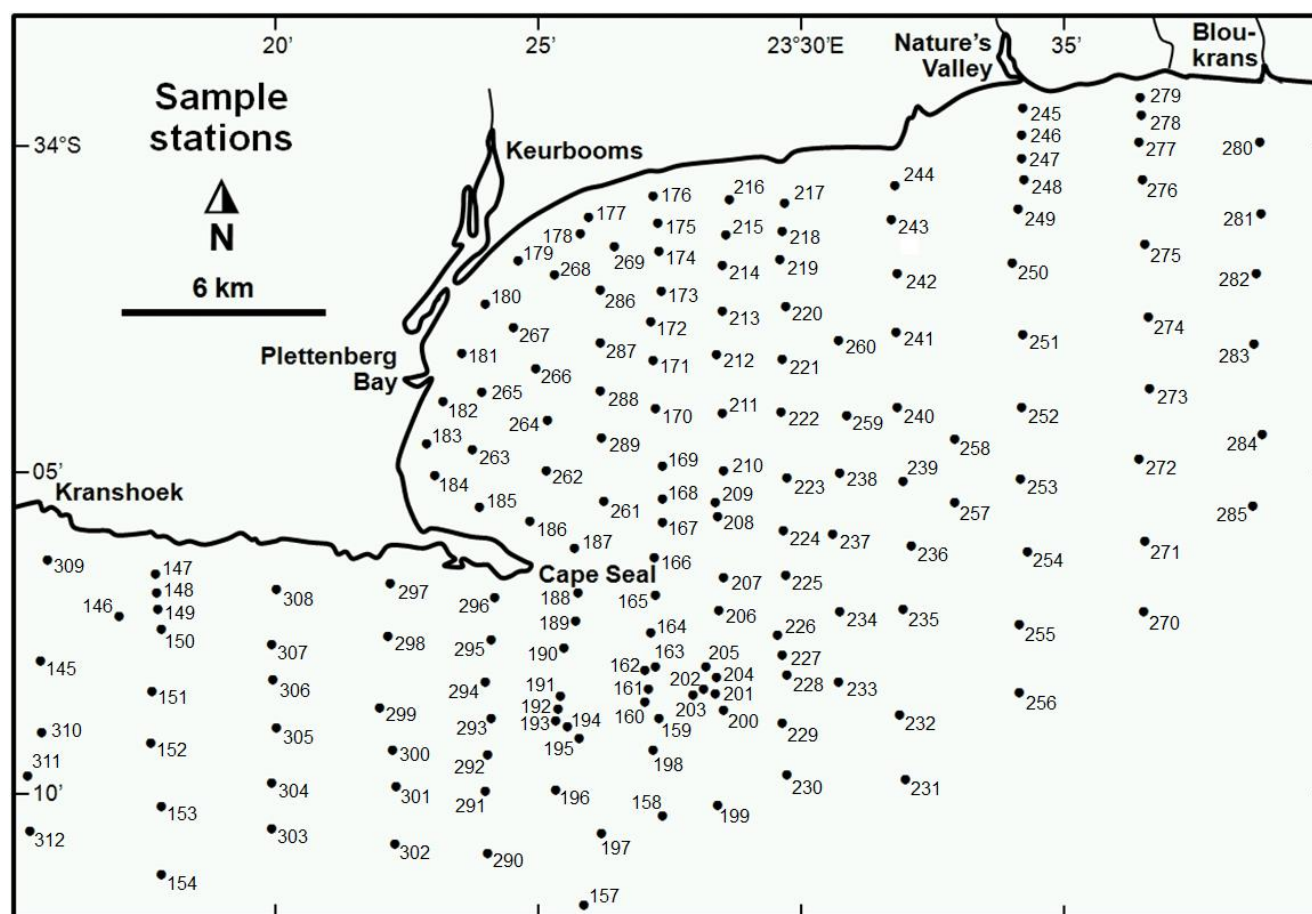


**Sedimentology of a coastal shelf sector characterized by multiple bedload boundaries:
Plettenberg Bay, inner Agulhas Bank, South Africa**

Burg Flemming & Keith Martin

Electronic Supplementary Material

Fig. S1 Study area with sample locations and sample numbers for orientation



ESM Table S1°Meiring Naude – Cruise 82/04 (Agulhas Bank: Sediment sampling stations, water depths, positions, mean diameters, sand fractions at phi intervals (weight% of total sand fraction), gravel, sand and mud contents (weight% of total sediment) sorted by sediment compartment (A, B, C and D) (blank cells: no sample; minus sign: - : no sample or no data)

Sediment Compartment A:

Sample Nr.	Depth (m)	Geogr. Coordinates		Mean (phi)	Sand (weight%)	Gravel (weight%)	V. C. Sand (weight%)	C. Sand (weight%)	M. Sand (weight%)	Fine Sand (weight%)	V. F. Sand (weight%)	Mud (weight%)
		Lat. S	Lon. E									
145	69	34°07.9'	23°15.5'	57.04	0.08	3.00	0	0.41	2.58	48.47	48.54	42.88
146	61	34°07.2'	23°17.1'	89.8	0.4	2.32	0	0.11	14.4	80.7	4.8	9.8
147	35	34°06.6'	23°17.7'	99.4	0.03	2.42	0	0.11	4.46	92.53	2.90	0.57
148	47	34°06.9'	23°17.8'	90.52	0.22	2.29	0	0.95	15.12	80.76	3.17	1.26
149	56	34°07.2'	23°17.8'	97.49	0.02	2.34	0	0.16	10.55	85.28	4.01	2.49
150	61	34°07.4'	23°17.9'	76.37	0.05	2.35	0	1.32	34.03	50.46	14.19	23.58
151	69	34°08.4'	23°17.7'	66.38	0.13	2.98	0	0.19	2.27	56.49	41.05	33.49
152	80	34°09.2'	23°17.7'	66.95	0.22	2.87	0	0.07	1.41	69.56	28.96	32.83
153	87	34°10.2'	23°17.8'	-	-	2.13	0	0.51	32.53	63.79	3.17	-
159	90	34°08.8'	23°27.3'	75.47	0.08	2.71	0	0.01	2.88	78.44	18.67	24.45
160	61	34°08.6'	23°27.0'	98.54	1.41	1.76	0	4.21	70.72	25.07	0	0.05
161	50	34°08.3'	23°27.1'	99.78	0.22	1.90	0	2.33	61.96	35.19	0.52	0
162	47	34°08.1'	23°27.0'	99.85	0.15	1.76	0	2.33	76.29	21.38	0	0
163	47	34°08.0'	23°27.2'	99.58	0.42	1.95	0	1.77	56.58	41.44	0.21	0
164	41	34°07.5'	23°27.1'	99.7	0.3	1.76	0	3.55	73.29	23.16	0	0
165	37	34°06.9'	23°27.2'	99.98	0.02	2.03	0	0	46.47	53.53	0	0
166	36	34°06.3'	23°27.2'	99.66	0.34	1.64	0	4.73	76.07	19.2	0	0
167	42	34°05.8'	23°27.4'	99.52	0.48	1.72	0	3.56	70.97	24.78	0.69	0
168	51	34°05.4'	23°27.4'	99.5	0.07	2.07	0	0	40.24	57.16	2.6	0.43
169	54	34°04.9'	23°27.4'	99.05	0	2.52	0	0.32	7.28	88.01	9.39	0.95
184	14	34°05.1'	23°23.1'	99.97	0.03	1.96	0	0.48	55.23	44.29	0	0
185	11	34°05.6'	23°23.9'	99.96	0.04	2.02	0	0	46.77	52.73	0.5	0
186	11	34°05.8'	23°24.8'	99.98	0.02	2.05	0	0	42.75	57.25	0	0
187	24	34°06.2'	23°25.7'	99.95	0.05	1.99	0	0	53.56	46.43	0.01	0
188	36	34°06.9'	23°25.8'	99.95	0.05	1.98	0	0.4	55.06	44.54	0	0
189	41	34°07.3'	23°25.7'	99.95	0.05	2.03	0	0	42.92	56.25	0.83	0
190	46	34°07.7'	23°25.6'	99.92	0.03	2.01	0	0.03	51.35	46.63	1.99	0.05
191	60	34°08.5'	23°25.4'	99.81	0.08	1.74	0	1.48	76.21	21.69	0.62	0.11

