The Second Multi-Hazard Early Warning Conference (MHEWC-II)

*Early Warning and Early Action towards Sustainable, Resilient and Inclusive Societies*

13-14 May 2019, WMO Headquarters, Geneva, Switzerland

**Side Event 3 Concept Note**

**Side event title:** Big data and Space applications

**Date, time and venue:** Tuesday, 14 May 2019, 13:00-14:00, Salle Obasi

**Co-leads:** United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) of the United Nations Office for Outer Space Affairs (UNOOSA), World Meteorological Organization WMO, Netherlands Red Cross

**Side event objectives:**

- To advocate the use of big data, in particular space-based data and space technologies and corresponding new data science approaches for spatial and temporal massive data analysis in multi-hazard early warning systems (MHEWS);
- To take note of recent advances regarding the use of big data, space-based data and space technologies in MHEWS to improve all components of MHEWS; and
- To identify key recommendations to facilitate the development of novel applications to improve MHEWS using big data, space-based data and space technologies with a particular focus on developing countries;

**Expected outcomes:**

- Successful advocacy of the benefits of the use of big data, space-based data and space technologies and corresponding novel data science techniques in MHEWS;
- Inventory of available big data sources and corresponding data science techniques for MHEWS; and
- Compilation of examples/case studies of the use of big data, space-based data and space technologies in MHEWS to improve all components of MHEWS.

**Key messages:**

- Advances in big data, in particular space-based data and space technologies and corresponding data science can be used to improve all components of MHEWS;
- Fusing different big data sources holds large potential to increase timeliness and granularity of a data-driven MHEWS. Space-based data and space technologies can be used to monitor transboundary hazards and the use of satellite telecommunications enable for the monitoring of hazards in remote previously data poor places;
It is recommended that those involved in developing and managing MHEWS, whether international organizations or national and local organizations, develop a coherent data/digital strategy, a digital roadmap of how to include big data into the different MHEWS components and into their internal processes.

**Moderator:**

- Mr Jochen Luther, Scientific Officer, Multi-Hazard Early Warning Services, Division, Weather and Disaster Risk Reduction Services Department, WMO

**Keynote speaker**

- UN-SPIDER: One keynote on space technologies and its applications in MHEWS (topics will include early warning systems in case of near-Earth objects, space weather, and applications of space technologies in hazard monitoring, risk assessment and potential impacts on the basis of risk assessments)

**Speakers:**

- **Representatives from Space Agencies:**
  - David S. Green, Disaster Programme Manager, NASA.  
    [https://disasters.nasa.gov/home](https://disasters.nasa.gov/home)

- **Representative from the Private Sector:**

- **Representative from NGOs/humanitarian organizations:**
The four components of an end-to-end, people-centred early warning system, with big data sources indicated in white and corresponding big data analytics techniques in grey circles.