



28 September 2012

Issue 3

The International Charter 'Space and Major Disasters' is further strengthening its contribution to disaster management worldwide.

Building on a decade of success in making satellite data available to users for disaster response, the International Charter is now opening its doors even wider. To do this, the Charter has adopted the principle of Universal Access: Any national disaster management authority will be able to submit requests to the Charter for emergency response. Proper procedures will have to be followed, but the affected country will not have to be a Charter member.

Universal Access benefits national disaster management authorities in countries, beyond those of the Charter members, previously unable to make direct requests to the Charter during emergency situations.

National disaster management authorities interested in participating in the Charter will be required to complete a registration form. The entire application process is explained in the [Universal Access Information Brochure](#) available together with its [Registration form](#). This process will validate the ability of national authorities to access and use the Charter assets for disaster response, in accordance with the Charter operational procedures.

Please also visit the International Charter website:

<http://www.disasterscharter.org/web/charter/activate>



Map showing Charter member countries (in *colour) with direct access to the Charter in 2012. Universal Access will allow national users from new countries to directly submit emergency requests as Authorized Users.

Recent Activations

- [Flood in Pakistan](#)
- [Fires in Ecuador](#)
- [Floods & Landslides in India](#)
- [Earthquake in southern China](#)
- [Extreme floods in North province of Cameroon](#)

Events

- Charter Executive Board Meeting, 9-12 October 2012

Charter Members

- [European Space Agency \(ESA\)](#)
- [Centre national d'études spatiales \(CNES\)](#)
- [Canadian Space Agency \(CSA\)](#)
- [Indian Space Research Organisation \(ISRO\)](#)
- [National Oceanic and Atmospheric Administration \(NOAA\)](#)
- [Argentina's Comision Nacional de Actividades Espaciales \(CONAE\)](#)
- [Japan Aerospace Exploration Agency \(JAXA\)](#)
- [US Geological Survey \(USGS\)](#)
- [DMC International Imaging \(DMC\)](#)
- [China National Space Administration \(CNSA\)](#)
- [German Aerospace Centre \(DLR\)](#)
- [Korea Aerospace Research Institute \(KARI\)](#)
- [National Institute for Space Research \(INPE\)](#)
- [European Organisation for the Exploitation of Meteorological Satellites \(EUMETSAT\)](#)

Bringing together new and efficient space technologies to support disaster management

EUMETSAT joins the Charter



Signing ceremony

Following its signing of the International Charter ‘Space and Major Disasters’ on 5 July 2012, EUMETSAT is now a formal participant in the Charter, which was initiated in 1999 following the UNISPACE III Conference in Vienna by the European and French space agencies (ESA and CNES).

EUMETSAT operates a constellation of meteorological satellites, monitoring the atmosphere, oceans and land surfaces to deliver weather and climate-related satellite data, images and products. The participation of meteorological space agencies was anticipated when the Charter was agreed as its preamble recognises “the potential applications of space technologies in the management of disasters caused by natural phenomena or technological accidents, and in particular Earth observation, telecommunications, meteorology and positioning technologies”.

The vision of the forefathers of the Charter was recently confirmed in the final declaration of the Rio+20 Conference, “The World We Want”. This document recognizes the importance of space-technology-based data for sustainable development policymaking and reaffirms the necessity to promote, enhance and support more sustainable development activities to enhance resilience to climate change and natural disasters. The main role for EUMETSAT in the Charter will be to secure access to EUMETSAT and other meteorological data for Charter members and beneficiaries and to redistribute Charter products via the GEONETCast data dissemination system.



