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TOWARDS THE LEGAL RECOGNITION OF THE OCEAN – CLIMATE NEXUS: SYSTEMIC INTEGRATION AND THE REDEFINITION OF STATES' DUTIES OF CARE IN THE ITLOS ADVISORY OPINION

SUMMARY: 1. Introduction. – 2. The Scientific Evidence Underpinning the ITLOS Opinion: The Contribution of the Intergovernmental Panel on Climate Change (IPCC). – 3. The Reaffirmation of Advisory Jurisdiction in the ITLOS Advisory Opinion No. 31: The Substantial and Procedural Pillars. – 4. Methodology and Substance of the Matter: The Systemic Interpretation of International Law and States' Due Diligence Obligations. – 5. The Principle of 'Common But Differentiated Responsibilities' and the Obligation of Cooperation Between States. – 6. The States' Obligations in Relation to Sea-Level Rise. – 7. Concluding Remarks.

1. Introduction

In the context of climate governance, international law provides the essential regulatory framework to guide the international community towards climate neutrality and the phasing out of fossil fuels. It defines the long-term objectives of this transition and promotes regulatory convergence among States in the mitigation of greenhouse gas emissions. At the same time, international law offers legal instruments, in terms of principles and procedural mechanisms, to protect those affected by the impacts of climate change¹, enabling them to hold States and non-compliant companies accountable, thereby strengthening the sense of justice in the climate struggle.

To make the use of international law more effective in mitigating emissions by public and private actors, it is necessary to thoroughly understand the obstacles that limit its development and application at a global level. These obstacles do not stem solely from

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¹ For a definition of climate change, see Article 1(2) of the *United Nations Framework Convention on Climate Change* (UNFCCC): 'any change in climate attributed directly or indirectly to human activities, which alters the composition of the global atmosphere and is in addition to the natural climate variability observed over comparable time periods'. The Convention does not provide a legal definition of 'climate', but rather explains what is meant by the 'climate system', namely 'the atmosphere, hydrosphere, biosphere, geosphere and their interactions'.

historical, political, economic or social contexts, but are also rooted in certain structural characteristics and internal dynamics of the international legal system. Key instruments of the international regulatory framework relating to climate protection, such as the *United Nations Framework Convention on Climate Change* (hereinafter, UNFCCC)², the Kyoto Protocol³ and the 2015 Paris Agreement⁴, the Montreal Protocol, and other legal instruments adopted by organisations such as the ICAO for air transport and the IMO for maritime navigation, do not exist in a regulatory vacuum, but are part of a broader and often inconsistent legal context, in which different international rules pursue objectives that are sometimes divergent. Whilst some branches of international law promote the reduction of emissions, certain provisions may encourage practices that exacerbate the climate crisis, contributing to the perpetuation of environmental inequalities and injustices on a global scale⁵.

Climate justice is the subject of growing attention⁶, partly because the political response often appears insufficient. Politics, in fact, tends to react to major disasters linked to climate change, but often does so in a purely instrumental manner. Climate action, by contrast, would require rules and measures, both regulatory and administrative, that are less 'spectacular' but fundamental. These are interventions that affect economic activities and also people's daily lives, and which can only yield concrete results in the long term.

It is clear, therefore, that if the fight against climate change is to take this approach, it will rely on measures that quickly become unpopular precisely among the very populations that should benefit from them.

Consider, for example, the restrictions introduced on the use of certain types of motor vehicles, as well as the new rules concerning heating systems and the methods for introducing alternative energy sources. These measures entail costs and consequently offer little political return, at least in the short or medium term. Hence the fluctuating political interest in climate issues, which is counterbalanced, as is often the case, by the growing role of the courts, called upon to act using the tools at their disposal.

The decisions of both international and domestic courts play a fundamental role, since it is precisely domestic judges who have the most effective tools to guide, or coerce in a broad sense, the actions of governments⁷. This brings us to the issue of the effectiveness of

² *United Nations Framework Convention on Climate Change* (UNFCCC), also known as the Rio Accords, opened for ratification on 9 May 1992 and entered into force on 21 March 1994.

³ *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 11 December 1997, which entered into force on 16 February 2005.

⁴ *Paris Agreement*, 12 December 2015, which entered into force on 5 October 2016. On the nature of the obligations contained in the agreement: C. VOIGT, P. FERREIRA, "Dynamic Differentiation": *The Principles of CBDR-RC, Progression and Highest Possible Ambition in the Paris Agreement*, in *Transnational Environmental Law*, 2016, p. 285 ff.

⁵ See A. NOLLKAEMPER, *Causation Puzzles in International Climate Litigation*, in *Italian YearBook of International Law*, Vol. 33, 2023, pp. 25–55.

⁶ For a general overview of the phenomenon, see the *Global Climate Litigation Report: 2023 Status Review*, Nairobi, produced by the United Nations Environment Programme (UNEP) and the Sabin Center for Climate Change Law at Columbia University, available at www.unep.org/resources/report/global-climate-litigation-report-2023-status-review. Also significant is the report by J. SETZER, C. HIGHAM, *Global Trends in Climate Change Litigation: 2023 Snapshot*, published by the Research Institute on Climate Change and the Environment and the Centre for Climate Change Economics and Policy, London School of Economics and Political Science. Notably, for example, the data indicates that the number of legal cases has more than doubled globally over five years, rising from 884 in 2017 to 2,180 in 2022.

⁷ Among the earliest rulings is the famous judgment in the 'Urgenda case', *Stichting Urgenda v. State of the Netherlands, Hoge Raad*, ECLI:NL:HR:2019:2007, handed down by the Supreme Court of the Netherlands on 20 December 2019; see: https://admin.climatecasechart.com/wp-content/uploads/non-us-casedocuments/2020/20200113_2015-HAZA-C0900456689_judgment.pdf; for a commentary, see, among others: M. F. CAVALCANTI, M. J.

the law, that is, the legal system's capacity to respond effectively to climate change. The Court of Justice of the European Union (CJEU) is very familiar with this concept: effectiveness is a general principle of EU law, which also characterises its autonomy from both international law and national laws. However, in EU law, the focus is more on the environment than on the climate: these two aspects are not perfectly interchangeable, even though they are clearly linked. It is true that today we have more of an environmental law than a genuine climate law, but it is equally true that the fight against climate change depends on how environmental law is interpreted and applied.

It should be emphasised that the manner, the reasons and even the perspectives with which human rights courts address issues concerning climate change are largely different, both in terms of purpose and methodology⁸, from what international tribunals or courts do, including the European Court of Human Rights⁹ and other judicial bodies. Courts, in fact, necessarily, and almost exclusively, rule on cases brought before them¹⁰. Unless issues relating to climate change are brought before them, the courts do not have the opportunity to address them directly. Human rights monitoring bodies, on the other hand, operate in a somewhat different manner. Whilst it is true that they too may intervene in individual cases, collective complaints or petitions, they also perform other functions with a significant interpretative dimension and, in certain cases, an almost judicial one. This also applies to advisory opinions, which, however, concern only the specific issues that are presented¹¹.

