

Table

Table 1 Basic Data Information

DEM	Attribute Information
Rows	1821
Columns	1931
Resolution (m)	5
Elevation maximum (m)	1188.3
Elevation minimum (m)	828

Table 2 T value calculated in the study area (Keep two decimal places)

Serial number	Threshold	T absolute value	Serial number	Threshold	T absolute value
1	1000	26.59	9	40000	4.20
2	5000	6.79	10	45000	3.69
3	10000	5.94	11	50000	3.14
4	15000	3.75	12	55000	2.72
5	20000	4.27	13	60000	1.95
6	25000	3.95	14	65000	2.20
7	30000	5.38	15	70000	1.60
8	35000	5.72	16	75000	1.05

Table 3 T value calculated in sub-basin with code 1 (Keep two decimal places)

Serial number	Thresho ld	T absolute value	Serial number	Thresh old	T absolute value	Serial number	Thresh old	T absolute value
1	100	21.01	27	2700	4.99	53	5300	4.16
2	200	17.12	28	2800	4.98	54	5400	3.89
3	300	15.53	29	2900	5.00	55	5500	3.66
4	400	14.96	30	3000	5.39	56	5600	4.17
5	500	14.46	31	3100	5.02	57	5700	4.05
6	600	14.05	32	3200	5.01	58	5800	3.98
7	700	12.87	33	3300	5.76	59	5900	4.36
8	800	11.11	34	3400	5.85	60	6000	4.28
9	900	9.60	35	3500	5.71	61	6100	4.07
10	1000	8.67	36	3600	5.39	62	6200	4.08
11	1100	7.79	37	3700	5.32	63	6300	3.74
12	1200	7.85	38	3800	5.20	64	6400	3.50
13	1300	8.09	39	3900	4.97	65	6500	3.08
14	1400	8.29	40	4000	4.97	66	6600	2.96
15	1500	7.92	41	4100	4.67	67	6700	2.87
16	1600	7.36	42	4200	4.56	68	6800	2.81
17	1700	6.57	43	4300	4.50	69	6900	2.66
18	1800	5.95	44	4400	4.33	70	7000	2.61

19	1900	5.42	45	4500	4.46	71	7100	2.45
20	2000	5.56	46	4600	4.59	72	7200	2.63
21	2100	6.12	47	4700	4.49	73	7300	2.60
22	2200	5.65	48	4800	4.28	74	7400	2.40
23	2300	5.53	49	4900	3.93	75	7500	2.40
24	2400	5.31	50	5000	3.76	76	7600	2.18
25	2500	5.21	51	5100	4.20	77	7680	2.06
26	2600	5.46	52	5200	4.27	78	7690	1.99

Table 4 Optimal threshold table for each sub-basin

流域编号	最优阈值
1	880
2	1620
3	1440
4	780
5	270
6	1680
7	1510

Table 5 T value calculated in Jiuyuanguou (Keep two decimal places)

Serial number	Thresh old	T absolute value	Serial number	Thresh old	T absolute value	Serial number	Thresh old	T absolute value
1	100	58.24	11	1100	25.05	21	2100	15.43
2	200	43.48	12	1200	24.20	22	2200	14.53
3	300	38.75	13	1300	24.15	23	2300	14.29
4	400	36.99	14	1400	23.34	24	2400	13.55
5	500	36.33	15	1500	21.93	25	2500	12.84
6	600	34.40	16	1600	20.36	26	2600	11.98
7	700	30.89	17	1700	19.04	27	2700	11.93
8	800	28.94	18	1800	17.59	28	2800	11.61
9	900	27.02	19	1900	16.45	29
10	1000	26.59	20	2000	15.70	30	60000	1.95

Table 6 Part of the threshold corresponds to the density of the river network (Keep two decimal places)

Serial number	Threshold	River network density	Serial number	Threshold	River network density
1	100	0.0105	11	1100	0.0041
2	200	0.0077	12	1200	0.0039
3	300	0.0066	13	1300	0.0038
4	400	0.0059	14	1400	0.0037
5	500	0.0055	15	1500	0.0036

6	600	0.0051	16	1600	0.0035
7	700	0.0048	17	1700	0.0034
8	800	0.0046	18	1800	0.0033
9	900	0.0044	19	1900	0.0033
10	1000	0.0042	20	2000	0.0032

Table 7 Calculation of the average branching ratio of the river network by multi-threshold constraint method

Water level	Number of rivers	Branching ratio of two adjacent river channels	Accumulation of two adjacent river channels	(c)×(d)
(a)	(b)	(c)	(d)	
I	547	4.97	657	3267.08
II	110	5.00	132	660.00
III	22	3.67	28	102.67
IV	6	6.00	7	42.00
V	1			
Total			824	4071.75
Average branching ratio			4071.75/824=4.94	

Table 8 The number and average branch ratios of each levels of river channels with different threshold methods

Water level	Threshold determination method			Real value
	Multi-threshold constraints	Single t value	River network density	
I	547	349	467	547
II	110	62	85	127
III	22	13	17	28
IV	6	4	4	7
V	1	1	1	1
Average branching ratio	4.94	5.41	5.37	4.36

Table 9 Average length ratio of river network extracted by multi-threshold constraint method

Water level	I	II	III	IV	V
Total length of each levels	124269.10	61459.34	26429.58	14115.11	9741.67
Number of river network	547	110	22	6	1
Average length	227.18	558.72	1201.35	2352.52	9741.67

Mean of length ratio	15.25	7.93	5.03	4.14
Weights	0.4	0.3	0.2	0.1
Length ratio of each levels	6.10	2.38	1.01	0.41
Sum of average length ratio	9.90			

Table 10 Average length ratio of river network extracted by different threshold methods

Water level	Threshold determination method			Real value
	Multi-threshold constraints	Single t value	River network density	
I	124269.10	104761.47	124772.96	136357.98
II	61459.34	50720.69	57858.33	61411.73
III	26429.58	18708.00	25373.15	26230.73
IV	14115.11	8495.24	9486.27	15430.98
V	9741.67	9741.67	9741.66	9564.12
Average length ratio	9.90	7.61	8.57	9.60