

On the Role of International Governmental Organizations in the Global Response to Adapt to Climate Change-induced Sea-level Rise: Conditioning Factors and Opportunities

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Abstract: The article reflects on the role that International Governmental Organizations (IGOs) should play in the global response to climate change-induced sea-level rise (SLR). Although, over the last decade in particular, many IGOs have begun to incorporate the impact of this global threat into their approaches to governance, their response could be greatly enhanced. Following on from a discussion of the impacts of SLR, this work, first, conceptualizes SLR as a common concern of humankind that requires international cooperation; second, identifies the main factors conditioning the current IGO response to SLR (that is, the fragmented nature of the multilateral system, the influence of member states especially vulnerable to the effects of SLR, and the adoption of a “securitized” conception of SLR); and, third, identifies opportunities for IGOs to contribute to improving their role as leaders in this field (that is, reinforcing coordination to ensure full coverage of SLR impacts and avoid inefficiencies, increasing international engagement by enhancing knowledge of the multidimensional implications and impacts of SLR, and acting as global and regional forums to share and explore the effectiveness of different approaches, strategies and practices to tackle SLR impacts).

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(A) INTRODUCTION

“With a sea-level rise of over 1.5 metres, hundreds of millions of people would be dead. They would simply be wiped out”.¹ The President of the Maldives, Mohamed Nasheed, delivered this chilling statement at the United Nations (UN) General Assembly Summit on Climate Change that took place in Copenhagen in 2009. Almost ten years later, the 2018 Special Report issued by the Intergovernmental Panel on Climate Change (IPCC), entitled “Global Warming of 1.5°C”, identified sea-level rise (SLR) as one of the major challenges for humanity.² Likewise, according to its 2019 “Special Report

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¹ UN Chronicle, ‘[Small Islands, Rising Seas](#)’, Nemat Sadat.

² IPCC, *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M.

on the Ocean and Cryosphere in a Changing Climate”, global mean sea level is rising and accelerating.³

SLR, attributable to the thermal expansion of ocean water and ocean mass gain, primarily due to a decrease in land-ice mass as a consequence of global warming,⁴ although considered a long-term environmental risk, is already upon us. The IPCC has warned that, even if global warming is limited to 1.5°C in the 21st century⁵, “beyond 2100, sea level will continue to rise for centuries and will remain elevated for thousands of years”.⁶

SLR is expected to have various impacts on the world’s coasts: including, the permanent submergence of land due to higher mean sea levels or mean high tides; more frequent or intense coastal flooding; enhanced coastal erosion; loss and change of coastal ecosystems; salinization of soils, ground and surface water; and impeded drainage.⁷ At the same time, SLR “can exacerbate existing socioeconomic problems, increase risk of water scarcity, food insecurity, poverty, cause displacement of people, destroy important coastal infrastructure and increase social tensions, therefore incubating conditions for future conflicts”.⁸ The impacts of SLR on security, although currently less dramatic than those of drought or desertification, could, in the long run, be much worse in terms of weakening or even jeopardizing the statehood of affected countries, exacerbating pre-existing vulnerabilities, undermining resilience, and making territories uninhabitable long before they submerge.⁹ Similarly, the Food and Agriculture Organization of the United Nations (FAO) considers SLR to be a biophysical change “affecting the production ecology and biodiversity of aquatic systems and habitats, resulting in modifications to species compositions in catches, reduced fish production and yield (especially in the tropics), increased yield variability and diseases”.¹⁰ It has been estimated that, because of SLR, over 680 million people living in low-lying coastal areas, as well as more than 70 (mostly developing) states, will be directly affected.¹¹ Along with them, many other states will experience some of its indirect effects, including the displacement of populations and the lack of access to resources.¹²

Tignor, and T. Waterfield (eds.)) (Cambridge University Press, Cambridge, UK and New York, 2018), 1-616 [doi: [10.1017/9781009157940](https://doi.org/10.1017/9781009157940)].

³ IPCC, *Special Report on the Ocean and Cryosphere in a Changing Climate* [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)] (Cambridge University Press, Cambridge, UK and New York, NY, USA, 2019) 1-755, at 323 [doi: [10.1017/9781009157964](https://doi.org/10.1017/9781009157964)].

⁴ IPCC (2018), *supra* n. 2, at 326.

⁵ *Ibid.*, at 7, para. B.2.

⁶ IPCC (2019), *supra* n. 3, at 328.

⁷ *Ibid.*, at 328.

⁸ UN Security Council Arria-Formula Meeting, Sea-Level Rise and Implications for International Peace and Security: Concept note, 18 October 2021, 1-4, at 2.

⁹ Platform on Disaster Displacement, Security implications of Climate Change: Sea level rise – Presentation by Prof. Walter Kaelin to the Security Council.

¹⁰ FAO, “The contribution of the Food and Agriculture Organization of the United Nations to the Report of the Secretary General on oceans and the law of the sea, on the topic of focus of the ICP21: “Sea-level rise and its impacts”, 30 December 2021, 1-7, at 1, para. 4.

¹¹ UN Security Council Arria-Formula Meeting (2021), *supra* n. 7, at 2.

¹² *Ibid.*

Despite the seriousness of this global threat, when we examine what is being done in practice, an irregular response is observed. The states taking a lead in the matter are those that are already suffering the impact of SLR in their territory – in particular, the Small Islands Developing States (SIDS) to which SLR poses an existential threat¹³ while states that are neither directly nor immediately affected tend not to be engaged with the same degree of intensity, at least for the time being.¹⁴ Thus, for example, a recent study¹⁵ concludes that, although most European countries are planning for SLR, the most vulnerable countries are those who generally plan for higher values, but, yet, several countries with high populations in the low elevation coastal zone are not planning for SLR and others are only planning for low amounts of SLR, a situation that “may lead to unequal impacts across Europe”.

It is against this backdrop that the present article calls on the International Governmental Organizations (IGOs) to take a leading role in the global response to SLR. The basic premise underlying this appeal is that while many of them have begun to take steps to integrate the impact of this global threat into their approaches to governance, their responses could be considerably enhanced. Following on from this introduction, this article, first, conceptualizes SLR as a common concern of humankind that requires international cooperation (B). Second, it identifies the main conditioning factors of the current global response of IGOs to SLR (C). Third, the article identifies various opportunities that IGOs might exploit to improve their response (D). And, finally, the last section provides some concluding remarks (E).

(B) CLIMATE-INDUCED SEA-LEVEL RISE AS A COMMON CONCERN OF HUMANKIND

The United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, recognizes that “the change in the Earth’s climate and its adverse effects are

¹³ SIDS represent a group of 38 UN member states (Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Cabo Verde, Comoros, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Federated States of Micronesia, Mauritius, Nauru, Palau, Papua New Guinea, Samoa, Sao Tomé and Príncipe, Singapore, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Seychelles, Solomon Islands, Suriname, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu and Vanuatu) and 20 Non-UN Members/Associate Members of regional commissions (American Samoa, Anguilla, Aruba, Bermuda, British Virgin Islands, Cayman Islands, Commonwealth of Northern Marianas, Cook Islands, Curacao, French Polynesia, Guadeloupe, Guam, Martinique, Montserrat, New Caledonia, Niue, Puerto Rico, Sint Maarten, Turks and Caicos Islands, U.S. Virgin Islands). For more details about them, see: Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS), ‘Small Islands Developing States in Numbers’, Climate Change Edition 2015.

¹⁴ The Organization for Economic Co-operation and Development (OECD) acknowledges, for example, that “while much can be learned from the progress in OECD countries, implementation of measures to support adaptation to sea-level rise is happening too slowly to match the challenge ahead”, OECD, *Responding to Rising Seas: OECD Country Approaches to Tackling Coastal Risks* (OECD Publishing, Paris, 2019), 1-12, at 6.

