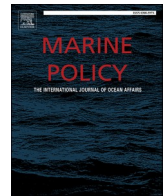




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## Institutional arrangements in a BBNJ treaty: Implications for Arctic marine science

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### ABSTRACT

The aim of this article is to explore the implications for Arctic marine science of the treaty that is being negotiated under the auspices of the United Nations for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction (BBNJ) from the perspective of the necessary institutional arrangements. Given that the institutional architecture will be crucial to the successful implementation of the resulting treaty, this article examines the approaches to institutional arrangements as they relate to the discussions leading to the commencement of the BBNJ intergovernmental conference, developments at the intergovernmental conference, and their implications for Arctic marine science. The Arctic perspective is of particular interest because Arctic States and other States with significant interests in the Arctic have been largely skeptical of, and in some cases resistant to, the BBNJ process. This article concludes that although the BBNJ treaty negotiations provide a challenge to regional, sectoral, and national actors in the Arctic, they also provide an opportunity for these actors if the resulting treaty includes robust institutional arrangements that create mechanisms for greater integration and coordination of marine science, particularly Arctic marine science.

### 1. Introduction<sup>2</sup>

In recent days, one cannot avoid hearing the alarming news on climate change and sea level rise and its catastrophic consequences for the Arctic. Given the ongoing treaty negotiations at the United Nations for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction (BBNJ), a question posed by these recent scientific findings is what possible relevance they could have for the BBNJ process and the resulting treaty.

BBNJ refers to areas beyond national jurisdiction that cover nearly 64% of the Earth's surface.<sup>3</sup> These vast marine areas contain some of the world's rarest marine ecosystems, including seamounts, hydrothermal

vents, deep-sea trenches, deep-sea coral reefs, cold seeps and pockmarks. These ecosystems contain genetic resources that are attracting growing interest for use in a variety of commercial applications, including pharmaceuticals and cosmetics.<sup>4</sup> In addition, areas beyond national jurisdiction provide a wealth of resources and services, including seafood and raw materials, genetic and medicinal resources, air purification, climate regulation, and habitat and cultural services.<sup>5</sup>

Both the importance of, and the threats to, marine biodiversity in areas beyond national jurisdiction first came to the attention of the United Nations in 2003 with the 4th meeting of the United Nations Informal Consultative Process on the Oceans and the Law of the Sea.<sup>6</sup> Questions were raised regarding the lack of effective legal and

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<sup>3</sup> Global Ocean Commission, *From Decline to Recovery: A Rescue Package for the Global Ocean* (2014) (Global Ocean Commission Report), at 4, accessed 21 December 2019 at <[http://www.some.ox.ac.uk/wp-content/uploads/2016/03/GOC\\_report\\_2015.July\\_2.pdf](http://www.some.ox.ac.uk/wp-content/uploads/2016/03/GOC_report_2015.July_2.pdf)>.

<sup>4</sup> David Leary, Marjo Vierros, Gwenaelle Hamon, Salvadore Arico, and Catherine Monagle, "Marine Genetic Resources: A Review of Scientific and Commercial Interest", *Marine Policy* 33(2009), 183–194, at 189.

<sup>5</sup> Global Ocean Commission Report, *supra* note 3 at 5–6.

<sup>6</sup> Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, Letter dated 9 June 2003 from the Co-Chairperson of the Consultative Process addressed to the President of the General Assembly, UN GAOR Doc. A/58/95 (Report of 4th Informal Consultative Process), accessed 21 December 2019 at <<http://undocs.org/A/58/95>>.

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institutional mechanisms for protecting vulnerable marine ecosystems in areas beyond national jurisdiction.<sup>7</sup> Discussions on these issues led to a recommendation, approved by UNGA A/58/95, to form the *Ad Hoc* Open-Ended Informal Working Group on Marine Biodiversity in Areas Beyond National Jurisdiction (BBNJ Working Group).<sup>8</sup> It was not until 2011 that the BBNJ Working Group recommended that a process be initiated to consider the four elements of the “package deal”, which include: (i) marine genetic resources (MGRs), including the sharing of benefits; (ii) area-based management tools (ABMTs), including marine protected areas (MPAs); (iii) environmental impact assessments (EIAs); and (iv) capacity building and the transfer of marine technology (CBTT).<sup>9</sup> The package deal gained momentum and political support during the 2012 Rio Conference, eventually leading to the establishment and convening of the PrepCom.<sup>10</sup> The PrepCom ran for four two-week sessions in 2016 and 2017, at the conclusion of which the PrepCom fulfilled its mandate and adopted the PrepCom Report.<sup>11</sup>

On 24 December 2017, the UN General Assembly decided to convene an intergovernmental conference to elaborate the text of an international legally binding instrument for the conservation and sustainable use of BBNJ (Conference).<sup>12</sup> The Conference has been initially scheduled for four two-week sessions: the first session concluded in September 2018; two sessions were held in 2019; and one last two-week session will be held in the first half of 2020.<sup>13</sup> On average, over 120 member delegations, nearly 20 intergovernmental organizations and over 40 non-governmental organizations participated in the first two substantive sessions of the Conference at the UN Headquarters in New York.<sup>14</sup>

The point of departure for the governance of areas beyond national jurisdiction is the legal framework set out in the United Nations Convention on the Law of the Sea, or UNCLOS.<sup>15</sup> UNCLOS takes a functional approach and sets out the rights and obligations of States for each of the maritime zones. Areas beyond national jurisdiction comprise the Area and the high seas water column.<sup>16</sup> While the Area and its mineral resources, together with the exploration and exploitation of these resources, are conducted for the “common heritage of mankind”,

the high seas are grounded in traditional high seas freedoms and the desire to secure freedom of navigation.<sup>17</sup> The treatment of these maritime zones in areas beyond national jurisdiction under UNCLOS underlies the tension in the BBNJ process and in the discussions of institutional arrangements.

When we speak of those States who are or have been generally resistant to and/or skeptical of the BBNJ process – many of them are either Arctic States, which include such Arctic Council Member States as Iceland, Norway, the Russian Federation, and the United States, and States who have strong interests in the Arctic, which include such Arctic Council Observers as China, Japan, and South Korea, among others.<sup>18</sup> Canada, one of the other Arctic States and Arctic Council Member States, has taken more moderate positions during the BBNJ process, but has in the view of this author pulled back from the middle in recent sessions and taken positions more in line with the other Arctic States mentioned above.<sup>19</sup> The non-Arctic players are relevant to this article’s discussion because they are largely aligned with the Arctic States in regard to their views on BBNJ and in their significant interests in the Arctic.

