"What's In A Name?" Legal Aspects of 'Safety Zones' on Celestial Bodies and Elsewhere in Outer Space

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Abstract

The concept of 'safety zones' and the possible application thereof to celestial bodies has recently attracted considerable debate, mainly because it constituted one of the elements in the Artemis Accords. Most notably, concerns were raised that the establishment of any such zones would violate the foundational principle of absence of territorial occupation and sovereignty in outer space stemming from Article II of the Outer Space Treaty. The present paper will, first, look into the general approach taken by the Artemis Accords on the issue in the light of the Outer Space Treaty. Second, it will briefly assess more broadly how in other domains concepts of 'safety zones' or similar constructs have been developed. This should allow, third, at least for a preliminary assessment of how to ensure that the conditions under which any establishment of 'safety zones' on celestial bodies would take place could and/or should be considered legal.

1. Introduction

On 15 May 2020 the US National Aeronautical and Space Administration (NASA) announced the creation of the Artemis Accords.[1] Presented as a

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1 See *e.g.* https://en.wikipedia.org/wiki/Artemis_Accords (last accessed 19 August 2022) and for the text https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf (last accessed 19 August 2022); see in general on the Artemis Accords also *e.g.* the author's The Artemis Accords as a Tool of Cooperation, published in *Proceedings of the International Institute of Space Law 2021* (2022).

relatively open-ended,[2] non-legally binding[3] set of thirteen sections "to establish a common vision via a practical set of principles, guidelines, and best practices to enhance the governance of the civil exploration and use of outer space with the intention of advancing the Artemis Program",[4] as of this writing 21 States plus the Isle of Man have signed up to the Accords.[5]

While the Accords repeatedly stressed that they were in "compliance with" relevant international space law and meant to "implement the provisions of the Outer Space Treaty and other relevant international instruments",[6] and most of the principles were indeed generally recognized to provide mere elaborations or approaches to implementation of generally accepted international space law, a few other principles nevertheless raised concerns in terms of their actual or even merely potential future compliance therewith.[7]

One of the most contested sections is Section 11, the by far longest Section of the Accords, which is labelled 'Deconfliction of Space Activities', and, further to the equivocal requirement of Article IX of the Outer Space Treaty to avoid harmful interference as much as possible, develops a more concrete approach for the States cooperating under the Artemis Accords to minimize the risk of such harmful interference.

The Section starts by confirming the parties' commitment to (compliance with) the Outer Space Treaty, in particular its Article IX, as well as the UN Guidelines for the Long-term Sustainability of Outer Space Activities, which the Section essentially intends to elaborate in terms of more practical arrangements between the cooperating States. This ranges from exchange of information and development of more detailed practices and rules to the establishment and mutual recognition of safety zones. Those would be areas around specific facilities or even settlements on celestial bodies "in which

2 *Cf.* Sec. 13(1), Artemis Accords (*supra*, n. 1).

3 *Cf.* Preamble & Sec. 1, Artemis Accords (*supra*, n. 1), referring to "a political understanding" resp. "a political commitment", Sec. 13(2), denying eligibility "for registration under Article 102 of the Charter of the United Nations". This reference to Art. 102, Charter of the United Nations (hereafter UN Charter; San Francisco, done 26 June 1945, entered into force 24 October 1945; USTS 993; 24 UST 2225; 59 Stat. 1031; 145 UKTS 805; UKTS 1946 No. 67; Cmd. 6666 & 6711; CTS 1945 No. 7; ATS 1945 No. 1) is generally interpreted as formally denying treaty-like binding character to the Accords.

4 Sec. 1, Artemis Accords (*supra*, n. 1).

5 See https://en.wikipedia.org/wiki/Artemis_Accords (last accessed 19 August 2022); this concerns Australia, Bahrain, Brazil, Canada, Colombia, France, the Isle of Man, Israel, Italy, Japan, Luxembourg, Mexico, New Zealand, Poland, South Korea, Romania, Singapore, Saudi Arabia, Ukraine, the United Arab Emirates, the United Kingdom, and the United States.