¹⁵ S. McEvoy, M. Haasnot and R. Biesbroek, ‘How are European countries planning for sea level rise?’, 203 *Ocean and Coastal Management* (2021), 1-11, at 8 [doi: [10.1016/j.ocecoaman.2020.105512](https://doi.org/10.1016/j.ocecoaman.2020.105512)].

a common concern of humankind”.¹⁶ The same idea is reiterated in the 2015 Paris Agreement on Climate Change.¹⁷ Since climate-induced SLR is one of these “adverse effects”, it can also be considered part of this common concern of humankind. This was implicitly acknowledged, albeit using different words, by the Federated States of Micronesia in the context of the current International Law Commission (ILC) study on the subject of “Sea-level rise in relation to international law”:¹⁸

“While it was undeniable that sea level rise raised serious issues of international law with respect to small island developing States like Micronesia, *it was also an issue of relevance to the international community as a whole*. For example, sea level rise could alter maritime baselines and maritime boundaries, which could in turn alter the entitlements of coastal States as well as landlocked countries to various maritime zones. Sea level rise could also induce human migration, a matter of concern for all States. A mapping exercise to determine the current state of international law with regard to those matters and others would be of great use. During the current session so far, over 100 States from all the major geographical regions of the world including coastal States and landlocked countries, continental States and small island States, and developed and developing countries had spoken in favour of the Commission’s studying the topic. *That was a testament to its relevance to the international community as a whole, not just to a small group of particularly vulnerable States*.”¹⁹

Similarly, the Republic of Korea stated that “*Sea-level rise was an inter-generational issue, and the current generation must accept its obligation to work to establish a legal system to address the problem*.”²⁰; New Zealand pointed out that the decision to include the issue of SLR in relation to international law in the ILC long-term programme of work “reflected the needs of States and *the pressing concerns of the international community*, particularly given the likely impact of rising sea levels on low-lying islands and coastal communities.”²¹; and the Observer for the Holy See highlighted that the ILC’s study of this question “would fill a lacuna in current international law and would better prepare those States and communities directly concerned, as well as the international community as a whole, to meet the challenges that faced them”.²²

The “common concern of humankind” concept, although it does not have a precise legal content,²³ it is generally thought to provide a framework for approaching global problems where the emphasis is on certain principles, such as, intergenerational equity, international solidarity, shared decision making and accountability, and benefit and

¹⁶ United Nations Framework on Climate Change, *1771 UNTS 107* (adopted 9 May 1992, entered into force 21 March 1994), at the Preamble, para. 1.

¹⁷ Paris Agreement, *3156 UNTS* (adopted 12 December 2015, entered into force 4 November 2016), at the Preamble, para. 11.

¹⁸ ILC, First issues paper by Bogdan Aurescu and Nilüfer Oral, Co-Chairs of the Study Group on sea-level rise in relation to international law (*A/CN.4/740*), 21 February 2020.

¹⁹ Federated States of Micronesia (*A/C.6/73/SR.22*), paras. 56-61, at 59 (emphasis added).

²⁰ Republic of Korea (*A/C.6/73/SR.23*), paras. 67-72, at 71 (emphasis added).

²¹ New Zealand (*A/C.6/73/SR.22*), paras. 2-6, at 4 (emphasis added).

²² Holy See (*A/C.6/73/SR.24*), paras. 47-51, at 51.

²³ See: Th. Cottier (ed.), *The Prospects of Common Concern of Humankind in International Law* (Cambridge University Press, Cambridge, 2021).

burden sharing through financial cooperation.²⁴ Furthermore, since the concept refers to issues of a transboundary nature, it “can only be articulated through international cooperation”.²⁵ This has been explained as follows:

“Issues of common concern are those that inevitably transcend the boundaries of a single state and require collective action in response; no single state can resolve the problems they pose or receive all the benefits they provide. Harm to a matter of common concern is often widespread and diffuse in origin, making it difficult if not impossible to rely on traditional bilateral notions of state responsibility to enforce international norms. When that harm is mitigated, all or at least large parts of the community benefit.”²⁶

In discussing this collective action, in a recent publication, Professors Patricia Galvao Teles – Co-Chair of the ILC Study Group on “Sea-Level Rise in relation to International Law”, Claire Duval and Víctor Tozetto reflected on international cooperation for protecting those affected by this phenomenon.²⁷ In their opinion, international cooperation is “vital” in order to respond adequately to SLR, “mitigate its damaging effects, and protect those affected by it”.²⁸ Cooperation is, then, “a practical necessity and a moral imperative”.²⁹ The authors’ main thesis is that non-affected states have the duty to cooperate to protect persons affected by SLR, but what is especially relevant to the current article is that they also recognize that the cooperation of other actors, such as IGOs, “is also of the utmost importance for the effective protection of persons affected by rising sea levels”.³⁰ In this regard, they recall that the Committee on Economic, Social and Cultural Rights stated that states and IGOs have a joint and individual responsibility to cooperate in providing disaster relief and humanitarian assistance in times of emergency.³¹

As the impacts of climate change (in common with those of SLR) are typically transnational in character, the states are increasingly relying on IGOs for policy solutions.³² Indeed, many global and regional IGOs are already beginning to incorporate SLR into their discourse, addressing the consequences of this global challenge, and also developing a relevant body of practice in relation to the protection of those

²⁴ C. Bowling, E. Pierson and S. Ratté, ‘The Common Concern of Humankind: A Potential Framework for a New International Legally Binding Instrument on the Conservation and Sustainable Use of Marine Biological Diversity in the High Seas’, *UN biodiversity Prep Com Files* (2016), 1-15, at 1 and 3. An approach that, according to the authors, can “emphasize certain key principles of interest to States, namely: inter-generational equity, international solidarity, shared decision making and accountability, and benefit and burden sharing through financial cooperation.”, at 1.

²⁵ World Commission on Environment and Development, ‘Report: Our Common Future’, 1987, 1-300, at Chapter 2: Towards Sustainable Development, para. 22.

²⁶ D. Shelton, ‘Common Concern of Humanity’, 39 (2) *Environmental Policy and Law* (2009), 83-86, at 83.

²⁷ P.G. Teles, C. Duval and V. Tozetto da Veiga, ‘International Cooperation and the Protection of Persons Affected by Sea-Level Rise’, 3 (1) *Yearbook of International Disaster Law Online* (2022) 213-237. [doi: [10.1163/26662531_00301_009](https://doi.org/10.1163/26662531_00301_009)].

²⁸ *Ibid.*, at 213.

²⁹ *Ibid.*

³⁰ *Ibid.*, at 214.

³¹ *Ibid.*, at 225. See: Committee on Economic, Social and Cultural Rights (2000). General Comment No. 14 on article 12 of the International Covenant on Economic, Social and Cultural Rights, on the right to the highest attainable standard of health (UN Doc. E/C.12/2000/4), 11 August, at para. 40.

³² L. M. Dellmuth *et al.*, ‘Intergovernmental organizations and climate security: Advancing the research agenda’, 9 (1) *WIREs Climate Change* (2018), 1-13, at 2 [doi: doi.org/10.1002/wcc.406].

affected by the impacts of climate change, including SLR.³³ At the global level, for example, the United Nations General Assembly has referred to the threat posed by SLR in several of its resolutions;³⁴ the United Nations Security Council – as will be discussed below – has also spoken of the connections between climate change and its impacts, including SLR, on international peace and security; the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea chose the theme “Sea-Level Rise and its impacts” for its twenty-first meeting held in June 2021³⁵; the Human Rights Council (HRC) and other human rights treaty bodies have examined the connections between climate change and its consequences for human rights, highlighting their impact on migration and internal displacement and on the very existence of certain small island states, “as well as for the full range of rights for which individuals depend on the State for their protection”³⁶; the International Organization for Migration (IOM) has recognized SLR as one of the greatest climate change threats that is likely to affect populations and cause migration in the future³⁷; and the International Labour Organization (ILO) has incorporated the issue of climate change, including SLR, into its analyses.³⁸ At the regional level, IGOs, including the European Union (EU), especially through the European Environmental Agency³⁹, and the Pacific Islands Forum (PIF) – as will also be discussed below – are also leading regional action to tackle SLR.

(C) CONDITIONING FACTORS OF THE CURRENT INTERNATIONAL

³³ ILC, Sea-level rise in relation to international law. Second issues paper by Patrícia Galvão Teles and Juan José Ruda Santolaria, Co-Chairs of the Study Group on sea-level rise in relation to international law, ([A/CN.4/752](#)), April 2022, 1-107, at para. 348.

³⁴ See, among others, GA Res. [44/206](#), 22 December 1989, at para. 2; GA Res. [73/195](#), 19 December 2008, at annex, paras. 18 (j) and 21 (h); GA Res. [66/288](#), 27 July 2012, at annex, paras. 165, 178 and 179; and GA Res. [70/01](#), 25 September 2015, at para. 14. Regarding the potential role of the United Nations General Assembly in the global response to SLR, it is also interesting to note the possibility of requesting an advisory opinion from the International Court of Justice on the matter. See, for example, British Institute of International and Comparative Law, [Rising Sea Levels: Promoting Climate Justice through International Law: A Matter for the ICJ?](#), 2021.

³⁵ GA Res. [76/171](#), 16 July 2021, Report on the work of the [United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea](#) at its twenty-first meeting, Letter dated 13 July 2021 from the Co-Chairs of the Informal Consultative Process addressed to the President of the General Assembly.

