

RESEARCH ARTICLE

# Indigenous peoples at the heritage–climate change nexus: Examining the effectiveness of UNESCO and the IPCC’s boundary work

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## Abstract

There is increasing recognition that Indigenous knowledges have considerable potential to enhance collective understandings of and improve responses to complex ecological threats, such as those to cultural heritage from climate change. At the same time, it appears that Indigenous peoples face structural barriers to participation in international organisations that advance knowledge about those problems. Using the conceptual framework of boundary organisations (BOs) theory and case studies of the Intergovernmental Panel on Climate Change (IPCC) and UNESCO, I argue that the lack of meaningful Indigenous engagement in international knowledge institutions is not just an ethical problem; it also undermines the effectiveness of their assessments. The future success of their boundary work partly depends on further engagement with Indigenous stakeholders. At least at the heritage–climate change nexus, the salience, legitimacy, and credibility of IPCC and UNESCO assessments require substantive Indigenous representation alongside other state/non-state parties. Successful experiences in biodiversity governance indicate that incorporating the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) would enhance Indigenous engagement in UNESCO and the IPCC.

**Keywords:** boundary organisations; climate change; heritage; Indigenous peoples; IPCC; UNESCO

## Introduction

It is now well established that climate change will negatively impact many sites and forms of cultural heritage that are the homes of Indigenous peoples and the products of their cultures.<sup>1</sup> Heritage sites will be exposed to some of the most destructive effects of climate change, including melting glaciers and rising sea levels.<sup>2</sup> There is also evidence that climate change will threaten cultural continuity, community cohesion, and diversity, as well as the survival of many languages, rituals, and practices that primarily concern Indigenous peoples.<sup>3</sup>

<sup>1</sup>Bethune Carmichael, Greg Wilson, Ivan Namarnyilk, et al., ‘Local and Indigenous management of climate change risks to archaeological sites’, *Mitigation and Adaptation Strategies for Global Change*, 23 (2018), pp. 231–55.

<sup>2</sup>Peter Brimblecombe, Carlota Grossi, and Ian Harris, ‘Climate change critical to cultural heritage’, in Rafael Fort, Monica de Buergo, Miguel Gomez-Heras, and Carmen Vazquez-Calvo (eds), *Heritage, Weathering and Conservation* (Berlin: Springer, 2010), pp. 195–205.

<sup>3</sup>James Stanford and Lindsay Whaley, ‘The sustainability of languages’, *International Journal of Environmental, Cultural, Economic, and Social Stability*, 6:3 (2010), pp. 111–22.

Efforts to adapt to climate change (including for purposes of heritage protection) have been shown to benefit from bottom-up Indigenous-led approaches.<sup>4</sup> Local values, perspectives, and knowledges enhance climate risk assessments, the framing of adaptive measures, and the implementation of those strategies.<sup>5</sup> In collaboration, Indigenous stakeholders inform partners of ‘what should be occurring’ within the environment and heritage sites, contributing to a baseline of information that can then be compared with ‘what is happening’.<sup>6</sup>

At the global level, two key institutions of socio-ecological governance, the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), lead efforts to address climate change and protect heritage respectively. As institutions, they have acknowledged the potential impacts of climate change on heritage and have begun to frame protective measures.<sup>7</sup> Both organisations have taken steps to accommodate Indigenous peoples and their perspectives. UNESCO, for instance, now maintains a Local and Indigenous Knowledge Systems (LINKS) Programme,<sup>8</sup> its advisory body, the International Council of Monuments and Sites (ICOMOS), has also established a Working Group on Indigenous Heritage.<sup>9</sup> Through ICOMOS, UNESCO has begun a close collaboration with the IPCC for better understanding the synergies between heritage and climate change.<sup>10</sup> In that partnership, Indigenous peoples have been given particular attention (see ICOMOS 2019).<sup>11</sup> As for the IPCC, references to Indigenous peoples have dramatically increased over the past three decades, from a handful in the first assessment (1991) to more than 2,000 references in the most recent assessment (2022).<sup>12</sup> There is also a wider engagement with the literature on Indigenous studies in the sixth assessment report (AR6), as this paper later shows (see Table 1).

Despite such developments, UNESCO and the IPCC appear far from the end goal of substantive Indigenous engagement, a situation in which Indigenous peoples take leadership positions as knowledge holders in matters that concern them in the context of their struggles for self-determination. UNESCO and the IPCC still tend to occupy a mainstream position on the impacts of climate change on heritage, which has foregrounded tangible or physical harms and proposed technical solutions for heritage protection.<sup>13</sup> Heritage scholars have argued that such a position (to the extent that it concerns relevant Indigenous communities) may not align with Indigenous world-views on what heritage is and why it is valuable, how heritage is at risk from climate change,<sup>14</sup> and whether heritage is even an appropriate lens through which Indigenous peoples can exercise their

<sup>4</sup>Bethune Carmichael, ‘Supporting Indigenous rangers’ management of climate-change impacts on heritage sites: Developing an effective planning tool and assessing its value’, *The Rangeland Journal*, 37 (2015), pp. 597–607.

<sup>5</sup>Robert Webb and Jie-lian Beh, ‘Leading adaptation practices and support strategies for Australia: An international and Australian review of products and tools’, Gold Coast: National Climate Change Adaptation Research Facility, February 2013.

<sup>6</sup>Sasha Purcell, Jim Walker, Pedram Rashidi, and Kristen Lyons, ‘Principles for engaging with Indigenous peoples in Marine Protected Areas (MPAs)’, forthcoming on UNEP online platform.

<sup>7</sup>Diane Barthel-Bouchier, *Cultural Heritage and the Challenge of Sustainability* (London: Routledge, 2016), pp. 7–26; Michael Hall and Yael Ram, ‘Heritage in the intergovernmental panel on climate change assessment reports: A lexical assessment’, *Journal of Heritage Tourism*, 11:1 (2016), pp. 96–104.

<sup>8</sup>Moreover, UNESCO has recently launched an internet forum ‘On the Frontlines of Climate Change’ aiming to include Indigenous knowledges within climate change decision-making: available at: <http://www.climatefrontlines.org/about>.

<sup>9</sup>‘Working group on Indigenous heritage’, available at: <https://www.icomos.org/en/what-we-do/disseminating-knowledge/icomos-working-groups?start=2>.

<sup>10</sup>‘ICOMOS-IPCC-UNESCO co-sponsored meeting’, available at: <https://www.ipcc.ch/event/ipcc-icomos-unesco-co-sponsored-meeting-on-culture-heritage-and-climate-science/>.

<sup>11</sup>‘The future of our pasts: Engaging cultural heritage in climate action’, available at: <https://civvih.icomos.org/wp-content/uploads/Future-of-Our-Pasts-Report-min.pdf>.

<sup>12</sup>This is based on a simple search for the term ‘Indigenous’ (in reference to Indigenous peoples) in all six IPCC assessment reports.

<sup>13</sup>Colin Long and Anita Smith, ‘Cultural heritage and the global environmental crisis’, in Sophia Labadi and Colin Long (eds), *Heritage and Globalisation* (London: Routledge, 2010), pp. 173–92.

<sup>14</sup>Rodney Harrison, ‘Beyond “natural” and “cultural” heritage: Toward an ontological politics of heritage in the age of Anthropocene’, *Heritage & Society*, 8:1 (2015), pp. 24–42; Lynn Meskell, ‘UNESCO and the fate of the World Heritage Indigenous Peoples Council of Experts (WHIPCOE)’, *International Journal of Cultural Property*, 20:2 (2013), pp. 155–74.

rights over their cultures.<sup>15</sup> It is also acknowledged that a lack of alignment between Indigenous and mainstream perspectives on climate change further excludes Indigenous peoples from participation in climate governance institutions.<sup>16</sup> The IPCC, in particular, has been criticised for its lack of substantive engagement with Indigenous knowledges and knowledge holders.<sup>17</sup>

The literature has identified an exclusion of Indigenous peoples from international institutions, including in the areas of heritage protection and climate change.<sup>18</sup> However, there is scarce discussion of how Indigenous peoples are excluded in these governance institutions, and how that exclusion affects the ways those institutions achieve their key objectives: to generate state-of-the-art assessments on the impacts of climate change and the protection of heritage to inform all stakeholders including Indigenous peoples. Using a conceptual framework of boundary organisations (BO) theory, I evaluate the success of the UNESCO and IPCC assessment of the heritage–climate change nexus as it implicates Indigenous peoples. The concepts of boundary organisations and boundary work help illuminate the dynamics of interactions between various stakeholders within organisations that operate at the science–policy interface.<sup>19</sup> The activities of those organisations (their ‘boundary work’) may take shape in assessment reports (‘boundary objects’), which can, in turn, be evaluated according to three criteria, as identified by Cash et al. in their leading work: salience, credibility, and legitimacy.<sup>20</sup> The extent to which these criteria have been met on different sides of the boundary (or for each group of stakeholders) determines the level of effectiveness of the boundary work. Hence, I critically examine the salience, credibility, and legitimacy of UNESCO and IPCC assessments to evaluate their effectiveness to the extent it concerns Indigenous stakeholders.

A content analysis of UNESCO and IPCC reports, which was conducted for this research, shows that their assessments on the heritage–climate change nexus neglect the worldviews and perspectives of Indigenous peoples. These constructions of the heritage–climate change nexus are based on historical and epistemological trends that are exclusively European. As a consequence, UNESCO and IPCC assessments are only salient to the concerns of stakeholders who align with those epistemological trends. Further, as the paper demonstrates, Indigenous peoples have limited agency in relevant UNESCO and IPCC processes. That limited agency deprives the heritage–climate change nexus of credibility and legitimacy from the perspective of Indigenous peoples. Whereas state delegates are decision-makers, Indigenous peoples are represented by ‘credible experts’ from disciplines that historically and epistemologically belong to Europeans – e.g. archaeology, ecology, and economics. The structural exclusion of Indigenous peoples and knowledges from UNESCO and the IPCC is despite a myriad of Indigenous-led or co-produced strategies (i.e. collaboration with scientists and practitioners) on climate adaptation and heritage conservation practices.<sup>21</sup>

Indigenous peoples may have concerns and views about the impacts of climate change and ways of adaptation that fundamentally differ from the work of scientists.<sup>22</sup> The scientifically dominated nexus between heritage and climate change could limit the overall perception of risk and thereby

<sup>15</sup>Laurajane Smith, *Uses of Heritage* (London: Routledge, 2006), p. 11.

<sup>16</sup>James Ford, Laura Cameron, Jennifer Rubis, et al., ‘Including Indigenous knowledge and experience in IPCC assessment reports’, *Nature Climate Change*, 6:4 (2016), pp. 349–53.

<sup>17</sup>Ford, Cameron, Rubis, et al., ‘Including Indigenous knowledge’, pp. 349–53.