6 Preamble, Artemis Accords (*supra*, n. 1).

7 See for a more general analysis *e.g.* again the author's The Artemis Accords as a Tool of Cooperation, to be published in *Proceedings of the International Institute of Space Law 2021* (2022).

nominal operations of a relevant activity or an anomalous event could reasonably cause harmful interference" with activities of the relevant State and where that State consequently is entitled to insist on due regard for its own activities and coordination of any other State's activities therewith.[8]

It is in particular the repeated references to a concept of 'safety zones' in this Section which gave rise to considerable criticism, as it seemed to be at odds with the well-established principle of Article II of the Outer Space Treaty,[9] that the exercise of territorial sovereignty or anything even merely suspiciously looking like it is fundamentally excluded from outer space, including the Moon and other celestial bodies.[10]

It bears noting that historically speaking, in the context of international law the concept of 'safety zones' has been developed in two rather different, specific contexts: that of the law of the sea, respectively of international humanitarian law.[11] Then, there is the special case of Antarctica which merits some scrutiny from the present perspective. Also, more recently – and considerably more disputed – a somewhat similar concept of Air Defence Identification Zones (ADIZs) has developed, of importance for the current issue. And finally, there is the concept in air law of Flight Information Regions (FIRs) to be briefly surveyed.

2. The concept of 'safety zones' in the international law of the sea

In the context of the international law of the sea, the concept of a 'safety zone' refers to what one might call 'operational safety', the safety of humans and the equipment they operate from unprepared, unsolicited and therefore potentially reckless interference by 'outsiders'. For instance, the 1982 United Nations Convention on the Law of the Sea recognizes the exclusive right of a

8 Sec. 11(7), Artemis Accords (*supra*, n. 1).

9 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereafter Outer Space Treaty), London/Moscow/Washington, done 27 January 1967, entered into force 10 October 1967; 610 UNTS 205; TIAS 6347; 18 UST 2410; UKTS 1968 No. 10; Cmnd. 3198; ATS 1967 No. 24; 6 ILM 386 (1967).

10 See further *e.g.* the author's International space law, in *Handbook of Space Law* (eds. F.G. von der Dunk & F. Tronchetti)(2015), 55-60; S.R. Freeland & R. Jakhu, Article II, in *Cologne Commentary on Space Law* (Eds. S. Hobe, B. Schmidt-Tedd & K.-U. Schrogl), *Vol. I* (2009), 44-63.

11 See further *e.g.* T. Desch, Safety Zones, in *Max Planck Encyclopedia of International Law* (2015)(Eds. R. Wolfrum & A. Peters); https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e397?prd=EPIL (last accessed 24 August 2022).

coastal State to establish safety zones around artificial islands, installations and structures in its Exclusive Economic Zone (EEZ).[12]
The clauses refer to such imprecise but politically sensible concepts as 'reasonable(ness)' and 'appropriate (measures)', which would hopefully evolve into more precise generally accepted standards, but the baseline idea is clear: certainly as long as limited to 500 meters around whatever needs to be protected, States can effectively use their sovereign competences to impose any rules reasonable and appropriate to protect the operational safety of such artificial islands, installations and structures, and any ship coming from whatever State would have to comply with them.
Note, that the EEZ as such does not form part of the maritime area falling under the territorial sovereignty of the coastal State known as 'territorial waters'; except for the specific privileges for the coastal State listed in the Convention, the freedoms of the high seas continue to apply in unabridged fashion.[13] In other words: the functionally and geographically limited but otherwise quite profound legal right of a coastal State to determine how operators from other States have to operate within such a safety zone is *not* considered as abridging or interfering with the baseline international status of the waters of the EEZ and the continuous exercise of all other freedoms of the high seas by anyone else.
A similar clause refers to the deep seabed Area defined under Articles 133 and following of the Convention as lying underneath the high seas properly speaking, hence also outside of any potential exercise of territorial sovereignty by any State.[14]
While the United Convention on the Law of the Sea was, especially for the first few decades after adoption, subject to much debate and a considerable measure of refusal on the part of especially developed States to sign and ratify, that did not concern the issue of safety zones or even EEZs more broadly speaking. At the same time, the concept needed explicitly, precise and widely accepted treaty clauses for it to be bequeathed with a status of undisputable legality.

3. The concept of 'safety zones' in international humanitarian law

In international humanitarian law, the concept of 'safety zones' by contrast focuses on what one might call 'military safety', safety of humans from the violence that inevitably accompanies any armed conflict. Being embedded in

12 See Art. 60, United Nations Convention on the Law of the Sea, Montego Bay, done 10 December 1982, entered into force 16 November 1994; 1833 UNTS 3 & 1835 UNTS 261; UKTS 1999 No. 81; Cmnd. 8941; ATS 1994 No. 31; 21 ILM 1261 (1982); S. Treaty Doc. No. 103-39.
13 See Arts. 55, 56 & 58, United Nations Convention on the Law of the Sea (*supra*, n. 12). *Cf.* also Art. 260.
14 See Art. 147(c), United Nations Convention on the Law of the Sea (*supra*, n. 12).

the larger legal environment of armed conflicts, they are also often referred to as 'safe zones', 'safe havens', 'protected areas' or 'security zones', but the essence remains an effort to ensure that especially parts of the population of territories involved in armed conflicts yet itself not to be classified as combatants, would remain free from all the horrendous consequences of violence and armed conflicts, up to and including persecution and war crimes, by providing them with a 'zone' which would hopefully be spared such violence.

