

Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (Disasters Charter): Introduction, Initial Issues and Experiences

**Legal Aspects of Disaster Management
and the Contribution of the Law of Outer Space**

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of the United Nations Committee on the Peaceful Uses of Outer Space**

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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)**
- **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**



Disasters Charter



- **More than 84 activations and responses**
- **Provides timely, critical data at no cost**
- **Activated by developing nations, developed nations, associated bodies 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)**





Members and Resources



- **European Space Agency (ESA)**
 - ERS, ENVISAT
- **Centre National d'Études Spatiales (CNES)**
 - SPOT
- **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



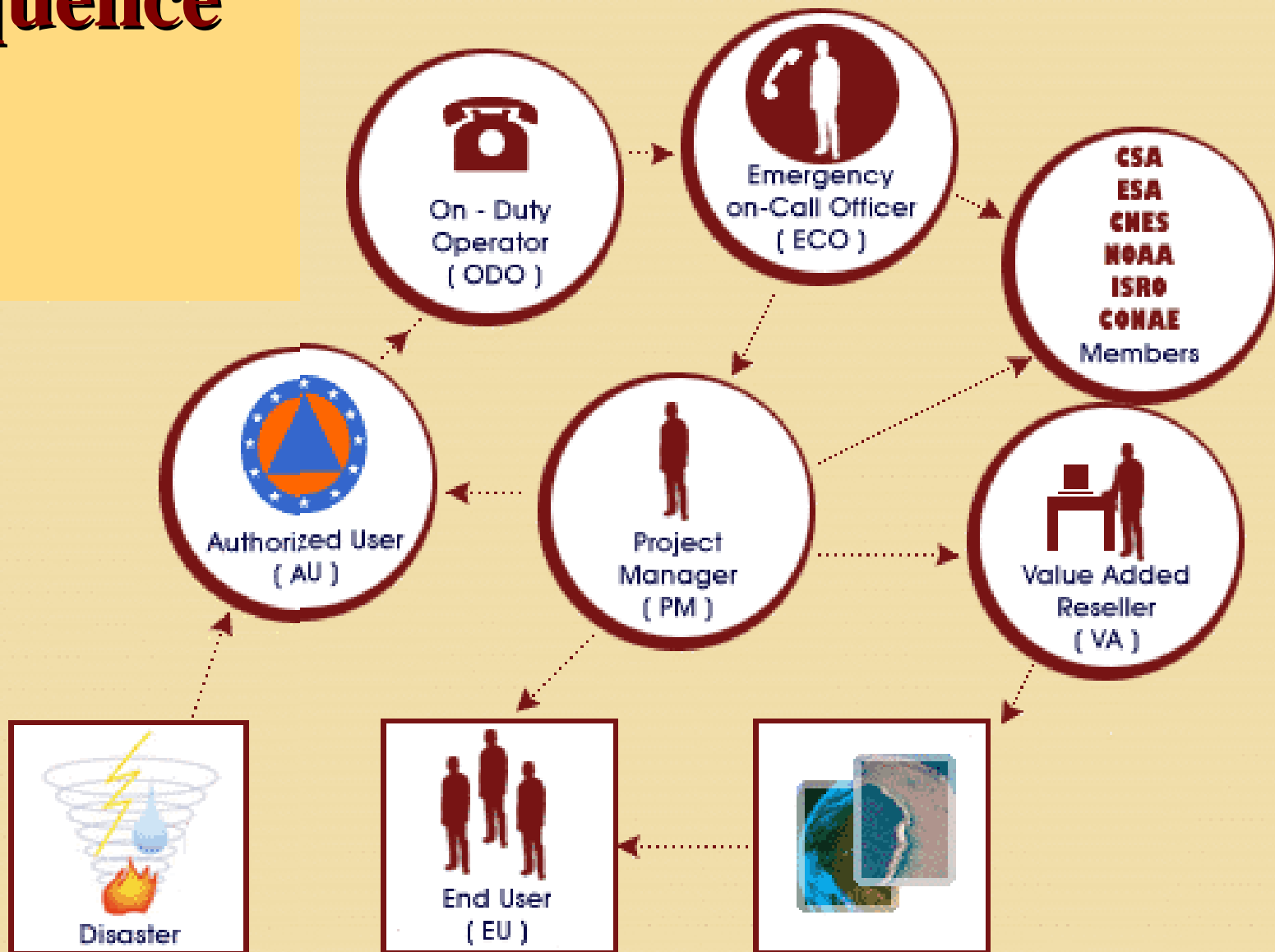
Members and Resources



- **Japan Aerospace Exploration Agency (JAXA)**
 - ALOS
- **United States Geological Survey (USGS)**
 - Landsat
- **DMC International Imaging (DMC)**
 - **Centre National des Techniques Spatiales (Algeria)**
 - ALSAT-1
 - **National Space Research and Development (Nigeria)**
 - NigeriaSat
 - **Tübitak-BILTEN (Turkey)**
 - BILSAT-1
 - **BNSC and Surrey Satellite Technology Limited (UK)**
 - UK-DMC