³⁶ HRC, Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H. Knox Preliminary report ([A/HRC/22/43](#)), at para. 20, in relation to the study conducted by the Office of the High Commissioner for Human Rights (OHCHR) on the effects of climate change on the enjoyment of human rights in 2008 2009 ([A/HRC/10/61](#)).

³⁷ ILC, Sea-level rise in relation to international law. Second issues paper by Patrícia Galvão Teles and Juan José Ruda Santolaria, Co-Chairs of the Study Group on sea-level rise in relation to international law, ([A/CN.4/752](#)), April 2022, 1-107, at para. 401. See, for example, IOM, [Climate Change and Migration in Vulnerable Countries. A snapshot of least developed countries and small island developing states](#), 2019.

³⁸ See, for example, the analysis in J. Campbell and O. Warrick, *Climate Change and Migration Issues in the Pacific*, 2014, in the framework of the Pacific Climate Change and Migration Project entitled ‘Enhancing the Capacity of Pacific Island Countries to Manage the Impacts of Climate Change on Migration’, funded by the European Union and implemented by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the ILO and the United Nations Development Programme.

³⁹ See some indicators prepared by the European Environmental Agency in this respect in: <https://www.eea.europa.eu/ims/global-and-european-sea-level-rise>.

GOVERNMENTAL ORGANIZATIONS' GLOBAL RESPONSE TO SEA-LEVEL RISE

Despite the IGOs growing awareness of the impacts of SLR, especially over the last decade, these organizations were not designed to deal with the consequences of climate change,⁴⁰ nor with the specific impacts of SLR. Thus, although many IGOs have already begun to integrate the effects of this global challenge into their discourse and approaches to governance, the current response of IGOs to SLR presents certain limitations. Three main factors can be identified in this regard as conditioning their response: first, the fragmented nature of the multilateral system, which means the actions and strategies adopted by IGOs are conditioned by the direct or indirect impact of SLR in their scope of action and by their functional responsibilities and mandates; second, the influence of member states that are especially vulnerable to the effects of SLR, a circumstance that leads to a variable and irregular response; and, third, the adoption of a “securitized” conception of SLR by IGOs, which means their response is mostly reactive and non-inclusive.

(1) The Fragmented Nature of the Multilateral System

Fragmentation, consisting in separate legal norms and institutions that have developed “largely independently from one another, often instigated by non-identical groupings of states and in response to specific functional issues”,⁴¹ is a characteristic of global governance architectures.⁴² And, at the same time, the fragmented nature of the multilateral system⁴³ can be an obstacle to the management of a multidimensional risks across sectors in an increasingly connected world.⁴⁴ It has been explained as follows:

“The international system is largely split into silos of expertise (health, agriculture, environmental issues, and so on). The incentives of funding and self-preservation often result in organizations jealously guarding their own institutional ‘turf’. This inhibits cooperation in respect of multidimensional risks, such as the health impacts of environmental change and the impacts of climate change on trade.”⁴⁵

⁴⁰ O. Brown and T. Dimsdale, ‘Climate risk management for International Organizations. Ideas for improving strategic planning’, *Research paper: Energy, environment, and resources program* (4 June 2021) 1-36, at 4; and L. M. Dellmuth *et al.*, *supra* n. 31, at 1.

⁴¹ M. A. Young, ‘Fragmentation’, *Oxford Bibliographies* 2017 [doi: 10.1093/OBO/9780190796953-0113].

⁴² F. Biermann, P. Pattberg, H. van Asselt and F. Zelli, ‘The Fragmentation of Global Governance Architectures: A Framework for Analysis’, 9 (4) *Global Environmental Politics* (2009), 14-40, at 16. [doi: 10.1162/glep.2009.9.4.14]. On the phenomenon of fragmentation in the international legal order, see also: ILC, ‘Fragmentation of International Law: difficulties arising from the diversification and expansion of International Law’, Report of the Study Group of the International Law Commission, finalized by Mr. Martti Koskenniemi (A/CN.4/L.682 and Add.1), 13 April 2006.

⁴³ O. Brown and T. Dimsdale, *supra* n. 39, at 15. In relation to this, see, for example: A. Acharya, ‘The Future of Global Governance: Fragmentation May be Inevitable and Creative’, 22 (4) *Global Governance* (2016), 453-460; and B. Greenhill and Y. Lupu, ‘Clubs of Clubs: Fragmentation in the Network of International Organizations’, 61 *International Studies Quarterly* (2017), 181-195 [doi: 10.1093/isq/sqx001].

⁴⁴ O. Brown and T. Dimsdale, *supra* n. 39, at 15.

⁴⁵ *Ibid.*

Thus, although dealing with a phenomenon with multidimensional implications such as SLR requires huge involvement at all levels, the actions and strategies adopted by IGOs in response to this threat are fragmented and irregular because they are conditioned by the direct or indirect impact of SLR in their scope of action and by their functional responsibilities and mandates.

On the one hand, the direct or indirect impact of SLR in the scope of action of the IGOs makes their responses irregular. In line with the previous warning, IGOs “focusing on climate-sensitive issues (food, agriculture, water supply) are likely to see greater increases in demand for their services”.⁴⁶ This includes IGOs with a mandate to support vulnerable populations, IGOs working on issues such as food security or financial stability and IGOs that are programming investments in infrastructure.⁴⁷ In this sense, it can be observed that IGOs with competences in a field where the impacts of SLR are direct, imminent, or even certain are incorporating this phenomenon into their approaches to governance notably faster than those IGOs whose involvement is less direct or likely. Thus, while the World Meteorological Organization (WMO) is fully involved⁴⁸ and the activity of the FAO is also intense,⁴⁹ the work of the IOM “encompasses general issues related to SLR”,⁵⁰ and, at this moment, SLR is not being directly considered by the International Maritime Organization (IMO) even though increasing migrations and movements by sea will likely affect maritime security and the marine environment in the future.

Closely related to this, on the other hand, the impact of fragmentation on IGO responses to SLR is also evident from the specific perspectives of their respective mandates. In this respect, for example, while the FAO is primarily focused on the socio-economic impacts of SLR—in particular, food security and nutrition; the United Nations Educational, Scientific and Cultural Organization (UNESCO) is concerned about the impacts of coastal flooding and erosion caused by SLR on World Heritage⁵¹; the WMO is supporting states to develop their capacity to improve observation methods and awareness of coastal hazards⁵²; the World Bank and the Organization for Economic Cooperation and Development (OECD) are offering financial and technical support to help countries design and implement adaptation measures—basically infrastructure; the North Atlantic Treaty Organization (NATO) is helping prepare its members’ military forces to deal with adverse climate change effects;⁵³ and, in the broader sense afforded IGOs, the G20 is mostly concerned about

⁴⁶ *Ibid.*, at 11.

⁴⁷ *Ibid.*, at 7.

⁴⁸ See some of the research activities and co-sponsored programmes supported by the WMO in: WMO, Report of the UN Secretary General on Oceans and the Law of the Sea 2020 ‘Sea-level rise and its impacts’ Contribution by the World Meteorological Organization, 2020, 1-7.

⁴⁹ See some of the FAO’s strategies, plans, programmes and projects related to SLR at: FAO, Report of the UN Secretary General on Oceans and the Law of the Sea 2020 ‘Sea-level rise and its impacts’ Contribution by the Food and Agriculture Organization of the United Nations, 2020, 1-7.

⁵⁰ See IOM: Environmental Migration Portal.

⁵¹ See, for example, L. Reimann, A.T. Vafeidis, S. Brown *et al.*, ‘Mediterranean UNESCO World Heritage at risk from coastal flooding and erosion due to sea-level rise’, 9 *Nature Communications* (2018), 4161 [doi: [10.1038/s41467-018-06645-9](https://doi.org/10.1038/s41467-018-06645-9)].

⁵² WMO, *supra* n. 47.

