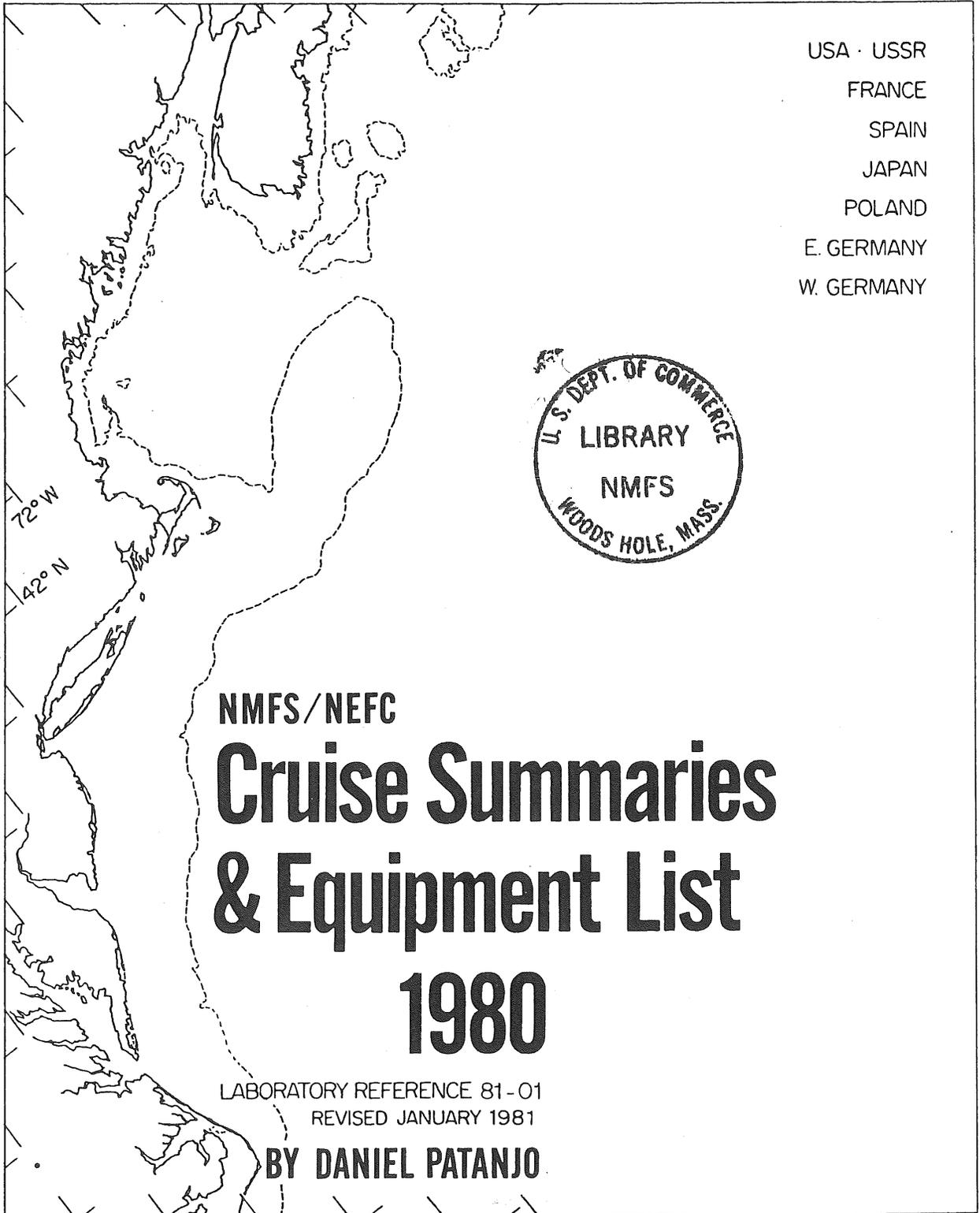
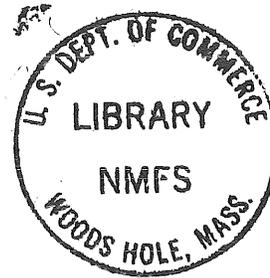


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NMFS/NEFC

Cruise Summaries & Equipment List 1980

LABORATORY REFERENCE 81-01
REVISED JANUARY 1981

BY DANIEL PATANJO

NATIONAL MARINE FISHERIES SERVICE · NORTHEAST FISHERIES CENTER · WOODS HOLE LABORATORY
WOODS HOLE, MA. 02543



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Northeast Fisheries Center
Woods Hole Laboratory
Woods Hole, Massachusetts 02543

January 2, 1981

F/NEC1:DP

TO: Distribution

FROM: Daniel Patanjo

SUBJECT: NMFS/NEFC Cruise Summaries and Equipment List 1980

This report is a 1980 up-date to the 1976-1979 four part summary of the operations of all vessels used by NMFS/NEFC.

Please contact me about any errors or missing information you may be aware of, also let me know if you wish more copies.

The 1976-1979 cruise summary and equipment list is still available.



10TH ANNIVERSARY 1970-1980

National Oceanic and Atmospheric Administration

A young agency with a historic
tradition of service to the Nation

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ALL OTHER VESSELS

EVRIKA

80-01 I&II A0220
80-02 A0223
80-03 A0
80-04 A0226
80-05 A0227
80-06 I&II A0230

KELEZ

80-03 A0233
80-04 I&II A0237
80-06 A0240
80-07/08 A0242
80-10 A0244
80-11 A0247

VIANDRA

80-03 A0255

ALL OTHER VESSELS

VIANDRA CONT.

80-05 A0257

WHITE FOOT

80-01 A0259

WIECZNO

80-01 A0261

80-02 I&II A0263

80-03 A0265

CYCLESONDE

BASIC OPERATION

The APCM - 3 is a free-falling recording instrument that automatically detects and records current speed and direction versus depth across an entire water column. Temperature and conductivity measurements may also be made with optional sensors.

Small and manageable by one person, this instrument is launched down a taut wire from a stationary ship. Since this instrument is free-falling down the hydro wire (by means of a captive block and pulley arrangement) it is decoupled from all ship heave and roll induction motion. Many profiles may thus be obtained in a relatively short period of time and with the optional "real time data package" the user can immediately determine if a second cast is desirable before moving on to the next station.

ENDECO TYPE 815

FLUOROMETER SYSTEM

TECHNICAL DESCRIPTION

The ENDECO Type 815 Towed Fluorometer System is an underwater system that uses a standard ENDECO depressor and a towed fish that contains a Turner Designs Model 10 Fluorometer. This system was designed to allow high speed fluorometric measurements without the delay and inaccuracies associated with surface pumping systems. A standard Turner Designs Model 10 Fluorometer can be installed in the ENDECO Type 815 Fluorometer Towed Fish in less than two (2) hours. The instrument is easily accessible via the front end cap of the Fish for routine adjustments or servicing with the Fluorometer operating on the 0 to 100 ppb scale for Rhodamine WT dye; resolution down to .1 ppb may be made without scale changing.

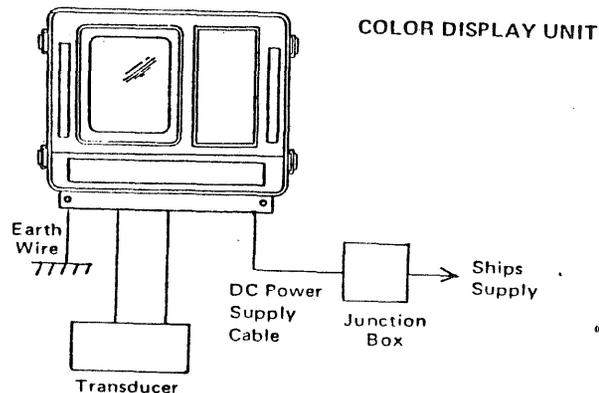
Data logging is provided on deck using a paper tape printer providing a permanent record of field data. The printer samples all sensor outputs which include Julian Day, Hours, Minutes, fluorometer scale, fluorometer reading, temperature and depth. Strip chart recorders are used with the data logging system without modification.

ECHO SOUNDER

The sounder is capable of distinguishing the reflected echo signals and displaying them respectively in up to 8 different colors (red, orange, yellow, green, blue green, white, greenish blue, and blue) on a cathode ray television-type screen.

SPECIFICATIONS

Display	11-inch, 3 electron gun, magnetic deflection color CRT	Display Mode	11-40 VDC (115-230 Optional) a. High frequency normal range b. High frequency range spread c. Low frequency normal range d. Low frequency range spread
Range Scale (Fathoms)	0-40, 0-80, 0-160, 0-320, 0-640		
Spread Scale (Fathoms)	10, 20, 40, 80		
Spread/Depth Position	Variable in full width of CRT with accuracy of 0.5 Fa. 4-digit LED readout		4 modes can be selected by using FREQUENCY and RANGE SPREAD SCALE swithes
Frequency	Dual-selected from 28, 50, 75 and 200 KHz.	Power Consumption	Max. 130 VA.
Depth Scale	28, 50, 75, and 200 KHz.	Transmitter Power	1.5 KW
	4 white horizontal lines divided full width of CRT into four equal parts.	Power Reducer	4 position
Noise Rejection	On/Off	Time Marker	Every 30 seconds
Power Supply	On/Off		



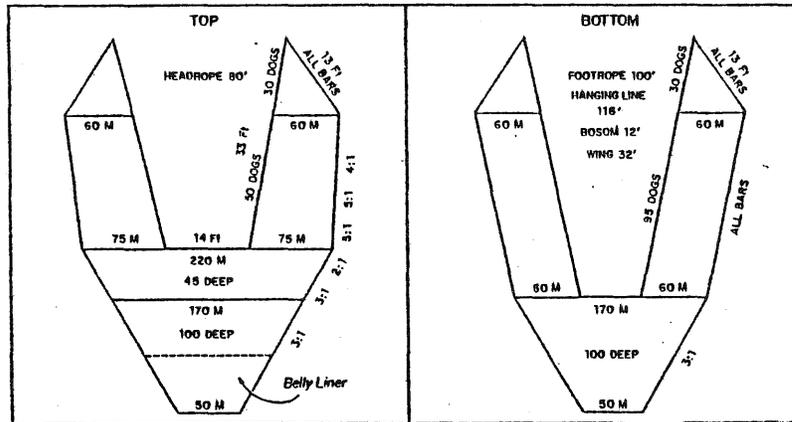
Color Display Unit	1, with mounting bracket
Cover	1 Vinyl cover for Color Display Unit
Transducer	1 Set, Dual transducers housing in a Tank with 20-m cable for each transducer
Cable Gland	For two cables
DC Power Supply Cable	2 cond. shielded VSV-2T11; 3 m
Junction Box	1, for DC Power Supply Cable
Spare Parts	1 set
Installation Materials	1 set

PLANKTON PUMPING SYSTEM

J. GREEN

Use of a plankton pumping system was initiated in May 1980 aboard the USSR RV Evrika as a means of improving plankton sampling. The pump system allows sampling of relatively small volumes of sea water to a depth of 40 m and provides abundance and distribution information on a variety of species which are thought to be important in trophic interactions from primary producer to fish larva.

The pump is a conventional single phase 220 v submersible well pump which is suspended from a 1/4 inch wire. Three inch PVC discharge hose cut in 5, 10, and 20 m lengths with quick connectors delivers water to the surface at a rate of 20-25 gal per min. Flow is diverted by a manifold to either of two 53 cm plankton nets suspended vertically in large PVC tubes with side discharge ports. The tubes serve as deceleration chambers and reduce the pressure drop across the mesh thereby minimizing net damage to microzooplankton. Water samples can be diverted into one net while the other is being washed down or two different meshes can be used. By selection of appropriate hose lengths it is possible to sample any depth in multiples of 5 m. The hose is disconnected from the manifold and additional lengths added for each subsequent sampling depth with the weight of the hose supported by snap shackles clipped above wire stops. At each depth water is pumped through a discharge outlet for 5 min bypassing the nets to clear the hose between sampling depths. Each depth is sampled for ten min for a total of 200 to 250 gal or approximately 1 cubic meter. Power was supplied by a 3 conductor cable which was payed over the side as the hose was let out and pulled in by hand as the pump was raised. Power was shut off any time the pumping system cable was handled.



MODIFIED #41 2-SEAM HIGH OPENING OTTER TRAWL

Material: Bottom: #200 (84 thread) virgin braid nylon, 5" mesh (stretched between knots)

Top: (54 thread) virgin braid nylon, 5" mesh (stretched between knots)

Headrope Length: 80 ft (7/8" combination wire); Footrope Length: 100 ft (7/8" steel wire)

Gore: 3 meshes on each side reinforced 3/4" polyplus

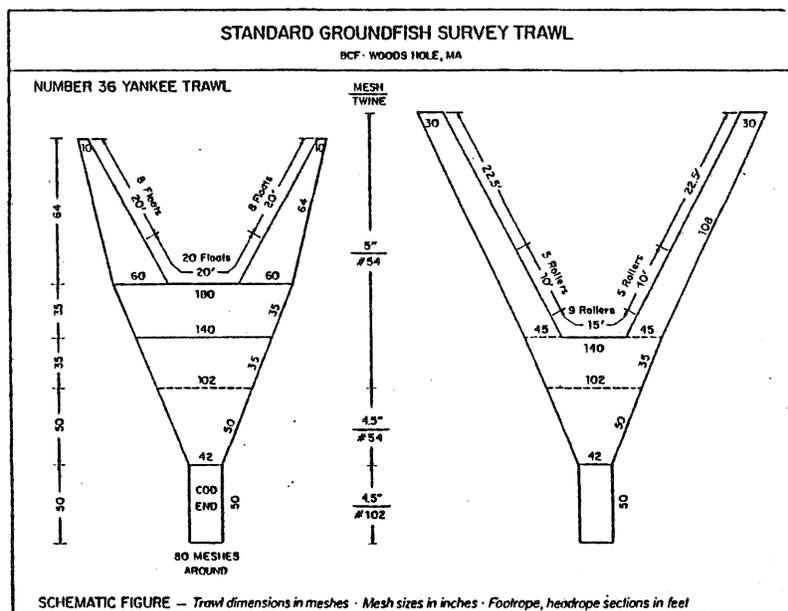
Number and Size of Floats: 20, 8" standard floats on each wing (evenly spaced);

13, 8" standard floats in bosom (evenly spaced); 8, 8" standard floats on gores

Codend: 100 mesh on round x 50 mesh deep 4 1/2" mesh, 102 thread with 1/2" liner (stretched measured)

Belly Liner: 1/2" (stretched measure) from forward edge of codend; 50 mesh into top belly section extending from gore to gore

Tapers are given as "Bars:Points"



Specifications - Yankee #36 Trawl

Part	Material	Mesh Size Inches (stretched mesh)	Length (meshes)	Width Meshes	
				Fore	Aft
Upper wings	#54 Tan braided nylon	5"	64 (dog-ears)	10	60
Lower wings	#54 Tan braided nylon	5"	108 (dog-ears)	30	45
Square	#54 braided nylon	5"	35	180	140
Dellies	#54 Tan braided nylon	5" & 4 1/2" (aft)	35	140	42
Codend	#54 Tan braided nylon	4 1/2"	50	80 (around)	80

Chafer material of polyethylene strands covering aft half (underside only) of codend.

Bridles Top - 30' x 5/8" wire

Bottom - 30' x 3/4" wire

Headrope Total length 60' x 7/8" combination wire rope in three 20' sections.

Floats 8" diameter, spherical (no collar) deep-sea type.

8 floats evenly spaced on each wing, and 20 floats evenly spaced on bosom section.

Footrope Total length 80' x 3/4" wire in five sections (22 1/2' x 10' x 15' x 10' x 22 1/2').

Roller Gear Hard rubber 16" diameter x 5" wide separated by rubber spacers 5 1/2" diameter x 7" long. Center section of 15' with 9 rollers separated by spacers - two 10' sections each with 5 rollers separated by 3 spacers - two 22 1/2' sections with 4" rubber discs.

Doors Steel, 1200 pounds BMV oval.

Liners 1/2" stretched mesh #147 white knotless nylon in aft end (35 meshes) of top belly only.
1/2" stretched mesh, white knotless nylon throughout codend.

VESSEL ALBATROSS IV

CRUISE 80-01

DATES 4-25 February 1980

DAYS AT SEA 20

STATIONS 57

CRUISE OBJECTIVE

This cruise is part of a broad scale cooperative survey between the Northeast and Southeast Fisheries Centers covering the continental shelf from Nova Scotia to Mexico during February and March. The objectives of the cruise were twofold: (1) to collect samples of fish, invertebrates and bottom sediments for analysis of petroleum hydrocarbons, and (2) to take sea truth measurements for use in analysis of results of Coastal Zone Color Scanner (CZCS) aboard Numbus 7 satellite.

Scientific Personnel

National Marine Fisheries Service, NEFC, Narragansett, RI

Robert Marak, Chief Scientist
Joseph Kane
Jerome Prezioso

National Marine Fisheries Service, NEFC, Woods Hole, MA

Malcolm Silverman
Donald Flescher

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

John Ziskowski

National Marine Fisheries Service, NEFC, Oxford, MD

Mark Galasso

National Marine Fisheries Service, SEFC, Pascagoula, MS

Elmer Gutherz (12-18 February)
Bennie Rohr (12-18 February)

South Carolina Wildlife and Marine Department, Charleston, SC

William Roumillat

San Diego Naval Oceans Systems Center, San Diego, CA

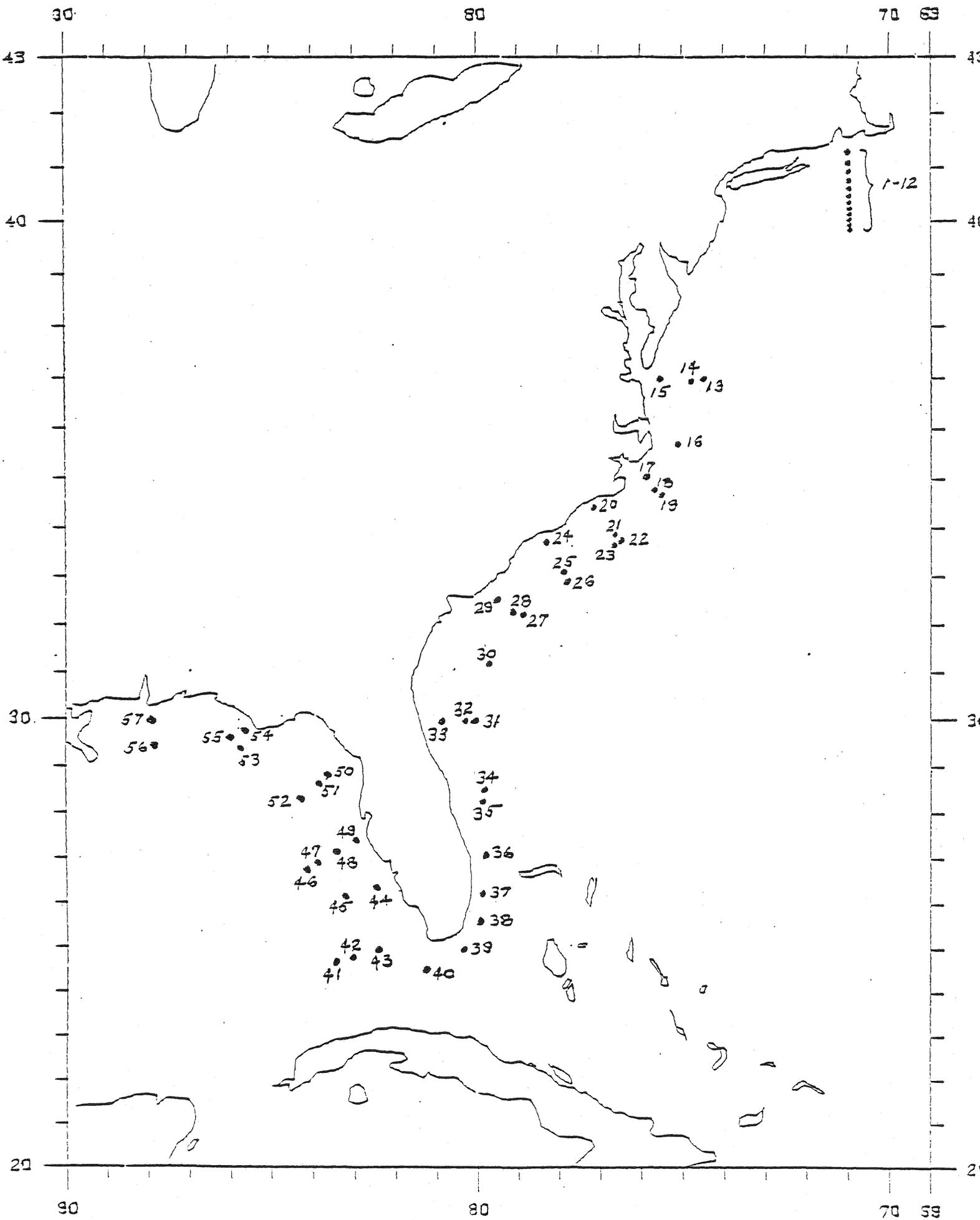
Robert Howarth

Manomet Bird Observatory, Manomet, MA

Galen Pittman

Cruise Results

Bottom trawl stations	<u>37</u>
Sediment samples (31 stations)	<u>62</u>
Chlorophyll stations (Hydrocast to 75 m)	<u>43</u>
Radiometry stations	<u>6</u>
Total suspended matter samples	<u>6</u>
Phytoplankton species composition samples	<u>20</u>
Secchi disc observations	<u>19</u>
Photopic Deck Cell ("Total Sky") measurements	<u>11</u>
Neuston samples	<u>36</u>
XBT drops	<u>57</u>
Sea surface temperature observations	<u>57</u>
Salinity samples	<u>45</u>



Station locations for ALBATROSS IV Cruise 80-01, Pulse-Petroleum Hydrocarbons and Ecosystem Productivity Survey, during 4-25 Feb-

VESSEL ALBATROSS IV

CRUISE 80-02

DATES 27 Feb.-11 March
17-30 March & 31 Mar.-5 April

PARTS I, II, III

DAYS AT SEA 14; 14; 6

STATIONS 75; 65; 18

Cruise Objective

This was one of six cruises conducted annually to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data. In addition, we continued the cooperative NEFC-SEFC survey of Atlantic and Gulf of Mexico coastal waters to collect samples of fish, invertebrates, and bottom sediments for analysis of petroleum hydrocarbons.

