UNITED NATIONS
OFFICE FOR OUTER SPACE AFFAIRS

UN-SPIDER
ADVISORY SUPPORT

United Nations Platform for Space-based Information
for Disaster Management and Emergency Response








UNITED NATIONS

OVERVIEW

The United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), a programme implemented by the United Nations Office for Outer Space Affairs (UNOOSA), assists developing countries in using space-based information in the full disaster management cycle. While doing so, it has supported United Nations Members States in implementing the "Hyogo Framework for Action 2005: Building the Resilience of Nations and Communities to Disasters" by engaging with their national disaster management agencies and other partners. Since the adoption of the "Sendai Framework for Disaster Risk Reduction 2015-2030", UN-SPIDER has worked together with a number of networks and in partnership with Member States to make use of the benefits of space-based information for disaster risk reduction. The services offered by UN-SPIDER include, but are not limited to, technical advisory support through technical advisory missions (TAM), capacity-building activities through workshops and trainings, and access to space-based information for disaster management through its Knowledge Portal.

UN-SPIDER so far has conducted technical advisory missions in 35 countries and provided unique recommendations to these countries with regards to policy and coordination; data access, availability and sharing; capacity–building; institutional and disaster risk reduction strengthening; early warning; and preparedness and emergency response efforts.

UN-SPIDER supports emergency response efforts in cooperation with mechanisms such as the International Charter "Space and Major Disasters", the Copernicus Emergency Management Service (EMS), and Sentinel Asia. It also maintains bilateral agreements with private and public providers of space-based information such as DigitalGlobe and the China National Space Administration. The work of UN-SPIDER is supported by a network of 22 Regional Support Offices that are regional or national centres of expertise within an existing entity in a Member State. Regional Support Offices are hosted by space agencies, research centres, universities and disaster management institutions.

In the context of internationally agreed frameworks, in particular the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction and the Paris Climate Change Agreement, the UN-SPIDER programme is preparing to offer an enhanced contribution in line with UNISPACE+50 and the Space2030 agenda that will be developed over the next two years. Of the seven thematic priorities of UNISPACE+50, thematic priority 6 deals with "International Cooperation Towards Low-emission and Resilient Societies". In the context of this thematic priority, UN-SPIDER aims to achieve a major impact in four interdependent areas: disaster risk reduction, mitigation and adaptation to climate change, sustainable development, and resiliency of space-based systems. It will also contribute to the four pillars of space, namely space economy, space society, space accessibility and space diplomacy.

At the same time, UN-SPIDER continues to provide services to Member States by being a gateway to space information for disaster management support, by serving as a bridge between the disaster management and space communities, and by acting as a facilitator of capacity-building and institutional strengthening, in particular for developing countries.

This booklet presents a compilation of cases where the long-term engagement by UNOOSA and its UN-SPIDER programme with disaster management stakeholders in Member States has led to a more prominent role of space-based information in their disaster management efforts. Through the institutionalization of the use of space data, these states are now better prepared for and can respond faster to disasters that cause loss of lives and property, destroy livelihoods and bring about tremendous damage to societies around the world. When a disaster takes place, UN-SPIDER supports Member States' emergency response by facilitating their access to information. This and other services the programme offers are supported by a number of networks UN-SPIDER engages with and which are presented in this publication as well.

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UN-SPIDER Technical Advisory Missions (as of June 2018)

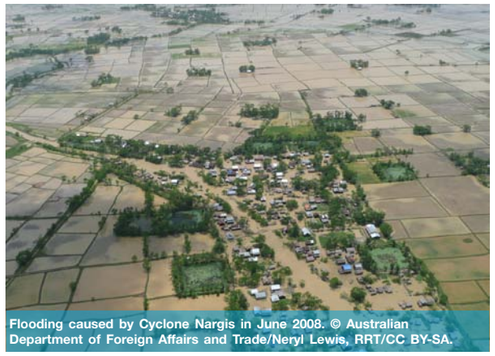
Training course on the "Use of Earth Observation Data and GIS Techniques for Landslide Hazard Mapping".

