Building and testing age models for radiocarbon dates in Lateglacial and Early Holocene sediments

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Bayesian Sequence Simulation 1						Bayesian Poisson P-Sequence Simulation 1					
Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ	Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	9000	9131	8807	324	0	10	9000	9092.75	8904.25	189	0
20	9100	9243	9029	214	0	20	9100	9175.25	9034.75	141	0
30	9200	9298	9085	214	0	30	9200	9266.75	9131.25	136	0
40	9300	9405	9153	253	0	40	9300	9354.75	9237.25	118	0
50	9400	9440	9255	185	0	50	9400	9427.75	9323.75	104	0
60	9500	9517	9329	188	0	60	9500	9511.25	9417.25	94	0
70	9600	9665	9523	142	0	70	9600	9616.25	9526.75	90	0
80	9700	9741	9548	194	0	80	9700	9724.25	9604.25	120	0
90	9800	9910	9655	255	0	90	9800	9835.75	9702.75	133	0
100	9900	10037	9706	331	0	100	9900	9937.75	9802.75	135	0
110	10000	10125	9805	320	0	110	10000	10045.2	9914.75	130	0
120	10100	10171	9872	299	0	120	10100	10142.8	10026.8	116	0
130	10200	10250	10041	209	0	130	10200	10234.8	10154.8	80	0
140	10300	10398	10238	160	0	140	10300	10346.8	10247.2	100	0
150	10400	10469	10274	195	0	150	10400	10443.8	10327.2	117	0
160	10500	10503	10312	191	0	160	10500	10519.8	10407.2	113	0
170	10600	10724	10510	214	0	170	10600	10667.2	10543.2	124	0
180	10700	10866	10602	264	0	180	10700	10778.2	10656.2	122	0
190	10800	11019	10741	278	0	190	10800	10896.8	10761.2	136	0
200	10900	11086	10800	286	0	200	10900	10998.2	10850.2	148	0
210	11000	11158	10871	287	0	210	11000	11089.8	10955.2	135	0
220	11100	11214	11077	137	0	220	11100	11175.2	11077.8	97	0
230	11200	11246	11141	105	0	230	11200	11247.8	11168.2	80	0
240	11300	11459	11242	217	0	240	11300	11374.2	11255.8	118	0
250	11400	11570	11300	270	0	250	11400	11484.2	11339.8	144	0
260	11500	11645	11359	286	0	260	11500	11591.2	11429.2	162	0
270	11600	11715	11429	286	0	270	11600	11697.8	11535.8	162	0
280	11700	11908	11601	307	0	280	11700	11800.2	11634.8	165	0
290	11800	11950	11645	305	0	290	11800	11902.2	11740.2	162	0
300	11900	11987	11686	301	0	300	11900	11982.2	11863.2	119	0
310	12000	12182	11833	349	0	310	12000	12099.8	11974.8	125	0
320	12100	12321	12077	244	0	320	12100	12208.2	12082.2	126	0
330	12200	12389	12135	254	0	330	12200	12305.2	12170.8	134	0
340	12300	12546	12182	364	0	340	12300	12389.2	12269.2	120	0
350	12400	12634	12332	302	0	350	12400	12504.2	12364.8	139	0
360	12500	12675	12402	273	0	360	12500	12600.8	12446.2	155	0
370	12600	12747	12459	288	0	370	12600	12684.2	12549.8	134	0
380	12700	12803	12645	158	0	380	12700	12765.8	12655.8	110	0
390	12800	12844	12712	132	0	390	12800	12839.2	12749.2	90	0
400	12900	12935	12830	105	0	400	12900	12935.8	12845.8	90	0
410	13000	13105	12910	195	0	410	13000	13070.2	12934.2	136	0
Bayesian U-Sequence Simulation 1						**Bayesian Sequence Simulation 2**					
Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ	Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	9000	9015	8945	70	0	10	9000	9091	8725	367	0
20	9100	9114	9047	67	0	20	10100	10201	9900	301	0
30	9200	9214	9150	65	0	30	10200	10366	10182	184	0
40	9300	9313	9252	61	0	40	10300	10476	10244	232	0
50	9400	9413	9355	58	0	50	10400	10559	10304	255	0
60	9500	9511	9457	54	0	60	10500	10600	10410	190	0
70	9600	9611	9559	52	0	70	10600	10683	10494	189	0
80	9700	9711	9661	50	0	80	10700	10799	10568	231	0
90	9800	9810	9762	49	0	90	10800	11142	10756	386	0
100	9900	9910	9864	46	0	100	10900	11187	10827	360	0
110	10000	10010	9965	45	0	110	11000	11205	10897	308	0
120	10100	10110	10067	43	0	120	11200	11245	11126	119	0
130	10200	10210	10169	41	0	130	11400	11598	11238	360	0
140	10300	10310	10270	40	0	140	11600	11819	11390	429	0
150	10400	10409	10373	36	0	150	11800	12006	11614	392	0
160	10500	10510	10474	36	0	160	12000	12305	11837	468	0
170	10600	10610	10575	35	0	170	12200	12390	12071	319	0
180	10700	10710	10678	32	0	180	12400	12662	12378	284	0

