

# Editorial: The legal protection of the Amazon rainforest

## 1 | CONTEXT

The Amazon, popularly referred to as the 'lungs of the world', is the largest rainforest and water basin in the world.<sup>1</sup> Also known as *pan-Amazônia*, it extends over eight South American countries: Bolivia, Brazil, Ecuador, Colombia, Guyana, Peru, Suriname and Venezuela.<sup>2</sup> The Amazon provides a habitat for millions of plants and animal species (about 10% of all species on Earth) and the Brazilian Amazon alone is home to 24 million people, including many indigenous peoples.<sup>3</sup> The crucial role of primary forests, such as the Amazon, in climate change mitigation is recognized in the scientific literature.<sup>4</sup> It is suggested that Brazil's tropical forests alone store around 47% of the remaining carbon budget to limit global warming to less than 1.5°C above pre-industrial levels.<sup>5</sup>

The Amazon fires of 2019 have heightened attention on the region and brought the question of Amazon conservation to the forefront of international debate. According to the Amazon Environmental Research Institute (IPAM), the recent increase in the number of fires in the Amazon is directly related to intentional land clearing for agricultural activities and not the result of the dry season,<sup>6</sup> as

suggested by the Brazilian government.<sup>7</sup> Although human-made fires are common in the Amazon during the dry season, there is widespread concern that the policies of the current Brazilian government, in power since January 2019, have had a detrimental impact on conservation efforts in the Amazon. Scientific research from Brazil's National Institute for Space Research (INPE) and the nongovernmental organization Institute of Man and Environment of the Amazon (IMAZON) shows that there were more fires in the Amazon in those municipalities with more deforestation.<sup>8</sup> As noted by researchers from IPAM, the recent Amazon fires can only be explained by the increased deforestation.<sup>9</sup> Of particular concern is the data released by INPE in late 2019, with evidence from satellite imagery showing an increase of 76% in deforestation compared to the same period in 2018.<sup>10</sup> In Bolivia, the 2019 wildfires destroyed two million hectares of forest. Other Amazon countries have seen similar increases in forest fires in the same period.<sup>11</sup> The exact scale of deforestation in the rainforest became clear following the publication of the official 2019–2020 figures by INPE, which suggested that there has been a significant rise in deforestation compared to 2018.<sup>12</sup> As discussed by Maria Antonia Tigre in this Special Issue,<sup>13</sup> the COVID-19 pandemic has further impacted on the implementation and enforcement of environmental legislation. This has also contributed to higher deforestation rates in the Amazon in 2020.<sup>14</sup>

Deforestation in the Amazon has typically been driven by the logging of high-value timber species; agricultural production,

<sup>1</sup>United Nations Environment Programme (UNEP) and Amazon Cooperation Treaty Organization (ACTO), 'Environment Outlook in the Amazonia - GEO Amazonia' (UNEP 2008) <[http://wedocs.unep.org/bitstream/handle/20.500.11822/9421/Environment\\_Outlook\\_in\\_Amazonia\\_%96\\_GEO\\_Amazonia-2009GEO\\_Amazonia\\_2009\\_1.pdf.pdf?sequence=4%26isAllowed=y](http://wedocs.unep.org/bitstream/handle/20.500.11822/9421/Environment_Outlook_in_Amazonia_%96_GEO_Amazonia-2009GEO_Amazonia_2009_1.pdf.pdf?sequence=4%26isAllowed=y)> 153. See also B Garcia, *The Amazon from an International Law Perspective* (Cambridge University Press 2011); B Garcia and JT Calasans, 'Sustainable Water Resource Management and the Amazon Basin' in W Scholtz and J Verschuuren (eds), *Regional Environmental Law: Transregional Comparative Lessons in pursuit of Sustainable Development* (Edward Elgar 2015) 220.

<sup>2</sup>In addition to French Guyana, a territory of France.

<sup>3</sup>See Brazil's most recent census (2010) for the Legal Amazon: Brazilian Institute of Geography and Statistics (IBGE), 'Censo 2010' <<https://censo2010.ibge.gov.br/noticias-censo.html?busca=1%26id=1%26idnoticia=2287%26view=noticia>>.

