GSAS v5.4.1 Release Notes
GSAS Team
August 20, 2008

Introduction

GSAS 5.4.1 is a minor release which includes an enhanced ANC32 alignment algorithm, a correction for atmosphere 1064 column optical depth and a minor fix for a problem with the GLA05 browse product. The atmosphere pointing angle correction in the computation of 1064 column optical depth is only science-level change in this release.

Important: please refer to the GSAS v5.4 Release Notes that detail extensive changes for this software since GSAS v5.3 and the Release 28 products.

L0 Changes (APIDs)

Removed a bad ANC32 validation check from GLAS_L0proc.

Implemented a new algorithm which checks the first 10 ANC32 records for alignment with the rest of the ANC32 file.

L1A Changes (GLA01, 02, 03 and 04)

None

Altimetry Changes (GLA05, 06, 12, 13, 14, and 15)

Fixed a problem with browse products on certain GLA05 instances.

Atmosphere changes (GLA07, 08, 09, 10 and 11)

Included pointing angle in the computation of 1064 column optical depth.

Utility Changes

None

Product Format/Definition Change Summary

No product changes were made in this release

Known Problems

None.

Release Information

The ClearCase label for this release is RELEASE_5.4.1.

Products generated by this software will be labeled as Release 29 by SDMS.

The release date is August 20, 2008.

Version numbers remain at "V5.4.1 August 2008".

This should be verified during operation by checking the version information in the appropriate ANC06 files.

SMDS Impact

The distribution tarfile is on glasdev.wff.nasa.gov at the following location:

      /glasdev1/v5/dist/gsas_v5.4.1.tar.Z.

Bundle Changes

      None.

ANC File Changes

      Removed anc52_03 from delivery package.

      ANC45/46 need to be re-ingested.

Detailed Change Notes

(Numbers are the change control system tracking item number)

0002738: GLAS_L0proc - 2 fixes

Removed a bad ANC32 validation check from GLAS_L0proc.

Implemented a new algorithm which checks the first 10 ANC32 records for alignment with the rest of the ANC32 file. The record that aligns best with the rest of the file, based on the total number of aligned records, is used for startup. This should prevent some of the startup problems we have seen in the past with ANC32.

0002722: 1064 atmospheric column optical depth

The 1064 column optical depth resides on the GLA11 product. It is computed from the measured surface reflectance and the actual surface reflectance over water. The latter is computed from the surface wind speed and the pointing angle of ICESat. Up until now, it had been assumed that the pointing angle could be neglected in this computation, but upon reviewing literature and seeing the results of the version 329 run for L2A, it was realized that neglecting this effect causes large errors in the retrieved optical depth in those regions of off-nadir data.

0002720: Error from qapg_gla05_at.f90

Fixed a problem that caused GLA05 browse processing to crash.

Changed Files:

```
./src/atmosphere/opt_props/A_aer_opt_prop_mod.f90
./src/qapg/qapg_gla05_at.f90
./src/glas_l0p/GLAS_L0proc.f90
./src/glas_l0p/Makefile
./src/glas_l0p/check_anc32_mod.f90
```