MYANMAR

Myanmar is located in the western portion of mainland South-East Asia. Its location means that the country is exposed to and impacted by multiple natural hazards, with the aftermath of disasters often exacerbated by deficits in local coping capacities. Myanmar's coastal regions are exposed to cyclones and tsunamis: in May 2008, over 84,000 lives were lost and around 2.4 million people affected in total when Cyclone Nargis struck the country. Rainfall-induced flooding and landslides are a recurring phenomenon across Myanmar, while major parts of the country are at risk from earthquakes and wildfires. On the other hand, the dry season can bring drought conditions that have a detrimental effect on water supplies and crop yields, especially in El Niño years. Disaster management is essential in order to minimize the impact on people and their livelihood.

In March 2012, UN-SPIDER carried out a technical advisory mission (TAM) to Myanmar upon invitation from the Ministry of Social Welfare, Relief and Resettlement (MSWRR). The mission team had in-depth discussions with all the agencies involved in disaster management and identified the need to upgrade technical knowledge in the use of space technology to improve hazard mapping. The mission provided recommendations that highlighted the critical matters to address related to technical capacity, inter-agency coordination and the need for the establishment of a "Hazard Response and Operations Centre".

As a follow-up to the recommendations in the TAM report, UN-SPIDER organized a training session on "Geo-Informatics for Disaster Risk Management in Myanmar" from 26 to 30 November 2012, to strengthen the capacity of national organizations and stakeholders of disaster management. Through the training, disaster management practitioners gained knowledge and skills about the use of space-based and geospatial information, as well as about tools and techniques for effective disaster risk management. To improve the capacity for landslide hazard mapping using space-based and geospatial information, UN-SPIDER organized a training session on the "Use of Earth Observation Data and GIS Techniques for Landslide Hazard Mapping" from 27 June to 1 July 2016, at the request of MSWRR. A year later, the programme organized a further training mission. Together with its partners from the United Nations Human Settlement Programme (UN-HABITAT) and the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), UN-SPIDER conducted a training session on the "Post Disaster (Earthquake) Rapid Damage Assessment", with the goal of strengthening skills in using integrated Earth observation technology for earthquake damage and loss assessment. This series of trainings, as recommended by the 2012 TAM, further strengthened the capacity of MSWRR and other related institutes. Nowadays, MSWRR is undertaking efforts to utilize remote sensing and geographic information systems (GIS) in their disaster risk reduction matters by the establishment of the "Emergency Operation Center (EOC)", which consists of four units, including a remote sensing unit and a risk assessment and emergency response unit.



Flooding caused by Cyclone Nargis in June 2008. © Australian Department of Foreign Affairs and Trade/Neryl Lewis, RRT/CC BY-SA.

UN-SPIDER has also supported the technical development of MSWRR personnel. A recommendation of the 2012 TAM was for MSWRR to have at least one member of staff trained in remote sensing and GIS. To support MSWRR to achieve this recommendation, UN-SPIDER supported a staff member from the Relief and Resettlement Department to attend a short duration course at the UN-affiliated Centre for Space Science Technology Education in Asia and the Pacific. This staff member further continued her education with a master's degree in remote sensing and geographic information systems at the Asian Institute of Technology in Thailand. The Disaster Management Training Center itself now conducts courses in remote sensing and GIS, and thereby builds the capacity of local professionals.

Supported by UN-SPIDER, Myanmar has become the first country in the Association of Southeast Asian Nations (ASEAN) to apply for Universal Access to the International Charter "Space and Major Disasters". This would allow MSWRR to directly activate the Charter to acquire satellite images, which would help the country's disaster management agencies to be better equipped to deal with emergency situations.

The government of Myanmar, through its Ministry of Education, has initiated the National Spatial Data Infrastructure (NSDI) project to facilitate access to geospatial data for national authorities. NSDI is not only relevant for administrative, managerial and development matters, but also to identify and implement disaster risk reduction measures. OneMap Myanmar, another initiative of the government, brings together public authorities, civil society organizations and private sectors actors to enhance access to data, information and knowledge with the objective of fostering evidence-based decision-making. OneMap is envisaged as a publicly accessible online platform and will contribute to disaster preparedness and response actions.

UN-SPIDER continues to support Myanmar and provides advice related to including space-based information as a valuable resource to new initiatives such as the Myanmar Consortium for Capacity Development on Disaster Management and the Natural Disaster Management Committee as well as to the new Myanmar Action Plan for Disaster Risk Reduction. It also works together with MSWRR to support the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 and the 2030 Agenda for Sustainable Development in the country.

Participants at the training on the "Use of Earth Observation Data and GIS Techniques for Landslide Hazard Mapping". © Ministry of Social Welfare, Relief and Resettlement (MSWRR) of Myanmar.