It should be noted that the skepticism voiced by these States is not related to the Arctic but rather to their concerns relating to institutional arrangements, where they have been nearly unanimous in their support of a regional and/or sectoral approach that relies heavily on existing institutions, bodies, and frameworks. The challenge then may be to consider ways in which to bring these outliers onboard in order to ensure the broadest possible participation in the resulting treaty.<sup>20</sup> This article argues that although the BBNJ treaty negotiations provide a challenge to regional and sectoral actors in the Arctic, they also provide an opportunity for these actors, specifically with regard to Arctic marine science.

The aim of this article is to explore the implications for Arctic marine science of the institutional arrangements in the anticipated BBNJ treaty that is being negotiated under the auspices of the United Nations. Determining what institutions, bodies or mechanisms will be needed to implement the treaty’s objectives, what powers will be given to these bodies, who will exercise the powers of decision making, and how those decisions will be made will depend largely on which approach to institutional arrangements is employed. The resulting institutional setup will be crucial to the ultimate success (or failure) of the BBNJ treaty. This article examines from the perspective of the approaches to institutional arrangements, the long road leading to the commencement of the Conference (Section 2), developments (thus far) at the Conference (Section 3), the role of science at the Conference and its implications for Arctic ocean governance (Section 4), and concluding remarks (Section 5).

## 2. Road leading to the commencement of the BBNJ intergovernmental conference

The UN General Assembly mandated that the PrepCom consider the elements of the package deal, provided that the process set out in Resolution 69/292 “should *not undermine* existing relevant instruments and

<sup>7</sup> *Ibid.*

<sup>8</sup> *Ibid.*

<sup>9</sup> Letter dated 30 June 2011 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly, UN GAOR Doc. A/66/119 (BBNJ Working Group Recommendations), Annex, para. 1(b).

<sup>10</sup> Development of an international legally-binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, UN GAOR A/Res/69/292 (UNGA Res. 69/292), accessed 21 December 2019 at <<https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/187/55/PDF/N1518755.pdf?OpenElement>>.

<sup>11</sup> Report of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, A/AC.287/2017/PC.4/2, dated 31 July 2017 (PrepCom Report), accessed 21 December 2019 at <[http://www.un.org/ga/search/view\\_doc.asp?symbol=A/AC.287/2017/PC.4/2](http://www.un.org/ga/search/view_doc.asp?symbol=A/AC.287/2017/PC.4/2)>.

<sup>12</sup> International legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, UN GAOR A/Res/72/249 (UNGA Res. 72/249), accessed 21 December 2019 at <<http://www.undocs.org/A/RES/72/249>>.

<sup>13</sup> *Ibid.* The fourth session of the Conference will be held from 23 March to 3 April 2020.

<sup>14</sup> See *Intergovernmental Conference of Marine Biodiversity in Areas Beyond National Jurisdiction*, “Participants”, accessed 21 December 2019 at <<https://www.un.org/bbnj/content/first-substantive-session>> and <<https://undocs.org/a/conf.232/2019/inf.3/rev.2>>.

<sup>15</sup> United Nations Convention on the Law of the Sea, adopted 10 December 1982, 1833 UNTS 3, (entered into force 16 November 1994) (UNCLOS).

<sup>16</sup> UNCLOS, Art 1(1) and Part VII.

<sup>17</sup> *Ibid.*

<sup>18</sup> For example, although China is not an Arctic State, it has been seeking to become an Arctic partner and player through policies directed by scientific diplomacy and the need to secure resources for continued economic growth and development. “Study: China Seeks to Become an Arctic Partner and Player”, accessed 21 December 2019 at <<https://www.arcticcentre.org/news/Study-China-seeks-to-become-an-Arctic-partner-and-player/39649/fc88cd5b-229e-44a-b-b949-693bbe84261b>>.

<sup>19</sup> Norway’s negotiating position has followed a similar trajectory, generally seen as taking a pragmatic approach in the negotiations.

<sup>20</sup> Draft text of an agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, Preamble (“Aspiring to achieve universal participation”), accessed 21 December 2019 at <<https://undocs.org/en/a/conf.232/2019/6>>.

frameworks”.<sup>21</sup> This proviso created a substantial amount of debate in the discussions on institutional arrangements at the PrepCom about what this language could mean in the context of the scope, mandate and institutional setup of a BBNJ treaty as it relates to, and interacts with, other existing instruments and frameworks.

By the close of the second session of the PrepCom, discussions converged around two entrenched positions on the approach to institutional arrangements: the global approach and the regional and/or sectoral approach. Those delegations that supported a global approach called for a global mechanism to employ a centralized, comprehensive approach over activities in areas beyond national jurisdiction.<sup>22</sup> Those delegations that supported traditional high seas freedoms warned that a global body would undermine existing bodies and frameworks and therefore called for a more decentralized, regional and/or sectoral approach, favoring reliance on existing regional and sectoral bodies for implementation.<sup>23</sup>

At the start of the third session of the PrepCom, many of the oft-repeated positions remained – freedom of the high seas vs. common heritage of mankind, and the global approach vs. the regional and/or sectoral approach. An alternative “hybrid approach” was first raised in the Informal Working Group on Area-based Management Tools, where New Zealand proposed in two detailed interventions that the new instrument could set out internationally agreed standards and obligations at the global level, a number of which could then be implemented by States at the regional and sectoral levels.<sup>24</sup> Later, in the Informal Working Group on Cross-cutting Issues, the hybrid approach again garnered significant discussion. Several delegations elaborated on various aspects of the approach, suggesting that the institutional arrangements could include a Conference of the Parties (COP), a scientific and technical body, and a secretariat (possibly through an expanded mandate of the UN Division for Ocean Affairs and the Law of the Sea (DOALOS)).<sup>25</sup> The Chair’s overview of the third session included a description of the newly proposed hybrid approach, together with

descriptions of the global and regional and/or sectoral approaches.<sup>26</sup>

Although inter-sessionally there were numerous discussions regarding the hybrid approach and what it could mean for the BBNJ process, there was little further development of the three different approaches to institutional arrangements at the fourth session of the PrepCom.<sup>27</sup> However, this was in no way a dismissal of the importance of the institutional arrangements to the negotiations but was rather an indication of their crucial value to the process. As the delegate from Nauru, speaking on behalf of the Pacific Small Island Developing States (PSIDS), said in one of her final interventions at the PrepCom, “The institutional arrangements are the ‘glue’ to our instrument”.<sup>28</sup>

