

# CO-CALIBRATION OF THE VISUAL AND NEAR-INFRARED DATA AND A COMMON GN VEGETATION INDEX FOR THE AVHRR/3, MODIS AND METEOSAT MSG IMAGES

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## ABSTRACT:

Based on the AVHRR greenness vegetation index (GN) our working group developed a robust yield forecasting method in the past two decades. The method is based on the specially weighted integration of the GN index values in a crop specific time interval. It is important for the method to have a good temporal coverage of GN data in the specific interval. The coverage conditions are not always good when we use only the data of the polar orbiting instruments (AVHRR, MODIS, maximum 2 useful passes a day). Therefore with the availability of the Meteosat MSG data from its geosynchronous platform it seemed a proper complementary dataset for the other two. They have a dense temporal coverage of the investigated areas, though their surface resolution is smaller, but in the above mentioned forecasting method the investigated areas are rather big ones, their size is measured on a 10 km scale, so MSG-2 data is still useful there. This recent work is about the cross calibration of the three instruments' related visual and near-infrared channels. Using a simple atmospheric correction method and considering the form of the scattering surfaces (SRTM-3 digital elevation model) and viewing geometries, in the cross calibration we achieved such an accuracy that the forecasting method can be improved with the MSG provided greenness data.

**TOPIC:** Data fusion and data assimilation

**ALTERNATIVE TOPIC:** Remote sensing applications