<sup>4</sup>B Mackey et al, 'Understanding the Importance of Primary Tropical Forest Protection as a Mitigation Strategy' (2020) 25 *Mitigation and Adaptation Strategies for Global Change* 763; H Keith et al, 'Evaluating Nature-Based Solutions for Climate Mitigation and Conservation Requires Comprehensive Carbon Accounting' (2021) 769 *Science of the Total Environment* 144,341; CV Barber et al, 'The Nexus Report: Nature Based Solutions to the Biodiversity and Climate Crisis' (F20 Foundations, Campaign for Nature and SEE Foundation 2020).

<sup>5</sup>SS Saatchi et al, 'Benchmark Map of Forest Carbon Stocks in Tropical Regions across Three Continents' (2011) 108 *Proceedings of the National Academy of Sciences of the United States of America* 9899.

<sup>6</sup>This view is echoed by Douglas Morton, head of the Biospheric Sciences Laboratory at NASA's Goddard Space Flight Center, who notes that the timing and location of the fires were more consistent with land clearing than with regional drought. See 'The Amazon Is on Fire—How Bad Is It?' (BBC News, 30 August 2019).

<sup>7</sup>Ricardo Salles Atribui Aumento de Queimadas a Seca, mas Mas Ipam diz que Estiagem este Ano foi Menor' (O Globo, 21 August 2019) <<https://oglobo.globo.com/sociedade/ricardo-salles-atribui-aumento-de-queimadas-seca-mas-ipam-diz-que-estiagem-este-ano-foi-menor-23891622>>.

<sup>8</sup>IPAM, 'Amazonia em Chamas' (2019) <<https://ipam.org.br/wp-content/uploads/2019/08/NT-Fogo-Amaz%F4nia-2019.pdf>>.

<sup>9</sup>C Costa, 'O que Ameaca e Floresta em casa um de seus 9 paises' (BBC News, 18 February 2020) <<https://www.bbc.com/portuguese/brasil-51377232>>.

<sup>10</sup>'The Amazon Is on Fire' (n 6); INPE, 'Programas Instituto Nacional de Pesquisas Espaciais' <<http://queimadas.dgi.inpe.br/queimadas/portal-static/situacao-atual/>>.

<sup>11</sup>'Bolivian Wildfires Destroy Two Million Hectares of Forest' (BBC News, 10 September 2019). See also INPE (n 10).

<sup>12</sup>See INPE (n 10); T Phillips, 'Amazon Deforestation Surges to 12-Year High under Bolsonaro' (The Guardian, 30 November 2020).

<sup>13</sup>MA Tigre, 'COVID-19 and Amazonia: Rights-Based Approaches for the Pandemic Response' (2021) 30 *Review of European, Comparative and International Environmental Law* 162.

<sup>14</sup>Data from INPE <[http://terrabrazilis.dpi.inpe.br/app/dashboard/alerts/legal/a\\_mazon/daily/](http://terrabrazilis.dpi.inpe.br/app/dashboard/alerts/legal/a_mazon/daily/)>. See MM Vale et al, 'The COVID-19 Pandemic as an Opportunity to Weaken Environmental Protection in Brazil' (2021) 255 *Biological Conservation* 108,994. See further Tigre (n 13).

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particularly cattle and soy farms, which have been the main drivers of deforestation in the Brazilian Amazon; and mining, infrastructure development, and illegal crops such as coca, which have all led to major land-use changes.<sup>15</sup> The building of dams, roads and highways—such as the Trans-Amazonia highway that cuts across the Brazilian Amazon—has also facilitated access to the forest and led to further land clearing.<sup>16</sup> There is also significant pressure for expanding mining activities in the Amazon. Worryingly, a number of mining licences have been sought in protected areas and indigenous lands in Brazil.<sup>17</sup> As discussed by Garcia et al<sup>18</sup> and Pereira<sup>19</sup> in this Special Issue, the current Brazilian President openly supports mining activities in the Amazon.<sup>20</sup>

