

# PGE03

## Version History

### TABLE OF CONTENTS:

<b>PGE03 COMBINED .....</b>	<b>Pages 01-07</b>
<b>MOD_PR07 .....</b>	<b>Pages 08-10</b>
<b>MOD_PR35 .....</b>	<b>Pages 11-12</b>

### PGE03 COMBINED

#### Version History

This file shows the following:

- (a) What was changed in the PGE
- (b) Why it was changed
- (c) How the output product will be affected by the change
- (d) Date the change was made

v6.0.50 (Terra and Aqua) Based on v6.0.47 2016-06-15

=====

MOD\_PRLCAT

- See ../MOD\_PRLCAT/HISTORY.txt
- Modified gfs\_routines.c, profile\_utils.c, and adjo3.c in order to use the GDAS files properly.
- This version is based on 6.0.47 and will be replacing it.

PGE03.pl

- Renaming of destripe\_config\_terra.dat.v5nrt to destripe\_config\_terra.dat.v5
- Renaming of thresholds.dat.terra.C6.v5nrt to thresholds.dat.terra.C6.v7
- The suffix nrt has been removed to avoid confusion, as it is used for OPS

v6.0.49 (Terra and Aqua) Based on v6.0.47 2016-04-21

=====

PGE03.pl

- Force use of destripe\_config\_terra.dat.v5nrt and thresholds.dat.terra.C6.v5nrt for all time ranges for sensitivity test.
- A special release from /svnno/ATMOS/branches/fork/PGE03\_V6.0.49

v6.0.48 (Terra and Aqua) Based on v6.0.47 2016-04-21

=====

PGE03.pl

- Chose destripe\_config file according to data date.
- Force use of thresholds.dat.terra.C6.v5nrt for all time ranges for sensitivity test.
- A special release from /svnno/ATMOS/branches/fork/PGE03\_V6.0.48

v6.0.47 (Terra and Aqua) Based on v6.0.46 2016-03-17

=====

PGE03.pl

- Addition of destripe\_config\_terra.dat.v5nrt for use in NRT only
- Applicable from 18 February 2016 at 14:30, until a new destripe\_config\_terra.dat is available, it includes 6.0.46 changes.
- A special release from /svnno/ATMOS/branches/fork/PGE03\_V6.0.47

v6.0.46 (Terra and Aqua) Based on v6.0.45 2016-03-04

=====

PGE03.pl

- Addition of thresholds.dat.terra.C6.v5nrt to make the NRT Terra Modis

cloud mask usable until new calibration is applied to Level 1 data.  
Applicable from 18 February 2016 at 14:30, till there are new L1b  
calibration coefficients available. For use in NRT only  
- A special release from /svnno/ATMOS/branches/fork/PGE03\_V6.0.46

v6.0.45 (Terra and Aqua) Based on v6.0.44 2015-05-05

=====

PGE03.pl

- Addition of thresholds.dat.terra.C6.v5 to solve the problem of over-clouding in MOD35 outputs.
- Released from /svnno/ATMOS/branches/collection6/STORE

PGE03\_LoaderModule.pl

- Updated LM logic to chose GDAS file of same type (05/16/2016)
- Commented out print statements that were used for debugging.

Patched on 2015-05-27

- Added a new thresholds.dat.terra.C6.v6 file as the thresholds.dat.terra.C6.v5 was not correct.

Patched PGE03\_LoaderModule.pl on 2016-01-11

- Changed the interval range for NISE in NRT to match with C5 rules.

v6.0.44 (Terra and Aqua) Based on v6.0.43 2015-01-22

=====

PGE03\_LoaderModule.pl

- Addition of logic to chose destripe\_config\_terra.dat.v4 for Terra
- Updated PGE03\_LoaderModule.pl to use same format of gdas file for 2015-01-14 when there was a transition to a new format

v6.0.43 (Terra and Aqua) Based on v6.0.42 2014-12-17

=====

MOD\_PRLCAT:

- Modified gfs\_routines.c in order to read in the GDAS 2m temperature, 2m RH, and 10m winds properly. There was a format change to GDAS files.

