

# Changes in land surface biophysical properties from the Global LAnd Surface Satellite (GLASS) products

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## Abstract

This presentation will mainly focus on albedo and LAI from the Global LAnd Surface Satellite (GLASS) products (Liang et al. 2013): which span from 1981-2010 with 1km and 5km spatial resolutions and 8-day temporal resolution.

The GLASS albedo product from MODIS data is based on two direct albedo estimation algorithms from surface reflectance (AB1), TOA radiance (AB2) (Qu et al. 2013), and the Statistics-based Temporal Filtering (STF) fusion algorithm that integrates these two intermediate albedo products (Liu et al. 2013a). The albedo product from AVHRR data is based on the similar direct estimation (AB2) algorithm from the TOA observations (Liu et al. 2013b).

The GLASS LAI algorithm (Xiao et al. 2013) is based on time-series reflectance data using general regression neural networks (GRNNs) trained by the fused LAI from MODIS and CYCLOPES LAI products and the reprocessed MODIS reflectance of the BELMANIP sites during the period from 2001-2003. It then applied to both MODIS and AVHRR data.

After briefly introducing the algorithms and summarizing the validation results, this presentation will mainly provide some preliminary results of long-terms trends in land surface albedo and leaf area index derived from the corresponding GLASS products.

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