

Variable		Dataset	Coverage and resolution		Reference
			Spatial	Temporal	
Meteorological forcing					
P	precipitation	GPCP 1dd v1.2	$1^\circ \times 1^\circ$ global	daily 1996–present	Huffman et al. (2000), Huffman et al. (2016)
T	air temperature	CRUNCEP v6.1	$0.5^\circ \times 0.5^\circ$ global	daily 1901–2014	Viovy (2015)
R_n	net radiation	CERES SYN1deg Ed3A	$1^\circ \times 1^\circ$ global	3-hourly Mar 2000–May 2015	Wielicki et al. (1996)
Calibration and evaluation					
TWS	terrestrial water storage anomalies	GRACE Tellus JPL- RL05M v2	$0.5^\circ \times 0.5^\circ$ global	monthly 2002–2016	Watkins et al. (2015), Wiese et al. (2016b)
SWE	snow water equivalent	GlobSnow v2.0	$0.25^\circ \times 0.25^\circ$ non-alpine NH	daily 1979–2012	Luojus et al. (2014)
ET	evapotranspiration	FLUXCOM	$0.5^\circ \times 0.5^\circ$ global	daily 1982–2013	Tramontana et al. (2016)
Q	runoff	EU-RUN v1.1	$0.5^\circ \times 0.5^\circ$ Europe	monthly 1950–2015	Gudmundsson and Seneviratne (2016)