The broad scope and rather varied practice (including in a number of cases State practice possibly giving rise to customary international law) over centuries, if not millennia, makes it impossible within the present scope to provide anything close to a complete picture beyond the above, very summary, high-level and overarching description, so that the present paper will limit itself to a few examples of relatively clear-cut and undisputed provisions.

One example concerns the 1949 Geneva Conventions which provide for the establishment of hospitals and (other) safe zones or localities, precisely in order to allow the wounded, the sick, the elderly, children, and pregnant women to hide there from the hostilities and the violence these produce.[15]

Here, however, a major difference with the concept of 'safety zones' as used in the international law of the sea arises: such 'hospital zones' and their likes are to be established *within the territorial sovereignty* of any State concerned (including occupied territories, which legally-technically speaking may not (yet) be part of the occupying State's territory), and any value 'in the real world' of establishment of such a zone crucially depends upon the recognition by any relevant enemy State.[16] In other words, the establishment of a safety zone is without proper legal effect until such an enemy actually recognizes the hospital or locality as a safety zone.

Another major example of the use of the general concept of a 'safety zone' in an international humanitarian context concerns the role of the United

15 See Art. 23, Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (hereafter First Geneva Convention), Geneva, done 12 August 1949, entered into force 21 October 1950; 75 UNTS 31; TIAS 3362; 6 UST 3114; ATS 1958 No. 21; Art. 14, Geneva Convention relative to the Protection of Civilian Persons in Time of War (hereafter Fourth Geneva Convention), Geneva, done 12 August 1949, entered into force 21 October 1950; 75 UNTS 287; TIAS 3365; 6 UST 3516; ATS 1958 No. 21. Emphasis added.

16 While both the First Geneva Convention (*supra*, n. 15) and the Fourth Geneva Convention (*supra*, n. 15) have been ratified by 196 States (see https://en.wikipedia.org/wiki/Geneva_Conventions; last accessed 24 August 2022) and is moreover generally recognized as reflecting customary international law, the Draft Agreement reference in this clause effectively only offers strong suggestions on how to actually implement them in any given case, making any conclusion as to their customary international law-value so much harder to make.

Nations, as per the 1945 UN Charter designed as the major international organization to promote international peace and security and human rights, *inter alia* in the context of armed conflicts.[17] Though the word 'safety zone' or any of its quasi-equivalents cannot be found in the UN Charter, the UN Security Council has been given two major competences to act in case threats to the peace, breaches of the peace or acts of aggression arise, as per Articles 41 and 42 of the UN Charter respectively, which may effectively produce similar results.[18]

Indeed, over time the UN Security Council has increasingly used (apparently without much general or comprehensive disagreement or debate on the principle as such) the combination of those two competences to impose designated 'safety zones' of some sort or another. One could label this an 'Article 41½ approach', as such 'imposition' sometimes refers to mere political persuasion of the States concerned (basically referring to Article 41), sometimes to more serious 'threats' that serious consequences might result from non-acceptance (moving into the realm of Article 42).

In either case, of course, the underlying idea for such zones is to protect at least all non-combatants from attack and generally serve as places of refuge and aid; yet also here the precise legal contours of the concept have never been authoritatively established. More lately, sometimes the establishment of such 'safety zones' has been accompanied by the imposition of 'no-fly zones' to provide a degree of concrete enforcement of absence of military violence – again following an 'Article 41½ approach'.

The main element all such zones have so far had in common is the idea to carve them out from military use by any of the parties involved in the armed conflict at stake as much as possible, requiring also a clear separation of 'safety zones' from any areas used for military purposes. This would both legally speaking require and politically speaking allow enemy parties to abstain from directing any use of military force to such zones.

In the last resort, the different focus on territories under formal sovereign control of any State at issue, the wildly varying scope and scale of relevant zones in practice and the equally rather varied extent to which they 'worked', and the focus on military security as opposed to operational safety, makes it rather doubtful whether international humanitarian law would present helpful analogies for the discussion of safety zones on celestial bodies.