190	10800	10810	10780	30	0
200	10900	10910	10880	30	0
210	11000	11011	10981	30	0
220	11100	11111	11083	28	0
230	11200	11211	11184	27	0
240	11300	11313	11284	29	0
250	11400	11414	11384	30	0
260	11500	11515	11484	31	0
270	11600	11616	11585	31	0
280	11700	11717	11685	32	0
290	11800	11819	11784	35	0
300	11900	11920	11885	35	0
310	12000	12021	11985	36	0
320	12100	12123	12084	39	0
330	12200	12224	12184	40	0
340	12300	12325	12284	41	0
350	12400	12427	12384	43	0
360	12500	12529	12483	46	0
370	12600	12631	12582	49	0
380	12700	12733	12682	51	0
390	12800	12835	12781	54	0
400	12900	12937	12881	56	0
410	13000	13039	12980	59	0

Bayesian P-Sequence Simulation 2

Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	9000	9089	8720	369	0
20	10100	10165	9958	207	0
30	10200	10269	10176	93	0
40	10300	10389	10264	125	0
50	10400	10500	10365	135	0
60	10500	10583	10455	128	0
70	10600	10680	10550	130	0
80	10700	10787	10658	129	0
90	10800	10929	10776	153	0
100	10900	11084	10879	205	0
110	11000	11163	11007	156	7
120	11200	11257	11157	100	0
130	11400	11537	11290	247	0
140	11600	11752	11489	263	0
150	11800	11962	11711	251	0
160	12000	12161	11961	200	0
170	12200	12351	12136	215	0
180	12400	12522	12378	144	0
190	12600	12680	12515	165	0
200	12800	12819	12694	125	0
210	13000	13046	12908	138	0
220	13050	13098	12978	120	0
230	13100	13156	13052	104	0
240	13150	13215	13120	95	0
250	13200	13265	13179	86	0
260	13250	13309	13225	84	0
270	13300	13358	13275	83	0
280	13350	13406	13320	86	0
290	13400	13454	13364	90	0
299	13450	13506	13411	95	0
310	13500	13560	13461	99	0
320	13550	13610	13511	99	0
330	13600	13660	13562	98	0
340	13650	13710	13615	95	0
350	13700	13759	13668	91	0
360	13750	13806	13716	90	0
370	13800	13856	13761	95	0
380	13850	13908	13808	100	0
390	13900	13960	13851	109	0

