海　洋　調　査　報　告　一　覧

(CRUISE SUMMARY REPORT)

(国内海洋調査機関の調査報告)

1999年 実施分
(1995年、1996年、1997年、1998年実施分を一部含む)

2000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、各種活動を行なうためには、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･確実に行ない、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取りまとめたものです。

これらの情報の収集にあたり、ご協力いただいた関係調査機関に深謝いたします。

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。

２０００年 ３月

日本海洋データセンター
所長　　長井 俊夫

目 次

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、計画立案者等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いただ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願いします。

なお、本報告一覧には1998年中にJODCが受領した1995年,1996年,1997年,1998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システム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、名称または略称
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）の氏名と所属機関
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　：調査があ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）の一部であれば、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

Mooring, 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. LONG.　：　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、「Mooring, 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　サーミスターチェーン
- 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機含む）
- D72　機器による波浪観測
- D90　その他の海洋物理観測

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
- 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　ほ乳類とは虫類
- 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
- M90　その他の気象観測

F．海洋化学
- 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	TANSEI MARU	Philippine Sea	1995/05/12-1995/05/19	B,D,H	95066	6
ORI,UT	TANSEI MARU	Philippine Sea	1996/07/03-1997/07/09	G	96082	6
ORI,UT	TANSEI MARU	Philippine Sea	1996/07/12-1996/07/18	B,H	96083	7
ORI,UT	TANSEI MARU	Philippine Sea	1997/04/19-1997/04/25	G	97055	8
ORI,UT	TANSEI MARU	North Pacific Ocean	1997/08/20-1997/08/29	B,D,H	97056	9
ORI,UT	TANSEI MARU	North Pacific Ocean	1997/12/11-1997/12/19	B,D,H	97057	10
CMD,JMA	RYOFU MARU	North Pacific Ocean	1998/04/23-1998/05/15	B,D,H,G,M,P	98026	11
CMD,JMA	RYOFU MARU	North Pacific Ocean	1998/06/09-1998/07/31	B,D,H,G,M,P	98027	12
CMD,JMA	RYOFU MARU	North Pacific Ocean	1998/09/16-1998/11/13	B,D,H,G,M,P	98028	14
CMD,JMA	RYOFU MARU	Philippine Sea	1998/11/26-1998/12/02	D,H,G,M	98029	15
ORI,UT	TANSEI MARU	North Pacific Ocean, Japan Sea	1998/09/25-1998/10/02	B,G	98030	16
ORI,UT	HAKUHO MARU	North Pacific Ocean	1998/09/07-1998/10/28	B,D,H	98031	17
ORI,UT	TANSEI MARU	North Pacific Ocean	1998/04/07-1998/04/13		98032	19
FF, NU	NAGASAKI MARU	East China Sea, Philippine Sea	1998/07/12-1998/08/10	B,H	98033	19
FF, NU	NAGASAKI MARU	East China Sea	1998/11/06-1998/11/30	B,H,G	98034	20
FF, NU	NAGASAKI MARU	East China Sea	1998/12/08-1998/12/18	B,H	98035	21
FF, NU	NAGASAKI MARU	East China Sea	1998/08/20-1998/09/04	B,H	98036	22
MMO,JMA	SEIFU MARU	Japan Sea	1998/11/18-1998/12/06	B,D,G,H,M	98037	22
HMO,JMA	KOFU MARU	North Pacific Ocean	1998/06/10-1998/10/08	B,D,G,H,M,P	98038	23
HMO,JMA	KOFU MARU	North Pacific Ocean	1998/10/06-1998/11/05	B,D,H,M,P	98039	25
ORI,UT	TANSEI MARU	North Pacific Ocean	1998/07/22-1998/07/28	B,D,H	98040	26
ORI,UT	TANSEI MARU	North Pacific Ocean	1998/05/18-1998/05/24	B,D,H	98041	27
ORI,UT	TANSEI MARU	Philippine Sea	1998/06/15-1998/06/24	G	98042	27
ORI,UT	TANSEI MARU	Philippine Sea	1998/01/13-1998/01/19	B,H	98043	28
ORI,UT	TANSEI MARU	Philippine Sea	1998/05/08-1998/05/15	B,D,H	98044	29
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/01/29-1999/03/01	B,D,H,M,P	99001	30
SFHS	WAKATORI MARU	North Pacific Ocean	1999/01/25-1999/03/20	B,D,H,M	99002	31
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/01/12-1999/01/18	B,H	99003	33
ORI,UT	HAKUHO MARU	North Pacific Ocean	1999/01/14-1999/03/04	B,D,H,M	99004	34
CMD,JMA	RYOFU MARU	Philippine Sea	1999/01/22-1999/02/22	B,D,G,H,M,P	99005	36
FF, NU	NAGASAKI MARU	East China Sea	1999/04/02-1999/04/22	B,H	99006	37
FF, NU	NAGASAKI MARU	East China Sea	1999/05/08-1999/06/04	B,H	99007	38
MMO,JMA	SEIFU MARU	Japan Sea	1999/01/19-1999/03/05	B,D,G,H,M,P	99008	38
MMO,JMA	SEIFU MARU	Japan Sea	1999/04/28-1999/05/25	B,D,G,H,M,P	99009	40
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/04/27-1999/06/03	B,D,H,M,P	99010	41

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
FF, NU	KAKUYO MARU	East China Sea	1999/05/22-1999/05/30	B,D,G,H	99011	42
RIAM, KU	KAKUYO MARU	Japan Sea	1999/06/07-1999/06/22	D,H	99012	44
FF, NU	KAKUYO MARU	East China Sea	1999/06/28-1999/07/06	B	99013	45
FF, NU	KAKUYO MARU	North Pacific Ocean	1999/10/24-1999/12/22	H	99014	46
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/06/28-1999/08/10	B,D,G,H,M,P	99015	47
FF, HU	OSHORO MARU	North Pacific Ocean, Bering Sea	1999/06/03-1999/08/18	B,H	99016	49
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/09/29-1999/10/29	B,D,H,M,P	99017	50
HMO,JMA	KOFU MARU	North Pacific Ocean	1999/11/16-1999/12/09	B,D,H,M	99018	52
SFHS	WAKATORI MARU	North Pacific Ocean	1999/10/15-1999/11/29	B,D,H,M	99019	53
MMO,JMA	SEIFU MARU	Japan Sea	1999/06/24-1999/08/13	B,D,G,H,M,P	99020	54
MMO,JMA	SEIFU MARU	Japan Sea	1999/10/06-1999/11/05	B,D,G,H,M,P	99021	55
ORI,UT	HAKUHO MARU	Japan Sea	1999/09/22-1999/10/25		99022	57
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/07/21-1999/07/27		99023	58
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/11/17-1999/11/25		99025	59
ORI,UT	TANSEI MARU	Philippine Sea	1999/06/17-1999/06/22	B,G,H	99026	60
ORI,UT	TANSEI MARU	Philippine Sea	1999/04/07-1999/04/13	G	99027	61
CMD,JMA	RYOFU MARU	North Pacific Ocean	1999/04/19-1999/05/26	B,D,G,H,M,P	99028	62
CMD,JMA	RYOFU MARU	North Pacific Ocean	1999/06/22-1999/07/07	B,D,G,H,M,P	99029	64
CMD,JMA	RYOFU MARU	North Pacific Ocean	1999/09/17-1999/11/09	B,D,G,H,M,P	99030	65
CMD,JMA	RYOFU MARU	Philippine Sea	1999/11/26-1999/12/02	D,G,H,M	99031	66
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/05/07-1999/05/14	B,D,H	99032	67
ORI,UT	TANSEI MARU	North Pacific Ocean	1999/11/28-1999/12/12	B,D,H	99033	68

*1　末尾の付録３参照
*2　p３の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. : 95066

Restrict Data : In Part

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-95-6

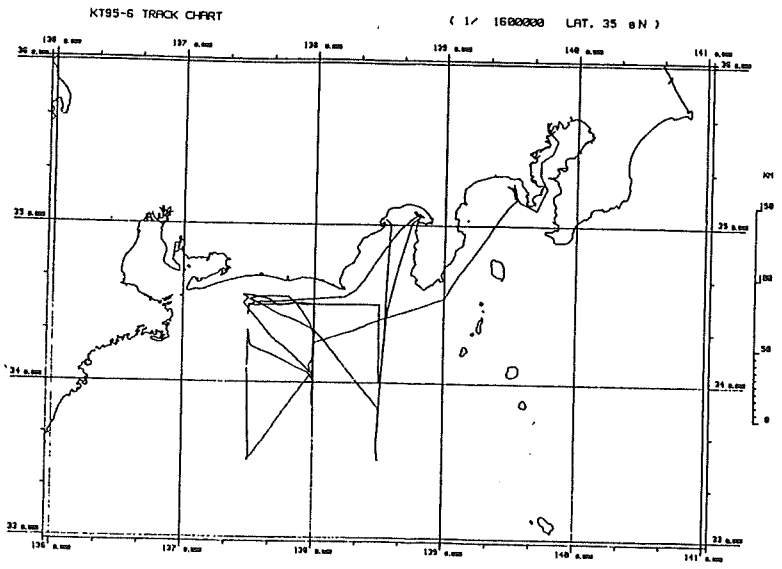
Cruise Period : 1995/05/12 to 1995/05/19

Port of Departure : Tokyo

Port of Return : Shimizu

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : H. Nakata / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Philippine Sea

Specific Areas : Enshu-nada Sea

Geographic Coverage : 131

Principal Investigators : H. Nakata / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise:

Observation of oceanic structure and distribution of zooplankton and fish larval in the vicinity of meso-scale eddies caused by frontal disturbances of the Kuroshio.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	34.15N	137.59E	D01	Retrieved a mooring system, May 13, 1995.
A	34.14N	137.31E	D01	Retrieved a mooring system, May 14, 1995.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	31	Stations	H10	CTD (upper 500m).
A	22	Samples	B09,B13	Surface tows with ORI net for collecting zooplankton and fish larvae.
A	31	Stations	H24,B02	Water sampling for analysis of chl-a content and NO3-N concentration.
A	5	Days	H71	Surface water temperature measurement.

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Reference No. : 96082

Restrict Data : No

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-96-11

Cruise Period : 1996/07/03 to 1996/07/09

Port of Departure : Tokyo

Port of Return : Nagoya

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo

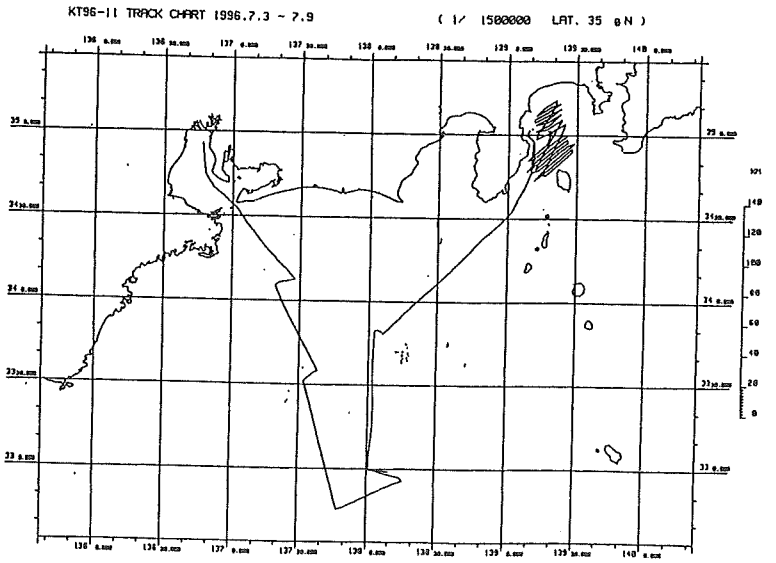
Chief Scientist(s) :

H. Fujimoto / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Philippine Sea

Specific Areas : Sagami bay, Nankai trough

Geographic Coverage : 131



Principal Investigators :

A ; Ms. C. Tamura / Ocean Research Institute, Univ. of Tokyo

B ; Prof. N. Isezaki / Dept. of Earth Science, Chiba Univ.

C ; Dr. H. fujimoto / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

(1) Sea surface geomagnetic measurements.

(2) Deep- towed geomagnetic measurements.

(3) Trial experiments of precision acoustic transponders.

(4) Trial experiments of kinematic GPS positioning at sea.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	30	Hours	G28	Sea surface towed with Proton magnetometer(3-compornent magnetometer) .
A	12	Hours	G28	Sea surface towed with Proton magnetometer(3-compornent magnetometer) .
A	20	Hours	G28	Deep towed with Proton magnetometer.
B	5	Hours	G28	Deep towed with Proton magnetometer (3-compornent magnetometer).
C	6	Days	G90	Kinematic GPS positioning.
C	10	Hours	G28	Underwater acoustic ranging.

****

Reference No. : 96083

Restrict Data : In Part

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-96-12

Cruise Period : 1996/07/12 to 1996/07/18

Port of Departure : Nagoya

Port of Return : Shimizu

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo

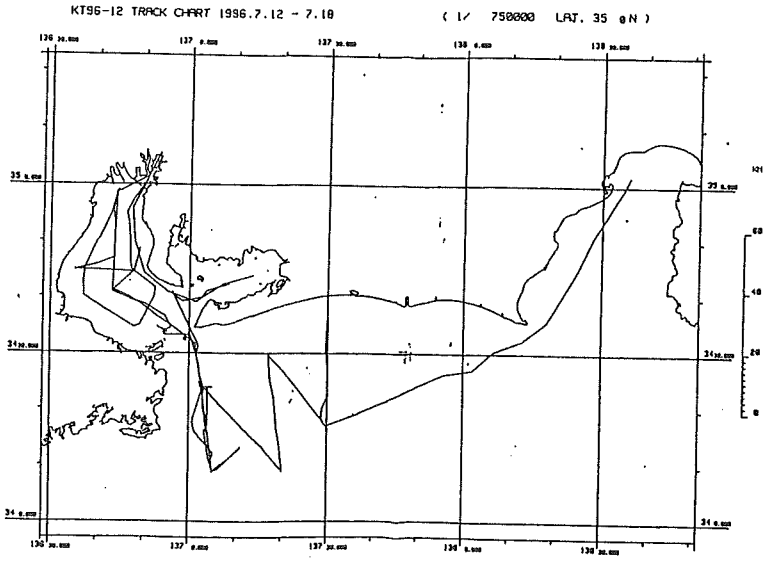
Chief Scientist(s) :

H. Nakata / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Philippine Sea

Specific Areas : Ise bay, Mikawa bay

Geographic Coverage : 131



Principal Investigators :

A ; H. Nakata / Ocean Research Institute, Univ. of Tokyo

B ; T. Yanagi / Ehime Univ.

C ; T. Saino / Nagoya Univ.

D ; T. Ishimaru / Tokyo Univ. of Fisheries

Objectives and Brief Narrative of Cruise :

(1) Oceanic structure.

(2) Distribution of nutrients, plankton and fish larval.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
B	79	Stations	H10	CTD
C	24	Stations	H21,H22,H23,H24,H25,H75,H76,H30	Water sampling for chemical analyses, surface sediment for chemical analyses sampled with a grab-type sampler.
D	24	Samples	B08	Collection of phytoplankton with NORPAC net (vertical haul) .
A	44	Samples	B13	Surface tows with ORI net for collecting fish eggs and larval.

****

Reference No. : 97055

Restrict Data :

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-97-4

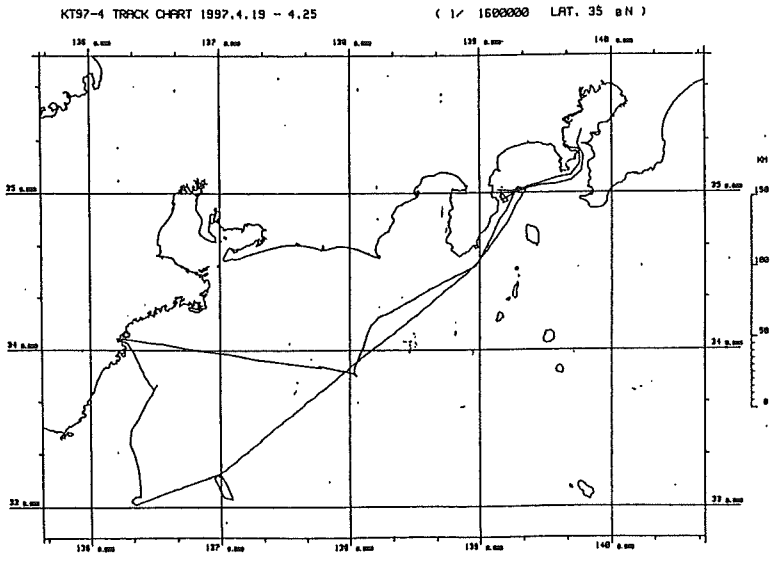
Cruise Period : 1997/04/19 to 1997/04/25

Port of Departure : Yokosuka

Port of Return : Tokyo

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : H. Fujimoto / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Philippine Sea

Specific Areas : Sagami bay, Nankai trough

Geographic Coverage : 131

Principal Investigators : A ; H. Fujimoto / Ocean Research Institute, Univ. of Tokyo

B ; N. Isezaki / Dept. of Earth Science, Chiba Univ.

C ; M. Yamano / Earthquake Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

(1) Trial experiments of precision acoustic transponders.

(2) Trial experiments of kinematic GPS positioning at sea.

(3) Long-term ocean bottom pressure monitoring.

(4) Deep-towed geomagnetic measurements.

(5) Sea surface geomagnetic measurements.

(6) Heat flow measurements.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	6	Days	G90	Kinematic GPS positioning.
A	40	Days	G90	Using GPS, Pressure gauges and Acoustic toransponders.
B	20	Hours	G28	Deep towed with Proton magnetometer (3-compornent magnetometer).
C	4	Points	G90	Heat flow measurements.

****

Reference No. : 97056

Restrict Data : Yes

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-97-13

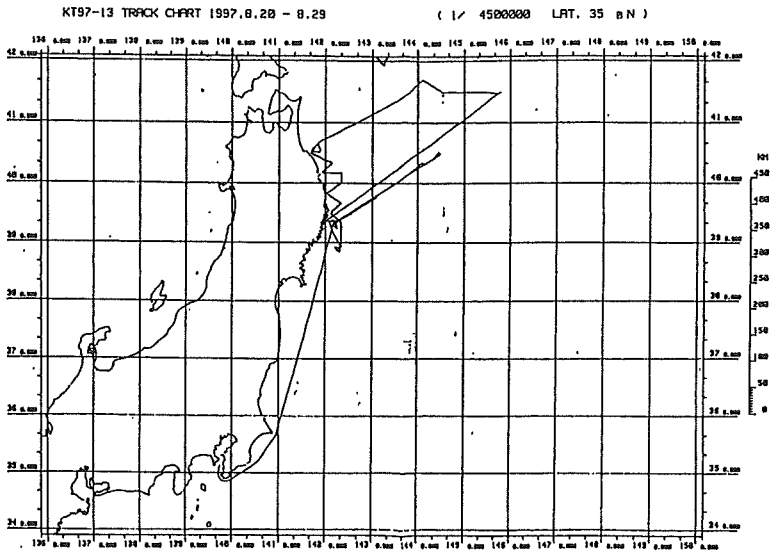
Cruise Period : 1997/08/20 to 1997/08/29

Port of Departure : Tokyo

Port of Return : Ozuchi

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo



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

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 130

Principal Investigators : Dr. T. Sugimoto / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

(1) Monitoring of oceanographic structure in the Kuroshio and Oyashio region.

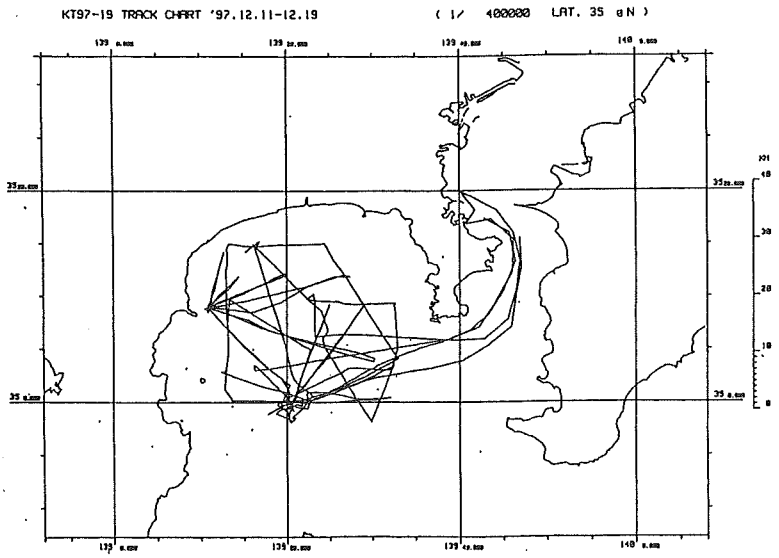
(2) Study on fish and plankton distributions, and effect of oceanographic change on the distributions.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	30	Stations	H10	Using Neil-Brown CTD(Upper 1000m)
A	10	Stations	H13	XBT drops with T6 type probes.
A	10	Days	H11,D03,B08 B09,B01,B28 B19,B13,B18	Monitoring of physical and biological data.

****

Reference No. : 97057
Restrict Data : No
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-97-19
Cruise Period : 1997/12/11 to 1997/12/19
Port of Departure : Yokosuka
Port of Return : Tokyo
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : M. Nakaoka / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Specific Areas : Sagami bay
Geographic Coverage : 131
Principal Investigators : A ; Dr. M. Nakaoka / Ocean Research Institute, Univ. of Tokyo
B ; Dr. T. Nakatsuka / Institute of Low Temperature Science, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

(1) Deploy sediment trap at Sagami bay.
(2) Collection of sediment by a multiple corer.
(3) Observation of primary productivity by CTD/RMS.
(4) Observation and collection of drifting algae.
(5) Collection of plankton.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	34.05N	139.23E	D05	Deployed a drifting buoy, Dec. 12, 1997.
B	34.58N	139.20E	B73	Retrieved a sediment trap, Dec. 12, 1997
B	34.59N	139.21E	B73	Deployed a sediment trap, Dec. 13, 1997.

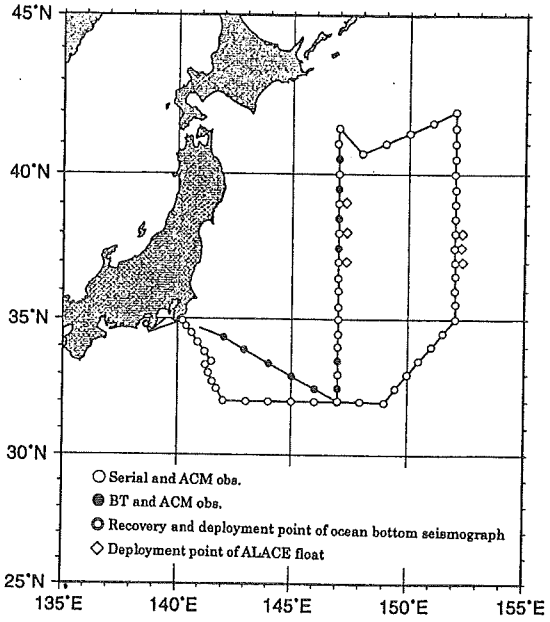
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	18	Samples	B16,B18	Sediment samples collected by a multiple corer for analyses of

				benthic organisms.
A	5	Samples	B10,B21	Drifting algae and associated animals collection.
A	14	Stations	H10	Using a CTD (down to 1500m)
A	18	Samples	B08,B09	5 samples by NORPAC net.
				4 samples by MTD net.
				9 samples by ORI-type plankton net.

****

Reference No. : 98026 (Cancel Ref.98003)
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 98-04
Cruise Period : 1998/04/23 to 1998/05/15
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : N. Kubo / Oceanographical Div., Japan Meteorological Agency
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 129,130,131,165,166
Project Name : IGOSS, WESTPAC, MARPOLMON, SAGE
Coordinating Body : IOC



Track chart of Ryofu Maru cruise 98-04

Principal Investigators : A ; T. Uwai / Climate and Marine Dept., Japan Meteorological Agency
B ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency
C ; T. Naoi / Climate and Marine Dept., Japan Meteorological Agency
D ; M. Amino / Climate and Marine Dept., Japan Meteorological Agency
E ; N. Shikama / Meteorological Research Inst.
F ; H. Jingu / Seismological and Volcanological Dept., Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

(1) A routine oceanographical observation(physical, chemical and biological)
a. Seasonal observation of marine condition.
b. Monitoring background marine pollution.
(2) Deployment of ALACE floats.
(3) Recovery and deployment of ocean bottom seismograph.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	38.00N	151.58E	D05	Deployment of ALACE float on 4 May 1998 (Setting depth is 1000m).
E	37.01N	151.59E	D05	Deployment of ALACE float on 4 May 1998 (Setting depth is 600m).
E	37.31N	151.56E	D05	Deployment of ALACE float on 4 May 1998. (Setting depth is 500m).
E	39.03N	146.59E	D05	Deployment of ALACE float on 8 May 1998, (Setting depth is 400m).

