Governing Outer Space: A Conference of the Parties for the Outer Space Treaty

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DECEMBER 2025

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for Science and International Affairs

Acknowledgements

The author would like to thank the many experts, policymakers, and practitioners who gave their time and comments in the creation of this paper. These include, but are not limited to the following (N.B. inclusion here in no way implies endorsement of this paper's proposals):

Aisha Salim Al Zaabi (Mohammed bin Rashid Space Centre); **Adnan Mohammad Al Rais** (Mohammed bin Rashid Space Centre); **Ahmad AlSawalhi** (UAE Government); **Ali Al Hashemi** (UAE Space42); **Mishaal Ashemimry** (Saudi Center for Space Futures); **Simeon Barber** (Open University); **Karl Bergquist**, **Sylvie Espinasse**, and **Rene Pischel** (European Space Agency); **Daniel Bodansky** (Arizona State University); Magda Cabaj (German Space Agency); **Keith Crane** (RAND Corporation); **Ariel Ekblaw** (Aurelia Institute); **Sophie Faaborg-Andersen**; **Philip Hart** and **Lili Wang** (UAE Technology Innovation Institute); **Gerhon Hasin** (Yale University); **Alissa Haddaji** (Space Consortium); **Ortal Hazut** (Israel Space Agency); **George John** (Hogan Lovells); **Bhavya Lal** (RAND Corporation); **Chris Lyle**; **Carolyn Mahoney** (Federal Communications Commission); **Bridgit Mendler**; **Paul Meyer** (Simon Fraser University and Government of Canada); **Michael McQuade** (Harvard University); **David Mindell** (Massachusetts Institute of Technology); **Caitlin Norris-Grey**; **Meghan O'Sullivan** (Harvard University); **Raji Rajagopalan** (Observer Research Foundation); **Eric Rosenbach** (Harvard University); **Lawrence Rubin** (Georgia Institute of Technology); **James Salzman** (UCLA School of Law); **Ari Sandberg** (Space Development Agency); **Ruby Scanlon** and **Constanza Vidal Bustamante** (Center for a New American Security); **Daniel Schrag** (Harvard University); **Chris Skidmore** (U.K. Government); **Jake Sullivan** (Harvard University); **Scott Pace** (George Washington University); **Gabriel Swiney** (U.S. Department of Commerce, Office of Space Commerce); **Sebastian Andres Rioseco Sullivan** (Catholic University of Chile); **Katherine Tai** (Harvard University); **Ashlee Vance; Jeremy Weinberg** (U.S. Department of State); **Matthew Weinzierl** and **Ioana Petrescu** (Harvard University); **Annecoos Wiersema** (University of Denver); and **David Willetts** (U.K. Government).

1. Introduction

Human activity in outer space is outpacing the rules that govern it. Falling launch costs have catalyzed unprecedented satellite deployment and opened the door to commercial ventures in orbit. Growing access to space has driven its militarization and reclassification as a "war-fighting domain" (Dolman, 2022). However, despite the need for international cooperation to govern this increased activity, collaboration has withered since the original Space Race (Dolman, 2022; Masson-Zwaan and Hofmann, 2024). The result is a New Space era that brings vast opportunities but also challenges that the current governance regime is ill-equipped to meet.

The backbone of international space law is the 1967 Outer Space Treaty (OST), along with its companion treaties, the Rescue Agreement, Liability Convention, and Registration Convention. All four treaties were designed during the Cold War when only three states had launched satellites into orbit and governments were the sole actors in space. While these treaties remain the foundation of international space governance, they lack detail, using ambiguous and undefined terminology which is unsuited to the scale and character of today's challenges (Jakhu and Pelton, 2017; Mcclintock et al., 2023). These ambiguities create gaps in international law that have tangible consequences: without clear rules, space debris could render low Earth orbit unusable; without universally followed traffic procedures, satellite constellations risk collision; without a stable legal foundation for resource ownership, private companies may miss out on investment, undermining the space economy.

That new governance is needed for outer space is well-known, and a range of actors have both called for and proposed new approaches to space policy. These include think tanks (Goguichvili et al., 2021; Silverstein and Panda, 2021), academics (Samson and Weeden, 2020; Yap and Kim, 2023), policymakers (Armagno and Harman, 2025; Meyer, 2021), international organizations (UNCOPUOS, 2023) and the private sector. One focus that all these proposals share is the requirement for "rules of the road" to give commercial firms clarity on what they can and cannot do in space. The necessity of such shared rules means that even the United States, where policymakers have traditionally been skeptical of international governance, has long argued that more regulation would benefit both American and global interests by supporting the space economy (Congressional Research Service, 2025). At the same time, other spacefaring powers, including Russia, China, and the European Union (EU), have all called for more international governance (Freeman, 2020; Meyer, 2012)

Unfortunately, while there is consensus on the need for new space governance and broad agreement on many specific topics such as deorbiting debris, providing legal clarity for private actors, and protocols to prevent satellite collisions (see e.g., Martinez, 2021), there is currently no viable pathway to codify even widely accepted norms into binding international law, let alone to make progress on more controversial topics. International law is crucial to space governance because, while no spacefaring nation would accept supranational supervision of space activities, the treaty system remains the only rules that spacefaring nations universally and consistently observe.

The creation of international law, in space or otherwise, traditionally proceeds through one of two channels: the negotiation of multilateral treaties or the gradual formation of customary law through consistent state practice accepted. In outer space, however, neither pathway is currently viable. Treaty-making has stalled, with the negotiation of new agreements or amendment of existing ones rendered politically unrealistic by the number of competing national interests and the broader retreat from rules-based multilateralism. At the same time, efforts to generate customary international law for space have failed to produce a single, coherent set of norms widely accepted as binding. Outside of the legal sphere, voluntary initiatives such as the Artemis Accords or debates in the United Nations, while helpful, have neither created binding commitments nor managed to include all the major spacefaring powers.