192	65	34°08.7'	23°25.4'	99.26	0.22	1.51	0.11	5.48	78.64	14.5	1.27	0.52
193	71	34°08.8'	23°25.3'	94.71	0.38	2.05	0	2.52	31.4	62.26	3.82	4.91
194	78	34°08.9'	23°25.6'	59.4	0.21	2.47	0	0.3	13.49	74.33	11.87	40.39
195	89	34°09.1'	23°25.8'	68.79	0.03	2.52	0	0.29	4.71	82.3	12.7	31.18
200	88	34°08.7'	23°28.6'	48.63	0.49	2.64	0	4.43	8.89	61.86	24.82	50.88
201	82	34°08.4'	23°28.4'	59.85	0.19	2.47	0	0.06	9.32	77.78	12.84	39.96
202	74	34°08.4'	23°28.2'	93.35	0.04	2.10	0	0	34.91	62.64	2.45	6.61
203	78	34°08.5'	23°27.9'	84.62	4.74	1.83	0	14.14	38.81	42.04	5.01	10.64
204	58	34°08.2'	23°28.4'	99.96	0.04	2.00	0	0	52.2	47.4	0.4	0
205	48	34°08.0'	23°28.2'	99.7	0.3	1.87	0	1.22	68.02	30.41	0.35	0
206	42	34°02.2'	23°28.4'	99.95	0.05	1.98	0	0.47	60.0	38.91	0.62	0
207	39	34°06.7'	23°28.6'	99.99	0.01	2.13	0	0.09	30.97	68.79	0.15	0
208	47	34°05.7'	23°28.4'	99.97	0.3	2.10	0	0	35.02	64.06	0.92	0
209	52	34°05.5'	23°28.3'	99.64	0.03	2.23	0	0	19.24	78.45	2.31	0.33
210	58	34°05.0'	23°28.6'	98.96	0.03	2.45	0	0	6.85	88.87	4.28	1.01
211	57	34°04.1'	23°28.5'	62.85	0.14	2.73	0	0	3.28	78.19	18.53	37.01
222	62	34°04.1'	23°29.6'	93.09	0.08	2.71	0	0	0.53	81.42	18.05	6.83
223	60	34°05.2'	23°29.7'	98.73	0.09	2.49	0	0	5.97	88.34	5.69	1.18
224	45	34°05.9'	23°29.6'	99.99	0.01	2.15	0	0	27.48	72.19	0.33	0
225	37	34°06.6'	23°29.7'	99.57	0.43	1.91	0.11	1.92	89.2	37.85	0.92	0
226	64	34°07.6'	23°29.4'	96.50	0.11	2.17	0	0.02	30.17	66.14	3.66	3.39
227	79	34°07.9'	23°29.6'	56.59	0.67	2.51	0	0	4.68	83.11	12.21	42.74
228	88	34°06.8'	23°29.6'	52.13	0.29	2.68	0	0.55	4.57	76.53	18.34	47.58
236	72	34°06.1'	23°32.0'	93.03	0.09	2.57	0	0	1.26	85.01	13.73	6.88
237	62	34°06.0'	23°30.6'	97.24	0.16	2.42	0	0.17	3.73	91.69	4.41	2.6
239	69	34°05.1'	23°31.9'	90.85	0.04	2.65	0	0	0.86	84.85	14.29	9.11
240	68	34°03.9'	23°31.7'	85.15	0.24	2.85	0	0	0.8	70.96	28.25	14.61
253	76	34°05.1'	23°34.2'	88.89	0	3.01	0	0.15	2.56	57.54	39.75	11.11
254	80	34°06.2'	23°34.3'	94.57	0	3.03	0	0.19	2.59	54.78	42.44	5.43
255	86	34°07.4'	23°34.2'	86.34	0	3.36	0	0	0.44	28.61	70.95	13.66
257	73	34°05.5'	23°32.9'	90.99	0.05	2.95	0	0	0.33	63.86	35.79	8.96
258	71	34°04.5'	23°32.9'	87.56	0.03	2.96	0	0.26	0.7	65.88	33.16	12.41
259	65	34°04.1'	23°30.8'	93.95	0	2.82	0	0	0.84	73.63	25.53	6.05
261	40	34°05.5	23°26.3'	99.72	0.16	1.94	0	1.0	59.01	39.54	0.45	0.12
262	31	34°05.0'	23°25.1'	99.5	0.5	1.99	0	1.63	49.57	48.43	0.37	0
263	33	34°04.7	23°24.8'	99.34	0.04	2.08	0	0	37.3	61.98	0.72	0.62
292	86	34°09.5'	23°24.0'	61.9	0.16	2.74	0	0	1.46	77.19	21.35	37.94

