



General Assembly

Distr.: General
18 January 2017

Original: English

Committee on the Peaceful Uses of Outer Space

Definition and delimitation of outer space: views of States members and permanent observers of the Committee

Note by the Secretariat

Addendum

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II. Replies received from States members of the Committee

Thailand

[Original: English]
[2 November 2016]

Thailand is of the view that outer space should be defined in accordance with aerospace operations, to the extent that it will not prejudice national security and the sovereignty of States. At this stage, the definition and delimitation of outer space should not rely on geographical considerations. Notwithstanding the foregoing, the said opinion is only the preliminary stance. It is subject to future modifications.

Turkey

[Original: English]
[17 November 2016]

It is considered that regulations regarding the definition and delimitation of space should take into account the regulations regarding airspace as well, and should be based on the protection of nations' sovereignty and the promotion of the exploration and use of space for peaceful purposes. In this regard, it is considered that joint work with the International Civil Aviation Organization (ICAO) is needed.

It is also considered that development of a control and tracking system jointly with ICAO could be beneficial to avoid possible accidents between aircraft and vehicles making suborbital flights.

III. Replies received from permanent observers of the Committee on the Peaceful Uses of Outer Space

World Health Organization

[Original: English]
[24 November 2016]

The need of the Secretariat of the World Health Organization (WHO) for outer space to be defined and delimited originates in the extensive deliberations held over several sessions of the World Health Assemblies over a decade on the topics of global health, global environment, climate change and public safety.

While there are substantial academic and intergovernmental discussions on the definition of the boundary between airspace and outer space, the WHO Secretariat is in need of clear guidance on the limits of airspace and the beginning of outer space for scientific discussions related to air quality standards and broader issues around climate change and global health. The WHO Secretariat wishes to receive clarity on "at what altitude (in kilometres) above mean sea level does outer space begin?" A good definition will also allow our Member States to develop appropriate legislation or regulations related to public safety and suborbital flights.

World Meteorological Organization

[Original: English]
[25 November 2016]

The definition and delineation of outer space has been a matter of discussion within the Committee on the Peaceful Uses of Outer Space for many years, owing to its legal implications.

The common understanding of “space” as the part of the universe “above the atmosphere” is not practical, since there is no precise top of the atmosphere. And since this is not technically consistent with the understanding of space activities and space weather, the following is noted:

(a) Space can be understood as the domain of space flight. There are low-orbiting spacecraft with circular orbits as low as 130 km, which is not above the atmosphere but in the thermosphere, i.e., the atmospheric layer above the mesopause;

(b) Important space weather processes are occurring in the part of space near the Earth called the “geospace”, which includes, in particular, the ionosphere, overlapping with the thermosphere. The geospace is defined by the World Meteorological Organization (WMO) as a region of outer space including the upper atmosphere.

It is noted that the upper atmosphere is defined in the International Meteorological Vocabulary (WMO N°182) as the part of the atmosphere above the mesopause (around 80-90 km). However, the International Meteorological Vocabulary does not include a definition of “space”.

It would thus be consistent to consider that “space” is not “above the atmosphere”, but rather includes the upper atmosphere.

The following definition of “space” is therefore recommended by WMO:

Space: The unlimited part of the universe including the upper atmosphere and extending above the atmosphere.

This definition was adopted by the sixteenth session of the WMO Commission for Basic Systems (CBS-16, 2016); the sixty-ninth session of the WMO Executive Council (EC-69, May 2017) will be invited to accept this definition for inclusion in WMO regulatory material.