

For the calibration and validation of the simulation values of the upper reaches of the Hanjiang River, the measured values of Ankang station are used to verify respectively. The measured data of Ankang station is from 1999 to 2015. Therefore, the monthly runoff data from 1999 to 2010 is taken as the rate period and the monthly runoff data from 2011 to 2015 is taken as the validation period. Take 1997-1998 as the warm-up period. As can be seen from figure S1, its R^2 and Nash coefficients are above 0.6. From the calibration validation results, the simulation results are more accurate (Figure S1).

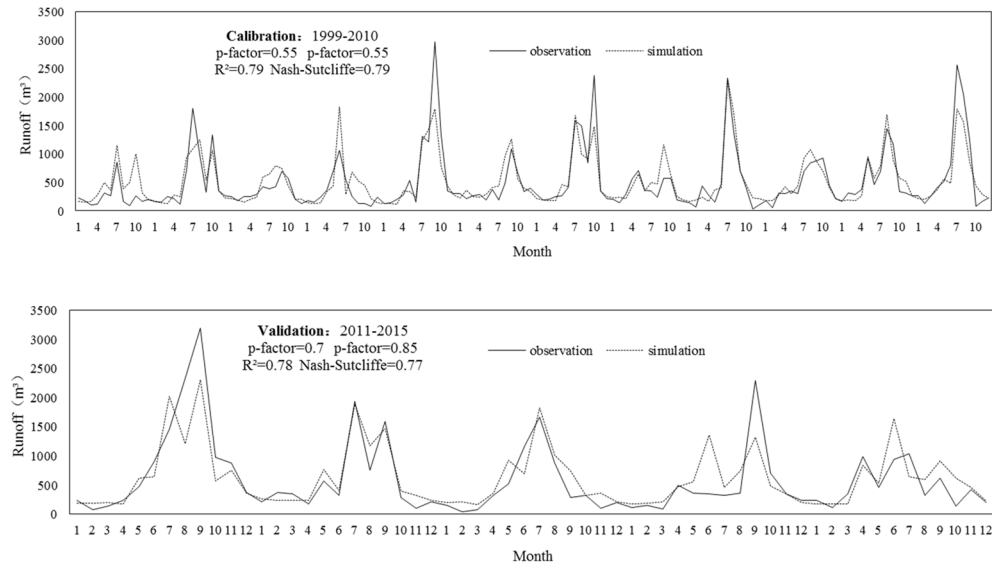


Figure S1. The calibration and validation effect of SWAT simulation results in Shaanxi Hanjiang River Basin.

Figure S2 shows the calibration and validation results of the Weihe River Basin, using the measured runoff data of the Weihe River Huaxian station in 2020, taking 1-60 days as the calibration period and 61-365 days as the validation period. Part of the daily runoff data in 2019 was used as the warm-up period. From the validation results, except for the low R^2 value in the validation period, the other coefficients are above 0.6. Therefore, the SWAT model of the Weihe River Basin in Shaanxi has also passed the validation.

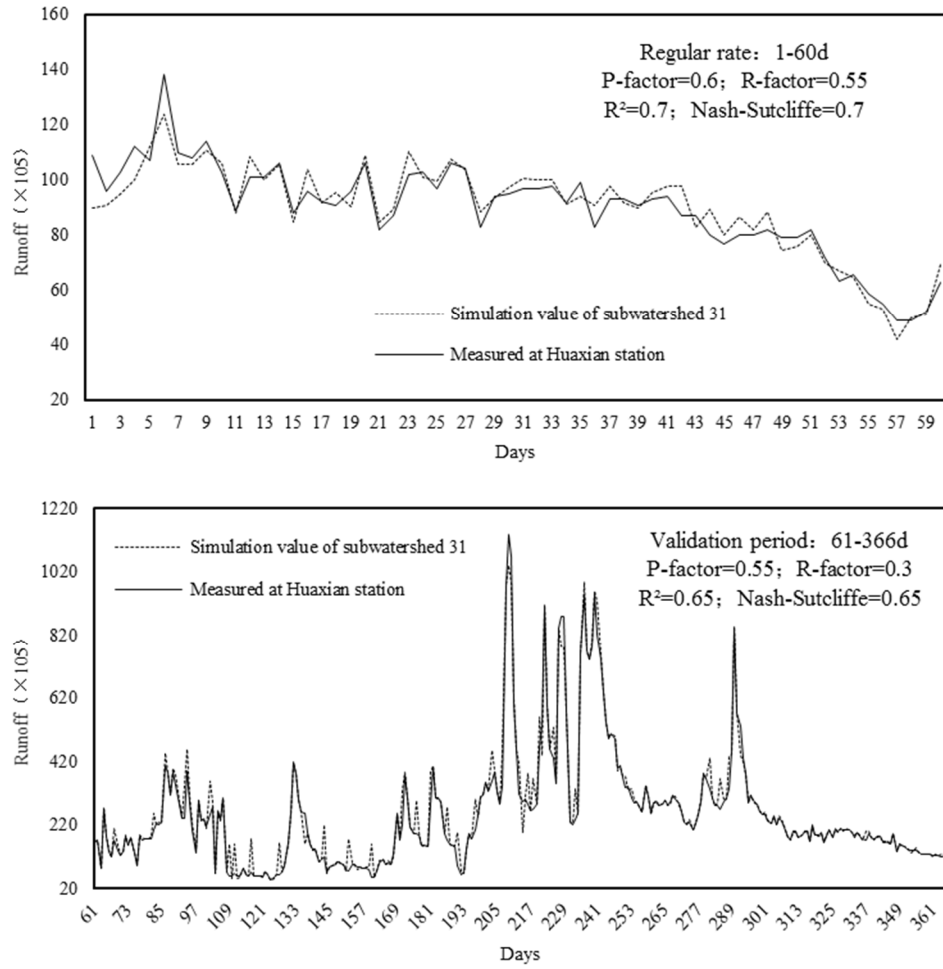


Figure S2. The calibration and validation effect of SWAT simulation results in Weihe River Basin in Shaanxi Province.