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An Anthropogenic Problem That Requires an Ecocentric Solution

The severity of the climate change crisis is caused exclusively by human action and inaction. First, for the past several decades, humans have been responsible for 100 percent of the greenhouse gases (GHGs) in the atmosphere that contribute to climate change.[1] Second, the failure of domestic and international climate change mitigation and adaptation efforts has exacerbated this crisis instead of managing it. This human-caused crisis cannot be addressed effectively by a human-centered, development-focused regulatory framework.

Recent developments in climate change diplomacy are starting to implement legal protections for vulnerable and marginalized climate justice communities, but these efforts are too little and too late. After years of efforts to integrate human rights-based protections into the post-Kyoto climate change treaty regime, only lip service was secured in limited nonbinding and aspirational references to human rights dimensions of climate change in United Nations (UN) resolutions,[2]

[1] Joseph Romm, Climate Change: What Everyone Needs to Know 7 (2d ed. 2018) ("The latest science finds that *all* of the warming since 1970 is due to human causes.").

[2] Human Rights Council Res. 38/4, UN Doc. A/HRC/RES/38/4, § 3 (July 16, 2018) ("*Calls upon* States to consider, among other aspects, human rights within the framework of the United Nations Framework Convention on Climate Change" [UNFCCC]); *see also* Human Rights Council Res. 35/20, UN Doc. A/HRC/RES/35/20, § 4 (July 7, 2017); Human Rights Council Res. 32/33, UN Doc. A/HRC/RES/32/33, § 9 (July 18, 2016); Human Rights Council Res. 29/15, UN Doc. A/HRC/RES/29/15, § 7 (July 22, 2015) ("*Encourages* relevant special procedures mandate holders to continue to consider the issue of climate change and human rights within their respective mandates" [emphasis added]); *see also* Human Rights Council Res. 26/27, UN Doc. A/HRC/RES/26/27, § 8 (July 25, 2014); Human Rights Council Res. 18/22, UN Doc. A/HRC/RES/18/22, §§ 2–4 (Oct. 17, 2011) (requesting the High Commissioner for Human Rights to organize a seminar and report on human rights and climate change); Human Rights Council Res. 10/4, UN Doc. A/HRC/RES/10/4, §§ 1–2 (Mar. 25, 2009) (deciding to hold a panel discussion and prepare a summary on the relationship between climate change and human rights); Human Rights Council Res. 7/23, UN Doc. A/HRC/RES/7/23, § 1 (Mar. 28, 2008) (expressing concern that climate change "poses an immediate and far-reaching threat to people and communities around the world" and

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the Copenhagen Agreement,[3] the Cancun Agreements,[4] the Warsaw Loss and Damage Mechanism,[5] and the preamble of the Paris Agreement.[6] At this rate, it would take several decades to incorporate adequate protections for the voiceless into these instruments. A stewardship-focused, rights-based revolution is starting to percolate outside of the climate change context and it needs to be applied to inform a new approach to climate change regulation in order to address protections for the voiceless communities. An ecocentric paradigm is the only effective approach to regulate climate change.

This chapter first describes the deficiencies in the existing climate change regulatory regime at the international level and in the United States. It also reviews developments in climate change science and climate change diplomacy through 2025. It then addresses the constitutional, legislative, and common law mechanisms in the United States and in foreign domestic legal systems that have been used to promote a paradigm shift toward ecocentrism, primarily outside of the climate change context, which can be leveraged to help ensure protection of the voiceless in the Anthropocene era.

requesting the Office of the High Commissioner for Refugees to prepare a study on the relationship between climate change and human rights).

3 UNFCCC, *Copenhagen Accord*, UN Doc. FCCC/CP/2009/11/Add.1, Dec. 2/CP.15 (Mar. 30, 2010), https://unfccc.int/sites/default/files/resource/docs/2009/cop15/eng/11a01.pdf (providing a first step toward human rights recognition in the UNFCCC treaty regime by noting in para 1: "We recognize the critical impacts of climate change and the potential impacts of response measures on countries particularly vulnerable to its adverse effects and stress the need to establish a comprehensive adaptation programme including international support").

4 UNFCCC, *The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention*, UN Doc. FCCC/CP/2010/7/Add.1, Dec. 1/CP.16, pmbl., §§ 7–8, 72 (Mar. 15, 2011), https://unfccc.int/sites/default/files/resource/docs/2010/cop16/eng/07a01.pdf ("Recognizes the need to engage a broad range of stakeholders at the global, regional, national and local levels, be they government, including subnational and local government, private business or civil society, including youth and persons with disability, and that gender equality and the effective participation of women and indigenous peoples are important for effective action on all aspects of climate change").

5 UNFCCC, *Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts*, UN Doc. FCCC/CP/2013/10/ Add.1, Dec. 2/CP.19, pmbl. (Jan. 31, 2014), https://unfccc.int/sites/default/files/resource/docs/2013/cop19/eng/10a01.pdf (noting that "climate change represents an urgent and potentially irreversible threat to human societies, future generations and the planet").

6 UNFCCC, *Adoption of the Paris Agreement*, UN Doc. FCCC/CP/2015/10/Add.1, Dec.1/CP.21, Annex, pmbl. (Jan. 29, 2016), https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf ("*Acknowledging* that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity" [emphasis added]).

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1.1 POLARIZING GRIDLOCK IN INTERNATIONAL AND US CLIMATE CHANGE REGULATION

The warning bells announcing the projected impacts of climate change have been ringing since the 1990s, and they have only grown louder and more frequent since 2015. Building on the stern wake-up call regarding climate change projections contained in the Intergovernmental Panel on Climate Change (IPCC) First Assessment Report in 1990,[7] each subsequent report issued in five-to-seven-year increments has been progressively more grim and urgent than its predecessor. According to the IPCC's 1.5°C Report in October 2018,[8] the window of opportunity for the global community to have any meaningful impacts with mitigation efforts narrowed further to little more than a decade from 2018.[9] This prediction, and many other comparably disturbing and alarming projections, were contained in the IPCC's report.[10]

The most recent IPCC assessment is the Sixth Assessment Report (AR6), which was finalized in March 2023 with the release of its synthesis report.[11] AR6 confirmed that power generation, buildings, industry, and transport are responsible for close to 80 percent of global GHG emissions, with agriculture, forestry, and other land uses comprising the remainder of global emissions.[12] The report also contained many grim warnings about present impacts and future scenarios in the climate crisis. For example, for any given future warming level, many climate-related risks are higher than assessed in AR5, and projected long-term impacts are up to multiple times higher than currently observed.[13] Moreover, due to relative sea level rise, current 1-in-100-year extreme sea level events are projected to occur at least annually in more than half of all tide gauge locations by 2100 under all considered scenarios.[14]

AR6 underscored and extended its predecessor assessment reports' urgent call to action. It used five possible scenarios for the future relying on complex calculations that depend on how quickly humans curb GHG emissions. The two worst scenarios result in temperatures rising by 3.6°C and 4.4°C by 2100.[15] AR6 also concluded that

[7] UN IPCC, *Assessment Report 1: Impacts Assessment of Climate Change* (June 1990), https://archive.ipcc.ch/publications_and_data/publications_and_data_reports.shtml.

[8] UN IPCC, *Global Warming of 1.5°C* (Oct. 8, 2018), www.ipcc.ch/sr15/ (hereinafter "IPCC 1.5°C Report").

[9] *Id.*

[10] *Id.*

[11] UN IPCC, *AR6 Synthesis Report: Climate Change 2023* (Mar. 20, 2023), www.ipcc.ch/report/sixth-assessment-report-cycle/.