293	64	34°08.9'	23°24.1'	95.86	0.04	2.50	0	0	1.3	91.61	7.09	4.1
294	63	34°08.3'	23°24.0'	94.19	0.04	2.62	0	0	0.54	88.52	10.94	5.77
295	50	34°07.7'	23°24.1'	99.64	0.19	1.70	0	2.31	77.82	17.86	2.01	0.17
296	35	34°07.0'	23°24.1'	99.82	0.03	2.24	0.19	0.29	16.24	81.68	1.59	0.15
297	34	34°06.7'	23°22.2'	99.97	0.03	2.49	0	0	3.29	92.64	4.07	0
298	61	34°07.6'	23°22.2'	70.98	0.1	2.69	0	0	1.1	84.05	14.84	28.92
299	67	34°08.7'	23°22.0'	90.81	0.02	2.81	0	0	0.9	75.03	24.07	9.17
300	71	34°09.3'	23°22.2'	92.61	0.06	2.75	0	0	1.77	77.88	20.36	7.33
304	85	34°09.8'	23°19.9'	74.46	0.07	2.84	0	0	2.48	83.2	14.32	25.47
305	69	34°09.0'	23°20.0'	79.99	0.05	2.91	0	0.03	1.58	60.64	37.75	19.96
306	65	34°08.2'	23°20.0'	71.37	0.43	2.98	0	0.16	1.49	56.72	41.63	28.2
307	62	34°07.7'	23°19.9'	60.77	0.12	2.89	0	0	1.25	68.95	29.8	39.11
308	39	34°06.8'	23°20.0'	99.54	0.19	2.42	0	0.35	5.07	91.56	3.02	0.27
309	32	34°06.4'	23°15.7'	-	-	2.32	0	0.35	7.98	88.87	2.79	-
310	80	34°09.1'	23°15.6'	-	-	2.97	0	0	1.63	59.68	38.69	-

Sediment Compartment B:

Sample Nr.	Depth (m)	Geogr. Coordinates		Mean (phi)	Sand (weight%)	Gravel (weight%)	V. C. Sand (weight%)	C. Sand (weight%)	M. Sand (weight&)	Fine Sand (weight%)	V. F. Sand (weight%)	Mud (weight%)
		Lat.	Lon.									
170	51	34°04.0'	23°27.2'	59.38	0.42	3.08	0	0.42	1.37	49.28	48.42	40.2
171	48	34°03.3'	23°27.2'	68.12	2.63	2.66	0.14	3.21	11.93	59.56	25.16	29.25
172	45	34°02.7'	23°27.1'	51.87	1.33	3.08	0.1	0.7	4.9	44.74	49.56	47.1
173	44	34°02.3'	23°27.3'	39.03	0.41	3.32	0	0.52	3.45	27.23	68.8	60.56
174	39	34°01.7'	23°27.3''	94.75	1.21	1.74	0	10.57	62.53	20.88	6.02	4.04
176	21	34°00.8'	23°27.2'	99.95	0.02	2.20	0	0.07	26.98	70.54	2.41	0.03
177	19	34°01.1'	23°25.9'	98.88	0.02	2.34	0.07	0.36	19.59	71.0	8.99	1.1
178	22	34°01.3'	23°25.8'	97.44	0.15	2.31	0	0.77	24.65	64.5	10.08	2.41
179	12	34°01.8'	23°24.6'	98.87	0.04	2.17	0	0.5	42.29	49.39	7.82	1.09
180	10	34°02.4'	23°24.0'	99.91	0.02	1.99	0	0	56.69	40.14	3.17	0.07
181	13	34°03.2'	23°23.6'	86.64	0.03	2.31	0	0	18.73	73.44	7.83	13.33
182	11	34°03.9'	23°23.2'	98.82	0.1	2.05	0.09	1.91	41.31	55.38	1.31	1.08
183	11	34°04.6'	23°22.9'	99.7	0.05	2.01	0	0.59	46.32	52.69	0	0.25
175	30	34°01.2'	23°27.3'	99.28	0.13	2.14	0.09	0.94	39.26	55.18	4.53	0.59
212	54	34°03.2'	23°28.4'	62.02	1.13	3.03	0	0	1.37	54.17	44.46	36.85
213	50	34°02.6'	23°28.5'	57.7	0.23	3.17	0	0	1.75	38.91	59.34	42.07

214	47	34°01.8'	23°28.5'	76.14	0.02	3.23	0	0.12	0.72	28.02	71.14	23.84
215	42	34°01.3'	23°28.6'	97.59	0.15	2.02	0	1.17	50.54	43.59	4.7	2.26
216	33	34°00.8'	23°28.6'	88.94	10.16	2.04	0	2.35	42.61	54.33	0.71	0.9
219	54	34°01.7'	23°29.5'	40.15	0.13	2.95	0	1.68	4.61	50.54	43.16	59.72
220	59	34°02.5'	23°29.6'	71.66	0.28	3.20	0	0	1.42	38.18	60.4	28.06
241	69	34°02.8'	23°31.9'	77.3	0.23	2.99	0	0	0.76	57.81	41.43	22.47
242	67	34°01.9'	23°31.8'	42.19	0.25	3.24	0	0	2.34	39.41	58.24	57.56
251	75	34°02.9'	23°34.2'	98.21	0	2.87	0	4.45	9.74	45.45	40.36	1.79
252	75	34°04.0'	23°34.2'	98.21	0.02	2.84	0.23	0.24	1.38	68.71	29.43	1.87
260	65	34°03.0'	23°30.7'	48.38	0.25	3.06	0	0.42	3.03	51.37	45.18	51.37
264	43	34°04.2'	23°25.1'	57.82	1.24	2.61	0	0.7	12.0	69.62	17.68	40.94
265	29	34°03.8'	23°23.8'	87.04	0.09	2.45	0	0.3	12.29	73.86	13.55	12.87
266	37.5	34°03.4'	23°24.9'	74.98	0.45	2.86	0	0.14	6.7	56.76	36.4	24.57
267	30	34°02.8'	23°24.3'	85.77	0.28	2.81	0	0.33	4.69	63.08	31.9	13.95
268	31	34°02.0	23°25.3'	97.79	0	2.47	0	0.24	21.86	58.29	19.61	2.21
269	35	34°01.6'	23°26.4'	92.09	0.53	2.39	0	0.34	30.12	51.38	18.17	7.38
286	38	34°02.2'	23°26.2'	64.72	1.19	2.81	0	1.34	9.2	52.69	36.77	34.09
287	43	34°03.1'	23°26.2'	42.2	0.41	2.96	0	0	4.46	55.61	39.92	57.39
288	48	34°03.8'	23°26.1'	48.04	0.34	2.99	0	0	3.63	57.4	38.97	51.62
289	51	34°04.4	23°26.2'	51.24	0.23	2.54	0	0	8.37	77.63	14.0	48.53

Sediment Compartment C:

Sample Nr.	Depth (m)	Geogr. Coordinates		Mean (phi)	Sand (weight%)	Gravel (weight%)	V. C. Sand (weight%)	C. Sand (weight%)	M. Sand (weight%)	Fine Sand (weight%)	V. F. Sand (weight%)	Mud (weight%)
		Lat.	Lon.									
217	40	34°00.9'	23°29.6'	77.95	21.8	1.07	3.99	32.42	60.81	2.78	0	0.25
218	51	34°01.2'	23°29.6'	83.58	14.01	0.65	3.46	83.46	12.19	0.89	0	2.41
243	54	34°01.1'	23°31.7'	88.86	10.41	0.72	0.84	89.59	9.33	0.24	0	0.73
244	39	34°00.5'	23°31.8'	40.29	58.63	0.21	25.93	69.22	4.84	0	0	1.08
245	28	33°59.3'	23°34.3'	99.75	0.25	2.10	0.22	0.31	32.1	66.66	0.71	0
246	34	33°59.7'	23°34.2'	97.95	2.05	0.66	8.18	71.17	16.41	3.58	0.66	0
247	45	34°00.2'	23°34.2'	100	0	1.70	0	7.16	63.66	28.5	0.69	0
248	52	34°00.5'	23°34.3'	87.06	9.36	1.72	0	10.62	64.29	19.89	5.2	3.58
249	64	34°01.0'	23°34.2'	94.16	5.84	0.88	19.28	27.15	39.11	10.58	3.88	0
250	71	34°01.8'	23°34.0'	96.05	0.35	2.33	2.9	9.73	25.05	39.45	22.87	3.6
273	81	34°03.7'	23°36.6'	-	-	3.00	-	-	-	-	-	-

274	78	34°02.6'	23°36.6'	-	-	2.34	-	-	-	-	-	-
275	70	34°02.5'	23°36.6'	-	-	2.13	-	-	-	-	-	-
276	56	34°00.5'	23°36.5'	-	-	1.83	-	-	-	-	-	-
282	80	34°01.9'	23°38.6'	-	-	1.81	-	-	-	-	-	-

Sediment Compartment D:

Sample Nr.	Depth (m)	Geogr. Coordinates Lat. Lon.		Mean (phi)	Sand (weight%)	Gravel (weight%)	V. C. Sand (weight%)	C. Sand (weight%)	M. Sand (weight%)	Fine Sand (weight%)	V. F. Sand (weight%)	Mud (weight%)
154	91	34°11.3'	23°17.9'	94.01	0.13	1.80	0	4.32	65.44	27.12	3.12	5.86
155	93	34°12.0'	23°17.8'	98.36	0.04	1.64	0	6.66	74.67	15.78	2.89	1.6
157	95	34°11.8'	23°25.9'	92.59	4.99	1.53	0.39	15.41	68.15	15.69	0.36	2.42
156	94	34°11.9'	23°22.0'	93.88	1.13	1.39	0.18	21.59	65.39	9.47	3.37	4.99
158	93	34°10.3'	23°27.4'	87.17	10.25	1.78	0	10.03	58.77	26.26	4.94	2.58
196	92	34°09.9'	23°25.3'	64.44	19.01	1.64	1.94	21.13	46.29	23.64	7.0	16.55
197	93	34°10.7'	23°26.2'	73.47	22.16	1.76	1.95	9.54	56.68	28.71	3.12	4.37
198	97.5	34°09.3'	23°27.2'	70.33	9.6	2.30	0.59	10.04	21.48	48.22	19.67	20.07
199	92	34°10.2'	23°28.4'	88.53	0.85	1.78	0.1	11.38	55.14	27.04	6.34	10.62
229	92	34°09.0'	23°29.6'	83.97	6.7	2.20	0.38	5.6	30.86	50.74	12.42	9.33
230	96	34°09.7'	23°29.6'	64.84	22.25	1.79	1.02	20.19	39.1	28.4	11.29	12.91
231	94	34°09.8'	23°31.9'	81.8	10.65	1.90	0.41	15.02	38.88	35.96	9.73	7.55
232	91	34°08.9'	23°31.9'	83.07	0.51	2.81	0	1.89	13.47	51.31	33.33	16.42
256	91	34°08.5'	23°34.2'	91.17	0	3.05	0	1.16	9.74	40.44	48.66	8.83
270	87	34°07.2'	23°36.5'	-	-	3.04	-	-	-	-	-	-
271	84	34°06.0'	23°36.6'	-	-	3.08	-	-	-	-	-	-
272	82	34°04.8'	23°36.4'	-	-	3.08	-	-	-	-	-	-
285	88	34°05.5'	23°38.5'	-	-	2.84	-	-	-	-	-	-
290	99	34°11.0'	23°24.0'	80.55	7.15	1.72	0.67	10.32	61.13	22.26	5.62	12.3
291	96	34°10.1'	23°24.0'	46.79	34.47	2.06	1.34	11.4	38.28	37.46	11.52	18.74
301	88	34°09.9'	23°22.3'	78.21	0.09	2.56	0	0.47	15.64	64.73	19.16	21.7
302	92	34°10.8'	23°22.3'	83.65	1.96	1.51	0.09	15.0	69.67	11.06	4.18	14.39
303	91	34°10.6'	23°19.9'	93.48	0.06	1.70	0	4.51	73.71	19.19	2.59	6.46

ESM Table S2°Meiring Naude – Cruise 82/04: Sediment sampling stations, water depths, positions and textural parameters sorted by sediment compartments A, B, C and D; moment: moment statistic; percent.: percentile statistic (after Folk and Ward 1957)

Sediment Compartment A:

Sample Nr.	Depth (m)	Geogr. Coordinates		Median (phi)	Mean (phi)		Std. Sorting (phi)		Relative Sorting (–)		Skewness (–)		Kurtosis (–)	
		Lat.	Lon.		moment	percent.	moment	percent.	moment	percent.	moment	percent.	moment	percent.
145	69	34°07.9'	23°15.5'	3.00	3.04	3.06	0.48	0.39	2.22	1.80	-0.39	+0.22	7.12	1.28
146	61	34°07.2'	23°17.1'	2.31	2.32	2.32	0.45	0.38	2.15	1.58	+0.23	+0.05	4.93	1.39
147	35	34°06.6'	23°17.7'	2.41	2.42	2.42	0.27	0.24	1.01	1.33	-0.16	+0.08	6.16	1.21
148	47	34°06.9'	23°17.8'	2.29	2.27	2.29	0.40	0.35	2.15	1.89	-0.41	-0.07	5.70	1.46
149	56	34°07.2'	23°17.8'	2.32	2.35	2.34	0.36	0.31	1.99	1.70	+0.76	+0.11	6.57	1.18
150	61	34°07.4'	23°17.9'	2.44	2.35	2.35	0.67	0.66	3.69	3.63	+0.09	-0.12	2.68	0.89
151	69	34°08.4'	23°17.7'	2.93	2.98	2.98	0.47	0.41	2.24	1.96	+0.05	+0.22	5.11	1.08
152	80	34°09.2'	23°17.7'	2.79	2.89	2.87	0.48	0.42	2.41	2.13	+0.91	+0.34	5.44	1.16
153	87	34°10.2'	23°17.8'	2.13	2.11	2.13	0.41	0.38	2.08	1.80	+0.20	-0.08	4.67	1.44
159	90	34°08.8'	23°27.3'	2.61	2.73	2.71	0.49	0.44	2.61	2.38	+1.22	+0.39	5.00	1.33
160	61	34°08.6'	23°27.0'	1.76	1.75	1.76	0.39	0.38	1.59	1.54	-0.38	-0.03	3.63	1.12
161	50	34°08.3'	23°27.1'	1.90	1.89	1.90	0.35	0.31	1.54	1.40	-0.35	-0.02	4.96	1.23
162	47	34°08.1'	23°27.0'	1.77	1.76	1.76	0.34	0.32	1.36	1.31	-0.15	-0.05	3.67	1.08
163	47	34°08.0'	23°27.2'	1.95	1.94	1.95	0.33	0.30	1.45	1.36	-0.45	+0.01	4.84	1.19
164	41	34°07.5'	23°27.1'	1.76	1.75	1.76	0.36	0.35	1.48	1.48	-0.28	-0.03	3.39	1.19
165	37	34°06.9'	23°27.2'	2.02	2.02	2.03	0.28	0.27	1.33	1.31	-0.13	-0.01	3.34	1.10
166	36	34°06.3'	23°27.2'	1.61	1.64	1.64	0.40	0.35	1.50	1.48	+0.01	+0.11	3.10	0.99
167	42	34°05.8'	23°27.4'	1.71	1.73	1.72	0.44	0.44	1.76	1.73	+0.37	+0.06	3.32	0.99
168	51	34°05.4'	23°27.4'	2.08	2.06	2.07	0.39	0.37	1.95	1.81	+0.34	-0.02	4.23	1.20
169	54	34°04.9'	23°27.4'	2.50	2.52	2.52	0.44	0.38	2.45	2.12	+0.44	+0.10	5.91	1.46
184	14	34°05.1'	23°23.1'	1.97	1.95	1.96	0.29	0.23	1.34	1.27	-0.47	-0.08	4.07	1.20
185	11	34°05.6'	23°23.9'	2.02	2.02	2.02	0.28	0.27	1.36	1.28	+0.30	+0.00	4.53	1.13
186	11	34°05.8'	23°24.8'	2.04	2.04	2.05	0.26	0.26	1.27	1.25	-0.20	-0.02	3.19	1.08
187	24	34°06.2'	23°25.7'	1.98	1.99	1.99	0.29	0.29	1.36	1.35	+0.10	+0.05	3.20	1.07
188	36	34°06.9'	23°25.8'	1.96	1.97	1.98	0.38	0.28	1.28	1.32	-0.18	+0.06	3.97	1.10
189	41	34°07.3'	23°25.7'	2.04	2.04	2.03	0.29	0.27	1.43	1.32	+0.48	-0.03	4.86	1.19
190	46	34°07.7'	23°25.6'	1.99	2.02	2.01	0.38	0.33	1.81	1.59	+1.03	+0.07	6.69	1.18
191	60	34°08.5'	23°25.4'	1.63	1.73	1.74	0.42	0.42	1.68	1.69	+0.91	+0.35	3.75	1.27
192	65	34°08.7'	23°25.4'	1.39	1.52	1.51	0.47	0.43	1.65	1.48	+1.28	+0.44	5.65	1.23

193	71	34°08.8'	23°25.3'	2.18	2.11	2.05	0.61	0.57	3.07	2.78	+0.43	-0.23	4.51	1.03
194	78	34°08.9'	23°25.6'	2.42	2.49	2.47	0.62	0.55	3.80	3.87	+0.93	+0.17	5.31	1.85
195	89	34°09.1'	23°25.8'	2.43	2.54	2.52	0.49	0.41	2.75	2.31	+0.95	+0.42	5.65	1.59
200	88	34°08.7'	23°28.6'	2.52	2.56	2.64	0.73	0.71	4.10	3.83	-0.36	+0.11	3.56	1.35
201	82	34°08.4'	23°28.4'	2.37	2.49	2.47	0.53	0.47	2.95	2.62	+1.04	+0.37	4.80	1.43
202	74	34°08.4'	23°28.2'	2.09	2.12	2.10	0.33	0.27	1.64	1.37	+1.21	+0.11	7.48	1.23
203	78	34°08.5'	23°27.9'	1.96	1.88	1.83	0.70	0.71	3.88	3.08	-0.06	-0.21	3.16	1.20
204	58	34°08.2'	23°28.4'	1.99	2.00	2.00	0.27	0.24	1.28	1.17	+0.34	+0.07	5.93	1.19
205	48	34°08.0'	23°28.2'	1.88	1.86	1.87	0.32	0.29	1.36	1.27	-0.10	-0.08	5.06	1.24
206	42	34°02.2'	23°28.4'	1.94	1.98	1.98	0.31	0.28	1.40	1.27	+0.28	+0.01	5.37	1.19
207	39	34°06.7'	23°28.6'	2.11	2.12	2.13	0.28	0.28	1.41	1.33	-0.07	+0.06	4.12	1.13
208	47	34°05.7'	23°28.4'	2.09	2.10	2.10	0.33	0.30	1.67	1.51	+0.63	+0.02	6.62	1.29
209	52	34°05.5'	23°28.3'	2.22	2.23	2.23	0.34	0.31	1.79	1.63	+0.05	+0.05	5.08	1.23
210	58	34°05.0'	23°28.6'	2.44	2.45	2.45	0.32	0.30	1.78	1.67	+0.06	+0.04	4.13	1.15
211	57	34°04.1'	23°28.5'	2.66	2.74	2.73	0.43	0.38	2.31	2.04	+0.80	+0.35	4.89	1.43
222	62	34°04.1'	23°29.6'	2.64	2.74	2.71	0.39	0.36	2.07	1.91	+1.28	+0.39	4.93	1.28
223	60	34°05.2'	23°29.7'	2.47	2.48	2.49	0.32	0.30	1.78	1.69	-0.09	+0.05	4.04	1.25
224	45	34°05.9'	23°29.6'	2.14	2.15	2.15	0.27	0.26	1.40	1.33	+0.12	+0.05	3.63	1.11
225	37	34°06.6'	23°29.7'	1.89	1.89	1.91	0.48	0.35	2.14	1.56	-3.54	+0.04	39.29	0.95
226	64	34°07.6'	23°29.4'	2.14	2.18	2.17	0.39	0.33	2.01	1.73	+0.94	+0.16	5.92	1.20
227	79	34°07.9'	23°29.6'	2.45	2.54	2.51	0.44	0.40	2.46	2.27	+1.12	+0.32	4.74	1.32
228	88	34°06.8'	23°29.6'	2.59	2.67	2.68	0.54	0.46	2.95	2.52	+0.27	+0.32	5.42	1.40
236	72	34°06.1'	23°32.0'	2.49	2.60	2.57	0.44	0.40	2.44	2.23	+1.36	+0.42	5.29	1.30
237	62	34°06.0'	23°30.6'	2.40	2.45	2.42	0.36	0.26	2.03	1.54	+1.65	+0.19	10.00	1.23
239	69	34°05.1'	23°31.9'	2.60	2.68	2.65	0.40	0.36	2.19	1.96	+1.43	+0.34	5.84	1.37
240	68	34°03.9'	23°31.7'	2.77	2.86	2.85	0.43	0.41	2.19	2.10	+0.74	+0.35	3.94	1.14
253	76	34°05.1'	23°34.2'	2.91	3.01	3.01	0.55	0.52	2.61	2.45	+0.37	+0.31	3.81	1.05
254	80	34°06.2'	23°34.3'	2.94	3.02	3.03	0.55	0.53	2.59	2.47	+0.21	+0.25	3.47	1.00
255	86	34°07.4'	23°34.2'	3.26	3.35	3.36	0.55	0.54	2.04	2.00	+0.46	+0.25	3.18	1.07
257	73	34°05.5'	23°32.9'	2.85	2.97	2.95	0.49	0.48	2.39	2.35	+0.91	+0.34	3.50	1.04
258	71	34°04.5'	23°32.9'	2.83	2.96	2.96	0.53	0.51	2.59	2.49	+0.58	+0.39	3.95	1.11
259	65	34°04.1'	23°30.8'	2.74	2.84	2.82	0.46	0.43	2.35	2.23	+0.99	+0.36	4.24	1.20
261	40	34°05.5'	23°26.3'	1.92	1.93	1.94	0.36	0.34	1.63	1.55	-0.12	+0.03	4.15	1.15
262	31	34°05.0'	23°25.1'	1.99	1.98	1.99	0.36	0.33	1.67	1.57	-0.38	-0.03	4.33	1.25
263	33	34°04.7'	23°24.8'	2.09	2.09	2.08	0.33	0.32	1.63	1.59	+0.12	-0.05	3.66	1.14
292	86	34°09.5'	23°24.0'	2.59	2.78	2.74	0.61	0.54	3.21	2.90	+1.49	+0.49	5.28	1.24
293	64	34°08.9'	23°24.1'	2.46	2.53	2.50	0.35	0.29	1.94	1.61	+1.91	+0.29	5.75	1.28

