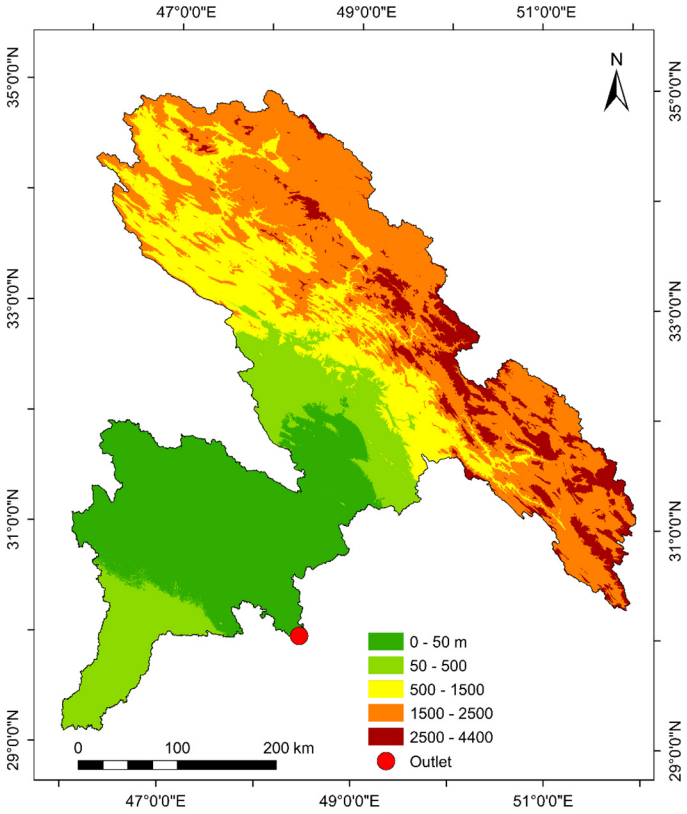


Figure S1. Digital Elevation Model (DEM) of the study area.

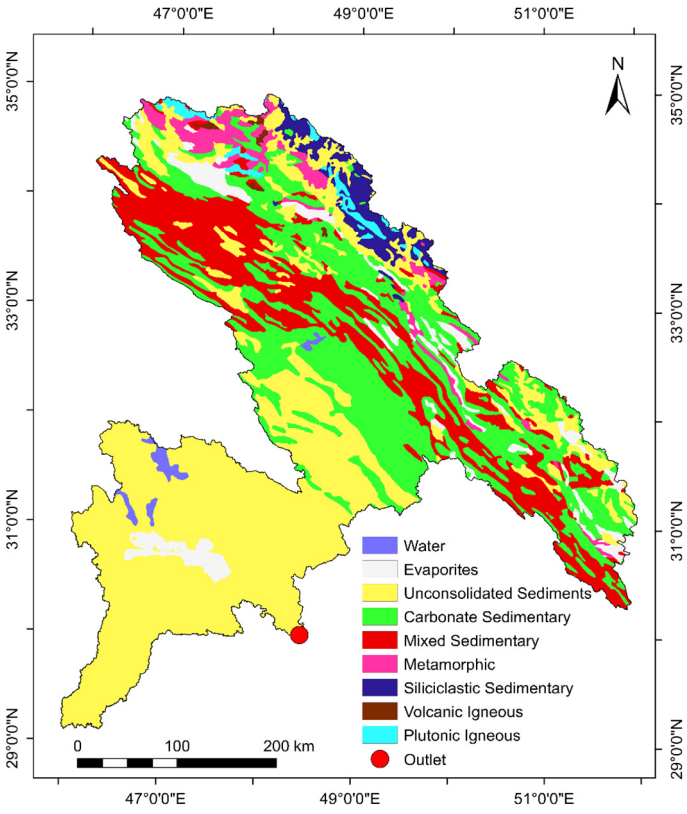


Figure S2. Lithology of the study area.