⁵³ R. Floyd, ‘Global climate security governance: a case of institutional fragmentation’, 15 (2) *Conflict Security and Development* (2015), 119-146 [doi: doi.org/10.1080/14678802.2015.1034432].

disruptions to business and economic operations caused by SLR and associated climate change extreme events that will severely impact key coastal areas and which serve as entry points of trade for many countries.⁵⁴

A highly illustrative example of the impact of fragmentation on IGO responses to SLR is the limited involvement of the IMO, despite the fact that its field of action is the marine environment. In this regard, it has to be noted that in September 2021, three Pacific Island States – the Republic of the Marshall Islands, Kiribati and the Solomon Islands – officially asked the IMO to drastically scale up its ambition for decarbonizing the shipping sector.⁵⁵ At the same time, in developing the G20's strategy to tackle the impact of SLR and extreme events on infrastructure development in global trade, the value and the opportunity afforded by the IMO's regulations have been highlighted as regards their establishment of minima for pollutants and standards for greenhouse gas emission (GHG) reductions in seaborne activities and the enhancement of public and private engagement in developing resilient infrastructure through institutional collaboration.⁵⁶ In fact, the IMO has recognized its integral role in seeking to meet the United Nations Sustainable Development Goals (SDGs) – most notably, SDG 14 on conserving and sustainably using the oceans, seas and marine resources for sustainable development, and SDG 13 on climate action⁵⁷ – and several resolutions of the IMO's Marine Environment Protection Committee have called for greater energy efficiency in maritime activities globally by 2050. However, the IMO considers that as an organization it does not directly deal with the impacts of SLR, as is reflected in the following reply to a request for information from the ILC in the framework of its work on the subject of "Sea level rise in relation to international law":

"The International Maritime Organization (IMO) does not directly deal with rising sea levels and did not adopt any measures or undertake any action that would directly relate to the protection of persons affected by rising sea levels."⁵⁸

(2) The Influence of Member States Especially Vulnerable to the Effects of Sea-level Rise

Along with their fragmented character, IGO responses to SLR are conditioned, in the second place, by the influence of member states that find themselves especially

⁵⁴ See: N. Nezamuddin *et al.*, 'Impact of sea-level rise and extreme events on infrastructure development in global trade and logistic supply chain', *G20 Insights Policy Brief/Task Force 3 Infrastructure Investment And Financing*, 2020. Likewise, other institutional frameworks, like the Conferences of the Parties (COP) and other conventional bodies in the framework of certain conventions, are also addressing SLR impacts. See, for instance, several connections with SLR on the thematic days during the UNFCCC COP 27 recently hold in Sharm el-Sheij (Egypt).

⁵⁵ C. N. Nemra, 'Global shipping is a big emitter, the industry must commit to drastic action before it is too late', *The Guardian*, 19 September 2021.

⁵⁶ N. Nezamudin *et al.*, *supra* n. 53.

⁵⁷ See IMO: IMO and its role in protecting the world's oceans.

⁵⁸ ILC, 73rd session of the International Law Commission (2022), Information received from IMO regarding Sea-level rise in relation to international law. Communication by email, 11 October 2021. Similarly, the Information received from the Economic Commission for Latin America and the Caribbean, 3 January 2022, stated the following: "no material to submit".

vulnerable to the effects of SLR. Given that the necessities and priorities of member states have a clear impact on the agenda and decisions of IGOs, this, of course, is a factor that conditions the actions of any IGO in any field. However, since, by definition, SLR affects states very differently, state membership is of particular relevance here.

Certainly, the impacts of SLR will be diverse “from place to place depending on local and regional biogeophysical and socioeconomic factors”.⁵⁹ Thus, for instance, Europe shows a “relatively low vulnerability” to SLR “due to its wealth, its historic investment in coastal and flood protection, and its active evaluation of coastal management approaches, including anticipation of sea-level rise”; the region of West Africa, as a consequence of the low-lying nature of the coast and the low level of socioeconomic and institutional development, is “vulnerable to SLR”; and the SIDS are “highly vulnerable” to this global threat due to a range of physical, social and cultural factors.⁶⁰ Thus, what is evident is that the greater the number of states considered especially vulnerable to the effects of SLR in the membership of a particular IGO, the greater the concern and the more intense the incorporation of the impacts of SLR in that IGO’s strategic planning.

In the specific case of the SIDS, and as has been stressed above, they present certain characteristics (i.e. relative isolation, small land masses, concentrations of population and infrastructure in coastal areas, a limited economic base and dependency on natural resources, combined with limited financial, technical and institutional capacity for adaptation) that make them particularly vulnerable to the effects of climate change, SLR and extreme events.⁶¹ Likewise, they need international cooperation in developing their response strategies, because the shared nature of the problem is high, and many of the countries are too small to address them alone.⁶² Thus, what is clear is that they make frequent calls for international cooperation and seek to influence the agendas of the IGOs in which they participate.

At the global level, the special nature of this group of states was recognized for the first time at the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro and, two years later, convened by the UN General Assembly resolution 47/189,⁶³ at the UN Global Conference on the Sustainable Development of SIDS, held in Barbados from 25 April to 6 May 1994. As a result, the *Barbados Programme of Action for the Sustainable Development of SIDS* (BPOA)⁶⁴ was adopted and, with it, a programme of action identifying priority areas and specific actions necessary for addressing the main challenges faced by this group of states. One of the priority areas was climate change and SLR. In 2005, culminating a comprehensive review of the first ten years of the BPOA, the high-level Mauritius International Meeting held in Port Louis, Mauritius,⁶⁵ adopted

⁵⁹ R. J. Nicholls and N. Mimura, ‘Regional issues raised by sea-level rise and their policy implications’, 11 *Climate Research* (1998), 5-18, at 5.

⁶⁰ *Ibid.*, at 10-14.

⁶¹ IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, (Eds)], (Cambridge University Press, Cambridge, UK, 2007) 1-976, at 7-22.

⁶² R. J. Nicholls and N. Mimura, *supra* n. 58, at 14.

⁶³ GA Res. 47/189, 10 March 1993.

⁶⁴ Report of the Global Conference on the Sustainable Development of Small Island Developing States ([A/CONF.167/9](#)), Bridgetown, Barbados, 25 April-6 May 1994.

⁶⁵ GA Res. 57/262, 28 February 2003.

the *Mauritius Strategy of Implementation*⁶⁶. More recently, in 2014, the Third International Conference on Small Island Developing States was held in Samoa to explore a new strategy for the sustainable development of SIDS. The outcome instrument, the *Small Island Developing States Accelerated Modalities of Action* (Samoa Pathway), recognizes again that sea-level rises “continue to pose a significant risk to small island developing states and their efforts to achieve sustainable development and, for many, represent the gravest of threats to their survival and viability, including, for some, through the loss of territory.”⁶⁷ and reaffirms a clear global mandate:

“We request the Secretary-General to ensure that the Small Island Developing States Unit of the Department of Economic and Social Affairs of the Secretariat continues, pursuant to its support and advisory services mandate, its analysis and reporting on the situation of small island developing States, including in the implementation of the Barbados Programme of Action, the Mauritius Strategy and the Samoa Pathway, and that the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, pursuant to its advocacy mandate, *ensure the mainstreaming of the Samoa Pathway and issues related to small island developing States in the work of the United Nations system and enhance the coherence of the issues of those States in United Nations processes, including at the national, regional and global levels, and continue to mobilize international support and resources to support the implementation of the Samoa Pathway by small island developing States.*”⁶⁸

But the influence of SIDS on IGO agendas is even more evident from a regional perspective.⁶⁹ SIDS are primarily located in three geographical regions, basically, the Caribbean; the Pacific; and the Atlantic, Indian Ocean and South China Sea. As a consequence, this group of states participate in three regional IGOs: the Caribbean Community (CARICOM), the PIF and the Indian Ocean Commission (IOC). For all three, facing SLR and its impacts is a clear priority. In particular, the PIF is especially engaged in addressing the threat. Its concerns about the impacts that this phenomenon could provoke are evident in its *Declaration on Preserving Maritime Zones in the face of Climate Change-related Sea-level rise*, adopted in 2021, which proclaims that their maritime zones shall continue to apply, without reduction, notwithstanding any physical changes connected to climate change-related sea-level rise.⁷⁰ And among other measures, the Pacific Resilience Facility that the PIF has endorsed, for example, is designed “to ensure

⁶⁶ Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States (*A/CONF.207/11*), Port Louis, Mauritius, 10-14 January 2005.

⁶⁷ GA Res. *69/15*, 14 November 2014, at para. 11.

⁶⁸ *Ibid.*, at para. 120 (emphasis added).

⁶⁹ According to Nicholls and Mimura, taking a regional perspective would have three benefits: First, if critical impacts are shared between neighboring countries, calls for mitigation can be articulated more effectively by a group of nations to the wider international community. A regional-scale problem is more likely to encourage a significant mitigative response. Second, common impacts shared between countries provide opportunities to pool resources, share experience and integrate research efforts towards developing effective adaptive solutions. Lastly, a regional perspective is important irrespective of adaptation/mitigation to anticipate a range of potential cross-border issues, such as physical changes (e.g. interruption of sediment supply) or socioeconomic changes (e.g. the creation of environmental migrants and refugees).” R. J. Nicholls and N. Mimura, *supra* n. 58, at 5.

