Legal aspects of satellite monitoring for the compliance and enforcement of environmental law

Prof. Dr. Frans G. von der Dunk
University of Nebraska-Lincoln, College of Law
Roadmap

1. Space law
2. International environmental treaties
3. European Union law
   1. On the environment & environmental information
   2. On database protection/IPR & privacy issues
4. European Convention Human Rights
5. Role GMES
1. Space law (1)

1. Outer Space Treaty (1967)

- Freedom of activities in space – incl. EO (Art. I)
  - Further to freedom of information gathering & distribution as specific human right

- Limits to such freedoms only as per international agreement
  - Outer space does not belong to any state! (Art. II)
  - Airspace, where national sovereignty applies
  - Boundary question…
    - Customary international law: slight tendency of convergence on 100 km as appropriate boundary
1. Space law (2)

2. UN Resolution 41/65 (1986)
   - Not binding as such ↔ adopted by consensus
   - "For the purpose of improving natural resources management, land use and the protection of the environment" (# I(a))
   - Confirms freedom of remote sensing (# IV)
   - "For the benefit and in the interests of all countries" (# II)
   - In accordance with international law (# III)
   - International cooperation & UN (## V-VIII)
1. Space law (3)

2. UN Resolution – ctd.

- States shall make relevant information available “to the greatest extent feasible and practicable to any other State” (# IX)

↔ No obligation of ‘prior consent’ underlying state, or even preferential right to data: “access on non-discriminatory basis and on reasonable cost terms” to primary & processed data; same for ‘analysed information’ (# XII)

- Allows e.g. for ‘discrimination’ between participants to remote sensing operation & others
1. Space law (4)

2. UN Resolution – *ctd.*

- “Remote sensing shall promote the protection of the Earth’s natural environment” → if info exists capable of averting harm to environment, such info shall be disclosed to states concerned – without fee (# X)

- “Remote sensing shall promote the protection of mankind from natural disasters” → if info exists useful to states affected by natural disasters, such info shall be transmitted as promptly as possible – without fee (# XI)
2. Environmental treaties (1)

- General approach:
  - Establish general parameters of allowable emission / pollution – or prohibit altogether
  - Sometimes liability regime established
  - Establish system of monitoring, possibly some sort of dispute settlement
    - Reference to non-interference with National Technical Means for verification – including satellites
    - Issues of satellite data as (contributory) evidence
      - Familiarity trust courts & tribunals with technology
      - Trustworthiness of data
2. Environmental treaties (2)

- To-do’s (?)
  - Standardise data sets
  - Create audit trail solutions
  - Learn from experience with arms control treaties
    - Mutual obligations not to interfere with NTM including satellites
  - Expand NTM to ITM
  - Dedicate satellites to the task at hand (...!)
  - Establish (technological expertise with) dispute settlement system
3. European Union law (1)

1. On environment & information
   
P.M.: EU law on environment

  
  - “Infrastructure for Spatial Information in the European Community” (now Union)
  - Focus here on terrestrial infrastructure distribution data
  - Obligations EU m/s to liberalise & harmonise access to spatial data available in order to promote as unrestricted & extensive access to spatial data as possible
3. European Union law (2)

  - Scope: electronic spatial data held by public authority on area where m/s has jurisdiction if on e.g. environmental parameters (Art. 4)
  - Obligation to provide metadata (Art. 5) & info:
    - On conformity with Directive
    - On conditions applying to access & use, & fees (if any)
    - On quality & validity of data sets
    - On responsible public authorities
    - On any limitations to public access & reasons
3. European Union law (3)

  - Interoperability of data to be progressively realised by procedural means (Artt. 7-10)
  - Necessary networks & their operations have to be established / guaranteed (Art. 11)
  - Availability search & view services for free (Artt. 11(1), 14(1))
  - Availability other services via e-commerce should be offered if otherwise fees are charged (Artt. 11(1), 14(4))
3. European Union law (4)

■ INSPIRE Directive – *ctd.*

➢ Limited derogations possible (Art. 13)
  ◆ Obligatory confidentiality
  ◆ International relations, public security, national defence
  ◆ Criminal or other disciplinary procedures
  ◆ Confidential commercial / industrial information
  ◆ Intellectual property rights (IPR)
  ◆ Confidentiality personal data (ref. ‘privacy’)
  ◆ “*The protection of the environment to which such information relates, such as the location of rare species.*”

Legal aspects of satellite monitoring for environment law
3. European Union law (5)

2. Database protection (IPR) & privacy issues

- Database protection & remote sensing
  - Need to protect ↔ copyrights not (always) considered appropriate
    - E.g. need for ‘creativity’; applicability to whole ‘product’
    - National differentiation contents national regimes
  - European Commission study
  - Need for a specific right to protect databases incl. remote sensing databases, EU-wide & harmonised
3. European Union law (6)