The overall effect of the emergence of the hybrid approach at the PrepCom was that it gave welcome relief to polarized positions that had hindered movement for many years and helped to progress the negotiations on institutional arrangements. By the end of the fourth and last session, the delegations fulfilled the mandate of the PrepCom and adopted the PrepCom Report.<sup>29</sup>

With the negotiations moving into an intergovernmental conference, given that many of the delegates have stated that “form follows function”, without substantive agreement on the elements of the package deal or on the ambitiousness of the BBNJ treaty, no one can predict at this juncture what sort of hybrid approach may ultimately take shape under this new treaty. That being said, the hybrid approach may help to: (i) provide for a coherent and integrated legal and institutional framework for BBNJ; and (ii) fulfill the Conference’s mandate of “not undermining” existing instruments and frameworks, while remaining consistent with UNCLOS. The fear, however, is that if the hybrid approach to institutional arrangements is applied in a less than robust manner, it could be used to dilute the overall effectiveness of the treaty. This fear was realized in part when a few of the most persistent outliers gave their support for various forms of a hybrid approach that was essentially a regional approach dressed up as a hybrid approach. The incorporation of a legal and institutional setup in a BBNJ treaty using a robust version of the hybrid approach could provide greater coherence by: (i) filling existing gaps and strengthening the overall effectiveness of existing regional/sectoral organizations to address areas beyond national jurisdiction issues; (ii) integrating existing instruments; (iii) improving inter-institutional and cross-sectoral cooperation and coordination; (iv) ensuring compatibility in ecosystem-based management within and beyond areas of national jurisdiction; and (v) providing compatibility and complementarity across institutional frameworks.

### 3. Developments of institutional arrangements at the BBNJ intergovernmental conference

Like the PrepCom, the mandate of the Conference as set out in UNGA Resolution 72/249 includes the consideration of the elements of the

<sup>21</sup> UNGA Res. 69/292, *supra* note 10, para. 3.

<sup>22</sup> See “Chair’s Overview of the Second Session of the Preparatory Committee”, accessed 21 December 2019 at <[https://www.un.org/depts/los/biodiversity/prepcom\\_files/Prep\\_Com\\_II\\_Chair\\_overview\\_to\\_MS.pdf](https://www.un.org/depts/los/biodiversity/prepcom_files/Prep_Com_II_Chair_overview_to_MS.pdf)>; see also “Summary of the First Session of the Preparatory Committee on Marine Biodiversity of Areas Beyond National Jurisdiction: 28 March – 8 April 2016” *Earth Negotiations Bulletin*, Vol. 25, No. 106, (IISD Reporting Services, 11 April 2016) (ENB PrepCom1 Summary); “Summary of the Second Session of the Preparatory Committee on Marine Biodiversity of Areas Beyond National Jurisdiction: 26 August – 9 September 2016” *Earth Negotiations Bulletin*, Vol. 25, No. 118, (IISD Reporting Services, 12 September 2016) (ENB PrepCom2 Summary).

<sup>23</sup> ENB PrepCom1 Summary, *supra* note 22 at 5–6; ENB PrepCom2 Summary, *supra* note 22 at 4.

<sup>24</sup> “Preparatory Committee on Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction”, New Zealand Submission (December 2016) (New Zealand Submission) at 1.

<sup>25</sup> “Summary of the Third Session of the Preparatory Committee on Marine Biodiversity of Areas Beyond National Jurisdiction: 27 March – 7 April 2017” *Earth Negotiations Bulletin*, Vol. 25, No. 129 (IISD Reporting Services, 10 April 2017) (ENB PrepCom3 Summary) at 12–13. DOALOS is the Division for Ocean Affairs and the Law of the Sea, which provides (i) advice, studies, assistance and research on the implementation of UNCLOS; (ii) secretariat services under UNCLOS; and (iii) functions concerning the deposit of charts and coordinates under certain provisions of UNCLOS.

<sup>26</sup> “Chair’s overview of the third session of the Preparatory Committee”, accessed 21 December 2019 at <[https://www.un.org/depts/los/biodiversity/prepcom\\_files/Chair\\_Overview.pdf](https://www.un.org/depts/los/biodiversity/prepcom_files/Chair_Overview.pdf)>, at 12–13, 27.

<sup>27</sup> “Summary of the Fourth Session of the Preparatory Committee on Marine Biodiversity of Areas Beyond National Jurisdiction: 10–21 July 2017” *Earth Negotiations Bulletin*, Vol. 25, No. 141, (IISD Reporting Services, 24 July 2017) (ENB PrepCom4 Summary) at 16. See also this author’s notes from the fourth session of the PrepCom (on file with author) (Author’s PrepCom4 Notes) at 77, 101.

<sup>28</sup> Author’s PrepCom4 Notes, *supra* note 27 at 106.

<sup>29</sup> *Report of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction*, A/AC.287/2017/PC.4/2, dated 31 July 2017) (PrepCom Report), accessed 21 December 2019 at <[http://www.un.org/ga/search/view\\_doc.asp?symbol=A/AC.287/2017/PC.4/2](http://www.un.org/ga/search/view_doc.asp?symbol=A/AC.287/2017/PC.4/2)>.

package deal.<sup>30</sup> Similarly, the resolution also includes the proviso that this “process *and its result* should not undermine existing relevant legal instruments and frameworks”.<sup>31</sup> In addition, the resolution reaffirms that the work and results of the Conference *should be fully consistent* with UNCLOS.<sup>32</sup>

The work of the Conference is overseen by a President, Ambassador Rena Lee (Singapore), and a 15-member Bureau.<sup>33</sup> President Lee organized the work of the Conference into four Informal Working Groups – one for each element of the package – with each group led by a facilitator.<sup>34</sup> This followed the organization of the PrepCom, with the exception of the Informal Working Group on Cross-cutting Issues, which has been effectively disbanded. Many of these cross-cutting issues, including institutional arrangements, are instead discussed across the package in each of the Informal Working Groups.

Moreover, although the hybrid approach enjoyed strong support and further elaboration at the first substantive session of the Conference, the regional approach was also the subject of rich discussions, with some delegations proposing a strict regional approach and others offering an expanded regional seas program.<sup>35</sup> Some delegations even stated that the new treaty should provide the floor for any regulation rather than a ceiling, thereby allowing regional bodies and frameworks with the choice of implementing stronger, more restrictive measures for the conservation and sustainable use of BBNJ.<sup>36</sup> Interestingly, those delegations that delivered interventions supporting different variations of the regional approach were largely Arctic States or States with significant interests in the Arctic.<sup>37</sup> Examples of such states that aligned with the regional approach include Canada, Iceland, Norway, the Russian Federation and the United States.<sup>38</sup> Several of these states, together with China and South Korea, also supported a decision-making process requiring consensus.<sup>39</sup> This position is largely viewed as one that is aligned with a regional and/or sectoral approach.

