

## The Artemis Accords and the Future of International Space Law

### Introduction

On October 13, 2020, the Administrator of the National Aeronautics and Space Administration (NASA) and the representatives of eight other space agencies signed the Artemis Accords.<sup>1</sup>

Initiated, drafted, and promoted by the United States, the Accords are a non-binding, “political commitment” intended to “increase the safety of operation, reduce uncertainty, and promote the sustainable and beneficial use of space for all humankind.”<sup>2</sup> They are a step toward operationalizing the bedrock of international space law, the Outer Space Treaty.<sup>3</sup>

But the Accords have not been universally welcomed. Historically, international space law has developed within the United Nations’ (UN) Committee on the Peaceful Uses of Outer Space (COPUOS) and via multilateral treaties (and other instruments).

The advent of the U.S.-led and privately negotiated Accords challenges this tradition. While the text itself affirms multilateralism’s benefits (and the importance of COPUOS), the Accords have not been debated in COPUOS. No *travaux préparatoire* are available. Indeed, the first public information regarding the Accords came from anonymous U.S. government sources cited in a Reuters exclusive on May 6, 2020:<sup>4</sup> the Accords were described as a “pact for moon mining.” The head of the Russian space agency quickly responded in a since-deleted tweet by likening the Accords to an invasion of the Moon, an *Operation Iraqi Freedom* redux, to be performed by a new “Coalition of the Willing.”<sup>5</sup>

Undeterred, NASA released a summary of the Accords the following week.<sup>6</sup> International negotiations began with an undisclosed number of potential partners; at the time of publication, a total of ten states (including the U.S.) have signed the Accords.<sup>7</sup> But major space-capable states such as Russia, China, and India have not signed on—nor have any South American or African nations (yet).

This *Insight* examines the Accords and outlines their legal context. It then discusses the potential impact of the Accords on international space law over the coming decade.

## **The Artemis Accords**

The Accords' ten operative paragraphs can be grouped into three categories. The first category reinforces certain core tenets of international space law. In particular, the Accords emphasize that all space activities must be for “peaceful purposes” and performed “in accordance with relevant international law.”<sup>8</sup> The Accords also reaffirm and expand upon astronaut assistance obligations from the Rescue Agreement and registration requirements from the Registration Convention.<sup>9</sup>

The second category of operative paragraphs concerns specific operational issues. To this end, the Accords promote transparency, interoperability, and the sharing of scientific data.<sup>10</sup> On the pressing issue of space debris, the Accords' signatories have committed to engage in mitigation planning.<sup>11</sup>

The first and second categories are unlikely to be controversial: the first restates well-accepted law, while the second codifies nascent best practice. But the third category of operative paragraphs aims to progress international space law by promoting particular interpretations of the Outer Space Treaty concerning lunar heritage protection, space resource extraction, and the “deconfliction”<sup>12</sup> of space activities. Further, there are potential conflicts between the Accords and the most recent treaty to emerge from COPUOS—the Moon Agreement.<sup>13</sup>

## **The Outer Space Treaty and the Moon Agreement**

Regarding lunar heritage protection, the Accords state that signatories:

intend to preserve outer space heritage . . . compris[ing] historically significant human or robotic landing sites, artifacts, spacecraft and other evidence of activity on celestial bodies.<sup>14</sup>

Signatories to the Accords also:

affirm that the extraction of space resources does not inherently constitute national appropriation under Article II of the Outer Space Treaty.<sup>15</sup>

Reducing the legal uncertainty surrounding space resource extraction was a key impetus for the development of the Accords. They build upon an Executive Order issued in April 2020 by President Trump to internationally promote space resource extraction.<sup>16</sup> But it is a controversial issue. Ultimately, the Accords represent a compromise. They do not expressly state that space resource extraction is legal. Rather, they simply state a negative: that such activity would not *in and of itself* amount to national appropriation (which Article II of the Outer Space Treaty—as extracted below—expressly prohibits).

Regarding space activities deconfliction, the Accords provide detailed guidance on the establishment and operation of “safety zones” around lunar installations.<sup>17</sup> Safety zones are buffer areas in which lunar activities would be subject to specific notification and coordination procedures in order to reduce the risk of collisions or interference. However, carving out or otherwise demarcating portions of the lunar surface—whether required for lunar heritage protection, space resource extraction, or safety zones—may face legal hurdles.

First, dividing up the lunar surface could breach the fundamental principle of non-appropriation of celestial bodies. Article II of the Outer Space Treaty provides that:

[o]uter space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

Second, a divided lunar surface could prevent states from exercising their exploration, use, and free access rights. Article I, paragraph 2 of the Outer Space Treaty provides that:

[o]uter space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

Of course, merely signing the Accords does not breach either of these articles, and the Accords consistently stress the importance of multilateralism when addressing lunar heritage protection, space resource extraction, and safety zones.<sup>18</sup> Nonetheless, actually

implementing the Accords on the lunar surface will require careful compliance management and messaging.