v6.0.42 (Terra and Aqua) Based on v6.0.41 2014-10-16

=====

MOD\_PR07 and MOD\_PRLCAT:

- Updated value of DOI metadata for Near Real Time processing

v6.0.41 (Terra and Aqua) 2014-09-24

=====

MOD\_PRLQA:

- added the directory MOD\_PRLQA to /STORE/shared\_src/land\_src
- changed the build\_pge03\_linux under /STORE/PGE03 to include the building of executable file MOD\_PRLQA.exe
- changed the PGE03.ciList under /STORE/PGE03/COMB

PGE03.pl

- added the LUN for MCF File MOD\_PRLM\_QA.mcf
- added the LUN for Output file MODLM\_QA
- included the LUN, description and value for Runtime parameters - MOD\_PRLQA
- added the execution of MOD\_PRLQA.exe after the other executables
- specified the ESDT to be archived

v6.0.40 (Terra and Aqua) Based on v6.0.39 2014-06-30

=====

- PGE03\_LoaderModule.pl:

- \* Corrected bug that prevented proper sorting of gdas files
- \* Updated sub-rules to check if values are defined before using them in conditionals

- See HISTORY.txt v6.0.9 (MOD\_PR07)

v6.0.39 (Terra and Aqua) Based on v6.0.38 2014-03-05

=====

PGE03.pl:

- Changed the Archive\_RP\_Value\_2 to "PGE03:\$pge->{PgeVersion}" so the correct PRODUCTIONHISTORY is written to the M\*D07\_L2 metadata.
- Changed the Archive\_RP\_Value\_4 to 6 so the correct ALGORITHMPACKAGEVERSION is written to the M\*D07\_L2 metadata.
- Changed the Archive\_RP\_Value\_6 to 6 so the correct PROFILES\_ALGORITHM\_VERSION\_NUMBER is written to the M\*D07\_L2 metadata.
- Changed the Archive\_RP\_Value\_7 to 6 so the correct TOTAL\_OZONE\_ALGORITHM\_VERSION\_NUMBER is written to the M\*D07\_L2 metadata.
- Changed the Archive\_RP\_Value\_8 to 6 so the correct STABILITY\_INDICES\_ALGORITHM\_VERSION\_NUMBER is written to the M\*D07\_L2 metadata.
- Changed the Archive\_RP\_Value\_4 to 6 so the correct ALGORITHMPACKAGEVERSION is written to the M\*D35\_L2 metadata.
- Changed the Archive\_RP\_Value\_7 to "PGE03:\$pge->{PgeVersion}" so the correct the correct PRODUCTIONHISTORY is written to the M\*D35\_L2 metadata.
- See HISTORY.txt v6.0.34 (MOD\_PRLCAT)

v6.0.38 (Terra and Aqua) Based on v6.0.37 2014-02-25

=====

- PGE03.pl:

- \* Added functionality to put the NDVI, C6 thresholds file in the \*.pcf file so the MOD\_PRAI29St, MOD\_PRAI29 are able to get those from the \*.pcf.
- See HISTORY.txt v6.0.33 (MOD\_PRLCAT)
- See HISTORY.txt v6.0.7 (MOD\_PR35)

v6.0.37 (Terra and Aqua) Based on v6.0.36 2014-02-11

=====

- See HISTORY.txt v6.0.32 (MOD\_PRLCAT)

v6.0.36 (Terra and Aqua) Based on v6.0.35 2014-01-31

=====

- See HISTORY.txt v6.0.31 (MOD\_PRLCAT)

v6.0.35 (Terra and Aqua) Based on v6.0.34 2014-01-20

=====

- See HISTORY.txt v6.0.30 (MOD\_PRLCAT)
- See HISTORY.txt v6.0.6 (MOD\_PRAGG)

v6.0.34 (Terra and Aqua) Based on v6.0.33 2013-12-26

=====

- PGE03.pl:

- \* Updated the PGEVERSION to remove the "PGE03:" prefix

v6.0.33 (Terra and Aqua) Based on v6.0.32 2013-10-29

=====

- See HISTORY.txt v6.0.28 (MOD\_PRLCAT)
- See HISTORY.txt v6.0.1 (MOD\_PRVOLC)
- See HISTORY.txt v6.0.8 (MOD\_PR07)
- See HISTORY.txt v6.0.6 (MOD\_PR35)

- PGE03.pl:

- \* Changed the script so it does not produce the \*\_RA products but the regular ones using the Re-Aggregated inputs when necessary

v6.0.32 (Terra and Aqua) Based on v6.0.31 2013-10-22

=====

- PGE03.pl:

- \* In case the instrument is Aqua do not export any files.

v6.0.31 (Terra and Aqua) Based on v6.0.29 2013-10-16

=====

- See HISTORY.txt v6.0.27 (MOD\_PRLCAT)
- See HISTORY.txt v6.0.0 (MOD\_PRVOLC)
- See HISTORY.txt v6.0.7 (MOD\_PR07)
- See HISTORY.txt v6.0.5 (MOD\_PR35)

- PGE03.pl:

\* Added the new C6 \*.MCF files

v6.0.30 (Terra and Aqua) Based on v6.0.29 2013-10-15

- =====
- PGE03\_LoaderModule.pl:
    - \* Extended the NISE lookup lower range to 100 days before instead of 720/60hours because of the government shutdown the NISE files were not produced after 10-06-2013.

v6.0.29 (Terra and Aqua) Based on v6.0.28 2013-09-16

- =====
- PGE03.pl:
    - \* Changed the script so the MYD021KM\_RA files are ingested to the database.
    - \* Changed the ESDT MYD021KM to MYD021KM\_RA in the MYD021KM\_RA metadata.

v6.0.28 (Terra and Aqua) Based on v6.0.27 2013-08-13

- =====
- See HISTORY.txt v5.0.6 (src\_L2)
  - See HISTORY.txt v6.0.26 (MOD\_PRLCAT)
  - See HISTORY.txt v5.0.5 (MOD\_PRVOLC)
  - See HISTORY.txt v6.0.6 (MOD\_PR07)
  - See HISTORY.txt v6.0.4 (MOD\_PR35)
  - See HISTORY.txt v6.0.2 (MOD\_PRDS)
  - PGE03.pl:
    - \* Changed the script so for Aqua granules when the QKM file is present both the regular (D35\_L2, D07\_L2) and the Re-Aggregated products get produced.
    - \* Added both the LUN numbers for the aggregated and the regular products.

v6.0.27 (Aqua only) Based on v6.0.26 2013-08-02

- =====
- See HISTORY.txt v5.0.5 (src\_L2)
  - See HISTORY.txt v6.0.24 (MOD\_PRLCAT)
  - See HISTORY.txt v5.0.4 (MOD\_PRVOLC)
  - See HISTORY.txt v6.0.5 (MOD\_PR07)
  - See HISTORY.txt v6.0.3 (MOD\_PR35)
  - See HISTORY.txt v6.0.5 (MOD\_PRAGG)

v6.0.26 (Terra and Aqua) Based on v6.0.25 2013-07-03

- =====
- See HISTORY.txt v6.0.12 (src\_UW)
  - See HISTORY.txt v6.0.23 (MOD\_PRLCAT)

v6.0.25 (Terra and Aqua) Based on v6.0.24 2013-06-27

- =====
- PGE03\_LoaderModule.pl:
    - \* Updated LM to fix a bug in NRT when it was 3 gdas files were fetched.

v6.0.24 (Terra and Aqua) Based on v6.0.23 2013-06-26

- =====
- See HISTORY.txt v6.0.22 (MOD\_PRLCAT)
  - See HISTORY.txt v6.0.11 (src\_UW)
  - PGE03\_LoaderModule.pl:
    - \* Changed LM to pick gdas file(s) for the same time range up to 4 days before if the GDAS is not available for the current date time.
    - \* Cleaned up the LM to be more readable.
  - PGE03.pl:
    - \* Changed ECS DEBUG flag in pcf (LUN 10911) to produce the M\*D07\_QC files as requested.
    - \* Changed the SDPTK to v5.2.17.
    - \* Deactivated the M\*D35\_QC file archival.