Scientific Personnel

Part I: 27 February-11 March

Part II: 17-30 March

Part III: 31 March-5 April

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

John Sibunka, Chief Scientist	Parts I, II, and III
Ralph Bruno	Parts I, II, and III
Steven Fromm	Parts I, II, and III
Susan Barker	Part I
Patricia Rosenberg	Part I
Albert Matte	Part I
Donald McMillan*	Part I
Florence Wood	Parts II and III
Michael Hurd	Parts II and III

*Arrived vessel on 8 March via at sea transfer.

National Marine Fisheries Service, NEFC, Woods Hole, MA

Dana Densmore	Parts I, II, and III
Thomas Loughton	Parts I and II
Bruce Davis	Part II
John Antonellis	Parts II and III
Roger Hernandez	Part III
Arthur Allen	Part III

National Marine Fisheries Service NEFC, Narragansett, RI

Jacquelin Frisella	Parts I, II, and III
Thomas McKenney	Part I
Jerome Prezioso	Part II
William Felch	Part II
Joseph Kane	Part III
Karen Johnson	Part III

New Jersey Marine Science Consortium, Sandy Hook, NJ

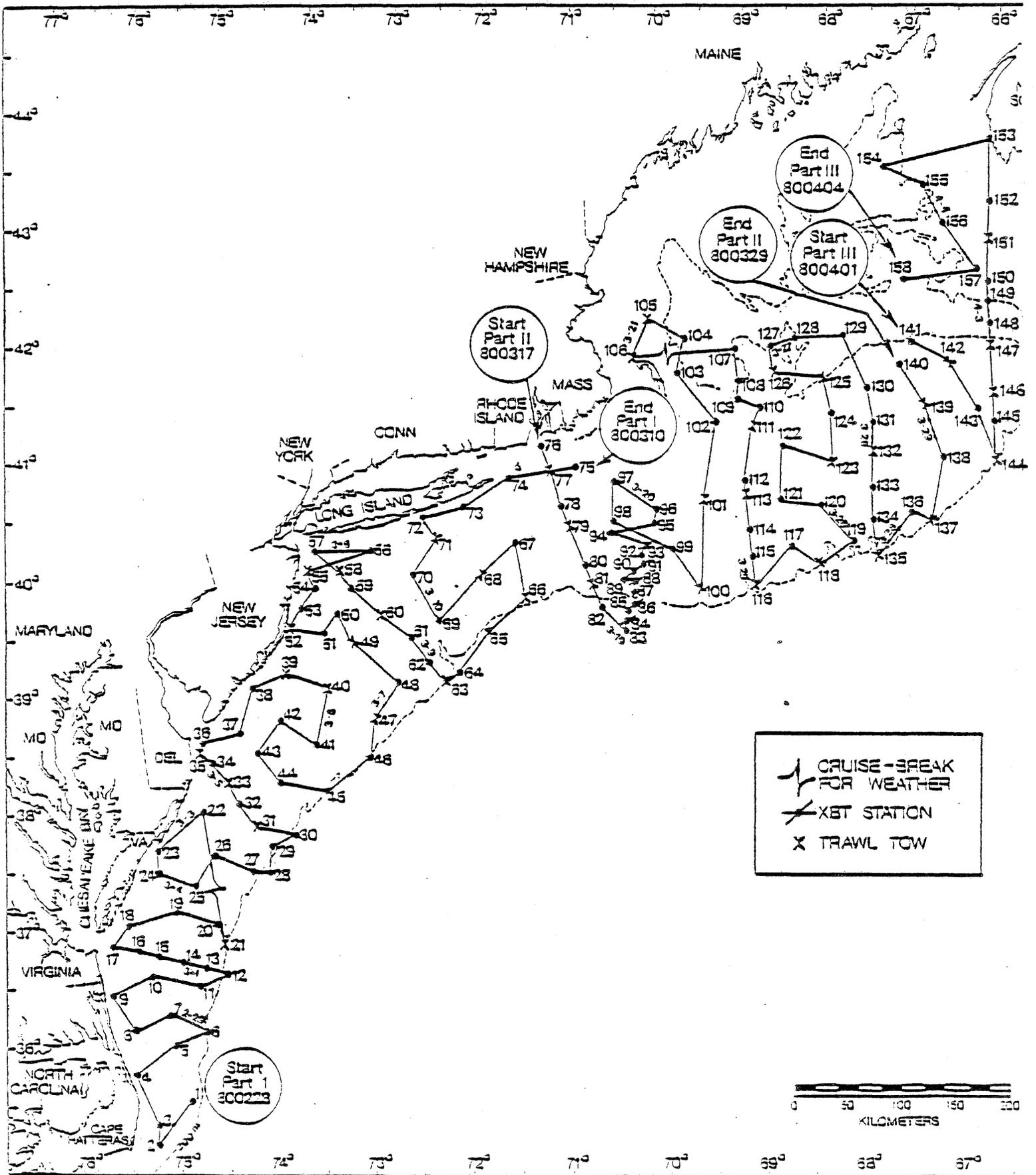
James Nichols	Part I
---------------	--------

University of Rhode Island, Kingston, RI

Edward Lemire	Part III
---------------	----------

Data Collected

	PART I	PART II	PART III	TOTAL
.61 cm BONGO	75	55	18	148
.20 cm BONGO	28	27	7	62
NEUSTON	72	55	18	145
.20 cm NEUSTON				.
HAEDRICH	21	17	3	41
XBT	20	36	9	65
BOTTLE CAST	76	62	18	156
CTD CAST				
CURRENT METERS				
SALINITY SAMPLES	671	727	220	1618
OXYGEN SAMPLES	117	406	85	608
NUTRIENT SAMPLES	250	228	54	532
CHLOROPHYLL SAMPLES	630	612	186	1428
PRIMARY PRODUCTIVITY	19	18	5	42
DROGUES				
SECCHI DISC	40	30	9	79
TRAWLS	14	19	5	40
FISH SAMPLES				



Station locations and cruise track for ALBATROSS IV Cruise 80-02, during 27 February - 5 April 1980.

VESSEL ALBATROSS IV

CRUISE 80-03

DATES April 7-12; April 24-May 2, 1980

PARTS I & II

DAYS AT SEA 5;8

STATIONS 51;68

Cruise Objective

(1) Determine the spring distribution and relative abundance of fish species; (2) collect biological samples; (3) and collect hydrographic and meteorological samples and data. Collections of fish samples were planned for the study of age and growth relationships, fecundity, maturity, and specialized research by interested scientists.

Scientific Personnel

Part I: 7-12 April 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist	Margaret McBride
Donald Flescher	Evelyn Howe
Malcolm Silverman	Dennis Hansford
Gordon Waring	Brenda Fields

Part II: 24 April-2 May 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist	Brenda Figuerido
Donald Flescher	Ira Palmer
Eva Montiero	Frank Bailey
Elizabeth Bevacqua	Dennis Hansford
Daniel Couture	

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Wallace Morse

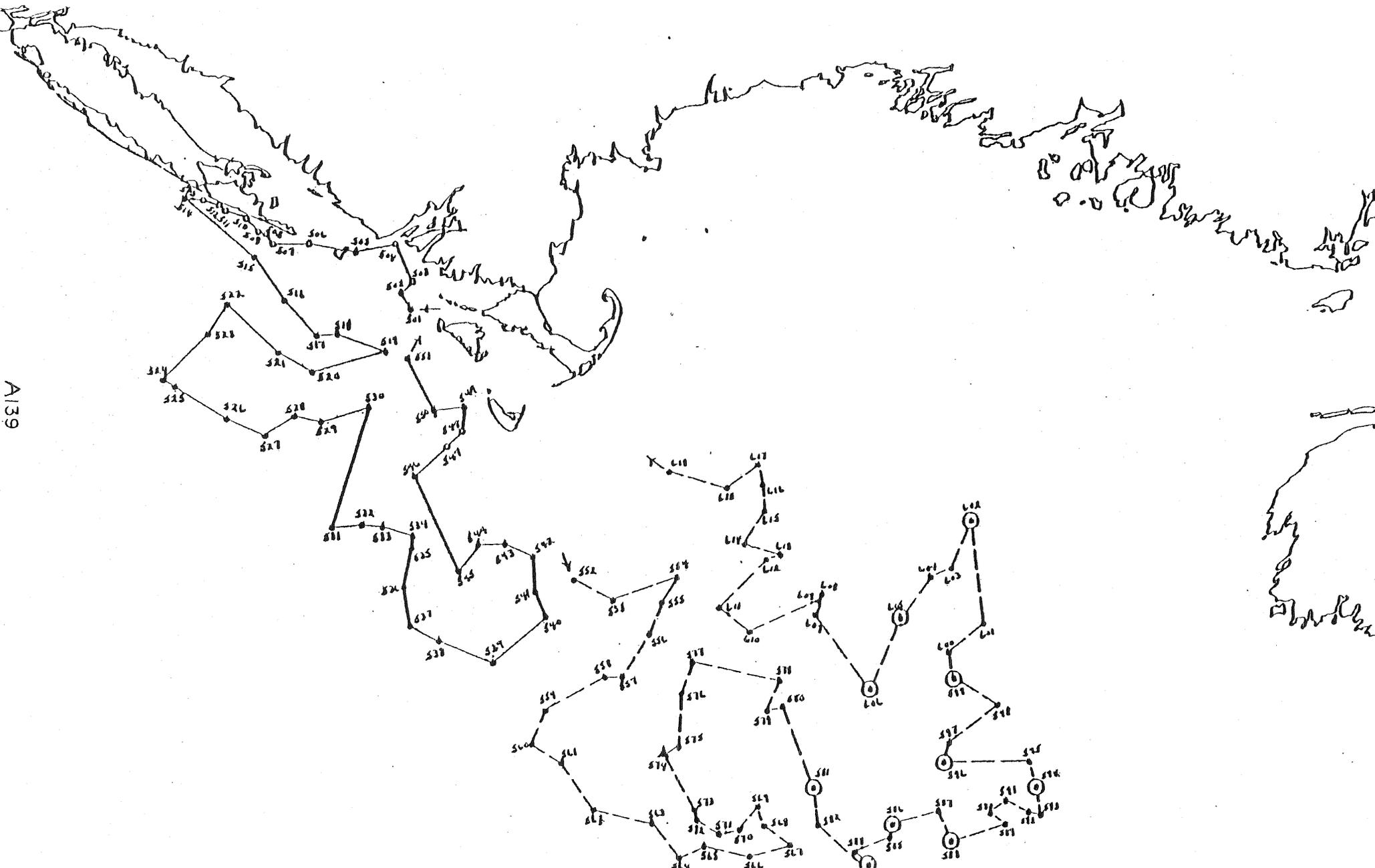
National Marine Fisheries Service, NEFC, Narragansett, RI

Carolyn Griswold

Data Collected

ICNAF STANDARD STATIONS	_____	
ICNAF EXTRA STATIONS	_____	
MOCNESS STATIONS	_____	
BONGO HAULS	_____	
NEUST, JN	_____	
MOCNESS HAULS	_____	
XBT DROPS	_____	119
BOTTLE CAST	_____	
STD CAST	_____	
ROSETTE	_____	
SALINITY SAMPLES	_____	68 (Surface only)
OXYGEN SAMPLES	_____	
NUTRIENT SAMPLES	_____	
CHLOROPHYLL SAMPLES	_____	
TRAWLS	_____	119
FISH SAMPLES	_____	YES
LONG LINE SET	_____	
CURRENT METERS	_____	
DROGUE	_____	
PRIMARY PRODUCTIVITY	_____	

A139



Location of stations and approximate cruise track for part I (solid line) and part II (dashed line) of R/V ALBATROSS IV Cruise 80-03, Spring Bottom Trawl Survey, during 7-12 April and 24 April-2 May 1980, respectively

VESSEL ALBATROSS IV

CRUISE 80-04

DATES April 15-20, 1980

DAYS AT SEA 5

STATIONS 26

Cruise Objective

- 1) Recover four subsurface current meter moorings at locations N1, N3, N4, and N5 (Figure 1). Exact positions are listed in Figure 1.
- 2) Recover subsurface pressure gauges owned by the University of New Hampshire (U.N.H.), Durham, NH, at locations N1, N4, and N5 (Figure 1).
- 3) Drag for another U.N.H. pressure gauge at location N4 which failed to surface when contacted last September 1979 from the R/V OCEANUS.
- 4) Recover all surface marker floats and attached current meters at locations N1 and N3-N6. If weather permitted, all mooring tackle including anchors would be recovered.
- 5) Make 12 CTD stations along the mooring line between positions N1-N6. Positions of stations made are indicated on Figure 2.
- 6) Deploy a surface marker buoy at location N2 for the U.S. Geological Survey, Woods Hole, Massachusetts.
- 7) Make additional CTD stations as time permitted.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Steven R. Ramp, Chief Scientist
W. Redwood Wright
Ronald J. Schlitz
Gilbert Dering
Derek Sutton
Arthur A. Allen
Daniel Patanjo

Woods Hole Oceanographic Institution, Woods Hole, MA

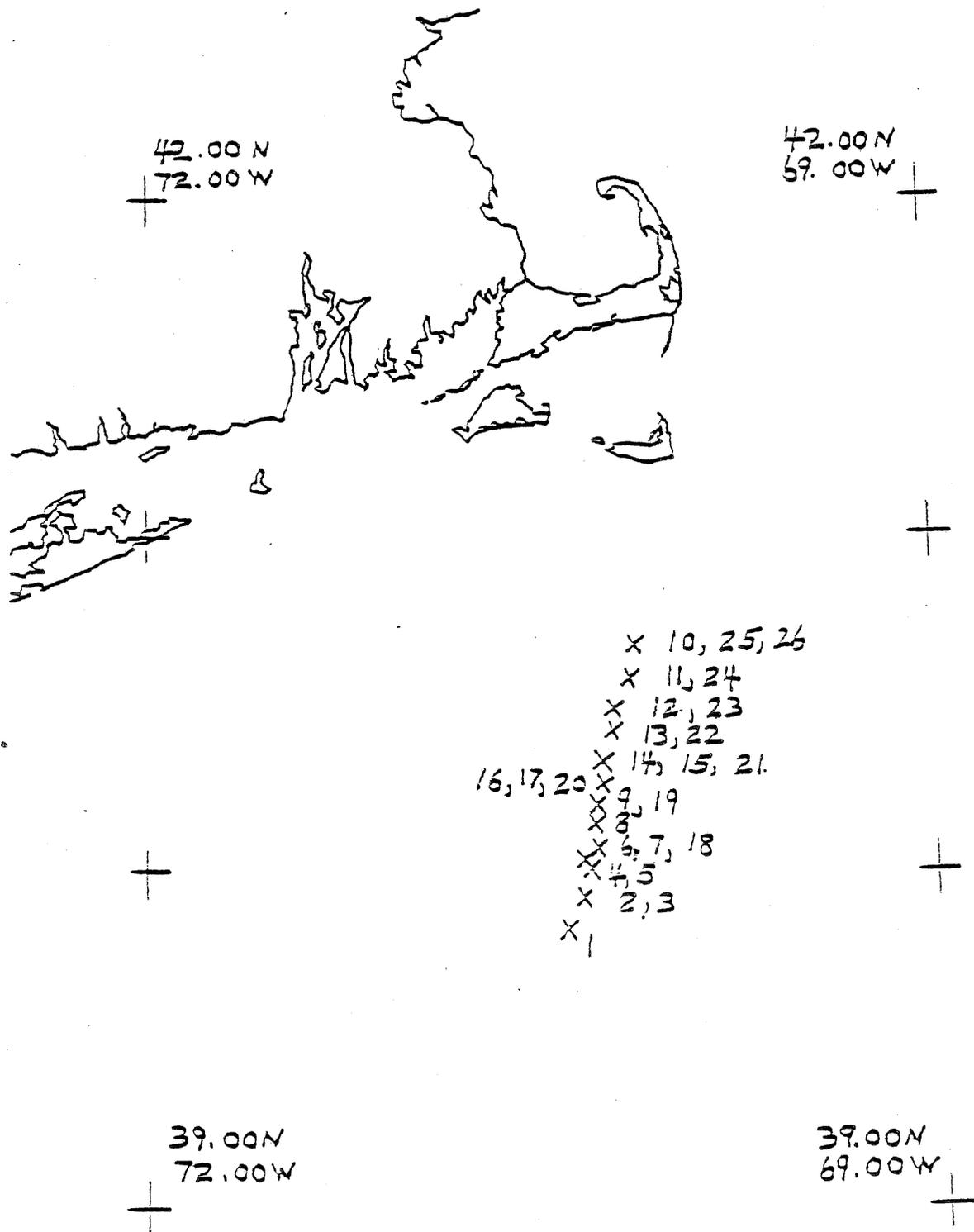
Robert C. Beardsley
John A. Vermersch, Jr.

University of New Hampshire, Durham, NH

Wendell Brown
James Irish

<u>Data Collected</u>	<u>TOTAL</u>		<u>TOTAL</u>
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	_____
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	_____26	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____9
CTD CASTS	_____8	DROGUE	_____
ROSETTES	_____	PRIMARY PRODUCTIVITY	_____

Remarks: University of New Hampshire's pressure gauges (3)
recovered.



Location of XBT stations occupied during ALBATROSS IV Cruise 80-04, during 15-20 April 1980.

VESSEL ALBATROSS IV

CRUISE 80-05

DATES May 6-16, 1980

DAYS AT SEA 10

STATIONS 78

Cruise Objective

(1) To evaluate and modify methodology of otter trawl sampling for red crabs (Geryon quinquedens) and (2) to investigate the relative fishing power of the ALBATROSS IV and DELAWARE II.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist
Malcolm Silverman
John Nicolas

Virginia Institute of Marine Fisheries, Gloucester Pt, VA

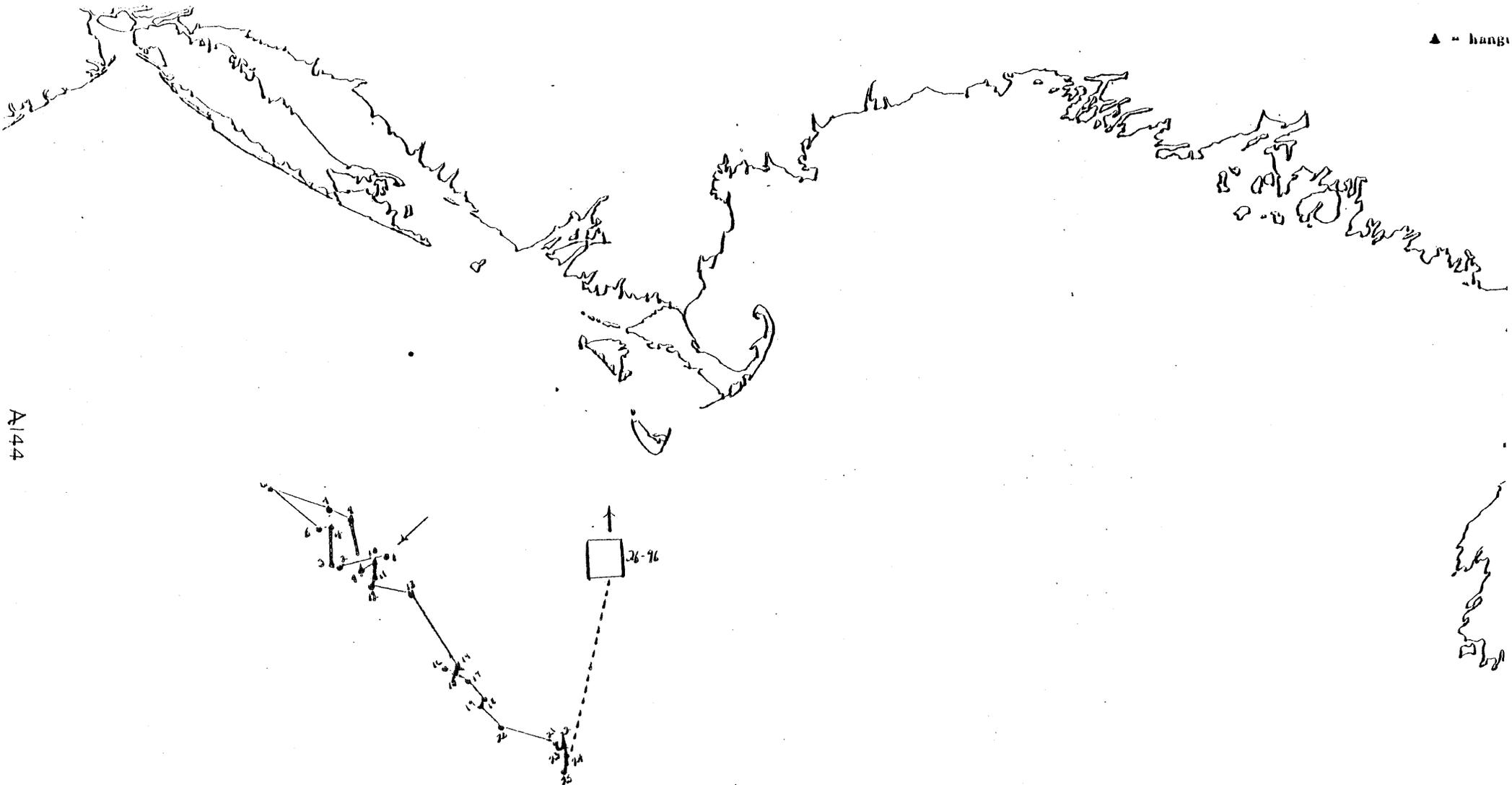
Eric Anderson
Roy Crabtree
Jacque Carter

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON	_____
MOCNESS HAULS	_____
XBT DROPS	_____ 37
BOTTLE CAST	_____
STD CAST	_____
ROSETTE	_____
SALINITY SAMPLES	_____
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____ 96
RED CRAB SAMPLES	_____ 226
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____

- = Red Crab Survey (AL) - 6-9
- = Gear Comparison (DE) - 9-16
- = Gear Comparison (AL) - 10-16

▲ = hang



Approximate cruise track and station locations for R/V ALBATROSS IV
 Cruise AL 80-05, Red Crab and Vessel Fishing Power Equipment, during
 6-16 May 1980.

