Title	Multi-sensor Integration of Vegetation Index Products for Long-term Monitoring of
	Vegetation Dynamics: A Case Study from MODIS to VIIRS

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Keywords	Vegetation Index, MODIS, VIIRS
Abstract	Spectral vegetation index (VI) time series data from moderate resolution
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Abstract	Spectral vegetation index (VI) time series data from moderate resolution sensors, such as
	Earth Observing System Moderate Resolution Imaging Spectroradiometer (MODIS),
	have widely been used to identify "hot spot" areas of vegetation changes and to
	characterize long-term trends of vegetation changes. The Visible Infrared Imaging
	Radiometer Suite (VIIRS) sensor series of the Joint Polar Satellite System program is
	slated to continue the highly calibrated data stream initiated with MODIS. The first
	VIIRS sensor has operationally been acquiring Earth-reflected radiation since March
	2012. The second VIIRS sensor (NOAA-20) was launched in November 2017, which is
	to continue the measurements made by the first VIIRS sensor. In this study, we
	examined an integrated use of MODIS and VIIRS VI time series data on capturing
	vegetation dynamics in the Asia-Pacific region using their overlapped period of
	observations (2013-2017). Three VIs, the "top-of-canopy (TOC)" normalized difference
	vegetation index (NDVI), TOC enhanced vegetation index (EVI), and TOC two-band
	enhanced vegetation index (EVI2), were investigated. For all the three VIs, VIIRS VIs
	were systematically higher than the MODIS counterparts due mainly to their spectral
	bandpass differences. However, both VIIRS and MODIS VIs showed the comparable
	spatial patterns in their temporal variations. Empirical spectral corrections allowed to
	merge the two data streams, which slightly improved the temporal resolution of the VI
	temporal profiles. These results suggest the suitability of VIIRS data to extend and
	merge into the MODIS VI record for long-term vegetation dynamics studies.