

## EYES IN THE SKY OR BIG BROTHER

# Legal Aspects of Geospatial Data-gathering in Space

This article presents a first overview of the legal issues involved in geospatial data-gathering in space. Matters of security and privacy must be resolved within a legal framework if satellite remote sensing is to achieve the status of “Eyes in the Sky”™ for the benefit of mankind rather than a “Big Brother”™ serving limited national purposes.

Among methods of gathering geospatial data, the use of satellites (remote sensing, earth observation) is a particularly interesting one in view of its global coverage. In this area there have recently been a number of interesting developments, such as rapidly evolving plans for Global Monitoring for the Environment and Security (GMES), very much focused on such use of geospatial data. These developments raise a number of legal issues which should be tackled and solved.

### Role of Space Law

The observation of the earth, including its oceans and atmosphere, has long been viewed as one of the major benefits of space activities by human beings. Its applications have widened, in particular over the last two decades, from largely strategic (“spying”™) to a wide variety of uses: agricultural development, mining, industrial and urban development, environmental controls, monitoring of arms and disarmament treaties up to and including, with a rapidly growing level of resolution of data available on the open market, the use of geographical information systems. In view of the novelty of the use of satellite data, however, there has yet been as little dedicated and focused legal regulation, and as a consequence the international legal environment for the use of space data shows a rather fragmented picture. Some rules and principles exist at international level, often ill-defined and leaving room for conflicting interpretations. Others are confined to certain national territories, types of activity or even types of natural or legal persons. In still other cases no specific applicable rules or principles can be found at all.

### 1967 Outer Space Treaty

The basic legal framework for all space activities is provided by the 1967 Outer Space Treaty, to which all important spacefaring nations are party. Most importantly, Article I provides for freedom of exploration and use of outer space by all states, including for satellite remote sensing. Article II further provides for the principle of non-appropriation by any single state of outer space. Taken together, both Articles thus make clear that any limit to freedom of exploration and use can be established only at international level, i.e. by the community of states via treaty provisions or, as the case may be, customary international legal rules. Finally, Article III provides for the application of general international law to outer space, in particular establishing that general principles such as that of freedom of information-gathering applies also to outer space.

### UN Resolution 41/65

The United Nations Declaration on Principles Relating to Remote Sensing of the Earth from Outer Space, Resolution 41/65, adopted on 3rd December 1986, sets out the main legal principles specifically pertinent to remote sensing. Resolutions passed by the UN General Assembly do not per se constitute binding legal documents; however, they may over time evolve into reflections of customary international law. Resolution 41/65 was adopted by consensus, and in any case UN General Assembly Resolutions carry considerable weight in the political/moral sphere, so that this Resolution may indeed be considered customary law. In terms of obligations binding on states concerned, Principle X lays down the need for states to convey relevant information regarding threats to the “Earth”™s natural environment” to other states concerned; and Principle XI calls upon states in the possession of relevant information regarding natural disasters to duly inform other states concerned. Principle VIII furthermore envisages a key role for the United Nations: it “shall promote international co-operation, including technical assistance and co-ordination in the area of remote sensing”.

### Access to Data

The key Principles contained in the Resolution deal with the issue of access to data gathered by remote sensing activities for land-use purposes, in particular, of course, by states other than the one(s) generating the data in the first place. Here, Principle IV provides for the conduct of activities on the basis of respect for the sovereignty of so-called “sensed states”™. Principle V calls for offering opportunities of co-operation to sensed states and Principle VII requires so-called “sensing states”™ to make technical assistance available to other interested states on mutually agreed terms. Most importantly, however, Principle XII provides for a right of access by the sensed state to data concerning its territory “on a non-discriminatory basis and on reasonable cost terms”. Whilst these two qualifications already allow for considerable flexibility for sensing states ultimately to disallow sensed states access to certain data, it is also clear that the sensed state has no right of precluding its territory from being sensed, nor any right of exclusive, or even priority access to such data. In the last resort, freedom of information-gathering has thus prevailed over a principle of sovereign control over data regarding one’s™ own territory.

