesura among developed States between ocean and climate regimes. On the contrary, SIDS and African countries, particularly vulnerable to climate change and lacking capacity, show a will of interaction between ocean and climate regimes through ocean-based adaptation measures related to fisheries (42 NDCs), coastal protection (54 NDCs) or the preservation of marine ecosystems (for e.g. Benin and Guinea Bissau). These expressions of will and concern are still struggling to be transformed into an operative action framing due to a lack of information and capacity. Certain impacts such as ocean acidification (14 NDCs) receive little attention from governments because the lack of knowledge and education and 39 NDCs include information on additional marine research needs¹⁷.

NDCs are a mean for Parties to adjust to national circumstances and particularities which is of great relevance for ocean-based adaptation and mitigation. But they also bear the risk of a belated and insufficient im-

plementation of Article 2 or of disorderly pluralism¹⁸. It will be therefore necessary to monitor the cost-effectiveness and implementation of ocean-based mitigation and adaptation national measures in a changing climate and environment. Finally, whilst indicating the will of certain States, particularly developing States, to tackle ocean and climate-related issues in a coordinated or integrated manner, NDCs are not the only indication of government's investment in ocean and climate-related actions and other pathways of interactions could be followed.

"Oceanizing" the climate negotiations

During the period from 1992 to 2015, it appeared that climate treaty bodies have been rather passive on the relationship with the ocean regime, which may be surprising given the potential for conflicts or synergies. National delegates generally demonstrated a lack of political will to put ocean related issues on the political agenda or, to develop any ocean-related strategy, because this will bring highly contested issues among State Parties, such as funding or technology transfer.

It was only at COP 21 that some already active groups of States (SIDS and the Alliance of Small Islands States (AOSIS)) or, more eclectic alliance of developed and developing States along with non-state actors, initiated actions to raise awareness of climate risk in oceans and coastal areas, to influence the outcomes of Climate COP and, to foster ocean and climate regime interactions. Following the request made by governments to the IPCC to prepare a Special Report on "the Ocean and Cryosphere in Changing Climate" (SROCC)¹⁹, such mainstreaming gained in intensity. It resulted in recurrent dedicated "Ocean days" and ocean-related side-events alongside official climate negotiations and, the formulation of programmatic

18 Compared with the emission levels under least-cost 2°C scenarios, aggregate GHG emission levels resulting from the implementation of the INDCs in 2016 were expected to be higher by 19% in 2025 and 36% in 2030: Doc. FCCC/CP/2016/2 (2 May 2016), pp. 10-11. On the effects of disorderly pluralism in International Law, see M. Delmas-Marty, *Les forces imaginantes du droit (II) : Le pluralisme ordonné* (Paris : Seuil, 2006), 303 p.

19 The decision to prepare a SROCC was made at the Forty-Third Session of the IPCC in Nairobi (Kenya, 11-13 April 2016): "Decision IPCC/XLIII-6. Sixth Assessment Report (AR6) Products. Special Reports", para. 4, p. 11: https://archive.ipcc.ch/meetings/session43/p43_decisions.pdf. The SROCC is under the joint scientific leadership of Working Groups I, II and III with support from the WGII TSU.

17 N. D. Gallo, D.G. Victor, L.A. Levin, "Ocean Commitments under the Paris Agreement", *Nature Climate Change*, vol. 7 (November 2017): 837.

orientations, including the “Roadmap to Oceans and Climate Action” (ROCA)²⁰, the “Because the ocean” initiative²¹ and, the “Ocean pathway towards an Ocean inclusive UNFCCC process”²².

In the wake of SROCC findings which will be disclosed in September 2019, the COP 25 (co-hosted by Chile and Costa Rica), envisioned by the Chilean president as the “Blue COP”²³, could serve as a political momentum to address ocean and climate nexus in a more integrated manner. As the climate change has “climatized” the global political debates²⁴, the ocean could “oceanize” climate negotiations by gaining traction, even among unilateralist countries (e.g. Australia, Japan or the USA) and, seeking an ocean-specific UNFCCC COP agenda item and/or a SBSTA entry point. If not tackled as a separate topic, the ocean will be however correlated to adaptation. Oceans, coastal areas and ecosystems, including mega deltas, coral reefs and mangroves, will be addressed within

20 For more information, <https://roca-initiative.com/> (last consulted July 2019).

21 For more information, <https://www.becausetheocean.org/> (last consulted July 2019).

22 For more information, <https://cop23.com.fj/the-ocean-pathway/> (last consulted July 2019).

23 C. Schmidt, “Before the Blue COP”, opening speech, Because the Ocean Initiative Workshop, Madrid, April 10, 2019, available online: <https://www.becausetheocean.org/before-the-blue-cop-madrid-workshop-opens/> (last consulted in July 2019).

24 See S. Aykut, J. Foyer, E. Morena, “Globalising the Climate: COP 21 and the climatization of global debates”, Routledge, 2017.

the Nairobi work programme on impacts, vulnerability and adaptation to climate change (NWP)²⁵.

CONCLUSION

The question of whether Ocean and Climate International Laws will be able to face in a congruent way new challenges posed by climate change on the ocean (and vice versa) remain open. For now, their responses lack of regime interactions, as well as synergies between mitigation and adaptation measures and across time and temporal scales. Throughout global, regional, sectoral and national laws and policies, mitigation and adaptation are often treated separately. Adaptive Law could help to reflect the diversity of socio-ecological contexts, reconcile the enhancement of the ocean and marine ecosystems as sinks of GHG with their conservation, in accordance with the precautionary principle and an integrated management. Such a dynamic and resilient approach based on transdisciplinary governance could foster synergies between separate management approaches (climate change mitigation and adaptation, marine pollution, biodiversity conservation, fisheries) and fragmented regimes (ocean, climate and biodiversity regimes).

25 Doc. FCCC/SBSTA/2019/INF.1 (11 June 2019), para. 30 and 31.