294	63	34°08.3'	23°24.0'	2.57	2.67	2.62	0.41	0.33	2.24	1.82	+2.12	+0.36	8.89	1.43
295	50	34°07.7'	23°24.1'	1.66	1.73	1.70	0.44	0.39	1.74	1.55	+1.09	+0.22	5.48	1.38
296	35	34°07.0'	23°24.1'	2.24	2.23	2.24	0.37	0.31	1.95	1.64	-0.86	-0.04	11.15	1.34
297	34	34°06.7'	23°22.2'	2.48	2.49	2.49	0.28	0.25	1.58	1.43	+0.07	+0.10	5.57	1.15
298	61	34°07.6'	23°22.2'	2.65	2.74	2.69	0.42	0.33	2.26	1.92	+1.66	+0.35	7.15	1.49
299	67	34°08.7'	23°22.0'	2.73	2.82	2.81	0.43	0.38	2.21	2.00	+1.06	+0.35	5.36	1.23
300	71	34°09.3'	23°22.2'	2.69	2.76	2.75	0.40	0.35	2.14	1.09	+0.54	+0.31	5.57	1.30
304	85	34°09.8'	23°19.9'	2.60	2.85	2.84	0.70	0.64	3.56	3.31	+1.40	+0.61	4.24	1.64
305	69	34°09.0'	23°20.0'	2.86	2.91	2.91	0.42	0.39	2.08	1.95	+0.15	+0.23	4.03	1.01
306	65	34°08.2'	23°20.0'	2.92	2.98	2.98	0.45	0.40	2.15	1.94	+0.02	+0.23	5.07	1.15
307	62	34°07.7'	23°19.9'	2.82	2.92	2.89	0.48	0.41	2.36	2.06	+1.11	+0.34	5.54	1.35
308	39	34°06.8'	23°20.0'	2.40	2.41	2.42	0.32	0.27	1.77	1.53	-0.58	+0.07	7.16	1.14
309	32	34°06.4'	23°15.7'	2.31	2.32	2.32	0.31	0.27	1.69	1.49	-0.35	+0.09	7.17	1.12
310	80	34°09.1'	23°15.6'	2.92	3.00	2.97	0.50	0.43	2.39	2.07	+1.02	+0.29	5.77	1.40

Sediment Compartment B:

Sample Nr.	Depth (m)	Geogr. Coordinates		Median (phi)	Mean (phi)		Std. Sorting (phi)		Relative Sorting (-)		Skewness (-)		Kurtosis (-)	
		Lat.	Lon.		moment	percent.	moment	percent.	moment	percent.	moment	percent.	moment	percent.
170	51	34°04.0'	23°27.2'	3.01	3.08	3.08	0.56	0.59	2.46	2.27	-0.06	+0.20	4.60	1.00
171	48	34°03.3'	23°27.2'	2.60	2.63	2.66	0.74	0.71	4.07	3.87	-0.31	+0.04	3.78	1.35
172	45	34°02.7'	23°27.1'	3.08	3.04	3.08	0.64	0.59	2.94	2.64	-0.67	+0.04	5.00	1.13
173	44	34°02.3'	23°27.3'	3.28	3.28	3.32	0.60	0.53	2.33	2.01	-0.81	+0.07	5.33	1.10
174	39	34°01.7'	23°27.3''	1.75	1.80	1.74	0.68	0.65	2.83	2.60	+0.91	+0.08	4.80	1.79
175	30	34°01.2'	23°27.3'	2.08	2.14	2.14	0.47	0.42	2.38	2.16	+0.27	+0.20	5.01	1.21
176	21	34°00.8'	23°27.2'	2.18	2.19	2.20	0.37	0.36	1.94	1.87	+0.08	+0.03	3.76	1.17
177	19	34°01.1'	23°25.9'	2.26	2.35	2.34	0.51	0.45	2.79	2.47	+0.75	+0.27	5.43	1.20
178	22	34°01.3'	23°25.8'	2.21	2.32	2.31	0.57	0.51	3.14	2.76	+0.85	+0.31	5.25	1.38
179	12	34°01.8'	23°24.6'	2.07	2.19	2.17	0.56	0.51	2.91	2.63	+1.04	+0.33	4.96	1.28
180	10	34°02.4'	23°24.0'	1.95	2.01	1.99	0.40	0.37	1.93	1.73	+1.14	+0.21	5.42	1.27
181	13	34°03.2'	23°23.6'	2.27	2.34	2.31	0.44	0.40	2.38	2.17	+1.00	+0.23	4.70	1.23
182	11	34°03.9'	23°23.2'	2.06	2.04	2.05	0.44	0.41	2.12	1.98	-0.39	-0.07	4.67	1.12
183	11	34°04.6'	23°22.9'	2.02	2.01	2.01	0.31	0.30	1.51	1.44	-0.29	-0.03	3.94	1.18
212	53	34°03.2'	23°28.4'	2.97	3.03	3.03	0.46	0.43	2.12	1.99	+0.43	+0.24	3.94	1.11
213	50	34°02.6'	23°28.5'	3.13	3.16	3.17	0.49	0.43	2.08	1.93	+0.06	+0.15	4.08	1.08