v6.0.23 (Terra and Aqua) Based on v6.0.22 2012-08-02

- =====
- See HISTORY.txt v6.0.17 (MOD\_PRLCAT)
  - See HISTORY.txt v5.0.3 (MOD\_PRVOLC)
  - See HISTORY.txt v6.0.4 (MOD\_PR07)
  - See HISTORY.txt v6.0.7 (src\_UW)

- See HISTORY.txt v6.0.1 (MOD\_PRDS)
- See HISTORY.txt v6.0.2 (MOD\_PR35)

PGE03.pl:

- \* Changed the MODIS\_senzen.bin, MODIS\_REGCOEF\_FACTORS.aqua.v6 to their little endian versions since the compiler was changed to gfortran.
- \* Changed the MODIS\_REGCOEF\_FACTORS.terra.v6 to an update by the developer MODIS\_REGCOEF\_FACTORS.terra.v7.le. The new coeff is in little endian format since the compiler was changed to gfortran.

v6.0.22 (Terra and Aqua) Based on v6.0.21 2012-06-27

- =====
- See HISTORY.txt v6.0.16 (MOD\_PRLCAT)
  - See HISTORY.txt v6.0.3 (MOD\_PR07)
  - See HISTORY.txt v6.0.1 (MOD\_PR35)

v6.0.21 (Terra and Aqua) Based on v6.0.18 2011-12-27

- =====
- See HISTORY.txt v6.0.0 (MOD\_PRDS)
  - See HISTORY.txt v6.0.15 (MOD\_PRLCAT)
  - See HISTORY.txt v6.0.5 (src\_UW)
  - PGE03.pl:
    - \* Changed the destripe coeff files to the collection6 ones
  - PGE03\_LoaderModule.pl:
    - \*For Terra:
      - \* Set the "CONFIG\_V" to 1 for dates earlier than "2006-09-20 00:00" so the destripe\_config\_terra.dat.v1 gets fetched.
      - \* Set the "CONFIG\_V" to 2 for dates greater than or equal to "2006-09-20 00:00" and less than "2007-07-12 00:00" so the destripe\_config\_terra.dat.v2 gets fetched.
      - \* Set the "CONFIG\_V" to 3 for dates later than or equal to "2007-07-12 00:00" so the destripe\_config\_terra.dat.v3 gets fetched.
    - \*For Aqua:
      - \* Set the CONFIG\_V to 1 for dates earlier than "2005-01-10 00:00" so the destripe\_config\_aqua.dat.v1 gets fetched.
      - \* Set the CONFIG\_V to 2 for dates later than or equal to "2005-01-10 00:00" so the destripe\_config\_terra.dat.v2 gets fetched.

v6.0.20 (Terra and Aqua) Based on v6.0.18 2011-12-13

- =====
- See HISTORY.txt v5.0.3 (MOD\_PRDS)
  - See HISTORY.txt v5.0.3 (MOD\_PRIVOLC)
  - See HISTORY.txt v6.0.1 (MOD\_PR35)
  - See HISTORY.txt v6.0.14 (MOD\_PRLCAT)
  - See HISTORY.txt v6.0.3 (MOD\_PR07)
  - PGE03.pl:
    - \* Changed MODIS\_REGCOEF\_FACTORS.terra.v6.le, MODIS\_REGCOEF\_FACTORS.aqua.v6.le, coeff file for terra and aqua to a little endian.

v6.0.19 (Terra and Aqua) Based on v6.0.16 2011-12-08

- =====
- See HISTORY.txt v6.0.13 (MOD\_PRLCAT)

v6.0.18 (Terra and Aqua) 2011-12-08

- =====
- See HISTORY.txt v6.0.12 (MOD\_PRLCAT)

v6.0.17 (Terra and Aqua) 2011-11-23

- =====
- PGE03\_LoaderModule.pl:
    - \* Added functionality to fetch only one gdas file for "2003-05-12 06:00"<= PGE\_StartTime <= "2003-05-12 11:55" or "2003-05-13 06:00"<=PGE\_StartTime<= "2003-05-13 11:55"
  - DriverLEOCAT.pm:
    - \* Added functionality to handle 1 or 2 gdas files.