The climate change impacts of the forest fires and deforestation are considerable. When forests are cut or burnt, their accumulated carbon stocks are depleted, releasing carbon dioxide back into the atmosphere, as we see happening in the Amazon.<sup>21</sup> Given that forests now represent only 31% of the global land area, there is an urgent need to prevent further forest loss and degradation.<sup>22</sup> As discussed by Bendel and Stephens in this Special Issue,<sup>23</sup> all eight Amazon basin States have submitted their nationally determined contributions (NDCs) under the Paris Agreement,<sup>24</sup> and all of these address deforestation to some extent, including deforestation in the Amazon. At the climate summit convened by United States President Biden in April 2021, Brazilian President Bolsonaro stated a commitment to 'to end illegal deforestation in the Amazon by 2030'.<sup>25</sup> This is no more than a restatement of Brazil's NDC, in which the country commits to implement and enforce its Forest Code 'with a view to achieve ... zero illegal deforestation by 2030'.<sup>26</sup> However, this political statement has given observers and civil society little reassurances that the target will

be met.<sup>27</sup> Just one day after vowing to fight deforestation at the summit hosted by Biden, Bolsonaro approved a further 24% cut to Brazil's environment budget for 2021.<sup>28</sup>

## 2 | CHALLENGES FOR INTER-STATE COOPERATION AND DOMESTIC IMPLEMENTATION OF ENVIRONMENTAL STANDARDS

The eight South American countries sharing the Amazon basin have engaged with the international community to strengthen their environmental laws and standards for forest and biodiversity conservation. They have all ratified the Convention on Biological Diversity,<sup>29</sup> as well as the United Nations Framework Convention on Climate Change<sup>30</sup> (UNFCCC) and the 2015 Paris Agreement. Brazil, in which most of the Amazon is located, committed to achieving zero illegal deforestation in all biomes under its National Climate Change Plan.<sup>31</sup> Brazil's target under the Paris Agreement is a reduction in annual emissions of 37% by 2025 (using a 2005 baseline), including a target of zero illegal deforestation in the Amazon by 2030<sup>32</sup>—a goal that is at odds with the current rampant rates of deforestation.<sup>33</sup>

Moreover, Brazil has ratified legal instruments aimed at safeguarding indigenous peoples' rights, including the Indigenous and Tribal Peoples Convention of the International Labour Organization (No. 169),<sup>34</sup> and it is one of the signatories of the United Nations Declaration on the Rights of Indigenous Peoples.<sup>35</sup> However, the livelihoods and survival of indigenous peoples are threatened by the various drivers of deforestation mentioned previously. The Brazilian government's plans to open the Amazon, including indigenous territories,<sup>36</sup> for economic exploitation seems to go against its constitutional obligation to safeguard indigenous peoples' rights to the land they traditionally occupy and 'protect and ensure respect for all of their property'.<sup>37</sup> As noted by Garcia and colleagues in this Special

<sup>15</sup>UNEP and ACTO (n 1).

<sup>16</sup>See A Verissimo et al (eds), *Protected Areas in the Brazilian Amazon Challenges & Opportunities* (Imazon/ISA 2011) <[https://www.socioambiental.org/banco\\_imagens/pdfs/10381.pdf](https://www.socioambiental.org/banco_imagens/pdfs/10381.pdf)> 74; B Lausche, 'Integrated Planning: Policy and Law Tools for Biodiversity Conservation and Climate Change' (IUCN 2019) <<https://portals.iucn.org/library/node/48416>>.

<sup>17</sup>Verissimo et al (n 16) 74.

<sup>18</sup>B Garcia et al, 'REDD+ and Forest Protection on Indigenous Lands in the Amazon' (2021) 30 *Review of European, Comparative and International Environmental Law* 207.

<sup>19</sup>R Pereira, 'Public Participation, Indigenous Peoples' Land Rights and Major Infrastructure Projects in the Amazon: The Case for a Human Rights Assessment Framework' (2021) 30 *Review of European, Comparative and International Environmental Law* 184.

<sup>20</sup>See International Work Group for Indigenous Affairs, 'Indigenous Peoples in Brazil' <<https://www.iwgia.org/en/brazil.html>>.

<sup>21</sup>B Mackey, 'Counting Trees, Carbon and Climate Change' (2014) 11 *Royal Statistical Society* 19.

