

**Canadian Statement**  
**Agenda Item 9 – Disaster Management Support**  
**Statement delivered by: Alexandra Toma, GAC**

Committee on the Peaceful Uses of Outer Space  
Scientific and Technical Subcommittee  
Fifty-seventh Session, Vienna, February 3-14, 2020

Madame Chair,

Satellites and satellite-based systems are indispensable tools to keep us safe. They play a critical role in emergency and disaster management and provide significant support to relief efforts worldwide. Disasters such as earthquakes, floods, wildfires and oil spills can be devastating. From predicting disasters before they occur to providing critical information and services to responders on the ground, satellites are essential to effective planning and relief operations.

Images taken from space can provide an overall picture of the damage and show the areas that may be difficult to access because of the disaster. Satellites also ensure that rescue teams are connected, even when ground communications networks are down, supporting telemedicine activities and making logistics possible.

Madame Chair, distinguished delegates,

Disaster management greatly benefits from the pooling of international space-based resources, and the International Charter on Space and Major Disasters is an excellent example of this.

As a founding member of the International Charter ‘Space and Major Disasters’, Canada is proud to continue contributing RADARSAT-2 data to this joint effort, which places space technology at the service of rescue and emergency responders in the event of a major disaster. Quickly armed with reliable and accurate information, response teams are better equipped to save lives and limit damage to property, infrastructure and the environment. Since RADARSAT-2 was commissioned in 2008, 1031 images were acquired for 296 Charter activations. Canada itself has also activated the International Charter 14 times, in order to receive imagery to support monitoring of disasters in Canada’s vast territory. In the spring of 2019, SAR data was utilized to monitor flooding and support relief efforts across the country.

Canada’s follow-on mission to RADARSAT-2, the RADARSAT Constellation Mission (RCM) will also be used to provide support to Charter activations. RCM will play a very important role in Canada's natural disaster management system.

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Canada is pleased to note that since the Charter adopted the principle of Universal Access, allowing disaster management authorities from all countries to become Charter users, Ghana, Kingdom of Eswatini, and Tunisia, have become users of the Charter. In May 2019, CSA hosted the 41st meeting of the Charter members and assumed responsibility as the Charter's lead agency until October 2019.

Madame Chair, distinguished delegates,

The Canadian Space Agency commissioned a study to better measure the socioeconomic value of space utilization that benefits Canadians, both of a quantitative and qualitative nature, across three key domains: satellite communication, satellite navigation, and Earth observation (EO). The study, which can now be found on the CSA website, focussed on six areas, including disaster management. In addition to the Disaster Charter, the study highlighted benefits to Canada of the international satellite system for search and rescue (COSPAS-SARSAT) which supports the detection and location of emergency beacons activated by aircraft, ships and backcountry hikers in distress.

Since 1982, 1,500 Canadians have been saved with COSPAS-SARSAT and around 18,000 people are helped in Canada each year by the Coast Guard using space technologies. The Canadian government has saved \$10 million/annually in search and rescue operations costs due to faster searches brought about by the COSPAS-SARSAT system.

Another increasingly important element of maritime disaster management is the Automatic Identification System (AIS), through which ships broadcast their identification and trajectory. Initially designed for terrestrial coordination with shore and other ships, the ability to detect AIS signals from satellites in space has resulted in the ability to create real-time global maps of maritime traffic, facilitating maritime rescue and security operations in Canada and around the world. A similar system for air traffic – known as ADS-B (for Automatic Dependent Surveillance – Broadcast) - is coming online in 2020 with the promise of improving airspace management and reducing disaster risks. Canada is evaluating this technology and expects to be an early adopter.

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Madame Chair, distinguished delegates,

Most of you in this room would agree that an ounce of prevention is worth a pound of cure. This is also true in disaster management. From space, we can continually monitor the state of our planet, enabling us to discern not only that a disaster has occurred but also that a disaster might occur in the near future. One example would be the satellites that can measure the state of our atmosphere – such as Canada’s SCISAT satellite, which has been precisely measuring the chemical composition of the upper atmosphere since 2003 and the MOPITT instrument onboard NASA’s Terra satellite, which has been measuring pollution in the lower atmosphere since 1999. By understanding the evolving chemistry of our atmosphere, we can better understand the underlying indicators of climate change and work towards mitigating against worsening impacts. Similarly potential humanitarian disasters, such as large scale population displacement, famine, and drought, may also be detected from space and if detected early enough, could lead to disaster avoidance rather than disaster response. Canada is among many nations in the initial planning phases for new science satellites, such as WildFireSat, to improve our understanding of disasters, with a goal not only to respond, but to prevent.

Finally, Madame Chair, distinguished delegates,

Climate change and natural disasters are becoming more frequent and severe. In order to better coordinate emergency response activities during a disaster, authorities around the world will continue to turn to satellites. To this end, Canada strongly encourages the signatory states of the International Charter on Space and Major Disasters, to continue working together to promptly share their satellite data to assist people and protect infrastructure and populations.

Thank you for your kind attention.