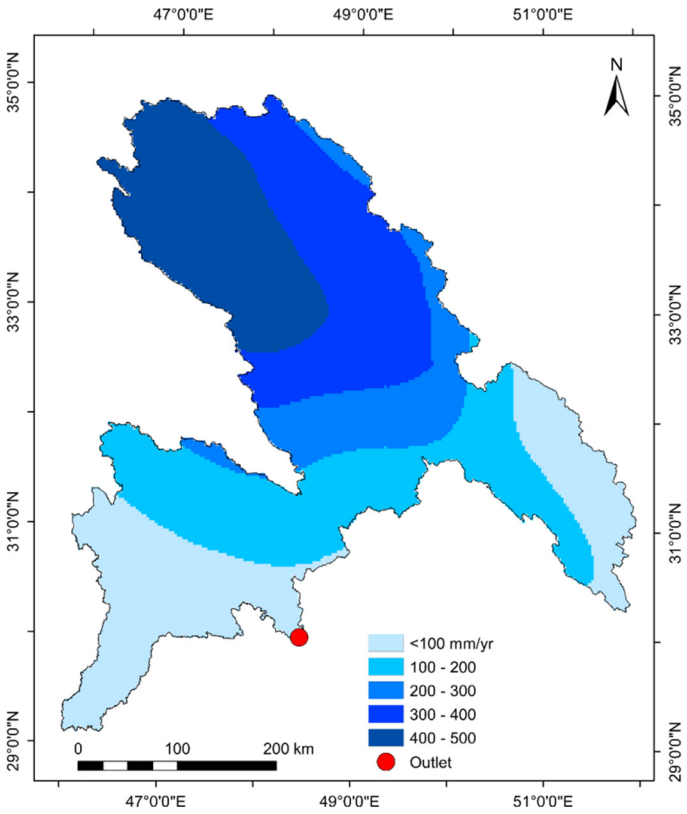


Figure S3. Annual rainfall of the study area.

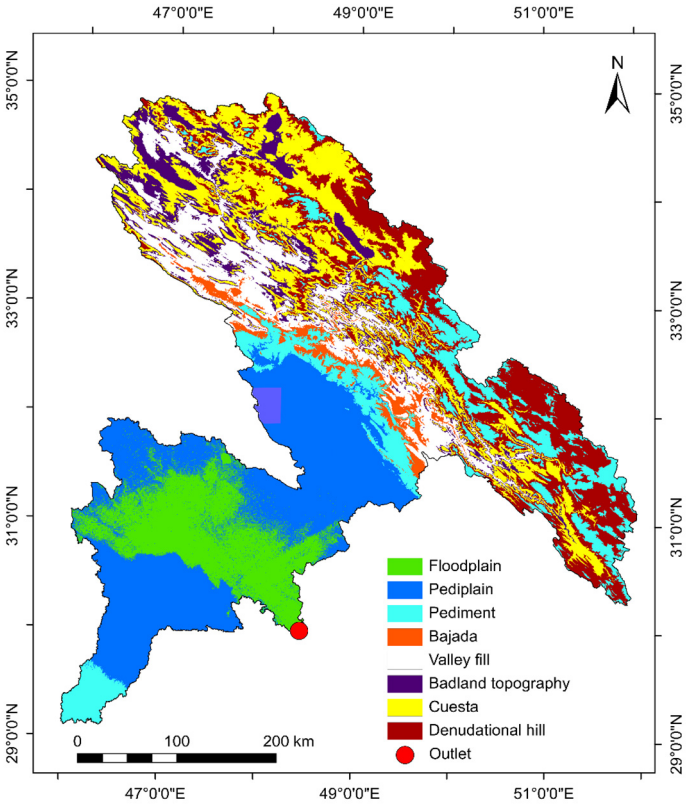


Figure S4. Geomorphology of the study area.