[12] *What the 2023 IPCC AR6 Synthesis Report Says about Climate Change*, World Resources Institute, Mar. 20, 2023, www.wri.org/insights/2023-ipcc-ar6-synthesis-report-climate-change-findings.

[13] *See* UN IPCC, *AR6 Synthesis Report: Climate Change 2023*, *supra* note 11.

[14] *See id.*

[15] Andrea Januta, Explainer: The U.N. Climate Report's Five Futures – Decoded, Reuters, Aug. 9, 2021, https://tinyurl.com/4j4zmstu.

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carbon dioxide (CO_2) emissions have to peak immediately to limit heating to about 1.5°C,[16] and that CO_2 emissions need to be cut in half by 2030, along with significant accompanying reductions in non-CO_2 GHG emissions.[17]

AR6 provided ample evidence of the rapidly intensifying climate crisis as manifested by a range of devastating global climate change impacts. Roughly half of the world's population is already experiencing severe water scarcity for at least some part of the year.[18] Heatwaves that were every ten years in a climate with little human influence will likely occur 4.1 times more frequently with 1.5°C of warming, 5.6 times with 2°C, and 9.4 times with 4°C.[19] About 50–75 percent of the global population could be exposed to periods of "life-threatening climatic conditions" due to extreme heat and humidity by 2100.[20] The report also noted that ocean acidification has increased by 30 percent since preindustrial times and is expected to continue rising in the future.[21]

AR6 also confirmed that the Global South continues to bear disproportionate burdens from climate change impacts. For example, those living in poverty are more likely to be affected by extreme weather events, such as floods and droughts, due to a lack of access to resources, health services, and adequate infrastructure.[22] AR6 concluded that developing countries will need $127 billion per year by 2030 and $295 billion per year by 2050 to adapt to climate change.[23]

The urgency and severity of the climate crisis have not merely been conveyed on the pages of the IPCC's reports. These realities have been on display for the world to witness in many manifestations, including the catastrophic wildfires in California in 2018 and devastating hurricanes such as Harvey and Irma in 2017 that caused extensive impacts to property, communities, and ecosystems. Hurricane Harvey triggered a flood of lawsuits against the federal government, local governments, and private-sector entities for failing to act or failing to act appropriately to protect citizens from the worst impacts of these storms.[24]

[16] John Lang, IPCC Report: A Summary for People, Energy & Climate Intelligence Unit, https://eciu.net/insights/2022/ipcc-ar6-summary-for-people.

[17] *Id.*

[18] March Zengh, *8 Key Findings from the IPCC Sixth Assessment Report*, Earth.org, May 16, 2023, https://earth.org/ipcc-assessment-report/.

[19] *What the 2023 IPCC AR6 Synthesis Report Says about Climate Change*, *supra* note 12.

[20] *In-Depth Q&A: The IPCC's Sixth Assessment on How Climate Change Impacts the World*, Carbon Brief, Feb. 28, 2022, https://tinyurl.com/5ntd2mcj.

[21] Zengh, *supra* note 18.

[22] *Id.*

[23] *What the 2023 IPCC AR6 Synthesis Report Says about Climate Change*, *supra* note 12.

[24] *See, e.g.*, Kiah Collier, *Can Flooded-Out Houstonians Win Lawsuits against Army Corps?*, Texas Tribune, Sept. 28, 2017, https://tinyurl.com/2jtpyr34 (discussing inverse condemnation suits against U.S. Army Corps of Engineers seeking damages for the avoidable flooding of property from Corps' "controlled releases" of water after the storm); Olivia Pulsinelli, *Riverstone Residents File Harvey-Related Lawsuit against Houston Engineering Firm*, Houston Bus. J. (Apr. 8, 2018), https://tinyurl.com/mrx683tm (describing a suit against an engineering firm, Costello Inc., alleging the defective design of a stormwater management system).

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In just the first half of 2025, an alarming series of climate-related disasters underscored the urgent need to address climate change at the domestic and international levels. These events ranged from catastrophic wildfires in Los Angeles and Canada, to unprecedented floods in Pakistan, to intense heatwaves across Europe. The IPCC's projections on climate-related disasters continue to come true, in many cases sooner and at a higher intensity than expected, with disproportionate burdens on vulnerable populations.

California endured a particularly devastating wildfire season in 2025, especially with the unprecedented Eaton and Palisades fires in Los Angeles.[25] Climate change is exacerbating existing vulnerabilities, with correlations between wildfire smoke and heightened rates of hospitalizations for respiratory issues.[26] In Canada, the wildfire crisis also reached alarming levels, with the May to June 2025 fires burning more than 2.7 million hectares and resulting in over 33,000 evacuations.[27] The transboundary nature of these fires posed further challenges, leading to a series of impacts across the US–Canada border.[28]

The floods in Pakistan in 2025 underscored the catastrophic effects of prolonged monsoon rains exacerbated by climate change. These floods caused extensive displacement, destruction of infrastructure, and significant health crises, particularly among already vulnerable populations. Reports indicated that the flooding led to over 1.4 million people being displaced, sparking urgent humanitarian needs in water, sanitation, and hygiene provisions.[29]

Europe also faced severe climate repercussions in 2025, with intense heatwaves causing an estimated 2,300 deaths in Western Europe.[30] Extreme heat is a significant public health threat, especially for the elderly and chronically ill, who are highly vulnerable to heat.[31] The extreme heat also exacerbated destructive wildfires across Southern Europe.[32]

These disasters have prompted significant shifts in policy and governance. Effective governance responses must incorporate inclusivity and equity to ensure

[25] *Six Months after the LA Fires, California Continues Unprecedented Recovery Campaign*, California Wildfire & Forest Resilience Task Force, July 7, 2025, https://tinyurl.com/j6spkzn3.

[26] Anita Lee Mitchell et al., Identifying Health Care Access Gaps in Areas of Oregon at High Risk of Respiratory Hospitalization *during* Wildfires. Disaster Medicine and Public Health Preparedness, Disaster Med. Public Health Prep. (2025), doi.org/10.1017/dmp.2025.131.

[27] Seyd Teymoor Seydi et al., *The May–June 2025 Central Canada Fires: National Challenges of a Warming Climate and Cascading International Impacts*, UN Univ. Inst. for Water, Env't & Health, June 2025, bit.ly/48jDGux.

[28] *Id*.

[29] Minza Mumtaz et al., *Synergy of Remote Sensing and Geospatial Technologies to Advance Sustainable Development Goals for Future Coastal Urbanization and Environmental Challenges in a Riverine Megacity*, 14 ISPRS Int'l J. Geo-Information 30 (2025), doi.org/10.3390/ijgi14010030.

[30] Javier Martín-Vide, *2025's First Summer Heatwave Was Early, and Deadly, for All of Western Europe*, The Conversation, July 16, 2025, https://shorturl.at/hDiyB.

[31] *Id*.

[32] *Wildfires Fanned by Heatwave and Strong Winds Rage across Europe*, Reuters, Aug. 13, 2025, https://shorturl.at/ZlVEd.

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that recovery processes do not inadvertently exacerbate existing disparities.[33] Policies focused on resilience and disaster risk reduction must be updated to include comprehensive approaches prioritizing sustainable land use, climate adaptation strategies, and socioeconomic equity.[34] Specifically, policy responses must facilitate community-centered preparedness initiatives, integrating the perspectives of affected populations to enhance disaster readiness and response effectiveness.

