Supplementary Materials

Significance of anaerobic oxidation of methane (AOM) in mitigating methane emission from major natural and anthropogenic sources: a review of AOM rates in recent publications

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Description of the material:

- 52 pages
- Text on CiteSpace analysis, statistical data analysis, and AOM information for cold seep systems
- Table S1 showing data used for Table 1
- Tables S2-S9 showing the rate information for Figures 3-7

Methods

CiteSpace and the procedure of co-citation analysis

Publications from 2010 until 2021 were screened by using the keywords "Anaerobic methanotroph*" or "anaerobic methane oxidation" or "reverse methanogenesis" or "Nitrite-driven anaerobic methane oxidation" or "Nitrate-driven anaerobic methane oxidation" or "Nitrate-dependent anaerobic methane oxidation" or "Nitrite-dependent anaerobic methane oxidation" from the Web of Science Core Collection. Totally 1384 articles and reviews were returned and the full data of the search results were directly processed and exported for analysis using CiteSpace (5.3.R11) software.

CiteSpace is a Java-based bibliometric software for the visualization and analysis of co-citation networks, with the primary purpose being to facilitate the analysis of the emerging trend in a knowledge domain [1]. It also allows us to investigate the knowledge structure in relevant knowledge fields, and detect correlations in scientific literature.

The selected articles were imported into CiteSpace. The time slice was set to one year. Some of the main settings are g-index 20, Top N = 30, and Top N% 5. For the co-citation network analysis, the "term source" was extracted from the title, abstract, and author keywords. The "term type" was set as "noun phrases". The "node type" was set as "reference" and "keyword". The first set of the "threshold" values was set to "5, 5, 20" (i.e., citation, co-citation, and cosine coefficient value) to reduce the number of nodes and "Pathfinder" was also checked to further simplify the network.

The co-citation network is presented in the form of nodes and lines (Figure 1). The size of nodes reflects the frequency of relevant data references or occurrences, the lines indicate the relationship between the nodes, and the thickness of the lines between nodes reflects the strength of links between data. The quality of the clustering effect was measured using modularity (Q) and average silhouette score (S). Specifically, the Q value represents the degree of modularity; $Q \geq 0.3$ means that the modularization of the network is significant, and a higher Q corresponds to improved clustering. The S value measures the homogeneity of networks; $S \geq 0.5$ means that the result of clustering is reasonable, and a higher S corresponds to the increased homogeneity of the network. The maximum of both values is one. Here, the obtained Q is 0.7417, S is 0.8942, and the harmonic mean is 0.8108. The clusters were named by terms from the titles.

Collection of the AOM rates, data analysis, and more

Most of the AOM rates were directly imported from a reference after the conversion of the unit. Some others were computed by dividing the reported rate of methane oxidation (e.g. μmol CH_4/hour) by the reactive slurry volume or the volume of studied soil/sediment during AOM rate measurement. Due to the various liquid volumes applied during rate measurement, the unit mass (g) is not converted to unit volume (1 cm^3) unless the density is also reported. For DAMO systems, the AOM rates were obtained following the stoichiometric relationships as shown in the main text[2].

Normality was checked with the *DistributionFitTest* function and the Cramér-von Mises test in Wolfram Mathematica 11.3. The null hypotheses that the nitrate-/nitrite-AOM rates and the K values of either freshwater or marine environment are distributed according to the normal distribution were rejected ($p<0.01$, alpha = 0.05). Then, the homogeneity of variance of the two groups of rates was checked with *VarianceEquivalenceTest* function, and returned a p-value of 0.06. Hence, the null hypothesis that the populations have equal variances is not rejected at the 5 percent level based on the Conover test. So, Mann-Whitney U-test was applied in the comparison of these independent rates of nitrate-DAMO and nitrite-DAMO. Following these same analyses, Mann-Whitney U-test was also applied for comparing these independent K values of different methanotrophs in the freshwater or marine environment.

Normality of AOM rates grouped by various environments was checked with the *DistributionFitTest* function as well. The AOM rates in freshwaters and wetlands did not pass the normality check, with p-values less than 10^{-8}, while the AOM rate in paddy fields showed a p-value of 0.056. Besides, the homogeneity of variance of AOM rates in freshwaters, wetlands, and paddy fields was checked with *VarianceEquivalenceTest* function, which returned a p-value of 0.00302 (Conover), indicating the three variances are not equal. Therefore, the Mood's median test was selected to compare the medians of AOM rates in these three environments. Besides, the rates of AOM and aerobic methane oxidation in lakes/ponds/reservoirs did not pass the normality check (p-values<0.001) and the homogeneity of variance test (p-values<10^{-8}, Conover) either, and thus the comparison of the rates in anoxic and aerobic conditions was conducted with Mood's median test as well. The Sankey plot (Figure 8) was prepared online (https://sankeymatic.com/).

AOM rates information and capacity estimation in cold seep systems

AOM at simulated ocean bottom pressures with samples collected from various cold seep systems and coastal marine basins showed rates of 0.5-2.8×10^4 nmol CH_4/cm^3/d (n=38, median=141 nmol CH_4/cm^3/d, Q1-Q3: 16-100 nmol CH_4/cm^3/d)[3-11]. If the estimate of global cold seeps coverage (1.98×10^{10} m^2) by Boetius and Wenzhöfer[12] is used and AOM is assumed to occur at a median depth of 20 cm (range 15-30 cm) in seep sediments[13], AOM is capable of oxidizing 3 [Q1-Q3: 0.4-39.6] Tg CH_4/year (Table 1) in cold seep systems.

Table S1. Depth information for methane oxidation capacity potential computation in Table 1 (refer to the main text for some of the references listed in this table). Outliers were removed following a method reported elsewhere[14].

Inner shelf, 0-10 m		
Depth [m]	**SMT [mbsf]**	**Reference**
0.1	4.2	2018 Global diffusive fluxes of methane in marine sediments[15]
0.1	2.8	2018 Global diffusive fluxes of methane in marine sediments
0.3	0.3	2018 Global diffusive fluxes of methane in marine sediments
0.3	0.4	2018 Global diffusive fluxes of methane in marine sediments
0.3	0.4	2018 Global diffusive fluxes of methane in marine sediments
0.4	0.3	2018 Global diffusive fluxes of methane in marine sediments
0.4	0.4	2018 Global diffusive fluxes of methane in marine sediments
0.4	0.5	2018 Global diffusive fluxes of methane in marine sediments
0.5	0.4	2018 Global diffusive fluxes of methane in marine sediments
0.6	0.6	2018 Global diffusive fluxes of methane in marine sediments
1.5	0.2	2018 Global diffusive fluxes of methane in marine sediments
2	0.5	2018 Global diffusive fluxes of methane in marine sediments
2	0.1	2018 Global diffusive fluxes of methane in marine sediments
4	0.2	2018 Global diffusive fluxes of methane in marine sediments
7	0.9	2018 Global diffusive fluxes of methane in marine sediments
7	1.3	2018 Global diffusive fluxes of methane in marine sediments
7	1.3	2018 Global diffusive fluxes of methane in marine sediments
7.8	0.7	2018 Global diffusive fluxes of methane in marine sediments
9	1.1	2018 Global diffusive fluxes of methane in marine sediments
9.4	4.2	2018 Global diffusive fluxes of methane in marine sediments
10	0.04	2018 Global diffusive fluxes of methane in marine sediments
10	0.1	2018 Global diffusive fluxes of methane in marine sediments
10	1.2	2018 Global diffusive fluxes of methane in marine sediments

Inner shelf, 10-50 m		
Depth [m]	**SMT [mbsf]**	**Reference**
25	0.05	2018 Global diffusive fluxes of methane in marine sediments
26	0.05	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
25	0.09	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
33.2	0.1	2018 Global diffusive fluxes of methane in marine sediments
40	0.1	2018 Global diffusive fluxes of methane in marine sediments
45	0.1	2017 Anaerobic Methane-Oxidizing Microbial Community in a Coastal Marine Sediment: Anaerobic Methanotrophy Dominated by ANME-3[16]
18.8	0.2	2018 Global diffusive fluxes of methane in marine sediments
18.8	0.2	2018 Global diffusive fluxes of methane in marine sediments
33.2	0.2	2018 Global diffusive fluxes of methane in marine sediments
37	0.2	2018 Global diffusive fluxes of methane in marine sediments
25	0.29	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
20.8	0.3	2018 Global diffusive fluxes of methane in marine sediments
26	0.3	2018 Global diffusive fluxes of methane in marine sediments
26	0.3	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
26	0.3	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
48	0.3	2018 Global diffusive fluxes of methane in marine sediments
25	0.35	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
17.3	0.4	2018 Global diffusive fluxes of methane in marine sediments
25	0.4	2018 Global diffusive fluxes of methane in marine sediments
26	0.4	2018 Global diffusive fluxes of methane in marine sediments
45	0.4	2018 Global diffusive fluxes of methane in marine sediments
25.1	0.5	2018 Global diffusive fluxes of methane in marine sediments
27.5	0.5	2018 Global diffusive fluxes of methane in marine sediments
30	0.5	2018 Global diffusive fluxes of methane in marine sediments
44	0.5	2018 Global diffusive fluxes of methane in marine sediments
45	0.5	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
17.3	0.6	2018 Global diffusive fluxes of methane in marine sediments
23	0.7	2018 Global diffusive fluxes of methane in marine sediments
36	0.7	2018 Global diffusive fluxes of methane in marine sediments
46	0.7	2018 Global diffusive fluxes of methane in marine sediments
15	0.7	2019 Global diffusive fluxes of methane in marine sediments
23	0.8	2018 Global diffusive fluxes of methane in marine sediments
19	0.9	2018 Global diffusive fluxes of methane in marine sediments
29	1	2018 Global diffusive fluxes of methane in marine sediments
44	1	2018 Global diffusive fluxes of methane in marine sediments
50	1	2018 Global diffusive fluxes of methane in marine sediments
27	1.1	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
40	1.1	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
21	1.2	2018 Global diffusive fluxes of methane in marine sediments
47	1.3	2018 Global diffusive fluxes of methane in marine sediments

22	1.4	2018 Global diffusive fluxes of methane in marine sediments
15	1.5	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
19.5	1.6	2018 Global diffusive fluxes of methane in marine sediments
28	1.6	2018 Global diffusive fluxes of methane in marine sediments
16	1.85	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
15	1.9	2018 Global diffusive fluxes of methane in marine sediments
20	2	2018 Global diffusive fluxes of methane in marine sediments
40	2.1	2018 Global diffusive fluxes of methane in marine sediments
16.1	2.3	2018 Global diffusive fluxes of methane in marine sediments
19.1	2.3	2018 Global diffusive fluxes of methane in marine sediments
19.3	2.4	2018 Global diffusive fluxes of methane in marine sediments
22	2.4	2018 Global diffusive fluxes of methane in marine sediments
19.1	2.5	2018 Global diffusive fluxes of methane in marine sediments
34	2.8	2018 Global diffusive fluxes of methane in marine sediments
19	2.9	2018 Global diffusive fluxes of methane in marine sediments
19.1	3.5	2018 Global diffusive fluxes of methane in marine sediments
19	3.6	2018 Global diffusive fluxes of methane in marine sediments
49	3.7	2018 Global diffusive fluxes of methane in marine sediments
20	3.8	2018 Global diffusive fluxes of methane in marine sediments
18.8	3.9	2018 Global diffusive fluxes of methane in marine sediments
18.8	4	2018 Global diffusive fluxes of methane in marine sediments
18	4.7	2018 Global diffusive fluxes of methane in marine sediments
18.6	4.7	2018 Global diffusive fluxes of methane in marine sediments
28	4.8	2018 Global diffusive fluxes of methane in marine sediments
16.8	5.2	2018 Global diffusive fluxes of methane in marine sediments

Outer shelf, 50-200 m		
Depth [m]	**SMT [mbsf]**	**Reference**
90	0.2	2018 Global diffusive fluxes of methane in marine sediments
65	0.3	2018 Global diffusive fluxes of methane in marine sediments
87	0.3	2018 Global diffusive fluxes of methane in marine sediments
74	0.4	2018 Global diffusive fluxes of methane in marine sediments
93	0.4	2018 Global diffusive fluxes of methane in marine sediments
74	0.5	2018 Global diffusive fluxes of methane in marine sediments
96	0.5	2018 Global diffusive fluxes of methane in marine sediments
146.8	0.5	2018 Global diffusive fluxes of methane in marine sediments
120	0.5	2020 Rates and Microbial Players of Iron-Driven Anaerobic Oxidation of Methane in Methanic Marine Sediments
147	0.5	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
72	0.6	2018 Global diffusive fluxes of methane in marine sediments
77	0.7	2018 Global diffusive fluxes of methane in marine sediments
93	0.7	2018 Global diffusive fluxes of methane in marine sediments
120.2	0.7	2018 Global diffusive fluxes of methane in marine sediments
74	0.8	2018 Global diffusive fluxes of methane in marine sediments
74	0.8	2018 Global diffusive fluxes of methane in marine sediments
77	0.8	2018 Global diffusive fluxes of methane in marine sediments

128	0.8	2018 Global diffusive fluxes of methane in marine sediments
52	0.9	2018 Global diffusive fluxes of methane in marine sediments
200	0.9	2018 Global diffusive fluxes of methane in marine sediments
150	0.9	2001 Sulfate reduction and anaerobic methane oxidation in Black Sea sediments
92	1	2018 Global diffusive fluxes of methane in marine sediments
70	1.1	2018 Global diffusive fluxes of methane in marine sediments
75	1.1	2018 Global diffusive fluxes of methane in marine sediments
110	1.1	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
109	1.2	2018 Global diffusive fluxes of methane in marine sediments
86.3	1.4	2018 Global diffusive fluxes of methane in marine sediments
65	1.5	2018 Global diffusive fluxes of methane in marine sediments
100	1.7	2018 Global diffusive fluxes of methane in marine sediments
145	1.7	2018 Global diffusive fluxes of methane in marine sediments
70	1.8	2018 Global diffusive fluxes of methane in marine sediments
130	1.8	2018 Global diffusive fluxes of methane in marine sediments
130	1.8	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
98	2	2018 Global diffusive fluxes of methane in marine sediments
181	2.1	2018 Global diffusive fluxes of methane in marine sediments
181	2.1	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
178	2.2	2018 Global diffusive fluxes of methane in marine sediments
87	2.3	2018 Global diffusive fluxes of methane in marine sediments
81	2.6	2018 Global diffusive fluxes of methane in marine sediments
86	3.1	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
53	3.2	2018 Global diffusive fluxes of methane in marine sediments
73	4	2018 Global diffusive fluxes of methane in marine sediments
126	16.3	2018 Global diffusive fluxes of methane in marine sediments
98	19.9	2018 Global diffusive fluxes of methane in marine sediments
119	28	2018 Global diffusive fluxes of methane in marine sediments
151	29.6	2018 Global diffusive fluxes of methane in marine sediments
152	29.6	2018 Global diffusive fluxes of methane in marine sediments
88	355.8	2018 Global diffusive fluxes of methane in marine sediments

Slope, 200-2000 m		
Depth [m]	**SMT [mbsf]**	**Reference**
790	0.019	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
790	0.025	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
777	0.03	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
775	0.035	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1000	0.035	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
210	0.05	2014 Iron-Mediated Anaerobic Oxidation of Methane in Brackish Coastal Sediments[17]
775	0.05	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective

