Geo-information for Disaster Management (Gi4DM)

From 30 November 2020 – 4 December 2020 the Climate Change and Disaster Management conference (CCDM) took place. CCDM consisted of three conferences – firstly, on Monday the SSSI NSW & WA Online Conference: Climate Change and Disaster Management, then from Tuesday to Thursday Geo-information for Disaster Management (Gi4DM), and on Thursday and Friday Urban Resilience Asia Pacific 2 (URAP2). This report focuses in the Gi4DM conference.

It was the 13th edition of Gi4DM, an annual conference since 2005 (directly after Indian Ocean tsunami 2004). The conference was hosted by the Netherlands, Italy, Turkey, Czech Republic, France, India, China, Vietnam and Canada- all countries in the Northern Hemisphere (Fig. 1).
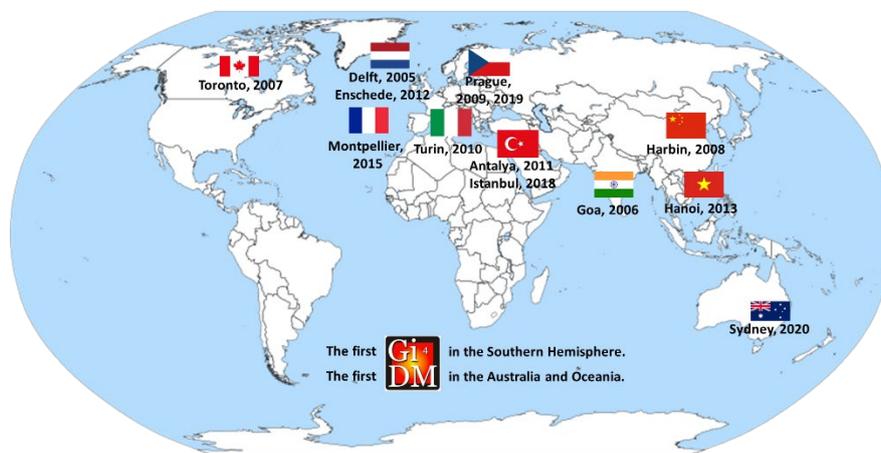
Figure 1 Countries that hosted Gi4DM since 2005

This year, Gi4DM was hosted for the first time in the Southern Hemisphere, for the first time in Australia/Oceania and for the first time fully online. 247 people participated with the majority from Australia, Italy, China, South Africa and the USA. Overall participants came from five continents Europe, Australia/Oceania, Asia, Africa and North America (Fig 2). The conference offered an existing program through the whole week.
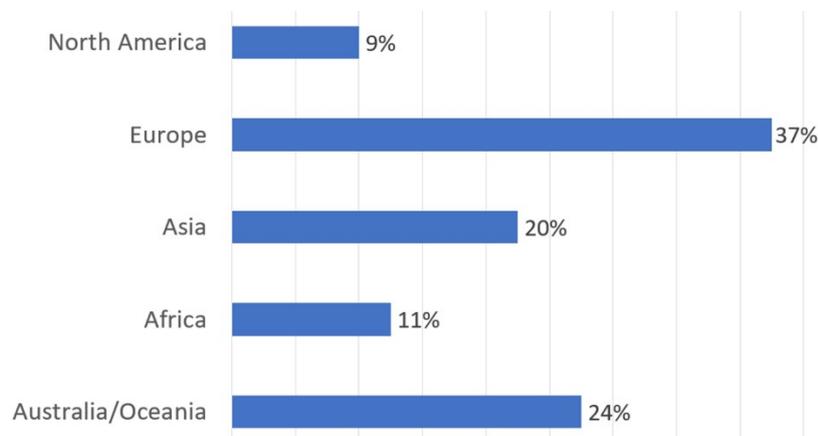

Figure 2: Gi4DM participants

On the first day six tutorials, each 3 hours in length, were given. The tutorials included Prof. Clive Fraser (University of Melbourne) talking about *Structure-from-Motion Photogrammetry*, Prof. Bruce Forster (Asia-Pacific Remote Sensing Pty Ltd) presenting *an Introduction to Radar Remote Sensing*, Dr Mitko Aleksandrov (UNSW) introducing *Creating Location-based Augmented Reality Apps with Unity and Mapbox*, Dr David McMeekin (Curtin University) speaking about *Semantic Web Tools and Technologies within Disaster Management*, Dr Dipak Paudyal (ESRI) offering a talk about *Dam Safety: How to Monitor Subsidence with SAR Interferometry*, and Dr Ori Gudes (UNSW) lecturing *Visualising bush fires datasets using open source tools*.

