



The International Charter Space and Major Disasters NEWSLETTER

September 2020 | Issue 21



Activations on map



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43rd Meeting of the International Charter Space and Major Disasters



[CNSA takes the lead](#)

China National Space Administration (CNSA) took over as the Charter's lead agency at the 43rd Charter Meeting



“International Charter 'Space and Major Disasters', satellite data for disaster response worldwide”

[Charter unveils its slogan!](#)

The Charter voted its first slogan on the 43rd Charter meeting.



[ICEYE now contributing to the International Disaster Charter](#)

The Finnish New Space company ICEYE has become an approved Charter data contributor.

Bringing together new and efficient space technologies to support disaster management

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CNSA becomes the lead agency of the International Charter 'Space and Major Disasters'

The 43rd Charter meeting, which includes the Executive Secretariat, Board and Communications Group meetings, took place from 20 to 22 April, 2020. Because of the outbreak of COVID-19, the original 43rd physical Charter meetings in Fuzhou, China were canceled; instead, virtual meetings were held to continue discussion of the Charter. The meetings were organized and moderated by the China National Space Administration (CNSA), which took over as the Charter's lead agency on 20 April, 2020, succeeding the State Space Corporation (ROSCOSMOS), the Russian Space Agency. CNSA will hold the lead role until November 2020, at which time Japan Aerospace Exploration Agency (JAXA) will take over.

Forty-seven representatives from the Charter member agencies participated in the meeting and discussed various strategic, operational and organizational points in order to further improve the Charter's effectiveness in supporting disaster relief operations worldwide. During the discussions, it was encouraging to find out that the Charter, including all the member agencies around the world, has been operating normally through teleworking despite the pandemic.

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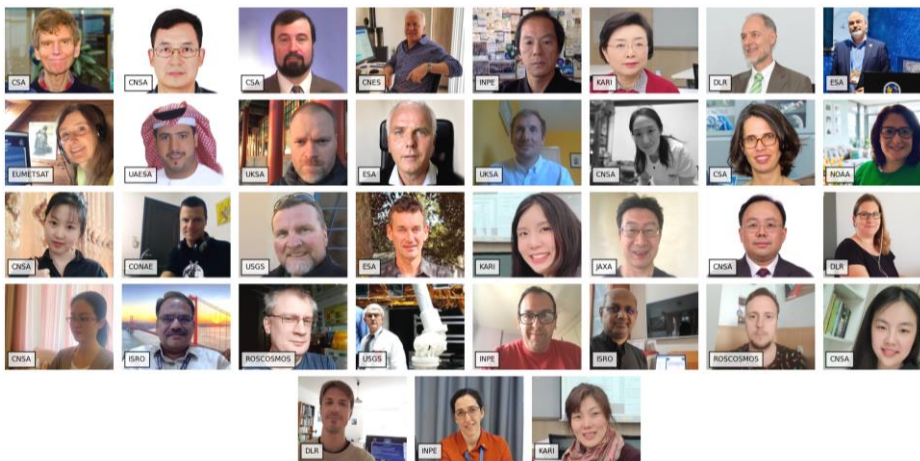
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Participants of the 43rd Charter virtual meeting

The Charter unveils its slogan!

With the initiative to promote the Charter during the 20th anniversary period, in early 2020, the Charter Executive Secretariat (ES) members asked the Communication Group to create a slogan elaborating the vision statements defined by the Board members in the context of the Charter Strategic Plan at the 42nd Charter meeting in St. Petersburg.

After detailed elaboration for three months, the Communication Group recommended three candidates to Board members for their review before the 43rd Charter Virtual Meeting, at which the Board members refined the slogan candidates and elected two for the final vote. The slogan "International Charter 'Space and Major Disasters', satellite data for disaster response worldwide" stood out by a vote of 12 to 5, for being precise, short, and catchy.

As the slogan of the Charter, "**International Charter 'Space and Major Disasters', satellite data for disaster response worldwide**" captures the Charter's values of "Space Agencies from many countries" and "its philanthropic nature". In the days ahead, the Charter will design the slogan on its communication products to spread it widely.



