JP003-99-1

海洋調査報告一覧

(CRUISE SUMMARY REPORT)

(国内海洋調査機関の調査報告)

1998年 実施分
(1996,1997年実施分を一部含む)

1999年3月

日本海洋データセンター
(海上保安庁水路部)

まえがき

海洋の調査には多大な労力と時間、経費を要します。我々を取り巻く広大な海洋について一層の理解を深め、各種活動を行うためには、関係者がお互いに情報・データを交換することによって、作業の重複を避け、調査を効率的に進めることが必要です。また、ひとたび得られた調査データは共通の財産として、広く一般の利用に供されることが望ましいことです。

海洋調査報告一覧は、 海洋データ交換を迅速・確実に行い、かつ調査終了後データ公表までの空白を埋めるため、どこの機関が、いつ、どこで、どのような調査活動を行ったかを、国際的に統一された書式（航海概要報告）でデータ名、数量、海域、データ保管場所等の概要について記述した調査機関からの報告をとりまとめたものです。この調査目録が、データ流通の円滑化を通じて、海洋調査活動の効率化と海洋科学の進歩に寄与できれば幸いです。

１９９９年　３月

日本海洋データセンター
所 長　　長井　俊夫

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1．航海概要報告（CRUISE SUMMARY REPORT）について

この報告書式は、1991年1月のユネスコ政府間海洋学委員会（IOC）国際海洋データ・情報交換システム（IODE）技術委員会第13回会議の決議に基づき、従来から使用してきた「海洋調査報告（ROSCOP：第2版）」に替わるもので我が国では1992年1月1日以降に終了した航海から使用しています。

航海概要報告は、海洋における観測成果の概要を記すための統一された書式で、海洋データの全世界にわたる収集目録であり、調査・研究者、計画立案者、データ管理者等にとって、誰が、いつ、どこで、どのような調査をしたかのタイムリーな情報についてアクセスを可能にするものです。

このグローバルな観測成果の概要は、世界データセンター（ＷＤＣ）および各国の海洋データセンターを通じて、国際的プログラムの計画機関の調査担当者、計画立案者に利用されることになります。このため、日本海洋データセンター（JODC）ではIOCおよび各国の海洋データセンターへは我が国の主要な海洋調査計画を、また世界データセンターへは各海洋調査実施機関に提出して頂いた航海概要報告を編集した、この「海洋調査報告一覧」を送付しています。

海洋データの迅速な収集と円滑な流通を図るため、海洋調査実施機関におかれましては海洋調査航海終了後は、速やかにJODCあて航海概要報告を送付くださるようお願いします。

なお、本報告一覧には1998年中にJODCが受領した1996年、1997年分も掲載しています。

また、インターネットを通じてJODCが保有する海洋データ・情報を検索・抽出できるシステム、J-DOSS（JODC Data Online Service System）でも本報告一覧と同じ情報を見ることができます。

国内外の各海洋調査機関より提出していただいたCSRは、受領次第 J-DOSS上へ登録されます。これにより、本報告一覧の刊行時期まで待つことなく常に新しい情報を見ることができるようになり、またJ-DOSS上では、国別、機関別、船名別、海域別等の条件での検索が可能です。

J-DOSS中のCSRのページのアドレスは *http://www.jodc.jhd.go.jp/cgi-bin/csr* です。

みなさんの、ご利用をお待ちしています。

JODCでは、現在の書式のみによるCSR報告方式に加え、オンラインで報告できる方式を現在開発中であり、近日中に公開することとしています。

なお、公開時期などについては、別途お知らせしたいと考えています。

2． 調査報告の項目説明

海洋調査報告一覧は、JODC で受領した航海概要報告（CSR）を整理、編集したもので、報告に使用されている各項目の概略は次のとおりです。

Reference No.	:	CSR情報のJODCにおける照会番号
Restrict Data	:	データ交換に制限がある（Yes）か、否（No）か条件付き（In part）かを示す
Ship Name	:	データを収集した船舶のフルネーム
Ship Type	:	データを収集した船舶の種類
Cruise No./Name	:	航海の固有番号、名称又は略称
Cruise Period	:	出港日と入港日
Port of Departure	:	出港した港の名称
Port of Return	:	帰港した港の名称
Responsible Laboratory	:	航海の観測計画を作成した調査機関の名称
Chief Scientist(s)	:	航海中観測調査を担当した者（観測班長）の名前と所属機関
General Ocean Area(s)	:	航海中にデータを収集した海洋または海域の名称
Specific Areas	:	調査が或る海域の特定区域に集中した場合、その区域のローカルな海域名、海底地名、または地理座標
Geographic Coverage	:	ＭＳＱ海域番号図による
Project Name	:	航海が共同プロジェクト（または調査、計画）の一部であるならば、その名称
Coordinating Body	:	上記プロジェクトの調整機関名
Principal Investigators	:	航海で収集されたデータについて責任を持っている筆頭の調査者

Objectives and Brief Narrative of Cruise : 航海の目的と性格についての情報

Moorings, Bottom Mounted Gear and Drifting Systems : 係留、海底設置機器、漂流機器システム

PI	:	Principal Investigators 欄を参照
LAT. LON.	:	観測地点の経緯度
Data Type	:	データリストのコード
Description	:	機器の種類、測定のパラメータ、機器数とその深度、設置または回収の 日付と位置

Summary of Measurements and Samples Taken : 測定とサンプル採取の概要

PI	:	Principal Investigators 欄を参照
No Units	:	収集されたデータの量、または推定量
Data Type	:	データリストのコード
Description	:	データ、使用機器／装置の種類･特性等を記入

3．データタイプのコードリスト

航海概要報告の、「Moorings, Bottom Mounted Gear and Drifting Systems」、および「Summary of Measurements and Samples Taken」のなかのデータタイプは、下記のリストから記入します。

A：海洋物理学
- H71　航走中表層測定
- H13　BT
- H09　各層観測
- H10　CTD
- H11　航走中表面下測定
- H72　サーミスタチェーン
- H16　透明度（Transmissometerなど）
- H17　海洋光学（水面下の照度など）
- H73　地球化学的トレーサー（フロンなど）
- D01　流速計による観測
- D71　カレントプロファイラー（ADCPなど）
- D03　船の偏流による海流測定
- D04　GEK
- D05　漂流ブイ
- D06　中立ブイ
- D09　水位測定（水圧計や底置型音響測深器含む）
- D72　機器による波浪観測
- D90　その他の海洋物理学観測

B：海洋化学
- H21　溶存酸素
- H74　二酸化炭素
- H33　その他の溶存ガス
- H22　りん酸塩
- H23　全りん
- H24　硝酸塩
- H25　亜硝酸塩
- H75　全窒素
- H76　アンモニア
- H26　けい酸塩
- H27　アルカリ度
- H28　pH
- H30　微量元素
- H31　放射能
- H32　同位元素
- H90　その他の海洋化学観測

C：汚染
- P01　懸濁物
- P02　微量金属
- P03　石油残渣
- P04　塩素化炭化水素
- P05　その他の溶存物質
- P12　海底沈殿物
- P13　汚染生物（生物体内汚染物質）
- P90　その他の汚染観測

D：生物学と漁業
- B01　基礎生産力
- B02　植物プランクトン色素
- B71　粒状有機物
- B06　溶存有機物
- B72　生化学測定（脂質、アミノ酸）
- B73　セジメントトラップ
- B08　植物プランクトン
- B09　動物プランクトン
- B03　固形浮遊物（セストン）
- B10　水表生物
- B11　遊泳動物
- B13　卵／稚仔
- B07　浮遊バクテリア／微生物
- B16　底生バクテリア／微生物
- B17　底生植物
- B18　底生動物
- B25　鳥類
- B26　哺乳類と爬虫類
- B14　浮魚
- B19　底魚
- B20　軟体生物
- B21　甲殻類
- B28　海洋生物による音響反射
- B37　標識放流
- B64　漁具測定
- B65　試験漁業
- B90　その他の生物学／漁業観測

E：気象
- M01　高層気象観測
- M02　入射放射
- M05　臨時標準観測
- M06　定常標準観測
- M71　大気化学
- M90　その他の気象観測

F：地質と地球物理
- G01　採泥（曳航）
- G02　グラブ型採泥
- G03　岩石柱状資料採取
- G04　堆積物柱状資料採取
- G08　海底写真
- G71　海底現場観測
- G72　地球物理学観測（海底まで）
- G73　音響測深（シングルビーム）
- G74　音響測深（マルチビーム）
- G24　サイドスキャンソナー
- G75　反射式音波探査（シングルチャンネル）
- G76　反射式音波探査（マルチチャンネル）
- G26　屈折式音波探査
- G27　重力測定
- G28　地磁気測定
- G90　その他の物質／地球物理観測

4. 調査航海一覧表

担当機関[*1]	船　名	調査海域	航海期間	調査項目[*2]	照会番号	ページ
ORI, UT	HAKUHO MARU	Andaman Sea Eastern Indian Ocean	1996/12/19 - 1997/02/18	G,H	96081	6
CMD, JMA	RYOFU MARU	Philippine Sea	1997/11/28 - 1997/12/04	D,G,H,M	97041	7
ORI, UT	TANSEI MARU	North Pacific Ocean Philippine Sea	1997/04/10 - 1997/04/16	D,H	97042	8
ORI, UT	TANSEI MARU	Phlippine Sea	1997/07/27 - 1997/07/31	B,H	97043	10
ORI, UT	TANSEI MARU	North Pacific Ocean	1997/09/01 - 1997/09/07	B,D,H	97044	12
ORI, UT	TANSEI MARU	Japan Sea North Pacific Ocean	1997/09/10 - 1997/09/16	B,G	97045	13
ORI, UT	TANSEI MARU	North Pacific Ocean	1997/11/17 - 1997/11/26	G	97046	14
ORI, UT	TANSEI MARU	North Pacific Ocean	1997/12/02 - 1997/12/08	B,D,G,H	97047	16
HD, MSA	SHOYO	Japan Sea North Pacific Ocean	1997/04/15 - 1997/05/01	G,H,P	97048	18
HD, MSA	SHOYO	Japan Sea Sea of Okhotsk	1997/09/01 - 1997/09/30	D,G,H	97049	19
HD, MSA	KAIYO	North Pacific Ocean	1997/11/27 - 1997/12/02	G,H	97050	20
FF, NU	NAGASAKI MARU	East China Sea	1997/11/04 - 1997/11/28	B,D,G,H	97051	21
FF, KU	NAGASAKI MARU	East China Sea	1997/12/08 - 1997/12/18	B,H	97052	22
ORI, UT	HAKUHO MARU	Bering Sea North Pacific Ocean	1997/07/09 - 1997/09/08	B,G,H	97053	23
ORI, UT	TANSEI MARU	Japan Sea	1997/09/19 - 1997/10/02		97054	25
CMD, JMA	RYOFU MARU	Philippine Sea East China Sea	1998/01/23 - 1998/03/05	B,D,G,H,M,P	98001	27
CMD, JMA	KEIFU MARU	North Pacific Ocean Philippine Sea	1998/01/21 - 1998/02/20	D,G,H,M,P	98002	29
CMD, JMA	RYOFU MARU	North Pacific Ocean	1998/04/23 - 1998/05/15	B,D,G,H,M,P	98003	31
SFHS	WAKATORI MARU	Philippine Sea	1998/04/09 - 1998/04/25	H,M	98004	33
HMO, JMA	KOFU MARU	North Pacific Ocean	1998/01/30 - 1998/03/04	B,D,H,M,P	98005	34
MMO, JMA	SEIFU MARU	Japan Sea	1998/01/16 - 1998/03/02	B,D,G,H,M,P	98006	36
HMO, JMA	KOFU MARU	North Pacific Ocean	1998/04/28 - 1998/05/29	B,D,H,M,P	98007	38
ORI, UT	TANSEI MARU	East China Sea Phillippine Sea	1998/06/27 - 1998/07/06	M	98008	40
ESST, KU	KAKUYO MARU	East China Sea	1998/05/20 - 1998/05/28	D,H	98009	41
RIAM, KU	KAKUYO MARU	Japan Sea	1998/06/03 - 1998/06/18	D,H	98010	42
FF, NU	KAKUYO MARU	East China Sea	1998/06/24 - 1998/07/03	B	98011	44
FF, NU	KAKUYO MARU	North Pacific Ocean	1998/07/12 - 1998/08/11	H	98012	45
HMO, JMA	KOFU MARU	North Pacific Ocean	1998/06/10 - 1998/08/10	B,D,G,H,M,P	98013	46
FF, NU	NAGASAKI MARU	East China Sea	1998/04/02 - 1998/04/22	B,H	98014	48
FF, NU	NAGASAKI MARU	East China Sea	1998/05/08 - 1998/06/04	B,D,H	98015	49
ORI, UT	TANSEI MARU	North Pacific Ocean	1998/02/20 - 1998/02/26	B,H	98016	51

*1　末尾の付録３参照

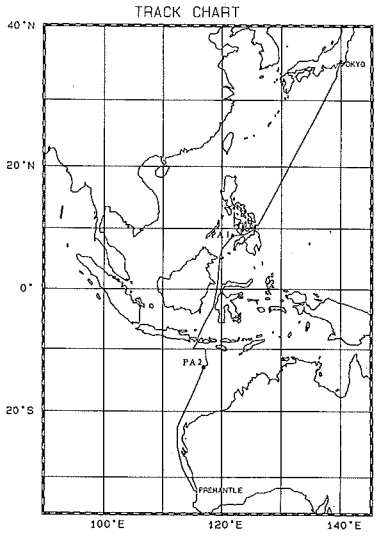
*2　p3データタイプのコードリスト参照

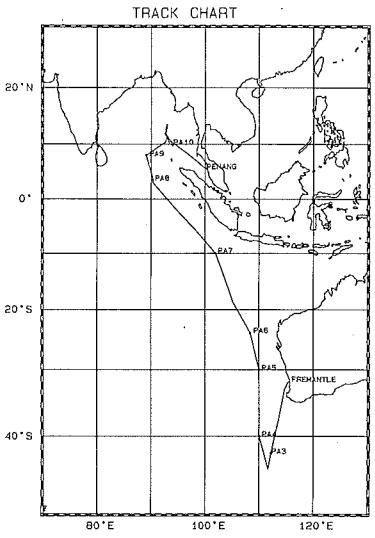
担当機関[*1]	船　名	調査海域	航海期間	調査項目[*2]	照会番号	ページ
ORI, UT	TANSEI MARU	Pilippine Sea	1998/03/11 - 1998/03/17	B,G,H,P	98017	53
ORI, UT	TANSEI MARU	Philippine Sea	1998/07/31 - 1998/08/05	B,G,H	98018	54
MMO, JMA	SEIFU MARU	Japan Sea	1998/04/24 - 1998/05/31	B,D,G,H,M,P	98019	56
MMO, JMA	SEIFU MARU	Japan Sea	1998/06/26 - 1998/08/14	B,D,G,H,M,P	98020	59
FF, HU	OSHORO MARU	Bering Sea North Pacific Ocean	1998/06/03 - 1998/08/19	B,H	98021	61
FF, NU	KAKUYO MARU	North Pacific Ocean	1998/10/24 - 1998/12/21	H	98022	63
HMO, JMA	KOFU MARU	North Pacific Ocean	1998/10/06 - 1998/11/05	B,D,H,M,P	98023	64
HMO, JMA	KOFU MARU	North Pacific Ocean	1998/11/18 - 1998/12/10	B,D,H,M	98024	66
MMO, JMA	SEIFU MARU	Japan Sea	1998/10/07 - 1998/11/08	B,D,H,M,P	98025	68

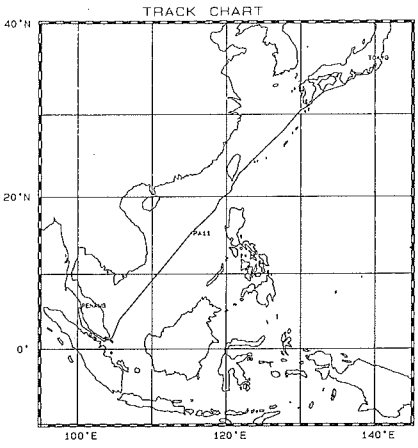
*1　末尾の付録3参照

*2　p3データタイプのコードリスト参照

5．海洋調査報告（航海概要報告）一覧







Reference No. : 96081

Restrict Data : In Part

Ship Name : HAKUHO MARU

Ship Type : Research Ship

Cruise No. /Name : KH-96-5

Cruise Period : 1996/12/19 to 1997/02/18

Port of Departure : Tokyo

Port of Return : Tokyo

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : Dr. T. Gamo / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Andaman Sea , Eastern Indian Ocean South China Sea , Sulu Sea

Geographic Coverage : 468,433,397,361,360,24,27,28,61

Principal Investigators : A ; Dr. T. Gamo / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

The main purposes of cruise are

(1) Investigation of geochemical processes in the eastern Indian Ocean affecting ocean fluxes through atmosphere, ocean and bottom sediment in relation to the international project JGOFS.

(2) Paleoceanographic studies using deep sea sedimentary records.

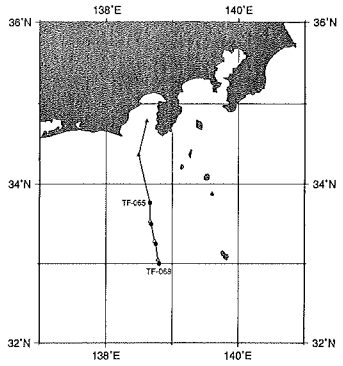
(3) Comparison of geochemical cycles among the three marginal seas (Sulu Sea, Andaman Sea and South China Sea).

Seawater samples as well as suspended particulate matters from surface to bottom, sedimentary core samples, and atmospheric samples were taken for chemical analyses.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	8	stations	H09, H10, H21, H22 H24, H26, H27, H28	CTD cast using Niskin bottles.
A	7	stations	H09, H30, H31	Large volume (250L) water sampling.
A	5	stations	H09	Suspended matter sampling using an in-situ filtration system.
A	8	stations	G04	Surface sediment sampling with a multiple corer.
A	11	stations	G04	Sediment core sampling with a piston corer.

Reference No.	:	97041
Restrict Data	:	No
Ship Name	:	RYOFU MARU
Ship Type	:	Research Vessel
Cruise No./Name	:	97-11
Cruise Period	:	1997/11/28 to 1997/12/04
Port of Departure	:	Tokyo
Port of Return	:	Tokyo



Track Chart
R/V Ryofu Maru, Cruise 97-11

Responsible Laboratory	:	Climate and Marine Dept., Japan Meteorological Agency
Chief Scientist(s)	:	T. Asoh / Climate and Marine Dept., Japan Meteorological Agency
General Ocean Area(s)	:	Philippine Sea
Geographic Coverage	:	131
Principal Investigators	:	A ; E. Kamihira / Climate and Marine Dept., Japan Meteorological Agency
		B ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency
		C ; T. Kato / Climate and Marine Dept., Japan Meteorological Agency
		D ; S. Saito / Seismologic al and Volcanological Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

Oceanographic observation practice for the Meteorological college.

Recovery and deployment Pop-up ocean bottom seismograph.

Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
D	34.47N	138.37E	G90	Pop-up ocean bottom seismograph, 1, 1737m, November 29 (Deployed).
D	34.30N	138.30E	G90	Pop-up ocean bottom seismograph, 1, 2902m, November 29 (Deployed).
D	34.47N	138.37E	G90	Pop-up ocean bottom seismograph, 1, 1708m, November 29 (Recovered).

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	527	NM	H71	Continuous sea surface temperature and salinity recording.
A	3	Stations	D71	Using R.D. Instrument Acoustic Doppler Current Profiler.
A	4	Stations	G73	Using NEC Echo sounder.
A	4	Drops	H13	X-BT drops with T-6 type probes.
B	50	Stations	H74, M71	Co2 concentrations in air and seawater.
C	22	Times	M6	Observed every 3 hours.
C	1	Ascents	M01	Using Shipboard Automatic Radio-Sonde System.

Reference No.	:	97042
Restrict Data	:	No
Ship Name	:	TANSEI MARU
Ship Type	:	Research Vessel
Cruise No./Name	:	KT-97-3
Cruise Period	:	1997/04/10 to 1997/04/16
Port of Departure	:	Tokyo
Port of Return	:	Yokosuka
Responsible Laboratory	:	Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s)	:	M. Kawabe / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s)	:	North Pacific Ocean, Philippine Sea
Specific Areas	:	Izu Ridge, Sagami Trough Between Miyake Is. and Hachijo Is.
Geographic Coverage	:	130,131
Principal Investigators	:	A ; M. Kawabe / Ocean Research Institute, Univ. of Tokyo B ; T. Takeuchi / The Univ. of Electro-Communications C ; K. Shitashima / Centr al Research of Electric Power Industry D ; K. Rikiishi / Faculty of Science, Hirosaki Univ.

Objectives and Brief Narrative of Cruise :

Observations on volume transports of the Kuroshio over Izu Ridge and tests for developing oceanographic observing equipments.

A. Deploying multi-path inverted echo sounders.

B. Observing volume transports of the Kuroshio using a ship-mount acoustic doppler current profiler and XBT.

C. Testing a pop-up XBT launcher.

D. Observing deep water circulations with tracking chemical tracers deployed artificially.

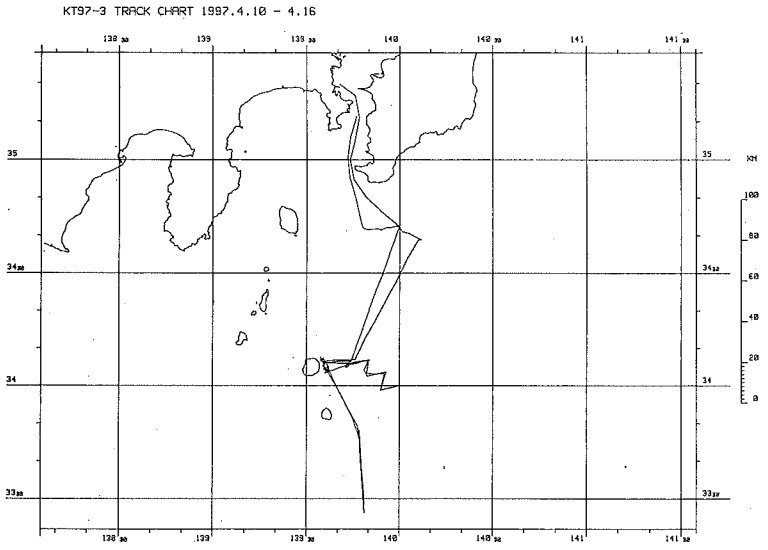
E. Testing a drop sonde with GPS.

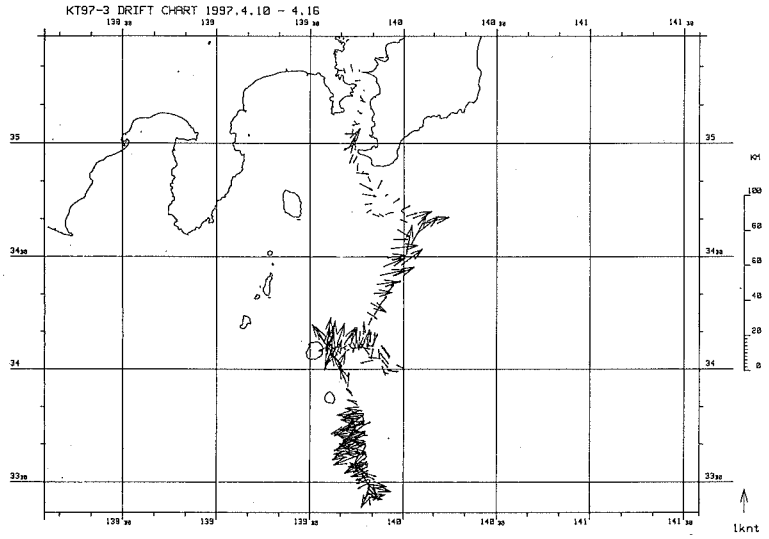
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A	34.06N	139.44E	D01,D09	Set 1 current meter and 1 inverted echo sounder, April 12, 1997.
A	34.07N	139.50E	D01,D09	Set 1 current meter and 1 inverted echo sounder, April 12, 1997.
A	34.02N	139.49E	D09	Set 1 inverted echo sounder, April 12, 1997.
A	34.04N	139.55E	D01,D09	Set 1 current meter, 1 inverted echo sounder and 1 pressure gauge, April 12, 1997.
A	33.59N	139.54E	D01,D09	Set 1 current meter and 1 inverted echo sounder, April 12, 1997.
A	34.00N	140.00E	D01,D09	Set 1 current meter and 1 inverted echo sounder, April 12, 1997.
A	34.07N	139.45E	D05	Deployed and recovered a drop sonde, April 14, 1997.
B	34.07N	139.44E	D90	Set 1 pop-up XBT launcher on April 11, 1997 and recovered it on April 14, 1997.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	6	Stations	H10	Using Neil-Brown MK3 CTD (from surface to bottom).
A	6	Stations	H09	Deep cast using Niskin bottles.
B	1	Stations	H10	Using Neil-Brown MK3 CTD (from surface to bottom).
C	6	Stations	H10	Using Neil-Brown MK3 CTD (from surface to bottom).
C	6	Stations	H73	Deep cast using Niskin bottles.
D	269	Miles	D71	Using a ship-mount ADCP (upper 200m).
D	48	Drops	H13	XBT Drops with T7 Type probes.





Reference No.	:	97043
Restrict Data	:	No
Ship Name	:	TANSEI MARU
Ship Type	:	Research Ship
Cruise No./Name	:	KT-97-12
Cruise Period	:	1997/07/27 to 1997/07/31
Port of Departure	:	Shimizu
Port of Return	:	Tokyo
Responsible Laboratory	:	Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s)	:	Dr. K. Kubokawa / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s)	:	Phlippine Sea
Specific Areas	:	Around the Ise Bay and the Mikawa Bay Fine Sand.
Geographic Coverage	:	131
Principal Investigators	:	A ; Dr. K. Kubokawa / Ocean Research Institute, Univ. of Tokyo
		B ; Dr. N. Azuma / Hirosaki Univ.
		C ; Mr. M. Watanabe / Ocean Research Institute, Univ. of Tokyo
		D ; Mr. K. Shimizu / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

Survey of habitat of amphioxus and study on its biology.