INTERNATIONAL CHARTER NEWSLETTER

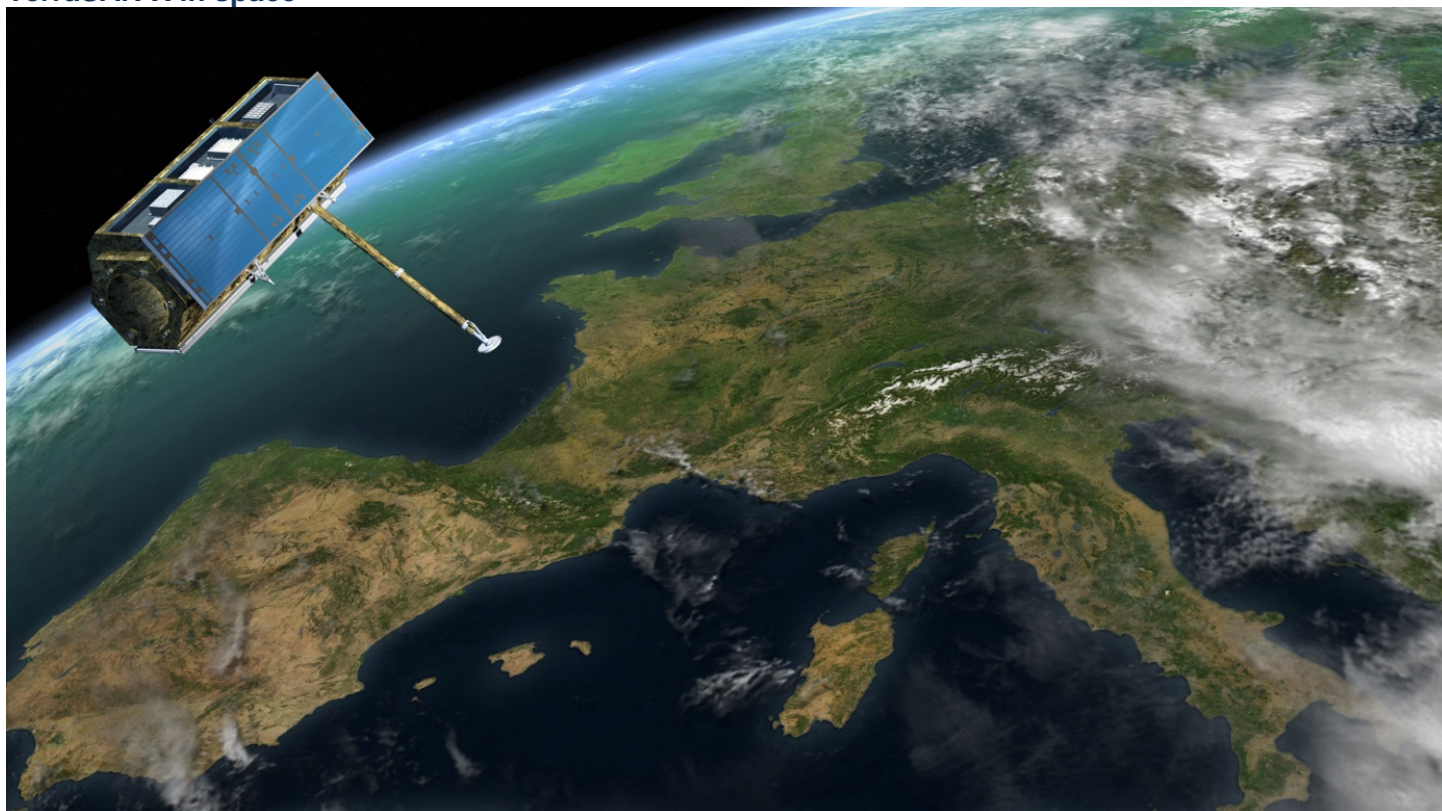
Initially, the EUMETSAT data will be made available to the Charter through the existing GEONETCast stations primarily operated by the National Meteorological and Hydrological Services (NMHSs) in the individual countries. This will support the involvement of the NMHSs within the respective countries in disaster recovery and risk reduction management.

In addition, as one of the founding agencies of GEONETCast, another planned EUMETSAT contribution to the Charter will be to re-disseminate relevant Charter data via GEONETCast, making use of already existing infrastructure and processes at EUMETSAT. Given that other GEONETCast operational partners, such as the US National Oceanic and Atmospheric Administration (NOAA), are already part of the Charter, EUMETSAT participation in the Charter will demonstrate the contribution of meteorological satellite agencies in support of disaster management through GEONETCast.

Anniversary in space – five years of TerraSAR-X

The German TerraSAR-X radar satellite was launched on 15 June 2007. Designed to operate for five years, the satellite has now completed its nominal service life but it remains in excellent condition; it is expected to continue functioning for several more years. "TerraSAR-X has now been operating almost flawlessly for five years. The satellite's propellant consumption has been low, the solar arrays and radar instrument are in good condition, and all of the redundant systems are still available," says Michael Bartusch, TerraSAR-X mission Project Manager at the German Aerospace Center (DLR) Space Administration.