2012
Technical Advisory Mission

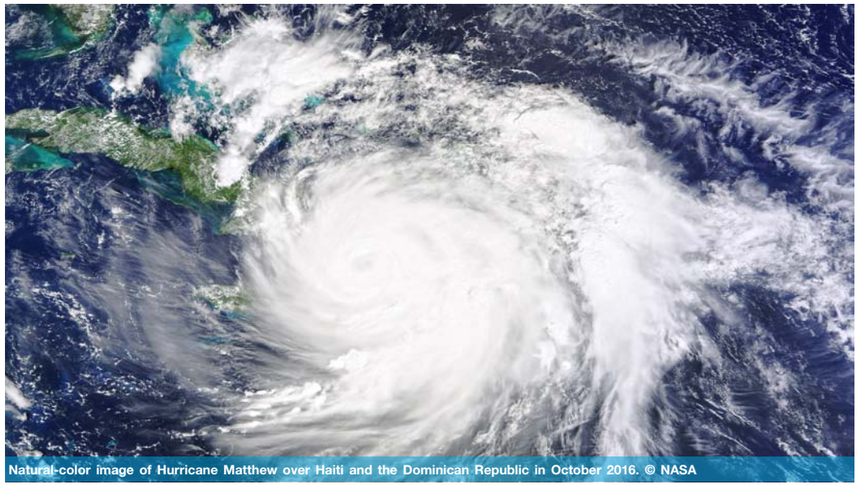
2012
Meeting of donors and partners, and training on "Geo-Informatics for Disaster Risk Management in Myanmar"

2013-2015
Establishment of a remote sensing unit in the Ministry of Social Welfare, Relief and Resettlement (MSWRR)

2016
TAM follow-up and training on the "Use of Earth Observation Data and GIS Techniques for Landslide Hazard Mapping"

2017
TAM follow-up and training on "Post-Disaster (Earthquake) Rapid Damage Assessment"

2017
Ministry of Social Welfare, Relief and Resettlement (MSWRR) becomes an Authorized User of the International Charter



Natural-color image of Hurricane Matthew over Haiti and the Dominican Republic in October 2016. © NASA

DOMINICAN REPUBLIC

The Dominican Republic has repeatedly faced challenges from extreme weather events. When hurricanes and tropical storms rip through the nation, floods, landslides and storm surges cause damage and destruction to lives and properties in the country. In 2016, the country faced Hurricane Matthew, and one year later Hurricanes Irma and Maria caused further devastation. However not only is the island nation exposed to tropical storms and hurricanes each year, but it also experiences severe droughts by the manifestation of an El Niño event. With severe weather having such a detrimental effect on the Dominican Republic, planning for prevention and disaster response is key to minimizing the impact on people's lives and properties.

UN-SPIDER first became involved in the disaster risk management process with a technical advisory mission to the Dominican Republic at the end of January 2010 at the request of the National Emergency Commission (NEC) and the National Secretariat for Foreign Affairs. Experts taking part in the mission designed a set of main recommendations, aligned with Decree Law 147-02 and other initiatives conducted by the NEC, to further improve the disaster management system. The main policy-relevant recommendation was for the NEC to incorporate the use of space-based information in its activities. It was also suggested to establish an inter-institutional group, which could be trained by UN-SPIDER and focus on the processing of satellite imagery to generate relevant information. In addition, the experts advised to incorporate the use of space-based information into the Emergency Operations Centre's Standard Operating Procedures and encouraged the Technical Committee on Prevention and Mitigation of Risks to implement the National Integrated Information System and promote its use in risk management efforts throughout the country.

Further to the recommendations, UN-SPIDER has taken a central role in assisting the development of effective practices in disaster management in the country. Firstly, UN-SPIDER assisted in the establishment of the Technical Inter-Institutional Geospatial Information Team (EIGEO) by conducting a workshop in 2011 alongside NEC with representatives of various government agencies, universities and non-governmental organizations (NGOs) to define the team's terms of reference. The EIGEO team brings together professionals from 14 ministries, government agencies, universities and NGOs who have been trained, by UN-SPIDER, on the use of geographic information systems and remote sensing applications. Since participating in training courses in 2013 and 2016, the EIGEO team has been very active. In response to tropical storm Danny in 2015, the team generated maps and geospatial information related to the floods the storm had brought about to aid the management of the crisis. Also significant is the EIGEO team work during Hurricane Matthew, when it processed its first Cosmo-Skymed radar images, provided by the Italian Space Agency, to map the extent of floods on the border between the Dominican Republic and Haiti. In parallel to this, the EIGEO team supported the project manager designated by the International Charter "Space and Major Disasters" in the development of additional maps of areas affected by floods in the country. Hurricanes Irma and Maria in 2017 also saw the team become active and create maps that were used in response efforts in areas affected by the hurricane. Information produced by the EIGEO team has therefore been indispensable in supporting emergency relief efforts in areas affected by tropical storms and hurricanes in the Dominican Republic.