190	12600	12716	12417	299	0
200	12800	12813	12633	180	0
210	13000	13053	12875	178	0
220	13050	13105	12935	170	0
230	13100	13205	13015	190	0
240	13150	13274	13133	141	0
250	13200	13310	13201	109	0
260	13250	13334	13224	110	0
270	13300	13387	13267	120	0
280	13350	13426	13304	122	0
290	13400	13465	13330	135	0
299	13450	13542	13369	173	0
310	13500	13610	13431	179	0
320	13550	13649	13469	180	0
330	13600	13698	13517	181	0
340	13650	13743	13581	162	0
350	13700	13794	13660	134	0
360	13750	13827	13705	122	0
370	13800	13875	13740	135	0
380	13850	13935	13791	144	0
390	13900	13974	13828	146	0
400	13950	14002	13851	151	0
410	14000	14049	13874	175	0

Bayesian Sequence Simulation 3

Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	7300	7425	7180	245	0
20	7700	7845	7623	223	0
30	8000	8165	7961	204	0
40	8300	8381	8190	191	0
50	8820	8949	8590	359	0
60	8880	8990	8690	300	0
70	9000	9017	8786	231	0
80	9100	9244	9009	235	0
90	9200	9394	9129	265	0
100	9300	9456	9275	182	0
110	9400	9487	9324	163	0
120	9500	9548	9465	84	0
130	9600	9663	9515	148	0
140	9620	9746	9554	193	0
150	9700	9821	9606	215	0
160	9720	9863	9640	223	0
170	9800	9893	9704	189	0
180	9820	9918	9734	184	0
190	9880	10036	9777	259	0
200	9950	10120	9859	261	0
210	10000	10190	9960	230	0
220	10200	10231	10035	196	0
230	10400	10518	10247	271	0
240	10700	10869	10590	279	0
250	10800	10959	10754	205	0
260	10900	11042	10806	236	0
270	11000	11095	10850	245	0
280	11100	11191	10981	210	0
290	11200	11250	11137	113	0
300	11300	11341	11203	138	0
310	11400	11477	11249	228	0
320	11500	11618	11335	283	0
330	11550	11691	11387	304	0
340	11600	11757	11452	305	0
350	11650	11822	11504	318	0
360	11700	11968	11655	313	0
370	11900	12045	11745	300	0
380	12100	12302	12081	221	0
390	12200	12361	12131	230	0

400	13950	14009	13893	116	0
410	14000	14065	13933	132	0

Bayesian P-Sequence Simulation 3

Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	7300	7425	7182	243	0
20	7700	7793	7622	171	0
30	8000	8054	7936	118	0
40	8300	8303	8093	210	0
50	8820	8954	8681	273	0
60	8880	9012	8799	213	0
70	9000	9111	8915	197	0
80	9100	9210	9030	180	0
90	9200	9297	9145	152	0
100	9300	9381	9261	120	0
110	9400	9460	9351	109	0
120	9500	9535	9453	82	0
130	9600	9604	9524	80	0
140	9620	9679	9576	103	0
150	9700	9746	9631	116	0
160	9720	9801	9679	122	0
170	9800	9863	9747	116	0
180	9820	9920	9810	110	0
190	9880	10005	9879	126	0
200	9950	10069	9943	126	0
210	10000	10154	10012	142	12
220	10200	10237	10147	90	0
230	10400	10500	10315	185	0
240	10700	10718	10574	144	0
250	10800	10847	10725	122	0
260	10900	10958	10825	133	0
270	11000	11061	10945	116	0
280	11100	11155	11043	112	0
290	11200	11240	11145	95	0
300	11300	11333	11227	106	0
310	11400	11441	11308	133	0
320	11500	11535	11405	130	0
330	11550	11630	11490	140	0
340	11600	11750	11600	150	0
350	11650	11849	11681	168	31
360	11700	11965	11788	177	88
370	11900	12055	11894	161	0
380	12100	12178	12000	178	0
390	12200	12287	12085	202	0
400	12300	12377	12194	183	0
410	12400	12495	12295	200	0
420	12500	12589	12407	182	0
430	12600	12682	12530	152	0
440	12700	12781	12657	124	0
450	12800	12879	12799	80	0
460	12900	12978	12878	100	0
470	13000	13078	12943	135	0