<sup>18</sup>Pedram Rashidi and Kristen Lyons, ‘Democratizing global climate governance? The case of Indigenous representation in the Intergovernmental Panel on Climate Change (IPCC)’, *Globalizations*, 20:8 (2023), pp. 1312–27; Ford, Cameron, Rubis, et al., ‘Including Indigenous knowledge’; Stefan Disko and Dalee Sambo Dorough, ‘We are not in Geneva on the Human Rights Council: Indigenous peoples’ experiences with the World Heritage Convention’, *International Journal of Cultural Property*, 29:4 (2022), pp. 487–530.

<sup>19</sup>David Guston, ‘Boundary organizations in environmental policy and science: An introduction’, *Science, Technology, & Human Values*, 26:4 (2001), pp. 399–408.

<sup>20</sup>David Cash, William Clark, Frank Alcock, et al., ‘Salience, credibility, legitimacy and boundaries: Linking research, assessment and decision making’, KSG Working Papers Series, RWP02-046 2002, pp. 1–24.

<sup>21</sup>Carmichael, Wilson, Namarnyilk, et al., ‘Local and Indigenous management’; Kent Lightfoot and Valentin Lopez, ‘The study of Indigenous management practices in California: An introduction’, *California Archaeology*, 5:2 (2013), pp. 209–19.

<sup>22</sup>Adam Standring and Rolf Lidskog, ‘(How) does diversity still matter for the IPCC? Instrumental, substantive and co-productive logics of diversity in global environmental assessments’, *Climate*, 9:6 (2021), pp. 1–15.

diminish attention to local specificities and cultural contexts in the design of policy responses.<sup>23</sup> This scientific view overlooks the ways in which Indigenous peoples recorded and responded to past ecological destruction, whether naturally caused or driven by colonial violence.<sup>24</sup> Such universalistic and techno-economic perspectives promote conservation policies that are likely to struggle to work because they do not reflect local needs and interests. Hence, scientific practice and Indigenous ways of knowing should not be seen to be in a trade-off with each other. Instead, as recent studies show, there may be positive results from more equitable collaborations between scientists and Indigenous peoples.<sup>25</sup> For this reason, we have less cause to be anxious about the effectiveness of ‘overcrowded’ international institutions in this context, as opposed to others.<sup>26</sup>

Therefore, I argue that Indigenous peoples’ limited agency in the process of building the nexus between climate change and heritage, in addition to being ethically wrong, undermines the effectiveness of UNESCO and the IPCC’s boundary work. Conversely, the internalisation of a rights-based approach, as enshrined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), into the institutional settings of the IPCC and UNESCO would help enhance Indigenous engagement, which in turn, could improve the effectiveness of their assessments. Overall, the article contributes to the emerging debate about the extent of, and responses to, the exclusion of Indigenous peoples from global governance institutions.

The argument proceeds as follows. After briefly outlining BO theory, the paper describes its research method, summarises the findings of its content analysis, and examines the effectiveness of UNESCO and IPCC assessments, as determined by their salience, credibility, and legitimacy. It draws on the experiences of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) to explore the potential benefits of incorporating the principles of UNDRIP into UNESCO and the IPCC’s boundary work as it concerns Indigenous peoples.

### Boundary work of UNESCO and the IPCC

In dealing with social and environmental crises, policymakers turn to experts for technical advice. In turn, experts press policymakers to push for action to tackle the problems. Each group seeks to influence the debate, while reinforcing their distinctiveness from the other. This situation creates ‘boundary work’ that occurs at the science–policy interface. Hence, boundary work is a practice at the science–politics interface that serves ‘to create, maintain, reinforce, or even erode differences’ among stakeholders.<sup>27</sup>

Boundary work is often practised in so-called boundary organisations (BOs). BOs allow for science and policy to operate and achieve their goals, while maintaining their distinctive domains.<sup>28</sup> BOs are not just knowledge brokers that fulfil the policymakers’ demands for specific knowledge contents. Rather, BOs facilitate negotiations between multiple cultures, knowledge disciplines, and experts (among other stakeholders) in virtual and physical spaces.<sup>29</sup> During this process, technical,

<sup>23</sup>Mike Hulme, ‘Problems with making and governing global kinds of knowledge’, *Global Environmental Change*, 20:4 (2010), pp. 558–64; David Harvey and James Perry, *The Future of Heritage as Climates Change: Loss, Adaptation and Creativity* (London: Routledge, 2015), p. 14.

<sup>24</sup>Kyle Whyte, ‘Indigenous science (fiction) for the Anthropocene: Ancestral dystopias and fantasies of climate change crises’, *Environment and Planning E: Nature and Space*, 1:1–2 (2018), pp. 224–42.

<sup>25</sup>Neil Dawson, Brendan Coolsaet, Eleanor Sterling, et al., ‘The role of Indigenous peoples and local communities in effective and equitable conservation’, *Ecology and Society*, 26:3 (2021), p. 19.

<sup>26</sup>Moises Naim, ‘Minilateralism: The magic number to get real international action’, *Foreign Policy*, 173 (2009), pp. 135–6.

<sup>27</sup>Siobhán Mahony, ‘Boundary work’, in Vicki Smith (ed.), *Sociology of Work: An Encyclopedia* (Thousand Oaks, CA: Sage Publications, 2013), pp. 34–35 (p. 34).

<sup>28</sup>Karin Gustafsson and Rolf Lidskog, ‘Boundary organizations and environmental governance: Performance, institutional design, and conceptual development’, *Climate Risk Management*, 19 (2018), pp. 1–11 (p. 3).

<sup>29</sup>Cash, Clark, Alcock, et al., ‘Salience, credibility, legitimacy and boundaries’, p. 1; Michael Gorman, ‘Boundary organizations’, in William Bainbridge and Mihail Roco (eds), *Handbook of Science and Technology Convergence* (Cham: Springer, 2014), pp. 1–10.

social, cultural, and political matters are integrated in the outcome of boundary work.<sup>30</sup> Examples of BOs include international organisations, non-governmental organisations, municipalities, and many governmental committees that bring together a range of stakeholders, operating at the boundary of science and policy.

Central to the success of BOs is the ability to gain some form of authority from their stakeholders. The boundary approach informs us that an organisation is not assigned (epistemic) authority, rather; it gains authority 'through stakeholders' evaluation of its performance'.<sup>31</sup> Thus, organisations that deal with wider range of knowledge disciplines (or knowledge systems) require broader stakeholder engagement if they are to increase their authority and legitimacy in the eyes of their stakeholders.

Cash et al. offered a framework for examining the extent to which an organisation has achieved its policy objective: for boundary work to be successful, it should be salient, credible, and legitimate in the eyes of its stakeholders.<sup>32</sup> The framework has been widely used by scholars in environmental governance literature. In their study of the effectiveness of global environmental assessments, Clark et al. asserted that boundary work is successful if stakeholders conclude that: the outcomes of assessments are relevant to their decision-making (salience); assessments are generated by authoritative experts and through rigorous assessment processes (credibility); and assessment processes incorporate concerns, views, and voices of stakeholders (legitimacy).<sup>33</sup> In another study, Leith et al. investigated a coastal zone conservation programme in Tasmania, Australia, showing how the programme evolved from a partnership into a BO.<sup>34</sup> The programme's success, in authors' view, was achieved by fulfilling salient outputs that addressed stakeholders' concerns, deploying credible science, and gaining legitimacy in the eyes of stakeholders, so as to enable the programme to manage contentious events. In most cases, the challenge for BOs is to strike a balance between salience, credibility, and legitimacy. At the same time, BOs need to exploit complementarities, since these criteria might be perceived differently on different sides of the boundary.<sup>35</sup>

In this paper, I use the three-criterion framework to evaluate the effectiveness of the boundary work generated by UNESCO and the IPCC. In better understanding the impacts of climate change on heritage and potential responses for heritage protection, UNESCO and the IPCC (independently) have generated a series of assessment reports. The assessment reports are boundary objects that connect actors across the boundary for the purpose of illuminating the nexus between heritage and climate change. The three-criterion framework provides a useful analytical tool for examining the extent to which stakeholders' objectives are achieved and, therefore, the boundary work is effective.

UNESCO operates as a BO because it performs a mediating role at the boundary between heritage science and heritage governance. This mediating role is via UNESCO's affiliated and advisory bodies. Article 8 of the World Heritage Convention 'established [the World Heritage Committee] within [UNESCO]',<sup>36</sup> while UNESCO's World Heritage Centre provides secretariat services to the Committee. UNESCO was founded to restore historical European cultural production, including the architectural achievements that had been devastated during the Second World War. The Organization later adopted an international agenda; it now operates across the world as it once

<sup>30</sup> Anna Wesselink and Robert Hoppe, 'Boundary organizations: Intermediaries in science-policy interactions', in Elizabeth Stein (ed.), *Oxford Research Encyclopedia of Politics* (Oxford: Oxford University Press, 2020).

<sup>31</sup> Gustafsson and Lidskog, 'Boundary organizations and environmental governance', p. 5.

<sup>32</sup> Cash, Clark, Alcock, et al., 'Salience, credibility, legitimacy, and boundaries', pp. 1–11.

<sup>33</sup> William Clark, Ronald Mitchell, and David Cash, 'Evaluating the influence of global environmental assessments', in Ronald Mitchell, William Clark, David Cash, and Nancy Dickson (eds), *Global Environmental Assessments: Information and Influence* (Cambridge, MA: MIT Press, 2006), pp. 1–28.

<sup>34</sup> Peat Leith, Marcus Haward, Chris Rees, and Emily Ogier, 'Success and evolution of a boundary organization', *Science, Technology, & Human Values*, 41:3 (2016), pp. 375–401.

<sup>35</sup> Cash, Clark, Alcock, et al., 'Salience, credibility, legitimacy, and boundaries', pp. 1–11.

<sup>36</sup> Convention concerning the protection of the world cultural and natural heritage', available at: <https://whc.unesco.org/en/conventiontext/>.

did only in Europe.<sup>37</sup> UNESCO's cultural branch, in particular, has overseen the creation of conventions and institutions to pursue a heritage conservation agenda at a global scale. The boundary work of UNESCO and its advisory bodies is manifested in their task of selecting World Heritage sites. Relying on technical expertise – predominantly archaeology, architecture, and ecology – those advisory bodies have gained authority over key decisions, including which sites are of Outstanding Universal Value (OUV).<sup>38</sup> Even though those institutions are individually influential, collectively, they have made UNESCO a global authority on heritage.<sup>39</sup> UNESCO's boundary work in the area of heritage conservation expanded further as a result of its encounter with the problem of climate change. As the climate agenda gradually gained traction in heritage organisations, UNESCO and its advisory bodies, in particular, ICOMOS, ICCROM, and IUCN, have developed closer collaboration with other stakeholders including environmental bodies such as UNEP and the IPCC.