With regard to the institutional bodies that would be needed in a new legal regime for BBNJ, there seemed to be strong support for a COP and a Secretariat, and growing support for a scientific and technical body.<sup>40</sup> The establishment of other bodies was also discussed, but primarily by those delegations who supported a global approach.<sup>41</sup> Although the views concerning the functions and powers of decision making that these bodies could be given under the new regime varied greatly, they closely followed the three different approaches to institutional arrangements.

The discussion on institutional arrangements proceeded similarly at the second substantive session. Prior to the session, the President issued

an aid to negotiation, which consolidated various proposals that the delegates had put forward at the PrepCom and the Conference on the elements of the package deal.<sup>42</sup> In the course of the session, delegates were asked to state their preferences for the various options that were set out in the aid to negotiation. Not wishing to be locked into any position, the delegations generally opted to choose more hardline positions on the elements of the package deal.<sup>43</sup> For instance, when discussing the possible establishment of a global overarching framework to oversee ABMTs under the new regime, whereas several delegations from developing nations elaborated on the functions and modalities of a global overarching framework, China and Australia could not support such a framework, cautioning that establishing it would create a hierarchy, a view that was also supported by Japan, Norway, and the Russian Federation, among others.<sup>44</sup>

With regard to institutional arrangements, even though several delegations supported the establishment of a COP and subsidiary bodies, they also stated a preference to agree to the substance of the treaty before negotiating the institutional setup of the new regime. This approach has been referred to in the Conference proceedings as a “form follows function” approach.<sup>45</sup> Iceland, however, proposed a “function follows form” approach, suggesting that the institutional setup was of such utmost importance that it should be discussed at the outset of the third substantive session of the Conference.<sup>46</sup> They urged the other participants to make an election between light and heavy institutional arrangements. If light arrangements were chosen, which were functional and respected existing arrangements through a regional approach, then certain core functions would fall under the mandate of the BBNJ’s global body.<sup>47</sup> If, however, heavy arrangements were chosen, then a global body with a broad mandate would be required.<sup>48</sup>

On the other end of the spectrum, a number of delegations supported a global approach with a strong central body that would be empowered with a number of functions, including coordination, establishing guidance and standards, making operational decisions (especially where there was an absence of a governing body or an inadequate mandate), and conducting review and monitoring.<sup>49</sup> Such an approach to institutional arrangements that envisaged a global body with an expansive mandate was not an approach that was shared by Arctic States. The United States, for instance, stated in their intervention that a global model to the institutional setup for BBNJ would undermine existing bodies.<sup>50</sup>

Norway and Iceland voiced similar views, suggesting that the new regime could be supported by expanded regional seas programs.<sup>51</sup> Their views are informed in large part by their experience with regional bodies, particularly the North East Atlantic Fisheries Commission

<sup>30</sup> UNGA Res. 72/249, *supra* note 12.

<sup>31</sup> *Ibid.* [emphasis added].

<sup>32</sup> *Ibid.* [emphasis added].

<sup>33</sup> See *Intergovernmental Conference of Marine Biodiversity in Areas Beyond National Jurisdiction*, “Officers”, accessed 21 December 2019 at <<https://www.un.org/bbnj/content/officers>>.

<sup>34</sup> See *Intergovernmental Conference of Marine Biodiversity in Areas Beyond National Jurisdiction*, “Organizational Meeting”, accessed 21 December 2019 at <<https://www.un.org/bbnj/content/organizational-meeting>>.

<sup>35</sup> “Summary of the First Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 4–17 September 2018” *Earth Negotiations Bulletin*, Vol. 25, No. 179, (IISD Reporting Services, 20 September 2018) (ENB IGC-1 Summary) at 7–9, accessed 21 December 2019 at <<http://enb.iisd.org/download/pdf/enb25179e.pdf>>; see also this author’s notes from the first session of the Conference (on file with author).

<sup>36</sup> *Ibid.*

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*

<sup>39</sup> *Ibid.*

<sup>40</sup> *Ibid.*

<sup>41</sup> *Ibid.*

<sup>42</sup> *Intergovernmental Conference of Marine Biodiversity in Areas Beyond National Jurisdiction*, “President’s aid to negotiations”, accessed 21 December 2019 at <<https://undocs.org/A/CONF.232/2019/1>>.

<sup>43</sup> “Summary of the Second Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 25 March–5 April 2019” *Earth Negotiations Bulletin*, Vol. 25, No. 195, (IISD Reporting Services, 8 April 2019) (ENB IGC-2 Summary), accessed 21 December 2019 at <<http://enb.iisd.org/download/pdf/enb25179e.pdf>>; see also this author’s notes from the second session of the Conference (on file with author) (Author’s IGC-2 Notes).

<sup>44</sup> Author’s IGC-2 Notes, *supra* note 43 at 63–66.

<sup>45</sup> ENB IGC-2 Summary, *supra* note 43 at 13; see Author’s IGC-2 Notes, *supra* note 43 at 160–161.

<sup>46</sup> Author’s IGC-2 Notes, *supra* note 43 at 152.

<sup>47</sup> *Ibid.*

<sup>48</sup> *Ibid.*

<sup>49</sup> ENB IGC-2 Summary, *supra* note 43 at 13–14.

<sup>50</sup> Author’s IGC-2 Notes, *supra* note 43 at 66.

<sup>51</sup> *Ibid.* at 66, 80, 82. The United States gave their support for further exploration of expanded regional seas programs.



(NEAFC) and the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). NEAFC, for instance, noted in its intervention at the second session of the Conference that it had amended and expanded its mandate to include the management of biodiversity – not just fish stocks.<sup>52</sup> For its part, OSPAR, emphasized in its intervention, the collective arrangements its Commission had entered into with NEAFC (among others), and noted further that cross-sectoral and cross-regional coordination is essential to ecosystem-based management.<sup>53</sup> What neither NEAFC nor OSPAR raised in their interventions was the resistance they encountered in obtaining both the IMO's and the ISA's commitment to the collective arrangements.<sup>54</sup> The failure of NEAFC and OSPAR to bring the IMO and the ISA onboard highlights the shortcomings of applying a regional approach to the institutional and decision-making setup of the BBNJ treaty.