<sup>22</sup>Food and Agriculture Organization of the United Nations (FAO), 'The State of the World's Forests' (2020) 9.

<sup>23</sup>J Bendel and T Stephens, 'Turning to International Litigation to Protect the Amazon?' (2021) 30 *Review of European, Comparative and International Environmental Law* 173.

<sup>24</sup>Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) 55 *ILM* 740. See <<https://www.cbd.int/information/parties.shtml>>; <[https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states?field\\_partys\\_partyto\\_target\\_id%5B512%5D=512&field\\_partys\\_partyto\\_target\\_id%5B511%5D=511](https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states?field_partys_partyto_target_id%5B512%5D=512&field_partys_partyto_target_id%5B511%5D=511)>.

<sup>25</sup>'Brazil's Bolsonaro Moderates Tone and Promises to Eliminate Illegal Deforestation in Country by 2030' (CNN, 22 April 2021).

<sup>26</sup>Brazil, 'Intended Nationally Determined Contribution: Towards Achieving the Objective of the United Nations Framework Convention on Climate Change' <<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Brazil%20First/BRAZIL%20NDC%20English%20FINAL.pdf>> 3.

<sup>27</sup>See 'Reputation Fears Propel Surge of ESG Investment in Brazil' (Financial Times, 11 May 2021).

<sup>28</sup>'Bolsonaro Slashes Brazil's Environment Budget, Day after Climate Talks Pledge' (The Guardian, 24 April 2021).

<sup>29</sup>Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 *UNTS* 79.

<sup>30</sup>United Nations Framework Convention on Climate Change (adopted 29 May 1992, entered into force 21 March 1994) 1771 *UNTS* 107 (UNFCCC).

<sup>31</sup>Established by Law 12.187 of 29 December 2009: Governo Federal, 'Plano Nacional sobre Mudança do Clima' (2008) <<https://antigo.mma.gov.br/clima/politica-nacional-sobre-mudanca-do-clima/plano-nacional-sobre-mudanca-do-clima.html>> 11.

<sup>32</sup>See Brazil, 'Intended Nationally Determined Contribution' (n 26) 3.

<sup>33</sup>The total deforestation in the Brazilian Amazon (Amazonia Legal) was 11,088 km<sup>2</sup> in 2020, with an increase of 9.5% between 2019 and 2020. Rates of deforestation prior to the current government were 7,536 km<sup>2</sup> in 2018 and 6,947 km<sup>2</sup> in 2017. Data from INPE: <<http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>>.

<sup>34</sup>Convention (No. 169) Concerning Indigenous and Tribal Peoples in Independent Countries (adopted 27 June 1989, entered into force 5 September 1991) 1650 *UNTS* 383.

<sup>35</sup>UNGA 'Declaration on the Rights of Indigenous Peoples' UN Doc A/RES/61/295 (2 October 2007).

<sup>36</sup>See 'Bolsonaro Says Brazil Rainforest Reserve May Be Opened to Mining' (Reuters, 13 April 2019).

<sup>37</sup>Brazilian Federal Constitution 1988 (Brazilian Constitution) art 231.

Issue, the rights of indigenous peoples are often challenged. The general view is that a robust legal framework that ensures the protection of those rights is a prerequisite for effective conservation actions, including REDD+ (i.e., reducing emissions from deforestation and forest degradation).

It is worth mentioning that, while this Special Issue pays particular attention to the rights of indigenous peoples, many of whom have been custodians of the Amazon forests,<sup>38</sup> we are cognizant of the variety of local communities living in the Amazon and the various national stakeholders also engaged in forest conservation efforts. The particular role of indigenous peoples in forest and biodiversity conservation in the Amazon is well recognized in academic research.<sup>39</sup> While national parks in areas largely inaccessible to humans are crucial in places like the Amazon, reserves within the active frontier, where many indigenous reserves are located, have had a strong inhibitory effect on deforestation in the Amazon—even after centuries of contact with the national society.<sup>40</sup> Recent research highlights how these communities can be more effective in maintaining forest landscapes than ‘conventional’ conservation efforts. The research proposes a three-pillar approach, which includes ecosystem integrity, strong governance systems and effective planning processes.<sup>41</sup>