790	0.05	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1005	0.05	2018 Global diffusive fluxes of methane in marine sediments
214	0.07	2018 Global diffusive fluxes of methane in marine sediments
332	0.08	2018 Global diffusive fluxes of methane in marine sediments
225	0.1	2018 Global diffusive fluxes of methane in marine sediments
900	0.1	2005 Microbial methane turnover in different marine habitats[7]
225	0.12	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
777	0.125	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1720	0.14	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
900	0.15	2005 Microbial methane turnover in different marine habitats
225	0.18	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
204	0.2	2018 Global diffusive fluxes of methane in marine sediments
214	0.2	2018 Global diffusive fluxes of methane in marine sediments
900	0.3	2005 Microbial methane turnover in different marine habitats
1305	0.3	2018 Global diffusive fluxes of methane in marine sediments
900	0.4	2005 Microbial methane turnover in different marine habitats
241	0.5	2018 Global diffusive fluxes of methane in marine sediments
1008	0.5	2018 Global diffusive fluxes of methane in marine sediments
1296	0.5	2018 Global diffusive fluxes of methane in marine sediments
333	0.6	2018 Global diffusive fluxes of methane in marine sediments
1400	0.6	2018 Global diffusive fluxes of methane in marine sediments
1400	0.6	2018 Global diffusive fluxes of methane in marine sediments
308.7	0.7	2018 Global diffusive fluxes of methane in marine sediments
407	0.7	2018 Global diffusive fluxes of methane in marine sediments
397	0.8	2018 Global diffusive fluxes of methane in marine sediments
1210	0.8	2018 Global diffusive fluxes of methane in marine sediments
222	0.9	2018 Global diffusive fluxes of methane in marine sediments
269	0.9	2018 Global diffusive fluxes of methane in marine sediments
386	0.9	2018 Global diffusive fluxes of methane in marine sediments
782	0.9	2018 Global diffusive fluxes of methane in marine sediments
923	0.9	2018 Global diffusive fluxes of methane in marine sediments
265.8	1	2018 Global diffusive fluxes of methane in marine sediments
280	1	2018 Global diffusive fluxes of methane in marine sediments
280	1	2018 Global diffusive fluxes of methane in marine sediments
361	1	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
391.1	1.1	2018 Global diffusive fluxes of methane in marine sediments
542	1.1	2018 Global diffusive fluxes of methane in marine sediments
1018	1.1	2018 Global diffusive fluxes of methane in marine sediments
1205	1.1	2018 Global diffusive fluxes of methane in marine sediments
1307	1.1	2018 Global diffusive fluxes of methane in marine sediments
1450	1.1	2018 Global diffusive fluxes of methane in marine sediments
223	1.2	2018 Global diffusive fluxes of methane in marine sediments
354.2	1.2	2018 Global diffusive fluxes of methane in marine sediments
590	1.2	2018 Global diffusive fluxes of methane in marine sediments

590	1.2	2018 Global diffusive fluxes of methane in marine sediments
659	1.2	2018 Global diffusive fluxes of methane in marine sediments
342	1.3	2018 Global diffusive fluxes of methane in marine sediments
590	1.3	2018 Global diffusive fluxes of methane in marine sediments
590	1.3	2018 Global diffusive fluxes of methane in marine sediments
590	1.3	2018 Global diffusive fluxes of methane in marine sediments
879	1.3	2018 Global diffusive fluxes of methane in marine sediments
902	1.3	2018 Global diffusive fluxes of methane in marine sediments
1198	1.3	2018 Global diffusive fluxes of methane in marine sediments
1992	1.3	2018 Global diffusive fluxes of methane in marine sediments
342	1.4	2018 Global diffusive fluxes of methane in marine sediments
1020	1.4	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1168	1.4	2018 Global diffusive fluxes of methane in marine sediments
276	1.6	2018 Global diffusive fluxes of methane in marine sediments
374	1.6	2018 Global diffusive fluxes of methane in marine sediments
633	1.6	2018 Global diffusive fluxes of methane in marine sediments
633	1.6	2018 Global diffusive fluxes of methane in marine sediments
1970	1.6	2018 Global diffusive fluxes of methane in marine sediments
2000	1.6	2018 Global diffusive fluxes of methane in marine sediments
209	1.7	2018 Global diffusive fluxes of methane in marine sediments
897	1.7	2018 Global diffusive fluxes of methane in marine sediments
1014	1.7	2018 Global diffusive fluxes of methane in marine sediments
205	1.8	2018 Global diffusive fluxes of methane in marine sediments
408	1.8	2018 Global diffusive fluxes of methane in marine sediments
460	1.8	2018 Global diffusive fluxes of methane in marine sediments
587	1.8	2018 Global diffusive fluxes of methane in marine sediments
758	1.8	2018 Global diffusive fluxes of methane in marine sediments
1686	1.8	2018 Global diffusive fluxes of methane in marine sediments
501	1.9	2018 Global diffusive fluxes of methane in marine sediments
647	1.9	2018 Global diffusive fluxes of methane in marine sediments
1304	1.9	2018 Global diffusive fluxes of methane in marine sediments
1534	1.9	2018 Global diffusive fluxes of methane in marine sediments
667	2	2018 Global diffusive fluxes of methane in marine sediments
700	2	2018 Global diffusive fluxes of methane in marine sediments
2000	2	2018 Global diffusive fluxes of methane in marine sediments
1022	2.1	2018 Global diffusive fluxes of methane in marine sediments
1196	2.1	2018 Global diffusive fluxes of methane in marine sediments
377	2.2	2018 Global diffusive fluxes of methane in marine sediments
616	2.2	2018 Global diffusive fluxes of methane in marine sediments
1267	2.2	2018 Global diffusive fluxes of methane in marine sediments
396	2.4	2018 Global diffusive fluxes of methane in marine sediments
1284	2.4	2018 Global diffusive fluxes of methane in marine sediments
1302	2.4	2018 Global diffusive fluxes of methane in marine sediments
396	2.5	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
647	2.5	2018 Global diffusive fluxes of methane in marine sediments
1700	2.5	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective

1828	2.5	2018 Global diffusive fluxes of methane in marine sediments
685	2.6	2018 Global diffusive fluxes of methane in marine sediments
275	2.7	2018 Global diffusive fluxes of methane in marine sediments
690	2.7	2018 Global diffusive fluxes of methane in marine sediments
713	2.7	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1282	2.7	2018 Global diffusive fluxes of methane in marine sediments
1292	2.7	2018 Global diffusive fluxes of methane in marine sediments
374	2.8	2018 Global diffusive fluxes of methane in marine sediments
907	2.8	2018 Global diffusive fluxes of methane in marine sediments
685	2.85	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
647	3	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
785	3.2	2018 Global diffusive fluxes of methane in marine sediments
998	3.2	2018 Global diffusive fluxes of methane in marine sediments
1157	3.2	2018 Global diffusive fluxes of methane in marine sediments
686	3.3	2018 Global diffusive fluxes of methane in marine sediments
890	3.3	2018 Global diffusive fluxes of methane in marine sediments
1045	3.3	2018 Global diffusive fluxes of methane in marine sediments
919	3.4	2018 Global diffusive fluxes of methane in marine sediments
951	3.4	2018 Global diffusive fluxes of methane in marine sediments
1274	3.4	2018 Global diffusive fluxes of methane in marine sediments
1300	3.4	2018 Global diffusive fluxes of methane in marine sediments
1306	3.4	2018 Global diffusive fluxes of methane in marine sediments
1373	3.4	2018 Global diffusive fluxes of methane in marine sediments
1090	3.5	2018 Global diffusive fluxes of methane in marine sediments
1176	3.5	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1373	3.5	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
790	3.6	2018 Global diffusive fluxes of methane in marine sediments
791	3.6	2018 Global diffusive fluxes of methane in marine sediments
1000	3.6	2018 Global diffusive fluxes of methane in marine sediments
1015	3.6	2018 Global diffusive fluxes of methane in marine sediments
1100	3.6	2018 Global diffusive fluxes of methane in marine sediments
799	3.7	2018 Global diffusive fluxes of methane in marine sediments
1328	3.7	2018 Global diffusive fluxes of methane in marine sediments
1400	3.7	2018 Global diffusive fluxes of methane in marine sediments
2000	3.7	2018 Global diffusive fluxes of methane in marine sediments
771	3.8	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1503	3.8	2018 Global diffusive fluxes of methane in marine sediments
500	3.9	2018 Global diffusive fluxes of methane in marine sediments
306	4.1	2018 Global diffusive fluxes of methane in marine sediments
1005	4.1	2018 Global diffusive fluxes of methane in marine sediments
1023	4.1	2018 Global diffusive fluxes of methane in marine sediments
1472	4.2	2018 Global diffusive fluxes of methane in marine sediments
1980	4.2	2018 Global diffusive fluxes of methane in marine sediments
2000	4.2	2018 Global diffusive fluxes of methane in marine sediments

1186	4.3	2018 Global diffusive fluxes of methane in marine sediments
728	4.4	2018 Global diffusive fluxes of methane in marine sediments
1224	4.4	2018 Global diffusive fluxes of methane in marine sediments
1176	4.5	2018 Global diffusive fluxes of methane in marine sediments
316	4.6	2018 Global diffusive fluxes of methane in marine sediments
1105	4.7	2018 Global diffusive fluxes of methane in marine sediments
1219	4.8	2018 Global diffusive fluxes of methane in marine sediments
1566	4.8	2018 Global diffusive fluxes of methane in marine sediments
1008	5	2018 Global diffusive fluxes of methane in marine sediments
238	5.1	2018 Global diffusive fluxes of methane in marine sediments
2000	5.1	2018 Global diffusive fluxes of methane in marine sediments
1327	5.2	2018 Global diffusive fluxes of methane in marine sediments
1076	5.3	2018 Global diffusive fluxes of methane in marine sediments
1076	5.3	2018 Global diffusive fluxes of methane in marine sediments
575	5.4	2018 Global diffusive fluxes of methane in marine sediments
1000	5.5	2018 Global diffusive fluxes of methane in marine sediments
800	5.6	2018 Global diffusive fluxes of methane in marine sediments
1000	5.7	2018 Global diffusive fluxes of methane in marine sediments
639	6	2018 Global diffusive fluxes of methane in marine sediments
1013	6	2018 Global diffusive fluxes of methane in marine sediments
825	6.1	2018 Global diffusive fluxes of methane in marine sediments
1326	6.1	2018 Global diffusive fluxes of methane in marine sediments
1312	6.2	2018 Global diffusive fluxes of methane in marine sediments
647	6.7	2018 Global diffusive fluxes of methane in marine sediments
1774	6.8	2018 Global diffusive fluxes of methane in marine sediments
881	7.6	2018 Global diffusive fluxes of methane in marine sediments
1045	7.6	2018 Global diffusive fluxes of methane in marine sediments
861	7.8	2018 Global diffusive fluxes of methane in marine sediments
1000	7.9	2018 Global diffusive fluxes of methane in marine sediments
1981	8	2018 Global diffusive fluxes of methane in marine sediments
822	8.1	2018 Global diffusive fluxes of methane in marine sediments
1308	8.1	2018 Global diffusive fluxes of methane in marine sediments
1956	8.1	2018 Global diffusive fluxes of methane in marine sediments
1969	8.3	2018 Global diffusive fluxes of methane in marine sediments
1607	8.4	2018 Global diffusive fluxes of methane in marine sediments
907	8.5	2018 Global diffusive fluxes of methane in marine sediments
1937	8.9	2018 Global diffusive fluxes of methane in marine sediments
900	9.5	2018 Global diffusive fluxes of methane in marine sediments
950	9.7	2018 Global diffusive fluxes of methane in marine sediments
613	9.8	2018 Global diffusive fluxes of methane in marine sediments
613	9.8	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
1093	9.8	2018 Global diffusive fluxes of methane in marine sediments
1340	9.9	2018 Global diffusive fluxes of methane in marine sediments
1186	10.1	2018 Global diffusive fluxes of methane in marine sediments
489	10.2	2018 Global diffusive fluxes of methane in marine sediments
1350	10.2	2018 Global diffusive fluxes of methane in marine sediments

1309	10.3	2018 Global diffusive fluxes of methane in marine sediments
1873	10.4	2018 Global diffusive fluxes of methane in marine sediments
846	10.8	2018 Global diffusive fluxes of methane in marine sediments
1165	11.1	2018 Global diffusive fluxes of methane in marine sediments
838	11.3	2018 Global diffusive fluxes of methane in marine sediments
427	12.4	2018 Global diffusive fluxes of methane in marine sediments
522	12.5	2018 Global diffusive fluxes of methane in marine sediments
1430	13	2018 Global diffusive fluxes of methane in marine sediments
955	13.3	2018 Global diffusive fluxes of methane in marine sediments
1963	13.3	2018 Global diffusive fluxes of methane in marine sediments
993	13.8	2018 Global diffusive fluxes of methane in marine sediments
447	14.4	2018 Global diffusive fluxes of methane in marine sediments
397	14.7	2018 Global diffusive fluxes of methane in marine sediments
1108	14.8	2018 Global diffusive fluxes of methane in marine sediments
1691	14.8	2018 Global diffusive fluxes of methane in marine sediments
348	15.6	2018 Global diffusive fluxes of methane in marine sediments
1074	15.6	2018 Global diffusive fluxes of methane in marine sediments
1146	16.7	2018 Global diffusive fluxes of methane in marine sediments
1038	17	2018 Global diffusive fluxes of methane in marine sediments
1100	17.1	2018 Global diffusive fluxes of methane in marine sediments
1429	17.4	2018 Global diffusive fluxes of methane in marine sediments
685	17.7	2018 Global diffusive fluxes of methane in marine sediments
730	17.9	2018 Global diffusive fluxes of methane in marine sediments
1037	18	2018 Global diffusive fluxes of methane in marine sediments
1100	18.5	2018 Global diffusive fluxes of methane in marine sediments
1480	18.5	2018 Global diffusive fluxes of methane in marine sediments
1773	18.8	2018 Global diffusive fluxes of methane in marine sediments
1564	19.1	2018 Global diffusive fluxes of methane in marine sediments
1364	19.5	2018 Global diffusive fluxes of methane in marine sediments
2000	19.5	2018 Global diffusive fluxes of methane in marine sediments
1279	20.4	2018 Global diffusive fluxes of methane in marine sediments
479	21.6	2018 Global diffusive fluxes of methane in marine sediments
556	21.7	2018 Global diffusive fluxes of methane in marine sediments
1404	22	2018 Global diffusive fluxes of methane in marine sediments
1470	22	2018 Global diffusive fluxes of methane in marine sediments
565	22.5	2018 Global diffusive fluxes of methane in marine sediments
895	23.2	2018 Global diffusive fluxes of methane in marine sediments
808	24.4	2018 Global diffusive fluxes of methane in marine sediments
1062	26.1	2018 Global diffusive fluxes of methane in marine sediments
913	26.4	2018 Global diffusive fluxes of methane in marine sediments
1809	26.7	2018 Global diffusive fluxes of methane in marine sediments
902	26.8	2018 Global diffusive fluxes of methane in marine sediments
1010	29	2018 Global diffusive fluxes of methane in marine sediments
1018	29	2018 Global diffusive fluxes of methane in marine sediments
1927	30	2018 Global diffusive fluxes of methane in marine sediments
427	30.8	2018 Global diffusive fluxes of methane in marine sediments
1672	31.5	2018 Global diffusive fluxes of methane in marine sediments

