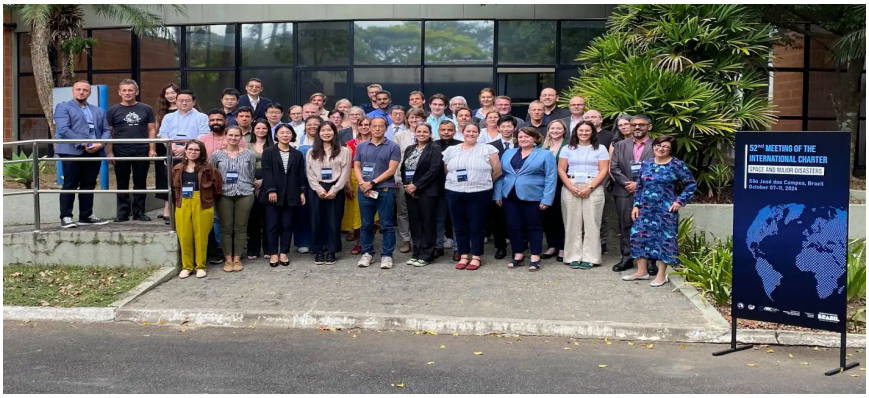
The International Charter Space and Major Disasters
NEWSLETTER

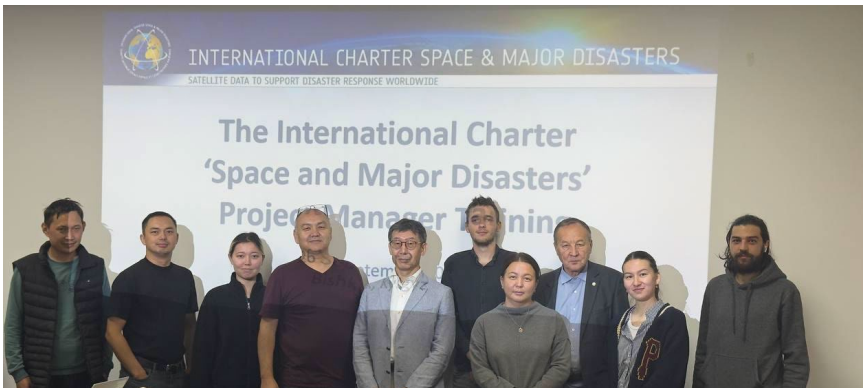
May 2025 | Issue 30

Activations on map @DisastersChart



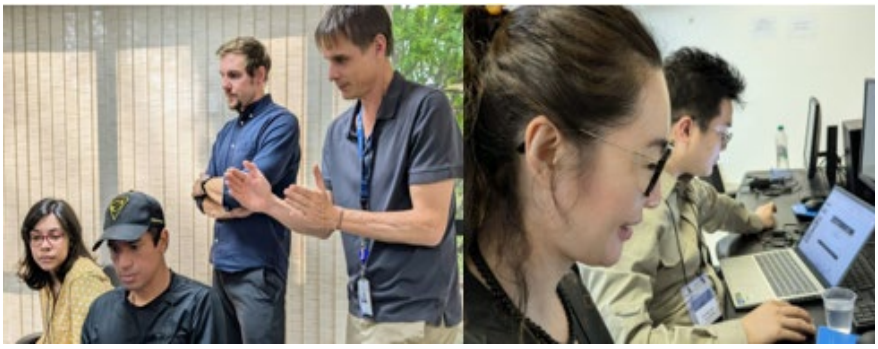

## INPE – Charter Leadership

National Institute for Space Research (INPE) became leader for the Charter in October 2024, succeeding the joint lead period of German Space Agency (DLR) and EUMETSAT.




## PM Training by JAXA

Japan Aerospace Exploration Agency (JAXA) organizes PM training sessions in Sentinel Asia member countries every year. The most recent of these trainings was held in Kyrgyzstan.



