

ICE, CLOUD, AND LAND ELEVATION SATELLITE-2 (ICESat-2)

ATL19 Release 003 and ATL23 Release 001

Known Issues

Jamie Morison, PSC

Suzanne Dickinson, PSC

David Hancock, GSFC

Leeanne Roberts, GSFC

John Robbins, GSFC

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1.1 Issue 1. Uncertainty in Gridded DOT

The Release 1 and 2 ATL19 gridded DOT standard deviation and uncertainty reflected only the variability within ocean segments due to waves. They did not include the variation due to temporal and spatial variability of ocean segment-average DOT. Similarly, because the height probability density functions, Y , from ATL12 represent only the distributions of the departure from mean DOT (*meonoffit2*) over an ocean segment, the grid cell aggregate distributions also only reflect the variability due to ocean waves. In Release 3 of ATL19 and Release 1 of ATL23, this is still true of simple and DFW averages, but the centered averages are computed based on a planar fit over 9 cells centered on the central point, and the RMS variation about the planar fit represents the uncertainty due to all factors in the centered values. For Release 4 of ATL19 (Release 2 of ATL23), the DFW centered averages will be changed to weight the planar fit by the uncertainty in the individual ATL12 DOT values, and the resulting “degree-of-freedom-uncertainty” weighted DFW centered average will be the estimate with minimum uncertainty.