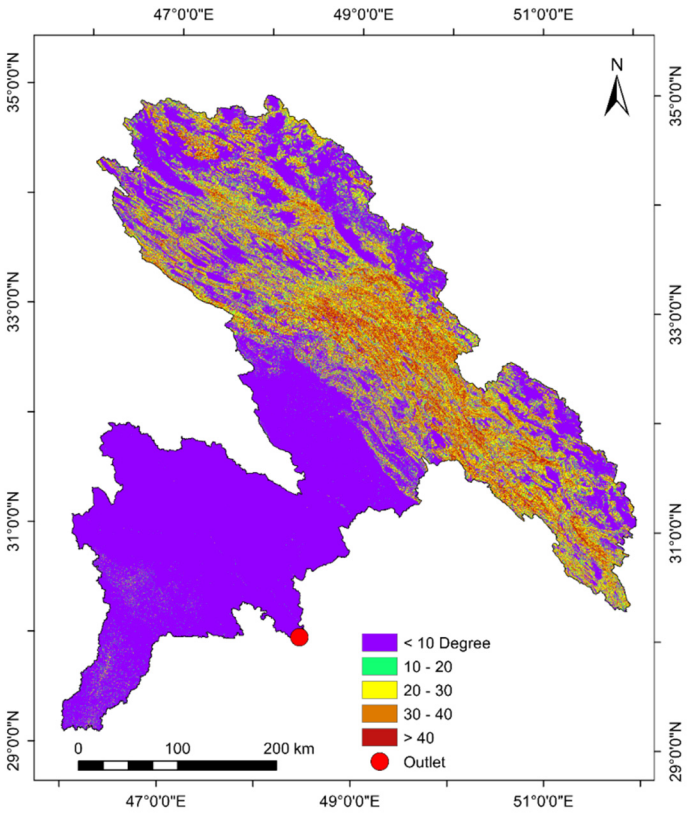


Figure S5. Slope of the study area.

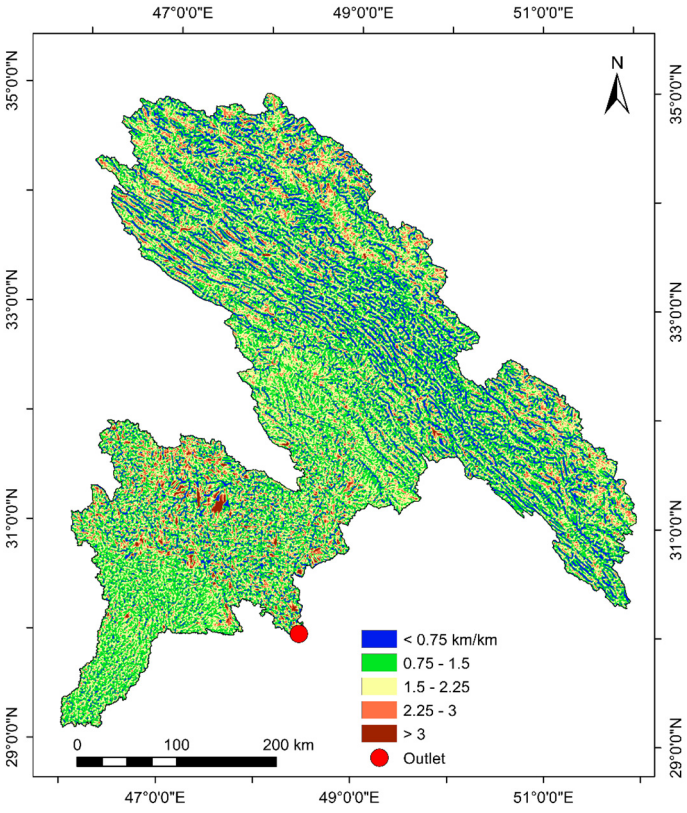


Figure S6. Drainage density of the study area.

