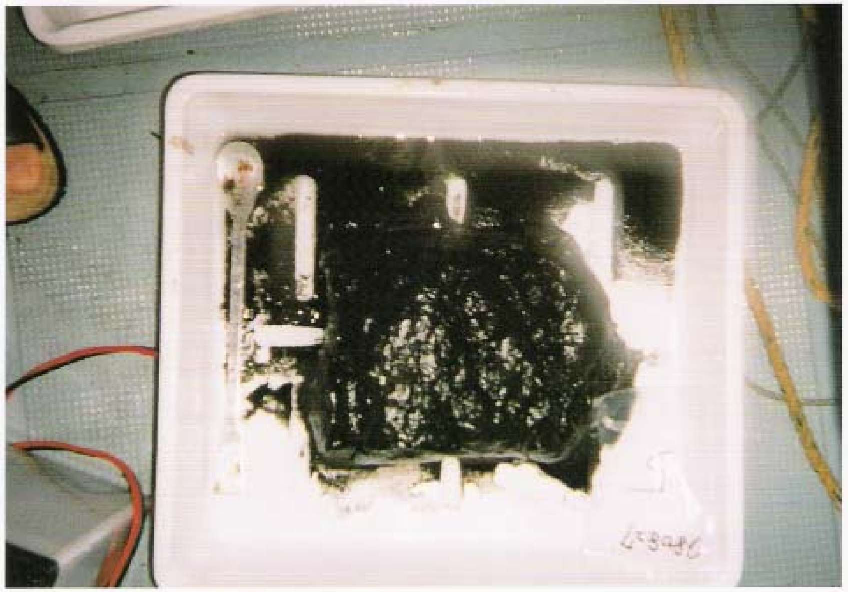
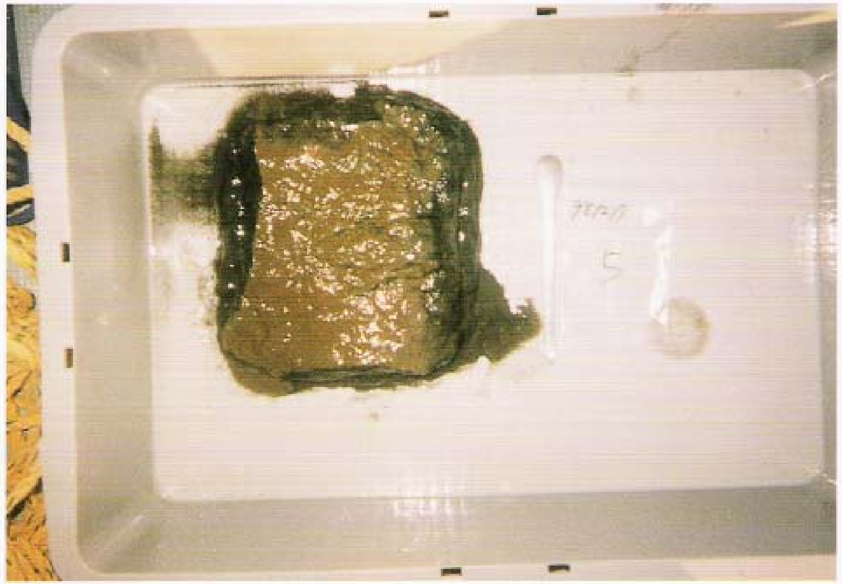
湖内情報　→　底質情報（底質から読取る環境変化）



表層は黒色で，強い硫化水素がある底泥（1998年8月27日，Station 5）



約3 mm の表層酸化褐色層を伴う底泥（1998年12月17日，Station 5）

出典：三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究），**6**, 165-177.

説明：本庄工区の底質。夏季には黒色で硫化水素臭を発したが、冬季には、表層約5mmが黄褐色の酸化層となった。

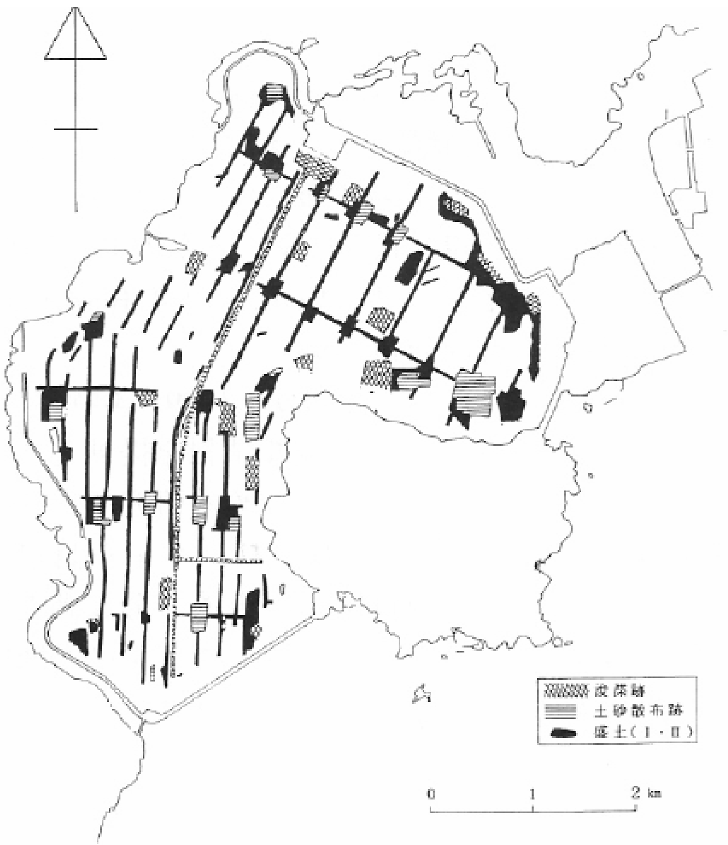


図 1. 本庄工区湖底の人為改変状況（徳岡・高安, 1992）.

Fig. 1. Map showing the bottom of the Honjo area artificially changed

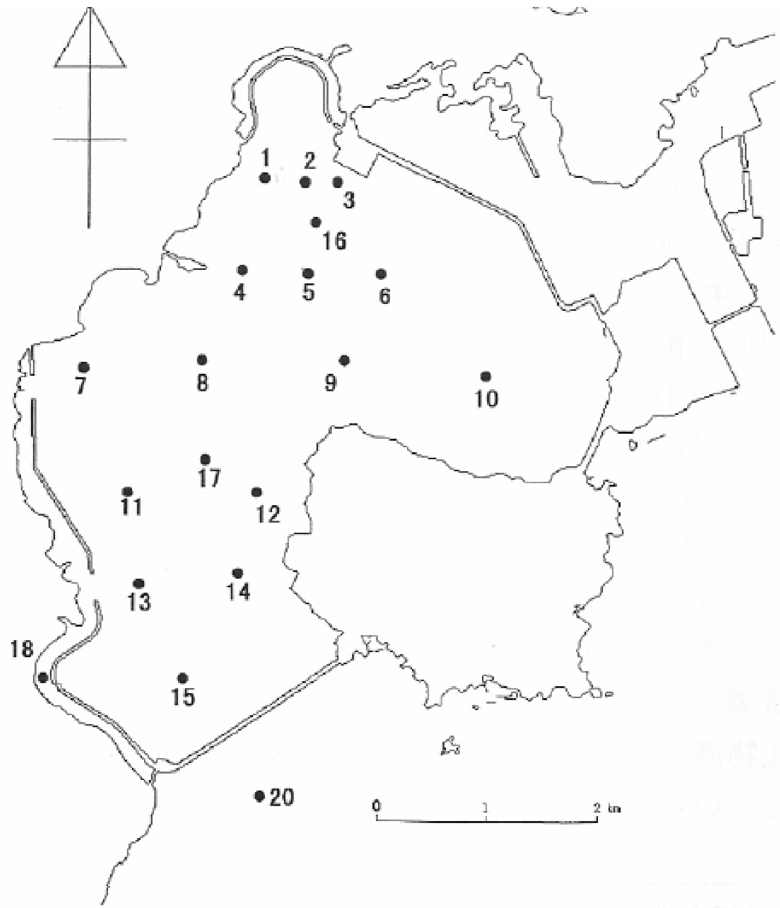


図 2. 調査地点.

Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: **本庄工区内の湖底改変状況と試料採取地点。**

表1. 底質および水質の調査期間.

Table 1. Period of observation for sediment and water.

	調査日
第1回	1997. 5/24, 6/13,26,27
第2回	1997. 9/1,2
第3回	1997. 10/22
第4回	1997. 12/16
	（1998. 3/24 潮通し開通）
第5回	1998. 3/31,4/3
第6回	1998. 6/13,15,17
第7回	1998. 8/27,28
第8回	1998. 10/29,31
第9回	1998. 12/16,17,18

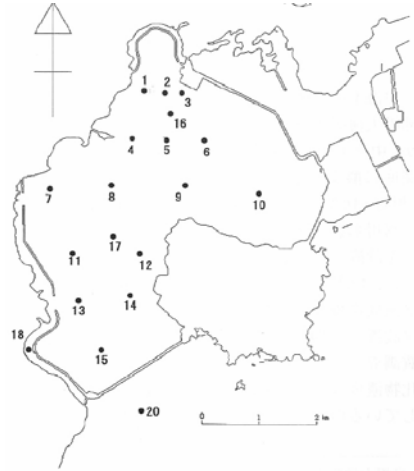


図2. 調査地点.

Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: 森山堤防塩通し実験に伴い、底質・水質調査を行った期間。

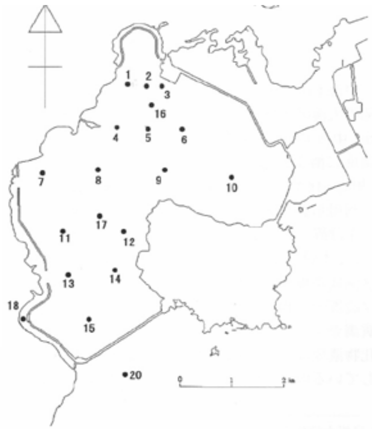


図2. 調査地点.
Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

表2. 各調査地点における底質試料の含水率および含砂率.

Table 2. Water and sand contents of surface sediment from the stations.

[Water content]

Station No.	1997 5/24-6/27 (%)	1997 9/1,2 (%)	1997 10/22 (%)	1997 12/16 (%)	1998 3/31,4/3 (%)	1998 6/13,15,17 (%)	1998 8/27,28 (%)	1998 10/29,31 (%)	1998 12/16,17,18 (%)
1	32.5	66.2	67.1	71.9	71.8	41.7	50.7	42.8	47.7
2	-	33.2	39.2	51.3	46.7	-	39.6	61.4	57.0
3	-	72.5	73.1	64.0	53.7	76.2	74.7	72.1	55.9
4	44.6	79.8	80.4	86.3	80.2	81.4	77.5	80.3	81.0
5	38.9	35.6	75.6	85.0	76.6	79.7	72.5	76.9	79.3
6	72.8	75.8	72.9	84.2	78.0	76.8	74.5	75.1	76.4
7	74.7	75.6	77.7	83.8	80.2	75.8	75.4	31.4	49.1
8	77.7	79.8	79.4	86.0	79.7	77.1	73.6	78.9	81.7
9	75.1	77.1	78.3	85.1	78.4	76.2	72.7	74.4	71.3
10	74.9	75.3	74.5	77.0	41.5	75.9	73.1	72.5	61.2
11	79.6	74.7	72.2	86.2	81.4	79.8	78.3	81.9	79.2
12	63.8	44.5	75.1	76.8	36.2	75.4	35.8	49.1	53.3
13	72.9	66.9	79.0	52.0	80.8	69.2	76.2	74.7	73.2
14	74.8	73.0	75.9	80.5	78.2	76.4	70.0	78.2	47.2
15	75.5	75.3	74.0	77.5	56.7	67.7	73.7	75.3	74.8
16	79.6	78.3	79.8	74.7	80.7	81.7	79.5	78.7	77.8
17	67.3	77.4	81.6	81.2	79.9	82.3	80.4	81.0	81.0
18	58.8	66.7	-	-	54.0	-	-	-	-
20	82.9	82.4	81.8	86.7	79.3	82.9	81.8	83.2	83.0

[Sand content]

Station No.	1997 5/24-6/27 (%)	1997 9/1,2 (%)	1997 10/22 (%)	1997 12/16 (%)	1998 3/31,4/3 (%)	1998 6/13,15,17 (%)	1998 8/27,28 (%)	1998 10/29,31 (%)	1998 12/16,17,18 (%)
1	51.6	18.3	21.1	32.9	14.7	84.2	42.8	81.7	68.2
2	-	56.3	87.8	84.7	78.2	-	85.1	53.8	59.4
3	-	14.2	21.0	50.2	71.4	6.1	9.4	23.3	57.1
4	78.1	1.0	0.9	2.7	3.0	1.9	2.4	2.3	3.1
5	80.7	73.6	2.7	2.7	11.5	3.7	18.0	14.2	7.9
6	5.8	3.0	4.8	6.7	3.9	3.8	4.6	6.4	4.4
7	7.2	16.9	4.7	3.1	2.5	4.1	4.3	92.2	72.9
8	2.3	1.0	0.6	2.1	2.2	3.2	7.5	3.0	2.7
9	4.0	4.2	4.1	6.4	5.5	10.6	15.4	10.1	31.5
10	6.0	6.5	20.0	41.2	76.2	7.0	9.2	9.9	59.1
11	2.9	5.4	8.8	21.6	3.5	3.8	3.3	3.8	4.4
12	38.1	84.2	14.7	51.4	87.1	10.9	85.3	75.1	75.7
13	7.5	41.8	2.0	62.8	3.1	10.2	3.3	5.8	13.0
14	14.1	19.5	11.7	12.0	14.4	15.6	19.9	14.8	79.6
15	8.1	8.3	15.4	24.5	32.3	11.3	8.6	11.0	14.6
16	1.4	1.6	1.3	5.7	2.4	1.6	1.6	2.5	3.3
17	19.2	9.1	26.4	11.1	7.0	1.8	1.9	6.4	4.7
18	52.7	35.8	-	-	58.3	-	-	-	-
20	0.6	1.2	0.5	6.7	0.7	1.2	0.8	0.6	0.7

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: 底質の含水率および含砂率。

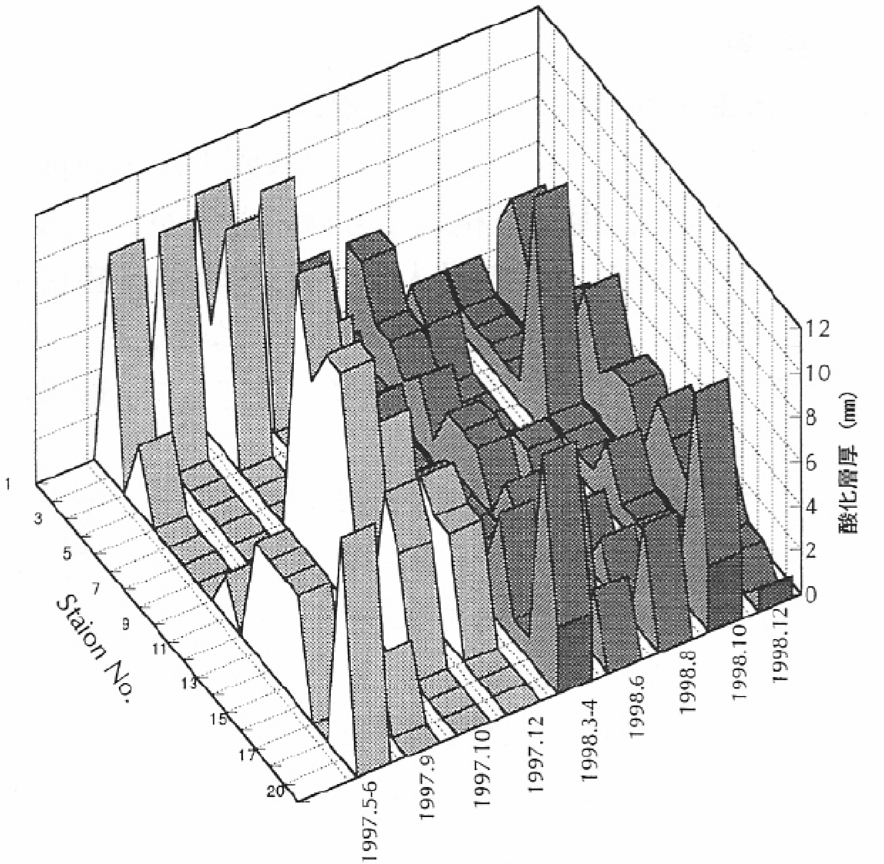


図3．各調査地点における酸化層の厚さ.

Fig. 3. Thickness of oxidized top surface mud layer at the stations.

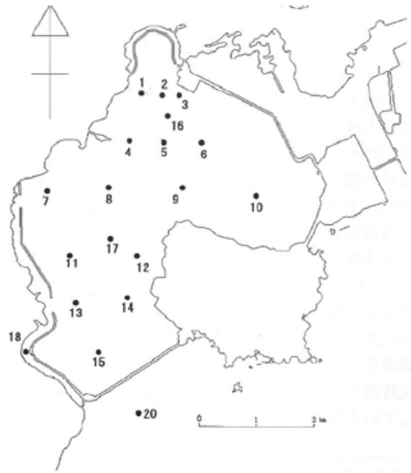


図2. 調査地点.

Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: 酸化層の厚さ(目視による)の季節変化。

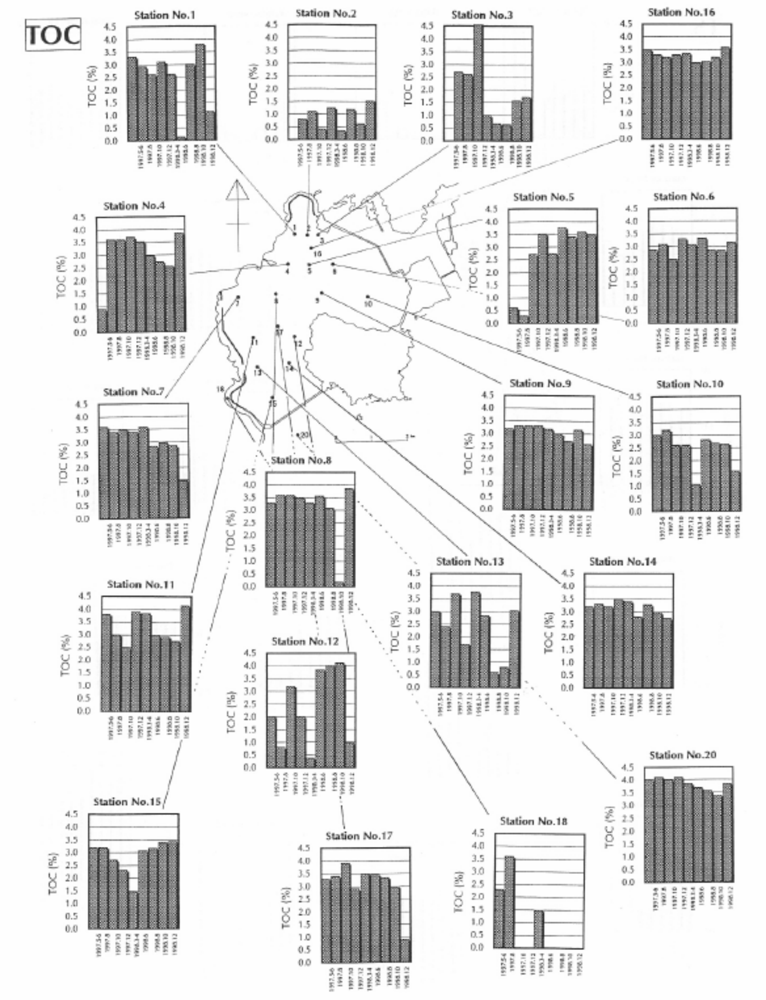


図4. 各調査地点における有機炭素（TOC）濃度の経時変化.
同 地点において濃度の低いものは砂混入の影響による.
Fig. 4. Total organic carbon (TOC) content of sediment at the stations and the seasonal changes during the observation.
Abnormally low content in TOC at the same station is due to contamination by artificial sand.

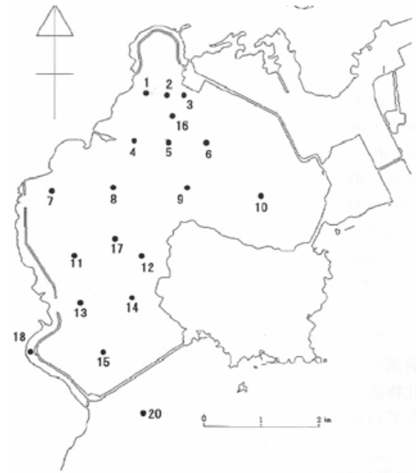


図2. 調査地点.
Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典： 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）， **6**, 165-177.

説明： **本庄工区の表層（5mm）有機炭素濃度の季節変化（極端に低いところは盛土をｻﾝﾌﾟﾘﾝｸﾞしてしまったもの）。**

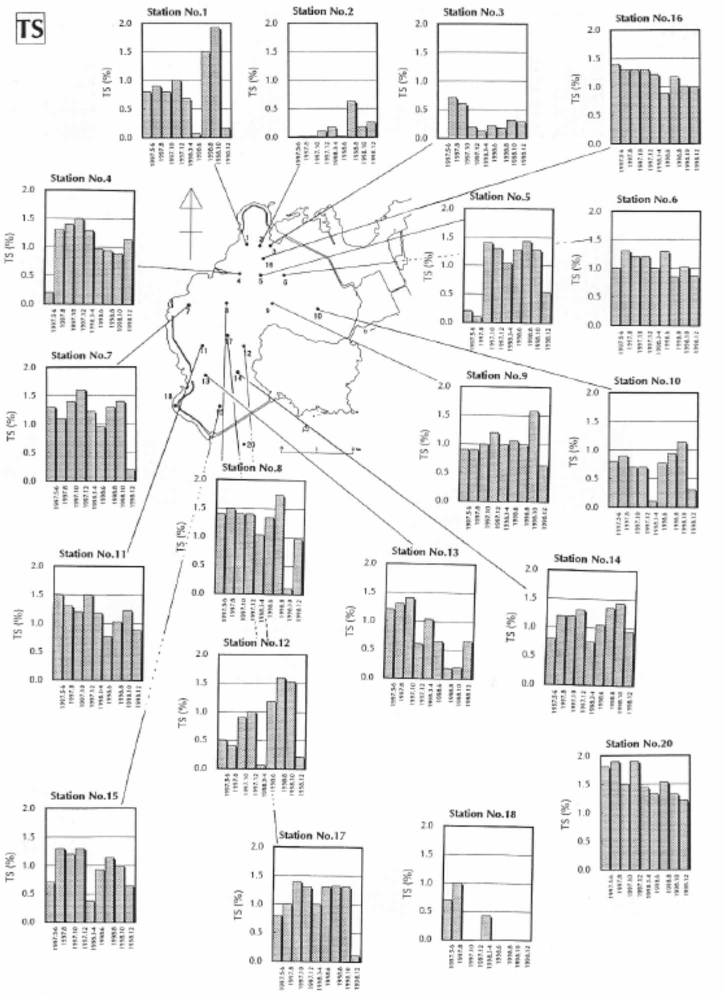


図5. 各調査地点における全イオウ（TS）濃度の経時変化.
同一地点において濃度の低いものは砂混入の影響による.
Fig. 5. Total sulfur (TS) content of sediment at the stations and the seasonal changes during the observation.
Abnormally low content in TOC at the same station is due to contamination by artifical sand.

