Greenland Drone Explorer –A browser-based platform for openly accessing and exploring high resolution, 3D drone imagery using ESRI solutions

Monitoring environmental changes in terrestrial, coastal, and marine areas in remote locations, such as Greenland, can prove challenging due to harsh weather conditions and lack of infrastructure. It is therefor of great importance that any data gathered in these locations, is made freely available for viewing and reuse. To address this challenge, we developed the Greenland Drone Explorer using ESRI tools, in particular ArcGIS Experience Builder. This platform provides an interactive and user-friendly interface for exploring 3D drone imagery from various locations in Greenland, enabling scientists and researchers to gain valuable insights into the environmental changes that are happening there. To promote data sharing and collaboration, the platform also provides users with links to where the open source datasets are stored on Zenodo. The creation of this tool was a multistep process that began by importing drone data, which were in the form of orthorectified images (TIFF) and Digital elevation models (TIFF), into the GIS environment by creating web services through ArcGISPro. Web scenes were then created out of these webservices, so that the 3D data could be explored and navigated. Finally, the web scenes were used to create the final application in ArcGIS Experience Builder.

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