4. The concept of 'specially protected areas' in Antarctic law

Differently from international humanitarian law, Antarctic law may perhaps again bring some more directly relevant analogues to the table for discussing the legality and viability of safety zones on celestial bodies. This is essentially

17 *Cf. e.g.* Preamble, Arts. 1, 2, UN Charter (*supra*, n. 3).

18 See Arts. 41, resp. 42, UN Charter (*supra*, n. 3).

since Antarctica is generally considered an area outside of any State's territorial jurisdiction.

Granted, the 1959 Antarctic Treaty, the baseline document of the Antarctic Treaty System, still allowed States claiming parts of the continent to be part of their sovereign territory to maintain such claims.[19] However, the many later treaties developed as part of the Antarctic Treaty System[20] called for (near-) absolute consensus or agreement on any future activities on the continent except for narrowly described scientific ones and restricted and thoroughly monitored tourist ones, to which also those States adhered. Thus, any factual sovereign discretion to unilaterally decide for instance on commercial mineral exploitation in one's claimed part of Antarctica was effectively minimalized, making any claim to the exercise of territorial sovereignty hollow in all but name.

The Antarctic Treaty System does not refer to safety zones or anything directly equivalent, but it does provide for the possibility, since 1961, to establish Antarctic Specially Protected Areas (ASPAs), where for scientific, ecological and environmental reasons a permit is required for entry.[21] Obtaining a permit requires presentation of a Management Plan, which should provide *inter alia* for "information on the reason for designation, identification of restricted zones, conditions under which permits may be granted, conditions applying to access, and the specific activities that may be carried out in the area".[22]

Given the general status of Antarctica as an international area, if not entirely *de jure* at least *de facto*, this might present an interesting precedent for establishment of zones where the 'establishing State' would be entitled to access subject to a permit and require abstinence from certain harmful activities on the part of any permittee.

On the one hand, however, of course the set-up in Antarctica is based on the premise of maintaining scientific, ecological and other public values for the sake of all humanity, not of *per se* allowing commercial exploitation for the

19 See Art. IV, Antarctic Treaty, Washington, done 1 December 1959, entered into force 23 June 1961; 402 UNTS 71; TIAS 4780; 12 UST 794; UKTS 1961 No. 97; Cmnd. 913; ATS 1961 No. 12.

20 Notably, this concerned the Convention on the Conservation of Antarctic Seals, London, done 1 June 1972, entered into force 11 March 1978; TIAS 8826; 27 UST 441; ATS 1987 No. 11; 11 ILM 251 (1972); the Convention on the Conservation of Antarctic Marine Living Resources, Canberra, done 20 May 1980, entered into force 7 April 1982; 1329 UNTS 47; TIAS 10240; ATS 1982 No. 9; 19 ILM 841 (1980); and the Protocol on Environmental Protection to the Antarctic Treaty, Madrid, done 4 October 1991, entered into force 14 January 1998; UKTS 1999 No. 6; Cm 1960; ATS 1998 No. 6; 30 ILM 1455 (1991).

21 See https://en.wikipedia.org/wiki/Antarctic_Specially_Protected_Area (last accessed 24 August 2022); currently there are 72 such sites.

22 At https://www.antarcticanz.govt.nz/environment/protecting-special-areas (last accessed 24 August 2022).

sake of a commercial operator. This should caution against over-enthusiastic transposition of the concept to celestial bodies.
On the other hand, the dividing line between generating public value for instance in terms of scientific knowledge and generating private value in terms of a viable commercial business plan may not be that clear-cut when it comes to celestial bodies. This might perhaps point to a balanced approach, whereby the public interests in certain sites to be exploited would be sufficiently guaranteed under the responsibility of the international community of States while allowing reasonable and appropriate private interests to be accommodated in order to generate, perhaps even incentivize private investment.
Moreover, it should be noted that space law is rather clear in offering States the possibility to establish general facilities and installations on celestial bodies as long as in compliance with whatever other rules of international law apply[23] *and* to exercise a form of quasi-territorial jurisdiction over them[24], which might well be the baseline from which to develop such a balanced regime.

