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**International Regulatory Aspects of
Space and Climate Change**

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Outline

- Interaction between international law on climate change and law of outer space
- International regulation of outer space
 - EO to combat climate change
 - Satellite governance
 - Remote sensing
 - Access to space information and data
- Regulatory challenges
- Perspectives

Principles of International Space Law and EO

- Outer Space Treaty 1967 (OST) as *magna carta* of outer space
- Art. I: Province of mankind
- Art. I (2): Exploration and use of outer space = for benefit of all countries
 - All countries equal, irrespective of economic or scientific development
 - Art. III: Freedom of scientific investigation, includes EO
- GA Declaration 1996: goals of international cooperation to promote space technology and applications
- Existence and use of satellites for peaceful purposes legitimate

Regulatory Tool for Outer Space Regime is State Responsibility

- Of five main space treaties
 - Registration and Liability predominant (LIAB 1972, REG 1975)
 - State (agency) monitoring and mandatory registration of space objects
- Identification of space objects (liability in event of damage, return)
- Arts VI Outer Space Treaty
 - States responsible for both private and public sector
 - Duty to regulate (includes licensing RS)
- Art VII Outer Space Treaty
 - States liable for private and public sector

Traditional Liability Regimes linked to Damaging Event

- Art VII OST - States liable for damage from space objects
 - Rules on space debris mitigation
- International liability for environmental damage
 - Precautionary principle /Prevention principle /Polluter pays principle
- Inter-generational equity
- GHG = damage from persistent deterioration, not single event
- UNFCCC/ETS = internalises environmental burden
 - Cost sharing between states and industry

Information on Climate Change from Outer Space

- Information from space applications
 - Data exchange in international agreements
 - E.g. Tampere Convention (Disaster Convention) –
 - Concerted telecom resources for disaster mitigation /supply of spatial information
 - UN Convention on Access to Information 1998

Remote Sensing

- UN Remote Sensing Principles 1986
 - Not international treaty
 - Non-binding UNGA Resolution 41/65
- Principle I definition very narrow
 - Primary data; processed data; analysed information
 - Inapplicable to private players/ military
- Access to data for sensed state on non-discriminatory /reasonable cost terms
 - Recognition of sovereign rights over own geodata
- Divergences in working definitions of RS via à vis some national RS laws

EO at European and EU level

- ESA Convention 1975
 - Optional activities, including satellite systems
- EUTMETSAT Convention, amended 2000 (operating through ESOC)
 - Meteorological satellites, detection of global climatic changes
- EU competence in environmental area and transport
 - GMES (Global Monitoring for Environment & Security)
 - Galileo (Global Navigation Satellite System)
 - Extended space competences under Lisbon Treaty
- Use of EO data as evidence in legal proceedings (land use and emissions)

EO Data Access: Law and Policy

- Role of spatial information in global GIS
- Envisat Data Policy 1998
 - ESA ownership and title to use of intellectual property
 - Non-exclusive licensing scheme
 - Data distribution scheme (Category 1 and Category 2 use)
- EUTMETSAT
 - Latest Resolution on Access 2008
 - Data sets provided free to WMO members
 - Fee structure

Regulatory Dichotomy: Sovereignty and Access

- Encouraging data pooling through projects and agreements
- Effect of national space statutes limited
 - to own nationals
 - to foreigners in jurisdiction
 - or own nationals world wide
- Some statutes regulate highly sensitive data only (SatDSiG 2007)

EO Data Access - Freedom of Information on Climate Change

- Ownership and use of data
- State custodianship v open record laws (Australia v USA)
 - No copyright in data, but government 'title' to satellite conceded
 - US Landsat Programmes ('92) /Commercial Remote Sensing Policy 2003
- Europe/ EU – IPR of state agencies on products generated
 - Information, documents or records held by public authorities
 - GeoData Portal – EU INSPIRE Directive –
 - Re-use of PSI 2003; Public Access to Environmental Info 2003.

Regulatory Challenges - Small Satellites

- Increased technical capabilities of small satellite constellations
- Not yet fully registered under ITU system
- Increased capability for future
- Key tool for EO and climate change
- Compliance with national /international governance regime

Perspectives

- Satellite governance
- EO for monitoring climate change legitimate
- Space data policy implicates:
 - Increased data sharing and access
 - Cost reduction
 - Alignment of IP licensing
 - Special clauses in fp7 (right of access and use for Community purpose)
- Investment
- Space applications as key technology for future compliance with UNFCCC



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