- \* Added functionality in case of 2 gdas files to sort them from the earlier to the latest
- Changed the MOD\_PRDS, MOD\_PR35, MOD\_PR07, MOD\_PRVOLC README.txt to specify compilation with SDPTK 5.2.16 script.
- See HISTORY.txt v6.0.11 (MOD\_PRLCAT)

v6.0.16 (Terra and Aqua) 2011-10-26

- =====
- See HISTORY.txt v6.0.10 (MOD\_PRLCAT)

v6.0.15 (Terra and Aqua) 2011-09-26

- =====
- See HISTORY.txt v6.0.9 (MOD\_PRLCAT)
  - See HISTORY.txt v6.0.3 (src\_UW)

v6.0.14 (Terra and Aqua) 2011-08-05

- =====
- See HISTORY.txt v6.0.8 (MOD\_PRLCAT)

v6.0.13 (Terra and Aqua) 2011-02-25

- =====
- See HISTORY.txt v6.0.7 (MOD\_PRLCAT)
  - PGE03.pl:
    - \* Updated the script to accommodate the clean up changes on MOD\_PRLCAT step
  - DriverLEOCAT.pm:
    - \* Updated the script to accommodate the clean up change on MOD\_PRLCAT step
  - Updated the PGE03.installList so it installs only DriverLEOCAT.pm perl module, and leocat.default

v6.0.12 (Terra and Aqua) 2010-12-29

- =====
- See HISTORY.txt v6.0.6 (MOD\_PRLCAT)
  - See HISTORY.txt v6.0.1 (src\_UW)

v6.0.11 (Terra and Aqua) 2010-10-11

- =====
- See HISTORY.txt v6.0.5 (MOD\_PRLCAT)

v6.0.10 (Terra and Aqua) 2010-09-29

- =====
- PGE03\_LoaderModule.pl:
    - \* Changed the order of the GDAS files if the second in the order overlaps granule.
  - See HISTORY.txt v6.0.2 (MOD\_PR07)

v6.0.9 (Terra and Aqua) 2010-09-09

- =====
- See HISTORY.txt v6.0.4 (MOD\_PRLCAT)

v6.0.8 (Terra and Aqua) 2010-09-07

- =====
- See HISTORY.txt v6.0.3 (MOD\_PRLCAT)

v6.0.7 (Terra and Aqua) 2010-08-27

- =====
- See HISTORY.txt v6.0.1 (MOD\_PR07)
  - PGE03\_LoaderModule.pl:
    - \* Corrected the HASH entry from \$dbh->AddTimePeriod{'HRS'} to \$dbh->AddTimePeriod{'HOURS'}
  - See HISTORY.txt v6.0.0 (src\_UW)

v6.0.6 (Terra and Aqua) 2010-07-29

- =====
- Changed the DriverLEOCAT.pm to fetch the coeff files from the correct collection6 directory path.
  - See HISTORY.txt v6.0.2 (MOD\_PRLCAT)

v6.0.5 (Terra and Aqua) 2010-07-15

- =====
- See HISTORY.txt v6.0.1 (MOD\_PRLCAT)
  - PGE03.pl
    - \* Changed the SDPTK5.2.9v1\_64\_f77 to SDPTK5.2.16v1\_64\_f77
    - \* Eliminated the run\_c6.csh script run and separated the alg29stats.exe and leocat\_to\_mod35 to separate steps
    - \* Changed the coeff directory to collection6 after CM's update
  - Removed the run\_c6.csh, run\_leocat\_noftp.sh, run\_alg29stats.csh scrips and replaced them with the DriverLEOCAT.pm module

