



Which International Law for Ocean and Climate?

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The United Nations Convention on the Law of the Sea (UNCLOS) and the United Nations Framework Convention on Climate Change (UNFCCC) shape the legal backbone of sea and climate law on the international level. Framework conventions mark the beginning of specific legal systems that are destined to evolve. The UNCLOS takes into account only in an incidental manner certain aspects affecting climate in relation to the ocean. Climate change creates new challenges for the Law of the Sea, which then must adapt to tackle its impacts and showcase the ocean's "regulating" role. Regulation of GHG emissions in maritime transport, ice-melt in the Arctic, or even sea-level rise has become the object of international discussions and calls for further legal development. To affirm that the ocean has been completely left out of international climate negotiations would be at very least imprecise. The ocean was indirectly mentioned at several occasions during debates and in international texts. These references are incomplete and the relative legal provisions suffer from a limited legal scope. The effects of scientific and political mobilization concerning the links between ocean and climate set conditions for a consolidation of the integration of the ocean in climate law. The inclusion of the term "ocean" in the Paris Treaty, the IPCC special report on "*Climate change and the oceans and the cryosphere*", or the existence of an ocean session at COP22 – where the implementation of the treaty will be discussed – all foretell a strengthening of the ocean in the climate regime.

INTRODUCTION

The United Nations Convention on the Law of the Sea (UNCLOS) and the United Nations Framework Convention on Climate Change (UNFCCC) respectively form the framework of the Law of the Sea and the Law of Climate at the international level. As framework agreements, they are the starting point of new specific legal regimes which are intended to evolve over time.

The UNCLOS, which was signed on the 10th December 1982, is the result of the codification process of the Law of the sea, but also of the formation of new legal rules (e.g., the Exclusive Economic Zone (EEZ) or the

status of archipelagic States). The "constitution for the oceans"¹, convention which has almost a universal scope (167 States Parties in 2016), establishes the general framework within which maritime activities take place (navigation, exploitation of biological and mineral resources, conservation and preservation of the marine environment, marine scientific research, etc.). It defines the rights and obligations of States conducting such activities according to the subdivision of Oceans and Seas in areas under the sovereignty or jurisdiction (internal waters, territorial

1 Expression formulated by Tommy T.B. KOH (Singapore), President of the third United Nations Conference on the Law of the Sea: "A constitution for the Oceans", 11 December 1982, 5 p.; on-line: http://www.un.org/depts/los/convention_agreements/texts/koh_english.pdf (last consulted, August 2016).



sea and contiguous zone, EEZ, continental shelf) and spaces 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 decrease in fisheries stocks, the destruction of marine and coastal habitats, the sustainable use of biological resources and the conservation of marine biodiversity, the uncontrolled pressure of urbanization and tourism, the pollution resulting from land and sea activities and, for about a decade, the interrelations between Climate Change and Ocean.

At the end of the 1980s, the threat of global warming began to preoccupy States in a scientific context enabling a holistic understanding of the Environment. This issue requiring cooperation of all States, meetings of experts (experts of the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO)), international conferences (Ottawa and the Hague (1989)) and resolutions of the General Assembly of the United Nations (in particular, Resolution 43/53: Protection of global climate for present and future generations of mankind, December 6, 1988), the development of a draft framework convention on climate change progressed towards the adoption of the final text on the 9th May 1992 in New York and its opening for signature the same year at the Earth summit in Rio de Janeiro³.

Universal in scope (197 States Parties in 2016), the UNFCCC which came into force the same year as the UNCLOS in 1994 (21st of March), is the cornerstone of the climate regime. Its title is misleading because it suggests that it applies to each "Climate change" as

it only considers change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere at global level (art. 1, § 2)⁴. Its objective is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system"⁵ (art. 2). It was complemented by the Kyoto Protocol on Climate Change of the 11th December 1997 (entered into force on the 16th February 2005) counting 192 States Parties and the Paris Agreement on climate signed on the 22nd of April 2016 by 175 States.

Beyond their goals, their contents and the context of their negotiation, the UNCLOS and the UNFCCC differ ideologically and politically, in their understanding of global environmental issues. While the UNCLOS considers the Area as a common Heritage of Mankind (art. 136), the UNFCCC marks an ideological retreat by making Climate Change only a Common Concern of Mankind (preamble), a concept which has no legal force.

