

Supplement of Ocean Sci., 16, 1247–1259, 2020
<https://doi.org/10.5194/os-16-1247-2020-supplement>
© Author(s) 2020. This work is distributed under
the Creative Commons Attribution 4.0 License.



Supplement of

Changes in detrital sediment supply to the central Yellow Sea since the last deglaciation

Hyo Jin Koo and Hyen Goo Cho

Correspondence to: Hyen Goo Cho (hgcho@gnu.ac.kr)

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.

Core 11YS-PCL14

Unit	depth (cm)	Mean grain size (Phi)	Grain Contents (%)			Clay mineral co	
			Sand	Silt	Clay	Smectite	Illite
Unit 1	7	9.5	0.4	27.2	72.5	1.6	66.6
	47	8.31	1.0	41.1	58.0	1.3	68.2
	57	8.63	0.7	39.7	59.6	1.8	68.7
	67	8.76	0.3	35.9	63.8	2.0	68.5
	77	9.26	0.3	29.6	70.1	2.3	71.8
	87	8.68	0.8	38.2	61.1	2.2	71.2
	97	8.49	0.6	42.7	56.7	2.1	68.8
	107	8.71	0.8	40.8	58.4	2.1	67.8
	117	8.84	0.8	38.1	61.1	1.2	69.8
	127	8.78	0.6	39.9	59.5	2.8	67.9
Unit 2-1	137	8.35	1.8	45.9	52.3	3.2	74.7
	147	8.4	3.0	43.5	53.5	2.7	70.7
	157	7.03	17.1	48.9	34.0	3.9	69.1
	167	7.51	12.8	47.5	39.7	3.9	67.5
	177	6.58	14.5	59.2	26.4	4.5	69.2
	187	6.49	19.2	56.3	24.5	4.2	69.7
	197	6.1	18.6	59.5	21.9	6.3	65.9
	207	6.09	19.6	59.2	21.2	4.7	65.1
Unit 2-2	217	5.29	44.2	41.0	14.8	4.7	66.2
	227	5.87	31.1	51.2	17.8	4.5	63.4
	237	6.29	16.9	62.1	21.0	5.1	63.7
	247	6.24	18.2	61.2	20.6	5.2	65.2
	257	6.26	15.6	63.7	20.7	3.6	63.4
	267	6.3	16.1	63.7	20.2	5.6	65.7
	277	6.21	15.1	65.6	19.4	6.8	64.1
	287	6.03	15.7	66.5	17.8	3.9	64.1
	297	6.6	20.1	53.2	26.7	4.5	63.2
	307	6.7	12.5	61.3	26.3	3.6	64.4
Unit 3	317	7.38	3.8	63.4	32.8	4.7	63.2
	327	7.4	1.7	67.5	30.8	2.6	63.2
	337	7.1	1.6	69.8	28.6	4.1	61.4
	347	7.03	1.8	71.3	26.9	3.8	64.2
	357	7.08	2.7	69.4	27.9	4.2	64.3
	367	7.17	0.8	70.0	29.2	3.4	60.8
	377	7.37	0.7	68.7	30.6	3.7	63.1
	387	7.15	1.0	70.3	28.7	3.0	62.8
	397	7.74	1.2	60.9	38.0	2.6	63.7
	407	7.23	1.6	70.9	27.5	3.5	63.4
	417	7.79	0.5	62.5	37.0	3.4	63.9
	427	8.04	0.7	58.5	40.8	3.3	62.3
	437	7.85	0.2	64.2	35.6	3.4	63.4
	447	7.75	0.5	66.5	33.0	4.4	60.1
	457	7.82	0.3	65.0	34.7	3.6	62.3
	467	7.38	0.5	73.1	26.4	4.0	62.0
	477	7.29	0.3	76.5	23.3	3.5	62.6
	487	7.83	0.4	63.3	36.4	3.5	63.7
	497	6.88	0.4	81.5	18.1	4.2	62.9
	507	7.08	0.9	79.1	20.0	3.5	64.4
517	6.94	1.1	81.7	17.2	2.8	63.0	
527	5.09	57.8	27.8	14.4	3.9	61.2	
537	6.27	14.6	76.9	8.6	3.3	62.3	
547	6.76	8.2	90.4	1.4	3.2	62.2	
557	6.12	30.0	64.6	5.4	3.8	64.0	

