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The use of satellite data in international litigation. New
developments and applications

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PART ONE

As technology develops in the field of remote sensing new legal issues continue to surface and others remain outstanding, sometimes on their way to practical solutions.

First, the yet unresolved question of 'Satellite Data in International and National Litigation' and its value as evidence in court, particularly where sensitive issues involving international boundary disputes are concerned.

PART ONE (cont.)

- Secondly, the effectiveness of Earth Observation Satellites (EOS) for treaty behaviour, verification and arms control and, particularly, in the field of international environmental law, all of them now in the limelight.
- Thirdly, the confrontation of freedom of information and the protection of privacy, and other recent applications which call for a more precise legal framework in view of the far-reaching scope and implications of modern technologies.

The background

- The Frontier Dispute (Burkina Faso – Mali, 1986).
- The problem became evident within the ICJ, PCA and other international courts and tribunals in the nineties.
- International boundary and territorial disputes (Brownlie, lecture at D J Freeman, London 2000).
- The BIICL Project on Earth observation in the legal sector (London 2001).
- The first decade of the new millennium. The doctrine.
- The generally accepted conclusions, still valid today and discussed, *inter alia*, at the UN/Argentina Workshop on Space Law in 2012 and the Seventy-Fifth ILA Conference, Sofia 2012, as follows.

Conclusions and recommendations (still valid in 2014)

- 1 The point of substance is that, unlike traditional photography where changes or manipulations are easy to establish, data collected by remote sensing technologies may be manipulated with no possibility of detecting *ex post facto* changes.
- 2 For that reason, strict control of the whole process of data collection and interpretation is essential, from the moment the data is obtained (as raw data which, as such, cannot be modified) until it becomes an end product for submission to court.

Conclusions and recommendations

- 3 An international body should be in charge of, and made responsible for, the accreditation and certification of satellite data. Authentication, in this context, is a key word together with capacity building.
- 4 Following a traditional practice, in other legal areas, it is recommended to have a list of experts of international prestige from which the parties to a dispute and judges/arbitrators may be able to choose.

Conclusions and recommendations

- 5 A helpful step would be the sealing of archives containing the raw data once collected, and to which it would always be possible to return in controversial situations.
- 6 The training of the legal sector (capacity building) in the development of these technologies is first priority given the current unawareness as to what this technology can offer and its limitations.

Conclusions and recommendations

7 The issues surrounding satellite data in international litigation, and their development, should be kept under permanent review with particular emphasis on the production of satellite data in international boundary disputes where sensitive situations arising from claims of sovereignty are more likely to occur. Satellite data in court should be given a more positive spin so as to benefit from its precision in every possible field.

So far Part ONE of this paper.

PART TWO

THE USE OF SATELLITE DATA NEW DEVELOPMENTS AND APPLICATIONS 2012-2014

At this stage the aura of suspicion surrounding the use of satellite data in court -which streamlined the previous years in the field of international boundary disputes- began to subside and its use as evidence became a matter of routine. In general, there was more awareness of space technologies, their possibilities and limitations.

Evidence from Earth Observation Satellites (Nijhoff 2013), a book covering a variety of questions on the use of satellite data in international litigation, paved the way for addressing new developments and emerging issues, as follows,

New developments (Cont.)

- **Freedom of information and the protection of privacy** in the present international scenarios where concern was shown regarding the power of far-reaching space technologies, such as Google Earth.
- **The use of satellite data for verification** in areas affected by natural disasters and to control treaty behaviour in a variety of fields such as arms control, water management and space crisis management -a topic on which The Royal Institute of International Affairs (Chatham House London) has been very active during 2014.
- **Sea level rise**, a new issue on the agenda of the International Law Association (ILA) addressing the importance of space technology to measure the impact of this natural catastrophe.

Freedom of information and the protection of privacy

- **Privacy** is expected to continue as a central issue taking different shapes as technology advances. The challenge is to strike an acceptable balance between freedom of information and the protection of privacy in the changing landscapes of today.
- A recent trend is perceived in court decisions whereby freedom of the press is sometimes overridden by the need to protect privacy (The Times, London, 21-04- 11, p.2) in response to a call for further protection of privacy in the current international context.

Treaty behaviour and space crisis management

- **Space crisis management** is highly dependent on space technology. The existing space law is not prepared to meet the current challenges as they involve threats before, during and after they have occurred (Guoyu Wang, Chatham House Seminar on 22 July 2014, London).
- It is important to prepare the field for compromise where international cooperation has a major role to play, especially in the areas of space security and cyber security which, to a great extent, are using space technologies.
- Questions emerging from terrorism and counter terrorism, and challenges surrounding recent drone technology, as an unexpected threat from non-state actors and now becoming more accessible to the civilian sector. These problems are not being fully analysed by security experts today.

Sea level rise

- **Sea level rise** is an entirely new topic on the agenda of the ILA. The Committee's first working session took place during the ILA 76th Conference, Washington DC, in April 2014. This topic is extremely dependent on the use of satellite data.
- Moreover, the current thinking is that sea level rise may call into question the entire architecture of the maritime zones under today's law of the sea.

Questions addressed on sea level rise

- The objective of the ILA is to study the possible impacts of sea level rise and the implications, under international law, of partial and complete inundation of state territory, or depopulation thereof, in particular of small islands and low-lying states.
- Furthermore, the ILA is involved in the study of proposals for the development of international law in relation to the possible loss of all or of parts of state territory and maritime zones due to sea level rise, including the impacts on statehood, nationality, and human rights (ILA Committee's terms of reference).

Latest developments in the use of satellite data

The '*Space Detective Agency*'

Recent developments in space technologies now provide greater opportunities to see back in time and to use space images as evidence. A 'space detective agency' called *Air and Space Evidence* -possibly one of the first in the world- was set up in the UK last October to use satellite data as evidence in legal and insurance cases. The idea of its founders is to bridge the link between satellite imagery and the law, combining expertise and legal knowledge on EOS.

Latest developments in the use of satellite data

The 'Space Detective Agency'(Cont.)

The objectives of this newly-created private institution are, among many others, to interpret satellite imagery and provide advice on the management, control and authentication of satellite data to be used as evidence anywhere in the world.

Moreover, it is prepared to give professional advice on the implications of privacy legislation and data policy issues and the assessment of the correct technical procedures applicable to earth observation data, including the appearance as expert witnesses in court.

Information kindly provided by one of its founders, Ray Purdy, member of the ILA Space Law Committee (October 2014).



Special thanks!