For now, and as we will see through the respective consideration of Ocean and Climate under the Law of the Sea and the Climate Law, the response of the international community to global environmental challenges is still limited in Law and Practice; but these challenges require urgent and compelling answers on all scales.

CLIMATE IN THE INTERNATIONAL LAW OF THE SEA

The UNCLOS makes no explicit reference to Climate Change. Given its purpose, it takes into account only incidentally specific aspects of Climate in its relations with the Ocean. However, in recent years, Climate Change has emerged as an issue which goes beyond the framework of the climate regime, leading

2 For a mapping of maritime delimitations, see AGENCES DES AIRES MARINES PROTEGEES: Les délimitations de l'espace maritime français, November 2014, p. 2; online: http://cartographie.aires-marines.fr/sites/default/les/delimitations_espace_maritime_fr.pdf (latest consultation in August 2016)

3 See, BEURIER (J.-P.), KISS (A.†): Droit international de l'environnement, Paris, éd. Pédone, coll. Études internationales, 2010, p. 264 et s.

4 BEURIER (J.-P.), Kiss (A.†) : Droit international de l'environnement, Paris, éd. Pédone, coll. Etudes internationales, 2010, p. 265.

5 Also, Parties States to the UNFCCC have a shared responsibility to preserve the climate system in the interest of present and future generations, on the basis of equity and depending on their common but shared responsibilities. States may take into account special needs and the specificities of developing countries circumstances, but it is also necessary to take precautionary measures to foresee and mitigate the causes of climate change and limit their harmful effects (art.3).



lawyers and policy makers to pay more attention to this central issue of the Ocean Governance. The Law of the Sea now faces the challenge of adapting to fight against Climate Change and to highlight the “regulating” role of the Ocean.

The incidental consideration of certain aspects pertaining to climate in the UNCLOS⁶

Climate change was not discussed at the third UN Conference on the Law of the Sea (1973-1982), at a time when it was not on the international environmental agenda. If the UNCLOS does not directly address the climate issue, it can be interpreted and applied so as to grasp climate change, in particular 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, including the climate perspective

Although the UNCLOS remains silent about climate change and Greenhouse Gas emissions (GHG), the provisions of Part XII entitled “*Protection and preservation of the marine environment*” are relevant to address these issues. Article 192 thus provides that “*States have the obligation to protect and preserve the marine environment*”, including “*rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life*” (art. 194.5). This general obligation may well apply to ecosystems such as coral reefs and species affected by climate change, particularly global warming and ocean acidification.

The obligation to protect and preserve the marine environment is supplemented with other provisions to tackle marine environment pollution, which includes general measures to prevent, reduce and control pollution whatever the 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). If GHG emissions are not specifically mentioned in the UNCLOS as a source of pollution of the marine environment, it is quite possible to interpret Part XII to include this type of pollution.

Indeed, the UNCLOS provides a broad definition of marine pollution, i.e. “*the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities*” (art. 1. (1) 4.).

Therefore, the question arises whether the violation of the general and specific obligations of States to protect and preserve the marine environment could be invoked in the light of climate change under the dispute settlement mechanism provided for in Part XV of the UNCLOS. Even if the doctrinal debate on this point is rich, the question remains open. Only the future will tell whether the UNCLOS is able to grasp and respond to the new challenges posed by climate change and above all, all to make any coercive responses.

The obligation for States and International Organizations to promote Marine Scientific Research, including about ocean-climate interactions

The UNCLOS provides in Part XIII on Marine Scientific Research an innovative legal regime governing research activities carried out by States and international organizations such as the WMO and the UNESCO Intergovernmental Oceanographic Commission (UNESCO-IOC), anywhere at sea. This regime includes, *inter alia*, a focus on the need to promote marine scientific research (art. 243 et seq.) and international cooperation in this field (art. 242).

Under these provisions, much research has been conducted in the marine realm with the aim to better understand the impacts of climate change on the ocean and particularly, marine biodiversity.

⁶ Text of the UNCLOS available online: http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_f.pdf (last consultation in August 2016)



For example, scientists of the Tara expeditions are addressing the role of microscopic marine biodiversity and its interaction with climate⁷. But the more research progresses, the more obvious the lack of knowledge becomes, requiring urgent strengthening of scientific, technical and financial capacities.