UN-SPIDER / IGAC Regional Expert Meeting in Bogota, Colombia, in August 2015.

Space-based technology has increasingly been used in the Dominican Republic for disaster risk reduction and response efforts. A significant step for the National Emergency Commission was its incorporation as an Authorized User of the International Charter "Space and Major Disasters" in September 2015 as a result of efforts conducted by Argentina's National Commission on Space Activities and UN-SPIDER. Subsequently, the National Emergency Commission has increasingly requested the activation of the International Charter upon crisis - arming emergency, rescue and relief organizations in the country with reliable and accurate information so they are better equipped to save lives and limit damage to property, infrastructure and the environment.

Taking note of the usefulness of space-based information in disaster risk reduction and response efforts, the government of the Dominican Republic advocated for the incorporation of specific texts to that effect in the Sendai Framework for Disaster Risk Reduction 2015-2030. The suggested texts were included under Priority Area 1 of the Sendai Framework: "Understanding Risk". At the same time, the National Emergency Commission contributed to the establishment of the Global Partnership Using Space-based Technology Applications for Disaster Risk Reduction (GP-STAR), which was launched along with the Sendai Framework during the 4th World Conference on Disaster Risk Reduction in March 2015.

With the Dominican Republic becoming a strong advocate for the usefulness of space-based information in disaster risk reduction and response efforts, the National Emergency Commission and UN-SPIDER conducted the UN-SPIDER Regional Expert Meeting for Latin America and the Caribbean in Santo Domingo in July 2016 with more than 60 experts.

The establishment of the EIGEO team, the incorporation of the National Emergency Commission as an Authorized User of the International Charter "Space and Major Disasters" and the implementation of the National Integrated Information System for Risk Management are significant steps for the country's effective disaster management system. These steps constitute the cornerstones for the Dominican Republic to take advantage of the opportunities that the space community is making available worldwide regarding access to space-based technologies to contribute to disaster risk reduction, preparedness, response and recovery efforts.

Experts from Argentina's National Commission on Space Activities (CONAE), a UN-SPIDER Regional Support Office, train members of the Technical Inter-institutional Geospatial Information Team (EIGEO) of the Dominican Republic. © National Emergency Commission of the Dominican Republic

2010
Technical Advisory Mission

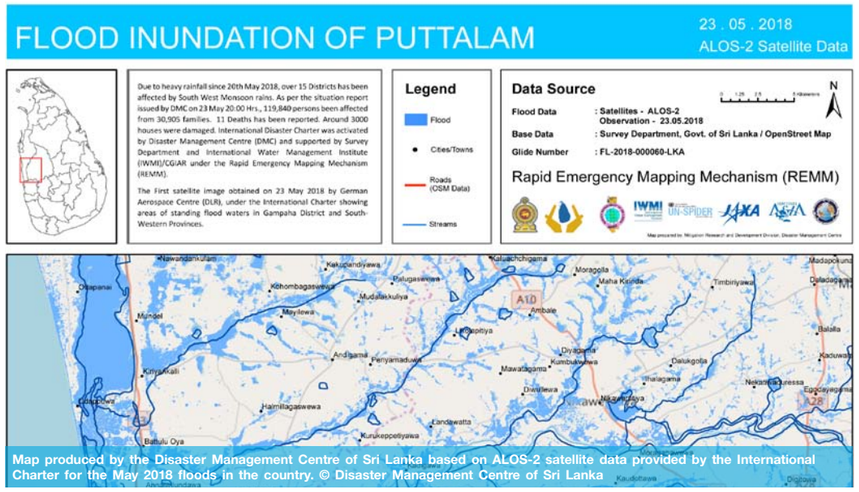
2011
Institutional Strengthening Mission to elaborate the terms of reference for the Inter-institutional Geospatial Information Team (EIGEO)

