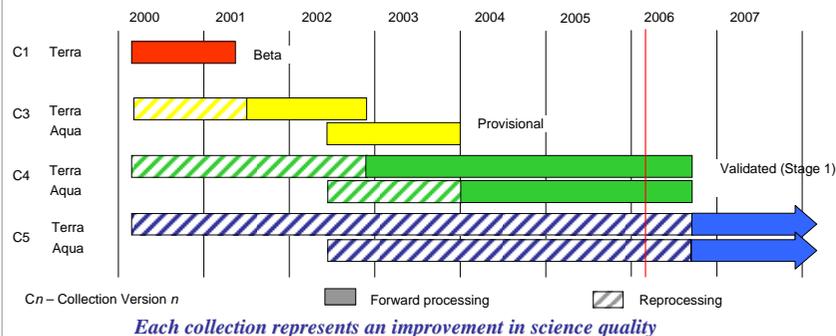




MODIS Land Collection 5 Products



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MODIS Land Collection 5 Changes

- Use improved Land/Water mask and new Land Cover map based on 3 years of Collection 4 data.
- Refine surface reflectance by adopting a dynamic aerosol model in atmospheric correction and implementing BRDF coupling and adjacency effect correction schemes.
- Improve quality of the Land Surface Temperature by revising the day/night algorithm and improving the detection and filtering of cloud contaminated observations.
- Increase resolution of BRDF/Albedo product to 500m.
- Interpolate ancillary data to remove artifacts in the NPP product.
- Refine LAI/FPAR LUTs to improve numerical accuracy of the radiative transfer simulations.
- Add fractional snow algorithm in the snow product
- Add burned area product.

Surface Reflectance

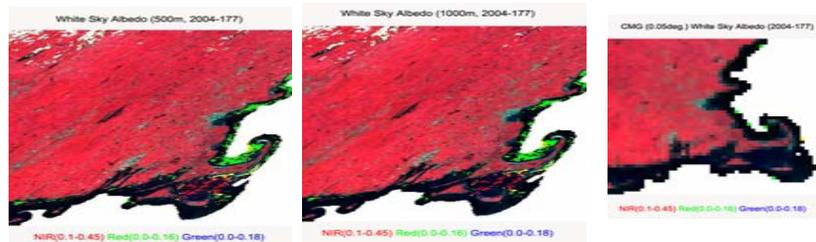
The collection 5 surface reflectance algorithm retrieves the aerosol model along with the aerosol optical thickness. This leads to less overcorrection in the surface reflectance product as illustrated in this example.



Source: Eric Vermote (UMD)

BRDF/Albedo

The collection 5 BRDF/Albedo product will be produced at a resolution of 500m which provides better spatial detail and will allow the production of a global landcover at 500m.



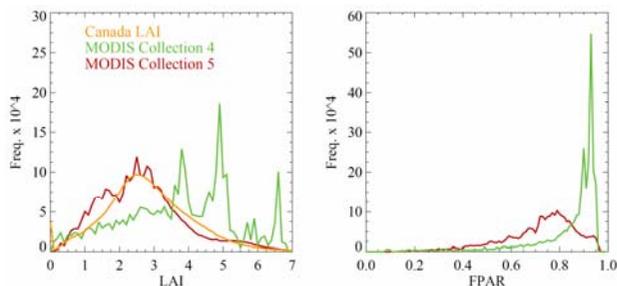
Version 5 White Sky Albedo products in New England area with 3 different resolutions (500m, 1km, and 0.05 degrees)

Source: Crystal Schaaf (BU)

LAI/FPAR

Refined LUTs for all biomes to improve numerical accuracy of radiative transfer simulations and to better match simulated reflectances and MODIS observations.

Examples of resulting improvements are the reduction in overestimation of LAI and FPAR for needle leaf forest (see below) and the increase in the rate of best quality retrievals.

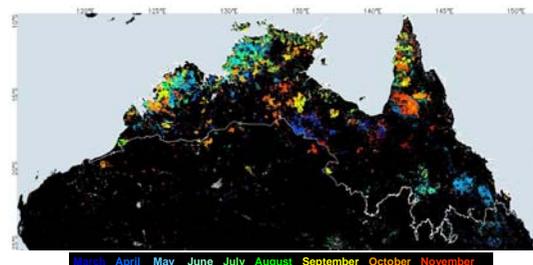


Comparison of Collection 4, Collection 5 and CCRS (Canadian Center of Remote Sensing) LAI and FPAR over Canada. MODIS data are for 201-208.2003

(Source: Nikolay Shabanov, BU)

Burned Area

Collection 5 includes a monthly burned area product produced at 500m from Terra and Aqua.



Burned Area 2003 dry season in Australia (March-November)

Source: David Roy (South Dakota State U)