

Competing vegetation structure indices for estimating spatial constraints in carabid abundance patterns in Chinese grasslands reveal complex scale and habitat patterns

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Supplementary Materials:

Table S1. Vegetation indices computed from Landsat8 OLI images from the RStoolbox documentation under GPL (≥3) licence (<https://cran.r-project.org/web/licenses/GPL-3>).

Index	Description	Bands	Formula
CTVI	Corrected Transformed Vegetation Index	red, nir	$(NDVI + 0.5) / \sqrt{\text{abs}(NDVI + 0.5)}$
DVI	Difference Vegetation Index	red, nir	$s * nir - red$
GEMI	Global Environmental Monitoring Index	red, nir	$\frac{(((nir^2 - red^2) * 2 + (nir * 1.5) + (red * 0.5)) / (nir + red + 0.5)) * (1 - (((nir^2 - red^2) * 2 + (nir * 1.5) + (red * 0.5)) / (nir + red + 0.5)) * 0.25)) - ((red - 0.125) / (1 - red))}{1}$
GNDVI	Green Normalized Difference Vegetation Index	green, nir	$(nir - green) / (nir + green)$
MNDWI	Modified Normalized Difference Water Index	green, swir2	$(green - swir2) / (green + swir2)$
MSAVI	Modified Soil Adjusted Vegetation Index	red, nir	$nir + 0.5 - (0.5 * \sqrt{(2 * nir + 1)^2 - 8 * (nir - (2 * red))})$
MSAVI2	Modified Soil Adjusted Vegetation Index 2	red, nir	$(2 * (nir + 1) - \sqrt{(2 * nir + 1)^2 - 8 * (nir - red)}) / 2$
NBRI	Normalized Burn Ratio Index	nir, swir3	$(nir - swir3) / (nir + swir3)$
NDVI	Normalized Difference Vegetation Index	red, nir	$(nir - red) / (nir + red)$
NDWI	Normalized Difference Water Index	green, nir	$(green - nir) / (green + nir)$
NDWI2	Normalized Difference Water Index	nir, swir2	$(nir - swir2) / (nir + swir2)$
NRVI	Normalized Ratio Vegetation Index	red, nir	$(red / nir - 1) / (red / nir + 1)$
RVI	Ratio Vegetation Index	red, nir	red / nir
SATVI	Soil Adjusted Total Vegetation Index	red, swir2, swir3	$(swir2 - red) / (swir2 + red + L) * (1 + L) - (swir3 / 2)$
SAVI	Soil Adjusted Vegetation Index	red, nir	$(nir - red) * (1 + L) / (nir + red + L)$
SLAVI	Specific Leaf Area Vegetation Index	red, nir, swir2	$nir / (red + swir2)$
SR	Simple Ratio Vegetation Index	red, nir	nir / red
TVI	Transformed Vegetation Index	red, nir	$\sqrt{(nir - red) / (nir + red) + 0.5}$
TTVI	Thiam's Transformed Vegetation Index	red, nir	$\sqrt{\text{abs}((nir - red) / (nir + red) + 0.5)}$
WDVI	Weighted Difference Vegetation Index	red, nir	$nir - s * red$