

**Supplementary Material:**  
**InVEST model input parameters**

Manuscript title: Identify the impacts of the Grand Ethiopian Renaissance Dam on Watershed Sediment and Water Yields Dynamics-

**1. Precipitation (P)**

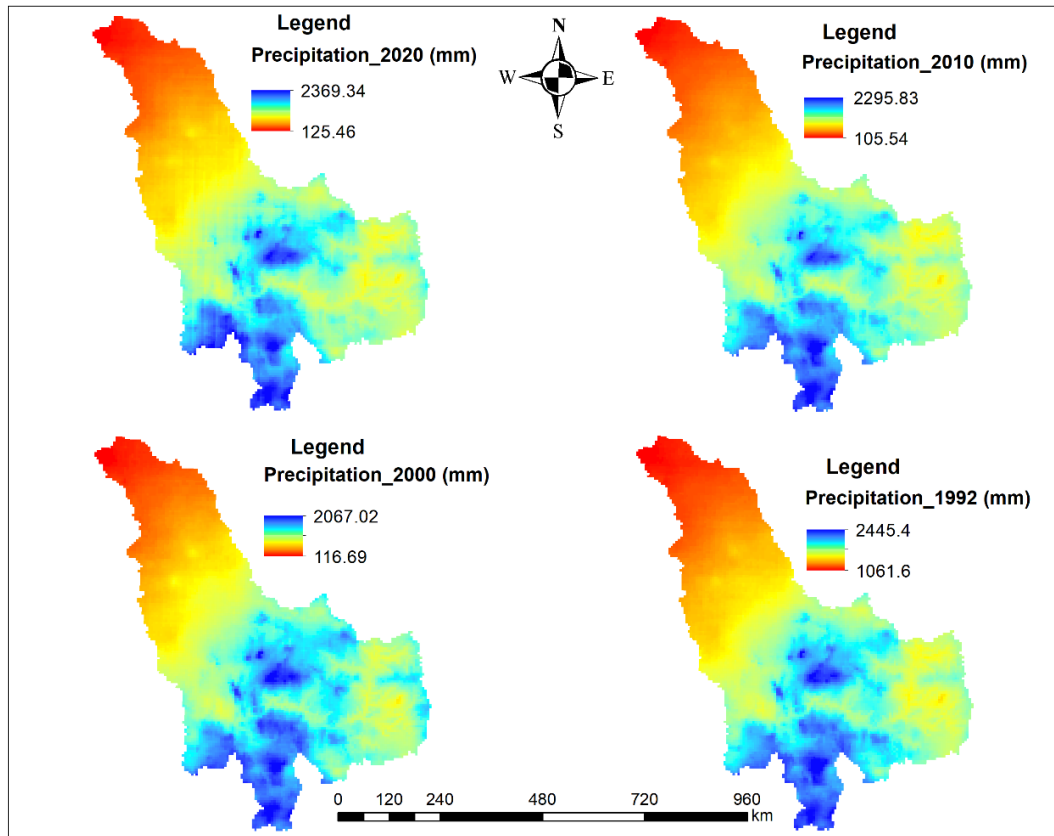


Figure S1: precipitation in mm

## 2. Potential Evapotranspiration (pet)

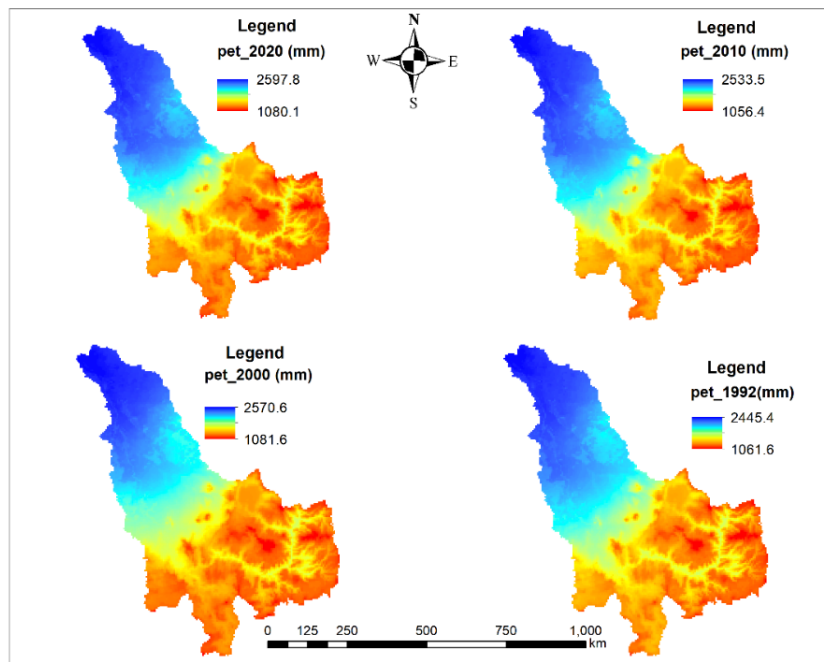


Figure S2: Potential Evapotranspiration in mm

