Highlighting the Importance of Topo-bathymetric Lidar in the Great Lakes by Using Supplementary Data Processing and Dissemination Techniques

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Environment and Climate Change Canada (ECCC) contributed to the acquisition of topo-bathymetric Lidar in Canadian Great Lakes nearshore waters in support of the 2020-2022 Great Lakes Binational Priorities for Science and Action. However, there are currently challenges with preparing, processing, and disseminating large volumes of lidar data as data products to Great Lakes partners and the public. In order to equip customers and users with the best available data to support advancements of Great Lakes science, ECCC has sought guidance from private industry contractors, like Woolpert, who have expertise in transforming the lidar data collected into a more accessible product and information suite.

At the beginning of 2022, Woolpert began a project that will assist ECCC in meeting its current and future goals for the further exploitation of its bathymetric lidar data holdings by reexamining a subset of an existing topo-bathymetric lidar dataset (5-10 sqkm) collected in Lake Superior. Presented here is the first part of the project, which involves generating derivative products such as a bare-earth elevation model, an automatically extracted shoreline vector, and delineated substrate boundaries that can be used for classification. Additionally, Woolpert will develop a hosted ArcGIS StoryMap to showcase the data, products, and their value to stakeholders. The demonstration will include the raster baseline data and vector products hosted through Woolpert's SmartView Connection, with the goal of making topo-bathymetric lidar data and products easily accessible to stakeholders for use and analysis. The techniques and strategies that Woolpert uses for data processing, automation, and dissemination, along with the value-added derived products, will be presented to ECCC in order to promote future collaboration and recognition of the value of topo-bathymetric lidar data in the Great Lakes.

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