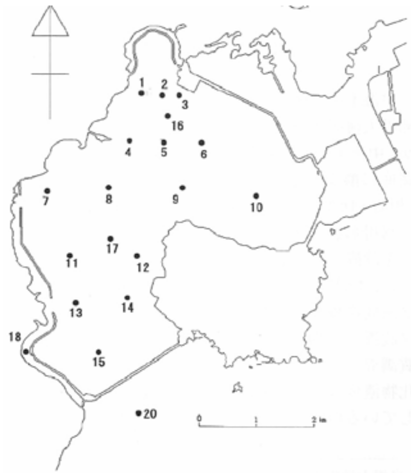


図2. 調査地点.
Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: **本庄工区の表層(5mm)全イオウ濃度の季節変化(極端に低いところは盛土をｻﾝﾌﾟﾘﾝｸﾞしてしまったもの)。**

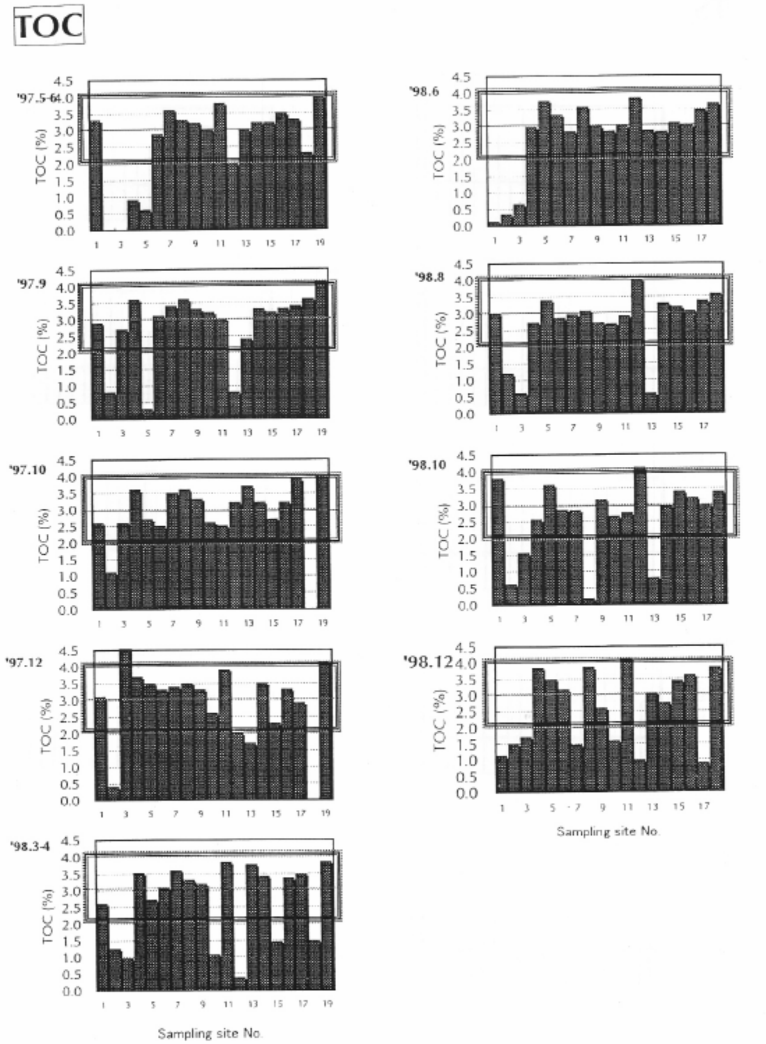


図6. 試料採取時毎の全地点のTOC濃度分布.
Fig. 6. TOC distributions of all stations at every sampling period.

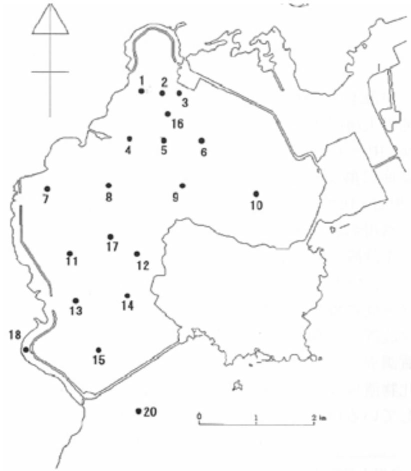


図2. 調査地点.
Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: 本庄工区の表層(5mm)有機炭素濃度の場所ごとの違い。

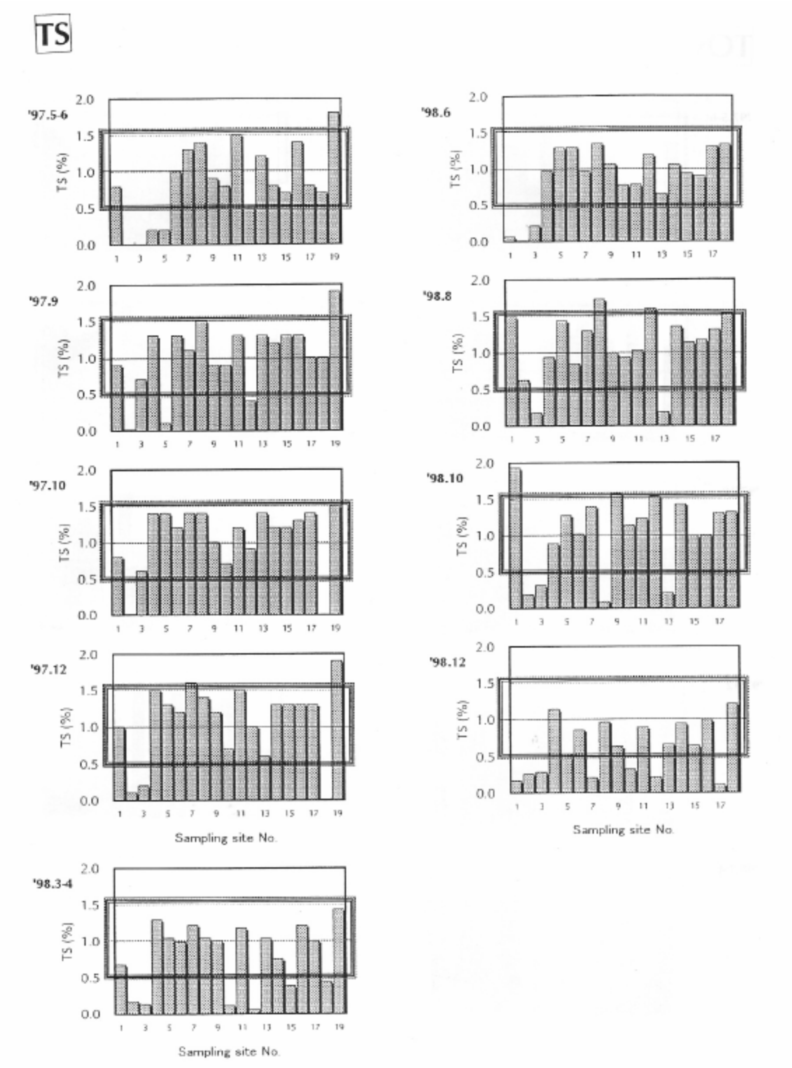


図7．試料採取時毎の全地点のTS濃度分布.
Fig. 7. TS distributions of all stations at every sampring period.

図2．調査地点.
Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典：三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明：**本庄工区の表層(5mm)全イオウ濃度の場所ごとの違い。**

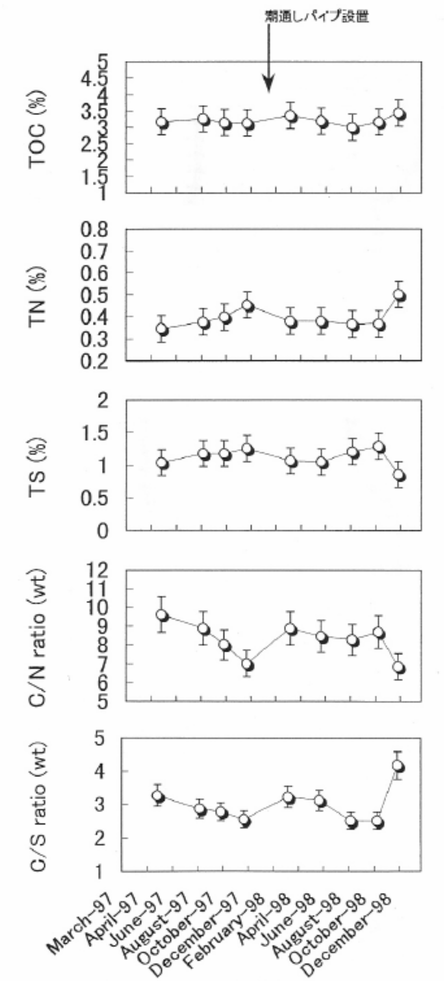


図8. TOC, TN, TS, C/N 比および C/S 比の全地点平均値の経時変化.
Fig. 8. Seasonal changes in average TOC, TN, TS, C/N ratio and C/S ratio of all stations.

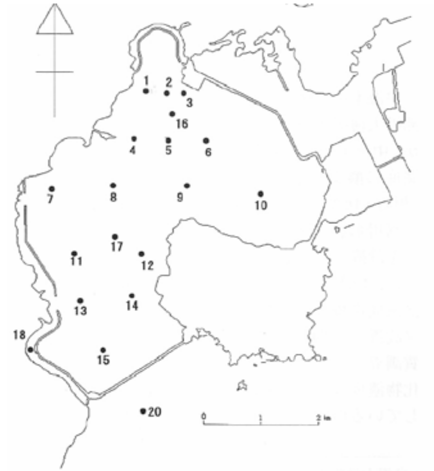


図2. 調査地点.
Fig. 2. Map showing the stations where surface sediment was collect and water profile was investigated.

出典: 三瓶良和・徳岡隆夫・藤森恒至・吉松康仁（1999）中海本庄工区の底質環境. LAGUNA（汽水域研究）, **6**, 165-177.

説明: 塩通しパイプ設置前後での底質の変化。明瞭な変化は認められなかった。

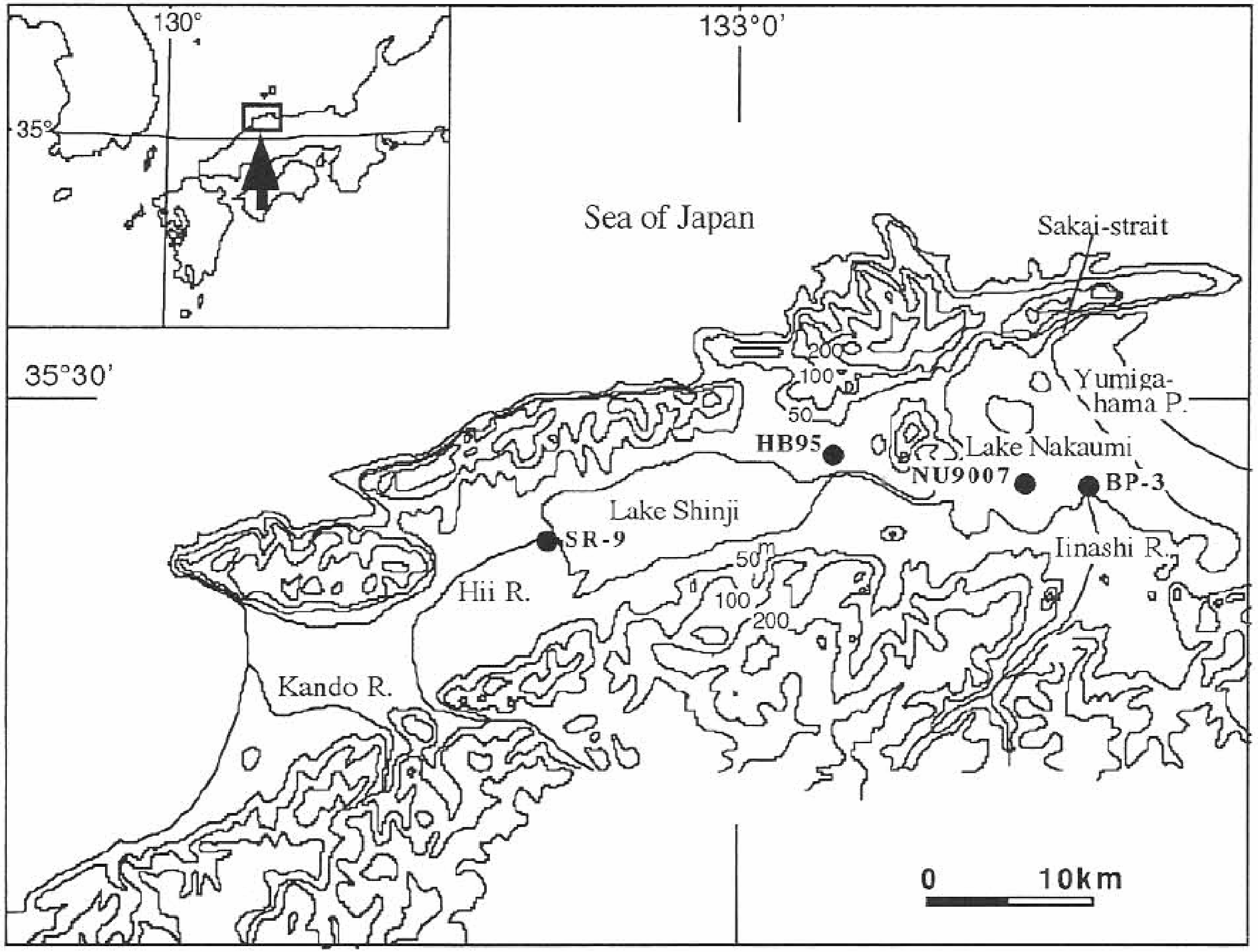


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

出典: Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明: 有機物生産の古環境復元のための堆積物柱状試料採取地点

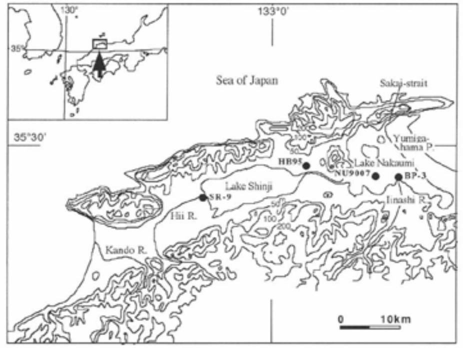


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

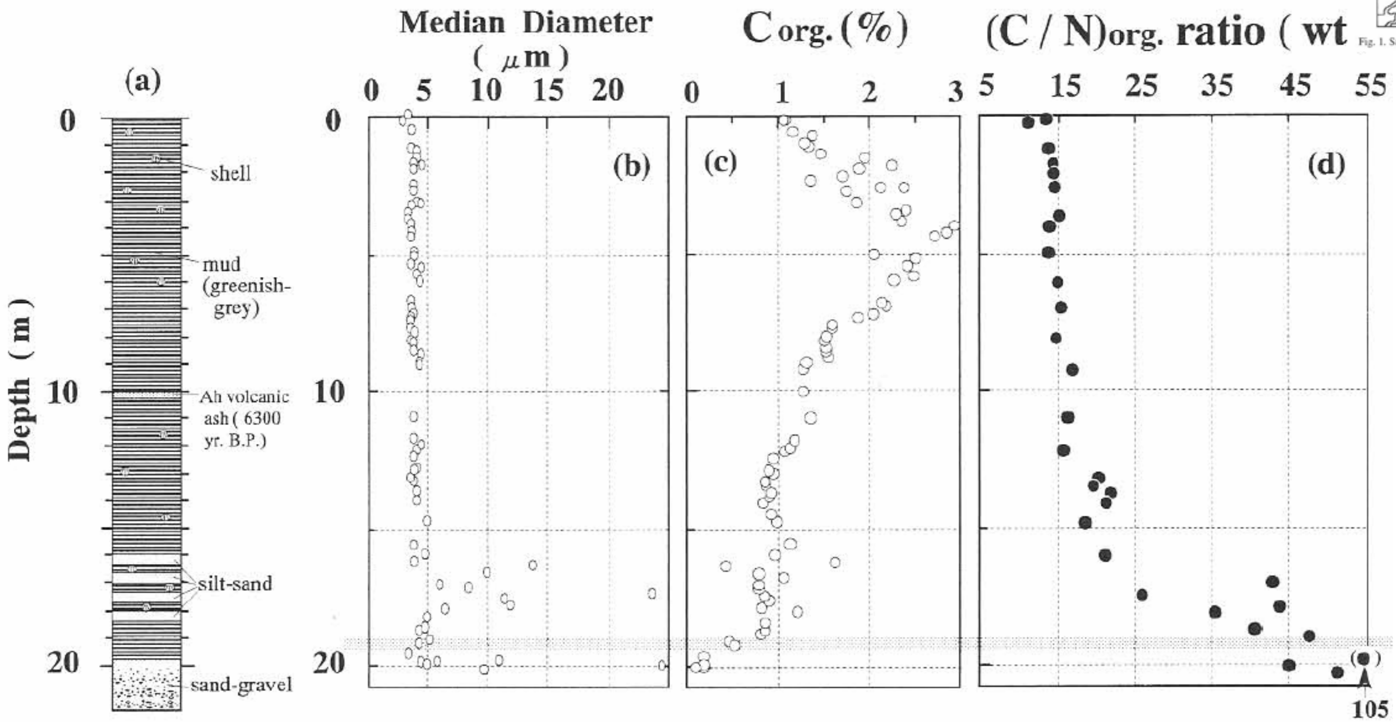


Fig. 2. The sediment core (NU9007) description (a) and the profiles of median diameter of sediments (b), organic carbon (C_{org}) contents and organic carbon to organic nitrogen weight ratios ($(C/N)_{org}$) (d) (Sampei and Matsumoto, submitted). The 19.0–19.3 m is shown by shadow.

出典: Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明: 中海中央付近における過去約8000年間の泥粒径（平均値）、有機炭素濃度およびC/N比の変化。有機物濃度は約4m（約2500年前：弥生の寒冷期）に最も高かった。しかし、その時の基礎生産性は低かった（Fig.4と9参照）。

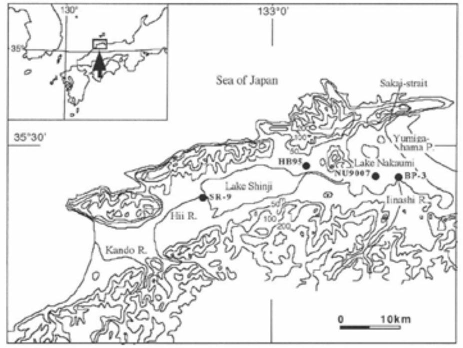


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

Table 1

Radiocarbon ages and calibrated calendar ages of shell samples from a sediment core NU9007. The ages have been corrected for fractionation and a reservoir age of 400 yr. LS: benzene liquid scintillation. AMS: accelerator mass spectrometer

Sample depth (m)	^{14}C No.	Method	^{14}C (yr B.P.)	Calendar age (cal. yr B.P.)	Sample description
0.9	WRI56	LSC	710 ± 80	600	shell
2.4	WRI57	LSC	1330 ± 90	1200	shell
2.6	NUTA2762	AMS	1730 ± 100	1630	small shell
3.6	NUTA2721	AMS	2290 ± 70	2290	small shell
4.2	NUTA2722	AMS	2960 ± 80	3080	small shell
5.0	NUTA2723	AMS	3350 ± 70	3550	small shell
6.5	GX18144AMS	AMS	4180 ± 70	4620	small shell
8.4	NUTA2724	AMS	5460 ± 90	6100	small shell
10.2	—	—	6300	6980	Arai et al. (1981)
11.6	NUTA2725	AMS	6390 ± 90	7030	small shell
12.6	NUTA2760	AMS	6940 ± 100	7530	small shell
13.1	GX18145AMS	AMS	6770 ± 80	7370	small shell
14.7	WRI58	LSC	7300 ± 110	7820	shell
16.5	GX18146AMS	AMS	7820 ± 80	8380	small shell
16.8	WRI55	LSC	7980 ± 110	8680	shell
18.2	NUTA2761	AMS	7940 ± 110	8660	small shell

WRI: Institute for Hydrospheric–Atomospheric Sciences, Nagoya University.
NUTA: Dating and Materials Research Center, Nagoya University.
GX: Krueger Enterprises, USA.

出典: Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明: 堆積物柱状試料中に含まれていた貝片の14C年代値

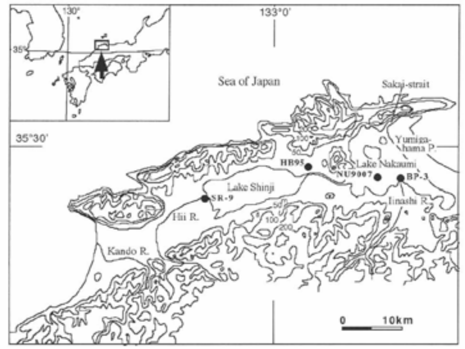


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

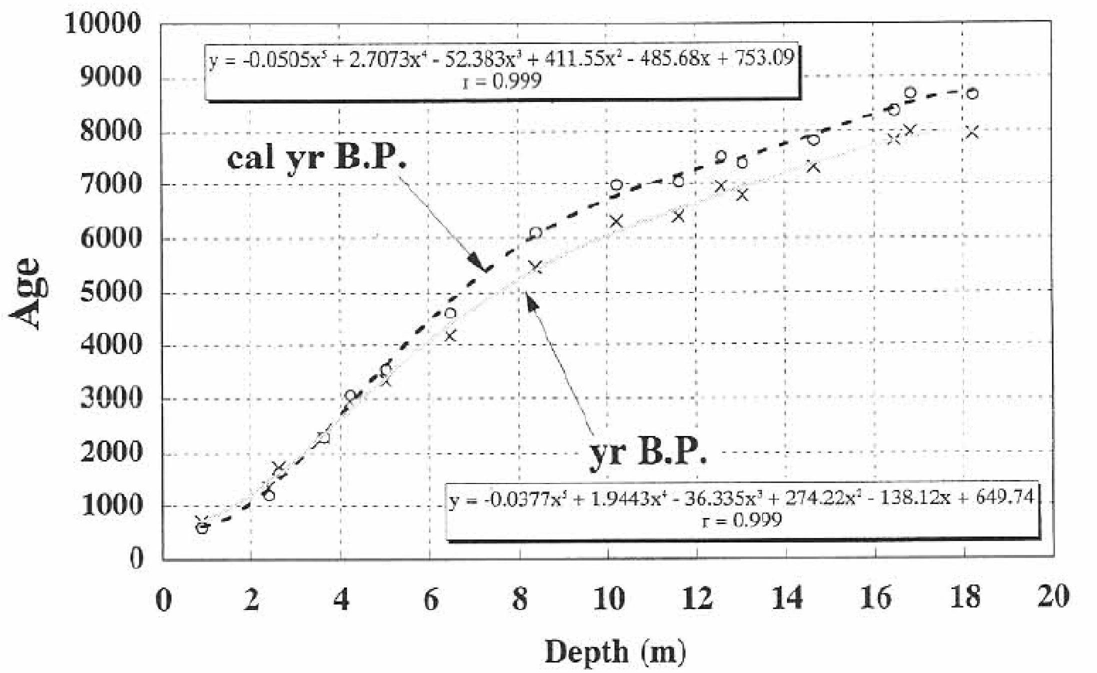


Fig. 3. ^{14}C ages and calendar ages for shell carbonates versus depth of the sediment core NU9007. The depth - ^{14}C age (yr B.P.) and the depth–calendar age (cal. yr B.P.) correlations are shown by the fitting curves.