A. Survey of amphioxus population, other benthos and sea-bottom geology by a box corer.

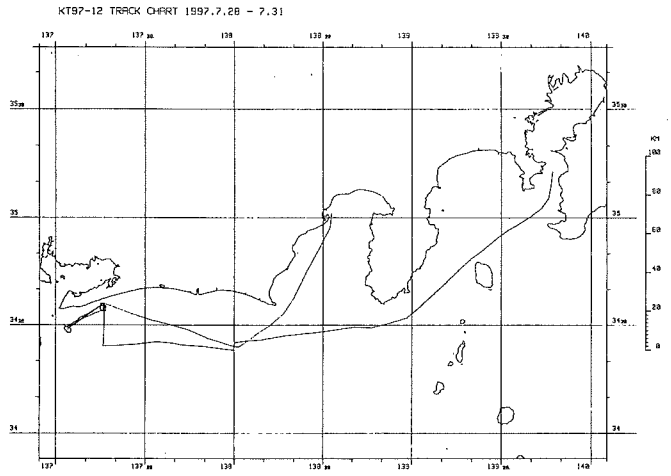
B. Video and photographic recordings of amphioxus in its habitat, by ROV, under-water camera and digital camera.

Moorings, Bottom Mounted Gear and Drifting Systems :

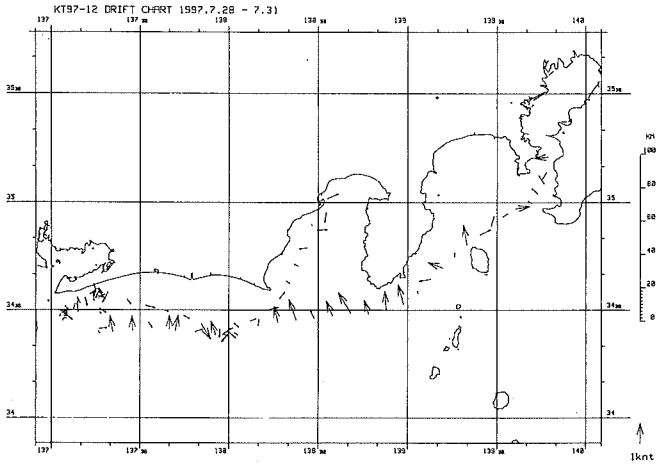
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A	34.23N	138.00E	B18,B19	Under-water camera, 500m depth deployed at 17:00 on 27th July and recovered at 18:00 on 30th July.
A	34.24N	138.00E	B18,B19	Under-water camera, 500m depth deployed at17:00 on 27th July and recovered at 18:00 on 30th July.

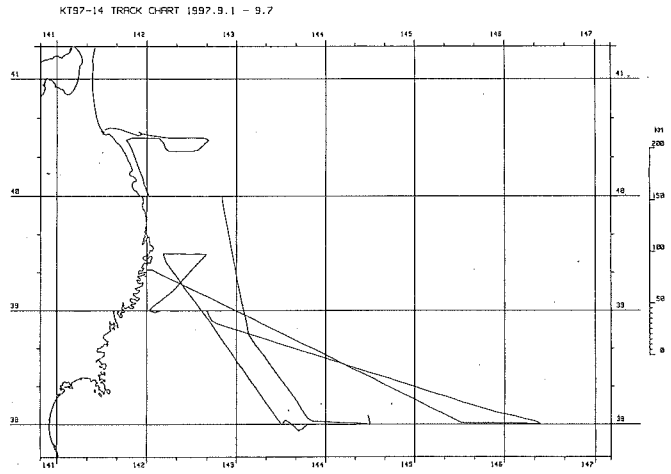
Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A,B	5	Samples	B17~B21	Soating of benthos collected by dredging.
A,B	18	Stations	B17~B21	Population of amphioxus and properties of sea-bottom soil by using a box corer.
A,B	3	Stations	B08,B09,B13,B18, B19	Using MTD net.
A,B	18	Stations	H10	Using STD.
A,C	3	Stations	B17~B21	Using ROV.
A,B	18	Stations	B02	Using chrolotech.



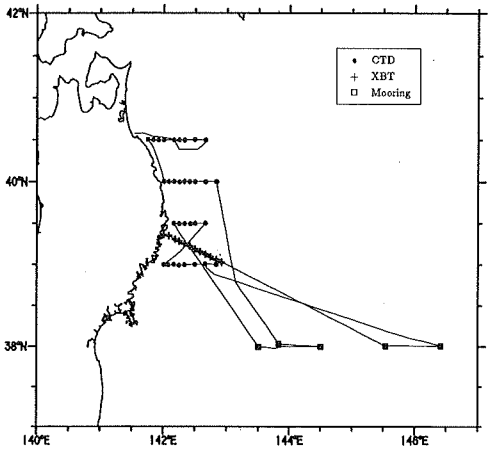
Reference No. : 97043

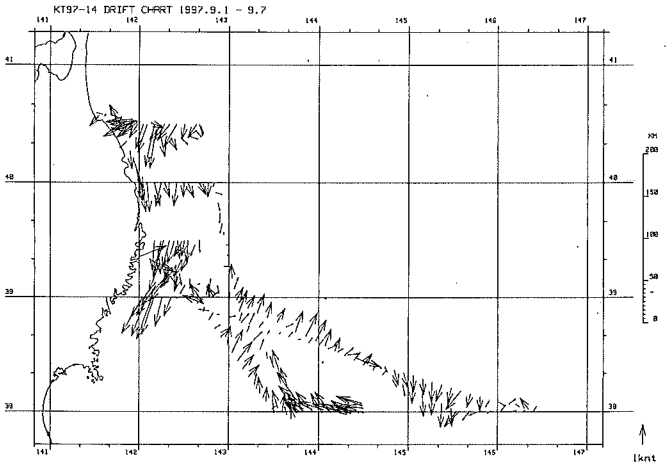




Reference No. : 97044

Track chart and station location of KT-97-14





Reference No. : 97044

Restrict Data : No

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No./Name : KT-97-14

Cruise Period : 1997/09/01 to 1997/09/07

Port of Departure : Ootsuchi, Iwate Pref.

Port of Return : Hachinohe

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : S. Fujio / Ocean Research Institute, Univ. of Tokyo.

General Ocean Area(s) : North Pacific Ocean

Specific Areas : Off Sanriku

Geographic Coverage : 130

Principal Investigators : A ; S. Fujio / Ocean Research Institute, Univ. of Tokyo
B ; T. Suga / Faculty of Science, Tohoku Univ.
C ; T. Sakiyama / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

This cruise have three main objectives.

The first is to recover five moorings deployed along 38.00N; these moorings have 18 current meters for direct measurement of deep currents east of Japan.

The second is to study the mixing process of Tsugaru Warm Water off Sanriku. We carried out 33 casts of CTD.

The third is to study the ecology of microorganism in the deep ocean. One of the 38.00N moorings included a deep-sea microbial in-situ incubator for this purpose. We also sampled water at 5000M depth.

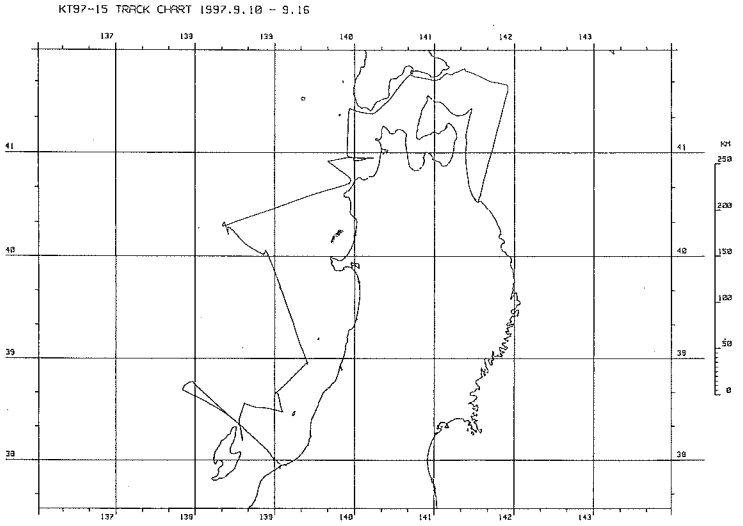
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A,C	38.01N	145.32E	B16,D01	Recovered 3 current meters (3265, 4065, 4865M) and 1 microbial incubator, Sep. 2, 1997 (PI-A, C).
A	38.00N	146.25E	D01	Recovered 2 current meters (4166, 4966M), Sep. 2, 1997.
A	37.59N	143.30E	D01	Recovered 2 current meters (4209, 3809M), Sep. 4, 1997.
A	38.00N	144.30E	D01	Recovered 2 current meters (4209, 3809M), Sep. 5, 1997.
A	38.02N	143.50E	D01	Recovered 3 current meters (3870, 4670, 5470M), Sep. 5, 1997.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
C	1	Stations	B6	Water sampling at 1000 and 5000m depth.
B	33	Stations	H10	CTD Measurement.
B	12	Drops	H13	XBT drops.
A	0		D71	Current velocity measurement at 50, 100, and 200m depth.

Reference No. : 97045
Restrict Data : No
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No./Name : KT-97-15
Cruise Period : 1997/09/10 to 1997/09/16
Port of Departure : Hachinohe
Port of Return : Niigata



Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s) : S. Kojima / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : Japan Sea, North Pacific Ocean
Geographic Coverage : 130,131,166,167
Principal Investigators : A ; Dr. S. Kojima / Ocean Research Institute, Univ. of Tokyo
B ; Dr. S. Tsukawaki / Faculty of Engineering, Kanazawa Univ.

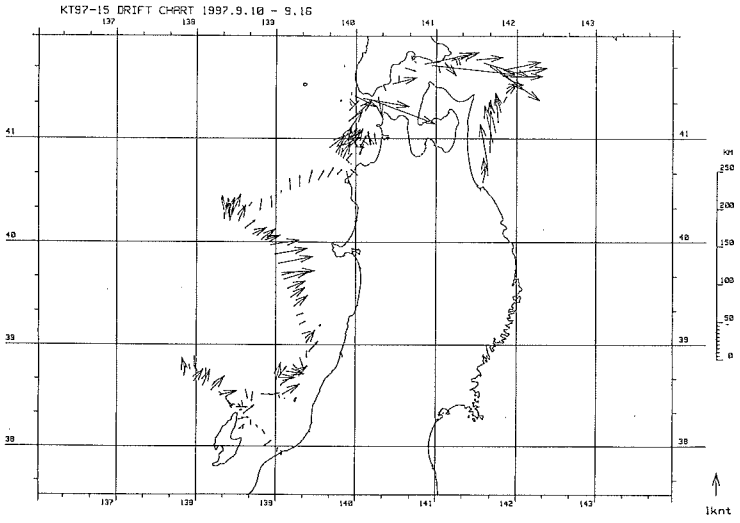
Objectives and Brief Narrative of Cruise :

A. Sampling megabenthos and demersal fish in the deep-sea area.

B. Collecting bottom sediment samples and core sampling.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	11	Stations	B18～B21	3M Beam Trawl.
A	10	Stations	B18,B20,B21	Biological Dredge.
B	32	Stations	G02	Okean grab sampler.
B	4	Stations	G04	Piston Corer (6M long).



Reference No.	:	97046
Restrict Data	:	Yes
Ship Name	:	TANSEI MARU
Ship Type	:	Research Vessel
Cruise No./Name	:	KT-97-17
Cruise Period	:	1997/11/17 to 1997/11/26
Port of Departure	:	Tokyo
Port of Return	:	Tokyo
Responsible Laboratory	:	Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s)	:	K. Suyehiro / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s)	:	North Pacific Ocean
Specific Areas	:	38.30N-39.30N , 142.20E-145.20E
Geographic Coverage	:	130
Principal Investigators	:	A ; R. Hino / Faculty of Science, Tohoku Univ.
		B ; M. Shinohara / Faculty of Science, Chiba Univ.
		C ; M. Yamano / Earthquake Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

Solid earth geophysical research around Japan Trench.

A. Recovery of ocean bottom seismographs deployed for seismological structure profiling across NE Japan.

B. Ocean bottom seismographic study of crystal anisotropy.

C. Heat How anomaly study ocean word of the Japan Trench.

D. Test of long-term sea floor data recorder.

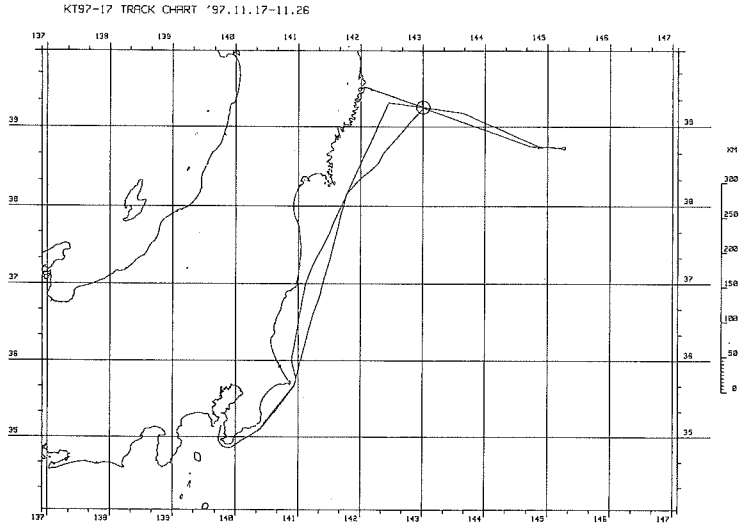
Moorings, Bottom Mounted Gear and Drifting Systems :

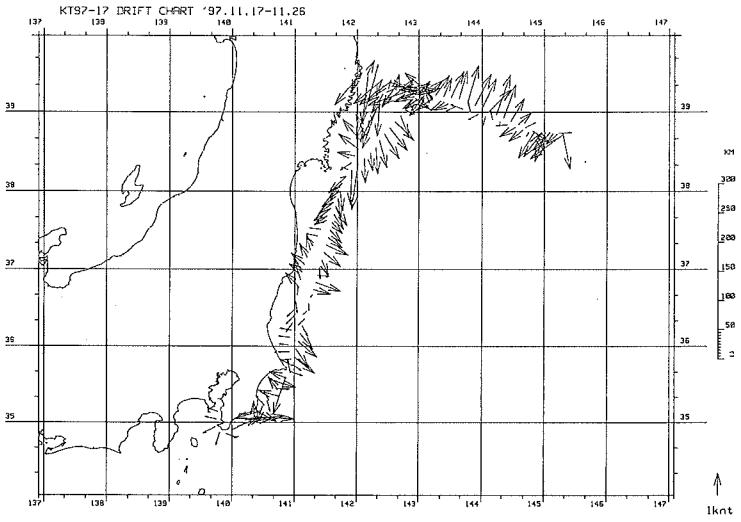
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A	39.18N	142.27E	G71	Ocean Bottom Seismograph #16, deployed on Oct. 2 recovered on Nov. 19
A	39.17N	142.34E	G71	Ocean Bottom Seismograph #4, deployed on Oct. 2 recovered on Nov. 20
A	39.16N	142.43E	G71	Ocean Bottom Seismograph #17, deployed on Oct. 2 unrecovered.
A	39.14N	143.00E	G71	Ocean Bottom Seismograph #11, deployed on Oct. 2 recovered on Nov. 20
A	39.14N	143.08E	G71	Ocean Bottom Seismograph #19, deployed on Oct. 1 recovered on Nov. 20
A	39.11N	143.31E	G71	Ocean Bottom Seismograph #22, deployed on Oct. 1 recovered on Nov. 20
A	39.10N	143.38E	G71	Ocean Bottom Seismograph #23, deployed on Oct. 1 recovered on Nov. 20
B	39.15N	143.00E	G71	Ocean Bottom Seismograph A, deployed and recovere d on Nov. 24

B	39.14N	143.00E	G71	Ocean Bottom Seismograph B, deployed and recovered on Nov. 24
B	39.14N	143.00E	G71	Ocean Bottom Seismograph C, deployed and recovered on Nov. 24
B	39.19N	143.00E	G75	Ocean Bottom Seismograph C, deployed and recovered on Nov. 24

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
C	5	Stations	G90	Heat flow probe Eing-Type.





Reference No. : 97047

Restrict Data : No

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No./Name : KT-97-18

Cruise Period : 1997/12/02 to 1997/12/08

Port of Departure : Tokyo

Port of Return : Yokosuka

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : M. Kawabe / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : North Pacific Ocean

Specific Areas : Sagami Bay, Izu Ridge

Geographic Coverage : 131

Principal Investigators : A ; M. Kawabe / Ocean Research Institute, Univ. of Tokyo
B ; T.Takeuchi / The Univ. of Electro-Communications.
C ; T. Saino / Nagoya Univ.
D ; S. Noriki / Environmental Earth Science, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

Observations on volume transports of the Kuroshio over Izu Ridge and flux of chemical substances in Tokyo Bay and Sagami Bay.

A. Recovering multi-path inverted echo sounders.

B. Testing a pop-up XBT launcher.

C. Recovering and deploying a sediment trap.

D. Sediment core sampling.

E. Testing a newly developed CTD.

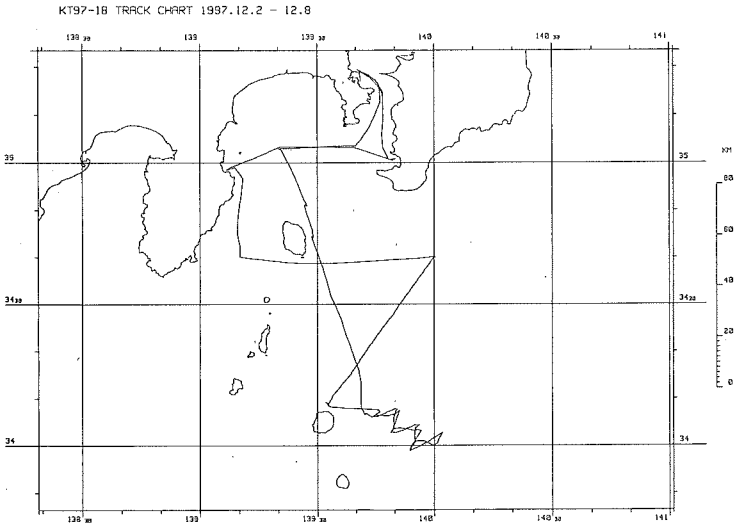
Moorings, Bottom Mounted Gear and Drifting Systems :

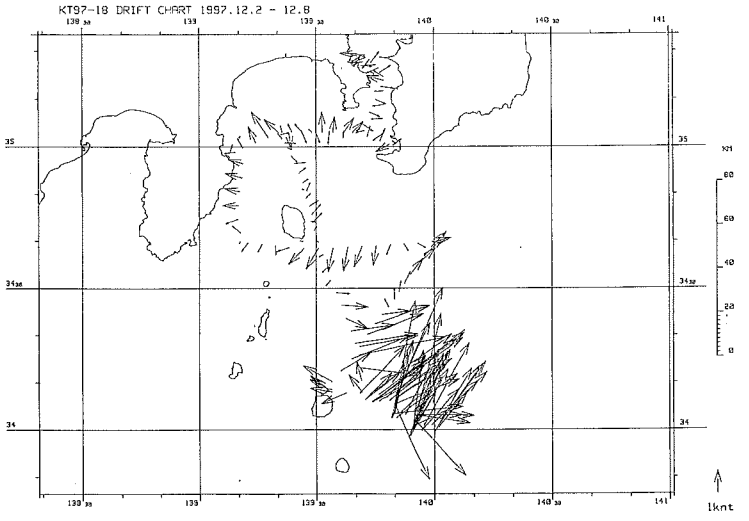
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A	34.06N	139.44E	D01,D09	Recovered one current meter and one inverted echo sounder, Dec. 4, 1997.
A	34.07N	139.50E	D01,D09	Recovered one current meter and one inverted echo sounder, Dec. 4, 1997.
A	34.02N	139.49E	D09	Recovered one inverted echo sounder, Dec. 4, 1997.
A	34.04N	139.55E	D01,D09	Recovered one current meter, one inverted echo sounder and one pressure gauge, Dec. 4, 1997.
A	33.59N	139.54E	D01,D09	Recovered one current meter and one inverted echo sounder, Dec. 4, 1997.
A	34.00N	140.00E	D01,D09	Recovered one current meter and one inverted echo sounder, Dec. 4, 1997.

B	35.03N	139.40E	D90	Set one inverted XBT launcher on Dec. 3, 1997 and recovereded on Dec. 6, 1997.
C	35.03N	139.40E	B73,D01	Recovered one sediment trap and one current meter, Dec. 3, 1997 and set them on Dec. 6, 1997.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	6	Stations	H10	Using Neil-Brown MKIII CTD (from surface to bottom).
C	6	Stations	H17	Using profiling reflectance radiometer and fast repetition rate fluorometer.
C	3	Stations	H10	Using Neil-Brown MKIII CTD (from surface to bottom).
C	3	Stations	H09	Deep cast using Niskin bottles.
D	3	Stations	G02	Sediment core sampling for chemical analysis with a multiple corer.





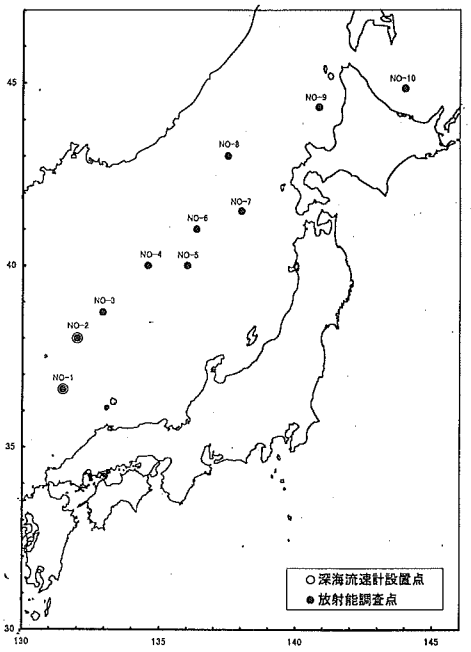
Reference No.	:	97048
Restrict Data	:	No
Ship Name	:	SHOYO
Ship Type	:	Survey Vessel
Cruise Period	:	1997/04/15 to 1997/05/01
Port of Departure	:	Tokyo
Port of Return	:	Tokyo
Responsible Laboratory	:	Hydrographic Dept., Maritime Safety Agency
Chief Scientist(s)	:	Mr. M. Mogi / Hydrographic Dept., Maritime Safety Agency
General Ocean Area(s)	:	Japan Sea, North Pacific Ocean
Geographic Coverage	:	94,95,130,131
Principal Investigators	:	A ; Mr. K. Oda / Hydrographic Dept., Maritime Safety Agency

Objectives and Brief Narrative of Cruise :

As a part of marine environmental monitoring, sea waters and bottom sediments were collected to grip the concentration levels of pollutants and radioactive materials.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	1	Sample	H31,G02	Surface sea waters were collected by using a auto suction pump. Sea waters in deep layers, by a 100L type sampler. Bottom sediments by SM type sampler.
A	13	Samples	P02~P04	Surface sea waters were collected by using a bucket. Sea waters in deep layers, by NISKIN sampler. Bottom sediments by SM type sampler.



日本海・オホーツク海における放射能調査の試料採取点及び測点番号・深海流速計設置点

Reference No. : 97049
Restrict Data : Yes
Ship Name : SHOYO
Ship Type : Survey Vessel
Cruise No./Name : Radioactivity Survey
Cruise Period : 1997/09/01 to 1997/09/30
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Hydrographic Dept., Maritime Safety Agency
Chief Scientist(s) : Mr. K. Oda / Hydrographic Dept., Maritime Safety Agency
General Ocean Area(s) : Japan Sea, Sea of Okhotsk
Geographic Coverage : 131,166,167
Principal Investigators : A ; Mr. K. Oda / Hydrographic Dept., Maritime Safety Agency

Objectives and Brief Narrative of Cruise :

Sea waters and bottom sediments were collected at Japan Sea and Sea of Okhotsk for the radioactivity investigation.

Deep sea current meters were set up in Japan Sea.

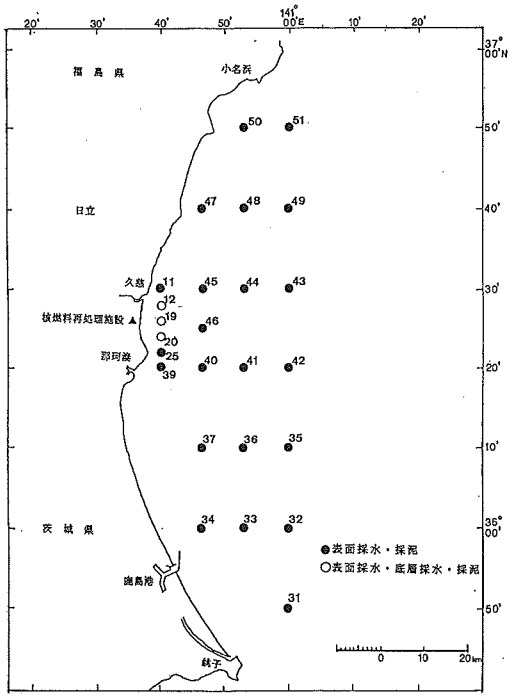
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A	41.27N	137.26E	D01	Using Aanderaa Current Meter, 3650M in depth (3600,3550M observation)
A	43.00N	137.31E	D01	Using Aanderaa Current Meter, 3680M in depth (3630,3580M observation)

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	10	Samples	H31,G02	Surface sea waters were collected by using a auto suction pump. Sea waters of deep layers, by a 100L type sampler. Bottom Sediments by SM type sampler.

常磐沖放射能調査　測点図



Reference No.	:	97050
Restrict Data	:	Yes
Ship Name	:	KAIYO
Ship Type	:	Survey Vessel
Cruise No./Na me	:	Radioactivity Survay
Cruise Period	:	1997/11/27 to 1997/12/02
Port of Departure	:	Shiogama
Port of Return	:	Tokyo
Responsible Laboratory	:	Hydrographic Dept., Maritime Safety Agency
Chief Scientist(s)	:	Mr. M. Mogi / Hydrographic Dept., Maritime Safety Agency
General Ocean Area(s)	:	North Pacific Ocean
Specific Areas	:	Off the coast of Joban
Geographic Coverage	:	130
Principal Investigators	:	A ; Mr. K. Oda / Hydrographic Dept., Maritime Safety Agency

Objectives and Brief Narrative of Cruise :

As a part of marine environment monitoring, sea waters and bottom sediments were collected to grip the concentration levels of radioactive materials.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	25	Samples	G02,H31	Surface sea waters were collected by using a auto suction pump (25 points). Bottom sea waters were collected by using an auto suction pump (3 points). Bottom sediments were collected by using a SM type sampler (11 points) or Kanna type sampler (14 points).

Reference No. : 97051

Restrict Data : No

Ship Name : NAGASAKI MARU

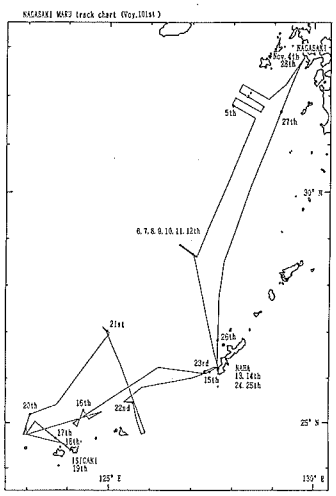
Ship Type : Training Ship

Cruise No./Name : Voy. 101

Cruise Period : 1997/11/04 to 1997/11/28

Port of Departure : Nagasaki

Port of Return : Nagasaki



Responsible Laboratory : Faculty of fisheries, Nagasaki Univ.