Impacts to the marine and coastal environment are extensive. Ocean acidification, invasive species, sea-level rise, coastal erosion, and saltwater intrusion are becoming increasingly more vexing threats from climate change. Climate change is also a potent public health threat in coastal areas and has been linked to an increase in waterborne and insect-borne diseases. Last but not least, the IPCC recently concluded that ocean warming is occurring 40 percent faster than expected.[35] The World Meteorological Organization confirmed that 2024 was the warmest year on record for oceans.[36]

Climate change is also affecting both human rights and rights of the voiceless. Climate change is causing severe droughts, which have triggered food and water insecurity in many regions throughout the world. Sea-level rise is pushing many communities to face the imminent threat of forced migration, which in turn presents national and regional security issues. Climate change impacts destabilize marine and terrestrial ecosystems, compromising their natural resilience, which in turn causes a positive feedback loop to further destabilize these ecosystems and the wildlife that depend on them for sustenance and security. Climate change impacts threaten all of the Earth's systems and leave future generations with a beleaguered planet fighting for its continued existence.

Much of the urgency and severity of the climate change crisis that the world now faces can be traced to two failures in political leadership: first, the intractable negotiations in four decades of Conferences of the Parties (COPs) at the international level, largely caused by uncompromising self-interest among some of the leading developed countries; and second, the failure of the United States to lead or even effectively participate in these negotiations and to implement federal climate and energy regulation at home.[37] These two failures are related – they are rooted in

[33] Kevin Chang et al., *Healthcare Access in the Aftermath: A Longitudinal Analysis of Disaster Impact on US Communities*, 22 Int'l J. Env't Research & Public Health 733 (2025), doi.org/10.3390/ijerph22050733.

[34] Omalola E. Adepoju, *Not "Woke" Agendas, Basic Human Rights: Reimagining Disaster Preparedness through Maslow's Lens*, 13 Front. Public Health (2025), doi.org/10.3389/fpubh.2025.1533117.

[35] Chelsea Harvey, *Oceans Are Warming Faster than Predicted*, Sci. Am, Jan. 11, 2019, https://tinyurl.com/wwb2kb92.

[36] World Meteorological Organization, *Press Release: WMO Confirms 2024 as Warmest Year on Record at about 1.55°C above Pre-industrial Level*, Jan. 10, 2025, https://bit.ly/3XyYgAS.

[37] Passage of the Inflation Reduction Act (IRA) in 2019, which is the only climate-related legislation in US history, represented a modest step forward in US climate regulation. The measures approved to address climate change in the IRA, however, are largely "carrots," not "sticks," and were included

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shortsighted and unsustainable human consumption and overwhelming resistance to transitioning away from self-destructive habits that destroy our planet at an ever-accelerating pace.

International environmental diplomacy takes time, but in a few instances it was well worth the wait. For example, the UN Convention on the Law of the Sea (UNCLOS)[38] and the Montreal Protocol regime[39] are two international environmental treaty frameworks that have been highly successful in addressing daunting global environmental problems.[40] These two treaty regimes are nostalgic reference points for the positive results that the international community can realize when international environmental diplomacy devises effective international regulatory frameworks. Unfortunately, these examples of success in international environmental diplomacy did not penetrate the twenty-first century as the Anthropocene era ushered in a paralyzing impasse in responding to the most pressing political, environmental, and sociocultural issue of our time: climate change.

For a variety of reasons, the climate change treaty regime has been disappointingly different from these two global environmental success stories. From its auspicious beginnings at the UN Conference on Environment and Development in 1992, the UN Framework Convention on Climate Change (UNFCCC) faced a daunting task in seeking to manage a global environmental problem that was larger and more rapidly progressing than most had anticipated.[41]

In the early 1990s, climate change was perceived as a challenging global environmental problem that could be managed effectively through ambitious global GHG mitigation efforts. The UNFCCC laid a foundation that was painted with broad strokes, leaving the real challenges to be worked out in the details of the Kyoto Protocol that followed shortly thereafter.[42] If effectively implemented, the principles referenced in the UNFCCC – the precautionary principle, common but differentiated responsibility, common concern of humankind, and intergenerational equity – could be effective in regulating climate change. However, the ultimate approach to international climate change regulation belied the laudable objectives reflected in

as part of an appropriations bill, not as free-standing climate legislation. *See* Brian Murray & Jonas Monast, *Carrots, Sticks, and the Evolution of U.S. Climate Policy*, 11 Texas A&M L. Rev. 431 (2024). Worse still, as of this writing in 2025, the Trump administration is seeking to eviscerate many components of this legislation. *See* Simmone Shah, *How Trump Is Trying to Undo the Inflation Reduction Act*, Time, Feb. 27, 2025, https://tinyurl.com/msxde7nt.

[38] UNCLOS (Dec. 10, 1982), 1833 U.N.T.S. 397.

[39] Montreal Protocol on Substances that Deplete the Ozone Layer (Sept. 16, 1987), 1522 U.N.T.S. 3.

[40] *See* Joanna Mossop, *Can We Make the Oceans Greener? The Successes and Failures of UNCLOS as an Environmental Treaty*, 49 Vict. U. Wellington L. Rev. 573, 578–79 (2018); Melissa J. Durkee, *Persuasion Treaties*, 99 Va. L. Rev. 63, 104–10 (2013); Bryan A. Green, *Lessons from the Montreal Protocol: Guidance for the Next International Climate Change Agreement*, 39 Envtl. L. 253, 256–68 (2009); Cass R. Sunstein, *Of Montreal and Kyoto: A Tale of Two Protocols*, 31 Harv. Envtl. L. Rev. 1, 17–22, 22–35 (2007).

[41] UNFCCC (May 9, 1992), 1771 U.N.T.S. 107 (entered into force Mar. 21, 1994).

[42] Kyoto Protocol to the UNFCCC, Dec. 10, 1997, 37 I.L.M. 22 (entered into force Feb. 16, 2005).

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these principles. Instead of applying the precautionary principle to climate change threats, the global response has been muted by varying degrees of an unwarranted cost–benefit approach. Worse still, the most conservative and inexcusable cost–benefit approaches in favor of business-as-usual economic growth were implemented in some of the wealthiest and most developed countries that are also among the largest emitters of GHGs: the United States, Canada, and Australia.

Common but differentiated responsibility took various forms in the past three decades,[43] but it never adequately reflected the developed countries' moral and political responsibility to assist developing countries, even those with rapidly developing economies. The bedrock principle of international environmental diplomacy, the common concern of humankind, degraded into a shameful reality in which the economically and politically powerful nations acted in their self-interest with no consequences. Most tragically, the objective to act in a manner respectful of intergenerational equity was shamelessly overlooked in the climate change treaty framework. In fact, the most enduring legacy of climate change diplomacy will likely be the proliferation of climate justice litigation in the United States and in many countries across the globe seeking to hold governments and multinational corporations accountable with intergenerational equity-based lawsuits for these governments' and private actors' contributions to exacerbating the climate change crisis.[44] To help fill the void where politicians have failed to fulfill their responsibilities to present and future generations, the courts are now seizing the opportunity to reorient humanity's moral compass toward an ecocentric paradigm in regulating climate change before it is too late.[45]

Was the Kyoto Protocol a success or failure? One statistic tells two stories. Global GHG emissions increased slightly during the Kyoto Protocol's implementation period from 1997 to 2012. While this statistic appears to be bad news, when one considers that the United States, China, and other major GHG-emitting countries did not participate in complying with the mandates of this regime, this outcome can be considered a success of near-global cooperation.[46] Ultimately, however, the fact that major GHG emitters were able to remain on the sidelines and refuse to participate in addressing this global crisis was a preview of the deepening dysfunction reflected in the Paris Agreement. The Kyoto Protocol's exclusive focus on mitigation also was

[43] *See* Patricia G. Ferreira, *From Justice to Participation: The Paris Agreement's Pragmatic Approach to Differentiation*, in Climate Justice: Case Studies in Global and Regional Governance Challenges 25–47 (Randall S. Abate, ed., 2016) (discussing how the early form of common but differentiated responsibility in the UNFCCC treaty framework focused on justice considerations, whereas the form adopted in the Paris Agreement is grounded in pragmatism).