Bayesian P-Sequence Simulation 4

Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	7300	7539	7129	410	0
20	7700	7859	7535	324	0
30	8000	8147	7842	305	0
40	8300	8382	8064	319	0

400	12300	12394	12168	226	0
410	12400	12572	12239	333	0
420	12500	12642	12372	270	0
430	12600	12701	12420	281	0
440	12700	12801	12594	207	0
450	12800	12901	12806	95	6
460	12900	13015	12866	149	0
470	13000	13085	12911	174	0

Bayesian Sequence Simulation 4

Depth	Sim age BP	Model max (2 δ)	Model min (2 δ)	Range	Diff at 2δ
10	7300	7425	7182	243	0
20	7700	7845	7622	223	0
30	8000	8129	7950	180	0
40	8300	8172	7997	176	128
50	8820	8973	8592	381	0
60	8880	9009	8720	289	0
70	9000	9137	8196	199	0
80	9100	9266	9008	237	0
90	9200	9394	9129	266	0
100	9300	9455	9275	180	0
110	9400	9487	9325	162	0
120	9500	9548	9465	84	0
130	9600	9664	9515	149	0
140	9620	9748	9554	194	0
150	9700	9822	9606	216	0
160	9720	9864	9640	224	0
170	9800	9896	9705	191	0
180	9820	9920	9741	180	0
190	9880	10015	9791	224	0
200	9950	10076	9905	171	0
210	10000	10190	9980	210	0
220	10200	10230	10042	188	0
230	10400	10517	10248	269	0
240	10700	10870	10590	280	0
250	10800	10959	10754	205	0
260	10900	11041	10806	235	0
270	11000	11096	10846	250	0
280	11100	11190	10980	210	0
290	11200	11250	11136	114	0
300	11300	11341	11204	137	0
310	11400	11477	11249	228	0
320	11500	11588	11334	254	0
330	11550	11692	11384	308	0
340	11600	11756	11452	304	0
350	11650	11823	11504	319	0
360	11700	11967	11655	312	0
370	11900	12043	11746	297	0
380	12100	12267	11985	282	0
390	12200	12342	12016	326	0
400	12300	12381	12103	278	0
410	12400	12562	12171	391	0
420	12500	12649	12345	304	0
430	12600	12696	12411	285	0
440	12700	12803	12588	215	0
450	12800	12899	12805	94	5
460	12900	12979	12859	120	0
470	13000	13050	12885	165	0

50	8820	9014	8582	432	0
60	8880	9078	8718	359	0
70	9000	9092	8750	342	0
80	9100	9238	8974	264	0
90	9200	9324	9095	229	0
100	9300	9412	9202	210	0
110	9400	9487	9295	192	0
120	9500	9569	9384	185	0
130	9600	9654	9468	186	0
140	9620	9735	9545	190	0
150	9700	9815	9617	198	0
160	9720	9881	9678	203	0
170	9800	9973	9749	224	0
180	9820	10043	9813	230	0
190	9880	10131	9885	246	5
200	9950	10230	9959	271	9
210	10000	10324	10029	295	29
220	10200	10425	10160	265	0
230	10400	10573	10318	256	0
240	10700	10750	10500	250	0
250	10800	10878	10638	240	0
260	10900	10984	10749	236	0
270	11000	11081	10840	241	0
280	11100	11180	10948	232	0
290	11200	11280	11058	221	0
300	11300	11377	11161	217	0
310	11400	11486	11258	227	0
320	11500	11591	11352	239	0
330	11550	11686	11441	245	0
340	11600	11791	11530	262	0
350	11650	11888	11618	270	31
360	11700	12003	11712	290	12
370	11900	12083	11822	262	0
380	12100	12181	11948	233	0
390	12200	12259	12029	230	0
400	12300	12363	12124	238	0
410	12400	12481	12234	247	0
420	12500	12586	12345	241	0
430	12600	12686	12452	233	0
440	12700	12795	12563	232	0
450	12800	12914	12682	232	0
460	12900	13025	12778	248	0
470	13000	13142	12854	288	0