In this context, this paper proposes a new solution to make progress on international space governance: adding a Conference of the Parties (COP) to the Outer Space Treaty. COPs are provisions in international agreements, common in other treaty regimes outside of space, whereby signatories meet regularly to discuss the text (Rioseco, 2023). The key legal feature of COP discussions is that – while they do not legally amend treaties and thus do not require ratification (e.g., the advice and consent of the U.S. Senate) – COPs nonetheless create guidance that "thickens" the meaning of the original treaty text (Wiersema, 2009). This thickening in practice creates new international law by adding guidance to the existing treaties. In other words, if the OST had a COP, negotiators could agree define its key terms, with those definitions being reincorporated into the OST. At the same time, a core advantage of COPs is that they do not undermine states' sovereignty, which has been a key problem in previous reform attempts (Bodansky and Biniaz, 2025).

Beyond creating a procedural mechanism to add guidance to treaties, this paper also explores a second way that COPs help make international law: their potential to act as a uniquely productive forum for diplomacy. COPs offer a regular meeting place for technical negotiators, who can make incremental progress by repeatedly returning to the same issues as a "epistemic community" (Haas, 2015). COPs also engage the private sector, who often attend COPs as the preeminent forum for any issue. At the same time, COPs have political valence lacking in other international forums like the UN, whereby pressure from the public or political leaders can push nations towards compromise and agreement.

While establishing a COP for the OST would not, by itself, resolve all the challenges of space governance, this paper areas that COPs' unique features could nonetheless open two avenues for progress on making new international space law. First, a COP would provide a procedural mechanism for updating the OST, converting areas of consensus into binding international law without the all-or-nothing stakes of a formal amendment or new treaty. COPs' interpretive authority—defined under the Vienna Convention on the Law of Treaties (VCLT) as "subsequent agreements" among parties—is not unique to these bodies, and, in principle, states could add guidance to treaties via similar agreement in any forum (Rioseco and Rao, 2025). However, as this paper argues, COPs offer a uniquely institutionalized venue for doing so, especially in comparison to existing forums such as the UN. As a second ancillary benefit, this paper also argues that, by creating a distinct political arena for space diplomacy, a COP could facilitate progress on more contentious issues as a unique forum for diplomacy and public pressure.

Finally, with rising questions about the efficacy of the annual climate COP following COP30 in Brazil, it may seem counterintuitive to suggest that this model holds lessons for other domains. Yet the distinction between climate and space is crucial. The metric of success in climate—emissions reductions—requires states to undertake costly, economy-wide transformations of their energy systems. Political reluctance to incur those costs is a separate, albeit related, question from the effectiveness of the COP mechanism. By contrast, what is needed in space is explicitly legal progress, i.e., shared "rules of the road", and here the climate regime has been remarkably productive: since 1992 it has generated an expansive body of legal text, iterative guidance, and shared procedures that far exceeds what existed at its inception. Compared to the almost static corpus governing outer space, this evolution is striking. Had the OST regime experienced even a fraction of the interpretive thickening and diplomatic continuity seen in climate governance, today's governance gap would be considerably smaller.

This paper proceeds as follows: Section 2 reviews the limits of the current system of space governance and the failure of past reform efforts. Section 3 discusses the COP model, and how COPs make new international law. Section 4 shows how a COP could address the issues of space governance identified earlier and discusses steps to implement COP for the OST. Section 5 discusses next steps on instituting a COP for the OST and concludes by discussing the challenge to COPs in other domains that could create potential drawbacks to such an approach.

2. The Current Space Governance Framework and its Limits

The international space governance system was a diplomatic achievement of its time. The OST prohibited the appropriation of celestial bodies, banned weapons of mass destruction in orbit, and enshrined peaceful exploration as a shared human endeavor. It was supplemented by the Rescue Agreement (1968), the Liability Convention (1972), and the Registration Convention (1975), which provided additional rules on the treatment of astronauts, responsibility for damages, and the cataloguing of space objects (Fabio, 2013; Jakhu and Pelton, 2017; King and Blank, 2019; Masson-Zwaan and Hofmann, 2024).

Beyond the foundational treaties, states have also accepted certain, limited, supranational regulations in space through the International Telecommunication Union (ITU), which coordinates—but does not authorize—satellite deployments in certain geosynchronous orbits and allocates spectrum assignments (Silverstein and Panda, 2021; Union, 1991).

2.1. Challenges

While the achievements of the foundational treaties should not be underestimated, they remain only a foundation, without the full structure they were designed to support. This is because the treaties' generality, as well as the lack of legally binding guidance on what key terms mean, undermines their efficacy (Silverstein and Panda, 2021). The OST, the cornerstone of the treaty system, is broad and deliberately open-ended (Pershing, 2019). It also does not address many of the core challenges facing the space community challenges. For example, while appropriation of celestial bodies is prohibited, without definitions, the meaning of "appropriation" remains ambiguous, can nations claim exclusive jurisdictions of safety zones for mining? Can private companies extract lunar resources and sell them for profit? While weapons of mass destruction are banned in orbit, what constitutes such weapons? Is missile transit through space prohibited, or just permanent stationing? These generalities in part reflect the technological constraints of the time; for example, private actors are not mentioned in the OST, and some historians have argued this reflects perceived impossibility of private actors reaching space (Pop, 2000a; Tronchetti, 2007).