TERSTEGGE, *The Urgenda case: the Dutch Path towards a new Climate Constitutionalism*, in DPCE online, 2020, p. 1371 ff.; I. KAMINSKI, *Historic Urgenda Climate Ruling Upheld by Dutch Supreme Court*, in *Climate Liability News*, 20 December 2019; C.W. BACKES, G.A. VAN DER VEEN, *Urgenda: The Final Judgment of the Dutch Supreme Court*, in *Journal for European Environmental & Planning Law*, 2020, p. 307 ff., and I. ANTONOPOULOS, *The Future of Climate Policymaking in Light of Urgenda Foundation v the Netherlands*, in *Environmental Law Review*, 2020, p. 119 ff.

⁸ See the observations of the UN Human Rights Committee in the case of *Teitiota v. New Zealand* of 24 October 2019.

⁹ Among the most significant decisions relating to climate change handed down by the European Court of Human Rights (ECHR) is the judgment in the case of *Cordella and Others v. Italy*, applications nos. 54414/13 and 54264/15, of 24 January 2019, concerning the impact of emissions from industrial activities at the Ilva steelworks in Taranto, Italy. Finally, the three judgments delivered on 9 April 2024 by the ECHR: the case of *Duarte Agostinho and others v. Portugal and 32 others* [GC], application no. 39371/20, and the case of *Carême v. France*, for further analysis, see A. BRUCHER, A. DE SPIEGELEIR, *The European Court of Human Rights' 9 April Climate Ruling and the Future (Thereof)*, in *Verfassungsblog*, 29 April 2024, available at www.verfassungsblog.de. and finally the case of *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland*. The judgment has been the subject of much commentary; see, among others: G. RAIMONDI, *The judgment of the European Court of Human Rights in the case of Verein KlimaSeniorinnen Schweiz et al. v. Switzerland. A turning point in climate change litigation?*, in *Foro it.*, 2024, p. 277 ff.; M. MILANOVIĆ, *A Quick Take on the European Court's Climate Change Judgments*, in *EJIL Talk!*, available at www.ejiltalk.org, 9 April 2024; M. BÖNNEMANN, M. A. TIGRE, *The Transformation of European Climate Litigation*, *Verfassungsbücher*, Berlin, 2024.; L. BURGORGUE-LARSEN, *Deciphering the Judicial Policy of the European Court of Human Rights with Regard to Climate Change*, in *Journal of International Law*, 2025, p. 25. For precedents relating to the case law of the ECtHR on environmental matters, see R. PAVONI, *Public Interest Environmental Litigation and the European Court of Human Rights: No Love at First Sight*, in F. LENZERINI, A. F. VRDOJAK (eds.), *International Law for Common Goods*, Oxford and Portland, 2014, p. 331 ff.

¹⁰ The decision in the 'Urgenda case' has influenced the development of climate case law in numerous European jurisdictions, including that of Ireland; see Supreme Court of Ireland, *Friends of the Irish Environment CLG v. The Government of Ireland & Others*, Case No. 205/19, judgment of 31 July 2020, available at www.courts.ie; for an in-depth commentary on the judgment, see M. CORLETO, *Government planning on climate change before the Irish Supreme Court*, in *Diritti umani e Diritto internazionale*, 2021, p. 199 ff.; and also the well-known 'Affaire du siècle' case in France, *Notre Affaire à Tous and Others v. France*, nos. 1904967, 1904968, 1904972, 1904976/4-1, *Paris Administrative Court*, decision of 3 February 2021. The decision of the *Bundesverfassungsgericht* in the case of *Neubauer et al. v. Germany*, concerning a constitutional review of the provisions of the Climate Protection Act of 12 December 2019 (*Klimaschutzgesetz – KSG*), fits into this trend.

¹¹ International Court of Justice (ICJ), *Obligations of States with regard to Climate Change, Advisory Opinion of 23 July 2025*. In 2023, the General Assembly (Resolution 77/276) requested an advisory opinion from the ICJ on the

In this regard, *the International Tribunal for the Law of the Sea* (hereinafter referred to by its English acronym ITLOS), which has jurisdiction over the correct interpretation and application of UNCLOS, may also issue advisory opinions on legal questions referred by competent authorities as set out in Part XII of the Convention¹².

ITLOS has progressively incorporated environmental arguments and principles such as the *precautionary principle*, the principle of intergenerational equity, and the integration of authoritative scientific sources on *climate change litigation*, whilst also taking into account developments in science, state practice and international jurisprudence. ITLOS has recently addressed climate change, issuing an advisory opinion on the matter on 21 May 2024¹³. Naturally, the perspective adopted was that specific to the Tribunal, which operates within the jurisdiction conferred upon it by the 1982 UNCLOS Convention, limited to the interpretation and application of its provisions. The opinion was requested by *the Commission of Small Island States on Climate Change and International Law* (hereinafter COSIS), comprising various island states from both the Caribbean and the Pacific regions, which are particularly active due to the potentially devastating effects that climate change could have on their territories¹⁴.

The request, correctly focused on the law of the sea, was deemed admissible, with the Tribunal recognising its jurisdiction over two interrelated questions: firstly, whether greenhouse gas emissions qualify as marine pollution under UNCLOS. This element was considered a genuine *claim* and was binding on the Tribunal. COSIS had, in fact, asked to identify the specific obligations incumbent upon States Parties to the Convention, in particular those set out in Part XII, relating to the protection of the marine environment, with reference to the obligations to prevent, reduce and control marine pollution caused by anthropogenic greenhouse gases.

The second question, however, concerned the obligations relating to the protection and conservation of the marine environment from the effects of climate change.

On the basis of a “dynamic” interpretation of the provisions of the UNCLOS Convention, the Tribunal proceeded to analyse the request in order to provide an up-to-date response. Below, we shall attempt to outline the salient aspects of this opinion, referring readers to the various comments already published on the subject for a more in-depth analysis¹⁵. To summarise, these are the points that, in our view, are significant: the need for

subject of the obligations of States with regard to climate change. On 9 January 2023, however, Chile and Colombia jointly submitted a request to the Inter-American Court of Human Rights (IACHR) seeking an advisory opinion with the aim of ‘clarifying the scope of States’ obligations [...] to respond to the climate emergency within the framework of international human rights law.

¹² Pursuant to Article 191 of UNCLOS.

¹³ International Tribunal for the Law of the Sea (ITLOS), Advisory Opinion of 21 May 2024, *Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law*, ‘List of cases’ No. 31.

¹⁴ See J. W. ASHE, R. VAN LIEROP, A. CHERIAN, *The role of the Alliance of Small Island States (AOSIS) in the negotiation of the United Nations Framework Convention on Climate Change (UNFCCC)*, in *Natural Resources Forum*, 1999, pp. 209-220; see J. FLETCHER, *The Battle for Small Island Developing States*, in H. JEPSEN ET AL. (eds), *Negotiating the Paris Agreement: The Insider Stories*, Cambridge University Press, 2021, pp. 197-215.

