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National Center for Remote Sensing, Air and Space Law

Informational resources on the legal aspects of human activities using aerospace technologies

Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (Disasters Charter)

**Prof. Joanne Irene Gabrynowicz
The Woodrow Wilson International Center
Washington, DC
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Disasters Charter

- **Basic concept dates back to 1970s**
 - Global Habitability Program (70s)
 - Mission to Planet Earth (80s)
 - Committee on Earth Observation Satellites (80s - 90s)
- **Charter is result of UNISPACE III proposal**
- **Purpose: promote cooperative use of facilities among space agencies and systems operators for crises by providing data and participating in emergency operations**
- **Declared formally operational 1 Nov 2000**
 - Rev.3 (25/4/2000)



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Disasters Charter

- **355 activations and responses**
- **Attempts to provide timely, critical data at no cost**
- **Activated by developed and developing nations, associated and cooperative bodies**
- **Entities building upon the Charter**
 - **Group on Earth Observations (GEO)**
 - **Global Monitoring for Environment and Security (GMES)**
 - **UN Space Technology Disaster Management (STDM)/ UN Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)**



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Members and Resources

- **European Space Agency (ESA)**
 - *ERS, ENVISAT*
- **Centre national d'études spatiales (CNES)**
- **Astrium GEO-Information Services**
 - *SPOT*
- **NSPO**
 - *Formosat*
- **Canadian Space Agency (CSA)**
 - *RADARSAT*
- **Indian Space Research Organisation (ISRO)**
 - *IRS*
- **National Oceanic and Atmospheric Administration (NOAA)**
 - *POES, GOES*
- **Argentina's Comisión Nacional de Actividades Espaciales (CONAE)**
 - *SAC-C*
- **Japan Aerospace Exploration Agency (JAXA)**
 - *ALOS*
- **United States Geological Survey (USGS)**
 - *Landsat*
- **Digital Globe**
 - *Quickbird*
- **GeoEye**
 - *GeoEye-1*

