

## New Parameters on ATL04 for Data Release 003

Group: /ancillary\_data/atmosphere:

default\_nrb\_twilight, min\_nrb\_twilight, max\_nrb\_twilight, min\_calib\_twilight, max\_calib\_twilight, alpha\_day\_pce1, alpha\_day\_pce2, alpha\_day\_pce3, alpha\_night\_pce1, alpha\_night\_pce2, alpha\_night\_pce3, alpha\_twilight\_pce1, alpha\_twilight\_pce2, alpha\_twilight\_pce3

### ATL04 Known Issues for ASAS V5.3 (Data Release 003)

The following lists the known issues with the ASAS version 5.3 (release 003) ATL04 atmospheric parameters. We are actively working to correct the problems for the next release.

**Note:** The normal operation of the ATLAS produces atmospheric profiles at the 25 Hz rate (400 shot sums). However, for a number of weeks shortly after launch, the instrument team conducted tests which produced 50 Hz (200 shot sums) atmospheric profiles. There are a total of 54 granules affected, all occurring in October or November of 2018. This does not cause noticeable problems in the data processing or product parameters but the user should be aware of this. These granules were released to the public for releases 001 and 002, but are being withheld for this release (003).

#### **Profile\_x**

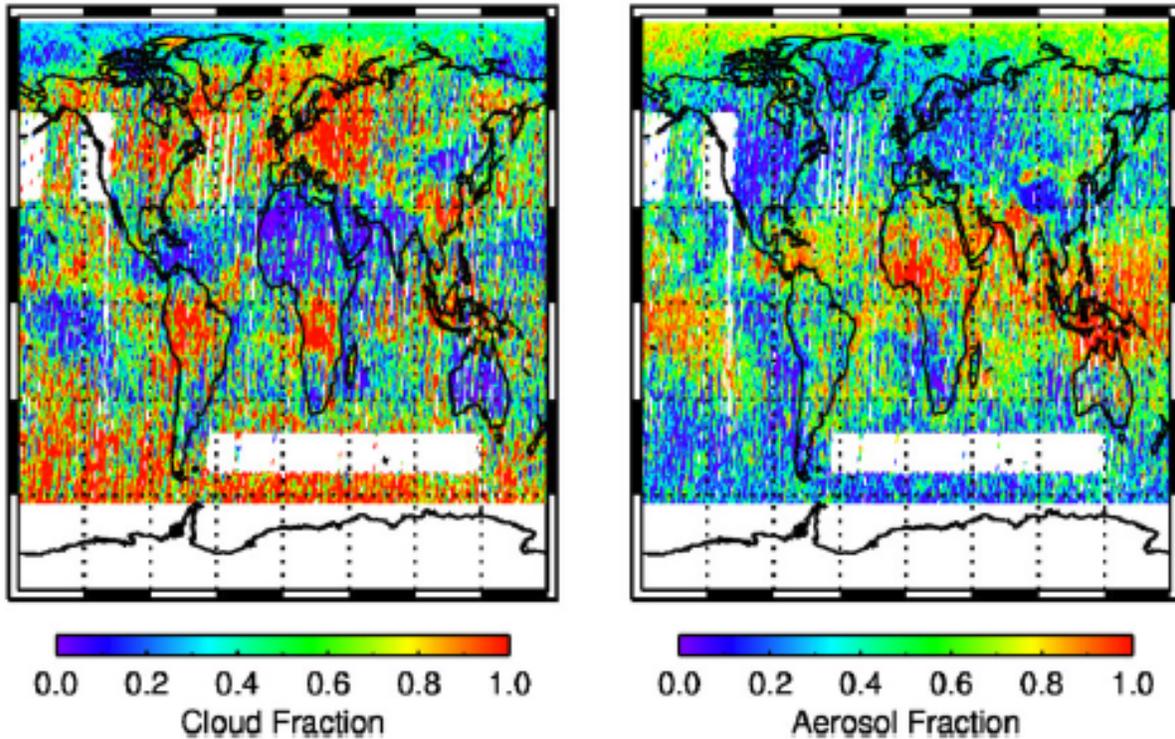
**Dem\_h:** This is the Digital Elevation Model surface height. It is generally very good but at some locations may jump up ~200 m. The most probable place for this to happen is in the Arctic.

**Surface\_sig:** Very infrequently, this parameter (the magnitude of the surface signal in photons/bin) can be negative, which is an error.

#### **Note for Nighttime data collection:**

The ATLAS instrument performs calibrations that are used to optimize the altimetry retrievals during nighttime passes over parts of the oceans. During the calibration maneuvers, the atmospheric data are not collected. This results in areas where no data are collected as seen in the figure below (white areas). This affects data collected prior to March, 2019. After this date the calibration strategy was changed which greatly reduced this problem.

2018/12 – ZN



### Data from July 2019

Data collected between 9-26 July 2019 have a small timing bias resulting from an erroneous Earth orientation parameter uploaded during the spacecraft's return to operations following a safhold event on 26 June 2020. This caused an error in spacecraft pointing, resulting in an extra approximately 1 degree of forward pitch, and shifted the onboard attitude control system interpretation of spacecraft time by roughly 19 seconds. The primary manifestation of this issue is telemetry band errors at steep coastal areas, at times resulting in loss of surface returns. We note that there may be some increased height errors from data collected during this time period, those errors are generally within the conservative estimates of geolocation and height uncertainty currently provided on the ATL03 product.