

## Assessment of water erosion in the Beijing area

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Soil erosion is an important indicator to assess the change in the local ecological environment. If we ignore it, it will cause the reduction of cultivated land area, flood, regional water storage, and other hazards. This study has presented an assessment of soil erosion in the Beijing area using the "Revised Universal Soil Loss Erosion-2" (RUSLE2) model, one of the common-use models established by the U.S. Department of Agriculture. According to RUSLE2, soil erosion is the product of 5 factors:  $A=R.K.C.LS.P$ , where A is the average annual soil erosion, R is the rainfall erosivity factor, K is the soil erodibility factor, LS is the slope and length factor, C is the cover management factor, and P is the soil save practice factor.

We have used open-source data to evaluate water erosion level in the Beijing area. Beijing is the capital of China, with about 60% cultivated land of land area. It has a population of 21 million and a GDP of 4.16 trillion. Therefore, it has essential research significance in China. The scheme for collecting and analyzing data has presented in Figure 1.

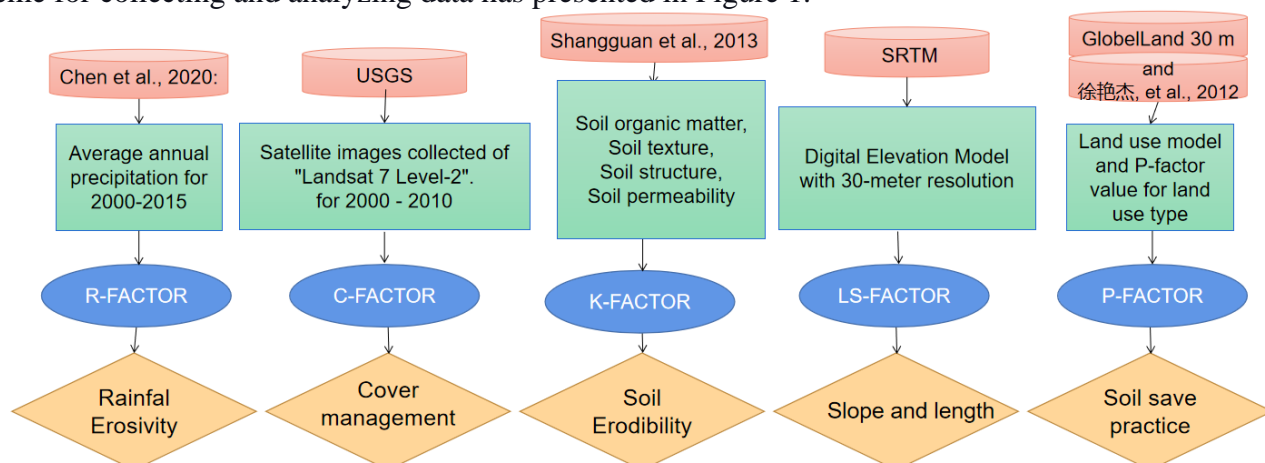


Fig. 1. Data source and experimental method flow chart.

After we had collected all data we needed, we produced the raster files for each factor and then multiplied them. All research was produced in SAGA and QGIS software. We have analyzed spatial distribution patterns for each factor and soil losses by water erosion. The quality of the result of modeling was controlled by comparison with local field measurements of erosion stations and other research.

### References

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