出典： Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明： 堆積物柱状試料中に含まれていた貝片の14C年代値と堆積物深度との関係

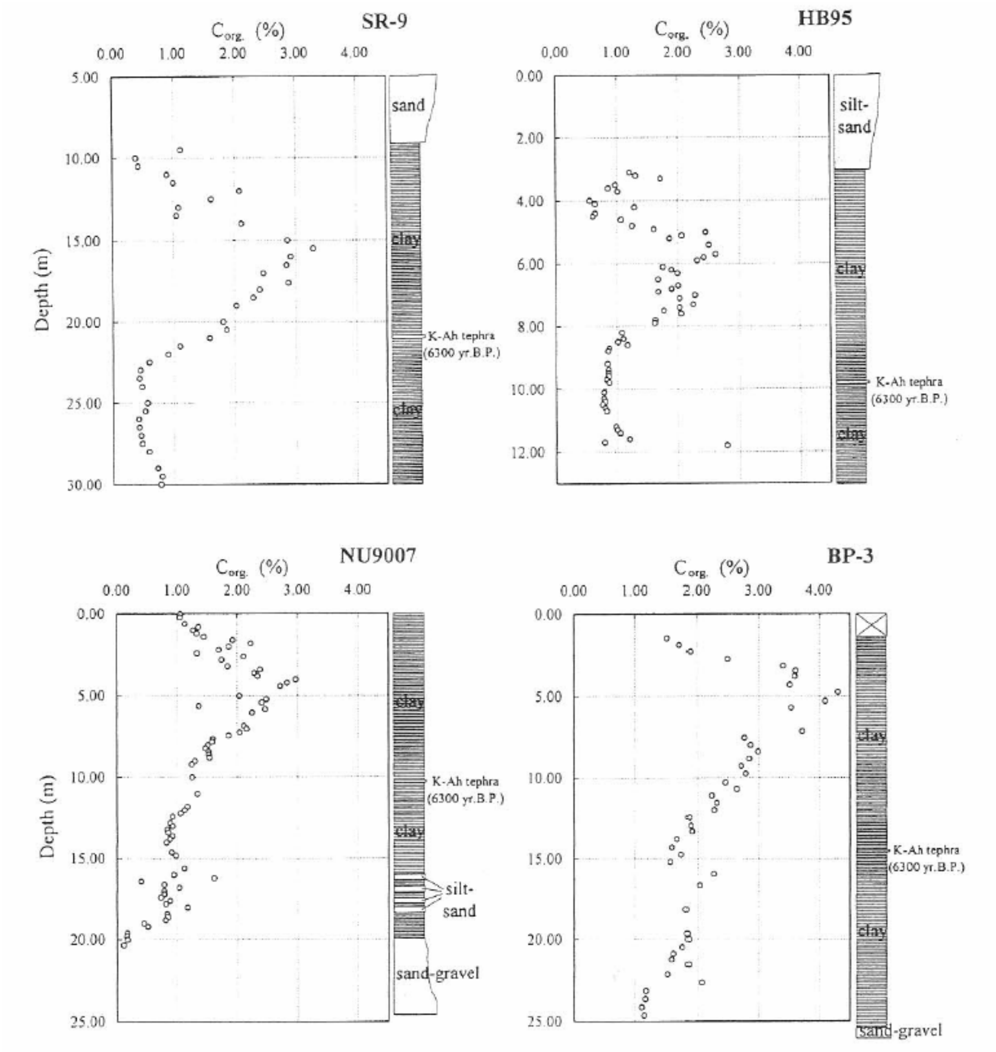


Fig. 5. C_{org} contents versus depth of the sediment core SR-9, HB95, NU9007 and BP-3.

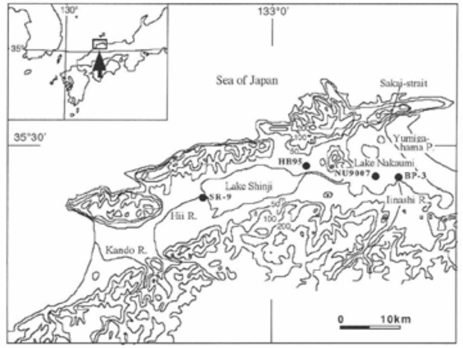


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

出典： Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明： 中海･宍道湖およびその周辺の4箇所における柱状試料中の有機炭素濃度変化。それぞれ似た分布をしていることは、広域的な変化を示している。

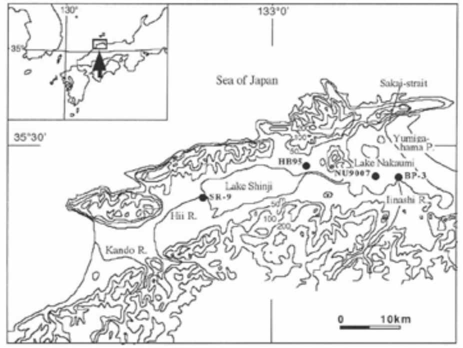


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

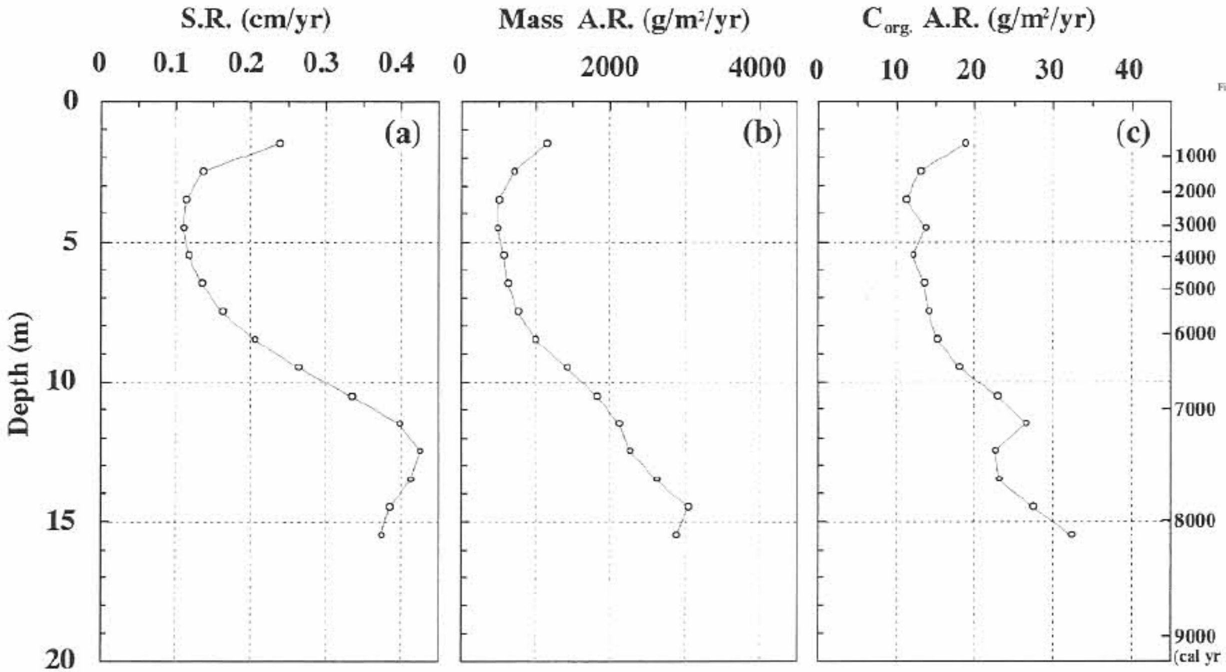


Fig. 4. Sedimentation rate (S.R.) (a), mass accumulation rate (mass A.R.) (b) and organic carbon accumulation rate (C A.R.) (c) versus depth of the sediment core NU9007. S.R., mass A.R. and C_{org} A.R. were calculated to be the average in every 1 m interval data by the depth–calendar age fitting curve.

出典: Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明: 過去約8000年間の泥質分堆積速度と有機物堆積速度

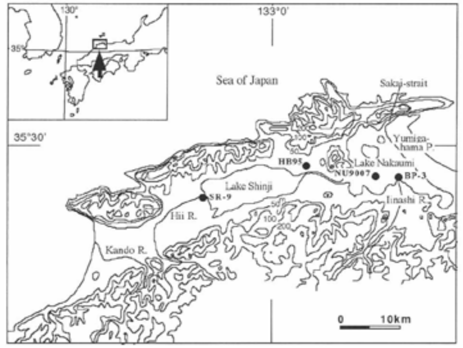


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

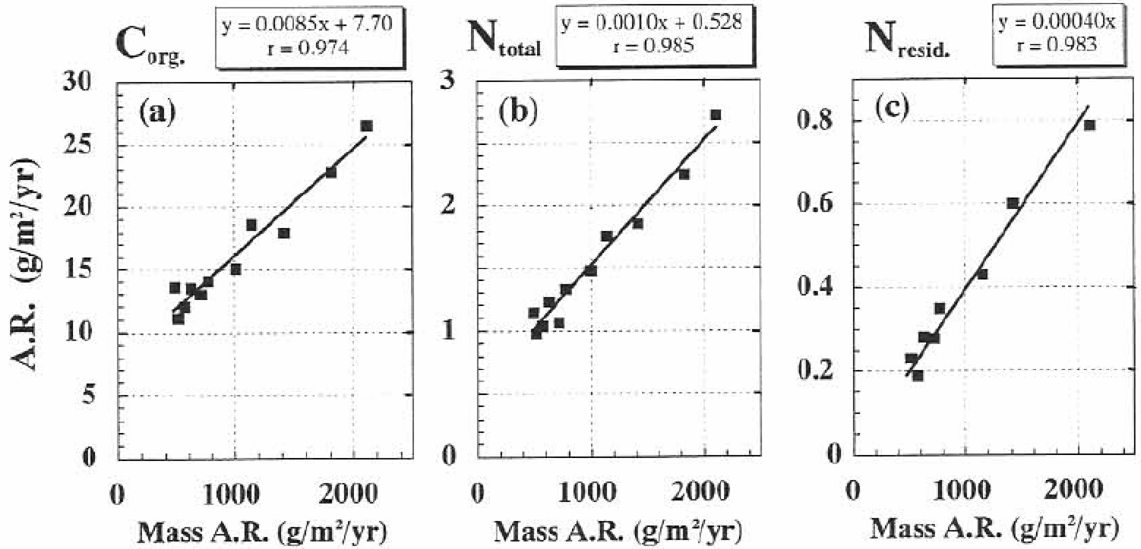


Fig. 6. C_{org} A.R. (a), total nitrogen A.R. (b) and residual nitrogen (see text) A.R. (c) versus mass A.R. from the sediment core NU9007. Plotted data sets were from 1–12 m depth.

出典： Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明： 過去約8000年間の泥質分堆積速度と有機炭素・窒素堆積速度との関係。いずれもよい相関を示す。

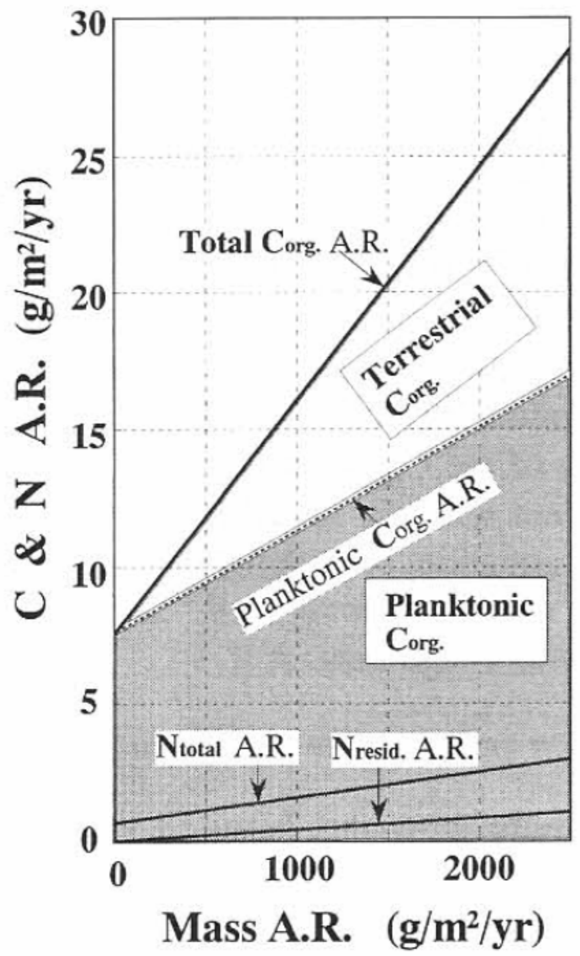


Fig. 8. Schematic diagram for the relationship between terrestrial or planktonic C_{org} A.R. and mass A.R. from the sediment core NU9007.

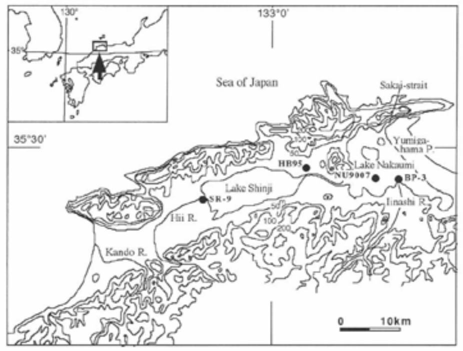


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

出典： Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明： 過去約8000年間の泥質分堆積速度と植物ﾌﾟﾗﾝｸﾄﾝ有機炭素・陸源有機炭素の関係まとめ。植物ﾌﾟﾗﾝｸﾄﾝは底質回帰の栄養塩も利用するため、河川からの堆積物・栄養塩供給がなくても生産されることを示している。

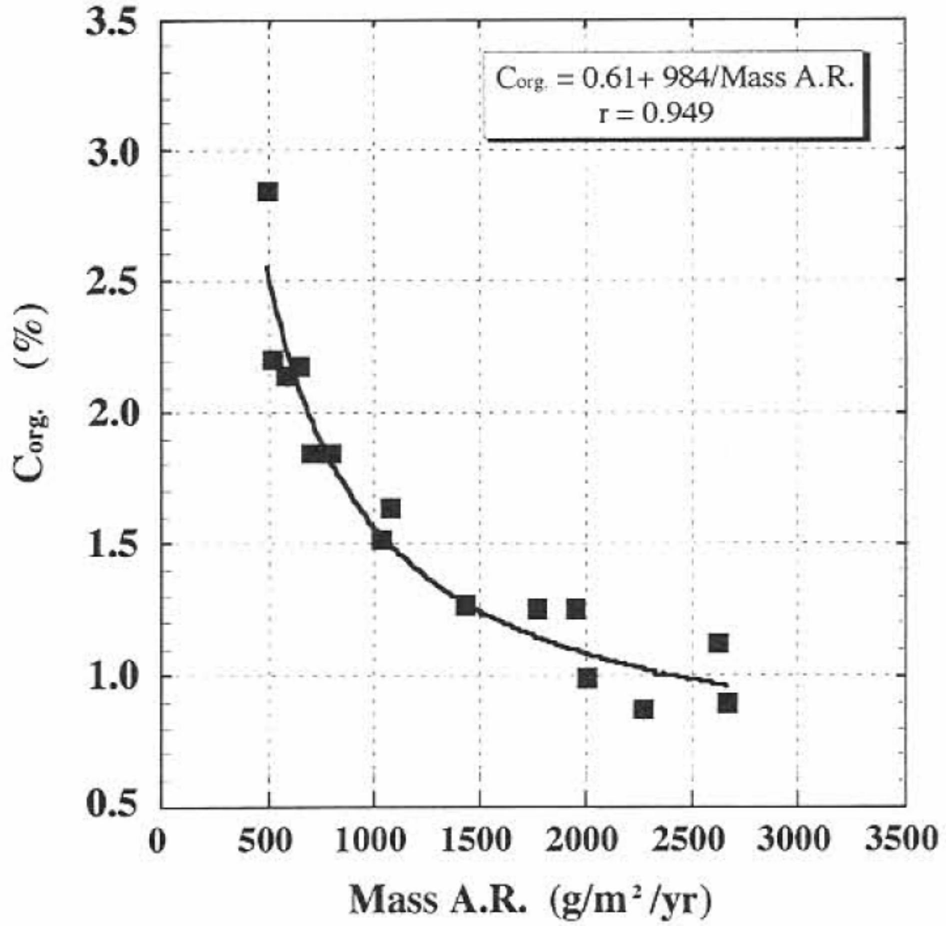


Fig. 7. The inversely proportional relationship between mass A.R. and C_{org} content from the sediment core NU9007.

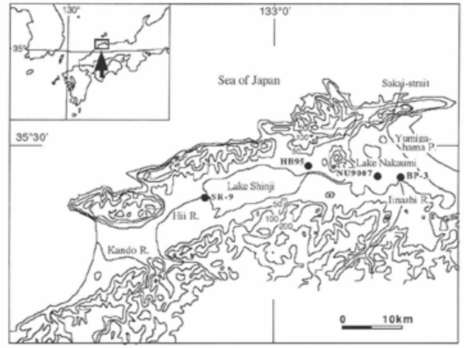


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

出典： Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明： 泥質分堆積速度と有機炭素濃度との関係。泥質分堆積速度が大きいと湖内生産有機炭素が薄められる。

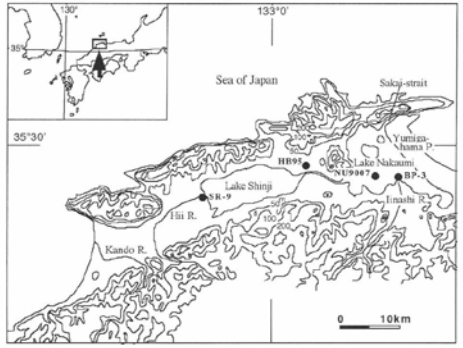


Fig. 1. Sampling locations of sediment core NU9007, SR-9, HB95 and BP-3 in the Nakaumi-Shinji lagoonal area.

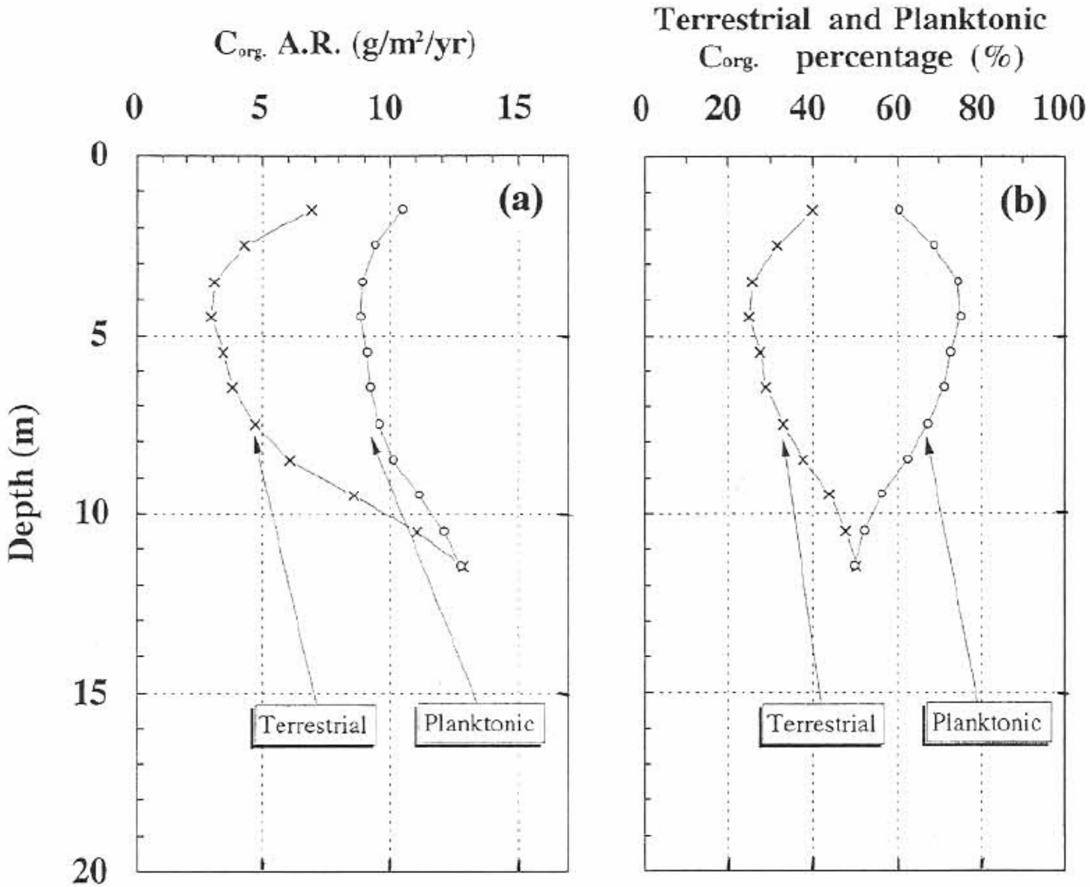


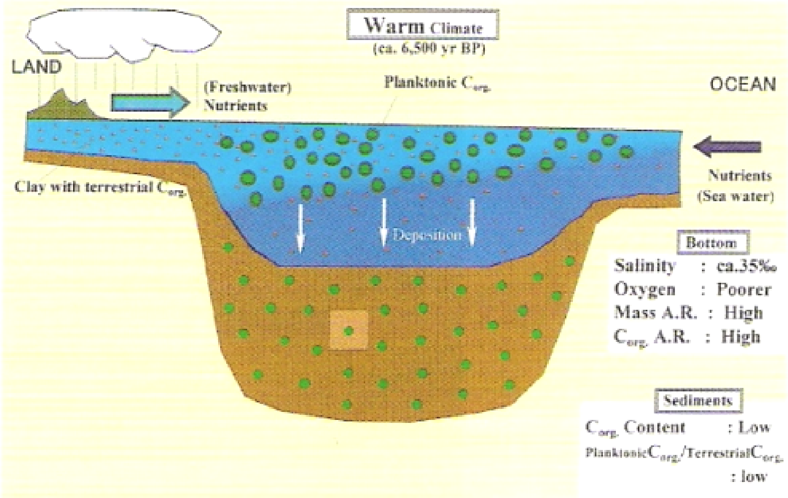
Fig. 9. Terrestrial and planktonic C_{org} A.R. versus depth (a) and terrestrial and planktonic C_{org} percentage versus depth (b) from the sediment core NU9007.

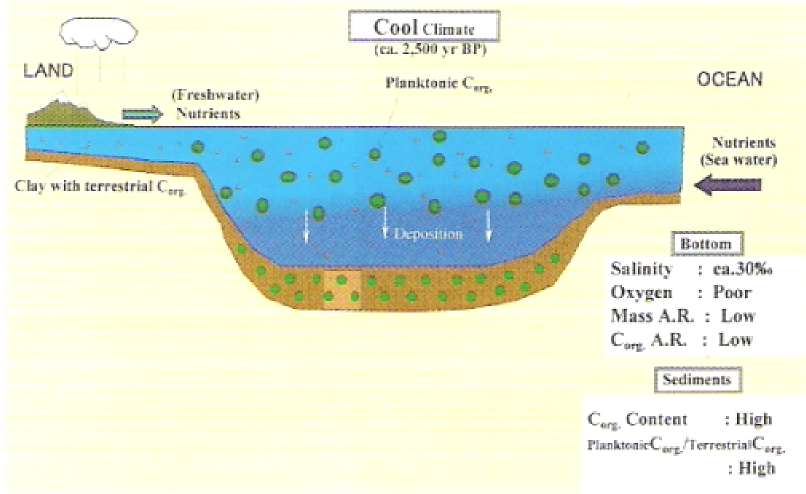
出典: Sampei, Y., Matsumoto, Tokuoka, T. and Inoue, D. (1997) Changes in accumulation rate of organic carbon during the last 8,000 years in sediments of Nakaumi Lagoon, Japan. Marine Chem., **58**, 39-50. Elsevier.