Similarly, in bridging climate science and policy, the IPCC conducts boundary work through its assessment reports. The IPCC was established in 1988 to provide state-of-the-art scientific and socio-economic knowledge of climate change to all countries. As an intergovernmental body housed by the UN, the panel does not conduct original research; rather, it produces periodic assessments of the latest scientific and socio-economic climate change research. The IPCC's boundary work is best manifested in its Summary for Policymakers (SPM) and the Synthesis Report (SYR).<sup>40</sup> While both reports are written by technical experts, government representatives to the IPCC are required to approve the SPM line by line and the SYR section by section. Further, there are mutual influences between the scientific and political communities, which occur throughout the Panel's assessment processes. For instance, the Subsidiary Body for Scientific and Technological Advice (SBSTA) links scientific information provided by scientists on the IPCC side to policy-oriented needs on the side of the Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC). SBSTA's task for informing the COP of IPCC assessment reports is as political as it is scientific, since delegates always seek to highlight parts or aspects of the reports that concern them.<sup>41</sup>

## Analysing UNESCO and IPCC reports

To understand how UNESCO and the IPCC are engaging with Indigenous peoples, it is crucial to investigate how they have constructed the link between heritage and climate change, and where Indigenous peoples are positioned in that field. Through a content analysis of selected UNESCO and IPCC reports, this section illustrates how those organisations determine what forms of heritage are relevant, what protective measures for those forms of heritage are needed, and who determines the nature of heritage that is at risk from climate change, as well as the appropriate responses to that risk.

### Criteria for selecting the reports

UNESCO's World Heritage Centre has (co-)published several reports on climate change impacts on heritage. The following reports were selected for this research because they engage with

<sup>37</sup> Meskell, 'UNESCO and the fate of the World Heritage Indigenous Peoples Council of Experts (WHIPCOE)'.

<sup>38</sup> The World Heritage Convention defined Outstanding Universal Value (OUV) as a guiding principle for UNESCO to attribute some intrinsic values to specific heritage site, claiming it is equally valued by all people around the world and hence needs special recognition and protective measures. Peter Strasser, 'Putting reform into action': Thirty years of the World Heritage Convention. How to reform a convention without changing its regulations', *International Journal of Cultural Property*, 11:2 (2002), pp. 215–66.

<sup>39</sup> Aurélie Gfeller and Jaci Eisenberg, 'UNESCO and the shaping of global heritage', in Poul Duedahl (ed.), *A History of UNESCO* (London: Palgrave Macmillan, 2016), pp. 279–99 (p. 292).

<sup>40</sup> Rob Hoppe, Anna Wesselink, and Rose Cairns, 'Lost in the problem: The role of boundary organisations in the governance of climate change', *Wiley Interdisciplinary Reviews: Climate Change*, 4:4 (2013), pp. 283–300.

<sup>41</sup> Farhana Yamin and Joanna Depledge, *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures* (Cambridge: Cambridge University Press, 2004), p. 481.

**Table 1.** Summary of the content analysis of the selected UNESCO and IPCC reports.

|                       | What forms of heritage are regarded as relevant?  | What heritage conservation measures and strategies are dominant in the selected text?   | What is the process of producing UNESCO and IPCC reports? How are stakeholders engaged?   | Engaging with Indigenous peoples and knowledges  |
|-----------------------|---|---|---|--|
| <b>UNESCO Reports</b> | Overall, UNESCO is more concerned with climate threats to OUV, integrity, and authenticity of WH sites (UNESCO's mandate is limited to addressing OUV of the listed World Heritage properties). UNESCO reports largely focus on tangible or material-based heritage, including historical buildings, archaeological remains, natural properties and habitats (UNESCO 2007: 20–4; UNESCO 2008: 3; UNESCO 2014; UNESCO 2016: 9) | UNESCO's climate strategies revolve around five topics: (1) establishing working relations with key international bodies (e.g. IPCC, UNFCCC) (UNESCO 2007); (2) facilitating knowledge transfer, specifically, adopting European experience as a model for the rest of the world (UNESCO 2008); (3) enhancing monitoring and reporting of climate impacts on heritage sites; (4) improving adaptation strategies to climate change through local-to-global management plans; and (5) involving local communities (UNESCO 2007). | World Heritage Centre leads the preparation of the selected reports. It takes technical advice from other organisations – e.g. ICROM, ICOMOS, and IUCN. Working groups (consisting of experts and bureaucrats) draft the reports and send them for review by experts, practitioners and representatives from IOs and civil society. Authors from physical sciences are dominant. Other contributors to authorship were mostly from UNESCO's advisory bodies, such as ICROM, ICOMOS, and IUCN.   | There is a wide recognition of the potential contribution that Indigenous peoples could make to conservation plans in UNESCO reports. UNESCO advocates for Indigenous participation in conservation planning and implementation. UNESCO emphasises the role of Indigenous peoples in sustainable tourism, as well as on OUV of heritage sites. |
| <b>IPCC Reports</b>   | The reports foreground tangible heritage, and heritage is generally presented as a resource or commodity, and, for that reason, the heritage-climate nexus is preoccupied with climate impacts on tourism. The Panel recognises the climate impacts on heritage and cultural practices (AR5-WGII: 778) and advocates for integrating Indigenous knowledges into Western science for heritage protection (AR6-WGII: 2730–2)    | In the reports, climate change impact/adaptation assessments are based on modern Western conservation practices. (Sustainable) Development is central to the Panel's impact/adaptation assessments for heritage conservation and is mainly related to the tourism industry (AR4-WGII: 58, 87, 689, 701–2; AR5-WGII: 253, 1292). AR6 is more attentive to intangible heritage for resilience building (AR6-WGII: 2058–9)   | The IPCC assessment process starts with a plenary session, where government delegations review and approve the completed reports from the previous cycle. The Bureau then selects authors, who are nominated by governments, IGOs/NGOs. After drafts are provided, the review process begins until approvals, adoptions, and acceptance are achieved, and the report is published. IPCC reports are predominantly written by physical scientists and economists, largely from (or educated in) the Global North. Only a few authors published on Indigenous studies. <sup>a</sup> | There is a significant shift in IPCC reports from AR4 to AR6 regarding Indigenous peoples. While AR4 takes a more instrumental view towards Indigenous peoples and knowledges, AR6 acknowledges a unique role for Indigenous peoples in adaptation and resilience building; yet no institutional change to enhance Indigenous engagement.      |

<sup>a</sup>Hannah Hughes and Matthew Paterson, 'Narrowing the climate field: The symbolic power of authors in the IPCC's assessment of mitigation', *Review of Policy Research*, 34:6 (2017), pp. 744–66; Andreas Bjurström and Merritt Polk, 'Physical and economic bias in climate change research: A scientometric study of the IPCC Third Assessment Report', *Climatic Change*, 108:1–2 (2010), pp. 1–22; James Ford, Will Vanderbilt, and Lea Berrang-Ford, 'Authorship in the IPCC-AR5 and its implications for content: Climate change and Indigenous populations in WGII', *Climatic Change*, 113:2 (2012), pp. 201–13.

both technical and policy matters around heritage conservation; hence, they constitute boundary objects:

- *Climate Change and World Heritage: World Heritage Report 22*, 2007 (cited as UNESCO 2007 in this paper)
- *Policy Document on the Impacts of Climate Change on World Heritage Properties*, 2008 (cited as UNESCO 2008)
- *Adapting to Change: The State of Conservation of World Heritage Forest*, 2011 (cited as UNESCO 2011)
- *Climate Change Adaptation for Natural World Heritage Sites: A Practical Guide*, 2014 (cited as UNESCO 2014)
- *World Heritage and Tourism in a Changing Climate*, 2016 (cited as UNESCO 2016)
- *Impacts of Climate Change on World Heritage Coral Reefs*, 2017 (cited as UNESCO 2017)

UNESCO reports are significant for this research as they represent the overall position of UNESCO, as the global authority on heritage protection and a key actor in shaping the perceived nexus between heritage and climate change.

I also selected the three latest IPCC assessment reports for analysis: the Fourth Assessment Report (AR4, 2007), the Fifth Assessment Report (AR5, 2014), and the Sixth Assessment Report (AR6, 2022). Earlier IPCC assessment reports, published between 1990 and 2001, have much less engagement with cultural matters including heritage (a simple word search for heritage-related terms in those earlier reports would verify this assumption). Further, I have excluded IPCC Special Reports from my analysis since those reports are theme-specific and do not concern heritage.

### ***Extracting, coding, and categorising the texts***

Analysing the reports involved extracting, coding, and categorising the selected texts in the reports. To do this, I devised three questions that helped evaluate the criteria of effective assessments (salience, credibility, and legitimacy).

Q1. What forms of heritage are regarded as relevant to the assessment of climate change impacts (salience)?

Q2. What heritage conservation measures and strategies are dominant in the selected text (salience and credibility)?

Q3. What is the process of producing UNESCO and IPCC reports? How are stakeholders engaged (credibility and legitimacy)?

I coded and categorised the texts by finding answers to these questions in the reports. To maximise the rigour and thoroughness in the process of reading and analysing the text, I approached the tasks in the following way:

- I used ATLAS.ti 22 to analyse texts in the selected reports, which I had downloaded in pdf format from the UNESCO and IPCC websites. I used the word search function to look for terms that could relate to Q1–3, synonymously, metaphorically, or implicatively. Therefore, for Q1, I identified references to ‘impacts’ of climate change on heritage or similar words – e.g. effects, risk, damage, erosion, destruction, disappearance. I then identified the forms of ‘impacted heritage’ – i.e. cultural, natural, tangible, or intangible forms of heritage. For Q2, words such as ‘adaptation’, ‘mitigation’, ‘conservation’, ‘management’, and ‘protection’ were used to select the text. The extracted text indicated the protection or conservation measures envisaged by

**Table 2.** Saliency.

| Organisation | The main areas of concern                            | The main types of heritage  | Conservation focus               | Indigenous recognition                                     |
|--------------|--|---|----------------------------------|--|
| UNESCO       | OUV, integrity, authenticity, protection of WH sites | Tangible – Historical buildings, archaeological remains, natural properties and habitats                  | OUV status of heritage sites     | Recognition of Indigenous peoples' contributions to OUV    |
| IPCC         | Climate change impacts on tourism and heritage sites | Tangible – heritage as a resource/commodity; limited recognition of climate impacts on cultural practices | Tourism aspect of heritage sites | Growing recognition of Indigenous concerns from AR4 to AR6 |

the organisations for heritage. Finally, for Q3, I drew on the secondary literature and my own reading of UNESCO and IPCC assessment processes and stakeholder engagement.

- The keywords searches were applied to the selected UNESCO reports in their entirety, but only to those sections of IPCC reports that related to heritage. To be more comprehensive in extracting the relevant text in IPCC reports, I conducted a complementary word search for alternative terms that might have been used for, or be related to, 'heritage'. This search included the terms: 'tourism', 'site', 'monument', 'museum', 'art', 'craft', 'artifact', 'antique', 'relic', 'ruin', 'remains', 'custom', 'tradition', 'culture', 'ritual', 'dance', 'song', 'folklore', 'ceremony', 'memorial', and 'aesthetic'. Any texts that had not been captured in the previous step were thereby collected and added to the empirical data.
- I complemented the content analysis by looking at any references to 'Indigenous' (or similar terms, such as 'Aboriginal' and 'native') in the above extracted texts to explore UNESCO and the IPCC's engagement with literature on Indigenous peoples and Indigenous knowledges.
- Finally, the page number(s) and section(s) of the extracted texts were collected in a spreadsheet that is provided as supplementary material. The spreadsheet contains raw data generated from Atlas.ti 22 and the coded and categorised data.
- A summary of the content analysis is shown in Table 1. Three extra tables (Tables 2–4) transposed the responses to Q1–3 into the effectiveness criteria (i.e., saliency, credibility, legitimacy). Creating those extra tables – i.e. coding and categorising the selected texts in response to Q1–2 before rearranging the outcomes of the text analysis according to the three-criterion framework – enabled coding and categorisation. Tables 2–4 are therefore, used as the reference for the discussion that follows.

