International Charter
Space and Major Disasters

History, Operations and Activations

Charter Executive Secretariat
April 5, 2011
Purpose

• An International agreement among Space Agencies to support with space-based data and information relief efforts in the event of emergencies caused by major disasters.

  – Disaster response
  – Multi-satellite data acquisition planning
    • Fast data turn-around – priority acquisition
  – Archive retrievals and spacecraft tasking
  – Data processing at pre-determined level
  – Space Agency contribution in image/data
  – Space Agency initiative for value-added-data fusion
Following the UNISPACE III conference held in Vienna, Austria, ESA (European Space Agency) and CNES (Centre national d'études spatiales) initiated the International Charter in July 1999.

CSA (Canadian Space Agency) signed the Charter on October 20, 2000.

Charter implementation by identifying and creating a number of functional units and preparing the necessary policies and plans.

Charter declared operational as of November 1, 2000 after formal rehearsals and qualification tests.


Three hundred and two (302) disasters covered to date in almost 100 countries around the world.
Charter History

- The US National Oceanic and Atmospheric Administration (NOAA), and the Indian Space Research Organization (ISRO) became members in September 2001.

- In July 2003, the Comision Nacional de Actividades Espaciales (CONAE) joined the Charter.

- In 2005, the Japanese Aerospace Exploration Agency (JAXA) joined the Charter in February, the United States Geological Survey (USGS) in April as part of the US membership, and the Disaster Monitoring Constellation (DMC) Consortium in November.

- The China National Space Administration (CNSA) joined the Charter in May 2007.

- Other agencies are currently in the process of completing the integration process: German Aerospace Center, DLR; Korea Aerospace Research Institute, KARI, South Korea; Instituto Nacional de Pesquisas Espaciais, INPE, Brazil; and the integration process has also started with the Russian Federal Space Agency, ROSCOSMOS, Russia.
Activating the Charter

- The only bodies authorized to request the services of the Charter are the **Authorized Users**. An Authorized User is a civil protection, rescue, defense or security body from the country of a Charter member. Authorised Users comprise a pre-defined list of 40+ user organisations, corresponding to 39 countries.

- An Authorized User can request the mobilization of the space and associated ground resources of the member agencies to obtain data and information on a disaster occurrence.
Mechanisms to Activate the Charter

• There are several mechanisms for a user organisation to submit a request to activate the Charter:
  
  – **Direct activation**: the only bodies authorised to submit requests for a disaster occurring in their country are the Authorised Users (AU).
  
  – **Activation via an AU on behalf of a user from a non-member country (‘sponsor AU’)**: an AU may request the Charter to assist a disaster management user from another country in response to a major emergency.
  
  – **Activation via the UN for UN users**: UN OOSA and UNITAR/UNOSAT may submit requests on behalf of users from the United Nations.
  
  – **Activation for Asia Pacific users via Sentinel Asia's partner, the Asian Disaster Reduction Centre**: Sentinel Asia is a regional initiative to support disaster management by applying WEB-GIS and space based technology in 31 Asia Pacific countries. The Charter granted the Asian Disaster Reduction Centre the right to submit activation requests on behalf of national users of Sentinel Asia in 2009.
Charter Functional Units

- Authorized Users (AUs)
- On-Duty Operator (ODO)
- Emergency on-Call Officer (ECO)
- Project Manager (PM)
- Data processing and distribution facilities
- Value-Added Provides (VAPs)
Charter Operational Loop

- **EMERGENCY ON-CALL OFFICER (ECO)**
- **ON-DUTY OPERATOR (ODO)**
- **PROJECT MANAGER (PM)**
- **AUTHORIZED USER (AU)**
- **VALUE-ADDED PROVIDER (VAP)**
- **END USER (EU)**

**DISASTER**

**MEMBERS**
- ESA
- CNES
- CSA
- USGS
- NOAA
- NOAA
- UKSA/DMC
- JAXA
- CNSA
- CONAE
- ISRO
- DLR
- INPE
- KARI
- ROSCOSMOS

**AUTHORIZED USER (AU)**

**ON-DUTY OPERATOR (ODO)**

**PROJECT MANAGER (PM)**

**VALUE-ADDED PROVIDER (VAP)**

**END USER (EU)**

International Charter 'Space and Major Disasters'
Authorized User (AU) Interfaces

• AU – On-Duty Operator (ODO)
  – AU submits the User Request Form (URF)
  – ODO checks the identity of the caller
  – ODO confirms the reception of the URF and its completeness
Authorized User (AU) Interfaces

• AU/End User (EU) – Emergency on-Call Officer (ECO)
  – ECO calls the AU/EU for information on the Disaster
    • Geographical location of the affected area
    • Type of disaster
    • Extent of disaster
    • Type of data processing/product (if applicable)
    • Target delivery time
    • Delivery medium and address
    • Any additional information
Authorized User (AU) Interfaces

- AU/EU – Project Manager (PM)
  - PM contacts directly the AU/EU if required
  - PM obtains further information on the requirement
  - PM apprises the AU/EU with regard to the data acquisition planning
  - PM solicits AU/EU's appraisal of the Charter activation
## Charter Activation Cases

**disaster types**

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* includes solid earth related phenomenon of a tsunami

** includes all wind type storms (hurricane, cyclone, typhoon and tornado)
Activation Distribution

Legend:  
- Earthquake  
- Landslide  
- Volcano  
- Storm/hurricane  
- Flood/ocean wave  
- Ice/snow hazard  
- Fire  
- Oil spill  
- Other

As of April 5, 2011
Activation Distribution
Floods and storms

As of April 5, 2011
Activation Distribution
Earthquakes, volcanic eruptions and landslides

Legend:  Red Earthquake  Brown Landslide  Yellow Volcano

As of April 5, 2011
Activation Distribution

Oil spills, forest fires and other hazards

As of April 5, 2011
Emergency enquiries from users requiring direct access to Charter resources should be addressed to:

ExecutiveSecretariat@disasterscharter.org

General requests for information should be addressed to:

webmaster@disasterscharter.org