2013
Establishment of EIGEO

2013
Training on "Remote Sensing in the Context of Floods"

2016
Trainings on UN-SPIDER Recommended Practices on droughts and floods

2017
International Charter nominates EIGEO team as project manager for activation for Hurricane Irma



Map produced by the Disaster Management Centre of Sri Lanka based on ALOS-2 satellite data provided by the International Charter for the May 2018 floods in the country. © Disaster Management Centre of Sri Lanka

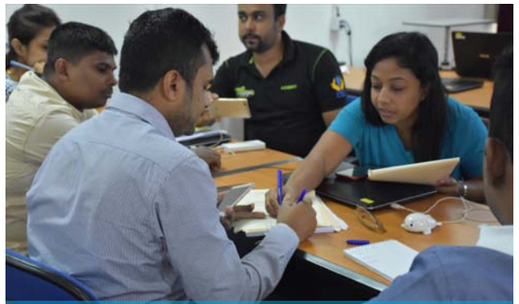
SRI LANKA

Throughout the past decades, Sri Lanka has experienced floods, droughts and earthquakes that have caused loss of lives and property. In 2004, the South Asian island state was hit by the Indian Ocean tsunami, with over 30,000 losing their lives in the waves triggered by an undersea earthquake north of Indonesia. Floods constitute the most frequent natural disaster in the country and pose a risk to lives, besides damaging property and crops. In May and June 2017, over half a million people were affected by floods, landslides and heavy monsoon winds, which destroyed many houses and led to an increase in dengue cases. The United Nations Office for Outer Space Affairs (UNOOSA), through its UN-SPIDER programme, supported partners in the country in accessing relevant information at that time. Sri Lanka has also been significantly affected by droughts, a result of the country's close location to the equator, which makes it prone to warm weather conditions. The country went through what is believed to be the worst drought in 40 years in 2017, after experiencing a lack of rainfall since late 2016. More recently, landslides have become a frequent phenomenon and led to the death of over 120 people in May 2017.

UN-SPIDER's engagement with Sri Lanka started in October 2011, when it conducted a technical advisory mission (TAM) to the country upon invitation from the Ministry of Disaster Management (MoDM) and its associated Disaster Management Centre (DMC). During the mission, UN-SPIDER consulted with 11 institutions to assess the country's activities, capacity and policies related to the use of space-based information for disaster management and emergency response. It also organized a one-day workshop that brought together more than 75 representatives from various national and UN agencies to discuss cross-cutting issues related to the use of geographic and space-based information for disaster risk reduction and emergency response. Based on the visit, UN-SPIDER recommended that the Ministry of Disaster Management put forward policy proposals for information sharing among data providers. It also suggested to continue the implementation of the National Spatial Data Infrastructure (NSDI), besides maintaining relevant institutions' access to data and satellite imagery. Another set of recommendations were related to training activities, which UN-SPIDER suggested MoDM and DMC carry out to strengthen the capacity of government departments involved in disaster risk management for the analysis of satellite data.

UN-SPIDER conducted a number of follow-up activities to the 2011 TAM to support Sri Lanka in institutionalizing the use of space data in disaster management. A training course in 2012 addressed the topic of "Space Technology for Improving Hazard Mapping in Sri Lanka", while capacity-building activities in 2014 focused on flood risk mapping, modelling and management. During the latter, 22 disaster management stakeholders were trained in how to access and disseminate flood-related information easily, quickly and accurately. A workshop bringing together 90 professionals from national institutions, and non-governmental and international organizations had taken place the day before. The Colombo-based International Water Management Institute (IWMI), one of 22 UN-SPIDER Regional Support Offices, jointly organized these events, highlighting how UN-SPIDER's partners regularly team up to facilitate the programme's capacity-building work in United Nations Member States. In 2017, using its step-by-step procedure for obtaining and processing space data, so-called Recommended Practices, UN-SPIDER trained disaster management professionals in Sri Lanka in developing flood and drought maps. Carried out together with DMC, the event also introduced participants to the resources available on the UN-SPIDER Knowledge Portal.

To ensure local authorities have access to relevant space data in emergencies, UN-SPIDER supported the Disaster Management Centre of Sri Lanka in becoming an Authorized User of the International Charter "Space and Major Disasters". By becoming an Authorized User of the Charter, the DMC can now request the activation of this emergency mechanism itself, saving critical time in the event of a disaster.