説明: 過去約8000年間の植物ﾌﾟﾗﾝｸﾄﾝ有機炭素と陸源有機炭素のフラックス変化と割合の変化。約12m（約6000年前の縄文の温暖期）で、いずれもフラックスが大きい。

(3) Schematics of the depositional environment in Lake Nakaumi

During warm climate, river runoff increase and carry abundant terrestrial $C_{org.}$ with fine clastics and nutrient salts. Planktonic $C_{org.}$ contents of the sediments are diluted by the clastics to low levels, although primary productivity is high. The proportion of terrestrial $C_{org.}$ to planktonic $C_{org.}$ in sediments is high. Lake bottom is poorer in oxygen by high primary production.





出典： Tokuoka,T., Takayasu,K., Kunii,H., Takehiro,F. and Sampei,Y. (1998) Improving lagoonal environments for futuregenerations –a case study of lakes Nakaumi and Shinji, Japan-. LGUNA(汽水湖研究), 5. I-X.

説明： 前記のSampei et al.(1997)のまとめ。縄文温暖期には、降水による堆積物・栄養塩の供給が多く、植物ﾌﾟﾗﾝｸﾄﾝの生産も高かったが、泥の希釈効果により、有機物は濃集せず、“ヘドロ”は生成しなかった。

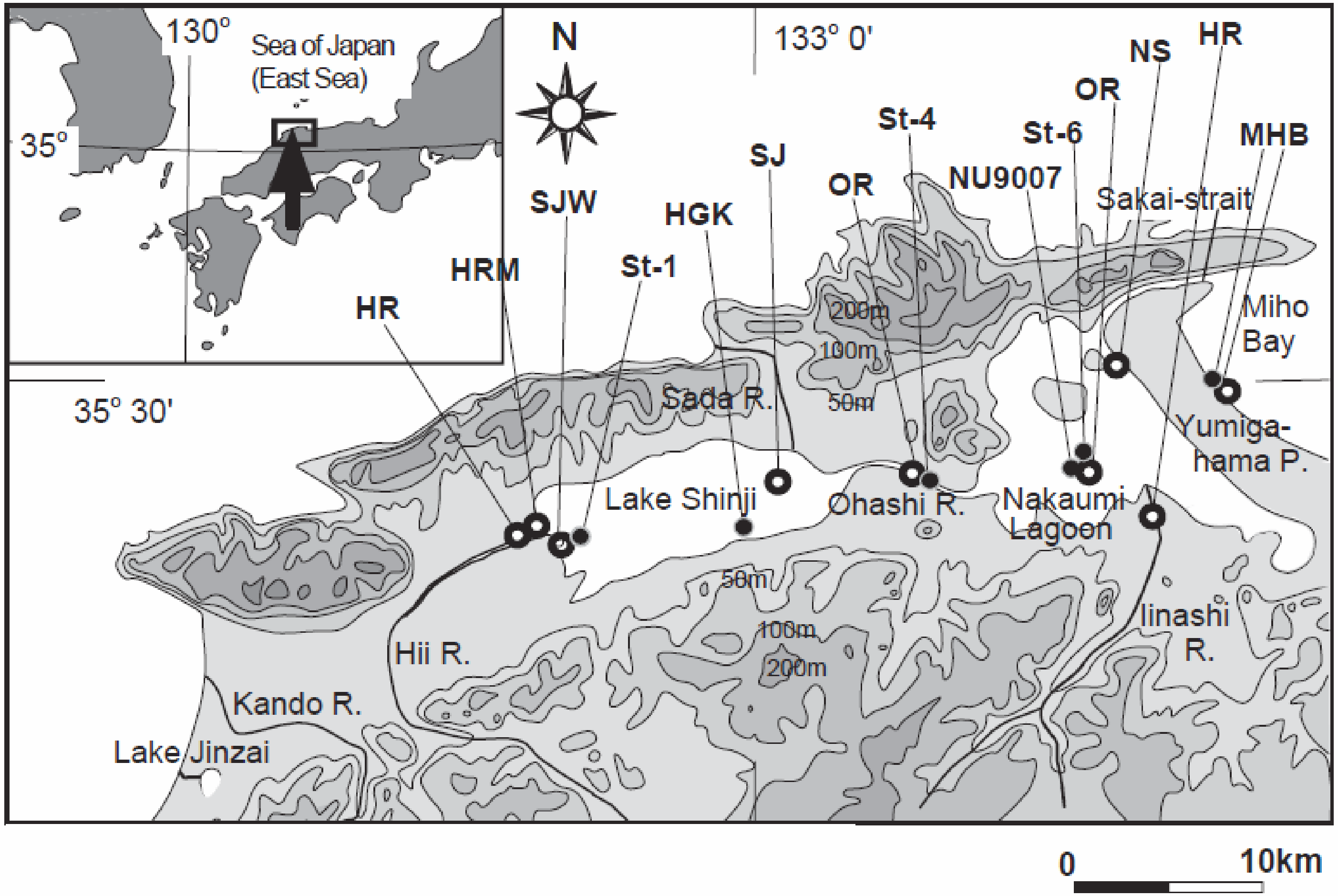


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 古塩分復元のための試料採取地点

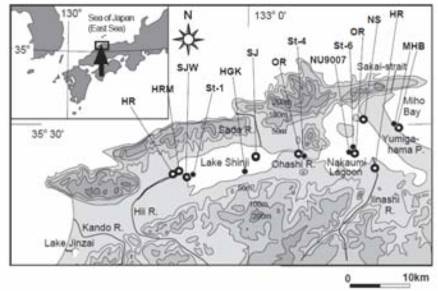


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

Table 1
Water chemistry from stations in Lake Shinji, Lake Nakaumi and Miho bay

Sampling site	Sampling date	Water depth (m)	Salinity (PSU)	Temp. (°C)	DO (%)	pH	TCO_2 (μmol/l)	$\delta^{18}O_{water}$ (‰ vs. VSMOW)	$\delta^{13}C_{DIC}$ (‰ vs. VPDB)	Remarks
IR	97.1.27	0.2[a]	0.06	5.3	100.0	8.70	300	−8.08	−10.89	Iinashi River
HR	97.1.27	0.2[a]	0.07	5.9	100.0	8.19	455	−8.17	−6.76	Hii River
HRM	97.1.27	0.2[a]	0.06	5.5	106.0	8.52	450	−8.20	−6.33	Hii River mouth
SJW	97.1.27	0.2[a]	4.49	5.9	113.0	7.11	681	−6.48	−4.02	West L. Shinji
SJ	97.1.27	0.2[a]	4.94	6.8	108.0	7.71	703	−6.30	−3.67	East L. Shinji
SJ	97.1.27	3.0[b]	5.08	6.9	107.0	7.88	688	−6.24	−3.60	East L. Shinji
OR	97.1.27	0.2[a]	12.90	5.5	101.0	8.19	1119	−4.71	−2.82	Ohashi River
NU	97.1.27	0.2[a]	20.90	5.6	110.0	8.21	1394	−3.17	−1.43	Central L. Nakaumi
NU	97.1.27	5.5[b]	24.80	6.8	99.5	8.00	1626	−2.28	−1.36	Central L. Nakaumi
NS	97.1.26	0.2[a]	22.00	6.3	94.5	7.85	1426	−3.38	−1.48	North L. Nakaumi
MHB	97.1.26	0.2[a]	29.00	8.9	83.4	8.54	2013	−1.71	−2.48	Miho Bay
MHB	97.1.28	0.2[a]	34.40	10.9	102.0	8.27	2067	−0.39	−0.05	Miho Bay

Sampling sites are shown in Fig. 1.
[a] Surface,[b] Bottom.

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 近年の水質と湖水の酸素・炭素安定同位体比

Table 2

Shell species, shell length, shell age, salinity and temperature of water, and carbon and oxygen isotope analyses of shell carbonate collected in Lake Shinji, Lake Nakaumi and Miho bay

Sampling site	Sampling date	Water depth (m)	Species	Shell length (mm)	Age (life period)	Salinity[a] (Avg., PSU)	Temp.[a] (Avg., °C)	$\delta^{13}C_{ar}$ (‰ vs. VPDB)	$\delta^{18}O_{ar}$ (‰ vs. VPDB)	Remarks
St-1[b]	93.12.1	4.0	*Corbicula japonica*	10	6 months (Jul.–Dec.'93)	1.6	18.5	−7.64	−8.32	West L. Shinji
St-1[b]	93.12.1	4.0	*Corbicula japonica*	10	6 months (Jul.–Dec.'93)	1.6	18.5	−7.36	−8.17	West L. Shinji
St-1[b]	93.12.1	4.0	*Corbicula japonica*	10	6 months (Jul.–Dec.'93)	1.6	18.5	−7.65	−8.65	West L. Shinji
HGK[b]	95.12.1	1.5	*Corbicula japonica*	25	4–5 years ('91–'95)	4.3	16.0	−6.35	−7.42	East L. Shinji
HGK[b]	95.12.1	1.5	*Corbicula japonica*	23	4–5 years ('91–'95)	4.3	16.0	−6.38	−7.62	East L. Shinji
St-4[b]	96.1.11	5.0	*Corbicula japonica*	22	6 months (Aug.'95–Jan.'96)	14.0	21.4	−5.31	−6.22	Ohashi River
St-4[b]	96.1.11	5.0	*Corbicula japonica*	10	6 months (Aug.'95–Jan.'96)	14.0	21.4	−4.39	−5.48	Ohashi River
St-4[b]	96.1.11	5.0	*Corbicula japonica*	10	6 months (Aug.'95–Jan.'96)	14.0	21.4	−5.20	−6.14	Ohashi River
St-4[b]	96.1.11	5.0	*Musculista senhousia*	9	3 months (Nov.'95–Jan.'96)	18.5	16.6	−2.47	−3.40	Ohashi River
St-4[b]	96.1.11	5.0	*Musculista senhousia*	10	3 months (Nov.'95–Jan.'96)	18.5	16.6	−2.57	−3.06	Ohashi River
St-4[b]	96.1.11	5.0	*Musculista senhousia*	7	3 months (Nov.'95–Jan.'96)	18.5	16.6	−2.58	−2.96	Ohashi River
St-6[b]	95.10.3	4.0[c]	*Scapharca subcrenata*[c]	6	3 months (Aug.'95–Oct.'95)	24.7	25.4	−2.49	−2.63	Central L. Nakaumi
St-6[b]	95.10.3	4.0[c]	*Scapharca subcrenata*[c]	12	3 months (Aug.'95–Oct.'95)	24.7	25.4	−2.33	−2.49	Central L. Nakaumi
St-6[b]	95.10.3	4.0[c]	*Scapharca subcrenata*[c]	14	3 months (Aug.'95–Oct.'95)	24.7	25.4	−2.68	−2.63	Central L. Nakaumi
MHB	96.3.7	1~2	*Scapharca subcrenata*	22	3 years?	30.5	17.0	−0.20	−0.60	Miho Bay
MHB	96.3.7	1~2	*Gomphina veneriformis*	29	3 years?	30.5	17.0	−0.16	−0.41	Miho Bay
MHB	96.3.7	1~2	*Gomphina veneriformis*	25	3 years?	30.5	17.0	0.08	−1.07	Miho Bay
MHB	96.3.7	1~2	*Gomphina veneriformis*	25	3 years?	30.5	17.0	0.12	−1.76	Miho Bay

All mollusk shells are aragonite.

[a] The average of monthly data measured at the sampling site (Shimane Prefectural Fisheries Experimental Station, 1993–1997).

[b] Shells were collected by Shimane Prefectural Fisheries Experimental Station (Mitoya Town).

[c] Cultured in nylon cages at water depth of 4.0 m.

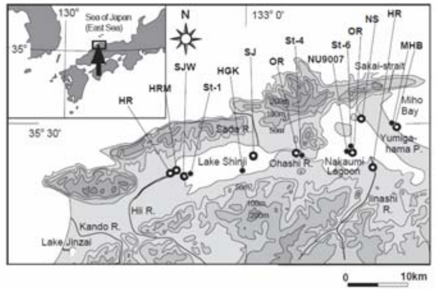


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 近年の塩分および貝炭酸塩の酸素・炭素安定同位体比

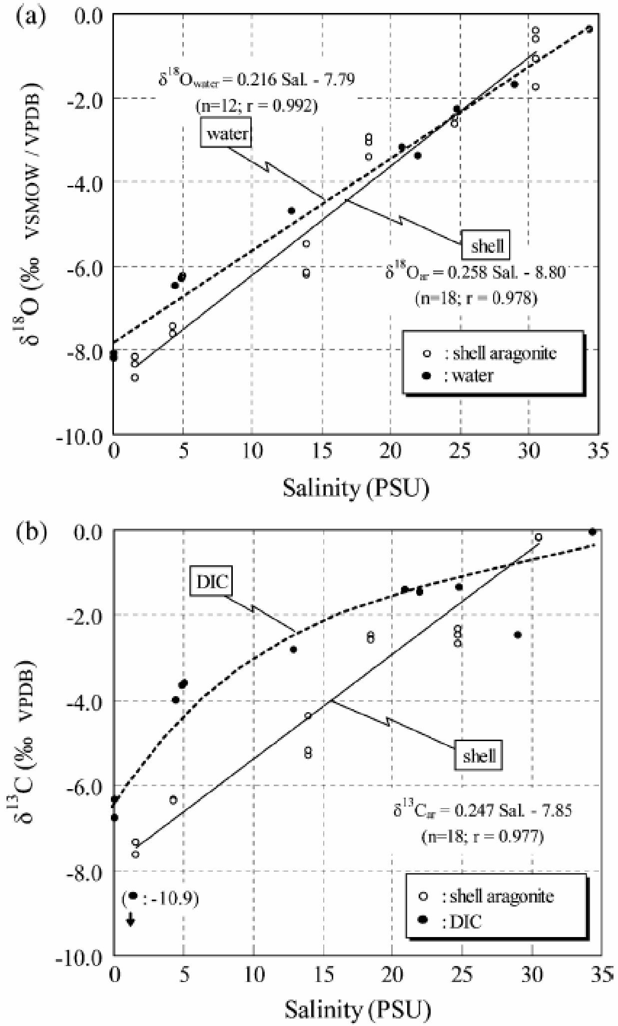


Fig. 2. (a) $\delta^{18}O$ of water ($\delta^{18}O_{water}$) and shell aragonite ($\delta^{18}O_{ar}$) versus salinity. (b) $\delta^{13}C$ of dissolved inorganic carbon ($\delta^{13}C_{DIC}$) and shell aragonite ($\delta^{13}C_{ar}$) versus salinity.

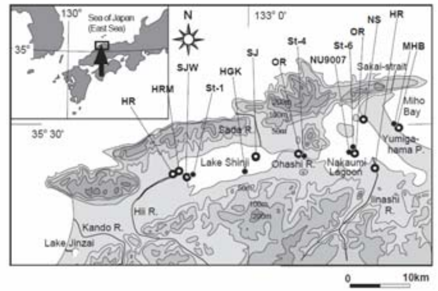


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 近年の塩分と貝炭酸塩の酸素・炭素安定同位体比との関係

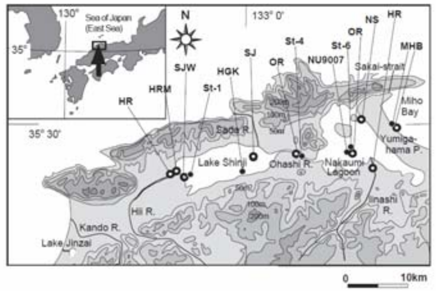


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

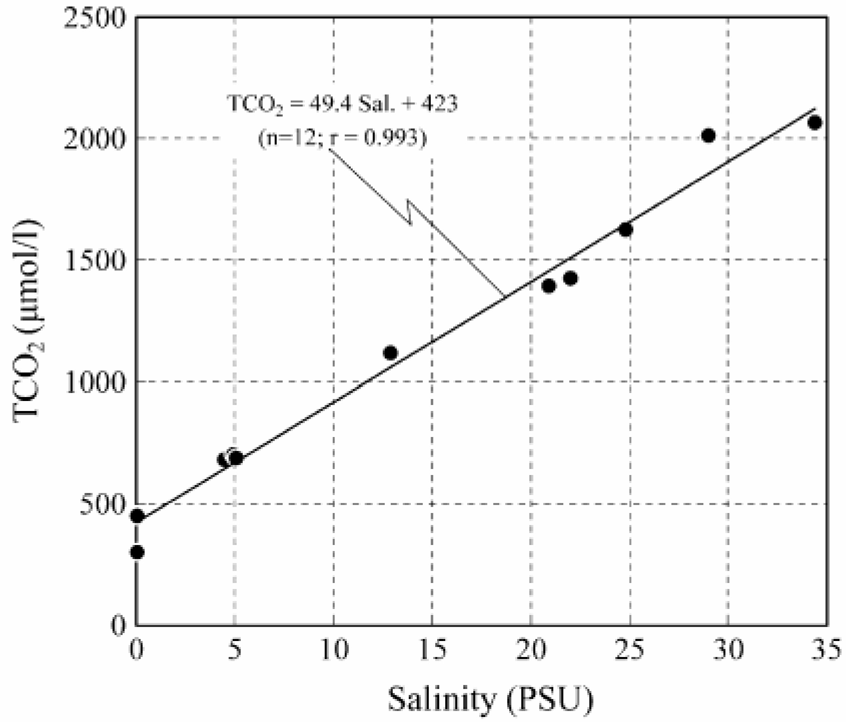


Fig. 3. TCO_2 versus salinity.

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 塩分と溶存全炭酸との関係。斐伊川-宍道湖-中海-美保湾では、溶存全炭酸は海水で多く、河川水は約1/4である。

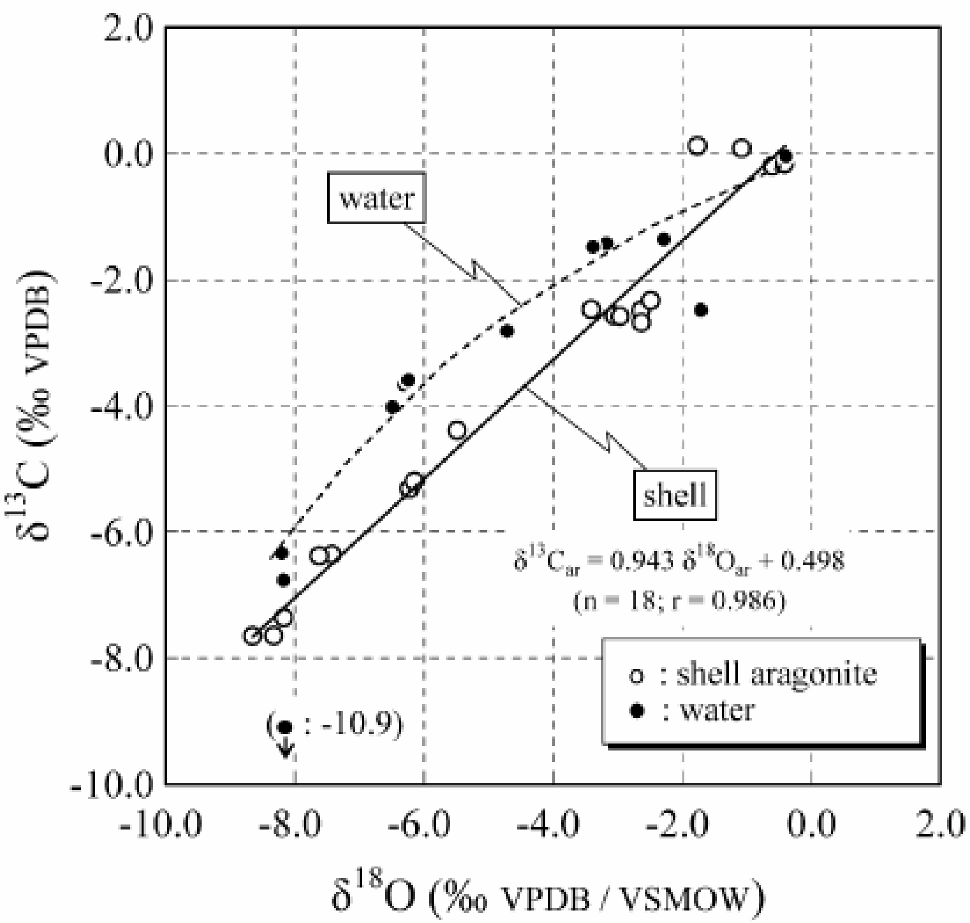


Fig. 4. $\delta^{13}C_{DIC}$ versus $\delta^{18}O_{water}$, and $\delta^{13}C_{ar}$ versus $\delta^{18}O_{ar}$ in shell.

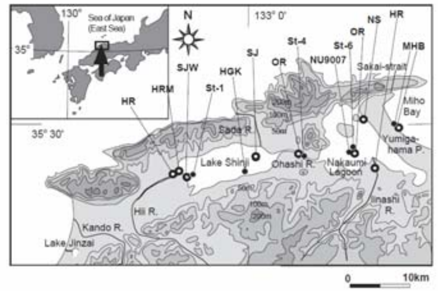


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

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説明： 近年の湖水・貝炭酸塩における酸素安定同位体比と炭素安定同位体比の関係。貝炭酸塩では直線関係がある。

Table 3
Carbon and oxygen isotope analyses of shell carbonate from sediment core NU9007

Sample no.	Species[a]	Core depth (m)	$\delta^{13}C$ (‰ vs. VPDB)	$\delta^{18}O$ (‰ vs. VPDB)	Mineralogy	Age (^{14}C yr BP)	Age (cal. yr BP)[b]
111IY	*Paphia undulata*	0.000	−1.08	−1.95	Aragonite	0	0
112OK	*Platumisia rugata*	0.025	−0.02	−0.94	Aragonite	10	10
147IY	*Paphia undulata*	0.750	−1.21	−1.31	Aragonite	700	600
232SB	*Scapharca subcrenata*	1.225	0.46	−0.67	Aragonite	850	700
315SB	*Scapharca subcrenata*	1.700	−0.48	−1.68	Aragonite	1050	900
315IY	*Paphia undulata*	1.700	−1.28	−1.72	Aragonite	1050	900
322IY	*Paphia undulata*	1.825	−0.93	−1.38	Aragonite	1100	950
421IY	*Paphia undulata*	2.600	−0.51	−0.16	Aragonite	1600	1450
422IY	*Paphia undulata*	2.625	−0.51	−1.13	Aragonite	1600	1500
437IY	*Paphia undulata*	2.950	−1.29	−0.90	Aragonite	1850	1750
513IY	*Paphia undulata*	3.250	−0.84	−0.95	Aragonite	2050	2000
532SB	*Scapharca subcrenata*	3.625	−1.82	−1.56	Aragonite	2350	2350
545KM	*Bryozoa*	3.900	−1.93	−1.33	Calcite	2550	2600
615KM	*Bryozoa*	4.100	−1.16	−0.92	Calcite	2700	2800
622IY	*Paphia undulata*	4.225	−0.66	−0.72	Aragonite	2800	2900
633KM	*Bryozoa*	4.450	0.03	−0.12	Aragonite	2950	3100
722IY	*Paphia undulata*	5.025	0.20	−0.73	Aragonite	3400	3600
722KM	*Bryozoa*	5.025	0.28	−0.61	Calcite	3400	3600
737KM	*Bryozoa*	5.350	0.06	0.43	Calcite	3600	3900
825KM	*Bryozoa*	5.900	−0.37	0.02	Calcite	4000	4350
842OK	*Platumisia rugata*	6.225	0.12	−0.39	Aragonite	4200	4650
1011SB	*Scapharca subcrenata*	7.200	−1.18	−0.52	Aragonite	4800	5350
1132IY	*Paphia undulata*	8.425	−1.03	−0.27	Aragonite	5400	6050
1211SB	*Scapharca subcrenata*	8.800	0.15	0.77	Aragonite	5600	6200
1635IY	*Paphia undulata*	12.500	0.49	0.32	Aragonite	6750	7350
1637IY	*Paphia undulata*	12.550	−0.25	0.38	Aragonite	6800	7350
1737SB	*Scapharca subcrenata*	13.350	0.01	0.21	Aragonite	7000	7550
1743IY	*Paphia undulata*	13.500	−1.01	−0.84	Aragonite	7050	7600
1925UK	*Dosinella penicillata*	14.700	−1.10	0.49	Aragonite	7350	7900
1932IY	*Paphia undulata*	14.825	−1.07	−0.36	Aragonite	7400	7950
2117IY	*Paphia undulata*	16.150	−1.01	−0.69	Aragonite	7750	8300
2221IY	*Paphia undulata*	17.000	−0.36	−1.33	Aragonite	7900	8500
2242IY	*Paphia undulata*	17.425	−2.49	−1.74	Aragonite	7950	8550
2342IY	*Paphia undulata*	18.225	−2.54	−2.29	Aragonite	7950	8650
2411UK	*Dosinella penicillata*	18.400	−1.04	−0.64	Aragonite	7950	8650

Age vs. depth model is from Sampei et al. (1997).
[a] All mollusks except for Bryozoa.
[b] Calendar age (Sampei et al., 1997).