The process of analysis yielded findings about the construction of the heritage–climate change nexus by each of the two organisations. As emerges from the summary, heritage is largely presented as tangible and historic, and climate change as a threat to that substance and legacy. A thick web of international epistemic communities has been established around these narratives that reinforces them. This finding is the basis for the discussion in the part that follows, where I critically examine the effectiveness (saliency, credibility, and legitimacy) of UNESCO and the IPCC's boundary work.

### The effectiveness of UNESCO and the IPCC's boundary work

From a BO theory perspective, the effectiveness of boundary work depends on both the nature and processes of engagement of BOs with different stakeholders. The quality of such engagement is determined by stakeholders' perception of the saliency, credibility, and legitimacy of boundary work.<sup>42</sup> In this section, drawing on the outcome of the content analysis and secondary literature (as per Tables 2–4), I critically investigate the following in the context of UNESCO and the IPCC's boundary work: (1) the forms and qualities of heritage seen as *salient* for protection in the face

<sup>42</sup>Clark, Mitchell, and Cash, 'Evaluating the influence of global environmental assessments'.

**Table 3.** Credibility.

| Organisation | The core epistemology                                | Dominant areas of expertise                  | Key conservation strategies/philosophies                                       | Indigenous expertise  |
|--------------|--|--|--|---|
| UNESCO       | European conservation and adaptation models          | Physical sciences, architecture, archaeology | Enhancing monitoring/reporting of climate impacts; involving local communities | Recognising the potential contribution of Indigenous conservation practices |
| IPCC         | Modern Western conservation and adaptation practices | Physical sciences, economics                 | Integrating conservation and adaptation into (sustainable) development         | Advocating the integration of IKS into adaptation strategies                |

**Table 4.** Legitimacy.

| Organisation | Organisational rationalities       | Key actors (other than governments)  | Partnership at the climate change–heritage nexus                                     | Indigenous engagement   |
|--------------|------------------------------------|--|--|---|
| UNESCO       | Intergovernmental, expert-oriented | Experts, practitioners, and representatives from IOs and civil society (e.g. ICCROM, ICOMOS, and IUCN) | Collaboration with technical and financial bodies (e.g. IPCC, UNFCCC, IDB, and OECD) | Limited engagement, mainly via Local and Indigenous Knowledge Systems (LINKS) programme |
| IPCC         | Intergovernmental, expert-oriented | Representatives from IOs and NGOs  | Collaboration with technical bodies (e.g. UNESCO, ICOMOS, and IPBES)                 | No formal institutional arrangement for Indigenous engagement                           |

of climate change; (2) the types of experts and expertise that are assumed to bring *credibility* to UNESCO and the IPCC; and (3) the rationalities and processes in heritage–climate change assessments that are deemed *legitimate* in the eyes of stakeholders. The discussion will focus on how the salience, credibility, and legitimacy of UNESCO and the IPCC’s boundary work might be perceived by key stakeholders, including policymakers, scientists, and Indigenous peoples.

### ***Salience***

The salience of boundary work is determined by its relevance for stakeholders, typically decision-makers and scientists.<sup>43</sup> Relevance depends on how a problem is defined, what impacts are anticipated, and what strategies and mechanisms for mitigating the problem are offered.<sup>44</sup> Evaluating the salience of UNESCO and the IPCC’s boundary work for all stakeholders is complex. In addition to trade-offs that both organisations must make to accommodate different stakeholder preferences, there are two underlying challenges for UNESCO and the IPCC. First, the qualities and forms of heritage that are assumed to be under threat from climate change are subjective. Second, because climate risk assessments for cultural heritage are epistemologically limited, determinations of appropriate protective measures are also constrained.<sup>45</sup> I probe these challenges further below.

The subjective nature of heritage and uncertainties around climate impacts have created a condition whereby different stakeholders value qualities and forms of heritage that are relevant to them. For instance, archaeologists, architects, or ecologists may deem the physical impacts of climate change on heritage buildings, sites, or landscapes to be central. Politicians might be concerned

<sup>43</sup> Clark, Mitchell, and Cash, ‘Evaluating the influence of global environmental assessments’.

<sup>44</sup> Ronald Mitchell, William Clark, David Cash, and Nancy Dickson, ‘Information and influence’, in Ronald Mitchell, William Clark, David Cash, and Nancy Dickson (eds), *Global Environmental Assessments: Information and Influence* (Cambridge, MA: MIT Press), pp. 307–38.

<sup>45</sup> Sandra Fatorić and Robbert Biesbroek, ‘Adapting cultural heritage to climate change impacts in the Netherlands: Barriers, interdependencies, and strategies for overcoming them’, *Climatic Change*, 162 (2020), pp. 301–20.

about the economic and political impacts of climate change. These impacts could include reduced tourism and increased nationalism. By contrast, for many Indigenous peoples, climate change impacts on heritage are a direct threat to traditions and livelihood. What is crucial to know is the extent to which UNESCO and the IPCC's boundary work is reflective of all these views and preferences.

The IPCC generates assessments that are policy-relevant and meet the requirements of the international community of scientists and governments.<sup>46</sup> A disciplinary analysis of IPCC reports by Bjurström and Polk illustrated the dominance of physical sciences and economics in the work of the IPCC.<sup>47</sup> The content analysis in this paper affirms that the IPCC assesses climate change as predominantly involving impacts on tangible 'heritage sites', which are material and objectively observable (see Table 2).<sup>48</sup> The Panel has mainly viewed 'cultural heritage' as a 'non-renewable resource'.<sup>49</sup> For example, the IPCC only assessed the impacts on natural and cultural heritage of Hurricane Ivan, which hit Grenada in 2004, in terms of damage to tourism – e.g. the loss of 60 per cent of jobs in its aftermath.<sup>50</sup>

Similarly, the content analysis shows that UNESCO's main areas of concern are limited to matters of OUV, integrity, authenticity, and protection of World Heritage sites,<sup>51</sup> as well as tourism (see Table 2).<sup>52</sup> A key UNESCO report urges that 'monitoring threats and impacts of all types, including climate change, is critical for ensuring that sites retain their OUV status'.<sup>53</sup> Not least for the purpose of assessing OUV, UNESCO's expertise is still dominated by what Brumann calls 'architectural conservationist' – a reference to an embedded epistemic force that resists 'a more dynamic and processual conception of culture'.<sup>54</sup> The content analysis in this paper also shows that the heritage–climate change nexus in UNESCO and IPCC reports is predominantly constructed through the lens of material impacts assessments and economic evaluations (see Tables 1 and 2). What seems salient in the work of UNESCO and the IPCC is mainly the concerns of scientists, economists, archaeologists, architects, and governments. What is ignored in those assessments is the salience of the boundary work for other stakeholders, including Indigenous peoples. Accordingly, there are at least three problems that arise from the exclusion of Indigenous peoples from the boundary work of UNESCO and the IPCC.

First, Indigenous peoples may have different understandings, approaches, and priorities in dealing with their heritage protection from the ones that are primarily based on Eurocentric views. For example, in their study of climate change impacts on cultural heritage in Yap State, in the Federated States of Micronesia, Perkins and Krause found a significant link between the Islanders' traditions and customs and social resilience. Traditions and customs included kinship systems, socio-political organisations, chiefly redistribution of resources, and other forms of local knowledge that are often referred to as 'intangible cultural heritage'.<sup>55</sup> Technological and monetary solutions, while essential, played only a supportive role in protecting the Islanders' heritage. The case study suggests that narrow techno-economic assessments limit our understanding of climate change impacts to the ones that are preoccupied with heritage objects and monetary losses – e.g. impacts on tourism.

<sup>46</sup>Statement on IPCC principles and procedures', available at: <https://www.ipcc.ch/2010/02/02/statement-on-ipcc-principles-and-procedures/>.

<sup>47</sup>Andreas Bjurström and Merritt Polk, 'Physical and economic bias in climate change research: A scientometric study of the IPCC Third Assessment Report', *Climatic Change*, 108:1–2 (2010), pp. 1–22.

<sup>48</sup>IPCC 2007, AR4-WGII, p. 733.

<sup>49</sup>IPCC 2014, AR5-WGII, p. 1292.

<sup>50</sup>IPCC 2007, AR4-WGII, p. 702.

<sup>51</sup>UNESCO 2007, 2008, 2014.

<sup>52</sup>UNESCO 2016.

<sup>53</sup>UNESCO 2016, p. 5.

<sup>54</sup>Christoph Brumann, 'Anthropological utopia, closet Eurocentrism, and culture chaos in the UNESCO World Heritage arena', *Anthropological Quarterly*, 91:4 (2018), pp. 1203–33 (p. 1225).

<sup>55</sup>Reed Perkins and Stefan Krause, 'Adapting to climate change impacts in Yap State, Federated States of Micronesia: The importance of environmental conditions and intangible cultural heritage', *Island Studies Journal*, 13:1 (2018), pp. 65–78.

Consequently, only conservation policies that correspond to these impact assessments, and institutions and processes that support such policies, become relevant. What is left out are ‘the potential changes in non-material values and concerns, and institutional adjustments to accommodate these changes’<sup>56</sup> that are salient to lands and cultures of Indigenous peoples.

Second, UNESCO and the IPCC’s boundary work may exclude Indigenous experiences in conversation, as well as Indigenous collaborations with Western experts that do not fit into those organisations’ universalist assessment processes. There are numerous examples of successful Indigenous management practices in the cultural-ecological domain, some of which have involved collaborations with scientists.<sup>57</sup> For example, in North Stradbroke Island (Australia), Indigenous traditional owners of the Quandamooka community and archaeologists collaborated to design and implement a method for cultural heritage assessment.<sup>58</sup> The researchers used methods that recognised Indigenous cosmology as valid and considered all components of the environment and cultural places in holistic synergy. The Quandamooka community itself was both client and partner in the study, thus gaining ownership of the results and receiving a set of recommendations that asserted the rights of the Quandamooka community with regards to ‘resources’, ‘habitats’, and ‘Country’.<sup>59</sup> The article was authored by two archaeologists and a traditional owner. As the authors noted, the outcome of the study would have been different (and less significant) if they were made on purely archaeological grounds without reflecting the views, concerns, and rights of Indigenous traditional owners. This example invites two questions: (1) would the community’s voice would have reached heritage experts without the collaborating archaeologists? and (2) could such inclusive collaborative works reach UNESCO and the IPCC? These questions have not gone unnoticed. The IPCC noted in its recent report that Indigenous knowledges ‘should not be put aside because they are not comparable or complementary with scientific knowledge’.<sup>60</sup> Nevertheless, deep-seated Eurocentric institutional and epistemic norms and settings have been a constraint on substantive engagement with Indigenous knowledges and knowledge holders.

