

IAF EARTH OBSERVATION SYMPOSIUM (B1)
20th Anniversary of the Disaster Charter: History, Status and Future of this Powerful and Productive
International Cooperation (6)

Author: Dr. Samir Belabbes

United Nations Institute for Training and Research (UNITAR), Switzerland, samir.belabbes@unitar.org

Mr. Luca Delloro

United Nations Institute for Training and Research (UNITAR), Switzerland, luca.delloro@unitar.org

Mr. Lars Bromley

United Nations Institute for Training and Research (UNITAR), United States, lars.bromley@unitar.org

Dr. Einar Bjorgo

United Nations Institute for Training and Research (UNITAR), Switzerland, einar.bjorgo@unitar.org

UNOSAT CONTRIBUTION AND SUPPORT TO EMERGENCY RESPONSE USING EO DATA. 17
YEARS OF SUPPORT TO THE INTERNATIONAL SPACE CHARTER.

Abstract

We discuss here UNOSAT's contribution to the International Space Charter mechanisms, its evolution and development over the past two decades. We present case studies, success stories, the current status of operations, challenges, future plans and recommendations. Since 2003, UNOSAT has been a major user and activator of the International Charter Space Major Disasters for 199 activations. This has been achieved by providing satellite-based analysis and support to the humanitarian community and also supporting the charter with project managers for 103 activations. The provided EO data has been used effectively in supporting the humanitarian community inside the UN system (e.g. OCHA, UNDP, UNHCR, etc.) and UN member states. It has also supported a number of emergency response organizations, including IFRC and other regional and national organizations. The emphasis has been on user requirements and particularly for direct field operations support. Furthermore, UNOSAT's rapid mapping service has been a major provider of Charter's Project Managers and value-added products since 2003. Over the past two decades, UNOSAT has also trained a number of Project Managers who have provided effective support to several International Charter Space Major Disasters activations. In recent years, the increasing ubiquity of mechanisms and platforms to obtain satellite imagery (e.g. freely available Sentinel-1 data) may account for the decrease in overall Charter activations by UNOSAT. However, the International Charter mechanism is still regularly used for major events. Consequently, the focus shifts more towards streamlining interoperability among users, in addition to producing analysis, guidance as well as innovative value-added products and services. Over the last year, UNOSAT has sought to develop new processing methodologies and has developed a machine learning-based approach to extract good signatures from Sentinel-1 radar imagery. This will benefit the activations made in the framework of the Space Charter. This approach has helped to significantly reduce the average processing time of SAR data analysis. UNOSAT continues to work on the development of Artificial Intelligence (AI) methods and aims at implementing automated, operational image processing procedures in the near future. This will contribute to the portfolio of products released during International Space Charter activations. UNOSAT has constantly sought to develop new partnerships while strengthening existing ones by developing and implementing the Global Disaster Alerts and Coordination System (GDACS) Satellite Mapping Coordination System (SMCS) platform. This offers an opportunity to extend and promote the use of the Charter among reputable and established institutions, including during training events.