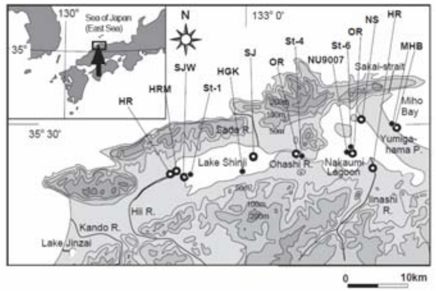


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 堆積物柱状試料から採取した過去約8000年間の貝片等の酸素・炭素安定同位体比

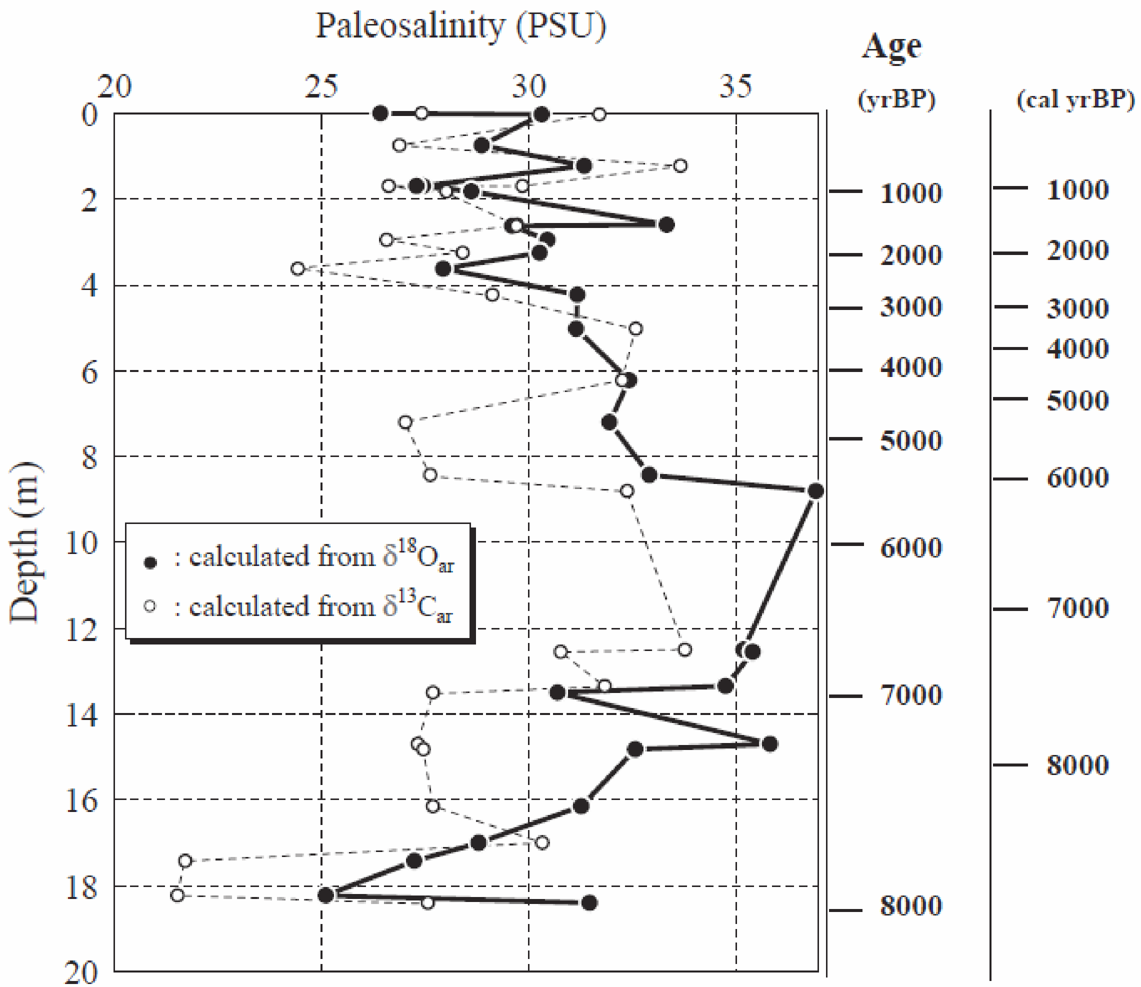


Fig. 6. Depth distribution of paleosalinities calculated from shell $\delta^{18}O_{ar}$ (●) and from shell $\delta^{13}C_{ar}$ (○) in core NU9007. Bryozoan calcite data was not used in the calculation.

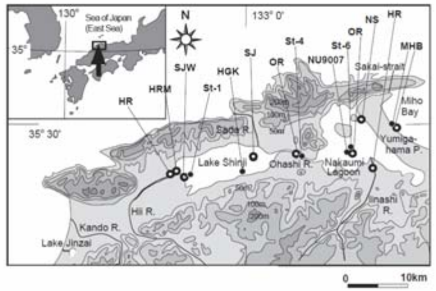


Fig. 1. Map showing general location, and sampling sites of water (○), modern shells and the sediment cores NU9007 (●).

出典： Yoshikazu Sampei, Eiji Matsumoto, David L. Dettman, Takao Tokuoka, Osamu Abe (2005) Paleosalinity in a brackish lake during the Holocene based on stable oxygen and carbon isotopes of shell carbonate in Nakaumi Lagoon, southwest Japan. Palaeogeography, Palaeoclimatology, Palaeoecology, 224, 352-366. ELSEVIER

説明： 近年の試料によって校正・復元された中海湖心付近湖底の過去の古塩分変化。温暖な約6000年まえにはほぼ海水と同じになった。

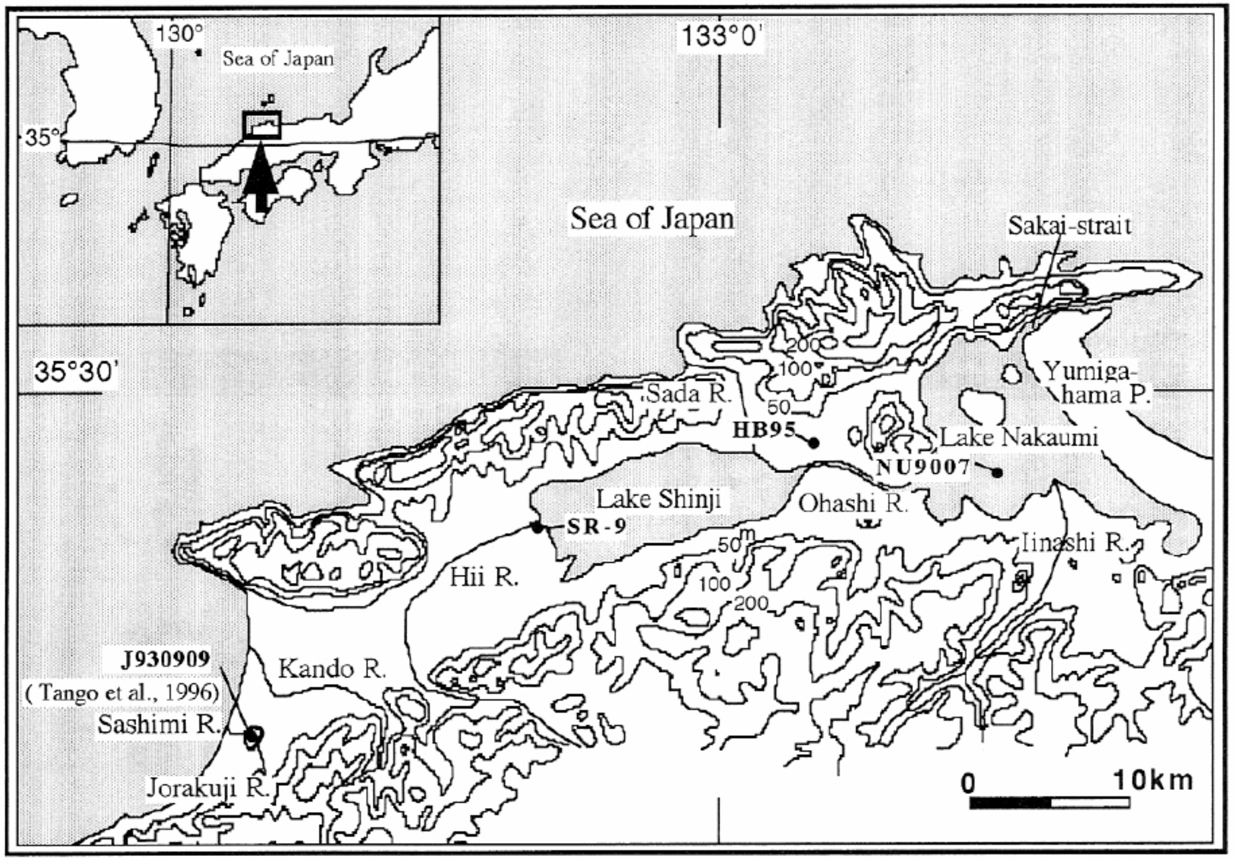


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

出典: Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明: 湖底の還元復元のための堆積物柱状試料採取地点

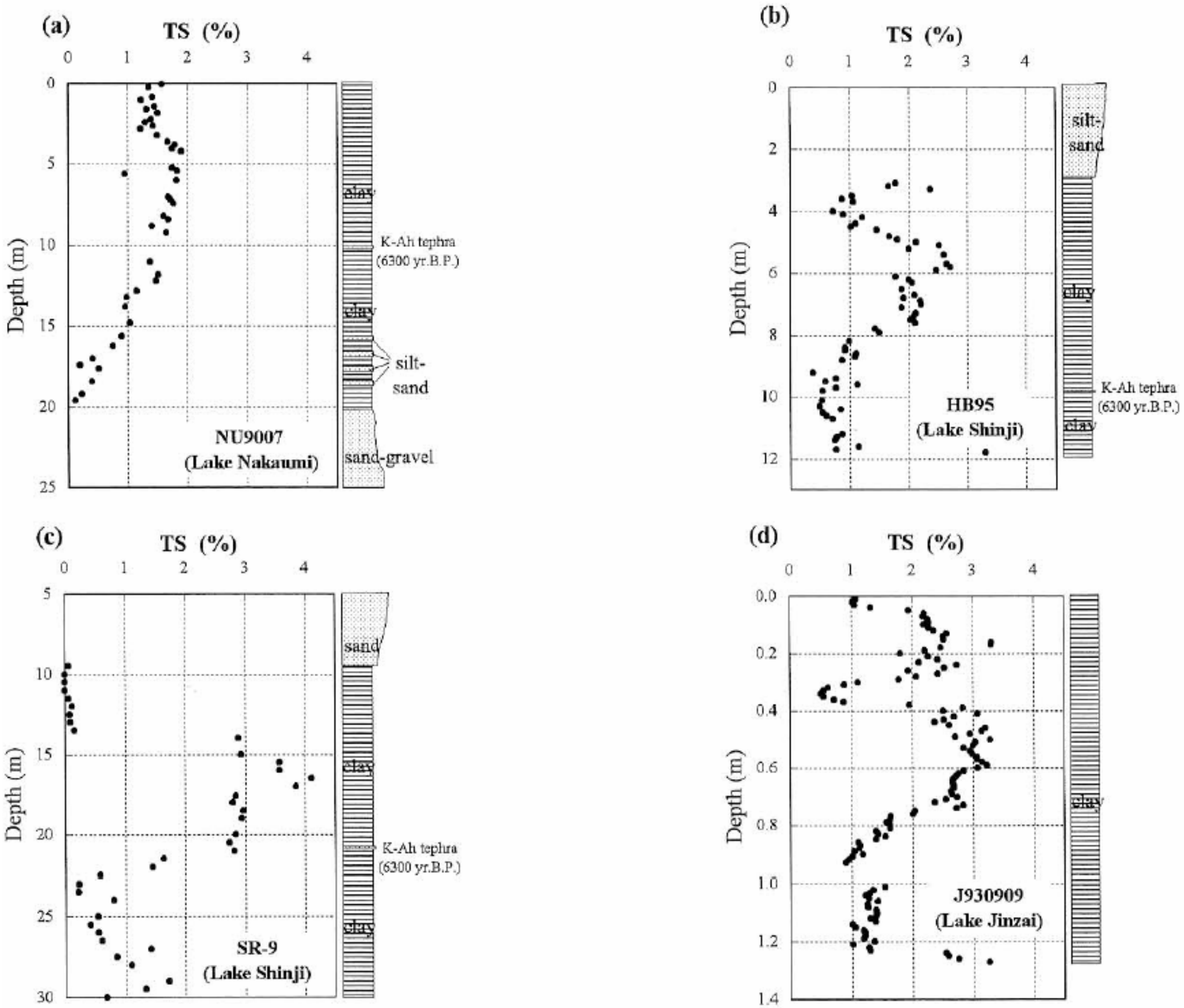


Fig. 2. Depth distributions of total sulfur (TS) concentration and sedimentary facies in sediment cores (a) NU9007, (b) HB95, (c) SR-9 and (d) J930909 (Tango et al., 1996).

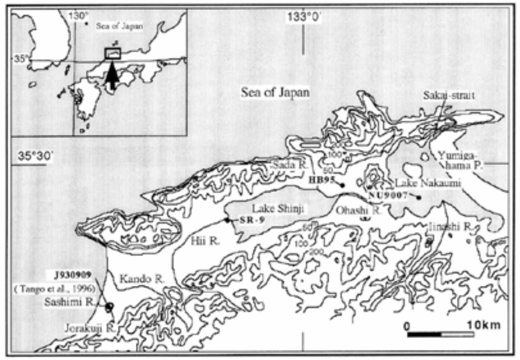


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

出典： Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明： 中海・宍道湖・神西湖における全イオウ濃度変化。

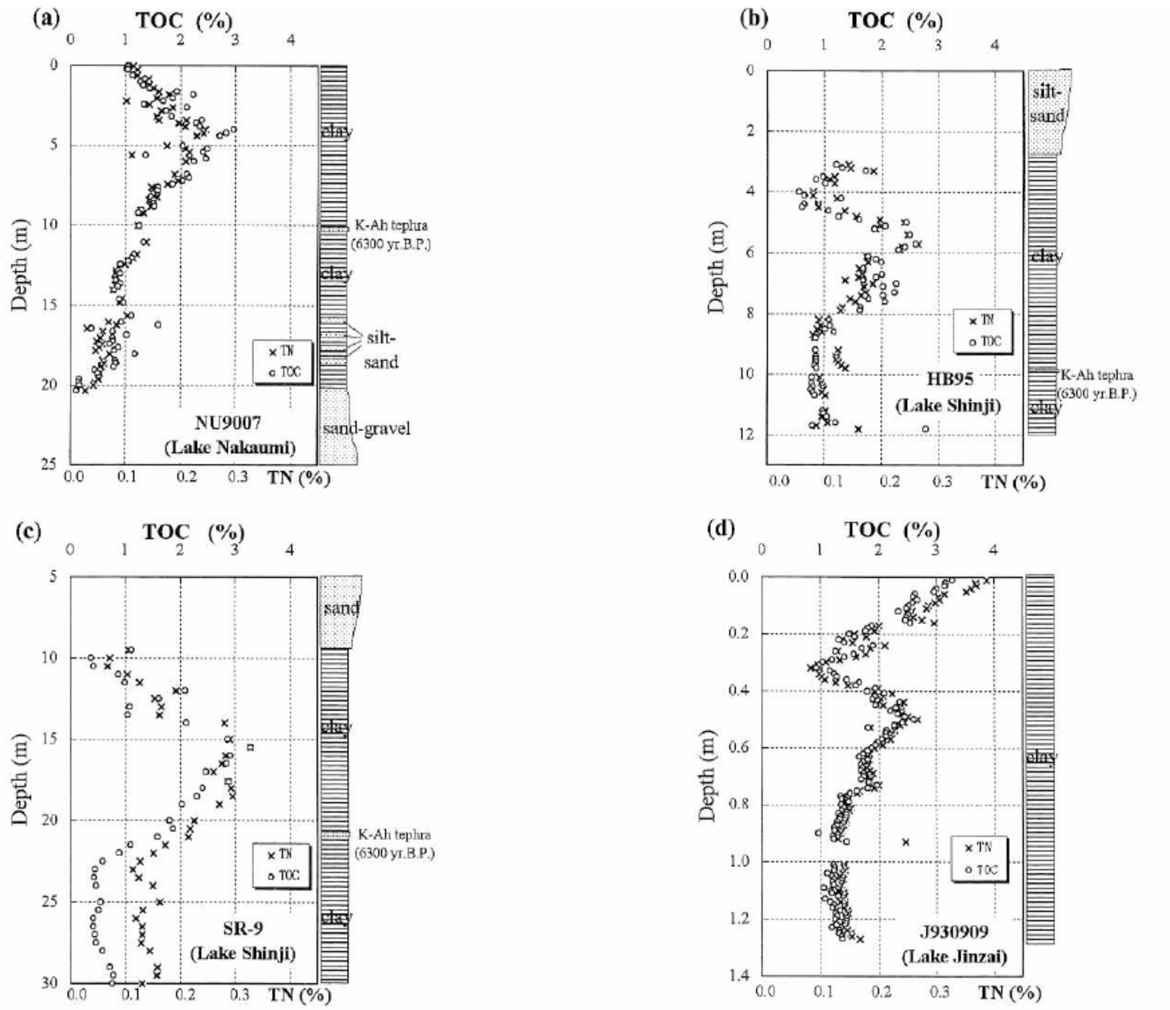


Fig. 3. Depth distributions of total organic carbon (TOC) concentration, total nitrogen (TN) concentration and sedimentary facies in sediment cores (a) NU9007, (b) HB95, (c) SR-9 and (d) J930909 (Sampei et al., 1996; Tango et al., 1996).

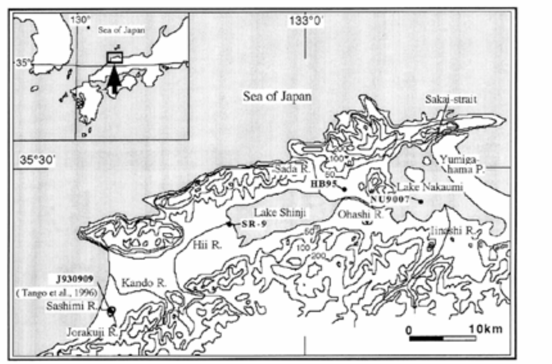


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

出典： Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明： 中海・宍道湖・神西湖における有機炭素濃度変化。

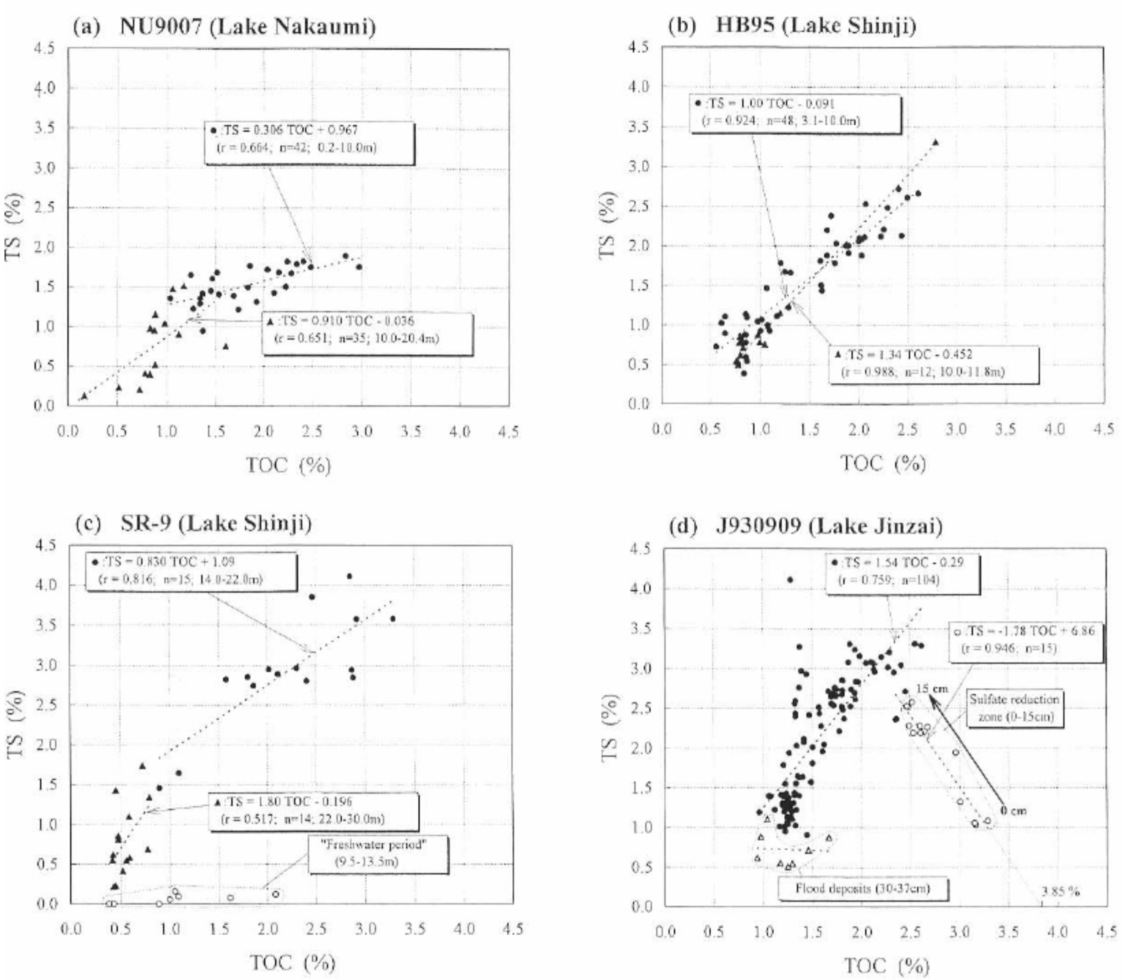


Fig. 4. Plots of TOC vs. TS from the sediment cores (a) NU9007, (b) HB95, (c) SR-9 and (d) J930909. In (c) SR-9, the data from the "Freshwater period: Sampei et al., 1994" are excluded from the data set for the TS-TOC regression. In (d) J930909, the data of the Flood deposits (Tango et al., 1996) and the sulfate reduction zone were also excluded from the regressions.