A144

VESSEL ALBATROSS IV

CRUISE 80-06

DATES May 16-30, 1980

PART I

DAYS AT SEA 15

STATIONS 210

Cruise Objective

The objectives of the cruise were: (1) to determine the distribution and relative abundance of the sea scallop (Placopecten magellanicus); (2) to collect biological samples; (3) to compare the unlined versus lined 2.44-meter (8-foot) scallop dredges; (4) to test the 7.6-meter (25-foot) Woods Hole scallop trawl.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Linda Despres, Chief Scientist
Ronald Smolowitz, Lead Investigator
Philip Chase
Margaret McBride

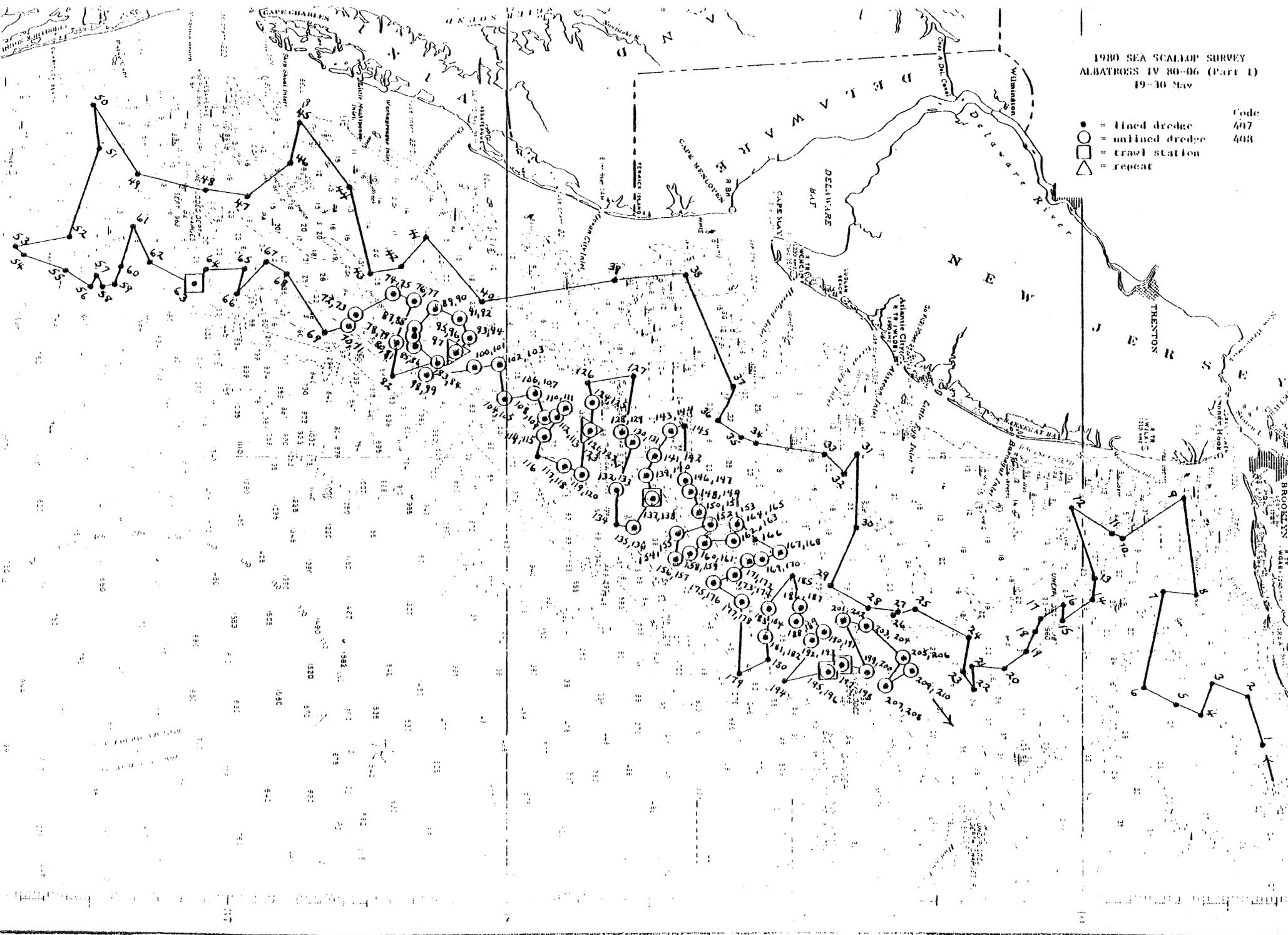
Louis Kerr
Dennis Hansford
Maureen Griffin

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON HAULS	_____
BONGO HAULS	_____
XBT DROPS	_____ 51
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	_____
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____
DREDGE (scallop)	_____ 210

1980 SEA SCALLOP SURVEY
ALBATROSS IV 80-06 (Part 1)
19-30 May

- = lined dredge 407
- = unlined dredge 408
- = trawl station
- △ = repeat



VESSEL ALBATROSS IV

CRUISE 80-06

DATES June 3-12, 1980

PARTS II

DAYS AT SEA 9

STATIONS 162

Cruise Objective

The objectives of the cruise were: 1) to determine the distribution and relative abundance of the sea scallop, (Placopecten magellanicus); 2) to collect biological samples; 3) to compare the lined 2.44-meter (8-foot) scallop dredge against the unlined 2.44-meter and 3.05-meter (10-foot) scallop dredges; 4) to test the 7.6-meter (25-foot) Woods Hole scallop trawl.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Henry Jensen, Chief Scientist
Andrew Thoms
Elizabeth Bevacqua
Joseph Wade

National Marine Fisheries Service, NEFC, Milford, CT

Janice Rancourt

Hampton Institute, Hampton, VA

Perian Dillion
Daryl Moore

Manomet Bird Observatory, Manomet, MA

Michael Payne

Fisheries and Marine Service, Nova Scotia Department of Fisheries,
Halifax, Nova Scotia

Mark Lundy

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS .61 meter	_____
NEUSTON	_____
BONGO HAULS .20 meter	_____
XBT DROPS	_____ 65
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	_____
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____
HAEDRICH TOWS	_____
SECCHI DISC	_____
DREDGE (scallop)	_____ 162

72

71

70

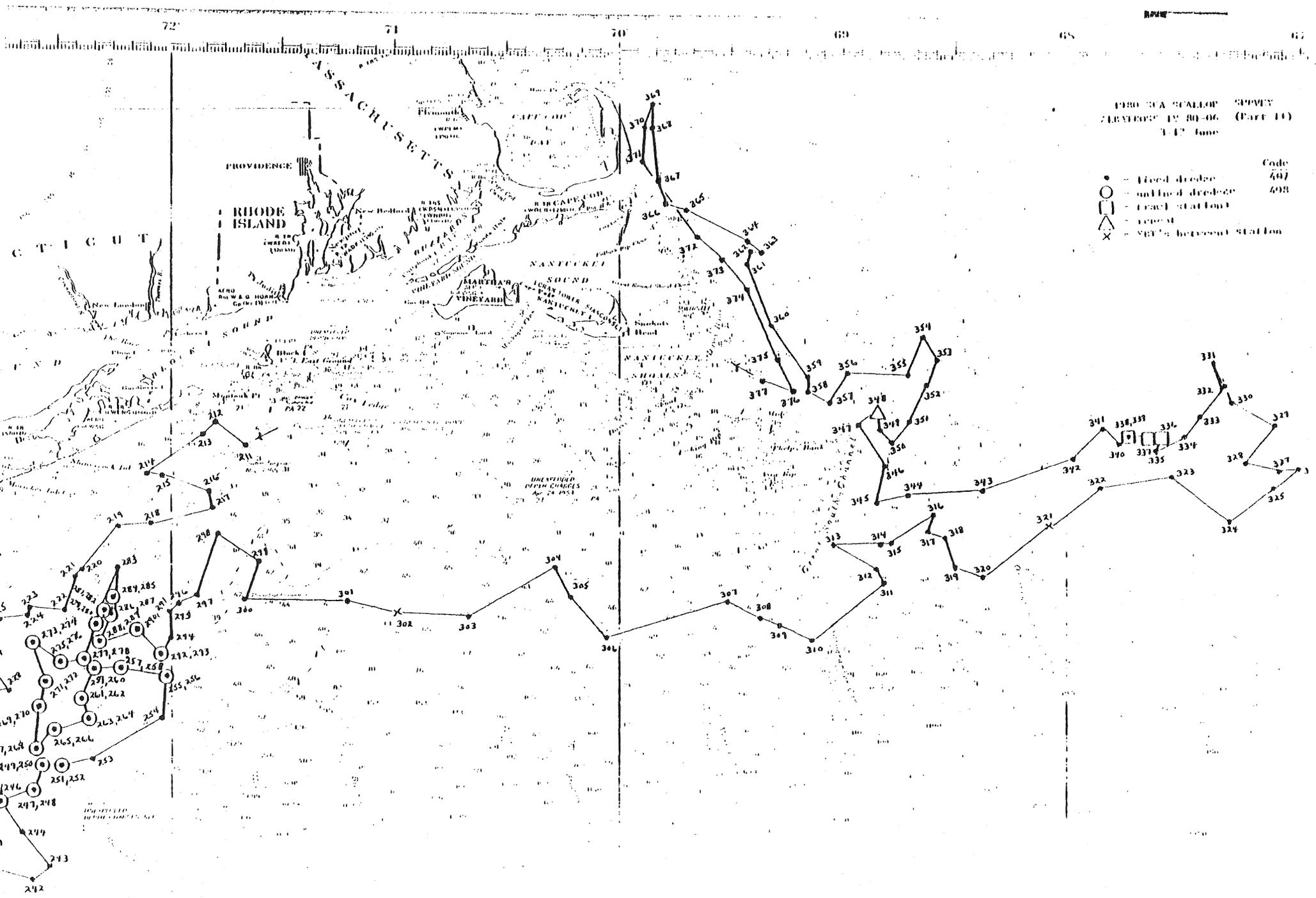
69

68

67

1930 SEA SCALLOP SURVEY
 STATIONS BY 30-06 (Part 14)
 1-17 June

- | | | |
|---|--------------------------|------|
| ● | - Fixed dredge | Code |
| ○ | - unlined dredge | 407 |
| □ | - beach station | 608 |
| △ | - reef | |
| X | - VERT's bequest station | |



VESSEL Albatross IV

CRUISE 80-07

DATES July 8-24, 1980

DAYS AT SEA 17

STATIONS 64

CRUISE OBJECTIVE

The survey is part of a continuing series that makes collections and measurements relative to assessing the health of the ocean's biota, especially fishery resources. Specific objectives were: 1) to collect select indicator species to examine for certain biochemical, physiological, pathological and chemical contamination variables that are related to the organisms' health, 2) to collect water samples from a wide range of locations to monitor nutrients, chlorophyll concentration, primary production, phytoplankton community structure, presence of certain types of bacteria associated with human pollution, standard hydrographic variables (salinity, D.O., temperature) and for algal bioassay studies, and 3) to collect benthic samples for invertebrate community structure, population dynamics and pathology monitoring, sediment analysis (physical and chemical) and for the presence of certain types of bacteria (Vibrio sp. and Clostridium sp.).

Several special activities were also accommodated during the cruise, namely: 1) collecting sediment from the Boston foul grounds for EPA Region 1, 2) rendezvousing with another NEMP survey cruise (New York Bight Water Column Characterization) to intercalibrate certain hydrographic measurements being done in common, 3) collecting zooplankton and water samples for volatile hydrocarbons, nutrients, and phytoplankton at stations at or near Deepwater Dumpsite 106 off New Jersey, and 4) collecting benthic, epibenthic, and plankton samples south of Martha's Vineyard to assist a NEFC food habits study done earlier in the month.

SCIENTIFIC PERSONNEL

National Marine Fisheries Service, NEFC, Sandy Hook, New Jersey

Frank Steimle, Chief Scientist	Part I
David Radosh	Parts I, II
Vincent Zdanowicz	Parts I, II
Michael Hurd	Parts I, II
Albert Matte	Parts I, II
Wendy Stephenson	Parts I, II
James Duggan	Parts I, II

National Marine Fisheries Service, NEFC, Milford, Connecticut

Anthony Calabrese, Chief Scientist	Part II
Jennifer Hauser	Part I
Mary Grojean	Parts I, II
Margaret Dawson	Part II
Edward Miller	Part I
Michael Calabrese	Part I
Michael Elliot	Part II

National Marine Fisheries Service, NEFC, Oxford, Maryland

Linda Doraghatti	Part II
------------------	---------

Cruise Results

1. Obtained from the water samples:

- 1200 nutrient samples
- 535 salinity samples
- 470 fractionated samples for netplankton
- 470 fractionated samples for nannoplankton
- 470 fractionated samples for dissolved organic matter
- 24 ¹⁴C primary production station estimates
- 946 chlorophyll-a samples
- 360 dissolved oxygen samples
- 90 phytoplankton community structure samples
- 9 volatile hydrocarbon samples
- 74 samples for algal bioassay
- 30 bacteriological samples
- 61 XBT traces

2. Obtained from the plankton net samples:

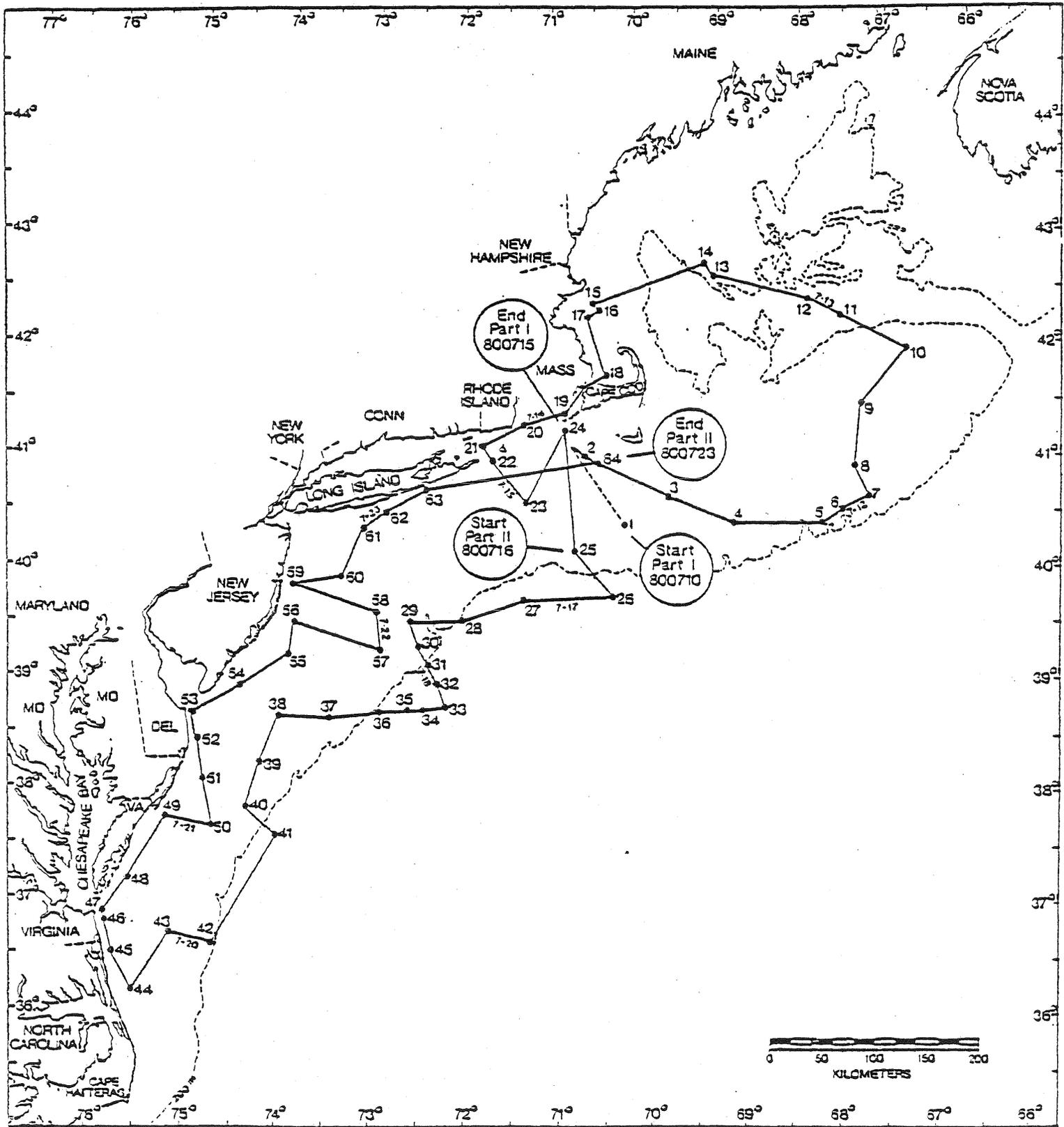
- 27 samples of neuston for pathology
- 29 0.333 meter bongo net samples for pathology
- 28 0.505 meter bongo net samples for pathology
- 8 epibenthic sled samples for pathology
- 3 epibenthic sled samples for food habits study
- 2 epibenthic sled samples for benthic energetics study

3. Obtained from the grab samples:

- 20 bacteriological samples
- 120 macrofauna samples
- 120 sediment cores
- 144 trace metal cores
- 72 meio-fauna cores
- 9 benthic crustacea collections for pathology
- 50 gallons of sediment for EPA Region 1

4. Obtained from the trawl and rake:

- 53 scallop samples for biochemistry and physiology
- 68 Cancer samples for biochemistry and physiology
- 6 winter flounder for RNA/DNA studies
- 17 windowpane flounder
- 25 winter flounder for trace metal analysis
- 4 Arctica for trace metal analysis
- 100 Gadid blood samples for Mutagenetics Investigation
- 30 samples for energetic studies



Cruise track and station locations, ALBATROSS IV Cruise 80-07, Northeast Monitoring Program (NEMP 80-11), Biological Effects Survey, during 8-24 July 1980.

VESSEL ALBATROSS IV

CRUISE 80-08

DATES July 29-August 8, 1980

PART I

DAYS AT SEA 11

STATIONS 47

CRUISE OBJECTIVE

The objectives of the cruise were: (1) to determine the summer distribution and relative abundance of fish species using the number 36 trawl; (2) to collect biological samples of fish for studies of age and growth, fecundity, maturity, food habits, pathology, and special collections for various scientists; and (3) to obtain various oceanographic data and to record meteorological observations. In addition, prior to the completion of the cruise a study was added to investigate the fishing power of the ALBATROSS IV versus that of the DELAWARE II in a 10 x 10-mile area on the Northeast Peak of Georges Bank from 2-6 August 1980.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Henry Jensen, Chief Scientist	Brenda Fields
Donald Flescher	Mark Costa
Eva Montiero	Patricia Chew
Maureen Griffin	Joseph Wade
Maurice Crawford	David Eslinger

Massachusetts Division of Marine Fisheries, Sandwich, MA

James Buckley

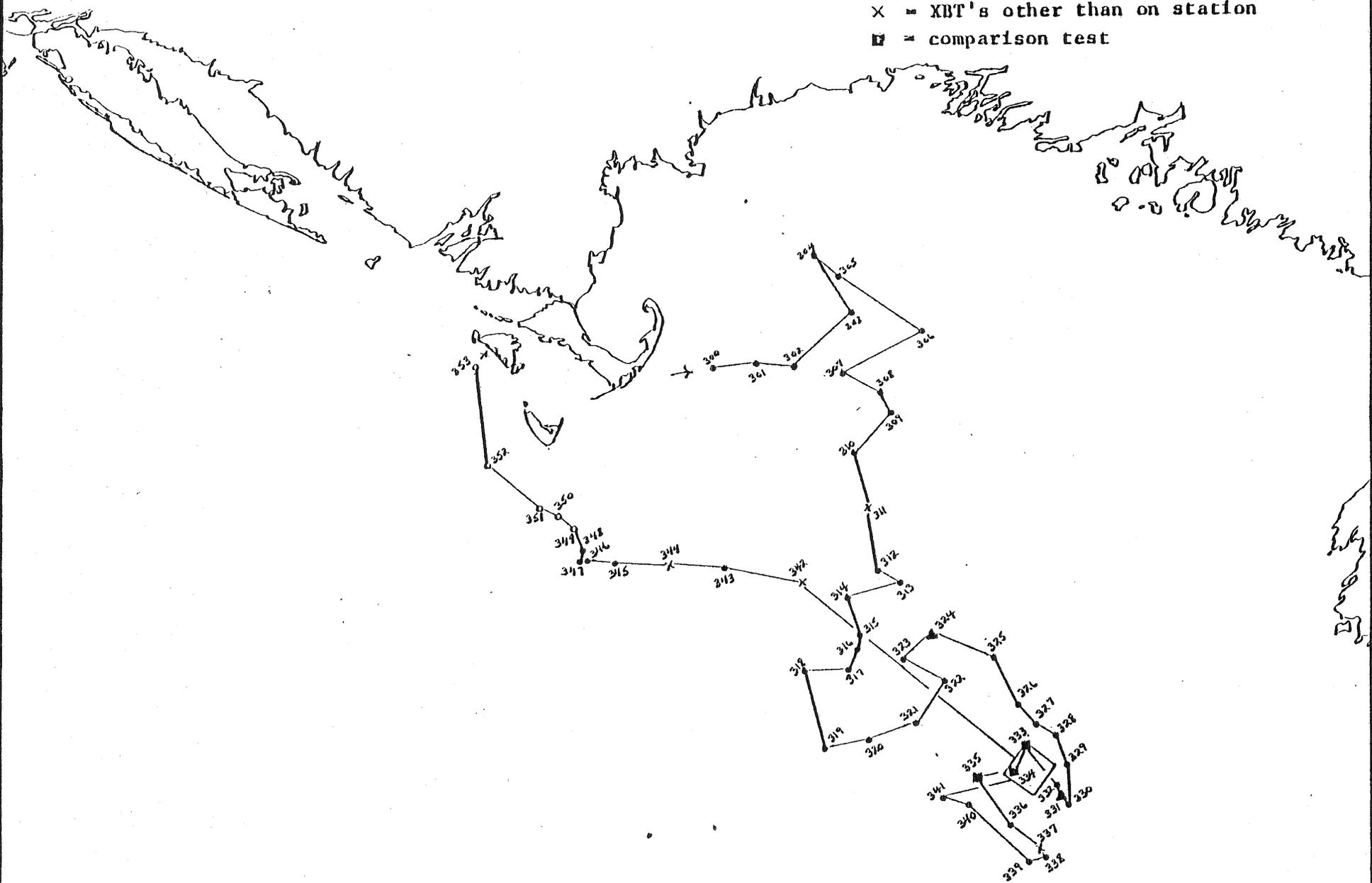
Madison Junior High School, Oxford, CT

Margaret Hughes

Cruise Results

ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	47
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	7	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____

- = offshore
- = inshore
- = trawl comparison
- ▲ = tearups
- × = XBT's other than on station
- ▣ = comparison test



Station locations for ALBATROSS IV Cruise 80-08 (I) Summer Bottom Trawl Survey, during 29 July-8 August 1980.