1742	31.7	2018 Global diffusive fluxes of methane in marine sediments
1060	34.3	2018 Global diffusive fluxes of methane in marine sediments
471	34.6	2018 Global diffusive fluxes of methane in marine sediments
593	38.9	2018 Global diffusive fluxes of methane in marine sediments
1713	41.8	2018 Global diffusive fluxes of methane in marine sediments
428	42.8	2018 Global diffusive fluxes of methane in marine sediments
808	43.2	2018 Global diffusive fluxes of methane in marine sediments
1638	43.2	2018 Global diffusive fluxes of methane in marine sediments
1984	44.1	2018 Global diffusive fluxes of methane in marine sediments
1303	46	2018 Global diffusive fluxes of methane in marine sediments
278	49.8	2018 Global diffusive fluxes of methane in marine sediments
800	50	2007 Rates of methanogenesis and methanotrophy deep-sea sediments[18]
794	50.3	2018 Global diffusive fluxes of methane in marine sediments
738	51.7	2018 Global diffusive fluxes of methane in marine sediments
915	53.5	2018 Global diffusive fluxes of methane in marine sediments
307	55	2018 Global diffusive fluxes of methane in marine sediments
1414	65.5	2018 Global diffusive fluxes of methane in marine sediments
1320	67.3	2018 Global diffusive fluxes of methane in marine sediments
419	74.1	2018 Global diffusive fluxes of methane in marine sediments
1372	74.4	2018 Global diffusive fluxes of methane in marine sediments
1428	78.3	2018 Global diffusive fluxes of methane in marine sediments
1869	79.6	2018 Global diffusive fluxes of methane in marine sediments
1057	84.2	2018 Global diffusive fluxes of methane in marine sediments
1945	97.8	2018 Global diffusive fluxes of methane in marine sediments
1274	99.1	2018 Global diffusive fluxes of methane in marine sediments
1649	101.9	2018 Global diffusive fluxes of methane in marine sediments
1983	117.5	2018 Global diffusive fluxes of methane in marine sediments
312	119	2018 Global diffusive fluxes of methane in marine sediments
1650	125	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
213	134.3	2018 Global diffusive fluxes of methane in marine sediments
948	147.9	2018 Global diffusive fluxes of methane in marine sediments
781	159.3	2018 Global diffusive fluxes of methane in marine sediments
440	169.9	2018 Global diffusive fluxes of methane in marine sediments
1123	178.7	2018 Global diffusive fluxes of methane in marine sediments
796	180.3	2018 Global diffusive fluxes of methane in marine sediments
1149	195	2018 Global diffusive fluxes of methane in marine sediments
1066	205	2018 Global diffusive fluxes of methane in marine sediments
1365	208.9	2018 Global diffusive fluxes of methane in marine sediments
658	209.5	2018 Global diffusive fluxes of methane in marine sediments
1368	282	2018 Global diffusive fluxes of methane in marine sediments
1305	349.7	2018 Global diffusive fluxes of methane in marine sediments
1209	374.8	2018 Global diffusive fluxes of methane in marine sediments
416	380.9	2018 Global diffusive fluxes of methane in marine sediments
1970	562.5	2018 Global diffusive fluxes of methane in marine sediments
647	711.4	2018 Global diffusive fluxes of methane in marine sediments
1345	783.5	2018 Global diffusive fluxes of methane in marine sediments

391	0.5	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments[19]
205	0.2	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
325	0.1	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments

Rise, 2000-3500 m		
Depth [m]	**SMT [mbsf]**	**Reference**
2070	0.02	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
2085	0.025	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
2089	0.035	2018 Global diffusive fluxes of methane in marine sediments
2085	0.05	2018 Global diffusive fluxes of methane in marine sediments
3100	0.6	2018 Global diffusive fluxes of methane in marine sediments
2160	1	2018 Global diffusive fluxes of methane in marine sediments
2911	1	2018 Global diffusive fluxes of methane in marine sediments
2196	1.4	2018 Global diffusive fluxes of methane in marine sediments
2861	1.4	2018 Global diffusive fluxes of methane in marine sediments
2161	1.5	2018 Global diffusive fluxes of methane in marine sediments
3525	2	2003 Control of sulfate pore-water profiles by sedimentary events and the significance of anaerobic oxidation of methane for the burial of sulfur in marine sediments[20]
2744	2	2018 Global diffusive fluxes of methane in marine sediments
2010	2.1	2018 Global diffusive fluxes of methane in marine sediments
2772	2.1	2018 Global diffusive fluxes of methane in marine sediments
3361	2.3	2018 Global diffusive fluxes of methane in marine sediments
3100	2.7	2018 Global diffusive fluxes of methane in marine sediments
3100	3.3	2018 Global diffusive fluxes of methane in marine sediments
2300	5	2018 Global diffusive fluxes of methane in marine sediments
2797	5	2018 Global diffusive fluxes of methane in marine sediments
2750	5.4	2018 Global diffusive fluxes of methane in marine sediments
2750	5.4	2018 Global diffusive fluxes of methane in marine sediments
3169	5.4	2018 Global diffusive fluxes of methane in marine sediments
2166	5.6	2018 Global diffusive fluxes of methane in marine sediments
3446	5.6	2018 Global diffusive fluxes of methane in marine sediments
2593	5.7	2018 Global diffusive fluxes of methane in marine sediments
2065	5.8	2018 Global diffusive fluxes of methane in marine sediments
3100	5.8	2018 Global diffusive fluxes of methane in marine sediments
3476	5.8	2018 Global diffusive fluxes of methane in marine sediments
2065	5.8	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
2141	6.1	2018 Global diffusive fluxes of methane in marine sediments
2766	6.2	2018 Global diffusive fluxes of methane in marine sediments
2170	7.2	2018 Global diffusive fluxes of methane in marine sediments
2750	7.3	2018 Global diffusive fluxes of methane in marine sediments
2750	8.1	2018 Global diffusive fluxes of methane in marine sediments
2751	8.1	2018 Global diffusive fluxes of methane in marine sediments
2571	8.3	2018 Global diffusive fluxes of methane in marine sediments
3178	8.3	2018 Global diffusive fluxes of methane in marine sediments
2160	9.1	2018 Global diffusive fluxes of methane in marine sediments

2015	9.2	2018 Global diffusive fluxes of methane in marine sediments
3215	9.5	2018 Global diffusive fluxes of methane in marine sediments
2681	9.9	2018 Global diffusive fluxes of methane in marine sediments
2997	10.1	2018 Global diffusive fluxes of methane in marine sediments
2982	10.2	2018 Global diffusive fluxes of methane in marine sediments
3226	10.4	2018 Global diffusive fluxes of methane in marine sediments
3346	11.5	2018 Global diffusive fluxes of methane in marine sediments
2037	11.6	2018 Global diffusive fluxes of methane in marine sediments
2138	11.7	2018 Global diffusive fluxes of methane in marine sediments
3137	12	2018 Global diffusive fluxes of methane in marine sediments
2171	12.1	2018 Global diffusive fluxes of methane in marine sediments
3493	12.2	2018 Global diffusive fluxes of methane in marine sediments
2998	12.4	2018 Global diffusive fluxes of methane in marine sediments
2066	12.8	2018 Global diffusive fluxes of methane in marine sediments
2147	12.9	2018 Global diffusive fluxes of methane in marine sediments
3084	13.2	2018 Global diffusive fluxes of methane in marine sediments
3028	13.3	2018 Global diffusive fluxes of methane in marine sediments
2470	13.6	2018 Global diffusive fluxes of methane in marine sediments
2153	14	2018 Global diffusive fluxes of methane in marine sediments
2791	14.1	2018 Global diffusive fluxes of methane in marine sediments
2996	14.3	2018 Global diffusive fluxes of methane in marine sediments
2190	14.6	2018 Global diffusive fluxes of methane in marine sediments
2595	15.2	2018 Global diffusive fluxes of methane in marine sediments
2544	15.3	2018 Global diffusive fluxes of methane in marine sediments
2052	15.5	2018 Global diffusive fluxes of methane in marine sediments
2681	16.2	2018 Global diffusive fluxes of methane in marine sediments
2198	16.8	2018 Global diffusive fluxes of methane in marine sediments
2178	17.1	2018 Global diffusive fluxes of methane in marine sediments
2750	17.1	2018 Global diffusive fluxes of methane in marine sediments
3306	17.1	2018 Global diffusive fluxes of methane in marine sediments
2073	18.2	2018 Global diffusive fluxes of methane in marine sediments
2627	18.8	2018 Global diffusive fluxes of methane in marine sediments
3021	18.9	2018 Global diffusive fluxes of methane in marine sediments
2194	19.6	2018 Global diffusive fluxes of methane in marine sediments
2764	19.9	2018 Global diffusive fluxes of methane in marine sediments
2500	21	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
2380	21.7	2018 Global diffusive fluxes of methane in marine sediments
2779	21.8	2018 Global diffusive fluxes of methane in marine sediments
2770	22	2018 Global diffusive fluxes of methane in marine sediments
2799	22	2018 Global diffusive fluxes of methane in marine sediments
2519	22.6	2018 Global diffusive fluxes of methane in marine sediments
2500	22.7	2000 Significance of anaerobic methane oxidation in methane-rich sediments overlying the Blake Ridge gas hydrates[21]
2642	23.4	2018 Global diffusive fluxes of methane in marine sediments
2181	23.8	2018 Global diffusive fluxes of methane in marine sediments
2653	26.2	2018 Global diffusive fluxes of methane in marine sediments
3089	26.8	2018 Global diffusive fluxes of methane in marine sediments

2414	28.6	2018 Global diffusive fluxes of methane in marine sediments
2178	29.8	2018 Global diffusive fluxes of methane in marine sediments
2006	29.9	2018 Global diffusive fluxes of methane in marine sediments
2996	30.3	2018 Global diffusive fluxes of methane in marine sediments
3191	31.8	2018 Global diffusive fluxes of methane in marine sediments
3429	32.9	2018 Global diffusive fluxes of methane in marine sediments
2698	36.1	2018 Global diffusive fluxes of methane in marine sediments
2568	36.5	2018 Global diffusive fluxes of methane in marine sediments
2593	41.1	2018 Global diffusive fluxes of methane in marine sediments
2022	44.9	2018 Global diffusive fluxes of methane in marine sediments
3152	48	2018 Global diffusive fluxes of methane in marine sediments
2578	50.8	2018 Global diffusive fluxes of methane in marine sediments
3463	52.4	2018 Global diffusive fluxes of methane in marine sediments
2587	53.2	2018 Global diffusive fluxes of methane in marine sediments
2656	57.3	2018 Global diffusive fluxes of methane in marine sediments
2803	57.8	2018 Global diffusive fluxes of methane in marine sediments
2854	63.1	2018 Global diffusive fluxes of methane in marine sediments
3300	76.6	2018 Global diffusive fluxes of methane in marine sediments
2614	77.3	2018 Global diffusive fluxes of methane in marine sediments
3300	81	2018 Global diffusive fluxes of methane in marine sediments
2516	82	2018 Global diffusive fluxes of methane in marine sediments
2575	84.5	2018 Global diffusive fluxes of methane in marine sediments
3038	86	2018 Global diffusive fluxes of methane in marine sediments
2271	88.6	2018 Global diffusive fluxes of methane in marine sediments
2088	90.3	2018 Global diffusive fluxes of methane in marine sediments
2028	98.2	2018 Global diffusive fluxes of methane in marine sediments
2211	110.2	2018 Global diffusive fluxes of methane in marine sediments
3280	130.2	2018 Global diffusive fluxes of methane in marine sediments
2951	149	2018 Global diffusive fluxes of methane in marine sediments
3200	150	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective[22]
2935	151.6	2018 Global diffusive fluxes of methane in marine sediments
2825	160	2013 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments=A modeling perspective
3451	185.1	2018 Global diffusive fluxes of methane in marine sediments
2663	216.1	2018 Global diffusive fluxes of methane in marine sediments
2091	238.4	2018 Global diffusive fluxes of methane in marine sediments
2901	238.4	2018 Global diffusive fluxes of methane in marine sediments
2463	240.3	2018 Global diffusive fluxes of methane in marine sediments
2304	257.2	2018 Global diffusive fluxes of methane in marine sediments
2422	296	2018 Global diffusive fluxes of methane in marine sediments
3069	301.5	2018 Global diffusive fluxes of methane in marine sediments
2862	314.2	2018 Global diffusive fluxes of methane in marine sediments
3192	340.1	2018 Global diffusive fluxes of methane in marine sediments
2549	346.9	2018 Global diffusive fluxes of methane in marine sediments
2354	460.1	2018 Global diffusive fluxes of methane in marine sediments
2705	477.8	2018 Global diffusive fluxes of methane in marine sediments
3319	805.9	2018 Global diffusive fluxes of methane in marine sediments

2622	834	2018 Global diffusive fluxes of methane in marine sediments
3042	891.7	2018 Global diffusive fluxes of methane in marine sediments

Table S2. The rates of aerobic methane oxidation in paddy fields.

Paddy fields, Aerobic			
CH_4 (atm)	Rates (μmol/g/d or μmol/cm³/d)	K (d^{-1})	Reference
1.85E-06	2.19E-03	9.09E+02	2001 Methane Oxidation and Production Activity in Soils from Natural
1.85E-06	1.79E-03	7.44E+02	2001 Methane Oxidation and Production Activity in Soils from Natural
1.00E-02	7.20E-02	5.54E+00	2001 Methane Oxidation and Production Activity in Soils from Natural
1.00E-02	1.77E+01	1.36E+03	2001 Methane Oxidation and Production Activity in Soils from Natural
2.00E-02	1.14E-01	4.39E+00	1991 Methane oxidation in the soil surface layer of a flooded rice field and the effect of ammonium
2.00E-02	1.92E-01	7.39E+00	1991 Methane oxidation in the soil surface layer of a flooded rice field and the effect of ammonium
2.00E-02	1.82E-01	7.00E+00	1991 Methane oxidation in the soil surface layer of a flooded rice field and the effect of ammonium
2.00E-02	2.64E-03	1.02E-01	1991 Methane oxidation in the soil surface layer of a flooded rice field and the effect of ammonium
2.00E-02	1.39E-01	5.35E+00	1991 Methane oxidation in the soil surface layer of a flooded rice field and the effect of ammonium
5.00E-04	1.68E-01	2.58E+02	2000 Effect of NH4Cl addition on methane oxidation by paddy soils
1.00E-03	3.78E-01	2.91E+02	2000 Effect of NH4Cl addition on methane oxidation by paddy soils
1.50E-03	7.58E-01	3.89E+02	2000 Effect of NH4Cl addition on methane oxidation by paddy soils
2.00E-03	7.98E-01	3.07E+02	2000 Effect of NH4Cl addition on methane oxidation by paddy soils
1.07E-02	8.40E+00	6.03E+02	2003 Effect of a late season urea fertilization on methane emission from a rice field in Ital
1.07E-02	7.20E+00	5.17E+02	2003 Effects of N-fertilization on CH4 oxidation and production, and consequences for CH4 emissions from microcosms and rice fields
1.07E-02	1.08E+01	7.75E+02	2003 Effects of N-fertilization on CH4 oxidation and production, and consequences for CH4 emissions from microcosms and rice fields
5.00E-02	2.00E-02	3.08E-01	2012 Methane oxidation and methane driven redox process during sequential reduction of a flooded soil ecosystem
5.00E-02	4.25E-02	6.54E-01	2012 Methane oxidation and methane driven redox process during sequential reduction of a flooded soil ecosystem
1.00E-02	2.88E+00	2.22E+02	2020 Disentangling abiotic and biotic controls of aerobic methane oxidation during re-colonization
1.00E-02	1.01E+01	7.75E+02	2020 Disentangling abiotic and biotic controls of aerobic methane oxidation during re-colonization
5.88E-03	1.60E+01	2.09E+03	2002 Microbial aerobic oxidation of methane in paddy soil
5.88E-03	1.74E+01	2.28E+03	2002 Microbial aerobic oxidation of methane in paddy soil
1.80E-06	7.20E-03	3.08E+03	1994 Microbial oxidation of methane, ammonium and carbon monoxide, and turnover of nitrous oxide and nitric oxide in soils
3.50E-03	3.90E+00	8.57E+02	1994 Microbial oxidation of methane, ammonium and carbon monoxide, and turnover of nitrous oxide and nitric oxide in soils
5.00E-02	1.40E+01	2.15E+02	2018 Effect of salt stress on aerobic methane oxidation and associated methanotrophs; a microcosm study of a natural community from a nonsaline environment

Table S3. The rates of anaerobic methane oxidation in paddy fields.

