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*Supplement of*

## **Holocene sea-level change on the central coast of Bohai Bay, China**

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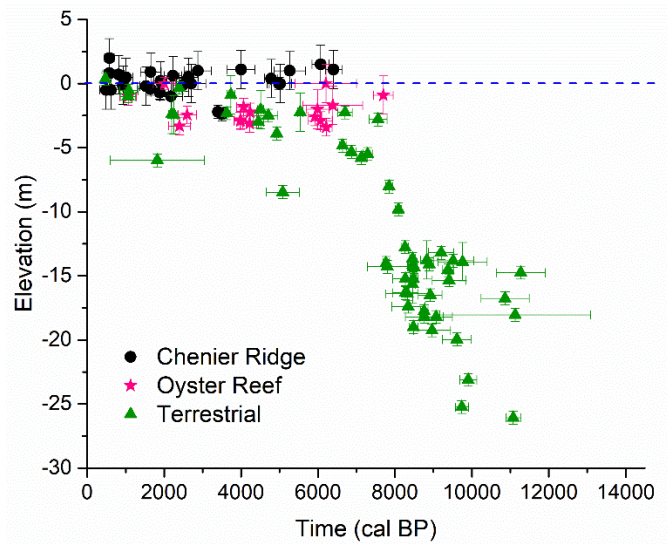


Fig. S2. The SLIPs compiled and corrected by Li et al. (2015). For chenier ridges marine mollusc shells were collected at the base of the ridges. Oyster shells were collected from muddy layer below and between the reefs. SLIPs from terrestrial material (peat, fresh-water molluscs, vegetation remains) are limiting points.

#### SLIPs south of Bohai Bay

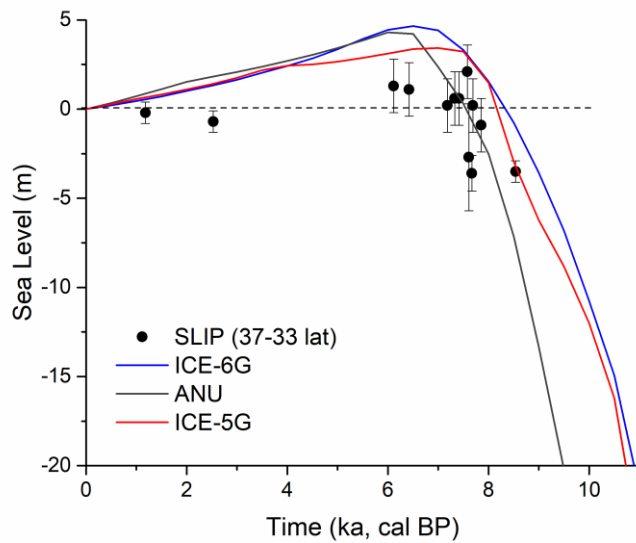


Fig. S3. The comparison of SLIPs generated for the coast south of Bohai Bay (latitude 37°N – 33°N; adopted from Lambeck et al., 2014) and GIA models employed in this study.

Table S1. Parameters used by GIA models employed in this study (SELEN) compared the model established by Bradley et al. (2016; BRAD).

Parameter/Result	BRAD	ANU (SELEN)	ICE 5G (SELEN)	ICE 6G (SELEN)
Lithospheric thickness (km)	96	65	90	90
Upper mantle viscosity (Pa s)	<1.5x10 <sup>20</sup>	0.5x10 <sup>21</sup>	0.5x10 <sup>21</sup>	0.5x10 <sup>21</sup>
Lower mantle viscosity (Pa s)	8x10 <sup>21</sup>	10x10 <sup>21</sup>	2.7x10 <sup>21</sup>	3.2x10 <sup>21</sup>
Antarctic contribution to ESL (m) and end of melting (until ka)	28 until 1	30 until 1	17.5 until 4	13.6 until 4
Holocene highstand (m@ka)	<0.5 @ 7	4.3 @ 6	3.4 @ 7	4.7 @ 6.5

Table S2. Survey data and lithostratigraphy of cores.