## 3. Plant available water content (PAWC)

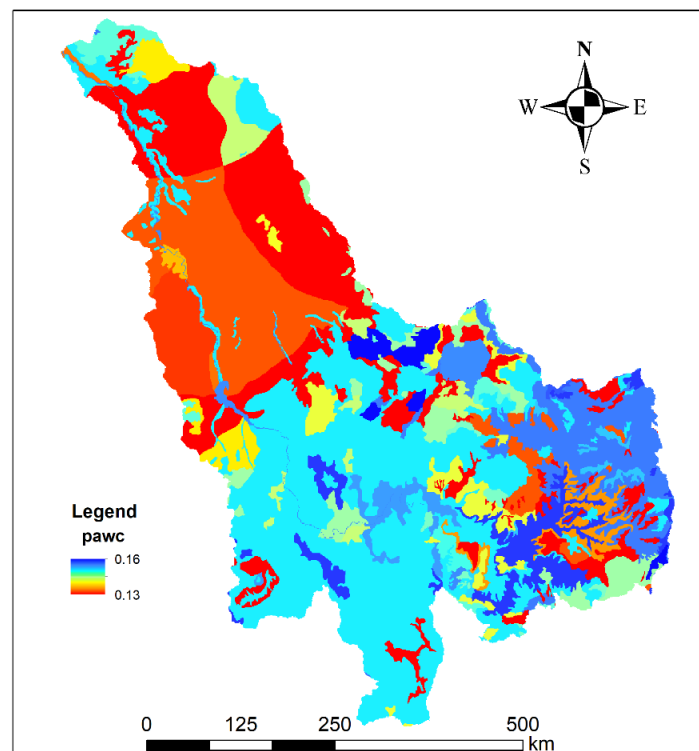


Figure S3: Plant available water content

#### 4. Soil depth

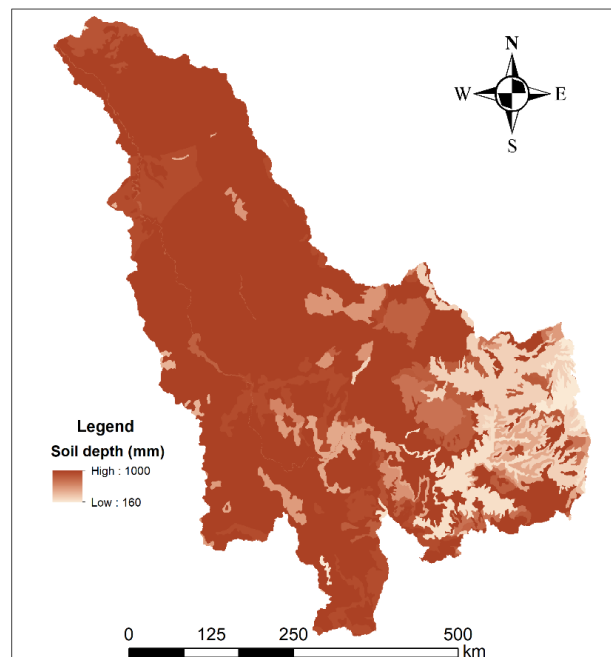


Figure S4: soil depth in mm

#### 5. Land Use and Land Cover (LULC)

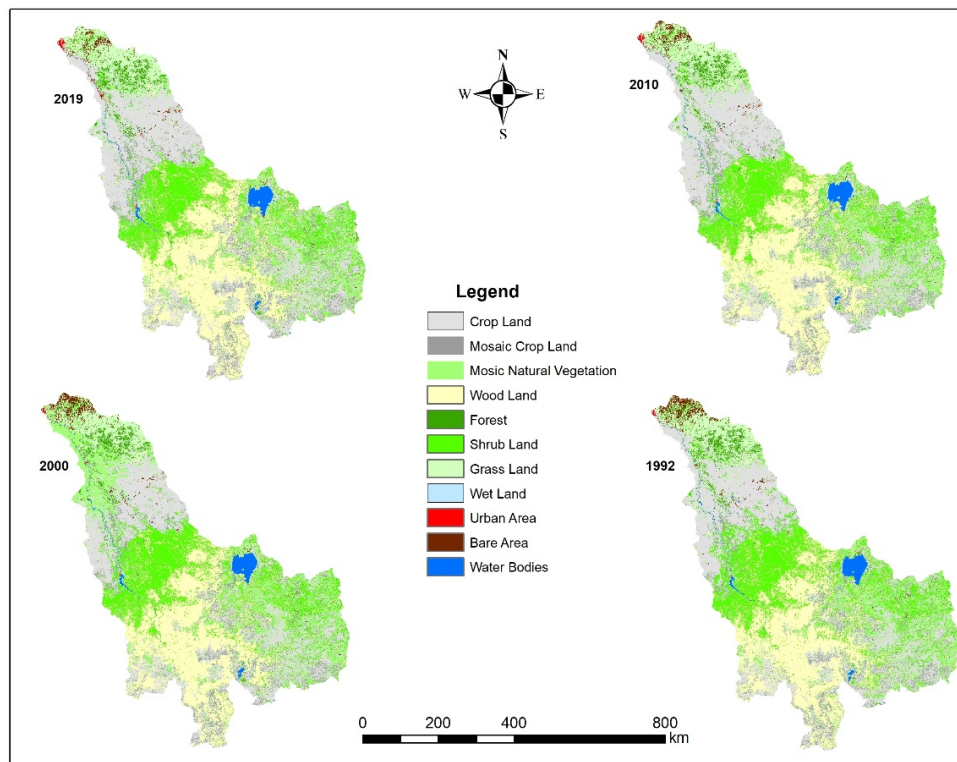


Figure S5: Land Use and Land Cover data

## 6. Table S1. Root depth, Kc, C, and P factors corresponding to every LULC class

LULC class	LULC code	Root depth	Kc	C factor	P factor
Crop Land	1	1000	0.81	0.2	0.15
Mosaic Crop Land	2	1000	0.83	0.17	0.17
Mosaic Natural Vegetation	3	3000	0.93	0.1	0.19
Wood Land (Pastoral)	4	3000	0.85	0.11	0.19
Forest	5	7000	1.05	0.02	0.15
Shrub Land	6	3000	0.75	0.05	0.17
Grass Land	7	5000	0.82	0.1	0.15
Wet Land	8	750	0.9	0.03	0.15
Urban Area	9	500	0.37	0.01	0.15
Bare Area	10	300	0.5	0.01	0.15
Water Bodies	11	500	0.9	0	1