Paddy fields, Anaerobic			
CH_4 (atm)	Rates (μmol/g/d or μmol/cm³/d)	K (d^{-1})	Reference
1.01E-01	2.00E-04	1.53E-03	2014 Evidence for the cooccurrence of nitrite-dependent anaerobic ammonium and methane oxidation processes in a flooded paddy field
1.01E-01	2.10E-03	1.60E-02	2014 Evidence for the cooccurrence of nitrite-dependent anaerobic ammonium and

			methane oxidation processes in a flooded paddy field
1.00E-01	7.99E-02	6.15E-01	2016 Distribution and activity of the anaerobic methanotrophic community in a nitrogen-fertilized Italian paddy soi
3.10E-02	1.60E-03	3.97E-02	2020 Anaerobic oxidation of methane in paddy soil: Role of electron acceptors and fertilization in mitigating CH4 fluxes
6.86E-02	4.20E-04	4.71E-03	2019 To shake or not to shake: 13C-based evidence on anaerobic methane oxidation in paddy soil
6.86E-02	8.80E-04	9.87E-03	2019 To shake or not to shake: 13C-based evidence on anaerobic methane oxidation in paddy soil
2.50E-02	3.46E-02	1.06E+00	2021 Effects of antimony on anaerobic methane oxidization and microbial community in an antimony-contaminated paddy soil: A microcosm study
2.00E-01	2.26E-03	8.69E-03	2021 Long-term effects of four environment-related iron minerals on microbial anaerobic oxidation of methane in paddy so
2.00E-01	7.53E-04	2.90E-03	2021 Long-term effects of four environment-related iron minerals on microbial anaerobic oxidation of methane in paddy so
5.00E-02	4.38E-03	6.73E-02	2012 Methane oxidation and methane driven redox process during sequential reduction of a flooded soil ecosystem
5.00E-02	2.88E-02	4.42E-01	2012 Methane oxidation and methane driven redox process during sequential reduction of a flooded soil ecosystem
5.00E-02	2.32E-04	3.57E-03	2021 Electron shuttles facilitate anaerobic methane oxidation coupled to nitrous oxide reduction in paddy soil
5.00E-02	2.27E-04	3.49E-03	2021 Electron shuttles facilitate anaerobic methane oxidation coupled to nitrous oxide reduction in paddy soil
3.49E-02	1.53E-02	3.38E-01	2017 Using 13C isotopes to explore denitrification-dependent anaerobic methane oxidation in a paddy-peatland
3.49E-02	7.37E-03	1.62E-01	2017 Using 13C isotopes to explore denitrification-dependent anaerobic methane oxidation in a paddy-peatland
3.10E-02	6.80E-04	1.69E-02	2021 Temperature sensitivity of anaerobic methane oxidation versus methanogenesis in paddy soil Implications for the CH4 balance

Table S4. The rates of aerobic methane oxidation in freshwater wetlands.

Freshwater wetlands, Aerobic			
CH_4 (atm)	Rates (µmol/g/d or µmol/cm^3/d)	K (d^{-1})	Reference
1.20E-03	3.00E-05	1.92E-02	1996 Moisture and temperature sensitivity of CH4 oxidation in boreal soils
1.80E-06	6.24E-04	2.67E+02	1993 Kinetics of methane oxidation in oxic soils
1.20E-03	7.50E-04	4.81E-01	1996 Moisture and temperature sensitivity of CH4 oxidation in boreal soils
2.00E-06	8.40E-04	3.23E+02	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
1.20E-03	1.80E-03	1.15E+00	1996 Moisture and temperature sensitivity of CH4 oxidation in boreal soils
1.80E-06	2.40E-03	1.03E+03	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
5.60E-05	5.40E-03	7.42E+01	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
2.50E-04	7.20E-03	2.22E+01	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
8.00E-05	7.44E-03	7.15E+01	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
-	8.64E-03		1998 Methane production and methane consumption: a review of processes underlying wetland methane fluxes
1.00E-02	1.00E-02	7.69E-01	1994 Methane Metabolism in a Temperate Swamp
1.00E-03	1.18E-02	9.05E+00	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
5.00E-05	1.44E-02	2.22E+02	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
5.00E-03	1.56E-02	2.40E+00	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
1.80E-06	1.78E-02	7.59E+03	1993 Kinetics of methane oxidation in oxic soils
1.00E-04	2.40E-02	1.85E+02	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium

9.00E-04	3.13E-02	2.67E+01	1997 Methane and carbon dioxide exchange potentials of peat soils in aerobic and anaerobic laboratory incubation
1.80E-06	3.43E-02	1.47E+04	1993 Kinetics of methane oxidation in oxic soils
3.50E-03	4.80E-02	1.05E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
3.50E-03	4.80E-02	1.05E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
2.50E-04	5.04E-02	1.55E+02	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
6.00E-01	6.00E-02	7.69E-02	2020 Active Methanotrophs in Suboxic Alpine Swamp Soils of the Qinghai-Tibetan Plateau
3.50E-03	6.00E-02	1.32E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.00E-03	8.40E-02	6.46E+01	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
3.50E-03	8.40E-02	1.85E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.80E-06	8.64E-02	3.69E+04	1993 Kinetics of methane oxidation in oxic soils
3.50E-03	9.60E-02	2.11E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
3.50E-03	9.60E-02	2.11E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.00E-04	1.01E-01	7.75E+02	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
1.00E-02	1.10E-01	8.46E+00	1994 Methane Metabolism in a Temperate Swamp
2.00E-04	1.20E-01	4.62E+02	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
6.00E-01	1.20E-01	1.54E-01	2020 Active Methanotrophs in Suboxic Alpine Swamp Soils of the Qinghai-Tibetan Plateau
3.50E-03	1.20E-01	2.64E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.20E-03	1.50E-01	9.62E+01	1996 Moisture and temperature sensitivity of CH4 oxidation in boreal soils
6.00E-01	1.50E-01	1.92E-01	2020 Active Methanotrophs in Suboxic Alpine Swamp Soils of the Qinghai-Tibetan Plateau
5.00E-03	1.56E-01	2.40E+01	2004 Methane oxidation in boreal forest soils: kinetics and sensitivity to pH and ammonium
3.50E-03	1.68E-01	3.69E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
3.00E-04	1.92E-01	4.92E+02	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
3.50E-03	1.92E-01	4.22E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.20E-03	2.06E-01	1.32E+02	1996 Moisture and temperature sensitivity of CH4 oxidation in boreal soils
-	2.50E-01	1.25E-01	2020 Methylobacter accounts for strong aerobic methane oxidation in the Yellow River Delta with characteristics of a methane sink during the dry season
3.50E-03	2.88E-01	6.33E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.00E-02	3.10E-01	2.38E+01	1994 Methane Metabolism in a Temperate Swamp
3.50E-03	3.12E-01	6.86E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
3.50E-03	3.12E-01	6.86E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.00E-02	4.30E-01	3.31E+01	1994 Methane Metabolism in a Temperate Swamp
3.50E-03	4.32E-01	9.49E+01	2014 Seasonal methanotrophy across a hydrological gradient in a freshwater wetland
1.20E-03	4.50E-01	2.88E+02	1996 Moisture and temperature sensitivity of CH4 oxidation in boreal soils
1.00E-02	5.28E-01	4.06E+01	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
3.36E-05	5.40E-01	1.24E+04	2014 Methanogenesis and methanotrophy within a Sphagnum peatland
-	5.40E-01	5.40E+02	2014 Methanogenesis and methanotrophy within a Sphagnum peatland
9.00E-04	6.25E-01	5.34E+02	1997 Methane and carbon dioxide exchange potentials of peat soils in aerobic and anaerobic laboratory incubation

1.00E-03	7.20E-01	5.54E+02	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
2.00E-03	7.68E-01	2.95E+02	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
-	7.68E-01	5.12E+02	2014 Methanogenesis and methanotrophy within a Sphagnum peatland
1.00E-02	8.40E-01	6.46E+01	1994 Methane Metabolism in a Temperate Swamp
1.00E-02	8.40E-01	6.46E+01	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	8.50E-01	6.54E+01	1994 Methane Metabolism in a Temperate Swamp
1.00E-02	9.30E-01	7.15E+01	1994 Methane Metabolism in a Temperate Swamp
1.00E-02	9.60E-01	7.38E+01	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
6.50E-03	1.03E+00	1.22E+02	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
9.00E-03	1.08E+00	9.23E+01	1993 Methane production and consumption in temperate and subarctic peat soils: response to temperature and pH.
1.00E-02	1.08E+00	8.31E+01	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	1.20E+00	9.23E+01	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	1.20E+00	9.23E+01	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
9.00E-04	1.25E+00	1.07E+03	1997 Methane and carbon dioxide exchange potentials of peat soils in aerobic and anaerobic laboratory incubation
-	1.38E+00	9.20E+01	2014 Methanogenesis and methanotrophy within a Sphagnum peatland
-	1.39E+00	1.86E+02	2014 Methanogenesis and methanotrophy within a Sphagnum peatland
1.00E-02	1.44E+00	1.11E+02	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	1.56E+00	1.20E+02	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	1.58E+00	1.22E+02	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	1.59E+00	1.22E+02	1994 Methane Metabolism in a Temperate Swamp
3.36E-04	1.61E+00	3.68E+03	2014 Methanogenesis and methanotrophy within a Sphagnum peatland
3.00E-03	1.95E+00	5.00E+02	1994 Depth Distribution of Microbial Production and Oxidation of Methane in Northern Boreal Peatlands
1.00E-02	2.40E+00	1.85E+02	1995 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
1.00E-02	2.43E+00	1.87E+02	1994 Methane Metabolism in a Temperate Swamp
1.00E-02	3.00E+00	2.31E+02	2014 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain
9.00E-04	3.13E+00	2.67E+03	1997 Methane and carbon dioxide exchange potentials of peat soils in aerobic and anaerobic laboratory incubation
1.00E-02	3.60E+00	2.77E+02	2014 CH4 production, oxidation and emission in a U.K. ombrotrophic peat bog: Influence of SO42− from acid rain

Table S5. The rates of anaerobic methane oxidation in freshwater wetlands.

Freshwater wetland, Anaerobic			
CH_4 (atm)	Rates (µmol/g/d or µmol/cm^3/d)	K (d^{-1})	Reference
1.00E-01	2.70E-03	2.08E-02	2020 Niche differentiation of denitrifying anaerobic methane oxidizing bacteria and archaea leads to effective methane filtration in a Tibetan alpine wetland
1.00E-01	1.22E-02	9.41E-02	2020 Niche differentiation of denitrifying anaerobic methane oxidizing bacteria and archaea leads to effective methane filtration in a Tibetan alpine wetland
1.00E-01	2.00E-03	1.54E-02	2020 Niche differentiation of denitrifying anaerobic methane oxidizing bacteria and archaea leads to effective methane filtration in a Tibetan alpine wetland
1.00E-01	4.00E-03	3.08E-02	2020 Niche differentiation of denitrifying anaerobic methane oxidizing bacteria and archaea leads to effective methane filtration in a Tibetan alpine wetland
1.00E-01	3.77E-02	2.90E-01	2020 Niche differentiation of denitrifying anaerobic methane oxidizing bacteria and archaea leads to effective methane filtration in a Tibetan alpine wetland

2.00E-05	1.10E-03	4.23E+01	2015 More evidence that anaerobic oxidation of methane is prevalent in soils: Is it time to upgrade our biogeochemical models
1.00E+00	5.00E-02	3.85E-02	2015 High rates of anaerobic methane oxidation in freshwater wetlands reduce potential atmospheric methane emissions
1.00E+00	1.50E-02	1.15E-02	2015 High rates of anaerobic methane oxidation in freshwater wetlands reduce potential atmospheric methane emissions
2.50E-02	1.66E-02	5.11E-01	2013 Stable Isotopes Reveal Widespread Anaerobic Methane Oxidation Across Latitude and Peatland Type
1.00E-01	3.80E-04	2.92E-03	2020 Exogenous nitrogen addition inhibits sulfate-mediated anaerobic oxidation of methane in estuarine coastal sediments
1.00E-01	2.40E-03	1.85E-02	2020 Exogenous nitrogen addition inhibits sulfate-mediated anaerobic oxidation of methane in estuarine coastal sediments
1.00E-01	2.56E-03	1.97E-02	2020 Exogenous nitrogen addition inhibits sulfate-mediated anaerobic oxidation of methane in estuarine coastal sediments
1.00E-01	8.00E-04	6.15E-03	2020 Exogenous nitrogen addition inhibits sulfate-mediated anaerobic oxidation of methane in estuarine coastal sediments
-	3.10E-04	-	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	5.43E-03	4.59E-02	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	8.00E-04	6.76E-03	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	4.80E-03	4.06E-02	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	1.50E-03	1.27E-02	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	4.60E-03	3.89E-02	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	3.50E-03	2.96E-02	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
9.10E-02	2.00E-03	1.69E-02	2014 Evidence for nitrite-dependent anaerobic methane oxidation as a previously overlooked microbial methane sink
1.00E+00	4.90E-03	3.77E-03	2013 Impact of electron acceptor availability on the anaerobic oxidation of methane in coastal freshwater and brackish wetland sediments
1.00E+00	2.66E-02	2.05E-02	2013 Impact of electron acceptor availability on the anaerobic oxidation of methane in coastal freshwater and brackish wetland sediments
1.00E-01	3.41E-03	2.62E-02	2013 Impact of electron acceptor availability on the anaerobic oxidation of methane in coastal freshwater and brackish wetland sediments
1.00E-01	8.48E-03	6.52E-02	2020 Depth-specific distribution and significance of nitrite-dependent anaerobic methane oxidation process in tidal flow constructed wetlands used for treating river water
1.00E-01	2.50E-03	1.92E-02	2020 Depth-specific distribution and significance of nitrite-dependent anaerobic methane oxidation process in tidal flow constructed wetlands used for treating river water
1.00E-01	1.50E-03	1.15E-02	2020 Depth-specific distribution and significance of nitrite-dependent anaerobic methane oxidation process in tidal flow constructed wetlands used for treating river water

Table S6. The rates of anaerobic methane oxidation in marine environment.