In recent years, the United Nations General Assembly has recognized the need to improve the understanding of the impact of climate change on the oceans. It encouraged States to enhance their scientific activity to better understand the effects of climate change on the marine environment and marine biodiversity and develop ways and means of adaptation⁸. It also stressed the importance of increasing scientific knowledge of the interrelations between the oceans and the atmosphere, through the participation in ocean observing programs and geographic information systems, such as the Global Observation Observing System⁹.

Climate change: a core challenge for ocean governance

The impact of climate change on the marine environment, unlike forest ecosystems, has belatedly attracted the attention of the international community despite the increasingly numerous and reliable scientific data. Scientists have shown that the ocean is a regulator of global climate: it is a natural sink and a GHG reservoir and it receives almost all of the water released by the melting of continental glaciers and polar caps¹⁰. It was only in the 2000s that this issue was seen to be crucial, involving the international

community as a whole and not only some coastal and archipelagic States which are particularly vulnerable.

Climate change is a core challenge, at the interface between a plurality of activities (shipping, fishing, exploitation of mineral resources, marine scientific research, etc.), actions (fight against poverty, natural disasters, pollution, biodiversity erosion, etc.) or issues (maritime boundaries, access to natural resources, protection of the marine environment etc.), already taken into account by international Law. They also raise new issues such as the impact of climate change on marine biodiversity, the regulation of shipping GHG emissions, geo-engineering activities in the oceans, issues that may require the establishment of specific legal rules. We will consider below some current examples.

Sea-level rise: modification of maritime borders and likely disappearance of States

Sea-level rise impacts maritime boundaries whose stable delimitation is still one of the main purposes of the international Law of the Sea and the UNCLOS. The lines of maritime boundaries delimitation, as well as baselines would be called into question, as well as the principle of sovereignty over land territory which gives rights to States on adjacent marine territory (the land dominates the sea). Thus, "*shifting baselines*"¹¹ resulting from sea-level rise will introduce a modification of the marine spaces of some coastal and archipelagic States (territorial sea, contiguous zone, EEZ and continental shelf). That will undoubtedly create tension between States, especially between neighbouring States, in delimitation of national maritime boundaries, access to natural resources and navigation.

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 by lack of access to natural resources, particularly water, or because of natural disasters becoming

7 For more information, see the official website of Tara Expeditions : <http://oceans.taraexpeditions.org/> (last consultation in August 2016).

8 In particular, it has encouraged States and competent International Organizations to urgently pursue further research on ocean acidification, especially programs of observation and measurement (See. Resolution 64/71, § 113).

9 See Resolution 64/71, § 169.

10 The impacts of climate change on the marine environment were scientifically proven in the early 1980's. Scientific data shows important disruptions in the physical and chemical parameters of the global ocean: ice-cap, iceberg, glacier, and sea ice melting; sea-level rise; acidification; deoxygenation; disruption of marine currents; erosion of biodiversity; release of methane in the water and the atmosphere. These radical environmental changes combine the ones with the others, as well as with other anthropogenic stress on the marine environment (pollution, overexploitation of natural resources, destruction of habitats, tourism, etc.). They are capable of producing runaway phenomena.

11 ORELLANA (M. A.): Climate change and the international Law of the Sea, in ABATE (R. S.) (dir.): Climate Change Impacts on Ocean and Coastal Law: U.S. and International Perspectives, New York (États-Unis), éd. Oxford University Press, 2015, p. 256 et s.



more frequent (floods, tsunamis, cyclones, etc.). The example of the Small Island States of the South Pacific is the most eloquent. This raises the thorny legal, political and humanitarian issue of the loss of Statehood and population migration, climate or environmental refugees, which it entails.

The melting of arctic ice: the opening of new regular shipping routes and ways to access natural resources

The end of the Soviet Union and global warming have changed the perception of States and ship-owners alike about the three arctic polar routes, namely the Arctic Bridge between Churchill (Hudson Bay) and Murmansk (White Sea) and the Northwest and Northeast passages. If the Arctic bridge is not subject to specific legal issues, the two passages raise economic, geopolitical, strategic and environmental concerns related to the opening of new regular shipping routes and access to natural resources caused by melting ice which require binding legal solutions.

The different positions of States on the Northwest Passage are an example¹². Indeed, the riparian and non-riparian States of this passage already crossed by icebreakers and submarines remain divided on the legal status to be granted. The Canadian State thus considers that this passage is within its internal waters as it wishes to preserve strategic areas and the marine environment, while the United States believes that this passage is an international strait open to navigation on the principle of free transit passage according to Part III of the UNCLOS¹³.