- Directive ‘On the legal protection of databases’ (96/9/EC)
  - Sui generis right of protection
    - Special version of copyright, essentially
    - Mandatory inclusion in national law
    - Applies to nationals EU m/s & databases ≈ generated on EU m/s territory (Art. 11)
    - Individual accessibility & investment required
    - Extraction right & re-utilisation right (Art. 7)
      - Resting with database creator alternatively owner

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3. European Union law (7)

- Privacy issues in economic context
- Data Protection Directive (95/46/EC)
  - EU m/s shall protect human rights to privacy
  - EU m/s shall in principle neither restrict nor prohibit free flow personal data if that unduly interferes with Internal Market & competition
- Overarching aim to provide equivalent protection
- Relevance for remote sensing environmental purposes depends essentially on resolution!
3. European Union law (8)

  - Personal data = any info relating to identified or identifiable individual, incl. by reference to physical, physiological, mental, economic, cultural & social identification factors
  - Artt. 6, 7: may be collected & processed, if:
    - Processed fairly & lawfully; collected for specified, explicit & legitimate purposes, & accurate
    - ‘Data subject’ has unambiguously consented
    OR  Processing is necessary for purposes specified by law / as a consequence of legal obligations
3. European Union law (9)

  - Art. 11: if not obtained from data subject itself:
    - Data subject has to be informed of processing data & substance thereof, of identity data controller & of rights of access & rectification
  - Art. 8: no processing certain data (‘too personal’)
  - Art. 11: no prohibitions if for statistical / historical / scientific purposes
  - Art. 3: no prohibitions if for public & state security, defence, & criminal law purposes
  - ... Meaning *national* restrictions may still apply!

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3. European Union law (10)

- Regulation 45/2001
  - Applies Directive 95/46/EC specifically to EU & EU institutions ➔ possible role EU in GMES …?

- Directives 97/66 & 2002/58
  - Deals with privacy issues specifically in context of telecom services ➔ role publicly available / accessible telecom infrastructure

- Decisions 2001/497 & 2002/16
  - Deals with extra-EU application (…)

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4. ECHR (1)

- European Convention on Human Rights (1950)
  
  *Note: EU & its member states also bound*

- Art. 8 provides prohibitions on interference with privacy by public authorities

- Case law has ‘extended’ scope of this clause
  
  - *Petty case*, 2002: ‘Positive obligation’ public authority: not only refrain itself, also ensure adherence to privacy protection by individuals within their jurisdiction
  
  - *Colas Est case*, 2002: Rights also extend to legal persons (companies)
4. ECHR (2)

- Relevant once satellite data are of sufficient resolution to allow identification persons – or companies
  - Case law on ‘nuisance’, ‘intrusion’ – national
  - Possible exceptions:
    - “In accordance with the law and as necessary in a democratic society for the national security, public safety or economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights & freedoms of others.”
5. Role GMES (1)

- 2001: political decision
  - Independent European capability in EO
  - Global Monitoring Environment & Security
    - Decision-support system
    - Optimising use current EO systems – ESA, EUMETSAT, 3rd state systems, even private systems

*Note: Not only satellite data!*

- As far as space: multi-satellite project
  - To be financed & run jointly by ESA & EU
  - Focus on applications, serving major public interests

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5. Role GMES (2)

State of play

- Communication 10/XI/2005
  - Introduces fast track services
- So far no proper legal bases / EU law
- 2008: Commission-ESA Delegation Agreement to build 1st segment GMES Space Component
  - Sentinel-1 (2012): all-weather, day & night radar imaging for land and ocean services
  - Sentinel-2: high-resolution optical imaging for land services
  - Sentinel-3: ocean and global land monitoring services
5. Role GMES (3)

- Public infrastructure for public (i.a. security-related) purposes
  - INSPIRE-based & similar obligations to allow / maximise access ↔ interest to maximise access for some purposes, but not for others…?
  - IPR owned by public entities – used as access-limiting tool?

*Note: Role private entities upstream & downstream?*

⇒ Issues will be put in sharper contrast – & perhaps lead to GMES-specific EU law
5. Role GMES (4)

- To the extent VHR data would become involved:
  - Privacy concerns may arise
    - Whether EU Agency or autonomous operator
  - In particular also *vis-à-vis* private companies, following *Colas Est case*
  - Need may arise to defined ‘(public) security’ etc. more precisely
  - Again, issues will be put in sharper contrast – & perhaps lead to GMES-specific EU law
Concluding remarks (1)

- So far not addressed: liability issues
- No show-stoppers – but obstacles
  - Incoherence due to varying sources of law ➔ legal uncertainty
  - Lack of trust in evidentiary value
  - Difficulties in translating environmental values into legal parameters – interdisciplinary approach needed
  - Balancing other (economic / political) interests
Concluding remarks (2)

Europe: further complications resulting from multi-institutional ‘spacescape’

- EU law still best positioned to achieve measure of harmonisation internally & coherence externally
- EU best placed also to start its own sat ops

GMES may prove to be interesting booster for enhanced possibilities to use satellites for monitoring