

Education and Outreach Program

Education and outreach formed central components of the Digital Earth Halifax 2015 conference and were directly integrated into the formal program. The LOC wished to ensure a lasting Digital Earth legacy by engaging students of all ages, as well as the broader community beyond the conference walls.

Education

The education component consisted of three main activities: a full day 'VIP' program for a select group of high school students and their teachers; an afternoon with hands-on, interactive digital earth activities and an astronaut panel for elementary and junior high students; and the winning presentation for the ISDE video competition. These activities were sponsored and supported by Saint Mary's University, Canadian Geographic Education, and PYXIS Innovation.

Wednesday was formally designated for outreach activities. High school geography teachers in the Maritimes region were invited to bring their top two students to Halifax to 'explore and experience the Digital Earth Vision' at the conference in the morning and attend a hands-on workshop at Saint Mary's University in the afternoon. A total of 16 students and 6 teachers from five different schools across Nova Scotia registered for the day. They were treated as 'very important persons' (VIP), receiving special delegate kits and a welcome at the first plenary talk. They listened alongside other delegates to Rebecca Moore (Google Earth and Earth Engine) present her keynote address and were then treated to a riveting private presentation at the NASA Hyperwall. They then joined other delegates listening to Dr. David Green (Chief Scientist at NASA) discuss how Earth Observation Sensors (EOS) are being applied in hazard and disaster mitigation. The morning concluded with a tandem presentation by Canadian Astronaut Jeremy Hansen and American Astronaut Reid Wiseman (via Skype) on how technology has changed the way we view our world.

The group was bused to Saint Mary's University for a pizza lunch with University president and geographer Dr. Robert Summerby-Murray, geography faculty, and students. The afternoon was dedicated to a two hour hands-on workshop using the newly developed Canadian technology, Worldviewtm Studio, developed by PYXIS Innovation. Led by Dr. Lynn Moorman, fellow of the Royal Canadian Geography Society and assistant professor at Royal Roads University, and PYXIS staff, students and teachers were able to experience an unprecedented ability to search, access, combine and analyze geospatial data using a digital earth platform. Very positive feedback was received after the event.

On Wednesday afternoon, an additional 136 students from grade 3 to 12 along with 23 teachers gathered at the WTCC for an afternoon of hands-on, interactive activities focusing on how digital earth technology can help us view and care for our world. One activity had students take off their shoes and interact with a giant floor map of Canada viewed from the international space station. They were treated to a surprise visit by Canadian Astronaut



Jeremy Hansen in his flight suit. In another activity students were immersed in earth visualizations in front of the NASA Hyperwall, discovered how EO technologies can help predict and respond to disasters, and received kit bags from NASA. The final station allowed students to understand where our marine waste goes and how ocean tracking technology can be used to track garbage in the ocean. This session was organized and led by Oceans Nova Scotia, a non-profit education group. During the final event of the afternoon, the student group was joined by members of the public to hear Canadian Astronaut Jeremy Hansen and NASA Astronaut Reid Wiseman talk about life in space and viewing the world from above.

Mentorship and Networking

A number of opportunities were provided for networking and mentorship throughout the conference. Student volunteers from universities and colleges within the region were provided with an opportunity to participate in the conference with a 1:1 exchange in volunteer time. This model was extremely successful, allowing students to be exposed to a half day of the high caliber conference program in exchange for a half day of volunteering at registration, special events, IT, or education. Sixty-two students from across the region took advantage of this opportunity and almost half were actively engaged throughout the entire conference period.

On Tuesday, a mentor lunch was sponsored by the Ocean Technology Council of Nova Scotia (OTCNS). The lunch was a way for students to become aware that there are many career opportunities for geography and geoscience graduates. A total of 24 students rotated, 'speed dating style' (changing tables every 5 minutes), between 8 different tables. Each table was 'hosted' by a mentor chosen from a range of geomatics careers who imparted their wisdom and experience, while allowing students to ask specific questions. Professionals from private industry (PYXIS innovation, ESRI), government (NS Department of Natural Resources, Halifax Water) and academia (University of Twente, Dalhousie University) volunteered their time. Careers discussed included geomatics technician, program developer, entrepreneur, provincial forester, geodetic engineer, and offshore navigator.

Community Engagement

A number of events highlighted initiatives by non-government organizations using geomatics to address issues of social or environmental significance. These are groups that would not otherwise have been engaged with the Digital Earth conference.

Late afternoon 'Pop-up talks' at the social hour with cash bar in the exhibit hall provided an opportunity for two local groups to showcase their work. Oliver Woods from the Environmental Monitoring Network at Saint Mary's University demonstrated an online citizen science standardized water quality monitoring application. Dr. Trudy Sable, Saint Mary's University, unveiled the online Mi'kmaw Place Names Atlas (<http://mikmawplacenames.ca/>), which documents the aboriginal Mi'kmaw presence within their traditional territory of Mi'kma'ki.

On Wednesday afternoon, delegates had the opportunity to visit the first and only social media controlled observatory at the Burke-Gaffney Observatory at Saint Mary's University, and the travelling exhibition "*L'Acadie Mythique*", revealing Acadian artistic expression. Another group toured the Nova Scotia Community College waterfront campus Center for the Built Environment, demonstrating 'smart' technology and green innovation. A special tour organized by the Geomatics Association of Nova Scotia (GANS) offered delegates a rare glimpse into the Dockyard of the Royal Canadian Navy, hosted by Rear-Admiral John Newton, commander of Maritime Forces Atlantic.

The conference venue was also opened to the public on Wednesday afternoon. Each session of the NASA Hyperwall was well attended and the public also interacted with other exhibitors. Open lectures by Dawn Wright, Michael Goodchild, Nick Hedley, and Claudio d'Aporta were provided. The Monday night session with Canadian Astronaut Jeremy Hansen at Saint Mary's University was very well attended and received media coverage with CTV.