E	38.02N	147.02E	D05	Deployment of ALACE float on 8 May 1998, (Setting depth is 400m).
E	37.02N	147.01E	D05	Deployment of ALACE float on 8 May 1998, (Setting depth is 400m).
F	34.47N	138.38E	G90	Recovery and deployment of ocean bottom seismograph on 24 April 1998.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	6,188	NM	H71	Continuous sea surface temperature recording.
A	57	Stations	H10	Using FSI-ICTD.
A	68	Stations	D71	Using RD Instrument ADCP.
A	68	Stations	G73	Using NEC echo sounder.
A	29	Stations	H16	Using Secchi disk.
A	5	Drops	H13	XBT drops with T6 type probes.
A	6	Drops	H13	XCTD drops with Tsurumi Seiki XCTD probe.
A	35	Stations	H09,H21	Using Rosette sampler.
A	7	Stations	H09,H22,H24,H25,H26	Using Rosette sampler.
A	6	Stations	H09,B02	Using Rosette sampler.
A	2	Stations	B08,B09	Using bucket(B08) and NORPAC net(B09).
A	5	Stations	H09,H28	Using Rosette sampler.
B	6,188	NM	H74,M71	CO2 and CH4 concentrations in air.
B	2	Stations	P02,P03	Heavy metals(P02) and Dissolved hydrocarbons(P03).
B	3	Stations	P03	Using Neuston net.
B	5	Stations	H74	Total inorganic carbon concentration.
B	14	Days	P90	Oil slicks and floating pollutants(Daytime only).
C	120	Times	M06	Observed every three hours.
C	20	Ascents	M01	Using shipboard automatic radio-sonde system.

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Reference No. : 98027
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 98-06
Cruise Period : 1998/06/09 to 1998/07/31
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : A. Nakadate / Climate and Marine Dept., Japan Meteorological Agency
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 22,23,57,58,59,92,93,95,128,129, 130,164,165,321

Project Name : IGOSS, WESTPAC, MARPOLMON, SAGE

Coordinating Body : IOC

Principal Investigators :

A ; T. Uwai / Climate and Marine Dept., JMA

B ; T. Sakai / Climate and Marine Dept., JMA

C ; T. Naoi / Climate and Marine Dept., JMA

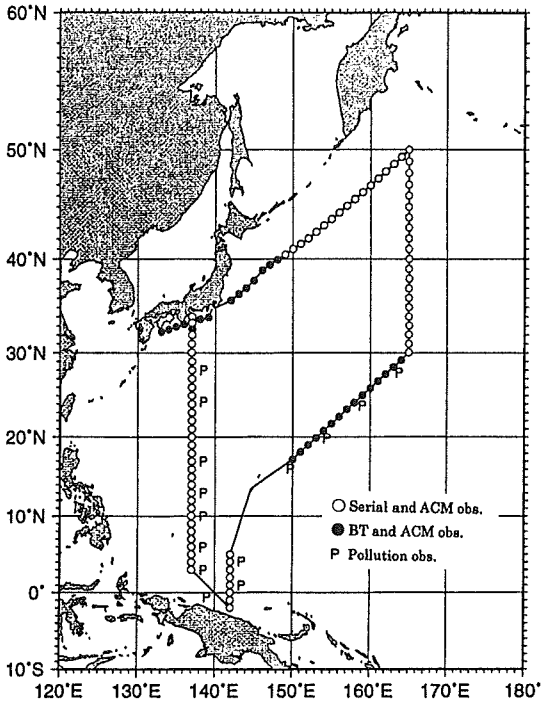
Objectives and Brief Narrative of Cruise :

(1) A routine oceanographical observation (physical, chemical and biological)

a. Seasonal observation of marine condition.

b. Monitoring background marine pollution.

(2) Sea water sampling for radioactivity measurement.



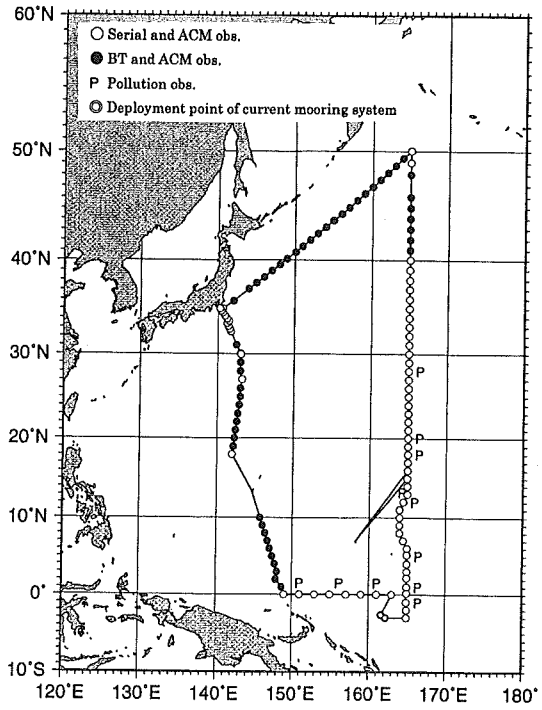
Track chart of Ryofu Maru cruise 98-06

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	8,593	NM	H71	Continuous sea surface temperature recording.
A	74	Stations	H10	Using FSI-ICTD
A	108	Stations	D71	Using RD Instrument ADCP.
A	108	Stations	G73	Using NEC echo sounder.
A	43	Stations	H16	Using Secchi disk.
A	31	Drops	H13	XBT drops with T-6 type probes.
A	3	Drops	H13	XCTD drops with Tsurumi Seiki XCTD probes.
A	73	Stations	H09,H21	Using Rosette sampler.
A	27	Stations	H09,H22,H24,H25,H26	Using Rosette sampler.
A	27	Stations	H09,B02	Using Rosette sampler.
A	12	Stations	B08,B09	Using bucket(B08) and NORPAC net(B09).
A	20	Stations	H09,H28	Using Rosette sampler.
A	5	Stations	H31	Sampling for measurement of Gross Beta Radioactivity.
B	8,563	NM	H74,M71	CO2 and CH4 concentration in air.
B	12	Stations	P02,P03	Heavy metals(P02) and Dissolved hydrocarbons(P03).
B	14	Stations	P03	Using Neuston net.
B	20	Stations	H74	Total inorganic carbon concentration.
B	28	Days	P90	Oil slicks and floating pollutants(Daytime only).
C	281	Times	M06	Observed every 3 hours.
C	41	Ascents	M01	Using shipboard automatic radio-sonde system.

****

Reference No. : 98028
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 98-09
Cruise Period : 1998/09/16 to 1998/11/13
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : S. Takatani, Climate and Marine Dept., JMA
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 20,21,22,56,58,92,94,128,129,130, 164,165,319,320,321
Project Name : IGOSS, WESTPAC, MARPOLMON, SAGE
Coordinating Body : IOC



Track chart of Ryofu Maru cruise 98-09

Principal Investigators : A ; T. Uwai / Climate and Marine Dept., Japan Meteorological Agency
B ; T. Sakai / Climate and Marine Dept., Japan Meteorological Agency
C ; T. Naoi / Climate and Marine Dept., Japan Meteorological Agency
D ; N. Shikama / Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

(1) A routine oceanographical observation (physical, chemical and biological)
a. Seasonal observation of marine condition.
b. Monitoring background marine pollution.
(2) Sea water sampling for radioactivity measurement.
(3) Deployment of current mooring system.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	3.22S	161.37E	D05	Deployment of current mooring system on 19 Oct. 1998.Current meter is set at 2000, 2250, 2375 and 2500m depth.
D	3.01S	162.13E	D05	Deployment of current mooring system on 18 Oct. 1998.Current meter is set at 2500, 2750, 3000, 3125 and 3250m depth.

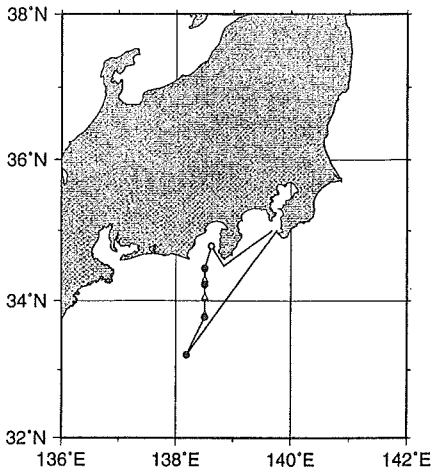
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	10,025	NM	H71	Continuous sea surface temperature recording.
A	68	Stations	H10	Using FSI-ICTD.
A	119	Stations	D71	Using RD Instrument ADCP.
A	119	Stations	G73	Using NEC echo sounder.
A	28	Stations	H16	Using Scchi disk.
A	23	Drops	H13	XBT drops with T-6 type probes.

A	28	Drops	H13	XBT drops with T-7 type probes.
A	46	Stations	H09,H21	Using Rosette sampler.
A	43	Stations	H09,H22,H24,H25,H26,H28	Using Rosette sampler.
A	13	Stations	H09,B02	Using Rosette sampler.
A	12	Stations	B08,B09	Using bucket(B08) and NORPAC net(B09).
A	7	Stations	H31	Sampling for measurement of Gross Beta Radioactivity.
B	10,025	NM	H74,M71	CO2 and CH4 concentration in air.
B	13	Stations	P02,P03	Heavy metals(P02) and Dissolved hydrocarbons(P03).
B	11	Stations	P03	Using Neuston net.
B	40	Stations	H74	Total inorganic carbon concentration.
B	33	Days	P90	Oil slicks and floating pollutants(Daytime only).
C	349	Times	M06	Observed every 3 hours.
C	57	Ascents	M01	Using shipboard automatic radio-sonde system.

****

Reference No. : 98029
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 98-11
Cruise Period : 1998/11/26 to 1998/12/02
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : T. Asoh, Climate and Marine Dept., JMA
General Ocean Area(s) : Philippine Sea
Geographic Coverage : 130,131



Track chart of Ryofu Maru cruise 98-11

● BT and ACM obs.
△ ACM obs.
◎ Recovery and deployment point of ocean bottom seismograph

Principal Investigators :

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

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

C ; T.Naoi / Climate and Marine Dept., Japan Meteorological Agency.

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

Objectives and Brief Narrative of Cruise :

(1) Practice of oceanographic observations for students of Meteorological College.

(2) Recovery and deployment of ocean bottom seismograph.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	34.47N	138.37E	G90	Recovery of ocean bottom seismograph on 27 Nov. 1998.
D	34.47N	138.38E	G90	Deployment of ocean bottom seismograph on 27 Nov. 1998.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	476	NM	H71	Continuous sea surface temperature recording.
A	4	Stations	D71	Using RD Instrument ADCP.
A	4	Stations	G73	Using NEC echo sounder.
A	4	Drops	H13	XBT drops with T-7 type probes.
B	476	NM	H74,M71	CO2 and CH4 concentration in air.
C	28	Times	M06	Observed every 3 hours.
C	1	Ascents	M01	Using shipboard automatic radio-sonde system.

****

Reference No. : 98030
Restrict Data : No
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-98-17
Cruise Period : 1998/09/25 to 1998/10/02
Port of Departure : Nagoya
Port of Return : Shimonoseki
Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo

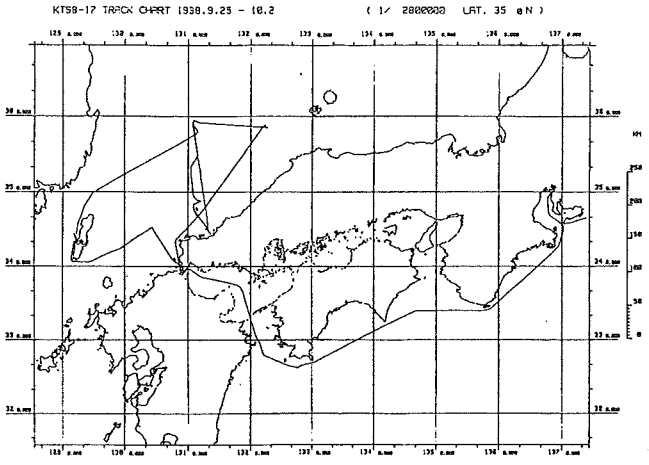
Chief Scientist(s) :

S. Kojima / Ocean Research Institute,
Univ. of Tokyo

General Ocean Area(s) :

North Pacific Ocean, Japan Sea

Geographic Coverage : 131



Principal Investigators :

A ; Dr. S. Kojima / Ocean Research Institute, Univ. of Tokyo

B ; Dr. S. Tsukawaki / Kanazawa Univ.

Objectives and Brief Narrative of Cruise :

(1) Sampling megabenthos, macrobenthos and demersal fish in the deep -sea area.

(2) Collecting bottom sediment samples and core sample.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	4	Stations	B18,B19,B20,B21	3m Beam Trawl.

A	12	Stations	B18,B20,B21	Biological Dredge.
B	21	Stations	G02	Okean grab sample.
B	3	Stations	G04	Piston corer.

****

Reference No. : 98031
Restrict Data : Yes
Ship Name : HAKUHO MARU
Ship Type : Research Vessel
Cruise No. /Name : KH-98-04
Cruise Period : 1998/09/07 to 1998/10/28
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s) : K. Kawaguchi and T. Sugimoto, Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 130,165,166
Principal Investigators : A ; Prof. K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo
B ; Prof. T. Sugimoto / Ocean Research Institute, Univ. of Tokyo
C ; Prof. M. Takahashi / Tokyo Univ.
D ; Dr. M. Suzuki / Nagoya Univ.

Objectives and Brief Narrative of Cruise :

Studies on the vertical structure of the ecosystem, material transport and biological production in the Western North Pacific.

The following studies were conducted in the subarctic, transitional and subtropical waters of Japan.

(1) Spatiotemporal structure of ecosystems.

(2) Food web structure and function.

(3) Dynamics of biological production.

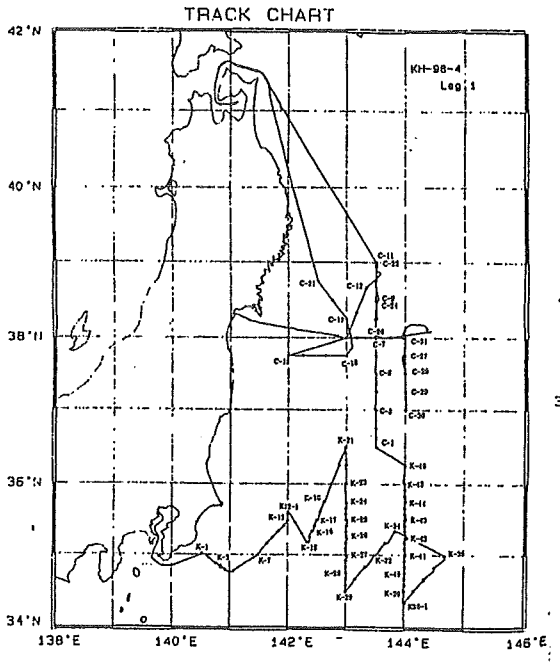
(4) Physical environment.

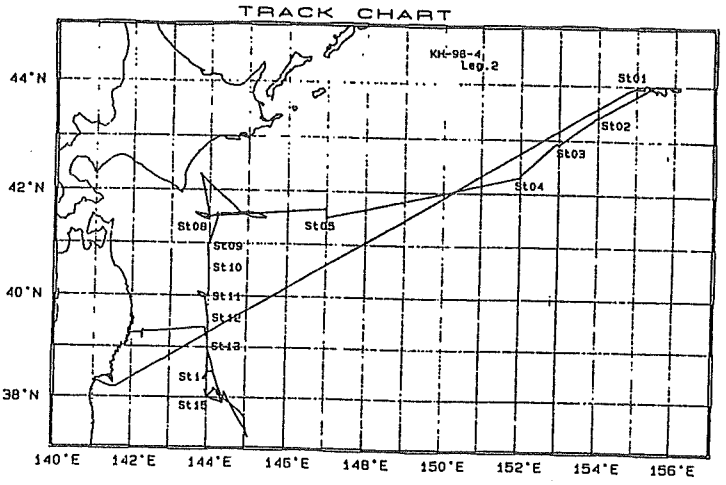
Moorings, Bottom Mounted Gear and Drifting Systems :

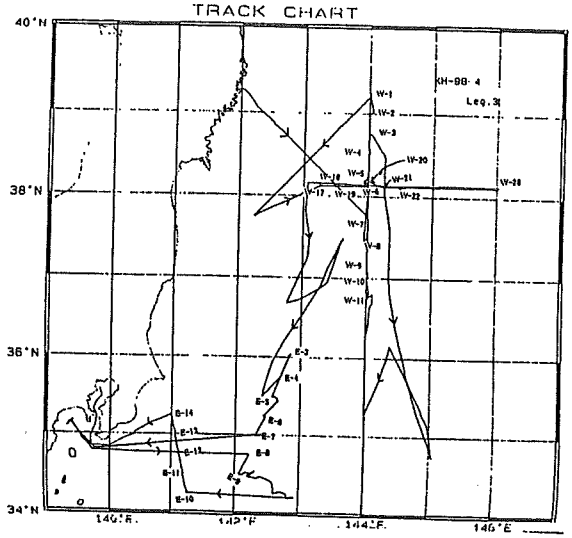
PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	44.00N	155.00E	B01,B71	Deployed a drifting buoy.
D	41.30N	144.00E	B01,B71	Deployed a drifting buoy.
D	38.00N	144.00E	B01,B71	Deployed a drifting buoy.
D	36.00N	144.00E	B01,B71	Deployed a drifting buoy.
D	41.00N	143.30E	B01,B71,B73	Sediment trap.
D	38.00N	144.00E	B01,B71,B73	Sediment trap.
D	34.30N	142.25E	B01,B71,B73	Sediment trap.
B	35.00N	141.00E	D05	ARGOS buoy.
B	38.00N	144.00E	D05	ARGOS buoy.
B	37.45N	142.15E	D09	Mooring of pressure meter.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	50	Stations	B01,B02,B71,B05,H10	CTD cast and Rosette water sampling.
A	8	Stations	B09,B13,B14,B21	Mocness plankton net multilayer sampling.
A	20	Stations	B14,B13	IKMT sampling 0-300m, 0-1000m.
D	20	Stations	H30	NORPAC net sampling, vertical tow 0-100m.
B	108	Stations	B01,B02,B71,B05,H10 H21,H22,H23,H24,H25	CTD cast and Rosette water sampling.
A	11	Stations	B14,B13	IKMT sampling.
A	42	Stations	B09	NORPAC net sampling.
B	7	Stations	B09	VMPS net.
B	7	Stations	B09	MTD net.







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Reference No. : 98032

Restrict Data : In part

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-98-04

Cruise Period : 1998/04/07 to 1998/04/13

Port of Departure : Tokyo

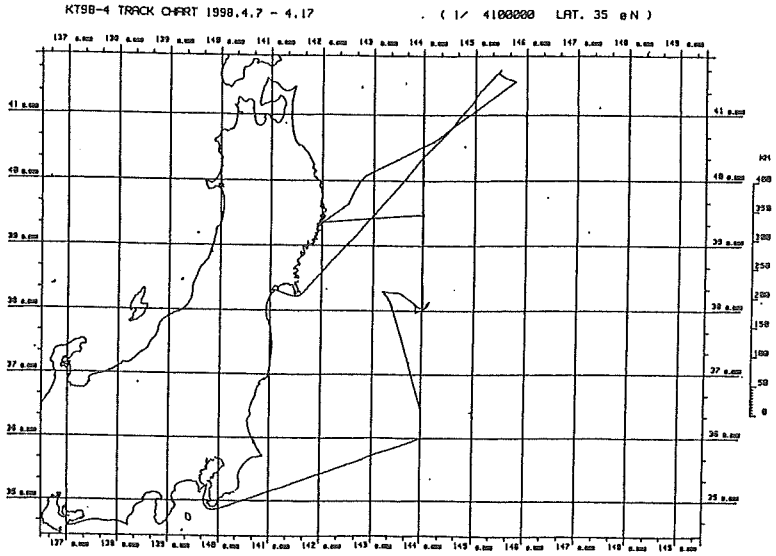
Port of Return : Otsuchi

Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo

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

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 130



Principal Investigators :

A ; K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo

B ; J. Nishikawa

C ; M. Wada

D ; T. Saruwatari

E ; C. Sassa

F ; Y. Kurata

Objectives and Brief Narrative of Cruise :

Early life history of mesopelagic fishes.

Vertical distribution and food habit of zooplankton.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
B	11	Stations		CTD cast 0-500m or 1000m
B	3	Tows		ORI net 0-500m or 2000m
B	5	Tows		MTD net 0-1000m
B	10	Tows		IKMT 0-1000～4000m

****

Reference No. : 98033

Restrict Data :

Ship Name : NAGASAKI MARU

Ship Type : Training Ship

Cruise No. /Name : Voy.No. 107

Cruise Period : 1998/07/12 to 1998/08/10

Port of Departure : Nagasaki

Port of Return : Nagasaki

Responsible Laboratory :

Faculty of Fisheries, Nagasaki Univ.

Chief Scientist(s) :

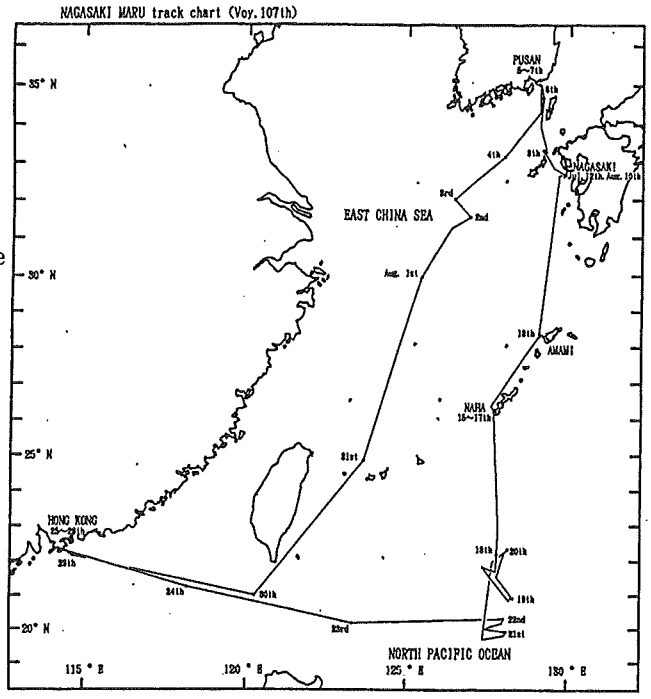
Y. Takaki / Faculty of Fisheries, Nagasaki Univ.

General Ocean Area(s) : East China Sea, Philippine sea

Geographic Coverage : 96,132

Principal Investigators :

A ; T. Kuno / Faculty of Fisheries, Nagasaki Univ.



Objectives and Brief Narrative of Cruise :

(1) Training of Navigation.

(2) Oceanographic observation.

(3) Training operations of bottom trawl.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	9	Stations	H10	Using Neil Brown Mark-3B CTD.
A	4	Samples	B65	Sampling of fish by tuna long line.
A	6	Samples	B65	Sampling of fish by bottom trawl net.

****

Reference No. : 98034

Restrict Data :

Ship Name : NAGASAKI MARU

Ship Type : Training Ship

Cruise No. /Name : Voy.No.. 111

Cruise Period : 1998/11/06 to 1998/11/30

Port of Departure : Nagasaki

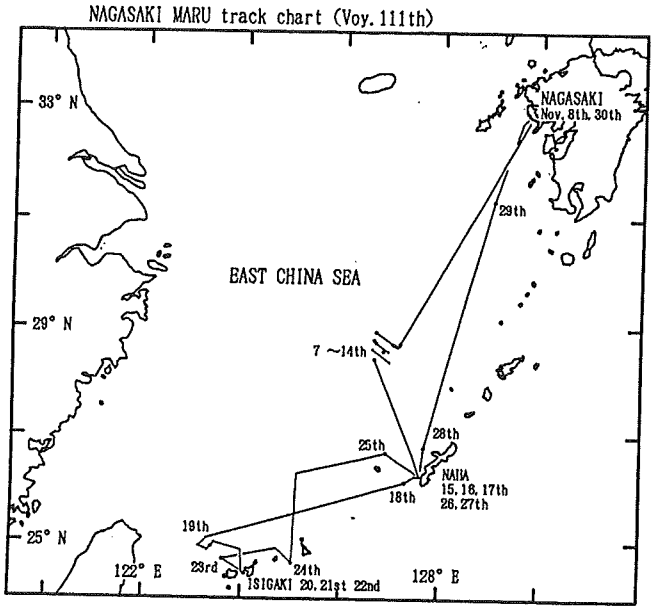
Port of Return : Nagasaki

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

Principal Investigators : A ; T. Matsuno / Faculty of Fisheries, Nagasaki Univ.

B ; W.Koterayama / Kyushu Univ.

C ; I. Motoyama / Ryukyu Univ.

F ; H. Katao / Kyoto Univ.

Objectives and Brief Narrative of Cruise :

(1) Training of Navigation.

(2) Oceanographic observation.