The recent budgetary cuts for climate action by the federal government have left already under-resourced agencies, such as the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the National Indian Foundation (FUNAI), with limited, if any, capacity to take enforcement action in the Amazon and protect indigenous peoples’ rights.<sup>42</sup> While most Amazon countries have well-developed environmental laws and an independent judiciary, law enforcement has generally been weak in those countries.<sup>43</sup> It has been noted that the number of fines handed out by IBAMA for environmental violations, including deforestation and forest burning, dropped significantly in 2019, which coincides with the election of the new government.<sup>44</sup>

At the regional level, the Amazon countries have sought environmental cooperation – for example, through the Amazon Cooperation Treaty,<sup>45</sup> which is the only regional treaty that involves all (and exclusively) Amazon States. The treaty aims to promote development of Amazonian territories and ‘achieve also the preservation of the environment, and the conservation and rational utilization of the natural resources’.<sup>46</sup> Despite the efforts to strengthen the treaty as an instrument of regional cooperation, with the establishment of a permanent secretariat in Brasilia in 2002,<sup>47</sup> this treaty has had little practical impact.<sup>48</sup> The Amazon fires revealed the limited preparedness in the region to prevent and mitigate fire events. In response to the unprecedented fires, seven Amazon countries (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname) gathered at a Presidential Summit held in Colombia in 2019 and signed the Leticia Pact.<sup>49</sup> The Pact is a declaration of intent aimed at improving disaster response coordination, which, as noted by Tigre in this Special Issue, is yet to define future targets, resources, measurable actions and milestones to tackle deforestation and mitigate fires, both natural and human caused.<sup>50</sup> There have also been early attempts in promoting bilateral cooperation in environmental matters between the Amazon countries, with agreements on the conservation of flora and fauna signed in the 1970s.<sup>51</sup>

Furthermore, as discussed by Pereira in this Special Issue, from the perspective of regional participatory environmental governance in the wider Latin America and the Caribbean, a landmark development occurred in 2018 with the adoption of the Escazú Agreement,<sup>52</sup> which entered into force in April 2021. Yet only three Amazon States (Bolivia, Ecuador and Guyana) are among the 12 countries that have ratified the Escazú Agreement to date,<sup>53</sup> and only two articles of the Agreement explicitly address indigenous peoples.<sup>54</sup>

### 3 | AIMS AND OVERVIEW OF THIS SPECIAL ISSUE

This Special Issue aims to critically evaluate the current legal and institutional frameworks for environmental protection in the Amazon, against the backdrop of increasing deforestation rates, forest fires and

<sup>38</sup>B Zimmerman et al, ‘Conservation and Development Alliances with the Kayapó of South-Eastern Amazonia, a Tropical Forest Indigenous People’ (2001) 28 *Environmental Conservation* 10; T Turner, ‘An Indigenous People’s Struggle for Socially Equitable and Ecologically Sustainable Production: The Kayapo Revolt against Extractivism’ (1995) 1 *Journal of Latin American Anthropology* 98.

<sup>39</sup>G da Silva and M Gaudêncio Brito Puraça, ‘A demarcação de terras indígenas na Amazônia Legal’ (2019) 11 *Revista NUPEM* 43.

<sup>40</sup>D Nepstad et al, ‘Inhibition of Amazon Deforestation and Fire by Parks and Indigenous Lands: Inhibition of Amazon Deforestation and Fire’ (2006) 20 *Conservation Biology* 65.

<sup>41</sup>EA Morgan, T Cadman and B Mackey, ‘Integrating Forest Management across the Landscape: A Three Pillar Framework’ (2021) 64 *Journal of Environmental Planning and Management* 1735. See also FAO and Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean, ‘Forest Governance by Indigenous and Tribal Peoples. An Opportunity for Climate Action in Latin America and the Caribbean’ (FAO 2021) <<https://doi.org/10.4060/cb2953en>>.

<sup>42</sup>For a commentary on the budgetary cuts to the Ministry of Environment in the 2021 federal budget, see J Spring, ‘Brazil Cuts Environment Spending One Day after U.S. Climate Summit Pledge’ (Reuters, 24 April 2021).