OST's three companion treaties, originally meant to add more depth to the OST's legal framework, suffer from the same issues. The Liability Convention, for example, establishes fault-based liability for debris-related collisions, but without a normalized standard of care in space, it is essentially impossible to actually prove fault, meaning the regime cannot in practice disincentivize debris creation (Lampertius, 1991). More generally, a lack of agreed definitions of how international and national law should interact creates legal lacunas on critical issues like property rights (Pop, 2000b). For instance, the United States and Luxembourg have passed laws permitting private companies to extract and own space resources, asserting that such actions do not violate the OST's prohibition on national appropriation (Congress, 2015; Luxembourg Space Agency, 2017). These laws, however, are viewed by some states and legal scholars as incompatible with international space law (Tronchetti, 2007). Others have accepted the possibility of resource extraction, but called for mandatory fiscal benefit sharing (Deplano, 2023). With no forum to adjudicate or reconcile these interpretations, legal ambiguity persists, increasing the risk of diplomatic conflict or opportunistic behavior.

Separate from the treaty regime, the ITU faces neither the problems of ambiguity nor a lack of clear decision-making procedures. Nonetheless, it remains extremely constricted in its mandate to regulate telecommunications. In addition, direct international supervision of national laws remains controversial (Schaefer and Pletka, 2022), and expansion of the ITU's mandate to other areas is a political non-starter.

2.2. Reform Attempts

Recognizing the limitations of the existing system of international space governance, several initiatives have been initiated to extend the existing treaty framework. These can be broken down into treaty-based reforms, customary international law, and voluntary initiatives.

2.2.1. Treaty-Based Reform

Since the four original space treaties, several attempts have been made to legislate additional international space law via new treaties. The first and most notable of these was the 1979 Moon Agreement, which sought to clarify that the OST's non-appropriation principle covers resource extraction. Right from the start, however, such initiatives have found little success: the Moon Agreement was ratified by only a handful of states, none of them spacefaring powers.

Since the failure of the Moon Agreement, several separate treaties have been proposed that would supplement the existing framework. Academics have suggested repealing the OST and replacing it with a new treaty whose purpose would be to allocate property rights in space (Brittingham, 2010). Proposals from both Russia and China have focused on arms-control proposals under the rubric of "Prevention of an Arms Race in Outer Space" (PAROS). Like the Moon Agreement, however, none of these proposals has led to a binding treaty amongst spacefaring nations.

In addition to calls for new treaties, there have also been several proposals to amend the OST to clarify many of the ambiguities in international space law. These include suggestions that Article II of the OST be replaced with a method for allocating celestial bodies to various entities (Twibell, 1996), or that the OST be amended to incorporate agreement on consensus issues affecting the global commons such as orbital congestion (Ligor, 2022). Like new treaties, however, amendments to the OST have never garnered realistic support.

The failure of both treaty-making and treaty-amending efforts reflects structural features of today's international legal system. Any attempt to revise the OST or negotiate a new instrument would require implausible consensus among more than 110 parties. Each major state has different national priorities: some seek the right to national appropriation while others insist on benefit-sharing mechanisms for extracted resources; some prioritize agreement on arms control in space while others argue for safety zones. The result is that treaty-making has become an "all-or-nothing" exercise requiring a comprehensive grand bargain that the current international system, unlike that of the 1960s, lacks the cohesion or political will to achieve.

2.2.2. Customary International Law

Customary international law offers a second potential route through which new binding international space law could be made. Customary international law consists of the "settled practice" of states accompanied by *opinio juris*, i.e., the belief that such practice is legally required (Jakhu and Freeland, 2016). A new rule of customary law therefore emerges if (and only if) two elements are present: general and consistent state practice, and recognition that such practice is accepted as law (American Law Institute, 1987; Wood, 2014). Once created, customary international law can in theory supplement, clarify, or even modify treaty obligations and may bind states that are not parties to the original agreement.

Historically, before the conclusion of the 1967 Outer Space Treaty, the first legal norms governing space activity were customary in nature (Vereshchetin and Danilenko, 2019, 1985). Indeed, since treaty-making has

stalled in the post-OST era, several scholars have suggested that such laws could again serve as the main mechanism for developing space law (see e.g., King and Blank, 2019). This builds on more general calls for customary international law to take the role of treaty-making, for instance in arms control (Brisibe, 2009; Frandsen, 2022).

The clearest test of whether customary international law can meaningfully create obligations in outer space lies in the debate over non-appropriation. The OST's Article II states that "Outer 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." Since at least 1984, with the passage of the Commercial Space Launch Act, the U.S. has interpreted this as consistent with the private sector seeking profits from resource extraction, and the Commercial Space Launch Competitiveness Act of 2015 explicitly grants U.S. nationals the right to possess, own, transport, use, and sell resources recovered from space (114th Congress, 2015). Similarly, Luxembourg in 2017 passed legislation recognizing private property rights over extracted materials (Luxembourg Space Agency, 2017). Most recently, in 2020, NASA awarded contracts to both ispace Japan and its Luxembourg-based subsidiary ispace Europe to collect and sell lunar regolith (NASA, 2020). By selecting non-U.S. firms alongside American companies, NASA signaled that cross-border commercial extraction and ownership transfers might already be treated (in practice) as consistent with its interpretation of international obligations These measures and others have been cited as evidence of emerging *opinio juris* and consistent state practice sufficient to form new customary law, effectively defining such actions as outside of the OST's prohibition on national appropriation (DePagter, 2021; Pershing, 2019).