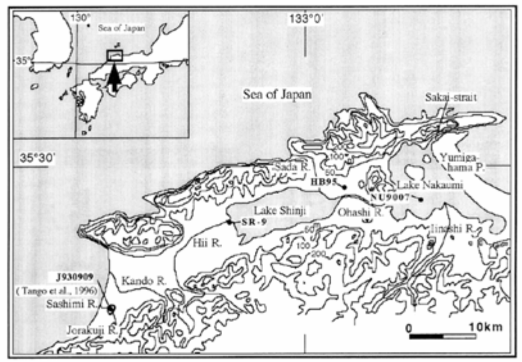


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

出典: Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明: 有機炭素とイオウ(硫化物イオウ)との相関関係。左上にプロットされるものほど還元的湖底環境であったことを示している。

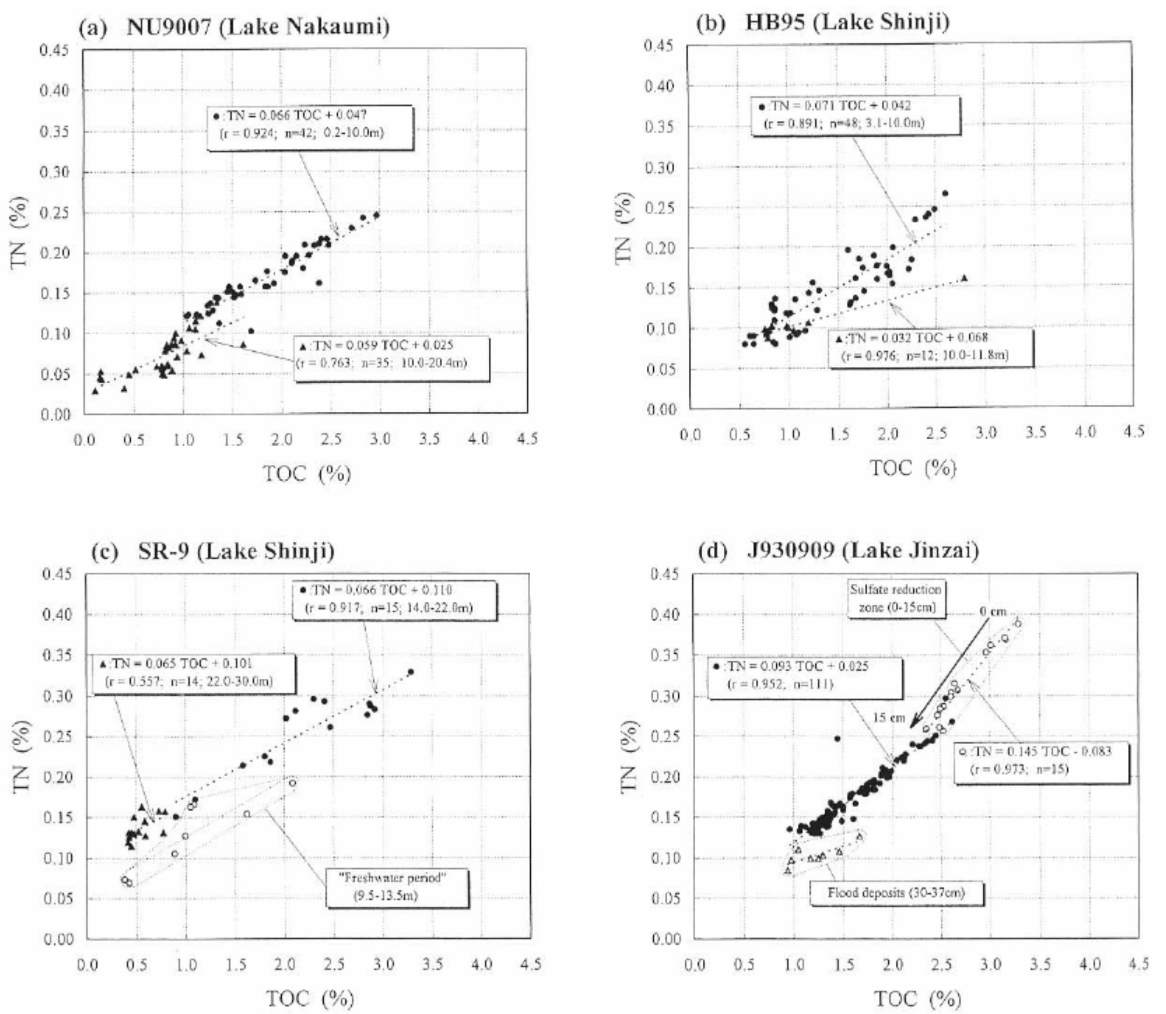


Fig. 5. Plots of TOC vs. TN from the sediment cores (a) NU9007, (b) HB95, (c) SR-9 and (d) J930909. In (c) SR-9, the data during the "Freshwater period: Sampei et al., 1994" are excluded from the regressions. In (d) J930909, the data of the Flood deposits (Tango et al., 1996) and the sulfate reduction zone are excluded from the regression.

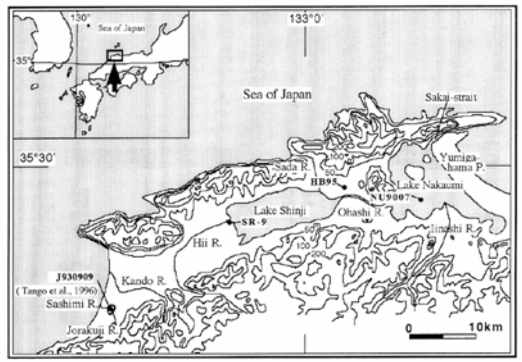


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

出典： Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明： 有機炭素と窒素との相関関係。左上にプロットされるものほど植物ﾌﾟﾗﾝｸﾄﾝの割合が多かったことを示している。

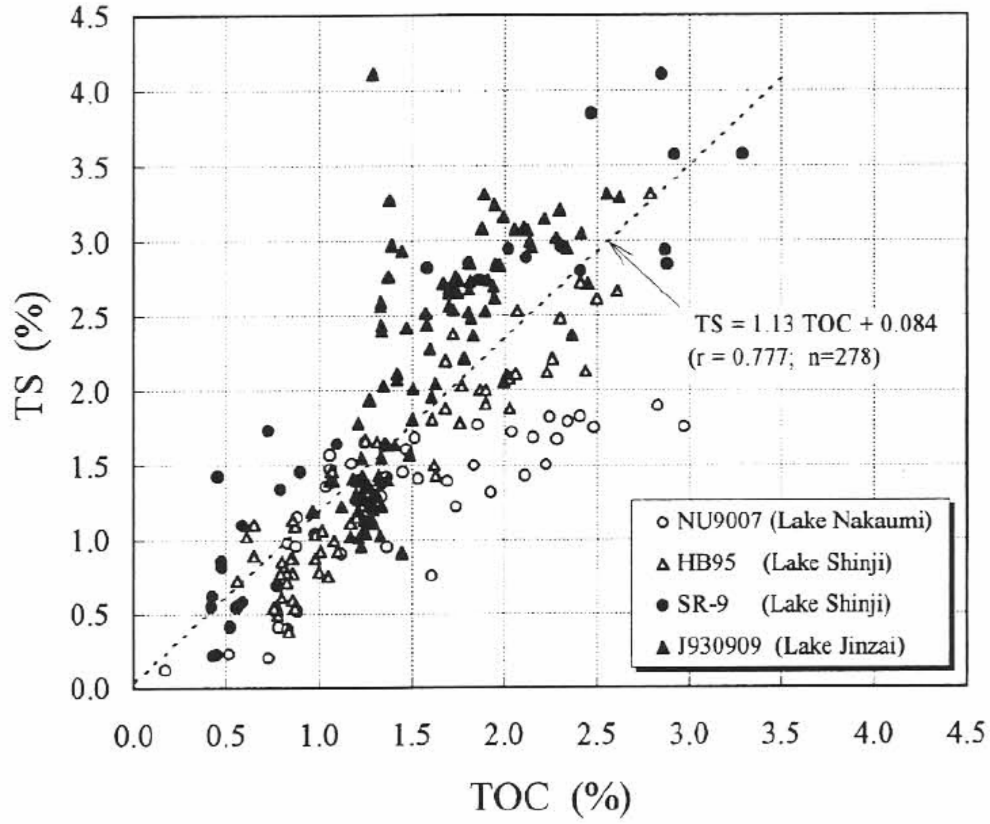


Fig. 6. Plot of TOC vs. TS from the sediment cores NU9007, HB95, SR-9 and J930909. The regression line was calculated from 278 analyses.

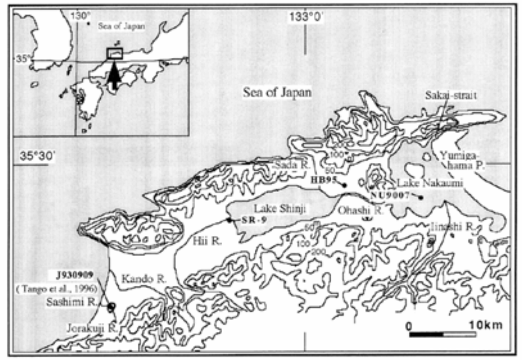


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

出典： Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明： 有機炭素とイオウ（硫化物イオウ）の全データの相関プロット。

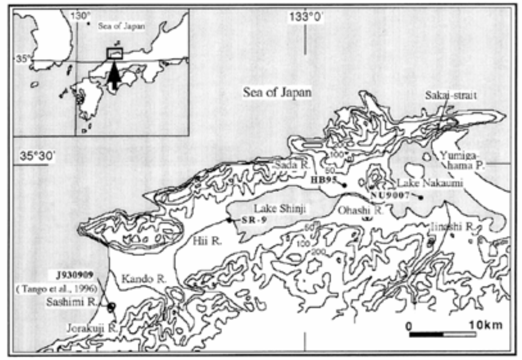


Fig. 1. Map showing the locations of sediment cores NU9007 (25 m), HB95 (12 m), SR-9 (30 m) and J930909 (1.3 m).

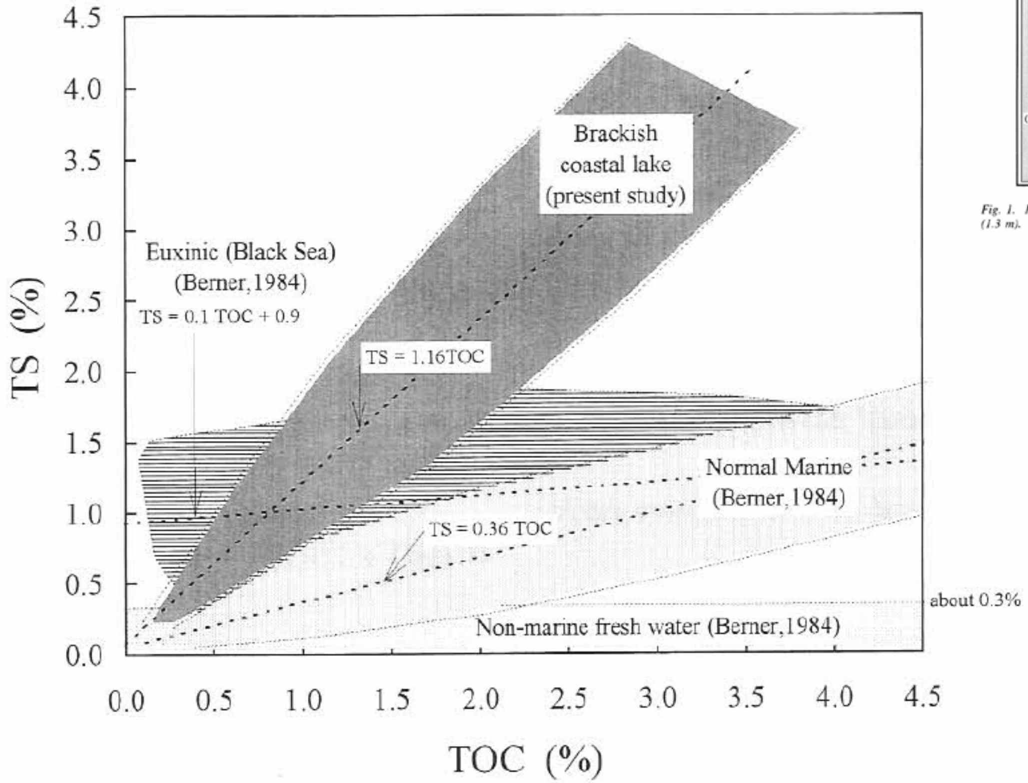


Fig. 8. Schematic diagram of TOC vs. TS displaying the generalized distributions of data for four fundamental depositional systems: normal marine, non-marine freshwater, euxinic (Black Sea) and brackish coastal water.

出典: Sampei, Y., Matsumoto, E., Kamei, T. and Tokuoka, T. (1997) Sulfur and organic carbon relationship in sediments from coastal brackish lakes in the Shimane peninsula district, southwest Japan. Geochem. Jour., **31**, 245-262. TERRAPUB

説明: TS-TOC図による堆積環境の比較。中海・宍道湖は、通常の沿岸域よりも還元的であるが、黒海よりは酸化的である。

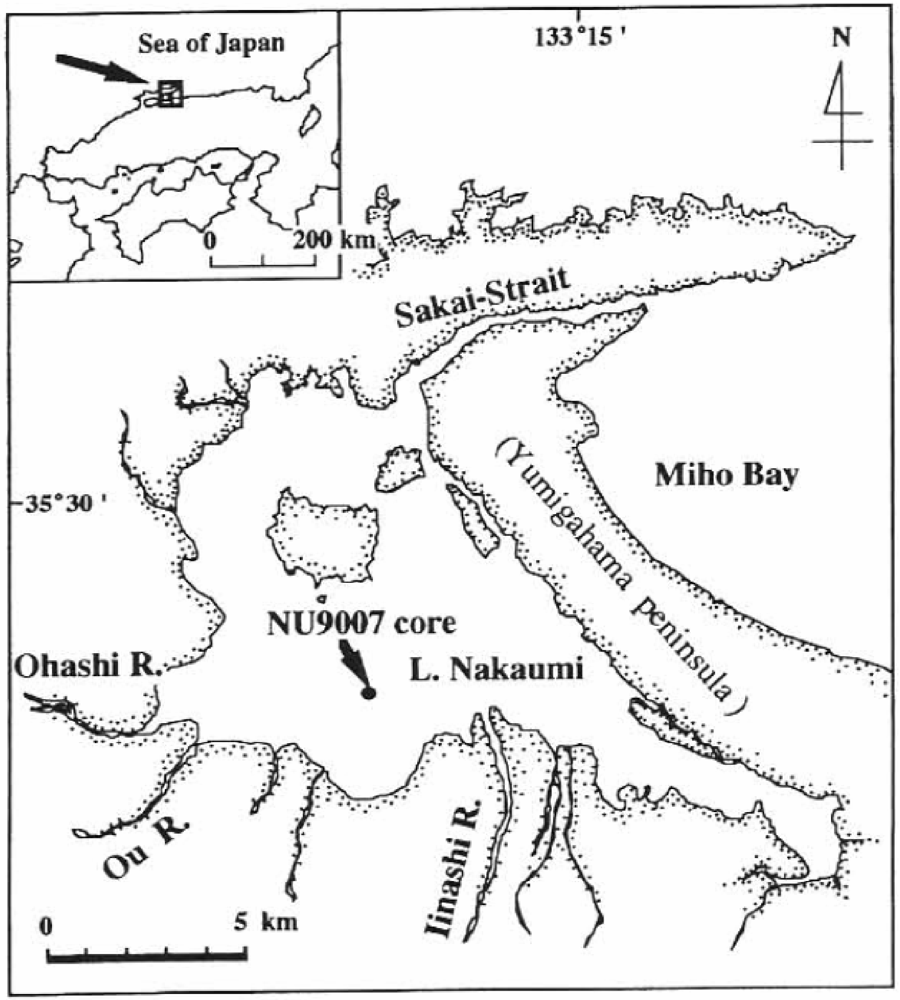


Fig. 1. Location of the sediment core NU9007 in Nakaumi Lagoon, southwest Japan.

出典：Sampei,Y. and Matsumoto,E. (2001) C/N ratios in a sediment core from Nakaumi lagoon, southwest Japan －usefulness as an organic source indicator－. Geochem. Jour., **35**,189-205. TERRAPUB.

説明：湖底の還元復元のための堆積物柱状試料採取地点

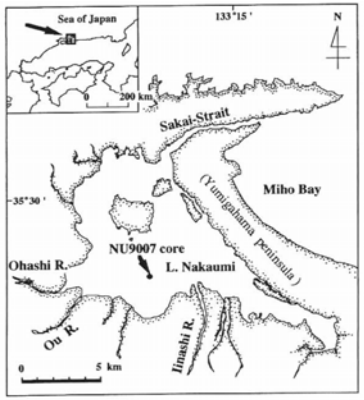


Fig. 1. Location of the sediment core NU9007 in Nakaumi Lagoon, southwest Japan.

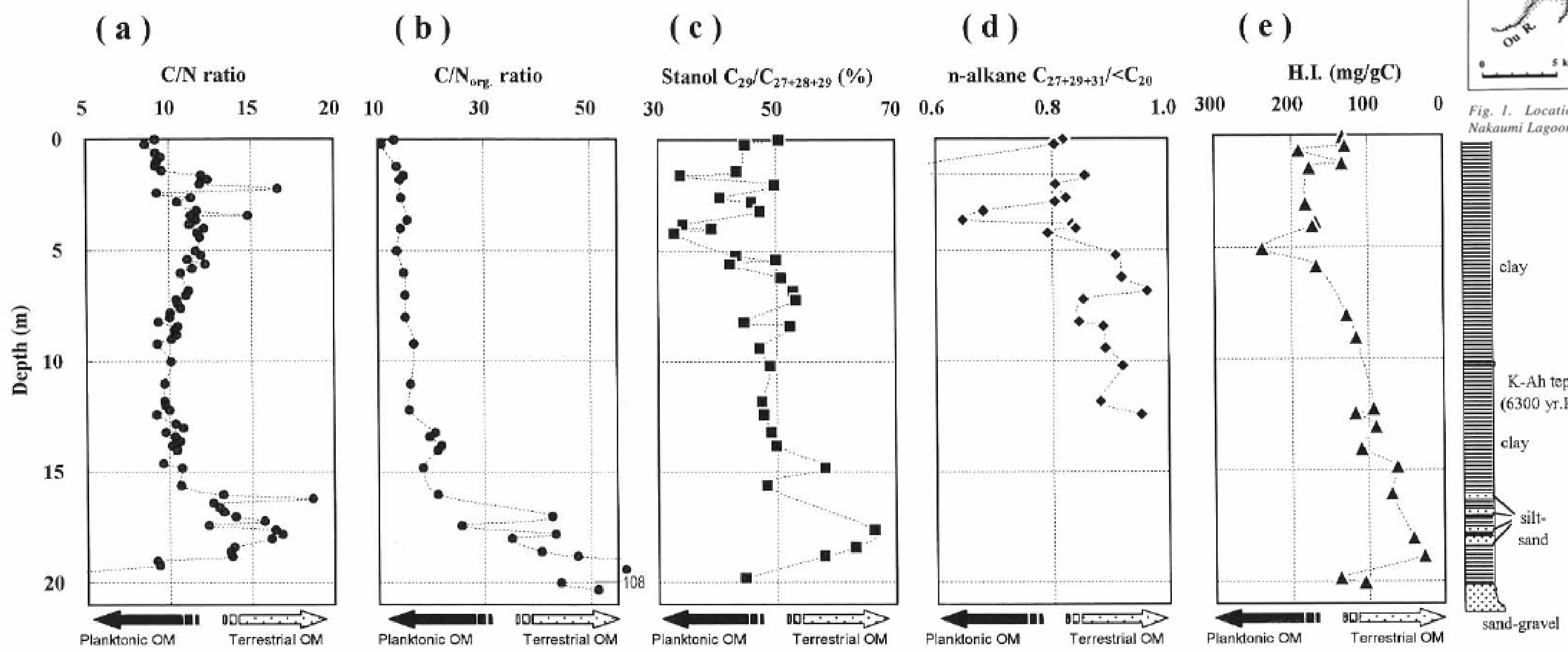


Fig. 3. Profiles of (a) weight ratio of $C_{org.}$ content of sediment to N_{total} content of sediment (C/N ratio), (b) weight ratio of $C_{org.}$ content of sediment to organic nitrogen content of sediment ($C/N_{org.}$ ratio: personally communicated with P. A. Meyers: Meyers, 1997), (c) proportion of C_{29}-stanol to $C_{27}+C_{28}+C_{29}$-stanol, (d) proportion of n-$C_{27}+C_{29}+C_{31}$ alkane to < n-C_{20} alkane and (e) hydrogen-index (HI) by Rock Eval pyrolysis.

出典： Sampei,Y. and Matsumoto,E. (2001) C/N ratios in a sediment core from Nakaumi lagoon, southwest Japan －usefulness as an organic source indicator－. Geochem. Jour., **35**,189-205. TERRAPUB.

説明： 中海湖心付近における有機物起源の変化。(c)(d)(e)はいずれも右ほど陸源有機物の影響が大きいことを示す。

Table 4. Stanol and stenol compositions from selected portions of the sediment core

Depth (m)	Stanol composition			Stenol composition		
	C_{27} (%)	C_{28} (%)	C_{29} (%)	C_{27} (%)	C_{28} (%)	C_{29} (%)
0.025	29.7	19.8	50.5	52.4	10.5	37.1
0.225	39.5	15.7	44.8	49.9	13.7	36.5
1.425	39.9	16.7	43.4	44.5	14.5	40.9
1.625	46.3	19.9	33.8	40.4	16.6	43.0
2.025	34.9	15.3	49.8	40.6	13.6	45.8
2.625	40.4	19.1	40.5	61.0	8.4	30.6
2.825	39.6	14.6	45.9	45.4	15.8	38.8
3.225	37.7	15.0	47.3	42.0	14.5	43.5
3.825	51.7	14.0	34.2	37.8	14.7	47.4
4.025	44.7	16.1	39.2	38.0	9.9	52.0
4.225	54.4	12.7	32.8	54.5	14.6	30.8
5.225	47.6	9.1	43.3	52.1	15.3	32.6
5.425	38.7	11.3	50.0	41.9	8.9	49.2
5.625	44.5	13.3	42.2	37.6	22.4	40.0
6.225	38.3	10.9	50.8	48.8	8.2	43.1
6.825	36.0	11.1	52.9	29.9	11.0	59.1
7.225	36.0	10.7	53.3	38.4	12.0	49.6
8.225	45.4	10.0	44.6	50.6	12.4	37.0
8.425	36.3	11.4	52.3	46.5	11.5	42.0
9.425	41.1	11.8	47.1	47.2	13.8	39.0
10.225	37.0	14.1	49.0	52.3	11.9	35.8
11.825	39.8	12.7	47.5	49.1	14.1	36.8
12.425	37.1	15.0	47.9	44.1	16.6	39.3
13.225	40.9	10.1	49.0	60.6	12.2	27.3
13.825	39.5	10.6	49.9	60.6	10.3	29.1
14.825	37.2	4.6	58.2	33.8	4.5	61.7
15.625	39.8	11.8	48.4	56.5	11.3	32.2
17.625	20.3	13.4	66.3	33.6	12.1	54.3
18.425	26.1	10.7	63.2	38.2	12.1	49.7
18.825	17.1	24.9	58.0	50.8	10.7	38.5
19.825	42.8	12.6	44.6	79.7	5.8	14.5

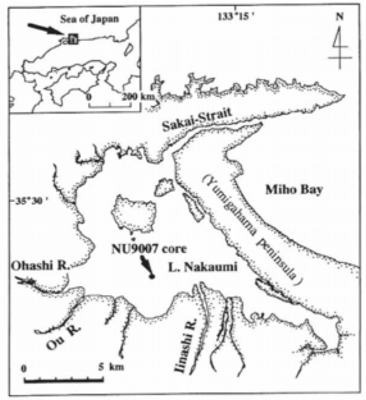


Fig. 1. Location of the sediment core NU9007 in Nakaumi Lagoon, southwest Japan.