(3) Training operations of bottom trawl.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
B	28.54N	126.44E	H11	Set flying fish sensor, 8 Nov. 1998
B	28.44N	127.03E	H11	Recovered it, 8 Nov. 1998
B	28.49N	126.52E	H11	Set flying fish sensor, 11 Nov. 1998
B	28.46N	127.03E	H11	Recovered it, 12 Nov. 1998
F	25.04N	123.19E	G71	Set ocean bottom seismagraph No.1 (depth 1886m), 19 Nov. 1998
				Recovered it, 23 Nov. 1998
F	24.55N	123.09E	G71	Set ocean bottom seismagraph No.2(depth 1818m), 19 Nov. 1998
				Recovered it, 23 Nov. 1998
F	24.50N	123.20E	G71	Set ocean bottom seismagraph No.3(depth 1861m), 19 Nov. 1998
				Recovered it, 23 Nov. 1998
F	24.59N	123.28E	G71	Set ocean bottom seismagraph No.4(depth 2170m), 19 Nov. 1998
				Recovered it, 23 Nov. 1998

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	69	Stations	H10	Using Neil Brown Mark-3B CTD.
C	15	Stations	G02	Sampling of mud by Okean-type grab.
B	1	Sample	B11	Trawl an Eel net.

****

Reference No. : 98035

Restrict Data :

Ship Name : NAGASAKI MARU

Ship Type : Training Ship

Cruise No. /Name : Voy.No.. 112

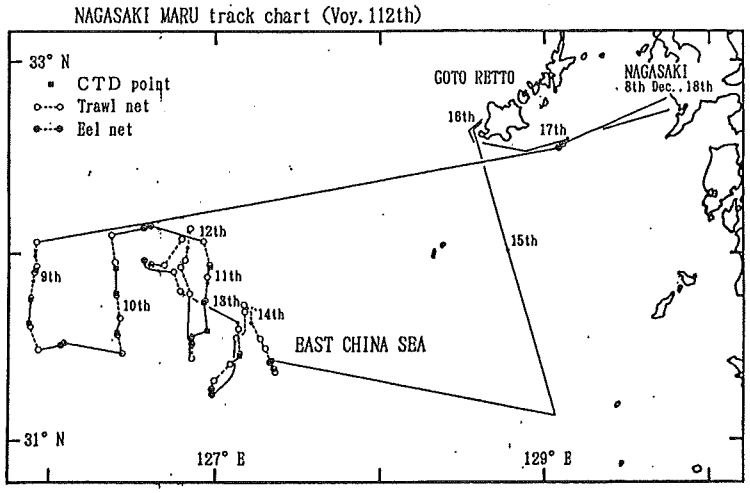
Cruise Period : 1998/12/08 to 1998/12/18

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.

B ; N. Motioka / Kyushu Univ.

Objectives and Brief Narrative of Cruise :

(1) Training of Navigation.

(2) Oceanographic observation.

(3) Training operations of bottom trawl.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	11	Stations	H10	Using Neil Brown Mark-3B CTD.
A	18	Samples	B65	Sampling of fish by bottom trawl net.
B	7	Samples	B11	Trawl an Eel net.
B	7	Samples	B09	Trawl a Larva net.

****

Reference No. : 98036

Restrict Data :

Ship Name : NAGASAKI MARU

Ship Type : Training Ship

Cruise No. /Name : Voy.No.. 108

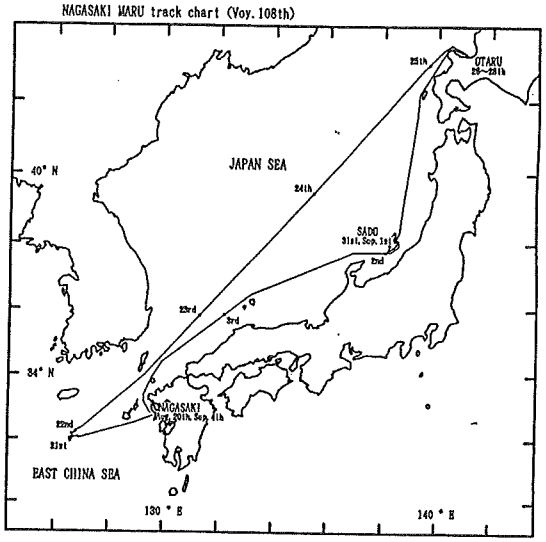
Cruise Period : 1998/08/20 to 1998/09/04

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 : 132

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

Objectives and Brief Narrative of Cruise :

(1) Training of Navigation.

(2) Oceanographic observation.

(3) Training operations of bottom trawl.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	2	Stations	H10	Using Neil Brown Mark-3B CTD.
A	5	Samples	B65	Sampling of fish bottom trawl net.

****

Reference No. : 98037

Restrict Data : No

Ship Name : SEIFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 98-11

Cruise Period : 1998/11/18 to 1998/12/06

Port of Departure : Maizuru

Port of Return : Maizuru

Responsible Laboratory : Maizuru Marine Observatory, Japan Meteorological Agency

Chief Scientist(s) : K. Sakurai

General Ocean Area(s) : Japan Sea

Geographic Coverage : 131,167

Project Name : IGOSS, 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

Objectives and Brief Narrative of Cruise :

Seasonal observation of marine condition.

(1) Hydrographic observation (physical, chemical and biological).

(2) Inspection of ocean data buoy.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	43	Stations	H10	Using Neil Brown CTD.
B	13	Stations	H21	Using Neil Brown CTD with Rosette sampler system.
B	9	Stations	H22,H24,H25,B02	Using Neil Brown CTD with Rosette sampler system.
B	3	Stations	H28	Using Neil Brown CTD with Rosette sampler system.
B	9	Stations	B08	Surface water sampling.
B	8	Stations	B09	Collected by NORPAC net.
A	19	Stations	H16	Using Secchi Disk.
A	18	Drops	H13	XBT drops with T6 and T7 type probe.
A	54	Stations	D71	Using ADCP (FURUNO).
A	54	Stations	G73	Using echo sounder (KAIJYO)
A	1,574	NM	H71	Measurement of near- surface temperature and salinity using T.S.G.
C	283	Times	M06	According to "WMO International Codes".
C	9	Ascents	M01	Using VAISALA Digicora MW II System and VAISALA RS80-15G Radio Sondes.
C	94	Times	D72	Using micro wave gauge.

****

Reference No. : 98038

Restrict Data : No

Ship Name : KOFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 98-06

Cruise Period : 1998/06/10 to 1998/10/08

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, WESTPAC, MARPOLMON
Coordinating Body	:	WMO, IOC
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) Observations 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 :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	34.47N	138.38E	G90	Recorded and deployed ocean bottom seismograph on 28 July 1998
D	34.08N	138.50E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	34.06N	139.02E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.58N	138.41E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.53N	138.59E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.50N	138.49E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.46N	138.36E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.41N	138.52E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.38N	138.25E	G90	Recorded ocean bottom seismograph on 29 July 1998
D	33.33N	138.35E	G90	Recorded ocean bottom seismograph on 29 July 1998

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	3,428	NM	H71	Continuous sea surface temperature &salinity recording.
A	54	Stations	H10	Using Neil Brown CTD.
A	28	Stations	H09,H21,H22,H24,H25,B02	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. ADCP at 0,50,100m in depth.
A	2	Samples	H31	Sampling for measurement of Total β radioactivity.
A	2,094	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.

****

Reference No. : 98039
Restrict Data : No
Ship Name : KOFU MARU
Ship Type : Research Vessel
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, WESTPAC, MARPOLMON
Coordinating Body : WMO, IOC
Principal Investigators : A ; H. Kamiya / Hakodate Marine Observatory, JMA
B ; T. Aizawa / Hakodate Marine Observatory, JMA
C ; T. Sakai / Pollutants Chemical Center, Climate and Marine Dept., JMA

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) Observations for the study of seasonal variability and water mass budget Oyashio off Sanriku.
(5) Ocean wave sampling for the data of coastal wave recorders.

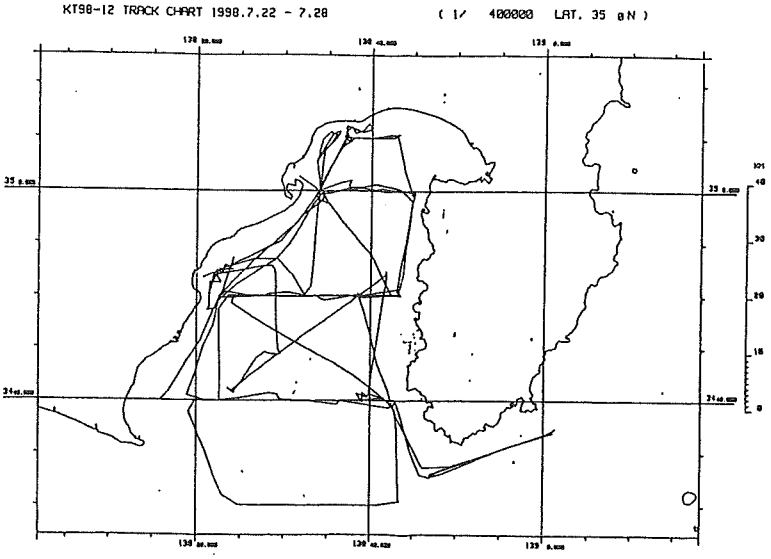
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	2,379	NM	H71	Continuous sea surface temperature & salinity recording.
A	57	Stations	H10	Using Neil-Brown CTD.
A	32	Stations	H09,H21,H22,H24,H25,B02	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. ADCP at 0,50,100m in depth.
A	2,161	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).

****

Reference No. : 98040
Restrict Data : Yes
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-98-12
Cruise Period : 1998/07/22 to 1998/07/28
Port of Departure : Shimizu
Port of Return : Yaizu
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : T. Sugimoto, Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Principal Investigators : A ; Dr. T. Sugimoto / Ocean Research Institute, Univ. of Tokyo
Objectives and Brief Narrative of Cruise :

(1) Monitoring of oceanographic structure in the Kuroshio and Oyashio region.

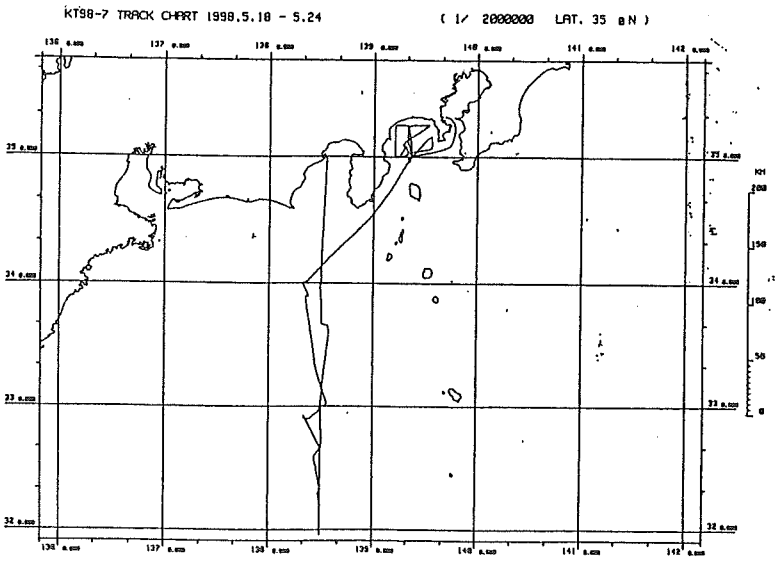
(2) Study on fish and plankton distributions, and effect of oceanographic change on the distributions.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	52	Stations	H10	Using Neil-Brown CTD (upper 1000m).
A	0	Stations	H13	XBT drops with T6 type probes.
A	7	Days	H11,D03,B08,B09,B01,B28,B19,B13	Monitoring of physical and biological data.

****

Reference No. : 98041
Restrict Data : No
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-98-7
Cruise Period : 1998/05/18 to 1998/05/24
Port of Departure : Shimizu
Port of Return : Yokohama
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : M. Nakaoka, Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Specific Areas : Sagami Bay and its offshore area(32N-35N; 138E-141E)
Geographic Coverage : 131
Principal Investigators : A ; Dr. M. Nakaoka / Ocean Research Institute, Univ. of Tokyo
B ; Dr. T. Nakatsuka / Institute of Low Temperature Science, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

Biological studies of plankton, drifting algae, and benthic organisms in Sagami Bay and Kuroshio area.

Main task: 1. Deploy sediment trap at Sagami Bay.
2. Collection of sediment by a multiple corer.
3. Observation of primary production by CTD/RMS.
4. Observation and collection of drifting algae.
5. Collection of plankton.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	34.59N	139.21E	D05	Deployed a drifting buoy; 1998/05/21.
B	34.58N	139.21E	B73	Retrieved a sediment trap, 1998/05/21.
B	34.58N	139.21E	B73	Deployed a sediment trap, 1998/05/23.

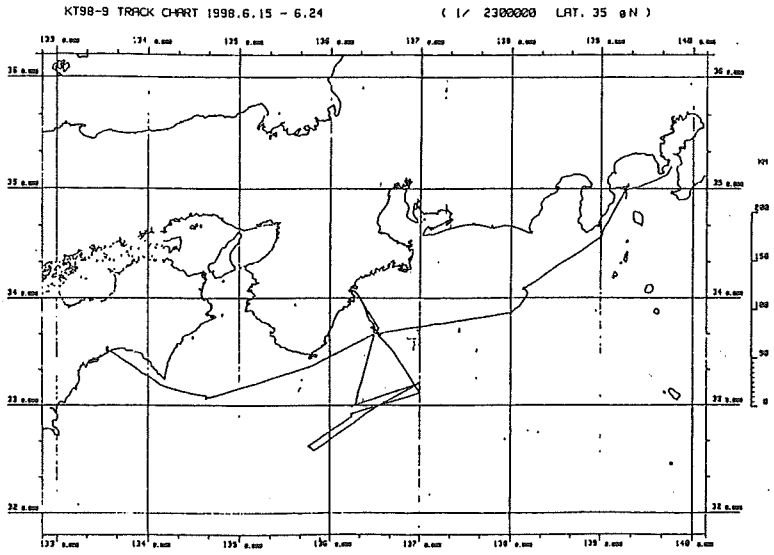
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	9	Samples	B16,B18	Sediment samples collected by a multiple corer for analyses of benthic organisms.
A	6	Samples	B10,B21	Drifting algae and associated animds collection.
A	4	Stations	H10	Using CTD (down to 1500m deep).
A	7	Samples	B08,B09	7 samples by ORI-type plankton net.

****

Reference No. : 98042
Restrict Data : No

Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-98-9
Cruise Period : 1998/06/15 to 1998/06/24
Port of Departure : Tokyo
Port of Return : Kochi
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) :
H. Fujimoto / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : Philippine Sea
Specific Areas : Sagami Bay, Nankai Trough
Geographic Coverage : 131
Project Name : Ocean Hemisphere Network Project (OHP)
Coordinating Body : Earthquake Research Institute, Univ. of Tokyo
Principal Investigators : A ; H. Fujimoto / Ocean Research Institute, Univ. of Tokyo
B ; N. Seama / Dept. of Earth Science, Chiba Univ.
C ; C. Tamura / Ocean Research Institute, Univ. of Tokyo
D ; M. Yamano / Earthquake Research Inst., Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

(1) GPS/Acoustic seafloor geodesy (trial experiment).
(2) Ocean bottom pressure monitoring.
(3) Surface and deep-towed geomognetie measurements.
(4) Heat flow measurements in the Nankai Trough.
(5) Seafloor electromagnetic measurements.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	1	Days	G90	GPS/Acoustic seafloor geodesy.
B	17	Hours	G28	Deep-towed 3-component magnetics.
C	9.5	Hours	G28	Deep-towed proton magnetics.
C	5	Days	G28	Surface proton magnetics.
D	3	Points	G90	Heat flow measurements.
B	1	Points	G90	seafloor electromagnetic measurement.

****

Reference No. : 98043
Restrict Data : In part
Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-98-1

Cruise Period : 1998/01/13 to 1998/01/19

Port of Departure : Tokyo

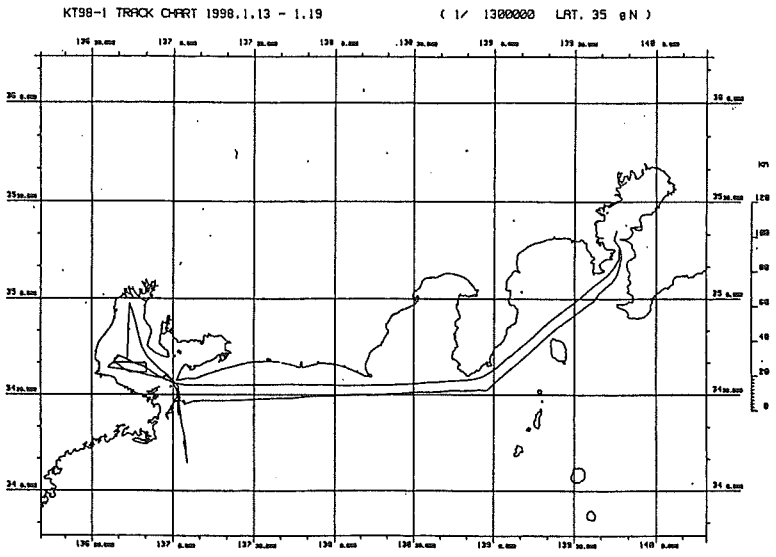
Port of Return : Tokyo

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo

Chief Scientist(s) :

H. Nakata / Ocean Research Institute, Univ. of Tokyo



General Ocean Area(s) : Philippine Sea

Specific Areas : Ise Bay

Geographic Coverage : 131

Principal Investigators : A ; H. Nakata / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

Observation of oceanic structure and distribution of fish larvae and their prey organisms in the vicinity of a thermohaline front near the entrance of Ise Bay.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	33	Stations	H10	CTD (upper 500m).
A	6	Stations	B08	Collection of phytoplankton with NORPAC net.
A	62	Stations	B09,B13	Surface tows with ORI net for collecting zooplankton and fish larvae.
A	4	Days	H71	Monitoring of surface water temperature.

****

Reference No. : 98044

Restrict Data : In part

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-98-6

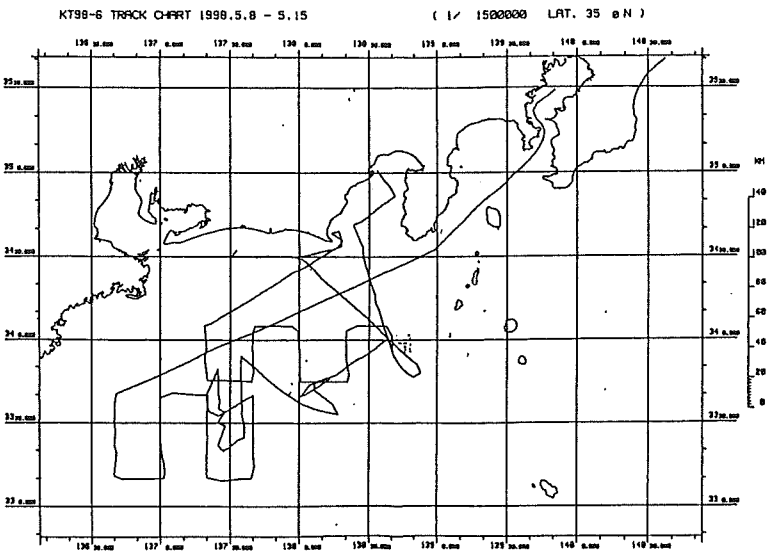
Cruise Period : 1998/05/08 to 1998/05/15

Port of Departure : Tokyo

Port of Return : Shimizu

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : H. Nakata / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : Philippine Sea

Specific Areas : Enshu-nada, Suruga Bay

Geographic Coverage : 131

Principal Investigators : A ; H. Nakata / Ocean Research Institute, Univ. of Tokyo
B ; T. Sugimoto / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

Observation of the biological productivity of meso-scale eddies caused by frontal disturbances of the Kuroshio.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
B	34.41N	138.24E	D01	Deployed a mooring system, May 15, 1998
B	34.52N	138.42E	D01	Deployed a mooring system, May 15, 1998
A	33.55N	138.00E	D05	Deployed a drifting buoy, May 14, 1998

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	34	Stations	H10	CTD (Upper 500m).
A	30	Samples	B09,B13	Oblique tows with ORI net (upper 100m) for collecting zooplankton and fish larvae.
A	12	Samples	B09,B13	Surface tows with ORI net for collecting zooplankton and fish larvae.
A	12	Stations	H13	XBT drops with T10 type probes.
A	5	Days	H71	Surface water temperature Measurement.

****

Reference No. : 99001

Restrict Data : No

Ship Name : KOFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 99-01

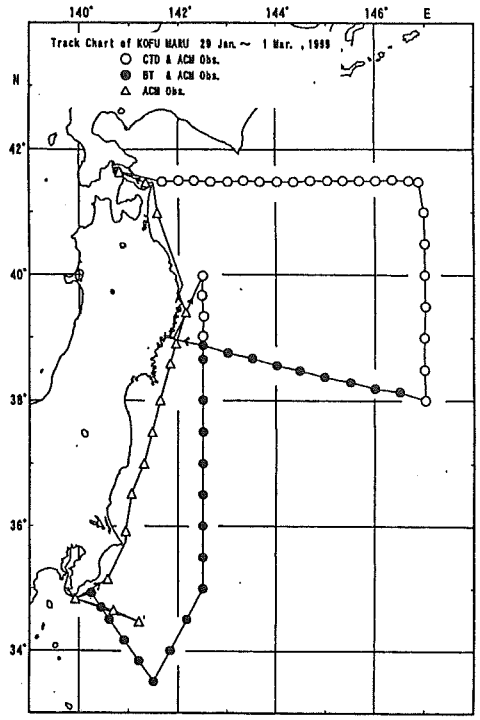
Cruise Period : 1999/01/29 to 1999/03/01

Port of Departure : Hakodate

Port of Return : Hakodate

Responsible Laboratory :

Hakodate Marine Observatory, Japan Meteorological Agency



Chief Scientist(s) :

Y. Miura, Hakodate Marine Observatory, JMA

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 166,130

Project Name : IGOSS, WESTPAC, MARPOLMON

Coordinating Body : WMO,IOC

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 Department, 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) Observations 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.

(6) Ocean wave observations to understand the characteristic of wave around northern part of Izu islands.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	2,242	NM	H71	Continuous sea surface temperature and salinity recording.
A	28	Stations	H10	Using Neil Brown CTD.
A	14	Stations	H09,H21,H22,H24,H25,B02	Using Neil Brown CTD with Rosette sampler.
A	5	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	10	Stations	H16	Using Secchi disk(Daytime only)
A	6	Stations	B08	Using bucket
A	6	Stations	B09	Using NORPAC net.
A	26	Drops	H13	XBT drops with T6 and T7 type probes.
A	69	Stations	D71	Using FURUNO Co. Acoustic Current Meter at 0, 50, 100m in depth.
A	2	Samples	H31	Sampling for measurement of Total β radioactivity.
A	1,503	NM	H74, M71	CO2 concentrations in air and surface water.
B	86	Times	M06	Observed every three hours.
B	169	Times	M90	Hourly Weather report except M06.
B	10	Ascents	M01	Using VAISALA system.
B	86	Times	D72	Using Micro-wave and Tucker wave gauge.
C	8	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	17	Stations	H74	Sampling for analysis of total inorganic carbons.

****

Reference No. : 99002

Restrict Data : Yes

Ship Name : WAKATORI MARU

Ship Type : Training Vessel

Cruise Period : 1999/01/25 to 1999/03/20

Port of Departure : Sakai

Port of Return : Sakai

Responsible Laboratory : Tottori Prefectual Sakai Fishery High School

Chief Scientist(s) : T. Ishikura, Tottori Prefectual Sakai Fishery High School

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 53,54,55

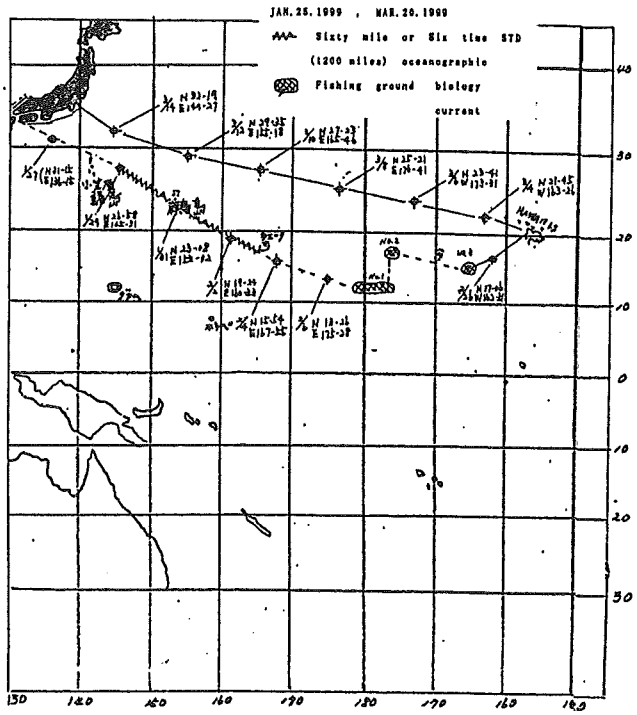
Project Name : National research institud of for sea's fisheries

Principal Investigators :

A ; T. Sato and T. Ishikura, Tottori Prefectual Sakai Fishery High School

B ; M. Sawano, Tottori Prefectual Sakai Fishery High School

C ; T. Ishikura, Tottori Prefectual Sakai Fishery High School



Objectives and Brief Narrative of Cruise :

Training for tuna long line fisheries accompanied with oceanographic observation and biological research.