Marine, Anaerobic				
Category	CH_4 (atm)	Rates (μmol/g/d or μmol/cm^3/d)	K (d^{-1})	Reference
inner shelf (10-50m)	1.00E-01	3.00E-03	-	2019 Denitrifying Anaerobic Methane Oxidation: A Previously Overlooked Methane Sink in Intertidal Zone
inner shelf (10-50m)	1.00E-01	2.00E-04	-	2016 Anaerobic methane oxidation coupled to nitrite reduction can be a potential methane sink in coastal environments
inner shelf (10-50m)	1.00E-01	1.30E-03	-	2016 Anaerobic methane oxidation coupled to nitrite reduction can be a potential methane sink in coastal environments
inner shelf (10-50m)	1.00E-02	3.99E-02	-	2020 Denitrifying anaerobic methane oxidation

				in intertidal marsh soils: Occurrence and environmental significance
inner shelf (10-50m)	1.00E+00	1.50E-03	-	2020 Denitrifying anaerobic methane oxidation in intertidal marsh soils: Occurrence and environmental significance
inner shelf (10-50m) 45 m	1.00E-01	6.48E+00	-	2016 Anaerobic Oxidation of Methane Coupled to Nitrite Reduction by Halophilic Marine NC10 Bacteria
inner shelf (10-50m)28 m	1.00E-02	1.00E-01	-	2020 Denitrifying anaerobic methane oxidation in marsh sediments of Chongming eastern intertidal flat
inner shelf (10-50m)28 m	1.00E-02	4.67E-02	-	2020 Denitrifying anaerobic methane oxidation in marsh sediments of Chongming eastern intertidal flat
inner shelf (10-50m)28 m	1.00E-02	8.43E-02	-	2021 Microbial abundance and activity of nitrite/nitrate-dependent anaerobic methane oxidizers in estuarine and intertidal wetlands: Heterogeneity and driving factors
inner shelf (10-50m)28 m	1.00E-02	3.26E-02	-	2021 Microbial abundance and activity of nitrite/nitrate-dependent anaerobic methane oxidizers in estuarine and intertidal wetlands: Heterogeneity and driving factors
Slope (200–2,000),520m	2.50E+00	3.80E-02	-	2009 Manganese- and Iron-Dependent Marine Methane Oxidation
Slope (200–2,000),520m	2.00E-01	3.21E-02	-	2020 Influence of electron acceptor availability and microbial community structure on sedimentary methane oxidation in a boreal estuary
Slope (200–2,000),-850 m	3.50E-01	7.00E-01	-	2016 Artificial electron acceptors decouple archaeal methane oxidation from sulfate reduction
Slope (200–2,000),-850 m	3.50E-01	8.10E-01	-	2016 Artificial electron acceptors decouple archaeal methane oxidation from sulfate reduction
Rise (2,000–3,500),2428 m	2.15E+00	1.52E-01	-	2012 Anaerobic methane oxidation in metalliferous hydrothermal sediments: influence on carbon flux and decoupling from sulfate reduction
Outer shelf (50–200)	1.00E+00	9.50E-05	6.33E-05	2020 Rates and Microbial Players of Iron-Driven Anaerobic Oxidation of Methane in Methanic Marine Sediments
Slope (200–2,000),210m	4.50E-01	3.60E-03	-	2015 Iron-Mediated Anaerobic Oxidation of Methane in Brackish Coastal Sediments
Outer shelf (50–200),100 m	1.00E+00	3.63E-02	-	2018Anaerobic methane oxidation inducing carbonate precipitation at abiogenic methane seeps in the Tuscan archipelago
Outer shelf (50–200), 71 m	1.54E+00	7.00E+01	-	2018 Methane as an Organic Matter Source and the Trophic Basis of a Laptev Sea Cold Seep Microbial Communit
inner shelf (10-50m),28 m	7.69E-01	2.20E-01	-	2005 Microbial methane turnover in different marine habitats
inner shelf (10-50m)	7.69E-01	1.20E-01	-	2005 Microbial methane turnover in different marine habitats
Inner shelf (0–10),0.5 m	-	1.20E-03	-	1994 Field and laboratory studies of methane oxidation in an anoxic
Inner shelf (0–10)	1.00E-01	7.40E-04	-	2019 Denitrifying Anaerobic Methane Oxidation: A Previously Overlooked Methane Sink in Intertidal Zone
Inner shelf (0–10), 4 m	6.92E-01	4.34E-02	-	2018 Decoupling between sulfate reduction and the anaerobic oxidation of methane in the shallow methane seep of the Black sea
Inner shelf (0–10), 4 m	5.00E-01	2.00E-03	3.08E-03	2018 Decoupling between sulfate reduction and the anaerobic oxidation of methane in the shallow methane seep of the Black sea
Inner shelf (0–10), 4 m	1.54E-03	1.00E-05	5.00E-03	2018 Decoupling between sulfate reduction and

				the anaerobic oxidation of methane in the shallow methane seep of the Black sea
Inner shelf (0–10), 4 m	4.23E-03	7.00E-05	1.27E-02	2018 Decoupling between sulfate reduction and the anaerobic oxidation of methane in the shallow methane seep of the Black sea
Inner shelf (0–10)	1.00E+00	1.50E-03	-	2020 Denitrifying anaerobic methane oxidation in intertidal marsh soils: Occurrence and environmental significance
inner shelf (10-50m)	2.00E-05	2.60E-03	-	2019 More evidence that anaerobic oxidation of methane is prevalent in soils: Is it time to upgrade our biogeochemical models
inner shelf (10-50m)	1.00E+00	1.28E-02	-	2015 Growth of Anaerobic Methane-Oxidizing Archaea and Sulfate-Reducing Bacteria in a High-Pressure Membrane
inner shelf (10-50m)	1.00E+00	1.89E-02	-	2015 Growth of Anaerobic Methane-Oxidizing Archaea and Sulfate-Reducing Bacteria in a High-Pressure Membrane
inner shelf (10-50m), 30-40 m	7.67E-02	1.26E-02	1.26E-01	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio
inner shelf (10-50m), 30-40 m	9.23E-01	1.00E-04	8.33E-05	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	9.23E-01	2.00E-04	1.67E-04	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	9.23E-01	4.00E-04	3.33E-04	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	9.23E-01	2.30E-03	1.92E-03	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	9.23E-01	1.00E-04	8.33E-05	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	9.23E-01	5.00E-04	4.17E-04	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	9.23E-01	1.00E-03	8.33E-04	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	-	1.40E-03	-	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	-	9.00E-05	-	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	-	5.00E-05	-	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
inner shelf (10-50m), 30-40 m	-	7.00E-06	-	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
Slope (200–2,000), 880 m	9.23E-01	1.40E-03	1.17E-03	2012 Sulfate Reduction, Methanogenesis, and Methane Oxidation in the Holocene Sediments of the Vyborg Bay, Baltic Sea
Slope (200–2,000), 880 m	4.39E-01	6.50E-03	1.14E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio
Slope (200–2,000), 880 m	4.99E-01	8.00E-04	1.23E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio

Slope (200–2,000), 880 m	4.12E-01	1.00E-03	1.87E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio
Slope (200–2,000), 880 m	6.00E-01	1.30E-03	1.67E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio
Slope (200–2,000), 880 m	2.37E-01	1.07E-02	3.47E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio
Slope (200–2,000), 880 m	3.84E-01	6.70E-03	1.34E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	4.75E-01	2.70E-03	4.37E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	4.95E-01	2.90E-03	4.51E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	5.05E-01	3.60E-03	5.48E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	4.89E-01	3.20E-03	5.03E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	1.26E-02	1.90E-03	1.16E-01	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	2.38E-02	1.10E-03	3.55E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	3.36E-02	1.30E-03	2.97E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	3.19E-02	1.00E-04	2.41E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	1.52E-01	2.00E-04	1.01E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	7.00E-01	1.40E-03	1.54E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	1.33E-02	2.80E-03	1.62E-01	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	2.67E-02	1.50E-03	4.32E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	1.31E-02	6.00E-04	3.53E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in

				methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	5.55E-02	1.30E-03	1.80E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	2.29E-02	1.50E-03	5.03E-02	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubatio
Slope (200–2,000), 880 m	5.84E-02	6.00E-04	7.91E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	8.95E-01	2.30E-03	1.98E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	7.64E-01	1.30E-03	1.31E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	7.54E-01	1.40E-03	1.43E-03	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	3.48E-01	3.00E-04	6.64E-04	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Slope (200–2,000), 880 m	5.05E-01	6.00E-04	9.14E-04	2011 Weak coupling between sulfate reduction and the anaerobic oxidation of methane in methane-rich seafloor sediments during ex situ incubation
Outer shelf (50–200), 71 m	4.15E-01	3.90E-03	7.24E-03	2017 Methane as an Organic Matter Source and the Trophic Basis of a Laptev Sea Cold Seep Microbial Community
Outer shelf (50–200),100 m	1.00E+00	1.80E-03	1.20E-03	2018 Anaerobic methane oxidation inducing carbonate precipitation at abiogenic methane seeps in the Tuscan archipelago
Slope (200–2,000), 280/340 m	1.00E+00	8.00E-03	5.41E-03	2014 Sulfate reduction and methane oxidation activity below the sulfate-methane transition zone in Alaskan Beaufort Sea continental margin sediments: Implications for deep sulfur cycling.
Slope (200–2,000), 1400 m	4.33E-01	1.50E-02	-	2021 Depth profiles of geochemical features, geochemical activities and biodiversity of microbial communities in marine sediments from the Shenhua area, the northern South China Se
Slope (200–2,000), 1400 m	2.27E-03	1.42E-06	4.83E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	2.39E-03	5.43E-07	1.75E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	2.36E-03	4.79E-07	1.57E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	3.14E-03	4.35E-07	1.07E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	3.08E-03	9.06E-07	2.26E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	3.62E-03	1.06E-06	2.24E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites

				in the northern South China Sea
Slope (200–2,000), 1400 m	5.28E-03	6.49E-07	9.46E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	4.33E-03	9.04E-07	1.61E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	3.57E-03	5.68E-07	1.22E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	4.46E-03	1.03E-06	1.77E-04	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	4.95E-03	6.16E-07	9.57E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	4.98E-03	5.14E-07	7.93E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	5.17E-03	4.97E-07	7.38E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	6.66E-03	6.42E-07	7.42E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	6.23E-03	6.64E-07	8.20E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	6.96E-03	7.50E-07	8.29E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	5.72E-03	5.49E-07	7.37E-05	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	3.03E-03	6.72E-03	1.71E+00	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	5.29E-03	4.27E-03	6.21E-01	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	2.23E-03	4.74E-03	1.63E+00	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	2.06E-03	5.14E-03	1.92E+00	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	2.74E-03	4.93E-03	1.38E+00	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000), 1400 m	2.29E-03	4.22E-03	1.42E+00	2018 Carbon and sulfur cycling rate measurements and geochemistry from three sites in the northern South China Sea
Slope (200–2,000),585 m	5.81E-03	5.25E-06	6.95E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	3.14E-03	2.20E-06	5.38E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	3.67E-03	1.84E-06	3.85E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	3.32E-03	1.45E-06	3.35E-04	2019 Sediment geochemistry and process rate

				measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	3.25E-03	1.13E-06	2.67E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	4.04E-03	9.39E-07	1.79E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	3.03E-03	5.64E-06	1.43E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	4.45E-03	9.32E-07	1.61E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),585 m	3.64E-03	7.95E-07	1.68E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),803 m	1.16E-03	1.61E-05	1.07E-02	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),803 m	4.52E-03	1.32E-05	2.24E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),803 m	5.02E-03	9.26E-07	1.42E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	2.13E-02	5.60E-05	2.03E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	8.20E-02	5.62E-04	5.27E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	1.12E-01	1.31E-03	8.97E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	2.92E-01	1.63E-03	4.30E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	3.41E-01	5.36E-03	1.21E-02	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	4.64E-01	2.28E-03	3.78E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1210 m	7.04E-01	5.21E-04	5.69E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1526 m	1.80E-03	7.44E-07	3.17E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from

				2016-07-26 to 2016-08-14
Slope (200–2,000),1526 m	1.90E-03	1.92E-06	7.75E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1526 m	2.54E-03	1.94E-06	5.86E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1526 m	1.97E-03	8.26E-07	3.23E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1526 m	3.01E-03	9.88E-07	2.53E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1526 m	2.20E-03	5.13E-07	1.79E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	3.57E-03	1.31E-05	2.82E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	7.01E-03	1.67E-05	1.83E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	8.92E-03	4.62E-06	3.98E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	1.15E-02	5.07E-06	3.40E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	9.17E-03	3.44E-06	2.89E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	1.13E-02	5.11E-06	3.48E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1372 m	8.39E-03	3.51E-06	3.22E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Outer shelf (50–200), 123 m	2.64E-03	3.81E-06	1.11E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Outer shelf (50–200), 123 m	3.97E-03	5.38E-06	1.04E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Outer shelf (50–200), 123 m	4.38E-03	7.81E-06	1.37E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Outer shelf (50–200), 123 m	3.73E-03	4.80E-06	9.89E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14

Outer shelf (50–200), 123 m	5.44E-03	6.20E-06	8.77E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Outer shelf (50–200), 123 m	3.23E-03	3.82E-06	9.10E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Outer shelf (50–200), 123 m	4.40E-03	6.41E-06	1.12E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	2.26E-03	2.51E-06	8.52E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	2.30E-03	1.56E-06	5.22E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	1.58E-03	9.59E-07	4.67E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	2.76E-03	1.51E-06	4.21E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	1.53E-03	7.36E-07	3.71E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	2.56E-03	1.08E-06	3.25E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	2.62E-03	1.02E-06	2.98E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1634 m	1.90E-03	7.40E-07	2.99E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1053 m	4.11E-03	1.24E-06	2.33E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1053 m	9.28E-02	2.33E-05	1.93E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1543 m	1.50E-03	5.32E-07	2.73E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1306 m	1.77E-03	8.66E-07	3.75E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1306 m	1.49E-02	7.76E-06	4.00E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1306 m	1.16E-02	6.05E-06	4.01E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise

				EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1306 m	1.84E-02	1.04E-05	4.33E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1306 m	2.28E-02	1.16E-05	3.90E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1366 m	3.22E-03	6.51E-06	1.56E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),1366 m	3.47E-03	2.18E-06	4.83E-04	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),880 m	1.35E-02	4.58E-05	2.61E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),880 m	1.44E-02	7.92E-05	4.22E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),880 m	4.91E-02	1.89E-03	2.96E-02	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),880 m	3.87E-02	1.13E-03	2.26E-02	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Slope (200–2,000),880 m	3.91E-01	6.36E-03	1.25E-02	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-14
Rise (2,000–3,500), 2300 m	4.42E-01	3.00E-05	5.22E-05	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	4.26E-01	3.16E-06	5.71E-06	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	3.72E-01	4.09E-03	8.46E-03	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	4.29E-01	1.32E-06	2.38E-06	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	2.96E-01	7.38E-04	1.92E-03	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	3.21E-01	3.36E-03	8.06E-03	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	2.78E-01	1.50E-05	4.15E-05	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Rise (2,000–3,500), 2300 m	2.39E-01	3.19E-06	1.03E-05	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1046 m	1.06E+00	6.46E-02	4.69E-02	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013