As with the first substantive session of the Conference, there was little further development or discussion of the hybrid approach. The Russian Federation, however, stated that the global approach was akin to the hybrid approach, as both approaches would undermine existing bodies.<sup>55</sup> Interestingly, the Holy See suggested that hybridity needed to be addressed in the course of the second session, urging the delegations to stop putting off the discussion.<sup>56</sup> In the view of this author, it is likely that more moderate, hybrid proposals will emerge in subsequent sessions as the negotiations advance and the organization of the work of the Conference changes, allowing for small, informal negotiating groups.

For the establishment of subsidiary bodies, there seemed to be convergence among the delegations for an evolutionary approach. Several interventions emphasized that if there was a demonstrated need for the establishment of a subsidiary body, it should be done so in a manner that was cost-effective and avoided duplicating the mandates of existing bodies.<sup>57</sup>

#### 4. Role of science at the conference and its implications for Arctic Ocean governance

##### 4.1. Arctic Ocean governance

The Arctic suffers from many of the same shortcomings in ocean governance as other regions around the world, resulting in a patchwork of governance regimes consisting of binding and non-binding instruments that operate nationally, bilaterally, regionally, sectorally and/or globally.<sup>58</sup> Although the Arctic does not have a regional seas program in place and does not enjoy the kind of protection that Antarctica does under the Antarctic Treaty System, the Arctic Council, together with other regional and sectoral bodies and frameworks, comprise the Arctic Ocean governance framework.

In the view of this author, what makes Arctic region governance unique from other regions of the world is a certain level of exceptionalism amongst the Arctic States. This was likely borne of the Agreement on the Conservation of Polar Bears in which the five Arctic coastal States

recognized their “special responsibilities and special interests... in relation to the protection of the fauna and flora of the Arctic Region”, including that of the polar bear,<sup>59</sup> and which was later incorporated into the Ilulissat Declaration of May 2008 whereby the Arctic coastal States declared, “[b]y virtue of their sovereignty, sovereign rights and jurisdiction in large areas of the Arctic Ocean” that they are in “a unique position to address the potential impact on vulnerable ecosystems of “[c]limate change and the melting of ice,... the livelihoods of local inhabitants and indigenous communities, and the potential exploitation of natural resources”.<sup>60</sup>

Through the Arctic Council, the eight Arctic States, comprising the five Arctic coastal States and Finland, Iceland, and Sweden, have forged a relationship of international cooperation based in part (arguably) on this exceptionalist view. Established in 1996, the Council provides an intergovernmental forum that promotes cooperation, coordination and interaction among the Arctic States, Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, with specific focus on issues of sustainable development and environmental protection in the Arctic. Although the Council is not a policymaking body, the Arctic States have taken it upon themselves under the auspices of the Arctic Council to negotiate and adopt three legally binding agreements: the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (signed 2011); the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (signed 2013); and the Agreement on Enhancing International Arctic Scientific Cooperation (signed 2017) (Scientific Cooperation Agreement).<sup>61</sup>

In addition to these agreements, the Arctic Council has established a number of task forces to address certain issues, including the Task Force on Arctic Marine Cooperation that was established at the Arctic Ministerial Meeting in 2015 to “consider future needs for strengthened cooperation on Arctic marine areas, as well as mechanisms to meet these needs, and to make recommendations on the nature and scope of any such mechanisms”.<sup>62</sup> The Task Force delivered its report in 2017 indicating that additional institutional capacity may be needed to strengthen Arctic marine cooperation.<sup>63</sup> In light of its report, the Task Force was given a new mandate at the 2017 Arctic Ministerial Meeting: to develop terms of reference for the possible establishment of a new subsidiary body, together with complementary measures to strengthen marine cooperation.<sup>64</sup> The work of the Task Force to prepare such terms of reference has been suspended pending the development by the Senior Arctic Officials of a Strategic Plan for the Arctic Council.<sup>65</sup>

The work of the Arctic Council is conducted through six working groups: the Arctic Contaminants Action Program (ACAP), the Arctic Monitoring and Assessment Programme (AMAP), the Conservation of Arctic Flora and Fauna (CAFF), the Emergency Prevention, Preparedness

<sup>59</sup> Agreement on the Conservation of Polar Bears, accessed 21 December 2019 at <<https://polarbearagreement.org/resources/agreement/the-1973-agreement-on-the-conservation-of-polar-bears>>, Preamble.

<sup>60</sup> Ilulissat Declaration, accessed 21 December 2019 at <<https://cil.nus.edu.sg/wp-content/uploads/2017/07/2008-Ilulissat-Declaration.pdf>>.

<sup>61</sup> Arctic Council, “Agreements”, accessed 21 December 2019 at <<https://arctic-council.org/index.php/en/our-work/agreements>>.

<sup>62</sup> Arctic Council Archive, accessed 21 December 2019 at <<https://oaarchive.arctic-council.org/handle/11374/1704>>.

<sup>63</sup> “Report to Ministers of Task Force on Arctic Marine Cooperation”, accessed 21 December 2019 at <<https://oaarchive.arctic-council.org/bitstream/handle/11374/1923/2017-04-30-Edocs-4079-v3-TFAMC-report-to-ministers-wi-th-cover-and-colophon.pdf?sequence=1&isAllowed=y>>.

<sup>64</sup> “Recommendations by the Task Force on Arctic Marine Cooperation II for complementary enhancements of the Arctic Council institutions including the SAO based mechanism to coordinate marine issues in the Arctic Council”, accessed 21 December 2019 at <[https://oaarchive.arctic-council.org/bitstream/handle/11374/2231/SAOFI203\\_2018\\_ROVANIEMI\\_07C\\_TFAMC-Recommendations.pdf?sequence=1&isAllowed=y](https://oaarchive.arctic-council.org/bitstream/handle/11374/2231/SAOFI203_2018_ROVANIEMI_07C_TFAMC-Recommendations.pdf?sequence=1&isAllowed=y)>.

<sup>65</sup> *Ibid.*

<sup>52</sup> *Ibid.* at 14.

<sup>53</sup> *Ibid.* at 165.

<sup>54</sup> Stefán Ásmundsson (NEAFC) and Emily Corcoran (OSPAR), “On the Process of Forming a Cooperative Mechanism Between NEAFC and OSPAR: From the First Contact to a Formal Collective Arrangement”, (UNEP Regional Seas Reports and Studies No. 196: 2015), accessed 21 December 2019 at <<https://www.ospar.org/documents?v=35111>>.

