

Online Supplement Materials

This is an online supplement for the article of Chuenchum et al. “Estimation of Soil Erosion and Sediment Yield in Lancang–Mekong River by using Modified Revised Universal Soil Loss Equation and Geographical Information System Techniques”.

1. Lists and locations of hydropower dams and reservoirs in Lancang – Mekong River’s mainstream

Table S1. Lists and location of hydropower dams and reservoirs based on sub-catchment areas presented with the dam status. See location of the stations in Figure S1. Sources of data are provided by [1–5].

Dam	Lat	Lon	Sub-basin	Dam status
Long Qing Xia	32.5259	95.2105	Ngom Qu	Existing Dam
Ang Sai	32.4645	95.3702	Ngom Qu	Planned
Dong Zhong	31.8760	96.9900	Yunnan Highlands	Planned
Guo Duo	31.5233	97.1946	Yunnan Highlands	Under Construction
Xiang Da	31.4524	97.1830	Yunnan Highlands	Planned
Ru Yi	31.2210	97.1750	Yunnan Highlands	Planned
Lin Chang	31.1804	97.1852	Yunnan Highlands	Planned
Ce Ge	30.9850	97.3390	Qingshuilang Shah	Planned
Yue Long	30.8680	97.3460	Qingshuilang Shah	Planned
Ka Gong	30.6220	97.4450	Qingshuilang Shah	Under Construction
Ban Da	30.2000	97.9340	Qingshuilang Shah	Under Construction
Ru Mei	29.6480	98.3477	Qingshuilang Shah	Under Construction
Gu Xue	29.1830	98.6070	Qingshuilang Shah	Under Construction
Gu Shui	28.6069	98.7464	Qingshuilang Shah	Planned
Wu Nong Long	27.9260	98.9167	Qingshuilang Shah	Under Construction
Li Di	27.5024	99.0201	Qingshuilang Shah	Under Construction
Tuo Ba	27.1930	99.1040	Qingshuilang Shah	Planned
Huang Deng	26.5468	99.1037	Qingshuilang Shah	Under Construction
Da Hua Qiao	26.3368	99.1473	Qingshuilang Shah	Under Construction
Miao Wei	25.8546	99.1739	Qingshuilang Shah	Under Construction
Gong Guo Qiao	25.5502	99.3445	Qingshuilang Shah	Existing Dam
Xiao Wan	24.7050	100.0914	Weiyuan Jiang	Existing Dam
Man Wan	24.6222	100.4489	Weiyuan Jiang	Existing Dam
Da Chao Shan	24.0249	100.3703	Weiyuan Jiang	Existing Dam
Nuo Zha Du	22.6344	100.4330	Weiyuan Jiang	Existing Dam
Jing Hong	22.0531	100.7670	Weiyuan Jiang	Existing Dam
Gan Lan Ba	21.8614	100.9140	Weiyuan Jiang	Planned
Pak Beng	19.8439	101.0165	Nam Beng / Nam Ngeun	Planned
Luangprabang	20.0666	102.1923	Nam Beng / Nam Ngeun	Planned
Xayaburi	19.2540	101.8137	Huai Luang / Nam Phoung	Under Construction
Pak Lay	18.3276	101.5306	Huai Luang / Nam Phoung	Planned
Sanakham	17.8292	101.5569	Huai Luang / Nam Phoung	Planned
Pakchom	18.2010	102.0506	Huai Luang / Nam Phoung	Planned
Ban Koun	15.4178	105.5874	Se Bang Nouan	Planned
Phu Ngoy	15.3315	105.5828	Huai Tomo / Tonle Repon	Planned
Don Sahong	13.9562	105.9642	Huai Tomo / Tonle Repon	Under Construction
Stung Treng	13.5753	105.9834	Huai Tomo / Tonle Repon	Planned
Sambor	12.7868	105.9386	Siem Bok	Planned

2. Observed sediment data

Table S2. Average observed SL and SSY from 1962 to 2010 based on catchment area of the station presented with the sources of data and information. See location of the stations in Figure S1.

Station	Sub-basin	Basin	Country	Area [km ²]	SL [Mt/yr]	SSY [t/km ² /yr]	Source
Jiuzhou	Qingshuilang Shah	Upper Mekong River	China	87,205	24.5	281	a
Gajiu	Weiyuanjiang	Upper Mekong River	China	120,000	45.8	382	a
Chiang Saen	Huailuang/Nam Pho	Upper Mekong River	Thailand	184,845	90.3	489	a
Yasothom	Nam Chi	Lower Mekong River	Thailand	43,100	0.8	18	b
Nam Kae	Nam Kam	Lower Mekong River	Thailand	2,360	0.1	35	b
Ban Pak Bak	Nam Khan	Lower Mekong River	Laos	5,800	0.7	113	b
Thoeng	Nam Mae Ing	Lower Mekong River	Thailand	5,700	0.2	38	b
Kaeng Saphu Tai	Nam Mun	Lower Mekong River	Thailand	116,000	3.1	27	b
Ban Na Luang	Nam Ngum	Lower Mekong River	Laos	5,220	0.2	36	b
Muong Ngoy	Nam Ou	Lower Mekong River	Laos	19,700	4.7	237	b
Ban Tha Kok Daeng	Nam Songkhram	Lower Mekong River	Thailand	4,650	0.1	31	b
Mahaxai	Se Bang Fai	Lower Mekong River	Laos	4,520	0.4	80	b
Ban Keng Done	Se Bang Hieng	Lower Mekong River	Laos	19,400	3.2	163	b
Souvanna Khili	Se Done	Lower Mekong River	Laos	5,760	1.2	206	b
Kg. Thom	St. Sen	Lower Mekong River	Cambodia	14,000	0.5	33	c