[44] *See infra* Chapters 2 and 3 for a discussion of these lawsuits.

[45] For a discussion of the new reorientation toward an ecocentric paradigm in international courts, see *infra* Chapter 6 on the landmark advisory opinions from the International Tribunal for the Law of the Sea (2024), the IACtHR (2025), and International Court of Justice (ICJ) (2025).

[46] *See* Duncan Clark, *Has the Kyoto Protocol Made Any Difference to Carbon Emissions?* The Guardian, Nov. 26, 2012, https://tinyurl.com/4vp6e949.

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perhaps misplaced in hindsight, but that was in part a function of the evolving clarity with which climate scientists conveyed the message that "all we can really do is brace for impacts" from climate change and promote effective adaptation strategies.

Adaptation quickly became the name of this new regulatory game. Notwithstanding the need for effective adaptation efforts, the integration of human rights considerations into the post-Kyoto regulatory efforts could not have been slower. Years of coordinated efforts from indigenous peoples and small island nations' organizations led to little or no progress in accounting for the human rights impacts of climate change. The ensuing agreements leading up to and including the post-Kyoto regime reflected in the Paris Agreement all failed miserably in properly acknowledging and implementing these principles. It was the failure of these international instruments that gave rise to a burgeoning and vocal climate justice movement in courts, negotiating rooms, legislatures, academia, and civil society.

International environmental diplomacy is always highly politicized and has featured many nearly irreconcilable impasses between developed and developing countries in many international environmental agreements. But the climate change treaty was different. Rather than striking effective compromises between developed and developing countries' interests (like the grace period for developing countries' compliance in the Montreal Protocol regime), the political clashes between the developed and developing world in the climate change treaty regime only seemed to grow more strident and irreparable with every COP leading up to the Paris Agreement. Ultimately, the Paris Agreement reluctantly conceded that neither side would win that battle. Climate change treaty regime efforts have proceeded from that cracked foundation of the "new normal" of the developed and developing countries' failure to reach effective negotiated compromises on climate change regulation.

Last-minute deals, including efforts by the US delegation, saved the negotiations from collapsing with no agreement.[47] Heralded by some as a success,[48] the Paris

[47] Jonathan Chait, *The Paris Climate Deal Is President Obama's Biggest Accomplishment*, N.Y. Magazine, Dec. 14, 2015, https://shorturl.at/BJDj3; Martin Pengelly, *Obama Praises Paris Climate Deal as "Tribute to American Leadership,"* The Guardian, Dec. 12, 2015, https://shorturl.at/akvK4; Justin Worland, *How the U.S. Became an Unlikely Hero at the Paris Climate Summit*, Time, Dec. 9, 2015, http://time.com/4140684/obama-paris-climate-talks/.

[48] Commentators disagree on whether the Paris Agreement is a success, a failure, or an outcome with a mix of gains and setbacks. For articles praising the Paris Agreement as a success, *see generally* David G. Victor, *Why Paris Worked: A Different Approach to Climate Diplomacy*, Yale Env't 360, Dec. 15, 2015, https://shorturl.at/ozj3u (noting that flexible strategy and a willingness to accept nonbinding commitments helped the Paris Agreement secure a solid foundation to promote a carbon-free future); Radislav S. Dimitrov, *The Paris Agreement: Behind Closed Doors*, 16 Global Envtl. Politics 1 (Aug. 2016) (contending that climate diplomacy succeeded in the Paris Agreement in part because of persuasive arguments that the economic benefits of climate action altered preferences to support policy commitments at the national and international levels). For arguments characterizing the Paris Agreement as a failure, *see generally* Clive L. Spash, *This Changes Nothing: The Paris Agreement to Ignore Reality*, 13 Globalizations 928 (2016), https://tinyurl.com/4zsymubv

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Agreement features many compromises that only those with very low standards would consider a successful diplomatic outcome. Decades of dysfunction ultimately paved the way for cheers in welcoming this tepid diplomatic response to a burning global environmental problem. The mandate from Paris in oversimplified terms was that each country should do the best it can to reduce its GHGs – surely not a recipe to save the planet from ecological disaster.

And then the news got worse. The marginal agreement was insufficient to address what climate scientists were predicting. Groups and individuals sued their countries that had agreed to Paris Agreement targets, asserting that their countries had failed to fulfill those commitments[49] or needed to exceed those commitments based on the latest projections from climate scientists.[50] The sobering 1.5°C IPCC Assessment Report in 2018 sent a wave of panic through the climate policy world.[51] Incremental progress was achieved at COP 24 in Katowice, Poland, including the Katowice "Rulebook," which includes mandates for mitigation, adaptation, and finance to fulfill the Paris Agreement's goals.[52] Unfortunately, overall, the sense of urgency in the wake of the 1.5°C IPCC Report hit a brick wall at Katowice, where yet another climate change COP failed to command more aggressive global climate change regulation to respond to the evolving clarity and warnings from climate change science.[53]

The Climate COPs in the past several years continued to disappoint with only incremental victories addressing "low-hanging fruit" issues in climate governance mechanisms and reflecting a consistent lack of urgency to respond to the global

(expressing concern that the Paris Agreement reflects a commitment to sustained industrial growth, risk management over disaster prevention, and future innovations in technology as the preferred responses to the climate change crisis); Adam Frank, *Paris Climate Agreement: Success or Failure?*, NPR.ORG (Jan. 12, 2016), https://tinyurl.com/3m4ve8yd (noting that the Paris Agreement's targets are too weak and the governance is too uncertain). For characterizations of the Paris Agreement as a mix of gains and setbacks, *see generally* Jeff Goodell, *Saving the Paris Agreement*, ROLLING STONE (Jan. 18, 2019), https://tinyurl.com/2hz2fkvx ("imperfect, not ambitious enough, and failed to address the many inequities of climate-change impacts. But it was a platform from which a better, stronger agreement could be built"); Raymond Clémençon, *The Two Sides of the Paris Climate Agreement: Dismal Failure or Historic Breakthrough?*, 25 J. ENV'T & DEV'T 3 (2016), https://journals.sagepub.com/doi/full/10.1177/1070496516631362 (observing that the Paris Agreement is an aspirational global accord that will trigger and legitimize more climate action around the world; however, it is unclear whether such efforts will happen quickly enough and at a sufficient scale to avoid disastrous warming of the planet).

[49] For more information on this theory of climate justice litigation, *see infra* Chapter 2 for a discussion of the *Leghari* case in Pakistan.

[50] For more information on this theory of climate justice litigation, *see infra* Chapter 2 for a discussion of the *Urgenda* case in the Netherlands.

[51] IPCC 1.5°C Report, *supra* note 8.

[52] For a comprehensive summary of the outcomes in Katowice, *see generally* Center for Climate and Energy Solutions, *Outcomes of the UN Conference of Climate Change in Katowice* (Dec. 2018), www.c2es.org/site/assets/uploads/2018/12/cop-24-katowice-summary.pdf.

[53] Prem Shankar Jha, *The Katowice Summit Has Been a Resounding Failure*, HINDUSTAN TIMES, Dec. 20, 2018, https://tinyurl.com/2pj4va3r.