<sup>55</sup> *Ibid.* at 81.

<sup>56</sup> *Ibid.* at 73.

<sup>57</sup> China is an example of one delegation that supported this view.

<sup>58</sup> For the purposes of this article, the discussion of Arctic Ocean governance is limited to certain aspects related to Arctic marine science. For an extensive and detailed discussion on Arctic Ocean governance, please see Mr. Christian Prip's article in this special issue, “Arctic Ocean governance in light of an international legally binding instrument on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction”.

and Response (EPPR), the Protection of the Arctic Marine Environment (PAME), and the Sustainable Development Working Group (SDWG).<sup>66</sup> Each working group is comprised of representative experts from sectoral ministries, government agencies and the research community. For the purposes of this article, CAFF is most relevant given its aim of addressing the conservation of Arctic biodiversity. CAFF's work is carried out in cooperation with the Arctic Council Member States and the Arctic Council Indigenous Peoples' organizations within the policy framework of the CAFF Strategic Plan for the Conservation of Arctic Biological Diversity and its biennial Work Plans. CAFF's aim is achieved through monitoring, assessment and various activities of its expert groups and programmes, which include with regard to marine biodiversity, the Circumpolar Biodiversity Monitoring Programme (CBMP).<sup>67</sup>

Although the work of the CAFF is regional in scope, it includes the coordination of efforts to manage Arctic biodiversity within the global frameworks of the Convention for Biological Diversity (CBD)<sup>68</sup> and the Convention on the Conservation of Migratory Species of Wild Animals (CMS).<sup>69</sup> The CBD is related to the BBNJ process given that its objectives include: (i) the conservation of biological diversity<sup>70</sup> (ii) the sustainable use of its components; and (iii) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.<sup>71</sup> However, Article 4 of the CBD limits the jurisdictional scope of the Convention, providing that the rights and obligations of Contracting Parties with respect to the components of biological diversity are divided between those within and beyond the limits of national jurisdiction, with its application beyond the limits of national jurisdiction being limited to jurisdiction over processes and activities concerning the components of biological diversity.<sup>72</sup> Despite the CBD's jurisdictional limitation in areas beyond national jurisdiction, the CBD has contributed to the BBNJ negotiations, particularly in the discussion on ABMTs with regard to the CBD's development of a process to describe ecologically or biologically significant marine areas (EBSAs). Although there is significant debate about how and to what degree EBSAs and other aspects of the CBD will be incorporated into the resulting BBNJ treaty, the compatibility and coordination of regional measures conducted within the global framework of the CBD (such as those undertaken under the auspices of the Arctic Council) will need to be ensured under a new BBNJ legal regime.

Recent developments of new instruments in Arctic Ocean governance include the aforementioned Scientific Cooperation Agreement and the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (CAO Fisheries Agreement), which was signed by the Canada, China, Denmark (in respect of the Faroe Islands and

Greenland), the European Union, Iceland, Japan, Norway, the Russian Federation, South Korea, Sweden, and the United States on 3 October 2018.<sup>73</sup> What is notable about these two agreements is that they both include key provisions for scientific cooperation amongst the parties.

The Scientific Cooperation Agreement includes key provisions for international scientific collaboration to "enhance cooperation in Scientific Activities in order to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic".<sup>74</sup> Similarly, despite the focus of the CAO Fisheries Agreement on commercial fishing, one of the central provisions of the Agreement is the establishment of a Joint Program of Scientific Research and Monitoring for the generally stated "goal of increasing knowledge of the living marine resources of the central Arctic Ocean and the ecosystems in which they occur".<sup>75</sup> If the Parties should decide in the future to commence commercial fishing in the Central Arctic Ocean, the scientific data gathered by this program would serve as the basis for such a decision.<sup>76</sup> At writing, the Parties agreed at meetings in Ottawa, Canada to formalize a provisional scientific group to further develop the program envisaged under the Agreement. The group of scientists will meet for the first time in February 2020 at the European Commission's Joint Research Centre in Ispra, Italy.<sup>77</sup>

Together with regional bodies, instruments and frameworks, sectoral bodies also figure prominently in Arctic governance of areas beyond national jurisdiction, thereby complicating the regulation of activities within this space. Private sector business activities fall under the mandate of the Arctic Economic Council, which was established by the Arctic Council in 2013.<sup>78</sup> With regard to fisheries management, a portion of the geographic scope of NEAFC covers areas in the Arctic high seas, including the Banana Hole, the Loophole, and a portion of the Central Arctic Ocean.<sup>79</sup> The shipping industry also operates within this space, with its activities governed by the International Maritime Organization (IMO). The IMO, responding to the increased interest in Arctic shipping, adopted the International Code for Ships Operating in Polar Waters (the Polar Code), which entered into force in 2017.<sup>80</sup> The aim of the Polar Code is twofold: one, to provide the standards of vessels transiting polar waters; and two, to provide standards for environmental protection of polar waters from the effects of shipping.<sup>81</sup>

#### 4.2. Implications for arctic marine science and a BBNJ treaty

A common refrain from scientists is how little is known of the marine environment in areas beyond national jurisdiction. It is therefore no surprise that scientific research is the common underpinning of many

<sup>66</sup> Arctic Council, "Working Groups", accessed 21 December 2019 at <<http://arctic-council.org/index.php/en/about-us/working-groups>>.

<sup>67</sup> The CBMP issued the State of the Arctic Marine Biodiversity Report in April 2017, accessed 21 December 2019 at <<https://caff.is/marine/marine-monitoring-publications/state-of-the-arctic-marine-biodiversity-report/416-state-of-the-arctic-marine-biodiversity-report-key-findings-and-advice-for-monitoring>>.

<sup>68</sup> Convention on Biological Diversity, adopted 5 June 1982, 1760 UNTS 79 (entered into force 29 December 1993) (CBD). See the Resolution of Cooperation between CAFF and the CBD, accessed 21 December 2019 at <<https://www.caff.is/administrative-series/296-resolution-of-cooperation-between-caff-and-the-convention-of-biological-diversity>>.

<sup>69</sup> Convention on the Conservation of Migratory Species of Wild Animals, adopted 23 June 1969, 1651 UNTS 333 (entered into force 1 November 1983) (CMS). See the Resolution of Cooperation between CAFF and the CMS, accessed 21 December 2019 at <<https://www.caff.is/administrative-series/297-resolution-of-cooperation-between-caff-and-the-convention-of-migratory-species>>.

