Supplementary Material

Tab. S1 - Vegetation indexes and other derived parameters generated from the spectral bands of the sensor. (NIR): Near-infrared band (0.83 µm); (RED): Red band (0.63 µm); (ρ): Reflectance; $\left(1 - \rho(\lambda)\right)$: Absorbed part of radiation; $\left(E_g(\lambda)\right)$: the global (direct plus diffuse) solar flux on the ground; (C): constant value 0.8; (A): constant value 1; (B): constant value 0.4; $\left(\int_{0.3\mu m}^{2.5\mu m}\right)$: extrapolation for region of the $0.3 - 2.5$ µm (bands) of most satellite sensors; $(d\lambda)$: adjustable parameter used to derive direct albedo on solar zenith angle.
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Vegetation index	Definition	Author	Abbreviation
Normalized difference vegetation index	$$\mathrm{NDVI} = \frac{\mathrm{NIR\text{-}RED}}{\mathrm{NIR\text{+}RED}}$$	Rouse et al. (1974)	NDVI
Soil adjusted vegetation index	$$SAVI = \frac{(\rho_{NIR} - \rho_{RED}) * 1.5}{(\rho_{NIR} + \rho_{RED}) + 0.5}$$	Huete (1988)	SAVI
Leaf area index	$$LAI = -\left(\frac{1}{0.6}\right)\ln\left[\frac{0.6 - NDVI}{0.78}\right]$$	Baret & Guyot (1991)	LAI
Fraction of photosynthetically active radiation	$$FPAR = C\,[\,1 - A\exp(-B \; x \; LAI)\,]$$	Asrar et al. (1984)	FPAR
Albedo	$$ALB = \frac{\int_{0.3\mu m}^{2.5\mu m} \rho(\lambda)d\lambda}{\int_{0.3\mu m}^{2.5\mu m} d\lambda}$$	Asrar (1989)	ALB
Absorbed shortwave solar radiation	$$ASR = \int_{0.3\mu m}^{2.5\mu m} (1 - \rho(\lambda))E_g(\lambda)\,d\lambda$$	Brutsaert (1975)	ASR

Tab. S2 - Terrain attributes derived from the digital elevation model (DEM) (INEGI 2014). ($\bar{Z}$): the average elevation; (R): point radius elevation units; (As): the drainage area specified; ($tan(\beta)$): local slope angle; D, F, G and H were derived with the equation proposed by Zevenbergen & Thorne (1987).

Attribute	Definition	Author	Abbreviated name
Elevation	Digital elevation model	INEGI (2014)	DEM
Curvature (x)	$x = \omega - \varnothing$		CURV
Plan of curvature (ω)	$\omega = 2\dfrac{DH^2 + EG^2 + FGH}{G^2 + H^2}$	Wilson & Gallant (2000)	PLANCURV
Profile curvature ($\varnothing$)	$\varnothing = -2\dfrac{DG^2 + EH^2 + FGH}{G^2 + H^2}$		PROFCURV
Slope (β)	$\beta = \arctan\left[(G^2 + H^2)^{\frac{1}{2}}\right]$	INEGI (2014)	SLOPE
Transformed aspect (*Trasp*)	$Trasp = \dfrac{1 - \cos((\pi / 180)(\alpha - 30))}{2}$	Roberts & Cooper (1989)	TRASP
Terrain shape index (*TSI*)	$TSI = \dfrac{\bar{Z}}{R}$	McNab (1989)	TERRSHPIN2
Wetness index (*W*)	$W = \ln(As/\tan\beta)$	Moore and Nieber (1989)	WETIND