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climate emergency. For example, at COP26 in Glasgow in 2021, the parties finalized rules for implementing Article 6 of the Paris Agreement, which established mechanisms for international climate cooperation through market-based approaches.[54] The Global Methane Pledge also was introduced by the United States and the European Union (EU), aiming to reduce methane emissions by 30 percent between 2020 and 2030.[55] At COP27 in Sharm el-Sheikh in 2022, outcomes included a work program on just transition and a dialogue on Article 2.1(c) concerning finance flow consistency.[56]

At COP28 in Dubai in 2023, the first Global Stocktake assessment under the Paris Agreement was concluded, encouraging nationally determined contributions (NDCs) to align with the 1.5°C goal.[57] The assessment warned that current commitments are insufficient, with policies potentially leading to a 2.7°C increase by 2100,[58] and urged governments to increase efforts to prevent global temperature rise beyond 1.5°C.

Negotiations at COP29 in Baku in 2024 similarly fell short of expectations. A new goal on climate finance was adopted, setting a target of at least US$300 billion per year by 2035 for developing countries, with a scalable target of US$1.3 trillion annually from all sources, led by developed nations. Nevertheless, developing countries criticized the goals as insufficient, indicating that trillions are required to bridge gaps in mitigation, adaptation, and loss and damage financing.[59] Moreover, although oil companies pledged to cut methane emissions from wells and drilling by over 80 percent by the decade's end, these phase-out pledges for fossil fuels were not renewed at COP29.[60]

The negotiations on loss and damage were a major component of global climate diplomacy to address climate adaptation in the Global South in recent years. For example, at COP27 in Sharm el-Sheikh in 2022, a landmark commitment was made to establish the Loss and Damage Fund, providing financial assistance to countries vulnerable to climate disasters, thereby addressing inequalities in climate impacts.[61] One year later, at COP28 in Dubai, a decision was reached to house the Loss and Damage Fund at the World Bank, with Global North nations such as

[54] Lindsay Maizland & Clara Fong, *Global Climate Agreements: Successes and Failures*, Council on Foreign Relations, Jan. 25, 2025, www.cfr.org/backgrounder/paris-global-climate-change-agreements.

[55] *Id.*

[56] Decision -/CP.27, Sharm el-Sheikh Implementation Plan, https://unfccc.int/sites/default/files/resource/cop27_auv_2_cover%20decision.pdf.

[57] *Summary Report, 16–26 June 2025, Bonn Climate Change Conference – June 2025*, IISD Earth Negotiations Bulletin, June 30, 2025, https://enb.iisd.org/bonn-climate-change-conference-sb62-sbi62-sbsta62-summary.

[58] Maizland & Fong, supra note 54.

[59] *Summary Report, 16–26 June 2025*, *supra* note 57.

[60] Maizland & Fong, *supra* note 54.

[61] *Id.*

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the United States, Japan, the United Kingdom, and EU members pledging about US$430 million combined.[62]

At COP29 in Baku in 2024, financial mechanisms addressing climate impacts under Paris Agreement Articles 6.2 and 6.4 were implemented, including arrangements for the Fund for Responding to Loss and Damage.[63] The first joint annual report of the Warsaw International Mechanism (WIM) on Loss and Damage Executive Committee was issued at the Bonn Climate Change Conference in June 2025, recommending draft decisions to be discussed in November 2025.[64] Nevertheless, disagreements persisted regarding national loss and damage plan guidelines and finance scaling.[65]

Why has the climate change treaty regime failed so miserably? There are several reasons, but a discussion of most of them is beyond the scope of this book.[66] At the root of the failure is human nature. First, humans are very poor at regulating long-term, slow-onset crises.[67] We are much better at responding to disasters after they occur rather than preparing for the ones that are likely to occur in the future. Second, economic problems always take precedence over both real and perceived environmental threats, with no exceptions. Third, we prefer reactive, targeted interventions to address a problem rather than slowly evolving, cumulative, and proactive responses. Therefore, we have a history of waging war as the solution to a diplomatic problem that was inconveniently protracted and difficult to address. We are now gearing up for the next global bombing campaign, but it has nothing to do with warfare. We are gearing up to "bomb" the atmosphere and other global commons resources in an effort to geoengineer our way out of the climate change crisis, or to at least extend our ability to survive as a species on this planet in the Anthropocene era.[68]

Responding to NGO advocacy and the need for coordination amid rising climate disasters, the UN Convention on Geoengineering (UNCG) was established in 2022.[69]

[62] *Id.*

[63] *Summary Report, 16–26 June 2025*, *supra* note 57.

[64] *Id.*

[65] *Id.*

[66] The climate change crisis poses daunting challenges for many reasons beyond the scope of this book, including human nature and the inherent reluctance to address long-term, slow-onset problems effectively; the economic implications of an aggressive response to the problem; the need to proceed in the face of persistent climate change denial efforts from politicians, civil society, and private-sector funded scientists; the expansive scope of the problem across all sectors of society; and the role of the United States and its failure to provide political leadership on this issue.

[67] George Monbiot, *Why Is Climate Change Denial So Seductive?*, Conservation, Jan. 14, 2010, www.conservationmagazine.org/2010/01/why-is-climate-change-denial-so-seductive/.

[68] For a discussion of the various forms, proposed uses, and risks of climate geoengineering techniques, *see generally* Climate Change Geoengineering: Philosophical Perspectives, Legal Issues, and Governance Frameworks (Wil C. G. Burns & Andrew L. Strauss, eds., 2013); Catriona McKinnon, *Time Is Running Out on Climate Change, but Geoengineering Has Dangers of Its Own*, The Conversation, Dec. 3, 2018, https://tinyurl.com/y9n2p9hr.

[69] See Masahiko Haraguchi et al., *Human Intervention in the Earth's Climate: The Governance of Geoengineering in 2025+*, Global Governance Futures, 21–23, https://tinyurl.com/4mt7sztt.

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The UNCG provides a governance forum for solar radiation management (SRM), including rules for field tests, a coordinating technical body, a scientific advisory council, and a dispute resolution process.[70] The UNCG attracted broad international support as countries sought to influence SRM development.[71] Despite growing acceptance, critics warned of unknown side effects and the risk that SRM could become a permanent solution, distracting from mitigation and adaptation efforts.[72]

Another root problem in our regulatory efforts is that the climate change treaty regime – much like our air, water, and land-based pollution control and fisheries management regimes – is based on a flawed premise. They proceed from the assumption that resources are to be harnessed and consumed for human use. Therefore, the only "management" involved in this approach to natural resources is in regulating how much will be consumed and how soon. The discussion is hardly ever about a "restricted consumption" or "restricted development" option.

This pro-development, pro-consumption approach to environmental management is fundamentally unsustainable. Despite our blind assumptions about their inexhaustible supply, the planet's resources are finite and ecosystems have collapsed and continue to collapse under this exploitative pressure. The sustainable development paradigm that emerged in the late 1980s was the first step in rescuing humankind from its self-destructive practices. A long-overdue "look before you leap" mandate was imposed on development decisions, which asked whether a proposed development effort would be able to proceed in a manner that would ensure an adequate supply of resources for future generations. Regrettably, this "think before acting" mantra often was nothing more than lip service and a check mark on a form that enabled "business as usual" to proceed without interruption in most instances. Environmental consciousness became trendy, "greenwashing" became the corporate sector's new way of conducting business,[73] and our development-focused habits persisted.

