



Advances in Remote Sensing of Vegetation Merging NDVI, Soil Moisture, and Chlorophyll Fluorescence

Compton Tucker

NASA/Goddard Space Flight Center, Greenbelt Maryland, USA

I will describe an advance in remote sensing of vegetation in the time domain that combines simultaneous measurements of the normalized difference vegetation index, soil moisture, and chlorophyll fluorescence, all from different satellite sensors but acquired for the same areas at the same time step. The different sensor data are MODIS NDVI data from both Terra and Aqua platforms, soil moisture data from SMOS & SM_P (aka SMAP but with only the passive radiometer), and chlorophyll fluorescence data from GOME-2. The complementary combination of these data provide important crop yield information for agricultural production estimates at critical phenological times in the growing season, provide a scientific basis to map land degradation, and enable quantitative determination of the end of the growing season in temperate zones.