(1) To go sailing oceanographic observation at sixty-mile intervals(6 hours) in the section of 1,200 miles.

(2) Oceanographic and meteorologic observation in fishing ground once a day.

(3) To measure body length of all the caught tuna to decide sex gonad weight.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
	12.50N	177.31E	D03	Tuna long line first buoy, Feb. 7,1999
	12.26N	178.06E	D03	Tuna long line first buoy, Feb. 8,1999
	12.07N	178.49E	D03	Tuna long line first buoy, Feb. 9,1999
	12.16N	179.40E	D03	Tuna long line first buoy, Feb. 10,1999
	12.23N	175.46E	D03	Tuna long line first buoy, Feb. 12,1999
	17.59N	176.02E	D03	Tuna long line first buoy, Feb. 14,1999
	18.11N	176.20E	D03	Tuna long line first buoy, Feb. 15,1999
	18.17N	176.26E	D03	Tuna long line first buoy, Feb. 16,1999
	18.42N	175.29E	D03	Tuna long line first buoy, Feb. 17,1999
	19.32N	175.40E	D03	Tuna long line first buoy, Feb. 18,1999
	18.41N	175.20E	D03	Tuna long line first buoy, Feb. 19,1999
	18.25N	176.15E	D03	Tuna long line first buoy, Feb. 20,1999
	17.57N	174.41E	D03	Tuna long line first buoy, Feb. 21,1999
	14.54N	166.08E	D03	Tuna long line first buoy, Feb. 24,1999
	15.23N	165.13E	D03	Tuna long line first buoy, Feb. 25,1999

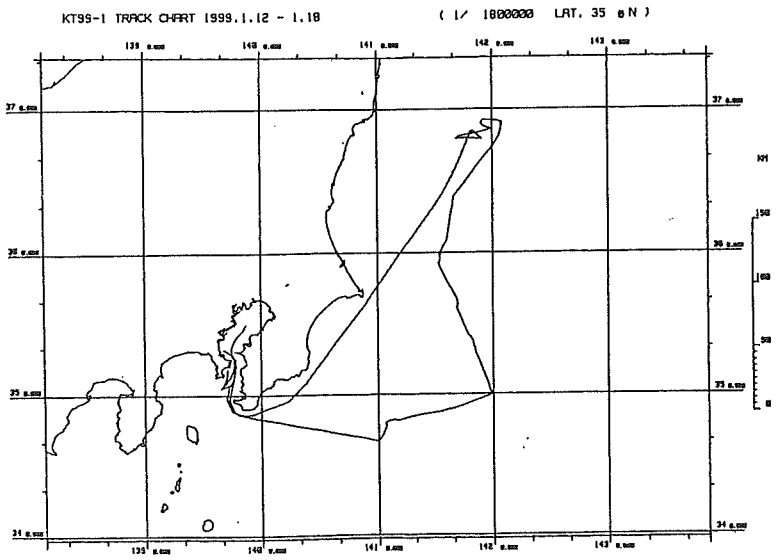
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	22	Stations	H10,H90,M90	STD (Upper to 1000m) sixty-miles interval 1200 miles and fishing ground. AST-1000(STD) Alec electronics.
A	21	Stations	H16	

A	15	H10,H90,M90	STD (Upper to 1000m) tuna fishing ground area
C	15	B13,B90	Measure body length. Decide sex.

****

Reference No. : 99003
Restrict Data : Yes
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-99-1
Cruise Period : 1999/01/12 to 1999/01/18
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : K. Kawaguchi, Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 130
Principal Investigators : A ; K. Kawaguchi, Ocean Research Institute, Univ. of Tokyo
B ; K. Kogure, Ocean Research Institute, Univ. of Tokyo
C ; T. Saruwatari, Ocean Research Institute, Univ. of Tokyo
D ; T. Saino,

Objectives and Brief Narrative of Cruise :

(1) Life history study on the zooplankton and micronekton.
(2) Phylogenical study on the argentinid fishes FOUR IKMT samplings were made in the 0-1000m layer.
(3) Development of fluorescence DO sensor and its application to CTD-DO sensor.
Test was made from surface dawn to 4000m depths.
(4) Seasonal fluctuation of the flux from Tokyo Bay to the open sea.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	35.10N	139.40E	B73	set sediment trap, Jan. 17,1999.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	9	hauls	B13,B05	MTD-multilayer opening-closing net sampling
C	5	hauls	B14	IKMT-sampling
B	5	casts	H21,H10	DO-sensor test

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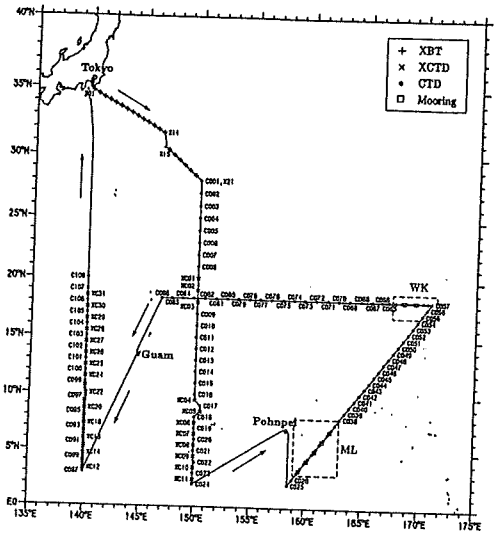
Reference No. : 99004
Restrict Data : No
Ship Name : HAKUHO MARU
Ship Type : Research Vessel
Cruise No. /Name : KH-99-1
Cruise Period : 1999/01/14 to 1999/03/04
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : M. Kawabe, Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 130,94,58,57,56,22,21
Principal Investigators : A ; M. Kawabe, Ocean Research Institute, Univ. of Tokyo
B ; T. Suga, Department of Geophysics, Graduate School of Science, Tokyo Univ.
C ; S. Watanabe, Graduate School of Earth Environmental Science, Hokkaido Univ.
D ; N. iwasaki, Tokyo Univ. of Mercantile Marine
E ; K. Hidaka, Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

The aims of the cruise is to study

(1) The path and structure of deep western boundary current in the low latitude region (mainly leg-2, CTD, lowered ADCP and moorings).

(2) The surface and intermediate water masses in the tropical and subtropical gyres (mainly leg-1 and 3, CTD, shipboard ADCP, XBT and XCTD).

(3) Potential vorticity distribution in the North Equatorial Current (CTD, shipboard ADCP).

(4) Gas exchange process and water circulation using chemical tracers (all legs, water sampling).

(5) A life cycle of tropical micronekton(leg-1, trawling of net).

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	3.23N	159.30E	D01	deployed 4 current meters (2170, 2670, 3170, 3570m), Jan. 31, 1999
A	4.14N	160.11E	D01	deployed 5 current meters (1660, 2160, 2660, 3160, 3760m), Feb. 1, 1999
A	5.07N	160.52E	D01	deployed 4 current meters (1880, 2880, 3880, 4080m), Feb. 2, 1999
A	6.00N	160.30E	D01	deployed 4 current meters (2090, 3090, 4090, 4690m), Feb. 2, 1999
A	6.51N	162.11E	D01	deployed 4 current meters (2250, 3250, 4250, 4850m), Feb. 2, 1999
A	18.20N	169.30E	D01	deployed 5 current meters (1970, 2970, 3970, 4970, 5270m), Feb. 8, 1999
A	18.20N	168.30E	D01	deployed 5 current meters (2000, 3000, 4000, 5000, 5100m), Jan. 31,

1999

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	108	Stations	H10,H21	Deep casts using Seabird CTDO2 system
A	105	Stations	H09,H21	Measurement of salinity, dissolved oxygen using Niskin bottles(mostly 24 bottles and surface bucket sample for each Stations)
C	105	Stations	H09,H22,H24,H25,H26	Measurement of silicate, nitrate, nitrate, and phosphate using Niskin bottles (mostly 24 bottles and surface bucket sample for each Stations)
C	40	Stations	H09,H74,H27,H28	Measurement of total carbon, total alkalinity, and pH using Niskin bottles (mostly 24 bottles and surface bucket sample for each Stations)
C	34	Stations	H09,H73,H33	Measurement of CFC-11 and CFC-12 using Niskin bottles (mostly 24 bottles and surface bucket sample for each Stations)
C	31	Stations	H09,H32	Measurement of radioactive carbons (C13 and C14) using Niskin bottles (mostly 24 bottles and surface bucket samples for each Stations)
A	97	Stations	D71	Current measurement using RDI Lowered ADCP at deep CTD casts
E	2	Stations	H17,B09	Trawling of plankton net (MTD and mid-trawl), measurement irradiance, and water samples (6 clean Niskin bottles above 200m) for planktological analysis
B	20	Drops	D90	XBT drops with TSK T-7 probes
B	31	Drops	D90	XCTD drops with TSK probes
A	9,160	NM	D71	Current velocity measurement at 20, 50, and 100m depth using a ADCP(FURUNO)
A	9,160	NM	D71	Current velocity measurement at 80 levels (16m thickness) using a ADCP(RDI 38kHz broadband)
A	9,160	NM	H71	Continuous measurement of surface water temperature and salinity by intake
C	9,160	NM	H74	Continuous measurement of surface carbon dioxide fugacity by intake
A	9,160	NM	M06	Continuous measurement of meteorological parameters such as air temperature, humidity, surface wind
D	9,160	NM	M02,M06	Continuous measurement of measurement of meteorological parameters such as radiations, sir temperature, humidity, surface wind

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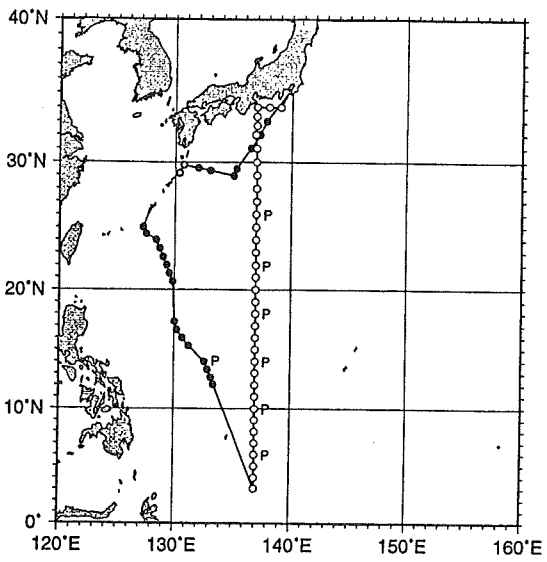
Reference No. : 99005
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-01
Cruise Period : 1999/01/22 to 1999/02/22
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) :

S. Takatani, Japan Meteorological Agency

General Ocean Area(s) : Philippine Sea
Geographic Coverage : 131,130,96,95,60,59,23
Project Name : IGOSS, WESTPAC, MARPOLMON, KER
Coordinating Body : IOC



Track chart of Ryofu Maru cruise 99-01

○ Serial and ACM obs.
● BT and ACM obs.
P Pollution obs.
◎ Recovery and deployment point of current mooring system

Principal Investigators : T. Uwai / Climate and Marine Department, Japan Meteorological Agency
T. Sakai / Climate and Marine Department, Japan Meteorological Agency
T. Naoi / Climate and Marine Department, Japan Meteorological Agency
M. Amino / Climate and Marine Department, Japan Meteorological Agency

Objectives and Brief Narrative of Cruise :

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

(1) Seasonal observation of marine condition.

(2) Monitoring background marine pollution.

Sea water sampling for radioactivity measurement.

Deployment of current mooring system.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	29.11N	130.22E	D05	Recovery of current mooring system on 15 Feb. 1999
D	29.47N	130.44E	D05	Recovery of current mooring system on 15 Feb. 1999
D	29.11N	130.22E	D05	Deployment of current mooring system on 16 Feb. 1999. Current meter is set at 250, 350 and 500m depth
D	29.47N	130.44E	D05	Deployment of current mooring system on 16 Feb. 1999. Current meter is set at 250, 350 and 500m depth

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	4,793	NM	H71	Continuous sea surface temperature recording
A	33	Stations	H10	Using FSI-ICTD
A	58	Stations	D71	Using RD Instrument ADCP
A	58	Stations	G73	Using NEC echo sounder

A	13	Stations	H16	Using Secchi disk
A	23	Drops	H13	XBT drops with T-7 type probe
A	2	Drops	H13	XCTD drops with Tsunami-Seiki XCTD probe
A	18	Stations	H09,H21	Using Rosette sampler
A	16	Stations	H09,H22,H24,H25,H26	Using Rosette sampler
A	8	Stations	H09,B02	Using Rosette sampler
A	7	Stations	B08,H09	Using bucket(B08) and NORPAC net(B09)
A	7	Stations	B08,H28	Using Rosette sampler
A	5	Stations	H31	Sampling for measurement of Gross Beta Radioactivity
B	4,793	NM	H74,M71	CO2 and CH4 concentration
B	8	Stations	P02,P03	Heavy metals(P02) and Dissolved hydrocarbons(P03)
B	7	Stations	P03	Using Neuston net
B	18	Stations	H74	Total inorganic carbon concentration in air
B	19	Days	P90	Oil slicks and floating pollutants(Daytime only)
C	172	Times	M06	Observed every 3 hours
C	26	Ascents	M01	Using shipboard automatic radio-sonde system

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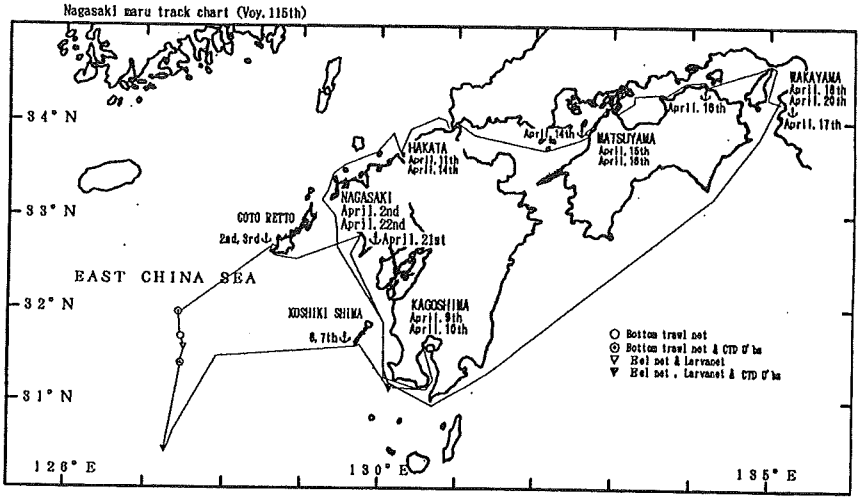
Reference No. : 99006
Restrict Data : No
Ship Name : NAGASAKI MARU
Ship Type : Training Ship
Cruise No. /Name : Voy.No.. 115
Cruise Period : 1999/04/02 to 1999/04/22
Port of Departure : Nagasaki
Port of Return : Nagasaki



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 : Y. MORII / 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 :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	4	Stations	H10	Using Neil Brown Mark-3B
A	3	Samples	B65	Sampling of Fish by Bottom Trawl
A	3	Samples	B11	Trawl an Eel net
A	3	Samples	B09	Trawl an Larva net

****

Reference No. : 99007

Restrict Data : No

Ship Name : NAGASAKI MARU

Ship Type : Training Ship

Cruise No. /Name : Voy.No.. 116

Cruise Period : 1999/05/08 to 1999/06/04

Port of Departure : Nagasaki

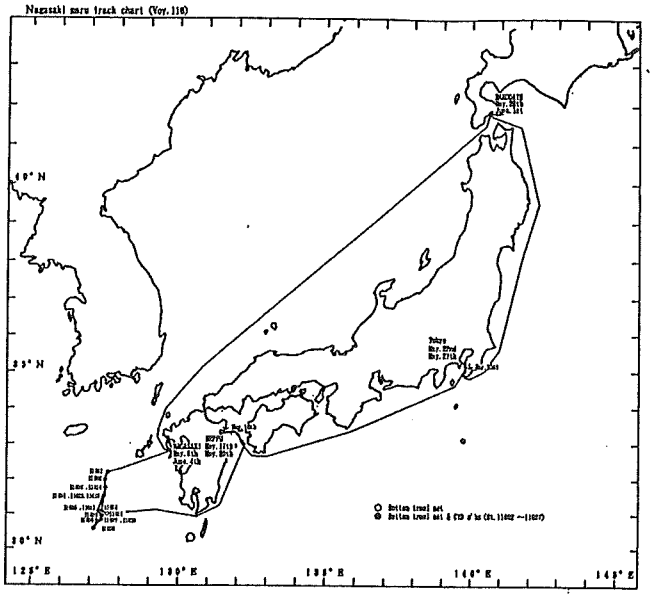
Port of Return : Nagasaki

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 : 132

Principal Investigators : Y. Morii / 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 :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	5	Stations	H10	Using Neil Brown Mark-3B
A	16	Samples	B65	Sampling of fish by bottom Trawl

****

Reference No. : 99008

Restrict Data : No

Ship Name : SEIFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 99-01

Cruise Period : 1999/01/19 to 1999/03/05

Port of Departure : Maizuru

Port of Return : Maizuru

Responsible Laboratory : Maizuru Marine Observatory, Japan Meteorological Agency

Chief Scientist(s) :

K. Hori and J. Jifuku / Maizuru Marine Observatory, Japan Meteorological Agency

General Ocean Area(s) : Japan sea

Geographic Coverage : 167,131

Project Name : IGOSS, WESTPAC, MARPOLMON

Coordinating Body : IOC

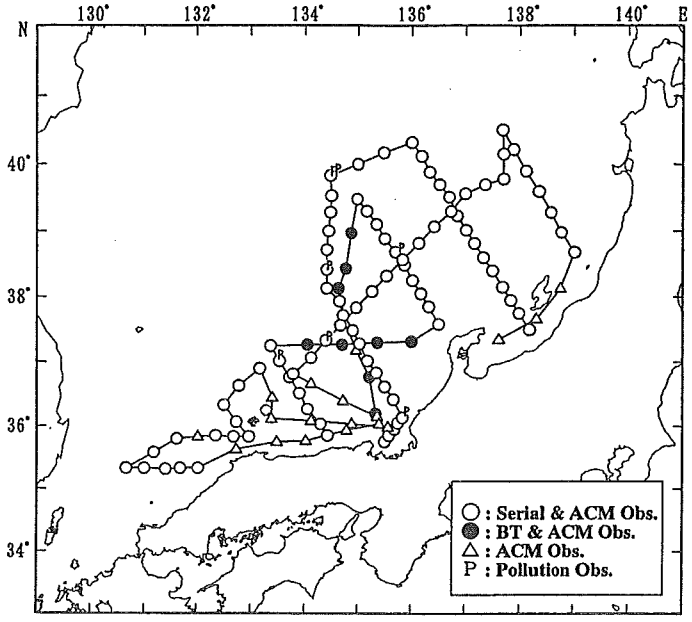
Principal Investigators :

A ; S. Kawae, Maizuru Marine Observatory, JMA

B ; N. Sato, Maizuru Marine Observatory, JMA

C ; K. Hori, Maizuru Marine Observatory, JMA

D ; T. Sakai, Climate and Marine Department, J.M.A.



Objectives and Brief Narrative of Cruise :

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

(1) Seasonal observation of marine condition.

(2) Monitoring background marine pollution.

Sea water sampling for radioactivity measurements.

Inspection of ocean data buoy.

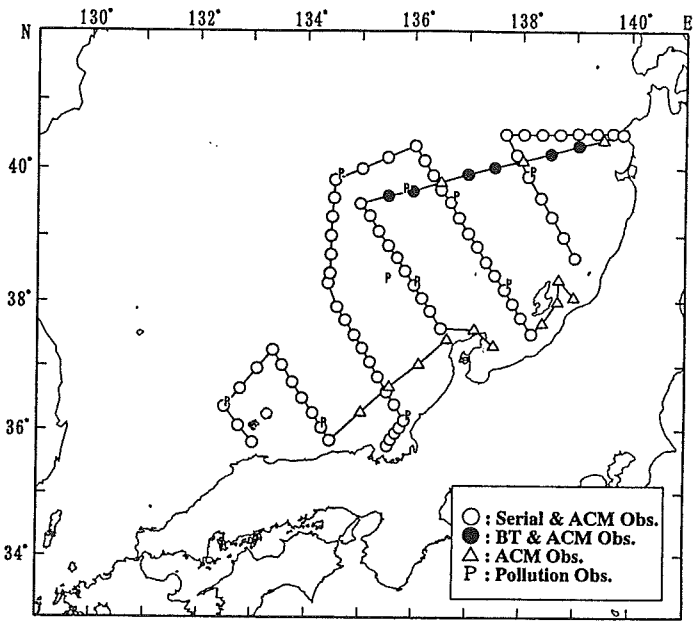
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	89	Stations	H10	Using Neil-Brown CTD
B	22	Stations	H21	Using Neil-Brown CTD with Rosette Sampler System
B	17	Stations	H22,H24,H25,B02	Using Neil-Brown CTD with Rosette 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	36	Stations	H16	Using Secchi Disk
A	4	Drops	H13	XBT drops with T6 and T7 type probe
B	4	Stations	H31	Gross beta radioactivity
A	117	Stations	D71	Using ADCP(FURUNO)
A	116	Stations	G73	Using echo sounder(KAIJO)
B	5	Stations	P03	Floating tar balls sampling using with Neuston net
B	26	Days	P90	Oil slicks and floating pollutants(Daytime only)
A	3,419	NM	H71	Measurements of near-surface temperature and salinity using T.S.G.
C	619	Times	M06	According to "WMO International Codes"

C	24	Ascents	M01	Using VAISALA Digicora MW II System and VAISALA RS80-15G Radio Sondes
C	206	Times	D72	Using microwave or Tucker wave gauge
A	5	Stations	H13	Using TSK DBT

****

Reference No. : 99009
Restrict Data : No
Ship Name : SEIFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-04
Cruise Period : 1999/04/28 to 1999/05/25
Port of Departure : Maizuru
Port of Return : Maizuru
Responsible Laboratory :
Maizuru Marine Observatory, Japan Meteorological Agency
Chief Scientist(s) : T. Segawa
General Ocean Area(s) : Japan sea
Geographic Coverage : 167,131
Project Name : IGOSS, WESTPAC, MARPOLMON
Coordinating Body : IOC
Principal Investigators : A ; N. Kubo / Maizuru Marine Observatory, Japan Meteorological Agency
B ; N. Sato / Maizuru Marine Observatory, Japan Meteorological Agency
C ; N. 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).

(1) Seasonal observation of marine condition.

(2) Monitoring background marine pollution.

Inspection of ocean data buoy.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	72	Stations	H10	Using Neil-Brown CTD
B	25	Stations	H21	Using Neil-Brown CTD with Rosette Sampler System
B	17	Stations	H22,H24,H25,B02	Using Neil-Brown CTD with Rosette 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	42	Stations	H16	Using Secchi Disk
A	4	Drops	H13	XBT drops with T6 and T7 type probe
A	2	Stations	H13	Using TSK DBT
A	91	Stations	D71	Using ADCP(Furuno)
A	91	Stations	G73	Using echo sounder(KAIJO)
B	9	Stations	P03	Floating tar balls sampling using with Neuston net
B	14	Days	P90	Oil slicks and floating pollutants (Daytime only)
A	2,228	NM	H71	Measurements of near-surface temperature and salinity using T.S.G.
C	234	Times	M06	According to "WMO International Codes
C	7	Ascents	M01	Using VAISALA Digicora MW II System and VAISALA RS80-15N Radio Sondes
C	117	Times	D72	Using micro wave or Tucker wave gauge

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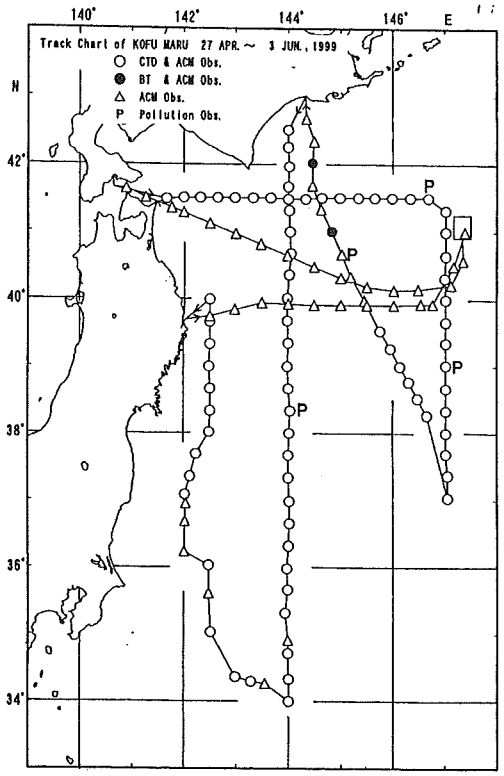
Reference No. : 99010
Restrict Data : No
Ship Name : KOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-04
Cruise Period : 1999/04/27 to 1999/06/03
Port of Departure : Hakodate
Port of Return : Hakodate
Responsible Laboratory :
Hakodate Marine Observatory, Japan Meteorological Agency
Chief Scientist(s) :
Y. Miura / Hakodate Marine Observatory, JMA
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 166,130
Project Name : IGOSS, WESTPAC, MARPOLMON
Coordinating Body : WMO, IOC
Principal Investigators : A ; H. Kamiya / Oceanographic Division, Hakodate Marine Observatory
B ; T. Aizawa / Maritime Meteorological Division, Hakodate Marine Observatory
C ; T. Sakai / Climate and Marine Department, 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) Observations for development of the ocean data assimilation system (COMPASS-K)
(5) Observations for the study of North Pacific Intermediate Water.

