

Collection 5 changes to PGE72 (VCC)
6/13/2006

Summary

Overall science changes to PGE72 are nominal and reflect substantive improvements in MOD09 (daily surface reflectance) product.

The total volume of data stored per tile has decreased from 167GB per 16-day time period to 55GB per 16-day time period due to the implementation of internal compression during production. The additional SDS's that are saved in collection 5 are necessary to generate the highest quality change detection product possible.

Metadata and programmatic changes

1. Fixed valid range for angle metadata in both code and filespec.
2. Changed ScienceQualityFlagExplanation to be read from the pcf rather than mcf.
3. Added a bit to the state flags to reflect MOD09 QC.
4. Added internal compression.
5. Updated README.txt with changes to inputs.
6. Modified the production code to use toolkit version 5.2.9

Changes to SDS's in output file

1. Removed the following unneeded SDS's
 - . LST
 - . water_QA
2. Changed the following SDS's from 16-bit to 8-bit
 - . view_angle
 - . water_flags
3. Added the following new 8-bit SDS's
 - . land_flags - to complement the existing water-flags for detection of flooding
 - . 3 brightness temperature SDS's - to replace the Land Surface temperature SDS
 - o Brightness temperature is the precursor to the Land Surface temperature product
 - o It will be used to help eliminate areas of confusion in detection of change between land cover types
 - . Solar zenith angle SDS - to complement view angle in determining object illumination
 - . Relative azimuth angle SDS - to complement view and solar angle in determining object illumination

Science code changes

1. Changes to compositing algorithm to utilize updates to upstream data quality flags.
2. Changed compositing algorithm to allow the brightness temperature inputs to be used instead of Land Surface Temperature.
3. Fixed compositing algorithm to handle mixed clouds properly.
4. Revised compositing algorithm to eliminate cirrus tests.
5. Updated the water identification algorithm.