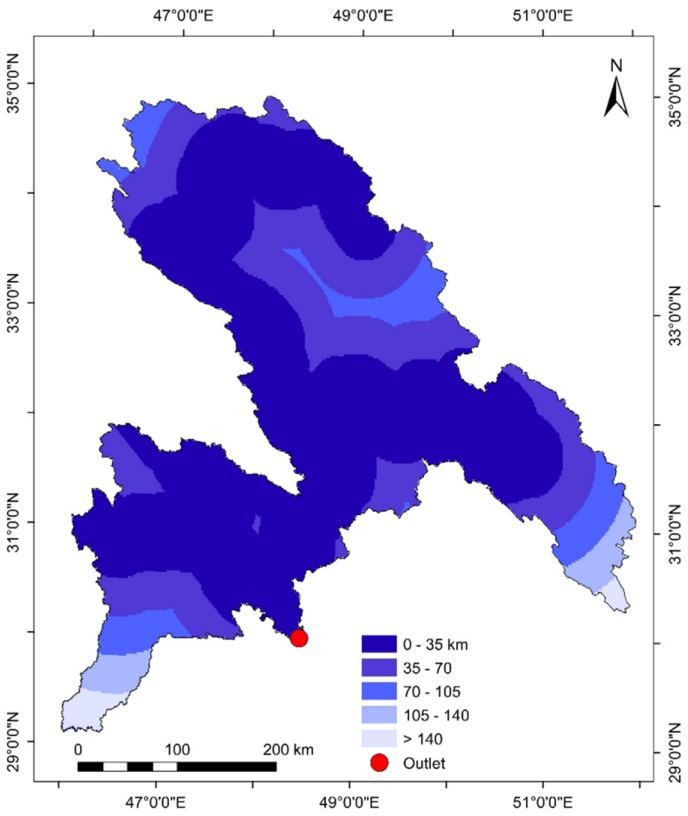


Figure S7. Distance to rivers of the study area.

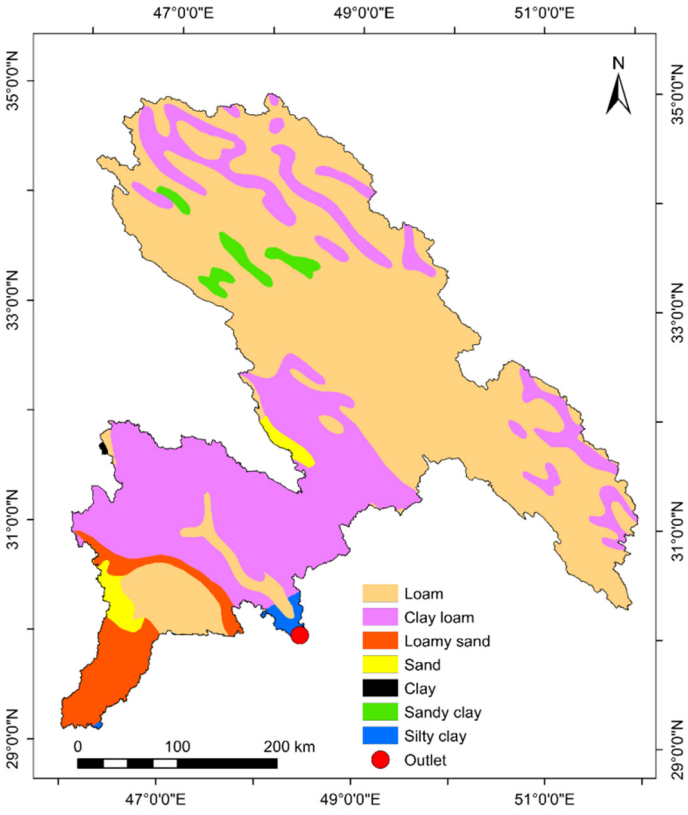


Figure S8. Soils (dominant grain sizes) of the study area.