VESSEL ALBATROSS IV
DATES August 12-22, 1980
DAYS AT SEA 10

CRUISE 80-08
PART II
STATIONS 125

Cruise Objective

The objectives of the cruise were to: 1) determine the summer distribution and relative abundance of fish species; 2) collect biological samples of fish for studies of age and growth, fecundity, maturity, food habits, pathology, and special collections for various scientists; 3) obtain various oceanographic data and meteorological observations; 4) evaluate the diel variation in availability of northern shrimp to the survey gear; and 5) compare the fishing power of the Yankee 36 trawl with a small semi-balloon shrimp research otter trawl.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Linda Despres, Chief Scientist
Elizabeth Bevacqua
Ralph Mayo
James Townes

Steven Seldon
William Michaels
Suzanne Avtges

Boston Public Schools, Boston, MA

Patricia Ward

Brunswick High School, Brunswick, ME

Claude Bonang

University of New England, Biddeford, ME

David Ryan

Herberth Lehman College, Bronx, NY

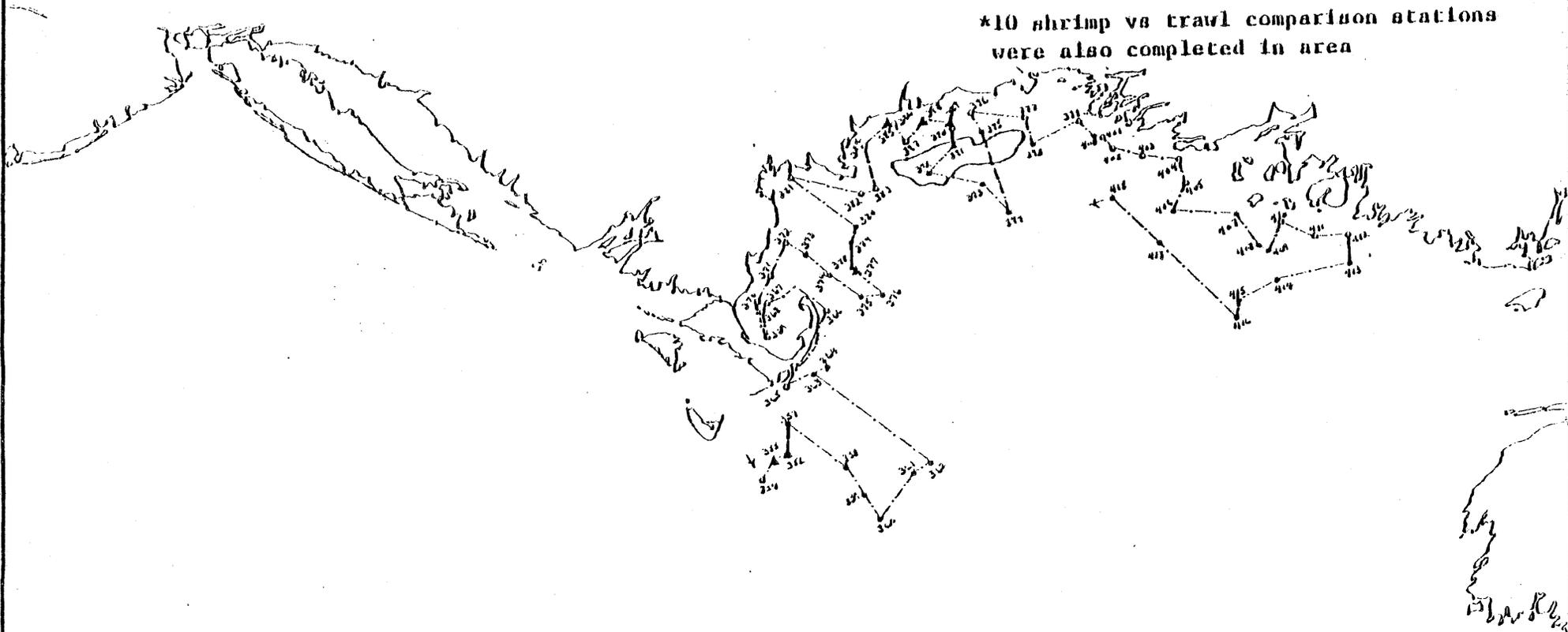
John Klonowski

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON HAULS	_____
MOCNESS HAULS	_____
XBT DROPS	_____ 79
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	_____ 65
OXYGEN SAMPLES	_____
NUTRIENTS SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____ 125
FISH SAMPLES	_____ 478
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____

- = offshore
- = inshore
- △ = tearups
- X = XBT's other than on station
- (with outline) = shrimp area* (50 sta)

*10 shrimp vs trawl comparison stations were also completed in area



Station locations for ALBATROSS IV Cruise 80-08 (II) Summer Bottom Trawl Survey, during 12-22 August 1980.

A158

VESSEL ALBATROSS IV

CRUISE 80-09

DATES Sept. 3-18, 1980

DAYS AT SEA 15

STATIONS 72

Cruise Objective

The survey is part of a continuing series that makes collections and measurements relative to assessing the health of the ocean's biota, especially fishery resources. Specific objectives were: 1) to collect select indicator species to examine for certain biochemical, physiological, pathological and chemical contamination variables that are related to the organisms' health; 2) to collect water samples from a wide range of locations to monitor nutrients, chlorophyll concentration, phytoplankton community structure, presence of certain type of bacteria associated with human pollution, standard hydrographic variables (salinity, dissolved oxygen, temperature) and for algal bioassay studies; and 3) to collect benthic samples for pathology monitoring, sediment analysis (physical and chemical), and for the presence of certain types of bacteria (Vibrio and Clostridium).

Scientific Personnel

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Frank Steimle, Chief Scientist	Part I	Steven Fromm	Part I, II
David Radosh, Chief Scientist	Part II	Robert Fitzgerald	Part I, II
Andrew Draxler	Part I, II	Kathleen Workman	Part I
William Phoel	Part I, II	Kevin Gashlin	Part I
Stephen Spina	Part I, II	Gail Driscoll	Part II

National Marine Fisheries Service, NEFC, Milford, CT

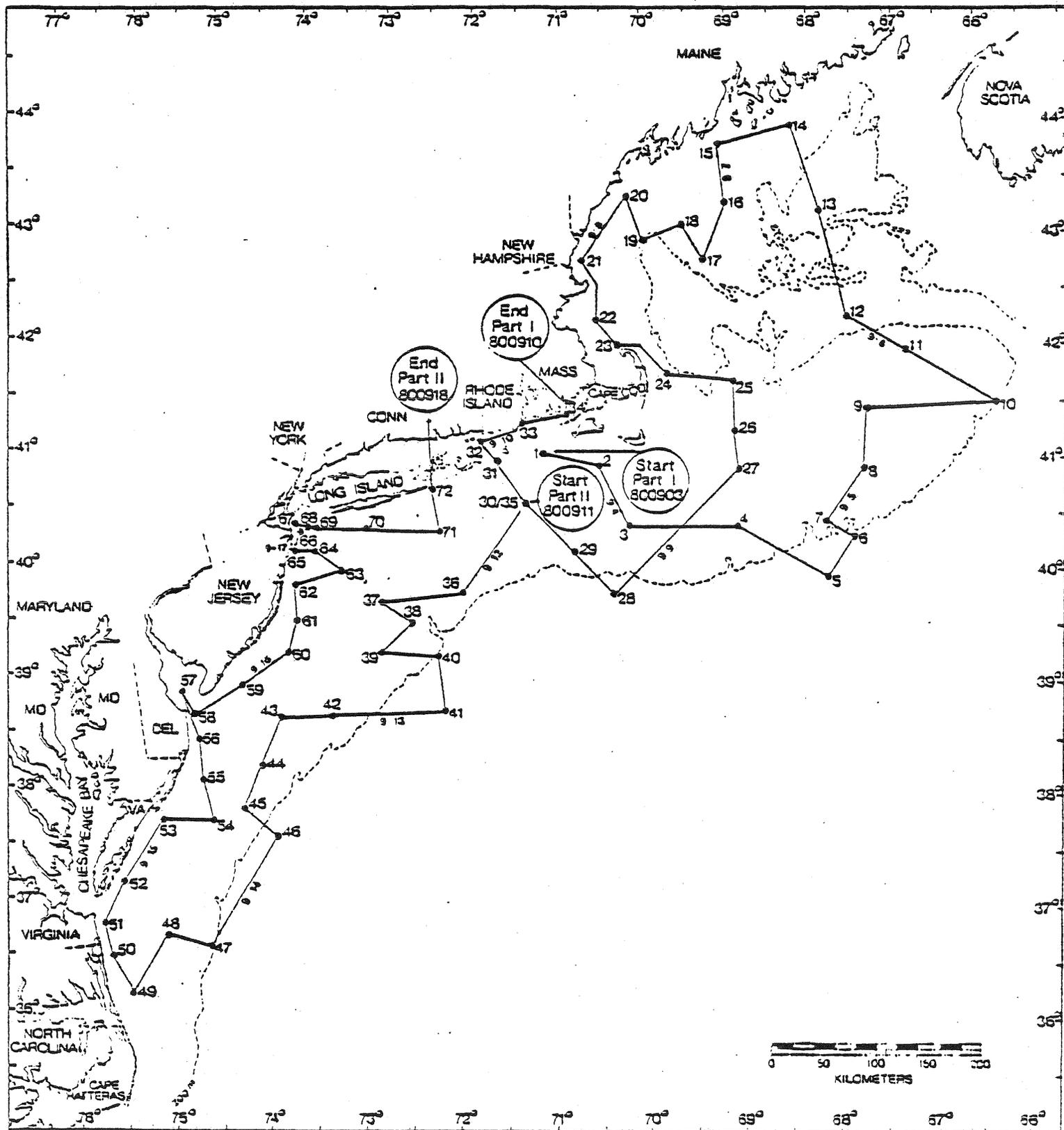
Frederick Thurberg	Part I	Margaret Darson	Part II
Richard Greig	Part I	Laurie Devine	Part II
Janice Rancourt	Part I	Patricia Arszyla	Part II

National Marine Fisheries Service, NEFC, Oxford, MD

Linda Doragatti	Part I, II
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Data Collected

ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	559
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	400
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	390
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	1203
NEUSTON HAULS	_____	TRAWLS	_____
MOCNESS HAULS	_____	FISH SAMPLES	347
XBT DROPS	70	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____



Cruise track and station locations for ALBATROSS IV Cruise 80-09, Northeast Monitoring Program (NEMP 80-17), Biological Effects Survey, during 3-18 September 1980.

VESSEL ALBATROSS IV

CRUISE 80-10

DATES Sept. 24-Oct. 30, 1980

PARTS I-III

DAYS AT SEA 9, 7, 15

STATIONS 47, 41, 87

Cruise Objectives

This cruise is one of a series of surveys conducted annually to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data.

Scientific Personnel

Part I: 24 September-2 October 1980

Part II: 4-10 October 1980

Part III: 15-30 October 1980

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

John Sibunka, Chief Scientist	Parts I and II
Peter Berrien, Chief Scientist	Part III
James Nickels	Parts I, II, and III
James Duggan	Parts I, II, and III
Henry Rota	Parts I and II
Kathleen Workman	Parts I and II
Ralph Bruno	Parts I and II
Donald McMillan	Part III
Robert Fitzgerald	Part III
Albert Matte	Part III
Thomas Kienzle	Part III

National Marine Fisheries Service, NEFC, Woods Hole, MA

Thomas Laughton	Parts I and II
Robert Backman	Parts I and II
Derek Sutton	Part I
Dana Densmore	Parts II and III
Samuel Nickerson	Part III
Bruce Davis	Part III

National Marine Fisheries Service, NEFC, Narragansett, RI

Carolyn Griswold	Parts I and II
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Manomet Bird Observatory, Manomet, MA

Galen Pittman	Part I
William Nichols	Part II
Peter Stangel	Part III

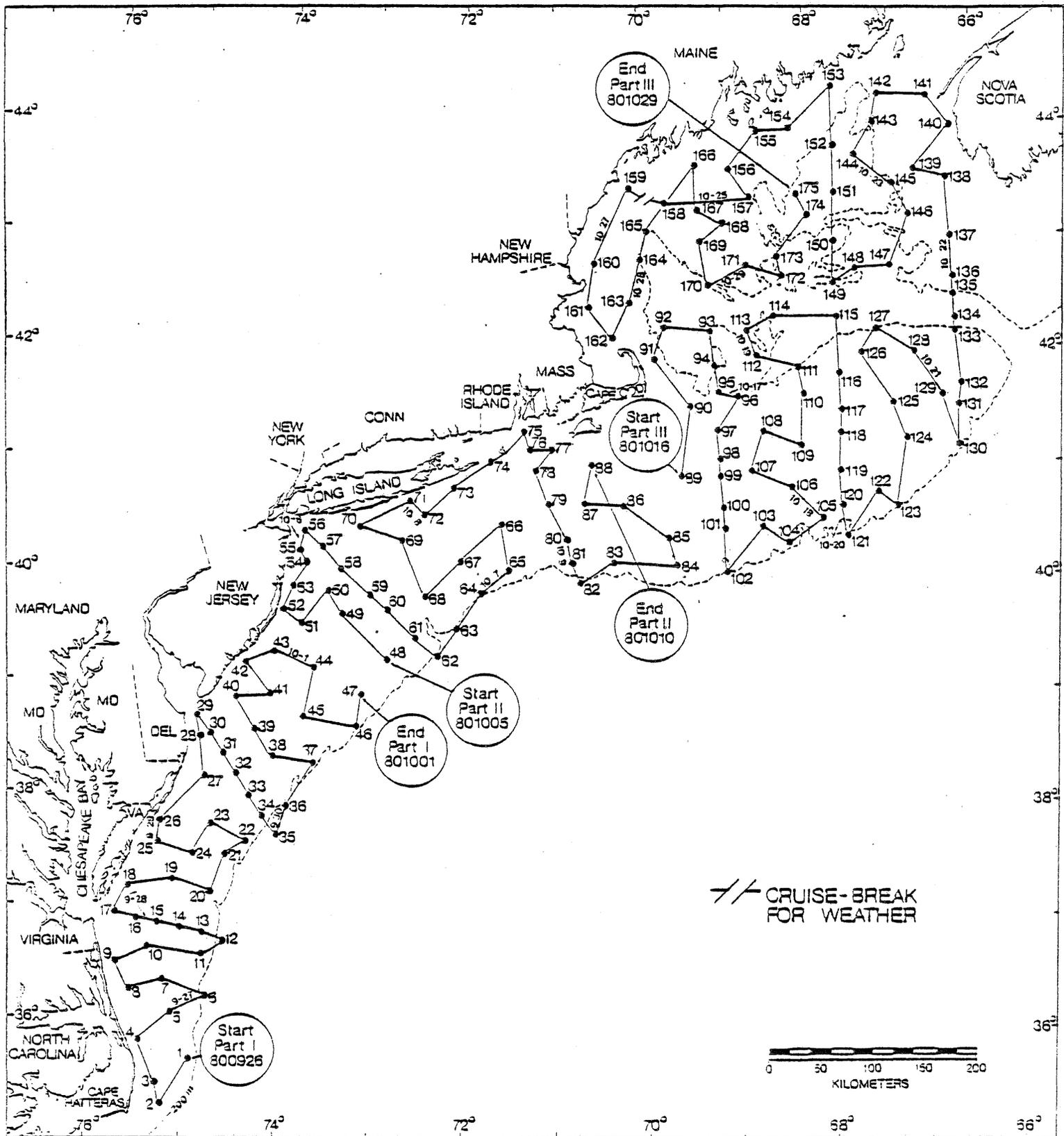
University of Rhode Island, Kingston, RI

Robert Medved

Parts I and II

Data Collected

	<u>Part I</u>	<u>Part II</u>	<u>Part III</u>
	<u>Total</u>	<u>Total</u>	<u>Total</u>
ICNAF STANDARD STATIONS	_____	_____	_____
ICNAF EXTRA STATIONS	_____	_____	_____
.60 BONGO HAULS	<u>46</u>	<u>41</u>	<u>87</u>
.20 BONGO HAULS	<u>17</u>	<u>14</u>	<u>29</u>
NEUSTON HAULS	<u>46</u>	<u>41</u>	<u>87</u>
HAEDRICH HAULS	<u>16</u>	<u>12</u>	<u>23</u>
XBT DROPS	<u>13</u>	<u>14</u>	<u>34</u>
BOTTLE CASTS	<u>47</u>	<u>41</u>	<u>87</u>
STD CASTS	_____	_____	_____
ROSETTE	_____	_____	_____
SALINITY SAMPLES	<u>395</u>	<u>310</u>	<u>1036</u>
OXYGEN SAMPLES	<u>150</u>	<u>149</u>	<u>419</u>
NUTRIENTS SAMPLES	<u>161</u>	<u>144</u>	<u>308</u>
CHLOROPHYLL SAMPLES	<u>372</u>	<u>365</u>	<u>864</u>
TRAWLS	_____	_____	_____
FISH SAMPLES	_____	_____	_____
LONG LINE SET	_____	_____	_____
CURRENT METERS	_____	_____	_____
DROGUE	_____	_____	_____
PRIMARY PRODUCTIVITY	<u>11</u>	<u>10</u>	<u>22</u>
SECCHI	<u>24</u>	<u>19</u>	<u>31</u>



Station locations numbered consecutively for R/V ALBATROSS IV cruise 80-10, Ichthyoplankton-Zooplankton, Oceanographic, and Primary Productivity Survey, during 24 September-30 October 1980.

VESSEL ALBATROSS IV

CRUISE 80-11

DATES November 3-14, 1980

DAYS AT SEA 13

STATIONS 2

CRUISE OBJECTIVE

The objectives of the cruise were to: (1) devise an interdisciplinary sampling strategy for the investigation of fine-scale physical and biological processes which may be responsible for the microdistribution of fish larvae and their prey; and (2) field test an assortment of physical and biological oceanographic gear and instruments.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

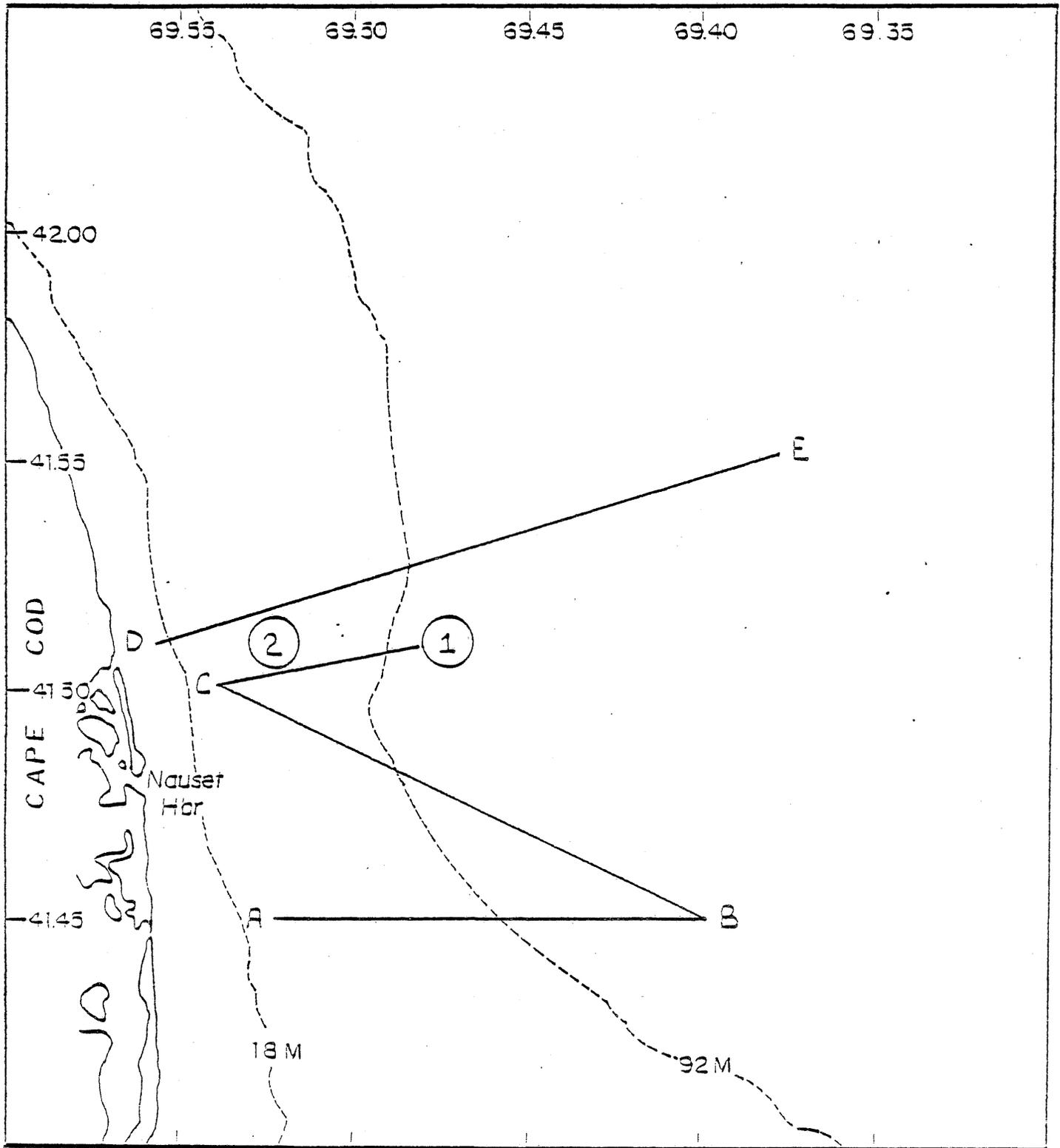
R. Gregory Lough, Chief Scientist	Ronald Schlitz
David Potter	Gilbert Dering
George Bolz	Thomas Laughton
Rosalind Cohen	Derek Sutton
Harold Merry	Arthur Allen

National Marine Fisheries Service, NEFC, Narragansett, RI

Geoffrey Laurence
John Green
Donna Busch

Cruise Results

Sea days	13
MOCNESS one-meter hauls	3
MOCNESS 1/4-meter hauls	25
MOCNESS underwater TV test hauls	5
Vertical Bongo haul	1
CTD casts	127
XBT drops	43
Plankton pump profiles	14
Fluorometer casts	15
Light meter casts	2
Simultaneous CTD and fluorometer casts	14
Simultaneous CTD and plankton pump casts	13
CTD water bottle samples for chlorophyll fluorescence calibration	45
CYCLOSONDE casts	2
Drogue deployments	4
Chromascope V-Fin transducer (50 and 200 kHz)	<u>CONTINUOUS</u>



Initial cruise track and station locations for ALBATROSS IV Cruise 80-11, Interdisciplinary Sampling Studies of Larval Fish and Prey Microdistribution and Associated Processes, during 3-14 November 1980.

VESSEL ALBATROSS IV

CRUISE 80-12

DATES November 17 - December 23

PART I, II, and III

DAYS AT SEA 10;11;9

STATIONS 52;55;31

CRUISE OBJECTIVE

This cruise is one of a series of surveys conducted annually to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data.