v6.0.4 (Terra and Aqua) 2010-06-24

- =====
- See HISTORY.txt v6.0.0 (MOD\_PR35)
  - See HISTORY.txt v6.0.0 (MOD\_PR07)
  - See HISTORY.txt v6.0.0 (MOD\_PRLCAT)
  - PGE03.pl:
    - \* Changed the Coeff files versions.
    - \* Modified the Script to run the new v6.0.0 of MOD\_PRLCAT, MOD\_PR07
  - Added new run\_c6.csh, run\_leocat\_noftp.sh, run\_alg29stats.csh scripts

v6.0.2 (Terra) & v6.0.3 (Aqua) 2010-01-25

- =====
- See History v5.1.6 (MOD\_PR35)

v6.0.0 (Terra) & v6.0.0 (Aqua) 2009-10-26

- =====
- PGE03.pl -- Adding LEOCAT code for pre-PGE03 C6
  - See HISTORY.txt v1.0.0 (MOD\_PRLCAT)

## MOD\_PR07 Version History

This file shows the following:

- (a) What was changed in the process
- (b) Why it was changed
- (c) How the output product will be affected by the change
- (d) Date the change was made

v6.0.10 (Based on v6.0.9) 10-17-2014

- =====
- Updated value of DOI metadata for Near Real Time processing

v6.0.9 (Based on v6.0.8) 06-30-2014

- =====
- Made slight adjustment to code to double size of variables that hold filenames

v6.0.8 (Based on v6.0.7) 10-28-2013

- =====
- Changed the code so it does not produce the \*\_RA products but the regular ones and using the Re-Aggregated inputs when necessary.

v6.0.7 (Based on v6.0.6) 10-16-2013

- =====
- Added the new C6 \*.MCF files
  - Added the correct ESDT in the doi addition for the Re-Aggregated M\*D07\_L2 products.

v6.0.6 08-13-2013

- =====
- Added the new LUNs for the Re-Aggregated products.
  - Added functionality so when it detects Argument 1 in the command line to produce the Re-Aggregated products

v6.0.5 08-02-2013

- =====
- Changed LUN from 422500 (M\*D35\_L2) to 422509 (MOD35\_L2\_RA)
  - Changed LUN from 420000 (M\*D07\_L2) to 420005 (M\*D07\_L2\_RA)
  - Changed LUN from 420001 (M\*D07\_L2.mcf) to 420006 (M\*D07\_L2\_RA.mcf)
  - Changed LUN from 420002 (M\*D07\_QC) to 420007 (M\*D07\_QC\_RA)
  - Changed LUN from 420003 (M\*D07\_QC.mcf) to 420008 (M\*D07\_QC\_RA.mcf)

v6.0.4 08-02-2012

- =====
- The MOD\_PR07.mk was changed to compile with SDPTK.v5.2.17 and gfortran.
  - It is possible to compile in 64-bit also.
  - The coeff files on PGE03.pl were changed to little endian versions.
  - The TERRA/MODIS regression coefficients (MODIS\_REGCOEF\_factors.terra.v7[.le]) has been updated by using the new H2O/O3/CO2 band spectral shifts.
  - Due to the reg coeff file updates the shared\_src/atmos\_src/src\_UW/modis\_bright\_shift.f has been updated as well.
  - Additionally: the precw.f and tprecv\_new2.f have been removed from the MOD\_PR07 directory.

v6.0.3 06-27-2012

- =====
- Changed the VersionID to 6 in M\*D07\_L2.mcf files and DESCRrevision to 6.0.
  - Added the PSA values: identifier\_product\_doi, identifier\_product\_doi\_authority
  - Added the global metadata: identifier\_product\_doi, identifier\_product\_doi\_authority

v6.0.2 09-29-2010

- =====
- Changed mod07\_pcfnum.inc, mod07\_meta.inc so they use the destriped

version of M[\*]D021KM (M[\*]D1KMDS LUN 43000) instead.

v6.0.1 08-27-2010

=====

This is a patch to the MODIS MOD07 C6 atmospheric algorithm. This patch is satellite independent and effects only the dewpoint temperature and mixing ratio profile products at the top levels (above 50 hPa) where the moisture is minimal.

