

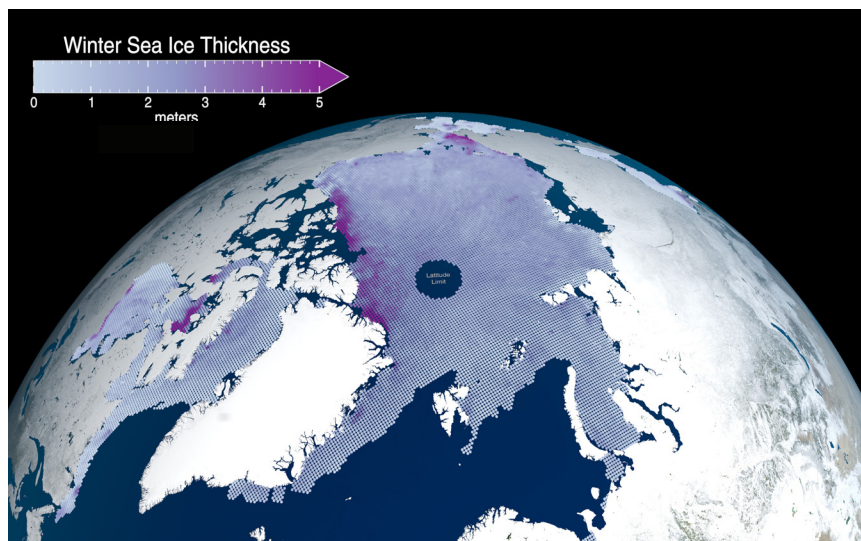
# Low-Latency ICESat-2/ATLAS Products

## Satellite Needs Working Group - Solution 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 Satellite Needs Working Group (SNWG)-2018 assessment identified the need for reduced latency measurements including sea ice height and freeboard. In response, NASA's SNWG Implementation TEam (NSITE) produces 5 ICESat-2 Quick Look products with ~3 day latency.

***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 2025)***

Credit: Kel Elkins, NASA's Science Visualization Studio



## Scientific & Societal Benefit

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

## NASA's SNWG Implementation TEam (NSITE)

# Low-Latency ICESat-2/ATLAS Products

Data Characteristics					
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 Earthdata archive, including algorithm technical details, data access, and training examples.



NASA's Earthdata  
Archive

## Where can I find more information?

More information on the ICESat-2 Quick Look products is available on this solution's webpage.



ICESat-2  
Quick Look Webpage