Scientific Personnel

Part I: 17-26 November 1980
Part II: 2-12 December 1980
Part III: 15-23 December 1980

National Marine Fisheries Service, NEFC, Narragansett, RI

Joseph Kane, Chief Scientist	Parts I and II
Jacquelin Frisella	Parts II and III
Carolyn Griswold	Part III

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Myron Silverman, Chief Scientist	Part III
James Nickels	Parts I, II, and III
Thomas Kienzle	Parts I, II, and III
Henry Rota	Parts I, II, and III
Robert Fitzgerald	Parts I and II
James Duggan	Parts I and II
Doris Finan	Part I
Annette Pratt	Part II
Donald McMillian	Part II
Cindy Fahay	Part II

National Marine Fisheries Service, NEFC, Woods Hole, MA

Helen Gordon	Parts I, II, and III
William Metcalf	Parts I, II, and III
Dan Rodgers	Parts I, II, and III
Robert Backman	Parts I and II
Arthur Allen	Part I
Thomas Laughton	Part II
Dana Densmore	Part II
Daniel Patanjo	Part III

Manomet Bird Observatory, Manomet, MA

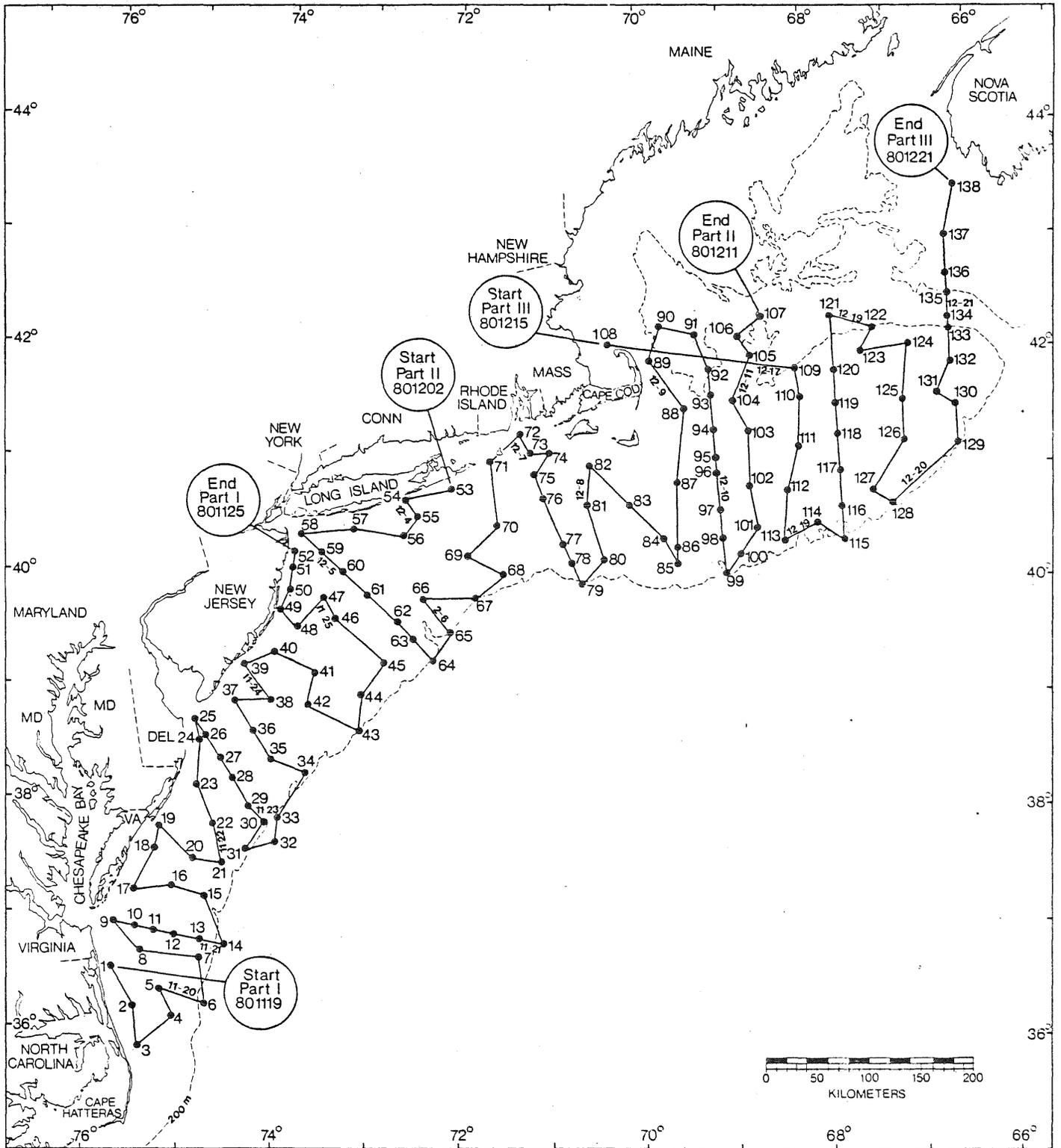
Avery Taylor	Part III
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University of Rhode Island, Kingston, RI

John Roanwicz	Parts I and II
Robert Medved	Part III

Cruise Results

	<u>PT I</u>	<u>PT II</u>	<u>PT III</u>
	<u>TOTAL</u>	<u>TOTAL</u>	<u>TOTAL</u>
ICNAF STANDARD STATIONS			
ICNAF EXTRA STATIONS			
HAEDRICH	<u>16</u>	<u>15</u>	<u>9</u>
BONGO HAULS	<u>70</u>	<u>77</u>	<u>47</u>
NEUSTON HAULS	<u>51</u>	<u>55</u>	<u>31</u>
MOCNESS HAULS			
XBT DROPS	<u>2</u>	<u>19</u>	<u>44</u>
BOTTLE CASTS	<u>52</u>	<u>55</u>	<u>31</u>
STD CASTS			
ROSETTE			
SALINITY SAMPLES	<u>427</u>	<u>591</u>	<u>333</u>
OXYGEN SAMPLES	<u>164</u>	<u>249</u>	<u>164</u>
NUTRIENTS SAMPLES	<u>193</u>	<u>194</u>	<u>104</u>
CHLOROPHYLL SAMPLES	<u>397</u>	<u>520</u>	<u>292</u>
TRAWLS			
FISH SAMPLES			
LONG LINE SET			
CURRENT METERS			
DROGUE			
PRIMARY PRODUCTIVITY	<u>11</u>	<u>12</u>	<u>7</u>
SECCHI DISC	<u>21</u>	<u>18</u>	<u>.8</u>



ALBATROSS IV 80-12

VESSEL DELAWARE II

CRUISE 80-01

DATES Jan.3-6; 15, 22-30; Jan. 30-Feb. 10, 1980

DAYS AT SEA 23

STATIONS 229

Cruise Objective

The purposes of the cruise were (1) investigate the distribution and relative abundance of the surf clam (Spisula solidissima) and ocean quahog (Arctica islandica), (2) collect biological samples and data relative to assessment needs, (3) make collections for interested scientists from other institutions and NMFS laboratories, and (4) monitor meteorological and hydrographical conditions during the survey.

Scientific Personnel 3-6 January 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist
Steven Murawski
Frank Almeida
Andrew Thoms
Elizabeth Bevacqua
Louis Kerr
Loretta O'Brien
Robert Flynn

National Marine Fisheries Service, NEFC, Gloucester, MA

Vernon Nulk

University of Rhode Island, Kingston, RI

John Roanowicz

15 January 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist
Steven Murawski
Andrew Thoms
Louis Kerr
Dennis Hansford
Elizabeth Bevacqua
James Crossen
Loretta O'Brien

22-30 January 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist
Steven Murawski
Andrew Thoms
Dennis Hansford
James Crossen
Kathi Rodrigues
Louis Kerr

State University of New York, Stony Brook, NY

Elizabeth Lounsbury

30 January-10 February 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

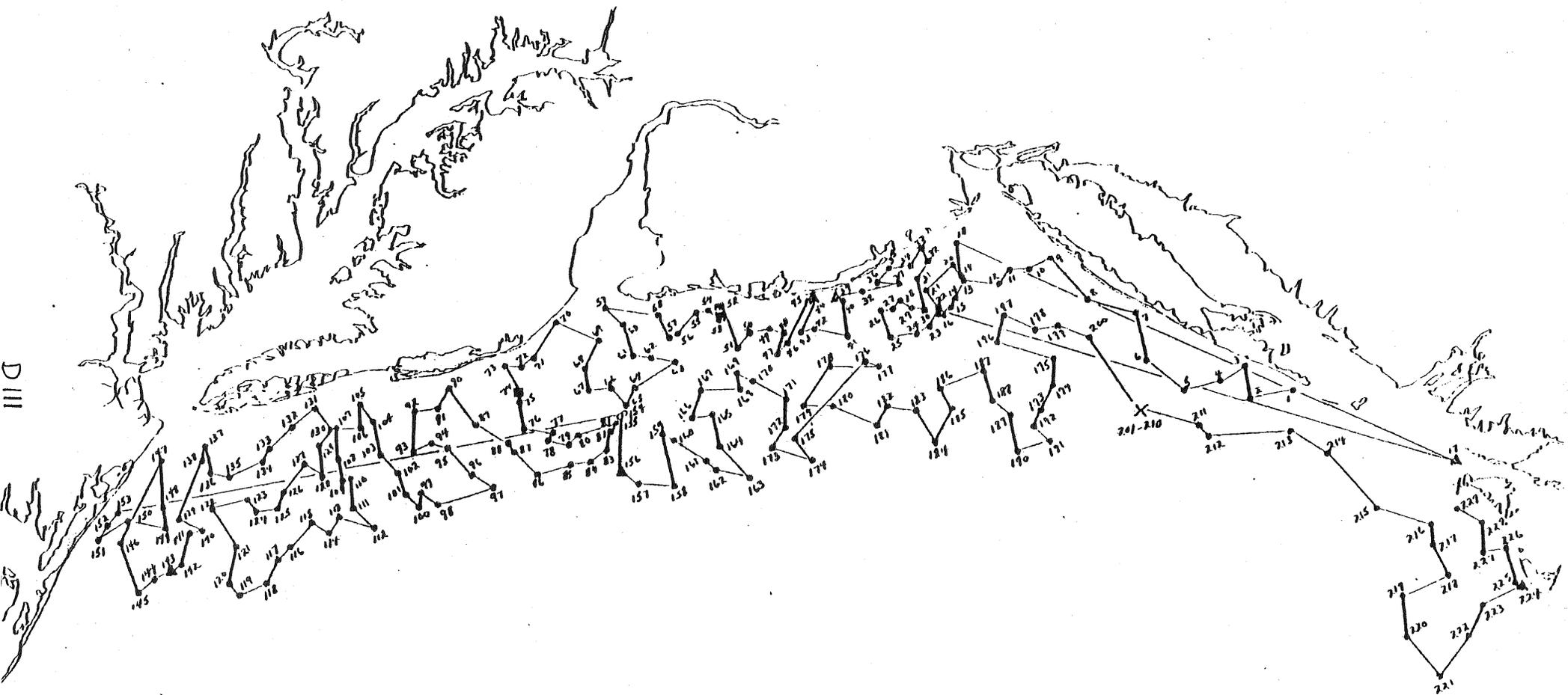
Charles Byrne, Chief Scientist
Steven Murawski
Thomas Azarovitz
Andrew Thoms
Dennis Hansford
Hal Merry
John Ropes

National Marine Fisheries Service, Regional Office, Gloucester, MA

Bruce Nichols

<u>Data Collected</u>	<u>TOTAL</u>		<u>TOTAL</u>
.61 cm BONGO	_____	SALINITY SAMPLES	_____
.20 cm BONGO	_____	OXYGEN SAMPLES	_____
.61 cm NEUSTON	_____	NUTRIENT SAMPLES	_____
.20 cm NEUSTON	_____	CHLOROPHYLL SAMPLES	_____
HAEDRICH	_____	PRIMARY PRODUCTIVITY	_____
XBT	_____ 65	DROGUES	_____
BOTTLE CAST	_____	SECCHI DISC	_____
CTD CAST	_____	TRAWLS	_____
CURRENT METERS	_____	FISH SAMPLES	_____
JET DREDGE	_____ 229		_____

- = SPISULA CLOSED AREA
- = ARCTICA RECRUITMENT AREA
- X = MARKED CLAM AREA
- ▲ = GEAR PROBLEM



Station locations and cruise track for R/V DELAWARE II Cruise 80-01 during
3 January-10 February 1980.

VESSEL DELAWARE II

CRUISE 80-02

DATES March 16-28, 1980

PART I

DAYS AT SEA 12

STATIONS 109

Cruise Objective

The objectives of the cruise were to determine the spring distribution (from 9.0 to 366 meters north of Cape Hatteras and 9.0 to 183 meters south of Cape Hatteras) and relative abundance of fish species and to collect biological samples and hydrographic data for associated studies.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Linda Despres, Chief Scientist
Frank Almeida
Donald Flescher
Eva Montiero
Gordon Waring

Dea Freid
Maureen Griffin
Dennis Hansford
Louis Kerr

Philips Exeter Academy, Exeter, NH

Herbert Waters

Data Collected

	PART I	PART II	PART III	TOTAL
.61 cm BONGO	_____	_____	_____	_____
.20 cm BONGO	_____	_____	_____	_____
NEUSTON	_____	_____	_____	_____
.20 cm NEUSTON	_____	_____	_____	_____
HAEDRICH	_____	_____	_____	_____
XBT	_____	_____	_____	109
BOTTLE CAST	_____	_____	_____	_____
CTD CAST	_____	_____	_____	_____
CURRENT METERS	_____	_____	_____	_____
SALINITY SAMPLES	_____	_____	_____	109
OXYGEN SAMPLES	_____	_____	_____	_____
NUTRIENT SAMPLES	_____	_____	_____	_____
CHLOROPHYLL SAMPLES	_____	_____	_____	_____
PRIMARY PRODUCTIVITY	_____	_____	_____	_____
DROGUES	_____	_____	_____	_____
SECCHI DISC	_____	_____	_____	_____
TRAWLS	_____	_____	_____	_____
FISH SAMPLES	_____	_____	_____	_____
THIRD WIRE SYSTEM	_____	_____	_____	1

D113



Station location and cruise track for DELAWARE II Cruise 80-02 (I) during 16-28 March 1980.

VESSEL DELAWARE II

CRUISE 80-02

DATES April 15-25, 1980

PART II

DAYS AT SEA 10

STATIONS 78

Cruise Objective

(1) To determine the spring distribution and relative abundance of fish species; (2) to collect biological samples; (3) make pathological observations; (4) and collect hydrographic and meteorological samples and data. Fish samples were taken for the study of age and growth relationships, fecundity, maturity, food habits and pathology. Special collections were made for various scientists.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Malcolm Silverman, Chief Scientist
Steven Murawski
Linda Despres
Margaret McBride
James Townes
Dea Freid

National Marine Fisheries Service, NEFC, Milford, CT

James Hughes

National Marine Fisheries Service, NEFC, Oxford, MD

Thomas Daniel

Massachusetts Division of Marine Fisheries, Sandwich, MA

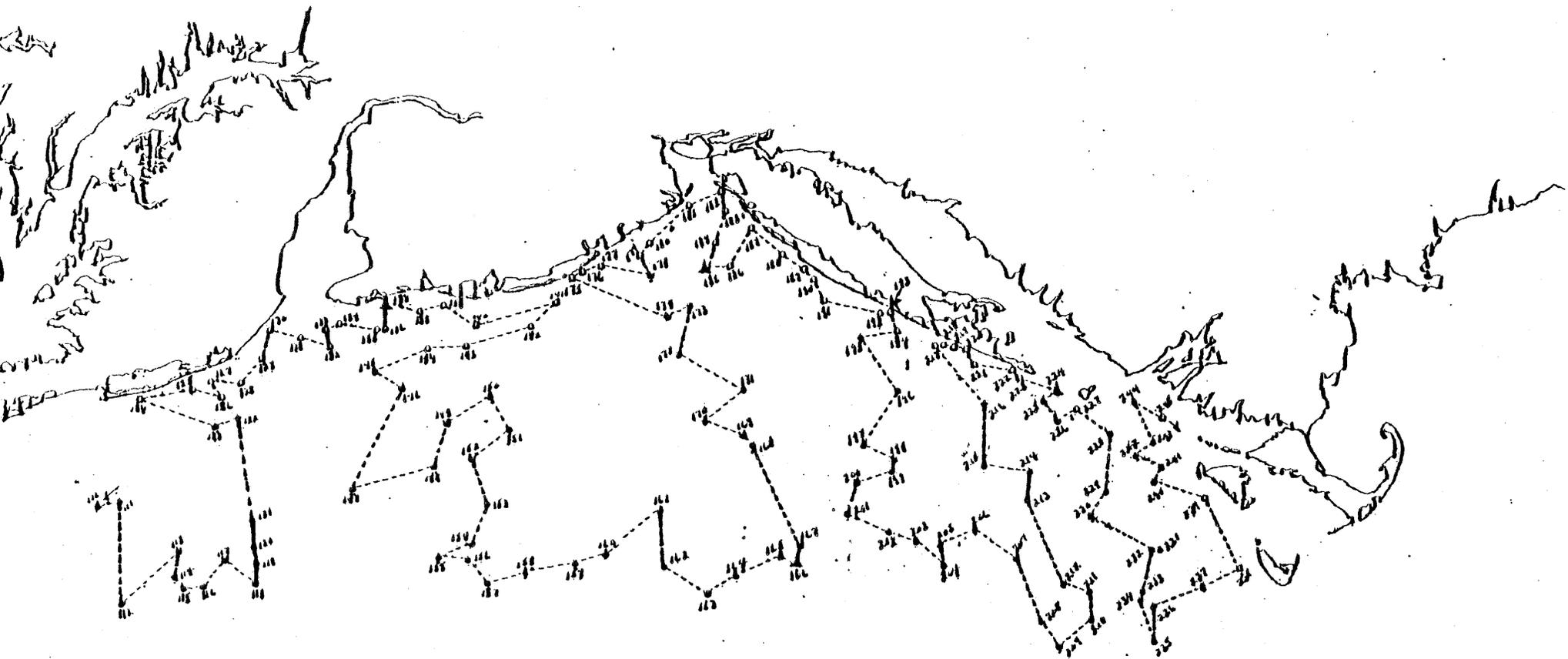
Patricia Hughes

Virginia Institute of Marine Fisheries, Gloucester Pt, VA

William Raschi

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON	_____
MOCNESS HAULS	_____
XBT DROPS	_____ 78
BOTTLE CAST	_____
STD CAST	_____
ROSETTE	_____
SALINITY SAMPLES	_____ 68
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____ 69
FISH SAMPLES	_____ YES
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____



Station locations and cruise track for Spring Bottom Trawl Survey
for DELAWARE II Cruise 80-02 (II), during 29 March-10 April 1980.

VESSEL DELAWARE II

CRUISE 80-02

DATES March 29-April 10, 1980

PART III

DAYS AT SEA 12

STATIONS 134

Cruise Objective

(1) To determine the spring distribution and relative abundance of fish species; (2) to collect biological samples of fish for studies of age and growth, fecundity, maturity, food habits, pathology, and special collections for various scientists; and (3) to obtain various oceanographic data and to record meteorological observations.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Henry Jensen, Chief Scientist
John Nicolas
Elizabeth Bevacqua
Dan Couture
Deborah Dwyer
Kathi Rodrigues

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Wallace Morse

Virginia Institute of Marine Science, Gloucester Point, VA

James Colvocoresses
John Gourley

Wellesley Senior High School, Wellesley, MA

Nancy Beth Donahue

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON	_____
MOCNESS HAULS	_____
XBT DROPS	_____ 135
BOTTLE CAST	_____
STD CAST	_____
ROSETTE	_____
SALINITY SAMPLES	_____ 135
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____ 134
FISH SAMPLES	_____ YES
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____

VESSEL DELAWARE II

CRUISE 80-02

DATES April 30-May 16, 1980

PART IV

DAYS AT SEA 16

STATIONS 71

Cruise Objective

Trawl survey. The objectives of the survey part of the cruise were: (1) to determine the spring distribution and relative abundance of fish species, using the #41 trawl; (2) to collect biological samples of fish for studies of age and growth, fecundity, maturity, food habits, pathology, and special collections for various scientists; (3) to obtain various oceanographic data and to record meteorological observations; (4) and to sample plankton on select bottom trawl stations.

Trawl testing. The objectives of the trawl testing part of the cruise were: (1) to evaluate performance of #36 bottom trawls towed by the ALBATROSS IV and DELAWARE II working at the same time and in the same area; (2) and to investigate the fishing power of the two vessels by exchanging trawls halfway through the comparison.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Henry Jensen, Chief Scientist
Harold Foster
Thurston Burns
Ralph Mayo
Evelyn Howe
Brenda Fields
Roger Hernandez
Maurice Crawford

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

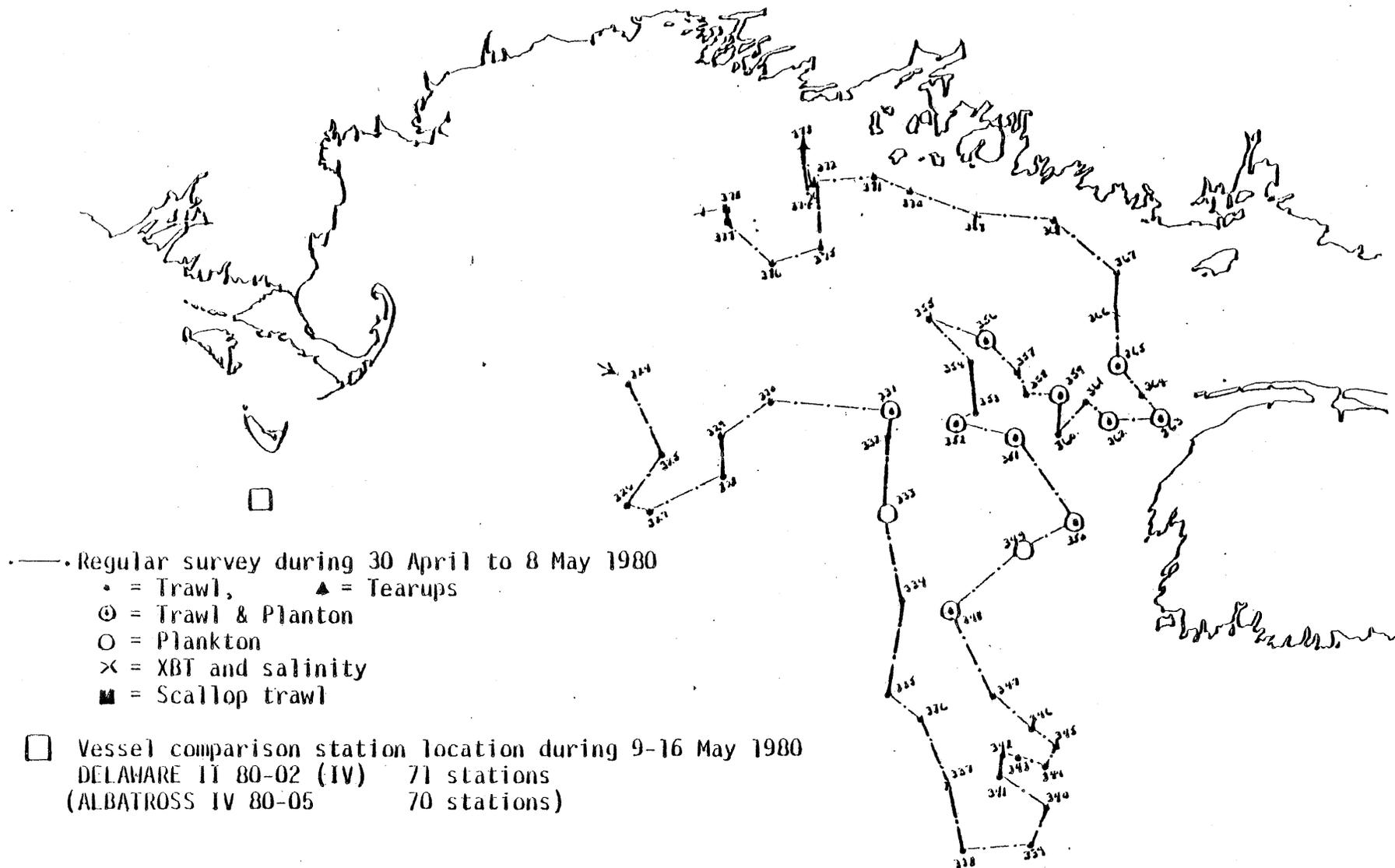
David McGillis

National Marine Fisheries Service, NEFC, Oxford, MD

Thomas Daniel

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____ 10
NEUSTON	_____ 10
MOCNESS HAULS	_____
XBT DROPS	_____ 44
BOTTLE CAST	_____
STD CAST	_____
ROSETTE	_____
SALINITY SAMPLES	_____ 44
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____ 71
FISH SAMPLES	_____ YES
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____



Station locations for Spring Bottom Trawl Survey and Bottom Trawl Testing for DELAWARE II Cruise 80-02 (IV), during 30 April-16 May 1980.