<sup>43</sup>MA Tigre, *Regional Cooperation in Amazonia: A Comparative Environmental Law Analysis* (Brill 2017) 387; M Ungar (ed), *The 21st Century Fight for the Amazon: Environmental Enforcement in the World’s Biggest Rainforest* (Palgrave Macmillan 2018).

<sup>44</sup>Fines for Environmental Crimes Drop under Bolsonaro’ (BBC News, 24 August 2019).

<sup>45</sup>Treaty for Amazonian Cooperation (adopted 3 July 1978, entered into force 12 August 1980) 1202 UNTS 51.

<sup>46</sup>ibid art 1.

<sup>47</sup>The Amazon Cooperation Treaty Organization was established in 2002 under the Protocol of Amendment to the Amazon Cooperation Treaty (adopted 14 December 1998, entered into force 2 August 2002) 2199 UNTS 163.

<sup>48</sup>See Garcia (n 1).

<sup>49</sup>Pacto de Leticia por la Amazonia (adopted 6 September 2019) <<https://id.presidencia.gov.co/Documents/190906-Pacto-Leticia-Amazonia-Espanol.pdf>>.

<sup>50</sup>Tigre (n 13) 5.

<sup>51</sup>García (n 1).

<sup>52</sup>Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (adopted 4 March 2018, entered into force 22 April 2021) <<https://www.cepal.org/en/escazuagreement>>.

<sup>53</sup>At the time of writing, the Agreement has attracted 12 ratifications (Antigua and Barbuda, Argentina, Bolivia, Ecuador, Guyana, Mexico, Nicaragua, Panama, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines and Uruguay).

<sup>54</sup>Pereira (n 19).

unfavourable political contexts in some of the Amazon countries. In this vein, the contributions to this Special Issue discuss legal pathways that may contribute to the protection of the Amazon. These include (national, regional and international) laws and policies; domestic and international litigation; and market-based mechanisms and private sector initiatives aimed at reducing deforestation and forest degradation. The Special Issue also highlights the challenges related to regional cooperation and forest governance more broadly.

Against the backdrop of the G7 meeting in August 2019 in Biarritz, France,<sup>55</sup> which highlighted the gravity of the forest fires in the Amazon in an emergency session, this Special Issue enquires about the role of the international community in the protection of the Amazon. This includes an analysis of whether private sector-led measures to monitor international commodities (directly or indirectly) related to Amazon deforestation (such as beef, leather, soybeans and biofuels) can bring about changes in commercial practices in the Amazon and along global value chains.<sup>56</sup> The Special Issue also discusses the potential of international litigation as a tool for forest conservation.<sup>57</sup>

In sum, this Special Issue looks at possible responses in national and international law, as well as market-based mechanisms and soft law initiatives, that can potentially contribute to forest conservation and the protection of indigenous peoples' rights in the Amazon. Several legal aspects are examined—for example, whether (domestic and international) litigation can be an avenue to ensure compliance with both national and international law<sup>58</sup>; how to best design and use environmental impact assessment and licensing procedures to mitigate the impacts of large infrastructure projects<sup>59</sup>; what are the duties of States to protect environmental and human rights in the context of COVID-19 and future pandemics and the challenges for achieving more robust regional environmental cooperation among the Amazon countries<sup>60</sup>; and whether market-based mechanisms, particularly REDD+ projects in the voluntary carbon market, and private sector initiatives, such as Brazil's soy moratorium, currently contribute to forest conservation.<sup>61</sup> What follows is a summary of the contributions to this Special Issue, including their main findings and recommendations.

Maria Antonia Tigre<sup>62</sup> begins her article by analysing the domestic and regional responses to the COVID-19 outbreak, which has disproportionately affected indigenous peoples. As Tigre notes, the pandemic shed light on humanity's interconnectedness with nature and showed that cooperation between States is more critical than ever. The article examines how the Amazon countries have jointly addressed the pandemic, particularly under the framework of the Amazon Cooperation Treaty. Tigre concludes that the recovery from the pandemic should necessarily rely on a rights-based approach, based on the international recognition of the right to a healthy environment, along with its increased implementation under the Inter-American Human Rights system and the evolving 'green' jurisprudence of the Inter-American Court of Human Rights.