Disasters Charter Activation Event Sequence



Disasters Charter



- **“Parties”**
 - Signatory **“agencies and space system operators”**
- **“Associated bodies”**
 - **“rescue and civil protection, defence and security 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



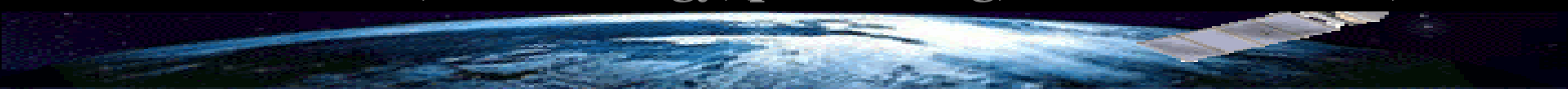
- **“Beneficiary bodies”**
 - Benefits from crisis management information e.g., in affected countries
- **“Natural or technological disaster”**
 - Situation of great distress involving loss of human life or large-scale property loss
 - Natural: cyclone, tornado, earthquake, volcano, flood, fire, etc.
 - Accidents: e.g., hydrocarbon, toxic or radioactive pollution
- **“Crisis”**
 - Period immediately before, during, immediately after
 - during which emergency or rescue operations take place



Disasters Charter



- **“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



Disasters Charter



- **Voluntary, no funds exchanged**
- **“Best endeavours”**
 - **“Shall” 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”**



Initial Issues



• Cost

- Responses to activations are expensive
- Budget impact is at agency or departmental, not national level
- Agency makes renewable 6 mo. commitments for minimum amounts of imagery/data
- Cost higher for some participants than others
 - e.g. SPOT is most requested data
- Balance between agency's resources and recipient's needs

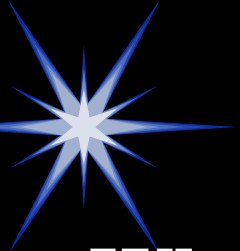


Initial Issues



- **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
- **Routine access to high resolution data**
 - Typically commercial or military
 - ALOS, Pleiades, Cosmos/Skymed, Ikonos, Quickbird, etc.



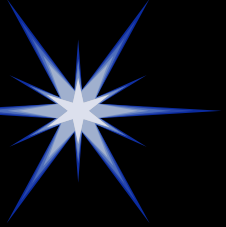


Initial Issues



- **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



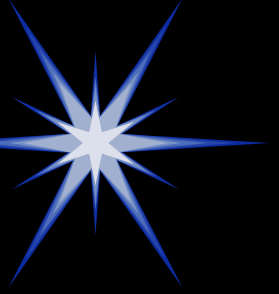


Initial Issues



- **Increasing acceptance and understanding by disaster relief and civil protection entities**
 - 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**
 - Typically 60km by 60km
 - Should it be expanded based on event?



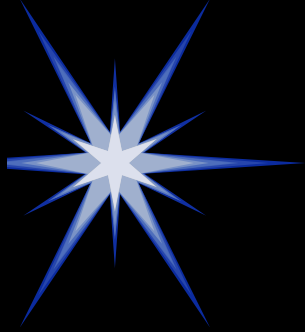


Challenges



- **On-going and future 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





Nature of the Charter

- **Nonbinding**
- **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





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**





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**



Continues 20th Century Trend



- **General proliferation of types of political/legal agreement**
 - Principles, MOUs/MOAs, codes of conduct, charters, etc.
- **Attempts to avoid complexity and restrictions of classical law and institutions**
 - Less formal
 - More flexible environment

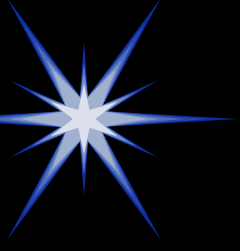


Continues 20th Century Trend



- **Space specific trend**
 - **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)**