<sup>70</sup> Article 2 of the CBD defines biological diversity as "the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems". CBD, *supra* note 68, Art. 2.

<sup>71</sup> *Ibid.*, Art. 1.

<sup>72</sup> *Ibid.*, Art. 4.

<sup>73</sup> For a detailed discussion of the CAO Fisheries Agreement and what it may mean for a new treaty for BBNJ, please see the article in this special issue by Ambassador David Balton.

<sup>74</sup> Agreement on Enhancing International Arctic Scientific Cooperation, (signed 11 May 2017), Art. 2, accessed 21 December 2019 at <<https://oaarchive.arctic-council.org/handle/11374/1916>>.

<sup>75</sup> Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, (signed 3 October 2018), Art. 4.

<sup>76</sup> *Ibid.*, Art. 5.

<sup>77</sup> "Preventing unregulated fishing in the Arctic: EU and partners meet to further implementation of historic agreement", accessed 21 December 2019 at <[https://ec.europa.eu/fisheries/press/preventing-unregulated-fishing-arctic-eu-and-partners-meet-further-implementation-historic\\_mt](https://ec.europa.eu/fisheries/press/preventing-unregulated-fishing-arctic-eu-and-partners-meet-further-implementation-historic_mt)>.

<sup>78</sup> For more information on the Arctic Economic Council, see <<https://arcticeconomiccouncil.com/about-us/>>, accessed 21 December 2019.

<sup>79</sup> Convention on Future Multilateral Cooperation in North-East Atlantic Fisheries, accessed 21 December 2019 at <<https://www.neafc.org/system/files/Text-of-NEAFC-Convention-04.pdf>>.

<sup>80</sup> International Code for Ships Operating in Polar Waters, accessed 21 December 2019 at <<http://www.imo.org/en/MediaCentre/HotTopics/polar/Documents/POLAR%20CODE%20TEXT%20AS%20ADOPTED.pdf>>.

<sup>81</sup> *Ibid.*

global, regional and sectoral initiatives, as was discussed above within the Arctic context with regard to the Scientific Cooperation Agreement and the CAO Fisheries Agreement.

At the regional level, Arctic marine science was the focus of the first Arctic Science Ministerial, which was convened in 2016 by the United States under the auspices of the Arctic Council with the aim of effecting greater Arctic science cooperation. Two years later, Germany hosted the Second Arctic Science Ministerial (Second Ministerial).<sup>82</sup> The Second Ministerial was convened for the purpose of enhancing scientific collaboration in the Arctic.<sup>83</sup> The Joint Statement of Ministers issued at the close of the Second Ministerial was notable in four respects: first, it welcomed the entry into force of the Scientific Cooperation Agreement and the intended establishment of the Joint Program of Scientific Research and Monitoring of the Central Arctic Ocean under the CAO Fisheries Agreement; two, it emphasized that improved international scientific collaboration would benefit the Arctic and help implement the 2030 Sustainable Development Goals and the Paris Agreement; three, it recognized that existing national and international observing, research efforts and data sharing are not sufficient to provide a comprehensive and integrated picture of the state of the Arctic; and four, it recognized further that the regional and international effects of global warming on Arctic ecosystems have not been fully assessed or quantified and that developing responses to these effects will require the joint efforts of the international community.<sup>84</sup> The Third Arctic Science Ministerial will be co-hosted by Japan and Iceland in 2020 in Japan.

At the international level, the UN Decade of Ocean Science for Sustainable Development (2021–2030) will soon begin (UN Decade). This is an initiative organized under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) to provide for a common framework for the management of ocean science for the benefit of humanity. The Intergovernmental Oceanographic Commission (IOC) of UNESCO is now coordinating the preparatory work for the UN Decade. Moreover, the Twentieth Meeting of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea was held at the UN headquarters in New York from 10–14 June 2019 (Ocean Science ICP). The meeting was attended by representatives from governments, intergovernmental organizations, non-governmental organizations, and academic institutions, and focused on two main areas: identifying the sources, uses of, and gaps related to ocean science for sustainable use of marine resources, and international cooperation and coordination needed to address gaps in ocean science.

BBNJ figured prominently at the Ocean Science ICP meetings, particularly with regard to data. This is not surprising given that a new legal regime for BBNJ will require that (i) existing scientific data that is available across various frameworks is collected, stored, standardized and made readily accessible; (ii) baseline data is gathered; and (iii) data sharing platforms are established. Without robust scientific data arrangements, the new treaty's success will be significantly impaired. Therefore, an approach to institutional arrangements that includes an integrated coordinating mechanism may be able to pull marine science together under a BBNJ treaty. Within a wider context, similar mechanism(s) will be needed to meet the objectives for the UN Decade and other conservation and sustainable development measures.

With respect to Arctic marine science, the implications of a BBNJ treaty will be determined largely by the approach to institutional arrangements that is used in the new instrument, which will likely be a version of the hybrid approach. In the view of this author, four points of relevance require examination. One, greater cooperation in the

generation of international marine scientific research could provide a unifying focus in the BBNJ negotiations.<sup>85</sup> Building on the successes of the recent CAO Fisheries Agreement and various Arctic Council initiatives, including the Scientific Cooperation Agreement, Arctic States and States with significant interests in the Arctic may be encouraged to pursue negotiated outcomes that further international marine scientific research under the new legal regime.<sup>86</sup>

Two, science will play an increasingly significant role in the BBNJ negotiations. For the Conference, science is education and knowledge for the delegations – the more informed they are, the better the resulting treaty will be. This will require the continued participation by civil society at the negotiations (e.g., providing scientific background and support to delegations, presenting interventions to the Conference, and organizing workshops and side events), and the increased participation by the private sector, which has been noticeable by its lack of direct engagement in the BBNJ process.<sup>87</sup> Throughout the PrepCom and the first two substantive sessions of the Conference, the International Seabed Authority (ISA), the International Oceanographic Commission (IOC), the International Hydrographic Organization (IHO), academic institutions, non-governmental organizations, among many others, hosted dozens of side events on all aspects of marine science research and the roles and contributions of science to the treaty. The active participation of all stakeholders, especially those holders and users of scientific knowledge, is absolutely essential – not only to the development of an effective, new legal regime to govern BBNJ, but to its successful implementation and universal acceptance.<sup>88</sup>

Three, “[s]cience can offer a ‘safe’ port in a sometimes, stormy sea of discussions; science diplomacy could provide solutions for *how* the [treaty] could be developed”.<sup>89</sup> Therefore, focusing the discussions on science may elucidate solutions regarding *how* the approach to institutional arrangements could be applied so as to provide greater coherence to regional governance by: (i) filling existing gaps and strengthening the overall effectiveness of regional/sectoral organizations to address issues in areas beyond national jurisdiction; (ii) integrating existing instruments; (iii) providing for compatibility in ecosystem-based management within and beyond areas of national jurisdiction; and (iv) expanding regional mandates and/or strengthening regional capacities under the new instrument. Arctic governance could both help and benefit from such discussions by offering experience and examples of existing regional mechanisms, while gaining from the added benefit that greater integration and coordination at the global level could bring to

<sup>85</sup> Harriet Harden-Davies, “The Next Wave of Science Diplomacy: Marine Biodiversity Beyond National Jurisdiction”, *ICES Journal of Marine Science* (2018), 75(1), 426–434, at 428.

