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OpenAltimetry: Key Elements of Success in Visualizing NASA's Spaceborne LiDAR Data

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NASA's spaceborne laser altimeter, ICESat-2, sends 10,000 laser pulses per second towards Earth, in 6 separate beams, and records individual photons reflected back to its telescope. From these photon elevations, specialized ICESat-2 data products for land ice, sea ice, sea surface, land surface, vegetation and inland water are generated. Altogether these products total nearly 1 TB per day, which poses data management/visualization challenges for potential users. OpenAltimetry, a browser-based interactive visualization tool, was built to provide intuitive access to data from ICESat-2 and its predecessor mission (ICESat). It emphasizes ease of use and rapid access for expert and non-expert audiences alike. The initial design choices and subsequent user-informed development have led to a tool that has been enthusiastically received by the ICESat-2 Science Team, researchers from various disciplines, and the general public. This presentation will highlight the elements that led to OpenAltimetry's success.