(6) Maritime meteorological observations of YAMASE event off Sanriku.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	2,941	NM	H71	Continuous sea surface temperature & salinity recording
A	86	Stations	H10	Using Neil Brown CTD
A	37	Stations	H09,H21,H22,H24,H25,B02	Using Neil Brown CTD with Rosette sampler.
A	22	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	10	Stations	H16	Using Secchi disk(Daytime only)
A	13	Stations	B08	Using bucket
A	13	Stations	B09	Using NORPAC net
A	2	Drops	H13	XBT drops with Deep Blue type probes
A	6	Drops	H10	XCTD drops with Tsunami Seiki XCTD probes.
A	134	Stations	D71	Using FURUNO Co. ADCP at 0, 50, 100m in depth
A	2,941	NM	H74,M71	CO2 concentrations in air and sea surface water
B	152	Times	M06	Observed every three hours
B	299	Times	M90	Hourly Weather report except M06.
B	27	Ascents	M01	Using VAISALA system.
B	152	Times	D72	Using Micro-wave & Tucker wave gauge.
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.
C	4	Stations	P03	Using Neuston net.
C	59	Stations	H74	Sampling for analysis of inorganic carbons.

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Reference No. : 99011
Restrict Data : In part
Ship Name : KAKUYO MARU
Ship Type : Training Ship
Cruise No. /Name : Voy.No.. 139
Cruise Period : 1999/05/22 to 1999/05/30
Port of Departure : Nagasaki
Port of Return : Nagasaki
Responsible Laboratory : Faculty of Fisheries, Nagasaki Univ.
Chief Scientist(s) : T. Matsuno / Faculty of Fisheries, Nagasaki Univ.
General Ocean Area(s) : East China Sea
Geographic Coverage : 132,96
Principal Investigators :

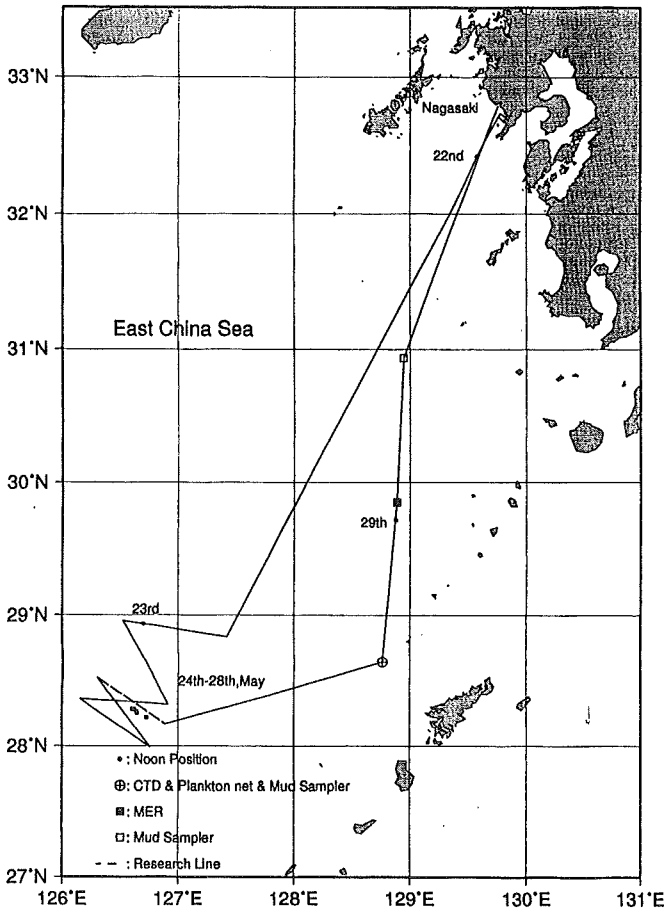
A ; T. Matsuno / Faculty of Fisheries, Nagasaki Univ.

B ; A. Isobe / Kyusyu Univ.

C ; J. Ishizaka / Faculty of Fisheries, Nagasaki Univ.

D ; T. Suzuki / Faculty of Fisheries, Nagasaki Univ.

E ; H-J. Cho / Faculty of Fisheries, Nagasaki Univ.



Objectives and Brief Narrative of Cruise :

The purpose of the cruise consists of five parts. The objectives of the observation are as follows.

(1) The behavior of the frontal eddies formed along the Kuroshio around the shelf break in the East China Sea

(2) Subduction of low salinity water and the intrusion of high turbid water into the Kuroshio

(3) Chlorophyll and nutrient variabilities across the Kuroshio front and spectral radiation in the water in the East China Sea

(4) Studies on microbial components in the East China Sea

(5) Distribution of dinoflagellate cyst from the surface sediment in the East China Sea

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	28.15N	126.46E	D01	Aandera type current meter/ current velocity and temperature/ two: 133m, 183m below the surface/ moored on May 24 and recovered on May 28
A	28.15N	126.46E	D01	Electromagnetic current meter/ current velocity and temperature /one: 203m below the surface / moored on May 24 and recovered on May 28
A	28.15N	126.46E	H72	Thermistor chain/ temperature/ one:158-178m below the surface/ moored on May 24 and recovered on May 28

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
B	39	Stations	H13	XBT(T6 and T10 Type probes)
B	13	Times	D71	Repeated observation along a specified section with towed ADCP
A	45	Stations	H10,H16	CTD(Neil Brown Mark 3B)[Sta.1-9] × 5 times Vertical profiles of turbidity with MTB-8MD(Alec Elec.Co.). Water depth is from 120m to 600m
C	29	Stations	H22,H24,H25,B02	Water samples with Niskin bottles on a Rosette sampler 10 to 12

				samples at each stations will be analyzed for nutrients and chlorophyll-a.
C	6	Stations	H17	Vertical profiles of spectral radiation in the water with MER-2040
D	6	Stations	B08,B09	NORPAC net sampling with vertical towing from 150m to the surface
D	6	Stations	B07,B08,B09	Water samples with Niskin bottles on a Rosette sampler Microbial components will be examined from 10 to 12 samples at each Stations.
E	13	Stations	G02,B08	Sampling of surface sediment with Ekman-barge sampler. Distribution of dinoflagellate cyst will be examined.

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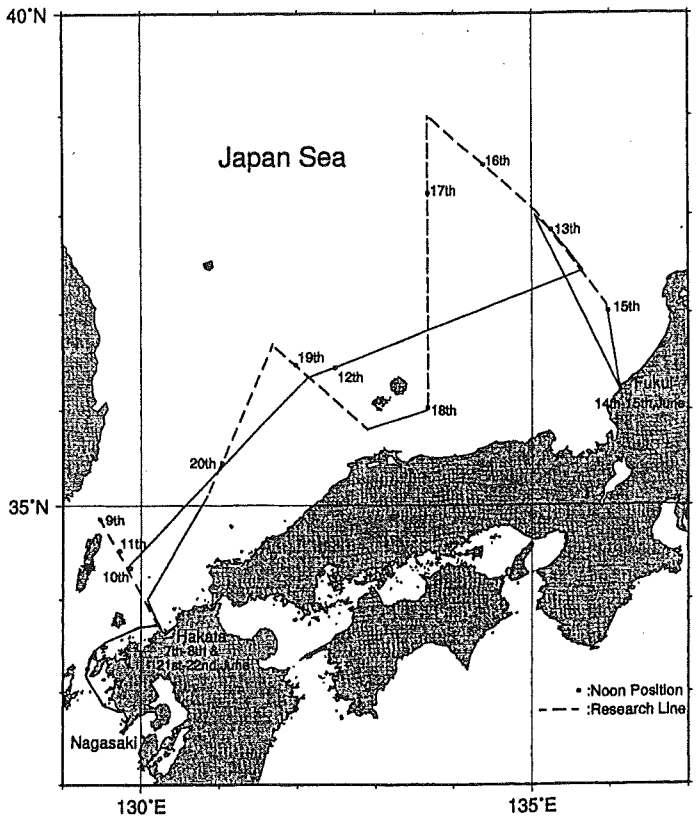
Reference No. : 99012
Restrict Data : In part
Ship Name : KAKUYO MARU
Ship Type : Training Ship
Cruise No. /Name : Voy.No.140
Cruise Period : 1999/06/07 to 1999/06/22
Port of Departure : Nagasaki
Port of Return : Nagasaki
Responsible Laboratory :
Research Institute for Applied Mechanics (RIAM), Kyusyu Univ.
Chief Scientist(s) :
Jong-Hwan Yoon / RIAM, Kyusyu Univ.
General Ocean Area(s) : Japan Sea



Specific Areas : The Tsushima Straits and southern part of the Japan Seas
Geographic Coverage : 132,131
Project Name : CREAMS(Circulation Research of the East Asian Marginal Seas)
Coordinating Body : RIAM, Kyusyu Univ.
Principal Investigators : A ; J-H. Yoon / RIAM, Kyusyu Univ.
B ; W. Koterayama / RIAM, Kyusyu Univ.
C ; T. Senju / National Fisheries Univ.
D ; H.-S. An / Seoul National Univ.
E ; K. Katayama / Faculty of Fisheries, Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

(1) To estimate the heat transport and current structure through the Tsushima/Korea Straits

(2) To clarify the water exchange between the Yamato Basin and Ulleung/ Tsushima Basin

(3) To Clarify the circulation in the Yamato and Tsushima/ Ulleung Basin with a special emphasis on the intermediate and deep Circulation

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	37.24N	135.39E	D01	Aandera type current meter/ current velocity and temperature/ two:1700m,2000m and 2600m below the surface/ moored on 7 June, 1998 and recovered on 13 June,1999
A	37.26N	135.40E	D01	Aandera type current meter/ current velocity and temperature/ two:1000m, 2000m below the surface/ moored on 13 June, 1999
C	38.40N	133.40E	D01	Aandera type current meter/ current velocity and temperature/ two:900m,1200m below the surface/ moored on 13 June, 1998 and recovered on 17 June,1999
C	37.20N	133.40E	D01	Aandera type current meter/ current velocity and temperature/ two:1000m,1300m below the surface/ moored on 17 June, 1999
C	38.40N	133.40E	D01	Aandera type current meter/ current velocity and temperature/ two:1000m,1300m below the surface/ moored on 17 June, 1999
A	38.00N	135.03E	D01	Aandera type current meter/ current velocity and temperature/ two:900m,1900m below the surface/ moored on 13 June, 1999
D	36.21N	132.08E	D01	Aandera type current meter/ current velocity and temperature/ two:1000m,1400m below the surface/ moored on 15 June, 1998 and recovered on 12 June,1999
D	36.21N	132.08E	D01	Aandera type current meter/ current velocity and temperature/ two:1000m,1400m below the surface/ moored on 19 June, 1999

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	22	Stations	H10	CTD(Neil Brown Mark 3B) [Sta.A1-15],[Sta.B1-B7]
A	13	Times	D71	Repeated observation with ADCP mounted on Flying Fish
C	10	Stations	H10	CTD(Neil Brown Mark 3B) [Sta.C1-C10]
D	19	Stations	H10	CTD(Neil Brown Mark 3B) [Sta.D1-D19]
E	3	Stations	H17	Vertical profiles of spectral radiation in the water with MER-2040
C	5	Stations	H09	Water samples with Niskin bottles on a Rosette sampler 10 to 12 samples at each Stations will be analyzed for salinity and Dissolved oxygen.
B	1	Times		Controll experiment of Flying Fish kinematics

****

Reference No. : 99013

Restrict Data : In part

Ship Name : KAKUYO MARU

Ship Type : Training Ship

Cruise No. /Name : Voy.No.141
Cruise Period : 1999/06/28 to 1999/07/06
Port of Departure : Nagasaki
Port of Return : Nagasaki
Responsible Laboratory : Faculty of Fisheries, Nagasaki Univ.
Chief Scientist(s) : T. Noguchi / Faculty of Fisheries, Nagasaki Univ.
General Ocean Area(s) : East China Sea
Geographic Coverage : 96
Principal Investigators : A ; T. Noguchi / Faculty of Fisheries, Nagasaki Univ.
B ; M. Tsuchimoto / Faculty of Fisheries, Nagasaki Univ.
C ; H. Nakagawa / Department of Life Sciences, Univ. of Tokushima
D ; K. Yamamori / School of Fisheries Sciences, Kitasato Univ.
E ; T. Matsui / Graduate School of Agricultural Lifescience, Univ. of Tokyo
F ; H. Suzuki / Institute of Tropical Medicine, Nagasaki Univ.
G ; Y. Nagashima / Dept. of Food Science and Technology, Tokyo Univ. of Fisheries
H ; K. Tachibana / Faculty of Fisheries, Nagasaki Univ.
I ; O. Arakawa / Faculty of Fisheries, Nagasaki Univ.
J ; T. Takatani / Graduate School of Marine Science & Engineering Nagasaki Univ.

Objectives and Brief Narrative of Cruise :

(1) Training of navigation.
(2) Sampling of toxic crab and puffer fish.
(3) Sampling of fish.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
D			B12	3 species of toxic crabs were collected on reefs of Ishigaki Island.
			B14,B19	Sampling of toxic puffer and body in Iriomote Island.
B,H			B14,B19	Sampling of fish for research of nutritional science in Iriomote Island.
C			B18	Sampling of sea urchin for toxicological research.

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Reference No. : 99014
Restrict Data : In part
Ship Name : KAKUYO MARU
Ship Type : Training Ship
Cruise No. /Name : Voy.No.144
Cruise Period : 1999/10/24 to 1999/12/22
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 : 59,23,391

Principal Investigators :

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.

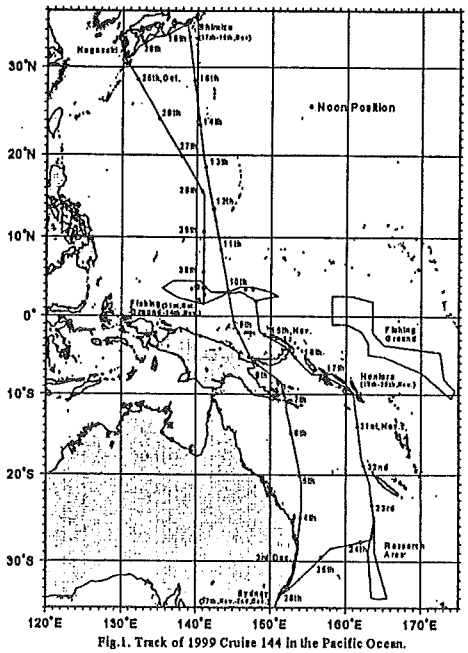

Fig.1. Track of 1999 Cruise 144 in the Pacific Ocean.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	7	Stations	H10	Using Neil-Brown Mark-3K CTD(Upper 1000m)
A	25	Stations	H13	XBT(T6 Type probes)

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Reference No. : 99015

Restrict Data : No

Ship Name : KOFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 99-06

Cruise Period : 1999/06/28 to 1999/08/10

Port of Departure : Hakodate

Port of Return : Hakodate

Responsible Laboratory : Hakodate Marine Observatory, Japan Meteorological Agency

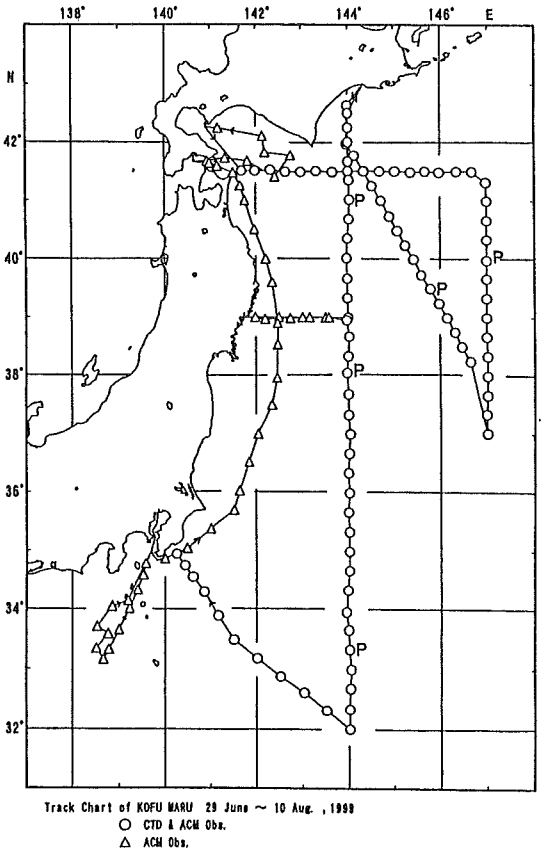
Chief Scientist(s) : T. Kohama, Hakodate Marine Observatory, JMA

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 130,166

Project Name : IGOSS, WESTPAC, MARPOLMON

Coordinating Body : WMO, IOC



Principal Investigators : A ; H. Kamiya / Hakodate Marine Observatory, JMA

B ; T. Aizawa / Hakodate Marine Observatory, JMA

C ; T. Sakai / Climate and Marine Dept., JMA

D ; S. Saito / Seismological and Volcanological Dept., JMA

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) Observations for development of the ocean data assimilation system(COMPASS-K).

(5) Observations for the study of North Pacific Intermediate Water.

(6) Maritime meteorological observation of YAMASE event off Sanriku.

(7) Deployment ocean bottom seismographs.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	41.47N	141.38E	G90	Deployed ocean bottom seismograph on 1999/06/28.
D	41.37N	141.52E	G90	Deployed ocean bottom seismograph on 1999/06/28.
D	41.24N	142.09E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	41.24N	142.29E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	41.24N	142.48E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	41.47N	142.46E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	41.46N	142.26E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	41.50N	142.07E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	42.01N	142.22E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	42.08N	142.05E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	42.11N	141.34E	G90	Deployed ocean bottom seismograph on 1999/06/29.
D	34.12N	138.42E	G90	Deployed ocean bottom seismograph on 1999/07/31.
D	33.22N	138.31E	G90	Deployed ocean bottom seismograph on 1999/07/31.
D	33.29N	138.39E	G90	Deployed ocean bottom seismograph on 1999/07/31.
D	33.40N	138.53E	G90	Deployed ocean bottom seismograph on 1999/07/31.
D	33.48N	138.38E	G90	Deployed ocean bottom seismograph on 1999/07/31.
D	33.51N	138.49E	G90	Deployed ocean bottom seismograph on 1999/08/01.
D	33.53N	138.59E	G90	Deployed ocean bottom seismograph on 1999/08/01.
D	34.00N	139.08E	G90	Deployed ocean bottom seismograph on 1999/08/01.
D	34.04N	138.50E	G90	Deployed ocean bottom seismograph on 1999/08/01.
D	34.06N	139.02E	G90	Deployed ocean bottom seismograph on 1999/08/01.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	2,407	NM	H71	Continuous sea surface temperature & salinity recording.
A	91	Stations	H10	Using Neil Brown CTD.
A	24	Stations	H09,H21,H22,H24,H25,B02	Using Neil Brown CTD with Rosette sampler.
A	6	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	50	Stations	H16	Using secchi disk(Daytime only).

A	6	Stations	B08	Using bucket.
A	6	Stations	B09	Using NORPAC net.
A	138	Stations	D71	Using FURUNO Co. ADCP at 0,50,100m in depth.
A	2	Samples	H31	Sampling for measurement of Total β radioactivity.
A	2,047	NM	H74,M71	CO2 concentrations in air and sea surface water.
B	167	Times	M06	Observed every three hours.
B	326	Times	M90	Hourly Weather report except M06.
B	22	Ascents	M01	Using VAISALA system.
B	167	Times	D72	Using micro-wave & Tucker wave gauge.
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	5	Stations	P03	Using Neuston net.
C	51	Stations	H74	Sampling for analysis of total inorganic carbons.

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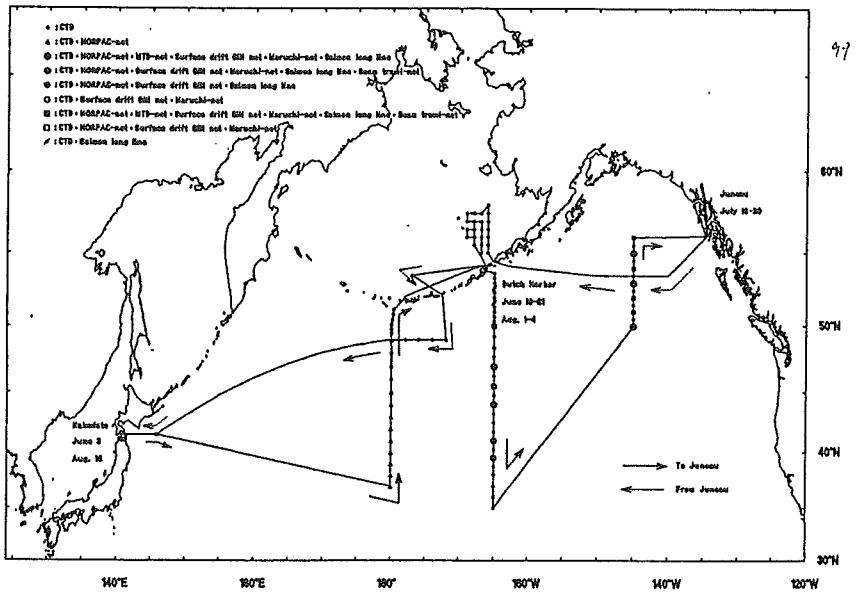
Reference No. : 99016
Restrict Data : Yes
Ship Name : OSHORO MARU
Ship Type : Training Ship
Cruise No. /Name : Cruise 95
Cruise Period :
1999/06/03 to 1999/08/18
Port of Departure : Hakodate
Port of Return : Hakodate
Responsible Laboratory :
Faculty of Fisheries, Hokkaido Univ.



Chief Scientist(s) : H. Yamaguchi / Faculty of Fisheries, Hokkaido Univ.
General Ocean Area(s) : North Pacific Ocean, Bering Sea
Geographic Coverage : 125,126,161,162,166,195,197,198
Project Name : Assessment and Status of Pacific Rim Salmonid Stocks
Coordinating Body : NPAFC(North Pacific Anadromous Fish Commission)
Principal Investigators : A ; Prof. G. Anma / Faculty of Fisheries, Hokkaido Univ.
B ; Associate Prof. H. Yamaguchi / Faculty of Fisheries, Hokkaido Univ.
C ; S. Takagi / Faculty of Fisheries, Hokkaido Univ.
D ; Y. Kamei / Faculty of Fisheries, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

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

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

C. Investigation for horizontal distribution of zooplankton in the North Pacific.

Main Task

(1) Hydrographic casts by CTD.

(2) Water sampling by R.M.S.

(3) Sampling by surface drifting gill-net.

(4) Surface tows with a multi-net.

(5) Vertical hauls with a NORPAC net.

(6) Horizontal tows with MTD-nets.

(7) Oblique tows with a Beam trawl net.

(8) Samplings by salmon long-lines.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	93	Stations	H10,H16,H22,H24,H25,H26	Using Neil Brown CTD(Mark3B) and Rosette multi sampler(12 bottles).
A	13	Stations	B14,B20	Catch number and biological characteristics of fishers and squids caught by nonselective surface drifting gill-net(49 tan).
A	12	Stations	B37	Release and recovery position of salmonids tagged after capture using salmon long-line.
A	6	Stations	B11	Catch number and wet weight of large plankton and small necton collected by a beam trawl net.
B,D	11	Stations	B13	Catch number and wet weight of fish larvae collected by a multi net.
C	22	Stations	B09	Catch number and wet weight of zooplankton collected by a NORPAC net.
C	7	Stations	B09	Catch number and wet weight of zooplankton collected by MTD net.