<sup>86</sup> *Ibid.* at 427. “Science can thus facilitate political changes on sensitive topics, promote peace, align national and international interests and address global challenges through international cooperation”. *Ibid.* See also Joint Statement, *supra* note 82.

<sup>87</sup> Some delegations, Japan in particular, conferred with their science and industry leaders in the course of the PrepCom and shared some of their findings in the plenary discussions. See Intervention of Japan, delivered at the Fourth Session of the United Nations Preparatory Committee for the Conservation and Sustainable Use of Marine Biological Diversity in Areas beyond National Jurisdiction, 10 July 2017.

<sup>88</sup> For a recent example, a workshop was held in February 2019 in Ottawa, Canada, which was co-organized by the Fisheries and Oceans Canada, Global Affairs Canada, The High Seas Alliance, and The Pew Charitable Trusts, to examine and discuss the role of science in the new BBNJ instrument.

<sup>89</sup> Harden-Davies, *supra* note 83 at 428. This author acknowledges that the recent actions of the current American administration complicate Arctic Council relations, particularly the United States’ refusal to engage on the issue of climate change, but this author is of the view that such actions will not significantly affect the work that has been done and is underway within the Arctic Council working groups on this issue. See Somini Sengupta, “U.S. Pressure Blocks Declaration on Climate Change at Arctic Talks”, *New York Times* (7 May 2019).

<sup>82</sup> Joint Statement of Ministers of the Second Arctic Science Ministerial, (Berlin Germany: 26 October 2018) (Joint Statement), accessed 21 December 2019 at <[https://www.arcticsscienceministerial.org/files/ASM2\\_Joint\\_Statement.pdf](https://www.arcticsscienceministerial.org/files/ASM2_Joint_Statement.pdf)>.

<sup>83</sup> *Ibid.*

<sup>84</sup> *Ibid.*

the region.

Four, while the generation of international marine scientific research is a challenge that must be addressed under the BBNJ treaty, the added challenge will be to determine how to transform scientific data into tools to support decision making and science-informed measures. The transformation of scientific data into “findable, accessible, interoperable, and reusable information,” or FAIR, data will require a paradigm shift in information sharing.<sup>90</sup> Strengthening mechanisms for data sharing at the international level through the UN Decade and other such initiatives, such as the CBD and the BBNJ treaty, present opportunities for both scientists and policy makers to best use FAIR data for the conservation and sustainable use of marine biodiversity. Regional governance frameworks, including those in the Arctic, can only benefit from such transformation.<sup>91</sup>

If the Conference delegations can get the institutional architecture “right”, public and private interests could pull together to support – for example – an integrated global observatory network under the BBNJ treaty. The Sustaining Arctic Observatory Networks, which is an organization funded by the Arctic Council and other partners, is already working on an Arctic Observatory Network, using submarine communication cables equipped with sensors, which would run from Norway to the US West Coast to Japan and would monitor: ocean dynamics, ocean and sub-seafloor biosphere, climate variability, regional ecosystems, and seismic activity.<sup>92</sup> The network would also include cables that branch off the main cable and support science observatories that are anchored into the ocean floor.

This kind of initiative may serve not only as a model for other regions as part of a global system of integrated observatory networks, but as a means of encouraging the outliers in the BBNJ process to bring integration and coherence to Arctic marine science and beyond. The hybrid approach could be well suited for bringing this system and its data under the institutional setup for the new treaty.

## 5. Concluding remarks

Even though the BBNJ treaty negotiations provide a challenge to regional, sectoral, and national actors in the Arctic, they also provide an opportunity for these actors if the approach to institutional arrangements that is employed by the delegations at the Conference – which will most likely be a version of the hybrid approach – results in a robust institutional setup. While the aforementioned recent developments are laudable achievements for Arctic marine governance, this is not to say that the Arctic region could not benefit from a new legal regime with an institutional framework that provides greater global cross-sectoral and cross-regional coordination.

At the Ocean Science ICP in June 2019, Mr. Michael Lodge, the Secretary General of the International Seabed Authority, stated in his intervention that marine science and international law need each other to achieve sustainable development objectives.<sup>93</sup> His general sentiment is one that is shared by this author generally and within the context of the Conference.

Marine science may provide an opportunity for Arctic States and States with significant interests in the Arctic to engage in the BBNJ Conference negotiations in a way they have not previously through science diplomacy. And, international law may provide the institutional setup for an integrated, coherent mechanism for marine science, including Arctic marine science, that will be crucial for the successful implementation of a new treaty to meet the objectives for the conservation and sustainable use of BBNJ.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.marpol.2019.103807>.

<sup>90</sup> “Summary of the Twentieth Meeting of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea: 10–14 June 2019”, *Earth Negotiations Bulletin*, Vol. 25, No. 196 (17 June 2019) (ENB Ocean Science ICP) at 7; see also this author’s notes (on file with author) (Author’s Ocean Science ICP Notes). See also Joint Statement, *supra* note 82.

<sup>91</sup> See Joint Statement, *supra* note 82.

<sup>92</sup> For more information on this proposal, see the following link, accessed 21 December 2019 at <[https://www.arcticobserving.org/images/pdf/Board\\_meetings/2018\\_Davos/presentations/20180623\\_BorealisNuggets\\_SAONBoard\\_Davos\\_Fouch\\_v1.pdf](https://www.arcticobserving.org/images/pdf/Board_meetings/2018_Davos/presentations/20180623_BorealisNuggets_SAONBoard_Davos_Fouch_v1.pdf)>.

<sup>93</sup> ENB Ocean Science ICP, *supra* note 90 at 3; Author’s Ocean Science ICP Notes, *supra* note 90 at 2.