The conference was opened by Sisi Zlatanova, followed by the welcome to country by Aunty Yvonne Simms and an introduction by David Sanderson. The first talk was a keynote speech. Overall, four keynote presenters enriched the program. The presenters were Susan L. Cutter (Carolina Distinguished Professor & Director Hazards & Vulnerability Research Institute, University of South Carolina), Jeremy Fewtrell (Deputy Commissioner, Fire & Rescue NSW), Philip Gibbons (Fenner School of Environment and Society, Australian National University – Australia) and Orhan Altan (Istanbul Technical University Department of Geomatics, Istanbul, Turkey). Images taken from the keynote presentations are shown below (Fig 3).
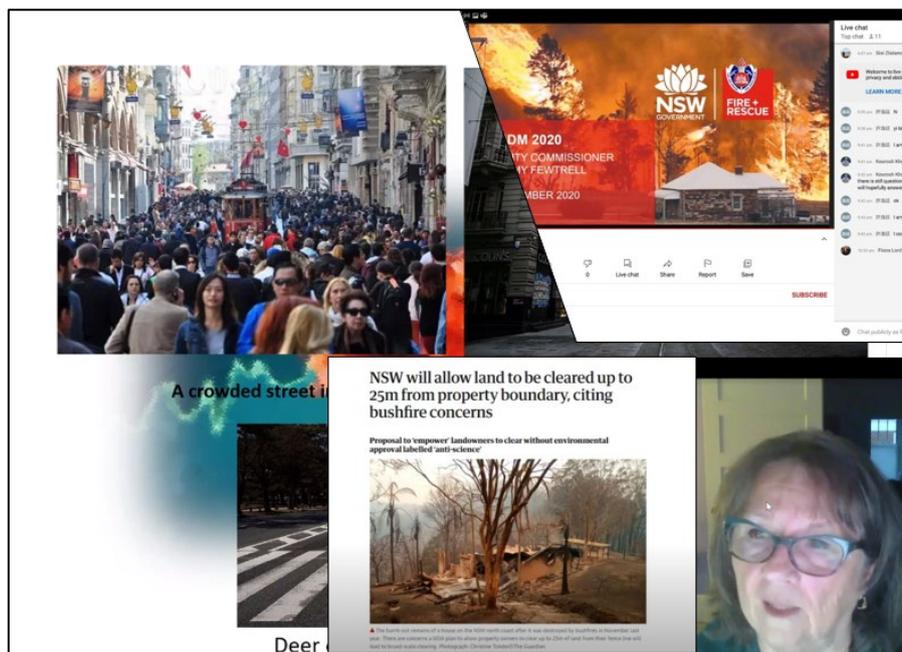

Figure 3: Conference impressions

Ten scientific sessions hosting 38 scientific talks (22 ISPRS Archives and 16 ISPRS Annals) covered aspects of Warming and Cooling, Fire and Flood, Intelligence and Recovery, Remote Sensing for DM, Managing Disaster and Changes as well as Applications. 103 reviewers contributed to the high quality of the papers (Fig 4). Each full paper was reviewed by three reviewers and each short paper/extended abstract was evaluated by two reviewers. The Gi4DM 2020 proceeding are available at the ISPRS web site: ISPRS Annals and ISPRS Archives.

Figure 4: Gi4DM 2020 reviewers

The 38 presenters provided pre-recorded videos of their presentations and were available for live questions. It was extremely pleasant to see that presenters made them available for questions and answers immediately after the videos. The chairs Graciela Metternicht, Nancy Glenn, Dimitri Bulatov, Chris Bellman, Kourosh Khoshelham, Charles Toth, Alias Abdul Rahman, Jiang Jie and Petra Helmholz (Fig 5) made sure the sessions were smooth and offered interesting discussions.

Figure 5: Gi4DM 2020 chairs

The most popular words for the titles and keywords were GIS, Lidar Modelling, Risk management, bush fires, hazards, data, disasters and case studies. They are shown in the shape of an echidna, kola and kangaroo in the Fig 6 and 7 below.