Depth (m)	Alt. (m, asl)	Description
<i>Core DC01 (38°40'09", 116°39'10", ground altitude: +3.74 m)</i>		
1.0–6.50	2.74 to -2.76	Yellowish brown to grey clayey silt with rusting stains
6.5–9.40	-2.76 to -5.66	Yellowish grey silty clay with black peat layers in various depths
9.4–12.6	-5.66 to -8.86	Brown grey clayey silt with calcium nucleus at base (Pre-Holocene)
<i>Core QX01 (38°38'52", 116°48'58", ground altitude: +5.16 m)</i>		
1.0–5.00	4.16 to 0.16	Brown to grey clayey silt with thick laminations and rusting stains
5.0–9.10	0.16 to -3.94	Brownish grey clayey silt with thin (5 cm thick) layers of charcoal, organic material and shell fragments in various depths
9.1–11.4	-3.94 to -6.24	Brownish grey clayey silt with small amount of charcoal and shell fragments
11.4–13.8	-6.24 to -8.64	Grey to brownish grey clayey silt laminations, with black peat layers and a sharp contact at upper boundary
13.8–19.6	-8.64 to -14.4	Yellowish brown sandy silt (Pre-Holocene)
<i>Core QX03 (38°38'52", 116°53'43", ground altitude: +4.38 m)</i>		
1.2–4.8	3.18 to -0.42	Dark brown clayey silt with small amount of charcoal. Calcium nucleus and shells in 2.9 – 3.1 m depth
4.8–8.9	-0.42 to -4.52	Dark greyish brown clayey silt with laminations and small amount of shell fragments
8.9–13.7	-3.52 to -9.32	Greyish brown to grey clayey silt with a black peat layer in 12.4-12.5 m depth
13.7–16.0	-9.32 to -11.6	Brown clayey silt, with rusting stains and thick laminations (Pre-Holocene)
<i>Core QX02 (38°38'24", 116°57'24", ground altitude: +3.57 m)</i>		
1.0–3.90	2.57 to -0.33	Yellowish brown clayey silt with small amount of charcoal
3.9–11.3	-0.33 to -7.73	Brownish grey clayey silt, with shell fragments and rusting stains, and several organic-rich layers
11.3–16.6	-7.73 to -13.0	Yellowish brown clayey silt, with charcoal and fine sand at base, and black peat layers
16.6–20.3	-13.0 to -16.7	Yellowish brown clayey silt, with calcium nucleus developed in various sizes (Pre-Holocene)
<i>Core ZW15 (38°40'26", 117°13'20", ground altitude: +1.63 m)</i>		
0.8–2.2	0.83 to -0.57	Brown clayey silt, with rusting stains, laminations and an increase in organic matter at 1.60 m of depth
2.2–12.6	-0.57 to -10.97	Greyish brown clayey silt, with small amount of marine shells, laminations throughout

