

ATL08 Known Issues -- Release 002 (October 28, 2019)

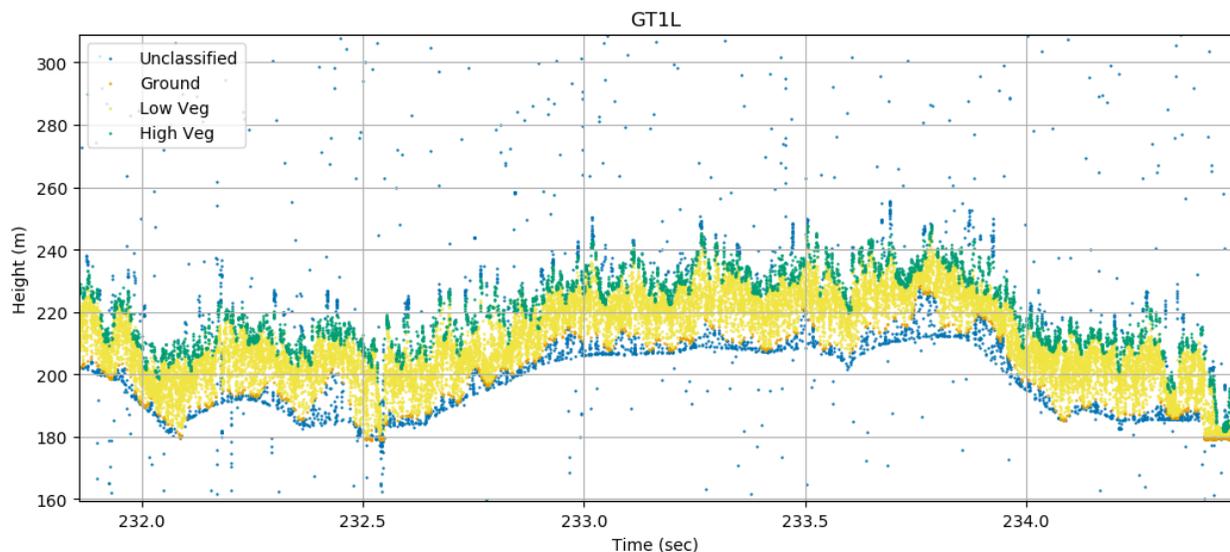
Prepared by Amy Neuenschwander and Ben Jelley

Known Issues

The second release (Release 002) of ICESat-2 data is now available from NSIDC.

1. Tropical Forest under-estimating height

A known issue with the production of the ATL08 data product concerns tropical forest. Due to the large amount of vegetation, the ATL08 algorithm will need to be adjusted to correctly identify the ground surface beneath the vegetation. This example, shown from Tropical forest in Brazil, highlights canopy photons misclassified as ground. The actual ground photons are labeled incorrectly as noise (blue dots). In this example, the ground height would be reported incorrectly by approximately 3-5 m, and the relative canopy height would be under-estimated by that same amount. Also, in this example, the top of emergent trees are not being correctly labeled as canopy photons. The expectation is that the ATL08 algorithm will be modified so this issue is resolved in upcoming data releases.



2. Sub-surface scattering

A known issue that has been observed over standing water, lakes, wetlands, etc. occurs as an abundance of sub-surface scattering photons, beyond the standard noise rate. Figure 2 illustrates the sub-surface scattering from a wetland in Argentina. The ICESat-2 project office feels that this effect is likely an instrument artifact and they are working on ways to detect these photons so they are not included as signal in the surface finding algorithms. In Release 002, it is possible that these sub-surface scattering photons are mislabeled as either ground or a combination of ground/canopy.

ATL03 Photons g2r