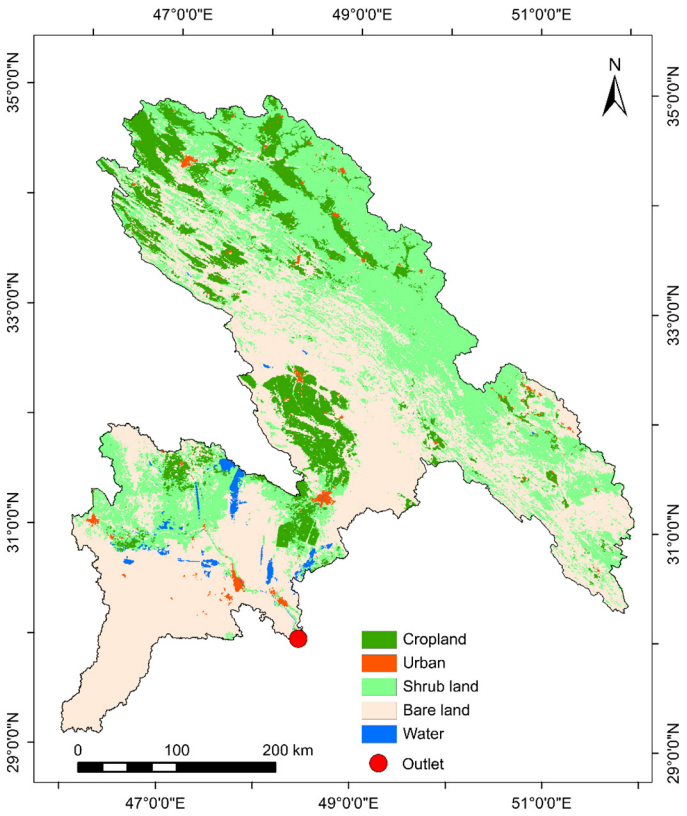


Figure S9. LULC of the study area.

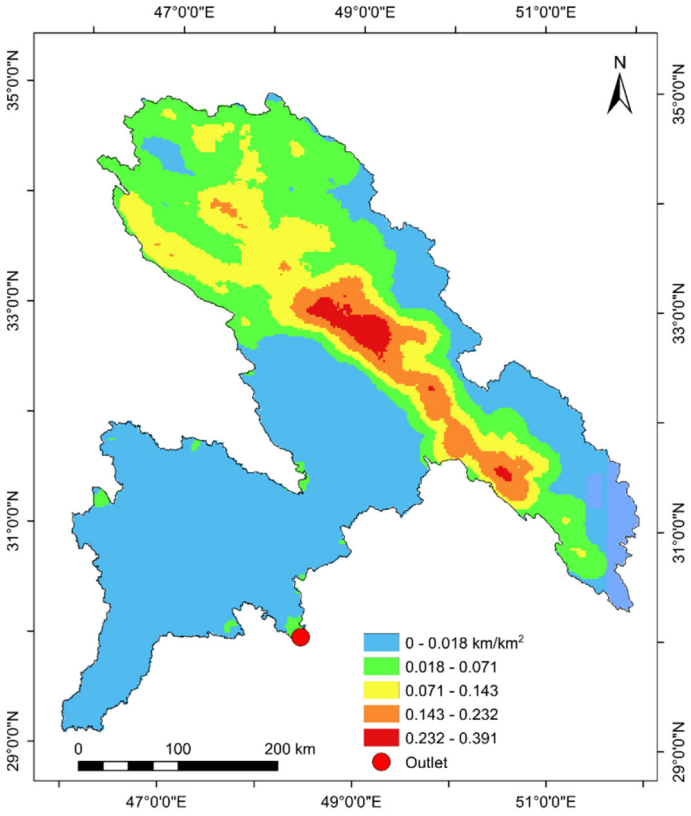


Figure S10. Lineament density of the study area.

Table S1. Accuracy assessment of GWPZs map with average groundwater water level.