## VA training at 52nd Meeting in Brazil – INPE / ESA

National Institute for Space Research (INPE) and the European Space Agency (ESA) hosted an intensive training session for Value Adders (VAs).

# SATELLITE DATA TO SUPPORT DISASTER RESPONSE WORLDWIDE

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## INPE six-month leadership

For the second time, Brazil's National Institute for Space Research (INPE) took the responsibility of the Charter leadership in October 2024, succeeding the joint lead period of German Space Agency (DLR) and EUMETSAT. This specific time, INPE volunteered to lead and host the 52nd Charter Meeting with less than a year to prepare it.

The 52nd Meeting (7th to 11th October 2024) took place in São José dos Campos, near to São Paulo, Brazil at the Brazilian National Institute for Space Research. Around 70 participants representing 15 space agencies from all over the world attended the meeting. During the scheduled meeting breaks, the attendees had a chance to explore two of Brazil's most famous Programs: The Biome Deforestation Satellite Monitoring Program (PRODES) and the Wildfire Management Program (Queimadas), as well as other important satellite related facilities. In addition to learning what INPE does in its commitment to Earth Observation, the group was also able to learn a bit about Brazilian culture and history, as they were invited for a tour of the Football Museum in São Paulo.

Members having an informal conversation during a coffee break at the 52nd Charter Meeting.

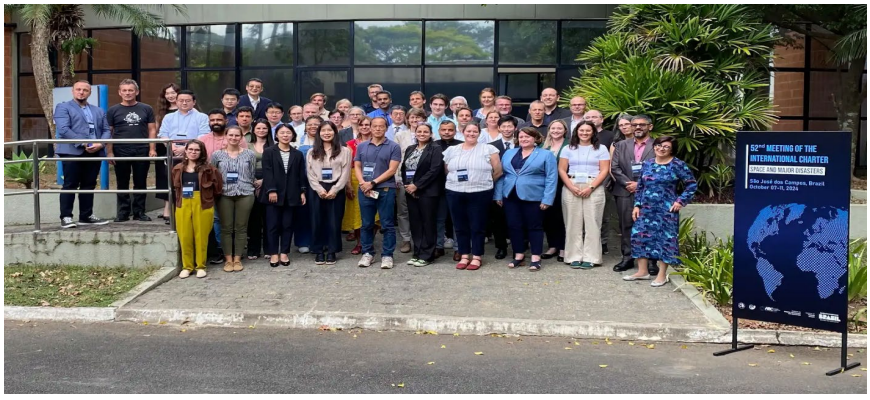
Brazil, through INPE, has been participating in the Charter since November 8th, 2011, when it signed its entry during a meeting of the Committee on Earth Observation Satellites (CEOS). But as of August 2018, INPE has been providing a regular supply of EO satellite images, high quality VAPs for worldwide activations, and an administrative committed support to the Charter. During this time, the team has grown from a single person to a total of 4 EO scientists dedicated to assisting and responding to the Charter´s increasing demand for DRM capabilities.

Charter Group on a tour at the Football Museum in São Paulo City.

Also, as part of its Data Contributor service, INPE has been providing systematic satellite images from CBERS and AMAZONIA-1, an ongoing effort to increase the Charter´s availability in responding to Disaster events. Additionally, as a scientific educational institution, INPE fosters the participation of its graduate students in Charter activities. The students develop geoinformation retrieval skills by taking up roles as Value Adders (VAs) for activations. The students produce and publish Value added products using GIS software as well as the tools available in the ESA Charter Mapper (#25 Newsletter).

As a highlight for this six-month period, a considerable wave of new Authorized Users were accepted (St. Vincent and the Grenadines, Kazakhstan, Uzbekistan, Belize) or are currently under evaluation for formal approval by the Charter Board (Rwanda, Cuba, Somalia, Namibia). Also, a new Data Contributor, China Siwei Surveying and Mapping Technology Co., became a data provider, expanding the Charter's satellite constellation.

