

Table S1. Proxy records used in this study. Site number as in Figure 2.

N	Site name	Type of section	Lat, N	Long, E	Elevation, m a.s.l.	Proxies used	Dating method	References
Continental area								
1	Bikin River	Dillalakchi peat bog	46°40.945'	136°10.276'	145	d,p,b	¹⁴ C	[63]
2	Bikin River	Krasny Yar peat bog	46°31.185'	135°19.462'	130	d,p,b	¹⁴ C	[63]
3	Bikin River	Sakhalin Mire, peat bog	46°31.557'	134°33.675'	68	d,p,b	¹⁴ C	[34]
4	Bikin River	Sakhalin Mire, peat bog	46°29.247'	134°28.896'	63	d,p,b	¹⁴ C	[34]
5	Bolshaya Ussurka River	Meteoritny peat bog	46°06.845'	134°37.344'	90	d,p,b	¹⁴ C	[35]
6	Bolshaya Ussurka River	Zveriny peat bog	45°48.781'	134°36.843'	117	d,p	¹⁴ C	[35]
7	Bolshaya Ussurka River	Glubinnoe peat bog	46°03.826'	135°22.506'	210	d,p,b	¹⁴ C	[35]
8	Izyubrine Solontsi Lake	Lacustrine/mire complex	45°27.111'	136°34.366'	750	d,p,b	¹⁴ C	[49]
9	Nizhnee Lake	Lacustrine/mire complex	45°25.393'	136°30.976'	565	d,b	¹⁴ C	[49]
10	Langou I Bay	Lacustrine/mire complex	44°25.169'	135°54.435'	2	d,p,ch	¹⁴ C	[32]
11	Muta Mire	Peat bog	43°34.812'	134°09.701'	568	d,p	¹⁴ C	[61]
12	Ugolnyy Creek, Milogradovka (Vanchin) River	Lacustrine/mire complex	43°31.749'	134°13.357'	445	d,b	¹⁴ C, tephra	[62]
13	Kit Bay	Lagoon/lacustrine/mire complex	43°04.380'	134°11.157'	2.5	d,p	¹⁴ C, tephra	[73]
14	Olkhovaya Mt., Alekseevskoe Lake	Lacustrine/mire complex	43°20.545'	133°39.348'	1600	d,p	¹⁴ C	Present study
15	Sergeev Plateau, eastern paleolake	Lacustrine/mire complex	43° 31.404'	133°28.860'	884	d,p,b	¹⁴ C, tephra	[60]
16	Sergeev Plateau, western paleolake	Lacustrine/mire complex	43° 31.537'	133°28.148'	887	d,p,b	¹⁴ C, tephra	[60]
17	Shkotovskoe Plateau	Lacustrine/mire complex	43° 27.361'	132°49.379'	740	d,p	¹⁴ C, tephra	[59]
18	Shkotovskoe Plateau	Lacustrine/mire complex	43°46.453'	132° 80.936'	734	d,p	¹⁴ C, tephra	[59]
19	Steklyanukha River, Shkotovka River Basin	Fluvial deposits	43°21.451'	132°29.220'	60	d,p	¹⁴ C	[66]
20	Cherepash'e Lake	Lacustrine/mire complex	43°17.341'	132°17.135'	1	d,p	¹⁴ C, tephra	[70]
21	Krasnaya Bay, Russian Island	Lacustrine/mire complex	42°59.061'	131°47.107'	2	d,p	¹⁴ C	[170]
22	Paleolake near Utinoe Lake, Amutsky Bay	Lacustrine/mire complex	43°23.947'	131°44.511'	2	d,p,b	¹⁴ C, tephra	[67]
23	Shufan Plateau	Lacustrine/mire complex	43°22.551'	131°33.005'	320	d,p,b	¹⁴ C, tephra	[33]
24	Starorechenskoe Fortress, Razdolnaya (Suifun) River	Fortress on flood plain	43°54.010'	131°43.543'	37	d,p	¹⁴ C	[65]
Sakhalin Island								
25	Vladimirovo Settlement	Peat bog	49°16.313'	143°57.994'	15	p,b	¹⁴ C	[73]
26	Izilmietieva Bay, Oroless River	Peat bog	48°55.619'	141°59.269'	6	d,p	¹⁴ C	[52]
27	Naiba River Basin	Peat bog on watershed with loam layers of floods	47°19.453'	142°46.237'	4	d	¹⁴ C	[50]
28	Yablochnaya River Basin	Peat bog with loam layers of floods	47°09.947'	142°04.344'	2		¹⁴ C	Present study
Kuril islands								
29	Shiashkotan Island	Peat bog	48°46.873'	154°02.046'	60	p	¹⁴ C	[111]

30	Matua Island,	Soil-pyroclastic sequences	48°03.875'	153°15.340'	63	d,p	¹⁴ C, tephra	[115]
31	Matua Island, Ainu Bay	Peat bog	48°02.683'	153°13.756'	10	p	¹⁴ C, tephra	[115]
32	Rasshua Island	Peat bog in ancient caldera	47°43.195'	153°00.125'	106	d,p,b	¹⁴ C, tephra	[111]
33	Ketoi Island	Peat bog	47°18.008'	152°30.629'	70	d,p	¹⁴ C, tephra	[111]
34	Urup Island, Novokurilskaya Bay	Dune field	46°12.652''	150°19.118'	13	p	¹⁴ C, tephra	[114]
35	Urup Island, Osma Bay	Lacustrine/swamp complex	45°35.068'	149°26.813'	7.5	d,p	¹⁴ C, tephra	[86]
36	Iturup Island, Lebedinoe Lake	Lacustrine/swamp complex	45°13.874'	147°53.442'	3	d,p,ch	¹⁴ C, tephra	[85]
37	Iturup Island, plateau near Gniloe Lake	Lacustrine/swamp complex	45°08.862'	147°58.353'	400	d,p	¹⁴ C, tephra	[84]
38	Kunashir Island, South-Kuril Isthmus	Peat bog	44°02.980'	145°50.736'	4.4	p,b	¹⁴ C, tephra	[78]
39	Kunashir Island, paleolake near Golovnin volcano	Lacustrine/swamp complex	43°48.003'	145°34.081'	32	d,p	¹⁴ C, tephra	[77]
40	Shikotan Island, Khromova Bay	Lacustrine/swamp complex	43°52.189'	146°48.409'	3.6	d,p,ch	¹⁴ C, tephra	[80]
41	Shikotan Island, Gorobets River Basin	Valley peat bog	43°48.741'	146°43.004'	10	p	¹⁴ C, tephra	[111]
42	Zelenyi Island	Lacustrine/swamp complex	43°28.879'	146°10.822'	6.8	d	¹⁴ C, tephra	[76]
43	Tanfiliev Island	Peat bog on the bench	43°25.459'	145°53.551'	1.7	p	tephra	Present study

d – diatoms, p – pollen, b – botanical composition, ch –chironomid