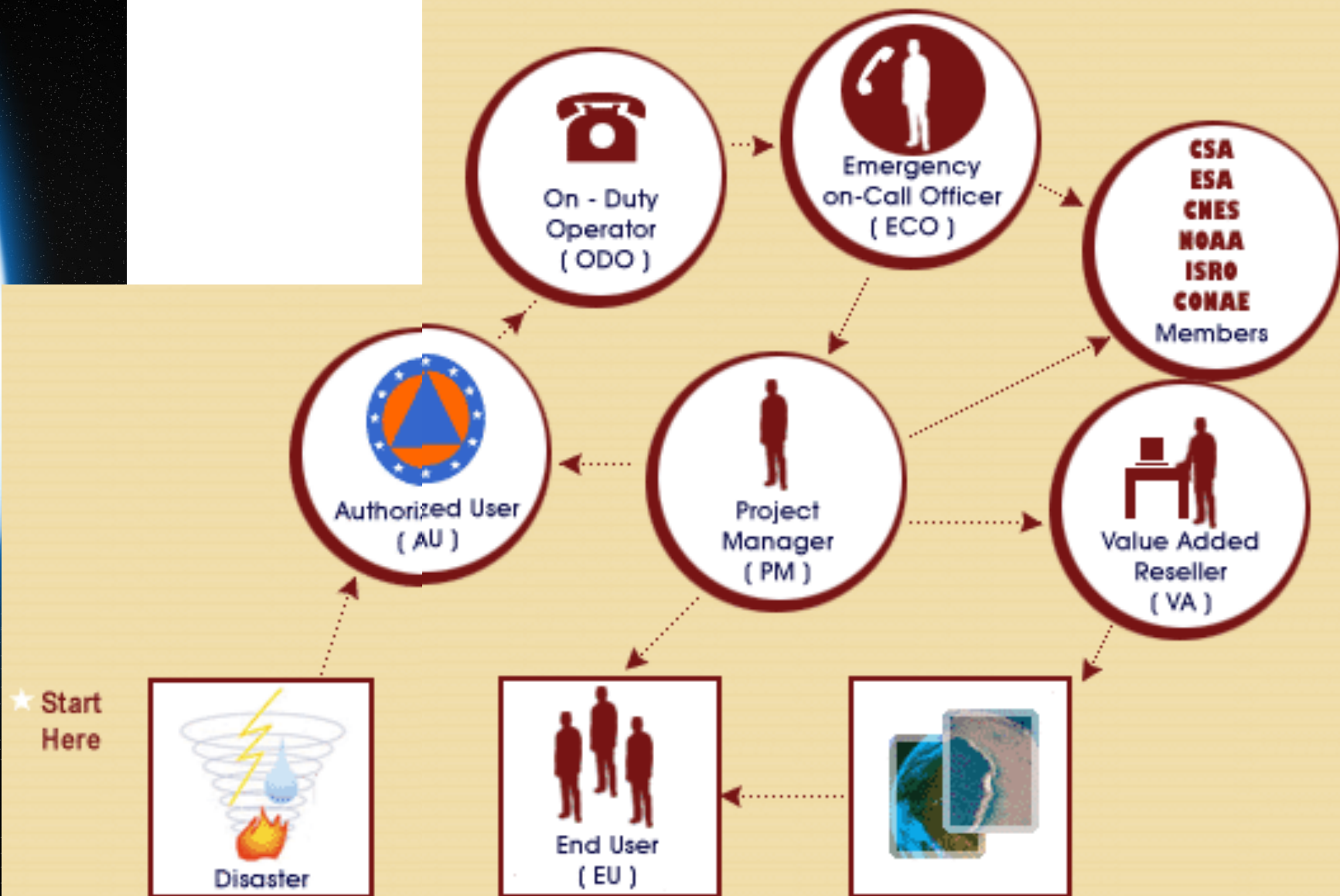


Members and Resources

- **DMC International Imaging (DMC)**
- **Centre National des Techniques Spatiales (Algeria)**
 - *ALSAT-1*
- **National Space Research and Development (Nigeria)**
 - *NigeriaSat*
- **Tübitak-BILTEN (Turkey)**
 - *BILSAT-1*
- **UK Space Agency (UK)**
 - *UK-DMC*
- **China National Space Administration (CNSA)**
 - *FY, SJ, ZY* satellite series
- **German Aerospace Center (DLR)**
 - *TerraSAR-X, TanDEM-X*
- **Korea Aerospace Research Institute (KARI)**
 - *Kompsat-2*
- **National Institute For Space Research (INPE)**
 - *CBERS*
- **European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)**
 - *Meteosat*



Disasters Charter Activation Event Sequence



Disasters Charter: Key Definitions

- **“Parties”**
 - Signatory “agencies and space system operators”
- **“Associated bodies”**
 - “rescue and civil protection, defence and security bodies or other services”
 - Under State whose jurisdiction covers agency or operator
 - ESA Member State
 - International organization that is a Party
 - Role is to request intervention of Parties
- **“Cooperating bodies”**
 - EU, UN Bureau for Coordination of Humanitarian Affairs
 - Other “recognised” governmental or nongovernmental national or international organisations



Disasters Charter: Key Definitions

- **“Beneficiary bodies”**
 - Benefits from crisis management information e.g., in affected countries
- **“Natural or technological disaster”**
 - Situation of great distress involving loss of human life or large-scale property damage
 - Natural: cyclone, tornado, earthquake, volcano, flood, fire, etc.
 - Accidents: e.g., hydrocarbon, toxic or radioactive pollution
- **“Crisis”**
 - period immediately before, during or immediately after disaster, in the course of which warning, emergency or rescue operations take place
- **“Crisis victims”**
 - any State or community for whose benefit the intervention of the parties is sought by the associated bodies



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Disasters Charter: Key Definitions

- **“Space data”**
 - Raw data
 - Gathered by space system controlled or accessed by a Party
 - Transmitted and conveyed to ground station
- **“Information”**
 - Data corrected and processed by Parties using an analysis program
 - In preparation for crisis management use by associated bodies to aid beneficiary bodies
 - Forms basis for extraction of products on location
- **“Space facilities”**
 - Space systems or elements
 - Observation, meteorology, positioning, communications, TV



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Disasters Charter: Key Aspects