Slope (200–2,000), 1062 m	5.00E-03	2.22E-06	3.41E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	6.15E-03	2.09E-06	2.62E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	7.78E-03	2.99E-06	2.96E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	7.91E-03	4.81E-06	4.68E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	6.74E-03	3.21E-06	3.67E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	7.28E-03	7.38E-06	7.80E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	1.19E-02	5.08E-06	3.27E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000), 1062 m	8.73E-03	2.43E-06	2.14E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	3.10E-03	2.52E-06	6.26E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	4.05E-03	2.46E-06	4.67E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	5.26E-03	6.24E-06	9.13E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	5.33E-03	4.14E-06	5.98E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	5.61E-03	4.62E-06	6.33E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	5.80E-03	5.16E-06	6.85E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),595 m	5.27E-03	1.73E-06	2.52E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	4.14E-03	2.92E-06	5.43E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	4.41E-03	1.23E-06	2.14E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	4.85E-03	9.45E-06	1.50E-03	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	5.67E-03	1.52E-06	2.06E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	6.76E-03	2.02E-06	2.29E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	9.78E-03	1.46E-06	1.15E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),567 m	1.12E-02	1.36E-06	9.34E-05	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22,

				2013
Slope (200–2,000),609 m	3.86E-03	2.98E-06	5.94E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	6.11E-03	3.25E-06	4.09E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	4.81E-03	2.99E-06	4.78E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	4.95E-03	2.74E-06	4.26E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	4.64E-03	2.35E-06	3.90E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	7.89E-03	1.20E-05	1.17E-03	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	3.82E-03	1.51E-06	3.03E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),609 m	4.82E-03	2.23E-06	3.56E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	2.74E-03	1.70E-06	4.76E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	3.46E-03	2.24E-06	4.98E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	4.44E-03	2.46E-06	4.25E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	4.01E-03	1.93E-06	3.70E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	4.46E-03	2.45E-06	4.23E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	4.45E-03	1.58E-06	2.73E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	4.34E-03	2.00E-06	3.55E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Slope (200–2,000),287 m	5.54E-03	1.89E-06	2.63E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	4.16E-03	4.06E-06	7.49E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	5.46E-03	3.64E-06	5.13E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	4.54E-03	2.51E-06	4.24E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	6.25E-03	2.59E-06	3.19E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	6.97E-03	2.81E-06	3.10E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147	7.13E-03	4.12E-06	4.45E-04	2016 R/V Endeavor: EN528 Water and

m				Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	7.63E-03	3.12E-06	3.14E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
Outer shelf (50–200), 147 m	9.30E-03	3.39E-06	2.80E-04	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
inner shelf (10-50m) 28 m	-	5.00E-03	-	2005 Environmental control on anaerobic oxidation of methane in the gassy sediments of Eckernförde Bay
inner shelf (10-50m) 28 m	-	1.00E-04	-	2005 Environmental control on anaerobic oxidation of methane in the gassy sediments of Eckernförde Bay
Rise (2,000–3,500), 3200 m	-	9.13E-10	-	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500), 3200 m	1.54E-02	3.42E-10	1.71E-08	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500), 3200 m	-	1.10E-09	-	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500), 2500 m	-	5.22E-07	-	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500), 2770 m	-	1.31E-06	-	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500), 4312 m	-	5.07E-07	-	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500), 4000 m	-	1.41E-04	-	2011 Quantitative analysis of anaerobic oxidation of methane (AOM) in marine sediments: A modeling perspective
Rise (2,000–3,500),3200 m	-	2.74E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	5.48E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	6.15E-01	8.22E-05	1.03E-04	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	9.23E-01	1.10E-04	9.13E-05	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	1.15E+00	1.92E-04	1.28E-04	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	1.23E+00	1.64E-04	1.03E-04	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	1.54E+00	8.22E-05	4.11E-05	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	4.11E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	3.85E-01	2.74E-06	5.48E-06	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	1.37E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	8.22E-06	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	2.31E-01	3.29E-05	1.10E-04	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	1.10E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	5.48E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical
Rise (2,000–3,500),3200 m	-	2.74E-05	-	2006 Cretaceous black shales as active bioreactors=A biogeochemical

Slope (200–2,000), 800 m	-	6.85E-08	6.85E-07	2007 Rates of methanogenesis and methanotrophy in deep-sea sediment
Slope (200–2,000), 800 m	2.48E+00	5.48E-07	5.48E-06	2007 Rates of methanogenesis and methanotrophy in deep-sea sediment
Slope (200–2,000), 800 m	2.48E+00	8.22E-07	8.22E-06	2007 Rates of methanogenesis and methanotrophy in deep-sea sediment
Slope (200–2,000), 800 m	2.48E+00	1.10E-06	1.10E-05	2007 Rates of methanogenesis and methanotrophy in deep-sea sediment
Slope (200–2,000), 800 m	2.48E+00	1.64E-06	1.64E-05	2007 Rates of methanogenesis and methanotrophy in deep-sea sediment
Slope (200–2,000), 800 m	2.48E+00	1.92E-06	1.92E-05	2007 Rates of methanogenesis and methanotrophy in deep-sea sediment
inner shelf (10-50m) 45 m	2.48E+00	1.50E-04	3.75E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	3.00E-04	5.00E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	2.50E-04	3.13E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	1.50E-04	1.50E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	4.00E-04	2.00E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	2.00E-04	6.67E-04	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	1.20E-04	3.00E-04	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	2.50E-04	5.00E-04	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	6.00E-04	4.00E-04	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	1.20E-03	1.20E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	1.35E-03	1.35E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	1.80E-03	1.80E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	2.10E-03	2.10E-03	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
inner shelf (10-50m) 45 m	2.48E+00	1.00E-05	5.00E-06	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	1.00E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	2.00E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	1.50E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	2.30E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine

				sediments
Slope (200–2,000), 391 m	-	3.00E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	2.00E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	5.00E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	3.00E-03	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Slope (200–2,000), 391 m	-	4.00E-04	-	2008 Thermodynamic and kinetic control on anaerobic oxidation of methane in marine sediments
Outer shelf (50–200), 65 m	3.85E-02	1.00E-04	2.00E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	9.62E-02	1.00E-03	8.00E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	1.92E-01	2.00E-03	8.00E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	3.46E-01	6.00E-03	1.33E-02	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	4.62E-01	3.50E-03	5.83E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	6.15E-01	2.00E-03	2.50E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	8.46E-02	2.00E-03	1.82E-02	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	1.54E-01	2.50E-03	1.25E-02	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	2.31E-01	5.00E-03	1.67E-02	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	3.08E-01	1.20E-02	3.00E-02	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	5.00E-01	5.00E-03	7.69E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	6.69E-01	2.50E-03	2.87E-03	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Outer shelf (50–200), 65 m	8.46E-01	2.00E-04	1.82E-04	2000 Sulfate Reduction in Marine Sediments, Marine Geochemistry
Slope (200–2,000),377 m	-	1.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	2.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	3.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	5.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	6.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	3.85E-03	1.00E-04	2.00E-02	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	1.54E-02	1.50E-04	7.50E-03	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	6.15E-01	1.80E-04	2.25E-04	2016 Anaerobic oxidation of methane alters sediment records of sulfur,

				iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	1.00E+00	1.60E-04	1.23E-04	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	1.38E+00	9.00E-05	5.00E-05	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	5.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	3.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	2.00E-05	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),377 m	-	5.00E-06	-	2016 Anaerobic oxidation of methane alters sediment records of sulfur, iron and phosphorus in the Black Sea
Slope (200–2,000),1200 m	-	2.74E-07	-	2013 Anaerobic methane oxidation in low-organic content methane seep sediments
Slope (200–2,000),1200 m	-	2.74E-06	-	2013 Anaerobic methane oxidation in low-organic content methane seep sediments
Slope (200–2,000),1200 m	-	5.48E-06	-	2013 Anaerobic methane oxidation in low-organic content methane seep sediments
Slope (200–2,000),1200 m	-	9.59E-06	-	2013 Anaerobic methane oxidation in low-organic content methane seep sediments
Slope (200–2,000),1200 m	-	1.67E-05	-	2013 Anaerobic methane oxidation in low-organic content methane seep sediments
Slope (200–2,000),1200 m	-	6.80E-04	-	2013 Anaerobic methane oxidation in low-organic content methane seep sediments
Slope (200–2,000), 308m	-	5.00E-05	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	5.00E-05	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	1.00E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	1.00E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	1.50E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	2.00E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	2.00E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	3.00E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	3.50E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	6.00E-04	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	2.00E-03	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000), 308m	-	3.10E-03	-	2007 Biogeochemistry and biodiversity of methane cycling in subsurface marine sediments
Slope (200–2,000),850 m	8.46E-01	1.41E-01	1.28E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),850 m	8.46E-01	3.87E-02	3.52E-02	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),850 m	8.46E-01	5.72E-01	5.20E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),850 m	8.46E-01	4.33E-03	3.94E-03	2021 Carbonate-hosted microbial communities

				are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),850 m	8.46E-01	8.42E-02	7.66E-02	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),850 m	8.46E-01	1.17E-01	1.06E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1300 m	8.46E-01	1.91E-01	1.74E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1300 m	8.46E-01	1.49E-01	1.35E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1300 m	8.46E-01	1.91E-01	1.74E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1300 m	8.46E-01	1.89E-01	1.72E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	8.46E-01	2.00E-02	1.82E-02	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	8.46E-01	1.20E-02	1.09E-02	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	8.46E-01	3.80E-02	3.45E-02	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	8.46E-01	5.82E-03	5.29E-03	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	8.46E-01	5.82E-01	5.29E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),745 m	8.46E-01	1.09E-01	9.91E-02	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),745 m	8.46E-01	2.01E-01	1.83E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),745 m	8.46E-01	5.42E+00	4.93E+00	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),745 m	8.46E-01	4.36E+00	3.96E+00	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),745 m	8.46E-01	8.33E-01	7.57E-01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),700 m	7.69E-01	1.13E+00	-	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),700 m	7.69E-01	3.14E+00	-	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),700 m	7.69E-01	6.54E+00	-	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),597 m	4.85E-02	1.60E-03	2.54E-02	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations
Slope (200–2,000),597 m	2.91E-01	6.80E-03	1.80E-02	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations
Slope (200–2,000),597 m	2.86E-01	5.00E-03	1.34E-02	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations

Slope (200–2,000),597 m	1.54E-01	7.80E-03	3.90E-02	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations
Slope (200–2,000),597 m	2.75E-01	1.82E-02	5.09E-02	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations
Slope (200–2,000),597 m	2.22E-01	1.89E-02	6.54E-02	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations
Rise (2,000–3,500),2428 m	2.15E+00	8.00E-02	-	2012 Anaerobic methane oxidation in metalliferous hydrothermal sediments: influence on carbon flux and decoupling from sulfate reduction
Rise (2,000–3,500),2428 m	2.15E+00	5.00E-02	-	2012 Anaerobic methane oxidation in metalliferous hydrothermal sediments: influence on carbon flux and decoupling from sulfate reduction
Rise (2,000–3,500),2428 m	2.15E+00	1.00E-01	-	2012 Anaerobic methane oxidation in metalliferous hydrothermal sediments: influence on carbon flux and decoupling from sulfate reduction
inner shelf (10-50m)28 m	1.15E+01	5.65E+00	-	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000), 700m	1.15E+01	1.02E+01	-	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000), 650m	1.15E+01	1.69E+01	-	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),880 m	1.42E+00	1.44E-02	7.78E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-76
Slope (200–2,000),880 m	2.07E+00	1.42E-01	5.26E-02	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-77
Slope (200–2,000),880 m	1.78E+00	3.99E-03	1.72E-03	2019 Sediment geochemistry and process rate measurements aboard the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-26 to 2016-08-78
Slope (200–2,000), 1046 m	1.39E+00	7.45E-03	4.14E-03	R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2022
Slope (200–2,000), 1046 m	1.10E+00	4.74E-04	3.32E-04	R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2023
Slope (200–2,000), 1046 m	1.71E+00	1.08E-03	4.84E-04	R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2024
Slope (200–2,000), 1046 m	1.27E+00	2.23E-03	1.35E-03	R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2025
Slope (200–2,000),520m	2.50E+00	1.42E-01	-	2009 Manganese- and Iron-Dependent Marine Methane Oxidation
inner shelf (10-50m) 45 m	1.08E+00	6.51E-02	4.65E-02	2019 Pressure Selects Dominant Anaerobic Methanotrophic Phylotype and Sulfate Reducing Bacteria in Coastal Marine Lake Grevelingen
inner shelf (10-50m) 45 m	4.92E+00	1.13E-01	1.77E-02	2019 Pressure Selects Dominant Anaerobic Methanotrophic Phylotype and Sulfate Reducing Bacteria in Coastal Marine Lake Grevelingen
inner shelf (10-50m) 45 m	7.84E+01	3.83E-02	3.76E-04	2019 Pressure Selects Dominant Anaerobic Methanotrophic Phylotype and Sulfate Reducing Bacteria in Coastal Marine Lake Grevelingen
inner shelf (10-50m) 45 m	1.15E+02	3.21E-02	2.14E-04	2019 Pressure Selects Dominant Anaerobic Methanotrophic Phylotype and Sulfate Reducing Bacteria in Coastal Marine Lake Grevelingen
inner shelf (10-50m) 45 m	1.52E+02	1.35E-02	6.82E-05	2019 Pressure Selects Dominant Anaerobic Methanotrophic Phylotype and Sulfate Reducing Bacteria in Coastal Marine Lake Grevelingen
Rise (2,000–3,500), 2330	1.38E+01	1.80E-03	1.00E-04	2010 New constraints on methane fluxes and

m				rates of anaerobic methane oxidation in a Gulf of Mexico brine pool via in situ mass spectrometry
Rise (2,000–3,500), 2330 m	2.69E+01	3.50E-03	1.00E-04	2010 New constraints on methane fluxes and rates of anaerobic methane oxidation in a Gulf of Mexico brine pool via in situ mass spectrometry
Slope (200–2,000),1000-2000 m	3.85E+01	4.80E+00	9.60E-02	2019 Remarkable Capacity for Anaerobic Oxidation of Methane at High Methane Concentration
Slope (200–2,000),1000-2000 m	7.69E+00	3.60E+00	3.60E-01	2019 Remarkable Capacity for Anaerobic Oxidation of Methane at High Methane Concentration
Slope (200–2,000),1000-2000 m	3.85E+00	2.80E-01	5.60E-02	2019 Remarkable Capacity for Anaerobic Oxidation of Methane at High Methane Concentration
inner shelf (10-50m)28 m	1.15E+01	4.50E-01	3.00E-02	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),700-1250 m	1.15E+01	3.70E-01	2.47E-02	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),700-1250 m	1.15E+01	2.40E-01	1.60E-02	2005 Microbial methane turnover in different marine habitats
Slope (200–2,000),1200 m	9.87E+01	2.60E-01	3.21E-02	2018 Effect of pressure and temperature on anaerobic methanotrophic activities of a highly enriched ANME-2a community
Slope (200–2,000),1200 m	9.87E+01	6.80E-01	7.56E-02	2018 Effect of pressure and temperature on anaerobic methanotrophic activities of a highly enriched ANME-2a community
Slope (200–2,000),1200 m	2.96E+02	1.50E+00	1.15E-01	2018 Effect of pressure and temperature on anaerobic methanotrophic activities of a highly enriched ANME-2a community
Slope (200–2,000),1500-2000 m	2.48E+00	1.20E+00	8.57E-01	2011 Thermophilic anaerobic oxidation of methane by marine microbial consortia
Slope (200–2,000),850 m	3.50E+00	1.00E+00	-	2016 Artificial electron acceptors decouple archaeal methane oxidation from sulfate reduction
Slope (200–2,000), 910 m	1.50E+00	6.20E-03	-	2014 Stratified Community Responses to Methane and Sulfate Supplies in Mud Volcano Deposits: Insights from an In Vitro Experiment.
inner shelf (10-50m) 45 m	2.00E+00	5.00E-02	-	2017 Anaerobic Methane-Oxidizing Microbial Community in a Coastal Marine Sediment: Anaerobic Methanotrophy Dominated by ANME-3
inner shelf (10-50m) 45 m	2.00E+00	1.70E-01	-	2017 Anaerobic Methane-Oxidizing Microbial Community in a Coastal Marine Sediment: Anaerobic Methanotrophy Dominated by ANME-3
Slope (200–2,000),520m	2.50E+00	1.64E-02	-	2009 Manganese- and Iron-Dependent Marine Methane Oxidation
inner shelf (10-50m)	1.00E+02	4.60E-02	-	2015 Growth of Anaerobic Methane-Oxidizing Archaea and Sulfate-Reducing Bacteria in a High-Pressure Membrane
Slope (200–2,000),597 m	9.41E-02	8.00E-04	6.54E-03	2016 Sediment geochemistry and alkane oxidation rates from sediments collected November 2010 and experimental incubations
Slope (200–2,000),850 m	7.58E+01	1.13E+01	1.03E+01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1300 m	7.58E+01	1.02E+01	9.32E+00	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	7.58E+01	7.44E+00	6.76E+00	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),1000-2000 m	7.58E+01	2.35E+00	2.14E+00	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites

Slope (200–2,000),745 m	7.58E+01	2.80E+01	2.54E+01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites
Slope (200–2,000),745 m	7.58E+01	1.15E+01	1.04E+01	2021 Carbonate-hosted microbial communities are prolific and pervasive methane oxidizers at geologically diverse marine methane seep sites

Table S7. The rates of aerobic methane oxidation in marine environment.