VESSEL DELAWARE II

CRUISE 80-03

DATES May 21-June 13, 1980

PARTS I & II

DAYS AT SEA 9;12

STATIONS 55;66

Cruise Objective

This cruise is one of a series of surveys conducted annually to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data.

Scientific Personnel

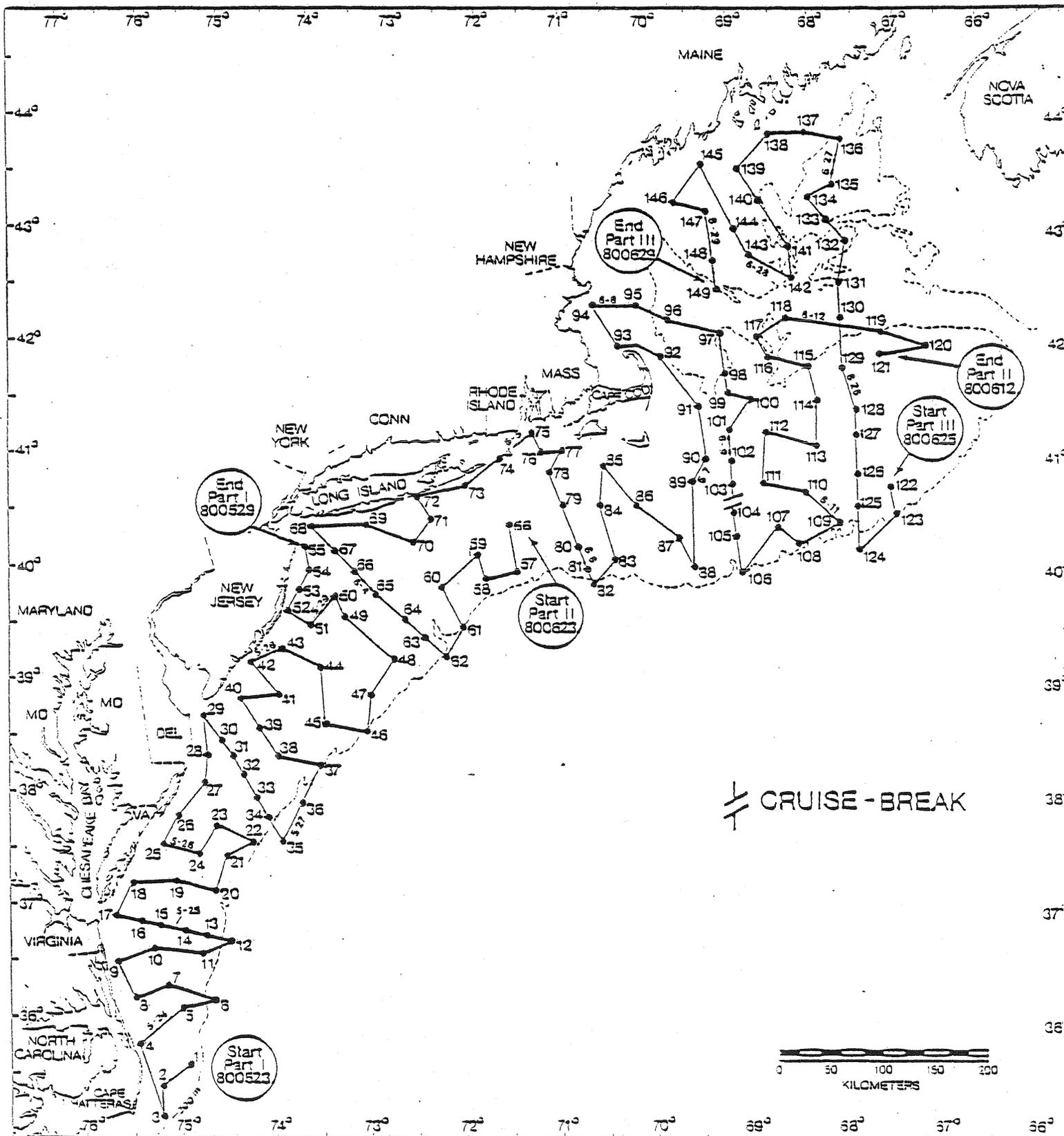
John Sibunka, Chief Scientist	Parts I, II
Sandra Riley	Parts I, II
Wendy Stephenson	Parts I, II
Annette Pratt	Parts I, II
Alyce Wells	Parts I, II
Steven Fromm	Parts I, II
Michael Hurd	Parts I, II

National Marine Fisheries Service, NEFC, Woods Hole, Massachusetts

Dana Densmore	Part I
Bruce Davis	Parts I, II
Ira Palmer	Part I
Ronald Kirschner	Part II
Arthur Allen	Part II
Daniel Patanjo	Part II

Data Collected

	PT I	PT II
ICNAF STANDARD STATIONS	_____	_____
ICNAF EXTRA STATIONS	_____	_____
MOCNESS STATIONS	_____	_____
BONGO HAULS .61 meter	<u>55</u>	<u>65</u>
NEUSTON	<u>55</u>	<u>65</u>
BONGO HAULS .20 meter	<u>19</u>	<u>24</u>
XBT DROPS	<u>13</u>	<u>23</u>
BOTTLE CASTS	<u>55</u>	<u>66</u>
STD CASTS	_____	_____
ROSETTE	_____	_____
SALINITY SAMPLES	<u>464</u>	<u>709</u>
OXYGEN SAMPLES	<u>463</u>	<u>709</u>
NUTRIENT SAMPLES	<u>187</u>	<u>222</u>
CHLOROPHYLL SAMPLES	<u>434</u>	<u>639</u>
TRAWLS	_____	_____
FISH SAMPLES	_____	_____
LONG LINE SET	_____	_____
CURRENT METERS	_____	_____
DROGUE	_____	_____
PRIMARY PRODUCTIVITY	<u>13</u>	<u>18</u>
HAEDRICH TOWS	<u>17</u>	<u>18</u>
SECCHI DISC	<u>29</u>	<u>32</u>



Station locations and cruise track for R/V DELAWARE II Cruise 80-03 (I and II) and R/V EYRIKA Cruise 80-04 (III), Ichthyoplankton-Zooplankton, Oceanographic and Primary Productivity Survey, during 21 May-30 June 1980.

VESSEL Delaware II

CRUISE 80-03

DATES June 17-23, 1980

DAYS AT SEA 7

STATIONS 37

CRUISE OBJECTIVE

This cruise was part of the Ocean Pulse/Northeast Monitoring Program (OP/NEMP) to provide long-term monitoring and assessment of the health of the continental shelf area from Cape Hatteras to the northern Gulf of Maine and Georges Bank. The objectives of this cruise were to: 1) collect and provide sea truth data in the area of concern for the calibration and development of remote sensing instrumentation operated by the NASA Langley Research Center, Hampton, Virginia; 2) investigate the three-dimensional structure and distribution of the Chesapeake Bay plume with regard to certain variables also measurable via remote sensing (temperature, salinity, and chlorophyll); and 3) initiate sampling to begin identifying the influence of the Chesapeake Bay "outwelling" on the contiguous continental shelf, its water quality, and its living marine resources as part of OP/NEMP.

SCIENTIFIC PERSONNEL

DELAWARE II: 17-23 June 1980

National Marine Fisheries Service, Sandy Hook, NJ

James Thomas, Chief Scientist
Craig Robertson

Old Dominion University, Norfolk, VA

Charles Rutledge
Steve Cibik
Terrance Wade
Colin May

Virginia Institute of Marine Science, Gloucester Point, VA

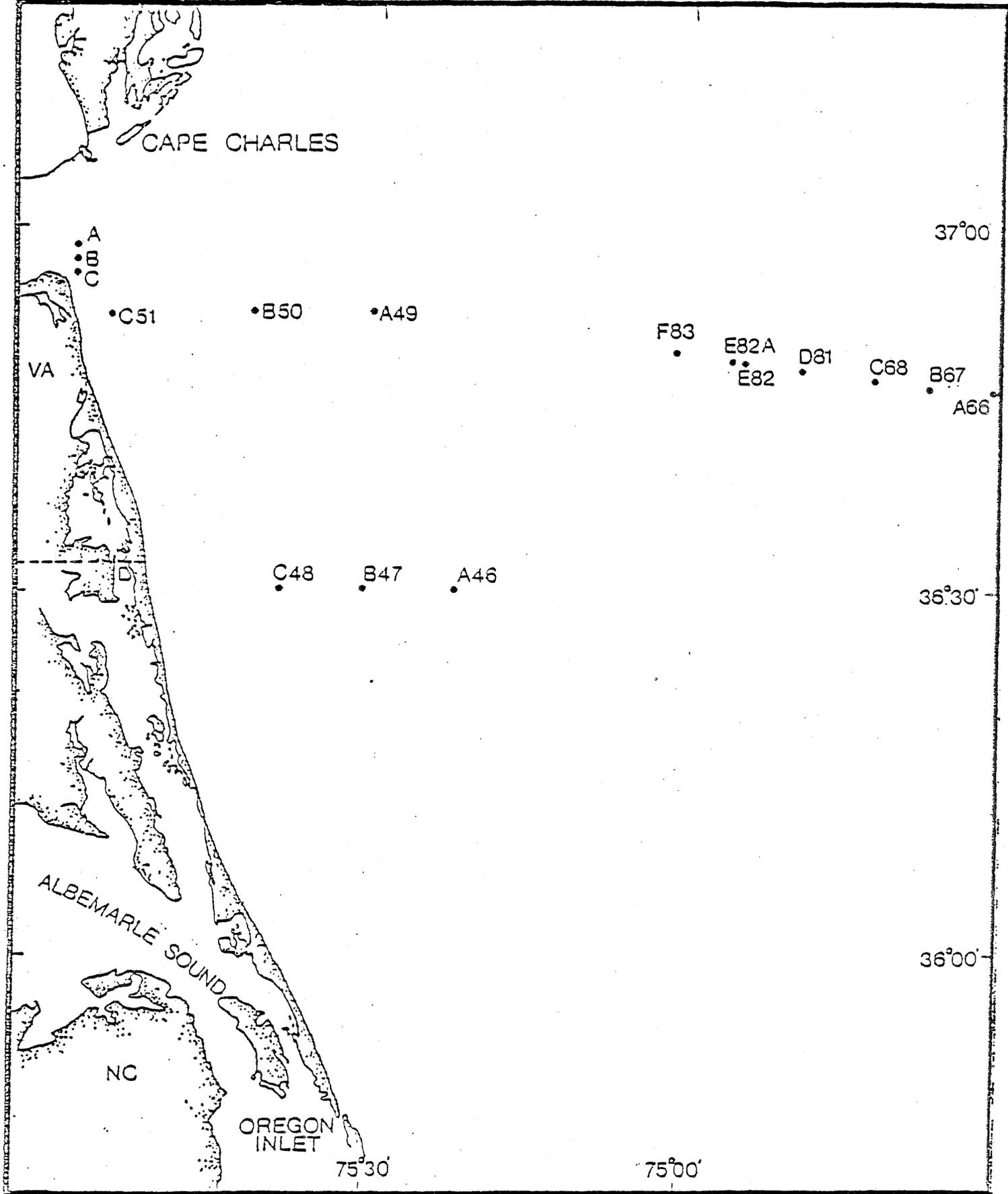
John Banachi
Howard Kator
Paul Zubkoff

Hampton Institute, Hampton, VA

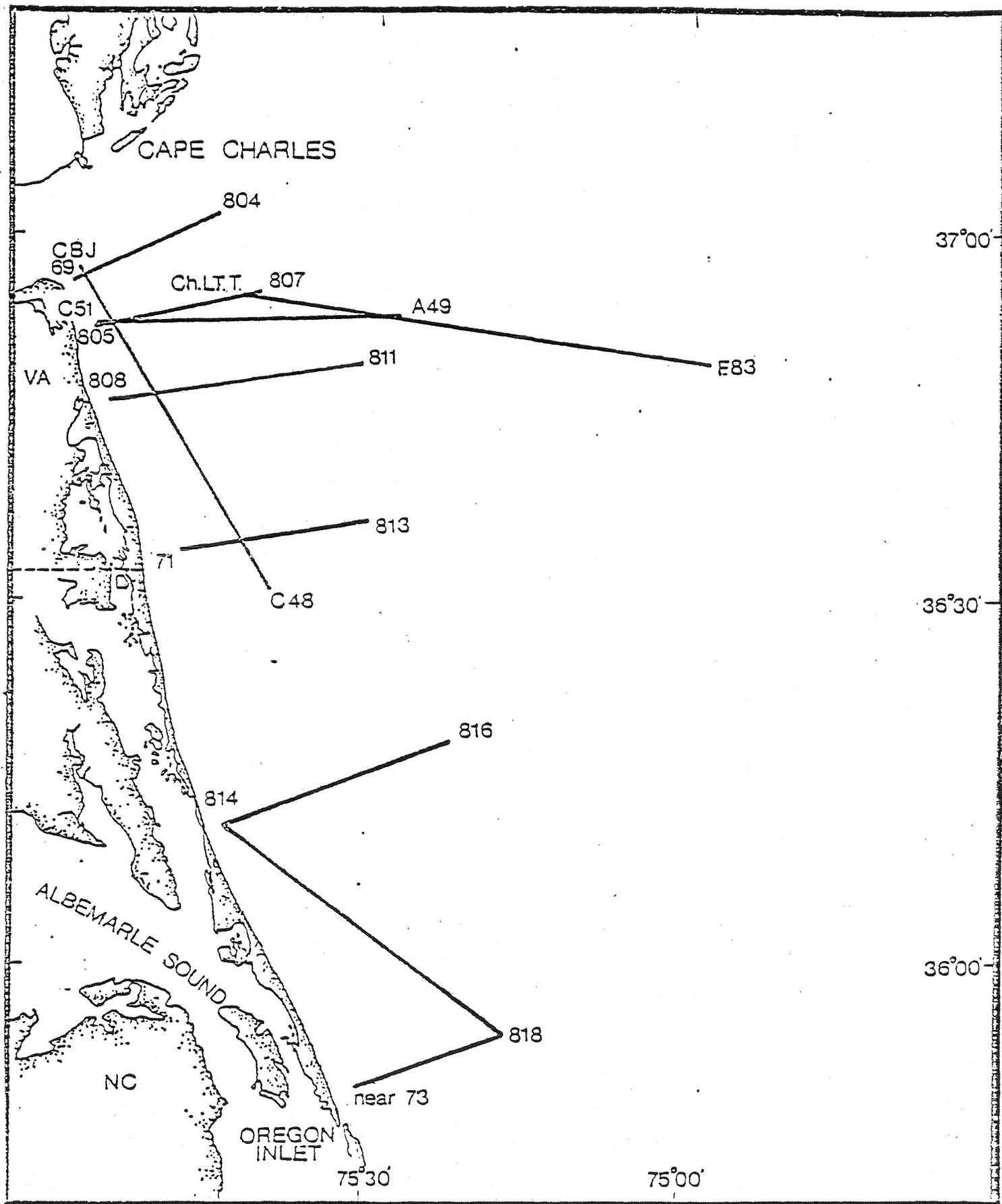
David Contee

Cruise Results

	<u>Total</u>	
ICNAF STANDARD STATIONS	_____	
ICNAF EXTRA STATIONS	_____	
MOCNESS STATIONS	_____	
BONGO HAULS	_____	
NEUSTON HAULS	_____	
MOCNESS HAULS	_____	
XBT DROPS	<u>52</u>	
BOTTLE CASTS	_____	
STD CASTS	_____	
ROSETTE	_____	
SALINITY SAMPLES	<u>154</u>	
OXYGEN SAMPLES	<u>262</u>	
NUTRIENTS SAMPLES	_____	
CHLOROPHYLL SAMPLES	_____	
TRAWLS	_____	
FISH SAMPLES	_____	
LONG LINE SET	_____	
CURRENT METERS	_____	
DROGUE	_____	
PRIMARY PRODUCTIVITY	_____	
IN VIVO FLUOROMETRY	<u>10</u>	tracks
Chlorophyll <u>a</u> and phaeophytin	<u>469</u>	
Secchi	<u>37</u>	
Phytoplankton species composition	<u>154</u>	
Total suspended matter (NASA)	<u>44</u>	
Total suspended matter (NMFS)	<u>109</u>	
Total suspended matter (ODU)	<u>100</u>	
Coulter counting	<u>24</u>	
Pigment analysis (NASA)	<u>5</u>	
Light attenuation (NASA)	<u>8</u>	
Lambda quantum meter	<u>13</u>	
Total plankton respiration	<u>327</u>	
Bacterial biomass	<u>66</u>	
Heterotrophic uptake	<u>43</u>	
Heavy metals	<u>90</u>	
Hydrocarbons	<u>92</u>	
Nutrients (ammonia, nitrite, nitrate, phosphate, silicate) 156 each	<u>780</u>	



Stations sampled in conjunction with NASA overflights aboard DELAWARE II Cruise 80-03 (Special) and GEORGE B. KELEZ Cruise FRC-06-80 for remote sensing, during 17-27 June 1980.



Underway transects sampled for chlorophyll a from a depth of approximately 3 meters obtained from DELAWARE II Cruise 80-03 (Special) and GEORGE B. KELEZ Cruise FRC-06-80, during 17-27 June 1980.

VESSEL Delaware II

CRUISE 80-05

DATES July 11-25, 1980

PART I

DAYS AT SEA 14

STATIONS 161

CRUISE OBJECTIVE

The objectives of the cruise were to determine the summer distribution (from six to 110 meters in depth) and relative abundance of fish species, especially those of recreational importance, and to collect biological samples and hydrographic data for associated studies.

SCIENTIFIC PERSONNEL

National Marine Fisheries Service, NEFC, Woods Hole, MA

Linda Despres, Chief Scientist
Andrew Thoms
Donald Flescher
Harold Foster
James Towns
Karen Johnson
James Fletcher

Hunter College, New York, NY

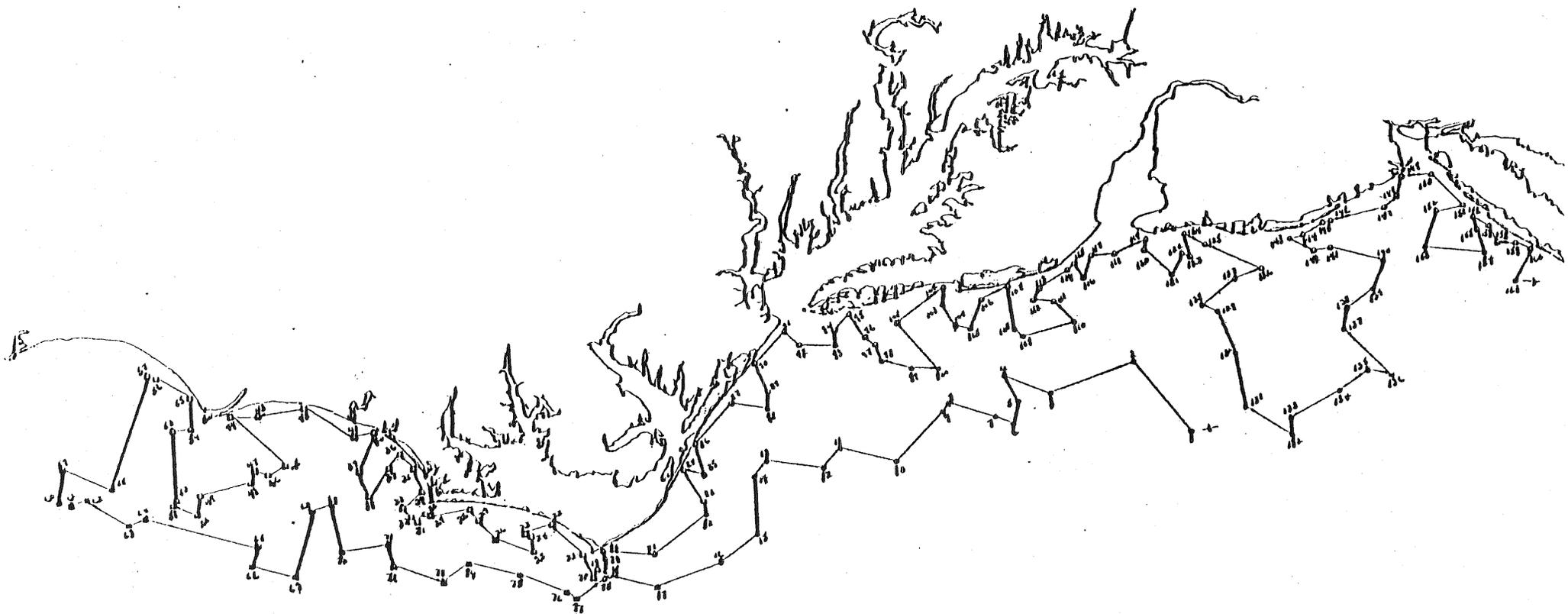
Audrey Hashemeyer
Deneene Whitehead

North Carolina Division of Marine Fisheries, Moorehead City, NC

John Gilliken

Cruise Results

	<u>Total</u>	REMARKS:
ICNAF STANDARD STATIONS	_____	*Surface only.
ICNAF EXTRA STATIONS	_____	
MOCNESS STATIONS	_____	
BONGO HAULS	_____	
NEUSTON HAULS	_____	
MOCNESS HAULS	_____	
XBT DROPS	<u>127</u>	
BOTTLE CASTS	_____	
STD CASTS	_____	
ROSETTE	_____	
SALINITY SAMPLES *	<u>127</u>	
OXYGEN SAMPLES	_____	
NUTRIENTS SAMPLES	_____	
CHLOROPHYLL SAMPLES	_____	
TRAWLS	<u>161</u>	
FISH SAMPLES	_____	
LONG LINE SET	_____	
CURRENT METERS	_____	
DROGUE	_____	
PRIMARY PRODUCTIVITY	_____	



Location of stations and cruise track of R/V DELAWARE II Cruise 80-05 (I),
Summer Bottom Trawl Survey, during 11-25 July 1980.