TerraSAR-X in space



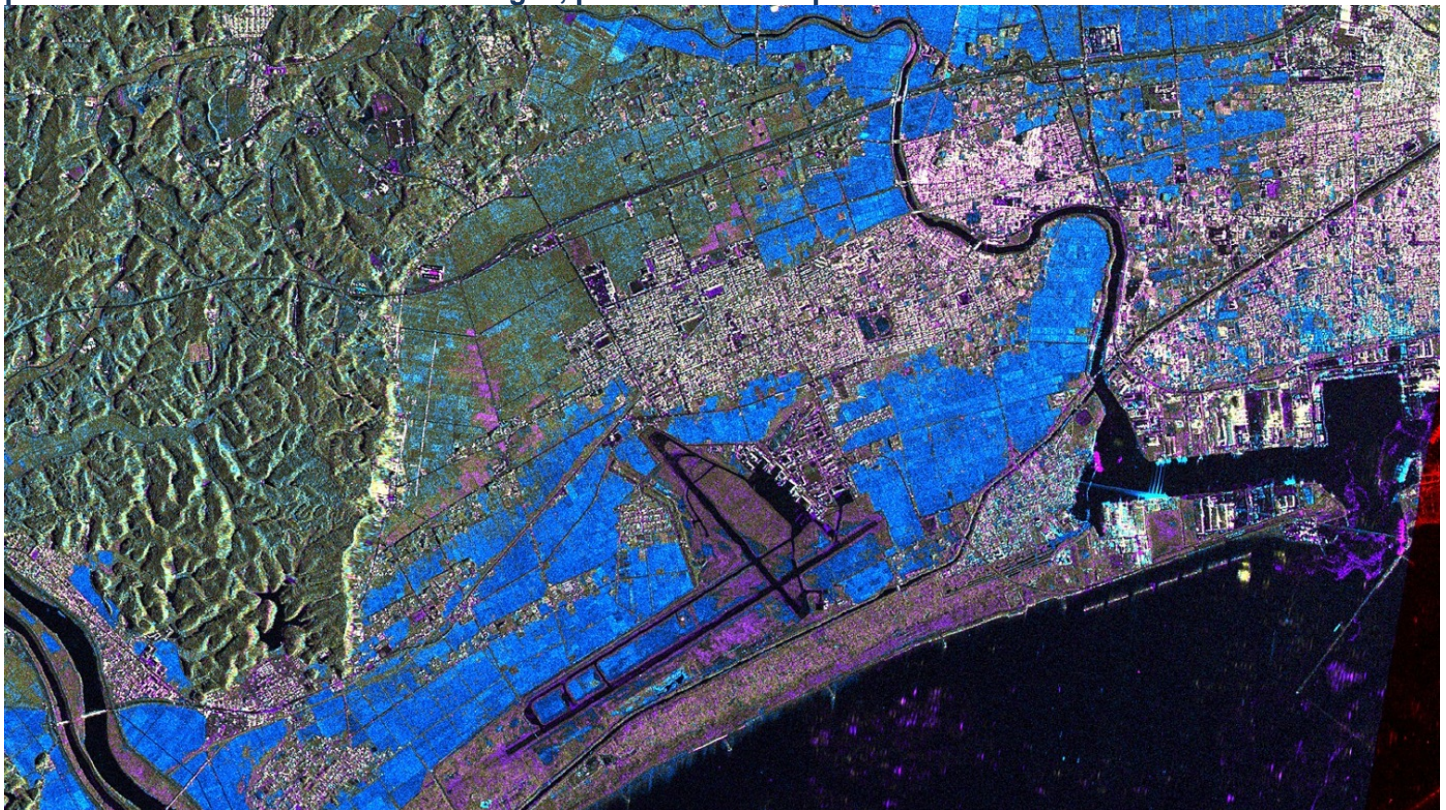
Credit: DLR

TerraSAR-X was constructed by Astrium on behalf of DLR and is the first Earth observation satellite to be developed entirely in Germany. Thanks to the on-board radar instrument, Earth's surface can be surveyed regardless of weather conditions, cloud cover or availability of daylight. The satellite has been providing unique datasets with resolutions down to one metre for research and development purposes as well as for commercial applications.

Since June 2010, TerraSAR-X has been in good company; it has been orbiting the Earth in close formation with its almost identical twin, TanDEM-X. Together, they are creating a highly accurate digital elevation model of Earth.