出典: Sampei,Y. and Matsumoto,E. (2001) C/N ratios in a sediment core from Nakaumi lagoon, southwest Japan －usefulness as an organic source indicator－. Geochem. Jour., **35**,189-205. TERRAPUB.

説明: 過去約8000年間の中海湖心付近のｽﾀﾉｰﾙ･ｽﾃﾛｰﾙ組成変化。

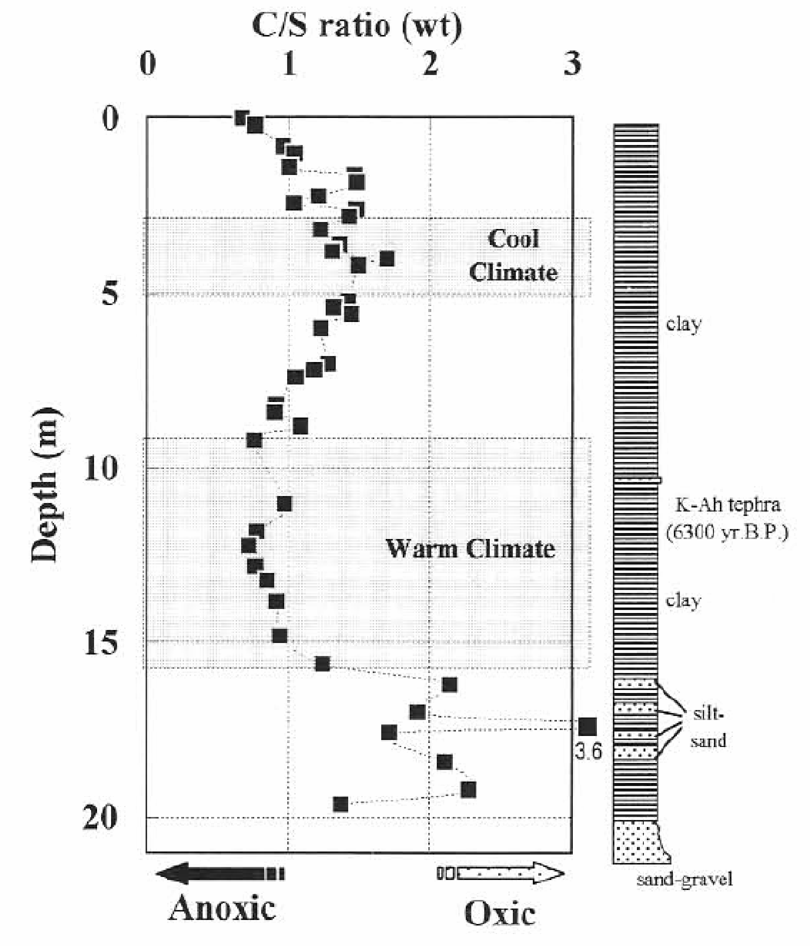
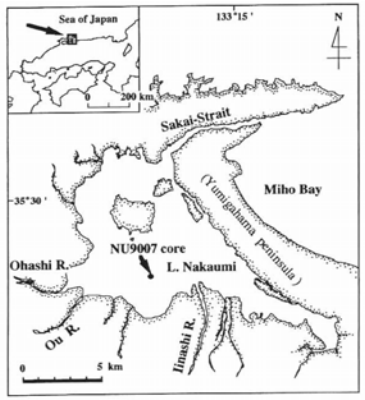


Fig. 8. C/S ratio profile of the sediment core: bottom oxic/anoxic indicator for brackish/marine water environment.



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出典： Sampei,Y. and Matsumoto,E. (2001) C/N ratios in a sediment core from Nakaumi lagoon, southwest Japan －usefulness as an organic source indicator－. Geochem. Jour., **35**,189-205. TERRAPUB.

説明： 過去約8000年間の中海湖心付近の酸化還元変化。縄文の温暖期で貧酸素的、弥生の寒冷期で酸化的環境となった。

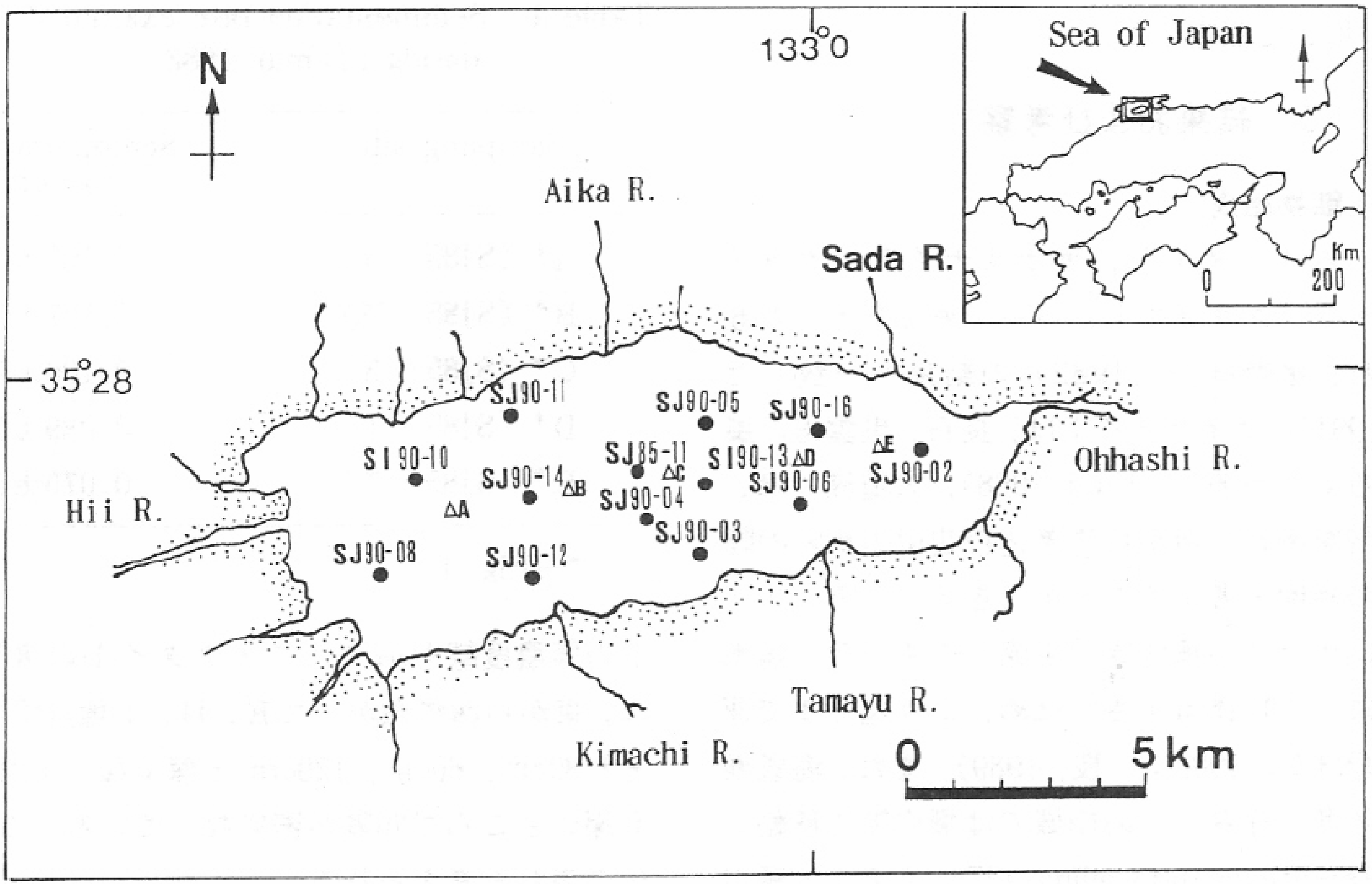

Fig. 1 Location of sampling sites.

出典: 三瓶良和・吉田憲司・平坂 健・鈴木徳行・松本英二（1992）粘土鉱物および全有機炭素・全窒素濃度からみた宍道湖湖底堆積物の特徴. Res. Org. Geochem., **8**, 11-16.

説明: **湖底の有機物濃度分布把握のための堆積物柱状試料採取地点**

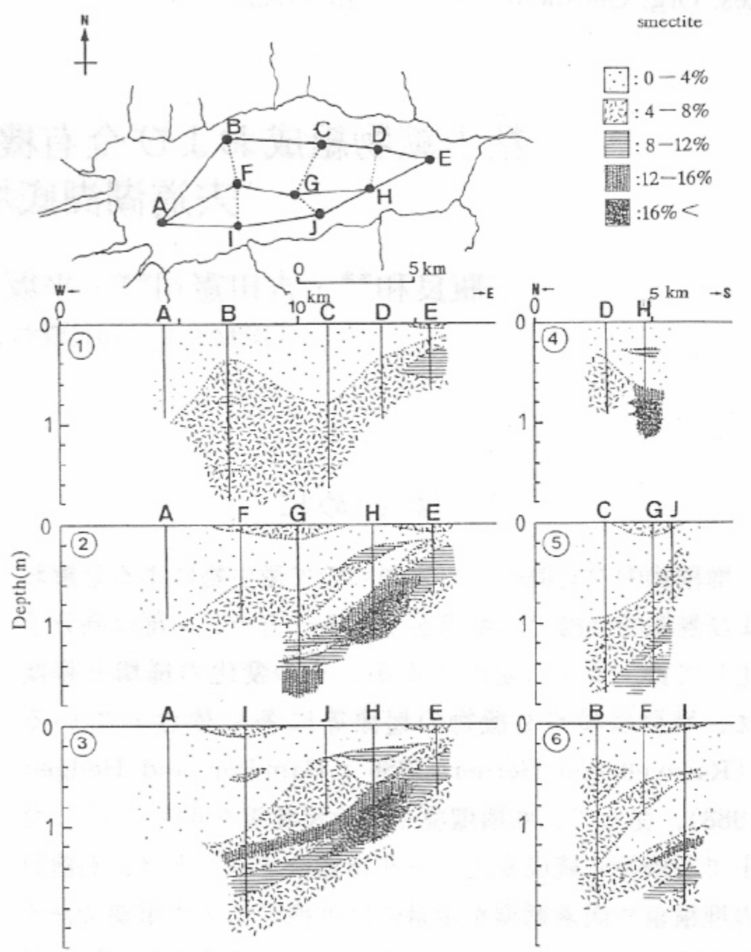

Fig. 2 Vertical distribution of smectite (Sampei et al., 1991).

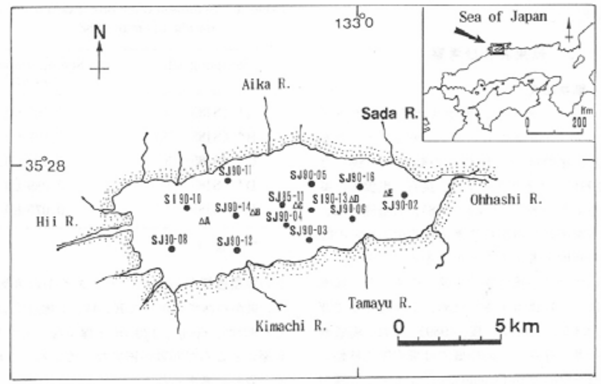

Fig. 1 Location of sampling sites.

出典: 三瓶良和・吉田憲司・平坂 健・鈴木徳行・松本英二（1992）粘土鉱物および全有機炭素・全窒素濃度からみた宍道湖湖底堆積物の特徴. Res. Org. Geochem., **8**, 11-16.

説明: 粘土鉱物組成の湖沼断面。ｽﾒｸﾀｲﾄの割合は西部ほど大きい。

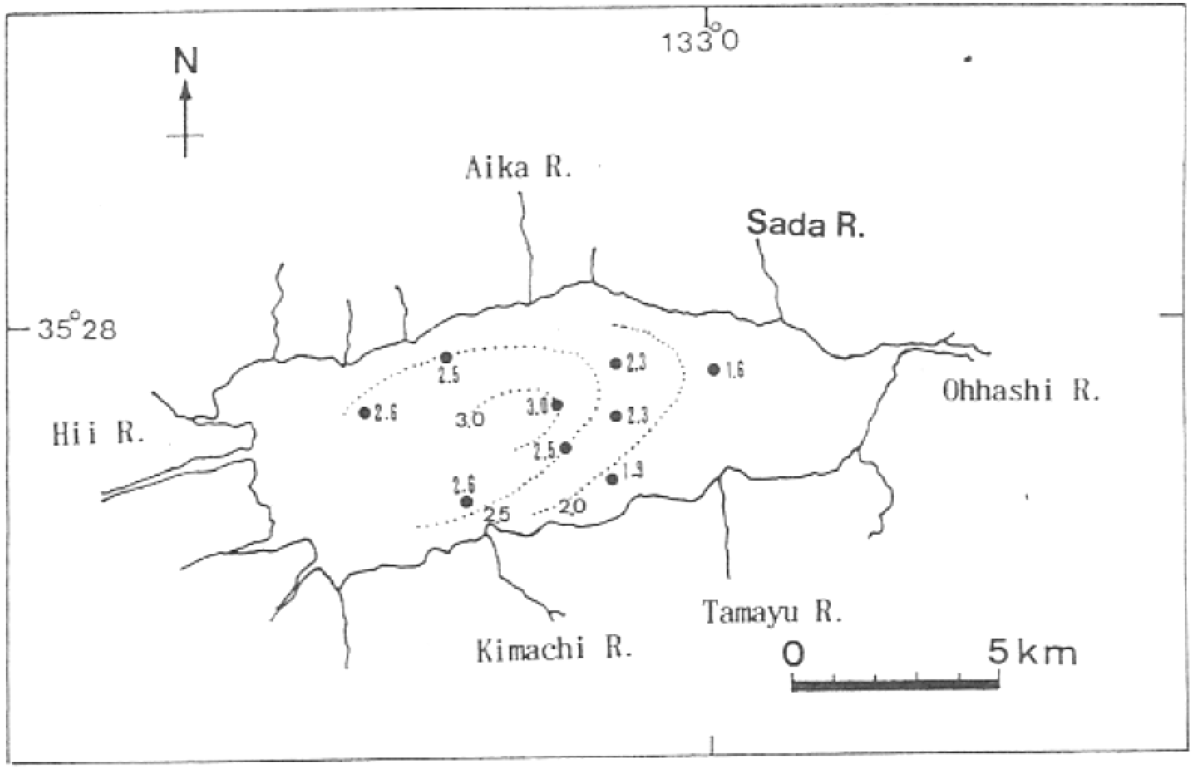

Fig. 3 TOC concentrations of surface sediments (0-2.5cm).

出典：三瓶良和・吉田憲司・平坂 健・鈴木徳行・松本英二（1992）粘土鉱物および全有機炭素・全窒素濃度からみた宍道湖湖底堆積物の特徴．Res. Org. Geochem., **8**, 11-16.

説明：表層2.5cmの有機炭素濃度分布。湖心で最も高い。

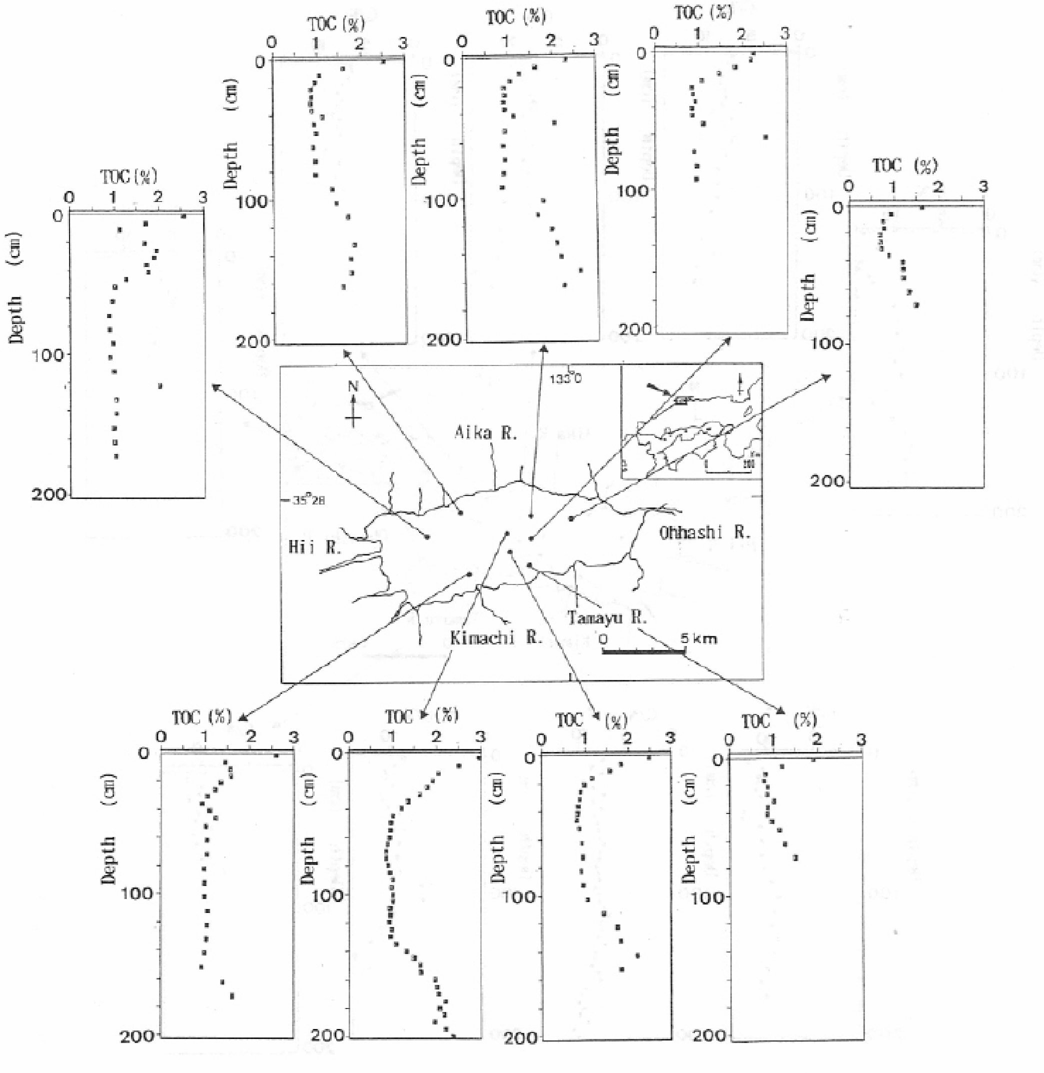

Fig. 4 Vertical distribution of TOC concentration.

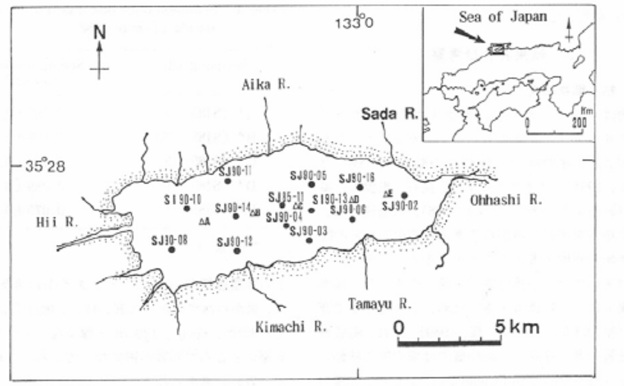

Fig. 1 Location of sampling sites.

出典: 三瓶良和・吉田憲司・平坂 健・鈴木徳行・松本英二（1992）粘土鉱物および全有機炭素・全窒素濃度からみた宍道湖湖底堆積物の特徴. Res. Org. Geochem., **8**, 11-16.

説明: 有機炭素濃度の鉛直分布。いずれの地点でも、すり鉢状の似た形状を示している。

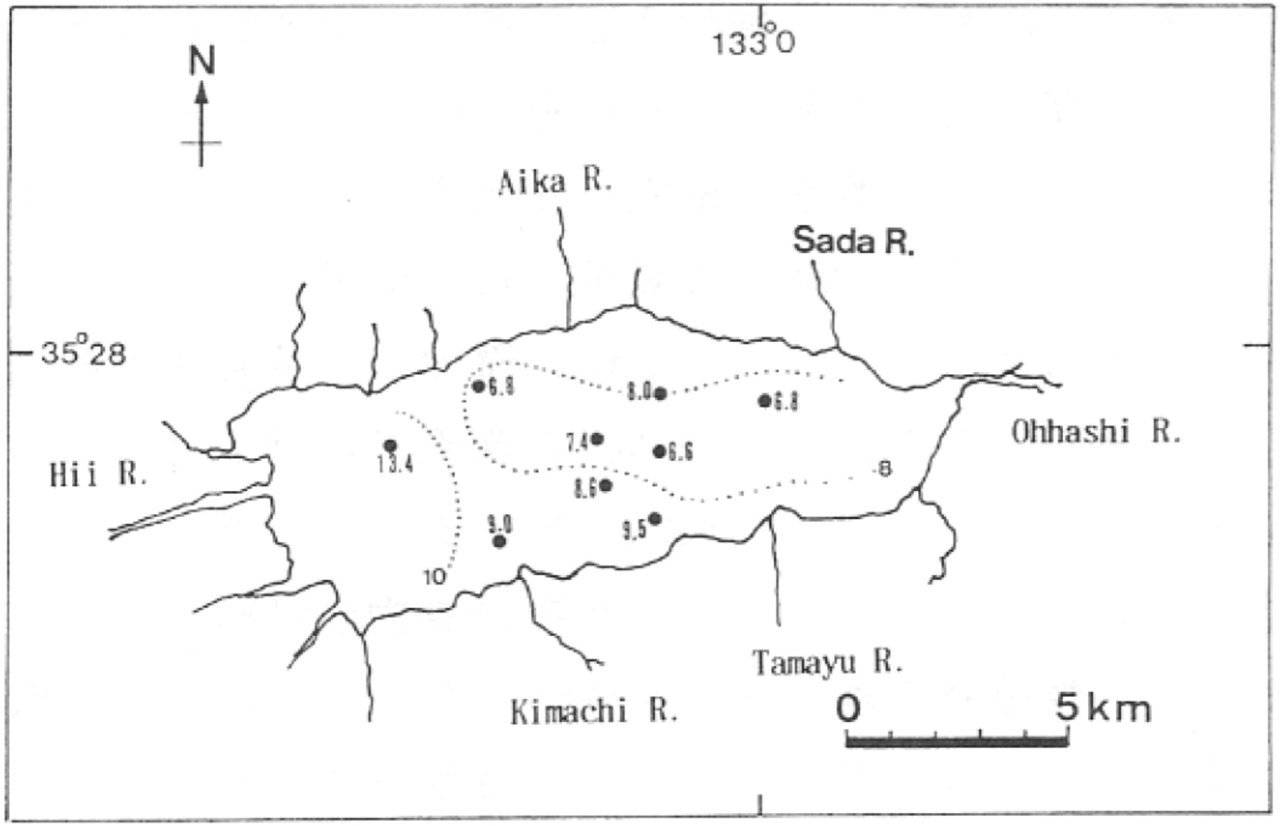

Fig. 5 C/N ratios of surface sediments (0-2.5cm).

出典: 三瓶良和・吉田憲司・平坂 健・鈴木徳行・松本英二（1992）粘土鉱物および全有機炭素・全窒素濃度からみた宍道湖湖底堆積物の特徴. Res. Org. Geochem., **8**, 11-16.

