

**UN/Italy Workshop on the Open Universe
Initiative**

20 November 2017

Freedom of Access to Scientific Data

Prof. Sergio Marchisio
Sapienza University, Rome

OPEN UNIVERSE INITIATIVE

Freedom of access to space data: legal aspects

Space law: 2017, 50th anniversary of the Outer Space Treaty 1967

Status of UN Treaties as to 1st January 2017

105 States have ratified the OST.

ARRA: 95;

LIAB 94;

REG 63;

MOON 17

- **Basic framework :**
- **exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and be the province of all mankind;**
- **outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means;**
- **not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner;**
- **the Moon and other celestial bodies shall be used exclusively for peaceful purposes;**
- **astronauts shall be regarded as the envoys of mankind;**
- **States responsible for national space activities whether carried out by governmental or private entities;**
- **States liable for damage caused by their space objects; and**
- **States shall avoid harmful contamination of space and celestial bodies.**

In recent years, much attention on commercial uses of outer space.

But space science was at the origin of humankind's drive into space

Still is one of the main sectors where outer space activities are carried out.

Rules established to regulate space activities at the beginning of the space age reflect more the importance of basic space science than commercial applications.

Space science continues to be a driving force and a gateway to national space activities for many countries

UNGA 1996 Declaration on International Cooperation specifically mentions the need for technical assistance in promoting the development of space science

UNISPACE+50: Contribution of promotion access and use of space data to Thematic Priority 7

Open universe: expand the availability of and the accessibility to space science data, and rendering them more usable

Legal Aspects: norms and principles on the availability of and accessibility to space science data

Much has been done since the early Nineties in matter of science data and space science data

But the most important challenge regards the expansion of availability to other sectors of society such as education, and the common citizen

From the legal perspective, there are rules and principles on availability of and accessibility to Science data in general

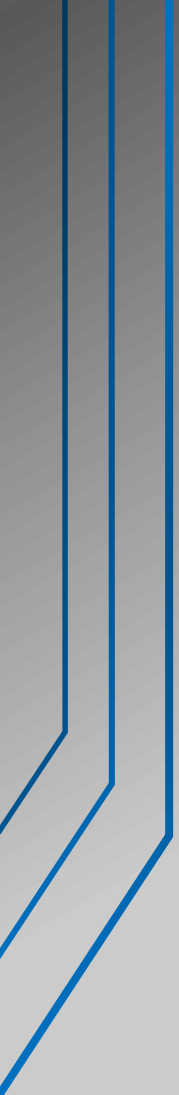
Concept of open access to scientific science data was institutionally established with the formation of the WorldData System, in preparation for the International Geophysical Year of 1957–1958

The Data Sharing Principle has been recognized in the 2004 OECD Principles and Guidelines for Access to Research Data from Public Funding

They recognize that access to research data increases the returns from public investment; reinforces open scientific inquiry; encourages diversity of studies and opinion; promotes new areas of work and enables the exploration of topics not envisioned by the initial investigators

In 2013 the G8 Science Ministers' adopted a Statement and an Open Data Charter

ii. Open scientific research data should be easily discoverable, accessible, assessable, intelligible, useable, and wherever possible interoperable to specific quality standards



**The International Council for Science established in 2008
the World Data System as an Interdisciplinary Body**

**Principles on data sharing adopted by the World Data
System of the ICSU in 2015**

**The Principles express core ethical commitments that
embody the spirit of ‘open science’ meant to unite diverse
communities of data producers and data users, and thus
could be adopted by anyone pursuing science for the public
good**

Ethical more than legal

After 50 years from the conclusion of the OST, the concept of open access, or freedom of access, to space science data has also take the form of a legal principle

Current space law recognizes and supports, through its basic principles, the open access to space science data, meaning the accessibility to and availability of space science, with some limitations

General principles can be found across many space science missions.

One of these principles, the most important of all, is that space science data should be largely and freely available

There is express reference to space science data in the UN space law : REG Convention; Remote Sensing Principles 1986

More recently, Orbital data, such as in the 2007 Space Debris mitigation Guidelines (Guideline 3: Limit the probability of accidental collision in orbit) and in the LTS proposals).

The OST refers to the results of scientific missions and to information as the outcome of such missions.

Freedom of access, Open availability derived from Articles I and XI of the OST

OST Article XI is relevant with respect to the issue of open space science data because

it aims at promoting international cooperation in the peaceful exploration and use of outer space;

it commits States parties conducting activities in outer space, including the Moon and celestial bodies, to inform the SG of the UN as well as the public and the international scientific community of the nature, conduct, locations and results of such activities, to the greatest extent feasible and practicable; so it is a commitment, even if it is not an absolute, but that can be subject to limitations of various kind;

Finally, art. XI establishes that in receiving such information the SG should be prepared to disseminate it immediately and effectively.

From articles I and XI of the OST we can assert an obligation on any State to share the benefits deriving from the scientific investigation of outer space

At the regional level, the principle of free availability of scientific data is of such importance that it was eventually reflected in high-level legal documents.

Convention ESA

Article III

INFORMATION AND DATA

Limitations

Other elements of the practice

The International Planetary Data Alliance (IPDA, In 2008, a COSPAR resolution made the IPDA an official body to set standards around the world regarding the archiving of planetary data) has adopted guidelines to be considered when developing a Memorandum of understanding for international planetary missions.

Bilateral MOUs and other instruments of the same kind concerning scientific space missions, contains clauses on “rights in and distribution of data” giving to selected investigators access to scientific data

There are provisions on IPR and finally clauses on the release of results and public information

Conclusions with regard to space science data

Some legal principles are consolidated at the international level:

First, space science data, products, and information should be openly shared, subject to national or international laws and policies, including respecting appropriate extant restrictions.

Second, space science data, products, and information produced for research, education, and public-domain use should be made available with minimum time delay and for no more than the cost of dissemination, which may be waived for lower-income user communities to support equity in access.

Third, space science data should be made available for use on the least restrictive basis possible.