On the 11th January 1988, Canada and the United States signed an agreement in Ottawa on cooperation in the

12 From a commercial standpoint, this reduces the distance covered by commercial ships going through the Panama Canal by about 1000mn, and would significantly reduce the cost of transport. In September 2013, the MS Nordic Orion, a bulk carrier flying the Panama flag, was the first large cargo ship to take this route. From an environmental perspective, the risk of mishaps related to navigation in the fragile Arctic ecosystems are a major source of concern. From a geopolitical perspective, the transit of pirates, terrorists, or other unlawful groups, through the Arctic is another source of concern: ORELLANA (M.A.): Climate change and the international Law of the Sea, in ABATE (R. S.) (dir.): Climate Change Impacts on Ocean and Coastal Law: U.S. and International Perspectives, New York (États-Unis), éd. Oxford University Press, 2015, p. 267.

13 For more information, see BEURIER (J.-P.) (dir.): Droits maritimes, Paris, éd. Dalloz, coll. Dalloz action, 2015-2016, p. 128 et s.

Arctic by which the United States, while refusing to recognize Canadian claims, agreed that the movements of their icebreakers crossing in the Northwest will be subject to the consent of the Canadian authorities. On the 19th June 1992, in Ottawa, Canada signed with the Russian Federation a new agreement on scientific cooperation explicitly considering the Arctic as a special area. Since then soft law on navigation and protection of the marine environment has been added to these binding rules¹⁴.

Given the fragile polar ecosystems, the UNCLOS envisages the possibility for coastal States "to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance [...]" (art. 234). The impact of climate change in the Arctic requires the urgent establishment of a specific binding multilateral agreement. It could follow the model of the regional seas conventions and the global-regional approach developed by the UNEP.

The regulation of GHG emissions from ships

GHG emissions from ships are a major challenge for the Law of the Sea. Considering the importance of this mode of transport in world trade – more than 80 % of trade is carried by sea nowadays – the Law of the Sea must grasp and regulate these emissions in order to fight in its turn against climate change. In this sense, the International Maritime Organization (IMO) through its Marine Environment Protection Committee (MEPC) has recently laid the groundwork for international regulation of control and reduction of GHG emissions from shipping. IMO is the specialized agency of the United Nations responsible for establishing standards for safety, security and environmental performance of international shipping. It ensures a general fight

14 V. BEURIER (J.-P.) (dir.): Droits maritimes, Paris, éd. Dalloz, coll. Dalloz action, 2015-2016, p. 132.



against marine pollution by ships. Its main role is to create a fair and effective regulatory framework for the shipping sector, and which is adopted and implemented universally¹⁵.

At its meeting on the 18th and 22nd April 2016, the MEPC has adopted a regulation requiring all ships over 5,000 gross tonnage to measure their CO₂ emissions and to report to IMO. This regulation is the cornerstone of a larger edifice aiming at a real reduction in GHG emissions from merchant ships. Following this line of thought, IMO stressed the importance of adopting an international convention on the reduction of shipping's CO₂ emissions in line with the Paris Agreement.

OCEAN IN INTERNATIONAL CLIMATE LAW

It would be inaccurate to assert unconditionally that the ocean is the great forgotten element in international climate negotiations. On several occasions in debates and in international documents, the Ocean was referred to as one aspect of the fight against climate change. However, analysis of positive law reveals that only timid steps have been taken, whereas the seas and oceans represent 71% of the Earth's surface and absorb more than 25% of the CO₂ emitted annually by Mankind. However, an analysis of the effects of scientific and political mobilization around the interrelationship between ocean and climate indicates that the ocean will become increasingly integrated into climate Law in the future and for COP22.

The timid consideration of the Ocean in the climate regime

The UNFCCC makes no reference to the UNCLOS. It does not highlight explicitly the relations between the two conventions. A lack of mutual recognition of the two legal corpuses may be observed. The synergies between these two legal corpuses have not been highlighted, indicating a limited consideration of the Ocean in the climate regime.

15 Definition from the IMO website: <http://www.imo.org/fr/About/Pages/default.aspx>

A partial recognition

The climate regime refers to the ocean through the "narrow prism" of natural sinks and reservoirs of GHG. This almost exclusive approach reflects the importance that the ocean plays in climate regulation. It absorbs most of the heat and carbon dioxide that is accumulated in the atmosphere. It has absorbed 93% of the excessive heat on Earth since the 1970s and thus limits the warming of the atmosphere. It has trapped 28% of CO₂ emissions of anthropogenic origin since 1750.