Figure 6: Presentation titles and key words in the Annals (left echidna) and Archives (right echidna)
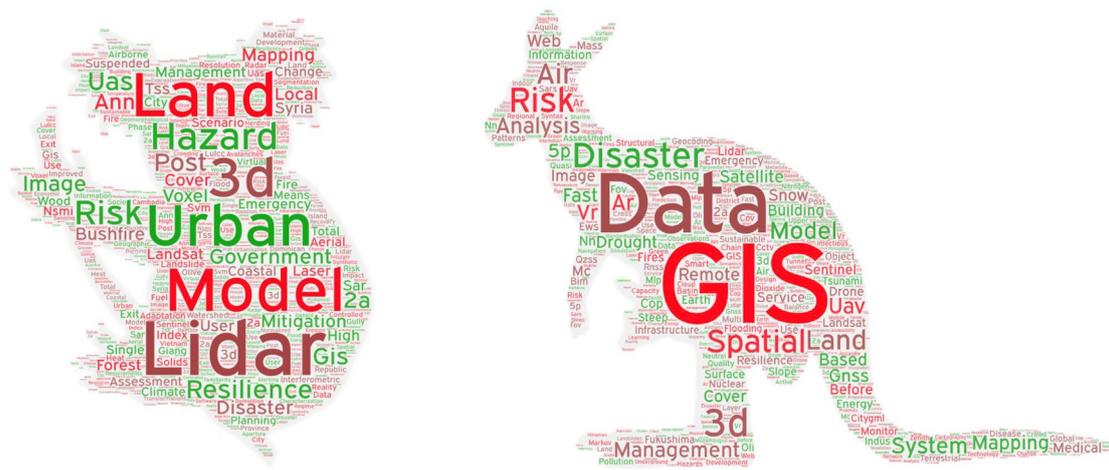
Figure 7: Key Words Annals (koala) and Archives (kangaroo)

Due to the online format, six panel sessions were included in the program. The six panels discussed Disaster Management using the knowledge of first nations, the Australian 19/20 Bush fire season, Education for GeoDM, Managing Warming and Cooling Environments, Remote Sensing for disaster management as well as COVID-19 and GeoTechnology. A big thanks to all the experts who contributed to the excellent sessions; the moderators of the sessions are shown in Fig 8.
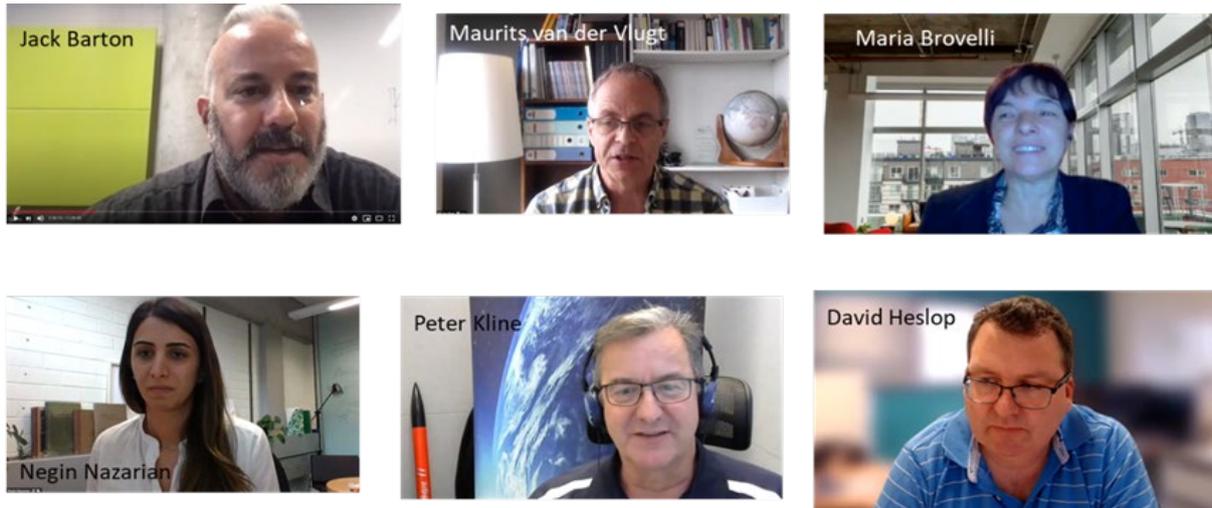
Figure 8: The six panel moderators

The conference was closed by Petra Helmholz and Sisi Zlatanova. After reviewing the event, the best paper award and best presentation award were presented. The best paper award was presented to Prativa Sharma et al. for the paper titled Disaster Aware - a global alerting platform for flood events, and the best presentation award was given to Sunny Singh for his presentation titled Experimental study to compare factors influencing exit choice behaviour in emergency evacuation situations using virtual reality techniques.