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Introduction of Twenty First Century Aerospace Technology Co., Ltd

Founded in June 2001, Twenty First Century Aerospace Technology Co., Ltd (hereinafter referred to as 21AT) is an independent remote sensing satellite operator and geospatial information big data service provider having both Chinese and global customers. 21AT is the first company taking the lead in carrying out commercial cooperation with international leading satellite system research and development entities; the first enterprise in China owning and independently controlling a civilian commercial satellite constellation; and the pioneer starting China's commercial remote sensing industry.

21AT has established its well-known "Beijing Series" remote sensing satellite and application service brands at home and abroad. Now, all three satellites of Beijing-2 satellite constellation are contributing to the Charter. The constellation system consists of three optical remote sensing satellites with 0.8m panchromatic and 3.2m multispectral resolution, and a ground system independently developed. The constellation has the characteristics of high spatial resolution, high temporal resolution and high radiation resolution, and can realize revisits at any place in the world in one to two days. These characteristic properties of the three satellites enable them to effectively monitoring disasters like earthquakes, landslides and wildfire.

The remote sensing satellite intelligent observation and acquisition technology independently developed by 21AT can efficiently acquire global high-quality images and create standardized products; the proprietary algorithms, models and software systems developed by 21AT can realize large scale automatic image processing, intelligent interpretation and analysis of spatial information, and flexible production of business application products.

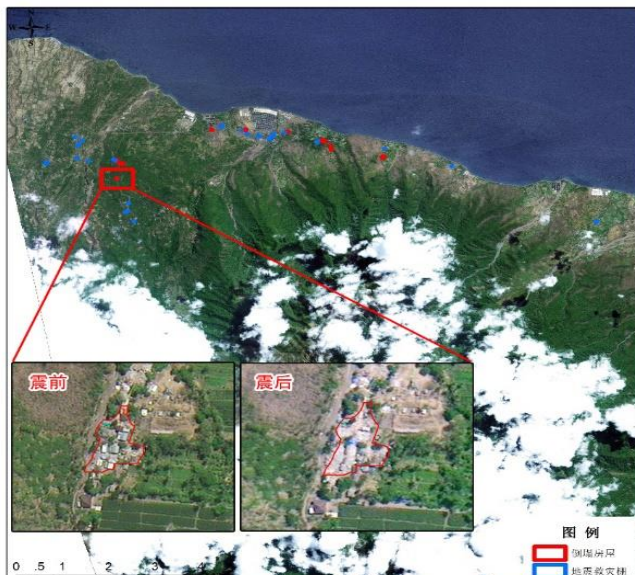
21AT is exerting a global development strategy, and has established research and development centers and business organizations in North America, Asia Pacific and other regions. 21AT's products and services are spread all over the world.



Beijing-2 satellite constellation

21AT is observing the changes of our planet every day. Through independent owned technology and capabilities, 21AT provides more real-time, accurate and convenient spatial information big data to the decision makers and users around the world. It is believed that the widespread application of geospatial big data will surely alter the way of life and production of the people, better serve the people in respect of human livability, ecological civilization and global sustainable development.

2018年8月9日印尼地震遥感监测专题图



Thematic map of Indonesia earthquake monitored by Beijing-2 satellite constellation

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The Charter Offers Authorized User Training

The International Charter “Space and Major Disasters” intended to have an Authorized User (AU) training initiative, which was originally planned to be held at the Understanding Risk Forum in Singapore in December. However, because of the outbreak of COVID-19, the forum may not be able to be conducted as scheduled. Therefore, the Charter is considering an Authorized User training which will be focused on how to activate the Charter and what a national authority could expect to receive from the Charter. As well, the procedures to activate the Charter in case of major disasters will be explained and tested with the new users. Current Authorized Users and organizations interested in becoming Charter Authorized Users are welcome to attend this training.

Opinions and suggestions from all the Authorized Users and potential AUs are welcome. In order to organize the training we have the following questions: Firstly, do you prefer an online training or a physical one? Secondly, do you want an international training or a regional one? Thirdly, how often do you want training like this to be held? Finally, do you prefer to have a training in your own country?

Let us know if you are interested in this Authorized User training.

