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**Committee on the Peaceful  
Uses of Outer Space  
Scientific and Technical Subcommittee  
Fifty-eighth session  
Vienna, 19–30 April 2021****Draft report****IV. Matters relating to remote sensing of the Earth by satellite,  
including applications for developing countries and  
monitoring of the Earth's environment**

1. In accordance with General Assembly resolution [75/92](#), the Subcommittee considered agenda item 6, entitled “Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment”.
2. The representatives of Canada, China, Colombia, India, Indonesia, Iran (Islamic Republic of), Israel, Japan, Kenya, Mexico, the Russian Federation and the United States made statements under agenda item 6. During the general exchange of views, statements relating to the item were also made by representatives of other member States.
3. The Subcommittee heard the following scientific and technical presentations:
  - (a) “Summary, achievements and major results of the ‘PRISMA Mission and beyond’ workshop”, by the representative of Italy;
  - (b) “Space-based data and the fight against illegal fishing”, by the representatives of Canada;
  - (c) “The current and future applications of thermal infrared remotely sensed data for global warming studies”, by the representative of the Islamic Republic of Iran.
4. In the course of the discussions, delegations reviewed national, bilateral, regional and international programmes on remote sensing, in particular in the following areas: land use and land cover monitoring; natural resource management; monitoring of forests and wildfires; detection of illegal fishing; monitoring of oil pipelines and illegal extraction; monitoring of protected marine areas and marine species; environmental monitoring; monitoring of the atmosphere, greenhouse gases and air pollution; urban planning; disaster management support; tele-health and epidemiology; watershed monitoring and development planning; irrigation infrastructure assessment; agriculture, horticulture and crop production forecasting; snow and glacier monitoring; and monitoring of oceans, glacial lakes and other water bodies.



5. Some delegations expressed the view that remote sensing of the Earth was important for advancing the Sustainable Development Goals. The integration of Earth observation data with statistical data systems could serve the compilation of Sustainable Development Goal indicators.
6. Some delegations expressed the view that remote sensing served the monitoring of the impact of COVID-19 and that platforms for sharing data derived from Earth observation were relevant and useful.
7. Some delegations expressed the view that, while national remote sensing activities and missions were conducted primarily for governmental purposes, providing open and cost-free access to data and images, as well as direct satellite downlinks, to international partners, encouraged and promoted the use of remote sensing technology applications to support societal and commercial development.
8. Some delegations mentioned the importance of capacity-building initiatives in improving, expanding and facilitating access to information and data obtained from activities involving the use of remote sensing. In that regard, the role of web-based educational solutions was emphasized.
9. The Subcommittee noted the continued support for the activities of the Committee on Earth Observation Satellites (CEOS), and also noted that ISRO had served as Chair of CEOS for 2020. The Subcommittee further noted the continued support for the activities of the Group on Earth Observations.

#### **XIV. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union**

10. In accordance with General Assembly resolution [75/92](#), the Subcommittee considered agenda item 16, entitled “Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union”, as a single issue/item for discussion.
11. The representatives of China, India, Indonesia, Iran (Islamic Republic of), Kenya, the Netherlands, Pakistan, the Russian Federation and South Africa made statements under agenda item 16. The observer for ITU also made a statement. During the general exchange of views, statements relating to the item were made by representatives of other member States.
12. In accordance with the invitation extended by the Subcommittee at its fifty-seventh session, in 2020 ([A/AC.105/1224](#), para. 250), the observer for ITU presented a report concerning the contribution of ITU to the peaceful uses of outer space, including the use of the geostationary satellite orbit and other orbits. In that connection, the Subcommittee took note with appreciation of the information provided in the annual report for 2020 of the Radiocommunication Bureau of ITU on the use of the geostationary satellite orbit and other orbits (see [www.itu.int/en/ITU-R/space/snl/Pages/reportSTS.aspx](http://www.itu.int/en/ITU-R/space/snl/Pages/reportSTS.aspx)), as well as other documents referred to in conference room paper A/AC.105/C.1/2021/CRP.13. The Subcommittee invited ITU to continue to submit reports to it.
13. Some delegations expressed the view that the geostationary orbit was a limited natural resource that was at risk of becoming saturated, thereby threatening the

sustainability of space activities in that environment; that its exploitation should be rationalized; and that it should be made available to all States, under equitable conditions, irrespective of their current technical capabilities, taking into particular account the needs of developing countries and the geographical position of certain countries. Those delegations were also of the view that it was important to use the geostationary orbit in compliance with international law, in accordance with the decisions of ITU and within the legal framework established in the relevant United Nations treaties.

14. Some delegations expressed the view that the geostationary orbit was an integral part of outer space and possessed strategic and economic value for States, and that it should be used in a rational, balanced, efficient and equitable manner, so as to ensure that it would not be saturated. The delegations expressing that view were also of the view that, in the interests of developing countries, and equatorial countries in particular, the geostationary orbit should be regulated under a special legal framework or sui generis regime, in line with article 44 of the ITU Constitution.

15. Some delegations expressed the view that the utilization by States of the geostationary orbit on a “first come, first served” basis was unacceptable and that the Subcommittee, with the involvement of ITU, should therefore develop a regime guaranteeing equitable access to orbital positions for States.