Third, a more fundamental problem relates to the limits of the concept (and discourse) of ‘heritage’. Heritage, even in its most inclusive definition, is a European construct that corresponds with ‘a certain set of Western elite cultural values [which are seen] as being universally applicable’.<sup>61</sup> Therefore, assessing the impacts of climate change on certain sites or cultural practices should not be reduced to their effects on heritage. In the same way, the meaning and functionality of ‘land’ or ‘Country’ for Indigenous peoples cannot be reduced to ‘heritage sites’. Climate change impacts, similar to those caused by colonial violence and, later, development, do not just damage heritage, they disrupt Indigenous peoples’ ways of life, including legal and political institutions that are intricately connected to land. UNESCO and the IPCC are not epistemically equipped to deal with these complexities.

In short, the Indigenous role in UNESCO and the IPCC remains largely tokenistic, mediated by ‘experts’ or ‘state delegates’, and focused on expertise associated with Western techno-science. The lack of substantive Indigenous engagement in those organisations results in the omission of knowledge that is crucial in identifying problems and practical ways of mitigating them. Since all heritage conservation plans must be implemented at the local level, the neglect of Indigenous

<sup>56</sup> Peter Christoff, ‘Places worth keeping?: Global warming, heritage and the challenges to governance’, *Historic Environment*, 21:1 (2008), pp. 41–44 (p. 43).

<sup>57</sup> Edwin Ogar, Greta Pecl, and Tero Mustonen, ‘Science must embrace traditional and Indigenous knowledge to solve our biodiversity crisis’, *One Earth*, 3:2 (2020), pp. 162–5; Andrea Reid, Lauren Eckert, John-Francis Lane, et al., “‘Two-eyed seeing’”: An Indigenous framework to transform fisheries research and management’, *Fish and Fisheries*, 22:2 (2020), pp. 243–61.

<sup>58</sup> Jonathan Prangnell, Anne Ross, and Brian Coghill, ‘Power relations and community involvement in landscape-based cultural heritage management practice: An Australian case study’, *International Journal of Heritage Studies*, 16:1–2 (2010), pp. 140–55.

<sup>59</sup> Prangnell, Ross, and Coghill, ‘Power relations’, p. 151.

<sup>60</sup> IPCC 2022, AR6-WGII, p. 1370.

<sup>61</sup> Smith, *Uses of Heritage*, p. 11.

traditions and practices would risk undermining their relevance and, ultimately, their effectiveness, at least in those regions where Indigenous peoples constitute a significant portion of the population.

### Credibility

UNESCO and the IPCC's orientation towards certain fields of expertise in their boundary work may increase their credibility for stakeholders who are associated with those fields of expertise. Indigenous peoples, whose knowledge systems are not included, may not assign the same level of credibility to UNESCO and the IPCC's boundary work. This exclusion contrasts with growing evidence that Indigenous peoples' substantive involvement is of fundamental importance to conservation efforts that take place in their lands.<sup>62</sup>

The literature suggests a general belief in policymaking and scientific circles that knowledge institutions can maximise their credibility by maintaining their scientific neutrality;<sup>63</sup> such neutrality can only be achieved by adopting methods that filter out knowledge claims that appear as non-scientific. The belief in scientific neutrality (as a source of credibility) rests on an embedded positivist epistemology that continues to be a driving force in the epistemic activities of international knowledge institutions.<sup>64</sup> Other knowledge claims, including the ones from Indigenous peoples, are either dismissed or integrated into the body of science once they are identified as useful and successfully validated through scientific methods.<sup>65</sup>

The content analysis in this paper resonates with such scholarly claims, as it shows that UNESCO and the IPCC have given more prominence to physical sciences in their heritage–climate change assessments. Further, the content analysis illustrates that, while both organisations recognise the potential contribution of Indigenous knowledges to their mandates, their core epistemology reflects European conservation and adaptation models of practice (see Table 3). As part of its key climate strategy, UNESCO advocates for facilitating knowledge transfer, specifically, adopting European experience as a model for the rest of the world.<sup>66</sup> There is also a strong tendency – stronger within the IPCC than in UNESCO – to integrate conservation and adaptation into sustainable development plans. In the 2014 assessment reports, the IPCC viewed the bio-cultural heritage of Indigenous peoples as a resource and ‘irreplaceable bundle of teachings on the practice of mitigation and sustainability’.<sup>67</sup>

Both organisations are also primarily concerned with the impacts of climate change on tangible heritage and have accorded little attention to intangible heritage, which has more relevance to Indigenous cultures. Strategies and measures of heritage protection are, accordingly, more technoeconomic and less cultural (see Tables 1 and 3). The scientific orientation of their boundary work has earned both the IPCC and UNESCO role-model status in their respective fields.<sup>68</sup> However, such credibility may have been obtained at the expense of credibility in the eyes of stakeholders who are not in the same way oriented towards science, such as Indigenous peoples.

Such a narrow construction of the heritage–climate change nexus emerges from a positivist epistemology. Positivism has been challenged in the critical literature for rendering Indigenous

<sup>62</sup>Dawson, Coolsaet, Sterling, et al., ‘The role of Indigenous peoples and local communities’, p. 19.

<sup>63</sup>Clark Miller, ‘Climate science and the making of a global political order’, in Shiela Jasanoff (ed.), *States of Knowledge: The Coproduction of Science and Social Order* (New York: Routledge, 2004), pp. 46–66.

<sup>64</sup>Jan Petzold, Nadine Andrews, James Ford, Christopher Hedemann, and Julio C. Postigo, ‘Indigenous knowledge on climate change adaptation: A global evidence map of academic literature’, *Environmental Research Letters*, 15:11 (2020), p. 113007.

<sup>65</sup>Arun Agrawal, ‘Indigenous knowledge and the politics of classification’, *International Social Science Journal*, 54:173 (2002), pp. 287–97.

<sup>66</sup>UNESCO 2008.

<sup>67</sup>IPCC 2014, AR5-WGII, p. 1382.

<sup>68</sup>Martin Mahony, ‘The IPCC and the geographies of credibility’, *History of Meteorology*, 6 (2014), pp. 95–112; Gfeller and Eisenberg, ‘UNESCO and the shaping of global heritage’.

knowledge systems as ‘non-scientific’ and promoting the idea of ‘pure science’.<sup>69</sup> What is generally referred to as ‘science’ is Western science. Despite its claims to cultural neutrality, Western science reflects European histories and values.<sup>70</sup> Indigenous peoples have their own sciences – i.e. their own distinct ways of ‘observing, collecting, categorizing, recording, using, disseminating and revising information and concepts that explain how the world works.’<sup>71</sup> Indigenous knowledges have evolved and are practised according to their corresponding Indigenous cultures and cosmologies and may or may not share some features with modern Western science. However, through colonialism, Indigenous knowledge systems have absorbed ideas from Western science, just as Western science has absorbed other ways of knowing. As Agrawal explains, ‘in the face of evidence that suggests contact, variation, transformation, exchange, communication, and learning over the last several centuries, it is difficult to adhere to a view of [I]ndigenous and [W]estern forms of knowledge being untouched by each other.’<sup>72</sup> Therefore, the construction of Western science as separate from non-Western science risks depoliticising science and excluding other ways of knowing.

The inseparability of science and politics can be seen at two levels – epistemic and organisational – at the heritage–climate change nexus, as it implicates Indigenous peoples. First is the epistemic level, at which the notion of who is an expert and what constitutes areas of expertise are defined; both issues are highly contested matters. From a sociological perspective, expertise refers to the possession of substantive knowledge. An expert is an individual who not only possesses that knowledge but also has been successfully socialised into that specific domain of expertise.<sup>73</sup> Accordingly, heritage expertise may only be achieved through training and socialisation within a community of heritage professionals.<sup>74</sup> The heritage profession has a definition (however loose), pathways for skills acquisition, and venues for socialisation among its community members. Non-Western students have often been sponsored to gain education in relevant fields (e.g. archaeology) at Western ‘home universities’ or universities teaching Western academic curricula in the Global South.<sup>75</sup> There is a similar process for qualifying in fields relevant to climate change, with many non-Western authors who have collaborated with the IPCC having been trained in Western, particularly Anglo-American, institutions.<sup>76</sup>

UNESCO and the IPCC’s preoccupation with Western-based models of ‘authoritative expertise’ carries the legacy of colonialism. That legacy is reflected in what Laurajane Smith calls ‘authorised heritage discourse’; European architectural and archaeological knowledge is the foundation for the dominant Eurocentric discourse that privileges certain definitions of heritage.<sup>77</sup> Within this discourse, heritage is conferred a value that is perceived as non-renewable and in need of preservation for future generations; heritage itself is mainly tangible. The discourse dominates in international organisations such as UNESCO and ICOMOS,<sup>78</sup> most notably in their universal conceptions of authenticity and originality, which serve to qualify a heritage site as having Outstanding Universal Value (OUV).

<sup>69</sup> Sheila Jasanoff, *The Fifth Branch: Science Advisers as Policymakers* (Cambridge, MA: Harvard University Press, 1990), pp. 1–19.

<sup>70</sup> Gregory Cajete, *Native Science: Natural Laws of Interdependence* (Santa Fe, NM: Clear Light Publishers, 2000), pp. 1–9.

<sup>71</sup> Kyle Whyte, Joseph Brewer, and Jay Johnson, ‘Weaving Indigenous science, protocols and sustainability science’, *Sustainability Science*, 11:1 (2016), pp. 25–32 (p. 25).

<sup>72</sup> Arun Agrawal, ‘Dismantling the divide between Indigenous and scientific knowledge’, *Development and Change*, 26:3 (1995), pp. 413–39 (p. 422).

<sup>73</sup> Dominic Walker, ‘Local world heritage: Relocating expertise in world heritage management’, in John Schofield (ed.), *Who Needs Experts? Counter-Mapping Cultural Heritage* (London: Routledge, 2014), pp. 181–201.

<sup>74</sup> Walker, ‘Local world heritage’.

<sup>75</sup> Denis Byrne, ‘Western hegemony in archaeological heritage management’, *History and Anthropology*, 5:2 (1991), pp. 269–76 (p. 270).

<sup>76</sup> Esteve Corbera, Laura Calvet-Mir, Hannah Hughes, and Matthew Paterson, ‘Patterns of authorship in the IPCC Working Group III report’, *Nature Climate Change*, 6:1 (2016), pp. 94–9.

<sup>77</sup> Laurajane Smith, ‘Discourses of heritage: Implications for archaeological community practice’, *Nuevo Mundo Mundos Nuevos* (2012).

<sup>78</sup> Smith, ‘Discourses of heritage’.