The problem, however, is that even in the field of resource extraction, which is arguably the most advanced case of customary law's evolution in space, the legal foundation for settled practice and *opinion juris* remains narrow and contested. Not all states have adopted this approach, and many others, fearing precedent for other areas of international law, reject that even settled practice creates create binding law (Cheney, 2019). Moreover, in the final analysis, even if legal scholars were to recognize specific conduct such as resource extraction as customary international law, it is unlikely that major powers would accept it as binding where it conflicts with their strategic or commercial interests.

2.2.3. Voluntary Initiatives

Given the difficulties of creating new treaty law and the limits of customary international law, most recent efforts have turned toward non-binding international processes. Chief among them is the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), which brings together over one-hundred member states. UNCOPUOS has a strong record of addressing important areas of space policy where agreement is politically possible. One such example is the 2019 UNCOPUOS "Guidelines for the Long-Term Sustainability of Outer Space Activities," a set of voluntary best practices on issues ranging from data sharing to orbital-debris mitigation (Martinez, 2021).

However, while the Long-Term Sustainability guidelines demonstrate UNCOPUOS's power to create consensus, they also show the limits of a voluntary approach to international space governance. While the guidelines are widely endorsed in principle, interviews conducted for this paper suggest they are applied variably in practice. Officials from several national space agencies acknowledged that implementation is guided less by legal obligation than by a pragmatic "cost-benefit" assessment of compliance. In effect, even where consensus exists, adherence remains discretionary: commitments under UN auspices are both *de jure* and *de facto* voluntary, limiting their capacity to discipline states and rendering them unenforceable precisely where disagreements begin to emerge.

Beyond the UN system, several states have developed voluntary frameworks for international cooperation. Among these, the U.S.-led Artemis Accords have achieved the greatest traction, with fifty-nine signatories. Established in 2020 as a series of bilateral agreements between the United States, UK, and others, the Accords rely on voluntary cooperation and essentially provide guidance on issues left ambiguous in international space law that are crucial for lunar exploration, e.g., the coordination of "safety zones" on the moon or the legality of lunar resource extraction. With regards to the latter, the Accords explicitly interpret the OST's non-appropriation clause as compatible with national regulation of resource extraction, asserting that such activities do not constitute sovereign claims.

Some scholars have argued that through the Artemis Accords, the United States is attempting to shape international law by socializing its own interpretation of the OST. By securing endorsements from dozens of states, Washington may be seeking to settle practices such as resource extraction and "safety zones" that might otherwise appear to contravene the OST, potentially creating customary international law through widespread acceptance (Deplano, 2021). In practice, however, this is unlikely to have occurred: the Accords are voluntary and lack any binding legal authority, and despite being endorsed by at least fifty-nine countries, they are far from universally accepted. Russia and China have claimed that safety zones violate the non-appropriation principle, while several developing states have objected to the Accords' explicit endorsement of private resource extraction without enunciated benefit sharing (Stirn, 2020).

Outside the Artemis Accords, several other plurilateral voluntary initiatives have sought to advance specific aspects of space governance. The European Space Agency's Zero Debris Charter aims to eliminate the creation of new orbital debris by 2030 through voluntary design and disposal standards. The joint China-Russia International Lunar Research Station proposes a joint scientific base that could serve as an alternative framework for lunar cooperation, in effect an alternative to the U.S.-led Artemis Accords. Yet these initiatives face the same structural weaknesses as the UNCOPUOS processes discussed above: none are binding instruments of international law, and their commitments remain voluntary without legal certainty (Soucek and Tapio, 2019). Furthermore, none include all major spacefaring powers under a single legal umbrella. As a result, despite their technical ambition, such efforts have reinforced rather than resolved the fragmentation of the space governance regime.

3. Conferences of the Parties

This paper proposes a new approach to making binding international rules on the governance of outer space: adding a Conference of the Parties (COP) to the Outer Space Treaty.

3.1. Background to Conferences of the Parties

COPs are features of certain international treaties whereby signatories meet regularly to review and discuss the treaty with a view to supporting its implementation (Brunnée, 2002). COPs grew out of a recognition in the field of international environmental law that while issues of the global commons require deep multinational cooperation, the regimes set up by treaties are slow and bureaucratic. Formally, COPs have been defined as "little-noticed Autonomous Institutional Arrangements" that sit in between formal international organizations and ad hoc diplomatic conferences (Churchill and Ulfstein, 2000).

The earliest form of a COP was in the Convention on Wetlands of International Importance (Ramsar Convention) in 1971, and the first agreement to actually use the term "Conference of the Parties" was the Convention on International Trade of Endangered Species (CITES), adopted in 1973. Since then, COPs have become most common in multilateral environmental agreements: the UN Framework Convention on Climate Change (UNFCCC) established the annual climate COP, which have produced instruments such as the Kyoto Protocol and the Paris Agreement; the Montreal Protocol on ozone depletion has used regular meetings of the parties to adapt to new scientific findings and adjust regulatory timetables; CITES and the Biological Weapons Convention similarly rely on COP-style mechanisms to sustain cooperation in the absence of new treaties.