In the next article, Justine Bendel and Tim Stephens<sup>63</sup> provide a critical assessment of the potential of international litigation as an option to advance Amazon protection by looking at possible legal claims, the risks associated with each of these, and which are more likely to be successful. The article examines a variety of litigation options in international courts and tribunals. Bendel and Stephens recognize that domestic proceedings have several advantages over inter-State litigation, which is likely to be perceived as an unwarranted international intervention in a matter primarily of domestic concern. However, they suggest that, given the urgency of the situation, it can be expected that States, both within and beyond the Amazon region, may consider inter-State litigation options. The authors conclude that human rights litigation presents a viable option for environmental and indigenous peoples' claims and this is where cases to combat deforestation are more likely to succeed. Recognizing the complexity and unpredictability of international litigation—considering its inherent jurisdictional, normative and evidentiary hurdles—the article suggests that it can be no substitute at this point for close engagement by the international community with Brazil, and the other Amazon States, to implement internationally agreed conservation outcomes.

In his article, Ricardo Pereira<sup>64</sup> discusses the challenges of ensuring the rights of indigenous peoples to consultation and to free, prior and informed consent (FPIC) in relation to projects affecting them. Pereira suggests that the Escazú Agreement adopted in 2018 may strengthen participatory environmental governance and that environmental impact assessment and licensing procedures proposed by the Agreement must integrate a human rights approach to safeguard indigenous peoples' rights. He argues that integrating a human rights-based approach into environmental impact assessment and licensing procedures could have significant and positive effects, particularly in the context of large infrastructure projects in the Amazon, in terms of reducing not only environmental damage but also the risks of human rights violations. Pereira's argument is illustrated with a case study of the highly controversial Belo Monte Dam built in the Brazilian state of Para, which revealed the deficiencies in Brazil's implementation of national and international obligations regarding indigenous peoples' consultation and FPIC rights.

<sup>55</sup>See Council of the European Union, 'G7 Summit, Biarritz, France, 24–26 August 2019' <<https://www.consilium.europa.eu/en/meetings/international-summit/2019/08/24-26/>>.

<sup>56</sup>Recent research has also analysed the role of Free Trade Agreements (FTAs) in forest conservation; see in the context of the negotiations of the EU-Mercosur FTA and the protection of the Amazon forests, Amazon Instituto of People and the Environment, 'Is the EU-Mercosur Agreement Deforestation-Proof?' (2020) <[https://amazon.org.br/wp-content/uploads/2020/12/Imazon\\_report\\_mercosul-december2020.pdf](https://amazon.org.br/wp-content/uploads/2020/12/Imazon_report_mercosul-december2020.pdf)>; A Van Den Berghe, 'What's Going on with the EU-Mercosur Agreement?' (11 June 2021) <<https://www.clientearth.org/latest/latest-updates/news/what-s-going-on-with-the-eu-mercursos-agreement/>>. See also Bendel and Stephens (n 23).

<sup>57</sup>Recent research has also explored whether environmental degradation in the Amazon could be recognized as a crime of ecocide under international law, and hence the liability of individuals or corporations under international criminal law; see, in particular, M Raftopoulos and J Morley, 'Ecocide in the Amazon: The Contested Politics of Environmental Rights in Brazil' (2020) 24 *International Journal of Human Rights* 1,616. See generally R Pereira, 'After the ICC Office of the Prosecutor 2016 Policy Paper on Case Selection and Prioritisation: Towards an International Crime of Ecocide?' (2020) 31 *Criminal Law Forum* 179.

<sup>58</sup>See, in particular, Bendel and Stephens's article and Setzer and Carvalho's article.

<sup>59</sup>See, in particular, Pereira's contribution.

<sup>60</sup>See, in particular, Tigre's article.

<sup>61</sup>As discussed, respectively, in Garcia et al's article and Paim's article.

<sup>62</sup>Tigre (n 13).

<sup>63</sup>Bendel and Stephens (n 23).

<sup>64</sup>Pereira (n 19).

