

## Outer Space — Rights and Resources

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- Overview
  - Treaties began developing in 1967 with the Outer Space Treaty. Space largely governed by treaties and customary international law. Space exploration today is no longer limited to the U.S. and Russia. China, EU, India, Israel, and other countries are also pursuing projects.
  - Space resource mining and extraction. Legal issues related to resource ownership, particularly if private enterprise is involved.
  - Development of space tourism. Increased commercialization and privatization in space in recent decades.
  - Militarizing of space.
  
- Major treaties
  - 1967 Outer Space Treaty — Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies<sup>1</sup>
    - Ratified by over 100 countries.
    - General principles include:
      - Exploration and use of outer space to be carried out for the benefit of all mankind;
      - Outer space to be free for use by all States;
      - States shall not place nuclear weapons in orbit or station them in outer space;
      - The Moon and other celestial bodies to be used for peaceful purposes; and
      - States liable for damage caused by their space objects.
  
  - 1979 Moon Agreement — Agreement Governing the Activities of States on the Moon and Other Celestial Bodies<sup>2</sup>
    - Not ratified by the major spacefaring nations
    - Governs States activities on the moon and other celestial bodies in the solar system
  
  - 1968 Rescue Agreement — Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space<sup>3</sup>

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<sup>1</sup> <https://unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html>.

<sup>2</sup> <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/moon-agreement.html>.

<sup>3</sup> <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/rescueagreement.html>.

- 1972 Liability Convention — Convention on International Liability for Damage Caused by Space Objects<sup>4</sup>
- Space mining and resources
  - Increase interest in space mining and resource extraction, particularly water on the moon.
  - Outer Space Treaty prohibits countries from exercising territorial sovereignty but does not specifically mention resource mining.
    - Article 1: “The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries... and shall be the province of all mankind. Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States ... and there shall be free access to all areas of celestial bodies.”
    - Article II: “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.”
  - Varying interpretations of states’ rights under Article 1 and Article 2:
    - The outer space is global commons, “province of all mankind.” Thus, space mined resources are as well.
    - All states are entitled to outer space resources, so private enterprises in those states are also entitled to benefit.
  - Moon Agreement Article 11 provides that the resources are the “common heritage of mankind” and that its natural resources are not property of any state or entity. None of the spacefaring nations have ratified the treaty.
  - Extent to which private property rights over natural resources extraction projects are legal?
  - Drawing a parallel to international maritime laws
    - 1994 Convention on the Law of the Sea<sup>5</sup> applied the “common heritage of mankind” principle to deep seabed resources. Established international authority to manage regulatory regime and license private enterprises.
- Space tourism
  - Space tourism currently includes orbital (e.g. transport to and long-term stays in orbital facilities) and suborbital.

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<sup>4</sup> [http://www.unoosa.org/pdf/gares/ARES\\_26\\_2777E.pdf](http://www.unoosa.org/pdf/gares/ARES_26_2777E.pdf).

<sup>5</sup> [https://www.un.org/Depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf).

- Private activities are generally permissible, and responsibility largely lies with the States.
  - Outer Space Treaty Article VII: “Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty....”
  - Article VIII: “A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body.”
  
- Liability
  - With rise of commercial flights, new legal questions of liability between the commercial enterprise and passengers.
  - 1972 Liability Convention governs liability among states for damage caused by space objects. A state harmed by falling space objects may claim compensation from the launching state or the state responsible for the space activities. The launching state or the state in which the private enterprise is registered may be held liable to the injured state.
  
- Duty to rescue tourists
  - Outer Space Treaty Article V requires states to render to astronauts “all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas” and for astronauts to render assistance of astronauts of other states. The Rescue Agreement requires the same. Does this obligation extend to tourists?
  
- Weaponization and militarization in space
  - Outer Space Treaty Article IV prohibits nuclear weapons or any other kinds of weapons of mass destruction in space. Also prohibits establishment of military bases and military activities other than for “scientific research or for any other peaceful purposes.”