Ndoro and Wijesuriya exposed this colonial pattern in the case of Njelele, a sacred site in Zimbabwe, which ICOMOS refused to include in the nomination of the Matobo Cultural Landscape.<sup>79</sup> In the view of ICOMOS, the rock art found within the Matobo area had far greater value to the world than the rituals and religious values of Njelele, considered by some experts as mere pagan practice. This was ‘despite the fact that for Zimbabweans, Matobo is Njelele: this is the abode of Mwari, the Shona equivalent of God, and therefore regarded as the most important heritage place in Zimbabwe.’<sup>80</sup> Hence, what counts as authentic and worthy of protection is not what Indigenous Zimbabweans view of their cultural heritage; rather, it is what ICOMOS and UNESCO’s ‘experts’ determine to be worthy of protection. What Indigenous peoples might see as their heritage is rendered a non-expert proposition that can be easily dismissed.

There are similar epistemic forces that qualify the relevant areas of expertise that are often referred to as ‘climate sciences’. Indigenous observations of (past) climatic changes and ways of adaptation are either systemically excluded or only included through Western peer-reviewed publications. For instance, Australian Aboriginal groups described local inundations of mainland Australia in coastal areas, recounting the impacts of a post-glacial sea-level rise that occurred more than 7,000 years ago. Those accounts only received academic attention once Nunn and Reid examined them against palaeo-environmental records.<sup>81</sup> Though the stories even reached a recently published IPCC Special Report,<sup>82</sup> it was through mention of Nunn and Reid’s academic work. Similarly, UNESCO views the value of Indigenous peoples’ resource management and adaptive capacities through the work of archaeologists to, for instance, illuminate ‘how human populations have adapted to short- and long-term climatic changes in the past.’<sup>83</sup> Therefore, the idea of ‘expert-driven’ or ‘scientifically neutral’ assessments that prevails in UNESCO and the IPCC’s boundary work is problematic because it leads to the marginalisation of Indigenous knowledges.

Second, organisational functioning is inherently political. The role of BOs is to accommodate differences between stakeholders and, at the same time, facilitate cooperation among them. To that extent, credibility of BOs depends on their capacity to foster political (and epistemic) cooperation.<sup>84</sup> For instance, the IPCC’s ‘Summary for Policymakers’ is a key (technical) executive report that requires line-by-line approval by all state delegates. Since the delegates are primarily tasked with pursuing their national interests, they inevitably conflict over the Summary’s scientific content. This conflict has been observed between Global North and South states in the IPCC, to the extent that the Panel has sometimes been forced to change the content of Summary for Policymakers against the will of collaborating scientists.<sup>85</sup>

Similarly, as Brumann argues, the process of UNESCO’s World Heritage site selection is highly political.<sup>86</sup> He notes that, in addition to traditionally dominant heritage experts, career diplomats play a key role in the selection process. Those diplomats primarily pursue a cosmopolitan agenda concerning world peace or global equity, while simultaneously seeking to advance their national interests; technical matters are secondary to them. Likewise, James and Winter observe in the work of UNESCO’s World Heritage Committee that technical knowledge claims only gain credibility once combined with bureaucratic and diplomatic skills.<sup>87</sup> These politically charged organisational

<sup>79</sup>Webber Ndoro and Gamini Wijesuriya, ‘Heritage management and conservation: From colonization to globalization’, in Lynn Meskell (ed.), *Global Heritage: A Reader* (Chichester: John Wiley & Sons, 2015), pp. 131–49.

<sup>80</sup>Ndoro and Wijesuriya, ‘Heritage management’, p. 143.

<sup>81</sup>Patrick Nunn and Nicholas Reid, ‘Aboriginal memories of inundation of the Australian coast dating from more than 7000 years ago’, *Australian Geographer*, 47:1 (2016), pp. 11–47.

<sup>82</sup>Special Report on the Ocean and Cryosphere in a Changing Climate (2019).

<sup>83</sup>UNESCO 2016, p. 24.

<sup>84</sup>Miller, ‘Climate science’.

<sup>85</sup>Chris Mooney, ‘Why two crucial pages were left out of the latest U.N. climate report’, *Washington Post* (4 November 2014).

<sup>86</sup>Christoph Brumann, ‘Shifting tides of world-making in the UNESCO World Heritage Convention: Cosmopolitanisms colliding’, *Ethnic and Racial Studies*, 37:12 (2014), pp. 2176–92.

<sup>87</sup>Luke James and Tim Winter, ‘Expertise and the making of World Heritage policy’, *International Journal of Cultural Policy*, 23:1 (2017), pp. 36–51.

practices of UNESCO and the IPCC indicate that political activities not only contribute to the production of 'technical knowledge', but they also (to some degree) determine the credibility of BOs.

To sum up, evaluating the credibility of any climate-related heritage assessment requires the examination of (1) organisational processes through which the terms of heritage management are defined, and (2) epistemic settings in which heritage and climate change experts and fields of expertise are determined. The content analysis shows that technical disciplines, such as environmental science, architecture, archaeology, and economics, are the dominant fields of expertise in determining what counts as heritage, how that heritage is affected by climate change, and how heritage should be protected. Further, state delegates have considerable influence on organisational functioning and assessment outcomes. There is very limited epistemic and institutional space for Indigenous peoples to engage in heritage protection as key stakeholders. Thus, UNESCO and the IPCC's boundary work is credible only as far as these organisations have been inclusive in their engagement with relevant stakeholders. In that sense, their assessments may not be perceived as equally credible for Indigenous peoples as for scientists and state delegates. Moreover, the exclusion of Indigenous knowledge systems is not traded off against the goal of having better or more effective heritage or climate adaptation options, since Indigenous peoples make unique contributions to conservation efforts.<sup>88</sup>

### Legitimacy

International organisations strive for legitimacy in the eyes of their stakeholders, both state and non-state actors.<sup>89</sup> Legitimacy, in BO theory, is determined by stakeholder perceptions of whether a particular instance of boundary work has met 'standards of political and procedural fairness'.<sup>90</sup> Evaluations of the fairness of organisational participatory procedures requires an examination of who the stakeholders are, what constitutes equitable institutional and epistemic conditions for stakeholder participation, and the extent to which organisations have met those conditions in practice. UNESCO and the IPCC have provided high levels of transparency and inclusive procedures to maximise stakeholder engagement.<sup>91</sup> Experts and policymakers (among others) have been given fair opportunities to make representations in both organisations. However, despite the increasing recognition of Indigenous peoples by UNESCO and the IPCC, Indigenous representation remains largely tokenistic.<sup>92</sup> Such tokenism in global forums (as regularly seen in UN climate conferences)<sup>93</sup> indicates that global governance institutions recognise Indigenous knowledges mostly for ethical reasons, not because they perceive them to be parallel knowledge systems with practical problem-solving capacities. This perception constitutes a structural barrier to Indigenous participation, rather than the 'day-to-day politics of exclusion'.<sup>94</sup> Hence, UNESCO and the IPCC's legitimacy expands only as far as they have been inclusive to Indigenous peoples (among others) in their boundary work.

The content analysis in this paper helps to better identify the barriers to substantive Indigenous participation. First, UNESCO and the IPCC are intergovernmental bodies, in which experts and government representatives play central roles in boundary work. Further, their collaborative works

<sup>88</sup> Rosemary Hill, Çiğdem Adem, Wilfred V. Alangu, et al., 'Working with Indigenous, local and scientific knowledge in assessments of nature and nature's linkages with people', *Current Opinion in Environmental Sustainability*, 43 (2020), pp. 8–20.

<sup>89</sup> Jonas Tallberg and Michael Zürn, 'The legitimacy and legitimation of international organizations: Introduction and framework', *The Review of International Organizations*, 14 (2019), pp. 581–606.

<sup>90</sup> Cash, Clark, Alcock, et al., 'Salience, credibility, legitimacy, and boundaries', p. 4.

<sup>91</sup> 'IPCC procedures', available at: <https://www.ipcc.ch/documentation/procedures/>; WHC, 'Operational Guidelines for the Implementation of the World Heritage Convention', UNESCO World Heritage Centre, July 2021.

<sup>92</sup> Meskell, 'UNESCO', pp. 155–74; Rashidi and Lyons, 'Democratizing global climate governance?'

<sup>93</sup> 'We're not just somebody to look at: Sidelined groups complain of racial tokenism at COP26 climate talks', available at: <https://edition.cnn.com/2021/11/09/world/cop26-climate-talks-race-intl/index.html>.

<sup>94</sup> Rashidi and Lyons, 'Democratizing global climate governance?', p. 1313.

are primarily with similar international expert bodies (e.g. ICOMOS and OECD) (see Table 4). Finally, the economic aspects of heritage have been a focal point in the assessments, particularly within the IPCC (see Table 1). On this basis, I illustrate that these structural barriers to Indigenous substantive participation arise from embedded state-centric, expert-centric, and market-centric settings of international organisations. First, the state-centric nature of the international system recognises only state actors as legitimate representatives in international organisations. Therefore, Indigenous delegations only hold 'observer status' and largely rely on activism in the absence of institutional rights.<sup>95</sup> Indigenous peoples face large barriers from, in Brumann's words, 'nation state supremacy' in the World Heritage process.<sup>96</sup> Second, the expert-centric nature of organisations such as UNESCO and the IPCC, as explained in previous sections, only authorises certain forms of expertise that correspond to Western techno-scientific disciplines. This expert-centrism systemically limits the epistemic space for Indigenous worldviews and knowledges to be included in UNESCO and the IPCC's boundary work.

The market-centric attribute of international organisations also primarily authorises policy instruments that fit into the dominant global economic model(s). Over the past few decades, the explicit post-war colonial legacies in international institutions have been transformed into more subtle neocolonial instruments.<sup>97</sup> Such neocolonial transformations have been cultivated in global economic institutions. The World Bank and International Monetary Fund's 'Structural Adjustment Programs' are widely seen among such neocolonial policies that enforce structural societal changes in developing countries in exchange for loans to better integrate those countries into a global economy devised by the West. In line with global shifts towards economic deregulation and liberalisation,<sup>98</sup> heritage conservation was further economised from the late 1980s. Heritage was assumed to be better protected once its market value was recognised and heritage conservation rendered a means for profit and development.<sup>99</sup> Market forces began to dominate heritage management by promoting 'investment in cultural resources and human capital so as to yield economic returns, adding value to them so as to encourage tourism, foster foreign direct investment, [and so on]'.<sup>100</sup> As Coombe argued, a constellation of actors played roles in perpetuating this neoliberal heritage agenda. While international organisations such as UNESCO construct heritage as 'a form of currency ... states and communities are encouraged to treat these as forms of capital to be developed and marketed'.<sup>101</sup> Throughout this process, 'autonomous experts' provide legitimacy for UNESCO in maintaining such forms of (neoliberal) heritage management by promising 'technical expertise without political entanglement'.<sup>102</sup> UNESCO went as far as openly embracing cultural commodification when, in 2003, the Convention on the Safeguarding of the Intangible Cultural Heritage set a goal of securing market share for specific cultural products.<sup>103</sup> The marketisation of heritage further reinforced a development-based approach to heritage management. In this context, UNESCO described the participation of local populations, including Indigenous peoples, as 'a step towards

<sup>95</sup> Sheryl Lightfoot, *Global Indigenous Politics: A Subtle Revolution* (Routledge: London, 2016), pp. 33–71.