In their contribution, Joana Setzer and Delton Carvalho<sup>65</sup> focus on domestic climate litigation, particularly a lawsuit filed by the Institute of Amazonian Studies (IEA) against the Brazilian State (*IEA v Brazil*). The lawsuit seeks not only to compel the federal government to comply with national climate law, but also the recognition of a fundamental ‘right to a stable climate’ for present and future generations under the Brazilian Constitution. The case presents the argument that governmental inaction in protecting the Amazon constitutes a violation of fundamental rights, including the right to a stable climate. Setzer and Carvalho propose that this lawsuit draws from existing climate change rights-based cases but attempts to push this movement forward. While the lawsuit translates climate science into a legal language of (climate-related) rights and duties, and adopts a strategy of rights-based litigation, it goes further by attempting to incorporate the pillars of a ‘climate constitutionalism’. The authors see the *IEA v Brazil* case as part of a gradual movement of setting climate constitutionalism through national courts. They conclude that, similar to what has been observed with ‘environmental constitutionalism’, climate constitutionalism could become a bold critical standard that consolidates global environmental developments and instigates the evolution of constitutional systems.

Beatriz Garcia, Leticia Canal Vieira, Lawrence Rimmer and Brendan Mackey<sup>66</sup> focus in their article on REDD+ as a market-based mechanism in the voluntary carbon market (VCM). The article assesses the viability of using REDD+ on indigenous lands in the Brazilian Amazon by examining three key aspects of REDD+—the legal, technical and market requirements—in light of recent policy developments in Brazil and under the UNFCCC. The authors suggest that REDD+ projects in the VCM currently face significant barriers as a useful tool for forest protection in the Amazon, due to the lack of an international carbon market under the UNFCCC, the highly complex technical requirements, and the low market demand for REDD+ credits in the VCM. They conclude that, although legally possible under Brazilian law, REDD+ projects in the VCM may not currently be a suitable market-based option for indigenous communities in the Amazon. However, if (national or international) compulsory carbon markets are created, and if there is increased demand for example through carbon offsetting schemes, REDD+ may become a viable and attractive option for forest conservation. The authors argue that, in order to be an effective instrument for forest conservation, REDD+ projects in the VCM must provide a steady source of revenue to project proponents (either private landowners or communities).

In the final article of the Special Issue, Maria Augusta Paim<sup>67</sup> also analyses the role of market-based incentives to reduce deforestation. She examines particularly the soy moratorium and its impact in containing the expansion of soybean production in the Brazilian Amazon.

The soy moratorium is based on a zero-deforestation agreement among soy producers, governments, and civil society that prohibits commercial production and transaction of soy coming from lands deforested after July 2006 (the cut-off date was later moved to 2008). The article describes the origins of the soy moratorium, led by the Brazilian Association of Vegetable Oil Industries (ABIOVE) and the Association of Cereal Exporters in Brazil, both representing the trade of more than 90% of the soy produced in the Amazon. Based on data from ABIOVE, Paim notes that, since the introduction of the moratorium, soy-related deforestation in the Amazon has significantly decreased, despite the challenges associated with issues such as ‘soy laundering’ and ‘soy leakage’. Paim concludes that, although imperfect, the soy moratorium is part of the solution for the complex deforestation problem, by capturing one of its main drivers and providing a nationally defined response for the global supply chain of soy produced in the Amazon. Through its zero-deforestation policy the soy moratorium strengthens (local and international) climate change commitments. The article also recognizes the significant role played by corporations, through the use of market-based mechanisms, in achieving law compliance and forest conservation.

On a final note, we would like to express our gratitude to each of the contributors to this Special Issue, to *RECIEL* Editor Harro van Asselt, and to the various anonymous peer reviewers. We are sincerely grateful for your time, commitment and insights into possible ways to protect a highly threatened ecosystem of global significance.

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<sup>65</sup>J Setzer and D Carvalho, ‘Climate Litigation to Protect the Brazilian Amazon: Establishing a Constitutional Right to a Stable Climate’ (2021) 30 *Review of European, Comparative and International Environmental Law* 197.

<sup>66</sup>Garcia et al (n 18).

<sup>67</sup>MA Paim, ‘Zero Deforestation in the Amazon: The Soy Moratorium and Global Forest Governance’ (2021) 30 *Review of European, Comparative and International Environmental Law* 220.