The lead role will be passed to the Indian Space Research Organisation (ISRO), during the upcoming 53rd Meeting of the International Charter, to be held in Hyderabad, India in April 2025.




Charter members attending the 52th meeting in Brazil

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## Celebrating the 25th anniversary of the International Charter Space and Major Disasters

In 2025, we celebrate the 25th anniversary of the International Charter: Space and Major Disasters. The Charter was founded by CNES and ESA in 1999, and the two agencies were soon joined by CSA. The Charter was signed on 20 October 2000 and declared operational on 1 November 2000.

In order to commemorate the milestone achievement of supporting disaster monitoring for a quarter of a century, we are celebrating the anniversary throughout 2025. We are releasing a new video and a redesigned website. On the website and on social networks, web stories will be published each month to explain various experiences and stories of the Charter. Exhibitions, presentations, sessions and events at conferences such as ESA's Living Planet Symposium and the Paris Air Show (both taking place in June) will be occasions to promote the Charter to a broad audience.

The date of the anniversary - 20 October - will coincide with the beginning of CNES' leadership and the organization of the 54th Charter meeting in Strasbourg, France where all Charter members will reunite (for international celebration, visits, awards, goodies and surprises). All together, we will remember, celebrate and look forward to the future of this amazing international collaboration.


Logo of the 25th anniversary of the International Charter Space and Major Disasters

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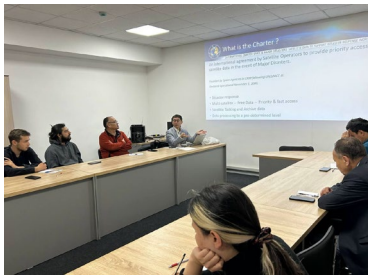
## Project Managers Training by JAXA


PM Training at CAIAG, Kyrgyzstan

Project Managers (PM) play a critical role during Charter activations. They serve as the sole link between the Charter member agencies, data suppliers, local disaster management authorities, and data users. The PM contacts each stakeholder within the Charter to efficiently manage the activation process and help users benefit from Charter data and value-added-products. Each Charter member agency, including the Japan Aerospace Exploration Agency (JAXA), continues to train PM candidates, who join a pool of resources available to support new activations.

JAXA organizes PM training sessions in Sentinel Asia member countries every year. Sentinel Asia is an international framework to share space technologies for disaster management in the Asia-Pacific region. In September 2024, JAXA organized a one and a half-day PM training in Kyrgyzstan in cooperation with the Central Asian Institute for Applied Geosciences (CAIAG), attended by approximately ten participants. Kyrgyzstan had requested Sentinel Asia's Emergency Observation six times in 2024 only and three of these requests were escalated to the Charter.

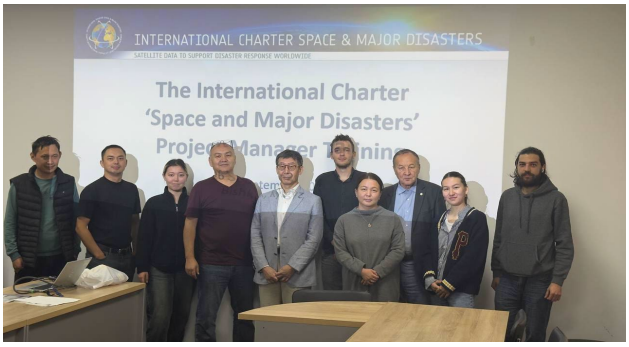
The following Charter activations for Kyrgyzstan were escalated from Sentinel Asia in 2024:

Activation ID 889 - Landslide in Kyrgyzstan in June

Activation ID 898 - Flood in Kyrgyzstan in July

Activation ID 902 - Mudflow in Kyrgyzstan in August

The participants of the PM training learned how the Charter works and the role of a PM. The European Space Agency (ESA) delivered an online lecture on the "Charter Mapper", a processing environment developed by ESA. Mr. Syams Nashrrullah from the Geoinformatics Center at the Asian Institute of Technology (GIC-AIT) also shared his experiences as a PM. During the session, participants actively engaged by asking questions, making the training highly meaningful and providing an opportunity to build strong relationships. The participants are expected to serve as PMs for future Charter activations in the region.



