

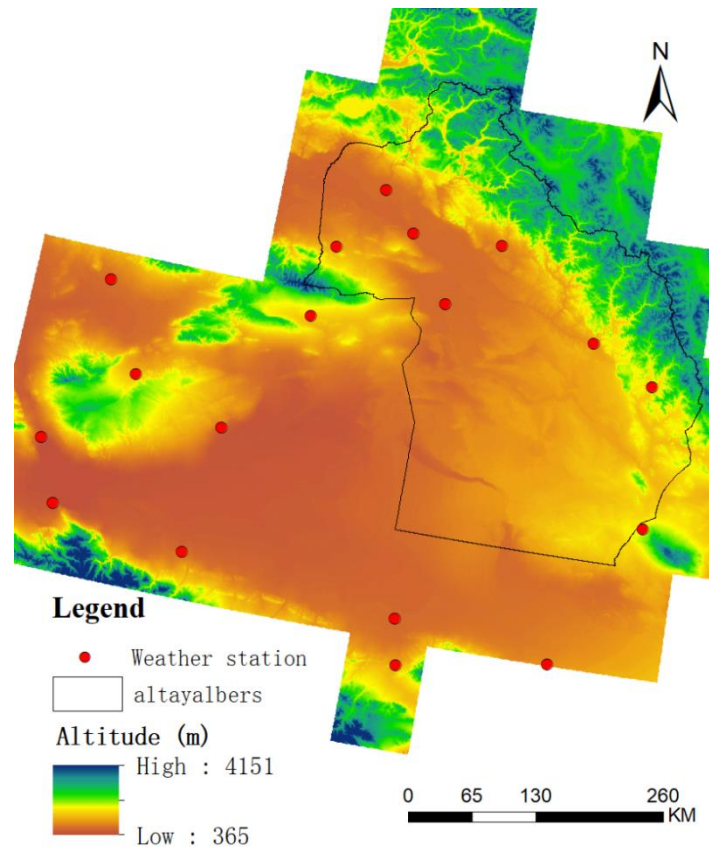


Figure S1: Location of weather station inside or near Altay Prefecture.

Table S1. Results of the NDVI trend of all pixels in Altay Prefecture during 2000–2017.

NDVI trend		Variation type	Area percentage (%)	
>0	>0.01	Strong greening	2.96	80.05
	0.002–0.01	Moderate greening	16.30	
	0.001–0.002	Slight greening	24.36	
	0–0.001	Stable	36.43	
<0	-0.001–0	Stable	11.49	19.95
	-0.002–-0.001	Slight browning	4.19	
	-0.01–-0.002	Moderate browning	4.01	
	<-0.01	Strong browning	0.26	