Participants during a 2018 follow-up activity to the 2011 technical advisory mission to Sri Lanka. © Disaster Management Centre of Sri Lanka

During its last visit to the country in March 2018, UN-SPIDER briefed district level officials on emergency support mechanisms and the role of space technology at the site of a 2016 landslide that had left 120 dead. Together with the DMC and two of its Regional Support Offices, the Asian Disaster Preparedness Center (ADPC) and IWMI, it also carried out a workshop and national training course with a focus on conducting disaster risk assessments for development planning and effective emergency response.

A key recommendation during its 2011 TAM, the Sri Lanka government has continued supporting the development of a National Spatial Data Infrastructure (NSDI) to consolidate, optimize and facilitate the use of geospatial data across diverse organizations. This will enhance evidence-based decision making, reduce duplication and integrate services across all sectors, enabling innovative and consolidated approaches to problem solving. The country also developed a national disaster risk information platform, RISKINFO, to make disaster-relevant GIS data publicly available. Drawing upon this mechanism as well as Sentinel Asia, DMC has prepared rapid mapping products and provided essential inputs to response efforts in recent years. The institutionalization of space-based information in disaster management has led to the country being better prepared when disasters strike.


Participants of a 2018 follow-up activity to the 2011 technical advisory mission to Sri Lanka. © Disaster Management Centre of Sri Lanka.

2011
Technical Advisory Mission

2012
TAM follow-up and training on "Space Technology for Improving Hazard Mapping in Sri Lanka"

2014
TAM follow-up and training on "Earth Observation Technologies for Flood Risk Mapping, Modelling and Management"

2017
Disaster Management Centre of Sri Lanka implements a National Spatial Data Infrastructure (NSDI) and becomes an Authorized User of the International Charter

2017
TAM follow-up and training on the "UN-SPIDER Knowledge Portal and Recommended Practices on Floods and Droughts"

2018
TAM follow-up and training on "Application of Disaster Risk Assessment for Development Planning and Effective Emergency Response"

INTERNATIONAL NETWORKS

Meeting of the UN-SPIDER Regional Support Offices in Vienna in February 2015.

In recent decades, international cooperation and international networks have allowed countries to reach unprecedented results. At the highest level, the year 2015 stands as a landmark as nearly all countries of the world agreed to join forces to combat climate change, address the challenges posed by natural hazards and achieve sustainable development. International cooperation is one of the ways in which countries join forces to achieve results that no single country could achieve on its own.

When the United Nations General Assembly established UN-SPIDER, it tasked the programme with creating a network of regional support offices for implementing the activities of the programme in their respective regions in a coordinated manner and to make use of their experience and capabilities. Since 2009, UN-SPIDER has approached space agencies, international and regional centres focusing on disaster management and Earth observation technologies, centres of excellence in universities, and government agencies to implement and expand this network. Currently, the network of Regional Support Offices (RSO) has 22 institutional members and its contribution to the programme has been highly relevant. Experts from these RSO have accompanied UN-SPIDER in technical advisory and institutional strengthening missions. They contribute actively to awareness-raising efforts in regional and international events organized by the programme, carry out training activities on the use of space technologies in disaster risk reduction and emergency response, and have contributed valuable content to the UN-SPIDER Knowledge Portal over the years.

The Sendai Framework for Disaster Risk Reduction 2015-2030 calls for regional and global efforts to promote and enhance, through international cooperation, access to and the sharing and use of geospatial and space-based technologies and related services. UN-SPIDER joined forces with more than 20 partners to launch the Global Partnership using Space Technology Applications for Disaster Risk Reduction (GP-STAR) in 2015. This partnership showcases and facilitates the contributions of space technology applications to disaster risk reduction efforts worldwide.

In parallel to GP-STAR, UN-SPIDER partnered with the United Nations Office for Disaster Risk Reduction (UNISDR) and the World Meteorological Organization (WMO) to launch the International Network on Multi-Hazard Early Warning Systems (IN-MHEWS) in 2015. IN-MHEWS exemplifies the importance of multi-stakeholder cooperation in multi-hazard early warning systems. The network compiles and disseminates lessons learnt regarding early warning and increases the efficiency of investments in multi-hazard early warning systems for stronger societal resilience. IN-MHEWS organizes international fora, seminars and conferences to facilitate the exchange of ideas, expertise and good practices in multi-hazard early warning systems. The first main activity of IN-MHEWS was its Multi-Hazard Early Warning Conference in Cancun, Mexico, in May 2017. In addition, IN-MHEWS recently released a publication entitled “Multi-Hazard Early Warning Systems: a Checklist”. The role of UN-SPIDER in IN-MHEWS is to promote the use of satellite technologies in multi-hazard early warning systems.