Chief Scientist(s) : Y. Takaki / Faculty of fisheries, Nagasaki Univ.

General Ocean Area(s) : East China Sea

Geographic Coverage : 96,132

Principal Investigators : A ; K. Kuno / Faculty of fisheries, Nagasaki Univ.

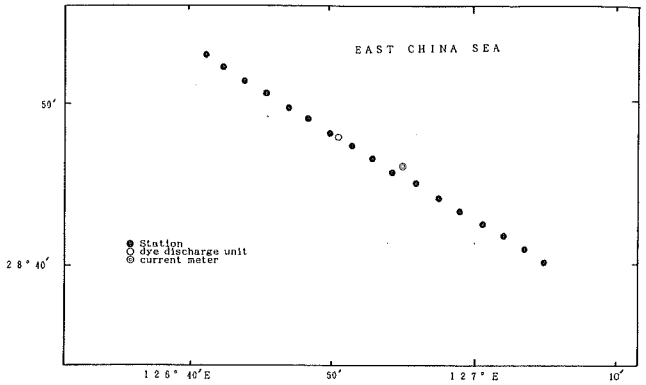
B ; T. Matsuno / Faculty of fisheries, Nagasaki Univ.

C ; R. Sinjo / Dept. of Physics and Earth Sciences, Univ. of the Ryukyus

Objectives and Brief Narrative of Cruise :

Main task

1. Training of navigation.
2. Oceanographi c observation.
3. Training operations of bottom trawl.

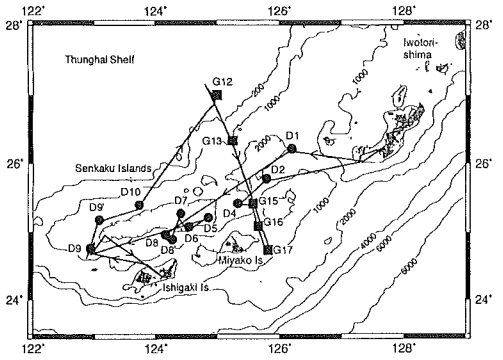


Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
B	28.46N	126.55E	D01	Set current meter at 08:15 7th Nov. 1997, D. 153M, 5 sensor. Recover it at 12:33 12th Nov. 1997.
B	28.46N	126.55E	D01	Set current meter at 09:21 7th Nov. 1997, D. 160M, 5 sensor. Recover it at 12:56 12th Nov. 1997.
B	28.48N	126.50E	D06	Set dye discharge unit at 08:15 8th Nov. 1997.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
B	90	Stations	H10	Using Neil Brown Mark-3B CTD.
B	33	Stations	D01	Streamed MSP.
B	7	Stations	D01	Streamed MSLP.
C	11	Stations	G01	Tawing Dredger.
C	4	Stations	G02	Sampling of mud by Okean-type grab.
A	2	Samples	B65	Sampling of fish by bottom trawl net.



Reference No.	:	97052
Restrict Data	:	No
Ship Name	:	NAGASAKI MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Voy. 102
Cruise Period	:	1997/12/08 to 1997/12/18
Port of Departure	:	Nagasaki
Port of Return	:	Nagasaki
Responsible Laboratory	:	Faculty of Fisheries, Kagoshima Univ.
Chief Scientist(s)	:	Y. Takaki / Faculty of fisheries, Nagasaki Univ.
General Ocean Area(s)	:	East China Sea
Geographic Coverage	:	132
Principal Investigators	:	A ; K. Kuno / Faculty of fisheries, Nagasaki Univ.

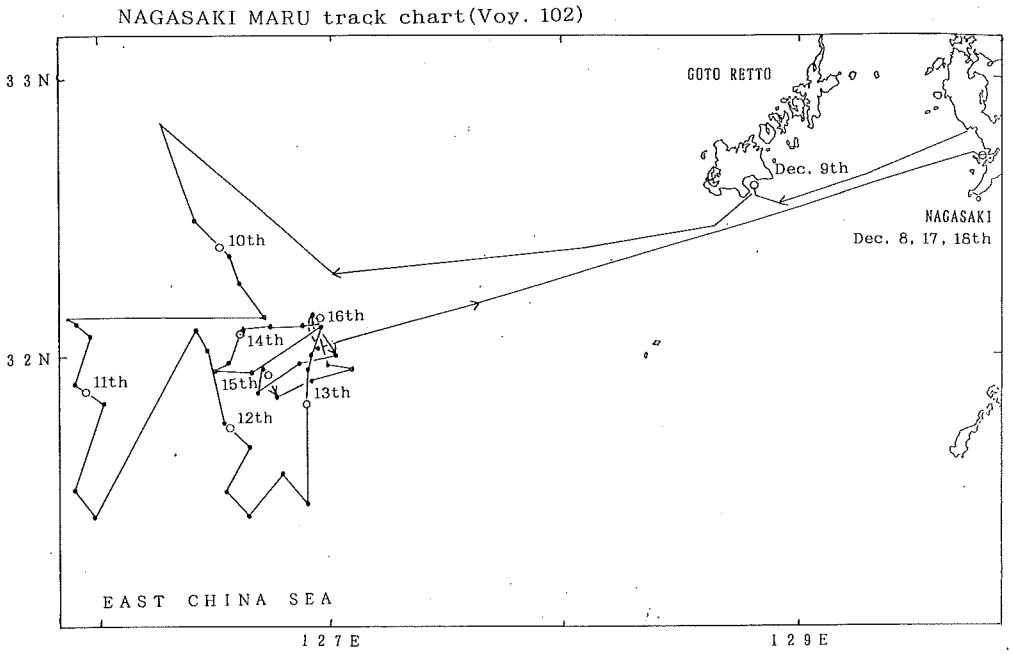
Objectives and Brief Narrative of Cruise :

Main task

1. Training of navigation.
2. Oceanographic observation.
3. Training operations of bottom trawl.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIP TION
A	9	Stations	H10	Using Neil Brown Mark-3B CTD.
A	20	Samples	B65	Sampling of fish by bottom trawl net.



Reference No. : 97053

Restrict Data : Yes

Ship Name : HAKUHO MARU

Ship Type : Research Ship

Cruise No./Name : KH97-2

Cruise Period : 1997/07/09 to 1997/09/08

Port of Departure : Tokyo

Port of Return : Tokyo

Responsible Laboratory : Plankton Div., Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : Mr. K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo

General Ocean Are a(s) : Bering Sea, North Pacific Ocean

Geographic Coverage : 159,160,161,162,163,164,165,196,197,198,199

Principal Investigators : A ; Mr. K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo
B ; Mr. I. Koike / Ocean Research Institute, Univ. of Tokyo
C ; Mr. S. Nishida / Ocean Research Institute, Univ. of Tokyo
D ; Mr. M. Minagawa / Hokkaido Univ.
E ; Mr. K. Furuya / Dept. of Agriculture, Univ. of Tokyo
F ; Mr. S. Sorin / Dept. of Technology, Kanazawa Univ.

Objectives and Brief Narrative of Cruise :

Cruise Title

Studies on the biological and biogeochemical processes of the ecosystems in the sub arctic Pacific Ocean and Bering Sea.

Main Subjects

1) Comparative studies on the community structures and biological production processes in the western and eastern sub arctic Pacific Ocean and Bering Sea.

2) Study on the vertical transport of sinking, suspended and dissolved organic and inorganic materials.

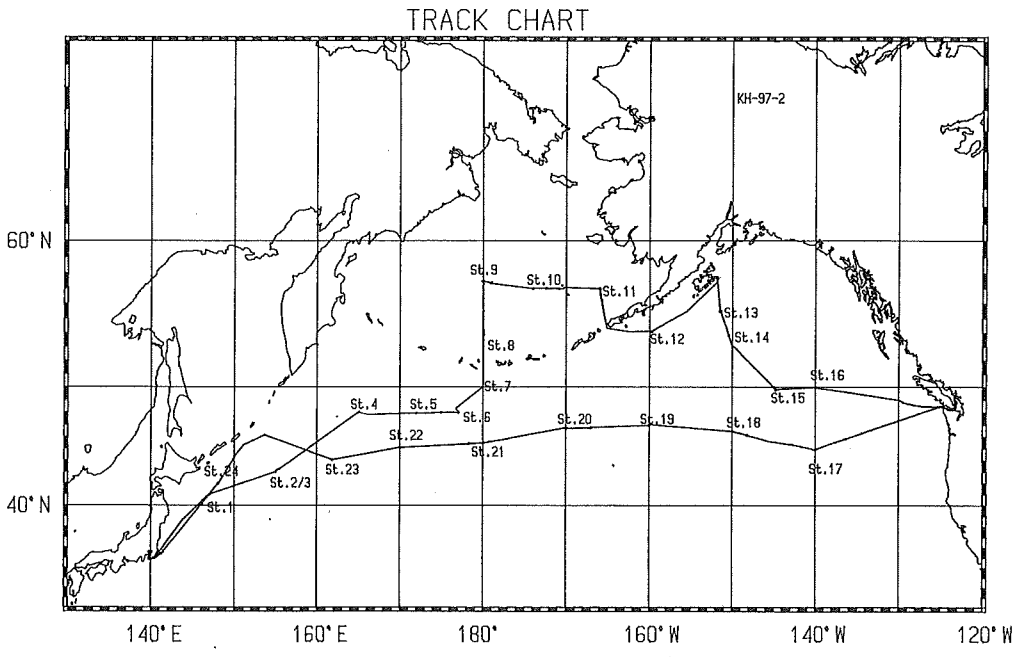
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
E	41.01N	165.04E	B04,B05	Sediment traps (10, 25, 55M depths) free floating. 1997/7/14～7/17
E	48.01N	177.05E	B04,B05	Sediment traps (25, 55, 90M depths) free floating. 1997/7/21～7/23
E	57.24N	179.54E	B04,B05	Sediment traps (20, 40, 70M depths) free floating. 1997/7/25～7/27
E	49.53N	144.54E	B04,B05	Sediment traps (30, 70, 110M depths) free floating. 1997/8/8～8/12

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
B	21	Casts	B02～B04,B08	CTD-Casts and water sampling by Rosette sampler depth range 0～1000M, at 18 layers (depths). T, S, DO, SiO2, NH4, NO2, NO3, PO4, Chl-a measured.

B	52	Casts	H10	52 CTD-Casts, mainly 0～100M or 200M. T,S,DO measured.
E	22	Casts	B07	CTD-Casts and water sampling in 0～200M layer. Microzooplankton biomass measured.
E	26	Casts	B01,B02	Water sampling at 12 stations. Chl-a and primary productivity measured.
D	14	Shots	G04	Multiple corer sampling at 11 stations.
C	8	Series	B01,B09,B51,B52,B54	RMT sampling, Day-Night series, 0～1000M (12 layers, descrete depth sampling).
C	24	Stations	B08,B09	NORPAC twin net sampling, 0～150M. (descrete depth sampling in 4 layers) time series sampling.
C	3	Series	B09,B56	VMPS net sampling, 0～500M (descrete depth sampling in 4 layers), time series sampling.
C	20	Stations	B09,B14,B55	IKMT 10-ft sampling, 3000M were out oblique tow, 0～900M depth.
C	23	Stations	B09,B55	ORI net surface tow, at 18 stations.
C	5	Stations	B09,B55	ORI net, 2000M wire out oblique tow, 0～1000M depth.
C	4	Stations	B09,B55	MTD net, Day-Night series, 0～700M, 17 descrete depth layers.



Reference No.	:	97054
Restrict Data	:	No
Ship Name	:	TANSEI MARU
Ship Type	:	Research Ship
Cruise No./Name	:	KT-97-16
Cruise Period	:	1997/09/19 to 1997/10/02
Port of Departure	:	Niigata
Port of Return	:	Shimonoseki
Responsible Laboratory	:	Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s)	:	Mr. N. Isezaki / Faculty of Science, Chiba Univ.
General Ocean Area(s)	:	Japan Sea
Geographic Coverage	:	131,167
Principal Investigators	:	A ; Mr. N. Isezaki / Faculty of Science, Chiba Univ.
		B ; Mr. M. Shinohara / Faculty of Science, Chiba Univ.

Objectives and Brief Narrative of Cruise :

Main Objectives

1. Measurement of magnetic fields using STCM (Shipboard Three Component Magnetometer), DTCM (Deep Tow Three Component Magnetometer) and a proton magnetometer.
2. OBS experiment using air-gun source.
3. Measurement of ship's attitude using GPS-GYRO.

For the item 1, due to the rough sea state, not all the planned measurement lines were surveyed. DTCM experiment succeeded.

For the item 2, the result that the crustal thickness of the Kita-Yamato Trough is about 13KM with 1.5KM thick sediments was obtained from OBS data.

For the item 3, GPS-GYRO did not work well.

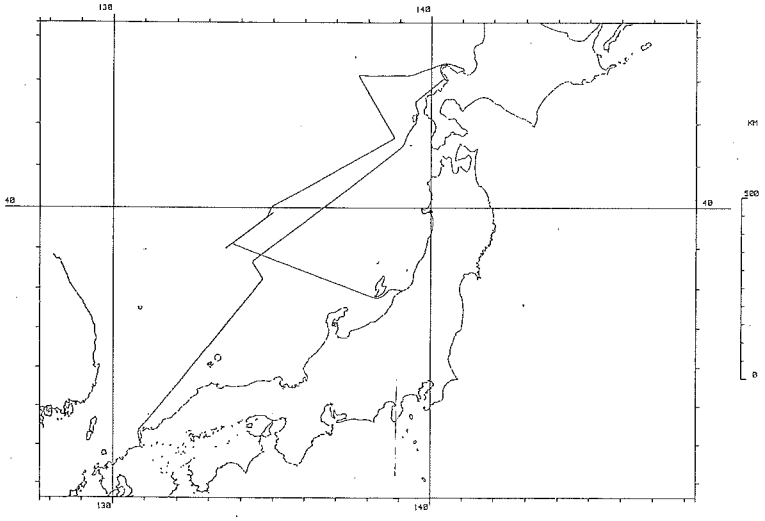
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
B	39.07N	133.42E		OBS, 1500M, 9/20/1997 Deploy, 9/22/1997 Employ.
B	39.13N	133.53E		OBS, 2000M, 9/20/1997 Deploy, 9/22/1997 Employ.
B	39.20N	134.04E		OBS, 2050M, 9/21/1997 Deploy, 9/22/1997 Employ.
B	39.26N	134.15E		OBS, 2050M, 9/21/1997 Deploy, 9/22/1997 Employ.
B	39.33N	134.26E		OBS, 2000M, 9/21/1997 Deploy, 9/22/1997 Employ.
B	39.40N	134.37E		OBS, 1950M, 9/21/1997 Deploy, 9/22/1997 Employ.
B	39.46N	134.48E		OBS, 1500M, 9/21/1997 Deploy, 9/22/1997 Employ.

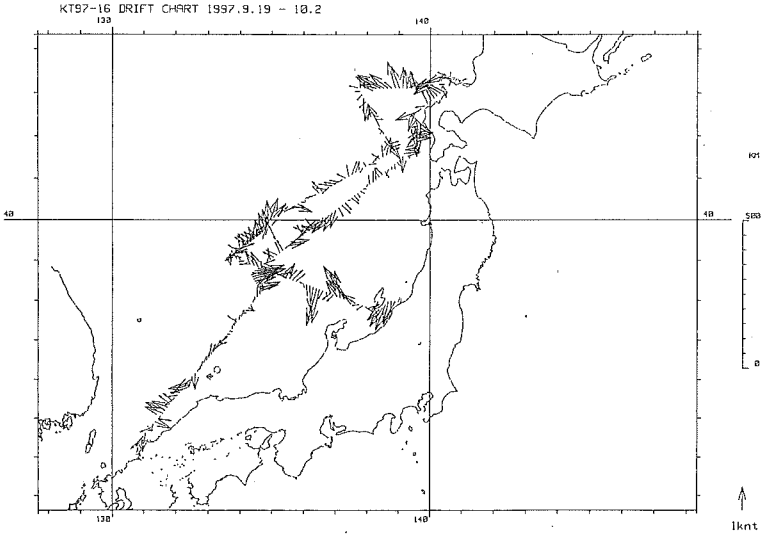
Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	6	Tracks		Geomagnetic field, Proton magnetometer, STCM.

KT97-16 TRACK CHART 1997.9.19 - 10.2



KT97-16 DRIFT CHART 1997.9.19 - 10.2



Reference No.	:	98001
Restrict Data	:	No
Ship Name	:	RYOFU MARU
Ship Type	:	Research Ship
Cruise No./N ame	:	98-01
Cruise Period	:	1998/01/23 to 1998/03/05
Port of Departure	:	Tokyo
Port of Return	:	Tokyo
Responsible Laboratory	:	Japan Meteorological Agency
Chief Scientist(s)	:	E. Kamihira / Climate and Marine Dept., Japan Meteorological Agen cy
General Ocean Area(s)	:	Philippine Sea, East China Sea
Geographic Coverage	:	23,59,95,96,131
Principal Investigators	:	A ; E. Kamihira / Climate and Marine Dept., Japan Meteorological Agency
		B ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency
		C ; T. Kato / Ryofu Maru, Climate and Marine Dept.,Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

A routine oceanographic observation (physical, chemical, biological)

a) Seasonal observation of marine condition.

b) Moni toring background marine pollution.

Recovery and deployment mooring current meter systems.

Sea water sampling for radioactivity measurement.

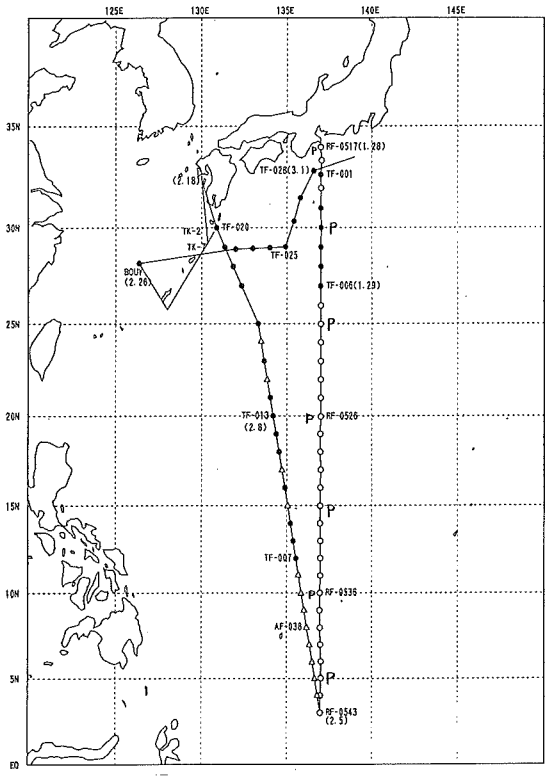
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
A	25.46N	128.00E	D71	Recovered ADCP on Feb. 25, 1998.
A	28.58N	130.12E	D01	Recovered four recording current meters (AANDERAA Instruments RCM-8) on Feb. 21, 1998 setting depths are about 240, 380, 540, 730M.
A	29.11N	130.22E	D01	Recovered four recording current meters (AANDERAA Instruments RCM-8) on Feb. 21, 1998 setting depths are about 240, 380, 540, 730M.
A	29.11N	130.22E	D01	Deployed four the same type instruments on Feb. 23, 1998 setting depths are about 250, 350, 500, 750M.
A	29.47N	130.44E	D01	Deployed four the same type instruments on Feb. 24, 1998 setting depths are about 250, 350, 500, 750M.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	6219	NM	H71	Continuous sea surface temperature recording.

A	27	Stations	H10	Using FSI-ICTD.
A	66	Stations	D71	Using RD Instrument Acoustic Doppler Current Profiler.
A	55	Stations	G73	Using NEC Echo sounder.
A	13	Stations	H16	Using Secchi Disk.
A	28	Drops	H13	X-BT drops with T-6 type probes.
A	27	Stations	H09,H21	Using Rosette sampler.
A	9	Stations	H09,H22,H24 ~H26	Using Rosette sampler.
A	7	Stations	B02,H09	Using Rosette sampler.
A	6	Stations	B08,B09	Using bucket (B08), Norpac net (B09).
A	5	Stations	H31	Sampling for measurement of Gross Beta Radioactivity.
A	11	Stations	H09,H28	Using Rosett e sampler.
B	6219	NM	H74,M71	CO2 and CH4 concentrations in air.
B	6	Stations	P02,P03	Heavy metals (P02). Dissolved Hydrocarbons (P03).
B	5	Stations	P03	Using Neuston net.
B	6	Stations	M71	CH4 concentrations in seawater.
B	11	Stations	M74	Total inorgan ic carbon concentration.
B	17	Days	P90	Oil slicks and floating pollutants (Daytime only).
C	221	Times	M06	Observed every 3 hours.
C	25	Ascents	M01	Using Shipboard Automatic Radio-Sonde System.



Track Chart
Ryofu Maru (Jan. 23~Mar 5, 1998)

○ CTD & ACM Obs.
● XBT & ACM Obs.
△ ACM Obs.
P Pollution Obs.

Reference No.	:	98002
Restrict Data	:	No
Ship Name	:	KEIFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-01
Cruise Period	:	1998/01/21 to 1998/02/20
Port of Departure	:	Tokyo
Port of Return	:	Tokyo
Responsible Laboratory	:	Climate and Marine Dept., Japan Meteorological Agency
Chief Scientist(s)	:	Mr. T. Maehira / Climate and Marine Dept., Japan Meteorological Agency
General Ocean Area(s)	:	North Pacific Ocean, Philippine Sea
Geographic Coverage	:	95,130,131
Principal Investigators	:	A ; K. Ishikawa / Climate and Marine Dept., Japan Meteorological Agency B ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency C ; M. Takada / Climate and Marine Dept., Japan Meteorological Agency D ; S. Saito / Seismological and Volcanological Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

Maritime meteorological, Radar and Aerological observations in order to research the distribution of the wind and the wave around northern Izu Island in winter.

The observation by using the wave direction buoy in order to obtain the heights, periods, directions of wave, and the spectrums of wave distribution.

Wave observation around northern Izu Island to compare with the coastal wave meter.

Oceanographical observation to obtain data set which would be available for the assimilation data to models in mid-latitude area.

Seasonal oceanographical observations in the sea south-east of the Boso Peninsula.

The management of ocean bottom seismographs in the Suruga Bay.

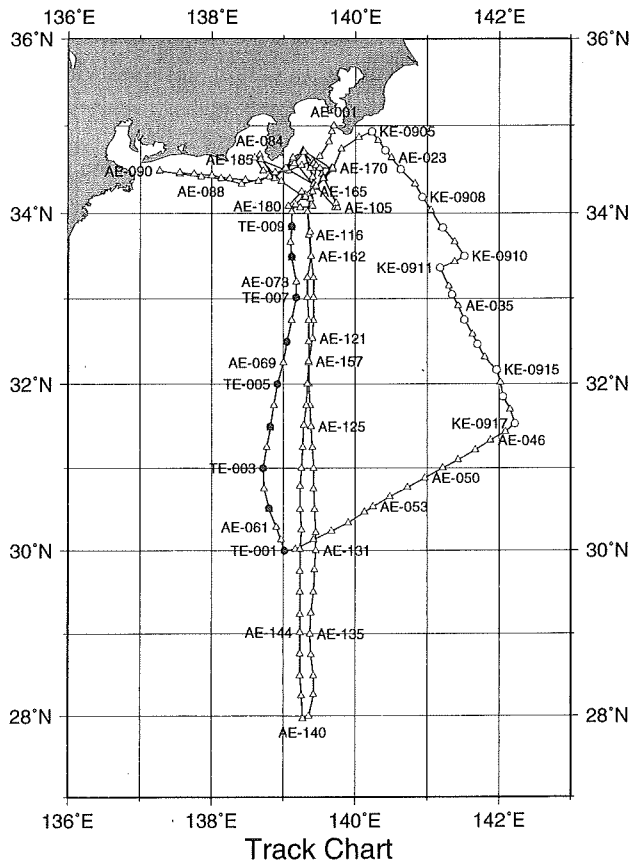
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
D	34.47N	138.37E	G90	Pop-up-Ocean-Bottom Seismograph deployed 1716M, 1998/2/17.
D	34.47N	138.37E	G90	Pop-up-Ocean-Bottom Seismograph recovered 1716M, 1998/2/17.
D	34.22N	138.30E	G90	Pop-up-Ocean-Bottom Seismograph recovered 2850M, 1998/2/18.
C	29.59N	139.01E	D72	Wave direction buoy deployed 0M, 1998/1/28.
C	27.58N	139.18E	D72	Wave direction buoy recovered 0M, 1998/2/12.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	13	Stations	H10	CTD/Rosette. Neil-Brow Mark 3B CTD (S/N 16343). 12 place Rosette (G01015, S/N 1407) with 1.7L Niskin bottles.

A	4	Stations	H90	Salinity. Guildline AUTOSAL 8400B (S/N 62128). IAPSO SSW P128.
A	13	Stations	H21	Dissolved Oxygen. L.M.Winkler method (Hand piston Buret).
A	13	Stations	H22	Phosphates.
A	13	Stations	H24	Nitrates.
A	13	Stations	H25	Nitrates.
B	2	Stations	P02	Heavy metals (Hg, Cd).
B	2	Stations	P03	Dissolved hydrocarbons.
A	6	Stations	H16	Transparency.
A	9	Drops	H13	X-BT Murayama Denki Z-60-16 II. TSK T-7 type probe).
A	2	Stations	H31	Gross Bata radioactivity.
A	185	Stations	D71	Current Profiler. 75kHz Narrowband ADCP manufactured by RDI.
A	0	Station	G73	Single-beam echosounding.
B	21	Days	P90	Oil slicks and floating pollutants (Daytime only).
C	543	Times	M06	Routine standard measurements. KOAC 7000M manufactured by Koshin Denki.
C	34	Ascents	M01	Upper air observations. JMA-SD83 Radio sonde system. JMA-RS2-91 Radio sonde.
C	169	Times	M90	Weather radar observations. JMA-SMR88T Weather observation system.



Track Chart
R/V Keifu Maru, Cruise 98-01

Reference No. : 98003

Restrict Data : No

Ship Name : RYOFU MARU

Ship Type : Research Ship

Cruise No./Name : 98-04

Cruise Period : 1998/04/23 to 1998/05/15

Port of Departure : Tokyo

Port of Return : Tokyo

Responsible Laborator y : Japan Meteorological Agency

Chief Scientist(s) : T. Kubo / Climate and Marine Dept., Japan Meteorological Agency

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 129,130,131,165,166

Project Name : IGOSS, MARPOLMON, SAGE, WESTPAC

Coordinating Body : IOC

Principal Investigators :

A ; T. Uwai / Climate and Marine Dept., Japan Meteorological Agency

B ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency

C ; H. Naoi / Ryofu Maru, Climate and Marine Dept., Japan Meteorologic al Agency

D ; M. Amino / Climate and Marine Dept., Japan Meteorological Agency

E ; N. Shikawa / Meteorological Research Institute

F ; H. Jingu / Seismological Volcanological Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

A routine oceanographic observation (physical, chemical, biological).

a) Seasonal observation of marine condition.

b) Monitoring background marine pollution.