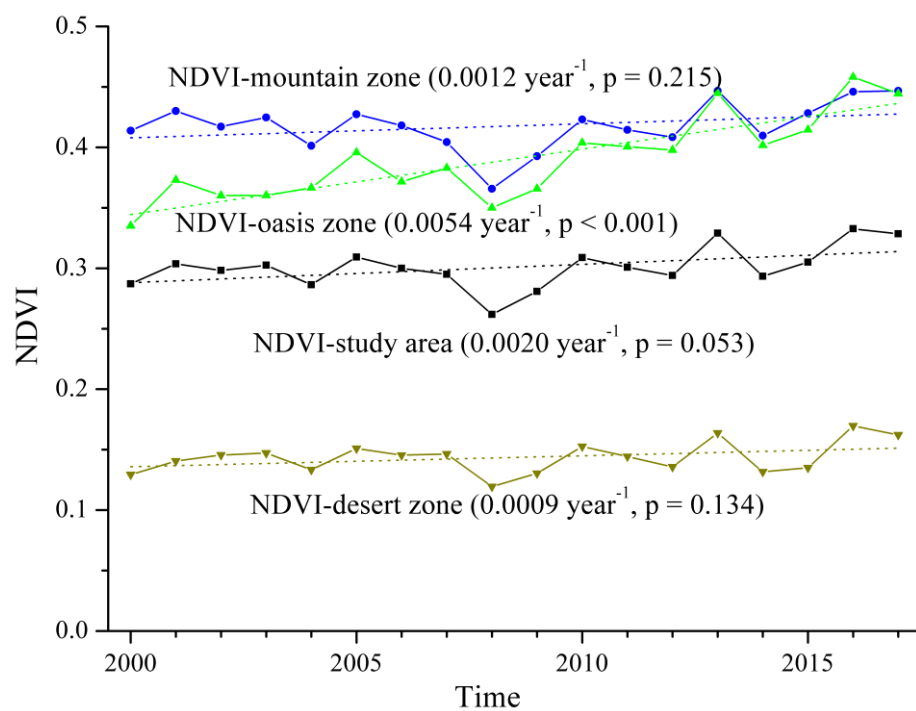


Figure S2: Trends of NDVI of Altay Prefecture from 2000 to 2017.

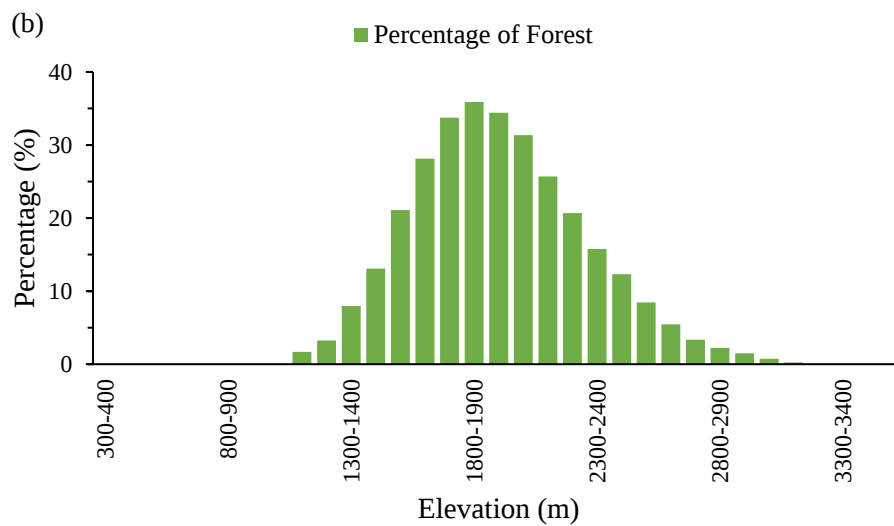
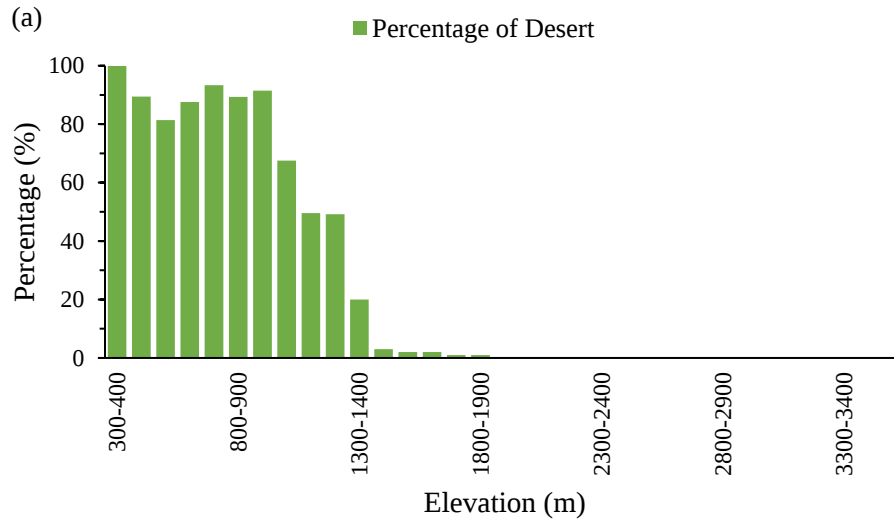
Table S2. Correlation coefficient and P-value between NDVI and annual, summer climate data of Altay Prefecture from 2000 to 2017.

