Land - Vegetation Along-Track Products (ATL08)
Release 004
September 15, 2020

What's new in Release 004:

- Making use of the PPD flag on ATL03. Degraded POD/PPD solutions are flagged and ignored in the ATL08 algorithm.
- In an effort to reduce the amount of cloud contamination in the ATL08 signal photons, any "signal" photons are 120 m or more above the reference DEM are considered clouds
- Added a saturation flag to the ATL08 data product that is based off of the ATL03 saturation flags. This saturation flag on ATL08 indicates that segments within the 100 m were saturated –likely due to water
- We now include a ph_h parameter to the photon group –which is the height of each photon above the estimated ground surface
- We changed the way that the absolute canopy heights (and height metrics) are being calculated.
- We expanded the canopy height metrics to every 5% ranging from 5 – 95%
- The Landsat canopy cover check will no longer be used in the algorithm. In previous releases, we found that this check was preventing canopy from being detected in areas with low canopy cover (e.g. savannas) even though reflected photons from woody vegetation are observed at the photon level.
- Changed the search radius parameter from 15 – 100 m for the initial top of canopy determination in an effort to pull in more top of canopy photons that were previously being missed
- Now incorporate the quality_ph flag on the ATL03 product which should exclude many after-pulsing events from the ATL08 algorithm. The after-pulsing events are due to detector saturation and other detector events and over land they occur where we have water (i.e. wetlands, rivers, etc.). The result should be a more accurate surface representation particularly for wetlands where standing water is often found.
- Added the calculation of the photon rates for terrain and canopy points. The addition of these parameters will improve future radiometry studies.