⁷⁰ PIF, *Declaration on Preserving Maritime Zones in the Face of Climate Change-related Sea-Level Rise*, 6 August 2021.

that all Pacific communities are secure and safe, to minimise loss of life, and reduce the economic and social impacts of climate change and disaster events.”, including SLR.⁷¹

(3) The Adoption of a “Securitized” Conception of Sea-level Rise

Finally, a third conditioning factor of IGO responses to SLR is the widespread adoption of a “securitized” conception of the effects of SLR, which is influencing the approaches, strategies, and practices to tackle this global threat. As pointed out above, “ever since climate change was discussed at the United Nations Security Council (UNSC) in 2007, the labelling of climate change as a security threat has proliferated”.⁷² Certainly, over the last fifteen years, the UNSC has discussed the links between the two in a series of open debates⁷³ and meetings.⁷⁴ On 13 December 2021, the United Nations Security Council was expected to adopt a resolution on climate change and security,⁷⁵ co-authored by Ireland and Niger and sponsored by 113 member states, including Spain. This resolution would have recognized that “there is a strong nexus between peace and security, humanitarian assistance and sustainable development and that the adverse effects of climate change could impede or reverse the peacebuilding and development gains of the countries most affected by climate change, especially in nations characterised by a high level of fragility, and act as a risk multiplier in these contexts”.⁷⁶ More specifically, it would have stressed:

“That the adverse effects of climate change, including, inter alia, erratic precipitation, increasingly frequent and extreme weather phenomena, more frequent and severe tropical cyclones, floods and drought, diminishing fresh water resources, desertification, land degradation *and sea-level rise* can lead to water scarcity, food insecurity, large scale displacement, particularly affecting women, children, ethnic minorities and the most vulnerable, potentially leading to social tension and exacerbating, prolonging or contributing to the risk of future conflicts and instability and posing a key risk to global peace, security, and stability.”⁷⁷

The resolution, however, was not adopted owing to a Russian veto⁷⁸; yet, the appreciation of the connection between climate change and security has spread widely and SLR is being treated as a security issue by many IGOs.⁷⁹ The EU, for example, is

⁷¹ PIF, ‘Prospectus Pacific Resilience Facility. Building Community Resilience in Extraordinary Times’ (2021), at 10.

⁷² K. Peters and L. Mayhew, ‘The Securitization of Climate Change: A Developmental Perspective’, in S. Brown and J. Gravingholt (eds.), *The Securitization of Foreign Aid* (Palgrave Macmillan, London, 2016), 212-236, at 212.

⁷³ The open debates have been held regularly since April 2007 (S/PV.5663). The last one was celebrated on 13 December 2021 (S/PV.8926).

⁷⁴ These Arria-formula meetings have been celebrated since February 2013. The last meeting was held on 18 October 2021. For more information, see: <https://www.securitycouncilreport.org/energy-climate-and-natural-resources/>.

⁷⁵ SC Res. 990 (2021) 13 December 2021.

⁷⁶ *Ibid.*, at para. 9.

⁷⁷ *Ibid.*, at para. 10 (emphasis added).

⁷⁸ The draft resolution received 12 votes in favor, two against (India and Russia) and one abstention (China).

⁷⁹ See, among others: H. G. Brauch, ‘Climate Change and Mediterranean Security. International, National, Environmental And Human Security Impacts For The Euro-Mediterranean Region During The 21st Century Proposals And Perspectives’, 9 *PapersLeMED* 2010, 1-64; T. Diez, F. von Lucke and Z. Wellmann, *The*

recognized⁸⁰ as one of the first IGOs worldwide to identify climate change as a security issue given that, in 2008, the European Commission published a paper framing climate change as a “threat multiplier” that needs to be incorporated in EU security policy.⁸¹ Similarly, and clearly reflecting this stance, we find the *Boe Declaration on Regional Security*,⁸² adopted by PIF leaders in 2018, and the Forum’s aforementioned *Declaration on Preserving Maritime Zones in the face of Climate Change-related Sea-level rise*, which recognizes climate change and SLR “as the defining issue that imperils the livelihoods and wellbeing of our peoples and undermines the full realisation of a peaceful secure and sustainable future for our region”.⁸³

Although the connection between climate change and its impact on international security has contributed to ensuring SLR has a place both in the global debate and on IGO agendas, it is also true that this securitized conception of SLR has conditioned IGO responses to this phenomenon. Thus, on the one hand, it has resulted in what is more typically a reactive than a preventive response.⁸⁴ This means that, rather than being anticipatory, with the aim of reducing “the risk of undesirable climate change impacts occurring in the future”⁸⁵, on the whole IGOs tend to assist states and coastal communities “to minimize the negative impacts of climate change” and especially to “alleviate the immediate and short-term impacts”.⁸⁶ In other words, although the potential benefits of proactive approaches are being increasingly recognized, as they can avoid some of the problems that undermine the benefits of solely reactive approaches,⁸⁷ IGOs tend to focus their efforts mostly on helping states face their immediate and existential threats (through emergency crisis response and disaster preparedness, or addressing humanitarian emergencies) rather than focusing on mitigation diplomacy or systemic risk prevention.⁸⁸

IGO responses to SLR based on this securitized conception of the phenomenon, on the other hand, have also been criticized for generating responses more specifically focused “on what humans need to adapt rather than the responsibility that humans have to nature to ensure that it can adapt, thrive, and flourish”.⁸⁹ In this regard, it has been stressed that current frameworks, such as those adopted by the OECD and the IPCC,

Securitisation of Climate Change: Actors, Processes and Consequences (Routledge: Abingdon, 2016); or L. M. Dellmuth et al., *supra* n. 31.

⁸⁰ R. Youngs, ‘The EU’s Indirect and Defensive Approach to Climate Security’, in O. Lazard and R. Youngs, *The EU and Climate Security: Toward Ecological Diplomacy* (Carnegie Europe, 2021) 2-9, at 2.

⁸¹ Council of the European Union, European Commission, *Climate change and international security: paper from the High Representative and the European Commission to the European Council*, Publications Office, 2008.

⁸² *Boe Declaration on Regional Security*; adopted in Nauru in September 2018.

⁸³ Declaration on Preserving Maritime Zones in the Face of Climate Change-related Sea-Level Rise, *supra* 69, preamble, para. 9.

⁸⁴ In relation to this, see: O. Brown and T. Dimsdale, *supra* n. 39.

⁸⁵ K. S. McDonald et al., ‘Proactive, reactive, and inactive pathways for scientists in a changing world’, 7 *Earth’s Future* (2019) 60–73, at 62 [doi: [10.1029/2018EF000990](https://doi.org/10.1029/2018EF000990)].

⁸⁶ *Ibid.*, at 66.

⁸⁷ *Ibid.*, at 62.

⁸⁸ For a very interesting analysis of the EU’s response see, E. Remling and A. Barnhoorn, ‘A Reassessment Of The European Union’s Response To Climate Related Security Risks’, 2 *SIPRI Insights on Peace and Security* 2021, 1-24.

⁸⁹ J. Palmer, ‘WAMPUM: An Indigenous-designed path to sea level rise adaptation’, 102 *Eos* (2021), 1-6 [doi: [10.1029/2021EO210618](https://doi.org/10.1029/2021EO210618)].

are mostly non-inclusive because they “neither include tribal nations’ perspectives nor consider the cultural, social, political, or spiritual effects of sea level rise on Indigenous communities”.⁹⁰ As such, it is claimed that they often fail to assess accurately the effects on Indigenous communities and, consequently, fall short of outlining effective adaption options”.⁹¹ Rather than turning to nature-based solutions, there is a clear preference for “‘hard’ adaptation strategies for SLR focus[ed] on engineering and built infrastructure solutions”, many of which are “misaligned with Indigenous ways of knowing as they do not account for ecosystem-based management or prioritize non-human relations and environment over human benefits and use”.⁹²

(D) OPPORTUNITIES FOR INTERNATIONAL GOVERNMENTAL ORGANIZATIONS TO PLAY A LEADING ROLE IN THE GLOBAL RESPONSE TO SEA-LEVEL RISE

Since states are currently faced with issues that transcend national borders — such as climate change and the loss of biodiversity — cooperation is increasingly necessary. This cooperation might be articulated by states directly⁹³ or within the framework of IGOs. Compared to bilateral agreements between states, IGOs provide the opportunity to cooperate on a larger scale, offering platforms for continuous dialogue on and anticipation of new issues, helping to establish a common language, facilitating the comparability of approaches and practices, developing international legal and policy instruments, and offering resolution mechanisms in case of disputes.⁹⁴

In the previous section, three factors that serve to limit current IGO responses in their effort to tackle SLR and its impacts have been identified. As a result, this response — fragmented, irregular and limited in approach — presents considerable room for improvement. The present article defends that, although action is critical at the national and local level, IGOs can play a leading role, bolstering and complementing national institutions by promoting and developing common

⁹⁰ K. Leonard, ‘WAMPUM Adaptation framework: eastern coastal Tribal Nations and sea level rise impacts on water security’, 13 (9) *Climate and Development* (2021) 842-851, at 844 [doi: [10.1080/17565529.2020.1862739](https://doi.org/10.1080/17565529.2020.1862739)].