Participants of the PM Training at CAIAG, Kyrgyzstan

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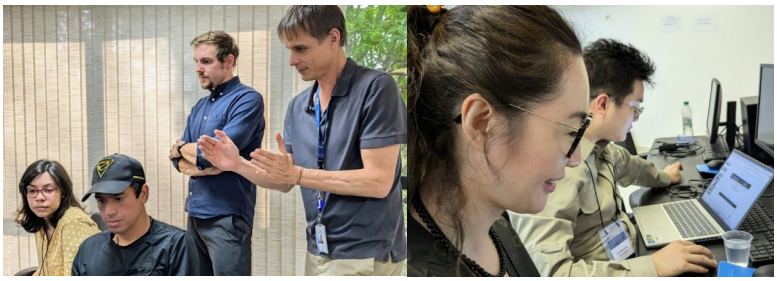
## VA training at 52nd Meeting in Brazil – INPE / ESA

During the 52nd International Charter 'Space and Major Disasters' Meeting, held in São José dos Campos, Brazil, the National Institute for Space Research (INPE) and the European Space Agency (ESA) hosted an intensive training session for Value Adders (VAs). This training aimed to equip participants with specialized skills and practical experience in producing Value Added Products (VAPs) for disaster response.

The workshop took place on October 7–8, 2024, at INPE, aligning with the broader agenda of the Charter meeting. The training was led by three eminent experienced GIS specialists: Zachary Foltz (ACRI-ST c/ESA), Alexandre Homem de Mello (INPE), and Alisson de Oliveira (INPE). They provided expert in-depth guidance on utilizing the ESA Charter Mapper, a cloud-based Earth Observation (EO) data platform designed to support Charter activations with an array of visualization options and advanced optical and radar image processing tools.

Approximately 15 international participants from academia, satellite companies, and governmental agencies engaged in hands-on exercises. They worked with real-world disaster scenarios, analyzing satellite data from past activations of the Charter, particularly Activation-875: Flooding in Brazil. Some participants had experience with this disaster when it occurred in early 2024, involving severe flooding in the Rio Grande do Sul Region of southern Brazil. Data were accessed from missions such as Sentinel-1/2, CBERS-4, RADARSAT, TerraSAR-X, Pleiades, and WorldView. Additional participants followed some of the presentations online. The training followed a structured approach:



Instructors guiding participants on the visualization of satellite imagery for disaster response

**Day 1 (October 7):** Participants were introduced to the operational framework of the Charter, Value Adder responsibilities, and key EO data processing methods. They also explored the Charter Operational System (COS-2), discussed challenges in Charter Mapper usage, and examined licensing issues related to satellite imagery and Value Added Products (VAPs). The day concluded with a visit to INPE's Coordination Center for Satellite Operations (CCS).

**Day 2 (October 8):** The second day focused on hands-on exercises using optical and radar imagery, leveraging the past activation in Brazil as a use case. With the guidance of the instructors, the participants were able to derive geoinformation from the sample imagery using the processing services available in the Charter Mapper. Participants were given time to explore the functionalities of the processing environment and were asked to generate sample VAPs, in order to be prepared for a real activation. The session ended with a visit to INPE's Integration and Testing Laboratory (LIT), followed by a discussion on recommendations for optimizing VA workflows with the Charter's Executive Secretariat (ES). Sample products produced during the workshop were also presented to the ES for feedback purposes.