****

Reference No. : 99017

Restrict Data : No

Ship Name : KOFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 99-09

Cruise Period : 1999/09/29 to 1999/10/29

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, MARPOLMON

Coordinating Body : WMO,IOC

Principal Investigators :

A ; H. Kamiya / Hakodate Marine Observatory, JMA

B ; T. Aizawa / Hakodate Marine Observatory, JMA

C ; T. Sakai / Climate and Marine Dept., JMA

Objectives and Brief Narrative of Cruise :

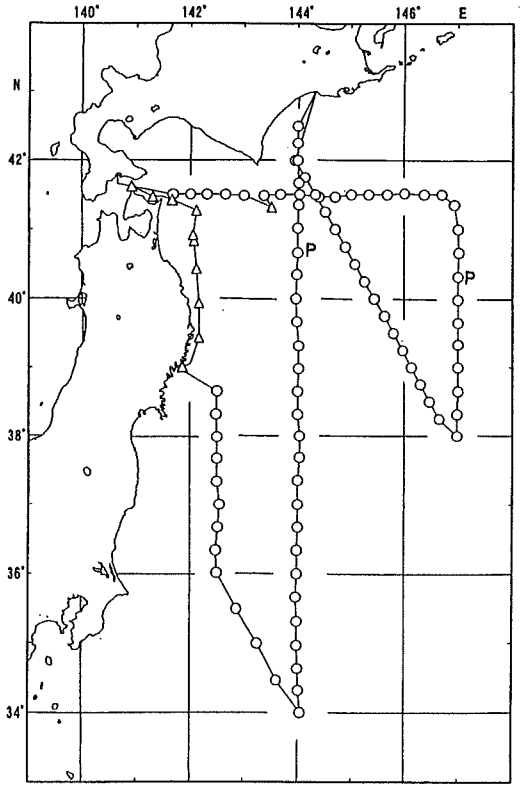
(1) Regular observation of oceanography and meteorology.

(2) Background marine pollution monitoring.

(3) Observations for the Subarctic Gyre Experiment.

(4) Observations for development of the ocean data assimilation system (COMPASS-K).

(5) Ocean wave sampling for the data of coastal wave recorders.



Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	1,961	NM	H71	Continuous sea surface temperature and salinity recording.
A	66	Stations	H10	Using Neil Brown CTD.
A	21	Stations	H09,H21,H22,H24,H25,B02	Using Neil Brown CTD with Rosette sampler.
A	6	Stations	H28	Using Neil Brown CTD with Rosette sampler.
A	32	Stations	H16	Using Secchi disk(Daytime only).
A	6	Stations	B08	Using bucket.
A	6	Stations	B09	Using NORPAC net.
A	16	Drops	H10	Using TSK XCTD.
A	93	Stations	D71	Using ADCP(FURUNO) at 0,50,100m in depth.
A	1961	NM	H74,M71	CO2 concentrations in air and sea surface water.
B	132	Times	M06	Observed every 3 hours.
B	252	Times	M90	Hourly Weather report except M06.
B	132	Times	D72	Using Micro wave and Tucker wave gauge.
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	42	Stations	H74	Sampling for analysis of total inorganic carbons.
C	2	Stations	P03	Using Neuston net.

****

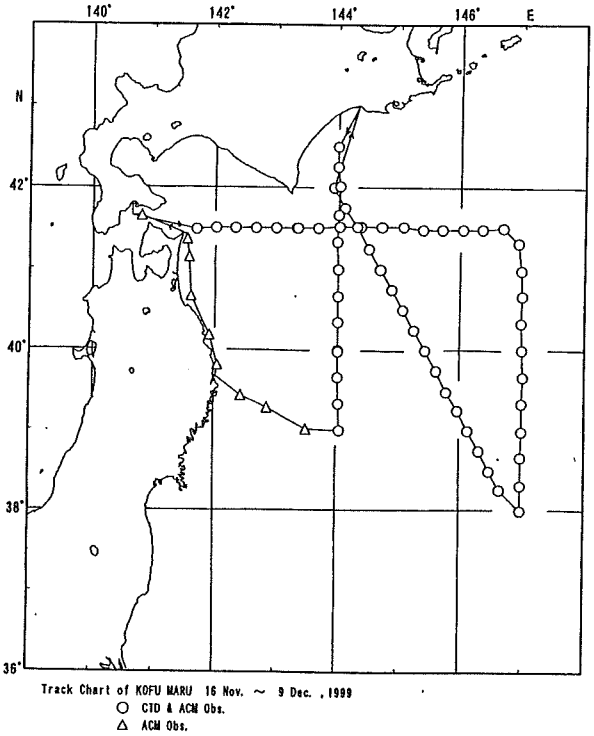
Reference No. : 99018
Restrict Data : No
Ship Name : KOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-11
Cruise Period : 1999/11/16 to 1999/12/09
Port of Departure : Hakodate
Port of Return : Hakodate
Responsible Laboratory :

Hakodate Marine Observatory, Japan Meteorological Agency

Chief Scientist(s) :

M. Kumagai / Hakodate Marine Observatory, JMA

General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 130,166
Project Name : IGOSS, WESTPAC
Coordinating Body : WMO, IOC
Principal Investigators : A ; H. Kamiya / Hakodate Marine Observatory, Japan Meteorological Agency
B ; T. Aizawa / Hakodate Marine Observatory, Japan Meteorological Agency
C ; T. Sakai / Japan Meteorological Agency
D ; N. Shikawa / Meteorological Research Inst.



Objectives and Brief Narrative of Cruise :

(1) Regular observation of oceanography and marine meteorology.
(2) Observations for the Subarctic Gyre Experiment.
(3) Observations for development of the ocean data assimilation system(COMPASS-K).
(4) Deployment ALACE floats.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	39.39N	147.02E	D05	Deployment ALACE float on 21 Nov. 1999 / Setting depth is 400m.
D	39.19N	147.00E	D05	Deployment ALACE float on 21 Nov. 1999 / Setting depth is 400m.
D	38.59N	147.00E	D05	Deployment ALACE float on 21 Nov. 1999 / Setting depth is 400m.
D	38.39N	146.58E	D05	Deployment ALACE float on 21 Nov. 1999 / Setting depth is 400m.
D	38.19N	146.58E	D05	Deployment ALACE float on 21 Nov. 1999 / Setting depth is 400m.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	1,599	NM	H71	Continuous sea surface temperature and salinity recording.
A	41	Stations	H10	Using Neil Brown CTD.
A	7	Stations	H09,H21,H22,H24,H25,B02	Using Neil Brown CTD with Rosette sampler.
A	6	Stations	H28	Using Neil Brown CTD with Rosette sampler.

A	18	Stations	H16	Using Secchi Disk (daytime only).
A	16	Drops	H10	Using TSK X-CTD.
A	66	Stations	D71	Using ADCP(FURUNO).
A	1,434	NM	H74,M71	CO2 concentrations in air and sea surface water.
B	87	Times	M06	Observed every 3 hours.
B	174	Times	M90	Hourly Weather report except M06.
B	87	Times	D72	Using micro wave and Tucker wave gauge.
C	28	Stations	H74	Sampling for analysis of total inorganic carbons.

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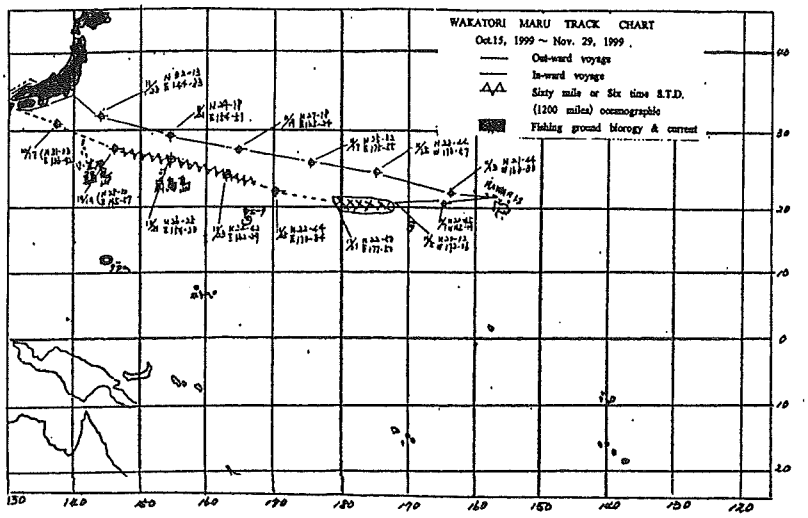
Reference No. : 99019
Restrict Data : Yes
Ship Name : WAKATORI MARU
Ship Type : Training Ship
Cruise Period : 1999/10/15 to 1999/11/29
Port of Departure : Sakai
Port of Return : Sakai



Responsible Laboratory : Tottori Prefectual Sakai Fishery Hight School (THS)
Chief Scientist(s) : K.Komai / THS
General Ocean Area(s) : North Pacific Ocean
Specific Areas : Main area : (19-25N to 22-08N at Lat., 177-50E to 171-35E at Long.)
Tuna long line fisheries and drifting buoy for surface current.
Geographic Coverage : 91,54,55
Principal Investigators : A ; K. Komai,T.Suga / THS
B ; K. Komai / THS

Objectives and Brief Narrative of Cruise :

Training for tuna long line fisheries accompanied with oceanographic observation and biological research.

(1) To go sailing oceanographic observation at 60 miles intervals(6 hours) in the section of 1200 miles.

(2) Oceanographic and meteorological observations in fishing ground once a day.

(3) To measures body length of all the caught tuna, to decide sex gonad weight.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
	22.08N	177.50E	D03	Tuna long line first buoy Oct. 27, 1999.
	20.01N	176.38W	D03	Tuna long line first buoy Oct. 29, 1999.
	19.57N	175.42W	D03	Tuna long line first buoy Oct. 30, 1999.
	19.25N	175.10W	D03	Tuna long line first buoy Oct. 31, 1999.
	19.25N	175.06W	D03	Tuna long line first buoy Nov. 1, 1999.

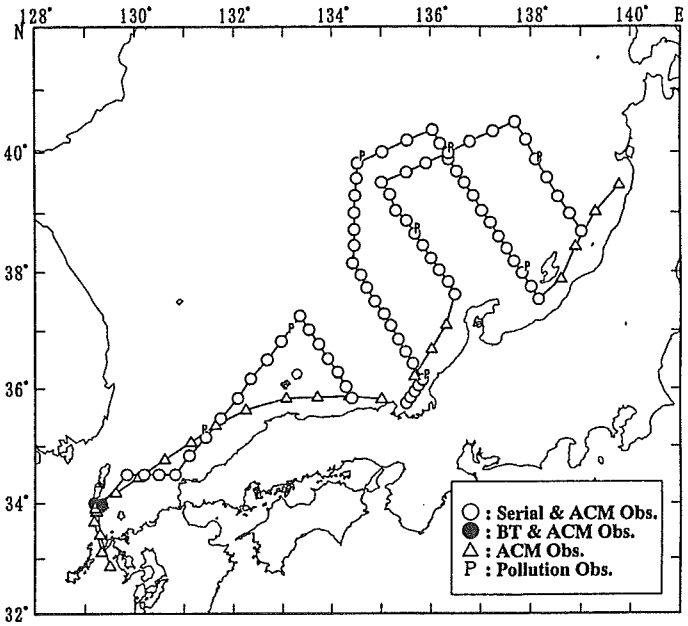
19.37N	173.56W	D03	Tuna long line first buoy Nov. 2, 1999.
19.57N	172.54W	D03	Tuna long line first buoy Nov. 3, 1999.
20.12N	171.44W	D03	Tuna long line first buoy Nov. 4, 1999.
20.01N	171.35W	D03	Tuna long line first buoy Nov. 5, 1999.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	22	Stations	H10,H90,M90	STD(upper 1000m) by ALEC.
A	15	Stations	H16	
B	9		H10,H90,M90	STD(upper 1000m) by ALEC.
B	9		B13,B90	Measure body length and decide sex.

****

Reference No. : 99020
Restrict Data : In part
Ship Name : SEIFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-06
Cruise Period : 1999/06/24 to 1999/08/13
Port of Departure : Maizuru
Port of Return : Maizuru
Responsible Laboratory :
Maizuru Marine Observatory, Japan Meteorological Agency



Chief Scientist(s) : K. Hori / Maizuru Marine Observatory, Japan Meteorological Agency
N. Kubo / Maizuru Marine Observatory, Japan Meteorological Agency
General Ocean Area(s) : Japan Sea
Geographic Coverage : 131,132,167
Project Name : IGOSS, WESTPAC, MARPOLMON
Coordinating Body : IOC
Principal Investigators : A ; N. Kubo / 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
E ; K. Hirose / Meteorological Research Inst.

Objectives and Brief Narrative of Cruise :

(1) A routine oceanographic observation(physical, chemical and biological)
a. Seasonal observation of marine condition.
b. Monitoring background marine pollution.

(2) Sea water sampling for radioactivity measurements.

(3) Deployment of data assimilation system of ocean observation inspection of ocean data buoy.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	76	Stations	H10	Using Neil Brown CTD.
B	25	Stations	H21	Using Neil Brown CTD with Rosette Sampler system.
B	17	Stations	H22,H24,H25,B02	Using Neil Brown CTD with Rosette 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	50	Stations	H16	Using Secchi Disk.
A	2	Stations	H13	Using TSK XBT.
B	4	Stations	H31	Gross beta radioactivity.
A	107	Stations	D71	Using ADCP(FURUNO).
A	107	Stations	G73	Using echo sounder(KAIJO).
B	6	Stations	P03	Floating tar balls sampling using with Neuston net.
B	26	Days	P90	Oil slicks and floating pollutants(Daytime only).
A	3056	NM	H71	Measurements of near-surface temperature and Salinity Using T.S.G.
C	584	Times	M06	According to "WMO International Codes.
C	62	Ascents	M01	Using VAISALA Digicora MW II system and VAISALA RS80-15N Radio Sonde.
C	196	Times	D72	Using micro wave or Tucker wave gauge.
E	3	Stations	H32	Sea water sampling for radioactivity measurements 137Cs.
E	3	Stations	H32	Sea water sampling for radioactivity measurements 239,240Pu.
E	1	Stations	H32	Sea water sampling for radioactivity measurements 14C.

****

Reference No. : 99021

Restrict Data : No

Ship Name : SEIFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 99-10

Cruise Period : 1999/10/06 to 1999/11/05

Port of Departure : Maizuru

Port of Return : Maizuru

Responsible Laboratory : Maizuru Marine Observatory, Japan Meteorological Agency

Chief Scientist(s) :

K. Sakurai / Maizuru Marine Observatory, Japan Meteorological Agency

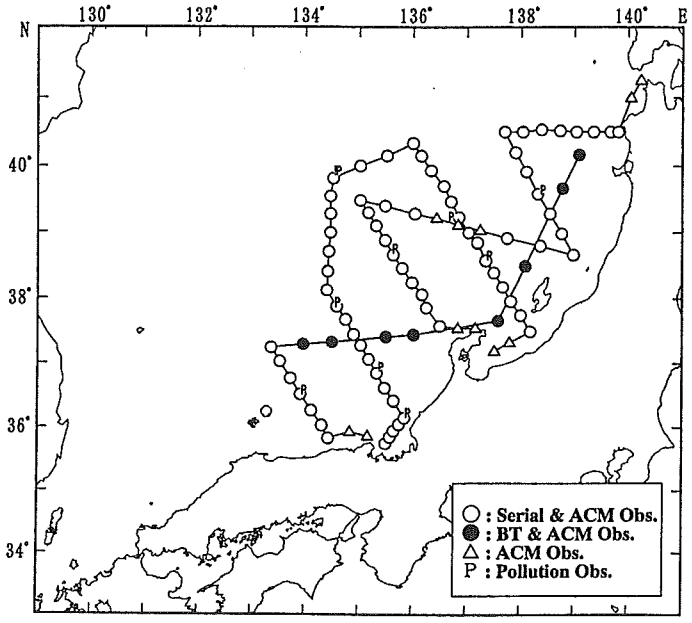
General Ocean Area(s) : Japan Sea

Geographic Coverage : 131,167

Project Name :

IGOSS, WESTPAC, MARPOLMON

Coordinating Body : IOC



Principal Investigators : A ; N. Kubo / 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 condition.

b. Monitoring background marine pollution.

Inspection of ocean data buoy.

Summary of Measurements and Samples Taken :

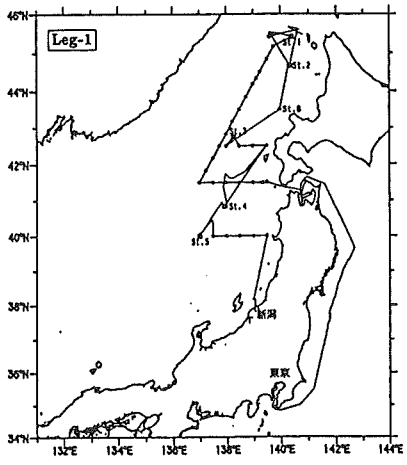
PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	71	Stations	H10	Using Neil-Brown CTD.
B	23	Stations	H21	Using Neil-Brown CTD with Rosette Sampler System.
B	17	Stations	H22,H24,H25,B02	Using Neil-Brown CTD with Rosette Sampler System.
B	3	Stations	H28	Using Neil-Brown CTD with Rosette Sampler System.
B	9	Stations	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	32	Stations	H16	Using secchi disk.
A	8	Stations	H13	Using TSK XBT.
A	90	Stations	D71	Using ADCP(FURUNO).
A	90	Stations	G73	Using echo sounder(KAIJO).
B	8	Stations	P03	Floating tar balls sampling(Using Neuston net).

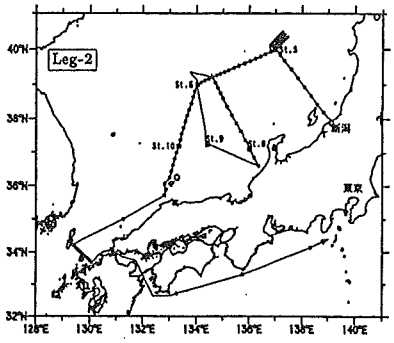
B	16	Days	P90	Oil slicks and floating pollutants(Daytime only).
A	2,365	NM	H71	Surface temperature and salinity using T.S.G.
C	373	Times	M06	According to WMO International Codes.
C	10	Ascents	M01	Using VAISALA Digicora MW II and RS80-15N Radio sondes.
C	125	Times	D72	Using micro wave or Tucker wave gauge.

****

Reference No. : 99022
Restrict Data : In part
Ship Name : HAKUHO MARU
Ship Type : Research Vessel
Cruise No. /Name : KH99-4
Cruise Period : 1999/09/02 to 1999/10/25
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s) : Prof. M. Terazaki
General Ocean Area(s) : Japan Sea
Geographic Coverage : 131
Project Name : NEAR-GOOS
Coordinating Body : Ocean Research Institute, Univ. of Tokyo

航跡図





Principal Investigators : A ; M. Terazaki / Ocean Research Institute, Univ. of Tokyo
B ; S. Fujio / Ocean Research Institute, Univ. of Tokyo
C ; S. Kojima / Ocean Research Institute, Univ. of Tokyo
D ; K. Furuya / Faculty of Agricultural & life Science Univ. of Tokyo
E ; M. Minagawa / Graduate school of enviromental Science. Hokkaido Univ.
F ; J. Bower / Faculty of Fisheries, Hokkaido Univ.

Objectives and Brief Narrative of Cruise :

Synthetic study on biological production in the Japan sea.

(1) Survey of water temp., salinity and current system.
(2) Study on circulation mechanisms and distribution of aerosols.
(3) Study on primary production and distribution of phytoplankton.
(4) Ecological study on zooplankton, benthos and pelagic fishes.
(5) Study on population dynamics of squids.
(6) Chemical and radio chemical studies of water.
(7) Survey of sea floor topography.

Moorings, Bottom Mounted Gear and Drifting Systems :

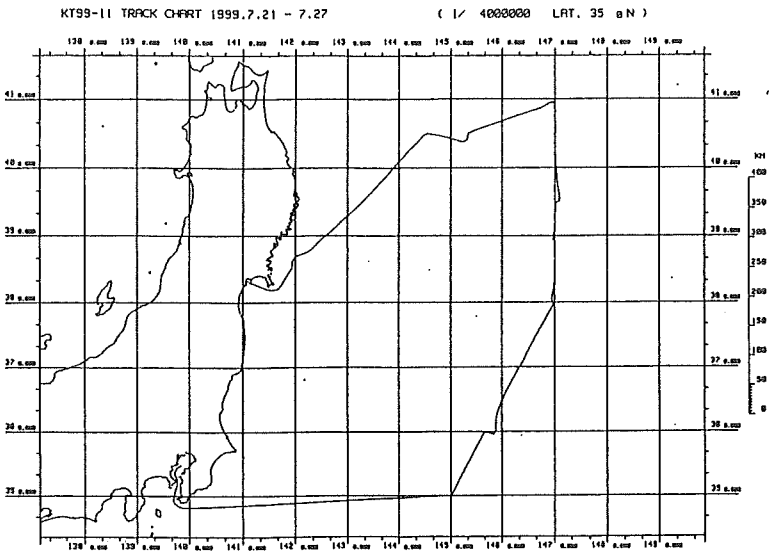
PI	LAT.	LON.	DATA TYPE	DESCRIPTION
E	42.45N	138.17E		Sediment traps (1090m, 1600m, 3110m) 1999/10/02.
D	45.25N	140.25E		Drifting buoy 10m depth primary production 3 days (1999/09/29-1999/10/01).
D	40.01N	136.59E		Drifting buoy 10m depth primary production 2 days (1999/10/04-1999/10/05).

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
B	112	Stations		CTD-RMS (water, temp, salinity, DO, Nutrients).
B	All	Stations		32-1000m (each 16m depth) all track chart.
B	1	units		P-Alace-Floot (Profile Antonomous Lagangean Circulation Explorer) 320m depth-water temperature.
A	31	Stations		NORPAC net plankton sampling horizontal distribution.
A	2	Stations		Vertical Malutiple Plankton Sampler (VMPS) vertical distribution (8 layers) of zooplankton.
A	3	Stations		MOCNES (16 layers) vertical distribution of zooplankton.
F	15	Stations		Bongo-net distribution of squid larvae.
C	7	Stations		4m beam trawl distribution of benthos.
D	15	Stations		CTD-RMS(Phytoplankton, primary production).

****

Reference No. : 99023
Restrict Data : In part
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-99-11
Cruise Period : 1999/07/21 to 1999/07/27
Port of Departure : Tokyo
Port of Return : Shiogama
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : K. Kawaguchi / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Specific Areas : Kuroshio, Oyashio, Transitional area
Geographic Coverage : 130
Principal Investigators : A ; K. Kawaguchi
B ; J. Nishikawa
C ; A. Hayashi

D ; M. Moku

E ; C. Sassa

Objectives and Brief Narrative of Cruise :

(1) Early life history of Mictephiid fishes.

(2) Vertical distribution and feeding ecology of planktonic amphipods.

(3) Behaiviour, food habit, and molecular biology of planktonic copepods.

(4) Life history of pelagic shrimps.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
B	8	Cast		CTD cast 0-500m or 1000m
B	10	Tows		IKPT net 0-1000,3000m oblique tow.
B	3	Tows		MTD net
B	5	Tows		NORPAC net

****

Reference No. : 99025

Ship Name : TANSEI MARU

Ship Type : Research Vessel

Cruise No. /Name : KT-99-16

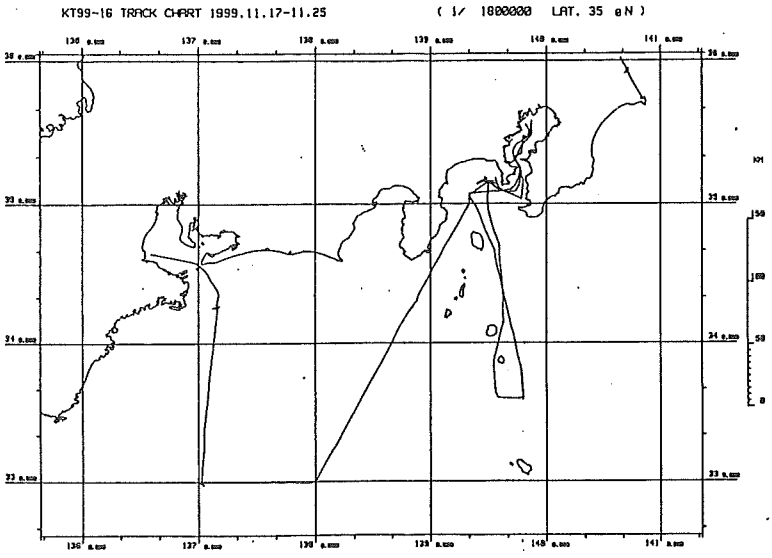
Cruise Period : 1999/11/17 to 1999/11/25

Port of Departure : Tokyo

Port of Return : Matsuzaka

Responsible Laboratory :

Ocean Research Institute, Univ. of Tokyo



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

General Ocean Area(s) : North Pacific Ocean

Specific Areas : Tokyo Bay, Sagami Bay

Geographic Coverage : 131

Principal Investigators : A ; K. Kogure / Ocean Research Institute, Univ. of Tokyo

B ; T. Takeucti / The University of Electro-Communications.

C ; K. Rikiishi / Hirosaki University.

Objectives and Brief Narrative of Cruise :

The cruise had three major objective. First, for the purpose of clarifying the total amount of Kuroshio Current between Miyakejima Island and Hachijojima Island, the current speed was continuously monitored by ADCP for about 29 hours.