⁹¹ J. Palmer, *supra* n. 88.

⁹² K. Leonard, K., *supra* n. 89, at 844. Hard solutions (including advance responses), also referred to as “gray infrastructure” responses, are especially concentrated in northwestern Europe, East Asia, and in deltas or densely populated areas such as coastal cities and are recognized to alter overall coastal ecosystem functioning, degrade the quality of ecosystem services, and lead to habitat loss or reduced species diversity. T. Bongarts Lebbe *et al.*, ‘Designing Coastal Adaptation Strategies to Tackle Sea Level Rise’, 8 *Frontiers in Marine Science* 2021, 1-13, at 2 [doi: [10.3389/fmars.2021.740602](https://doi.org/10.3389/fmars.2021.740602)].

⁹³ The study by Professors Teles, Duval and Tozetto identifies several forms of cooperation that can be implemented by states unaffected by SLR to protect those affected by this phenomenon. They include negotiating in good faith to develop the normative and institutional landscape relating to such protection; ensuring communication and exchange of information; bringing scientific and technical assistance, as well as transfer of technology and know-how; giving financial support; and facilitating the cross-border movement of people or offering possibilities of temporary or permanent residence in their territory, P. G. Teles, C. Duval, and V. Tozetto da Veiga, *supra* n. 26, 235-236.

⁹⁴ OECD, *The Contribution of International Organisations to a Rule-Based International System. Key Results from the partnership of international organisations for effective rulemaking*, 2019, 1-24, at 1.

solutions at the international level.⁹⁵ Indeed, the present section identifies a number of opportunities that IGOs should not fail to exploit to improve their role in this field: first, the opportunity to reinforce coordination to ensure full coverage of the impacts of SLR and avoid inefficiencies; second, the opportunity to increase international engagement and enhance knowledge of the multidimensional implications and impacts of SLR; and, third, the opportunity to act as global and regional forums to share and explore the effectiveness of different approaches, strategies and practices to tackle the impacts of SLR.

(1) Reinforcing Coordination to Ensure Full Coverage of Sea-level Rise Impacts and Avoid Inefficiencies

Since their impacts cut across scales, sectors and policy domains and responding to them often exceeds the capabilities of local governments and communities, tackling the effects of SLR requires cooperation at all levels.⁹⁶ But, at the same time, the involvement of different actors at the domestic, regional and international levels, in the context of a fragmented international system, calls for effective coordination in order to ensure full coverage – in the short, medium and long terms – of the impacts of SLR and to avoid potential inefficiencies, such as the overlapping or duplication of responses – for instance, technical and financial aid oriented to support the same type of projects based on a common approach. For precisely this reason, “increased international coordination and cooperation at the local, regional and international levels to tackle sea level rise and its impacts” constituted one of the main demands voiced by delegations at the twenty-first meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, held in June 2021⁹⁷.

The first opportunity available to IGOs to contribute to an improvement in the global response to SLR is precisely this, given their ability to play a vital role in reinforcing coordination, both between states and between IGOs themselves. On the one hand, IGOs can help inter-state coordination since they are, naturally, permanent structures established to promote the common interests of state members by means of their cooperation. In this sense, IGOs can be especially useful in helping to establish a common language and in facilitating the comparability of approaches and practices⁹⁸, as well as in facilitating data sharing between states so as to bridge gaps between them and to promote more efficient solutions. Regional IGOs are particularly suited to this goal, insofar as their members share similar circumstances and needs.

But, on the other hand, what IGOs should seek to improve above all, in the context of a highly fragmented system, is their own inter-organizational cooperation. Broadly speaking, improving coordination between IGOs working in the same field or towards the same goal can be achieved in one of two ways: in a “negative” or in a “positive”

⁹⁵ *Ibid.*

⁹⁶ IPCC (2019), *supra* n. 3, at 399.

⁹⁷ GA Res. 76/171, *supra* n. 34, at para. 23.

⁹⁸ OECD (2019), *supra* n. 93, at 1.

sense.⁹⁹ The negative formula of coordination means that a single IGO intervenes, and all the others refrain from acting; the positive formula, in contrast, aims at drawing on the expertise of all the IGOs concerned in an effort to harmonize policies. This positive formula has been identified as the more appropriate for addressing the new challenges that transcend national borders because, by coordinating their responses, IGOs can capitalize on their combined strengths and avoid any inconsistencies.¹⁰⁰

In the case of the impacts of SLR, “positive coordination” would require ensuring effective communication and exchange of information by holding joint meetings, for example. But, moreover, it would entail more ambitious measures, such as the adoption of common environmental goals and objectives as well as shared principles of good governance; the drafting of joint work programmes, strategies and instruments; the establishment of technical platforms for cooperation and joint task groups;¹⁰¹ the creation of common infrastructure;¹⁰² and the establishment of common control systems.

In some cases, adopting coordination measures of this kind might first require an extension of the mandate of the IGOs. Indeed, several examples of IGOs that have expanded their core mandates to address climate challenges have already occurred.¹⁰³ For example, the WHO has incorporated climate-related health risks to its core mandate in public health; the IOM has expanded its core mandate by making climate-induced migration a priority; and the EU has made notable efforts to link energy and climate change.¹⁰⁴ In other cases, the adoption of memorandums of understanding (MOUs) or agreements of cooperation between IGOs can serve as a useful instrument. The IMO has exploited this possibility on more than one occasion.¹⁰⁵ In fact, agreements of collaboration of this kind between IGOs are frequent and have been widely used to tackle other recent challenges, such as those posed by the global COVID-19 pandemic. This is the case, for example, of the MOU signed by the ILO and the International Civil Aviation Organization (ICAO) aimed at advancing decent work and encouraging a human-centered recovery from the COVID-19 pandemic in the aviation industry.¹⁰⁶

Complementary to this, initiatives such as the voluntary partnership launched by the OECD in 2014 could also be interesting to replicate, promote and institutionalize IGO cooperation.¹⁰⁷ This specific venture provides a platform whereby fifty IGO

⁹⁹ See: H. Boussard, ‘La coordination des organisations internationales: l’exemple du Comité interinstitutions des Nations Unis sur la bioéthique’, 126 (2) *Revue Française d’Administration Publique* (2008) [doi: [10.3917/rfap.126.0373](https://doi.org/10.3917/rfap.126.0373)].

¹⁰⁰ OECD (2019), *supra* n. 93, at 1.

¹⁰¹ OECD (2019), *supra* n. 93, at 16.

¹⁰² In the field of biodiversity protection, similar proposals have already been made: J. Claudet, D. J. Amon and R. Blasiak, ‘Transformational opportunities for an equitable ocean commons’, 118 (42) *Proceedings of the National Academy of Sciences* (2021) 1-5, at 3 [doi: [10.1073/pnas.2117033118](https://doi.org/10.1073/pnas.2117033118)].

¹⁰³ In relation to this, see: N. Hall, *Displacement, development, and climate change: International organizations moving beyond their mandates* (Routledge, London, 2016); and E. Kural, L. M. Dellmuth and M. T. Gustafsson, ‘International organizations and climate change adaptation: A new dataset for the social scientific study of adaptation, 1990–2017’, 16 (9) *PLoS One* 2021, 1-18, at 3 [doi: doi.org/10.1371/journal.pone.0257101].

¹⁰⁴ E. Kural, L. M. Dellmuth and M. T. Gustafsson, *supra* n. 102, at 3.

¹⁰⁵ See which IGOs have concluded agreements with IMO at: <https://www.imo.org/en/OurWork/ERO/Pages/IGOsWithObserverStatus.aspx>.

¹⁰⁶ See: ILO, https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_839724/lang-en/index.htm.