<sup>96</sup> Christoph Brumann, 'Conclusion: Imagining the ground from afar. Why the sites are so remote in World Heritage Committee sessions', in Christoph Brumann and David Berliner (eds), *World Heritage on the Ground: Ethnographic Perspectives* (New York: Berghahn Books, 2016), pp. 294–318 (p. 309).

<sup>97</sup> George Lawson, 'The colonial origins – and legacies – of international organizations', in Klaus Schlichte and Stephan Stetter (eds), *The Historicity of International Politics: Imperialism and the Presence of the Past* (Cambridge: Cambridge University Press, 2023), pp. 49–65 (p. 49).

<sup>98</sup> Robert Cox, 'A perspective on globalization', in James Mittelman (ed.), *Globalization: Critical Reflections*, Vol. 9 (Boulder, CO: Lynne Rienner, 1996), pp. 21–30.

<sup>99</sup> Hyung Yu Park, *Heritage Tourism* (London: Routledge, 2013), p. 121.

<sup>100</sup> Rosemary Coombe, 'Managing cultural heritage as neoliberal governmentality', in Regina Bendix, Aditya Eggert, and Arnika Peselmann (eds), *Heritage Regimes and the State: Göttingen Studies on Cultural Property*, Vol. 6 (Göttingen: Universitätsverlag Göttingen, 2013), pp. 375–88 (p. 378).

<sup>101</sup> Coombe, 'Managing cultural heritage', p. 381.

<sup>102</sup> Coombe, 'Managing cultural heritage', p. 381.

<sup>103</sup> Alexander Bauer, 'New ways of thinking about cultural property: A critical appraisal of the antiques trade debates', *Fordham International Law Journal*, 31 (2007), pp. 690–24 (p. 690).

the establishment of collaborative approaches and planning for future development options [that] constitutes the main path towards maintaining the ecosystem services'.<sup>104</sup> Similar trends shaped global climate governance in the 1990s with the emergence of carbon markets as, supposedly, the most viable climate policy instrument. The preference for such financial solutions culminated in the market-based flexible mechanisms of the Kyoto Protocol (1997), which is regarded as the backbone of global climate governance.<sup>105</sup> The IPCC played a key role in consolidating the base knowledge for carbon markets through its publications.<sup>106</sup>

Indigenous peoples have been among the most affected by the neoliberal shift in the global economy. As Strakosch notes:

Neoliberalism, as an ideology that demands more intensive exploitation of resources in the name of national competitiveness in a global economy, encounters remote Indigenous communities with collective land tenure who resist or seek to mediate resource development on their land. This gives rise to state policies aimed at individualising Indigenous tenure and pushing Indigenous people towards integration with the 'real economy'.<sup>107</sup>

Along the same lines, neoliberal economic policies served to further commodify Indigenous cultures and heritage, while shifting the state's regulatory power to the private sector in ways that made it yet more difficult for Indigenous peoples to pursue self-determination. For example, the commodification of heritage is central to sustainable heritage management, enacted as part of global policy responses to socio-ecological problems. Financial institutions, including the World Bank and Inter-American Development Bank (IDB), played a key role in this process of commodification by collaborating with UNESCO. In particular, they have been instrumental in cultivating expertise in heritage conservation by offering their transnational networks and financial capabilities to UNESCO in areas related to sustainable development and climate change adaptation and mitigation. In turn, their engagement with UNESCO has been determined and regulated by the economic outcomes of given conservation activities.<sup>108</sup> Despite the destructive impacts of development on heritage in recent years – impacts that have been said to be much larger than the anticipated effects of climate change<sup>109</sup> – (sustainable) development agendas have been leading heritage conservation. In some cases, the inscription of World Heritage sites by governments became a policy instrument for sustainable economic growth.<sup>110</sup> There are growing concerns that World Heritage designation may not positively impact Indigenous peoples.<sup>111</sup>

From this standpoint, UNESCO and the IPCC's preoccupation with the material assessment of heritage conservation, coupled with the existing trends in sustainable development, have effectively reduced heritage remediation works to the impacts on tourism. UNESCO's boundary work is also limited to its recognition of World Heritage sites that mostly concern state parties. UNESCO's World Heritage inscription process provides incentives for state parties to pursue certain interpretations of their heritage (framed by experts) based on national political and economic interests. In many circumstances, governments seek to boost local tourism industries by pushing

<sup>104</sup> UNESCO 2011, p. 93.

<sup>105</sup> Philipp Pattberg and Johannes Striiple, 'Beyond the public and private divide: Remapping transnational climate governance in the 21st century', *International Environmental Agreements: Politics, Law and Economics*, 8:4 (2008), pp. 367–88.

<sup>106</sup> For instance, through IPCC's periodic publications of the Guidelines for National Greenhouse Gas Inventories.

<sup>107</sup> Elizabeth Strakosch, *Neoliberal Indigenous Policy Settler Colonialism and the 'Post-Welfare' State* (London: Palgrave Macmillan, 2015), pp. 10–11.

<sup>108</sup> Kathryn Lafrenz Samuels, 'Transnational turns for archaeological heritage: From conservation to development, governments to governance', *Journal of Field Archaeology*, 41:3 (2016), pp. 355–67.

<sup>109</sup> Greg Terrill, 'Climate change: How should the World Heritage Convention respond?', *International Journal of Heritage Studies*, 14:5 (2008), pp. 388–404.

<sup>110</sup> Lafrenz Samuels, 'Transnational turns'.

<sup>111</sup> Stefan Disko, Helen Tugendhat, and Lola García-Alix, 'World Heritage sites and Indigenous peoples' rights: An introduction', in Stefan Disko and Helen Tugendhat (eds), *World Heritage Sites and Indigenous Peoples' Rights*, Vol. 551 (Copenhagen: IWGIA, 2014), pp. 3–38 (p. 3).

for the fast-tracking of inscriptions of heritage sites on the World Heritage list.<sup>112</sup> The Australian government's attempts to keep the Great Barrier Reef off the World Heritage 'in danger' list<sup>113</sup> are more likely to be driven by the fact that the Reef supports 64,000 jobs and contributes \$6.4 billion to the Australian economy<sup>114</sup> than because it has cultural significance for Indigenous (and non-Indigenous) Australians.

In sum, UNESCO and the IPCC maintain institutional settings that strongly privilege states, experts, and markets. Indigenous peoples do not receive equitable epistemic and political representations. This procedural unfairness, in turn, undermines the legitimacy of UNESCO and the IPCC in the eyes of Indigenous peoples, who may have the most to lose and the most to contribute to heritage conservation.

## A way forward

Over the past few decades, international norms toward Indigenous peoples have shifted from supporting states' integration policies to recognising Indigenous rights to self-determination. This shift is expressed in the UNDRIP,<sup>115</sup> which was adopted by the General Assembly in 2007 and has demonstrated a high degree of legal, political, and moral influence, despite its non-treaty form.<sup>116</sup> UNDRIP expands the existing international human rights discourse by explicitly recognising collective rights for Indigenous peoples and their rights to self-determination including rights to autonomous governance and participatory engagement. The Declaration also foresees that states will take crucial steps that support the implementation of Indigenous self-determination, e.g. with its requirement that states obtain the free, prior, informed consent (FPIC) of Indigenous peoples before taking measures that may affect them.<sup>117</sup>

UNDRIP has become 'an unavoidable parameter of reference' for the pursuit of Indigenous struggles for self-determination and participation in local-to-global governance institutions.<sup>118</sup> It has already been incorporated into national law by some states (e.g. Bolivia) and is making its way into international environmental governance institutions. For example, UNDRIP was a source of principles for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in devising procedures on working with Indigenous peoples in the area of biodiversity conservation.<sup>119</sup> Non-Western knowledge systems (i.e. Mother Earth) were formally recognised as an independent epistemology in the Platform's conceptual framework. IPBES also established a taskforce on Local and Indigenous Knowledges (ILK) with the purpose of fostering collaboration between different knowledge systems.<sup>120</sup> The taskforce adopted provisions on both the handling of Indigenous knowledges and the rights of, and attribution to, Indigenous

<sup>112</sup>Christina Cameron, 'UNESCO and cultural heritage: Unexpected consequences', in William Logan, Máiréad Nic Craith, and Ullrich Kocke (eds), *A Companion to Heritage Studies* (Chichester: John Wiley & Sons, 2015), pp. 323–36.

<sup>113</sup>'Great Barrier Reef: Accept "in danger" status, there's more to gain than lose', available at: <https://www.nature.com/articles/d41586-021-02220-3>; the Great Barrier Reef is seen to be in dire condition that is mostly associated with climate change: 'Climate change', available at: <https://www.gbrmpa.gov.au/our-work/threats-to-the-reef/climate-change>.

<sup>114</sup>Deloitte, 'At what price? The economic, social and icon value of the Great Barrier Reef', Deloitte Access Economics, 2017.

<sup>115</sup>Inès Ayari, 'Commentary: The dynamics between Indigenous rights and environmental governance', *AlterNative: An International Journal of Indigenous Peoples*, 10:1 (2014), pp. 81–6.

<sup>116</sup>Felipe Gómez Isa, 'The UNDRIP: An increasingly robust legal parameter', *The International Journal of Human Rights*, 23:1–2 (2019), pp. 7–21.

<sup>117</sup>James Anaya, 'The right of Indigenous peoples to self-determination in the post-declaration era', in Claire Charters and Rodolfo Stavenhagen (eds), *Making the Declaration Work: The United Nations Declaration on the Rights of Indigenous Peoples* (Copenhagen: IWGIA, 2009), pp. 184–98; Gómez Isa, 'The UNDRIP', p. 16.

<sup>118</sup>Gómez Isa, 'The UNDRIP', p. 16.

<sup>119</sup>Randy Thaman, Phil Lyver, Rodger Mpande, et al., 'The contribution of Indigenous and local knowledge systems to IPBES: Building synergies with science', IPBES Expert Meeting Report. UNESCO/UNU, June 2013.

<sup>120</sup>UNESCO has played a key role as the technical support unit for IPBES task force on ILK systems (available at: <https://ipbes.net/sites/default/files/ipbes-7-inf-12.pdf>); Karin Gustafsson, Monika Berg, Rolf Lidskog, and Erik Löfmarck, 'Intersectional boundary work in socializing new experts: The case of IPBES', *Ecosystems and People*, 15:1 (2019), pp. 181–91.

knowledge holders in IPBES assessment processes.<sup>121</sup> To operationalise such provisions, the Platform expanded its criteria of expert selection to include both Indigenous knowledge holders and experts on Indigenous knowledges.<sup>122</sup> IPBES contacted a myriad of Indigenous networks (e.g. UN Permanent Forum on Indigenous Issues [UNPFII]) to identify primary sources of Indigenous knowledges. The Platform enables Indigenous knowledge holders to participate in the scoping process or to be appointed as Coordinating Lead Authors (CLAs), Lead Authors (LAs), Contributing Authors (CAs), Reviewers (Rs), Review Editors (REs), and co-chairs.<sup>123</sup> Indigenous involvement in IPBES assessment procedures was foreseen almost from the beginning of its establishment.

