

Iceberg Monitoring from Space

Icebergs range in all sizes from small ones to the size of a Caribbean Island, or “*Ice Island*”. The two primary goals of this project is to use space-based satellite images from synthetic aperture radar (SAR) and electro-optical (EO) sensors to classify icebergs in terms of types, shape and dimensions above and below the water line.

The second objective is to develop a predictive model by detecting and monitoring with SAR and EO satellites the fate of icebergs as they traverse the North Atlantic along “*Iceberg Alley*” off the coastal waters of Labrador to the warmer waters south of Newfoundland and as far as the Grand Banks.

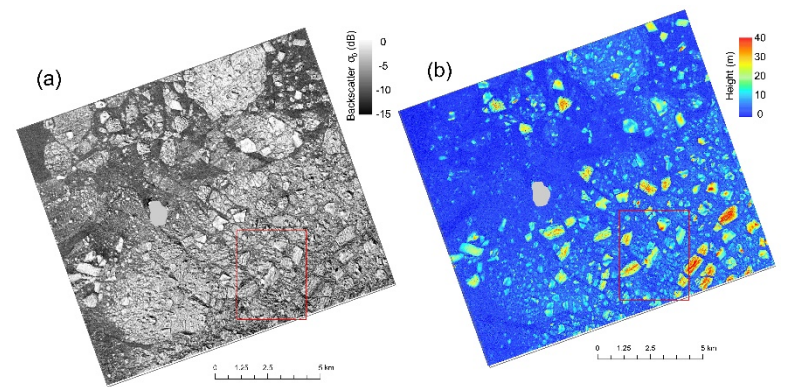
Research will be conducted with the University of Miami’s Center for Southeastern Tropical Advanced Remote Sensing (CSTARS), a state-of-the-art satellite tracking and processing facility.

This project is funded by the Office of Naval Research.

Since the Fall 2020 deadline has passed, contact the faculty member if you’re interested for Fall ‘20 or Spring ‘21 admission.



Icebergs and ice float in the Ilulissat Icefjord on August 04, 2019, near Ilulissat, Greenland. (Sean Gallup/Getty Images)



(a) Backscatter intensity of icebergs observed by TanDEM-X SAR.

(b) Interferometric height (InSAR DEM) estimation.

The red rectangle signifies validation area. Buffer Island is masked out in light gray. (Dammann et al. 2019. doi: 10.5194/tc-13-1861-2019)