	567	6.14	28.7	51.7	19.6	4.9	64.1
	577	5.64	41.3	41.0	17.8	4.5	64.0
	587	6.31	20.9	54.5	24.6	4.4	64.0
	597	5.19	43.7	41.0	15.3	3.5	64.4
Unit 4	607	6.02	24.6	54.7	20.7	4.2	63.1
	617	5.94	26.9	53.4	19.8	2.9	65.8
	627	5.92	38.4	37.1	24.5	2.4	62.8
	637	6.09	13.0	70.0	17.0	2.9	62.0
	647	6.12	17.0	66.6	16.4	4.3	61.4
	657	5.65	20.9	67.3	11.8	3.7	62.6
	667	6.58	8.0	70.6	21.4	3.1	64.7
	677	4.41	58.7	33.9	7.4	4.3	65.6
	687	6.24	17.2	64.1	18.7	3.8	62.0
	697	6.81	3.0	73.0	24.0	4.8	61.8

Compositions (%)		Clay mineral ratios	
Kaolinite	Chlorite	K+C	S/I*100
11.7	20.1	31.8	2.4
10.7	19.9	30.6	1.9
10.5	19.1	29.6	2.6
11.0	18.5	29.5	2.9
9.6	16.2	25.9	3.2
10.3	16.3	26.6	3.0
11.1	17.9	29.0	3.1
11.7	18.5	30.1	3.0
11.4	17.6	29.0	1.7
11.2	18.1	29.3	4.1
10.1	12.0	22.1	4.2
11.4	15.1	26.5	3.9
11.6	15.5	27.0	5.6
12.0	16.6	28.6	5.8
12.5	13.9	26.4	6.5
10.4	15.6	26.0	6.1
11.1	16.7	27.8	9.5
12.0	18.1	30.1	7.3
11.8	17.2	29.0	7.1
13.0	19.2	32.1	7.1
12.7	18.5	31.2	7.9
11.9	17.7	29.6	7.9
13.0	20.0	33.0	5.7
12.4	16.3	28.7	8.5
13.2	15.9	29.1	10.5
13.4	18.7	32.0	6.0
14.2	18.1	32.3	7.1
13.5	18.5	32.0	5.7
13.3	18.7	32.1	7.5
14.8	19.5	34.2	4.1
14.5	20.0	34.4	6.7
13.8	18.2	32.0	5.9
13.5	18.0	31.6	6.5
14.7	21.1	35.8	5.6
14.2	19.0	33.2	5.9
14.0	20.2	34.2	4.8
13.5	20.2	33.7	4.1
12.8	20.3	33.1	5.6
14.0	18.7	32.7	5.4
13.8	20.6	34.4	5.3
13.1	20.1	33.2	5.4
13.8	21.8	35.6	7.3
14.3	19.8	34.1	5.8
13.6	20.4	34.0	6.5
13.7	20.2	33.9	5.6
12.8	20.0	32.8	5.4
12.3	20.6	32.8	6.7
12.4	19.7	32.1	5.4
14.0	20.2	34.2	4.5
13.5	21.4	34.9	6.4
13.6	20.9	34.4	5.2
12.0	22.6	34.6	5.0
12.7	19.6	32.3	5.9

Unit	depth (cm)	S	
		⁸⁷ Sr/ ⁸⁶ Sr	2σ SE
Unit 1	47	0.722591	0.000014
	67	0.723603	0.000011
	107	0.720661	0.000011
Unit 2-1	137	0.723536	0.000017
	197	0.719741	0.000011
Unit 2-2	277	0.719819	0.000014
	327	0.718528	0.000027
Unit 3	397	0.720141	0.000007
	447	0.720495	0.000050
	517	-	-
Unit 4	567	0.720030	0.000008
	627	0.720886	0.000008
	697	0.719559	0.000008