16. Some delegations expressed the view that the geostationary orbit, as a limited natural resource clearly in danger of saturation, must be used rationally, efficiently, economically and equitably. That principle was deemed fundamental to safeguarding the interests of developing countries and, in particular, countries with a certain geographical position, as set out in article 44, paragraph 196.2, of the Constitution of ITU, as amended by the Plenipotentiary Conference held in Minneapolis, United States, in 1998. The delegations expressing that view were also of the view that the geostationary orbit should be governed by a special legal framework with the purpose of defending the interests of developing countries, in particular equatorial countries.

17. Some delegations expressed the view that, while future mega-constellations of satellites would bring about new approaches to the establishment of nationwide telecommunication networks, for some States, geostationary satellites would continue to be irreplaceable, owing to the special geographical conditions in which they operated, and hence there was a need to preserve the geostationary orbit region. The active development of such mega-constellations would also create a number of significant problems, such as radio frequency interference and overpopulation of orbits, and thus the matter should be expediently addressed by States, within both ITU and the Subcommittee.

18. The view was expressed that it had become difficult for new space actors to obtain proper orbit and frequency rights for locations in the geostationary orbit, owing to the high saturation of that orbit. The delegation expressing that view was also of the view that the use of the geostationary orbit was not the only way to obtain access to space; such access could also be gained by obtaining international orbit and frequency rights from ITU to operate in low Earth orbit or any other orbit where significantly fewer activities involving the development and operation of spacecraft took place, in comparison with the geostationary orbit. Therefore, the Subcommittee should, at future meetings, broaden the scope of the current agenda item to include the low Earth orbit and other orbits.

19. The view was expressed that, despite the numerous and repeated concerns expressed over the years by member States under the agenda item relating to the use of the geostationary orbit, to date, the Subcommittee had not developed any practical solutions to address those concerns. It was therefore not sufficient to merely note or record those concerns, and the Subcommittee needed to take serious action towards a practical solution. In that regard, the delegation expressing that view drew the attention of the Subcommittee to the fact that, under the current regime for the utilization of the geostationary orbit, there were no specific criteria for ensuring equitable access to it for all States. The delegation expressing that view therefore

made a proposal to the Subcommittee to establish a sub-item under the agenda item relating to the use of the geostationary orbit, dedicated to the analysis of the current status of the utilization of the geostationary orbit from the perspective of equitable access, in order to identify deficiencies in the current regime regulating its use. The establishment of such a sub-item would give countries, in particular developing countries, an opportunity to elaborate on why the equitability of access to the geostationary orbit was in question, and why the current regime was not capable of ensuring such access. Although the matter clearly fell under the competence of the ITU Radiocommunication Sector, nothing prevented the Subcommittee from actively contributing to the resolution of the problem and offering practical solutions. The views of that delegation were also more broadly elaborated in conference room paper A/AC.105/C.1/2021/CRP.26.

20. The view was expressed that the decisions relating to the geostationary orbit taken at the World Radiocommunication Conference 2019 (WRC-19), held in Sharm el-Sheikh, Egypt, from 28 October to 22 November 2019, would contribute to the realization of the key principle, namely, equitable access to the orbital and frequency resources of the geostationary orbit for all interested members of ITU, as well as allow the efficient use of those resources, taking into particular account the needs and interests of developing countries.

21. Some delegations expressed the view that, in order to ensure the sustainability of the geostationary orbit, as well as to ensure guaranteed and equitable access to the geostationary orbit based on the needs of all nations, taking into particular account the needs and interests of developing countries, it was necessary to keep those issues on the agenda of the Subcommittee and to explore them further, through the creation of appropriate working groups and legal and technical intergovernmental panels, as necessary.

## **XV. Draft provisional agenda for the fifty-ninth session of the Scientific and Technical Subcommittee**

22. In accordance with General Assembly resolution [75/92](#), the Subcommittee considered agenda item 17, entitled “Draft provisional agenda for the fifty-ninth session of the Scientific and Technical Subcommittee”.

23. The Subcommittee noted that the Secretariat had scheduled its fifty-ninth session to be held from 7 to 18 February 2022.

24. The Subcommittee agreed that the following items would be proposed to the Committee for inclusion in the agenda of the Subcommittee at its fifty-ninth session:

1. Adoption of the agenda.
2. Election of the Chair.
3. Statement by the Chair.
4. General exchange of views and introduction of reports submitted on national activities.
5. United Nations Programme on Space Applications.
6. Space technology for sustainable socioeconomic development.
7. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth’s environment.
8. Space debris.
9. Space-system-based disaster management support.
10. Recent developments in global navigation satellite systems.

11. Space weather.
12. Near-Earth objects.
13. Long-term sustainability of outer space activities.
14. Future role and method of work of the Committee.
15. Use of nuclear power sources in outer space.  
(Work for 2022 as reflected in the extended multi-year workplan of the Working Group on the Use of Nuclear Power Sources in Outer Space (see para. [...] of, and annex [...], para. [...], to, the present report))
16. Space and global health.  
(Work for 2022 as reflected in the multi-year workplan of the Working Group on Space and Global Health ([A/AC.105/1202](#), annex III, para. 5 and appendix I))
17. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.  
(Single issue/item for discussion)
18. Draft provisional agenda for the sixtieth session of the Scientific and Technical Subcommittee.
19. Report to the Committee on the Peaceful Uses of Outer Space.

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