Well No.	Latitude	Longitude	Groundwater Depth	Groundwater Level	Well Location on GWPZs Map	Validation Remarks
1	33°29'30.012" N	48°13'0.012" E	33	Very deep	Moderate	Disagree
2	33°28'0.012" N	48°15'0" E	30	Deep	Poor	Agree
3	33°27'29.988" N	48°21'0" E	32	Deep	Good	Disagree
4	33°25'59.988" N	48°19'59.988" E	33	Very deep	Good	Disagree
5	33°25'30" N	48°19'0.012" E	31	Deep	Good	Disagree
6	33°25'0.012" N	48°16'30" E	29	Deep	Poor	Agree
7	33°23'60" N	48°19'0.012" E	32	Deep	Good	Disagree
8	33°23'30.012" N	48°21'0" E	30	Deep	Very good	Disagree
9	33°23'30.012" N	48°23'60" E	8	Very shallow	Very good	Agree
10	33°22'30" N	48°23'30.012" E	13	Shallow	Good	Agree
11	33°22'59.988" N	48°27'0" E	18	Medium	Very good	Disagree
12	33°22'30" N	48°28'30" E	23	Medium	Moderate	Agree
13	33°21'0" N	48°22'59.988" E	23	Medium	Moderate	Agree
14	31°40'30" N	48°58'19.992" E	17	Shallow	Good	Agree
15	31°40'30" N	49°0'0" E	13	Shallow	Good	Agree
16	31°40'0.012" N	48°59'30.012" E	13	Shallow	Good	Agree
17	31°38'60" N	49°2'60" E	18	Medium	Moderate	Agree
18	31°37'59.988" N	49°2'39.984" E	18	Medium	Good	Partially agree
19	31°37' 0.012" N	48°55'40.008" E	13	Shallow	Good	Agree
20	31°36'50.004" N	48°56'39.984" E	17	Shallow	Good	Agree
21	31°37'0.012" N	49°4'59.988" E	25	Medium	Moderate	Agree
22	31°36'0" N	49°2'60" E	24.5	Medium	Moderate	Agree
23	31°35'39.984" N	48°56'20.004" E	8	Very shallow	Good	Partially agree
24	31°35'39.984" N	48°58'59.988" E	16.5	Shallow	Good	Agree
25	31°35'39.984" N	49°1'0.012" E	17	Shallow	Good	Agree
26	31°34'59.988" N	48°58'0.012" E	13	Shallow	Good	Agree
27	31°34'30" N	49°0'0" E	18	Medium	Good	Partially agree
28	31°34'0.012" N	49°1'19.992" E	16	Shallow	Good	Agree
29	31°33'29.988" N	49°1'0.012" E	13	Shallow	Good	Agree
30	31°33'0" N	49°3'39.996" E	13	Shallow	Good	Agree
31	31°31'59.988" N	49°1'59.988" E	13	Shallow	Good	Agree
32	31°28'59.988" N	49°6'0" E	13	Shallow	Good	Agree
33	34°6'0" N	46°30'0" E	14	Shallow	Very good	Partially agree
34	34°5'30.012" N	46°31'59.988" E	8	Very shallow	Very good	Agree
35	34°4'30" N	46°34'0.012" E	10	Very shallow	Very good	Agree
36	34°6'20.016" N	46°36'0" E	34	Very deep	Poor	Partially agree
37	34°2'30.012" N	46°36'0" E	7	Very shallow	Very good	Agree
38	34°4'19.992" N	46°36'20.016" E	14	Shallow	Good	Agree
39	34°0'20.016" N	46°36'10.008" E	14	Shallow	Good	Agree
40	34°0'10.008" N	46°37'59.988" E	5	Very shallow	Very good	Agree
41	33°58'9.984" N	46°38'60" E	19	Medium	Moderate	Agree
42	33°58'0.012" N	46°41'39.984" E	1	Very shallow	Good	Partially agree
43	33°58'0.012" N	46°43'59.988" E	3	Very shallow	Good	Partially agree
44	32°13'43.5" N	51°8'20.544" E	15	Shallow	Moderate	Partially agree
45	32°12'44.82" N	51°11'23.82" E	24	Medium	Moderate	Agree
46	32°11'49.812" N	51°8'35.628" E	25	Medium	Moderate	Agree
47	32°11'43.116" N	51°11'8.412" E	28	Deep	Moderate	Partially agree
48	32°10'2.532" N	51°10'3.288" E	25	Medium	Moderate	Agree
49	32°10'5.556" N	51°12'24.588" E	23	Medium	Moderate	Agree
50	32°8'21.444" N	51°14'10.464" E	35	Very deep	Moderate	Disagree
51	32°7'26.616" N	51°10'14.448" E	38	Very deep	Moderate	Disagree
52	32°7'23.592" N	51°7'18.876" E	40	Very deep	Moderate	Disagree
53	32°6'15.66" N	51°11'57.336" E	37	Very deep	Moderate	Disagree
54	32°5'10.392" N	51°7'53.04" E	34	Very deep	Moderate	Disagree
55	32°4'37.704" N	51°10'49.224" E	31	Deep	Moderate	Partially agree
56	32°3'48.744" N	51°13'13.296" E	15	Shallow	Good	Agree