The 1970s and 1980s revealed many global environmental crises that were caused by our development-focused relationship with the environment. Although many of the global environmental legal responses were effective in treating each of those "symptoms" of global environmental demise, the "disease" soon emerged. Regardless of how effective we were in addressing stratospheric ozone depletion, species extinction, ocean management, and wetlands conservation, the drivers underlying each of these problems had a cumulative effect on exacerbating the most significant and multifaceted global environmental threat: climate

[70] *Id.*
[71] *Id.*
[72] *Id.*
[73] "Greenwashing" refers to the practice of making unsubstantiated or misleading claims about the environmental benefits of a product or service. Peter N. Golder & Debanjan Mitra, eds., Handbook of Research of Research on New Product Development 234 (2018).

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change. Even with good intentions and good regulatory strategies – both of which we lacked, based on the earlier discussion – climate change was by far the most vexing global environmental threat because of its comprehensive scope and the financial commitment and political will that would be necessary to mobilize an effective response.

The calls for rights of future generations, wildlife, and nature came much later after efforts to engage common but differentiated responsibility under the UNFCCC regime did little to address the climate change crisis. Common but differentiated responsibility reflects a right to development, which deepened the climate change crisis. The ideal was to enable development in the developing world in a "clean" manner through mechanisms such as the Clean Development Mechanism (CDM). While the CDM made some progress toward this goal in economically advanced developing countries like China and India, it was not as effective in promoting clean development in the least developed countries, where traditional development continues unabated.[74]

The first step toward a paradigm shift in climate change regulation was realized in recognizing the plight of the vulnerable communities and nations, which illuminated the human rights dimensions of climate change and laid a foundation for the climate justice movement to emerge. Riding on the coattails of advocacy and some limited protections for the vulnerable, legal protections have only recently expanded to secure protection of the voiceless. Some of these developments are related to climate change impacts, while others are not.[75]

Apart from inherent limitations of human nature, the elephant in the room of global climate change diplomacy dysfunction is the United States. The United States' failure to address climate change at the federal level spanned three frustrating decades and included worthwhile cap-and-trade and carbon tax bills that were resoundingly defeated. Even a significant victory in the courts – *Massachusetts* v. *EPA* [Environmental Protection Agency] – became embroiled in court challenges for a decade after the decision was handed down in 2007, only to be undone by the first Trump administration and courts in the wake of the Obama administration's late and limited victory with the Clean Power Plan.[76] Despite the federal

[74] Marie Blévin, *The Clean Development Mechanism and the Poverty Issue*, 41 ENVTL. L. 777, 783 (2011); Bharathi Pillai, *Moving Forward to 2012: An Evaluation of the Clean Development Mechanism*, 18 N.Y.U. ENV'T. L.J. 357, 360, 383–402 (2010); Michael Wara, *Measuring the Clean Development Mechanism's Performance and Potential*, 55 UCLA L. REV. 1759, 1763–64 (2008).

[75] National Environmental Policy Act, 42 U.S.C. §§ 4321–47 (2018); The Endangered Species Act, 16 U.S.C. § 1531–40 (2018); *see infra* Chapter 6 for a discussion of how these statutes can facilitate the transition to an ecocentric paradigm.

[76] As of this writing in 2025, in the first year of the second Trump administration, several efforts to continue to undercut climate regulation are underway, including limiting the protections of the IRA and seeking to invalidate EPA's endangerment finding that enables the federal government's regulation of climate change. *See* Chelsea Harvey & Scott Waldman, *EPA Attacks Climate Science. Here Are the Facts*, CLIMATE WIRE (July 30, 2025), https://tinyurl.com/y7d4h2a4.

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government's inertia, state and local government regulatory measures and private sector initiatives have been encouraging and are better than nothing, but are also too little, too late.

1.2 THE TRANSITION TO AN ECOCENTRIC PARADIGM: WHAT, WHY, AND HOW

What will it take to move away from this conspicuous series of failures toward an ecocentric paradigm and address the climate change crisis more effectively? Action at the national level to promote increased government stewardship and rights-based protections enforced by the judiciary offer the most promise. In the past decade, signs of a transition toward an ecocentric paradigm of regulation have started to surface in several foreign domestic contexts, and at the local government level in the United States. These developments have occurred within and outside the climate change context.

The anthropocentric paradigm under which the world currently operates is an approach under which "humans consider themselves the dominant and most important life form; non-humans are important only insofar as they are useful for maintaining the position of humans at the top of the social hierarchy."[77] The ecocentric approach, by contrast, embraces the inherent value of nature without regard for its value to humanity.[78] This approach is reflected in the rights of nature movement, most notably in Latin America, and most prominently reflected in the language in Ecuador's 2008 Constitution.[79]

There are several reasons why a transition toward an ecocentric paradigm is underway now. Since 2015, there has been a "perfect storm" of developments scientifically, politically, and culturally that have drawn increased attention to climate change and the need for more aggressive regulation. A growing awareness of major climate change impacts from hurricanes, record-setting heat, wildfires, and the urgent need to respond to and regulate this crisis as reflected in the IPCC 1.5°C Report, has prompted increased dialogue and initiatives to develop more effective climate change regulation.

Several ambitious and creative developments have occurred in recent years in the United States and abroad in the courts and in legislative arenas. The rights of nature movement has secured impressive victories throughout the world in constitutional, legislative, and judicial developments that recognize the ability of natural resources to secure legal protections based on their intrinsic value and pursue the

[77] Paola Villavicenzio & Louis Kotze, *Living in Harmony with Nature? A Critical Appraisal of the Rights of Mother Earth in Bolivia*, 7 Transnat'l Envt'l L. 397, 398 (2018).

[78] *Id.* (internal citations omitted).

[79] *Id.* (internal citations omitted). For a discussion of the rights of nature movement in the US and in several foreign domestic contexts, *see infra* Chapter 5.

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opportunity to vindicate these rights in court.[80] Though ultimately unsuccessful, the bold ambition of the Green New Deal[81] was also a notable step in its proposal to transform the nature and scope of how the United States can address climate change by treating the issue as a societal problem with many social, political, and economic variables, rather than merely as an environmental problem. A similar effort, the European Green Deal, was enacted; however, its ecocentric ambitions failed to gain traction.

The European Green Deal was approved by the European Commission in 2019, signaling what Commission President Ursula von der Leyen called "Europe's 'man on the moon' moment."[82] The Green Deal is a framework for achieving Europe's goals from the 2015 Paris Agreement: namely, a 55 percent decrease in emissions by 2030 compared to 1990 levels, and emissions neutrality by 2050.[83] At its core, the Deal is a growth strategy, although numerous initiatives also center just transition and support of vulnerable populations through the Just Transition, Social Climate, and EU Solidarity Funds, as well as the EU Civil Protection Mechanism.

To date, the Green Deal has yielded mixed results. Successes have been realized in the energy, wastewater, recycling, and manufacturing policy sectors, whereas failures have manifested in fossil fuels management, conservation, and taxation.[84] Populist momentum gains in national and continental elections, pressure from farmers' protests, and changes in American strategy have all destabilized the Deal's implementation pathways.[85]

The Green Deal's lack of ecocentric ambition has raised concern. One scholar noted that the Green Deal's contents "do not result in considerable changes to the discourse on human-nature relations."[86] Indeed, its provisions guarantee increased consumption and characterize the climate crisis as a challenge of sourcing.[87]

A more promising and groundbreaking legal development to facilitate the transition to an ecocentric paradigm occurred in the Inter-American Court of Human Rights (IACtHR). On February 7, 2018, the Court published a landmark advisory

[80] H. Res., Recognizing the duty of the Federal Government to create a Green New Deal, 116th Cong., 1st Sess. (Feb. 7, 2019), https://tinyurl.com/y4k3pmxa.

[81] For a discussion of these developments, *see infra* Chapter 5.