### Survey Legal Details

The above framework, being very general, already raises a number of legal issues at the highest level when it comes to applying it to the "real world" of satellite earth observation. Two of these will be briefly touched upon as generic issues requiring treatment before moving on to legal details. Such details would namely also involve particular intellectual property rights issues pertaining to satellite data (copyrights!), compensation for damage caused by erroneously interpreted data, the potential value as evidence in court cases and a number of other matters, all involving specific legal regimes and questions which are clearly beyond the scope of this article. The two "real world" issues concern international responsibility and liability, respectively in specific cases of involvement of intergovernmental organisations and private entities as categories of players additional to that of the states. Firstly, under Article VI of the Outer Space Treaty states are responsible for "national activities in space", even if conducted by "non-governmental entities", and for ensuring that these activities conform with the law. Secondly and along similar lines, under Article VII of the Outer Space Treaty and the 1972 Liability Convention states are specifically liable for damage caused by space objects. Both are, therefore, clearly focused on states as "undertakers" of space activities, a focus which made sense historically but is increasingly subject to discussion.

#### The role of IGOs

The role of intergovernmental organisations results in some particular ramifications of responsibility and liability. As to state responsibility, it also applies "when activities are carried on in outer space (â€) by an international organisation", although in such cases jointly with the responsibility of the international organisation itself. States are to resolve any practical questions arising in this connection. As a consequence, member states of intergovernmental organisations are effectively prevented from hiding behind these organisations in the case of their earth-observation activities violating applicable rules of international law; it is their duty and responsibility to ensure that the organisations themselves do not undertake any such violating activities.

As to liability, under the 1972 Liability Convention intergovernmental organisations equally enjoy a secondary status effectively allowing them to qualify to some extent as liable entities, and a similar construction under the 1975 Registration Convention allows them to themselves register satellites and exercise concomitant competencies over them. The European Space Agency (ESA) actually enjoys the relevant status, as it has deposited relevant Declarations in respect of both Conventions, but for most organisations any liability would revert directly to individual member states.

#### Private Entities

When it comes to possible involvement of commercial and/or private entities in relevant activities, particular issues arise on the point of (national) licensing and certification. Essentially, both state responsibility and state liability also arise for privately conducted space activities. Hence there is a need for national legislation to implement on a domestic level any relevant international obligations. So far only a handful of states have actually established such more or less comprehensive space legislation. In varying degrees of detail and elaboration, this applies to the United States, Norway, Sweden, the United Kingdom, Russia, South Africa, the Ukraine, Australia and Brazil, as well as Hong Kong as Special Administrative Region within the People's Republic of China. In addition, states such as Argentina, Canada, France and Japan have in place national legislation which comes close to but does not yet really provide for proper control over private space activities conducted within their respective jurisdictions. A still larger number of states remain, however, so far without any transparent and coherent domestic legal means to control and monitor relevant private activities. A lot of work remains to be done in this area.

#### Final Remarks

A rudimentary legal framework can be discerned (certainly as far as the international level is concerned) providing a very limited set of parameters for any activities involving satellite data. Whilst at national level, in particular when it comes to private-sector involvement, much more detailed regimes sometimes apply, questions automatically arise as to the consequences of applicability to any international space-related issue such as the use of satellite data. As of yet "legal practice" hardly exists in this sphere, which does not even allow us a solid evaluation of the various consequences of applicability (or not) of the legal regimes which do exist. How, for example, should liability be approached and dealt with in the difficult and differing context of the various options for use of satellite data? How should balance be established between the right of owners to do with the data as they see fit and the interests of other states? These and many other questions will have to be solved if we are to ensure that satellites behave like "Eyes in the Sky" rather than as "Big Brothers".

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