Depth (m)	Alt. (m, asl)	Description
12.6–15.2	-10.97 to -13.57	Grey clayey silt with peat layers at various depths
15.2–17.0	-13.57 to -15.37	Dark yellowish brown clayey silt, with rusting stains and calcium nucleus (Pre-Holocene)
<i>Core Q7 (38°39'24", 117°31'27", ground altitude: +3.46 m)</i>		
0.0–7.0	3.46 to -3.54	Brown silt, with laminations and marine shells
7.0–18.7	-3.54 to -15.24	Dark grey clayey silt, with shell fragments
18.7–18.9	-15.24 to -15.44	Dark brown peaty clay overlying yellowish brown sandy sediment (the latter as Pre-Holocene)
18.9–25.0	-15.44 to -21.54	Yellowish brown silt sand (Pre-Holocene)
<i>Core CZ01 (38°22'29", 116°46'31", ground altitude: +6.89 m)</i>		
1.0–6.4	5.89 to 0.49	Dark brown clayey silt, with fine laminations, charcoal, Fe/Mn concretion, and freshwater snails
6.4–15.4	0.49 to -8.51	Dark yellowish brown clayey silt, with rusting stains and calcium nucleus. Black peat layers in various depths
15.8–20.0	-8.91 to -13.11	Very dark greyish brown to very dark grey silt (Pre-Holocene)
<i>Core CZ02 (38°21'28", 116°54'50", ground altitude: +5.77 m)</i>		
1.0–4.4	4.77 to 1.37	Dark yellowish brown clayey silt, with Fe/Mn concretion.
4.4–15.0	1.37 to -9.23	Brown to light greyish brown silt, with laminations, rusting stains and calcium nucleus. Black peat layers at various depths
15.0–20.0	-9.23 to -14.23	Yellowish brown silt, with rusting stains and calcium nucleus (Pre-Holocene)
<i>Core CZ03 (38°22'19", 117°06'29", ground altitude: +3.94 m)</i>		
1.0–4.4	2.94 to -0.46	Dark yellowish brown clayey silt, with rusting stains and Fe/Mn concretion
4.4–9.3	-0.46 to -5.36	Dark grey brown clayey silt, with laminations and shell fragments. Organic clay and peat in various depths
9.3–15.0	-5.36 to -11.06	Grey silt with charcoal and two black peat layers
15.0–16.0	-11.06 to -12.06	Yellowish brown sandy silt (Pre-Holocene)
<i>Core CZ87 (38°31'39", 116°54'38", ground altitude: +4.46 m)</i>		
0.0–5.8	4.46 to -1.34	Light grey to brown clayey silt, with laminations, Fe/Mn concretions and rusting stains
5.8–11.5	-1.34 to -7.04	Yellowish brown clayey silt, with small amount of shell fragments
11.5–16.0	-7.04 to -11.54	Grey clayey silt, with charcoal, laminations and black peats
16.0–20.0	-11.54 to -15.54	Greyish brown silt (Pre-Holocene)
<i>Core CZ61 (38°33'29", 116°58'50", ground altitude: +3.76 m)</i>		
0.0–4.5	3.76 to -0.74	Yellowish brown clayey silt and silt, with charcoal
4.5–9.7	-0.74 to -5.94	Brown to grey clayey silt, with marine shell fragments. Organic clay at various depths
9.7–14.7	-5.94 to -10.94	Very dark grey clayey silt, with laminations. Peats in various depths
14.7–18.0	-10.94 to -14.24	Yellowish brown clayey silt, with laminations and small amount of calcium nucleus (Pre-Holocene)
<i>Core CZ65 (38°34'47", 117°04'17", ground altitude: +2.96 m)</i>		
0.0–3.8	2.96 to -0.84	Dark brown clayey silt, with laminations and charcoal
3.8–9.7	-0.84 to -6.74	Grey silt, with rusting stains, laminations and charcoal in upper and lower ends, marine shells in the middle
9.7–13.8	-6.74 to -10.84	Grey clay and silt, with laminations and charcoal and a black peat layer
13.8–16.6	-10.84 to -13.64	Brown to grey brown clayey silt, with Fe/Mn concretion, calcium nucleus and freshwater snails (Pre-Holocene)
<i>Core CZ80 (38°26'12", 116°53'39", ground altitude: +6.42 m)</i>		

Depth (m)	Alt. (m, asl)	Description
0.0–5.4	6.42 to 1.02	Light yellowish brown to greyish brown clayey silt, with laminations, rusting stains, charcoals and dark grey peats
5.4–10.0	1.02 to -3.58	Dark grey clayey silt and fine silt, with organic clay in various depths
10.0–14.0	-3.58 to -7.58	Grey fine silt and clayey slit, with rusting stains and charcoal. Black peats in various depths
14.0–17.0	-7.58 to -10.58	Yellowish brown clayey silt, with laminations in upper layer (Pre-Holocene)
<i>Core CZ85 (38°28'09", 117°01'10", ground altitude: +4.61 m)</i>		
0.5–3.6	4.11 to 1.01	Dark yellowish brown clayey silt, with plant roots at surface, and charcoals, Fe/Mn concretions in the lower part
3.6–8.8	1.01 to -4.19	Brown clayey silt, with rusting stains, charcoals. Organic clay in various depths
8.8–15.8	-4.19 to -11.19	Dark grey silt, with charcoal and black peats
15.8–17.7	-11.19 to -13.09	Light grey clayey silt, with a few calcium nucleus at base (Pre-Holocene)
<i>Core CZ66 (38°31'29", 117°07'59", ground altitude: +3.87 m)</i>		
1.0–3.6	2.87 to 0.27	Yellowish brown clayey silt, with Fe/Mn concretion in lower part
3.6–6.3	0.27 to -2.43	Yellowish brown clayey silt, with charcoal and organic clay in various depths
6.3–10.8	-2.43 to -6.93	Yellowish brown silt, with rusting stains and small amount of marine shells
10.8–14.0	-6.93 to -10.13	Light yellowish grey to grey silt and clay, with charcoal and black peats
14.0–16.6	-10.13 to -12.73	Greyish brown clayey silt, with Fe/Mn concretion, freshwater snails and shells (Pre-Holocene)

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