v6.0.0 04-06-2010

=====

Delivery of MOD07 Code April 6 2010  
Eva E borbas

The algorithm changes with this delivery are

A. updated regression coefficients:

- 1) Regression coefficients are computed from an updated set of training data profiles: new emissivity derived from the UW-Madison global gridded IR emissivity dataset (<http://cimss.ssec.wisc.edu/iremip>) is assigned to the profiles. Emissivity is included at 11 IR MODIS bands (25,27-36).
- 2) New forward model CRTM is used to compute synthetic radiances instead of the prototype CRTM.
- 3) updated NedT for both Terra and Aqua
- 4) Applying zero bias adjustment in the radiative transfer calculation
- 5) Applying the H2O/Co2 channel spectral shifts for Aqua (Tobin et al. 2006, JGR)

B. making the MOD07 algorithm uniform for both Aqua and Terra

C. changing the definition of Water\_Vapor\_High and Water\_Vapor\_Low to be able to calculate the three layer water Vapor and to be more consistent with the cloud products (MOD06)

D. QA usefulness and Confidence flag bug is fixed

E. Output file updates:

- 1) adding offset/scale\_factor usage information to the hdf file
- 2) adding the list of the pressure levels to the hdf file
- 3) K-index valid range is fixed
- 4) "Surface\_Temperature" is changed to "Skin\_temperature".
- 5) mixing ration profile is added

I. CHANGES TO RETRIEVAL CODE

Updated Terra and Aqua regression coefficients:

coeff/MODIS\_REGCOEF\_terra.v6  
coeff/MODIS\_REGCOEF\_aqua.v6

Update the bias data:

coeff/terra\_bias.dat.v6  
coeff/aqua\_bias.dat.v6  
- applying zero bias

Code changes to accommodate the new coefficients include:

src/mod07\_open\_files.f - changed regression coefficient file\_length to 1308 for 323 elements in RTV

src/modis\_ges101.f:

- nemis = 11, reflen 1308
- Updated version number to agree with new coefficients, 2009260
- adjusted indexing into RTV array for swemis
- new algorithm tprecw.f is used for tpw\_lo and tpw\_hi instead of tprecw\_new2.f
  - OZON (ozone profiles) is added to the attributes

src/mod07\_write\_products.f  
 - retr\_wvmr\_profile added  
 - Surface\_Temperature name to Skin\_Temperature

src/mod07\_initialize\_output.f  
 - retr\_wvmr\_profile added

src/mod07\_compute\_products.f  
 - retr\_wvmr\_profile added  
 - using tprecw for computing water\_vapor\_high and water\_vapor\_low  
 - OZON (ozone profiles) is added to the attributes of the modis\_ges101 subroutine

src/mod07\_data.inc  
 - retr\_wvmr\_profile added

src/mod07\_set\_qa.f  
 - bugs are fixed in line 112 and 113

src/MOD\_PR07.f  
 - bug fixed in line 211

src/MOD\_PR07.mk\_linux  
 - removed tprecwv\_new2.f and precwv.f and tprecwv.f is added

template/MOD\_PR07.pcf.template  
 template/MYD\_PR07.pcf.template  
 - update the regocef filenames

shared/src\_UW/modis\_bright.f  
 - H2O/Co2 channel spectral shifts are added to Aqua (27,28,34,35,36)

shared/src\_UW/setup\_create\_hdf.f  
 - line 219-240: add scale\_factor/offset definition to the hdf file and list of pressure levels

shared/src\_UW/get\_spec\_info.f  
 - modified to be able to run for 101 levels  
 - Surface\_Temperature to Skin\_Temperature

shared/src\_UW/MOD07.V2.CDL  
 - Retrieved\_WV\_Mixing\_Ratio\_Profile added  
 - K index valid range has been changed

shared/src\_UW/Copy\_cldmask\_meta.f  
 - change due to the C6 cloudmask

#### ADDED NEW CODES:

src/tprecwv.f  
 - uniform the precwv.f and tprecwv\_new2.f for integrating the total column and the high and low layer mean water vapor in the same subroutine