Area	TAP		TSP		MAT		MST	
	Coefficient	P	Coefficient	P	Coefficient	P	Coefficient	P
300-400	0.508	0.016	0.588	0.005	-0.151	0.275	-0.33	0.091
400-500	0.553	0.009	0.537	0.011	0.148	0.279	0.095	0.354
500-600	0.627	0.003	0.643	0.002	0.105	0.339	-0.012	0.482
600-700	0.640	0.002	0.708	0.001	0.060	0.407	-0.210	0.202
700-800	0.516	0.014	0.652	0.002	-0.060	0.406	-0.288	0.123
800-900	0.453	0.030	0.636	0.002	-0.050	0.422	-0.280	0.130
900-1000	0.434	0.036	0.632	0.002	-0.043	0.433	-0.266	0.143
1000-1100	0.425	0.040	0.669	0.001	0.060	0.406	-0.183	0.234
1100-1200	0.464	0.026	0.676	0.001	0.130	0.303	-0.166	0.255
1200-1300	0.489	0.020	0.660	0.001	0.156	0.269	-0.161	0.261
1300-1400	0.480	0.022	0.617	0.003	0.104	0.340	-0.161	0.261
1400-1500	0.491	0.019	0.595	0.005	0.052	0.419	-0.183	0.233
1500-1600	0.513	0.015	0.551	0.009	0.032	0.449	-0.197	0.217
1600-1700	0.531	0.012	0.530	0.012	0.058	0.410	-0.178	0.240
1700-1800	0.540	0.010	0.496	0.018	0.071	0.390	-0.170	0.250
1800-1900	0.524	0.013	0.469	0.025	0.080	0.376	-0.169	0.252
1900-2000	0.499	0.018	0.448	0.031	0.085	0.368	-0.165	0.257
2000-2100	0.453	0.029	0.423	0.040	0.085	0.368	-0.172	0.247
2100-2200	0.403	0.049	0.400	0.050	0.079	0.377	-0.162	0.261
2200-2300	0.359	0.071	0.374	0.063	0.085	0.369	-0.139	0.291
2300-2400	0.324	0.095	0.351	0.077	0.087	0.366	-0.101	0.345
2400-2500	0.284	0.127	0.316	0.101	0.079	0.377	-0.036	0.443
2500-2600	0.243	0.166	0.290	0.122	0.088	0.364	0.047	0.426
2600-2700	0.200	0.213	0.267	0.142	0.117	0.321	0.149	0.278
2700-2800	0.179	0.239	0.246	0.163	0.116	0.323	0.250	0.159
2800-2900	0.151	0.274	0.225	0.184	0.134	0.298	0.297	0.116
2900-3000	0.143	0.285	0.203	0.209	0.149	0.277	0.335	0.087
3000-3100	0.143	0.285	0.216	0.195	0.185	0.231	0.372	0.064
3100-3200	0.160	0.262	0.227	0.183	0.183	0.233	0.468	0.025
3200-3300	0.179	0.238	0.248	0.161	0.226	0.183	0.573	0.006
3300-3400	0.183	0.233	0.295	0.117	0.257	0.152	0.629	0.003
3400-3500	0.190	0.226	0.281	0.130	0.177	0.242	0.740	0.000
3500-3600	0.172	0.248	0.293	0.119	0.105	0.339	0.794	0.000
300-3600	0.504	0.017	0.580	0.006	0.115	0.325	-0.081	0.374
Mountain zone	0.391	0.124	2.229	0.042	0.203	0.411	-0.147	0.533
Oasis zone	0.546	0.029	0.475	0.050	0.290	0.219	0.181	0.430
Desert zone	0.589	0.014	0.677	0.002	0.067	0.756	-0.233	0.212

Note: TAP: Total annual precipitation; TSP: Total summer precipitation; MAT: Mean annual temperature; MST: Mean summer temperature. Green cell represents bigger correlation coefficient between annual and summer climate. Red cell represents reaching significant levels, color from light to dark represents $p < 0.05$, $p < 0.01$, $p < 0.001$, respectively.

Table S3. Main vegetation types of three zones in Altay Prefecture.