¹⁰⁷ OECD (2019), *supra* n. 93.

secretariats can engage in the exchange of information and in peer learning. It aims to make “international rules more relevant (with better coordination across IGOs to maximize comparative advantages), effective (through better monitoring and evaluation of IGO instruments) and inclusive (through better transparency and consultation of stakeholders)”.¹⁰⁸ If applied to SLR and its impacts, it would be interesting to involve both global — the IMO, IOM, FAO, UNESCO, OECD, and WHO — and regional IGOs — the EU, PIF, CARICOM, the Organization of American States (OAS), the Association of Southeast Asian Nations (ASEAN), the African Union (AU) and the East African Community (EAC). Likewise, broader cooperation formulas need to be explored — and eventually led — by IGOs in the form of global public-private partnerships. Here, one model that should be studied is the trend toward partnerships between UN agencies (including the World Bank) and commercial entities in the health sector.¹⁰⁹

(2) Increasing International Engagement by Enhancing Knowledge of the Multidimensional Implications and Impacts of Sea-level Rise

In 1998, a Technical Study conducted by the Economic Commission for Latin America and the Caribbean (ECLAC) acknowledged that “concerns over coastal hazards will become more prominent in the next decade with better understanding of ocean-atmosphere interactions [...] and the effects of global climate change in terms of sea level rise”.¹¹⁰ Ten years later, in Europe, it was still evident that many states were only just beginning to recognize the problems that sea-level rise might bring.¹¹¹ In this regard, the OECD highlighted that:

“Sea-level rise risks are complex and difficult to understand. This is in part due to cognitive barriers around understanding risk, compounded by the fact that sea-level risks are relatively new, have associated uncertainty, and very long-time scales.”¹¹²

In the framework of the last United Nations Security Council Arria-Formula Meeting on Sea-Level Rise and Implications for International Peace and Security held in 2021, it was concluded that “the approach to addressing such risks of sea-level rise requires first and foremost enhancing our knowledge of the multidimensional implications of the phenomenon”.¹¹³ The IPCC has summarized this situation as follows:

“SLR introduces novel and complex problems that are difficult to understand and address [and] SLR challenges may be difficult to frame, understand and respond to. Often, disciplinary science is not sufficient for understanding complex problems

¹⁰⁸ *Ibid.*, at 17.

¹⁰⁹ K. Buse and G. Walt, ‘Global public — private partnerships: part I — a new development in health?’, 78 (4) *Bulletin of the World Health Organization* (2000) 549-561.

¹¹⁰ M. H. Lemay, ‘Coastal and Marine Resources Management in Latin America and the Caribbean — Technical Study’ (1998), 1-62, at 15.

¹¹¹ J. Hinkel *et al.*, ‘Assessing risk of and adaptation to sea-level rise in the European Union: an application of DIVA’, 15 *Mitigation and Adaptation Strategies for Global Change* (2010) 703 — 719 [doi: 10.1007/s11027-010-9237-y]. See also: R. S. J. Tol *et al.*, ‘Towards successful adaptation to sea-level rise along Europe’s coasts’, 24 (2) *Journal of Coastal Research* (2008) 432 — 450 [doi: 10.2112/07A-0016.1].

¹¹² OECD (2019), *supra* n. 14, at 7.

¹¹³ UN Security Council Arria-Formula Meeting (2021), at 2.

like SLR and traditional technical problem solving may not be well suited for crafting enduring SLR responses.”¹¹⁴

Correctly identifying and understanding the short-, medium-, and long-term effects of SLR is essential for, among others, anticipating damage and the harmful consequences of this global threat and working on preventive responses; promoting well-informed decisions; and, identifying priority areas of action. But enhancing knowledge of the multidimensional implications and impacts of SLR is also important to raise awareness of the dimension of the problem, increase involvement of all kinds of actors and foster international cooperation, especially among those states that are neither directly or imminently affected by this phenomenon.

IGOs can contribute to improving knowledge of SLR and its impacts by facilitating international dialogue and discussion. They can achieve this by establishing platforms for continuous dialogue and the sharing of experiences. One example of platforms of this kind that would be interesting to replicate is the “Knowledge Hub Sea Level Rise” (KHSLR) launched at the regional level by the Joint Programming Initiative (JPI) Oceans and JPI Climate in November 2019¹¹⁵. The KHSLR is a networking platform “promoting the generation, synthesis, exchange and integration of knowledge on local, regional and global, historic and future sea level rise”¹¹⁶ that will “facilitate interaction between research and policy professionals with different disciplinary backgrounds and expertise by assessing and communicating recent scientific and socio-economic developments”.¹¹⁷ It is currently supported by nine JPI member states and integrated by pan-European experts on SLR. The European Marine Observation and Data Network (EMODnet), a network of organizations supported by the EU’s integrated maritime policy, has actively participated in KHSLR meetings and initiatives, including the survey to identify SLR issues of interest that remained open until February 2022.¹¹⁸

Another experience that could serve as a suitable model is the “Sea’ties Initiative” set up in 2020 by the Ocean and Climate Platform, a network uniting the forces of research institutes, NGOs, the private sector, and international, national and local institutions for developing and disseminating scientific knowledge.¹¹⁹ The objective of this initiative is to facilitate the development of public policies and the implementation of adaptation solutions for coastal cities threatened by SLR, and, to this end, it constitutes a forum aimed at elected representatives, administrators and stakeholders for sharing experiences of sustainable solutions.¹²⁰

¹¹⁴ IPCC (2019), *supra* n. 3, at 400.

¹¹⁵ JPI Climate and JPI Oceans are pan-European intergovernmental platforms that seek to coordinate research for sustainably healthy and productive seas and oceans, and climate.

¹¹⁶ JPI Oceans & JPI Climate, Knowledge Hub Sea Level Rise: Governance Structure (Brussels, Belgium, 2021) 1-9, at 5.

¹¹⁷ *Ibid.* at 5.

¹¹⁸ See: European Commission, Energy Climate Change, and Environment, ‘Knowledge Hub on Sea level Rise: Survey to identify Sea Level Rise issues of interest’, *News Article*, 31 January 2022.

¹¹⁹ Ocean and Climate Platform, ‘Sea’ties. Sharing solutions with coastal cities to tackle Sea Level Rise’, 2020, 1-7.

¹²⁰ *Ibid.*, at 3.

(3) Acting as Global and Regional Forums to Share and Explore the Effectiveness of Different Approaches, Strategies and Practices to Tackle Sea-level Rise Impacts

Responding to SLR means reducing hazards, exposure, and the vulnerability of low-lying coastal areas.¹²¹ The IPCC has highlighted that to do so, the response could be approached in a number of ways:

“Protection reduces coastal risk and impacts by blocking the inland propagation and other effects of mean or extreme sea levels hazards (e.g., through dikes, seawalls, storm surge barriers, breakwaters, beach-dune systems, etc.). *Advance* creates new land by building seawards (e.g., reclamation of new land above sea levels or planting vegetation with the specific intention to support natural accretion of land). *Ecosystem-based adaptation* (EbA) provides a combination of the benefits of protect and advance strategies based on the conservation and restoration of ecosystems such as reefs and coastal vegetation. *Accommodation* includes a diverse set of biophysical and institutional responses to reduce vulnerability of coastal residents, human activities, ecosystems and the built environment (e.g., raising buildings, planting salt tolerant crops, insurance and EWS [early warning systems] for ESL events). *Retreat* reduces exposure to coastal hazards by moving people, assets and human activities out of the exposed coastal area.”¹²²

All of these responses would appear to have important, synergistic roles to play in an integrated and sequenced response to SLR, while any specific choice would depend on the biophysical, cultural, economic, technical, institutional, and political context.¹²³ Thus, in practice, and in function of these diverse factors and circumstances, states adopt different responses to tackle SLR.

Since the scientific community remains divided in terms of its assessment of the effectiveness/negative impacts of each response,¹²⁴ there is clearly a need to continue implementing and exploring the effects of diverse strategies based on different and complementary approaches. Against this backdrop, IGOs could contribute to improving the global response to SLR by serving as international forums in which to share these experiences and to compare their impacts, especially of those responses less explored in practice. Some of the mechanisms and platforms suggested above could be useful to this end; but, moreover, IGOs could usefully serve to promote the more proactive and inclusive approaches, which, as has been highlighted, have yet to be fully explored in practice.

With increasing support from the scientific community,¹²⁵ proactive approaches to SLR would involve anticipating SLR damage and supporting states and coastal communities “to adapt and even to capitalize from climate change threats before the worst impact occurs”.¹²⁶ Such approaches essentially entail optimizing the importance

¹²¹ IPCC (2019), *supra* n. 3, at 329.

¹²² *Ibid* (emphasis added).

¹²³ IPCC (2019), *supra* n. 3, at 410.

¹²⁴ For a summary of different assessments of the typologies of adaptation response to SLR, see T. Bongarts Lebbe *et al.*, *supra* n. 91, at 2-5.

¹²⁵ *Ibid.*, at 4.