#### REMOVED CODE:

src/precwv.f  
 src/tprecwv\_new2.f

## MOD\_PR35 Version History

This file shows the following:

- (a) What was changed in the process
- (b) Why it was changed
- (c) How the output product will be affected by the change
- (d) Date the change was made

v6.0.7 (Based on v6.0.6) 02-25-2014

- =====
- Changed the \*.MCF files to increase the number of file entries on the LOCALINPUTGRANULEID entry

v6.0.6 (Based on v6.0.5) 10-29-2013

- =====
- Changed the code so it does not produce the \*\_RA products but the regular ones and using the Re-Aggregated inputs when necessary.

v6.0.5 (Based on v6.0.4) 10-16-2013

- =====
- Added the new C6 \*.MCF files

v6.0.4 08-13-2013

- =====
- Added the new LUNs for the Re-Aggregated products.
  - Added functionality so when it detects Argument 1 in the command line to produce the Re-Aggregated products

v6.0.3 08-02-2013

- =====
- \* Changed LUN from 700002 (M\*D021KM) to 430001 (M\*D021KM\_RA)
  - \* Changed LUN from 422500 (M\*D35\_L2) to 422509 (MOD35\_L2\_RA)
  - \* Changed LUN from 422506 (mcf file) to 422510 (mcf file)
  - \* Changed LUN from 422507 (QC mcf file) to 422512 (QC mcf file)
  - \* Added new:
    - MOD35\_QC\_RA.mcf
    - MOD35\_L2\_RA.mcf
    - MYD35\_QC\_RA.mcf
    - MYD35\_L2\_RA.mcf

v6.0.2 08-02-2012

- =====
- The MOD\_PR35.mk was changed to compile with SDPTK.v5.2.17 and gfortran.
  - It is possible to compile in 64-bit also.

v6.0.1 06-27-2012

- =====
- Changed the VersionID to 6 in M\*D07\_L2.mcf files and DESCRrevision to 6.0, NUM\_VAL = 11 on LocalInputGranuleID.

v6.0.0 06-24-2010

=====

First version of Collection 6

This version of the MODIS cloud mask uses SSEC LEOCAT (Low Earth Orbiter Cloud Algorithm Testbed) software to generate the MOD\_PR35 product. However, this code package must run as well so that a MODIS standard MOD35 output file may be created. MOD\_PR35.f is the only routine from the Collection 5 code that has changed for Collection 6. Much of the processing is not performed, only a valid output file is produced that is later filled by the results of the LEOCAT process.

Science changes (implemented in LEOCAT, Algorithm #29) include:

- Use of NDVI background maps:
  - a) Define arid and semi-arid (Ã,â€œdesertÃ,â€œ) processing path (NDVI background < 0.3)
  - b) Define bands 1, 8 cloud test thresholds as fn. of scattering angle and NDVI background (use band 8 for NDVI < 0.25)
  - c) Define GEMI test thresholds as fn. of NDVI background in three ranges
    - Use GEMI in desert regions only
    - GEMI test uses original formulation
- Added 7.3-11 um cloud test to daytime Antarctica and Greenland
- Additional tests for non-cloud obstructions.
  - UW-CIMSS "GOES\_R" dust algorithm (day, night, land, water)
  - Thick smoke/aerosol test for daytime water surfaces
- Added cloud adjacency flag (includes probably cloudy, cloudy, and adjacent pixels).
- Added check on TPW for execution of 1.38 um test over land. Test not performed if TPW < 0.75 cm
- Made land night 11-3.9 um BTD test thresholds a fn. of TPW (regression built from collocated CALIOP and MODIS data)
- New surface temperature test for ocean scenes
  - Calculates bulk SST directly from observations, tests against ancillary data value
- Eliminated tri-spectral test in ocean scenes; replaced with simple 8.6-11 um BTD threshold test
- Added new 11-3.9 um BTD test for night ocean; test thresholds are a fn. of TPW (regression built from collocated CALIOP and MODIS data); kept C5 test as separate cloud test
- Shadows test has been eliminated