¹⁵ For a more detailed analysis, please refer to the following commentaries: P. AKHAVAN, R. ROLAND HOLST, ‘COSIS’ *Quest for Climate Justice: A Brief History of the ITLOS Advisory Opinion*, in *Max Planck Yearbook of United Nations Law Online*, 2025, pp. 33-45; L. BENJAMIN, C. PAYNE, *The ITLOS Advisory Opinion on Climate Change and International Law: A Solid Legal Foundation for State Obligations on Climate Change*, in *Ocean Yearbook Online*, 2025, pp. 27-36; J.P. BEURIER, *The Advisory Opinion of the International Tribunal for the Law of the Sea on Climate Change and International Law: An Important Clarification of the Scope of the Articles of the Montego Bay Convention on the Protection of*

a precautionary approach, based on current scientific knowledge; the ITLOS's reaffirmation of its competence in advisory matters; the interpretative extension of UNCLOS obligations to a situation not explicitly provided for, through the affirmation of the necessary interaction between UNCLOS and climate agreements; consequently, moving beyond an interpretation based instead on the concept of the "fragmentation" of international law; the definition of a State's *due diligence* obligations as obligations of conduct¹⁶; the reaffirmation of the principle of common but differentiated responsibility between industrialised and non-industrialised States.

Ultimately, the opinion establishes a key principle: man-made greenhouse gas emissions constitute marine pollution, and consequently States have an obligation to act. More generally, once again the role of the courts is fundamental not only to ensure compliance with existing obligations, but also to guide the evolution of environmental and climate law.

In order to provide a coherent response to the first question referred, ITLOS deemed it appropriate to draw upon the scientific evidence contained in the reports of the *Intergovernmental Panel on Climate Change* (IPCC), which attest to the progressive deterioration of the planet's health.

Before proceeding to analyse the substance of the Tribunal's advisory opinion, it is useful to outline the role of science in the evolution of case law on climate change.

2. The Scientific Evidence Underpinning the ITLOS Opinion: The Contribution of the Intergovernmental Panel on Climate Change (IPCC)

In its opinion, ITLOS paid particular attention to the central role of science and its contribution to addressing the issue of climate change¹⁷. For an international judge, engaging with scientific knowledge presents even greater complexity than is the case for a national judge, who can rely on the support of state sovereignty. In the international arena, in fact, further procedural difficulties arise, such as the identification and selection of experts. In the case in question, however, the Tribunal was able to benefit from the contribution of the *Reports*¹⁸ of the Intergovernmental Panel on Climate Change (IPCC), established even before

the Marine Environment, in *Revue juridique de l'environnement*, 2025, pp. 97106; A. LONGO, *Passing on the Baton: A Few Reflections on the Applicable Law in the ITLOS Advisory Opinion on Climate Change and Ocean Acidification*, in *SIDIBlog*, 28 June 2024; J. PAINE, *The ITLOS Advisory Opinion on Climate Change: Select Issues of Treaty Interpretation*, in *EJIL:Talk*, 3 June 2024; R. VIRZO, *Fondamento ed esercizio della competenza consultiva del Tribunale internazionale del diritto del mare: considerazioni a margine del parere del 21 maggio 2024*, in *La Comunità internazionale*, 2024, p. 603; A. F. LUMINARI, *Law of the Sea and Climate Action: Rethinking Marine Geoengineering Governance*, in *Maritime Safety and Security Law Journal*, 2025, p. 49.

¹⁶ See also Z. CHEN, *Due Diligence Obligations Under UNCLOS: Navigating the Conduct- Result Dichotomy in the Context of Ocean Climate Change*, in *Maritime Safety and Security Law Journal*, 2025.

¹⁷ See *Climate Change, Advisory Opinion*, ITLOS Reports 2024, pp. 65–71, paras. 161–179.

¹⁸ See IPCC, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge–New York, 2021; IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge–New York, 2022; IPCC, *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Geneva, 2023.

the 1992 UNFCCC Framework Convention, comprising some 30,000 scientists at international level.

The IPCC reports are the result of a lengthy and rigorous scientific process, and also include a final stage of approval by member states. The IPCC also draws on external experts, in a process similar to *peer review*, making its documents a scientifically authoritative and widely accepted source. In its opinion, ITLOS did not undertake an independent interpretation of the scientific data but relied directly on the evidence provided by the IPCC, using it as a basis for identifying the relevant legal obligations.

In recent decades, the IPCC has clarified certain issues of causality relating to climate change. The IPCC noted that « [...] the increases in well-mixed GHG concentrations since around 1750 are unequivocally caused by GHG emissions from human activities ». The IPCC has also concluded with confidence that climate change has caused substantial damage, and increasingly irreversible losses, to terrestrial, freshwater, cryospheric, coastal and open-ocean ecosystems¹⁹. These causal links are fundamental to *the entire body* of international climate law: they are echoed in the preambles of the UNFCCC and the Paris Agreement. Both the International Tribunal for the Law of the Sea, in the opinion in question, and the ECHR²⁰ have recognised the authority of the IPCC's conclusions, which, moreover, have not been contested by States in the various international proceedings.

Research conducted within the so-called “hard sciences” provides unequivocal evidence that climate change is a destructive global phenomenon of vast proportions. This phenomenon is capable of profoundly affecting not only the balance of the planet's essential ecological systems, but also – and even more significantly – the material and social conditions that guarantee human survival and well-being²¹.

Climate change, in fact, undermines the actual possibility of enjoying numerous fundamental rights, foremost among them the right to life²²; the latter must be understood not merely as the right not to suffer violent deprivation, but as the right to subsistence, including access to the minimum resources indispensable for a life of dignity.

As is evident, climate change poses a serious threat to various human rights recognised under international law, such as the right to property²³, the right to health and to an adequate standard of living²⁴, to food²⁵, to self-determination and to subsistence²⁶. These threats are imminent and, according to the latest IPCC reports, failure to prevent a temperature rise of

¹⁹ H. LEE AND J. ROMERO, *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, IPCC, Geneva, Switzerland, p. 184.

²⁰ See the arguments in ECHR [GC], *Verein Klimaseniorinnen Schweiz and Others v. Switzerland*, application no. 53600/20, judgment of 9 April 2024.

²¹ See IPCC, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge – New York, 2021; IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge–New York, 2022; IPCC, *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Geneva, 2023.

²² *International Covenant on Civil and Political Rights* (ICCPR), Art. 6, Vol. 999, U.N.T.S. p. 171, opened for signature on 16 December 1966.

²³ UNGA Res. 217(III) A, *Universal Declaration of Human Rights* (UDHR), Art. 17, 10 December 1948, which recognises that “[e]veryone has the right to own property” and that “[n]o one shall be arbitrarily deprived of his property”.

²⁴ *International Covenant on Economic, Social and Cultural Rights* (ICESCR), Arts. 11–12, vol. 993, UNTS, p. 3.

²⁵ *Ibid.*, Art. 11.

²⁶ ICCPR Art. 1 and ICESCR Art. 1, para. 2.

1.5°C could mean that the most disastrous effects of climate change will already be felt by 2040²⁷.

In this context, it is significant that as early as the 2018 Special Report entitled *Global Warming of 1.5°C*, the IPCC emphasised the urgency of limiting the rise in greenhouse gas emissions. The aim is to prevent a further rise in global temperatures, which would risk significantly exacerbating pre-existing vulnerabilities and inequalities, drastically reducing the ability of many people to access goods essential to their survival.

On a scientific level, the ITLOS judges clearly affirmed the existence of anthropogenic climate change²⁸. This is a significant statement in a context where, despite the consensus of the scientific community, there are still political positions that deny the anthropogenic origin of this phenomenon²⁹.