VESSEL Delaware II

CRUISE 80-05

DATES July 28 - August 8, 1980

PART II

DAYS AT SEA 11

STATIONS 114

CRUISE OBJECTIVE

The objectives of the cruise were: (1) to determine the summer distribution and relative abundance of fish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) to make pathological observations; (4) to sample plankton on Georges Bank; and (5) to collect hydrographic and meteorological samples and data. In addition, prior to the completion of the cruise a study was added to investigate the fishing power of the Delaware II versus that of the Albatross IV in a 10 x 10-mile area on the Northeast Peak of Georges Bank from 2-6 August 1980.

SCIENTIFIC PERSONNEL

National Marine Fisheries Service, NEFC, Woods Hole, MA

Malcolm Silverman, Chief Scientist
Evelyn Howe
Steven Seldon
Michael Fogarty
Melinda Grace
Laura Doyle
Ruth Gutzahr

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Daryl Christensen

National Marine Fisheries Service, NEFC, Oxford, MD

Thomas Daniels

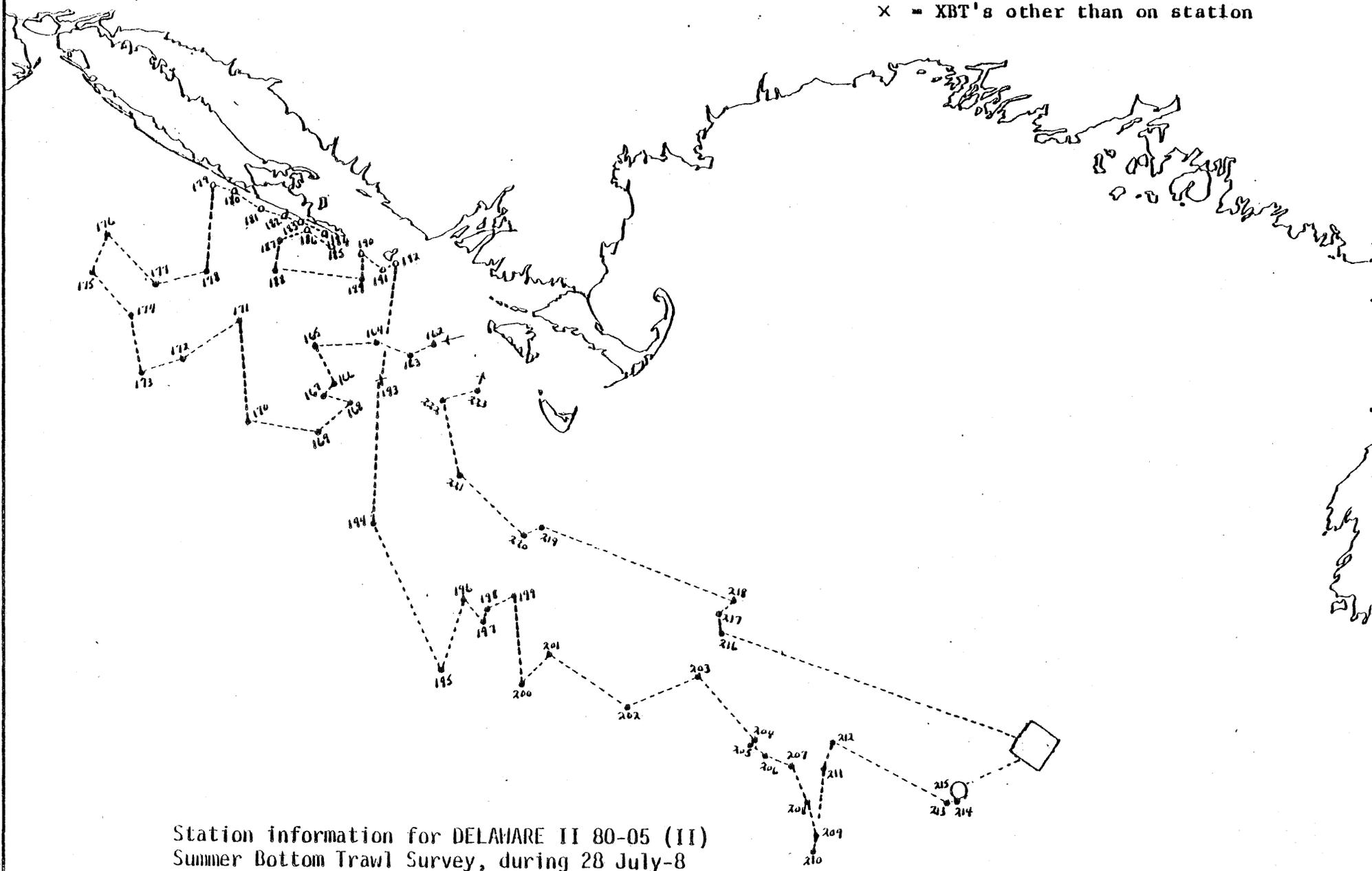
Yale University, New Haven, CT

Albert Klinger

Cruise Results

	<u>Total</u>
ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON HAULS	_____
MOCNESS HAULS	_____
XBT DROPS	<u>11</u>
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	_____
OXYGEN SAMPLES	_____
NUTRIENTS SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	<u>114</u>
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____

- = offshore
- = inshore
- = trawl comparison
- = plankton
- ▲ = tearups
- × = XBT's other than on station



Station information for DELAWARE II 80-05 (II)
 Summer Bottom Trawl Survey, during 28 July-8
 August 1980.

D134

VESSEL DELAWARE II

CRUISE 80-06

DATES Aug. 18; Aug. 18-28; Sept. 2-12, 1980 PARTS I, II, III

DAYS AT SEA 1, 10, 10

STATIONS 231

Cruise Objective

The purposes of the cruise were: (1) to investigate the distribution and relative abundance of the surf clam (Spisula solidissima), ocean quahog (Arctica islandica), and other molluscs; (2) to collect biological samples and data relative to assessment needs; (3) to make collections for interested scientists from other institutions and NMFS laboratories; and, (4) to monitor meteorological and hydrographical conditions during the survey.

Scientific Personnel

Part I: 15 August 1980.

National Marine Fisheries Service, NEFC, Woods Hole, MA

Thomas Azarovitz, Chief Scientist	Fredric Serchuk
Charles Byrne	James Crossen
Bradford Brown	Edward Burke
Ambrose Jearld	Andrew Thoms

National Marine Fisheries Service, NEFC, Gloucester, MA

Alan Blott
Daniel Baker

National Ocean Survey, NSF, Woods Hole, MA

Ronald Smolowitz

Canada Department of Fisheries and Oceans, Halifax, Nova Scotia, Canada

Terrance Rowell
Tissa Amaratunga
Michele Roberge

Part II: 18-28 August 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist	Edward Burke
John Ropes	Clarence Andrade
Andrew Thoms	Samuel Ecksten
Dennis Hansford	Mark Costa

University of Washington, Seattle, WA

Michael Donato

Part III: 2-12 September 1980

National Marine Fisheries Service, NEFC, Woods Hole, MA

Thomas Azarovitz, Chief Scientist
Charles Byrne

John Ropes
James Crossen

National Ocean Survey, NSF, Woods Hole, MA

Ronald Smolowitz

Canada Department of Fisheries and Oceans, Halifax, Nova Scotia, Canada

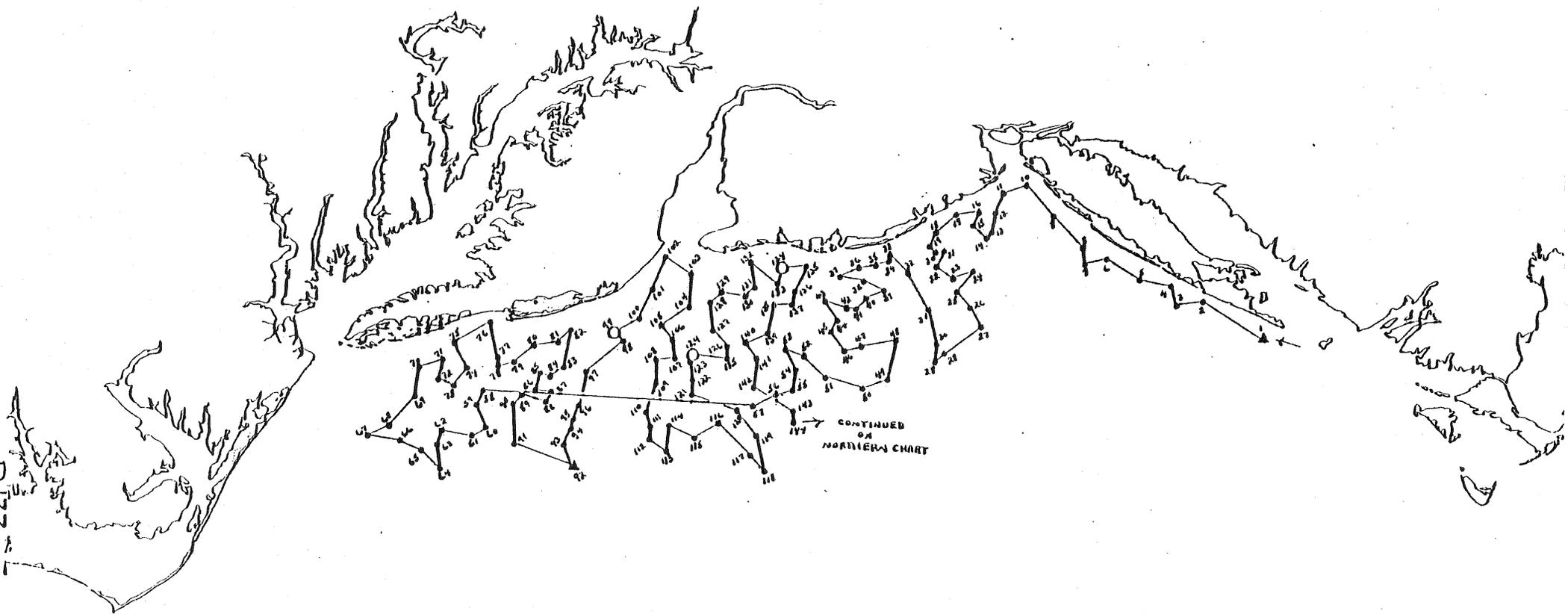
Rene Lavoie
Jamie Young

Faith Budden
Helen Painter

Data Collected

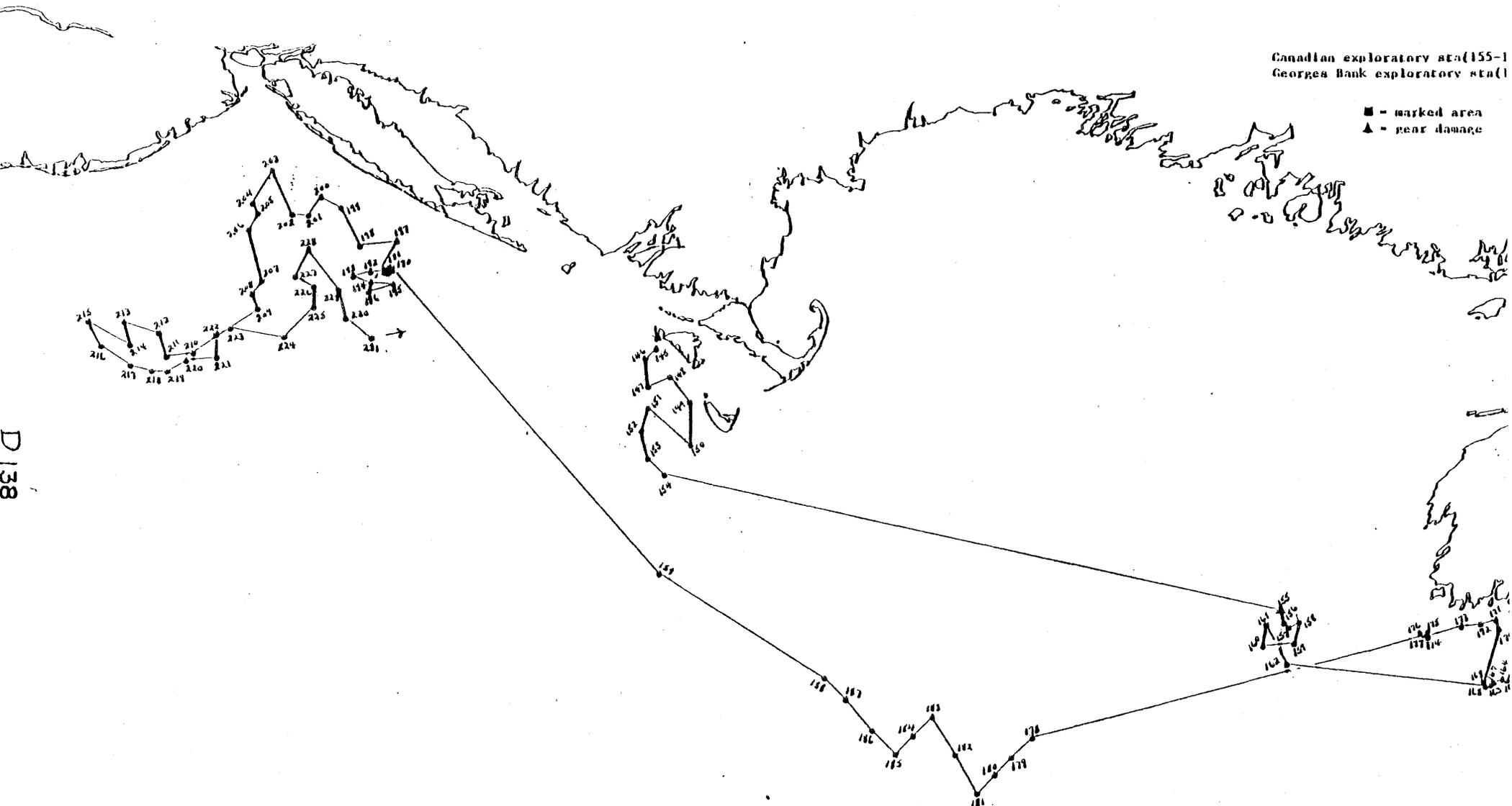
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	231
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	34	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____

O - non-random
▲ - gear damage



Station locations and cruise track for DELAWARE II Cruise 80-06, Shellfish Resource Assessment Survey, during 18-28 August 1980.

D138



Canadian exploratory sta(155-1)
Georges Bank exploratory sta(1

■ - marked area
▲ - gear damage

Station locations and cruise track for DELAWARE II Cruise 80-06, Shellfish Resource Assessment Survey, during 2-12 September 1980.

VESSEL DELAWARE II

CRUISE 80-07

DATES Sept. 17-Oct. 3, 1980

PART I

DAYS AT SEA 16

STATIONS 159

Cruise Objective

The objectives of the cruise were: (1) to determine the autumn distribution and relative abundance of fish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity and food habits; (3) to make pathological observations; and (4) to collect hydrographic and meteorological samples and data.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Thomas Azarovitz, Chief Scientist
Donald Flescher
Harold Foster
Margaret McBride
Evelyn Howe

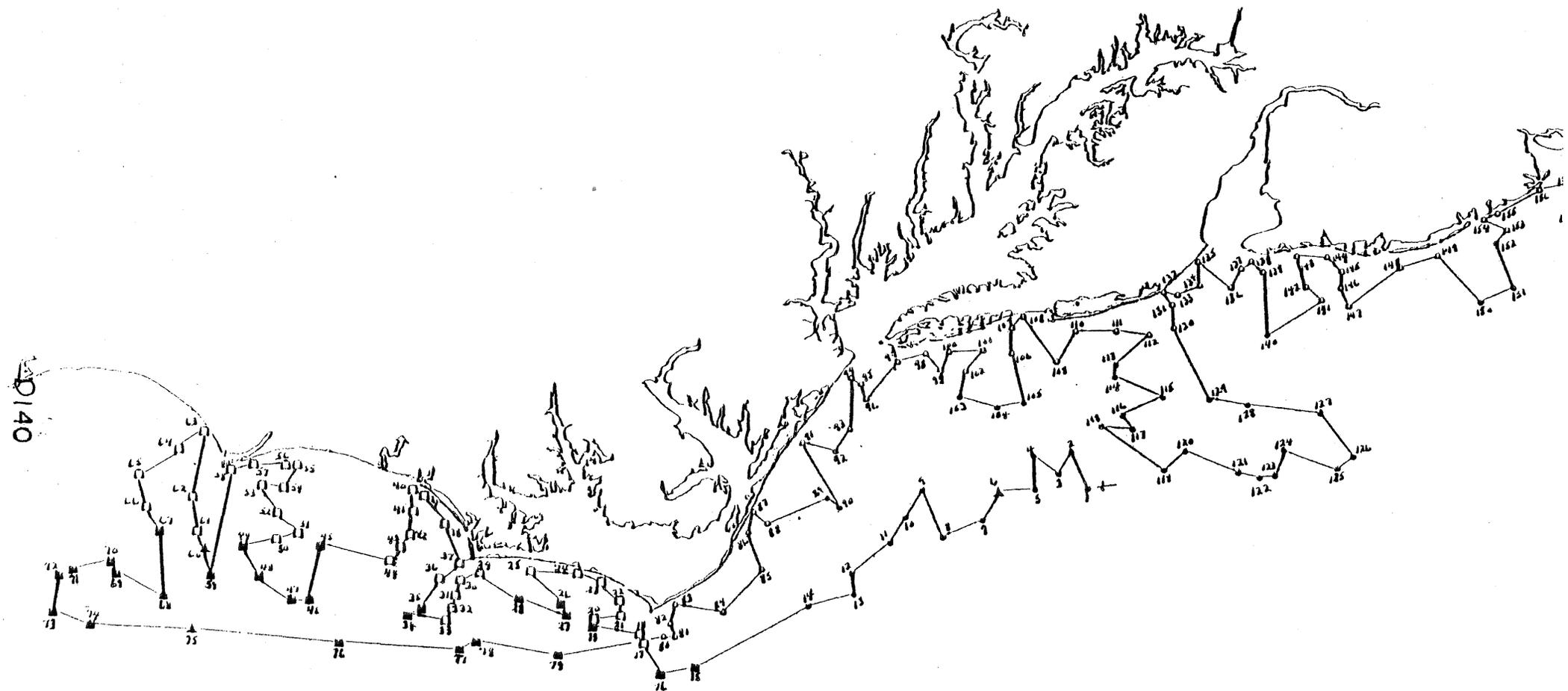
Judith Brownlow
Rhett Lewis
Melinda Grace
Robert Kaminski

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Daryl Christensen

Data Collected

ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____ 159
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	_____ 159
MOCNESS HAULS	_____	FISH SAMPLES*	_____ 390
XBT DROPS	_____ 159	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____



Station locations for DELAWARE II 80-07 (I) Autumn Bottom Trawl Survey, during 17 September-3 October 1980.

VESSEL Delaware II
DATES Oct. 6-16, 1980
DAYS AT SEA 10

CRUISE 80-07
PART II
STATIONS 112

CRUISE OBJECTIVE

The objectives of the cruise were: (1) to determine the autumn distribution and relative abundance of fish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) to make pathological observations; and (4) to collect hydrographic and meteorological samples and data.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Malcolm Silverman, Chief Scientist
John Nicolas
Anne Lange
Elizabeth Bevacqua
Dennis Hansford

Kristina Andrade
Patricia Chew
Ruth Gutjhar
Uvetta Dozier

Southampton College, Southampton, Long Island, NY

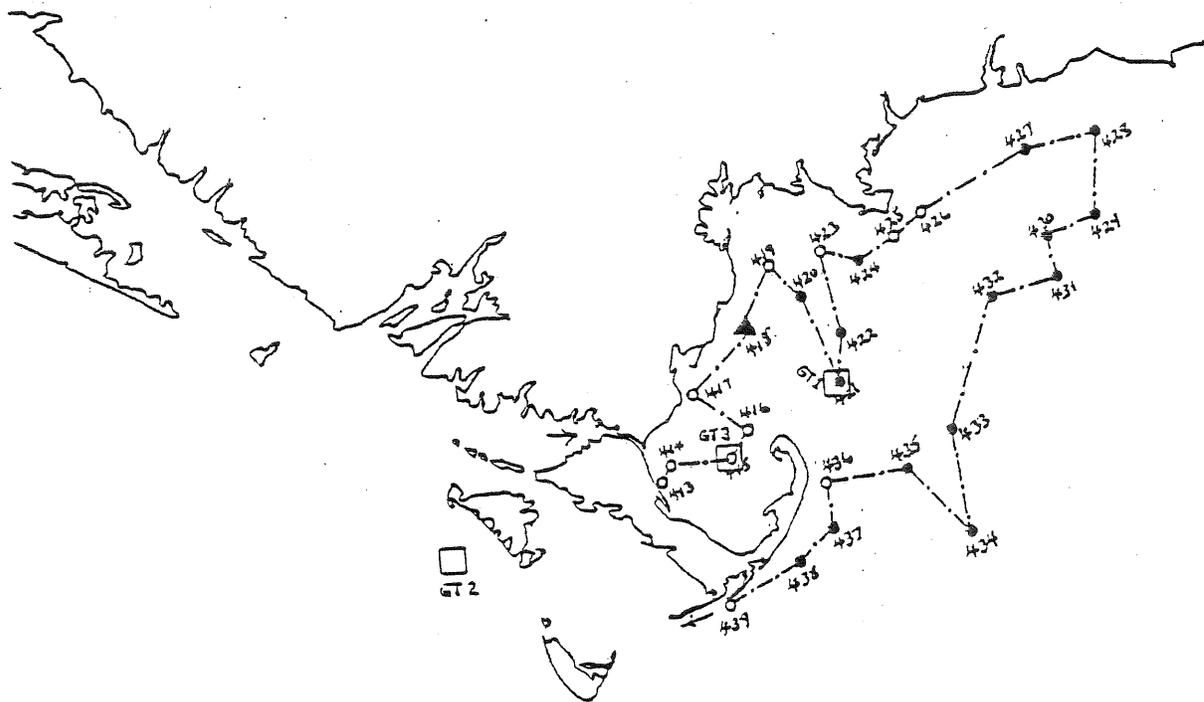
Jeffrey Reigel

Data Collected

	<u>Total</u>		<u>Total</u>
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	<u>112*</u>
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	<u>112</u>
MOCNESS HAULS	_____	FISH SAMPLES	<u>655</u>
XBT DROPS	<u>112</u>	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____

REMARKS:

*Surface only



Approximate station locations on DELAWARE II Cruise 80-07 (IV) Autumn Bottom Trawl Survey, during 12-14 November 1980. Included also, are the areas (represented by squares) where the gear experiment was conducted during DE 80-07 (IV) (areas GT 1 and GT 2), and during DELAWARE II Cruise 80-08 (area GT 3).