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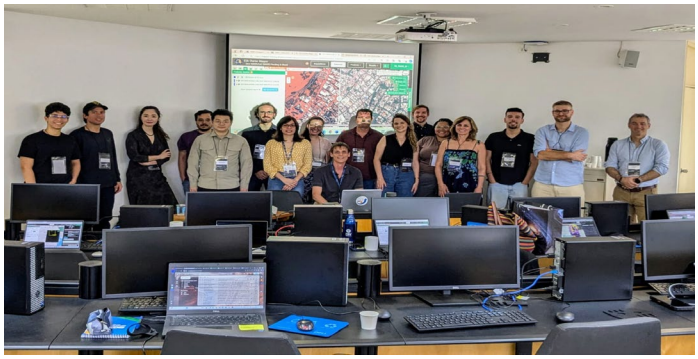
The training emphasized not only technical proficiency but also innovation. Participants were encouraged to develop new methodologies for disaster assessment and response, ensuring that the Charter remains at the forefront of providing timely and reliable geospatial information to support emergency relief efforts. By the end of the workshop, participants had gained crucial experience in transforming satellite imagery into actionable disaster response data, reinforcing the critical role of Value Adders within the Charter's mission.



Participants and instructors of the VA Workshop

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## The Importance of the Charter in Strengthening Risk Management Capacities in Latin American Countries with Space Programs under Development: Venezuelan experience.

Latin America faces increasing vulnerability to a wide range of natural disasters, including earthquakes, volcanic eruptions, hurricanes, floods, landslides, and wildfires. The region's geographical and climatic diversity results in a complex and significant disaster risk profile. This is compounded by the projected intensification in the frequency and magnitude of extreme weather events due to climate change, necessitating comprehensive and multifaceted disaster management approaches tailored to each country and sub-region.

In this context, the capacity of space technology to monitor and characterize these phenomena emerges as a crucial tool for mitigating disaster risks, illustrating the fundamental value of data collection for risk assessment and early warning through Earth observation satellites.

This gave rise to the International Charter on Space and Major Disasters (hereafter, the Charter), an international framework that provides humanitarian assistance through the delivery of satellite data supplied by its member space agencies and satellite operators.

This mechanism ensures that nations affected by natural disasters receive the necessary information and support, as has been demonstrated in the Latin American region in recent years, such as in 2023, with the assistance provided to Brazil, Mexico, Chile, and Colombia, and to Peru, Bolivia, Venezuela, and Uruguay in 2024, delivering relevant data for the management of diverse natural events.

ABAE´s Meeting in 2024

The Charter, in turn, operates as a collaborative framework, involving 17 member organizations, including international space agencies, governmental bodies, and satellite operators, from: Argentina, Brazil, Canada, China, the European Union, South Korea, the United States, the United Arab Emirates, India, Japan, the United Kingdom, Russia, and Venezuela. Furthermore, within the framework of the principle of universal access promoted by the Charter, there is the figure of the Authorized User, representatives of organizations whose risk management capacities benefit from using satellite products provided by the Charter for effective disaster management.

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In this way, the Charter provides opportunities for Latin American countries to establish partnerships, exchange knowledge, and potentially access technology transfer. These initiatives aim to develop the technical skills of professionals in countries where satellite capabilities are limited in scope or technological maturity, enabling them to effectively access, process, and analyze satellite data for disaster preparedness, response, and recovery.

The Bolivarian Agency for Space Activities of Venezuela (ABAE), for example, has been a member of the Charter since 2016, and also has a registered Authorized User; the National Directorate of Civil Protection and Disaster Administration of Venezuela. ABAE has managed six Charter activations for natural disasters that occurred between 2005 and 2024. These contributions allowed for timely management of floods that occurred in the north and south of Venezuela, which optimized rescue and salvage operations, identification of vulnerable areas and populations, the efficient implementation of available resources, as well as the recovery and mobilization efforts after the event carried out by the National Directorate of Civil Protection and Disaster Administration.

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