Area	Main vegetation types
Mountain zone	13% Apline Meadow + 17% Forest + 16% Mountain Meadow +25% Mountain Steppe + 29% others
Oasis zone	73% Cropland + 27% others
Desert zone	93% Desert + 6% Steppe desert + 1% others



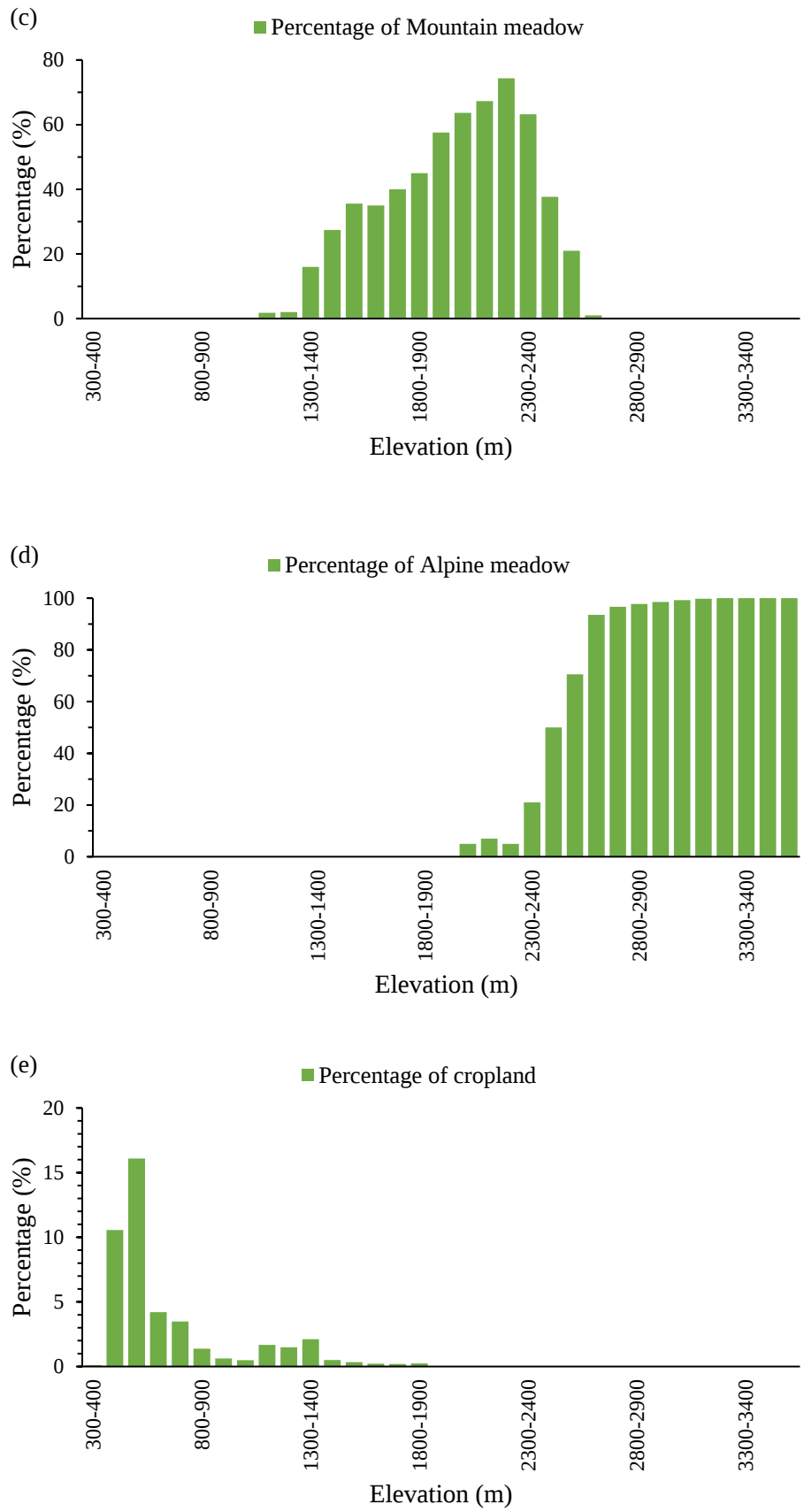


Figure S3: Percentage of main vegetation types in every elevation bin.