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WORKING GROUP 1, GLI PRODUCTS

The minimum data processing for useable science products is each channel to spectral reflectance. Atmospheric corrections are essential to useable data, however a careful choice of the type and rigor of atmospheric corrections is critical.

Given the data acquisition constraints requiring careful prioritization of activity, it seems pursuing regular 1km global data is redundant to MODIS, and not reasonable with these data rate limits. Occasional global acquisitions for publicity purposes are needed.

A careful distinction needs to be made contrasting the requirements for needing only occasional acquisition, for example peak Leaf Area Index, from those requiring a continuous time series, such as Net Primary Production.

Given geographic data acquisition limits, choose priority scenes to acquire each orbit based on active field research/validation sites.

A technical advantage of GLI over MODIS is 6 channels of 250m data. This could be exploited regionally with enhanced versions of MODIS Vegetation variables.

Priority sequence of veg variables

- Landcover and LC Change [6 channels of 250m]

- Veg Indices, multi-channel

- LAI/FPAR, 6 channel

- NPP, only for regions like East Asia where data regularity is assured.

Requires ancillary gridded daily surface meteorology.

Validation

Landcover, LAI that are less time series sensitive could be validated with carefully chosen scenes over active field sites similar to the US Long Term Ecological Research Stations.

Continuous time series data essential for NPP, preferred for many products and may be available for E Asia. Asia-Fluxnet validation could be strong. The North American carbon Program is the next priority field campaign for NASA.

Schedule

Initial sample scenes, processed to surface reflectance, should be distributed ASAP to key labs, particularly the MODIS Vegetation algorithm people. Test these scenes with MODIS vegetation algorithms.

It will probably take two years to get a complete growing season time series Required for annual NPP and other time series variables.

Responsibilities

NASDA must plan on GLI acquisition and processing to spectral reflectances for each channel. MODIS algorithm team members will test the GLI on standard MODIS derived high order variables for the early test scenes. Regular high order processing will require formal arrangements and funding.