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

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NEW EO TECHNIQUES & ICT APPROACHES TO BETTER SUPPORT DISASTER RESPONSE

Abstract

The International Charter Space Major Disasters is a collaboration between EO missions owners and operators with the aim of providing EO data in the days following a disaster. At the time of the inception of the Charter, Information and Communication Technology (ICT) was at a different stage of maturity. Today the Charter is a collaboration of 17 members that overall provide access to a large number of EO missions (more than 50 single satellites plus constellations) some with steerable sensors, others with large swath width. While the data throughput was around a few tenth of images 20 years ago, it has now reached high value sometimes exceeding 2000 images for a single activation. The data volumes and set of interactions that the Charter manages have become very high and complex compared to the past. Hopefully the availability of new ICT tools and techniques came in help and the Charter Operations System (COS) that is based on operational user requirements has been implemented in 2010. That is a custom designed workflow management system for EO based disaster response and it is currently being expanded with on-line tools to inspect and pre-process imagery to assist Charter project manager and its Value Adding partners. This is designed to support Charter activations and follows strict requirements about fitness for purpose and latency as EO data and derived maps are generated and delivered in a rapid fashion. In general service delivery is performed in collaboration with a broad range of public rapid mapping centres as well as private Value Adding providers of the EO sector world-wide. The Charter also collaborates with other EO based disaster response capacities such as Sentinel Asia for Asia-Pacific and the Copernicus Emergency Management Service (EMS) of the European Union and the COS is supporting operational communication with them and the exchange of geospatial products. Furthermore the Charter collaborates with the international humanitarian community and links to information system such as for instance the Global Disasters Alert and Coordination System (GDACS) set-up by the United Nations and the European Commission and has operational agreements with UNOOSA and UNITAR including the UNOSAT rapid mapping team. In the long term innovation about data processing is considered key by the Charter members who are assessing and trying new technologies. It is considered that Cloud processing and e-collaboration could help better use, share and provide persistent access to geo-information products based on satellite imagery.