According to the latest IPCC reports, the last time atmospheric carbon dioxide concentrations reached levels comparable to current ones was around three million years ago, during the Pliocene epoch. This fact highlights the exceptional nature of the current situation: *Homo sapiens*, as a species, has never experienced similar atmospheric conditions. By virtue of this profound and persistent change, it is believed that humanity has now entered a new geological epoch known as the Anthropocene, characterised by the pervasive influence of human activities on the biosphere and the global climate system³⁰.

The combination of uninterrupted economic growth, the overexploitation of natural resources by industrialised nations and global population growth, which is set to exceed 10 billion by 2085, starting from 8.2 billion in 2024³¹, has led to a worsening climate crisis, the effects of which are already manifesting themselves in tangible ways and directly threaten the realisation of fundamental rights.

The IPCC has unequivocally stated that the rise in greenhouse gas concentrations is primarily attributable to human activities, in particular the burning of fossil fuels, identified as the main driver of global warming³². The planet has already experienced an average temperature increase of approximately 1.1°C compared to pre-industrial times, with such an acceleration that, according to the Synthesis Report (AR6, 2023), the +1.5°C threshold was exceeded in 2024, making that year the hottest ever recorded in human history.

²⁷ IPCC, *Global Warming of 1.5°C. An IPCC Special Report on the Impact of Global Warming of 1.5°C Above Pre-Industrial Levels and related Global Greenhouse Gas Emissions Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, Geneva, 2018, available at: www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf.

²⁸ See *Climate Change, Advisory Opinion*, ITLOS Reports 2024, paras. 161–179, pp. 65–71.

²⁹ See the executive order *Putting America First in International Environmental Agreements*, issued on 20 January 2025 by the President of the United States, D. Trump, who, upon taking office, ordered the United States of America's withdrawal from the 2015 Paris Agreement.

³⁰ D. CARRINGTON, *The Anthropocene Epoch: Scientists Declare Dawn of Human-Influenced Age*, The Guardian, 29 August 2016, <https://www.theguardian.com/environment/2016/aug/29/declare-anthropocene-epoch-experts-urge-geological-congress-human-impact-earth>. See also J. ZALASIEWICZ, M. WILLIAMS, A. HAYWOOD, M. ELLIS, *The Anthropocene: A New Epoch of Geological Time?*, in *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 2011, pp. 835 ff.

³¹ According to the 2024 demographic projections of the United Nations *World Population Prospects*, see United Nations, Department of Economic and Social Affairs, Population Division. 2024: *Summary of Results*. Data available at: <https://desapublications.un.org/publications/world-population-prospects-2024-summary-results>.

³² See IPCC, *Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge, 2013, https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf, Section D.3, p. 17 (noting that 'it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century').

The IPCC has also highlighted that, due to the progressive accumulation of carbon *stocks* in the atmosphere, numerous impacts linked to climate change will continue to occur for centuries, even in the event, now highly remote, of an immediate cessation of anthropogenic emissions³³. Of particular concern is the rise in emissions from countries that have only recently adopted fossil-fuel-intensive production models in an attempt to promote economic development³⁴.

In light of these figures, the IPCC report warned that ‘limiting global warming to 1.5°C would require rapid, far-reaching, and unprecedented changes in all aspects of society’³⁵. This implies the need to reduce global emissions by 43% by 2030 and by 60% by 2035, until carbon neutrality is achieved around the middle of the century. Failure to meet these targets would have catastrophic consequences for both the planet and humanity as a whole.

The IPCC’s conclusions clearly highlight how the impacts of climate change already pose a real threat to life, livelihoods and traditional cultures, particularly in developing countries, which have limited capacity to adapt. The global average temperature rise of 1°C has already had more pronounced effects in sensitive regions such as the Arctic and mountainous areas, contributing to the intensification of so-called extreme weather events, the melting of glaciers and the polar ice cap, rising sea levels, the saltwater intrusion, ocean acidification, changes in the distribution of pre-r precipitation, floods, heatwaves, droughts, wildfires, desertification, water scarcity, the destruction of ecosystems, the loss of biodiversity, and the spread of various waterborne or vector-borne diseases such as dengue fever or yellow fever³⁶. The number of extreme weather events has doubled compared to the 1990s. Between 2005 and 2015, over 700,000 people died, 1.4 billion were injured, 23 million lost their homes and more than 1.5 billion were affected by natural disasters³⁷.

Such events interact with pre-existing vulnerabilities, exacerbating poverty, compromising access to essential services, like electricity, drinking water and sanitation, and undermining food security. According to projections, by 2030 climate change could push a further 100 million people into extreme poverty³⁸.

In a report by Philip Alston, the former UN Special Rapporteur on extreme poverty and human rights, he spoke of the risk of “climate apartheid”, in which the richest countries would be able to protect themselves from the impacts, leaving the poorest to suffer disproportionate consequences. Climate change also contributes to an increase in migration flows, both internal and cross-border³⁹. Environmental disasters hit low-income countries

³³ IPCC, *Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, cit., note 4, p. 5.

³⁴ NASA, *Climate Change: Vital Signs of the Planet: Evidence*, <https://climate.nasa.gov/evidence/>.

³⁵ IPCC, Press release 2018/24PR *Summary for Policymakers of the IPCC Special Report on Global Warming of 1.5°C approved by governments*, 8 October 2018, available at: www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/.

³⁶ IPCC, *Global Warming of 1.5°C*, cit.

³⁷ Food and Agriculture Organization of the United Nations (FAO), International Fund for Agricultural Development (IFAD), United Nations Children’s Fund (UNICEF), World Food Programme (WFP), *The State of Food Security and Nutrition in the World 2018. Building Climate Resilience for Food Security and Nutrition*, FAO, Rome, 2018.

³⁸ World Bank, *Shock Waves: Managing the Impacts of Climate Change on Poverty*, Climate Change and Development Series, Washington, World Bank, 2016.

³⁹ IPCC, *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, 2014; see also A. KRÄLER, K. KATSIAFICAS, M. WAGNER, *Climate Change and Migration*, a study commissioned by the European Parliament’s LIBE Committee, July 2020, p. 29. The issue of climate migration has been addressed in numerous resolutions, declarations, recommendations, reports and studies produced by United Nations bodies, such as the United Nations

and small island developing states particularly hard. Examples include the 2010 floods in Pakistan (20 million people affected, around 2,000 deaths), Cyclone Pam in 2015, which forced a quarter of Vanuatu's population to migrate (with damage amounting to 65% of the national GDP), and Cyclone Winston, which destroyed over 40,000 homes in the Fiji Islands in 2016. 2024 was the hottest year on record, with fires and floods of exceptional magnitude in Australia.

These phenomena demonstrate how climate change is already adversely affecting a wide range of human rights and that, in the absence of immediate and decisive action, its repercussions could take on devastating proportions in the near future.

3. Reaffirmation of Advisory Jurisdiction in the ITLOS Advisory Opinion No. 31: *The Substantial and Procedural Pillars*

Out of scientific evidence, in the present advisory proceedings the Tribunal first examined whether anthropogenic greenhouse gas emissions fall within the Convention's definition of marine pollution, which states that "marine pollution" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which causes or is likely to cause harmful effects such as damage to biological resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, deterioration of the quality of seawater and reduction of its recreational value⁴⁰.