The IPBES global Dialogue Workshops illustrate how Indigenous engagement in assessment processes can be adapted to reflect UNDRIP principles. The Workshops were designed to facilitate linkages between Indigenous knowledge holders, scientists, and policymakers – by overcoming linguistic, conceptual, and socio-cultural barriers – while focusing on regional case studies.<sup>124</sup> A key outcome of these efforts is a work-in-progress report by IPBES on invasive alien species. IPBES has reached out to various Indigenous communities, including Chrissy Grant, an Aboriginal elder of Kuku Yalanji (from the Jalun-Warra clan) and Torres Strait Islander (Mualgal from Kubin on Moa Island). On behalf of the traditional owners of the Eastern Kuku Yalanji, Chrissy Grant identified Pond Apple as an invasive plant and a threat to their native biodiversity and to Indigenous cultural sites in far north Queensland, Australia. The community's management of feral species is also recognised in the Platform.<sup>125</sup> Moreover, in generating the same report (on invasive species), FPIC principles were agreed on by the participants of the Dialogue and are followed by both Indigenous and non-Indigenous participants.

Could UNESCO and the IPCC incorporate the principles of UNDRIP into their institutional settings and processes? Many Indigenous groups have campaigned for the recognition and implementation of the principles of UNDRIP in climate negotiations and heritage conventions.<sup>126</sup> IPBES is a post-UNDRIP institution that deals with biodiversity conservation, a topic that requires more localised knowledge and practice (in comparison with climate science). It is perhaps no surprise that it has been more successful in incorporating Indigenous perspectives. Conversely, the positivist epistemic foundation of the IPCC<sup>127</sup> and the colonial legacies embedded in UNESCO<sup>128</sup> might have generated institutional inertia that resists the implementation of the principles of UNDRIP. Further, UNESCO's multilayered structure may be a barrier to implementation of UNDRIP in that it permits conventions and programmes to have governance systems that diverge from UNDRIP principles.

Nevertheless, there is potential for both UNESCO and the IPCC to overcome institutional inertia. UNESCO's LINKS programme works much like the IPBES ILK taskforce, albeit with more government constraints. However, the epistemic, bureaucratic, and economic constraints – i.e. those associated with expert-centrism, state-centrism, and market-centrism discussed in previous section – seem to limit substantive Indigenous involvement in UNESCO. UNESCO's recent initiative<sup>130</sup> to incorporate, and ultimately operationalise, the principles of UNDRIP could mitigate

<sup>121</sup>Claudio Chiarolla and Annalisa Savaresi, 'Indigenous challenges under IPBES: Embracing Indigenous knowledge and beyond', in Marie Hrabanski and Denis Pesche (eds), *The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES): Meeting the Challenge of Biodiversity Conservation and Governance* (London: Routledge, 2016), pp. 190–10.

<sup>122</sup>Thaman, Lyver, Mpande, et al., 'The contribution', p. 74.

<sup>123</sup>Thaman, Lyver, Mpande, et al., 'The contribution', p. 76.

<sup>124</sup>Chiarolla and Savaresi, 'Indigenous challenges'; Thaman, Lyver, Mpande, et al., 'The contribution', pp. 57–8.

<sup>125</sup>IPBES, 'Report of the ILK dialogue workshop on the first order draft of the IPBES assessment of invasive alien species', October 2020, pp. 18–19.

<sup>126</sup>Markus Fraundorfer, *Global Governance in the Age of the Anthropocene* (Cham: Palgrave Macmillan, 2022), p. 315; Ana Vrdoljak, 'Indigenous peoples, human rights and world heritage', *International Journal of Cultural Property*, 25:2 (2018), pp. 245–81.

<sup>127</sup>Petzold, Andrews, Ford, et al., 'Indigenous knowledge'.

<sup>128</sup>Smith, 'Discourses of heritage'.

<sup>130</sup>The initiative is part of UNESCO's 'Medium-Term Strategy', which began in 2014 (see UNESCO 2018, p. 4).

these constraints. In fact, UNESCO's obligation to protect and promote the rights of Indigenous peoples is implicit in the organisation's 'commitment to principles and values such as cultural diversity'.<sup>131</sup> Expansion of heritage expertise and utilising Indigenous knowledge holders similar to IPBES's experience could foster the operationalisation of UNDRIP in UNESCO. The World Heritage Convention has also recently recognised a rights-based approach – including obligations on FPIC – for Indigenous participation in the assessment and protection processes of World Heritage sites.<sup>132</sup> The World Heritage Committee has also been urged to make FPIC a mandatory prerequisite for World Heritage listing.<sup>133</sup> So far, there has been neither sufficient consultation with Indigenous groups about World Heritage site selection,<sup>134</sup> nor sufficient implementation of UNDRIP within the Convention.<sup>135</sup> Overall, it is still unclear whether and, if so, to what extent and how these commitments will empower Indigenous peoples in practice.<sup>136</sup>

The IPCC is yet to establish an Indigenous task force or working group. The Panel could expand its expert selection criteria to include Indigenous knowledge holders and commission dialogue workshops, similar to those of IPBES, to facilitate collaboration between Western-based experts and Indigenous peers. This could take place in areas of climate adaptation (the IPCC Working Group-II) that have strong local components. In its recent report, the Panel has acknowledged the importance of UNDRIP and FPIC as frameworks for realising the rights of Indigenous peoples.<sup>137</sup> While this is a positive step, the IPCC still has a long way to go before it will have incorporated and implemented the principles of UNDRIP.

A last note on the suitability of heritage as an enabling framework to pursue Indigenous self-determination in the context of UNDRIP: in the past decade or so, heritage institutions – UNESCO principally – have sought to include the views and concerns of the subaltern, including Indigenous peoples. Yet, as Smith describes, those bodies remain constrained 'in their attempts [at inclusion] because of the conceptual problems of extending debate and practices outside of the frameworks established by the [authorised heritage discourse (AHD)]'.<sup>138</sup> AHD promotes certain cultural values, namely those of Western elites,<sup>139</sup> and recognises the boundaries of nation-states, which are presumed to be constituted of homogeneous peoples.<sup>140</sup> The heritage framework and its underlying presumption are problematic in relation to Indigenous peoples, whose ability to define heritage has been historically limited and whose conceptions of heritage are connected to ongoing struggles for self-determination and mastery of the past.<sup>141</sup> Conversely, UNDRIP, with its holistic and inclusive principles, enables heritage to be reimagined through an Indigenous lens and used to pursue Indigenous self-determination. As the first sentence of Article 31(1) affirms, 'Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures'. Article 31(2) confirms that 'States shall take effective measures to recognize

<sup>131</sup> Disko, Tugendhat, and García-Alix, 'World Heritage Sites and Indigenous peoples' rights', pp. 14–15.

<sup>132</sup> See WHC, 'Operational guidelines for the implementation of the World Heritage Convention', UNESCO World Heritage Centre, July 2021.

<sup>133</sup> Christoph Brumann, *The Best We Share: Nation, Culture and World-Making in the UNESCO World Heritage Arena* (New York: Berghahn Books, 2021), p. 32.

<sup>134</sup> Brumann, *The Best We Share*, p. 33.

<sup>135</sup> Brumann, 'Conclusion', p. 307.

<sup>136</sup> Federica Cittadino, *Incorporating Indigenous Rights in the International Regime on Biodiversity Protection: Access, Benefit-Sharing and Conservation in Indigenous Lands* (Leiden: Brill, 2019), pp. 264–334.

<sup>137</sup> IPCC 2022, AR6-WGII, p. 2524, 3170.

<sup>138</sup> Smith, *Uses of Heritage*, p. 35.

<sup>139</sup> Smith, *Uses of Heritage*, p. 11.

<sup>140</sup> Brian Graham, Greg Ashworth, and John Tunbridge, *A Geography of Heritage* (London: Routledge, 2000), p. 12.

<sup>141</sup> Smith, *Uses of Heritage*, p. 11.

and protect the exercise of these rights.<sup>142</sup> Viewed in this way, heritage may function as a tool for symbolic resistance and the promotion of Indigenous self-determination.<sup>143</sup>

Overall, despite all the limits to recognition and implementation of the provisions in UNDRIP, substantive engagement with Indigenous peoples within the UNDRIP framework could enhance Indigenous participation in UNESCO and the IPCC and increase the legitimacy of their boundary work. UNESCO seems to have recognised this but to be experiencing institutional inertia. The salience of protecting Indigenous lands and cultures is also certainly most recognised by their traditional owners than anyone else. As the IPBES's experience with Eastern Kuku Yalanji people showed, Indigenous substantive participation in the assessment process would not only promote the scientific credibility of BO, it might also boost the credibility of those organisations in the eyes of Indigenous stakeholders.

## Conclusion

In this article, I examined the boundary work of UNESCO and the IPCC at the nexus between heritage and climate change. Using a conceptual framework drawn from the boundary organisations literature, I evaluated the effectiveness of that boundary work. UNESCO and the IPCC achieve success insofar as they reflect the perspectives of their respective stakeholders in their reports. However, as I illustrated, these organisations systemically privilege expertise that accords with specific epistemological, political, and economic trends. Therefore, the heritage–climate change nexus embodies certain values and assumptions, which affirm Eurocentric, universalistic, and materially construed understandings of heritage conservation in the face of climate change. I argued that this nexus, as a discursive manifestation of a global cultural governance, is ethically problematic and a barrier to the effectiveness of efforts to tackle the threat of climate change to heritage.

In response to these challenges, this article concludes that there are benefits for substantive engagement with Indigenous peoples in UNESCO and the IPCC, such as would enable them to speak for their heritage and its needs for protection. A rights-based approach has been promoted in UNDRIP and trialled (with some success) in IPBES, a biodiversity conservation institution. A similar change in UNESCO and the IPCC may enhance those institutions and associated regimes of global governance, endowing them with greater opportunities for participation, more innovative methods of assessment, and a stronger local orientation for heritage protection initiatives. However, such remedies cannot be undertaken by UNESCO and the IPCC alone. Instead, they will require collective action among policymakers, heritage practitioners, activists, scholars, and, most importantly, Indigenous peoples across the world.

**Supplementary material.** The supplementary material for this article can be found at <https://doi.org/10.1017/S0260210524000196>.

**Video Abstract.** To view the online video abstract, please visit: <https://doi.org/10.1017/S0260210524000196>.

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<sup>142</sup>See further Dalee Sambo Dorough and Siegfried Wiessner, 'Indigenous peoples and cultural heritage', in Francesco Francioni and Ana Filipa Vrdoljak (eds), *The Oxford Handbook of International Cultural Heritage Law* (Oxford: Oxford University Press, 2020), pp. 407–30 (p. 413).

<sup>143</sup>Cf. Neil A. Silberman, 'Heritage places: Evolving conceptions and changing forms', in William Logan, Máiréad Nic Craith, and Ullrich Kockel (eds), *A Companion to Heritage Studies* (Chichester: John Wiley & Sons, 2016), pp. 27–40 (p. 35).