The consideration of the ocean within the climate regime has thus been clearly identified through the prism of sink as well as of reservoir. Excepted the Paris Agreement which represents a step forward on this, as well as quick reference to marine ecosystems in the UNFCCC text, the ocean has always been approached from this angle. There have been countless provisions on the protection and reinforcement "sinks and greenhouse gas tanks"¹⁶. In this way, all the issues related to the ocean as such have been relegated to the background or even ignored. Designating the ocean directly in these texts, as well as provisions taking into account all the ocean-climate relations, it would gain greater legal force, like forests that benefit from a real consideration.

A weak legal recognition

The legal provisions on the ocean, whether they are explicit or not, enjoy only relative significance. The fact that the ocean is included residually or conditionally in the texts relating to climate demonstrates limited legal force. The ocean has for example been explicitly named in the Paris Agreement but only in its preamble which, in the general spirit of the text, mentions the main objectives of the States Parties. A

16 Art 4 of the UNFCCC on the commitments and §4 of the preamble make reference to this. The text of the UNFCCC is available online: <http://unfccc.int/resource/docs/convkp/convfr.pdf> (last consultation in August 2016). The Kyoto Protocol makes reference to "sinks and greenhouse gas tanks" in articles 2-1.A)ii; 3-3; 3-4; 3-7; 5-1; 5-2; 5-3; 6-1; 7-1; 10-1 a); 10-1 b)ii). The text of the Kyoto Protocol is available online: <http://unfccc.int/resource/docs/convkp/kpfrench.pdf> (last consultation in August 2016). The Paris Agreement makes reference to this in its preamble and in its article 5-1. The text of the Paris Agreement is available online: <http://unfccc.int/resource/docs/2015/cop21/fr/109r01f.pdf> (last consultation in August 2016)



preamble, which has less legal value than the Treaty, contains provisions that are too general to be applied and does not include any obligation or commitment. Thus, even when the ocean is apprehended as such, it does not benefit directly from a binding provision and its legal recognition is diminished.

Moreover, the provisions for the ocean, whether they do so explicitly or not, often use a loose terminology. Thus, the Paris Agreement says that the parties “should” take protective measures for sinks or GHG. The use of the conditional implies that this provision was not highly binding so that its breach would not result in sanctions. Similarly, if the Paris Agreement rises to the rank of an international treaty, such provisions will be difficult to enforce. Ultimately, the protection of the ocean as sinks or reservoirs would be only a possibility, one example of triggering for action on which States can build to implement treaties. This is surprising since, at the same time, science proves that the ocean is a real climate regulator. This *hiatus* between the international governance of climate and ocean on one hand and the scientific findings and the world reality on the other, shows a “*schism with reality*”¹⁷. In short, it is not so much the absence of the ocean in the climate regime which is observed, but the lack of overall treatment and effectiveness of the specific legal provisions applicable. This lack could be explained in particular by a weak mobilization of political and scientific communities on these issues. This is no longer the case today. The action of the Ocean and Climate Platform for example nourishes the scientific and citizen debate around the interactions between ocean and climate.

Towards a greater emphasis on the ocean by climate law?

The mobilizations of civil society and the scientific community at COP21 allowed a notable advance of the consideration of the ocean by the international climate governance.

17 AYKUT (S. C.), DAHAN (A.): *Gouverner le climat ? 20 ans de négociations internationales*, Chapitre 8 : Paris (France), éd. Presses de la fondation nationale des sciences politiques (SciencesPo Les Presses), coll. Références : Développement durable, 2014, p. 399 et s.

The Paris Agreement on climate

The Paris Agreement adopted on the 12th December 2015 indeed laid the foundation for a stronger integration of the ocean by the climate regime. Almost twenty five years after the signing of the UNFCCC, it allows a renewal of how the ocean is considered by the climate regime as long as there is an explicit reference, as such. Certainly, this agreement does not provide for monitoring or enforcement mechanisms and too often includes general provisions to be enforceable by States. Eschewing a purely binding text, based on clear and precise measures, complemented by monitoring mechanisms, the Paris Agreement is based on voluntary contributions, as well as on the general objectives. That said, this legal technique has greater flexibility, adaptability and malleability. Proponents of this approach defend the idea that it has the advantage of being more realistic and therefore more effective. Thus, since the States referred explicitly to the ocean in an agreement of such political force, it will surely be more difficult for them not to take it into account in their national policies.

