

## **ATL08 Release 005**

### **List of Changes and Known Issues**

#### **Fall 2021**

##### Changes in Release 005

- 1) Added terrain\_best\_fit\_geosegment parameter at the 20 m (geosegment) rate. This represents the best estimate of terrain at the 20 m along-track resolution.
- 2) Added h\_canopy\_geosegment which represents the 20 m estimate of the 98% relative canopy height.
- 3) Added latitude\_20 to the data product for geolocation of the 20 m terrain and canopy height estimates
- 4) Added longitude\_20 to the data product for geolocation of the 20 m terrain and canopy height estimates.
- 5) Updated the segment\_landcover with the 2019 Copernicus landcover. This update replaces the MODIS landcover value which was derived from the 2014 MODIS product. The Copernicus landcover is also written at the 100 m resolution thus increasing the agreement between the ATL08 perceived canopy heights with a landcover product at the same resolution. The Copernicus landcover values are now 23 discrete values and utilize a different labeling scheme than the IGBP scheme used on MODIS. Please consult the ATBD for the classification labels.
- 6) Updated the urban\_flag parameter with the DLR Global Urban Footprint (GUF) as a potential indicator of man-made/built structures. The GUF product is derived from TerraSAR-X and TanDEM-X SAR scenes. The GUF has a nominal resolution of 0.4 arcseconds which is a higher resolution than the 100 m ATL08 segment. The urban\_flag is set to 1 if any of the 20-m geosegments overlapped with the GUF pixels.
- 7) Added a segment\_woody\_vegetation\_fractional cover to the ATL08 data product. This product is derived from the Copernicus fractional forest and fraction shrub data products.

##### Known Issues in Release 005

- 1) Bug: Calculated radiometry values are under counting by 1 geosegment which subsequently increases the radiometry values. This bug will be fixed for Release 006.
- 2) Ground Finding: There are still errors with the ground finding in some locations. Significant improvements to the ground finding are planned for Release 006.
- 3) Top of canopy identification: In some instances, photons from the top of the canopy are not completely identified. New improvements to the canopy photon labeling are planned for Release 006.