While most often used in the environmental space, the success of COPs, or COP-like arrangements, has catalyzed their proliferation to many others areas of international law (Rioseco, 2023). In disarmament, the Convention on Cluster Munitions provided for Meetings of States Parties and Review Conferences,[1] the Arms Trade Treaty established a Conference of States Parties,[2] and the Treaty on the Prohibition of Nuclear Weapons created a Meeting of States Parties (as well as Review Conferences).[3] In international criminal law, the Rome Statute established an Assembly of States Parties (the treaty's governing body).[4] In anti-crime and anti-corruption regimes, the UN Convention against Transnational Organized Crime and the UN Convention against Corruption each established a Conference of (the) States Parties.[5] In cultural regimes, UNESCO's 2003 Intangible Cultural Heritage convention used a General Assembly of the States Parties (functionally the plenary governing body),[6] while the 2005 Convention on the Protection and Promotion of the Diversity of Cultural Expressions convention expressly established a Conference of Parties.[7] In health,

1 Convention on Cluster Munitions, Articles 11 and 12

2 Arms Trade Treaty, Article 17

3 N.B. Review Conferences, such as those convened under Article VIII(3) of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and Article 8(2) of the Treaty on the Prohibition of Nuclear Weapons (TPNW), are designed primarily to assess implementation and review the operation of the treaty, rather than act in an interpretative and legislative capacity like COPs. That said, Review Conferences can often act as interpretative fora in practice: final Documents, when adopted by consensus, are treated as authoritative political statements of the parties' shared understanding. For example, the 1995 NPT Review and Extension Conference's package decision is widely cited as clarifying the treaty's indefinite extension and associated commitments. Similarly, subsequent NPT Final Documents have articulated collective interpretations of "Article VI disarmament obligations" and "negative security assurances."

4 Rome Statute of the International Criminal Court, Article 112

5 United Nations Convention against Transnational Organized Crime, Preamble; UN Convention against Corruption, Article 63

6 Convention for the Safeguarding of the Intangible Cultural Heritage, Article 4

7 Convention on the Protection and Promotion of the Diversity of Cultural Expressions, Article 22

the WHO Framework Convention on Tobacco Control created a Conference of the Parties,[8] and in culture, the UNESCO's International Convention against Doping in Sport likewise established a Conference of Parties.[9]

3.1.1. How COPs Make International Law

COPs make international law in two ways: through explicit decision-making powers, and through interpretative authority.

First, many treaties explicitly empower COPs to make decisions on procedural, financial, and institutional matters such as adopting rules of procedure, approving budgets, creating subsidiary bodies, and providing guidance to those bodies and to the secretariat (Camenzuli, 2019). These powers often extend to developing substantive obligations such as compliance supervision and non-compliance protocols, e.g., Article 8 of the Montreal Protocol, which directs that "[t]he Parties, at [their] first meeting, shall consider and approve procedures and international mechanisms for determining non-compliance with provisions of this Protocol and for the treatment of Parties found in non-compliance" (Davies, 2013).

In addition to explicit, individually enumerated powers, many treaties also include broad "catch-all" clauses giving COPs broad rule-making authority. The London Convention empowers the COP "to consider any additional action that may be required," while the 1989 Convention on Long-Range Transboundary Air Pollution allows it to "fulfil such other functions as may be appropriate under the provisions of the Convention" (Fitzmaurice, 2014).

The second way COPs make international law, beyond explicit powers, is through their interpretative function. While treaties constitute the actual primary legislative text, COP decisions effectively operate as secondary legislation that clarify, elaborate, and extend treaty meaning (Fitzmaurice, 2014). Through resolutions, guidance, and implementation frameworks, COPs "thicken" international legal obligations, enhancing the original treaties without reopening or amending them formally (Wiersema, 2009). These interpretative activities give COPs the flexibility to adapt treaty regimes to new scientific, political, and technological realities that may not have been foreseen at the time of original enactment, providing for incremental evolution within existing legal frameworks (Rioseco, 2023).

Recent jurisprudence has focused on expanding this first, interpretative role. In its 2025 Advisory Opinion on Climate Change, the International Court of Justice indicated that decisions adopted by the UNFCCC COP may constitute "subsequent agreements" under Article 31(3)(a) of the VCLT (ICJ, 2025). Under this interpretation, COP decisions would be formally elevated from political forums to law-making organs (Rioseco and Rao, 2025), and would go beyond the view that COPs are "agreements within the treaty" that modify or supplement the original text in accordance with Articles 39 and 41(1)(b) (Camenzuli, 2019).

8 WHO Framework Convention on Tobacco Control creates a Conference of the Parties , Article 23

9 International Convention Against Doping In Sport, Article 28

4. A Conference of the Parties to the Outer Space Treaty

While few spacefaring nations would accept any form of supranational authority, there is broad agreement on many fundamental principles needed to coordinate space activity. Most states and private actors, for example, recognize the necessity of shared rules on issues such as orbital-debris mitigation and space traffic management. Despite this, however, under the current treaty architecture, bodies like UNCOPUOS can adopt only non-binding resolutions, with no mechanism for collective agreement on the text's interpretation. As a result, even unanimous agreements such as the Guidelines for the Long-Term Sustainability of Outer Space Activities, adopted by UNCOPUOS in 2019, remain purely voluntary.

This section first explains how a COP could provide a mechanism to adapt and apply new interpretations of the OST rules without being derailed by disagreements on more contentious issues. A COP would offer a standing forum for states to interpret the OST collectively and to update its meaning through consensus guidance, without reopening the treaty itself. Specific examples are cited where COP guidance could be both possible and helpful. The COP's contribution here is procedural: actual agreement still rests on political will.

Second, an ancillary benefit of a COP would be as a forum for regular diplomacy and the creation of epistemic communities. This section therefore also discusses more contentious issues that could eventually be negotiated in a COP.

4.1. COP vs COPUOS

It is first worth noting that "subsequent agreements" and "subsequent practice" under Article 31(3) of the VCLT are institutionally neutral, and there is nothing inherent to a COP that grants it unique interpretive authority. That authority instead derives from the collective acceptance of its decisions by the treaty's parties. In principle, any forum recognized by states as an authoritative venue for interpretation could serve the same function, provided its outcomes are reached by consensus and understood as a subsequent agreement to the treaty (Wewerinke-Singh, 2025).

