

MCD43 BRDF, Albedo, and NBAR products from Terra/Aqua MODIS

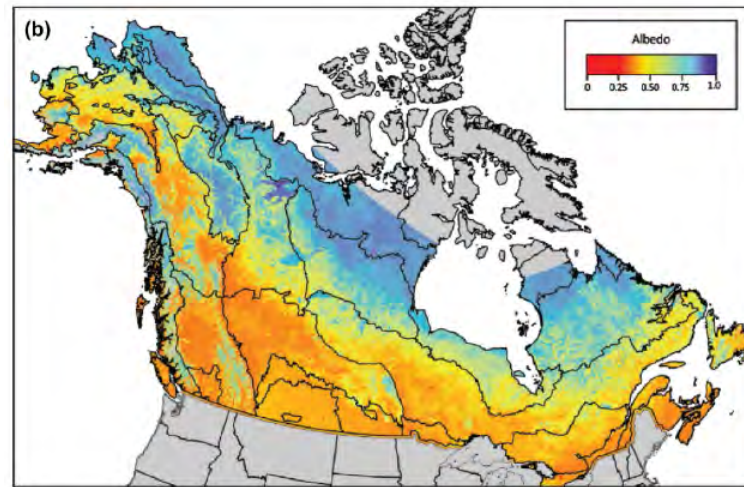
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MODIS BRDF, Albedo, NBAR, Products - Collections 6.0 and 6.1

MCD43A product provides daily **BRDF** model parameters, **White Sky Albedo (WSA)**, bihemispherical albedo under isotropic illumination), **Black Sky Albedo (BSA)**, directional hemispherical albedo under local solar noon illumination), for the 7 land bands and three broadbands, as well as **Nadir BRDF-Adjusted Reflectance (NBAR)** and extensive **QA** fields. The standard products are 500m gridded values produced globally in sinusoidal tiles. In addition, daily 30arc second products (MCD43D) are provided in a geographic lat/lon projection (known as Climate Modeling Grid – CMG), and these are also provided as averaged 0.05degree averaged CMG products (MCD43C). A 30 arc second snow-free gap-filled CMG version (MCD43GF) is also provided. All MCD43 products and documentation are distributed by the LPDAAC.

In collaboration with Woods Hole Research Center (WHRC), a Collection 6.0 MODIS **Blue Sky Albedo** dataset for northern North America has also been prepared (500m sinusoidal, 2000-2017) using primarily MOD08 AOD values to introduce the full atmospheric multiple-scattering. This dataset is described in Potter et al., 2019 and distributed by the ORNL DAAC (<https://doi.org/10.3334/ORNLDAAC/1605>).

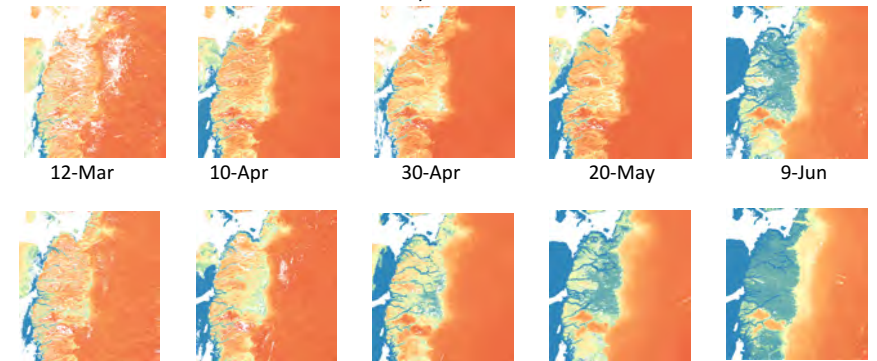


Mean Blue Sky Albedo composite April, 2000-2013

Potter, S. K. Solvik, A. Erb, S.J. Goetz, J.F. Johnstone, M.C. Mack, J.T. Randerson, M.O. Román, C.L. Schaaf, M.R. Turetsky, S. Veraverbeke, X.J. Walker, Z. Wang, and B.M. Rogers. 2019. Climate change decreases the cooling effect from post-fire albedo in boreal North America. *Global Change Biology*. 2019; 00: 1–16. <https://doi.org/10.1111/gcb.14888>

The MODIS broadband White Sky Albedos (WSA) have been used to monitor the Greenland melt episode of 2019 in relation to the 20 year record. The current extreme temperatures in 2020 suggest that excessive melt and low albedos will again be experienced this year.

West coast of Greenland, near Russell Glacier: 2018



2019 (Extreme Melt Season)

