GSAS v3.2 Release Notes

Introduction

GSAS 3.2 is a minor release which allows for better time computations when GLA04 is created without an APID19 and adds the capability to retrieve orbit degradation information from ANC08 POD files.

Release Information

The ClearCase label for this release is RELEASE_3.2.

The release date is January 5, 2003.

Internal version numbers have been updated to "V3.2 January 2003" for the following:

```
./data/anc07_001_01_0000.dat
./data/anc07_001_01_0005.dat
./bin/GLAS_Alt
./bin/GLAS_Atm
./bin/GLAS_L1A
./bin/GLAS_L0proc
./lib/libatm.sl
./lib/libanc.sl
./lib/libexec.sl
./lib/libplatform.sl
./lib/libprod.sl
./lib/libelev.sl
./lib/libl1a.sl
```

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

All other internal version numbers remain at "V3.1 December 2002".

SMDS Impact

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

```
/glasdev1/v3/dist/gsas_V3.2.tar.Z.
```

There are <u>no</u> control file changes required by this release.

New versions of the following data files are required (and provided):

```
./data/anc07_001_01_0000.dat
./data/anc07_001_01_0005.dat
```

All libraries and binaries should be recompiled using the top-level Makefile. The newly-created versions should be installed within the testbed (pending CCB release for operations).

Product Changes

No product sizes were changed.

Scale factors and units were changed for some variables in GLA04-02 and GLA04-03 (see detailed change notes section).

The definition of orbflg was changed in all products which contain the flag.

Detailed Change Notes

PR20021217-001/PR20021217-002

The purpose of this branch is to to re-work timing routines such that creating GLA04 without APID19 gives time computations as close as possible to those computed when using APID19.

> Moved GPS rollover code to anc32_gps_mod (check_anc32_roll). Rollover code invoked immediately after anc32 files are read.

> Moved GPS synchronization code to anc32_gps_mod (sync_anc32). Now called from ReadData.

> Moved ANC25 synchronization code to anc25_gpsutc_mod. Now called from ReadData.

> Sync ANC32 with PRAP gpslatch if processing PRAP only.

PR20021223-002

The purpose of this branch is to fix/change various GLA04 parameters.

> Changed the algorithm scale of GLA04-03 GYRO time tag! (i_siru_ttag) to 1.0d-6 so that the algorithm units are seconds.

> Modified L_Att to apply a conversion factor of 0.05 to GLA04-03 GYRO siru A,B,C,and D intergrated angle . This changes the algorithm units to arcseconds.

> Changed the algorithm scale of GLA04-02 (LRS row/col) – to 1d-06 to keep precision.

Branches cr20021118-001, wcr20021213-002, cr20021213-002

This set of software changes added the capability to retrieve the orbit degradation information from the ANC08 POD orbit files. The structure of the orbflg variable (product side) and of the podflg variable (algorithm side) were altered to accommodate changes in the definitions of the flag words. The software translates the degradation data, which is stored in keyword format, into the numerical/bit-wise storage used in the product flags. Although changes in most of the listed modules were small, the anc08_pod_mod.f90 underwent a major overhaul.

Changed files

```
./Makefile
./data
./data/anc07_001_01_0000.dat
./data/anc07_001_01_0005.dat
./src/atm_lib/vers_atm_mod.f90
./src/atmosphere/common/A_buff_data_mod.f90
```

```
./src/common_libs/anc_lib/anc07_l1a_mod.f90
./src/common_libs/anc_lib/anc08_pod_mod.f90
./src/common_libs/anc_lib/anc25_gpsutc_mod.f90
./src/common_libs/anc_lib/anc32_gps_mod.f90
./src/common_libs/anc_lib/anc33_utc_mod.f90
./src/common_libs/anc_lib/vers_anc_mod.f90
./src/common_libs/exec_lib/ReadAnc_mod.f90
./src/common_libs/exec_lib/ReadData_mod.f90
./src/common_libs/exec_lib/vers_exec_mod.f90
./src/common_libs/platform_lib/const_l1a_mod.f90
./src/common_libs/platform_lib/vers_platform_mod.f90
./src/common_libs/prod_lib/GLA01_alg_mod.f90
./src/common_libs/prod_lib/GLA02_alg_mod.f90
./src/common_libs/prod_lib/GLA04_scal_mod.f90
./src/common_libs/prod_lib/GLA05_alg_mod.f90
./src/common_libs/prod_lib/GLA06_alg_mod.f90
./src/common_libs/prod_lib/GLA07_alg_mod.f90
./src/common_libs/prod_lib/GLA08_alg_mod.f90
./src/common_libs/prod_lib/GLA08_scal_mod.f90
./src/common_libs/prod_lib/GLA09_alg_mod.f90
./src/common_libs/prod_lib/GLA09_scal_mod.f90
./src/common_libs/prod_lib/GLA10_alg_mod.f90
./src/common_libs/prod_lib/GLA10_scal_mod.f90
./src/common_libs/prod_lib/GLA11_alg_mod.f90
./src/common_libs/prod_lib/GLA11_scal_mod.f90
./src/common_libs/prod_lib/GLA12_alg_mod.f90
./src/common_libs/prod_lib/GLA13_alg_mod.f90
./src/common_libs/prod_lib/GLA14_alg_mod.f90
./src/common_libs/prod_lib/GLA15_alg_mod.f90
./src/common_libs/prod_lib/common_flags_mod.f90
./src/common_libs/prod_lib/vers_prod_mod.f90
./src/elev_lib/vers_elev_mod.f90
./src/elevations/ElevQA_mod.f90
./src/elevations/c_intrppod_mod.f90
./src/glas_alt/ElevMgr_mod.f90
./src/glas_alt/GLAS_Alt.f90
./src/glas_alt/WFMgr_mod.f90
./src/glas_atm/AtmMgr_mod.f90
./src/glas_atm/GLAS_Atm.f90
./src/glas_l0p/GLAS_L0proc.f90
./src/glas_l0p/glop_mod.f90
./src/glas_l1a/GLAS_L1A.f90
./src/glas_l1a/L1AMgr_mod.f90
./src/l1a_lib
./src/l1a_lib/L_Alt_mod.f90
./src/l1a_lib/L_Att_mod.f90
./src/l1a_lib/bvtcw2utc_mod.f90
./src/l1a_lib/shot_time_mod.f90
./src/l1a_lib/vers_l1a_mod.f90
./src/prod_verify/code/Makefile
./src/prod_verify/code/qapg_elev_mod.f90
./src/prod_verify/code/qapg_generate_mod.f90
./src/prod_verify/code/qapg_readgla_mod.f90
./src/prod_verify/code/qapg_writeqap_mod.f90
```