On the basis of that definition, the Court considers that anthropogenic greenhouse gas emissions constitute "substances or energy" introduced by man, "directly or indirectly", "into the marine environment" and that such introduction causes or is likely to cause "harmful effects". Consequently, anthropogenic greenhouse gas emissions may be classified as pollution of the marine environment within the meaning of UNCLOS⁴¹.

The Court notes that one of the objectives of UNCLOS is the protection and conservation of the marine environment. The Tribunal held that Part XII of UNCLOS relating to the protection of the marine environment is applicable in the context of anthropogenic greenhouse gas emissions and is therefore relevant to answering the question submitted to the Court in the advisory proceedings.

This statement constitutes the substantial pillar of ITLOS jurisdiction and finds its counterpart in the procedural pillar.

Environment Programme (UNEP, *Livelihood Security, Climate Change, Migration and Conflict in the Sabel*, Geneva, 2011; UNGA, *Climate Change and its Possible Security Implications*, Report of the Secretary-General, UN Doc. A/64/350, 2009), the Human Rights Council (UNHRC, *Human Rights and Climate Change*, Resolution of 22 June 2017, UN Doc. A/HRC/35/L.32), the Office of the High Commissioner for Human Rights (UNHRC, *Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights*, UN Doc. A/HRC/10/61, 2009) and the *Special Rapporteur* on the human rights of migrants (F. Crepeau, *Human rights of migrants*, Report of the Special Rapporteur on the human rights of migrants, UN Doc. A/72/173, 2017). In the academic literature, see D. MANOU, *Climate change, migration and human rights: law and policy perspectives*, Abingdon, 2017; G. MASTROJENI, A. PASINI, *Greenhouse effect, war effect. Climate chaos, migration waves, conflicts. Global warming, the rich, the poor*, Milan, 2020, p. 32; D. C. BATES, *Environmental refugees? Classifying human migration caused by environmental change*, in *Population and Environment*, 2022, p. 465.

⁴⁰ See Article 1(1), fourth subparagraph, of UNCLOS.

⁴¹ *Climate Change, Advisory Opinion*, ITLOS Reports 2024, pp. 65–71, paras. 161–179.

Since the confirmation of its advisory jurisdiction is a matter of primary importance for the ITLOS, as is well known the Tribunal took the initiative to introduce this function into its Rules of Procedure, in Article 138, in the absence of any express provision in either UNCLOS or the Statute.

The legal basis for this decision, originally rather fragile, rests, as the ITLOS had clarified in its first and, until then, only advisory opinion⁴², on a broad interpretation of Article 21 of the Statute, pursuant to which the Tribunal's jurisdiction encompasses «all disputes and all claims submitted to it in accordance with this Convention and all matters» (“all matters” in the official text) specifically covered by any agreement conferring jurisdiction on the ITLOS.

This approach has generated extensive scholarly debate, with widely divergent positions among scholars⁴³. The evolution of international practice, however, appears to have now consolidated this jurisdiction, as evidenced both by the conduct of States and by the attribution to the ITLOS of an advisory function under the New York Agreement of 19 June 2023 on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (*Agreement on Marine Biological Diversity of Areas beyond National Jurisdiction*, known as the BBNJ Agreement⁴⁴). The latter, in addition to having universal scope, is of particular significance as *the third implementing agreement* of UNCLOS, a circumstance expressly highlighted in the 2024 advisory opinion under consideration here⁴⁵.

In light of these considerations, the conclusion reached by the ITLOS appears reasonable; the Tribunal based its advisory jurisdiction on the combined provisions of Article 21 of the Statute, Article 138 of the Rules of Procedure and the provisions of the so-called “external agreement”, in this specific case identified as the COSIS Agreement and the subsequent decision to refer the request for an opinion to the Tribunal. It is also worth noting that a far more significant interpretative development had already been achieved by the ECtHR when, revisiting its earlier case-law, it recognised the binding effect of its interim measures, despite Article 46 of the ECHR reserving such force solely for “final judgments⁴⁶”.

With regard to the case in question, it must be reiterated that the rulings in question remain non-binding: they are, ultimately, advisory opinions which, precisely because of the

⁴² ITLOS, Advisory Opinion of 2 April 2015, *Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission* in *List of cases* No. 21.

⁴³ In this regard, see L. MAROTTI, *On the Advisory Function of the International Tribunal for the Law of the Sea*, in *Rivista di diritto internazionale*, 2015, p. 1171 ff.; T. RUYS, A. SOETE, “Creeping” Advisory Jurisdiction of International Courts and Tribunals? *The Case of the International Tribunal for the Law of the Sea*, in *Leiden Journal of International Law*, 2016, p. 155 ff.; M. LANDO, *The Advisory Jurisdiction of the International Tribunal for the Law of the Sea: Comments on the Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission*, in *Leiden Journal of International Law*, p. 441 ff.

⁴⁴ *The Agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction* was adopted on 19 June 2023 by the Intergovernmental Conference on Marine Biodiversity in Areas Beyond National Jurisdiction, convened under the auspices of the United Nations, and entered into force on 17 January 2026.

⁴⁵ In this regard, see R. VIRZO, cit., note 15, p. 608, who also notes that the advisory jurisdiction of the ITLOS has been contested by only nine of the contracting parties to UNCLOS.

⁴⁶ See, in particular, the judgment of the Grand Chamber of the European Court of Human Rights of 4 February 2005 (para. 103 et seq.), in the case of *Mamatkulov and Abdurasulovic v. Turkey*, in which it was held that, by interpreting the provisions of the ECHR teleologically and applying the general principles of international law derived from an analysis of the case-law of other international courts (during the same period, a similar statement was made by the ICJ, in particular in the judgment of 27 June 2001 in the case of *Germany v. USA*), the States Parties are obliged to comply with the provisional measures indicated by the Court.

authority of the body from which they emanate, are intended to contribute positively to the protection of the common environment, without imposing legal obligations on any party. Ultimately, while advisory opinions remain formally non-binding, their legal and political weight in the current international landscape should not be underestimated. In an era marked by the “crisis” of classical treaty law and the challenges of enforcing instruments like the Paris Agreement, especially given the geopolitical complexities involving major emitters, such pronouncements serve a crucial function. They provide a much-needed interpretative baseline that resonates far beyond the courtroom. By shaking the scholarly debate and setting clear normative expectations, the ITLOS’s findings act as a powerful catalyst for state accountability, filling the gaps where coercive enforcement mechanisms often fail to reach.

4. *The Method and Substance of the Matter: The Systemic Interpretation of International Law and States’ Due Diligence Obligations*

Turning now to the substance of the matter, it should be noted that the COSIS request comprised two distinct but closely related questions, which can be summarised as follows: whether, under UNCLOS, greenhouse gas emissions can be classified as marine pollution; and, again under UNCLOS, what obligations do States have to prevent and reduce such pollution and to protect and preserve the oceans from the effects of climate change?

With regard to the first question, the ITLOS ruled that “anthropogenic greenhouse gas emissions into the atmosphere constitute pollution of the marine environment within the meaning of Article 1(1)(4) of the Convention’ and that States Parties have a specific obligation to take all necessary measures to prevent, reduce and control marine pollution caused by anthropogenic greenhouse gas emissions and to endeavour to harmonise their policies in this regard⁴⁷”.