TerraSAR-X and TanDEM-X make important contributions during natural catastrophes. This is why DLR is a member of the International Charter 'Space and Major Disasters'; the radar satellites have supplied emergency cartography data for natural disasters such as the severe earthquake in Haiti in 2010, several flood catastrophes and the earthquake and tsunami in Japan. The below change detection analysis performed by DLR's Earth Observation Center is based on two TerraSAR-X images acquired on 20 October 2010 (pre-disaster) and 12 March 2011 (post-disaster). It shows the impact of the tsunami on Higashi-Matsushima Airport and the port of Ishinomaki, near Sendai, on the east coast of Japan. The blue areas indicate the flooding; tsunami-affected infrastructure is visible in cyan and debris deposited by the tsunami is shown in magenta. Unchanged water bodies as well as airport runways or major roads appear black in the image.

Impact of the tsunami on the east coast of Japan processed with two TerraSAR-X images, pre-disaster and post-disaster



Credit: DLR

The TerraSAR-X mission is being implemented on behalf of DLR with funds from the German Federal Ministry of Economics and Technology. It is the first German satellite manufactured under what is known as a Public-Private Partnership between DLR and Astrium. DLR is responsible for using TerraSAR-X data for scientific purposes; it is also responsible for planning and implementing the mission as well as controlling the satellite. Infoterra GmbH as part of Astrium Geo-Information Services is responsible for marketing the data commercially.

SPOT 5: 10 years and still going strong

In May 2012, the SPOT 5 optical earth-observation satellite developed by CNES celebrated 10 years of active service. After a decade in orbit, its high-resolution “eye” providing 2.5m optical imagery of virtually any point on the Earth’s surface, is as sharp as ever

SPOT 5 has been one of the Charter’s workhorse satellites since its launch from Europe’s spaceport in French Guyana in May 2002. Over the past five years the youngest of the SPOT family has provided over 300 images to the International Charter ‘Space and major disasters’ for diverse disasters ranging from storms and floods in Africa and Asia, to fires and volcanic eruptions in South America. It has also provided timely images for critical events such as the devastating tsunami that hit Japan in April 2011 and the Haiti earthquake of January 2010.

SPOT 5’s contribution has been significant to many Charter activations, however it was particularly telling during the terrible floods that affected over 20 million people in Pakistan in July 2010. Following the Charter activation, the SERTIT rapid mapping unit based in Strasbourg, France called on specialists in geology, land surveying, photogrammetry, geography and physics to analyse SPOT 5 and other satellite data for a region covering more than 1000 km from the north to the south of Pakistan. The mapping products generated were used to organise emergency assistance in the aftermath of this tragic event.

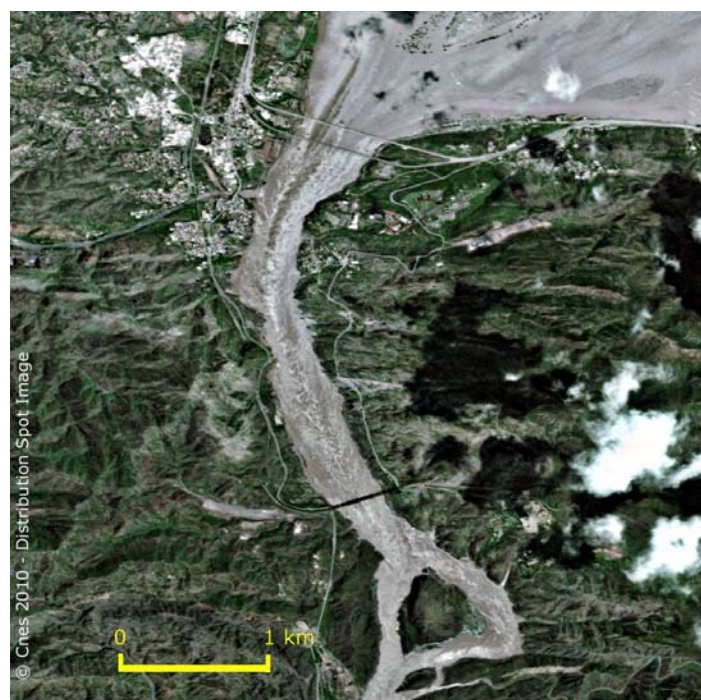
Since the launch of Pléiades-1A in December 2011, SPOT 5 role has been evolving to respond to a certain type of user need: high resolution coupled with wide area coverage. From next December and the arrival of Pléiades-1B forming a tandem with Pléiades-1A, users will benefit from an even more responsive system at high and very high resolutions.

Suffice to say that SPOT 5 images have been, and will remain, a powerful tool in managing our planet and its frequent devastating natural disasters.

*Regional service of image treatment & remote sensing



**SPOT 5 Image: Indus and Attock City
on 18 June 2010**



**SPOT 5 Image: Indus and Attock City
on 2 August 2010**