Finally, the location of the next symposium (2021) was announced. The 14th edition of Gi4DM will take place in Beijing, China and is supported by the University of Civil Engineering and Architecture (BUCEA).

The conference was sponsored by The University of New South Wales, Curtin University, The Australian National University, The University of Melbourne, ISPRS, SSSI, Blackash, Mercury Project Solutions and the ISPRS International Journal of Geo-Information.

The conference chairs (Sisi Zlatanova, Petra Helmholz, Clive Fraser, Megan Keen, Marry-Ellen Feeney, David Sanderson), co-chairs (Bruce Firster, Chris Bellman, Dipak Paudyal, Ivana Ivanova, David Belton, Brendon McAtee, Nancy Glenn), local organisers (Jack Barton, Mitko Aleksandrov) and the technical event team (Abdoulaye Diakite, Jing Jia, Jinjin Yan, Wei Li, Nina Homainejad, Muhammad Saadmann R Sabeek Eusuf) (Fig 9) thank everyone for making this year's Gi4DM conference a very successful event.
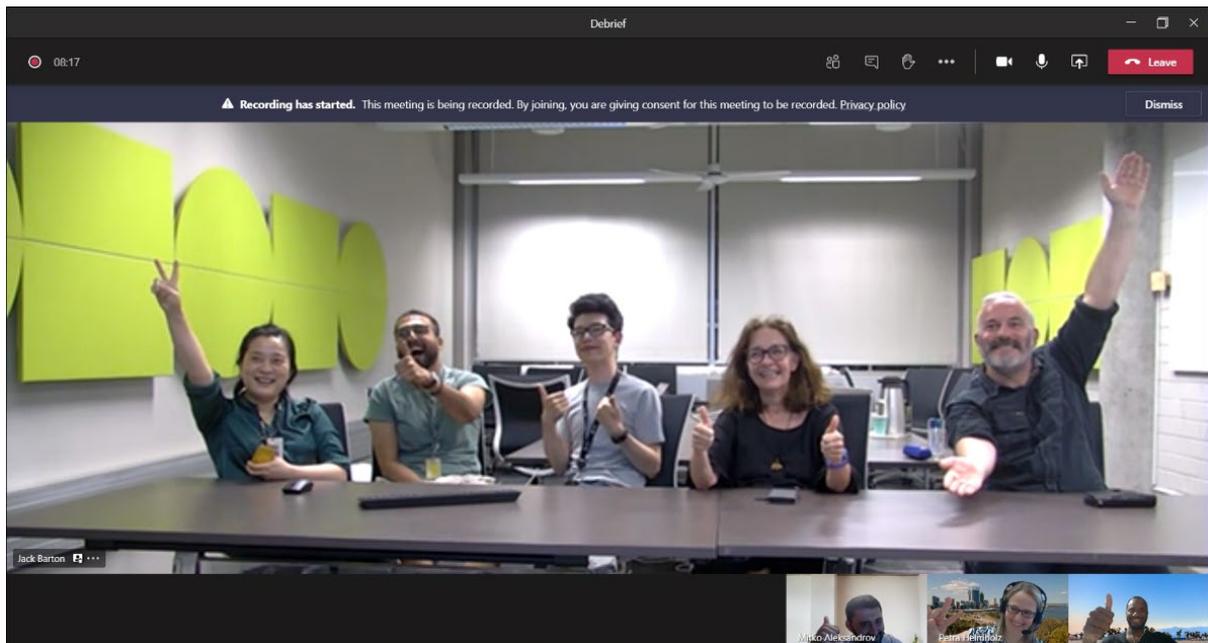
Figure 9: Technical event team (clockwise order): Jing, Saadmann, Wei, Sisi, Jack, Abdou, Petra and Mitko

Keep checking the web pages of Gi4DM 2020 https://www.gi4dm.net/2020/. All the recordings will be made openly available on the website after 1st of February 2021.

Petra Helmholz, Sisi Zlatanova, Jack Barton, Marry-Ellen Feeney