

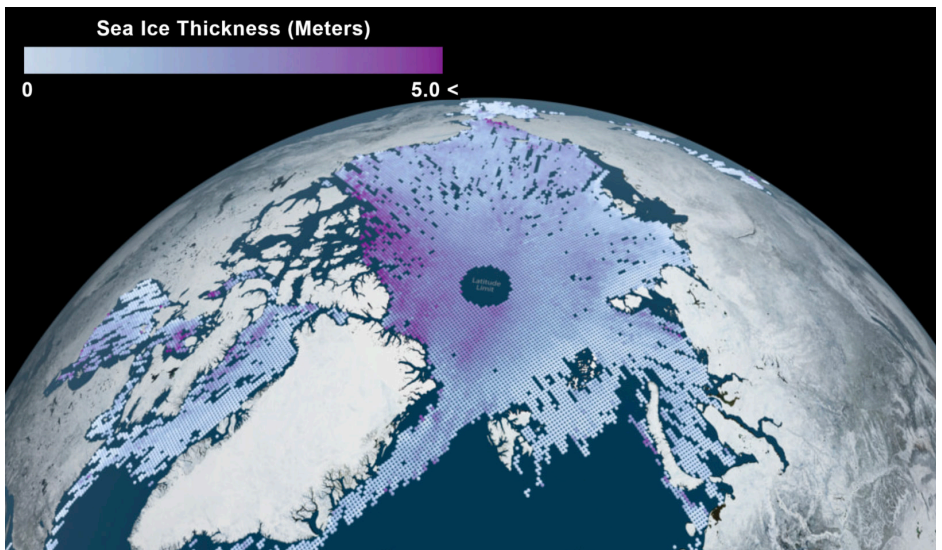
Ice, Cloud, and Land Elevation Satellite-2 Quick Look Products

Satellite Needs Working Group - Product Fact Sheet

The Ice, Cloud, and Land Elevation Satellite-2 (ICESat-2) mission provides global elevation data using the Advanced Topographic Laser Altimeter System (ATLAS). With ATLAS measurements, ICESAT-2 provides detailed elevation information about many of Earth's features, including ice sheets, glaciers, vegetation, clouds, oceans, and land surfaces. The SNWG enabled the production of ICESat-2 Quick Look products that provide a reduced latency (~3 days) for a variety of measurements including sea ice height and freeboard.

Recent ICESat-2 measurements allow scientists to determine the thickness of very thin sea ice. As sea ice thins with increasing global temperatures, ICESat-2 data will become critical for evaluating polar region evolution. (March 2022)

Credit: Kel Elkins, NASA's Science Visualization Studio



Data Benefits

- Expedite latency of sea ice freeboard thickness measurements for navigation, commerce, and safety
- Measure variability in ice sheet height to study effects on sea level rise and support sea ice forecasting
- Calculate vegetation height to investigate fluctuations in biomass
- Inform decisions regarding land-surface deformation and surface water and flooding

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Quick Look (QL) ICESat-2 Data Products	ATL07QL	ATL08QL	ATL09QL	ATL10QL	ATL13QL
Scientific Parameters	Sea Ice Height	Land and Vegetation Height	Atmospheric Layer Characteristics	Sea Ice Freeboard	Inland Surface Water Height
Processing Level	3A				
Temporal Coverage	Quick-look data: Most recent months Full mission data: October 2018 - present <i>Note that quick-look data are replaced with final data when available.</i>				
Temporal Resolution	91-day repeat cycle, 15 orbits per day (the orbit's sub-cycle achieves monthly global coverage)				
Latency	~72 hours				
Spatial Coverage	Global				
Spatial Resolution	Varies (~10 - 300 m)				
Data Format	HDF5				

How do I access this data?

ICESat-2 data is maintained by NASA's NSIDC, including algorithm technical details, data access, and training examples.



NASA NSIDC

Where can I find more information?

NASA SNWG and community-contributed materials are available on the Stakeholder Engagement Program (SEP) webpage.



SEP Webpage

Background Image Credit: Operation IceBridge Arctic 2011