Marine, Aerobic			
CH_4 (atm)	Rates (µmol/g/d or µmol/cm^3/d)	K (d^{-1})	Reference
2.25E-07	9.00E-09	3.00E-02	2020 Methane Seeps and Independent Methane Plumes in the South China Sea Offshore Taiwan
5.90E-07	4.25E-09	5.40E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.41E-06	2.28E-09	1.21E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.80E-06	3.60E-09	1.50E-03	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
1.80E-06	3.60E-09	1.50E-03	2010 Distributions of putative aerobic methanotrophs in diverse pelagic marine environments
1.91E-06	3.51E-09	1.38E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
2.04E-06	2.85E-09	1.04E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
2.48E-06	3.23E-09	9.77E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
2.62E-06	2.80E-09	8.00E-04	2010 Distributions of putative aerobic methanotrophs in diverse pelagic marine environments
2.97E-06	2.97E-08	7.50E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.08E-06	2.13E-08	5.20E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.16E-06	2.34E-08	5.56E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.29E-06	4.60E-08	1.05E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.31E-06	2.06E-08	4.65E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.34E-06	1.30E-09	2.91E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.36E-06	2.26E-10	5.03E-05	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.46E-06	2.27E-09	4.91E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.48E-06	4.03E-09	8.68E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.49E-06	7.07E-09	1.52E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.49E-06	3.07E-08	6.60E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.49E-06	1.53E-10	3.28E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
3.51E-06	8.39E-08	1.79E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.53E-06	1.39E-07	2.94E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.56E-06	8.41E-09	1.77E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.57E-06	1.08E-07	2.27E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14

3.61E-06	2.54E-09	5.26E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.64E-06	1.10E-07	2.26E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.68E-06	3.42E-08	6.95E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.70E-06	3.40E-08	6.89E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.75E-06	1.50E-10	3.00E-05	2010 Methane Oxidation in the Eastern Tropical North Pacific
3.75E-06	2.00E-10	4.00E-05	2010 Methane Oxidation in the Eastern Tropical North Pacific
3.76E-06	8.55E-08	1.71E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.76E-06	1.81E-07	3.60E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.77E-06	1.88E-10	3.73E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
3.79E-06	1.38E-07	2.72E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.87E-06	9.77E-08	1.89E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.87E-06	8.95E-08	1.73E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.92E-06	3.47E-08	6.64E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.95E-06	7.26E-08	1.38E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.96E-06	2.06E-09	3.90E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
3.97E-06	6.86E-08	1.29E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.00E-06	2.51E-07	4.71E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.02E-06	8.35E-08	1.56E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.03E-06	3.09E-10	5.75E-05	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.04E-06	3.66E-10	6.79E-05	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.09E-06	1.29E-09	2.37E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.09E-06	1.23E-07	2.25E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.12E-06	1.00E-08	1.82E-03	2010 Distributions of putative aerobic methanotrophs in diverse pelagic marine environments
4.19E-06	1.24E-07	2.21E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.25E-06	1.36E-07	2.39E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.28E-06	9.54E-11	1.67E-05	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.28E-06	9.09E-08	1.59E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.33E-06	5.51E-08	9.53E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.38E-06	7.45E-07	1.27E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.44E-06	5.96E-08	1.01E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.49E-06	2.94E-10	4.91E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
4.49E-06	3.00E-10	5.00E-05	2010 Methane Oxidation in the Eastern Tropical North Pacific
4.50E-06	5.59E-07	9.30E-02	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2013
4.65E-06	5.16E-07	8.30E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise

			EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.66E-06	9.27E-10	1.49E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
4.67E-06	7.88E-07	1.27E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.69E-06	4.97E-09	7.92E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.80E-06	3.69E-09	5.76E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
4.87E-06	4.77E-08	7.33E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.95E-06	2.24E-07	3.39E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.09E-06	2.61E-07	3.84E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.18E-06	1.88E-09	2.72E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.24E-06	1.00E-09	1.43E-04	2010 Methane Oxidation in the Eastern Tropical North Pacific
5.35E-06	6.91E-10	9.67E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.48E-06	1.67E-10	2.29E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.54E-06	2.09E-07	2.83E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.62E-06	1.50E-09	2.00E-04	2010 Methane Oxidation in the Eastern Tropical North Pacific
5.93E-06	4.06E-09	5.13E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.94E-06	4.89E-09	6.17E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.94E-06	1.00E-08	1.27E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.98E-06	2.08E-09	2.60E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.98E-06	5.56E-09	6.97E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
5.99E-06	6.00E-10	7.50E-05	2010 Methane Oxidation in the Eastern Tropical North Pacific
6.16E-06	2.86E-08	3.48E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
6.17E-06	3.66E-09	4.44E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
6.30E-06	8.60E-11	1.02E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
6.31E-06	6.33E-10	7.51E-05	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
6.33E-06	2.32E-10	2.75E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
6.40E-06	1.70E-08	1.99E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
6.51E-06	1.52E-10	1.75E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
6.63E-06	9.62E-07	1.09E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
6.65E-06	4.14E-09	4.66E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
6.74E-06	1.54E-07	1.71E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
6.80E-06	1.13E-08	1.24E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.03E-06	1.05E-08	1.12E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
7.05E-06	1.54E-08	1.64E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.22E-06	4.58E-07	4.75E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise

			EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
7.24E-06	1.21E-08	1.25E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.37E-06	1.24E-08	1.26E-03	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.54E-06	1.58E-07	1.57E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
7.85E-06	3.86E-09	3.68E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.88E-06	4.05E-10	3.85E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.92E-06	8.71E-09	8.24E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
7.93E-06	9.75E-07	9.20E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
8.06E-06	9.43E-09	8.76E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
8.08E-06	1.80E-06	1.67E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
8.33E-06	1.91E-08	1.72E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
8.40E-06	1.85E-07	1.65E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
8.73E-06	4.57E-09	3.92E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
8.99E-06	1.00E-07	8.33E-03	2010 Methane Oxidation in the Eastern Tropical North Pacific
9.44E-06	1.06E-09	8.42E-05	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
9.73E-06	4.89E-09	3.76E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
9.89E-06	2.49E-08	1.88E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.00E-05	2.04E-08	1.52E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.00E-05	8.62E-09	6.44E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.01E-05	3.40E-10	2.53E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.06E-05	4.99E-10	3.53E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.07E-05	1.99E-06	1.39E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.10E-05	9.77E-08	6.66E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.15E-05	4.90E-09	3.18E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.18E-05	7.80E-09	4.95E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.24E-05	3.57E-09	2.16E-04	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.24E-05	1.66E-06	9.97E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.25E-05	4.43E-09	2.66E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.26E-05	2.45E-06	1.46E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.27E-05	4.37E-10	2.58E-05	2017 R/V Endeavor: EN559 Water Column Chemistry and microbial process rate measurements, Gulf of Mexico, May 29 - June 20, 2015
1.27E-05	4.12E-08	2.42E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20

1.28E-05	4.88E-08	2.85E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.31E-05	2.41E-06	1.38E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.33E-05	1.22E-06	6.87E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.50E-05	1.20E-06	6.00E-02	1989 Methane oxidation in Saanich Inlet during summer stratification
1.56E-05	6.57E-09	3.16E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.59E-05	1.10E-09	5.17E-05	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.59E-05	1.10E-03	5.17E+01	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.61E-05	5.22E-08	2.43E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.63E-05	3.50E-10	1.61E-05	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.65E-05	2.58E-08	1.17E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.72E-05	1.11E-07	4.84E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.76E-05	7.19E-08	3.06E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.79E-05	4.21E-08	1.76E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.79E-05	1.44E-07	6.02E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.85E-05	1.78E-07	7.18E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.86E-05	1.34E-07	5.39E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.89E-05	3.95E-06	1.56E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.91E-05	1.44E-09	5.63E-05	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
1.97E-05	1.89E-07	7.18E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.06E-05	1.88E-07	6.84E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.09E-05	4.32E-07	1.55E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
2.24E-05	5.01E-08	1.67E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.26E-05	4.19E-06	1.39E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
2.27E-05	1.42E-06	4.69E-02	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2014
2.35E-05	6.44E-09	2.06E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20

2.35E-05	1.38E-08	4.40E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.36E-05	4.64E-07	1.47E-02	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.49E-05	2.51E-07	7.56E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.56E-05	2.75E-07	8.06E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.59E-05	7.97E-09	2.30E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.63E-05	2.47E-08	7.02E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.64E-05	2.08E-07	5.89E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.69E-05	4.71E-08	1.31E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.73E-05	5.49E-09	1.51E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.75E-05	2.07E-07	5.63E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.77E-05	1.14E-07	3.06E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.95E-05	1.19E-08	3.03E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
2.96E-05	2.04E-08	5.16E-04	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
3.29E-05	5.04E-07	1.15E-02	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
3.42E-05	2.97E-06	6.50E-02	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2014
3.53E-05	4.05E-07	8.60E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
3.64E-05	5.00E-06	1.03E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.68E-05	6.23E-06	1.27E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
3.83E-05	2.64E-07	5.17E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
3.91E-05	4.81E-06	9.22E-02	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2014
3.94E-05	2.81E-06	5.34E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.05E-05	9.50E-06	1.76E-01	2010 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
4.26E-05	4.48E-06	7.87E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.00E-05	5.80E-07	8.69E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20

5.37E-05	5.35E-07	7.45E-03	2019 Methane concentration and oxidation rates in water column data collected aboard the R/V Sikuliaq in the northern Chukchi Sea from 2017-08-11 to 2017-08-20
5.63E-05	5.69E-05	7.58E-01	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
5.99E-05	2.50E-07	3.13E-03	1989 Methane oxidation in Saanich Inlet during summer stratification
6.02E-05	1.26E-06	1.57E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
6.02E-05	6.50E-06	8.08E-02	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
6.81E-05	1.33E-07	1.46E-03	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
6.95E-05	1.04E-05	1.13E-01	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2017
7.51E-05	3.24E-06	3.23E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
8.76E-05	7.67E-06	6.55E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.03E-04	1.08E-05	7.81E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.06E-04	6.00E-07	4.23E-03	2010 Distributions of putative aerobic methanotrophs in diverse pelagic marine environments
1.14E-04	9.38E-06	6.15E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.16E-04	1.74E-05	1.12E-01	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
1.17E-04	1.84E-05	1.18E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.27E-04	1.42E-05	8.40E-02	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
1.34E-04	2.67E-05	1.49E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
1.43E-04	5.06E-05	2.66E-01	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
1.92E-04	1.00E-05	3.89E-02	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
2.05E-04	7.00E-07	2.55E-03	2010 Distributions of putative aerobic methanotrophs in diverse pelagic marine environments
2.05E-04	7.00E-07	2.55E-03	2010 Distributions of putative aerobic methanotrophs in diverse pelagic marine environments
2.54E-04	2.05E-07	6.04E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
2.54E-04	2.05E-07	6.04E-04	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
2.57E-04	2.81E-05	8.19E-02	2003 Methane Oxidation Potential in the Water Column of Two Diverse Coastal Marine Sites
2.62E-04	2.00E-06	5.71E-03	1989 Methane oxidation in Saanich Inlet during summer stratification
4.26E-04	9.33E-05	1.64E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
4.26E-04	9.33E-05	1.64E-01	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.12E-04	3.60E-05	5.27E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
5.28E-04	3.16E-05	4.47E-02	2019 Water column chemistry data collected on board the R/V Endeavor cruise EN586 in the northern Gulf of Mexico from 2016-07-24 to 2016-08-14
2.10E-03	2.00E-06	7.14E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
2.47E-03	4.36E-04	1.32E-01	2016 R/V Endeavor: EN528 Water and Sediment Chemistry, Gulf of Mexico, July 7-22, 2018
2.47E-03	4.20E-05	1.27E-02	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
3.00E-03	3.40E-11	8.50E-09	2015 Methane oxidation in the eastern tropical North Pacific Ocean water column
3.00E-03	4.00E-06	1.00E-03	2015 Methane oxidation in the eastern tropical North Pacific Ocean water column
3.45E-03	1.00E-06	2.17E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill

3.89E-03	1.00E-06	1.92E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
3.97E-03	1.00E-06	1.89E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
6.74E-03	1.00E-06	1.11E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
8.24E-03	7.00E-06	6.36E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
8.99E-03	4.40E-05	3.67E-03	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
9.74E-03	8.20E-04	6.31E-02	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
2.02E-02	1.50E-05	5.56E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
2.17E-02	1.00E-05	3.45E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
2.77E-02	9.00E-06	2.43E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
3.60E-02	9.00E-06	1.88E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
4.12E-02	1.90E-05	3.45E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
4.64E-02	1.40E-05	2.26E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
4.79E-02	2.10E-05	3.28E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
5.69E-02	1.80E-05	2.37E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
6.14E-02	2.50E-05	3.05E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
7.34E-02	1.20E-05	1.22E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
9.51E-02	1.10E-05	8.66E-05	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
9.96E-02	2.30E-05	1.73E-04	2010 Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill
2.00E-01	4.00E-02	-	2005 Microbial methane turnover in different marine habitats
2.00E-01	3.00E-02	-	2005 Microbial methane turnover in different marine habitats
2.00E-01	1.00E-01	-	2005 Microbial methane turnover in different marine habitats
2.00E-01	1.60E-01	-	2005 Microbial methane turnover in different marine habitats
2.00E-01	4.00E-01	-	2005 Microbial methane turnover in different marine habitats
1.38E-01	5.90E-03	-	2014 The rise and fall of methanotrophy following a deepwater oil-well blowout

Table S8. The rates of anaerobic methane oxidation in freshwater systems.