- **Voluntary, no funds exchanged**
- **“Best endeavours”**
 - **“Shall” undertake to maintain up-to-date list of available facilities and descriptions**
 - Including “as far as possible” private or public operators to supplement
 - **Provide data, and “if necessary associated information and services”**
- **Operational and technical coordination**
 - **“shall be provided by a Board” and each party is represented**
 - **Executive Secretariat implements**
- **In force for 5 year periods**
 - **“shall be automatically extended”**



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Issue: Cost

- **Responses to activations can be expensive**
- **Budget impact at agency/departmental, rather than national level**
- **Agency/department makes renewable 6 month commitments for minimum amounts of imagery/data**
- **Costs can be higher for some participants than others**
 - e.g. initially SPOT was most requested data
- **Balance between agency's resources and recipient's needs**



Issue: Access

- **Raw vs processed data and/or information**
 - Obligated to deliver raw data
 - Other products “if necessary”
 - Activation very often triggers service needs beyond data acquisition and distribution
 - Value-added services, integration of imagery with other geospatial data, etc.
 - Hurricane Katrina response included some processed data, needed raw
- **High resolution data**
 - Typically commercial or military
 - ALOS, Pleiades, Cosmos/Skymed, Ikonos, Quickbird, etc.
- **“Universal Access”**
 - “Any national disaster management authority”
 - Beyond Charter members
 - Proper procedures will have to be followed
 - Requires registration



Issue: Duration

- **When and how to end or change activation?**
 - E.g., hurricane changes course or no international assistance is needed due to smaller than expected damages
 - Needs standard process, widely understood
 - Perhaps based on forecasts?
- **Risk reduction as well as disaster response?**
 - Hurricane prediction is relatively far in advance, e.g.
 - Related to ending or changing activation
 - Possible extension of obligation



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Issue: Culture and Location

- **Acceptance and understanding by disaster relief and civil protection entities**
 - Increasing in general
 - Mistrust where disaster occurs near or at disputed borders, e.g.
 - Residual perceptions of “spying”
 - Crisis management officials unaccustomed to space technologies
- **Size of affected area**
 - Initially, typically 60km by 60km
 - Based on event?



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Challenges

- **On-going and operational financing**
- **Capacity building**
 - better use of space technologies
 - by civil protection agencies, end-users and local authority decision makers
- **Evolving relationships and agreements**
 - among and between space agencies and other actors
- **Coordination of data access and rights**
 - Private
 - Public
 - Commercial
 - Redistribution, value-added etc.



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Nature of the Charter

- **Legally nonbinding**
 - **Caveat: Vienna Convention on the Law of Treaties**
 - “Treaty” means an international agreement concluded between States in written form and governed by international law...whatever its particular designation.”
 - U.S. not a party
 - **Issues**
 - Can space agencies bind States
 - International or national law
- **Potentially binding over time?**
 - **If proved by both**
 - **State practice**
 - a sufficient number of states behave in a regular and repeated manner consistent with the customary norm
 - ***Opinio juris***
 - State action is taken out of a sense of legal obligation, as opposed to expediency



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Relevant Factors Over Time

- **Frequency and number of activations**
- **Frequency and number of responses**
- **Quality and effectiveness of activations and responses**
- **Standards, if any, of behavior established by voluntary actions**
- **Addition, if any, of Parties, Associated Bodies, Cooperating Bodies**
- **Withdrawal, if any, of Parties, Associated Bodies, Cooperating Bodies**



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Relevant Factors Over Time

- **Number of automatic renewals**
- **Related activities**
 - related treaties or agreements
 - decisions of national and international courts
 - national legislation
 - diplomatic correspondence
 - opinions of national legal advisers
 - practice of international organizations
- **Relevant general principles of law**
 - Including
 - Relationship between State and a State agency
 - Ability of agency actions to bind a State



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Continues 20th Century Trend

- **General proliferation of types of political/legal instruments**
 - Principles
 - MOUs/MOAs
 - Codes of conduct
 - Charters
 - Etc.
- **Attempts to avoid complexity and restrictions of classical law and institutions**
 - Less formal structure
 - More flexible environment



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Continues 20th Century Trend: Space Specific

