Proposed MODIS-Atmosphere Collection 006 Change Document
L2 Cloud Top Properties   Version 28   (04/11/2011)

Status Keyword List: [Not Started], [Investigating], [Coding], [Testing], [Dropped] or [Implemented].
Note: If no status keyword appears after an item, the status was not communicated to the author of this
document.

Cloud Top Properties (06CT) (Updated 4/11/2011) Paul Menzel, Rich Frey

> ➢ Implement "top-down" method of final cloud top pressure choice for Aqua.
>   [Status: Implemented]
> ➢ Restrict range of CTP retrievals appropriate to channel pair (36/35 < 450 hPa,
>   35/34 < 550 hPa, 34/33 < 650 hPa, 35/33 < 650 hPa). [Status:
>   Implemented]
> ➢ Avoid CO_2 slicing solutions in water clouds and IRW solutions in ice or mixed
>   phase clouds. [Status: Implemented for water surfaces]
> ➢ Output cloud (geopotential) heights along with cloud top pressures. [Status:
>   Implemented]
> ➢ Use GDAS ozone profile data in stratosphere; merge with climatological
>   profiles currently in use. [Status: Implemented]
> ➢ Reduce NEDR thresholds for band selection in CO_2-slicing algorithm. [Status:
>   Implemented]
> ➢ Implement "spectral shift" (Tobin et al.) in forward model calculations
>   involving bands 34-36 (Aqua only). [Status: Implemented]
> ➢ Investigate identification of stratospheric clouds ("overshooting tops") by use
>   of positive 6.7-11 μm and 13.6-11 μm BTDs; use stratospheric temperature
>   profiles and IRW BTs in these cases to locate clouds. [Status: Implemented]
> ➢ Use LEOCAT software to produce 1-km resolution products (in addition to
>   current 5-km products); CTP, CTH, CTT, ECE, IRP. [Status: Implemented]
> ➢ Investigating use of latitude-dependent lapse rates for calculation of cloud
>   heights in inversion situations. [Status: Implemented for water surfaces]
> ➢ New flag category added to the Cirrus Flag and High Cloud Flag in the
>   Quality_Assurance_5km array. The new category is: 3 = clear sky. Currently
>   the category 0 = "missing" includes both missing satellite data and clear sky.
>   This change would allow a true fraction to be implemented in L3. [Status:
>   Implemented]