Second, a test of hop-up type XBT was conducted. the system was moored for about 5 days in Sagami Bay, but some mechanical problem disturbed the measurements.

Third, the interaction between microbes and organic matter was investigated Sea-water samples were

taken and analyzed for various parameters related to the purpose.

Moorings, Bottom Mounted Gear and Drifting Systems :

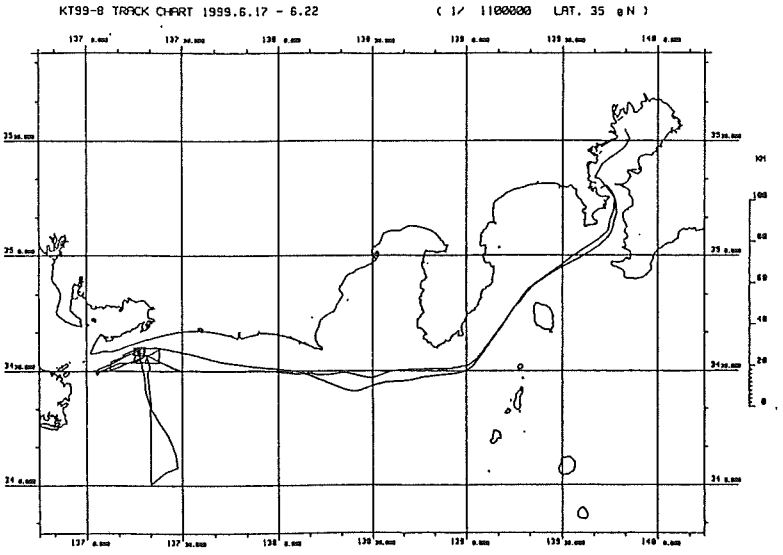
PI	LAT.	LON.	DATA TYPE	DESCRIPTION
	35.04N	139.20E		Hop-up type XBT, moored at 1399m 1999/11/17-1999/11/22.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
	1	Stations		CTD profile in combination with hop-up type XBT.
	1	Days		ADCP recordings.
	8	casts		CTD and water samples. The samples are for microbiological and chemical analyses.

****

Reference No. : 99026
Restrict Data : No
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-99-8
Cruise Period : 1999/06/17 to 1999/06/22
Port of Departure : Tokyo
Port of Return : Yokosuka
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : K. kubokawa / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : Philippine 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. S. Aoki / Toyohashi Technology and Science University
C ; Dr. N. Yamaguchi / Ocean Research Institute, Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

(1) Survey of havitat of lancelefs and study on their biology.
a. Survey of lancelets population, other benthos and sea-bottom geography by a box corer.
b. Collection of lancet larvae by a plankton net.
c. video and photographic recordings of lancelets in their habitat by ROV and under-water digital camera.
(2) Collection of deep sea fish.
(3) Survey of chrolophil contents by a water collection and "LandSat" data.

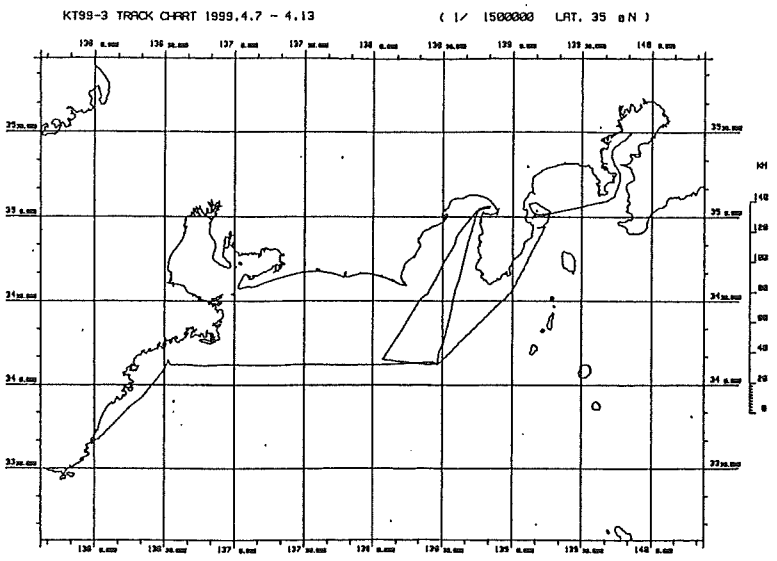
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION

A	30	Samples	B17,B18,B19 B20,B21	Soating of Benthos, collected by dreding.
A	20	Stations	B17,B18,B19 B20,B21	Properties of Seabottom soil by using a box corer.
A	17	Stations	B08,B09, B18,B19	Using NORPAC net.
C	3	Stations	B09,B13	Using IKMT net.
A	12	Stations	B08,B09,B18 B19	Using MTD net.
B	2	Stations	G02	Using Okean.
A	9	Stations	H10	CTD
A	9	Stations	B02	Chlorotec
B	20	Samples	B02	Water Sampling

****

Reference No. : 99027
Restrict Data : No
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-99-3
Cruise Period : 1999/04/07 to 1999/04/13
Port of Departure : Tokyo
Port of Return : Shingu
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : H. Fujimoto / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : Philippine Sea
Specific Areas : Sagami Bay, Off Omaezaki
Geographic Coverage : 131
Project Name : Ocean Hemisphere Project
Coordinating Body : Earthquake Research Institute & Ocean Research Institute, Univ. of Tokyo
Principal Investigators : A ; H. Fujimoto / Ocean Research Institute, Univ. of Tokyo
B ; M. Yamano / Earthquake Research Inst., Univ. of Tokyo
C ; H. Shiobara / Earthquake Research Inst., Univ. of Tokyo

Objectives and Brief Narrative of Cruise :

(1) Experiment on seafloor positioning by GPS/Acoustic positioning.
(2) Long-term ocean bottom pressure observation.
(3) Measurement of heat flow at Omaezaki-oki, Nankai Trough.
(4) Long-term heat flow observation (deployment 1 unit, test 1 unit).

(5) Long-term pore pressure observation (test 1 unit).

(6) Calibration of sound velocimeter by CTD observation.

(7) Test of a sea water battery.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	35.01N	139.17E	G90	Acoustic transponder, deployment: 1999/04/07, recovery: 1999/04/09
A	35.01N	139.16E	G90	Acoustic transponder, deployment: 1999/04/07, recovery: 1999/04/09
A	35.02N	139.16E	G90	Acoustic transponder, deployment: 1999/04/07, recovery: 1999/04/09
A	34.56N	139.14E	G90	Ocean bottom pressure gauge, deployment: 1999/04/09
A	34.56N	139.10E	G90	Ocean bottom pressure gauge, deployment: 1999/04/09
B	34.09N	138.04E	G90	Heat flow meter, deployment: 1999/04/10

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
B			G90	Heat flow measurement

****

Reference No. : 99028

Restrict Data : No

Ship Name : RYOFU MARU

Ship Type : Research Vessel

Cruise No. /Name : 99-04

Cruise Period : 1999/04/19 to 1999/05/26

Port of Departure : Tokyo

Port of Return : Tokyo

Responsible Laboratory : Japan Meteorological Agency

Chief Scientist(s) : K. Nemoto and T. Midorikawa, Climate and Marine Dept., JMA

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 128,129,130,131,164,165,166

Project Name : IGOSS, WESTPAC, MARPOLMON, SAGE

Coordinating Body : IOC

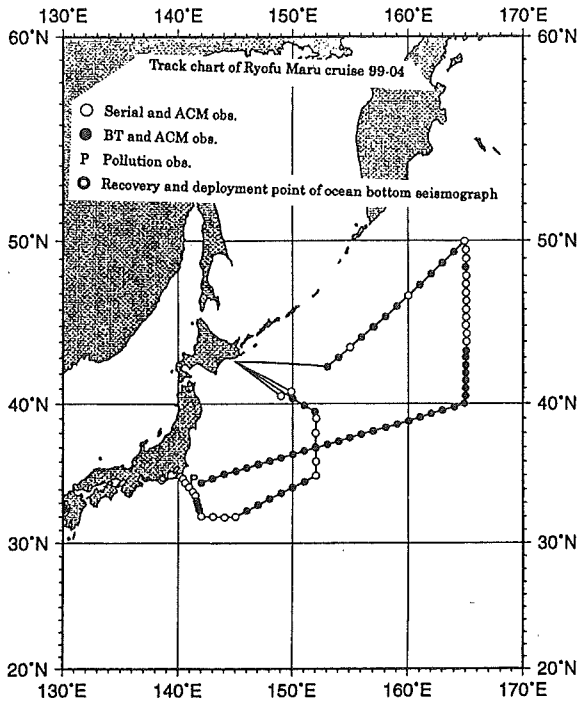
Principal Investigators : A ; T. Yano / Climate and Marine Dept., JMA

B ; T. Sakai / Climate and Marine Dept., JMA

C ; J. Kotani / RYOFU-MARU, Climate and Marine Dept., JMA

D ; M. Amino / Climate and Marine Dept., JMA

E ; T. Tokieda / Geochemical Research Dept., Meteorological Research Inst.



F ; K. Maekawa / Seismological and Volcanological Dept., JMA

Objectives and Brief Narrative of Cruise :

(1) A routine oceanographical observations(physical, chemical and biological).

a. Seasonal observations of marine condition.

b. Monitoring background marine pollution.

(2) Sea water sampling for radioactivity measurement.

(3) Sea water sampling for stable carbon isotope(C13) measurement (by MRI).

(4) Deployment of PALACE floats.

(5) Recovery and deployment of ocean bottom seismograph.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
F	34.47N	138.37E	G90	Recovery of ocean bottom seismograph on 1999/04/20.
F	34.47N	138.37E	G90	Recovery of ocean bottom seismograph on 1999/04/20.
F	34.47N	138.38E	G90	Deployment of ocean bottom seismograph on 1999/04/20.
D	40.30N	149.00E	D06	Deployment of PALACE float on 1999/03/03.
D	40.49N	149.53E	D06	Deployment of PALACE float on 1999/03/03

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	5,592	NM	H71	Continuous sea surface temperature recording.
A	32	Stations	H10	Using FSI-CTD
A	84	Stations	D71	Using RD Instrument Acoustic Doppler Current Profiler.
A	86	Stations	G73	Using NEC echo sounder.
A	8	Stations	H16	Using secchi disk.
A	23	Drops	H13	XBT drops with T6 type probes.
A	31	Drops	H13	XBT drops with T7 type probes.
A	20	Stations	H09,H21	Using Rosette sampler
A	16	Stations	H09,H22,H24 H25,H26	Using Rosette sampler
A	2	Stations	H09,H28,B02	Using Rosette sampler
A	4	Stations	B08,B09	Using bucket(08) and NORPAC net(09).
A	1	Stations	H31	Sampling for measurement of Gross Beta Radioactivity.
B	12	Stations	H74	Total inorganic carbon concentration.
B	3	Stations	P02,P03	Heavy metals (P02) and dissolved hydrocarbons (P03).
B	5529	NM	H74,M71	CO2 and CH4 concentration in air and sea surface water.
B	1	Station	P03	Floating tar balls sampling(Using Neuston net).
B	20	Days	P90	Oil slicks and floating pollutants(daytime only).
C	201	Times	M06	Observed every 3 hours.
C	34	Ascents	M01	Using shipboard automatic radio-sonde observation system.
E	13	Stations	H32	Sampling for measurement of stable carbon isotope (13C).

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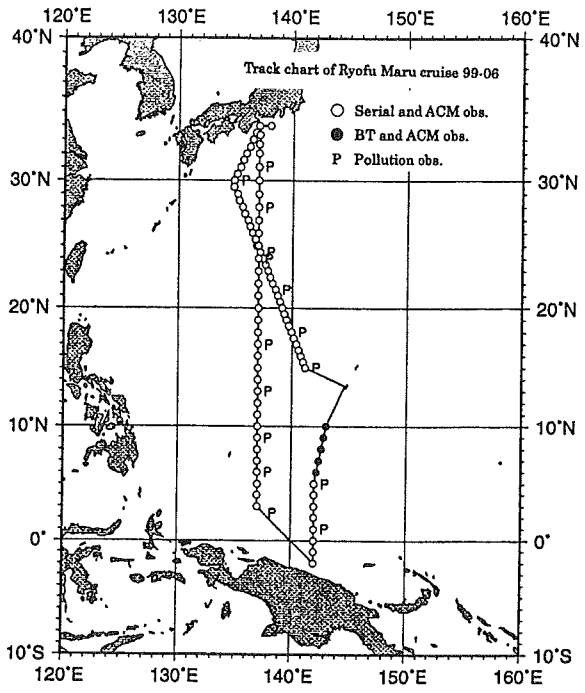

Reference No. : 99029
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-06
Cruise Period : 1999/06/22 to 1999/07/07
Port of Departure : Tokyo
Port of Return : Yokohama
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : K. Ogawa / Climate and Marine Dept., JMA
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 131,95,58,59,22,23,321
Project Name : IGOSS, WESTPAC, MARPOLMON
Coordinating Body : IOC
Principal Investigators : A ; T. Yano / Climate and Marine Dept., JMA.
B ; T. Sakai / Climate and Marine Dept., JMA.
C ; J. Kotani / RYOFU-MARU, Climate and Marine Dept., JMA.

Objectives and Brief Narrative of Cruise :

(1) A routine oceanographical observations (physical, chemical and biological).
a. Seasonal observations of marine condition.
b. Monitoring background marine pollution.
(2) Sea water sampling for radioactivity measurement.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	5,450	NM	H71	Continuous sea surface temperature recording.
A	81	Stations	H10	Using FSI-CTD.
A	86	Stations	D71	Using RD Instrument ADCP.
A	86	Stations	G73	Using NEC echo sounder.
A	43	Stations	H16	Using secchi disk.
A	5	Drops	H13	XBT drops with T6 type probes.
A	41	Stations	H09,H21	Using Rosette sampler.
A	16	Stations	H09,H22,H24 H25,H26	Using Rosette sampler.
A	16	Stations	H09,B02	Using Rosette sampler.
A	8	Stations	B08,B09	Using bucket(08) and NORPAC net(09).
A	5	Stations	H31	Sampling for measurement of Gross Beta Radioactivity.
B	6	Stations	H74	Total inorganic carbon concentration.
B	2	Stations	H33	Dissolved nitrous dioxide.
B	2	Stations	H33	CH4 concentration in sea water.

B	15	Stations	P03	Dissolved hydrocarbons.
B	8	Stations	P02	Heavy metals.
B	5,450	NM	H74,M71	CO2 and CH4 concentration in air and sea surface water.
B	15	Stations	P03	Floating tar balls sampling (Using Neuston net).
B	20	Days	P90	Oil slicks and floating pollutants (daytime only).
C	207	Times	M06	Observed every 3 hours.
C	27	Ascents	M01	Using shipboard automatic radio-sonde observation system.

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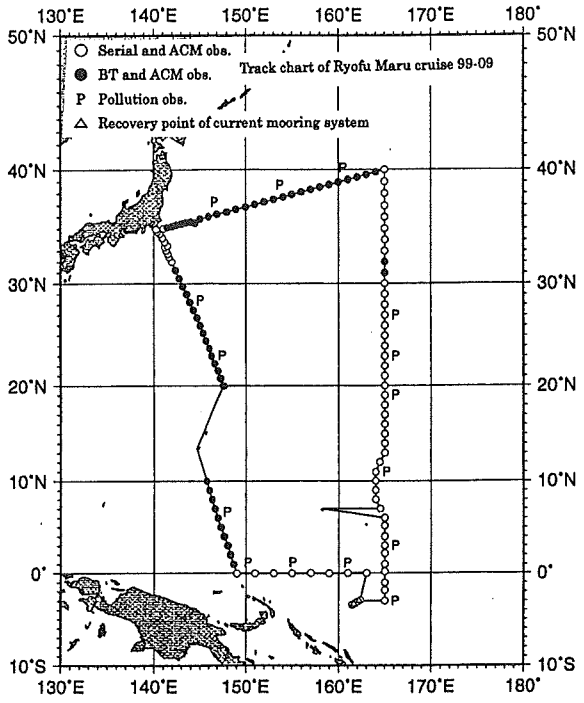
Reference No. : 99030
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-09
Cruise Period : 1999/09/17 to 1999/11/09
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : S. Takatani / Climate and Marine Dept., JMA
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage :
130,129,128,94,92,58,56,22,21,20,320,319
Project Name : IGOSS, WESTPAC, MARPOLMON
Coordinating Body : IOC
Principal Investigators : A ; T. Yano / Climate and Marine Dept., JMA ency
B ; T. Sakai / Climate and Marine Dept., JMA
C ; J. Kotani / Climate and Marine Dept., JMA
D ; N. Shikama / Oceanographical Research Dept,., Meteorological Research Inst.



Objectives and Brief Narrative of Cruise :

1) A routine oceanographical observations (physical, chemical and biological).
a. Seasonal observations of marine condition.
b. Monitoring background marine pollution.
(2) Sea water sampling for radioactivity measurement.
(3) Recovery of current mooring system.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
D	03.22S	161.37E	D01	Recovery of current mooring system on 1999/10/15.
D	03.01S	162.13E	D01	Recovery of current mooring system on 1999/10/15.

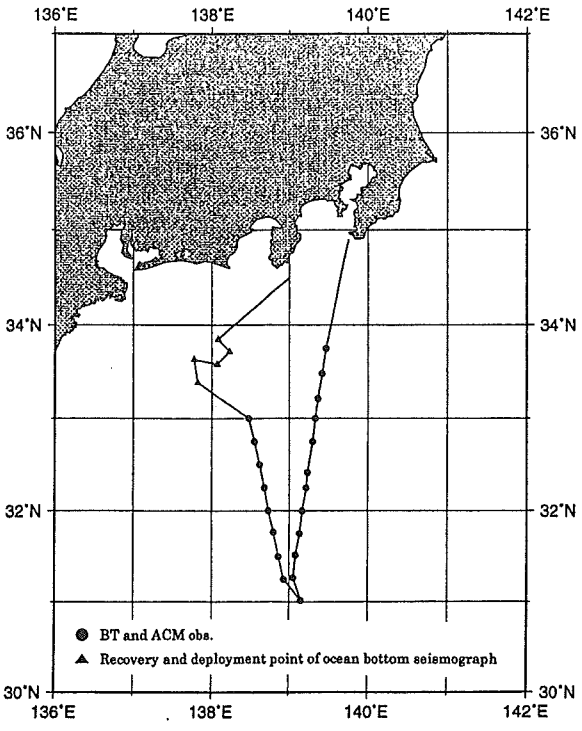
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION

A	8,887	NM	H71	Continuous sea surface temperature recording.
A	66	Stations	H10	Using FSI-CTD.
A	121	Stations	D71	Using RD Instrument Acoustic Doppler Current Profiler.
A	121	Stations	G73	Using NEC echo sounder.
A	24	Stations	H16	Using secchi disk.
A	52	Drops	H13	XBT drops with T6 type probes.
A	3	Stations	H13	Using Tsurumi Seiki D-BT.
A	36	Stations	H09,H21,H22 H24,H25,H26	Using Rosette sampler.
A	18	Stations	H09,B02	Using Rosette sampler.
A	15	Stations	B08,B09	Using bucket(08) and NORPAC net(09).
A	5	Stations	H31	Sampling for measurement of Gross Beta Radioactivity.
B	9	Stations	H74	Total inorganic carbon concentration.
B	18	Stations	H33	Dissolved nitrous dioxide.
B	26	Stations	H33	CH4 concentration in sea water.
B	15	Stations	P03	Dissolved hydrocarbons.
B	11	Stations	P02	Heavy metals.
B	8,887	NM	H74,M71	CO2 and CH4 concentration in air and sea surface water.
B	15	Stations	P03	Floating tar balls sampling(Using Neuston net).
B	34	Days	P90	Oil slicks and floating pollutants(daytime only).
C	314	Times	M06	Observed every 3 hours.
C	53	Ascents	M01	Using shipboard automatic radio-sonde observation system.

****

Reference No. : 99031
Restrict Data : No
Ship Name : RYOFU MARU
Ship Type : Research Vessel
Cruise No. /Name : 99-11
Cruise Period : 1999/11/26 to 1999/12/02
Port of Departure : Tokyo
Port of Return : Tokyo
Responsible Laboratory : Japan Meteorological Agency
Chief Scientist(s) : T. Aso / JMA
General Ocean Area(s) : Philippine Sea
Geographic Coverage : 131
Project Name : IGOSS, WESTPAC, MARPOLMON
Coordinating Body : IOC



Track chart of Ryofu Maru cruise 99-11

Principal Investigators : A ; T. Yano / Climate and Marine Dept., JMA.
B ; J. Kotani / RYOFU-MARU, Climate and Marine Dept., JMA.
C ; H.Jingu / Seismological and Volcanological Dept., JMA.

Objectives and Brief Narrative of Cruise :

(1) Oceanographical observations practice for the Meteorological College.

(2) Recovery and deployment of ocean bottom seisograph.

Moorings, Bottom Mounted Gear and Drifting Systems :

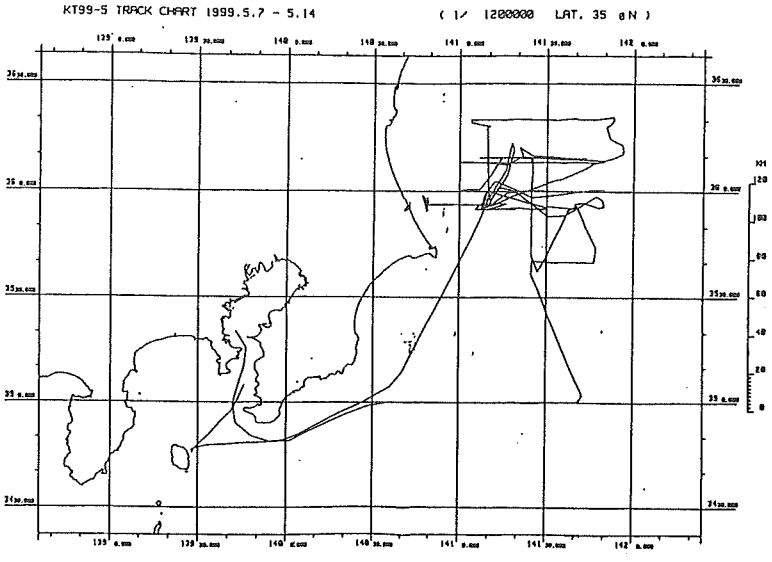
PI	LAT.	LON.	DATA TYPE	DESCRIPTION
C	33.51N	138.05E	G90	Deployment of ocean bottom sesmograph on 1999/11/27.
C	33.43N	138.14E	G90	Deployment of ocean bottom sesmograph on 1999/11/27.
C	33.35N	138.04E	G90	Deployment of ocean bottom sesmograph on 1999/11/27.
C	33.38N	138.46E	G90	Deployment of ocean bottom sesmograph on 1999/11/27.
C	33.23N	138.49E	G90	Deployment of ocean bottom sesmograph on 1999/11/27.

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	774	NM	H71	Continuous sea surface temperature recording.
A	20	Stations	D71	Using RD Instrument Acoustic Doppler Current Profiler.
A	25	Stations	G73	Using NEC echo sounder.
A	20	Drops	H13	XBT drops with T6 type probes.
B	30	Times	M06	Observed every 3 hours.
B	1	Ascent	M01	Using shipboard automatic radio-sonde observation system.

****

Reference No. : 99032
Restrict Data : Yes
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-99-5
Cruise Period : 1999/05/07 to 1999/05/14
Port of Departure : Tokyo
Port of Return : Yokohama



Responsible Laboratory : Ocean Research Institute, Univ. of Tokyo
Chief Scientist(s) : H. Nakata / Ocean Research Institute, Univ. of Tokyo
General Ocean Area(s) : North Pacific Ocean
Geographic Coverage : 130
Principal Investigators : A ; H. Nakata, Ocean Research Institute, Univ. of Tokyo
Objectives and Brief Narrative of Cruise :

Observations for investigating transport and survival process of anchovy larval in the vicinity of the Kuroshio Extension front.