¹²⁶ K. S. McDonald *et al.*, *supra* n. 84, at 66.

of *ecological resilience* and reverting the tendency to place the focus on increasing the capacity “to resist perturbation and change, such as sea level rise and increasing numbers of more severe storms, rather than to adapt to such changes”.¹²⁷ In this sense, nature-based solutions, in contrast to conventional concrete-based coastal defense structures, could provide such adaptations and tie any adaptations to SLR to the conservation of biodiversity.¹²⁸ A good example of this proactive approach is provided by the 2021–2030 UN Decade of Ocean Science for Sustainable Development, which is supported and coordinated by the Intergovernmental Oceanographic Commission of UNESCO and, in the framework of which, several programmes to enhance coastal resilience have been endorsed.¹²⁹ Among them, the “Mega-Delta Programme” has been launched to study the status of, and the threats facing, several globally representative deltas. The Programme seeks to create methodologies based on these critical characteristics and the sustainability of the delta system and its capacity to support regional development in the case of deltas presenting different physical processes and having different ecological and economic value.¹³⁰ Likewise, the “Ocean Cities Network Programme” is focused on changing “how coastal cities and their inhabitants perceive, interact and evolve with the ocean”.¹³¹

IGOs should also contribute to exploring and promoting more inclusive adaptation frameworks for tackling the impacts of SLR. It has been acknowledged that:

“Developing effective adaptation strategies to cope with sea level rise requires the integration of geographical, socio-economic and cultural factors specific to each city and territory. Integrating these features implies the planning of coherent adaptation strategies at the appropriate territorial scale. Additionally, *resistance and defiance against adaptation measures further highlight the necessity to include local actors in policy-making.*”¹³²

Here again, a number of interesting proposals have been made. One example¹³³ is the WAMPUM Adaptation Framework proposed by Kelsey Leonard¹³⁴, from the University of Waterloo, Ontario (Canada), which provides a set of guidelines for SLR adaptation focused on indigenous knowledge and historical experiences of north-eastern and

¹²⁷ A. Garmestani *et al.*, ‘The Role of Social-Ecological Resilience in Coastal Zone Management: A Comparative Law Approach to Three Coastal Nations’, 25 *Frontiers in Ecology and Evolution* (2019) 1–14 [doi: [10.3389/fevo.2019.00410](https://doi.org/10.3389/fevo.2019.00410)].

¹²⁸ Concerning the potential of these nature-based solutions as a category of ecosystem-based adaptation responses, see, for instance: M. Davis, I. Krüger and M. Hinzmann, ‘Coastal Protection and SuDS-Nature-Based Solutions’, 4 *Recreate Project Policy Brief* (2015); or T. B. Lebbe *et al.*, *supra* n. 92.

¹²⁹ 2021–2030 UN Decade of Ocean Science for Sustainable Development: [News](#).

¹³⁰ 2021–2030 UN Decade of Ocean Science for Sustainable Development: [Mega-Delta Decade Programme Fact Sheet](#).

¹³¹ 2021–2030 UN Decade of Ocean Science for Sustainable Development: [Ocean Decade Action Factsheet: Ocean Cities Network](#).

¹³² S. Palazot, T. Bongarts and A. Deprez, ‘Adapting Coastal Cities and Territories to Sea Level Rise’, *Ocean and Climate Platform Policy Brief* (2021), 1–8, at 2 (emphasis added).

¹³³ See, also: A. Markphol *et al.*, ‘An integrative approach to planning for community-based adaptation to sea-level rise in Thailand’, 212 *Ocean and Coastal Management* (2021) 2–11 [doi: doi.org/10.1016/j.ocecoaman.2021.105846].

¹³⁴ K. Leonard, *supra* n. 89.

mid-Atlantic coastal tribal nations.¹³⁵ This framework recognizes that water security is a question of multispecies relations¹³⁶ and is based on six actions: *witness* warnings from human and non-human relations and follow the patterns of the natural world; *acknowledge* traditional teachings and restore cultural stewardship practices; *mend* the shore line and practice healing for coastal and environmental sovereignty; *protect* future generations by protecting cultural sites and ancestors; *unite* with other communities to build capacity, plan relocation; and *move* to new places with cultural connections and rebuild.

(E) CONCLUDING REMARKS

Thirty years ago, in June 1992, at the UN Conference on Environment and Development better known as the Rio ‘Earth Summit’ states, IGOs, NGOs and other relevant international actors adopted a broad agenda and a new blueprint for international action on environmental and development issues aimed at guiding international cooperation and development policy in the twenty-first century.¹³⁷ Indeed, Rio became a symbol of international commitment and cooperation. Yet, current projections (based, that is, on forecasts of an increase in temperature of 3.2°C by 2100) suggest that some of Rio’s famous beaches, many of which served as the backdrop for the Earth Summit, including Copacabana, as well as its airport and inland areas of the Barra de Tijuca neighborhood site of the 2016 Olympic Games will be flooded as a result of climate-induced SLR.¹³⁸

Facing the impacts of SLR can be considered a common concern of humankind, which means that not only states, but also IGOs, NGOs, the private sector and civil society are called to action. In the case of IGOs, the problem is that most of them (that is, both global and regional bodies) were not created to deal with the impacts of climate change. However, precisely because this planetary challenge impacts multiple dimensions of global action – health, human rights, migrations, security, biodiversity, development, etc. – all IGOs need to make every effort possible to adapt and to incorporate climate change into their priorities and approaches to governance.

IGOs are, certainly, indispensable actors in addressing climate change and much has been written about this.¹³⁹ However, they are even more necessary in coordinating

¹³⁵ J. Palmer, *supra* n. 88.

¹³⁶ M. A. Caretta and R. A. Morgan, ‘Special Issue on Indigenous knowledge for water-related climate adaptation’, 13 *Climate and Development* (2021), Issue 9: Indigenous Knowledge for Water-related Climate Adaptation, 761-765, at 763 [doi: [10.1080/17563529.2021.1993627](https://doi.org/10.1080/17563529.2021.1993627)] in relation to K. Leonard, *supra* n. 89.

¹³⁷ See: UN Conferences, Environment and Sustainable Development, United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992.

¹³⁸ J. Holder, N. Kommenda and J. Watts, ‘The three-degree world: the cities that will be drowned by global warming’, *The Guardian*, 3 November 2017. See this impact in the interactive map “Coastal Risk Screening Tool” created by Climate Central.

¹³⁹ See, for example: M. P. Bhandari, ‘The Role of International Organization in Addressing the Climate Change Issues and Creation of Intergovernmental Panel on Climate Change (IPCC)’, 1 *Advances in Agriculture and Environmental Science* (2018) 19-34 [doi: [10.30881/aaeo.00005](https://doi.org/10.30881/aaeo.00005)]; G. N. Alverio *et al.*, ‘The role of international organizations in equitable and just planned relocation’, 11 *Journal of Environmental Studies and Science* (2021) 511-522 [doi: [10.1007/s13412-021-00698-x](https://doi.org/10.1007/s13412-021-00698-x)]

the global response to tackle SLR; yet, this challenge has attracted much less attention. Unlike other impacts of climate change, SLR is perceived as a long-term risk, and one that affects states differently and with different degrees of intensity. As a consequence, state engagement with the question remains highly irregular. Given this situation, IGOs need to play a leading role in raising awareness about the problem, fostering international cooperation, promoting global efforts to face this global threat, and helping states find efficient solutions.

Despite the increasing involvement of IGOs in this field, especially in recent years, a number of factors have been identified that condition their response. Some of these factors are unavoidable, such as the fragmented nature of the international system. But here, IGOs need to bolster coordination to mitigate possible inefficiencies. Other factors are more circumstantial, such as the influence of especially vulnerable states, given that in the future, all states will be affected by SLR in one way or another. What IGOs can do now is to concentrate their efforts on enhancing knowledge of the multidimensional impacts of SLR so as to increase awareness among states of the need to start adopting requisite measures. As the scientific community has been at pains to emphasize, “the important thing is to start exploring long-term adaptive strategies now if they are not already initiated”.¹⁴⁰ Finally, the adoption of a securitized conception of climate change and of SLR impacts by many IGOs does not have to be bad *per se*, provided that different, complementary approaches are also considered. In this sense, IGOs should focus on promoting the adoption, and on monitoring the impacts, of these responses, strategies and measures, especially those exploiting less explored but interesting approaches such as those based on indigenous knowledge.

Let us hope that we do not have to wait to see the city that has come to symbolize international cooperation submerged beneath the waves before we realize the genuine threat posed by SLR. Clearly, IGOs have a critical contribution to make in leading international efforts to tackle this horrendous challenge.

¹⁴⁰ J. Hinkel and R. J. Nicholls, ‘Responding to sea level rise’, 50 (1) *Bridge Issue on Engineering and Climate Change* (2020), 50-58, at 55.