

			Dissolved O <sub>2</sub> uptake	Upward DIC flux (anaerobic)	Terrestrial OC- derived DIC flux (anaerobic)	Marine OC- derived DIC flux (anaerobic)	Depth-integrated <sup>35</sup> S-SRR (C equivalent)
Outer Laptev Sea	Average	mmol m <sup>-2</sup> d <sup>-1</sup>	4.2	0.16	0.07	0.09	0.09
Outer East Siberian Sea	Average	mmol m <sup>-2</sup> d <sup>-1</sup>	7.2	0.73	0.26	0.47	0.34
Outer Laptev Sea	280 000 km <sup>2</sup>	Tg C yr <sup>-1</sup>	5.2	0.20	0.09	0.11	0.11
Outer East Siberian Sea	340 000 km <sup>2</sup>	Tg C yr <sup>-1</sup>	10.8	1.09	0.39	0.70	0.50
Total outer shelf area	620 000 km <sup>2</sup>	Tg C yr <sup>-1</sup>	15.9	1.28	0.48	0.81	0.62
			<sup>35</sup> S-SRR- based terrestrial C degradation	<sup>35</sup> S-SRR- based marine C degradation	Total TEAP- based anaerobic OC degradation rate	Total TEAP- based anaerobic terrestrial OC degradation rate	Total TEAP- based anaerobic marine OC degradation rate
Outer Laptev Sea	Average	mmol m <sup>-2</sup> d <sup>-1</sup>	0.04	0.05	0.15	0.05	0.10
Outer East Siberian Sea	Average	mmol m <sup>-2</sup> d <sup>-1</sup>	0.13	0.21	0.42	0.16	0.26
Outer Laptev Sea	280 000 km <sup>2</sup>	Tg C yr <sup>-1</sup>	0.05	0.07	0.18	0.06	0.12
Outer East Siberian Sea	340 000 km <sup>2</sup>	Tg C yr <sup>-1</sup>	0.20	0.31	0.62	0.23	0.39
Total outer shelf area	620 000 km <sup>2</sup>	Tg C yr <sup>-1</sup>	0.25	0.37	0.80	0.29	0.51