Moorings, Bottom Mounted Gear and Drifting Systems :

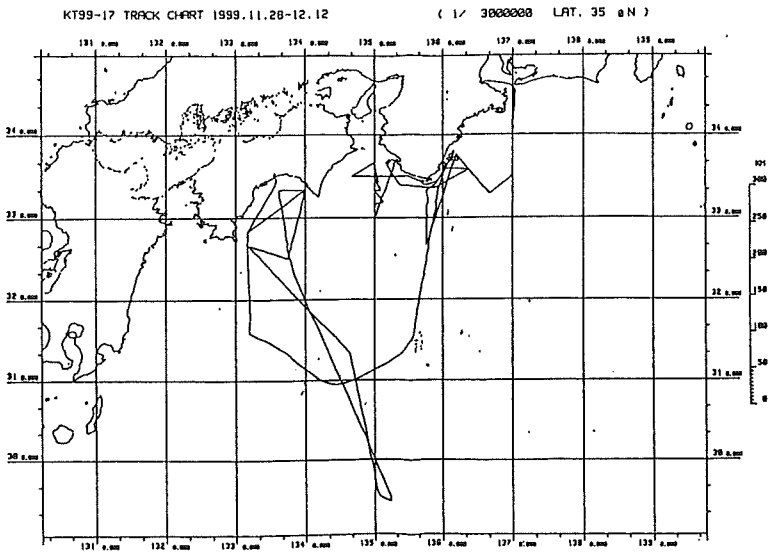
PI	LAT.	LON.	DATA TYPE	DESCRIPTION
A	35.00N	141.19E	D05	Deployed a drifting buoy, 1999/05/08
A	35.00N	141.25E	D05	Deployed a drifting buoy, 1999/05/08
A	35.00N	141.31E	D05	Deployed a drifting buoy, 1999/05/08
A	35.00N	141.37E	D05	Deployed a drifting buoy, 1999/05/08
A	36.05N	141.25E	D05	Deployed a drifting buoy, 1999/05/08
A	36.07N	141.25E	D05	Deployed a drifting buoy, 1999/05/08
A	36.09N	141.25E	D05	Deployed a drifting buoy, 1999/05/08
A	35.57N	141.14E	D05	Deployed a drifting buoy, 1999/05/11
A	35.57N	141.16E	D05	Deployed a drifting buoy, 1999/05/11
A	36.18N	141.09E	D05	Deployed a drifting buoy, 1999/05/13

Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	65	Stations	H13	XBT drops with T6/ T10 type probes.
A	12	Samples	B09,B13	Surface tows with ORI net for collecting zooplankton and fish larvae.
A	34	Samples	B09,B13	Oblique tows with ORI net (upper 100m) for collecting zooplankton and fish larvae.
A	18	Samples	B08	Collection of phytoplankton with NORPAC net (vertical haul).
A	3	Stations	B09	Horizontal tows with MTD nets (upper 150m) at 5 layers.
A	34	Samples	H24,B02	Water samples for analyses of chl-a content and NO3-N concentration.

****

Reference No. : 99033
Restrict Data : Yes
Ship Name : TANSEI MARU
Ship Type : Research Vessel
Cruise No. /Name : KT-99-17
Cruise Period : 1999/11/28 to 1999/12/12
Port of Departure : Matsuzaka
Port of Return : Kochi
Responsible Laboratory :
Ocean Research Institute, Univ. of Tokyo



Chief Scientist(s) : A ; T. Sugimoto / Ocean Research Institute, Univ. of Tokyo

General Ocean Area(s) : North Pacific Ocean

Geographic Coverage : 131,95

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

Objectives and Brief Narrative of Cruise :

(1) Monitoring of oceanographic struture in the Kuroshio and Oyashio region.

(2) Study on fish and plankton distribution, and effect of oceanographic change on the distribution.

Moorings, Bottom Mounted Gear and Drifting Systems :

PI	LAT.	LON.	DATA TYPE	DESCRIPTION
	29.30N	135.15E	D01,B73	Collect a mooring at 4500m, 1999/12/08
	33.46N	136.11E	D01	Deploy a mooring at 700m, 1999/12/04
	33.30N	135.20E	D01	Deploy a mooring at 700m, 1999/12/01

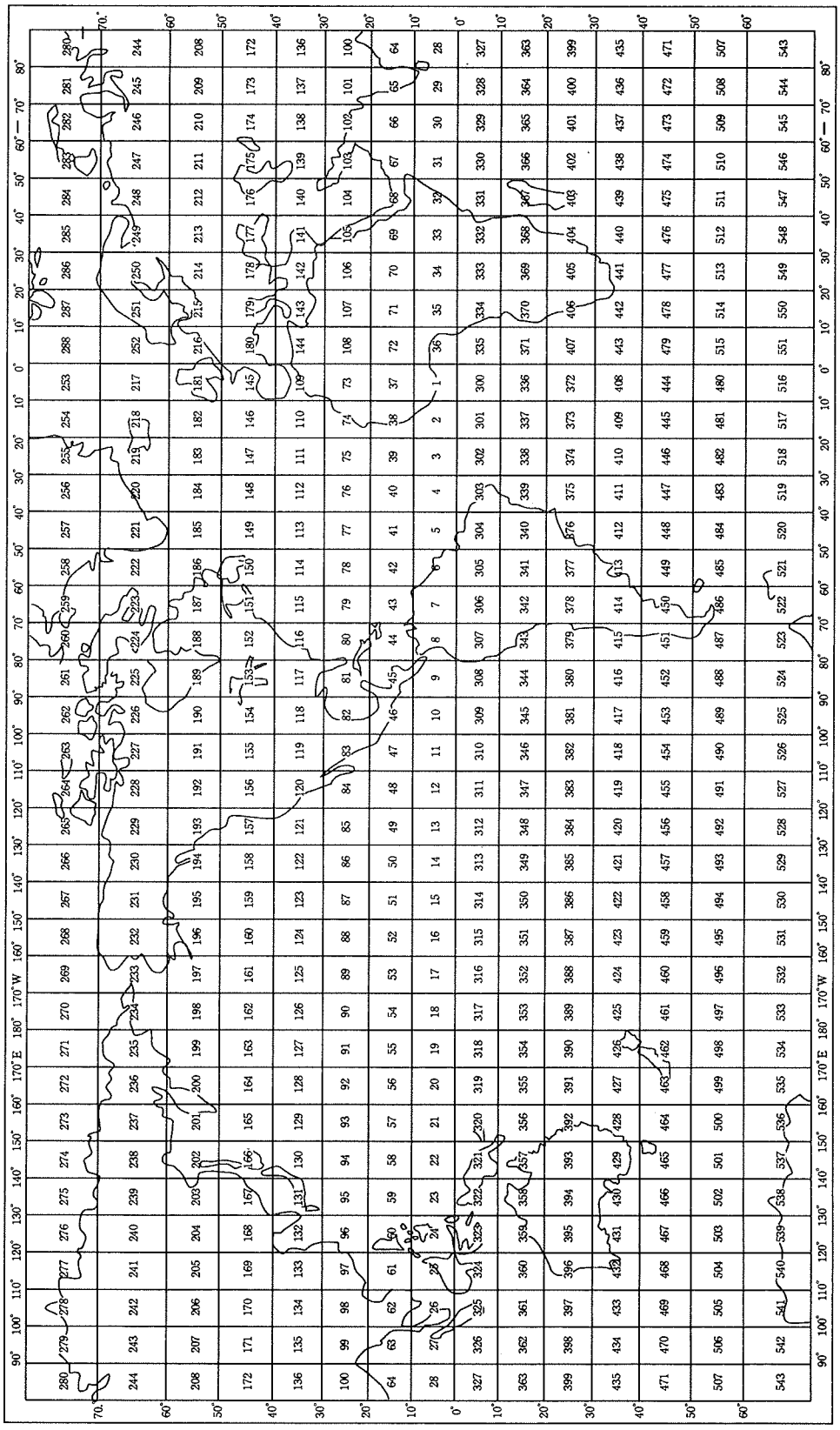
Summary of Measurements and Samples Taken :

PI	NO	UNITS	DATA TYPE	DESCRIPTION
A	70	Stations	H10	Using Neil-Broen CTD(upper 1000m)
A	10	Stations	H13	XBT drops with T6 type probes.
A	15	Days	H11,D03,B08 B09,B01,B28 B19,B13,B18	Monitoring of physical and biological data.

付 録 目 次

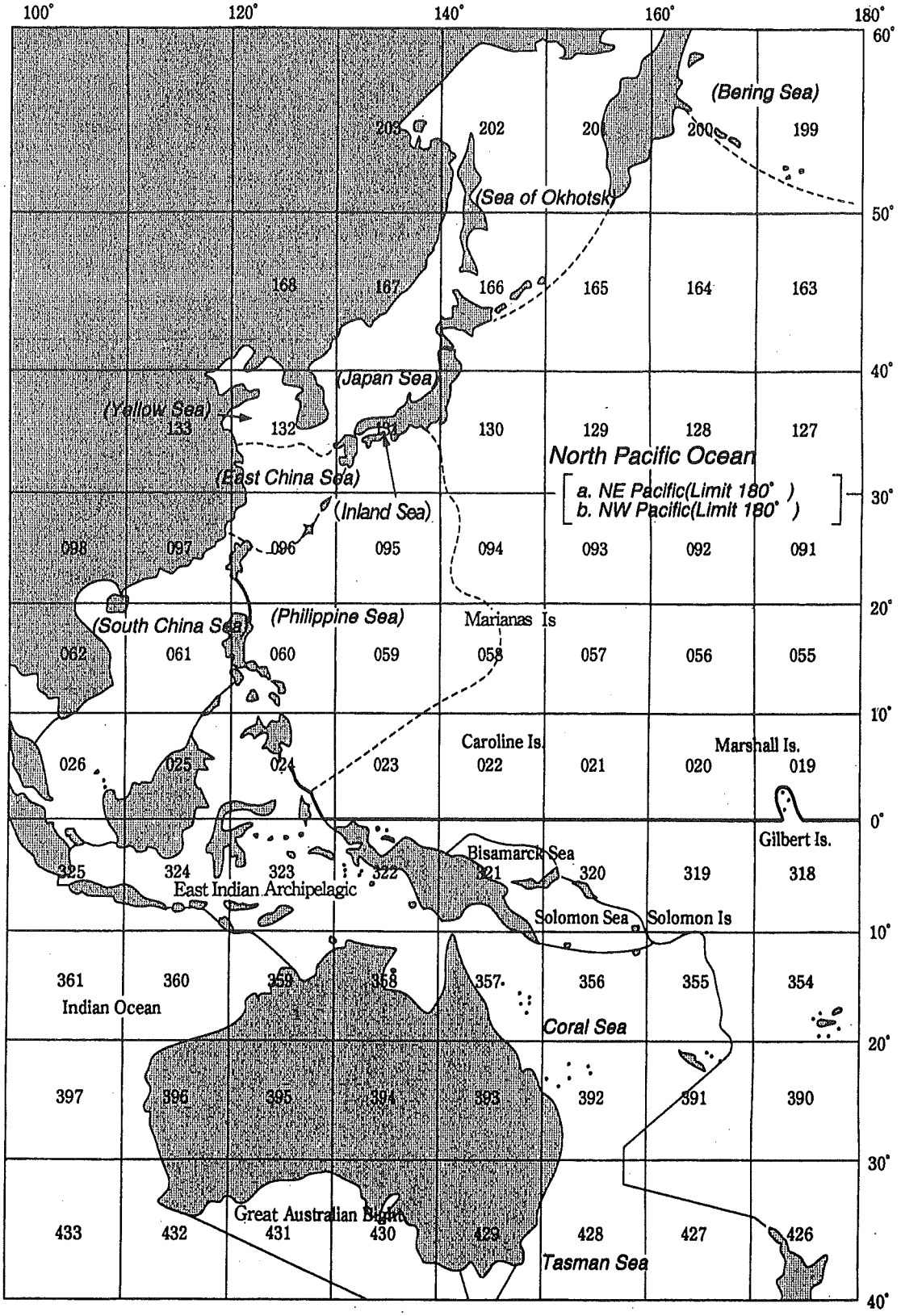
付 録 1

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

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) 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. *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 distingulshed, 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

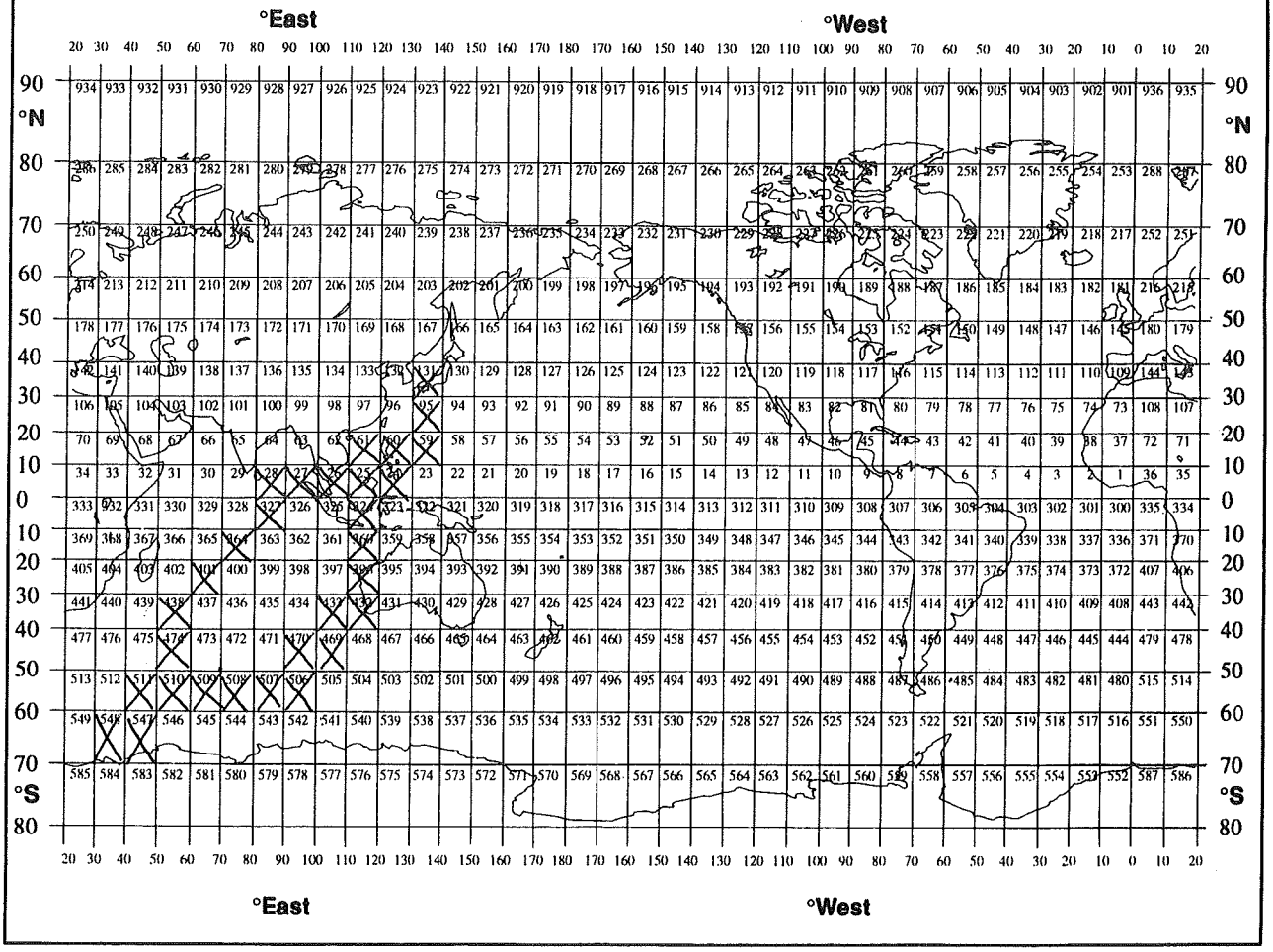
Indian Ocean, South China Sea

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 'X' 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。

航跡図の例

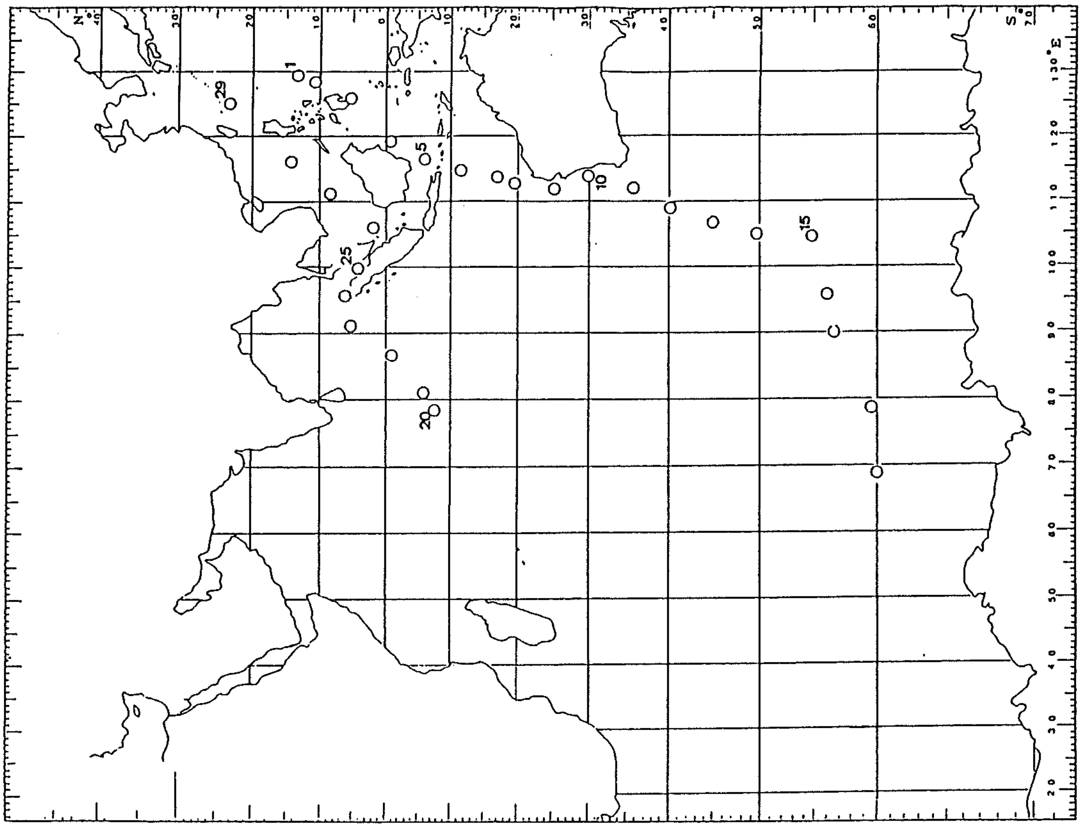
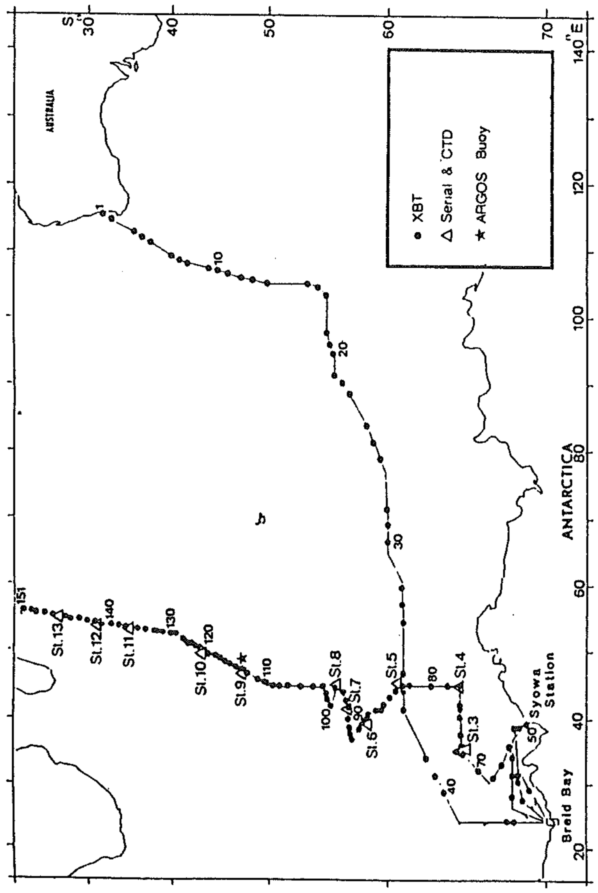


Fig. 2. The location of surface water sampling for marine pollution analysis (petroleum oil, Cd, Hg, Cu and Zn).



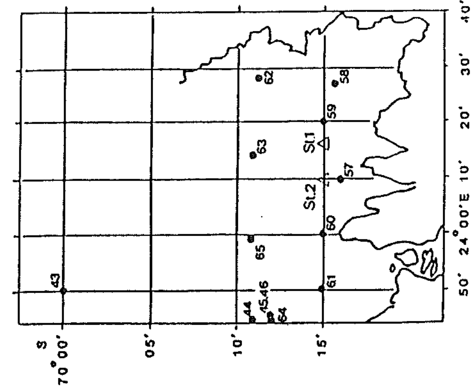


Fig. 1a. The track chart and the station location of oceanographic observations.

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

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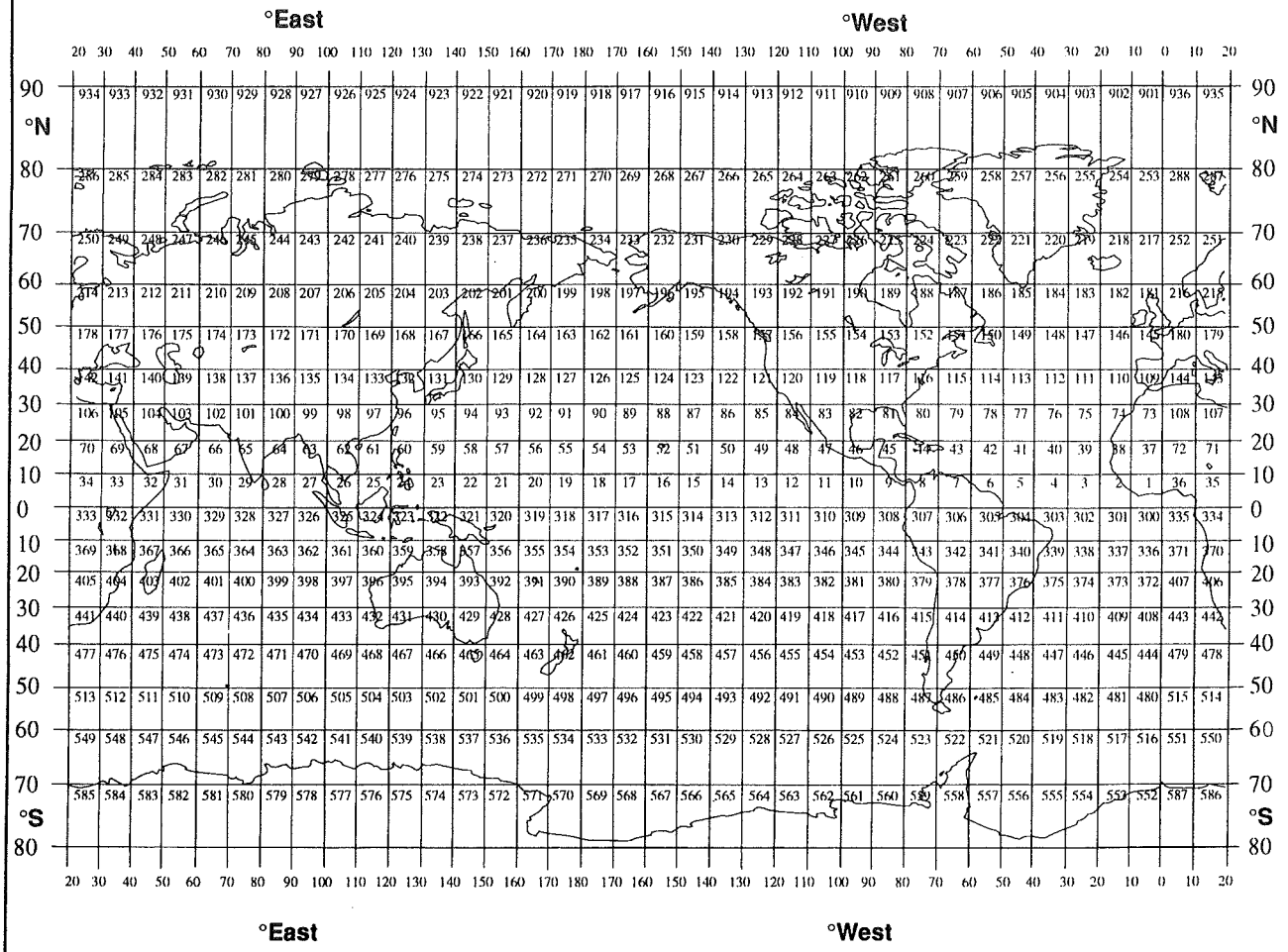
GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED

調査範囲 データを収集した場所に 'X' 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
CMD, JMA	気象庁気候・海洋気象部 (Climate and Marine Dept., Japan Meteorological Agency)
HMO, JMA	函館海洋気象台 (Hakodate Marine Observatory, Japan Meteorological Agency)
MMO, JMA	舞鶴海洋気象台 (Maizuru Marine Observatory, Japan Meteorological Agency)
FF, HU	北海道大学水産学部 (Faculty of Fisheries, Hokkaido Univ.)
ORI, UT	東京大学海洋研究所 (Ocean Research Institute, Univ. of Tokyo)
RIAM, KU	九州大学応用力学研究所 (Research Institute for Applied Mechanics (RIAM), Kyusyu Univ.)
FF, NU	長崎大学水産学部 (Faculty of Fisheries, Nagasaki Univ.)
SFHS	鳥取県立境水産高等学校 (Tottori Prefectual Sakai Fishery Hight School)