## 7. Erosivity (R)

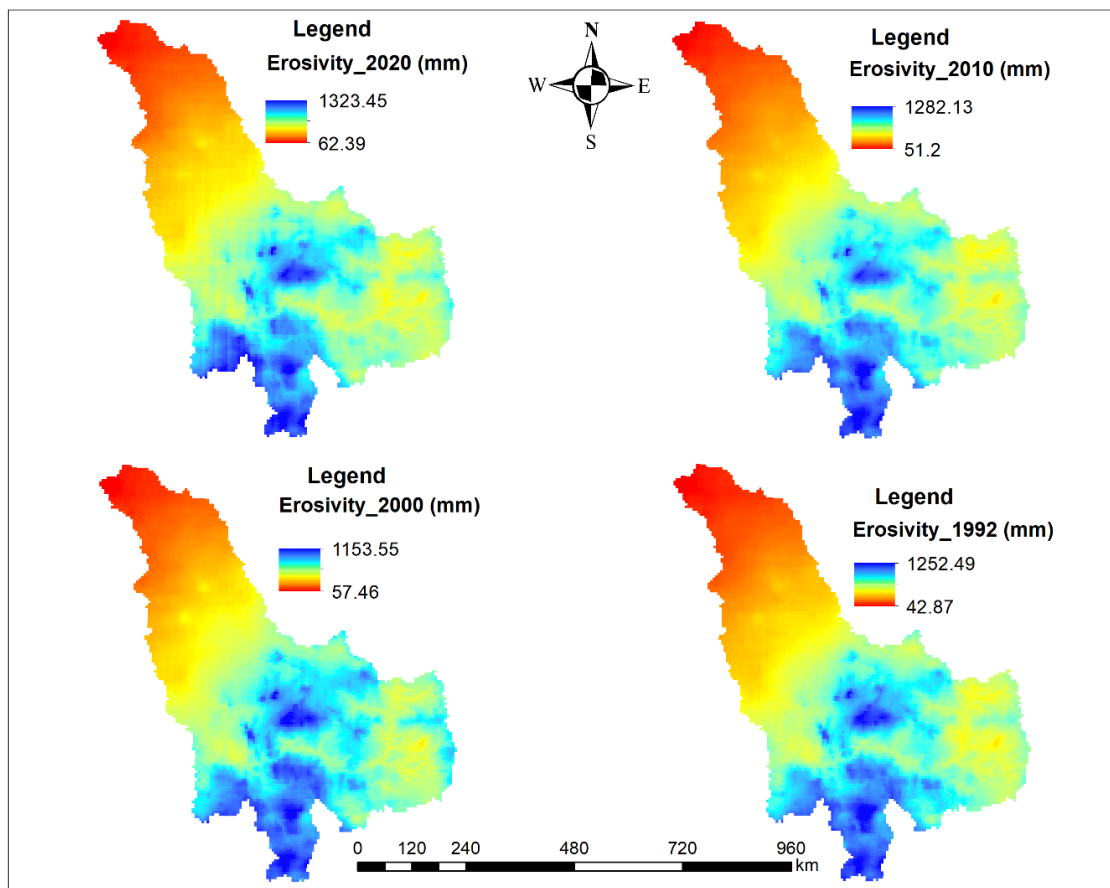


Figure S6: Erosivity in mm

## 8. Soil erodibility (K)

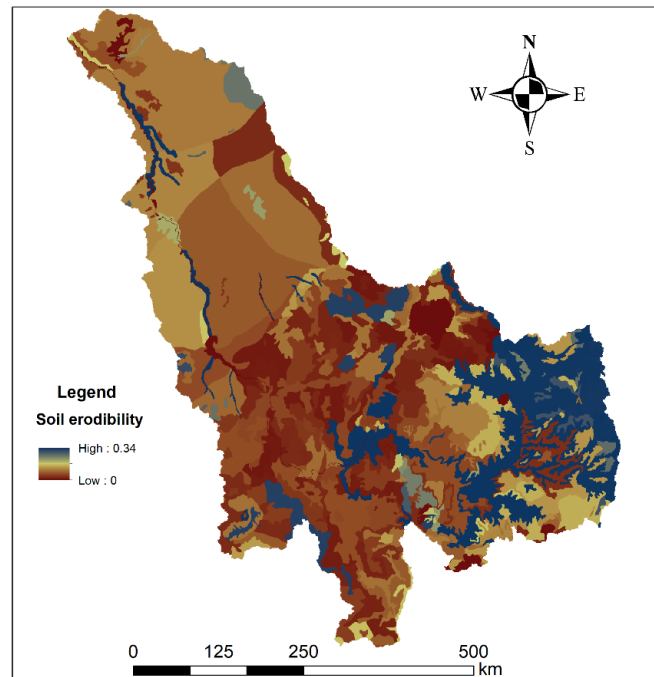


Figure S7: Soil erodibility

## 9. Digital Elevation Model (DEM)

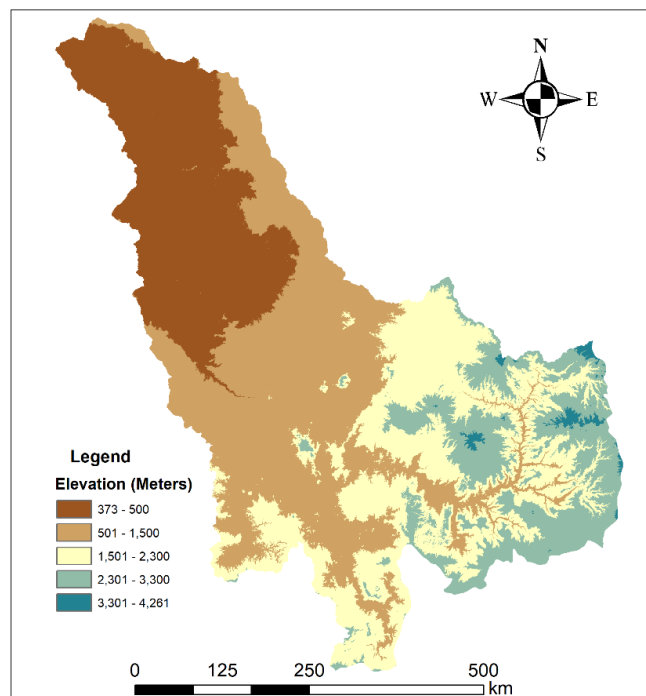


Figure S8: Digital Elevation Model