Predictors	Symbol	Unit	Resolution	Temporal span	Source	Description	Reference
Precipitation	P	$\mathrm{mm\,yr^{-1}}$	$0.5° \times 0.5°$	1981–2014	Climatic Research Unit, University of East Anglia, United Kingdom	Mean annual precipitation	Harris et al. (2014)
Mean temperature	T	$°C$	$0.5° \times 0.5°$	1981–2014	Climatic Research Unit, University of East Anglia, United Kingdom	Mean annual temperature	Harris et al. (2014)
Potential evapotranspiration	PET	$\mathrm{mm\,yr^{-1}}$	$0.5° \times 0.5°$	1981–2014	Climatic Research Unit, University of East Anglia, United Kingdom	Penman–Monteith reference crop evapotranspiration	Harris et al. (2014)
No. of rainy days	R_d		5 arcmin	1981–2014	AQUAMAPS, FAO	Average number of wet days per year defined as having ≥ 0.1 mm of precipitation	New et al. (2002)
Slope	S	fraction	$0.5° \times 0.5°$	–	Earthdata, NASA	Mean surface slope	Verdin (2011)
Saturated hydraulic conductivity	k_{sat}	$\mathrm{cm\,day^{-1}}$	$1° \times 1°$	–	Earthdata, NASA	Saturated hydraulic conductivity at 0–150 cm depth	Webb et al. (2000)
Soil water storage capacity	SWSC	mm	$1° \times 1°$	–	Earthdata, NASA	Texture-derived soil water storage capacity in soil profile (up to 15 m depth)	Webb et al. (2000)
Excess water (without irrigation)	EW	mm	–	1981–2014	–	$\sum_{i=1}^{12} (P_i - \mathrm{PET}_i)$ where $P_i > \mathrm{PET}_i$	
Aridity index	AI	–	–	1981–2014	–	$\mathrm{AI} = P/\mathrm{PET}$	
Clay content	Clay	%	$1° \times 1°$	–	Earthdata, NASA	0–150 cm profile	DAAC (2016)
Bulk density	ρ_b	$\mathrm{gm\,cm^{-3}}$	$1° \times 1°$	–	Earthdata, NASA	0–150 cm profile	DAAC (2016)
Land use land cover	LU	–	15 arcsec	–	USGS/Literature	Forest, pasture, cropland, urban/built up, barren	Kim and Jackson (2012), Broxton et al. (2014)