12.5	18.4	31.0	7.7
12.5	18.9	31.4	7.1
13.4	18.2	31.6	6.9
12.4	19.7	32.1	5.4
12.7	20.0	32.7	6.6
12.2	19.2	31.3	4.4
13.6	21.2	34.8	3.9
13.4	21.7	35.1	4.7
14.0	20.3	34.3	6.9
13.0	20.7	33.7	6.0
12.7	19.5	32.1	4.9
11.9	18.2	30.1	6.6
13.0	21.2	34.2	6.1
14.7	18.7	33.4	7.8

Ir-Nd isotopes

Maj

$^{143}\text{Nd}/^{144}\text{Nd}$	2 σ SE	ϵNd	SiO ₂	Al	Al ₂ O ₃	Fe ₂ O ₃ (T)	MnO	MgO
0.511999	0.000004	-12.47	56.35	8.13	15.36	5.83	0.051	2.85
0.511988	0.000005	-12.67	53.84	8.79	16.6	6.47	0.053	2.79
0.511971	0.000004	-13.00	54.54	8.22	15.54	6.09	0.053	2.66
0.511880	0.000003	-14.79	56.44	8.23	15.56	5.95	0.049	2.47
0.511860	0.000003	-15.17	65.44	6.87	12.99	4.6	0.043	1.75
0.511908	0.000003	-14.25	68.19	6.34	11.98	4.05	0.044	1.57
0.512010	0.000003	-12.25	62.59	7.15	13.51	5.05	0.069	1.94
0.511980	0.000010	-12.84	61.72	7.38	13.94	5.4	0.101	2.16
0.511965	0.000007	-13.12	61.55	7.14	13.49	5.17	0.104	2.1
-	-	-	62.98	7.18	13.56	5.03	0.079	2.08
0.511883	0.000006	-14.72	69.98	5.82	11	3.39	0.059	1.34
0.511808	0.000010	-16.19	65.73	6.41	12.12	4.15	0.073	1.71
0.511817	0.000005	-16.01	65.74	6.54	12.36	4.12	0.063	1.66

Major Elements (%)

CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be
1.4	2.77	3.28	0.698	0.11	10.28	98.99	15	3
1.88	2.64	3.37	0.757	0.12	10.7	99.21	15	3
2.26	2.82	3.14	0.735	0.1	10.66	98.59	14	3
1.53	2.68	3.08	0.754	0.08	10.63	99.22	14	3
1.44	2.7	2.79	0.645	0.1	6.22	98.7	10	2
1.96	2.71	2.75	0.607	0.09	5.05	99.02	9	2
2.49	2.4	2.65	0.718	0.11	8.05	99.59	13	2
3.03	2.38	2.81	0.702	0.12	7.92	100.3	13	2
3.1	2.4	2.8	0.694	0.11	8.22	99.73	12	2
3.03	2.39	2.71	0.724	0.09	7.53	100.2	12	2
2.79	2.47	2.57	0.541	0.1	4.93	99.16	8	2
3.59	2.34	2.69	0.623	0.11	6.42	99.54	10	2
2.91	2.49	2.77	0.625	0.13	6.18	99.04	10	2

V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As
123	100	17	50	20	110	20	1.6	7
126	110	17	40	30	120	22	1.6	6
115	100	17	40	20	110	21	1.6	6
113	100	17	40	20	100	20	1.4	6
73	80	12	30	10	70	16	1.6	< 5
62	70	10	30	10	60	15	1.4	< 5
90	90	14	40	20	80	18	1.5	10
92	90	14	40	30	80	18	1.5	8
90	90	14	30	20	80	18	1.4	7
85	80	14	30	20	80	17	1.4	5
56	60	9	20	10	60	14	1.3	7
72	80	11	30	20	70	16	1.5	7
72	80	11	30	20	70	15	1.5	7

Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn
151	128	25.4	168	13.9	< 2	0.6	< 0.1	3
162	139	25.7	156	13	< 2	0.6	< 0.1	3
153	155	25.6	162	11.7	< 2	0.5	< 0.1	3
151	137	25.9	168	12.9	< 2	0.5	< 0.1	3
118	162	22.9	239	9.5	< 2	0.7	< 0.1	2
109	184	23.2	251	8.7	< 2	0.7	< 0.1	2
119	163	29.4	200	12	< 2	0.6	< 0.1	3
125	180	27.1	174	10.8	< 2	< 0.5	< 0.1	3
124	181	25.2	162	11.8	< 2	< 0.5	< 0.1	3
118	186	25.4	179	10.6	< 2	< 0.5	< 0.1	3
100	200	21.4	242	8.5	< 2	0.6	< 0.1	2
110	205	27.2	273	9.4	< 2	0.7	< 0.1	2
111	201	25	266	9.6	< 2	0.7	< 0.1	2

Trace Elements (ppm)

Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
1.1	10.7	457	40.6	81.7	9.1	33.7	6.46	1.38
0.9	11.4	453	41.1	82.7	9.02	34.1	6.22	1.31
0.9	10.5	432	42.1	84.7	9.23	34.3	6.67	1.32
1.1	10	431	41.9	85.7	9.28	35.5	6.77	1.38
0.7	6.3	479	37.6	75.2	8.26	31	5.99	1.12
0.9	5.1	505	36.9	72.8	8.06	29.9	5.76	1.13
1.1	7.6	473	40.9	82.5	9.09	33.6	6.89	1.35
1.1	7.9	544	38.6	77.7	8.59	30.9	6.26	1.3
1	7.5	550	36.2	73.8	8	29.7	5.97	1.26
0.9	6.8	510	37.2	75.2	8.31	30.2	6	1.2
0.9	4.1	564	34.6	69.2	7.74	27.6	5.5	1.07
0.9	5.6	515	41.1	82.6	9.14	33.8	6.49	1.22
1	5.4	595	40.3	79.2	8.84	31.9	6.34	1.22

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf
5.4	0.83	4.93	0.92	2.69	0.421	2.74	0.402	4.6
5.57	0.84	4.83	0.93	2.64	0.399	2.56	0.394	4.1
5.5	0.86	4.8	0.92	2.65	0.375	2.62	0.395	4.1
5.79	0.85	4.99	0.92	2.63	0.39	2.56	0.387	4.5
4.95	0.75	4.19	0.82	2.31	0.346	2.29	0.368	5.9
4.65	0.73	4.25	0.83	2.4	0.362	2.35	0.369	5.9
5.66	0.88	5.29	1.03	3.06	0.459	2.98	0.44	5.3
5.19	0.82	4.82	0.9	2.66	0.383	2.52	0.395	4.4
5.14	0.77	4.4	0.86	2.62	0.368	2.47	0.384	4.2
5.16	0.8	4.52	0.89	2.53	0.399	2.58	0.377	4.3
4.76	0.69	3.89	0.77	2.27	0.334	2.16	0.336	5.5
5.21	0.78	4.79	0.96	2.75	0.412	2.68	0.421	6.7
5.31	0.77	4.4	0.87	2.55	0.386	2.49	0.365	6.4

Ta	W	Tl	Pb	Bi	Th	U
1.37	3.9	0.55	26	< 0.1	14.8	6.62
1.41	3.2	0.52	23	< 0.1	15.3	6.81
1.4	3.1	0.53	26	< 0.1	15.3	7.05
1.43	3	0.57	22	< 0.1	15.2	7.89
1.22	7.6	0.44	19	< 0.1	12.6	3.07
1.16	2.6	0.44	18	< 0.1	11.8	2.24
1.29	3.3	0.47	24	< 0.1	13.7	3.18
1.29	3.2	0.48	21	< 0.1	13.3	2.75
1.31	3	0.51	24	< 0.1	12.3	2.45
1.27	5.2	0.48	20	< 0.1	12.3	2.25
1.22	2.2	0.43	17	0.1	10.9	2.21
1.15	3.2	0.45	20	< 0.1	13.9	2.6
1.2	2.9	0.49	20	< 0.1	13.1	2.7