[82] *Press Remarks by President von der Leyen on the Occasion of the Adoption of the European Green Deal Communication*, European Commission (2019), https://ec.europa.eu/commission/presscorner/detail/en/speech_19_6749.

[83] *European Green Deal*, European Commission, https://tinyurl.com/yu6d6ma2.

[84] Nicolas de Sadeleer, *The European Green Deal: Greenwashing Compounded by Deregulation (Omnibus Law) or a Genuine Paradigm Shift?*, European J. Risk Reg. 18–21 (2025).

[85] Lisa O'Carroll, EU Nature Restoration Laws Face Collapse as Member States Withdraw Support, The Guardian (Mar. 25, 2024). https://tinyurl.com/3m2hkkzu.

[86] Louise Lamers, *The Human-Nature Divide in European Union Environmental Policy*, 31 J. Polit. Ecology 823 (2024).

[87] De Sadeleer, *supra* note 84.

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opinion in response to a request to provide guidance on the interaction of international human rights law and international environmental law.[88]

The Court's opinion included three significant legal developments. First, the opinion recognized the existence of a fundamental right to a healthy environment, reflected in Article 26 of the American Convention and in member states' constitutions and international instruments.[89] Second, the Court articulated a new test to determine the Convention's extraterritorial application in cases involving environmental harm, clarifying the scope of the American Convention in environmental matters, which included the issue of whether the term "jurisdiction" in Article 1(1) of the American Convention could encompass extraterritorial obligations relating to environmental harm.[90] The Court determined that the term "jurisdiction" encompasses any situation in which a state exercises "authority" over a person or subjects the person to its "effective control," whether within or outside its territory, and explained that it can include activities within a state that cause cross-border effects, noting that states have a duty to prevent transboundary environmental damage that could impair the rights of persons outside their territory.[91] The Court essentially redefined the "effective control" test, now looking at the state's control over the domestic activities in question rather than control over a person or territory; further, it explained that the state has effective control over the activities that caused the damage and is in a position to prevent harm.[92]

Third, the Court clarified the duties, in the context of transboundary environmental harm, to respect and ensure the rights to life and personal integrity interpreted in light of international environmental law and provided guidance on their application in the Inter-American Human Rights System.[93] The Court emphasized the importance of (1) the duty to prevent environmental harm, (2) the precautionary principle, (3) the duty to cooperate with potentially affected states, and (4) procedural environmental rights.[94]

The Court reiterated that states have a duty to prevent "significant" harm to the environment of other States or the global commons, in that states must, at a minimum, regulate, supervise, and monitor activities under their jurisdiction that could cause significant harm to the environment.[95] Further, state responsibility is not limitless as the Court explained that international responsibility would attach if

[88] Maria L. Banda, *Inter-American Court of Human Rights' Advisory Opinion on the Environment and Human Rights*, 22 ASIL Insights, Issue No. 6 (May 10, 2018), https://tinyurl.com/2wdt6fy3. IACtHR, *Advisory Opinion OC-23/17 on the Environment and Human Rights*, at 7 (Nov. 15, 2017).

[89] IACtHR, *supra* note 88 (Nov. 15, 2017); *see also* A. Papantoniou, *Advisory Opinion on the Environment and Human Rights*, 112 Am. J. Int'l L. 460 (2018).

[90] IACtHR, *supra* note 90.

[91] *Id.*

[92] *Id.*

[93] *Id.* at 101.

[94] *Id.* at 125.

[95] *Id.* at 145.

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the state (1) knew, or should have known, that there was a real and immediate risk to protected rights and failed to take the necessary measures that would have been reasonably expected to prevent such risk and (2) if there is a causal link between the significant harm to the environment and the human rights impacts.[96] The Court found sufficient evidence for states to act in accordance with the precautionary principle and adopt, even in the absence of scientific certainty, measures to prevent serious or irreversible damage to the environment.[97] The Court also found that a duty to cooperate with potentially affected states for transboundary environmental harm is applicable under the American Convention and that states must cooperate to protect against environmental damage and rights of persons under their jurisdiction.[98]

The Court reaffirmed that procedural environmental rights are fundamental for the fulfillment of other rights in the American Convention, previously finding that Article 13 of the Convention requires states to grant access to information relating to activities that might harm the environment.[99] The Court recognized that states currently have a duty under Article 23(1)(a) to ensure the public's right to participate in decisions that might affect the environment, and a duty under Articles 8(1) and 25 to ensure public access to justice in environmental matters.[100]

The Court's new test for extraterritoriality is sufficiently broad so as to enable recovery for transboundary climate-related harms.[101] The opinion also laid a foundation for other human rights tribunals and national courts that have recognized the adverse impact of climate change on human rights.[102]

On July 26, 2022, the UN General Assembly (UNGA) unanimously passed Resolution A/76/L.75 on the right to a clean, healthy, and sustainable environment.[103] The resolution is grounded in a wide array of international frameworks and agreements, including the Universal Declaration of Human Rights, the Stockholm and Rio Declarations, and the 2030 Agenda for Sustainable Development.[104] The resolution affirms that environmental protection and the enjoyment of human rights are deeply interconnected.[105]

[96] *Id.* at 180.
[97] *Id.*
[98] *Id.*
[99] *Id.* at 210.
[100] *Id.*
[101] *Id. See also* Christopher Campbell-Duruflé & Sumudu Anopama Atapattu, *The Inter-American Court's Environment and Human Rights Advisory Opinion: Implications for International Climate Law*, 8 Climate L. 321, 333–35 (2018).
[102] For an opinion that embraces and extends the reach of this opinion, see *infra* Chapter 6 for the discussion of the IACtHR's landmark climate change advisory opinion in 2025.
[103] UNGA, Res., A/76/L.75, July 26, 2022, https://digitallibrary.un.org/record/3982508?ln=en&v=pdf#files (hereinafter "UNGA Resolution A/76/L.75"); *UNGA Recognizes Human Right to Clean, Healthy, and Sustainable Environment*, IISD, Aug. 4, 2022, https://tinyurl.com/y8xpjpmd.
[104] UNGA Resolution A/76/L.75, at 1.
[105] *Id.* at 2.

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The resolution recognizes that environmental harm, including climate change, pollution, biodiversity loss, and poor resource management, negatively impacts the ability of individuals and communities to fully enjoy their human rights.[106] It acknowledges that vulnerable groups, including women and girls, Indigenous peoples, children, older persons, and people with disabilities, are disproportionately impacted by environmental degradation.[107] It also stresses the importance of gender equality and women's leadership in environmental decision-making and climate action.[108]

The resolution provides that States have a duty to respect, protect, and promote human rights in the context of environmental issues.[109] This duty includes taking special measures for those most affected by environmental damage.[110] It also acknowledges the importance of public participation, access to information, and access to justice in environmental matters as essential components of protecting this right.[111] The resolution calls on States, international organizations, businesses, and other stakeholders to adopt supportive policies, enhance international cooperation, and build capacity to implement solutions.[112] It promotes the full implementation of multilateral environmental agreements and encourages the sharing of best practices to realize a clean, healthy, and sustainable environment for all.[113]

Even more critical than meaningful legal developments seeking to facilitate a transition to an ecocentric paradigm, inspiration for reform must come from cultural and religious leaders to mobilize the masses. Pope Francis's encyclical letter, *Laudato Si'*, is a revolutionary text that discusses the deep connection between the Earth and humanity.[114] It has already helped raise awareness of the need for urgent and effective responses to the climate change crisis.[115] Several passages in the letter address the need to provide protections and rights to future generations. Pope Francis notes, "We can no longer speak of sustainable development apart from intergenerational solidarity."[116] He discusses rampant consumerism and the disregard for what that lifestyle can bring for future generations. The Pope expresses concern regarding the lack of preparedness contemporary society faces in noting, "We have

[106] *Id.*
[107] *Id.*
[108] *Id.* at 3.
[109] *Id.*
[110] *Id.*
[111] *Id.*
[112] *Id.*
[113] *Id.*
[114] Pope Francis, *Laudato Si'* 118, May 24, 2015, https://tinyurl.com/yjsrbuut.
[115] Albert C. Lin, *Pope Francis' Encyclical on the Environment as Private Environmental Governance*, 9 Geo. Wash. J. Energy & Envtl. L. 33, 44 (2018) ("'*Laudato Si'* advances discussion regarding what sustainable development should mean and why it matters to all of us, reminding us of the potentially critical role of religion in tackling environmental challenges.").
[116] *Laudato Si'*, *supra* note 114, at 116.