Issues may also arise regarding the Moon Agreement. The United States has neither signed nor ratified the Moon Agreement. By Executive Order, President Trump expressly repudiated that the Moon Agreement reflects customary international law.<sup>19</sup> But one signatory to the Accords—Australia—has also ratified the Moon Agreement. It is unclear whether the Moon Agreement can coexist with the Accords. The former declares that the Moon “and its natural resources are the common heritage of mankind,”<sup>20</sup> and commits its parties to establish an international regime to govern space resource extraction.<sup>21</sup> Both concepts are absent from the Accords.

Further problems may arise concerning the Accords’ endorsement of lunar heritage protection and safety zones—both generally entail the prolonged or even indefinite occupation of the lunar surface below and around equipment or installations on the Moon. Yet Article XI, paragraph 3 of the Moon Agreement specifically states that:

[t]he placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the Moon ... shall not create a right of ownership over the surface or subsurface of the Moon or any areas thereof.

Whether a prolonged or indefinite occupation would amount to ownership is debatable. But Australia will need to closely review its Moon Agreement obligations for compatibility with the Accords on an ongoing basis. If intractable conflicts occur, Australia may need to withdraw.

### **What’s Next in International Space Law?**

The Accords represent an inflection point for international space law in the 2020s. On the one hand, the Accords may invigorate the field by drawing attention to the pressing legal issues that will accompany future lunar missions. On the other, the Accords may mark the end of multilateralism in space lawmaking.

No treaty has emerged from COPUOS since the Moon Agreement in 1979. But slow development was not always the case. International space law rapidly developed between 1967 and 1975. This period saw the conclusion of the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention.<sup>22</sup> The five permanent members of the UN Security Council and the vast majority of space-capable states have ratified these four treaties.

So why have no further multilateral treaties for space emerged? Three factors appear to have been instrumental between 1967 and 1975.<sup>23</sup> First, there was an urgent need for new rules. Technological advancement had placed outer space within humanity's grasp. Second, there was a propitious political climate—namely, the “*détente*” phase of the Cold War. Third, there was deference to space-capable states: COPUOS delegates recognized that the views of the United States and the Soviet Union—at that time the only broadly space-capable states—carried pivotal weight.<sup>24</sup> Accordingly, once the United States and the Soviet Union reached consensus, progress through COPUOS was generally swift.

Are these three factors present today? Arguably, no. The need for additional rules is clear—the Accords themselves evidence this. But the Accords have not yet been signed by key U.S. allies and space partners, such as Germany and France. This may indicate an unfavorable political climate—or it may suggest that other political priorities are prevailing over space policy (particularly during the ongoing COVID-19 pandemic). Either way, there does not appear to be a propitious political climate. And the third factor—the deference to space-capable states—may be challenged by the increasingly diverse interests involved in space. Simply put, there are more space-capable (and space-interested) states than ever before: COPUOS' membership has more than doubled since 1975,<sup>25</sup> and commercial space activities are rapidly expanding. Obtaining consensus is now very difficult, and deference without consensus is impossible.

In this environment, states may choose to negotiate agreements with like-minded allies rather than compromise via COPUOS. Such an outcome would forego the coordinating role of multilateral treaties. The ultimate result could be a ‘fracturing’ of the Moon along legal lines, with different states operating under different rules. This would adversely impact the safety of space operations. It would sacrifice the international goodwill and understanding that joint space programs foster. And it would not reduce the uncertainty that pervades much of international space law.

However, the Accords remain open to any state.<sup>26</sup> And creating an appropriate political climate and bridging any divergent interests requires awareness of each state's relative position. By way of the Accords, the signatories have publicized their views on some of international space law's many open questions.<sup>27</sup> The Accords, therefore, challenge other states to grapple with the issues raised. Each state needs to consider its position; there may be more commonalities than previously thought. Viewed in this manner, the Accords could yet precipitate a renewed multilateral lawmaking for space.

## **Conclusion**

Assuming all goes to plan, the first woman and the next man will land on the lunar surface by 2024.<sup>28</sup> Space resource extraction will move from theory to practice. By the end of the decade, space tourism could reach out to the Moon. Of course, none of this is guaranteed: “space,” it is often said, “is hard.”<sup>29</sup> But it appears that multilateral lawmaking for space is equally challenging.

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<sup>1</sup> *The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids*, NASA, <https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf> [hereinafter Accords]. The original signatories were representatives from Australia, Canada, Italy, Japan, Luxembourg, the United Arab Emirates, the United Kingdom, and the United States.

<sup>2</sup> Accords, §1.