- **New forms of international relations and institutions**
 - Alternatives to classical legal instruments
 - Fast growing
 - Catalyzed by innovative methods of international cooperation
- **“States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis.”**
 - Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of all States, taking into Particular Account the Needs of Developing Countries, UNGA(A/51/20)



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Continues 20th Century Trend

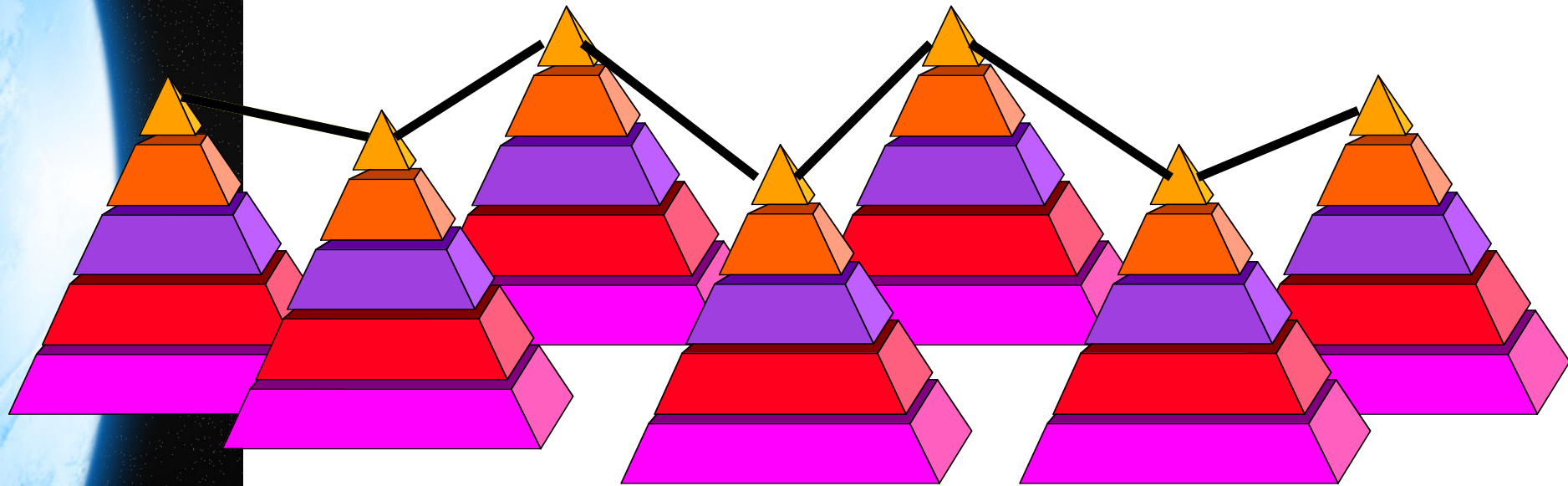
- The more effective informality and agreed party behavior becomes, the more the informal practice is recognized as authoritative
- Success establishes economic and political importance
- Query: at what point do trends away from the *status quo* become the new *status quo*?
- Analogy: more a “dimmer switch” than an “on/off” switch



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Trends in Last Half of the 20th Century



Classical Agreement Structure



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Trends in Last Half of the 20th Century



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Some Practical Observations

- **Remote Sensing Principles and the Charter**
 - Definitional differences, e.g., “data”, “information”
 - Common features
 - Protection of human life and environment
 - Each reinforces the other
- **“Rich nations” “Poor nations”**
 - Less accurate description of participants
- **Reality: handful of dedicated, motivated, specific, individual lower level government employees and decision makers whose decisions impact departmental or agency, not large, national budgets**
- **The Charter is working**



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Concluding Thought: The Twilight Existence of Nonbinding International Agreements

“The fact that nonbinding agreements may be terminated more easily than binding treaties should not obscure the role of the agreements which remain operative. [...] As long as they do last, even nonbinding agreements can be authoritative and controlling for the parties. There is no *a priori* reason to assume that the undertakings are illusory because they are not legal. To minimize their value would exemplify the old adage that ‘the best is the enemy of the good.’ It would seem wiser to recognize that nonbinding agreements may be attainable when binding treaties are not and to seek to reinforce their moral and political commitments when they serve ends we value.” --Oscar Schacter, 1977



Questions, Comments?



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