214	47	34°01.8'	23°28.5'	3.20	3.23	3.23	0.43	0.38	1.73	1.55	-0.18	+0.14	6.06	1.09
215	42	34°01.3'	23°28.6'	1.98	2.05	2.02	0.52	0.47	2.55	2.28	+0.92	+0.17	4.85	1.19
216	33	34°00.8'	23°28.6'	2.04	2.02	2.04	0.38	0.35	1.65	1.68	-0.66	-0.03	5.25	1.30
219	54	34°01.7'	23°29.5'	2.91	2.91	2.95	0.63	0.58	3.15	2.84	-0.68	+0.04	4.43	1.05
220	59	34°02.5'	23°29.6'	3.16	3.19	3.20	0.49	0.47	2.05	1.97	+0.11	+0.15	3.25	0.99
241	69	34°02.8'	23°31.9'	2.92	3.00	2.99	0.43	0.41	2.05	1.98	+0.32	+0.27	4.07	1.00
242	67	34°01.9'	23°31.8'	3.16	3.22	3.24	0.57	0.56	2.35	2.28	-0.03	+0.13	3.02	1.07
251	75	34°02.9'	23°34.2'	2.89	2.79	2.87	0.76	0.72	4.01	3.64	-1.07	-0.18	4.08	1.62
252	75	34°04.0'	23°34.2'	2.78	2.84	2.84	0.49	0.43	2.51	2.19	-0.61	+0.27	10.23	1.11
260	65	34°03.0'	23°30.7'	2.98	3.05	3.06	0.57	0.51	2.60	2.32	-0.08	+0.25	4.39	1.02
264	43	34°04.2'	23°25.1'	2.57	2.62	2.61	0.62	0.59	3.45	3.26	+0.37	+0.11	4.21	1.55
265	29	34°03.8'	23°23.8'	2.39	2.45	2.45	0.51	0.48	2.82	2.71	+0.37	+0.20	3.82	1.38
266	37.5	34°03.4'	23°24.9'	2.77	2.85	2.86	0.64	0.62	3.27	3.16	+0.04	+0.18	2.94	0.97
267	30	34°02.8'	23°24.3'	2.73	2.81	2.81	0.58	0.55	3.03	2.86	+0.25	+0.22	3.46	0.99
268	31	34°02.0	23°25.3'	2.32	2.48	2.47	0.64	0.63	3.60	3.53	+0.69	+0.34	3.14	1.00
269	35	34°01.6'	23°26.4'	2.36	2.42	2.39	0.68	0.69	3.78	3.81	+0.38	+0.11	2.68	0.96
286	38	34°02.2'	23°26.2'	2.80	2.77	2.81	0.66	0.66	3.53	3.44	-0.57	-0.07	3.58	1.19
287	43	34°03.1'	23°26.2'	2.90	2.95	2.96	0.56	0.54	2.71	2.63	+0.09	+0.15	3.44	1.20
288	48	34°03.8'	23°26.1'	2.87	2.98	2.99	0.58	0.56	2.77	2.67	+0.31	+0.27	3.18	1.00
289	51	34°04.4	23°26.2'	2.50	2.56	2.54	0.48	0.45	2.68	2.54	+0.72	+0.17	4.23	1.36

Sediment Compartment C:

Sample Nr.	Depth (m)	Geogr. Coordinates		Median (phi)	Mean (phi)		Std. Sorting (phi)		Relative Sorting (-)		Skewness (-)		Kurtosis (-)	
		Lat.	Lon.		moment	percent.	moment	percent.	moment	percent.	moment	percent.	moment	percent.
217	40	34°00.9'	23°29.6'	1.19	1.08	1.07	0.54	0.53	1.42	1.39	-0.37	-0.31	3.11	1.03
218	51	34°01.2'	23°29.6'	0.66	0.67	0.65	0.38	0.34	0.78	0.68	+1.03	-0.02	6.58	1.17
243	54	34°01.1'	23°31.7'	0.73	0.72	0.72	0.27	0.24	0.56	0.51	+0.32	-0.11	6.37	1.13
244	39	34°00.5'	23°31.8'	0.22	0.22	0.21	0.45	0.39	0.71	0.60	-0.31	+0.03	8.71	1.27
245	28	33°59.3'	23°34.3'	2.09	2.10	2.10	0.32	0.24	1.58	1.19	-2.30	+0.12	27.32	1.19
246	34	33°59.7'	23°34.2'	0.63	0.67	0.66	0.68	0.55	1.38	1.13	+0.36	+0.12	5.87	1.66
247	45	34°00.2'	23°34.2'	1.69	1.70	1.70	0.49	0.49	1.93	1.91	+0.19	+0.01	2.90	0.87
248	52	34°00.5'	23°34.3'	1.60	1.71	1.72	0.69	0.66	2.71	2.61	+0.61	+0.23	4.06	1.54
249	64	34°01.0'	23°34.2'	1.01	0.90	0.88	1.09	1.13	2.57	2.62	-0.03	-0.13	2.67	1.04
250	71	34°01.8'	23°34.0'	2.48	2.28	2.33	1.07	1.07	5.77	5.84	-0.51	-0.19	2.98	0.93