The contacts are:

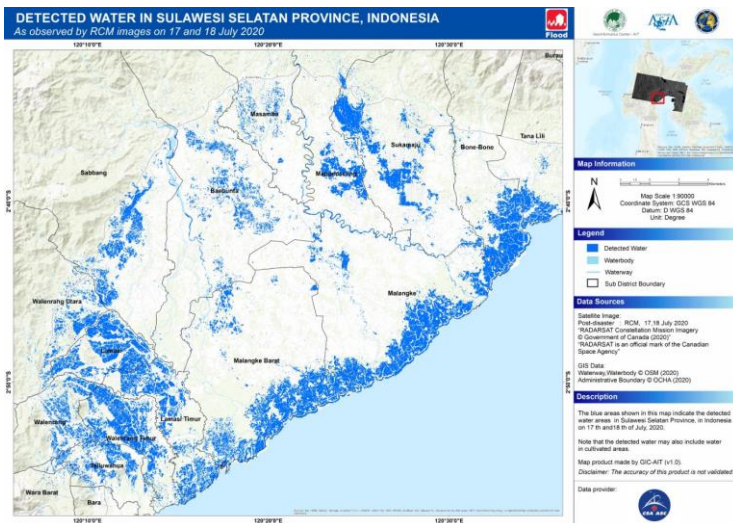
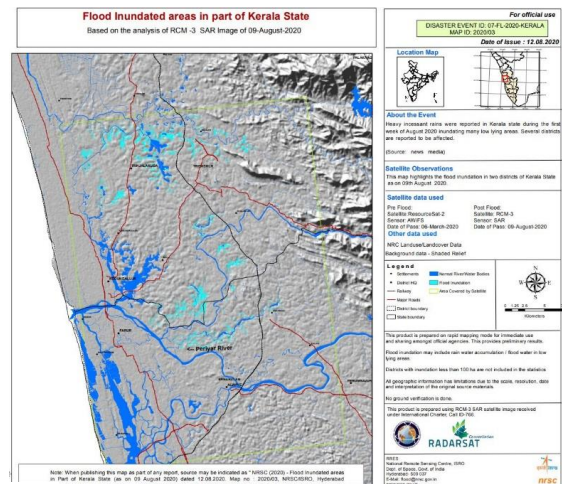
Roberto Biasutti Roberto.Biasutti@esa.int (ESA)

Hannah/Pan Meng Hannah_cresda@sina.com (CNSA, the current lead agency of Charter)

Canada's RADARSAT Constellation Mission satellites now support Disasters Charter

June 12, 2020, marked the one-year launch anniversary of Canada's RADARSAT Constellation Mission (RCM). Now operational, the constellation of three satellites provides daily images of Canada's vast territory and maritime approaches, as well as images of the Arctic, up to four times a day. It has daily access to 90 per cent of the world's surface. The RCM is also equipped with an Automatic Identification System (AIS), allowing for improved detection and tracking of ships, including those conducting illegal fishing.

Since June 2, 2020, the RCM has been providing its data to the Disasters Charter, to support disaster response worldwide. Below are some examples of recent value-added products, created using RCM data.



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ICEYE now contributing to the International Disaster Charter

The Finnish New Space company ICEYE is now providing radar imaging data from its commercial synthetic-aperture radar (SAR) satellite constellation to the International Charter Space and Major Disasters for use in monitoring and response activities. ICEYE provides these images at no cost to the Charter's Authorized Users to enable wider and timelier information access for disaster events worldwide.

The International Charter provides Earth observation data for use in monitoring and response activities, acquired by the satellites of its 17 members, contributing partners, and data contributors, to support disaster response worldwide.

ICEYE is building and operating its own satellite constellation of radar imaging satellites and adds SAR data collected from its commercially available microsattellites to the Charter's portfolio. Since 2019, and through a procedure managed by ESA, the company has become an approved Charter data contributor.



Image provided by ICEYE

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ICEYE's SAR satellite constellation allows for timely mapping, monitoring, and change detection analysis after disasters. Example use cases for Authorized Charter Users include pre- and post-event analysis of infrastructure, assessing property and agricultural damages, mapping the effects of floods, volcanic eruptions and landslide incidents, and measuring oil spill extents.