SL: Sediment load; SSY: Specific Sediment Yield

Sources: a: [6, 7] b: [8] c: [9]

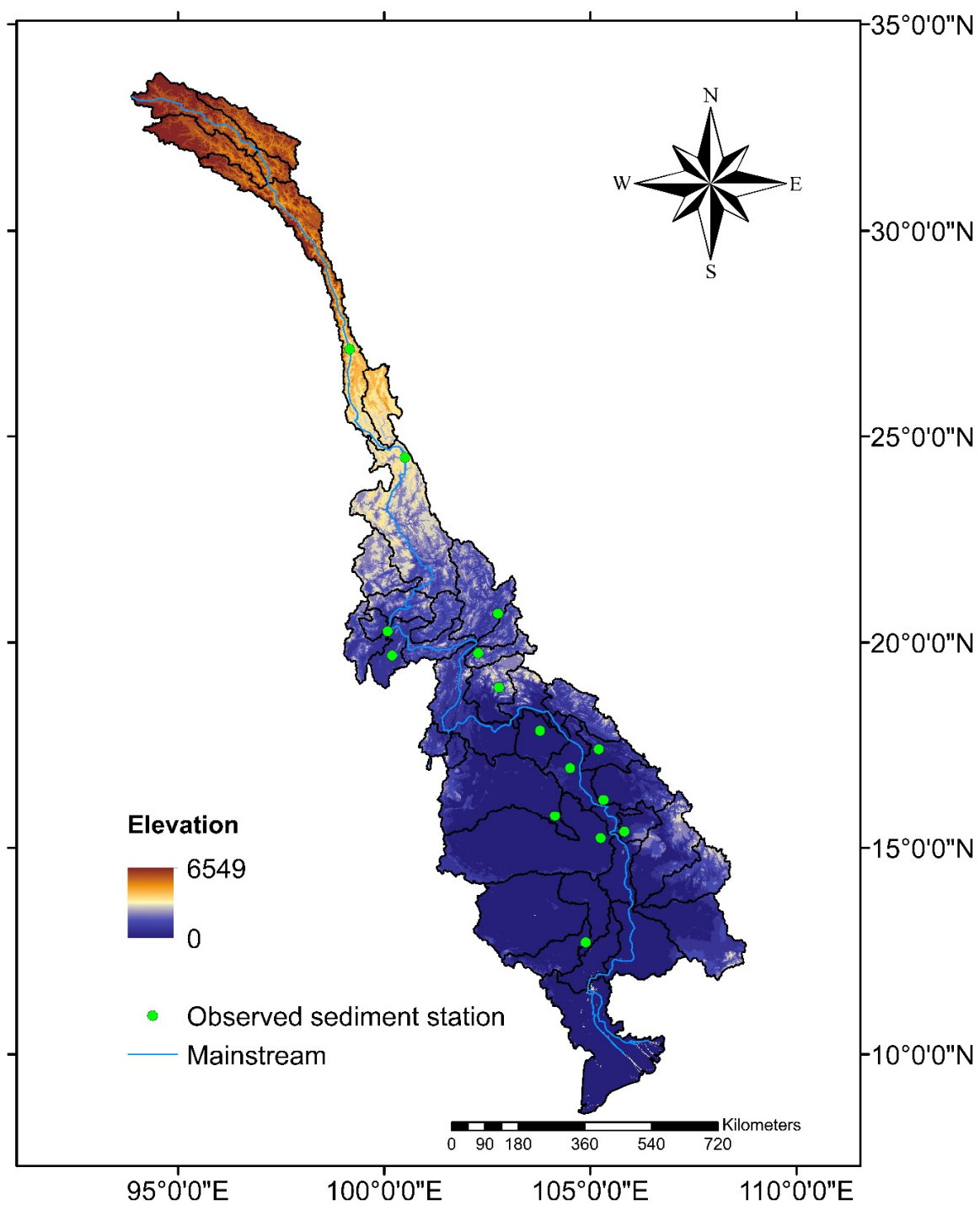


Figure S1. Locations of the sediment load observed stations.

3. Data sources for the analysis of the RUSLE factors in this study

Table S3 data sources for the analysis of the RUSLE factors

Needed Data	Sources	Analysis of the RUSLE factors
APHRODITE precipitation	APHRODITE project http://www.chikyu.ac.jp/precip/products/index.html	R
Soil grid	ISRIC-World Soil Information http://www.soilgrids.org	K
Digital Elevation Model (DEM)	United States Geological Survey (USGS) https://earthexplorer.usgs.gov/	LS
NDVI	United States Geological Survey (USGS) and National Aeronautics and Space Administration (NASA) https://earthexplorer.usgs.gov/	C
P value	[10]	P

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