251	75	34°02.9'	23°34.2'	2.89	2.79	2.87	0.76	0.72	4.01	3.64	-1.07	-0.18	4.08	1.62
273	81	34°03.7'	23°36.6'	2.94	2.98	3.00	0.50	0.43	2.42	2.06	-0.65	+0.19	5.49	1.04
274	78	34°02.6'	23°36.6'	2.26	2.34	2.34	0.75	0.77	4.08	4.22	+0.33	+0.16	2.47	0.93
275	70	34°02.5'	23°36.6'	2.11	2.14	2.13	0.68	0.68	3.46	3.45	+0.24	+0.05	2.72	0.95
276	56	34°00.5'	23°36.5'	1.85	1.85	1.83	0.75	0.69	3.20	2.94	+0.20	-0.01	3.62	1.02
282	80	34°01.9'	23°38.6'	1.75	1.84	1.81	0.67	0.64	2.88	2.68	+0.79	+0.20	4.23	1.37

Sediment Compartment D:

Sample Nr.	Depth (m)	Geogr. Coordinates		Median (phi)	Mean (phi)		Std. Sorting (phi)		Relative Sorting (-)		Skewness (-)		Kurtosis (-)	
		Lat.	Lon.		moment	percent.	moment	percent.	moment	percent.	moment	percent.	moment	percent.
154	91	34°11.3'	23°17.9'	1.80	1.85	1.80	0.56	0.48	2.42	2.51	+1.28	+0.56	6.61	1.28
155	93	34°12.0'	23°17.8'	1.62	1.67	1.64	0.52	0.45	1.98	1.68	+1.25	+0.09	6.41	1.21
156	94	34°11.9'	23°22.0'	1.41	1.45	1.39	0.64	0.58	2.12	1.87	+1.00	+0.06	5.22	1.34
157	95	34°11.8'	23°25.9'	1.58	1.52	1.53	0.54	0.53	1.69	1.85	-0.32	-0.15	3.39	1.19
158	93	34°10.3'	23°27.4'	1.75	1.80	1.78	0.80	0.75	3.42	3.29	+1.30	+0.15	5.10	1.46
196	92	34°09.9'	23°25.3'	1.57	1.66	1.64	0.88	0.80	3.37	3.32	+0.52	+0.16	3.17	1.10
197	93	34°10.7'	23°26.2'	1.82	1.76	1.76	0.69	0.58	2.82	2.36	-0.17	-0.18	5.60	1.41
198	91	34°09.3'	23°27.2'	2.41	2.32	2.30	0.93	0.97	5.05	5.24	-0.26	-0.13	2.74	1.07
199	92	34°10.2'	23°28.4'	1.78	1.82	1.78	0.72	0.70	3.05	2.88	+0.58	+0.07	3.99	1.38
229	92	34°09.0'	23°29.6'	2.15	2.18	2.20	0.72	0.70	3.76	3.71	-0.11	+0.07	3.71	1.41
230	96	34°09.7'	23°29.6'	1.82	1.81	1.79	0.94	0.97	3.93	4.04	+0.20	+0.01	2.61	1.06
231	94	34°09.8'	23°31.9'	1.89	1.93	1.90	0.87	0.88	3.96	3.93	+0.18	+0.05	2.6	0.94
232	91	34°08.9'	23°31.9'	2.85	2.80	2.81	0.76	0.76	3.97	3.97	-0.32	-0.11	3.49	1.63
256	91	34°08.5'	23°34.2'	3.05	3.02	3.05	0.74	0.74	3.48	3.40	-0.54	-0.07	3.51	1.37
270	87	34°07.2'	23°36.5'	2.99	3.05	3.04	0.42	0.36	1.92	1.64	+0.33	+0.26	5.49	1.25
271	84	34°06.0'	23°36.6'	3.02	3.07	3.08	0.46	0.39	2.09	1.77	-0.06	+0.26	5.07	1.03
272	82	34°04.8'	23°36.4'	3.03	3.06	3.08	0.47	0.41	2.13	1.83	-0.47	+0.19	5.76	1.18
285	88	34°05.5'	23°38.5'	2.86	2.80	2.84	0.64	0.62	3.37	3.20	-0.59	-0.13	3.47	1.30
290	99	34°11.0'	23°24.0'	1.74	1.75	1.72	0.70	0.65	2.53	2.58	+0.49	+0.02	4.66	1.66
291	96	34°10.1'	23°24.0'	2.00	2.07	2.06	0.99	0.98	4.65	4.79	+0.34	+0.09	3.52	1.47
301	88	34°09.9'	23°22.3'	2.46	2.55	2.56	0.67	0.65	3.72	3.65	+0.53	+0.21	3.59	1.30
302	92	34°10.8'	23°22.3'	1.50	1.59	1.51	0.73	0.64	2.67	2.23	+1.51	+0.17	6.44	1.73
303	91	34°10.6'	23°19.9'	1.71	1.75	1.70	0.56	0.44	2.27	1.72	+1.81	+0.04	9.07	1.26

ESM Table S3 Procedure for calculating a) the critical orbital velocity for any given grain size (D) as a function of a given deep-water wave period (T); the maximum orbital velocity ($U_{\max}$) for a given wave height, wave period, and water depth as a function of the wavelength (L) at that depth. This is achieved in three steps:

Step 1: The critical orbital velocity (U_{crit}) for any grain size (D) expressed in mm as a function of a given wave period (T) can be determined by application of the following empirical equation (after Flemming 2005; based on Clifton 1976):

$$U_{\text{crit}} = (5.1325 + 27.4576D + 0.2849D^2 + 0.0909T)/(1 + 0.344D + 0.004D^2 - 0.0638T + 0.002T^2) \quad (\text{eq. S1})$$

where U_{crit} is the critical orbital velocity in cm/s, D is the grain size in mm, and T is the wave period in seconds.

Step 2: Knowing the critical threshold velocity for any specified grain size and deep-water wave period, it is now necessary to determine the maximum orbital velocity ($U_{\max}$) for the specified water depth and the wavelength (L) at that water depth. $U_{\max}$ can be determined by means of the following equation:

$$U_{\max} = (\pi H/T) \times (1/\sinh(2\pi d/L)) \quad (\text{eq. S2})$$

where $U_{\max}$ is the orbital velocity (cm/s), H is the wave height (m), $\sinh$ is the hyperbolic sine, d is the specified water depth (m), and L the wavelength (m) for period T at that water depth. However, to solve eq. S2, the wavelength L at the specified water depth must first be determined.

Step 3: The wavelength L at the specified water depth in eq. S2 is determined by solving the following equation:

$$L = 1.56T^2 \times \tanh(2\pi d/L) \quad (\text{eq. S3})$$

where $1.56T^2$ represents the deep-water wavelength (L_0) derived from $L_0 = gT^2/2\pi$ with g as the gravitational acceleration in m/s, $\tanh$ is the hyperbolic tangent, and L is the wavelength (m) at the specified water depth. As L is contained on both sides of the equation, its value has to be calculated by iterative (trial and error) approximation. Once determined, the appropriate wavelength can be entered into eq. S2 to calculate the maximum orbital velocity at the specified water depth.