In the context of outer space governance, UNCOPUOS might seem a plausible candidate to be empowered by VCLT Article 31(3), if states were to desire such a body. Its limitation, and perhaps the reason that states have not so far elected use it in this way, lies in the fact that as a subsidiary organ of the UN General Assembly even unanimous UNCOPUOS resolutions are currently by definition recommendations without treaty status (Kendall and Brachet, 2023). In fact, UNCOPUOS reports to the Fourth Committee of the United Nations General Assembly (Special Political and Decolonization), which has little relation to Outer Space issues, and does not have the same membership as OST signatories (Friedl, 2025). Therefore, instead of a venue for lawmaking, states (correctly) perceive UNCOPUOS as non-binding by design. More generally, many have criticized the UN's bureaucracy and tendency towards mission creep, perhaps making UNCOPOUS an imperfect vehicle for new governance measures.

Interestingly, the limitations of the current space governance architecture stem, at least in part, from the historical context of the OST's signing. Unlike later environmental and arms-control conventions, the 1967 treaty was not drafted as a "framework convention" designed for iterative development therefore created no standing mechanism for interpretation or revision. Had the treaty been negotiated a decade later, i.e., after the Ramsar Convention (1971) and CITES (1973) pioneered the COP model, it may have included such a provision, perhaps even via UNCOPUOS. The absence of a built-in review conference is thus a structural reason why the OST has remained static despite dramatic change in the domain it governs.

Nonetheless, making clear that UNCOPUOS's decisions are subsequent agreements to the OST would, in effect, transform that body into a COP. For clarity, this paper therefore uses the term "COP" to refer to any body endowed with binding interpretive capacity, including, theoretically, an empowered UNCOPUOS. (N.B. The similarity in nomenclature between UNCOPUOS and a COP is purely coincidental.)

4.2. Initial Agenda of a Conference of the Parties to the Outer Space Treaty

The initial agenda of a COP to the OST should concentrate on issues where consensus already exists and where technical coordination is both feasible and urgent. Four areas stand out: space traffic management, responsibility and authorization, liability, and transparency and notification.

4.2.1. Space Traffic Management

The proliferation of orbital debris represents the most immediate and universally acknowledged threat to the long-term use of outer space. Collisions, break-ups, and abandoned satellites have created a self-reinforcing cycle of fragmentation that jeopardizes access to space. While the OST does not refer to "debris" explicitly, Article IX provides a clear anchor in the principle of "due regard," which COP decisions could enhance:

> *"States Parties ... shall conduct all their activities in outer space ... with due regard to the corresponding interests of all other States Parties ... and ... where necessary, shall adopt appropriate measures ... so as to avoid their harmful contamination..."*
>
> *– Outer Space Treaty, Article IX*

This clause, drafted before the debris problem emerged, establishes an obligation of due regard and a prohibition on harmful contamination of outer space. A COP could use these provisions to transform the existing UNCOPUOS Long-Term Sustainability Guidelines (2019) from voluntary standards into authoritative interpretations of what "due regard" requires. Doing so could clarify that end-of-life disposal, post-mission passivation, and active debris-removal practices are not merely best efforts but integral to a state's supervisory duties under Article VI, which is discussed in the next subsection. In practical terms, the COP might adopt consensus "interpretative decisions" specifying debris-generation thresholds and reporting procedures for break-up events.

4.2.2. Responsibility and Authorization

The OST assigns ultimate accountability for activities in space, including the authorization of satellites, to states, but does not specify the specific responsibilities entailed:

> *"States Parties ... shall bear international responsibility for national activities in outer space ... whether such activities are carried on by governmental agencies or by non-governmental entities... The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty."*
>
> *– Outer Space Treaty, Article VI*

While states thus bear responsibility for non-governmental activities, there is no shared definition of what constitutes adequate "authorization and continuing supervision." A COP could fill that gap by adopting interpretative guidance linking these provisions to emerging traffic-management norms. For example, it

could establish reporting thresholds for proximity operations, adopt common data-exchange formats for conjunction warnings, and promote interoperability among national licensing systems. Guidance could define what constitutes "continuing supervision" in the context of autonomous spacecraft, on-orbit servicing, or in-situ resource utilization.

4.2.3. Liability

Under the state-centric nature of the OST, established under Article VI's requirement that private space activities be authorized and continuously supervised by their respective states, Article VII lays the burden on liability for any damage caused by those activities on the state:

> *"Each State Party that launches or procures the launching of an object into outer space ... is internationally liable for damage to another State Party ..."*
>
> *– Outer Space Treaty, Article VII*

A COP could play a crucial role in clarifying how liability operates under the OST (and potentially the Liability Convention), particularly in multi-jurisdictional missions where ownership, operation, and control are distributed across several entities. Beyond reaffirming that states remain internationally responsible for activities under their jurisdiction, a COP could define the key parameters of liability itself, including what constitutes a compensable harm, what standard of care applies to prevent it, and how damages should be calculated.

4.2.4. Transparency and Notification

Finally, given the importance of transparency in space operations, Article XI of the OST explicitly obliges states to keep others informed of their activities:

> *"States Parties ... agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities..."*
>
> *– Outer Space Treaty, Article XI*

Despite this clear language, implementation is inconsistent, and the existing UN registry mechanisms capture only limited data. A COP could operationalize this obligation by establishing standardized reporting templates and timetables. It could also interpret "to the greatest extent feasible and practicable" to include near-real-time notification of significant maneuvers, planned de-orbiting, or incidents posing risk to other operators.