ICEYE's satellite constellation is growing with additional spacecraft being produced and launched each year. The company offers X-band SAR data in several imaging modes, including very high resolutions in single look complex (SLC) and ground range detected (GRD) image formats.

ICEYE CEO and Co-founder, Rafal Modrzewski states: "ICEYE is very excited to contribute to the International Charter Space and Major Disasters. We see the impact that timely access to SAR data can have during and after major disasters, and we are proud to provide assistance through the Charter."

A spokesperson of the CNSA (China National Space Administration), current lead agency of the Charter stated: "The Charter members are very pleased to welcome ICEYE with its constantly growing constellation of SAR satellites as an approved partner in the Charter. The rapid revisit time of ICEYE's commercial SAR satellite constellation contributes tremendously to the Charter's objective to respond most effectively to requests for imagery after disasters."

SAR satellite images can be acquired regardless of weather conditions, both during day and nighttime. This data can be used to provide information of what's happening on land or at sea even during rainfall - regardless of cloud cover and through smoke emissions. This makes SAR a very valuable source of information for disaster management activities supported by the Charter.



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Implementation of Universal Access

Since China National Space Administration (CNSA) has taken over as the lead agency of the Charter on April 20, the Charter has continued to conscientiously implement “Universal Access”, one of the Charter’s basic principles, and actively accepted Authorized User registrations from countries around the world. As of July 31, CNSA has received and processed applications from five countries, including the Cayman Islands, Trinidad and Tobago, Uganda and Tanzania. The applying countries are widely distributed in the Americas, Africa and Asia. CNSA actively assumes the responsibility of the lead agency, responds to the requests of various countries according to the relevant procedures of the Charter, and organizes and coordinates Charter member agencies to be responsible for follow-up training and simulation training according to the predetermined order.

To date, the Board has approved five countries (Cayman Islands, Trinidad and Tobago, Uganda, Tanzania and Ethiopia) have been as new Authorized Users; three countries (Cayman Islands, Trinidad and Tobago, Costa Rica, Tanzania and Ethiopia) have completed the simulation exercise. In addition, CNSA reports on the latest progress of Authorized Users at the Charter’s regular monthly Executive Secretariat teleconferences. The Charter team of CNSA makes every effort to support as lead agency the further implementation of the Charter’s Universal Access initiative. The intent is to bring the potential benefit of satellite-based Earth Observation to worldwide disaster management users when disasters strike.



The Charter members and countries with Authorized Users on the map in dark blue (as of 2020)

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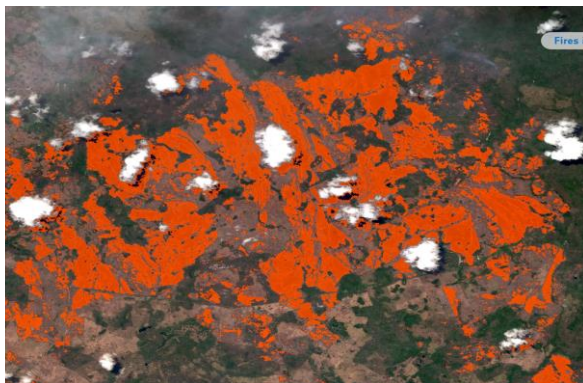
Since 2007, the Charter has been activated 40 times per year on average, benefiting 126 countries. Learn more about five recent activations, which were some of the most visited on the Charter website in the last few months.

1. Forest Fires in [Guatemala](#)

Forest fires covered large areas in Guatemala with fire lines spreading over an area about 450 sq. km. The National Coordinating Agency for Disaster Reduction of Guatemala (CONRED) reported that as of 29 April, fires had consumed 2,754 hectares of forest, 665 hectares in Jalapa and 487 in Petén.

On 30 April, the Charter received a request for help from Brazilian Disaster and Risk Management National Centre (CENAD) on behalf of CONRED- Guatemala. CENAD provided the Project Management and Value Adding service for the Charter activation.

About 300 satellite data images were provided by Charter member agencies to identify the fire lines and help evaluate the damages caused to the forest.