Freshwaters, Anaerobic			
CH_4 (atm)	Rates (μmol/g/d or μmol/cm^3/d)	K (d^{-1})	Reference
9.50E-01	3.00E-06	2.43E-09	2016 Methane dependent denitrification- from ecosystem to laboratory-scale enrichment for engineering applications
9.50E-01	3.10E-05	2.51E-08	2017 Methane dependent denitrification- from ecosystem to laboratory-scale enrichment for engineering applications
9.50E-01	4.00E-05	3.24E-08	2018 Methane dependent denitrification- from ecosystem to laboratory-scale enrichment for engineering applications
9.50E-01	4.40E-05	3.56E-08	2019 Methane dependent denitrification- from ecosystem to laboratory-scale enrichment for engineering applications
1.00E-01	7.00E-05	5.38E-07	2020 Anaerobic oxidation of methane with denitrification in sediments of a subtropical estuary: Rates, controlling factors and environmental implications
9.50E-01	7.00E-05	5.67E-08	2018 Methane dependent denitrification- from ecosystem to laboratory-scale enrichment for engineering applications
9.50E-01	1.01E-04	8.18E-08	2018 Methane dependent denitrification- from ecosystem to laboratory-scale enrichment for engineering applications
1.00E-02	2.00E-04	1.54E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-01	2.80E-04	2.15E-06	2020 Anaerobic oxidation of methane with denitrification in sediments of a subtropical estuary: Rates, controlling factors and environmental implications
1.00E-02	4.00E-04	3.08E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	4.00E-04	3.08E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	5.00E-04	3.85E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	5.00E-04	3.85E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	8.00E-04	6.15E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	9.00E-04	6.92E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	1.10E-03	8.46E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed

1.00E-02	1.20E-03	9.23E-05	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	1.40E-03	1.08E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	1.70E-03	1.31E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	2.00E-03	1.54E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	2.20E-03	1.69E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	2.90E-03	2.23E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	3.40E-03	2.62E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	3.50E-03	2.69E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	3.60E-03	2.77E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbed
1.00E-02	4.10E-03	3.15E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
4.00E-02	4.90E-03	9.42E-05	2015 The short- and long-term effects of environmental conditions on anaerobic methane oxidation coupled to nitrite reduction
1.00E-02	5.00E-03	3.85E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	5.00E-03	3.85E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	5.50E-03	4.23E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	7.00E-03	5.38E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	1.09E-02	8.38E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	1.20E-02	9.23E-04	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-01	1.24E-02	9.54E-05	2015 The short- and long-term effects of environmental conditions on anaerobic methane oxidation coupled to nitrite reduction
1.00E-02	1.30E-02	1.00E-03	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	1.50E-02	1.15E-03	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E-02	2.10E-02	1.62E-03	2019 Active pathways of anaerobic methane oxidation across contrasting riverbeds
1.00E+00	1.10E-03	8.46E-07	2020 Anaerobic oxidation of methane and associated microbiome in anoxic water of Northwestern Siberian lakes
1.00E+00	1.07E-01	8.23E-05	2020 Comparison of Anaerobic Methane Oxidation in Different Sediment Habitats of Dianchi Lake
1.00E+00	3.17E-01	2.44E-04	2020 Comparison of Anaerobic Methane Oxidation in Different Sediment Habitats of Dianchi Lake
1.00E+00	5.78E-02	4.45E-05	2015 The short- and long-term effects of environmental conditions on anaerobic methane oxidation coupled to nitrite reduction
1.54E-02	1.40E-02	7.00E-04	2014 Nitrate-dependent anaerobic methane oxidation in a freshwater sediment
3.85E-01	4.00E-01	8.00E-04	2014 Nitrate-dependent anaerobic methane oxidation in a freshwater sediment
1.00E-01	7.20E-03	5.54E-05	2019 Denitrification-Dependent Anaerobic Oxidation of Methane in Freshwater Sediments of Reservoirs in SE Poland.
3.00E-01	2.50E-02	6.41E-05	2019 Denitrification-Dependent Anaerobic Oxidation of Methane in Freshwater Sediments of Reservoirs in SE Poland.
4.60E-03	6.00E-05	1.00E-05	2015 More evidence that anaerobic oxidation of methane is prevalent in soils: Is it time to upgrade our biogeochemical models
5.00E-02	2.00E-04	3.08E-06	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
5.30E-01	1.60E-02	2.32E-05	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
4.15E-02	1.10E-03	2.04E-05	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
6.04E-01	4.00E-04	5.10E-07	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
3.85E-02	6.00E-05	1.20E-06	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
4.23E-02	2.20E-03	4.00E-05	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
7.69E-03	1.80E-03	1.80E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
9.23E-03	4.20E-03	3.50E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
3.72E-01	1.17E-01	2.42E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
1.00E-01	1.55E-02	1.19E-04	2013 Impact of electron acceptor availability on the anaerobic oxidation of methane in coastal freshwater and brackish wetland sediments

5.00E-02	3.96E-01	6.09E-03	2019 Anaerobic Methane Oxidation in High-Arctic Alaskan Peatlands as a Significant Control on Net CH4 Flux
1.00E+00	5.14E-04	3.95E-07	2020 Microbial methane production and oxidation in the Holocene mud beneath the Kanto Plain of central Japan
7.69E-02	5.00E-03	5.00E-05	2017 Anaerobic Methanotrophic Archaea of the ANME-2d Cluster Are Active in a Low-sulfate, Iron-rich Freshwater Sediment
2.46E+00	3.42E-03	1.07E-06	2018 A methanotrophic archaeon couples anaerobic oxidation of methane to Fe(III) reduction
3.08E-01	3.60E-02	9.00E-05	2013 Anaerobic oxidation of methane in an iron-rich Danish freshwater lake sediment
5.00E-02	2.52E-01	3.88E-03	2019 Anaerobic Methane Oxidation in High-Arctic Alaskan Peatlands as a Significant Control on Net CH4 Flux
1.92E+00	2.10E-03	8.40E-07	2020 Manganese/iron-supported sulfate-dependent anaerobic oxidation of methane by archaea in lake sediments
1.92E+00	1.50E-02	6.00E-06	2020 Manganese/iron-supported sulfate-dependent anaerobic oxidation of methane by archaea in lake sediments
1.38E+00	5.00E-03	2.78E-06	2020 Manganese/iron-supported sulfate-dependent anaerobic oxidation of methane by archaea in lake sediments
1.00E+00	2.00E-03	1.54E-06	2017 Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes.
1.00E+00	6.00E-04	4.62E-07	2017 Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes.
9.09E-02	2.09E-02	1.77E-04	2018 Ubiquitous and significant anaerobic oxidation of methane in freshwater lake sediments
1.54E-06	1.81E-01	9.05E+01	2019 Rates and pathways of CH4 oxidation in ferruginous Lake Matano, Indonesia
1.54E-06	4.70E-03	2.35E+00	2019 Rates and pathways of CH4 oxidation in ferruginous Lake Matano, Indonesia
2.71E-04	2.00E-04	5.68E-04	2011 Biogeochemical modelling of anaerobic vs. aerobic methane oxidation in a meromictic crater lake (Lake Pavin, France)
2.44E-02	4.70E-02	1.48E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.44E-02	3.32E-01	1.05E-02	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
5.00E-01	4.80E-03	7.38E-06	2011 Anaerobic Oxidation of Methane in Sediments of Lake Constance, an Oligotrophic Freshwater Lake
1.00E-02	4.40E-02	3.38E-03	2011 Anaerobic Oxidation of Methane in Sediments of Lake Constance, an Oligotrophic Freshwater Lake
7.69E-03	3.60E-03	3.60E-04	2011 Anaerobic Oxidation of Methane in Sediments of Lake Constance, an Oligotrophic Freshwater Lake
7.69E-03	2.70E-03	2.70E-04	2011 Anaerobic Oxidation of Methane in Sediments of Lake Constance, an Oligotrophic Freshwater Lake
7.69E-03	1.80E-03	1.80E-04	2011 Anaerobic Oxidation of Methane in Sediments of Lake Constance, an Oligotrophic Freshwater Lake
7.69E-03	6.00E-04	6.00E-05	2011 Anaerobic Oxidation of Methane in Sediments of Lake Constance, an Oligotrophic Freshwater Lake
9.90E-03	9.60E-03	7.46E-04	2020 Anaerobic Oxidation of Methane in Freshwater Sediments of Rzeszów Reservoir
9.90E-03	3.36E-02	2.61E-03	2020 Anaerobic Oxidation of Methane in Freshwater Sediments of Rzeszów Reservoir
9.90E-03	2.16E-02	1.68E-03	2020 Anaerobic Oxidation of Methane in Freshwater Sediments of Rzeszów Reservoir
9.90E-03	2.40E-02	1.86E-03	2020 Anaerobic Oxidation of Methane in Freshwater Sediments of Rzeszów Reservoir
4.76E-02	1.10E-01	1.78E-03	2017 Anaerobic oxidation of methane by aerobic methanotrophs in sub-Arctic lake sediments
2.38E-02	4.70E-02	1.52E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	5.20E-02	1.68E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	7.50E-02	2.42E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	1.50E-01	4.85E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status

2.38E-02	2.50E-01	8.08E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	3.50E-01	1.13E-02	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	1.80E-01	5.82E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	1.20E-01	3.88E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status
2.38E-02	3.00E-01	9.70E-03	2018 Anaerobic methane oxidation potential and bacteria in freshwater lakes: Seasonal changes and the influence of trophic status

Table S9. The rates of aerobic methane oxidation in freshwater systems.

Freshwaters, Aerobic			
CH_4 (atm)	Rates (µmol/g/d or µmol/cm3/d)	K (d^{-1})	Reference
2.31E-05	8.00E-07	2.67E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
3.85E-05	1.00E-06	2.00E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
3.85E-04	2.50E-06	5.00E-06	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
7.69E-05	2.90E-06	2.90E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
7.69E-04	5.00E-06	5.00E-06	2005 Aerobic methane oxidation and methanotroph community composition during seasonal stratification in Mono Lake, California (USA)
4.62E-05	6.00E-06	1.00E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
6.15E-05	7.20E-06	9.00E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
2.31E-03	1.00E-05	3.33E-06	2005 Aerobic methane oxidation and methanotroph community composition during seasonal stratification in Mono Lake, California (USA)
2.35E-04	1.52E-05	4.98E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.54E-04	2.00E-05	1.00E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
1.54E-03	2.10E-05	1.05E-05	2005 Aerobic methane oxidation and methanotroph community composition during seasonal stratification in Mono Lake, California (USA)
1.46E-02	4.30E-05	2.26E-06	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
2.69E-04	4.60E-05	1.31E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
2.69E-03	8.00E-05	2.29E-05	2005 Aerobic methane oxidation and methanotroph community composition during seasonal stratification in Mono Lake, California (USA)
3.08E-03	1.20E-04	3.00E-05	2005 Aerobic methane oxidation and methanotroph community composition during seasonal stratification in Mono Lake, California (USA)
4.62E-05	1.34E-04	2.23E-03	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
7.23E-04	1.67E-04	1.77E-04	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
2.77E-03	6.20E-04	1.72E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
7.69E-03	8.00E-04	8.00E-05	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
3.85E-02	8.90E-04	1.78E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.92E-01	1.00E-03	4.00E-06	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
3.15E-04	1.10E-03	2.68E-03	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.00E+00	1.20E-03	-	2017 Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes.

2.40E-03	1.88E-03	6.00E-04	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
6.15E-02	1.92E-03	2.40E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.77E-01	2.50E-03	1.09E-05	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
1.44E-03	2.50E-03	1.33E-03	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
1.44E-03	2.50E-03	1.33E-03	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
1.23E-01	3.00E-03	1.88E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
2.79E-02	3.13E-03	8.62E-05	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
4.68E-01	3.70E-03	6.08E-06	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.00E+00	4.10E-03	-	2017 Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes.
3.09E-01	5.00E-03	1.24E-05	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
1.54E-05	7.20E-03	3.60E-01	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
3.85E-03	7.50E-03	1.50E-03	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
3.92E-04	8.00E-03	1.57E-02	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
4.33E-03	9.38E-03	1.67E-03	2015 Geographic and seasonal variation of dissolved methane and aerobic methane oxidation in Alaskan lakes
6.92E-04	1.20E-02	1.33E-02	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
4.68E-01	1.70E-02	2.79E-05	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
7.69E-03	1.80E-02	1.80E-03	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.00E+00	1.80E-02	-	2017 Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes.
3.23E-02	2.70E-02	6.43E-04	2018 Anaerobic methane oxidation and aerobic methane production in an east African great lake (Lake Kivu)
3.08E-02	2.90E-02	7.25E-04	2007 Significance of pelagic aerobic methane oxidation in the methane and carbon budget of a tropical reservoir
1.00E+00	4.93E-02	-	2017 Effects of alternative electron acceptors on the activity and community structure of methane-producing and consuming microbes in the sediments of two shallow boreal lakes.
1.54E-03	1.20E-01	6.00E-02	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
3.08E-03	2.88E-01	7.20E-02	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
4.62E-03	3.60E-01	6.00E-02	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
5.38E-03	4.80E-01	6.86E-02	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
4.62E-05	4.80E-02	8.00E-01	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
6.92E-05	1.08E-01	1.20E+00	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
9.15E-05	1.32E-01	1.11E+00	2015 Microbial methane cycling in the bed of a chalk river: oxidation has the potential to match methanogenesis enhanced by warming
8.46E-05	7.10E-05	6.45E-04	2019 Methane dynamics in a large river: a case study of the Elbe River
3.08E-04	4.30E-05	1.08E-04	2019 Methane dynamics in a large river: a case study of the Elbe River
3.08E-05	2.00E-09	5.00E-08	2019 Methane dynamics in a large river: a case study of the Elbe River
2.69E-05	2.00E-07	5.71E-06	2019 Methane dynamics in a large river: a case study of the Elbe River
5.77E-05	1.30E-05	1.73E-04	2019 Methane dynamics in a large river: a case study of the Elbe River

3.85E-04	2.76E-04	5.52E-04	2019 Methane dynamics in a large river: a case study of the Elbe River
2.00E-04	3.00E-05	1.15E-04	2019 Methane dynamics in a large river: a case study of the Elbe River
3.69E-04	4.00E-05	8.33E-05	2019 Methane dynamics in a large river: a case study of the Elbe River
3.15E-04	5.00E-05	1.22E-04	2019 Methane dynamics in a large river: a case study of the Elbe River
1.54E-04	1.00E-05	5.00E-05	2019 Methane dynamics in a large river: a case study of the Elbe River
1.92E-04	1.50E-05	6.00E-05	2019 Methane dynamics in a large river: a case study of the Elbe River
9.23E-05	7.00E-06	5.83E-05	2019 Methane dynamics in a large river: a case study of the Elbe River
7.69E-05	3.00E-06	3.00E-05	2019 Methane dynamics in a large river: a case study of the Elbe River
2.00E-04	6.00E-06	2.31E-05	2019 Methane dynamics in a large river: a case study of the Elbe River

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