Deployment ALACE floats.

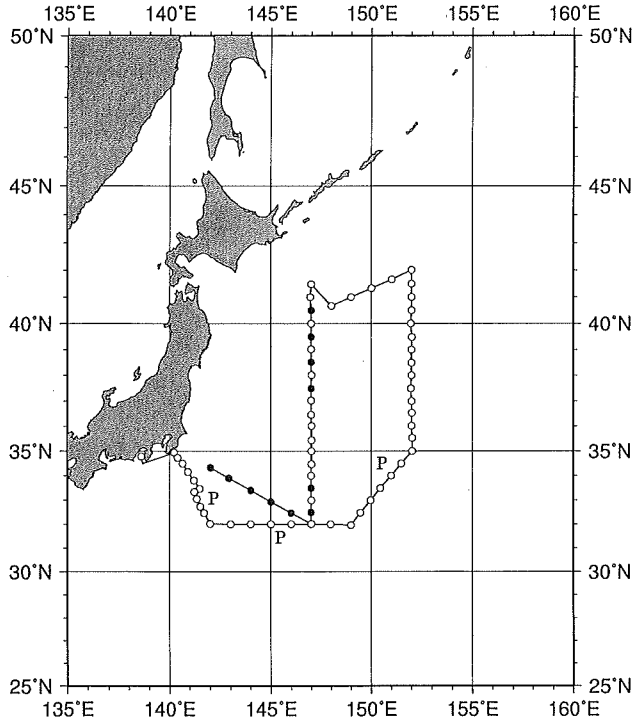
Recovery and deployment ocean bottom seismograph.

Moorings, Bottom Mou nted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
D	38.00N	151.58E	D05	Deployment ALACE float on 4 May 1998. Setting depth is 1000M.
E	37.01N	151.59E	D05	Deployment ALACE float on 4 May 1998. Setting depth is 600M.
E	37.31N	151.56E	D05	Deployment ALACE float on 4 May 1998. Setting depth is 500M.
E	39.03N	146.59E	D05	Deployment ALACE float on 8 May 1998. Setting depth is 400M.
E	38.02N	147.02E	D05	Deployment ALACE float on 8 May 1998. Setting depth is 400M.
E	37.01N	147.01E	D05	Deployment ALACE float on 8 May 1998. Setting depth is 400M.
F	34.38N	138.38E	G90	Recovery and deployment ocean bottom seismograph on 24 Apl. 1998.

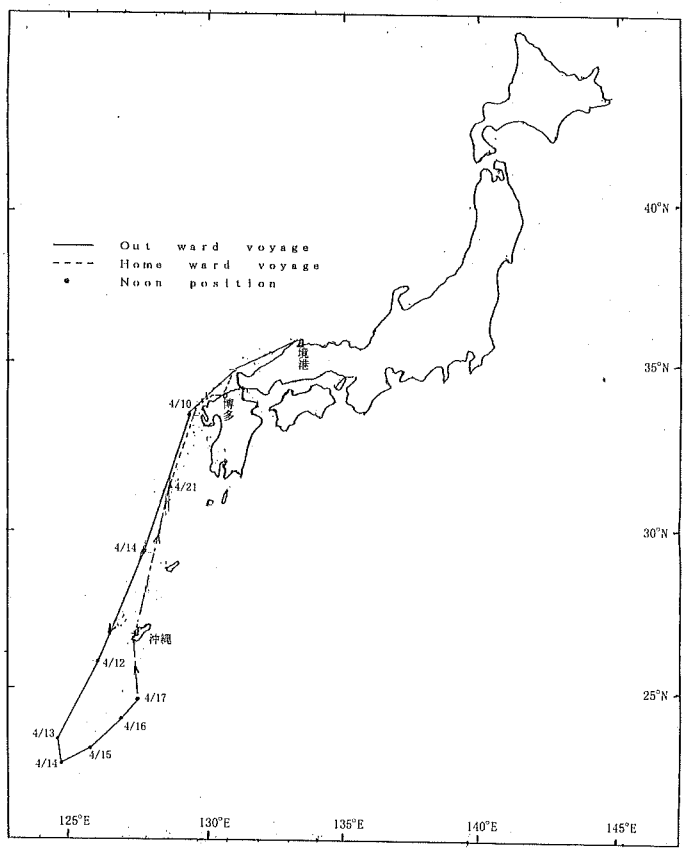
Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	6188	NM	H71	Continuous sea surface temperature recording.
A	57	Stations	H10	Using FSI-ICTD.
A	68	Stations	D71	Using RD Instrument Acoustic Doppler Current Profiler.
A	68	Stations	G73	Using NEC echosounder.
A	29	Stations	H16	Using Secchi Disk.
A	5	Drops	H13	X-BT drops with T-6 type probe.
A	6	Drops	H13	X-CTD drops with Tsurumi Seiki X-CTD probe.
A	35	Stations	H09,H21	Using Rosette sampler.
A	7	Stations	H09,H22,H24 ~H26	Using Rosette sampler.
A	6	Stations	B02,H09	Using Rosette sampler.
A	2	Stations	B08,B09	Using bucket (B08), NORPAC net (B09).
A	5	Stations	H09,H28	Using Rosette sampler.
B	6188	NM	H74,M71	CO2 and CH4 concentration in air.
B	2	Stations	P02,P03	Heavy metals (P02), Dissolved hydrocarbons (P03).
B	3	Stations	P03	Using Neuston net.
B	5	Stations	H74	Total inorgani c carbon concentration.
B	14	Days	P90	Oil slicks and floating pollutants (Daytime only).
C	120	Times	M06	Observed every 3 hours.
C	20	Ascents	M01	Using Shipboard automatic radio-sonde system.



Track Chart
Ryofu Maru(Apr.23 ~ May 15,1998)

○ CTD & ACM Obs.
● BT & ACM Obs.
P Pollution Obs.



Reference No. : 98004
Restrict Data : No
Ship Name : WAKATORI MARU
Ship Type : Training Ship
Cruise Period : 1998/04/09 to 1998/04/25
Port of Departure : Sakai, Tottori
Port of Return : Sakai, Tottori

Responsible Laboratory : Tottori Prefectual Sakai Fishery High School
Chief Scientist(s) : Mr. T. Ishikura / Tottori Prefectual Sakai Fishery High School
General Ocean Area(s) : Philippine Sea
Specific Areas : Main area 23.10N to 24.36N, 124.44E to 127.40E
Geographic Coverage : 96
Principal Investigators : A ; Mr. T. Ishikura and Mr. M. Mizuguchi / Tottori Prefectual Sakai Fishery High School
B ; Mr. M. Sawano / Tottori Prefectual Sakai Fishery High School
C ; Mr. T. Ishikura / Tottori Prefectual Sakai Fishery

Objectives and Brief Narrative of Cruise :

Training for squid fisheries accompanied with oceanographic observation and biological research.

1. Oceanographic and meteorologic observation in squid fishing ground once a day.
2. To measure the body weight and middle length of the squids caught.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	5	Stations	H10,H16,H90,M90	STD (upper - standard layer (until necessity depth)) squid fishing ground. Alec electronics.

Reference No.	:	98005
Restrict Data	:	No
Ship Name	:	KOFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-01
Cruise Period	:	1998/01/30 to 1998/03/04
Port of Departure	:	Hakodate
Port of Return	:	Hakodate
Responsible Laboratory	:	Hakodate Marine Observatory, Japan Meteorological Agency
Chief Scientist(s)	:	M. Inagawa / Hakodate Marine Observatory, Japan Meteorological Agency
General Ocean Area(s)	:	North Pacific Ocean
Geographic Coverage	:	130,166
Project Name	:	IGOSS, MARPOLMON, WESTPAC
Coordinating Body	:	IOC, WMO
Principal Investigators	:	A ; H. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency B ; T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency C ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency

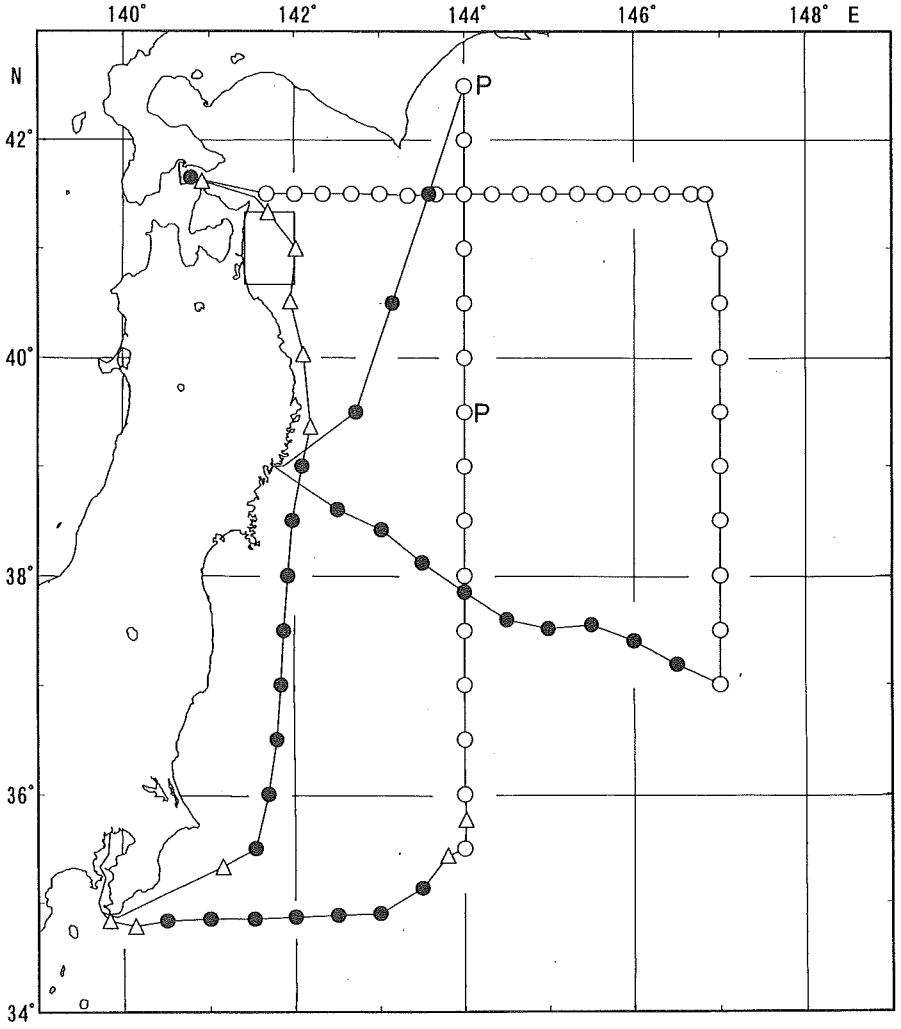
Objectives and Brief Narrative of Cruise :

1. Regular observation of ocean ography and marine meteorology.
2. Background marine pollution monitoring.
3. Sea water sampling for measurement of radioactivity.
4. Observation for development of the ocean data assimilation system (COMPASS-K).
5. Observation for the study of seasonal variability and water mass budget of Oyashio off Sanriku.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	2456	NM	H71	Continuous sea surface temperature & salinity recording.
A	41	Stations	H10	Using Neil Brown CTD.
A	31	Stations	H09,H21,H22,H24,H25	Using Neil Brown CTD with Rosette sampler.
A	30	Stations	B02	Using Neil Brown CTD with Rosette sampler.
A	10	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	15	Stations	H16	Using Secchi disk (Daytime only).
A	6	Stations	B09	Using bucket.
A	6	Stations	B09	Using NORPAC net.
A	27	Drops	H13	XBT drops with T6 type probes.
A	1	Station	H13	Using T.S. MICOM B.T.
A	80	Stations	D71	Using FURUNO Co. Acoustic Current Meter at 0, 50, 100M in depth.
A	2	Samples	H31	Sampling for measurement of Total Bata radioactivity.

B	114	Times	M06	Observed every three hours.
B	227	Times	M90	Hourly Weather report except M06.
B	17	Ascents	M01	Using VAISALA system.
B	114	Times	D72	Using Micro-Wave & Tucker wave gauge.
C	2	Stations	P03	Using Neuston net.
C	12	Days	P90	Oil slicks and floating pollutants observed visually (Daytime only).
C	2	Samples	P02	Sampling for analysis of heavy metals.
C	2	Samples	P03	Sampling for measurement of dissolved hydrocarbons.



Track Chart of KOFU MARU 30 Jan. ~ 4 Mar. , 1998

○ CTD & ACM Obs.

● BT & ACM Obs.

△ ACM Obs.

P Pollution Obs.

Reference No.	:	98006
Restrict Data	:	No
Ship Name	:	SEIFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-01
Cruise Period	:	1998/01/16 to 1998/03/02
Port of Departure	:	Maizuru
Port of Return	:	Maizuru
Responsible Laboratory	:	Maizuru Marine Observatory, Japan Meteo rological Agency
Chief Scientist(s)	:	Mr. N. Obata / Maizuru Marine Observatory, Japan Meteorological Agency
General Ocean Area(s)	:	Japan Sea
Geographic Coverage	:	131,167
Project Name	:	IGOSS, MARPOLMON, WESTPAC
Coordinating Body	:	IOC
Principal In vestigators	:	A ; Mr. S. Kawae / Maizuru Marine Observatory, Japan Meteorological Agency
		B ; Mr. N. Sato / Maizuru Marine Observatory ,Japan Meteorological Agency
		C ; Mr. N. Obata / Maizuru Marine Observatory, Japan Meteorological Agency
		D ; Mr. T. Sakai / Climate and Marine Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

A routine oceanographic observation (physical, chemical, and biological).

a) Seasonal observation of marine condition.

b) Monitoring background marine pollution.

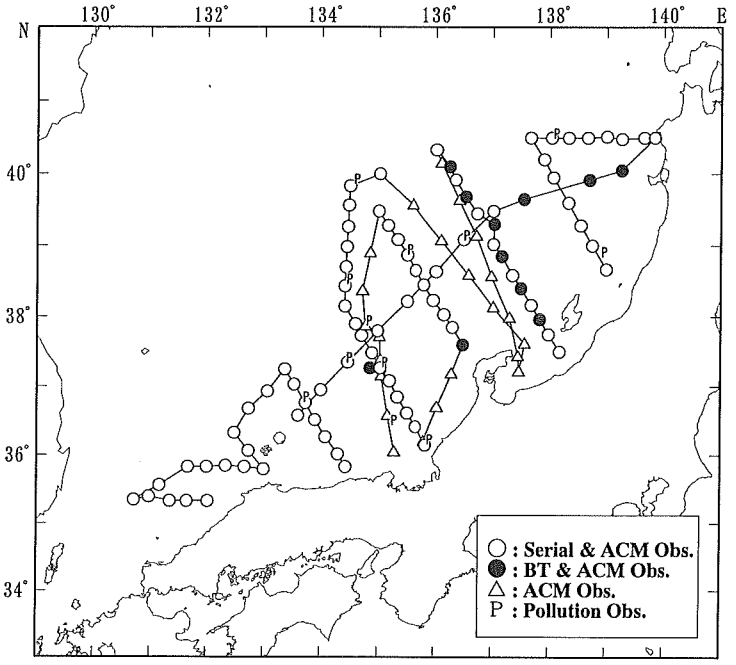
Sea water sampling for radioactivity measurements.

Inspection of ocean data buoy.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	78	Stations	H10	Using Neile-Brown CTD.
A	23	Stations	H21	Using Neile-Brown CTD with Rosette Sample System.
A	17	Stations	B02,H22,H24,H25	Using Neile-Brown CTD with Rosette Sample System.
A	3	Stations	H28	Using Neile-Brown CTD with Rosette Sample System.
A	9	Stations	B08	Surface water sampling.
B	9	Stations	B09	Collected by NORPAC Net.
D	2	Stations	P02	Using Neil-Brown CTD with Rosette Sampler System.
D	4	Station	P03	Surface water sampling for petroleum Hydrocarbons concentrations.
A	35	Stations	H16	Using Secchi Disk.
A	11	Drops	H13	X-BT drops with T6 type probe.
B	4	Stations	H31	Gross beta radioactivity.

A	113	Stations	D71	Using acoustic Current Meter (Furuno).
A	113	Stations	G73	Using echo sounder (KAIJO).
B	10	Stations	P03	Floating tar balls sampling using with Neuston net.
B	26	Days	P90	Oil slicks and floating pollutants (Daytime only).
A	3564	N.Miles	H71	Measurements of near-surface temperature and salinity using T.S.G.
C	196	Times	M06	According to WMO International Codas
C	34	Ascents	M01	Using VAISALA Digicora MW2 System and VAISALA RS80-15N Radio Sondes.
C	196	Times	D72	Using microwave or Tucker wave gauge.



Track Chart

Reference No.	:	98007
Restrict Data	:	No
Ship Name	:	KOFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-04
Cruise Period	:	1998/04/28 to 1998/05/29
Port of Departure	:	Hakodate
Port of Return	:	Hakodate
Responsible Laboratory	:	Hakodate Marine Observatory, Japan Meteorological Agency
Chief Scientist(s)	:	M. Inagawa / Hakodate Marine Observatory, Japan Meteorological Agency
General Ocean Area(s)	:	North Pacific Ocean
Geographic Coverage	:	130,166
Project Name	:	IGOSS, MARPOLMON, WESTPAC
Coordinating Body	:	IOC, WMO
Principal Investigators	:	A ; H. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency
		B ; T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency
		C ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency

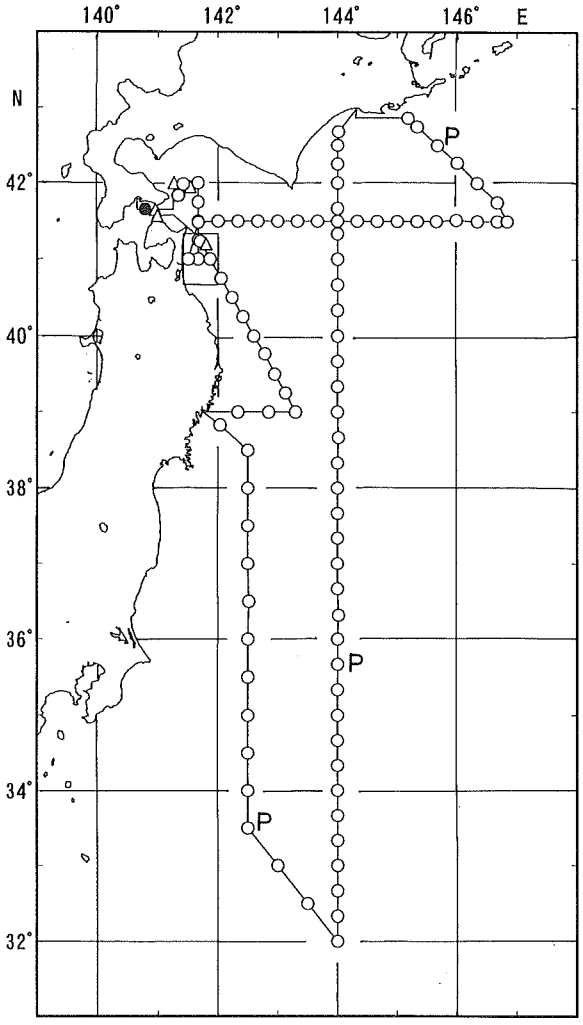
Objectives and Brief Narrative of Cruise :

1. Regular observation of oceanography and marine meteorology.
2. Background marine pollution monitoring.
3. Observations for the Subarctic Gyre Experimen t.
4. Observation for the study of seasonal variability and water mass budget of Oyashio off Sanriku.
5. Ocean wave sampling for the data of coastal wave recorders.

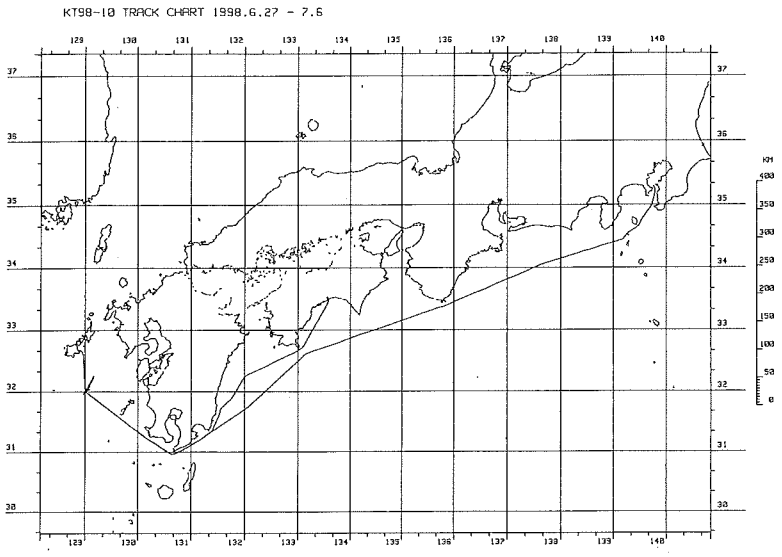
Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	2254	NM	H71	Continuous sea surface temperature & salinity recording.
A	91	Stations	H10	Using Neil Brown CTD.
A	24	Stations	B02,H09,H21H22,H24, H25	Using Neil Brown CTD with Rosette sampler.
A	10	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	47	Stations	H16	Using Secchi disk (Daytime only).
A	6	Stations	B08	Using bucket.
A	6	Stations	B09	Using NORPAC net.
A	1	Drops	H13	XBT drops with T6 type probes.
A	97	Stations	D71	Using FURUNO Co. Acoustic Current Meter at 0, 50, 100M in depth.
A	2254	NM	H74,M71	CO2 concentrations in air and sea surface water.
B	132	Times	M06	Observed every three hours.

B	245	Times	M90	Hourly Weather report except M06.
B	13	Ascents	M01	Using VAISALA system.
B	132	Times	D72	Using Micro-wave & Tucker wave gauge.
C	2	Samples	P02	Sampling for analysis of heavy metals.
C	2	Stations	P03	Sampling for measurement of dissolved hydrocarbons.
C	3	Stations	P03	Using Neuston net.
C	13	Days	P90	Oil slicks and floating pollutants observed visually (Daytime only).
C	57	Stations	H74	Sampling for analysis of total inorganic carbons.



Track Chart of KOFU MARU 28 Apr. ~ 29 May, 1998
○ CTD & ACM Obs.
● BT & ACM Obs.
△ ACM Obs.
P Pollution Obs.



Reference No. : 98008

Restrict Data : In Part

Ship Name : TANSEI MARU

Ship Type : Research Ship

Cruise No./Name : KT-98-10

Cruise Period : 1998/06/27 to 1998/07/06

Port of Departure : Kochi

Port of Return : Tokyo

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : Prof. R. Kimura / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : East China Sea, Phillippine Sea

Specific Areas : Around 32.00N, 129.00E

Geographic Coverage : 131,132

Principal Investigators : A ; Prof. R. Kimura / Ocean Research Institute, Univ. of Tokyo

B ; Dr. K. Kozai / Kobe Univ. of Mercantile Marine

Objectives and Brief Narrative of Cruise :

Study on convective disturbances during Baiu season and associated sea surface fluxes.

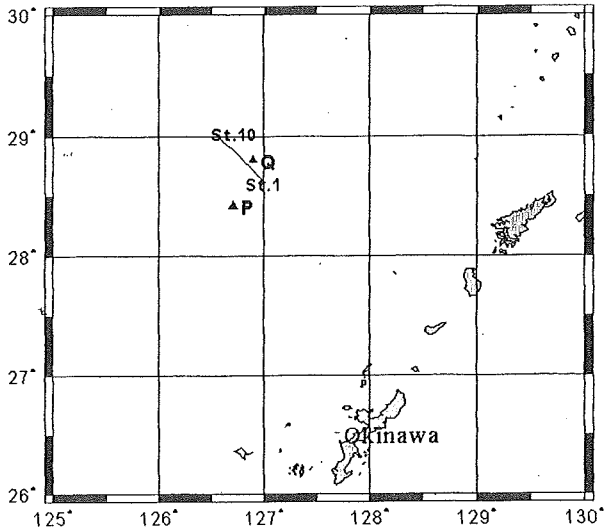
Main task

1. Observation of atmospheric structure over East China Sea during Baiu season using GPS sonde.
2. Sea surface flux measurement.
3. Spectral radiance measurement for sea surface and sky.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	21	Ascents	M01	6 hourly upper air sounding using GPS sonde at 32.00N, 129.00E.
A	10	Days	M06	Recording of temperature, pressure, humidity, wind, ship speed, heading direction and sea surface temperature (every one minutes).
B	6	Days	M02	Spectral radiance (400-1000M) for sea surface and sky using MSR7000 for verifying satellite atmospheric correction algorizms.

Reference No. : 98009
Restrict Data : In Part
Ship Name : KAKUYO MARU
Ship Type : Training Ship
Cruise No./Name : Voy. No.131
Cruise Period : 1998/05/20 to 1998/05/28
Port of Departure : Nagasaki
Port of Return : Nagasaki



Responsible Laboratory : Dept. of Earth System Science and Technology, Kyusyu Univ.
Chief Scientist(s) : Prof. A. Isobe / Dept. of Earth System Science and Technology, Kyusyu Univ.
General Ocean Area(s) : East China Sea
Specific Areas : Shelf edge, a line between 28.37N, 127.11E and 29.01N, 126.31E
Geographic Coverage : 96
Principal Investigators : A ; Prof. A. Isobe / Dept. of Earth System Science and Technology, Kyusyu Univ.
B ; Prof. T. Matsuno / Faculty of Fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

The objective of this observation is to investigate the 3-dimensional structure of the Kurosio frontal eddy.
We repeatedly carried out the ADCP/CTD observation along the line between Sta.1 (28-37N, 127-11E) and Sta.10 (29-01N, 126-31E).
ADCP was set to obtain current speed and direction every 4M vertically, and every 1min. horizontally.
We also carried out a mooring, which measures current speed and direction, temperature and turbidity.

Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
B	28.48N	126.53E	H16,H72	Deploy mooring system, 21-27 May, current meter (3, 50, 70, 90M), temperature meter (2, 90, 120M), turbidity meter (2, 140, 160M).

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	50	Stations	H10	Neil-Brown Mark 3B CTD (Down to bottom).
A	10	Stations	H13	Drop XBT-10 (Down to 300M).
A	645	Miles	D71	Towed ADCP, RD instruments NB150 Hz.