<sup>3</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

<sup>4</sup> Joey Roulette, *Exclusive: Trump administration drafting “Artemis Accords” pact for moon mining – sources*, Reuters (May 6, 2020), <https://in.reuters.com/article/space-exploration-moon-mining-idINKBN22I22X>.

<sup>5</sup> “Star Trek, not Star Wars:” NASA Releases Basic Principles for Moon Exploration Pact, REUTERS (2020), <https://www.reuters.com/article/us-space-exploration-artemis-idUSKBN22R2Z9>.

<sup>6</sup> *Id.*

<sup>7</sup> Ukraine becomes the 9th country to sign the Artemis Accords, U.S. EMBASSY IN UKRAINE (2020), <http://ua.usembassy.gov/ukraine-becomes-the-9th-country-to-sign-the-artemis-accords/>.

<sup>8</sup> Accords, § 3.

<sup>9</sup> Accords, §§ 6 - 7; Convention on Registration of Objects Launched into Outer Space, Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15; Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Dec. 19, 1967, 19 U.S.T. 7570, 672 U.N.T.S. 119.

<sup>10</sup> Accords, §§ 4, 5, 8.

<sup>11</sup> Accords, § 12. In the absence of binding international law regarding space debris, this represents a significant elevation of signatories’ obligations. See generally: Martha Mejía-Kaiser, “Space Law and Hazardous Space Debris,” OXFORD RESEARCH ENCYCLOPEDIA OF PLANETARY SCIENCE (2020), <https://oxfordre.com/planetaryscience/view/10.1093/acrefore/9780190647926.001.0001/acrefore-9780190647926-e-70>.

<sup>12</sup> “Deconfliction” with respect to space refers to the separation and coordination of space activities so as to avoid collision or interference.

<sup>13</sup> Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Dec. 18, 1979, 1363 U.N.T.S. 22 [hereinafter Moon Agreement].

<sup>14</sup> Accords, § 9.

<sup>15</sup> Accords, § 10.

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- <sup>16</sup> Exec. Order No. 13914, 85 Fed. Reg. 20381 (2020).
- <sup>17</sup> Accords, § 11.
- <sup>18</sup> Accords, §§ 9(2), 10(3), 11(11).
- <sup>19</sup> Exec. Order No. 13914, 85 Fed. Reg. 20381 (2020).
- <sup>20</sup> Moon Agreement, art. 11(1).
- <sup>21</sup> Moon Agreement, art. 11(5).
- <sup>22</sup> Convention on International Liability for Damage Caused by Space Objects, Nov. 29, 1971, 24 U.S.T. 2389, 961 U.N.TS. 187.
- <sup>23</sup> See *generally* BIN CHENG, STUDIES IN INTERNATIONAL SPACE LAW 205 (1997).
- <sup>24</sup> This was most clearly expressed during a COPUOS meeting in September 1962, when the Indian delegate commented that “no solution which is not acceptable to the two space Powers can be implemented.” See, UN COPUOS, 13<sup>th</sup> mtg, U.N. Doc. A/AC.105/PV.13 (Feb. 21, 1963) 7, [https://www.unoosa.org/pdf/transcripts/copuos/AC105\\_PV013E.pdf](https://www.unoosa.org/pdf/transcripts/copuos/AC105_PV013E.pdf); and generally *id.* at 129 (commenting that the Indian delegate's remarks reflected a general sentiment among delegates).
- <sup>25</sup> COPUOS Membership Evolution, UNITED NATIONS OFFICE OF OUTER SPACE AFFAIRS (2019), <https://www.unoosa.org/oosa/en/ourwork/copuos/members/evolution.html>.
- <sup>26</sup> The apparent exception to this is the People's Republic of China, due to the “Wolf Amendment”: see Department of Defense and Full-Year Continuing Appropriations Act, Pub. L. No. 112-10, tit. III, §1340, 125 Stat. 38, 123 (2011). The NASA Administrator, when asked about Chinese participation in the Artemis Accords during a press call, stated that “NASA, as an agency, will always follow the law, and law right now prohibits us from engaging China on bilateral activities.” See: Eight countries sign Artemis Accords, SPACENEWS (2020), <https://dev.spacenews.com/eight-countries-sign-artemis-accords>.
- <sup>27</sup> The Accords commit the United States to transmitting the document to the Secretary-General of the United Nations, “with a view to its circulation to all the members of the Organization as an official document of the United Nations”: see §13(2).
- <sup>28</sup> Artemis: Humanity's Return to the Moon, NASA (2018), <https://www.nasa.gov/specials/artemis/index.html>.
- <sup>29</sup> Caroline Mortimer, “Space is Hard”: Astronaut on Space Station Tweets his Reaction to SpaceX Failure, THE INDEPENDENT (2015), <http://www.independent.co.uk/news/world/americas/space-is-hard-astronaut-on-space-station-tweets-his-reaction-to-spacex-failure-10351181.html>.