The future IPCC special report on climate change the oceans and the cryosphere

The lack of consistency of international Law must not, however, appear to foreshadow a disappointing legal future. The future Intergovernmental Panel on Climate Change (IPCC) report and the nebula of relevant scientific work could influence climate change Law. The IPCC has decided at its 43rd plenary session in April 2016, to devote a special report to the interactions between climate change, the oceans and the cryosphere¹⁸.

The operation of the IPCC and the scope of its work suggest development in the near future as the consideration of the ocean in the climate regime. The IPCC does not primarily intend to conduct research

18 Presentation of the Special report of the IPCC on the interactions between climate change, the oceans and the cryosphere and sub-themes available online: <https://www.ipcc.ch/report/srocc> (last consultation in August 2016).



or to produce scientific content, essentially working to make a synthesis and assessment of the state of the art science on climate change. Its works are the basis for an informed policy decision. It allows to facilitate or to direct the formation of law. If the IPCC decides to focus part of its work on the ocean, we may be seeing the beginnings of a better account of the interactions between ocean and climate in the climate regime.

The 22nd Conference of Parties to the UNFCCC

The scientific community at large as well as civil society and citizens also have a proactive and complementary role to challenge the international community and policy makers on the pivotal role of the ocean to the environmental protection and climate globally. Many initiatives and projects are emerging around the world, involving multiple stakeholders (NGOs, research institutions, local communities, private companies, etc.) and more and more beyond national borders. Although multiple, this community of interest for the environmental cause carries with it the hope that at the next Conference of the Parties to the UNFCCC to be held in Marrakech (Morocco) in November, an action plan on the ocean will be discussed.

CONCLUSION

The question of whether both the international law of the sea as well as climate law will be able to face new challenges posed by climate change will be a topical issue in the 21st century. In the context of lack of capacity and the concentration of natural resources which have become scarce, the responses of International Public Law are still insufficient. They focus mostly on proposing responses to mitigate the impact of climate change on the ocean rather than considering more ambitious solutions which would imply the understanding of the ocean at international level as the global climate regulator.



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GLOSSARY

Framework convention. A framework convention is a legal technique often used by States in order to establish general rules that commit them to cooperate and to set principles of action related to a specific issue (ex: Antarctica, regional seas, climate, biodiversity), the specific implementation modalities are ultimately determined by additional protocols and national implementing measures.

International Public Law. International Public Law is defined by different criteria, the subjects that it governs, the relations that it governs or, the origin of the norms of which it is composed. According to the first criteria, International Public Law includes the legal rules, which govern the conduct of international legal subjects (States, international organisations, private person, etc.). According to the second criteria, International Public Law includes the legal rules governing international relations. Lastly, depending on the origin of norms, International Public Law refers to the norms from State agreements or from different entities to which States have granted the ability to establish international rules.

Law of the Sea. All rules of international law pertaining to the determination and the status of maritime areas and, to the legal regime of maritime activities.

Climate Law. All international rules aiming to foresee, prevent or mitigate the causes of climate changes and, limit adverse effects (art 3 CCNUCC); or, regulation of human activities with impacts on climate.

Legal regime. All rules that regulate a specific legal institution.

Legal effectiveness. Character that exists in fact. It is the quality of a legal situation corresponding to the reality, of a competence that is truly exercised. Effectiveness creates legal effects, in conditions determined by the international legal order itself. It thus plays a role in numerous institutions of international law.

Greenhouse gas sink. Any process, activity or mechanism that removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas from the atmosphere.

Greenhouse gas reservoir. A component or components of the climate system store greenhouse gases or precursors of greenhouse gases.

Common Heritage of Humanity. Areas or goods belonging to all of humanity and, thus excluded from States exclusive appropriation.

Party State. Quality of a State having expressed its consent to be bound by a treaty once it has entered into force.

Signing. Only the executive power can sign a treaty (head of State, head of government or minister, depending on the importance of the treaty in question). The signature of a Convention or a Protocol is equivalent to a preliminary approval. There is no executive obligation. The signature displays a State's intention to examine a treaty at the national level and consider its ratification. Although a signature is not a promise of ratification, it does bind the State to not commit acts contrary to the objectives or the purpose of the treaty.