Reference No.	:	98010
Restrict Data	:	In Part
Ship Name	:	KAKUYO MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Voy. No.132
Cruise Period	:	1998/06/03 to 1998/06/18
Port of Departure	:	Nagasaki
Port of Return	:	Nagasaki
Responsible Laboratory	:	Research Institute for Applied Mechanics Kyushu Univ.
Chief Scientist(s)	:	J. H. Yoon / Research Institute for Applied Mechanics, Kyusyu Univ.
General Ocean Area(s)	:	Japan Sea
Geographic Coverage	:	131
Principal Investigators	:	A ; J. H. Yoon / Research Institute for Applied Mechanics, Kyusyu Univ.
		B ; W. Koterayama / Research Institute for Applied Mechanics, Kyusyu Univ.
		C ; M. Takematu / Research Institute for Applied Mechanics, Kyusyu Univ.
		D ; H. S. An / Seoul National Univ.
		E ; T. Senju / National Fishery Univ.

Objectives and Brief Narrative of Cruise :

Purpose of Cruise :

To observe the current structure of the near shore branch of the Tsusima current.

To observe the deep circulation in the Tsushima and Yamato basins.

Maine Task :

Current measurement by ADCP, Mooring current meter, CTD measurement.

Moorings, Bottom Mounted Gear and Drifting Systems :

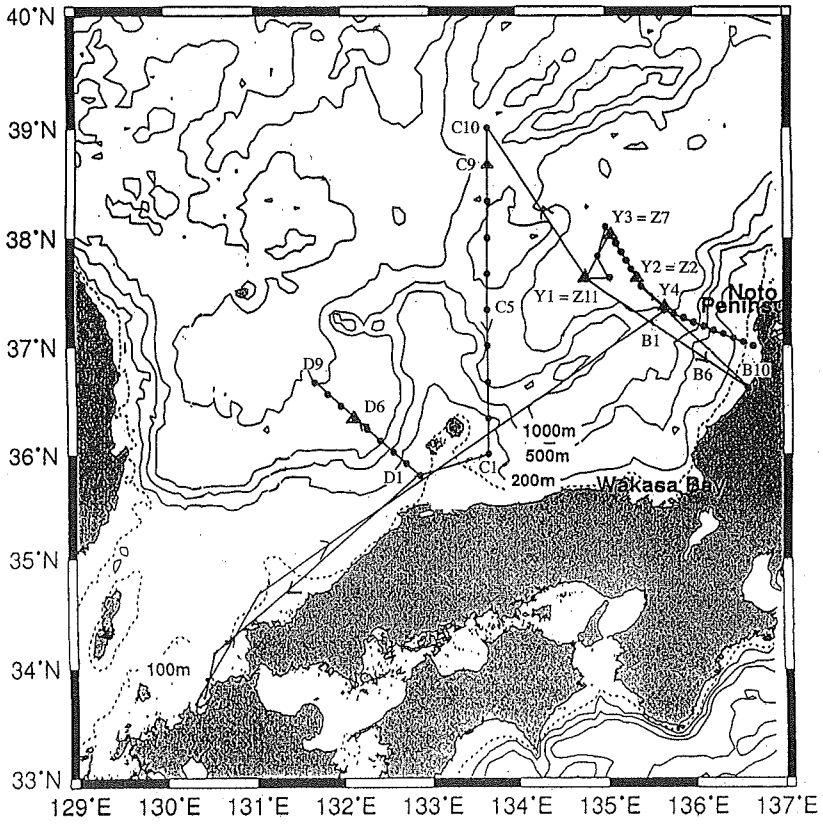
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
D	37.38N	134.46E	D01	Retrieve moored current meters (800, 1800, 2800M).
D	37.38N	135.21E	D01	Retrieve moored current meters (800, 1800, 2800M).
D	38.02N	135.04E	D01	Retrieve moored current meters (800, 1800, 2800M).
D	37.24N	135.40E	D01	Retrieve moored current meters (1700, 2300, 2600M).
D	38.40N	133.41E	D01	Retrieve moored current meters (900, 1200M).
E	36.20N	132.06E	D01	Retrieve moored current meters (1000, 1400M).

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	10	Stations	H10	Neil-Brown Mark III B CTD (Down to 2200M).
C	160	Miles	D71	Towed ADCP, 23 miles, 7 times (Repeated observation).
D	11	Stations	H10	Neil-Brown Mark III B CTD (Down to 2200M).
C	97	Miles	D71	Towed ADCP (Dynamic control experiment).

E	10	Stations	H10	Neil-Brown Mark III B CTD (Down to 2200M).
E	9	Stations	H10	Neil-Brown Mark III B CTD (Down to 2200M).
C	90	Miles	D71	Towed ADCP.
E	9	Stations	H10	Water sampling for calibration of O2 and S.
				(50, 100, 200, 300, 400, 500, 600, 800, 1000, 1500M)

△ Mooring
○ CTD



Reference No.	:	98011
Restrict Data	:	In Part
Ship Name	:	KAKUYO MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Voy. No. 133
Cruise Period	:	1998/06/24 to 1998/07/03
Port of Departure	:	Nagasaki
Port of Return	:	Nagasaki
Responsible Laboratory	:	Faculty of Fisheries, Kagoshima Univ.
Chief Scientist(s)	:	Y. Akishige / Faculty of Fisheries, Nagasaki Univ.
General Ocean Area(s)	:	East China Sea
Specific Areas	:	Kwira river, Huna uki, Iriomote Island
Geographic Coverage	:	96
Principal Investigators	:	A ; Y. Akishige / Faculty of Fisheries, Nagasaki Univ.
		B ; T. Takatani / Faculty of Fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

1 : Training of navigation.

2 : Sampling of toxic puffer fish and goby in subtropical island.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
B	0		B19	Puffer fish Chelonodon patoca (Okinawa-fugu).
B	0		B19	Goby Acentrogobius criniger (Tsumugi-haze).

Reference No.	:	98012
Restrict Data	:	In Part
Ship Name	:	KAKUYO MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Voy. No.134
Cruise Period	:	1998/07/12 to 1998/08/11
Port of Departure	:	Nagasaki
Port of Return	:	Nagasaki
Responsible Laboratory	:	Faculty of fisheries, Nagasaki Univ.
Chief Scientist(s)	:	Y. Akishige / Faculty of Fisheries, Nagasaki Univ.
General Ocean Area(s)	:	North Pacific Ocean
Geographic Coverage	:	22,23,58
Principal Investigators	:	A ; Y. Akishige / Faculty of Fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

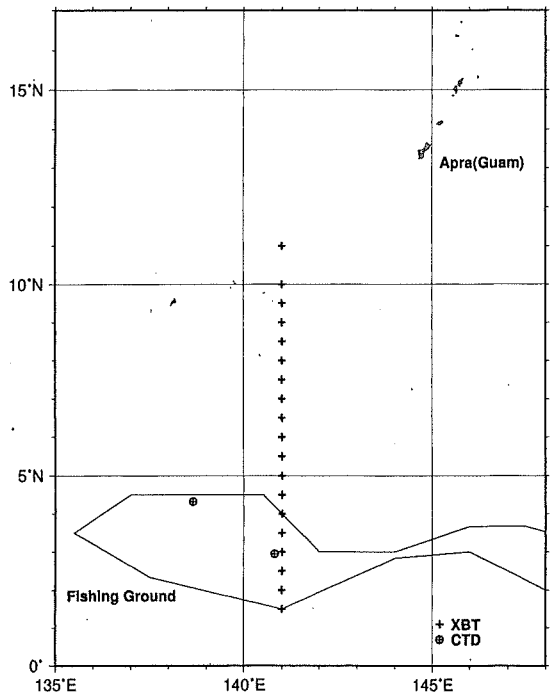
1 : Training of navigation.

2 : Training operations of purse seine fishing.

3 : Oceanographic observation.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	19	Stations	H13	XBT (T6 Type probes).
A	2	Stations	H10	Using Neil-Brown Mark-3B CTD (upper 1000M).



Reference No.	:	98013
Restrict Data	:	No
Ship Name	:	KOFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-06
Cruise Period	:	1998/06/10 to 1998/08/10
Port of Departure	:	Hakodate
Port of Return	:	Hakodate
Responsible Laboratory	:	Hakodate Marine Observatory, Japan Meteorological Agency
Chief Scientist(s)	:	T. Maeda and T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency
General Ocean Area (s)	:	North Pacific Ocean
Geographic Coverage	:	130,166
Project Name	:	IGOSS, MARPOLMON, WESTPAC
Coordinating Body	:	IOC, WMO
Principal Investigators	:	A ; H. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency B ; T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency C ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency D ; H. Jingu / Seismological and Volcanological Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

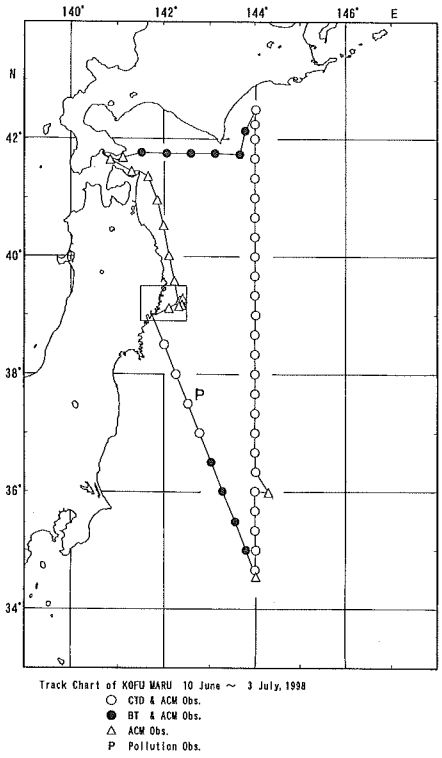
1. Regular observation of oceanography and marine meteorology.
2. Background marine pollution monitoring.
3. Observations for the Subarctic Gyre Experiment.
4. Observation for the study of seasonal variability and water mass budget of Oyashio off Sanriku.
5. Maritime meteorological observations of YAMASE event off Sanriku.

Moorings, Bottom Mounted Gear and Drifting Systems :

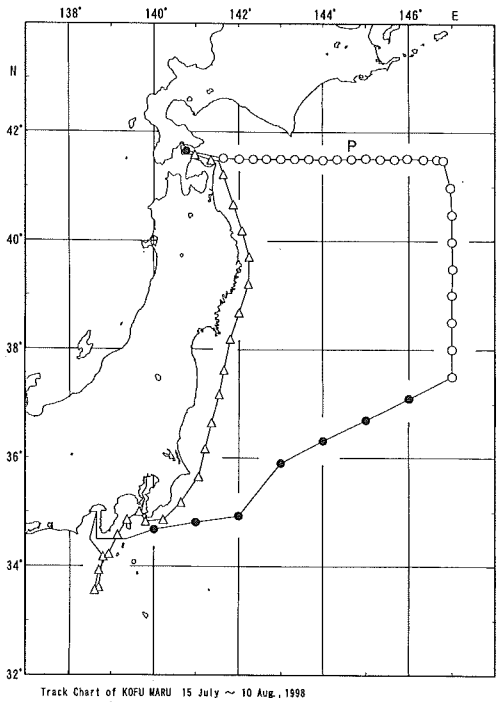
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
D	34.47E	138.38N	G90	Recovered and deployed ocean bottom seismograph on 28 July 1998.
D	34.08E	138.50N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	34.06E	138.02N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.58E	138.41N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.53E	138.59N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.50E	138.49N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.46E	138.36N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.41E	138.52N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.38E	138.25N	G90	Recovered ocean bottom seismograph on 29 July 1998.
D	33.33E	138.35N	G90	Recovered ocean bottom seismograph on 29 July 1998.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	3383	NM	H71	Continuous sea surface temperature & salinity recording.
A	54	Stations	H10	Using Neil Brown CTD.
A	28	Stations	B02,H09,H21,H22,H24, H25	Using Neil Brown CTD with Rosette sampler.
A	9	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	34	Stations	H16	Using Secchi disk (Daytime only).
A	6	Stations	B08	Using bucket.
A	6	Stations	B09	Using NORPAC net.
A	18	Drops	H13	XBT drops with T6 type probes.
A	114	Stations	D71	Using FURUNO Co. Acoustic Current Meter at 0, 50, 100M in depth.
A	2	Samples	H31	Sampling for measurement of Total Bata radioactivity.
A	2112	NM	H74,M71	CO2 concentrations in air and sea surface water.
B	201	Times	M06	Observed every three hours.
B	380	Times	M90	Hourly Weather report except M06.
B	35	Ascents	M01	Using VAISALA system.
B	88	Times	D72	Using Micro-wave & Tucker wave gauge.
C	2	Stations	P03	Using Neuston net.
C	13	Days	P90	Oil slicks and floating pollutants observed visually (Daytime only).
C	2	Samples	P02	Sampling for analysis of heavy metals.
C	2	Samples	P03	Sampling for measurement of dissolved hydrocarbons.
C	48	Stations	H74	Sampling for analysis of total inorganic carbons.



Track Chart of KOFU MARU 10 June ~ 3 July, 1998
○ CTD & ACM Obs.
● BT & ACM Obs.
△ ACM Obs.
P Pollution Obs.



Track Chart of KOFU MARU 15 July ~ 10 Aug., 1998
○ CTD & ACM Obs.
● BT & ACM Obs.
△ ACM Obs.
P Pollution Obs.

Reference No. : 98014

Restrict Data : No

Ship Name : NAGASAKI MARU

Ship Type : Training Ship

Cruise No./Name : Voy. 105

Cruise Period : 1998/04/02 to 1998/04/22

Port of Departure : Nagasaki

Port of Return : Nagasaki

Responsible Laboratory : Faculty of fisheries, Nagasaki Univ.

Chief Scientist(s) : Y. Takaki / Faculty of fisheries, Nagasaki Univ.

General Ocean Area(s) : East China Sea

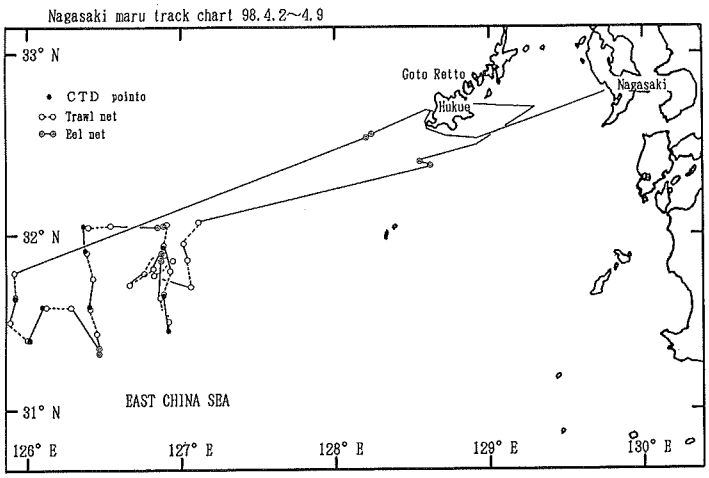
Geographic Coverage : 132

Principal Investigators : A ; T. Kuno / Faculty of fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

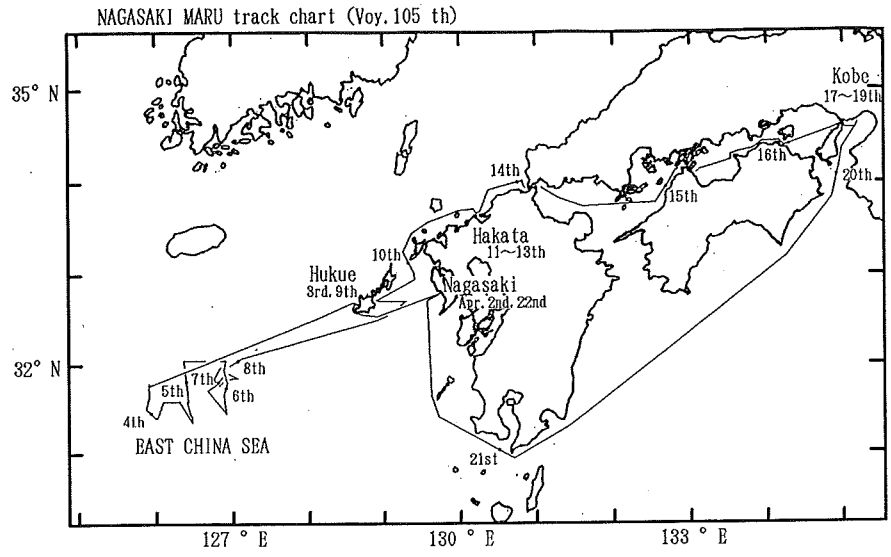
Main task

1. Training of navigation.
2. Oceanographic observation.
3. Training operations of bottom trawl.



Summary of Mea surements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	9	Stations	H10	Using Neil Brown Mark-3B CTD.
A	14	Samples	B65	Sampling of fish by bottom trawl net.
A	5	Samples	B11	Trawl an eel net.
A	5	Samples	B09	Trawl a larva net.



Reference No.	:	98015
Restrict Data	:	No
Ship Name	:	NAGASAKI MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Voy. 106
Cruise Period	:	1998/05/08 to 1998/06/04
Port of Departure	:	Nagasaki
Port of Return	:	Nagasaki
Responsible Laboratory	:	Faculty of fisheries, Nagasaki Univ.
Chief Scientist(s)	:	Y. Takaki / Faculty of fisheries, Nagasaki Univ.
General Ocean Area(s)	:	East China Sea
Geographic Coverage	:	96,132
Principal Investigators	:	A ; T. Kuno / Faculty of fisheries, Nagasaki Univ.
		B ; T. Matsuno / Faculty of fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

Main task

1. Training of navigation.
2. Oceanographic observation.
3. Training operations of bottom trawl.

Moorings, Bottom Mounted Gear and Drifting Systems :

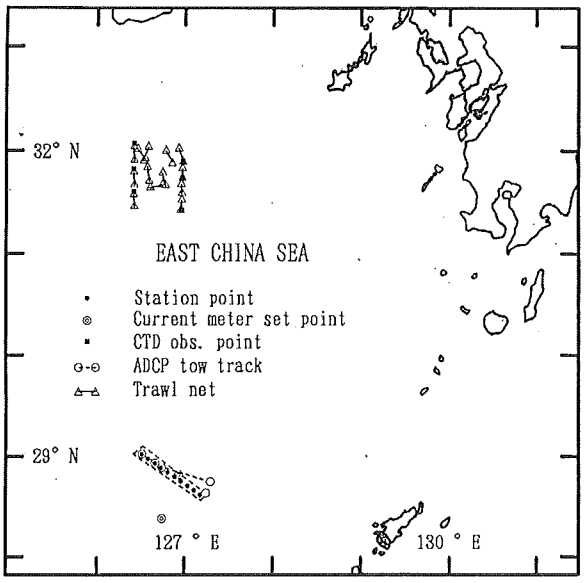
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
B	28.47N	126.55E	D01	Set current meter at 10:21 10th May 1998, D.203, 5 sensor.
				Recovered it at 11:09 14th May 1998.
B	28.23N	126.45E	D01	Set current meter at 13:18 10th May 1998, D.200, 5 sensor.
				Recovered it at 09:12 14th May 1998.
B	28.50N	126.49E	D06	Set dye discharge unit at 08:00 13th May 1998.
B	28.52N	126.55E	D06	Recovered it at 16:53 13th May 1998.
B	28.38N	127.12E	D71	Set ADCP at 08:04 10th May 1998.
B	28.38N	127.12E	D71	Recovered it at 14:57 11th May 1998.
B	28.49N	127.17E	D71	Set ADCP at 17:59 11th May 1998.
B	28.53N	126.44E	D71	Recovered it at 15:57 12th May 1998.
B	28.56N	126.40E	D71	Set ADCP at 16:31 12th May 1998.
B	29.02N	126.31E	D71	Recovered it at 06:45 13th May 1998.

Summary of Measu rements and Samples Taken :

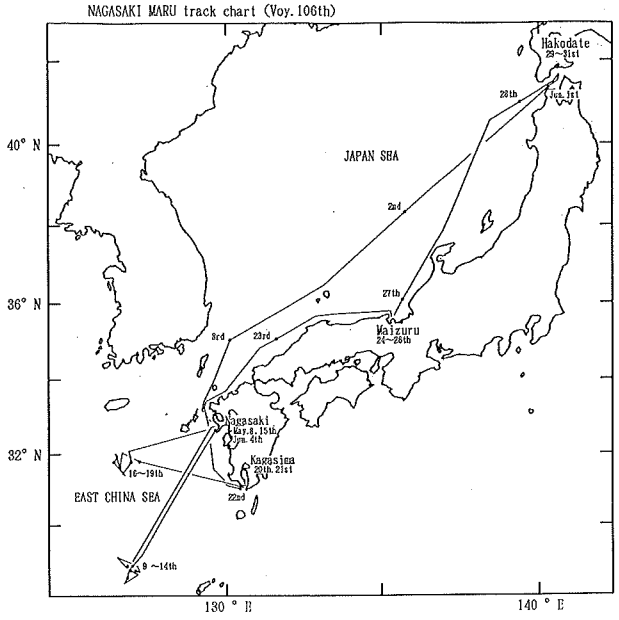
PL	NO	UNITS	DATA TYPE	DESCRIPTION
B	30	Stations	H9,H10	Using Neil Brown Mark-3B CTD.
B	3	Times	H10	Sampling of Current Data with dye discharge by CTD.

A	13	Samples B65	Sampling of fish by bottom trawl net.
A	6	Stations H10	Using Neil Brown Mark-3B CTD.

NAGASAKI MARU sea obs. point track chart



NAGASAKI MARU track chart (Voy. 106th)



Reference No.	:	98016
Restrict Data	:	Yes
Ship Name	:	TANSEI MARU
Ship Type	:	Research Ship
Cruise No./Name	:	KT98-2
Cruise Period	:	1998/02/20 to 1998/02/26
Port of Departure	:	Tokyo
Port of Return	:	Tokyo
Responsible Laboratory	:	Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s)	:	Mr. K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s)	:	North Pacific Ocean
Specific Areas	:	Oyashio and Transitional regions off Japan
Geographic Coverage	:	130
Principal Investigators	:	A ; Mr. K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo
		B ; Mr. M. Moku / Ocean Research Institute, Univ. of Tokyo
		C ; Mr. C. Sassa / Ocean Research Institute, Univ. of Tokyo
		D ; Mr. Y. Kurata / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

Objective : Collection of 300 plankton, micronekton and ichthyoplankton for life history and feeding habit studies.

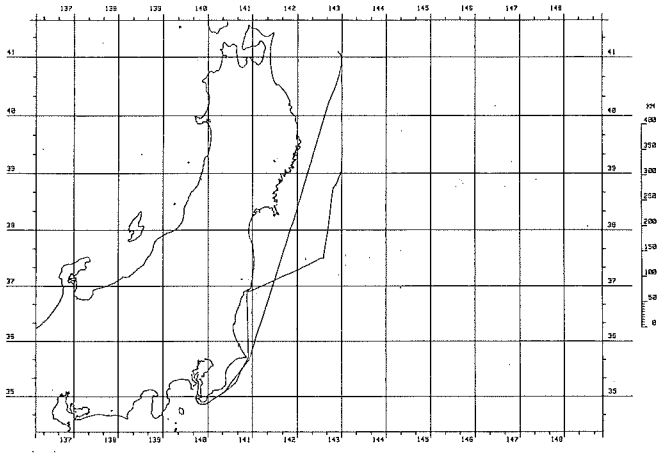
Methods : (1) IKMT-10 foot sampling with 3000M, 1000M and 300M wire out.
(2) MTD-net (multilayer sampling net).
(3) CTD cast.

Localities : St.1 (143.00E, 41.00N)

Summary of Measurements and Samples Taken :

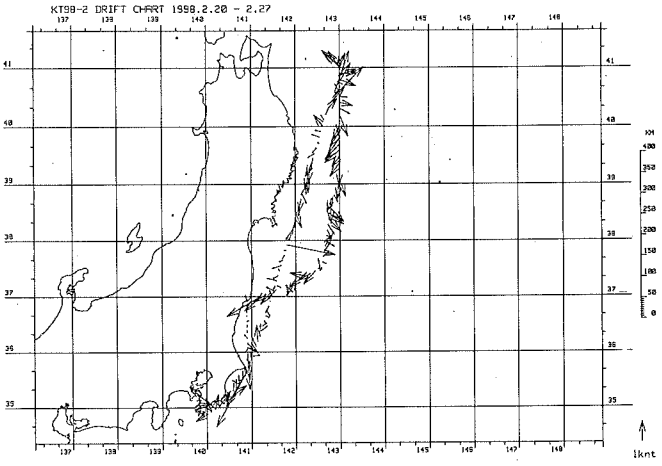
PL	NO	UNITS	DATA TYPE	DESCRIPTION
A,B	3	Stations	B14	IKMT-3000M wire out oblique taw. IKMT-1000M wire out oblique taw.
C	3	Stations	B13	MTD-multilayer taw C.
D	3	Stations	B09	IKMT-300M wire out oblique taw.
A	3	Stations	H10	Noisy data at 3 Stations.

KT98-2 TRACK CHART 1998.2.20 - 2.27

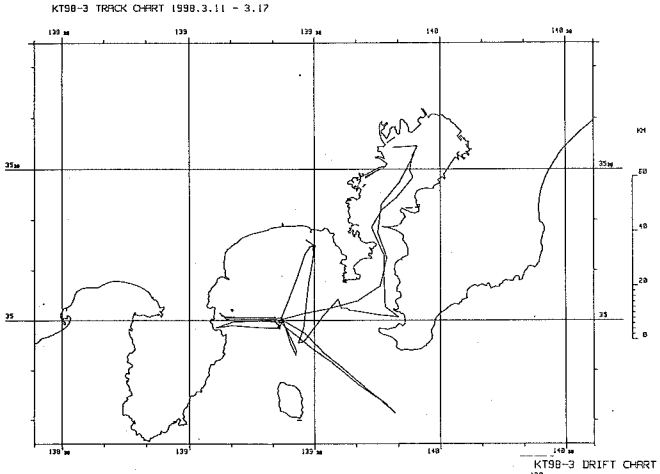


Reference No. : 98016

KT98-2 DRIFT CHART 1998.2.20 - 2.27

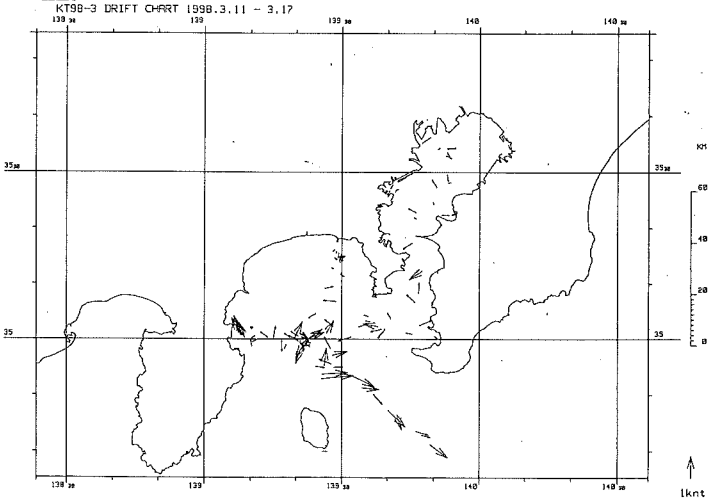


KT98-3 TRACK CHART 1998.3.11 - 3.17



Reference No. : 98017

KT98-3 DRIFT CHART 1998.3.11 - 3.17



Reference No. : 98017

Restrict Data : Yes

Ship Name : TANSEI MARU

Ship Type : Research Ship

Cruise No./Name : KT98-3

Cruise Period : 1998/03/11 to 1998/03/17

Port of Departure : Tokyo

Port of Return : Tokyo

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : Dr. M. Uematsu / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Pilippine Sea

Specific Areas : Sagami Bay, Tokyo Bay

Geographic Coverage : 131

Principal Investigators : A ; Dr. M. Uematsu / Ocean Research Institute, Univ. of Tokyo

B ; Dr. T. Nakatsuka / Low Temperature Research Institute, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

A. Measurement of natural radio nuclides in seawater and suspended particles.

B. Measurement of particular fluxes by using sediment traps.

C. Trace metals in seawater.

D. Geochemical studies on sediments along the continental slope.

1. Retrieve and deploy the sediment traps at.
2. Seawater sampling for chemical analyses.
3. Sampling of sediments by using multiple corer.

Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
B	34.59N	139.21E	B73	Retrieve a sediment trap on 13 March 1998.
B	34.59N	139.21E	B73	Deployed a mooring system with two sediments traps on 15 March 1998 at 1200M, 20M along the sea floor.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	6	Stations	G04	Multiple corer.
A	8	Layer	P01	Institution filtration for natural radionuclide.
A	22	Layer	H30	Seawater samples for Rare earth elements.
A	2	Stations	H10	

Reference No. : 98018

Restrict Data : No

Ship Name : TANSEI MARU

Ship Type : Research Ship

Cruise No./Name : KT98-13

Cruise Period : 1998/07/31 to 1998/08/05

Port of Departure : Yaizu

Port of Return : Tokyo

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) : Dr. K. Kubokawa / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Philippine Sea

Specific Areas : Around the Ise Bay and the Mikawa Bay

Geographic Coverage : 131

Principal Investigators : A ; Dr. K. Kubokawa / Ocean Research Institute, Univ. of Tokyo
B ; Dr. N. Azuma / Hirosaki Univ.
C ; Mr. M. Watanabe / Ocean Research Institute, Univ. of Tokyo
D ; Dr. S. Aoki / Toyohashi Technology and Science Univ.

Objectives and Brief Narrative of Cruise :

Survey habitat of lancelets and study on their biology.

A. Survey of lancelets population, other benthos and sea bottom geology by a box corer.

B. Collect of lancelet larvaes by a plankton net.

C. Video and Photographic recordings of lancelets in their habitat by ROV and under-water digital camera.

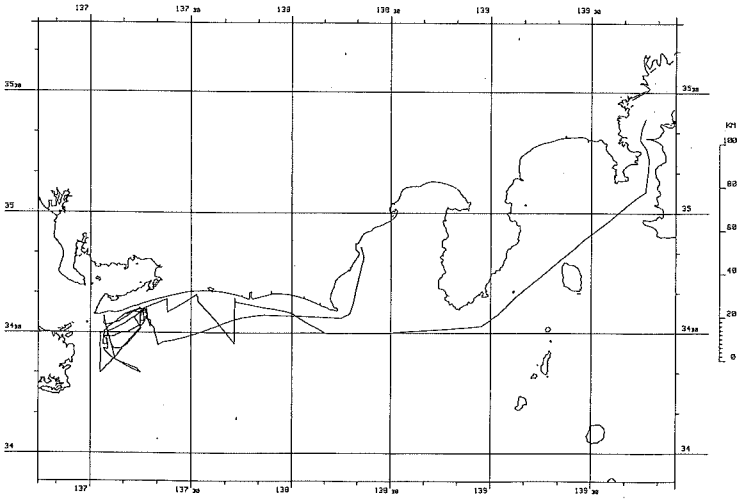
Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
C	34.35N	137.15E	B18	Under-water digital camera, 20M depth deployed at 20:00 and recovered at 22:00 on 3rd August.

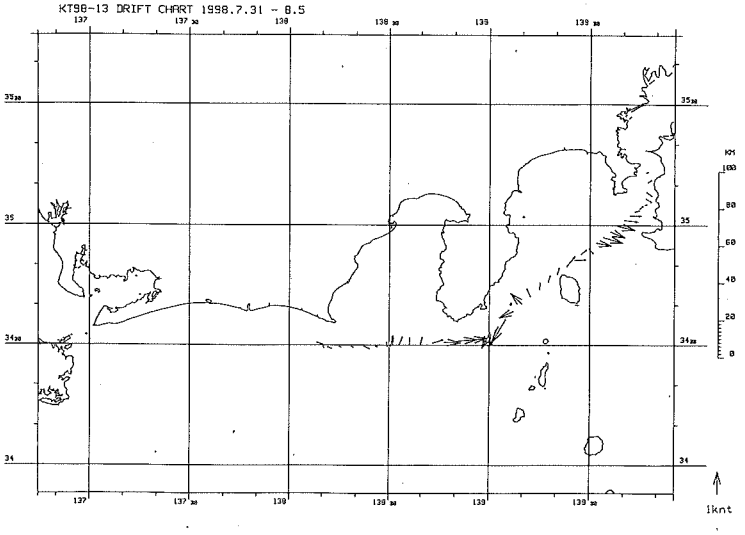
Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	10	Samples	B17～B21	Soating of Benthos collected by dredging.
A	29	Stations	B17～B21	Properties of sea bottom soil by using a box corer.
A	29	Stations	B08,B09,B18,B19	Using Norpack net.
B	29	Stations	B02	Using chrolotech.
B	29	Stations	H10	CTD
B	24	Stations	B09,B13	Using ORI net.
D	9	Stations	G02	Using Okean.

KT98-13 TRACK CHART 1998.7.31 - 8.5



KT98-13 DRIFT CHART 1998.7.31 - 8.5



Reference No. : 98019

Restrict Data : No

Ship Name : SEIFU MARU

Ship Type : Research Ship

Cruise No./Name : 98-04

Cruise Period : 1998/04/24 to 1998/05/31

Port of Departure : Maizuru

Port of Return : Maizuru

Responsible Laboratory : Maizuru Marine Observatory, Japan Meteorological Agency

Chief Scientist(s) : Mr. S. Kawae / Maizuru Marine Observatory, Japan Meteorological Agency

General Ocean Area(s) : Japan Sea

Geographic Coverage : 131

Project Name : IGOSS, MARPOLMON, WESTPAC

Coordinating Body : IOC

Principal Investigators : A ; S. Kawae / Maizuru Marine Observatory, Japan Meteorological Agency
B ; N. Sato / Maizuru Marine Observatory, Japan Meteorological Agency
C ; K. Hori / Maizuru Marine Observatory, Japan Meteorological Agency
D ; K. Sakai / Climate and Marine Dept., Japan Meteorologi cal Agency
E ; S. Saito / Seismological and Volcanological Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

A routine oceanographic observation (Physical, chemical and biological).

a) Seasonal observation of marine conditions.

b) Monitoring background marine pollution.

Inspection of ocean data buoy.

Recovery and deployment of ocean-bottom seismograph.

Moorings, Bottom Mounted Gear and Drifting Systems :

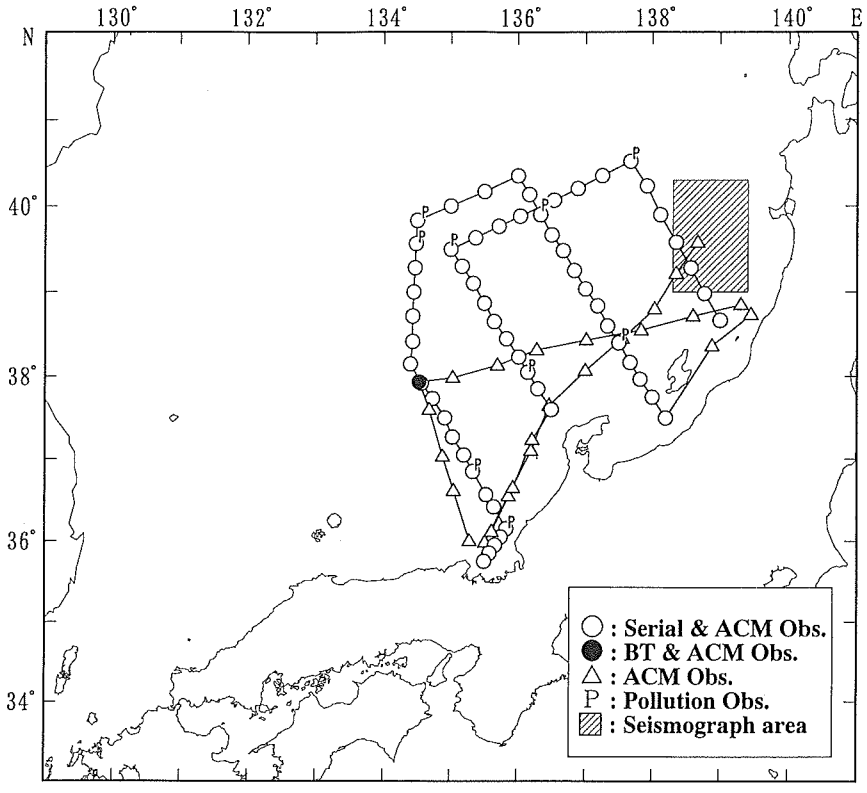
PL	LAT.	LON.	DATA TYPE	DESCRIPTION
E	39.17N	138.43E	G90	Pop-up ocean bottom Seismograph, 1 & 766M, Apr. 26 (Deployed).
E	39.30N	138.37E	G90	Pop-up ocean bottom Seismograph, 1 & 1015M, Apr. 26 (Deployed).
E	39.47N	138.26E	G90	Pop-up ocean bottom Seismograph, 1 & 2687M, Apr. 26 (Deployed).
E	40.06N	138.35E	G90	Pop-up ocean bottom Seismograph, 1 & 2255M, Apr. 26 (Deployed).
E	39.53N	138.48E	G90	Pop-up ocean bottom Seismograph, 1 & 2220M, Apr. 27 (Deployed).
E	39.39N	138.56E	G90	Pop-up ocean bottom Seismograph, 1 & 783M, Apr. 26 (Deployed).
E	39.26N	139.01E	G90	Pop-up ocean bottom Seismograph, 1 & 634M, Apr. 27 (Deployed).

E	39.20N	139.18E	G90	Pop-up ocean bottom Seismograph, 1 & 867M, Apr. 28 (Deployed).
E	39.28N	139.40E	G90	Pop-up ocean bottom Seismograph, 1 & 399M, Apr. 28 (Deployed).
E	39.35N	139.22E	G90	Pop-up ocean bottom Seismograph, 1 & 879M, Apr. 27 (Deployed).
E	39.50N	139.15E	G90	Pop-up ocean bottom Seismograph, 1 & 1512M, Apr. 27 (Deployed).
E	40.05N	139.05E	G90	Pop-up ocean bottom Seismograph, 1 & 2002M, Apr. 27 (Deployed).
E	39.17N	138.43E	G90	Pop-up ocean bottom Seismograph, 1 & 766M, May 24 (Recovered).
E	39.30N	138.37E	G90	Pop-up ocean bottom Seismograph, 1 & 1015M, May 24 (Recovered).
E	39.47N	138.26E	G90	Pop-up ocean bottom Seismograph, 1 & 2687M, May 23 (Recovered).
E	40.06N	138.35E	G90	Pop-up ocean bottom Seismograph, 1 & 2255M, May 23 (Recovered).
E	39.53N	138.48E	G90	Pop-up ocean bottom Seismograph, 1 & 2220M, May 23 (Recovered).
E	39.39N	138.56E	G90	Pop-up ocean bottom Seismograph, 1 & 783M, May 24 (Recovered).
E	39.26N	139.01E	G90	Pop-up ocean bottom Seismograph, 1 & 634M, May 24 (Recovered).
E	39.20N	139.18E	G90	Pop-up ocean bottom Seismograph, 1 & 867M, May 22 (Recovered).
E	39.20N	139.18E	G90	Pop-up ocean bottom Seismograph, 1 & 399M, May 24 (Recovered).
E	39.20N	139.18E	G90	Pop-up ocean bottom Seismograph, 1 & 879M, May 24 (Recovered).
E	39.20N	139.18E	G90	Pop-up ocean bottom Seismograph, 1 & 1512M, May 23 (Recovered).
E	39.20N	139.18E	G90	Pop-up ocean bottom Seismograph, 1 & 2002M, May 23 (Recovered).

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	2926	N. Miles	H71	Measurements of near-surface temperature and salinity using T.S.G.
A	59	Stations	H10	Using Neil-Brown CTD.
A	32	Stations	H16	Using Secchi Disk.
A	1	Drop	H13	X-BT drop with T6 type probe.
A	85	Stations	D71	Using acoustic current meter (Furuno).

A	85	Stations	G73	Using echo sounder (Kaijo).
B	23	Stations	H21	Using Neil-Brown CTD with Rossette Sampler System.
B	17	Stations	B02,H22,H24,H25	Using Neil-Brown CTD with Rossette Sampler System.
B	3	Stations	H28	Using Neil-Brown CTD with Rossette Sampler System.
B	9	Stations	B08	Surface water sampling.
B	9	Stations	B09	Collected by NORPAC Net.
B	7	Stations	P03	Floating tar balls sampling using with Neuston Net.
B	20	Days	P90	Oil slicks and floating pollutants (Daytime only).
C	511	Times	M06	According to "WMO international Codes".
C	8	Ascents	M01	Using VAISALA Digicora MW2 System and VAISALA RS80-15N Radio Sondes.
C	175	Times	D72	Using micro wave or tucker wave gauge.
D	2	Stations	P03	Surface water sampling for petroleum Hydrocarbons concentration.
D	2	Stations	P02	Using Neil-Brown CTD with Rosette Sampler System.



Track Chart

Reference No.	:	98020
Restrict Data	:	Yes
Ship Name	:	SEIFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-06
Cruise Period	:	1998/06/26 to 1998/08/14
Port of Departure	:	Maizuru
Port of Return	:	Maizuru
Responsible Laboratory	:	Maizuru Marine Observatory, Japan Meteorological Agency
Chief Scientist(s)	:	Y. Konishi and T. Segawa / Maizuru Marine Observatory, Japan Meteorological Agency
General Ocean Area(s)	:	Japan Sea
Geographic Coverage	:	131,167
Project Name	:	IGOSS, MARPOLMON, WESTPAC
Coordinating Body	:	IOC
Principal Investigators	:	A ; S. Kawae / Maizuru Marine Observatory, Japan Meteorological Agency B ; N. Sato / Maizuru Marine Observatory, Japan Meteorological Agency C ; K. Hori / Maizuru Marine Observatory, Japan Meteorological Agency D ; K. Sakai / Climate and Marine Dept., Japan Meteorological Agency E ; T. Miyao / Meteorological Research Institute, Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

A routine oceanographic observation (physical, chemical and biological).

a) Seasonal observation of marine conditions.

b) Monitoring background marine pollution.

Sea water sampling for radioactivity measurements.

Development of data assimilation system of ocean observation.

Inspection of ocean data buoy.

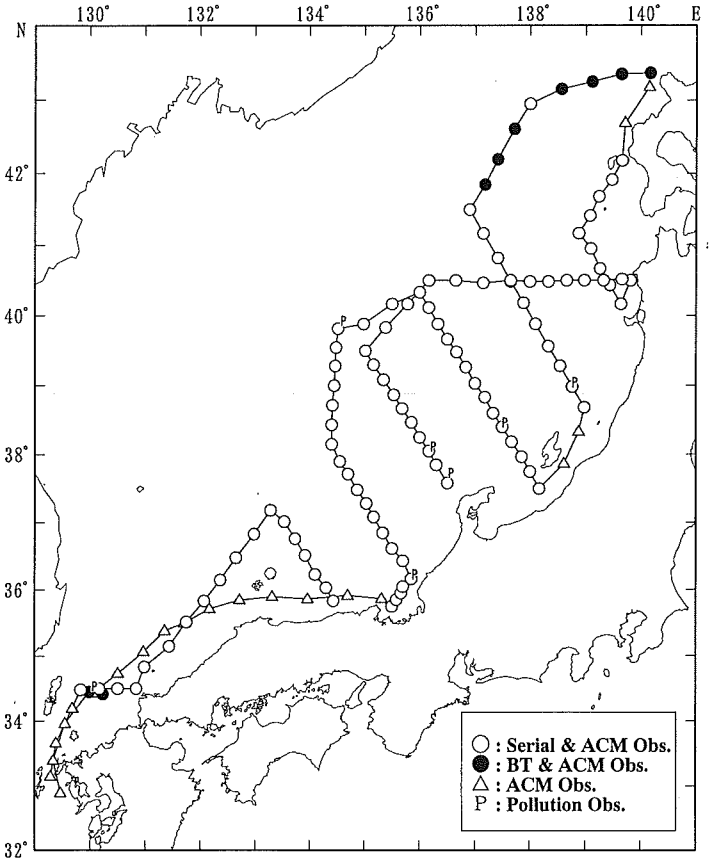
Large volume sampling for bio-geochemical study of artificial radioactivity.

Small volume sampling for bio-geochemical study of artificial and natural radioactivity.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	97	Stations	H10	Using Neil-Brown CTD.
B	26	Stations	H21	Using Neil-Brown CTD with Rossette Sampler System.
B	17	Stations	B02,H22,H24,H25	Using Neil-Brown CTD with Rossette Sampler System.
B	3	Stations	H28	Using Neil-Brown CTD with Rosette Sampler System.
B	9	Stations	B08	Surface water sampling.
B	9	Stations	B09	Collected by NORPAC Net.
D	2	Stations	P02	Using Neil-Brown CTD with Rosette Sampler System.

D	2	Stations	P03	Surface water sampling for petroleum Hydrocarbons concentrations.
A	55	Stations	H16	Using Secchi Disk.
A	9	Drops	H13	X-BT drops with T6 type probe.
B	4	Stations	H31	Gross beta radioactivity.
A	127	Station s	D71	Using acoustic Current Meter (Furuno).
A	127	Stations	G73	Using echo sounder (Kaijo).
B	5	Stations	P03	Floating tar balls sampling using with Neuston net.
B	29	Days	P90	Oil slicks and floating pollutants (Daytime only).
A	3746	N. Miles	H71	Measur ements of near-surface temperature and salinity using T.S.G.
C	702	Times	M06	According to "WMO International Codes".
C	54	Ascents	M01	Using VAISALA Digicara MW2 System and VAISALA RS80-15N Radio Sondes.
C	234	Times	D72	Using micro wave or Tucker wave gauge.
E	5	Stations	H32	Sea water sampling for radioactivity measurements 137 Cs.
E	2	Stations	H32	Sea water sampling for radioactivity measurements 90 Sr.
E	5	Stations	H32	Sea water sampling for radioactivity measurements 239 + 240 Pu.
E	1	Stations	H32	Sea water sampling for radioactivity measurements 14 C.



Track Chart

Reference No.	:	98021
Restrict Data	:	Yes
Ship Name	:	OSHORO MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Cruise-89
Cruise Period	:	1998/06/03 to 1998/08/19
Port of Departure	:	Hakodate
Port of Return	:	Hakodate
Responsible Laboratory	:	Faculty of Fisheries, Hokkaido Univ.
Chief Scientist(s)	:	Prof. H. Yamaguchi / Faculty of Fisheries, Hokkaido Univ.
General Ocean Area(s)	:	Bering Sea, North Pacific Ocean
Specific Areas	:	Transect line : 180.00W, 165.00W and 145.00W, Southeast Bering Sea
Geographic Coverage	:	126,127,159,161,162,163,194,195,196,197,198
Principal Investigators	:	A ; Prof. G. Anma / Faculty of Fisheries, Hokkaido Univ.
		B ; Prof. H. Yamaguchi / Faculty of Fisheries, Hokkaido Univ.
		C ; Mr. S. Takagi / Faculty of Fisheries, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

A. Oceanographic observation in the North Pacific and Bering Sea.

B. Investigation for horizontal distribution of pelagic nekton in the North Pacific.

C. Investigation for horizontal distribution of zoo plankton in the North Pacific.

Main Task :

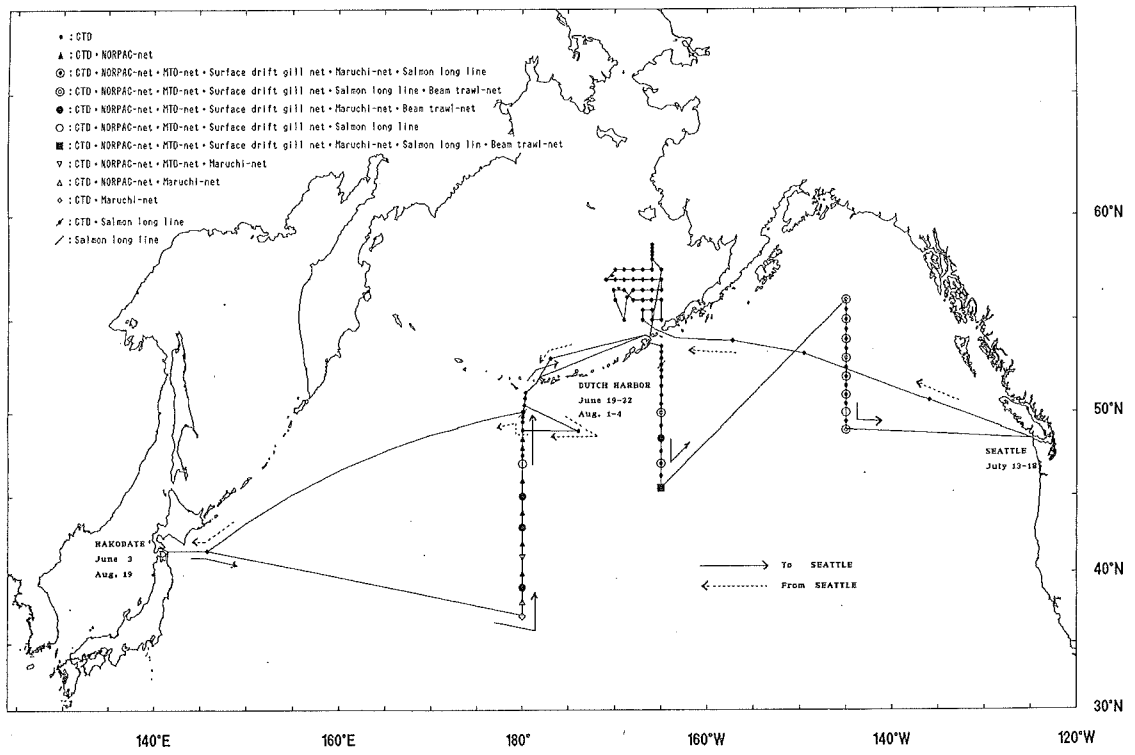
1. Hydrographic casts by CTD and Rosset multisampler.
2. Samplings by surface drifting gill-net
3. Surface tows with a Maruchi-net.
4. Vertical hauls with a Norpac-net.
5. Horizontal tows with MTD-nets.
6. Oblique tows with a Beam trawl net.
7. Samplings by salmon long-lines.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	99	Stations	H10,H16,H22,H24 ~H26	Using Neil-Brown CTD (Mark 3-B) and Rosset multi sampler (12 bottles).
A	16	Stations	B14,B20	Catch number and biological characteristics of fishes caught by non-selective surface drifting gill-net (49 tan).
C	20	Stations	B09	Catch number and wet weight of zoo plankton collected by a Norpac-net (500~0M) and horizontal tows with MTD-net (2 layers).
B	16	Stations	B10	Catch number and weight of fish larvae by surface towing with a

Maruchi-net.

A	8	Stations	B11,B20,B21	Catch number and wet weight of small nekton collected by a beam trawl net.
A	15	Stations	B37	Release and recovery position of salmonids caught by salmon long-line and tagged.



Reference No.	:	98022
Restrict Data	:	Yes
Ship Name	:	KAKUYO MARU
Ship Type	:	Training Ship
Cruise No./Name	:	Voy. No.136
Cruise Period	:	1998/10/24 to 1998/12/21
Port of Departure	:	Nagasaki
Port of Return	:	Nagasaki
Responsible Laboratory	:	Faculty of fisheries, Nagasaki Univ.
Chief Scientist(s)	:	Y. Akishige / Faculty of Fisheries, Nagasaki Univ.
General Ocean Area(s)	:	North Pacific Ocean
Geographic Coverage	:	22,23,58,319,391
Principal Investigators	:	A ; Y. Akishige / Faculty of Fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

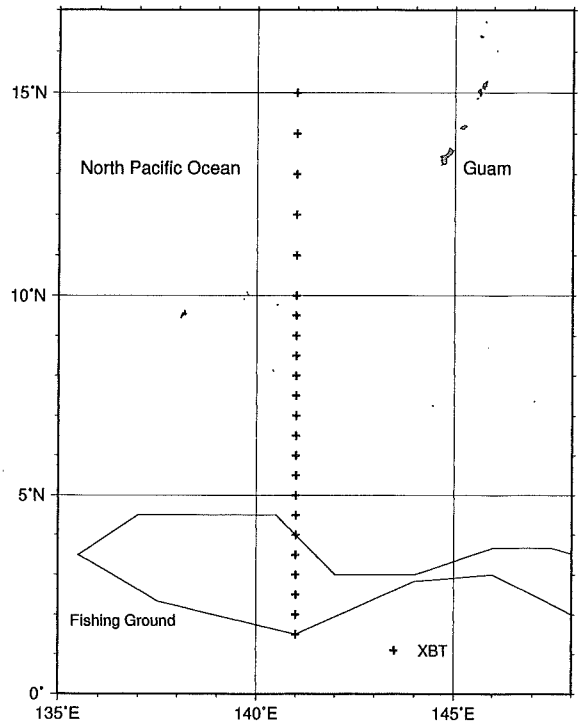
1 : Training of navigation.

