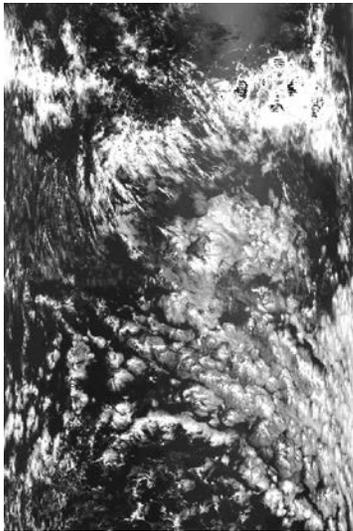


Terra Cloud Mask (MOD35) Threshold Change

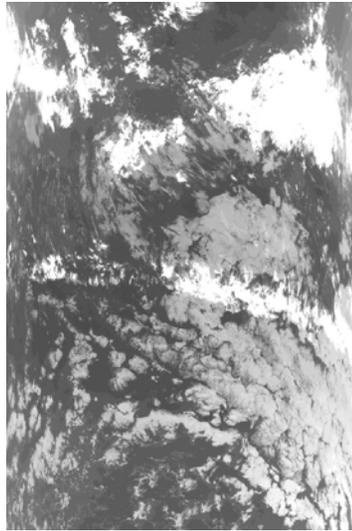
In April 2015, it was noticed that recent Terra cloud top pressure data contained ocean regions with very high incidence of low clouds. This was traced to false clouds being reported by the cloud mask (MOD35). In turn, this was found to be the result of errors in the 8.6-11 μm brightness temperature difference (BTD) high (ice phase) cloud test. Many clear pixels were being flagged as cloudy by the offending test. An adjustment to the 8.6-11 μm test thresholds was provided to fix the problem. New thresholds are considered to be appropriate for data beginning on January 1, 2015, although the problem has existed since late 2013 or early 2014, and has gotten steadily worse since then. It is unknown whether or not the problem has stabilized in recent months. The figures below show an example of the test results before and after the thresholds were adjusted.

Terra MODIS band 2 reflectance (left) and band 31 brightness temperature (right) for a granule located in the southeastern subtropical Pacific Ocean at 16:40 UTC on April 15, 2015.

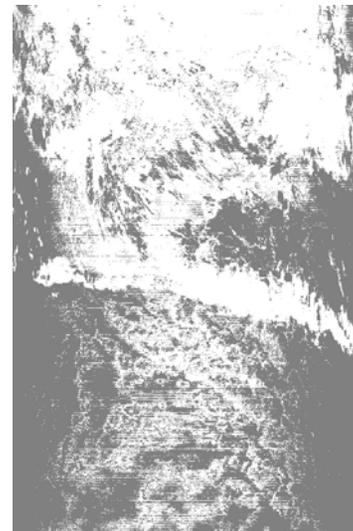
Results of the 8.6-11 μm cloud test before and after threshold adjustments were made to correct the problem.



Band 2
Reflectance



Band 31
Brightness Temperature



Cloud Test Before
Threshold Adjustments



Cloud Test After
Threshold Adjustments