The silence of UNCLOS on the subject of greenhouse gas emissions and, more generally, climate change, a silence attributable to the lack, at the time of the Third United Nations Conference on the Law of the Sea, of adequate awareness of the scale of the problem, did not constitute an obstacle for the TIDM. The Convention, negotiated in the 1970s and adopted in 1982 in a context where the climate issue was virtually unknown, nevertheless contains deliberately broad and forward-looking wording. Article 194, for example, refers to pollution “from any source”, whilst the definition of marine pollution set out in Article 1, paragraph 1, subparagraph 4 is sufficiently general to encompass even greenhouse gas emissions, substances that human activity releases into the environment, directly or indirectly, causing serious consequences for the marine ecosystem, as extensively documented by the IPCC.

The ITLOS’s reasoning followed a hermeneutic approach to expanding the obligations arising from UNCLOS, extending them to a specific case, that of greenhouse gas emissions, which is not expressly regulated. To this end, the Tribunal emphasised the systemic approach of the Convention itself: Part XII contains numerous references to other international conventions, to the extent that it can be regarded as a sort of framework convention on the marine environment. The central issue was therefore to determine how to make use of rules

⁴⁷ Art. 194(1) UNCLOS.

external to the Convention, notably those of climate agreements, without exceeding the limits of the jurisdiction conferred on the Tribunal.

In addition, Article 31(3)(c) of the 1969 Vienna Convention on the Law of Treaties provides for the possibility of resorting to systemic integration between treaties as an interpretative criterion. Drawing on this tool, the Tribunal proceeded to interpret the obligations under UNCLOS in the light of the legislation subsequently developed on climate change, in particular the 2015 Paris Agreement and the UNFCCC⁴⁸, instruments which now contain generally accepted international norms and *standards* relevant to the interpretation and application of States' obligations under UNCLOS⁴⁹. Although this interpretative approach lacks binding force as it is expressed in an advisory capacity, it has, in theory, considerable potential for expansion: according to the ITLOS's reasoning, ratification of UNCLOS automatically entails the assumption of the obligations set out in the climate change treaties. At the same time, compliance with the commitments under the Paris Agreement does not in itself exhaust the obligations arising from UNCLOS. The relationship between the two treaty regimes is therefore one of mutual interaction, and not of speciality in the traditional sense of the term.

This approach deserves full endorsement, and has, moreover, already been accepted by the IACHR in its judgment in the case of *La Oroya Population v. Peru*⁵⁰. In a matter as sensitive and subject to technological evolution as environmental protection, a static interpretation is incompatible with the very nature of international commitments: in other words, it is not permissible to condone attempts to fragment such obligations or to construct “*self-contained regimes*” that serve, at least in the present case, solely to evade specific

⁴⁸ See in particular paragraph 270 of the Opinion. The *United Nations Framework Convention on Climate Change* of 9 May 1992 (UNFCCC), also known as the Rio Agreement, is an international environmental treaty resulting from the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro in 1992. The treaty aims to reduce greenhouse gas emissions, which are the cause of global warming.

⁴⁹ As R. VIRZO points out, *cit.*, note 15, p. 623, the TIDM cites in this regard the 1971 ICJ Advisory Opinion on Namibia, which states that the criterion of systemic integration among sources of law “*ensures (...) that treaties do not operate in isolation but are ‘interpreted and applied within the framework of the entire legal system prevailing at the time of the interpretation’*” (*Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970), Advisory Opinion*, I.C.J. Reports 1971, para. 53). See also Z. CHEN, *Due Diligence Obligations Under UNCLOS: Navigating the Conduct-Result Dichotomy in the Context of Ocean Climate Change* in *Maritime Safety and Security Law Journal*, *op.cit.*, note 16.

⁵⁰ A further milestone was set by the Inter-American Court of Human Rights (IACHR) in its judgment of 22 March 2024, which found Peru in breach of the rights to health and life of the inhabitants of La Oroya. The Court sanctioned the State's failure to exercise *due diligence* in controlling industrial pollution, recognising both procedural violations (access to information, participation and justice) and substantive violations (clean air and water, a safe climate). The most innovative aspect is the recognition of the environment as an intrinsic value, detached from its mere utility to human beings, an ecocentric perspective in line with the most advanced European case law. This approach makes it possible to address ‘slow’ environmental threats, whose effects unfold over long periods to the detriment of future generations, without requiring proof of direct causality, but by shifting the burden of proving environmental safety onto the State. The Inter-American Court of Human Rights has in fact adopted a systematic and teleological interpretation of various rules of international law, starting from Article 29 of the American Convention on Human Rights, which expressly refers to the rules of international law for the purposes of interpretation, and from Article 31(3)(c) of the Vienna Convention on the Law of Treaties. In particular, it recognised that the socio-economic provisions contained in the Charter of the Organisation of American States (OAS, notably Articles 30–34, relating to the right to a healthy environment), referred to in Article 26 of the American Convention, constitute normative instruments of reference for the interpretation of the Convention and therefore fall within the Court's jurisdiction.

obligations. It therefore appears correct to classify the adverse effects of climate change on the oceans as “marine pollution” within the meaning of UNCLOS.

The ITLOS further clarified that, in cases where the marine environment has undergone degradation, States are required to take action to restore marine *habitats* and ecosystems, including as part of efforts to combat climate change. Such actions constitute a genuine obligation for States and must be based on sound scientific data, in accordance with the precautionary principle as provided for under international law.

The ITLOS observed that, pursuant to Article 192 of UNCLOS, «States have an obligation to protect and preserve the marine environment». According to the Tribunal, the obligation under Article 192 consists of a positive obligation to adopt measures to protect and preserve the marine environment and a negative obligation not to degrade it⁵¹.

In its opinion, the ITLOS does not merely establish a prohibition on marine pollution through greenhouse gas emissions, but also identifies a positive obligation for States to adopt concrete measures aimed at restoring the marine environment to the conditions that existed prior to the deleterious effects of the climate crisis. This gives rise to a particularly broad and rigorous interpretation of the concept of *due diligence*, closely linked to the precautionary principle⁵². According to the ICJ, the obligation under Article 194(1) and other obligations set out in Part XII, including Article 194(2), are formulated in such a way as to prescribe «not only the required conduct of States but also the intended objective or result of such conduct. Whether this obligation is one of conduct or of result depends on whether States are required to achieve the intended objective or result, i.e., the prevention, reduction and control of marine pollution»⁵³.

In the case of marine pollution caused by greenhouse gas emissions, the standard of *due diligence* is therefore not merely an obligation of conduct, but rather an obligation of result: it is not sufficient to demonstrate that one has made the greatest possible effort⁵⁴. The obligation to adopt appropriate measures to protect and preserve the marine environment also requires States to ensure that private entities operating under their jurisdiction or control comply with these requirements⁵⁵.

⁵¹ See Climate Change, Advisory Opinion, ITLOS Reports 2024, p. 133, para. 385, and pp. 133–134, para. 387. See comments: D. CZYBULKA, *Article 192*, in A. PROELSS (ed.), *The United Nations Convention on the Law of the Sea: A Commentary* (C.H. Beck/Hart/Nomos) 2017, pp. 1284–1285; M. NORDQUIST, S. NANDAN, S. ROSENNE (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. IV, Nijhoff 1990, para. 194.10(c).