Ratification. Ratification means that a State accepts to be legally bound by the provisions of a Convention. The State first signs the treaty, and then ratifies it. A Convention only enters into force after having been ratified by a minimum number of States (the Convention itself defines the required lower limit for its entry into force).



REFERENCES

- AYKUT S. C. and DAHAN A., 2014 – *Gouverner le climat ? 20 ans de négociations internationales*. Paris, Presses de la fondation nationale des sciences politiques (SciencesPo Les Presses), coll. Références : Développement durable, 749 p.
- BEURIER J.-P. and KISS A., 2010 – *Droit international de l'environnement*. Paris, Pédone Press, coll. Études internationales, 2010, 590 p.
- BEURIER J.-P. (dir.), 2015-2015 – *Droits maritimes*. Paris, Dalloz Press, coll. Dalloz action, 1792 p.
- BOYLE A. – *Law of the Sea Perspectives on the Climate Change*. International Journal of Marine and Coastal Law, vol. 27, Issue 4, 2012, p. 831-838.
- BUREAU DES AFFAIRES JURIDIQUES – DIVISION DES AFFAIRES MARITIMES ET DU DROIT DE LA MER (ONU), 13 septembre 2010 – *Oceans and Climate Change*. New York, 7 p., www.un.org/depts/los/oceans_climate_change/oceans_climate_change_7_september_2010.pdf.
- BUREAU DES AFFAIRES JURIDIQUES – DIVISION DES AFFAIRES MARITIMES ET DU DROIT DE LA MER (ONU), 2005 – *Le droit de la mer : obligations des États aux termes de la convention des Nations unies sur le droit de la mer et des instruments complémentaires*. New York, éd. Des Nations unies, 72 p., www.un.org/depts/los/doalos_publications/publicationtexts/E.04.V.5_f.pdf.
- CÁMARA STOUGAARD-ANDRESEN R. A. – *Climate Change and the Law of the Sea*. Master thesis, Lund, éd. University of Lund, 2011, 77 p. ; en ligne: <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=1973940&fileId=1973941>
- DAILLIER P., FORTEAU M., PELLET A. and NGUYEN Q. D., 2009 – *Droit international public*, Paris, éd. LGDJ, coll. Traités, 8^{ème} éd., 1722 p.
- FOYER J., 23 février 2016 – *Dans les coulisses de la COP 21, La vie des idées*. www.laviedesidees.fr/Dans-les-coulisses-de-la-COP21.html.
- HERR D. and GALLAND G. R. – *The Ocean and Climate Change: Tools and Guidelines for Action*. Gland, éd. IUCN, 72 p., https://cmsdata.iucn.org/downloads/the_ocean_and_climate_change.pdf.
- IISD, 2016 – *Climate change Policy and Practice*, <http://climate-i.iisd.org>.
- INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, 2016 – www.ipcc.ch.
- MALJEAN-DUBOIS S. – *La mise en oeuvre du droit international de l'environnement*. Notes de l'IDDRI, n°4, 2003, 64 p., www.iddri.org/Publications/Collections/Analyses/an_0303_maljeandubois_DIE.pdf.
- MALJEAN-DUBOIS S., SPENCER T. and WEMAËRE M., 2015 – *La forme juridique du futur accord de Paris sur le climat: enjeux et principales options*. Cahiers Droit, Sciences et Technologies, p. 177-208, <https://cdst.revues.org/416#text>.
- MBENGUE M.M., 2010 – *Le GIEC : De l'expertise ex post à l'expertise ex ante en matière de protection internationale de l'environnement*. In *Actes du colloque de la SFDI : le droit international face aux enjeux environnementaux*, Paris, éd. Pédone, 490 p.
- ORELLANA M. A., 2015 – *Climate Change and the International Law of the Sea*. In ABATE R. S. (dir.) – *Climate Change Impacts on Ocean and Coastal Law: U.S. and International Perspectives*, New York, éd. Oxford University Press, p. 253-271.
- SALMON J. (dir.), 2001 – *Dictionnaire de droit international public*. Bruxelles, éd. Bruylant, coll. Universités francophones, 1198 p.
- SOUTENBURG J. G., 2011 – *Implementing a New Regime of Stable Maritime Zones to Ensure the (Economic) Survival of Small Islands States Threatened by Sea-Level Rise*. International Journal of Marine and Coastal Law, vol. 26, Issue 2, p. 263-311.