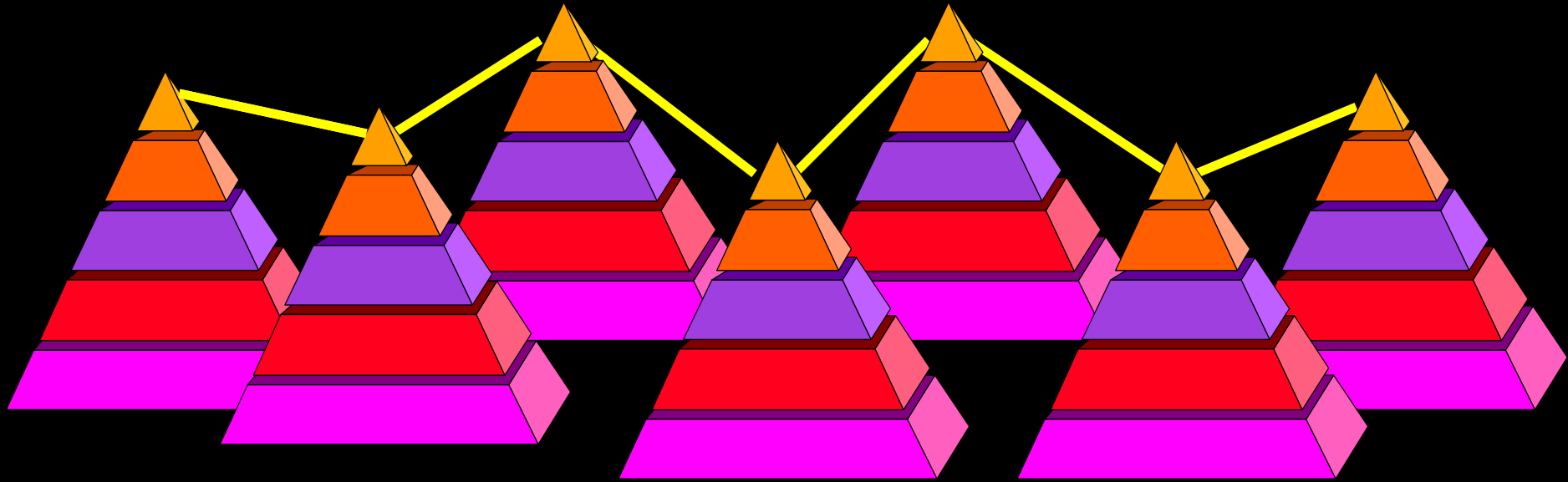


Continues 20th Century Trend

- 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

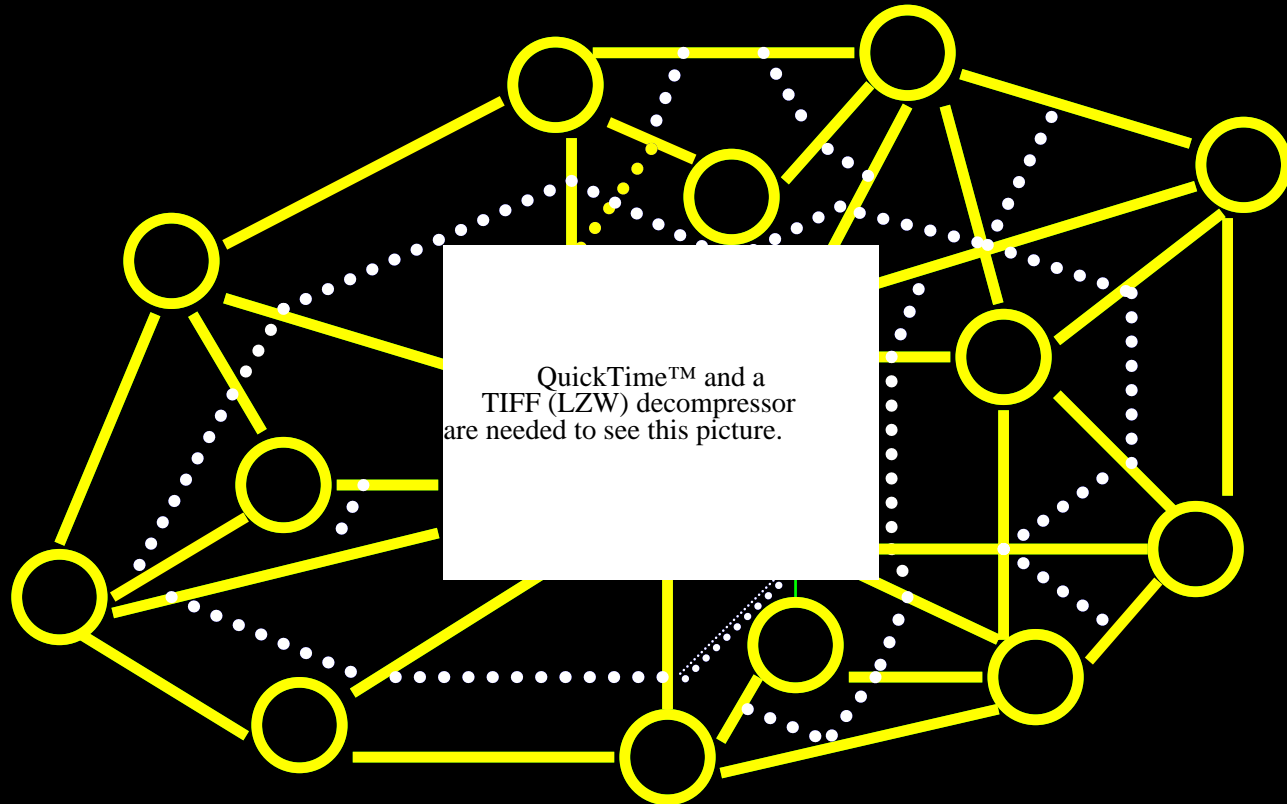


Trends in Last Half of the 20th Century



Classical Agreement Structure

Trends in Last Half of the 20th Century



Alternative Agreement Structure

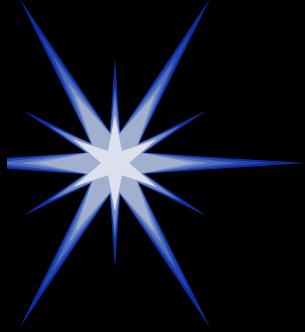


Some Practical Observations



- **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”**
 - **Inaccurate 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**





Questions, Comments?