UN-SPIDER’s partners and networks play an important role in supporting the programme to implement its mandate and promote the use of space-based information for disaster management efforts.

UN-SPIDER Regional Support Offices (as of June 2018)

EMERGENCY RESPONSE

International Charter project manager training in Vienna, attended by experts from seven Regional Support Offices.

Domestic emergency response efforts in countries often require international assistance, especially when it comes to access to space-based technology. In order to aid United Nations Member States suffering from emergency situations, UN-SPIDER aims to facilitate their swift and efficient access to space-based information. This includes all types of information provided by Earth observation satellites, communication satellites and global navigation satellite systems. The space community has set up several regional and global mechanisms, such as the International Charter “Space and Major Disasters” and the Copernicus Emergency Management Service (EMS), to support emergency response operations through the provision of satellite imagery to monitor the situation on the ground. UN-SPIDER supports these international mechanisms in order to promote their universal access and application to emergency situations.

UNOOSA became a Cooperating Body of the International Charter in 2003 and has worked with United Nations agencies in many countries worldwide to request the activation of the Charter in over 80 cases. Since March 2018, UNOOSA can request the activation of the Charter on behalf of national disaster risk management organizations in the framework of the Charter’s Universal Access Trial Initiative.

Copernicus EMS and the International Charter enable Member States to access space-based resources, products, systems, and operational mechanisms, which are vital for emergency response efforts. UN-SPIDER also works with Sentinel Asia. This voluntary initiative, led by the Asia-Pacific Regional Space Agency Forum, supports disaster management efforts in the Asia-Pacific region by sharing relevant space-based information from Earth observation satellites and other space technologies through a Web-GIS platform. In addition, UNOOSA has bilateral agreements with private and public providers of space-based information such as DigitalGlobe and the China National Space Administration that allow UN-SPIDER to provide satellite remote sensing data to countries during disasters.

In August 2017, Sierra Leone was affected by floods and landslides. UNOOSA activated the International Charter on behalf of the Food and Agriculture Organization of the United Nations and the United Nations Country Team in Sierra Leone in August 2017. The activation of the Copernicus Emergency Mapping Service was also requested.

To promote the Universal Access Initiative of the International Charter, UNOOSA regularly conducts awareness-raising activities through its UN-SPIDER programme. Countries often do not know about the universal access initiative of the Charter, which allows any country to become an Authorized User and obtain the privileges of activating the Charter. Through the outreach activities conducted by UN-SPIDER, many states are becoming aware of the Universal Access of the Charter and the benefits of becoming a member. The close collaboration of UN-SPIDER with disaster management authorities in developing countries has resulted in eight countries becoming Authorized Users: Myanmar and Sri Lanka in 2017, Guatemala and Uruguay in 2016, and El Salvador, Honduras, Colombia and the Dominican Republic in 2015.

UNOOSA has been a member of the International Working Group on Satellite-based Emergency Mapping (IWG-SEM) since its establishment in 2011. IWG-SEM is a voluntary group of organizations involved in satellite-based emergency mapping. It was founded in order to improve cooperation, communication and professional standards among the global network of satellite-based emergency mapping providers.

UN-SPIDER also provides support in emergency response mapping through its 22 Regional Support Offices. The 22 Regional Support Offices possess expertise in remote sensing and geographic information systems, which aid emergency relief activities greatly. Some Regional Support Offices have also acted as project managers for specific activations of the International Charter. The advantage of using local and regional expertise lies in their familiarity with the ground situation, access to other in situ data and a close working relationship with end users that allows them to understand their requirements. Through exchanges with emergency responders on the ground, information products from emergency mapping services become more precise, adapted to the situation and timely, and, as such, mobilize local and regional expertise in support of the Charter.

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The United Nations Office for Outer Space Affairs (OOSA) is responsible for promoting international cooperation in the peaceful uses of outer space and assisting developing countries in using space science and technology.