Burnt Areas in Laguna Larga, Guatemala

Source: SPOT-7

Acquired: 05/05/2020

Copyright: Includes material © AIRBUS DS (2020)

Map produced by CENAD

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2. Oil Spill in Russia

Approximately 5-million-gallons of diesel fuel leaked into the Ambarnaya River near the Siberian city of Norilsk after a fuel tank at a power station collapsed. The spill contaminated a 350 km² area and affected around 7 miles downstream, which posed a deadly threat to the region's people, plants, and animals.

Russian authorities declared a state of emergency. Disaster management teams deployed booms to prevent the oil from spreading further and to prevent contamination from entering Lake Pyasino and the Kara Sea.

The Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Natural Disasters (EMERCOM) triggered the Charter on 4 June. ROSCOSMOS performed the Project Manager role and provided the Value Adding Products.



Monitoring of fuel spill in Norilsk, Russia

Source: Resurs-P

Acquired: 04/06/2020

Copyright: © NT's OMZ, All Rights Reserved

Map produced by Roscosmos

Map produced by UNITAR/JUNOSAT



Cyclone Amphan affected areas in part of Balasore districts, Odisha State

Source: Pleiades

Acquired: 27/05/2020

Copyright: Includes Pleiades material © CNES (2020),

Distribution Airbus DS.

Map produced by NRSC

3. Cyclone Amphan in India

Cyclone Amphan made landfall in eastern India, near the Bangladeshi border, on 20 May. Amphan, a Category 5 storm, was the most powerful cyclone ever recorded in the Bay of Bengal. The storm ripped apart homes, tore down trees, washed away bridges and left large predominantly rural areas without power or communications. At least 90 people were killed.

Evacuation efforts in India were complicated by the coronavirus pandemic, as relief teams grappled with how to get millions of people to safety while also protecting them against the risk of COVID-19.

ISRO triggered the Charter and performed the Project Manager role. Several organizations were involved in producing Value Products.

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4. Oil Spill in Mauritius

A Japanese-owned ship, MV Wakashio, ran aground at Pointe d'Esny on 25 July which is an area of wetland recognized by UNESCO as a protected site, and began leaking oil into waters off the island of Mauritius.

It was reported that about 1,000 metric tons of oil had already leaked into a pristine Indian Ocean lagoon and the ship was at a risk of breaking in two. Prime Minister Pravind Jugnauth declared a state of environmental emergency, with the country's environment minister, Kavy Ramano, saying: "We are in a situation of environmental crisis." A massive clean-up operation was launched from the shore since oil began leaking, with thousands of local volunteers heading to the eastern side of the island nation to help. France and Japan also deployed teams with pollution control equipment.

The Charter was activated on 8 August by UNITAR on behalf of UN Office for the Coordination of Humanitarian Affairs (OCHA), and Centre Opérationnel de Gestion Interministérielle des Crises (COGIC, France). UNITAR was appointed as the Project Manager for the activation and produced the Value Adding Products with contribution from NOAA, and SERTIT. Within the scope of this activation, the Charter provided more than 200 satellite images for the purpose of mapping the potential floating oil extent.



Oil spill in Mauritius - Delineation Map

Source: Pleiades

Acquired: 14/08/2020

Copyright: Includes Pleiades material © CNES (2020), Distribution Airbus DS.

Map produced by SERTIT



Industrial accident in Beirut (Lebanon) - Impact map

Source: Pleiades

Acquired: 05/08/2020

Copyright: Includes Pleiades material © CNES (2020), Distribution Airbus DS.

Map produced by SERTIT

International aid from several countries was dispatched to the rescue operations. The Charter was activated by Centre Opérationnel de Gestion Interministérielle des Crises (COGIC, France) on 5 August. ICube-SERTIT took the Project Manager role and provided the value adding support to produce the maps.

5. Industrial accident in Lebanon

A massive explosion rocked Lebanon's capital, Beirut, leaving at least 134 people dead and over 4,000 more injured, with many nearby buildings leveled to the ground on 4 August.

The accident was caused by the explosion of a large quantity - 2,750 tons - of ammonium nitrate at a warehouse in the port. The explosion was so powerful that the United States Geological Survey registered it as a 3.3 magnitude earthquake. Residents in Cyprus and Israel also reported feeling the explosion.

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