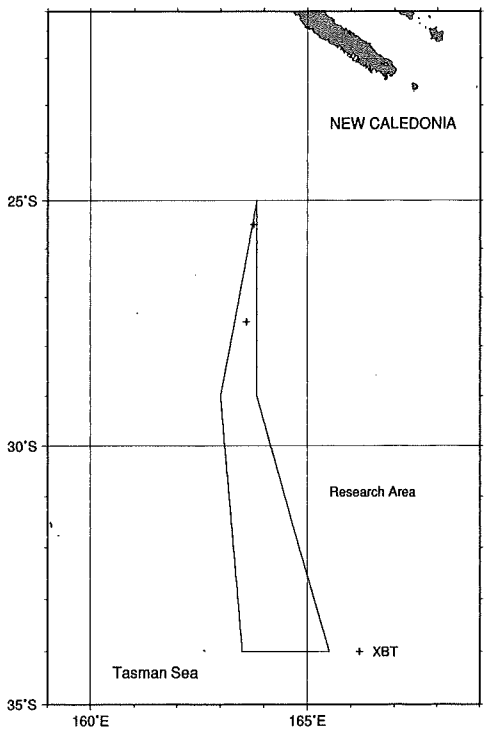
2 : Training operations of purse seine fishing.

3 : Oceanographic observation.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	25	Stations	H13	XBT (T6 Type probes).
A	7	Stations	H10	Using Neil-Brown Mark-3B CTD (Upper 1000M).





Reference No.	:	98023
Restrict Data	:	No
Ship Name	:	KOFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-10
Cruise Period	:	1998/10/06 to 1998/11/05
Port of Departure	:	Hakodate
Port of Return	:	Hakodate
Responsible Laboratory	:	Hakodate Marine Observatory, Japan Meteorological Agency
Chief Scientist(s)	:	M. Kumagai / Hakodate Marine Observatory, Japan Meteorological Agency
General Ocean Area(s)	:	North Pacific Ocean
Geographic Coverage	:	130,166
Project Name	:	IGOSS, MARPOLMON, WESTPAC
Coordinating Body	:	IOC, WMO
Principal Investigators	:	A ; M. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency B ; T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency C ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency

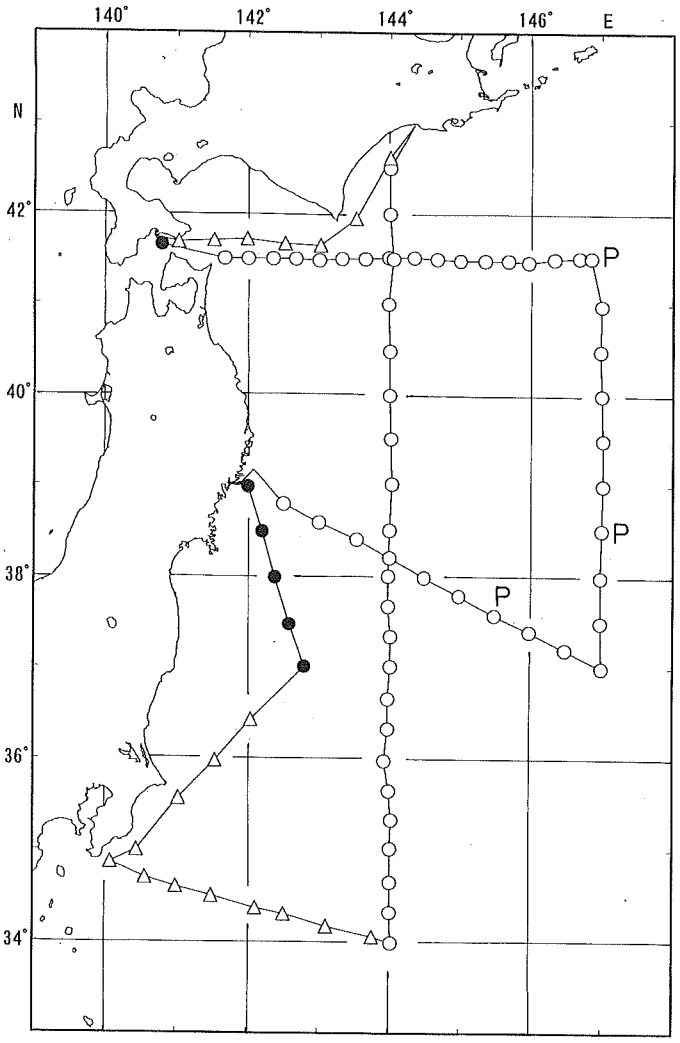
Objectives and Brief Narrative of Cruise :

1. Regular observation of oceanography and marine meteorology.
2. Background marine pollution monitoring.
3. Observations for the Subarctic Gyre Experiment.
4. Observation for the study of seasonal variability and water mass budget of Oyashio off Sanriku.
5. Ocean wave sampling for the data of coastal wave recorders.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	2380	NM	H71	Continuous sea surface temperature & salinity recording.
A	57	Stations	H10	Using Neil Brown CTD.
A	32	Stations	B02,H09,H21,H22,H24, H25	Using Neil Brown CTD with Rosette sampler.
A	11	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	30	Stations	H16	Using Secchi disk (Daytime only).
A	6	Stations	B08	Using bucket.
A	6	Stations	B09	Using NORPAC net.
A	6	Drops	H13	XBT drops with T6 type probes.
A	89	Stations	D71	Using FURUNO Co. Acoustic Current Meter at 0, 50, 100M in depth.
A	2162	NM	H74,M71	Co2 concentrations in air and sea surface water.
B	111	Times	M06	Observed every three hours.

B	222	Times	M90	Hourly Weather report except M06.
B	17	Ascents	M01	Using VAISALA system.
B	222	Times	D72	Using Micro-wave & Tucker wave gauge.
C	3	Stations	P03	Using Neuston net.
C	14	Days	P90	Oil slicks and floating pollutants observed visually (Daytime only).
C	2	Samples	P02	Sampling for analysis of heavy metals.
C	2	Samples	P03	Sampling for measurement of dissolved hydrocarbons.
C	39	Stations	H74	Sampling for analysis of total inorganic carbons.



Track Chart of KOFU MARU 6 Oct. ~ 5 Nov. , 1998
○ CTD & ACM Obs.
● BT & ACM Obs.
△ ACM Obs.
P Pollution Obs.

Reference No.	:	98024
Restrict Data	:	No
Ship Name	:	KOFU MARU
Ship Type	:	Research Ship
Cruise No./Name	:	98-11
Cruise Period	:	1998/11/18 to 1998/12/10
Port of Departure	:	Hakodate
Port of Return	:	Hakodate
Responsible Laboratory	:	Hakodate Marine Observatory, Japan Meteorological Agency
Chief Scientist(s)	:	H. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency
General Ocean Area(s)	:	North Pacific Ocean
Geographic Coverage	:	130,166
Project Name	:	IGOSS, WESTPAC
Coordinating Body	:	IOC, WMO
Principal Investigators	:	A ; H. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency B ; T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency C ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency D ; N. Shikama / Meteorological Research Institute

Objectives and Brief Narrative of Cruise :

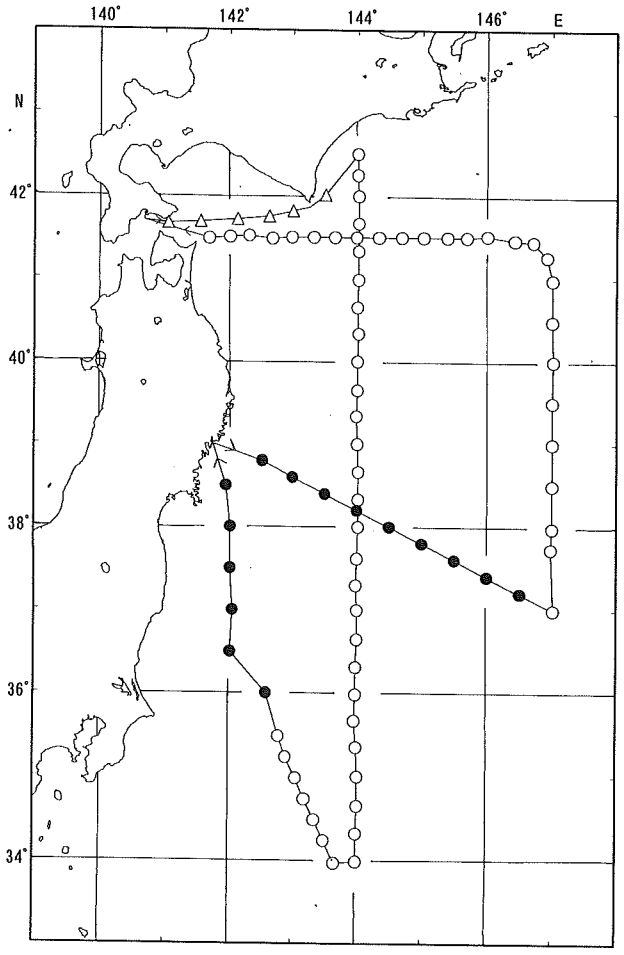
1. Regular observation of oceanography and marine meteorology.
2. Observations for the Subarctic Gyre Experiment.
3. Observation for the study of seasonal variability and water mass budget of Oyashio off Sanriku.
4. Ocean wave sampling for the data of coastal wave recorders.

Moorings, Bottom Mounted Gear and Drifting Systems :

PL	LAT.	LON.	DATA TYPE	DESCRIPTION
D	38.59N	144.01E	D05	Deployment ALACE float on 21 Nov. 1998/ Setting depth is 400M.
D	38.23N	144.01E	D05	Deployment ALACE float on 21 Nov. 1998/ Setting depth is 400M.
D	37.23N	144.00E	D05	Deployment ALACE float on 22 Nov. 1998/ Setting depth is 400M.
D	35.00N	144.01E	D05	Deployment ALACE float on 23 Nov. 1998/ Setting depth is 500M.
D	35.00N	144.01E	D05	Deployment ALACE float on 23 Nov. 1998/ Setting depth is 600M.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	2097	NM	H71	Continuous sea surface temperature & salinity recording.
A	60	Stations	H10	Using Neil Brown CTD.
A	30	Stations	B02,H09,H21,H22,H24, H25	Using Neil Brown CTD with Rossette sampler.
A	11	Stations	H28	Using Neil Brown CTD with Rossette sampler.
A	58	Stations	H16	Using Secchi disk (Daytime only).
A	15	Drops	H13	XBT drops with T6 type probes.
A	81	Stations	D71	Using FURUNO Co. Acoustic Current Meter at 0, 50, 100M in depth.
A	2097	NM	H74,M71	Co2 concentrations in air and sea surface water.
B	110	Times	M06	Observed every three hours.
B	198	Times	M90	Hourly Weather report except M06.
B	19	Ascents	M01	Using VAISALA system.
B	110	Times	D72	Using Micro-wave & Tucker wave gauge.
C	44	Stations	H74	Sampling for analysis of total inorganic carbons.



Track Chart of KOFU MARU 18 Nov. ~ 10 Dec. , 1998
○ CTD & ACM Obs.
● BT & ACM Obs.
△ ACM Obs.

Reference No. : 98025

Restrict Data : No

Ship Name : SEIFU MARU

Ship Type : Research Ship

Cruise No./Name : 98-10

Cruise Period : 1998/10/07 to 1998/11/08

Port of Departure : Maizuru

Port of Return : Maizuru

Responsible Laboratory : Maizuru Marine Observatory, Japan Meteorological Agency

Chief Scientist(s) : N. Nagai / Maizuru Marine Observatory, Japan Meteorological Agency

General Ocean Area(s) : Japan Sea

Geographic Coverage : 131,167

Project Name : IGOSS, MARPOLMON, WESTPAC

Coordinating Body : IOC

Principal Investigators : A ; S. Kawae / Maizuru Marine Observatory, Japan Meteorological Agency
B ; N. Sato / Maizuru Marine Observatory, Japan Meteorological Agency
C ; K. Hori / Maizuru Marine Observatory, Japan Meteorological Agency
D ; T. Sakai / Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

A routine oceanographic observation (physical, chemical and biological).

a) Seasonal observation of marine conditions.

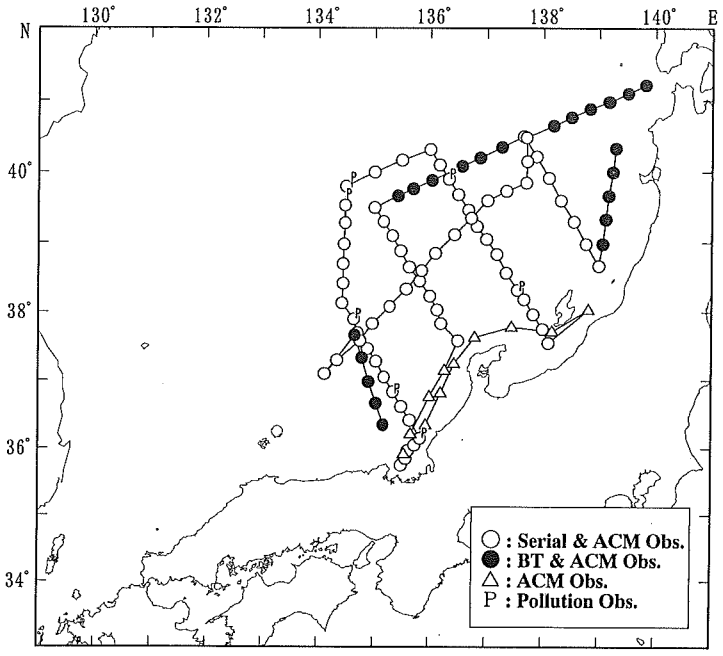
b) Monitoring background marine pollution.

Inspection of ocean data buoy.

Summary of Measurements and Samples Taken :

PL	NO	UNITS	DATA TYPE	DESCRIPTION
A	68	Stations	H10	Using Neil-Brown CTD.
B	42	Stations	H21	Using Neil-Brown CTD with Rossete Sampler System.
B	17	Stations	B02,H22,H24,H25	Using Neil-Brown CTD with Rossete Sampler System.
B	3	Station s	H28	Using Neil-Brown CTD with Rossete Sampler System.
B	9	Stations	B08	Surface water sampling.
B	9	Stations	B09	Collected by Norpac Net.
D	2	Stations	P02	Using Neil-Brown CTD with Rossette Sampler System.
D	2	Stations	P03	Surface water sampling for petroleum Hydrocarbons concentrations.
A	32	Stations	H16	Using Secchi Disk.
A	32	Drops	H13	X-BT drops with T6 type probe.
A	101	Stations	D71	Using acoustic Current Meter (Furuno).
A	101	Stations	G73	Using echo sounder (Kaijo).

B	5	Stations	P03	Floating tar balls sampling using with Neuston net.
B	19	Days	P90	Oil slicks and floating pollutants (Daytime only).
A	2767	N. Miles	H71	Measurements of near-surface temperature and salinity using T.S.G.
C	478	Times	M06	According to "WMO International Codes".
C	14	Ascents	M01	Using VAISALA Digicora MW2 System and VAISALA RS80-15N Radio Sondes.
C	157	Times	D72	Using micro wave or Tucker wave gauge.

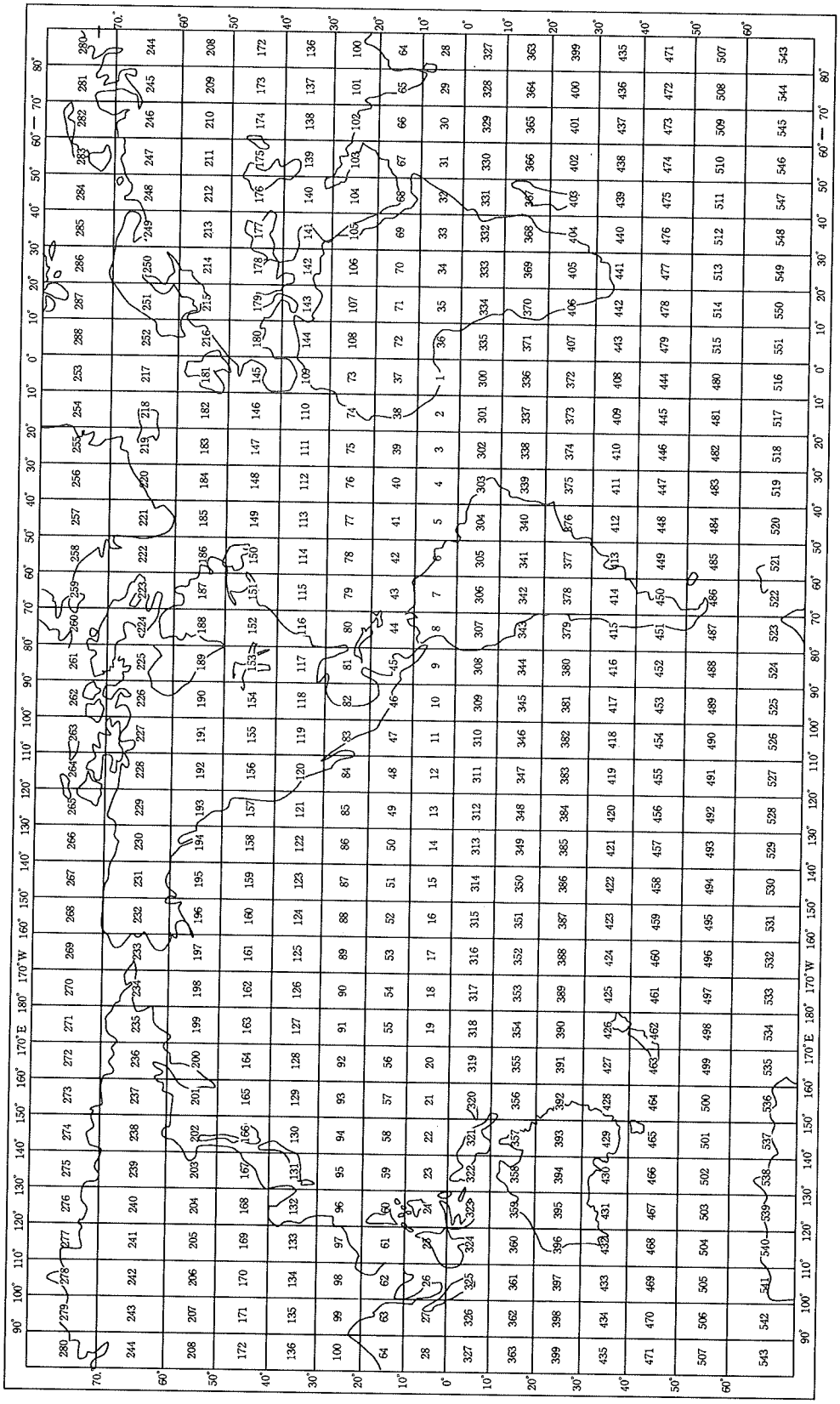


Track Chart

付　録　目　次

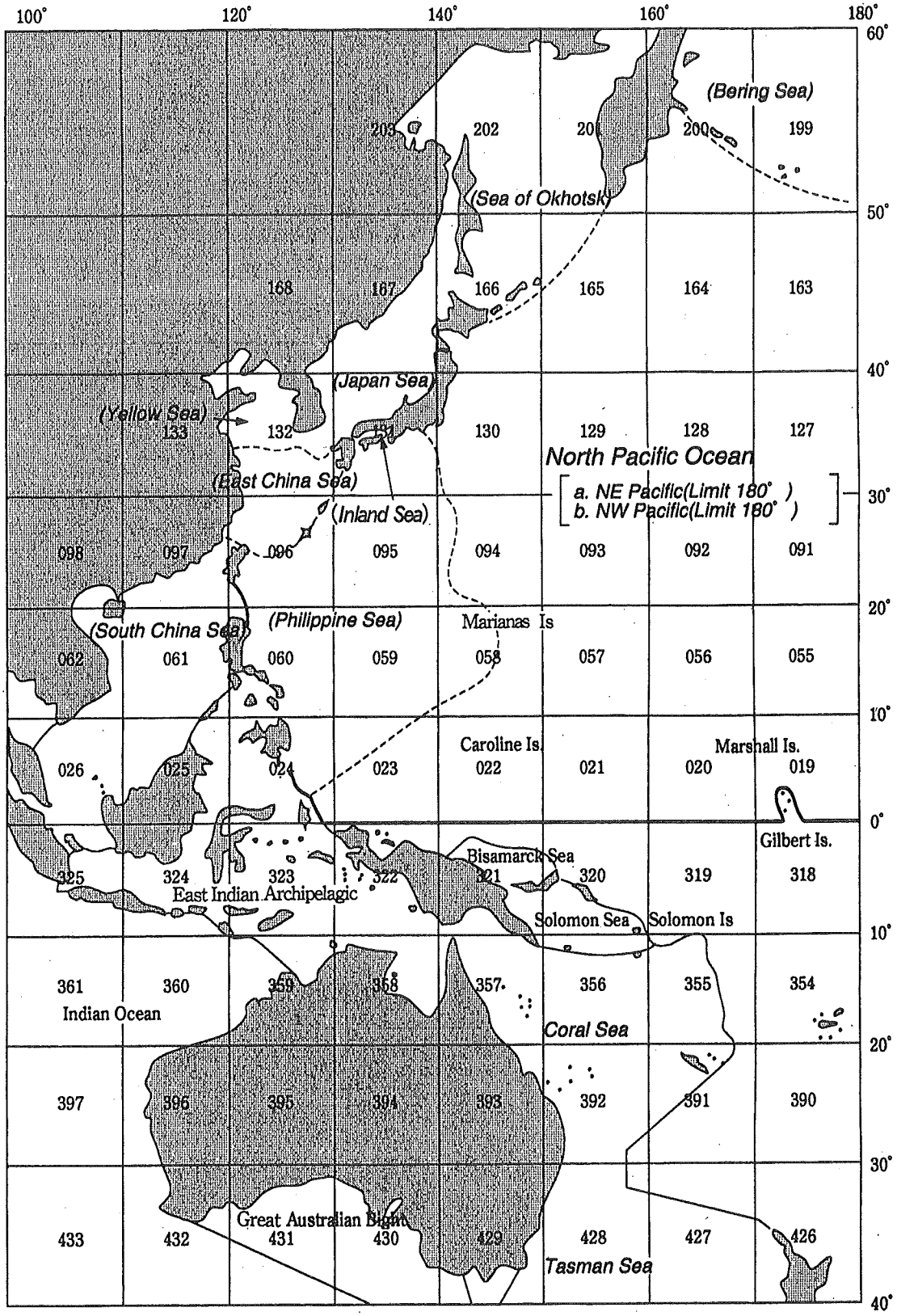
付　録　1

MSQ海域番号図（全世界）



海 域 番 号 図（西太平洋）

海域の境界はIHO分類による



航海概要報告の記入例

CRUISE SUMMARY REPORT
航海概要報告

FOR COLLATING / CENTER USE
（照合のためセンターで使用）
Center: JODC Ref.No:

Is data exchange restricted? データ交換に制限があるか
☐ Yes はい ☐ In part 条件付き ☑ No いいえ

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity, naval survey vessel; etc.
データを収集した船舶のフルネームと国際無線呼出符号を記入し、船舶の種類は、例えば、調査船、便宜供与船、海軍の調査船などを記入する。

Name: *Shirase* **Call Sign:**

Type of ship: *Icebreaker*

CRUISE NO./NAME *JARE 33* enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).
航海(又は航海のレグ)の固有番号、名前又は略称を記入

CRUISE PERIOD 航海期間

start (set sail) (出港)	day	month	year	to	day	month	year	end (return to port) (入港)
	14	11	1991		20	04	1992	

PORT OF DEPARTURE (enter name and country) *Tokyo, Japan*

PORT OF RETURN (enter name and country) *Tokyo, Japan*

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for coordinating the scientific planning of the cruise.
担当機関 航海の観測計画を作成した担当調査機関の名称と住所を記入

Name: *National Institute of Polar Research*

Address: *1-9-10, Kaga ,Itabashi-ku ,Tokyo 173*

Country: *Japan*

CHIEF SCIENTIST(S) enter name and laboratory of the person(s) in charge of the scientific work(chief of mission) during the cruise.
観測責任者 航海中観測調査を担当した者(観測班長)の名前と所属機関を記入

T. Yamamoto, Hydrographic Department, Maritime Safety Agency

OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information about the purpose and nature of the cruise so as to provide the context in which the reported data were collected.
航海の目的と簡単な報告内容 収集されたデータの有効利用に供するため、航海の目的と性格について十分な情報を記入

One of a routine oceanographic observation (physical and chemical) on the 33rd summer mission of Japanese Antarctic Research Expedition

A. Monitoring the position of Subtropical Convergence and Antarctic Convergence

B. Trace of the Antarctic Circumpolar Current

C. Marine pollution analysis

Main task 1. Deploy surface drifting buoy at 47° 35′ S , 47° 10′ E

2. Surface water sampling for temperature measurement and chemical analysis

3. Hydrographic measurement in Southern Ocean en route from Fremantle to Mauritius

PROJECT (IF APPLICABLE) (該当する場合) If the cruise is designated as part of a larger scale cooperative project (or expedition or programme), then enter the name of the project, and of the organization responsible for coordinating the project.
航海が共同プロジェクト（または調査、計画）の一部であるならば、そのプロジェクトの名称と調整機関名を記入

Project Name:

Coordinating body:

PRINCIPAL INVESTIGATORS: enter the name and address of the principal investigators responsible for the data collected on the cruise, and who may be contacted for further information about the data. (the letter assigned below against each principal investigator is used on pages 2 and 3, under the column heading 'PI',to identify the data sets for which he/she is responsible)

主調査者： 航海で収集されたデータについて責任を持っている筆頭の調査者とデータに関する詳細な情報照会に応じる者の名前とあて先を記入
(2ページ、3ページのPI欄には、A、B、C…で記入する。)

A....*Dr.T.Yamamoto , Hydrrographic Department , Maritime Safety Agency, 5-3-1 , Tsukiji , Chuo-ku , Tokyo 104*.....

B....*Mr.S.Suzuki , 2nd Regional Maritime Safety Headquarter , 3-4-1 , Teizan-dori , ShiogamaMiyagi 985*.....

C.....

D.....

E.....

F.....

MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

this section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. separate entries should be made for each location (only deployment positions need be given for drifting systems). this section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

係留、海底設置機器、漂流システム

係留、海底設置機器及び漂流システム(海面、海中とも)の設置と回収について記入する。各設置点ごとに記入のこと。(漂流システムについては投入した位置のみで可)
また、時系列をとるために定期的に測定される地点でのデータについてもこの欄に記入してよい。

PI	APPROXIMATE POSITION						DATA TYPE	DESCRIPTION
	LATITUDE			LONGITUDE			enter code(s) from list on cover page. リストのコードを記入	identify, as appropriate, the nature of the instrumentation, the parameters (to be) measured, the number of instruments and their depths, whether deployed and/or recovered, dates of deployment and/or recovery, and any identifiers given to the site. 機器の種類、測定のパラメータ、機器数とその深度、設置または回収の日付と位置
see top of page.	deg	min	N/S	deg	min	E/W		
A	*47*	*35*	*S*	*47*	*10*	*E*	*D05*	*Deployed a drifting buoy ,March 7 , 1991*
A	*69*	*00*	*S*	*39*	*34*	*E*	*D09*	*Set new tideguage ,January 14 , 1992*
								(Meiseidenki Co. QWP-8-103D. straingauge)
								Please continue on separate sheet if necessary. 書ききれない場合は別紙に続ける。

SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

except for the data already described on page 2 under 'moorings,bottom mounted gear and drifting systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls). separate entries should be made for each distinct and coherent set of measurements or samples. different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurement/sampling techniques that imply distinctly different accuracies or spatial/temporal resolutions. thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD,v)towed undulating CTD profiler, vi) surface water intake measurements, etc. each data set entry should start on a new line - it's description may extend over several lines if necessary.