5. The concept of 'air defence identification zones' in international law

Relatively recently, international (air) law has also come to be confronted with a – highly disputed – concept of air defence identification zones (ADIZs), critically touching upon the extent to which territorial sovereign rights in the security and military domain are or can legitimately be exercised. The bottom line is that territorial sovereignty in airspaces as such applies only to the airspace over national territory, internal waters and territorial waters of a State.[25] Meanwhile, outside of the territorial waters, extending to a maximum of 12 miles offshore, another 'contiguous zone' has been acknowledged, extending to a maximum of 24 miles offshore, where the

23 *Cf.* Art. XII, Outer Space Treaty (*supra*, n. 9); also Art. 8, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (hereafter Moon Agreement), New York, done 18 December 1979, entered into force 11 July 1984; 1363 UNTS 3; ATS 1986 No. 14; 18 ILM 1434 (1979). While the Moon Agreement as such has suffered from poor ratification, this clause, an obvious extension of the Outer Space Treaty's clause, did not raise any controversy.

24 As per Art. IX, Outer Space Treaty (*supra*, n. 9); also Art. 7, Moon Agreement (*supra*, n. 23).

25 See Arts. 1, 2, Convention on International Civil Aviation (hereafter Chicago Convention), Chicago, done 7 December 1944, entered into force 4 April 1947; 15 UNTS 295; TIAS 1591; 61 Stat. 1180; Cmd. 6614; UKTS 1953 No. 8; ATS 1957 No. 5; ICAO Doc. 7300; also Art. 2(2), United Nations Convention on the Law of the Sea (*supra*, n. 12).

coastal State has the legal authority to protect certain sovereign legal interests with regard to its territory or territorial sea.[26]

Given the speed at which aircraft and other vehicles can traverse airspaces, however, some States became increasingly worried that in case of an armed conflict this maximum of 24 miles would be far too small to allow effective application of these legal competences to any aircraft with potentially hostile intentions. Consequently, as of 1950 a total of by now some 20 States started to unilaterally declare air defence identification zones.[27]

The essence of the establishment of an ADIZ is to allow the State concerned to identify and locate, and then, if of course necessary, take follow-on actions against aircraft potentially threatening national security by their expected intrusion into national airspace properly speaking. While the urgent request to identify yourself when entering an ADIZ would not seem to raise any major legal problems as such, given that it would be in everyone's interest to avoid misunderstandings about intentions which might give rise to safety and security risks, the unspoken assumption that the establishment of an ADIZ authorizes the State concerned to take such follow-on actions, ranging from warnings not to proceed to shooting down aircraft considered to be part of an armed attack, does raise the fundamental issue of whether the establishment of such zones does not indeed violate the freedom of navigation and overflight, part of the fundamental freedoms of the international area of the high seas basically applicable everywhere outside territorial waters.[28]

Partly as a consequence, any legitimacy of ADIZs is not underpinned by international treaty or officially recognized by international bodies, but solely rests on the practice of a number of leading States which may have met regularly with political and sometimes also legal protest yet have generally continued without much regard for such protests.

6. The concept of 'flight information regions' in international air law

A final potentially interesting precedent is that of 'flight information regions' (FIRs). This concept has been developed in international air law to delineate the various regions of operational responsibilities (though not necessarily liabilities) of one particular air traffic control centre, as the main coordinator of all aircraft movements within such an FIR for safety purposes.

26 *Cf.* Art. 33(1), United Nations Convention on the Law of the Sea (*supra*, n. 12); see also Art. 33(2).

27 See https://en.wikipedia.org/wiki/Air_defense_identification_zone (last accessed 25 August 2022).

28 *Cf.* Arts. 36, 38, 58(1), 78, 87(a), (b), United Nations Convention on the Law of the Sea (*supra*, n. 12).

The establishment of FIRs in national airspaces both legally and practically had to be left to the States concerned, as part of their sovereignty over such national airspace and the ensuing responsibilities to ensure the safety of all aircraft operations therein, including those of foreign aircraft duly allowed to enter national airspace.[29]

Given, however, the international character of aviation, the international aviation community from the start also looked for an equivalent system to address safety coordination of air traffic in areas *not* subject to national territorial jurisdiction, notably of course the high seas. Here, the Chicago Convention provided as a baseline that "[o]ver the high seas, the rules in force shall be those established under this Convention."[30]

In this respect, Annex 2, entitled 'Rules of the Air', developed the detailed rules referred to, with regular updates when technical, operational or other changing realities so require, where Annex 11, entitled 'Air Traffic Services' provided:

> Those portions of the airspace over the high seas or in airspace of undetermined sovereignty where air traffic services will be provided shall be determined on the basis of regional air navigation agreements. A Contracting State having accepted the responsibility to provide air traffic services in such portions of airspace shall thereafter arrange for the services to be established and provided in accordance with the provisions of this Annex.[31]