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not yet managed to adopt a circular model of production capable of preserving resources for present and future generations, while limiting as much as possible the use of nonrenewable resources, moderating their consumption, maximizing their efficient use, reusing and recycling them."[117] These words reflect the mandate of sustainable development, a goal that has been largely mere aspirational rhetoric since the term was coined in 1987.

This book seeks to promote a transition to an ecocentric paradigm to protect the voiceless communities by building on the Pope's imploring message to take this sustainable development mandate far more seriously. According to Pope Francis, the transition begins with humanity and our relationship to the earth. "There can be no renewal of our relationship with nature without a renewal of humanity itself."[118] In order to be proper stewards of the earth, society must reinvent its role and its relationship with nature. "[O]ur 'dominion' over the universe should be understood more properly in the sense of responsible stewardship."[119] Pope Francis stresses the principle of interconnectedness, which lies at the heart of ecocentrism. "Nature cannot be regarded as something separate from ourselves or as a mere setting in which we live. We are part of nature, included in it and thus in constant interaction with it."[120]

At a 2024 conference on environmental crises held at the Vatican prior to his appointment as the new pope, Pope Leo stated that there must be a "relationship of reciprocity" between humanity and nature.[121] While Pope Leo expressed support for Laudato Si', his actions on climate change and whether they will differ from Pope Francis are yet to be seen.[122] Several of Pope Leo's initial calls to action on climate change appear to indicate that he will follow and extend Pope Francis's leadership on environmental stewardship.

Pope Leo spoke about climate change in his first homily as pontiff, referencing "an economic paradigm that exploits the earth's resources and marginalizes the poorest."[123] He declared that the world is in a "global climate emergency" and urged fossil fuel companies to "transition their portfolios and publicly endorsed clean energy investment."[124] Placing Laudato Si' at the foundation, Pope Leo's message is that climate change is not only a scientific and political issue, but also a spiritual crisis that requires "a faithful, urgent, and just response."[125]

[117] *Id.* at 22.
[118] *Id.* at 118.
[119] *Id.* at 116 (internal citations omitted).
[120] *Id.* at 139.
[121] Brian Roewe, *Before He Was Pope, Leo XIV Said It's Time for Action on Climate Change*, Nat'l Catholic Rep., May 9, 2025, www.ncronline.org/news/he-was-pope-leo-xiv-said-its-time-action-climate-change.
[122] *Id.*
[123] Monica Sanders, *Ways Pope Leo XIV Will Lead on Climate Justice and Sustainability*, Forbes, May 20, 2025, https://tinyurl.com/4xjkty5e.
[124] *Id.*
[125] *Id.*

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Pope Leo extended Pope Francis's "hear the cry of the Earth" message, stating that, "We must pray for the conversion of many people, inside and outside of the church, who still do not recognize the urgency of caring for our common home."[126] He recognized that natural disasters are partially caused by human excesses and lifestyle.[127] Pope Leo advocated that the church's "prophetic" words on the climate crisis must be shared widely, even if the message opposes "the destructive power of the 'princes' of this world."[128]

Despite these sources of hope, the anthropocentric lens through which humans view the environment is deeply ingrained in every aspect of society: philosophy, religion, science, and commerce. Humankind's dominion over nature and the bounty of resources that nature offers to fulfill human needs has inscribed a human signature on the widespread degradation of our planet over the past century, culminating in the climate change crisis. The unwavering focus on fulfilling human needs in the present has simultaneously betrayed future generations of humans and current generations of wildlife and natural resources. Examples of entities experiencing grave peril and possible extinction from human overconsumption in the present are the polar bear, the Great Barrier Reef (GBR), and our children and grandchildren. Their shared vulnerability has been underscored and accelerated due to climate change impacts, which threaten to push the planet and its inhabitants toward a state of irreversible environmental degradation. As the journey toward eco-annihilation has been accelerating with each passing year, so too must the efforts to force a paradigm shift in environmental governance. This paradigm shift will compel the long-overdue human perspective to perceive wildlife and nature as "subjects" rather than "objects."

Unfortunately, the transition toward an ecocentric regulatory paradigm has moved at a glacial pace, which has been outpaced by the rate of glacial melting in the Anthropocene era. Since the 1970s, environmental protection measures have been perceived as Earth-friendly exercises of our stewardship responsibilities toward Mother Earth. "Recycling" is the best example of this "too little, too late" mentality. We manufacture products from natural resources, use those products, then use economic and environmental resources to recycle those products, and claim it as a victory for the environment. A victory for the environment would only occur if those resources were left intact in the first instance and we found a way to develop as a society without them.

Indigenous peoples have embraced and continue to embrace this ecocentric thinking through "traditional environmental knowledge." Rather than devise technologically advanced interventions to adapt to the climate, we stand to gain pearls

[126] Justin McLellan, Pope *Prays* for *Conversion* of *Those Resisting Climate Action* at *New* Mass, United States Conference of Catholic Bishops, July 9, 2025, https://tinyurl.com/2s48yhfa.
[127] *Id.*
[128] *Id.*

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of wisdom from the indigenous inhabitants of the Earth who have lived in harmony with wildlife and nature for generations and have retained unsevered links to past and future generations. The devastation that climate change impacts have unleashed in indigenous communities is the first step toward protecting the voiceless communities. Understanding the perilous vulnerability under which many indigenous communities live in the face of climate change is the wake-up call that must be answered to focus on resilience-based legal responses that seek to promote true sustainable development and climate adaptation by fortifying the resilience of the voiceless communities.

Remarking on the enactment of important federal environmental legislation, President Nixon reflected: "I think that 1970 will be known as the year of the beginning, in which we really began to move on the problems of clean air and clean water and open spaces for the future generations of America."[129] Sustainable development reflects the recognition and embrace of our duty to consider the needs of future generations in our environmental management decisions of today. Some scholars have suggested that sustainable development is on its way to becoming binding customary international law due to how commonly states throughout the world embrace it as if it were required by law to do so.[130] This process takes time and sustainable development is already entering its fourth decade since its inception in 1987. The climate change crisis does not offer the luxury of time to allow this natural legal evolution to take its course. Urgent action is necessary now. The legal revolution toward embracing an ecocentric regulatory paradigm is the right thing at the right time to promote true sustainability on our planet.

[129] Richard Nixon, *Remarks on Signing of the Clean Air Act Amendments of 1970*, Dec. 31, 1970, https://tinyurl.com/2a9499xn.

[130] *See generally* Virginie Barral, *Sustainable Development in International Law: Nature and Operation of an Evolutive Legal Norm*, 23 Eur. J. Int'l L. 377 (2012); Vaughan Lowe, *Sustainable Development and Unsustainable Arguments*, in *International Law and Sustainable Development: Past Achievements and Future Challenges* 19–39 (Alan Boyle & David Freestone, eds., 1999).

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