測定とサンプル採取の概要

2ページに記入する係留、海底設置機器、漂流システムを除く全ての測定（水温、塩分等）やサンプル（コア、ドレッジ等）によるデータに関する概要について記入のこと。

測定とサンプル毎に分けて記入のこと。データ収集の方法が異なる（例えば、航行しながらの測定と停船してセンサーを鉛直に降ろして行う測定）場合や精度や場所・時間の分解能が明らかに異なる測定／サンプリング手法の場合には区別して記入すること。例えば、BT投下、採水点、CTD投入、CTD曳航、CTD波形曳航、表面水取水口観測等は分けて記入することになる。記入はデータ毎に改行すること．必要ならば、一つのデータの記述が数行にわたっても構わない。

NO, UNITS: for each data set, enter the estimated amount of data collected expressed in terms of the number of; 'stations'; 'miles' of track; 'days' of recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. the amount should be entered under 'no' and the counting unit should be identified in plain text under 'units'.

数量、単位　各データセットごとに、収集されたデータの推定量を観測地点数、航跡距離（ＮＭ）、観測記録の日数、収集されたコア数、曳網数、揚げた気球数その他取得データにふさわしい単位を用いて記述すること。量はNOの項に、単位は平易な記述でUNITSの項に記入

PI see page 2	NO see above	UNITS see above	DATA TYPE enter code(s) from list on cover page. リストのコードを記入	DESCRIPTION Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. include any supplementary information that may be appropriate, e.g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. for samples taken for later analysis on shore, an indication should be given of the type of analysis planned, i.e. the purpose for which the samples were taken. データ、使用機器／装置の種類・特性を適宜明記し、測定されたデータ項目を列記する。水平／垂直プロファイルの別、測定層の深度、連続記録か間隔を開けたものか、等の適当な補足情報も含むこと。陸上での解析のために採取されたサンプルについては、どのような分析が行われる予定であるのか、即ちサンプルが採取された目的を記すこと．
A	*13*	*Stations*	*H09, H21*	*Deep cast using Nansen bottoles with reversing thermometers*
			H22, H24 H25,H76	
			H26,H28	
A	*13*	*Stations*	*H10*	*Using Neil-Brown Smart CTD (uper 1000m)*
A	*51*	*Drops*	*H13*	*XBT Drops with T6 type probes*
B	*198*	*Samples*	*H71,H21*	*Surface temperature measurement and surface water sampling for*
			H22,H24 H25,H76	*Chemical analysis were made twice or three times a day (once a day*
			H26,H28	*as Shirase stayed in ice-covered area).*
B	*29*	*Samples*	*P02,P03*	*9 samples of surface water for trace metals (Cadmium, Mercury, Copper*
				and Zinc)
				20 samples of surface water for petroleum oil
				Please continue on separate sheet if necessary. 書ききれない場合には別紙に続ける。

TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.
航跡図 なるべく航跡と測定点を示す注釈付き航跡図を本報告に添付すること。

Insert a tick (√) in this box if a track chart is supplied.
航跡図添付の場合はマーク(√)する。 √

GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise - please use commonly recognized names (see, for example, international hydrographic bureau special publication no. 23, 'limits of oceans and seas').
調査海域 航海中にデータを収集した海洋または海域の名称を記入する。一般的な名称を使用のこと(国際水路局(IHB)増刊23号 "Limits of Ocean and Seas" を参照)

Philippine sea, East Indian Archipelago

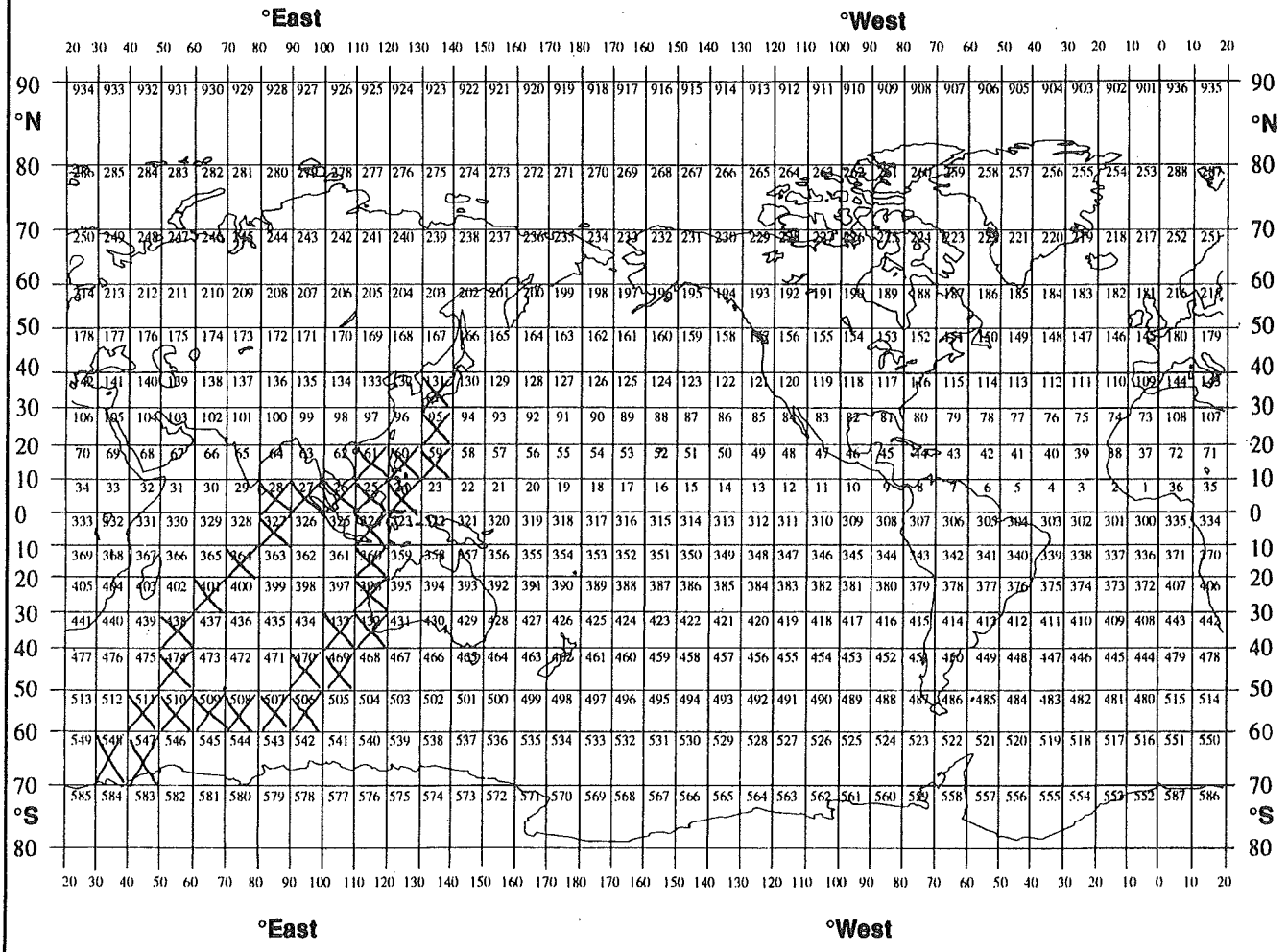
Indian Ocean, South China Sea

SPECIFIC AREAS: If the cruise activities were concentrated in a specific area(s) of an ocean or sea,then enter a description of the area(s). such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates.
特定海域 調査航海がある海域の特定区域に集中したならば、その区域について、ローカルな海域名、海底地形、または地理座標などを記載する。

Main Area : Breid Bay (70° -15′ S to 70° -10′ S at latitude , 23° -45′ E to 24° -30′ E at longitude)

Long Section : Antarctic ice edge to the east off Madagascar

GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED
調査範囲 データを収集した場所に '×' を記入



THANK YOU FOR YOUR COOPERATION

Please send your completed report without delay to the collating center indicated on the cover page
ご協力有難うございました。
完成した報告は遅滞なく日本海洋データセンターまで送付願います。

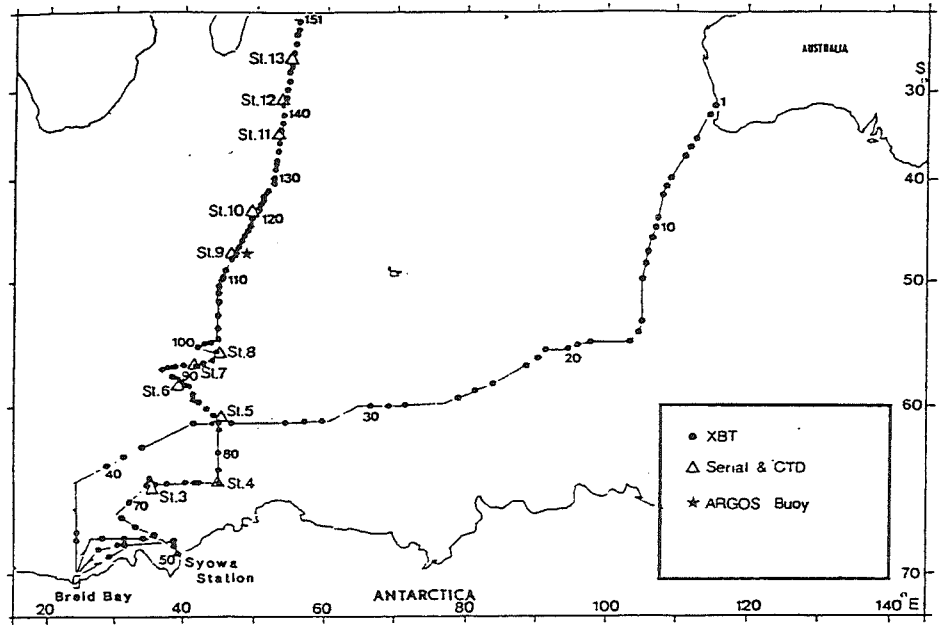
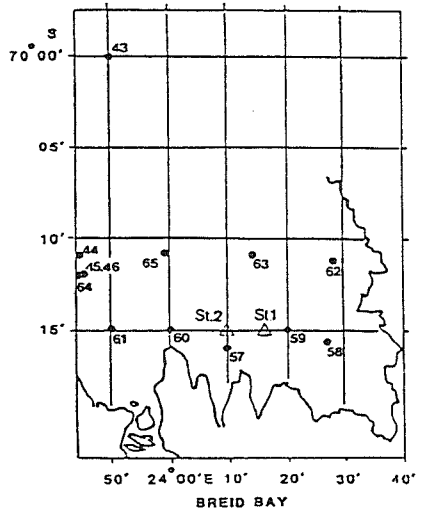


Fig. 1a. The track chart and the station location of oceanographic observations.



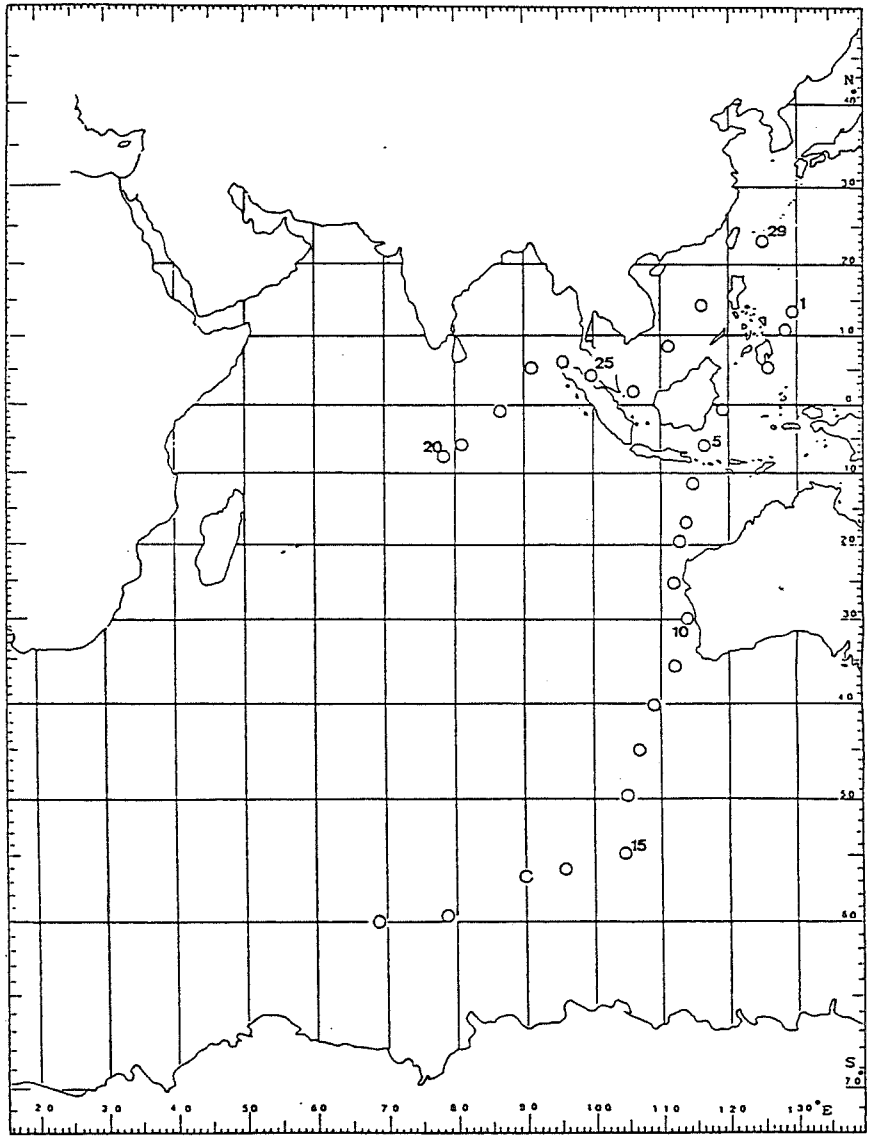


Fig. 2. The location of surface water sampling for marine pollution analysis (petroleum oil, Cd, Hg, Cu and Zn).

航海概要報告（CRUISE SUMMARY REPORT）書式

以下の４ページは記入用の書式です。今後、記入送付される方はこの書式を使用して下さい。

CRUISE SUMMARY REPORT
航海概要報告

FOR COLLATING / CENTER USE
(照合のためセンターで使用)

Center:..... Ref.No:.....

Is data exchange restricted?
データ交換に制限があるか

☐ Yes はい ☐ In part 条件付き ☐ No いいえ

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity, naval survey vessel; etc.
データを収集した船舶のフルネームと国際無線呼出符号を記入し、船舶の種類は、例えば、調査船、便宜供与船、海軍の調査船などを記入する.

Name:.....**Call Sign:**.....

Type of ship:.....

CRUISE NO./NAME..... enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).
航海(又は航海のレグ)の固有番号、名前又は略称を記入

CRUISE PERIOD 航海期間 start (set sail) (出港) ☐☐ day ☐☐ month ☐☐☐☐ year to ☐☐ day ☐☐ month ☐☐☐☐ year end (return to port) (入港)

PORT OF DEPARTURE (enter name and country).....

PORT OF RETURN (enter name and country).....

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for coordinating the scientific planning of the cruise.
担当機関 航海の観測計画を作成した担当調査機関の名称と住所を記入

Name:.....

Address:.....

.....**Country:**.....

CHIEF SCIENTIST(S) enter name and laboratory of the person(s) in charge of the scientific work(chief of mission) during the cruise.
観測責任者 航海中観測調査を担当した者(観測班長)の名前と所属機関を記入

.....

OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information about the purpose and nature of the cruise so as to provide the context in which the reported data were collected.
航海の目的と簡単な報告内容 収集されたデータの有効利用に供するため、航海の目的と性格について十分な情報を記入

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PROJECT (IF APPLICABLE) if the cruise is designated as part of a larger scale cooperative project (or expedition or programme), then enter the name of the project, and of the organization responsible for coordinating the project.
(該当する場合) 航海が共同プロジェクト（または調査、計画）の一部であるならば、そのプロジェクトの名称と調整機関名を記入

Project Name:.....

Coordinating body:.....

PRINCIPAL INVESTIGATORS: enter the name and address of the principal investigators responsible for the data collected on the cruise, and who may be contacted for further information about the data. (the letter assigned below against each principal investigator is used on pages 2 and 3, under the column heading 'PI',to identify the data sets for which he/she is responsible)

主調査者： 航海で収集されたデータについて責任を持っている筆頭の調査者とデータに関する詳細な情報照会に応じる者の名前とあて先を記入。
（2ページ、3ページのPI欄には、A、B、C…で記入する。）

A.....

B.....

C.....

D.....

E.....

F.....

MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

this section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. separate entries should be made for each location (only deployment positions need be given for drifting systems). this section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

係留、海底設置機器、漂流システム

係留、海底設置機器及び漂流システム(海面、海中とも)の設置と回収について記入する。各設置点ごとに記入のこと。(漂流システムについては投入した位置のみで可)
また、時系列をとるために定期的に測定される地点でのデータについてもこの欄に記入してよい。

PI	APPROXIMATE POSITION						DATA TYPE	DESCRIPTION
	LATITUDE			LONGITUDE			enter code(s) from list on cover page. リストのコードを記入	identify, as appropriate, the nature of the instrumentation, the parameters (to be) measured, the number of instruments and their depths, whether deployed and/or recovered, dates of deployment and/or recovery, and any identifiers given to the site. 機器の種類、測定のパラメータ、機器数とその深度、設置または回収の日付と位置
see top of page.	deg	min	N/S	deg	min	E/W		

Please continue on separate sheet if necessary.
書ききれない場合は別紙に続ける。

SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

except for the data already described on page 2 under 'moorings,bottom mounted gear and drifting systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls). separate entries should be made for each distinct and coherent set of measurements or samples. different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurement/sampling techniques that imply distinctly different accuracies or spatial/temporal resolutions. thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD,v)towed undulating CTD profiler, vi) surface water intake measurements, etc. each data set entry should start on a new line - it's description may extend over several lines if necessary.

測定とサンプル採取の概要

2ページに記入する係留、海底設置機器、漂流システムを除く全ての測定（水温、塩分等）やサンプル（コア、ドレッジ等）によるデータに関する概要について記入のこと。

測定とサンプル毎に分けて記入のこと。データ収集の方法が異なる（例えば、航行しながらの測定と停船してセンサーを鉛直に降ろして行う測定）場合や精度や場所・時間の分解能が明らかに異なる測定／サンプリング手法の場合には区別して記入すること。例えば、BT投下、採水点、CTD投入、CTD曳航、CTD波形曳航、表面水取水口観測等は分けて記入することになる。記入はデータ毎に改行すること。必要ならば、一つのデータの記述が数行にわたっても構わない。

NO, UNITS: for each data set, enter the estimated amount of data collected expressed in terms of the number of; 'stations'; 'miles' of track; 'days' of recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. the amount should be entered under 'no' and the counting unit should be identified in plain text under 'units'.

数量、単位 各データセットごとに、収集されたデータの推定量を観測地点数、航跡距離（ＮＭ）、観測記録の日数、収集されたコア数、曳網数、揚げた気球数その他取得データにふさわしい単位を用いて記述すること。量はNOの項に、単位は平易な記述でUNITSの項に記入

PI	NO	UNITS	DATA TYPE	DESCRIPTION
see page 2	see above	see above	enter code(s) from list on cover page. リストのコードを記入	identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. include any supplementary information that may be appropriate, e.g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. for samples taken for later analysis on shore, an indication should be given of the type of analysis planned, i.e. the purpose for which the samples were taken. データ、使用機器／装置の種類・特性を適宜明記し、測定されたデータ項目を列記する。水平／垂直プロファイルの別、測定層の深度、連続記録か間隔を開けたものか、等の適当な補足情報も含むこと。陸上での解析のために採取されたサンプルについては、どのような分析が行われる予定であるのか、即ちサンプルが採取された目的を記すこと。
				Please continue on separate sheet if necessary.

書ききれない場合は別紙に続ける。

TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.

航跡図 なるべく航跡と測定点を示す注釈付き航跡図を本報告に添付すること。

Insert a tick (/) in this box if a track chart is supplied.
航跡図添付の場合はマーク (✓)する。 ☐

GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise - please use commonly recognized names (see, for example, international hydrographic bureau special publication no. 23, 'limits of oceans and seas').

調査海域 航海中にデータを収集した海洋または海域の名称を記入する。一般的な名称を使用のこと (国際水路局(IHB)増刊23号 "Limits of Ocean and Seas" を参照)

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SPECIFIC AREAS: If the cruise activities were concentrated in a specific area(s) of an ocean or sea,then enter a description of the area(s). such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates.

特定海域 調査航海がある海域の特定区域に集中したならば、その区域について、ローカルな海域名、海底地形、または地理座標などを記載する。

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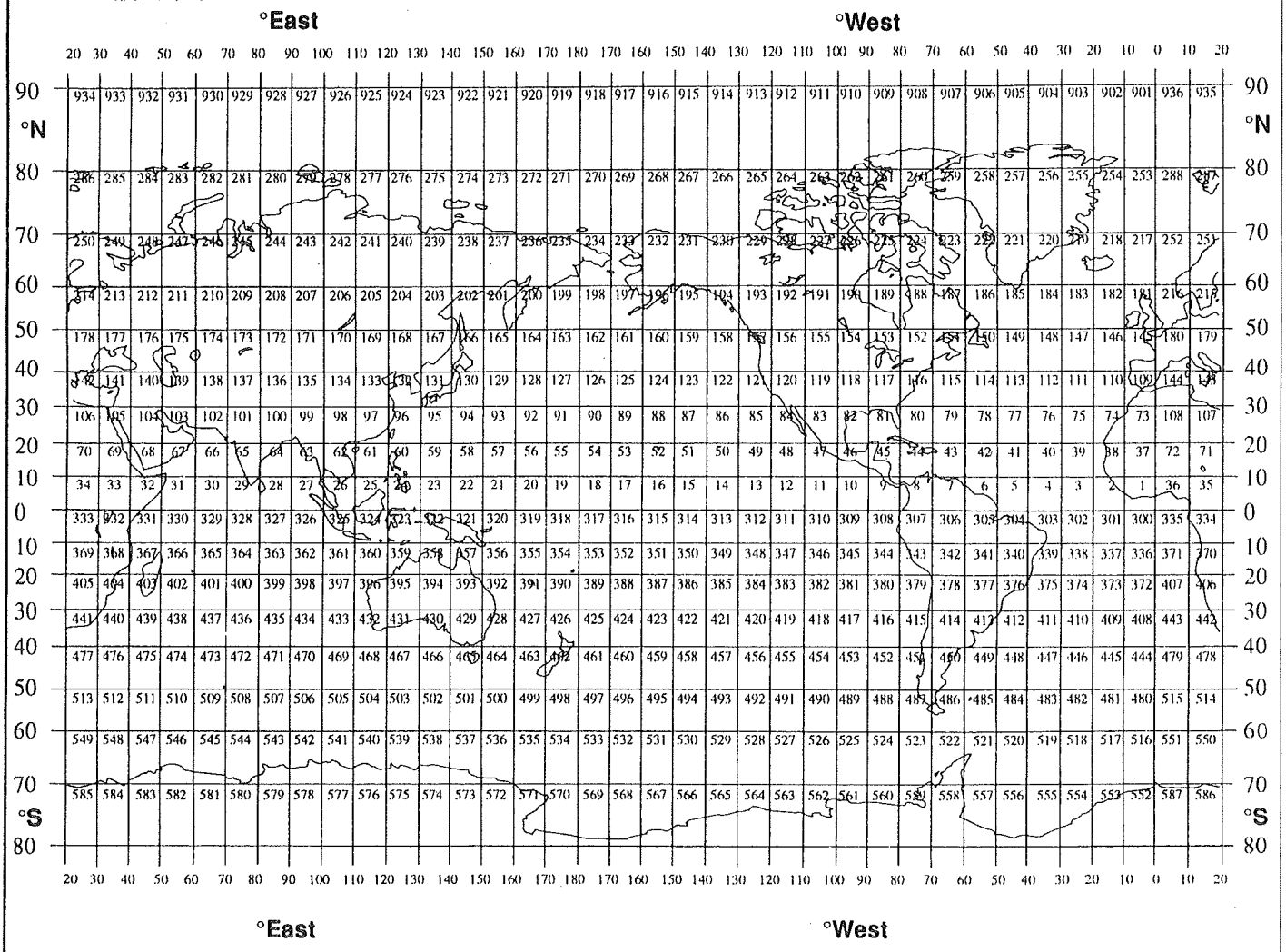
GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED

調査範囲 データを収集した場所に '×' を記入



THANK YOU FOR YOUR COOPERATION

Please send your completed report without delay to the collating center indicated on the cover page

ご協力有難うございました。

完成した報告は遅滞なく日本海洋データセンターまで送付願います。

付 録 3

調 査 機 関 略 語 表

略　　語	調 査 機 関 名
HD, MSA	海上保安庁水路部 (Hydrographic Department, Maritime Safety Agency)
CMD, JMA	気象庁気候・海洋気象部 (Climate and Marine Department, Japan Meteorological Agency)
HMO, JMA	函館海洋気象台 (Hakodate Marine Observatory, JMA)
MMO, JMA	舞鶴海洋気象台 (Maizuru Marine Observatory, JMA)
FF, HU	北海道大学水産学部 (Faculty of Fisheries, Hokkaido University)
ORI, UT	東京大学海洋研究所 (Ocean Research Institute, The University of Tokyo)
RIAM, KU	九州大学応用力学研究所 (Research Institute for Applied Mechanics, Kyusyu University)
ESST, KU	九州大学大気海洋環境システム学科 (Department of Earth System Science and Technology , Kyusyu University)
FF, NU	長崎大学水産学部 (Faculty of Fisheries, Nagasaki University)
FF, KU	鹿児島大学水産学部 (Faculty of Fisheries, Kagoshima University)
SFHS	鳥取県立境水産高等学校 (Tottori Prefectual Sakai Fishery High School)

略　　語	調　査　機　関　名
RIAM, KU	九州大学応用力学研究所 (Res. Inst. for Applied Mechanics, Kyushu University)
NU	長崎大学水産学部 (Faculty of Fisheries, Nagasaki University)
KU	鹿児島大学水産学部 (Faculty of Fisheries, Kagoshima University)
SFHS	鳥取県立境水産高等学校 (Tottori Prefectual Sakai Fishery High School)