⁵² In para. 242, the ITLOS states that “The obligation of due diligence is also closely linked with the precautionary approach”.

⁵³ Para. 238 of the advisory opinion.

⁵⁴ In para. 243, the ITLOS states: “The obligation to take all necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions is one of due diligence. The standard of due diligence under Article 194, paragraph 1, of the Convention is stringent, given the high risks of serious and irreversible harm to the marine environment from such emissions”.

⁵⁵ In paragraph 236, the ITLOS states that “This obligation of due diligence is particularly relevant in a situation where the activities in question are mostly carried out by private persons or entities”. In support of this particular obligation, moreover, the ITLOS refers to rulings by other international courts, including the ICJ in the *Pulp Mills on the River Uruguay* case (*Argentina v. Uruguay*), I.C.J. Reports 2010 (I), para. 197.

5. *The Principle of Common But Differentiated Responsibility and the Obligation of Cooperation Between States*

A further key element of the opinion concerns the reaffirmation of the principle of “common but differentiated responsibilities” between industrialised and developing countries. The ITLOS emphasises the historical responsibility of industrialised States with regard to the climate crisis, highlighting that they have an obligation to take more ambitious and effective action to combat pollution from greenhouse gas emissions. The opinion also recognises that the 2015 Paris Agreement represents a tool for addressing the injustice faced by developing and climate-vulnerable countries, which have contributed minimally to climate change but bear its most severe consequences⁵⁶. The TIDM adds that this framework gives rise to a duty on states with the capacity to do so to support developing countries, and in particular those most exposed to the effects of climate change, in combating marine pollution from emissions⁵⁷.

Finally, the TIDM focuses on the obligation to cooperate⁵⁸. As is well known, Section 2 of Part XII of UNCLOS is dedicated to “global and regional” cooperation and opens with Article 197, which establishes a general obligation, albeit formulated in broad terms, for States to cooperate directly or through competent international organisations, to develop rules, norms, practices and procedures consistent with this Convention, designed to protect and preserve the marine environment, taking into account the specific characteristics of the region. Emphasising that this obligation requires States to act in accordance with the principle of good faith, the ITLOS highlights its ongoing nature: the commitment to adopt the necessary measures must be constant and cannot be regarded as having been fulfilled. The Tribunal rightly points out that the mere ratification of the Paris Agreement or other relevant instruments cannot in itself be considered sufficient to fulfil the obligations of cooperation⁵⁹.

The same interpretative logic applied to Article 197 also applies to the obligations set out in Articles 200 and 201, relating respectively to cooperation to promote studies, research programmes and the exchange of data and information, and to the development of appropriate scientific criteria to regulate the matter⁶⁰. These provisions also apply in the context of marine pollution resulting from anthropogenic greenhouse gas emissions⁶¹. The TIDM concludes on the issue of cooperation by identifying three distinct categories of UNCLOS obligations relating to the protection of the marine environment from greenhouse gases: those concerning the formulation and development of rules, practices and procedures; those relating to studies, scientific research and the exchange of information; and finally,

⁵⁶ It has been calculated that small island states, which are the most affected by climate change, account, taken together, for less than 1% of global emissions.

⁵⁷ See, in particular, paras. 322 et seq. regarding “Technical Assistance”.

⁵⁸ Par. 294 et seq.

⁵⁹ *Climate Change, Advisory Opinion, ITLOS Reports 2024*, pp. 113–114, para. 311.

⁶⁰ *Ibid.*, para. 312.

⁶¹ As stated in para. 314. In para. 16, the ITLOS states: “Article 201 of the Convention serves to link Article 197 with Article 200. Cooperation between States in the formulation and elaboration of rules, standards and recommended practices and procedures must be based on appropriate scientific criteria, developed through coordinated studies, research programmes and the exchange of information and data. In particular, cooperation in the formulation and elaboration of a common regulatory framework would be ineffective if it did not rest on a solid scientific basis”.

those aimed at defining appropriate scientific criteria on which to base the development of the aforementioned rules, standards and procedures⁶².

6. *The States' Obligations in Relation to Sea-Level Rise*

The Court notes that numerous participants in the proceedings have expressed deep concern regarding the consequences of sea-level rise, with particular regard to the stability of maritime zones. The positions expressed converge on certain fundamental points: the phenomenon should not lead to a reduction in States' maritime rights; existing baselines, maritime rights, delimitation and State sovereignty should be preserved despite the physical retreat of coastlines; finally, the complete submersion of territory should not deprive States of their maritime rights. In fact, the IPCC has described sea-level rise as "inevitable", concluding with a high degree of certainty that the risks to coastal ecosystems, populations and infrastructure are set to worsen progressively⁶³.

Scientific evidence shows that sea-level rise is likely to have serious consequences for states, particularly for small island states and low-lying coastal states. These consequences may result in the forced displacement of populations, both within the territory and across state borders, as well as the erosion of territorial integrity and permanent sovereignty over natural resources. Since these issues are closely intertwined with the right of peoples to self-determination, rising sea levels are not without implications for the effective exercise of that right⁶⁴.

From a treaty perspective, the ITLOS observes that UNCLOS requires contracting States to establish and make public nautical charts or lists of geographical coordinates indicating the outer limits of their maritime zones. With regard to the territorial sea, Article 16(1) provides that "the baselines for the measurement of the breadth of the territorial sea determined in accordance with Articles 7, 9 and 10, or the limits derived therefrom, and the delimitation lines drawn in accordance with Articles 12 and 15 shall be shown on nautical charts at a scale or scales appropriate for determining their position"⁶⁵.

Pursuant to Article 16, paragraph 2, the State is required to give adequate publicity to such charts or lists of geographical coordinates, and to deposit a copy thereof with the Secretary-General of the United Nations⁶⁶. Provisions of a similar nature apply to the exclusive economic zone (Art. 75, paras. 1 and 2) and to the continental shelf (Art. 84, paras. 1 and 2), with the clarification, in the latter case, of the additional obligation to deposit them with the Secretary-General of the International Seabed Authority.

⁶² Par. 321 et seq.

⁶³ IPCC, Synthesis Report 2023, Summary for Policymakers, p. 15, Statement B.2.2. The report concludes with a high degree of certainty that the risks to coastal ecosystems, populations and infrastructure will continue to increase as a result of sea-level rise.

⁶⁴ On the right to self-determination of peoples in the context of climate change and sea-level rise, see generally R. RAYFUSE, *W(h)ither Tuvalu? International Law and Disappearing States*, in *University of New South Wales Faculty of Law Research Series*, 2009.

⁶⁵ UNCLOS, Art. 16(1). Similar provisions apply to the exclusive economic zone (Art. 75(1)) and to the continental shelf (Art. 84(1)).

⁶⁶ UNCLOS, Art. 16(2). The obligation to deposit and publish also applies to the exclusive economic zone (Art. 75(2)) and to the continental shelf (Art. 84(2)), with the addition, for the latter, of deposit with the Secretary-General of the International Seabed Authority.