4.3. Future Issues for COP Deliberation

Beyond the codification of areas of consensus into international law discussed above, experience from other treaty regimes suggests that COPs offer distinctive secondary advantages to make progress on more contentious issues. Chief among these is COPs' ability to sustain attention on complex technical issues across multiple negotiating cycles. Regular meetings, such as are held at COPs, bring together the same delegates, lawyers, scientists, and policy officials year after year, gradually forming epistemic communities of practice (Haas, 2015). These networks of recurring participants often transcend national alignments: individuals who

collaborate on one issue build professional trust that they carry into other areas of negotiation to a cumulative effect, with each meeting builds on the last. This allows institutional memory and technical understanding to deepen, and disagreements to be recast in more manageable terms. Unlike UNCOPUOS, a COP would meet regularly under a defined mandate and with authority to adopt decisions, rather than merely report or recommend, This slow accretion of shared norms and working relationships—ironically reminiscent of the "Vienna Spirit" invoked in UNCOPUOS (Friedl, 2025)—is what allows COPs to evolve static treaty systems into living frameworks.

In addition to creating epistemic communities between negotiators, COPs also carry a distinctive political valence outside of negotiations that can ultimately create pressure for progress. COPs act as high-visibility focal points that concentrate diplomatic and public attention, transforming what might otherwise be technocratic negotiations into events of political theater. The 2009 Copenhagen Climate Conference (COP15) exemplifies this dynamic. Convened with the hope of producing a binding successor to the Kyoto Protocol, COP15 drew not only diplomats but more than a hundred heads of state, including President Obama, who arrived unannounced in its final days to salvage an agreement. The spectacle of world leaders hurrying negotiating past midnight became a global story. Even though the resulting Copenhagen Accord fell short of expectations, the conference succeeded in defining a reputational benchmark that ultimately contributed to subsequent breakthroughs at Paris in COP21.

Leveraging these effects, once established a COP could gradually extend its deliberations to more politically sensitive questions where current interpretations of the OST diverge. These "wedge issues" represent the frontiers of contemporary space law that cannot be resolved by national legislation alone but could be progressively clarified under a COP.

4.3.1. National Appropriation and Resource Utilization

The legality of extracting and commercializing space resources remains one of the most contested questions in space law. Article II of the OST declares:

> *"Outer 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."*
>
> *– Outer Space Treaty, Article II*

As discussed above, states differ on whether this clause prohibits resource extraction itself or merely forbids claims of sovereignty over the territory from which resources are drawn. The United States, Luxembourg, and the United Arab Emirates have enacted national laws permitting private resource utilization under state authorization, while other states, most notably Russia and several developing countries, view such acts as de facto appropriation. A COP could provide a neutral forum for articulating a shared interpretative framework. It might, for instance, affirm that extraction is permissible only where conducted "with due regard to the interests of all other States Parties" (Article IX), potentially in accordance with principles of benefit sharing. The COP could also invite the drafting of technical guidelines governing registration, impact assessments, and the use of extracted materials, thereby moving toward a consistent operational definition of lawful utilization.

4.3.2. Weapons of Mass Destruction and Militarization

Article IV of the OST prohibits the placement of weapons of mass destruction in orbit:

"States Parties undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction ... The Moon and other celestial bodies shall be used by all States Parties exclusively for peaceful purposes."

– Outer Space Treaty, Article IV

However, while the prohibition on weapons of mass destruction is clear, the term itself is undefined, meaning that new technologies such as kinetic interceptors, co-orbital inspection satellites, and directed-energy systems test the treaty's limits. A COP could use its interpretative authority to update the understanding of "weapons of mass destruction" in light of these dual-use capabilities, distinguishing between legitimate defensive technologies and those that amount to weaponization of space. At the same time, it could clarify what constitutes the "placement" of weapons in orbit, as the growing use of space to transit missiles blurs the line between deployment in orbit and passage through it.

4.3.3. Safety Zones and Lunar Activity

As lunar exploration increases, in particular via commercial and settlement-oriented activities, overlapping operations on the Moon create growing risks of interference and dispute. The OST addresses these tensions only indirectly through Article IX, which requires that activities be conducted "with due regard to the corresponding interests of all other States Parties" and that "appropriate international consultations" occur where harmful interference is likely. A COP could interpret these provisions to clarify how operational coordination should occur in practice such as by developing shared principles for temporary activity-based perimeters around sites of ongoing operations. Similar to the concept of "safety zones" introduced by the Artemis Accords, a COP could define parameters for transparency, notification, and coordination, without endorsing any approach that implies territorial control.

4.4. Operationalizing a Conference of the Parties to the Outer Space Treaty

The most straightforward way to add a COP to the OST would be via the amendment procedure set out in Article XV:

"Any State Party to the Treaty may propose amendments. Amendments shall enter into force for each State Party to the Treaty accepting the amendments upon their acceptance by a majority of the States Parties to the Treaty and thereafter for each remaining State Party to the Treaty on the date of acceptance by it."

– Outer Space Treaty, Article XV

Following Article XV, a new Article creating a COP could be adopted under the following conditions:

- Proposal by one or more States Parties.
- Acceptance by a majority of States Parties.
- Entry into force only for those that ratify, meaning that ultimately all parties would need to adopt the amendment in order for the consensus mechanism of the COP to be effect.

Institutionally, an OST COP could follow standard models from other COPs: annual or biennial plenary meetings of OST parties, supported by a secretariat and subsidiary technical groups.

The following draft Article sets out model language for incorporating a COP into OST. This text is modeled on Article 7 of the Montreal Protocol, Article 7 of the Convention on Biological Diversity, and Article 23 of the WHO Framework Convention on Tobacco Control, but limited to interpretation and coordination rather than lawmaking.

