

MODIS Ocean and Atmospheric Applications Using TeraScan Software

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Abstract: SeaSpace Corporation's TeraScan software has been employed in generating ocean and atmospheric data products from Terra and Aqua MODIS (Moderate Resolution Imaging Spectroradiometer) direct broadcast data. TeraPGS (TeraScan Product Generation System) is a system for automatically generating and distributing products according to user specifications. TeraPGS can generate and deliver both TDF (TeraScan Data Format) and picture products.

In this paper we show examples of ocean color, cloud, and aerosol products derived from Terra and Aqua MODIS sensor data using TeraPGS. Ocean color products were generated using the MOD_PR18 algorithms. Ocean chlorophyll was generated using the MODIS bio-optical algorithm (MODCL2A). Aerosols and aerosol optical thickness (Tau_865) was computed from MODPR_04_05 and MODOCL2. Cloud products were generated using NASA's cloud mask (MOD35) and cloudtop (MOD06CT) algorithms. These algorithms are identical to the NASA GSFC DAAC operational level-2 algorithms and have been fully integrated with TeraScan's TeraPGS software. The data processing flow examples will include level 0, level 1a, level 1b, earth-location, Image navigation, atmospheric correction and level 2 product generation from MODIS.