Thus, through the institutional workings of the International Civil Aviation Organization (ICAO)[32] and its Regional Air Navigation Plans (ANPs),[33] particular FIRs over the high seas were allocated to States relatively close to that area, effectively trusting them on behalf of the international community to safely coordinate all air traffic in such FIRs despite the absence of formal territorially-based sovereign competences to do so. For instance, the North Atlantic international airspace was divided up amongst 6 FIRs, controlled respectively from New York (United States), Gander (Canada), Reykjavik

29 *Cf.* Arts. 11, 12, 28, Chicago Convention (*supra*, n. 25).
30 Art. 12, Chicago Convention (*supra*, n. 25).
31 Para. 2.1.2, Annex 11, Air Traffic Services, Chicago Convention (*supra*, n. 25).
32 Established by Arts. 43–66, Chicago Convention (*supra*, n. 25).
33 See *e.g.* ICAO Working Paper SCM/1-WP/02 22/06/19, First Unassigned High Seas Airspace Special Coordination Meeting (SCM/1), Lima, Peru, 22 to 24 July 2019; Agenda Item 2: ICAO provisions and policy concerning establishment of authority and the process for the amendment of Regional Air Navigation Plans (ANP); 1. ICAO provisions, policy and guidance material on the delegation of airspace over the high seas.

(Iceland), Bodo (Norway), Shanwick (United Kingdom/Ireland) and Santa Maria (Portugal).[34]

This concept is perhaps the best proof of the ability of (relevant parts of) the international community to come together, for the greater common good of all concerned readily arising from enhanced safety of all aircraft operations, to accept the *de facto* exercise of competences normally reserved for national airspaces by one or the other State in an international area.

7. Concluding remarks

Evidently, none of the five potentially helpful examples discussed above would serve as a blueprint for establishing 'safety zones' on celestial bodies in a legally acceptable manner without further ado.

The most comparable one in terms of scope, size and substantive focus (namely, on operational safety) would clearly be the use of the concept in the international law of the sea, from which the main suggestion arising is that it would preferably be codified in at least some detail in treaty or treaty-like arrangements to avoid major conflicts about the concept as such. As the Artemis Accords with their open-ended character are clearly not claiming to have that status – nor, indeed, can they – they could only be seen as a first step in a process perhaps – hopefully – ultimately leading to such a treaty-based consensus.

The use of safety zones and similar concepts in international humanitarian law entails so many questions and issues beyond the current focus of the Artemis Accords on peaceful exploration and use, that (luckily) it so far does not require profound discussion as to its potential relevance for the current discussion, while the key component part of sovereign territories being involved would make it too complex in and of itself.

From the legal constructs under the Antarctic Treaty System one could take away the need to ensure in more detail the protection of scientific interests and the general environment, as substance matter to be addressed in further development of any legal development onwards from the Artemis Accords, as well as considerable practice on how to implement such zones without as such touching upon the issue of the (absence of) sovereignty.

The concept of ADIZs should present a warning of the potential conflicts that may arise in the absence of any international law – although, similar to the discussion on international humanitarian law, luckily so far those would not seem imminent, and hopefully other means can be used to avoid that situation from changing in the future.

34 See NAT Doc 007, North Atlantic Operations and Airspace Manual, V.2019-3 (Applicable from July 2019), ICAO European and North Atlantic Office on behalf of the North Atlantic Systems Planning Group (NAT SPG).

Lastly, the concept of FIRs as applied to international airspaces would offer useful pointers on how the interests of the community of States in safe and orderly exploration and use of celestial bodies might be feasible by mandating one particular State to take the lead in actually coordinating all activities precisely for that purpose without violation of Article II of the Outer Space Treaty's fundamental prohibition on the exercise of territorial sovereignty in outer space.

That, finally, also raises the issue of the 'name' of the concept, given the political suspicions of the term 'safety zones' as it seems to imply – or at least not clearly exclude – the exercise of profound sovereign powers in an area by definition not amenable to such exercise. If the main idea of the 'safety zone' is indeed to enhance mutual exchange of information regarding activities potentially interfering in a harmful manner with other activities so as to allow further coordination of all those activities to avoid any harmful interference, it might be a good idea to relabel the concept into a 'safety *information* zone', along the lines of the FIR-concept: 'inform if you are too close for comfort, listen to our suggestions on avoidance of risks of harmful interference, and comply with them unless you have a better plan'.