Article XVIII – Conference of the Parties

1. A Conference of the Parties (hereinafter "the Conference") is hereby established. The Conference shall comprise all States Parties to this Treaty.
2. The Conference shall meet regularly to review the implementation of this Treaty and to promote its effective application.
3. The Conference shall:
    a. Examine the obligations and institutional arrangements under this Treaty in light of scientific, technical, and legal developments in outer space;
    b. Facilitate the exchange of information and promote transparency and confidence-building among States Parties;
    c. Consider and adopt, by consensus, technical standards or best-practice guidelines to assist in the implementation of this Treaty;
    d. Establish, as necessary, subsidiary bodies to assist in its work.
4. The Conference shall operate by consensus. Nothing in this Article shall be interpreted as conferring upon the Conference the power to amend or add to the rights and obligations of States Parties under this Treaty.
5. The Conference shall adopt its own rules of procedure and regulations at its first session.

5. Conclusion

While the Outer Space Treaty remains the cornerstone of international space governance, its effectiveness is constrained by the absence of any procedural mechanism to interpret, adapt, or operationalize its provisions. Attempts to enact new treaties or amend the existing ones have failed. The many worthwhile non-binding initiatives, from UNCOPUOS to the Artemis Accords, though important, lack authority or the recognition in customary international law to make them binding. In this context, this paper has argued that the creation of a Conference of the Parties to the OST represents a structural solution to overcome many of the challenges for contemporary space governance.

A COP for the OST would neither replace the existing system nor resolve all its deficiencies. Instead, this paper has made two more limited claims. First, that a COP would provide a mechanism for incremental progress on making the OST fit-for-purpose, converting areas of existing agreement into binding international law without requiring the all-or-nothing grand bargain of treaty amendment or passage. The interpretive power held by COPs to make "subsequent agreements" under the Vienna Convention on the Law of Treaties would enable signatories to clarify key treaty terms without reopening the text. Such interpretative authority would allow the OST to evolve, for instance, by defining terms like "due regard" or elaborating a duty of care within the liability regime.

This paper's second argument is that a COP for the OST could also provide a forum for progress on more contentious areas of space law. By convening the same diplomats, scientists, and legal experts year after year, a COP would cultivate an epistemic community of practitioners, i.e., networks of trust and shared technical understanding that enable incremental consensus-building even on difficult issues. More broadly, COPs have historically carried sufficient political and economic weight to focus global attention on critical questions. In the environmental sphere, in particular, their high visibility has transformed negotiation into an act of political performance, where the pressure of public expectation and reputational risk compels leaders to demonstrate progress. Such pressure in the space regime could help build bridges on issues like resource utilization, militarization and safety zones.

However, while a COP could offer clear procedural and diplomatic advantages, experience from other treaty regimes also shows that such mechanisms are far from a panacea. In practice, COPs have often proven cumbersome, slow, and vulnerable to political impasse. In the environmental sphere, where the model is most developed, COPs have been repeatedly criticized for producing sprawling, indecisive negotiations in which progress is routinely blocked by a small number of intransigent states. Because COPs operate by consensus, a single participant can stall collective decisions, leading to diluted outcomes or procedural gridlock. At the 2009 Copenhagen Climate Conference, for instance, disagreement among a few key parties prevented adoption of a legally binding text, forcing the meeting to "take note" of the Copenhagen Accord rather than adopt it formally. More recent COPs such as the climate meetings in Glasgow and Dubai have faced similar frustrations, with language on fossil-fuel phase-outs or climate finance repeatedly weakened to secure unanimity. It is not difficult to imagine comparable paralysis in a space COP, where many OST signatories have no active space programs yet would nonetheless wield veto power. In such circumstances, one or two states acting on unrelated political grounds could obstruct progress.

A second, and more structural, criticism concerns the technocratic insulation of COP processes. Although COPs are often described as "epistemic communities," that expertise can create distance from the broader public and from civil-society perspectives. Scholars and activists have long argued that environmental COPs privilege technical elites and state representatives while marginalizing non-state actors whose participation could enhance legitimacy and accountability (Kuppel, 2024). Even where civil society observers are

accredited to attend COPs, their influence over agenda-setting and decision-drafting remains limited. This critique applies with particular force to the space domain. Both the OST and the institutions that surround it are fundamentally state-centric, yet the realities of twenty-first-century space activity are driven by private companies, research consortia, and subnational actors. A COP model that replicates the state-exclusive architecture of the OST risks perpetuating this gap between governance and actual practice in orbit.

Finally, the wider political environment raises questions about whether any new multilateral institution could sustain the consensus required for success. Across many areas, there has been a clear retreat from multilateralism. The United States' withdrawal from the Paris Agreement under the Trump administration, the fracturing of the WTO's appellate system, and the stagnation of UNCOPUOS itself all illustrate the fragility of cooperative mechanisms in the current geopolitical climate. Even if established, a COP for the OST could face declining participation, strategic disengagement, or forum-shopping by major powers unwilling to bind themselves to collective interpretations.

All these concerns are real and should temper expectations about what a COP for the OST could achieve. Yet the comparison between climate and space remains instructive. Despite its flaws, the climate COP process has produced measurable progress, from Kyoto to Paris to subsequent updates in national commitments, while outer-space governance has remained almost entirely static since 1967. The lesson is not that COPs are efficient or infallible, but that they provide a structured venue through which international law can evolve, however imperfectly. The purpose of this paper is therefore not to claim that a COP for the OST would solve every problem, or even that it would necessarily succeed, but to argue that without such institutional tools, progress is unlikely at all. In an era of rapid technological change and proliferating space activity, the need to experiment with new mechanisms of governance outweighs the risk of inaction.

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