説明: 表層2.5cmのC/N比分布。西部で高く、陸源有機物の影響が大きい。

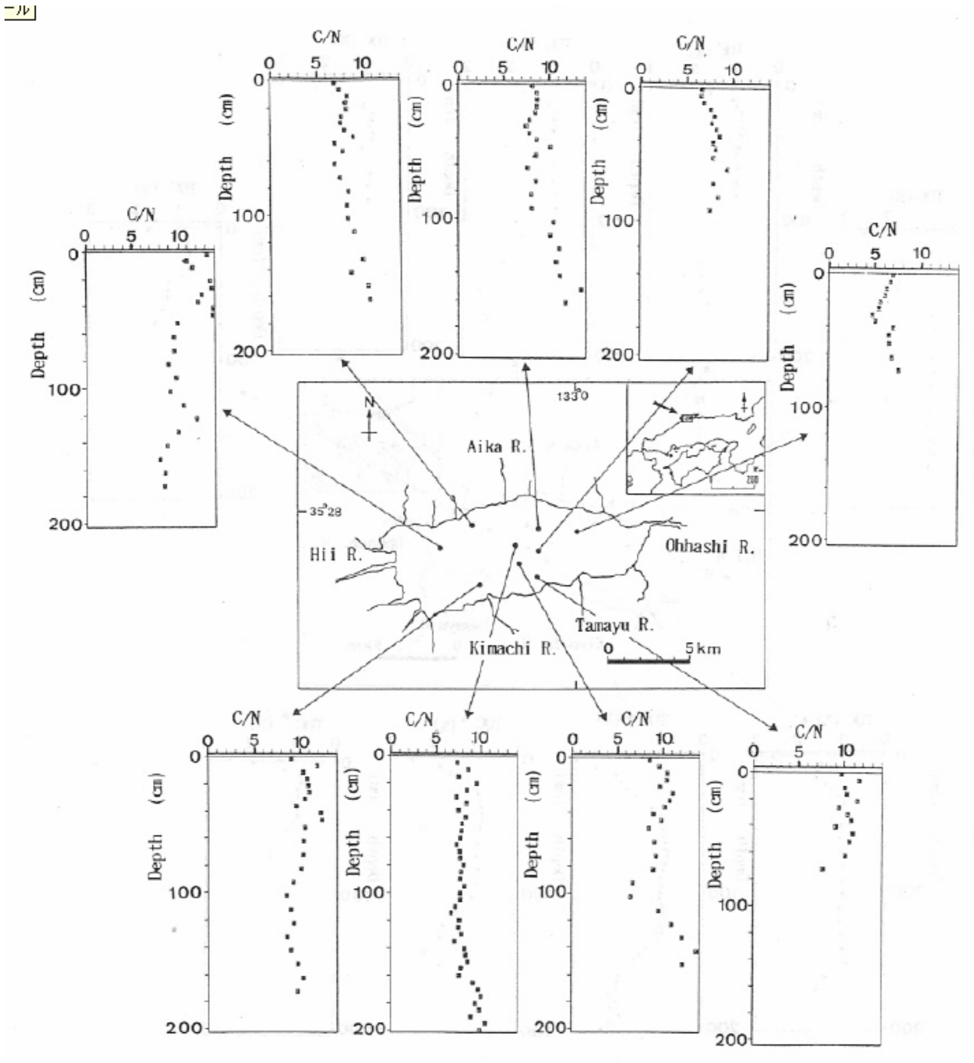

Fig. 6 Vertical distribution of C/N ratio.

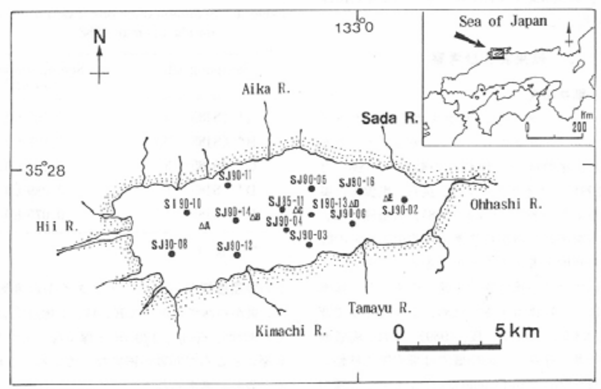

Fig. 1 Location of sampling sites.

出典: 三瓶良和・吉田憲司・平坂 健・鈴木徳行・松本英二（1992）粘土鉱物および全有機炭素・全窒素濃度からみた宍道湖湖底堆積物の特徴. Res. Org. Geochem., **8**, 11-16.

説明: C/N比の鉛直分布。

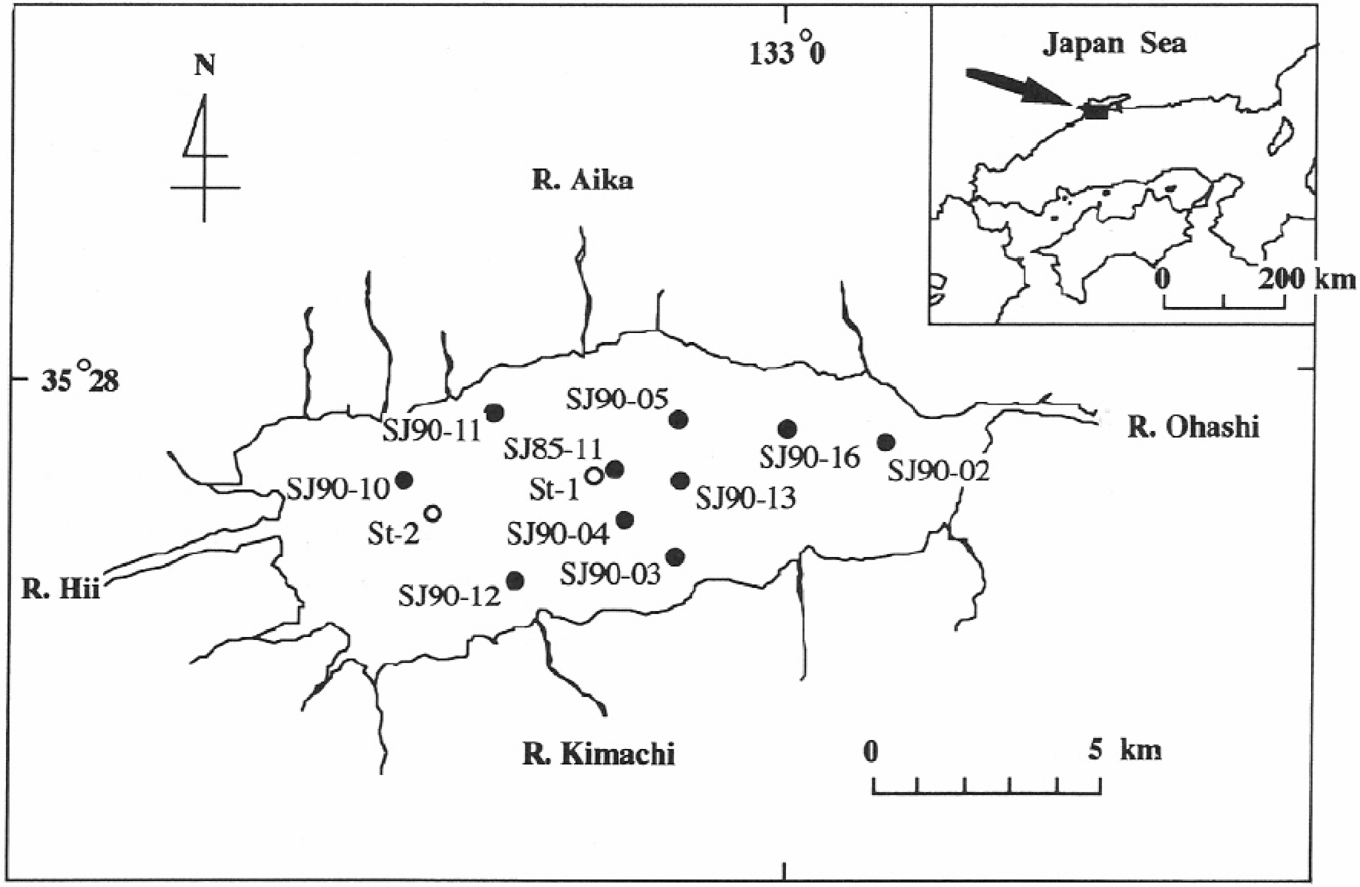

Fig.1 Sediment-trap site (open circle) and sampling location of sediment core **(filled circle).**

出典: Sampei, Y., Yomura, H., Otsuka, M., Yoshida, K. and Suzuki, N. (1994) Decomposition of organic matter and the organic carbon content of sediments in Lake Shinji, southwest Japan. Earth Sci. (Chikyukagaku), **48**, 317-332.

説明: 湖底の有機物濃度分布把握のための堆積物柱状試料採取およびセディメントトラップSt1,2設置地点

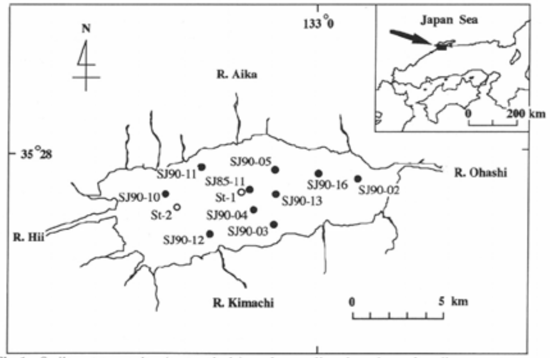

Fig.1 Sediment-trap site (open circle) and sampling location of sediment core (filled circle).

Table.1 Total sediment flux, organic carbon flux, total organic carbon (TOC) content and C/N ratios of sediment-trap material.

Station No.	Total flux (g m^{-2}day^{-1})			Organic carbon flux (g m^{-2}day^{-1})			Total organic carbon (%)			C/N ratio		
	2m	4m	bottom	2m	4m	bottom	2m	4m	bottom	2m	4m	bottom
St-1[1)]	2.67	0.50	14.0	0.192	-	0.449	7.2	11.4	3.2	6.5	6.1	7.3
St-1[2)]	15.5	20.2	o.f.	0.837	1.47	o.f.	5.4	7.3	2.7	6.0	6.5	7.4
St-1[3)]	3.78	5.03	o.f.	0.155	0.176	o.f.	4.1	3.5	3.5	5.0	4.9	7.9
St-1[4)]	4.94	-	o.f.	0.179	-	o.f.	3.5	-	2.4	6.7	-	7.0
St-2[5)]	1.14	0.52	58.6	0.0 79	0.0 46	1.70	6.9	8.8	2.9	6.6	6.3	8.1
St-2[6)]	39.5	57.3	o.f.	1.94	2.64	o.f.	4.9	4.6	1.7	6.3	6.4	5.1

1): 92.6.27 - 7.14 (17d.) 2): 92.9.12 - 11.13 (62d.) 3): 92.11.13 - 12.16 (33d.) 4): 92.12.16 - 93.2.3 (49d.) 5): 92.6.27 - 7.14 (17d.) 6): 92.7.17 - 8.12 (26d.)
o.f. : over flow

出典： Sampei, Y., Yomura, H., Otsuka, M., Yoshida, K. and Suzuki, N. (1994) Decomposition of organic matter and the organic carbon content of sediments in Lake Shinji, southwest Japan. Earth Sci. (Chikyukagaku), **48**, 317-332.

説明： セディメントトラップによる有機物フラックスの見積もりとTOC・C/N比。

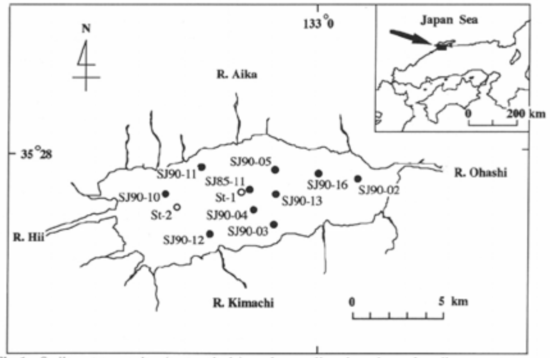

Fig.1 Sediment-trap site (open circle) and sampling location of sediment core (filled circle).

Table.2 TOC content and its preserved ratio in cored sediment. TOC-S: TOC content of surface (0–2.5cm) sediment. TOC-F: average TOC content of sediment in the "freshwater period". TOC-M: average TOC content of sediment in the "seawater period". ( ): sample number.

Core No.	TOC - S (%)	TOC - F (%) Av. (number)	TOC - M (%) Av. (number)	TOC-F / -S (%)	TOC-M / -F (ratio)
SJ9003	1.90	0.836(6)	1.19(2)	43.9	1.42
SJ9004	2.49	0.862(9)	1.95(3)	34.6	2.26
SJ9005	2.31	0.905(9)	2.20(5)	39.1	2.43
SJ9010	2.55	0.959(10)	-	37.5	-
SJ9011	2.52	0.900(7)	1.63(7)	35.6	1.81
SJ9012	2.60	0.995(12)	1.59(1)	38.2	1.60
SJ9013	2.25	0.895(8)	-	39.7	-
SJ9016	1.62	0.721(5)	1.48(1)	44.5	2.05
SJ8511	3.04	0.933(15)	2.12(8)	30.6	2.27

出典: Sampei, Y., Yomura, H., Otsuka, M., Yoshida, K. and Suzuki, N. (1994) Decomposition of organic matter and the organic carbon content of sediments in Lake Shinji, southwest Japan. Earth Sci. (Chikyukagaku), **48**, 317-332.

説明: 宍道湖の過去の「海水期」と「淡水期」の有機炭素濃度の比較。

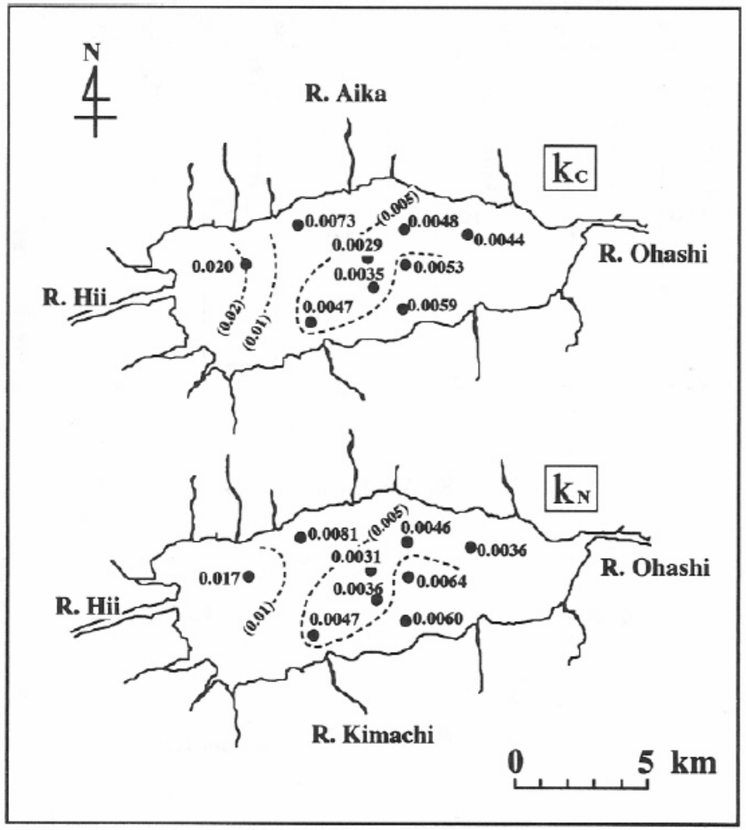

Fig.4 Decomposition rate constant of TOC (k_C) and TN (k_N) in the upper sediment. The data sets used for calculation are from the top to about 20cm depth below which the content appears to be constant. It was assumed that decomposition of organic matter approximately follows first order chemical kinetics. The decomposition rate is high in the western area.

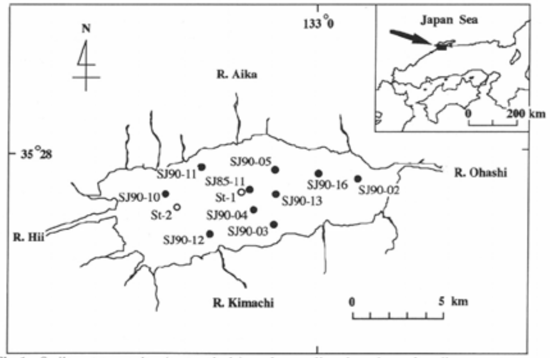

Fig.1 Sediment-trap site (open circle) and sampling location of sediment core (filled circle).

出典: Sampei, Y., Yomura, H., Otsuka, M., Yoshida, K. and Suzuki, N. (1994) Decomposition of organic matter and the organic carbon content of sediments in Lake Shinji, southwest Japan. Earth Sci. (Chikyukagaku), **48**, 317-332.

説明: 表層約20cmの有機物濃度変化を「全て分解による」と仮定した場合の分解速度定数。西側で高い。

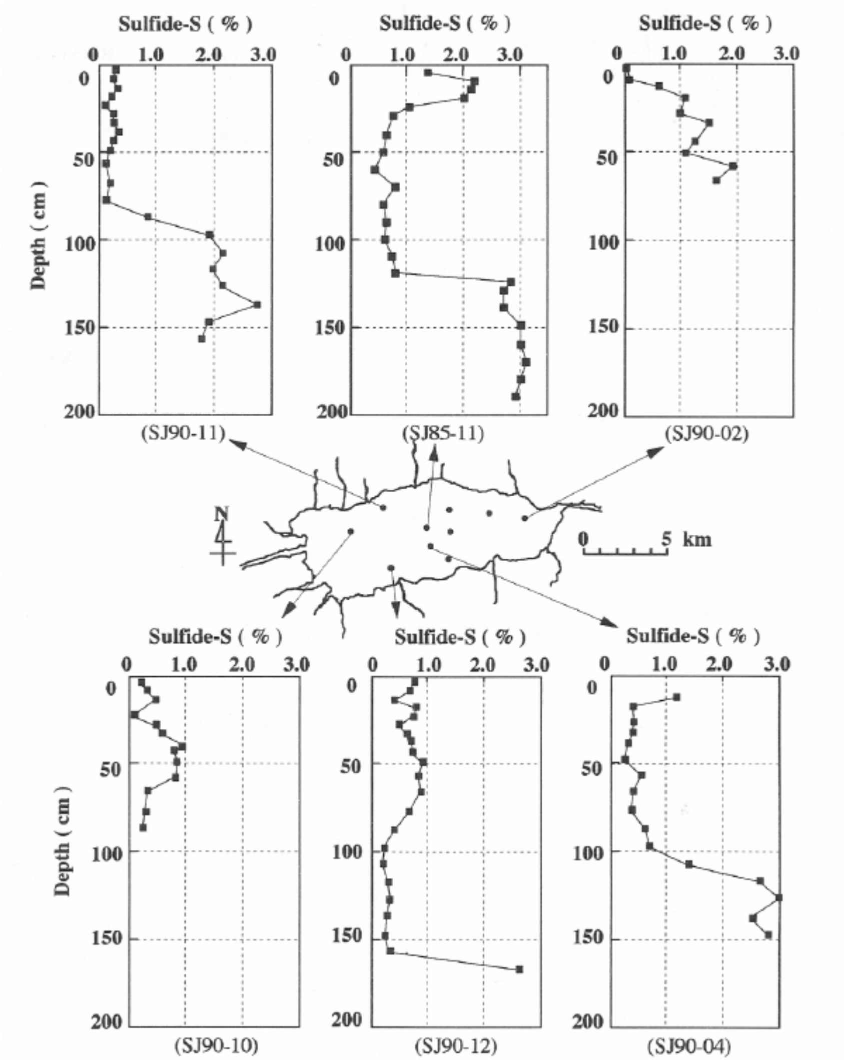

Fig.6 Vertical profile of sulfide sulfur content in sediment core. Increases of sulfide sulfur content in the lower layer indicate the "seawater period".

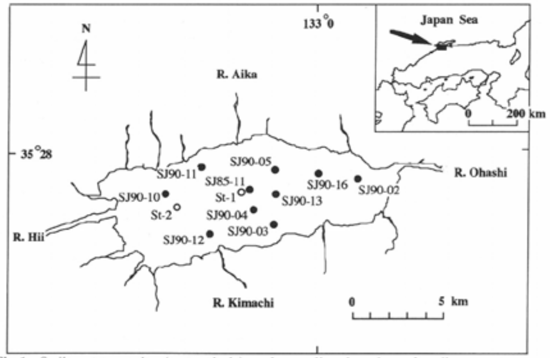

Fig.1 Sediment-trap site (open circle) and sampling location of sediment core (filled circle).

出典: Sampei, Y., Yomura, H., Otsuka, M., Yoshida, K. and Suzuki, N. (1994) Decomposition of organic matter and the organic carbon content of sediments in Lake Shinji, southwest Japan. Earth Sci. (Chikyukagaku), **48**, 317-332.

説明: 硫化物イオウ濃度の鉛直分布。下部で高くなる深度は「海水-淡水変化期」を示している。

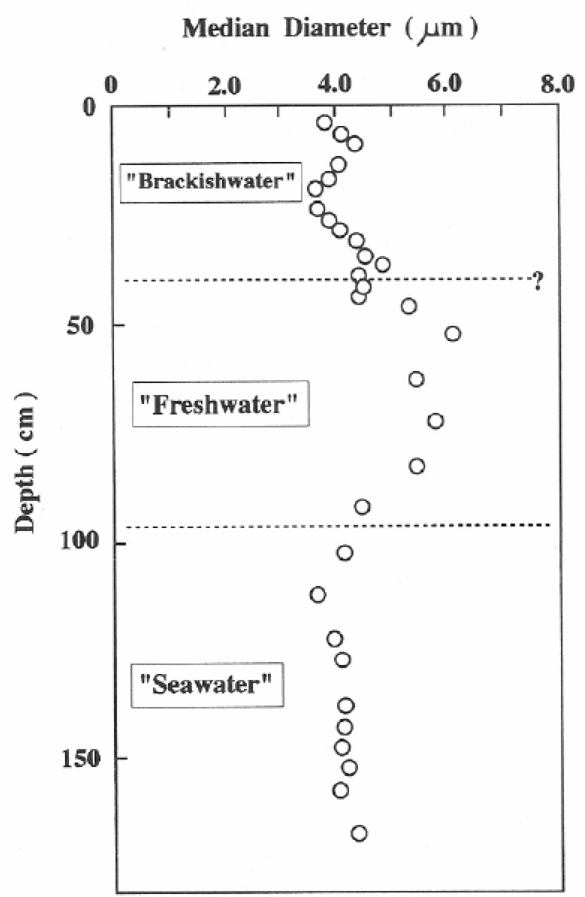

Fig.7 Vertical profile of the median diameter of sediments (MD, SJ9005). In the "freshwater period" the MD is relatively large.

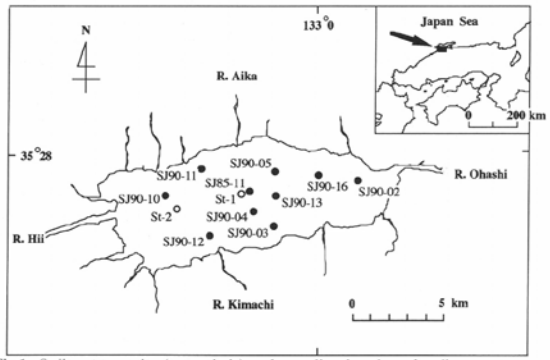

Fig.1 Sediment-trap site (open circle) and sampling location of sediment core (filled circle).

出典： Sampei, Y., Yomura, H., Otsuka, M., Yoshida, K. and Suzuki, N. (1994) Decomposition of organic matter and the organic carbon content of sediments in Lake Shinji, southwest Japan. Earth Sci. (Chikyukagaku), **48**, 317-332.

説明： 過去の「淡水期」では泥質分の粒径が増加した。