The Court notes that, once the extent of the maritime zones has been duly established and the State has fulfilled the obligations of publication and deposit provided for by UNCLOS, notably Article 16(1) and (2), Article 75(2) and Article 84(2), no provision of the Convention requires Contracting States to carry out updates. Similarly, UNCLOS does not impose any obligation to update normal baselines already drawn (Article 5), nor the charts or lists of geographical coordinates relating to straight baselines (Article 16), archipelagic baselines (Article 47, paras. 8 and 9), once such acts have been established, published and deposited in accordance with the Convention.

Outside the present proceedings, numerous States have expressed the view that there is no obligation to update charts or lists of geographical coordinates relating to the baselines of maritime zones once these have been duly established in accordance with UNCLOS. Such positions have emerged within the United Nations, as well as in regional and transregional declarations⁶⁷. The Court considers that this practice is relevant for the purposes of interpreting UNCLOS.

The Court is also aware of the work initiated in 2018 by the International Law Commission (ILC) on the subject of sea-level rise in relation to international law. The final report of the Study Group, adopted by the ILC at its seventy-sixth session (2025), attests to a significant convergence of views among States from all regions to the effect that there is no obligation on the parties to UNCLOS to update nautical charts or lists of geographical coordinates relating to their respective maritime zones once these have been duly established⁶⁸.

In light of the foregoing, the Court concludes that the provisions of UNCLOS do not require Contracting States, in the context of physical changes caused by sea-level rise linked to climate change, to update nautical charts or lists of geographical coordinates indicating the baselines and outer limits of maritime zones, once these have been duly established in accordance with the Convention. It follows that UNCLOS contracting States are not legally obliged to carry out such updates.

Several participants argued that sea-level rise also constitutes a significant threat to the territorial integrity and, in the final analysis, to the very sovereignty of small island States. According to these positions, in the event of total loss of territory and the displacement of the entire population, there should be a strong presumption in favour of maintaining State sovereignty. The Court considers that, once a State has been established, the disappearance of one of its constituent elements does not necessarily entail the loss of sovereignty⁶⁹.

The Court refers to its own considerations regarding sea-level rise as a negative effect of climate change, a phenomenon described as a common concern of humankind. It has already stated that, in the context of climate change, States are bound by a customary

⁶⁷ On this point, the Court refers to emerging State practice, including the 2021 Declaration of the Pacific Islands Forum on the conservation of maritime zones in the face of sea-level rise due to climate change, as well as the support expressed in 2022 by the Member States of the Organisation of African, Caribbean and Pacific States.

⁶⁸ International Law Commission, Final Report of the Study Group on Sea-Level Rise in Relation to International Law, adopted at the seventy-sixth session (2025), in *Official Records of the General Assembly, Eighty-first Session, Supplement No. 10* (UN Doc. A/80/10), p. 11, para. 36 and Annex I. The ILC's work on this topic began in 2018.

⁶⁹ The principle that the disappearance of one of the constituent elements of a State does not necessarily entail the loss of sovereignty is discussed in international legal doctrine in relation to the so-called *detritorialisation* of island States: see, among others, J. BARNETT, M. WEBBER, *Accommodating Migration to Promote Adaptation to Climate Change*, Policy Research Working Paper No. 5270, World Bank, 2010.

obligation to cooperate (see paras. 140–142 and 301–308). It has also recalled that the duty to cooperate is enshrined at the heart of the Charter of the United Nations, in particular in Article 1, which lists among the purposes of the Organisation that of «achieving international cooperation in solving international problems of an economic, social, cultural or humanitarian character»⁷⁰. Rising sea levels pose economic, social, cultural and humanitarian challenges: the Court therefore considers that the duty to cooperate is of particular relevance in this context, requiring States to take appropriate joint measures to address the effects of this serious phenomenon. This duty of cooperation is rooted in the recognition of the interdependence of States and the resulting solidarity among peoples⁷¹. From this perspective, cooperation in addressing sea-level rise is not a matter left to the discretion of States, but a binding legal obligation.

The Court therefore concludes that the legal obligation to cooperate requires States, in the context of sea-level rise, to act jointly in order to achieve equitable solutions, whilst respecting the rights of the States concerned and their populations.

7. Concluding Remarks

Climate litigation, both at national and international level, is growing steadily, with a progressive expansion of the legal bases that can be invoked and the geographical areas involved. Judges are increasingly called upon to define the scope of states' obligations to prevent and remedy damage caused to ecosystems, in order to push governments and private entities to undertake ever more ambitious mitigation commitments⁷². This dynamic, as we have sought to demonstrate with regard to the rulings examined, fuels a phenomenon of *cross-fertilisation* among judicial bodies which, whilst not a new phenomenon, takes on particular significance in a sector where urgent issues with global causes and implications are at stake, and where recourse to solutions based on cooperation between states appears essential.

The contribution of the ITLOS opinion is therefore of great significance. Drawing on the scientific evidence provided by the IPCC, the Tribunal classified greenhouse gas emissions as “marine pollution” within the meaning of Article 1(1)(4) of UNCLOS, relying on the criterion of systemic integration between the United Nations conventions on climate change and the obligations under the Convention on the Law of the Sea. In doing so, the ITLOS established a vital link between the law of the sea and climate change law, which is essential for assessing the impact of the climate crisis on the oceans. Its rigorous

⁷⁰ Charter of the United Nations, Art. 1, para. 3. The duty of cooperation is also referred to by the Court in paragraphs 140–142 and 301–308 of the opinion, with specific reference to the customary obligations of States in the context of climate change.

⁷¹ See para. 308 of the opinion, where the Court bases the duty of cooperation on the interdependence of States and the need for solidarity among peoples. This is a specific application of the general principle of international cooperation that permeates the UN Charter and customary international law.

⁷² On this point, see the interesting statistics and considerations contained in *the Global Climate Litigation Report: 2023 Status Review* published in July 2023 by the United Nations Environment Programme (UNEP): <https://www.unep.org/resources/report/global-climate-litigation-report-2023-status-review>. Significant, for example, is the figure showing that the number of court cases has more than doubled globally over five years, rising from 884 in 2017 to 2,180 in 2022.

interpretation of the standard of *due diligence* required of States has served as a benchmark for future rulings by other judicial bodies, as evidenced by the advisory opinion on environmental matters issued by the ICJ in July 2025.

Added to this is the influence that such an authoritative interpretation of a text as UNCLOS, ratified by 170 States and considered to correspond largely to customary law even by States not bound by it, is bound to exert on the international legal landscape.

We are living in an era marked by a profound crisis of multilateralism and international law. Yet it must be strongly emphasised that only at the supranational level, and only through the effective application of international law, will it be possible to ensure the survival of states threatened by the climate crisis, particularly due to the effects of rising sea levels, ocean acidification and the intensification of extreme weather events. But this consideration applies, more generally, to the whole of humanity: the ongoing climate crisis is progressively undermining the oceans' ability to absorb CO₂ emissions and excess heat, and with it the production of oxygen for the planet. The conduct, both active and passive, constituting a failure to fulfil the obligations undertaken is attributable to a small number of major emitting states, identified on the basis of scientific evidence that is now incontrovertible.

In an era of intense geopolitical tensions, this legal approach taken by international and national courts, supported by an increasingly aware and active civil society, represents one of the most powerful levers for ensuring the survival not only of the states threatened by the climate crisis but of humanity as a whole.