57	32°3'10.08" N	51°9'51.084" E	22	Medium	Moderate	Agree
58	32°2'45.6" N	51°11'18.744" E	15	Shallow	Good	Agree
59	32°2'30.768" N	51°13'28.38" E	11	Shallow	Good	Agree
60	32°3'38.664" N	51°16'12.54" E	18	Medium	Moderate	Agree
61	30°31'19.992" N	46°56'20.004" E	17	Shallow	Good	Agree
62	30°32'9.996" N	46°58'59.988" E	13	Shallow	Good	Agree
63	30°30'20.016" N	47°1'59.988" E	12	Shallow	Good	Agree
64	30°33'39.996" N	47°6'0" E	22	Medium	Good	Partially agree
65	30°27'15.012" N	47°17'9.996" E	15	Shallow	Good	Agree
66	30°30'0" N	47°19'9.984" E	11	Shallow	Good	Agree
67	30°29'9.996" N	47°20'20.004" E	17	Shallow	Good	Agree
68	30°13'30" N	47°27'10.008" E	39	Very deep	Moderate	Disagree
69	30°26'20.004" N	47°30'29.988" E	6	Very shallow	Good	Partially agree
70	30°19'19.992" N	47°30'29.988" E	17	Shallow	Good	Agree
71	30°14'39.984" N	47°31'0.012" E	28	Deep	Moderate	Partially agree
72	30°31'0.012" N	47°32'60" E	1	Very shallow	Very good	Agree
73	30°25'0.012" N	47°35'39.984" E	1	Very shallow	Good	Partially agree
74	30°12'10.008" N	47°34'59.988" E	25	Medium	Moderate	Agree
75	30°16'40.008" N	47°38'9.996" E	13	Shallow	Good	Agree
76	30°8'60" N	47°37'50.016" E	17	Shallow	Good	Agree
77	30°25'0.012" N	47°40'9.984" E	13	Shallow	Good	Agree
78	30°21'10.008" N	47°40'0.012" E	16	Shallow	Good	Agree
79	30°15'10.008" N	47°41'9.996" E	11	Shallow	Good	Agree
80	30°25'0.012" N	47°43'30" E	4	Very shallow	Very good	Agree
81	30°29'9.996" N	47°43'0.012" E	1	Very shallow	Very good	Agree
82	30°16'9.984" N	47°43'40.008" E	15	Shallow	Good	Agree
83	30°8'39.984" N	47°43'19.992" E	3	Very shallow	Very good	Agree
84	30°7'30" N	47°48'20.016" E	16	Shallow	Good	Agree
85	34°36'0" N	46°55'0.012" E	1	Very shallow	Very good	Agree
86	34°34'0.012" N	46°57'0" E	3	Very shallow	Moderate	Disagree
87	34°31'59.988" N	46°53'39.984" E	3	Very shallow	Very good	Agree
88	34°31'30" N	46°50'9.996" E	12	Shallow	Good	Agree
89	34°26'20.004" N	46°56'9.996" E	7	Very shallow	Very good	Agree
90	34° 25' 59.988" N	46°48'20.016" E	25	Medium	Moderate	Agree
91	34°25'59.988" N	47°1'30" E	3	Very shallow	Moderate	Disagree
92	34°23'60" N	46°55'9.984" E	12	Shallow	Moderate	Partially agree
93	34°22'59.988" N	47°3'10.008" E	10	Very shallow	Very good	Agree
94	34°20'52.008" N	46°58'0.012" E	34	Very deep	Poor	Partially agree
95	34°21'0" N	46°55'59.988" E	19	Medium	Poor	Partially agree
96	34°20'20.004" N	47°5'9.996" E	10	Very shallow	Very good	Agree
97	34°19'9.984" N	47°3'39.996" E	19	Medium	Moderate	Agree
98	34°18'20.016" N	47°11'20.004" E	19	Medium	Moderate	Agree
99	34°18'10.008" N	47°12'0" E	25	Medium	Moderate	Agree