VESSEL	Delaware II	CRUISE	80-07
DATES	Oct. 20-Nov. 7, 1980	PART	III
DAYS AT SEA	19	STATIONS	135

CRUISE OBJECTIVE

The objectives of the cruise were: (1) to determine the autumn distribution and relative abundance of fish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) to make pathological observations; and (4) to collect hydrographic and meteorological samples and data.

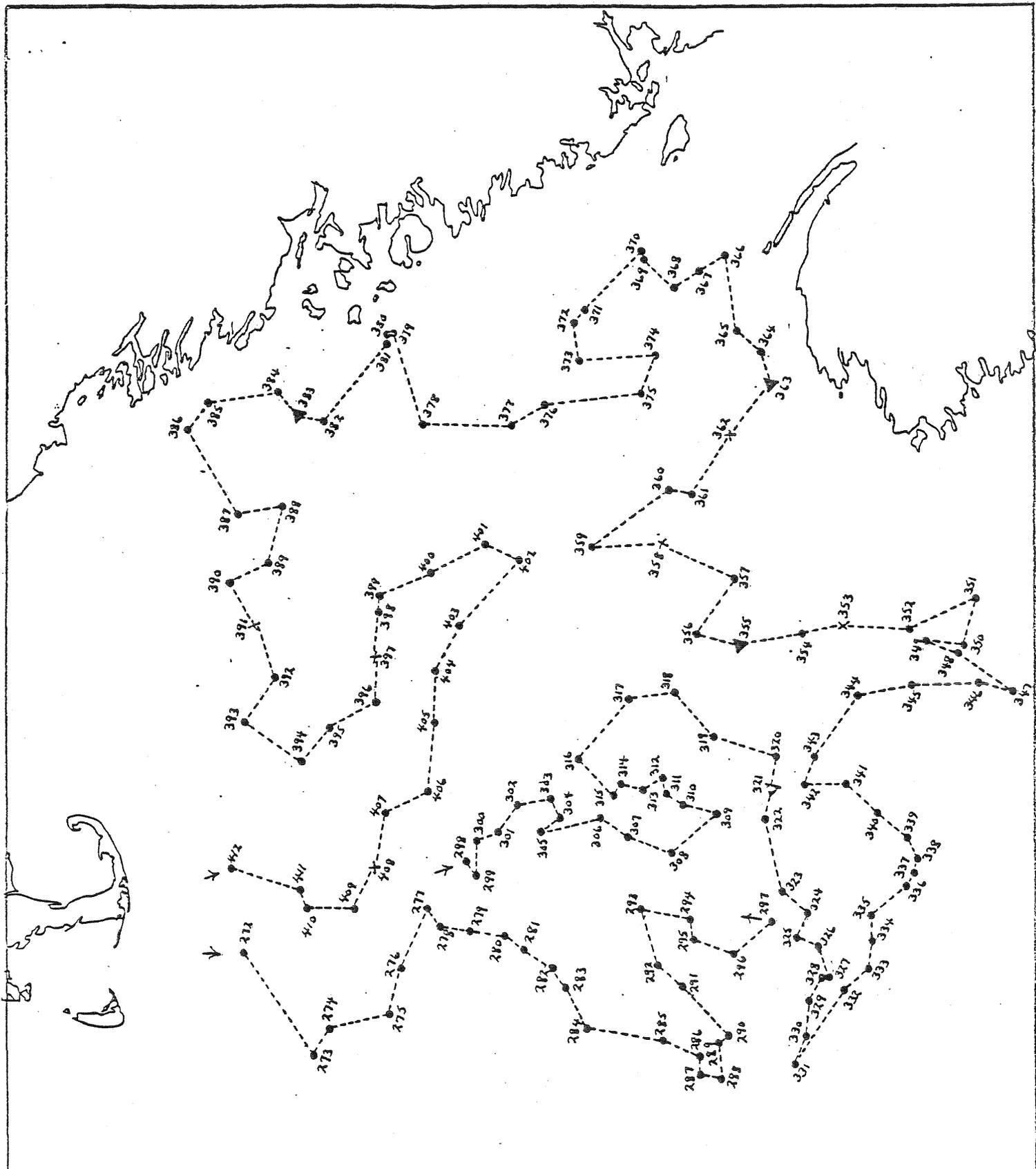
Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Henry Jensen, Chief Scientist	Fredric Serchuk
Donald Flescher	Harold Foster
Evelyn Howe	Erika Faulk
Eva Montiero	Teresa Etienne
John Ropes	Mark Costa

Data Collected

	<u>Total</u>		<u>Total</u>
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	135
MOCNESS HAULS	_____	FISH SAMPLES	794
XBT DROPS	6	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____



Station locations of DELAWARE II Cruise 80-07 (III) Autumn Bottom Trawl Survey, during 20 October-7 November 1980.

VESSEL Delaware II
DATES Nov. 12-21, 1980
DAYS AT SEA

CRUISE 80-07
PART IV
STATIONS 27;37

CRUISE OBJECTIVES

The objectives of the cruise were: (1) to determine the autumn distribution and relative abundance of fish and shellfish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) to make pathological observations; (4) to collect hydrographic and meteorological samples and data, and; (5) to investigate the influence of towing speed on the catch taken using a standard survey otter trawl.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist	Loretta O'Brien
Linda Despres-Patanjo	James Kirkley
Stephen Clark	Warren Handwork (left ship 13 November)
Ralph Mayo	Maurice Crawford

University of Massachusetts, Amherst, MA

Timothy Kirk

Harvard Medical School, Cambridge, MA

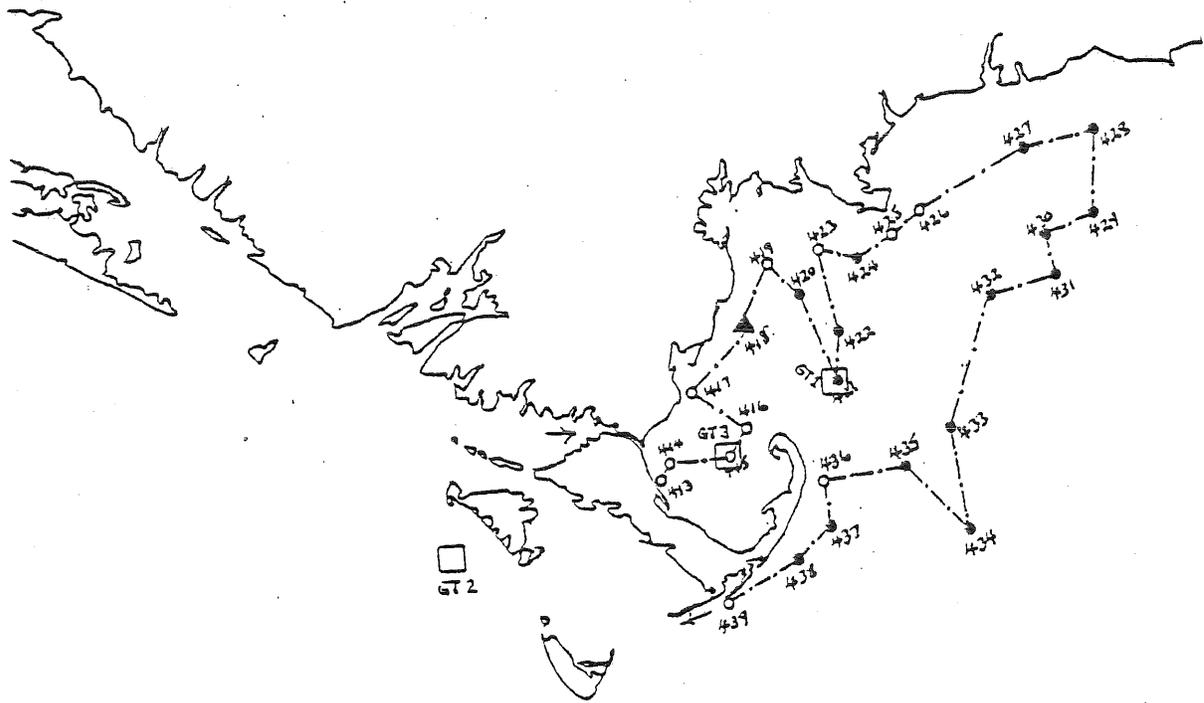
Thomas Koob

Data Collected

	<u>Total</u>		<u>Total</u>
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	<u>27</u>
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	<u>64</u>
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	<u>27</u>	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____

REMARKS:

27 stations were survey trawls
37 stations were gear testing or trawls



Approximate station locations on DELAWARE II Cruise 80-07 (IV) Autumn Bottom Trawl Survey, during 12-14 November 1980. Included also, are the areas (represented by squares) where the gear experiment was conducted during DE 80-07 (IV) (areas GT 1 and GT 2), and during DELAWARE II Cruise 80-08 (area GT 3).

VESSEL Delaware II

CRUISE 80-08

DATES Nov. 24-26, 1980

DAYS AT SEA 3

STATIONS 20

CRUISE OBJECTIVE

The objectives of the cruise were: (1) to determine the autumn distribution and relative abundance of fish and shellfish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity, and food habits; (3) to make pathological observations; (4) to collect hydrographic and meteorological samples and data, and; (5) to investigate the influence of towing speed on the catch taken using a standard survey otter trawl.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Charles Byrne, Chief Scientist	Elizabeth Bevacqua
Joan Palmer	Mark Costa
Dennis Hansford	Martha Milford
Michael Fogarty	Karen Ferriera

Data Collected

	<u>Total</u>		<u>Total</u>
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	_____ 20*
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	_____ 8	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____

REMARKS:

Gear Testing Only

VESSEL DELAWARE II

CRUISE 80-08

DATES Oct. 6-16, 1980

PART II

DAYS AT SEA 10

STATIONS 112

Cruise Objective

The objectives of the cruise were: (1) to determine the autumn distribution and relative abundance of fish species; (2) to collect biological samples for studies of age and growth relationships, fecundity, maturity and food habits; (3) to make pathological observations; and (4) to collect hydrographic and meteorological samples and data.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

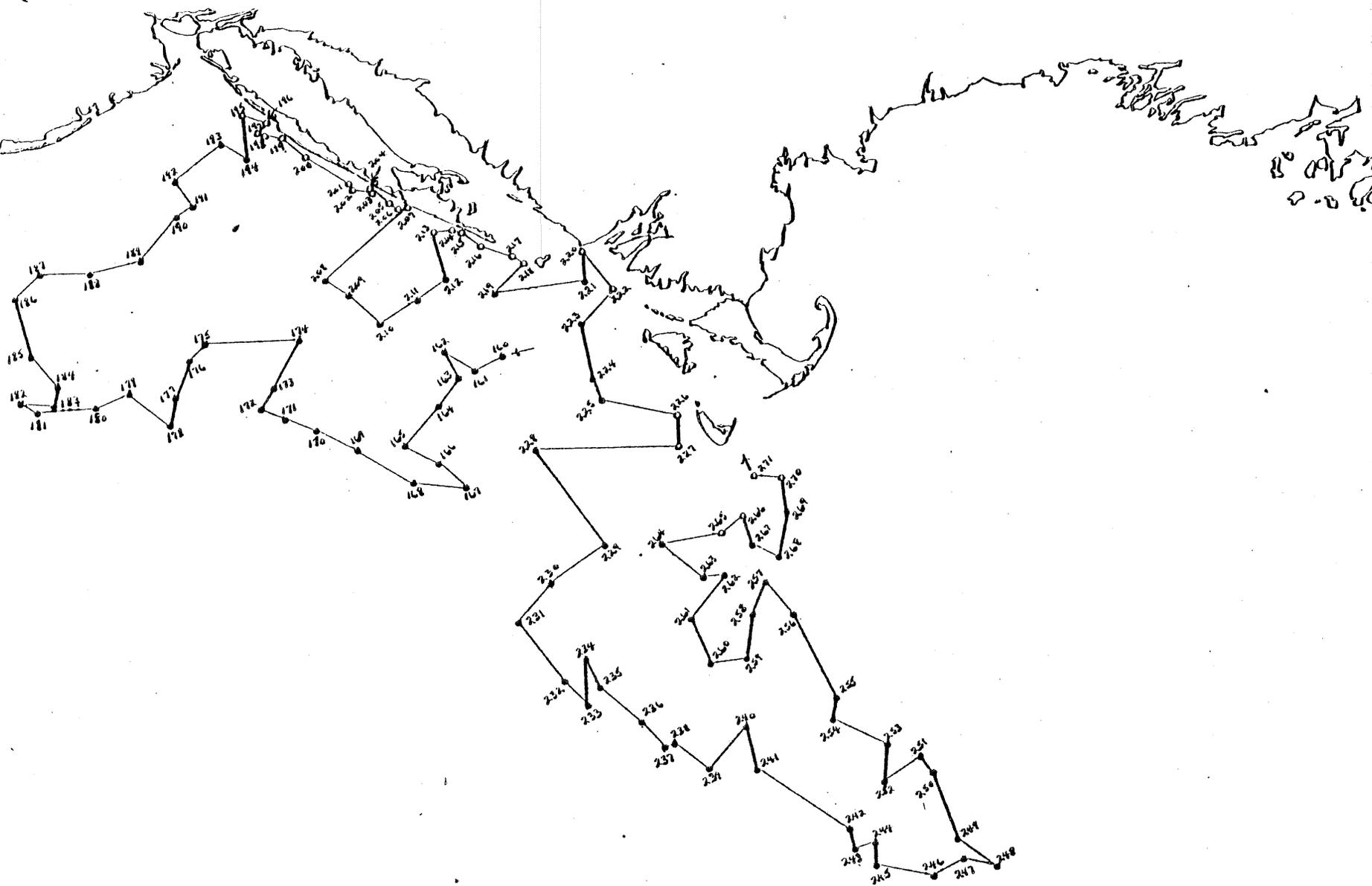
Malcolm Silverman, Chief Scientist	Kristina Andrade
John Nicolas	Patricia Chew
Anne Lange	Ruth Gutjhar
Elizabeth Bevacqua	Uvetta Dozier
Dennis Hansford	

Southampton College, Southampton, Long Island, NY

Jeffrey Reigel

Data Collected

ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____ 112
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	_____ 112
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	_____ 112	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____



Station locations for DELAWARE II 80-08 (II) Autumn Bottom Trawl Survey,
during 6-16 October 1980.

VESSEL DELAWARE II

CRUISE 80-09

DATES December 2-19 1980

DAYS AT SEA 18

STATIONS 68

CRUISE OBJECTIVE

This monitoring survey is part of a long term seasonal series to collect specimens and measurements assessing the health of the ocean's biota, especially those relative to the fishery resources of the northeast. Specific objectives of this particular survey were: 1) to collect select indicator species for biochemical, physiological, pathological, energetic and contamination analysis; 2) to collect water samples to monitor primary production, chlorophyll biomass, phytoplankton communities, algal bioassay, nutrients, suspended solids (to provide sea truth for satellite remote sensing) and standard dissolved oxygen, salinity and temperature characteristics; 3) to collect benthic samples for sediment, bacterial contamination, macrofauna, mediofauna and select amphipods for pathological examination; and 4) to collect zooplankton samples for pathological examination of the larger crustaceans.

Scientific Personnel

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Frank Steimle, Chief Scientist
David Radosh
Russell Terranova
Ralph Bruno
Kathaleen Workman
Patricia Fournier
Vincent Zdanowicz

National Marine Fisheries Service, NEFC, Milford, CT

Laurie Devine
Joseph Perriera

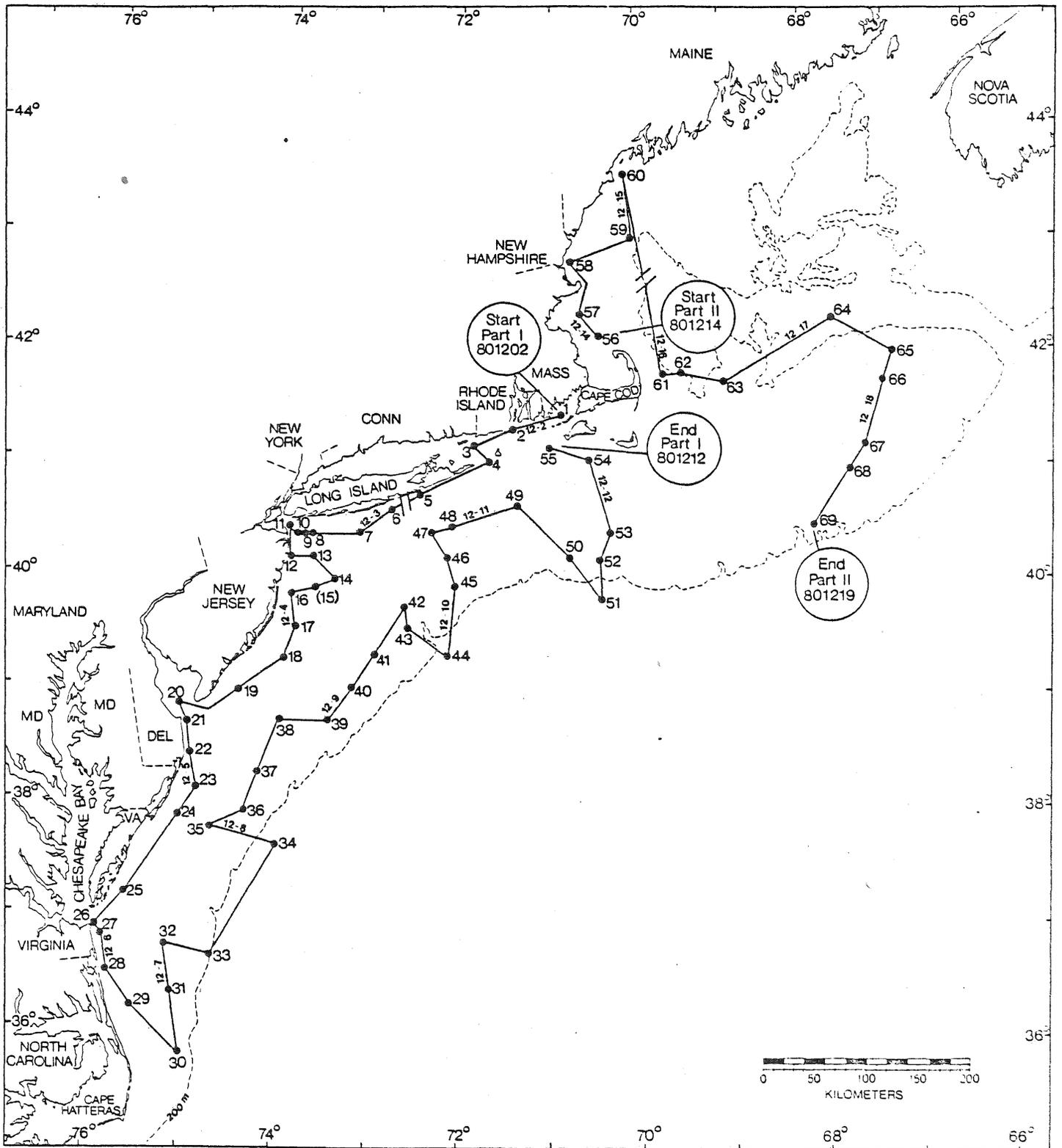
National Marine Fisheries Service, NEFC, Oxford, MD

Sharon MacLean

Cruise Results

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON HAULS	_____
MOCNESS HAULS	_____
XBT DROPS	<u>66</u>
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	<u>520</u>
OXYGEN SAMPLES	<u>380</u>
NUTRIENTS SAMPLES	<u>50</u>
CHLOROPHYLL SAMPLES	<u>1032</u>
TRAWLS	_____
FISH SAMPLES	<u>YES</u>
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	<u>1200</u>
SECCHI DISC	<u>27</u>

NOTE: Must call Chief Scientist for complete report.



Cruise track and station locations for DELAWARE II Cruise 80-09 (I and II), Northeast Monitoring Program (NEMP 80-20), Biological Effects Survey, during 2-19 December 1980.

VESSEL EVRIKA

CRUISE 80-01

DATES April 14-28; April 28-May 15, 1980 PARTS I & II

DAYS AT SEA 16;17

STATIONS 90;74

Cruise Objective

The survey was one of a series of cruises conducted annually by NEFC to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data.

Scientific Personnel

AtlantNIRO, Kaliningrad, USSR

Yuri Senin, Chief Scientist
Igor Sigaev, Chief Hydrographer
Vladimir Khalyukov
Mikhail Belevich
Anatoliy Strela
Vladimir Ivanchenko
Nadezhda Zezenskaya
Valentina Mironova
Lyubov Kovatsenko
Yuri Zheronkin

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Peter Berrien, Chief Scientist	Part I
Donald McMillan	Part I, II
Michael Hurd	Part I
Steven Fromm	Part I
Annette Pratt	Part I, II
Wallace Smith, Chief Scientist	Part II
Myron Silverman	Part II
Ralph Bruno	Part II
James Duggan	Part II

National Marine Fisheries Service, NEFC, Woods Hole, MA

Roger Clifford	Part I
Robert Halpin	Part I, II

University of Rhode Island, Kingston, RI

Edward Lemire	Part I, II
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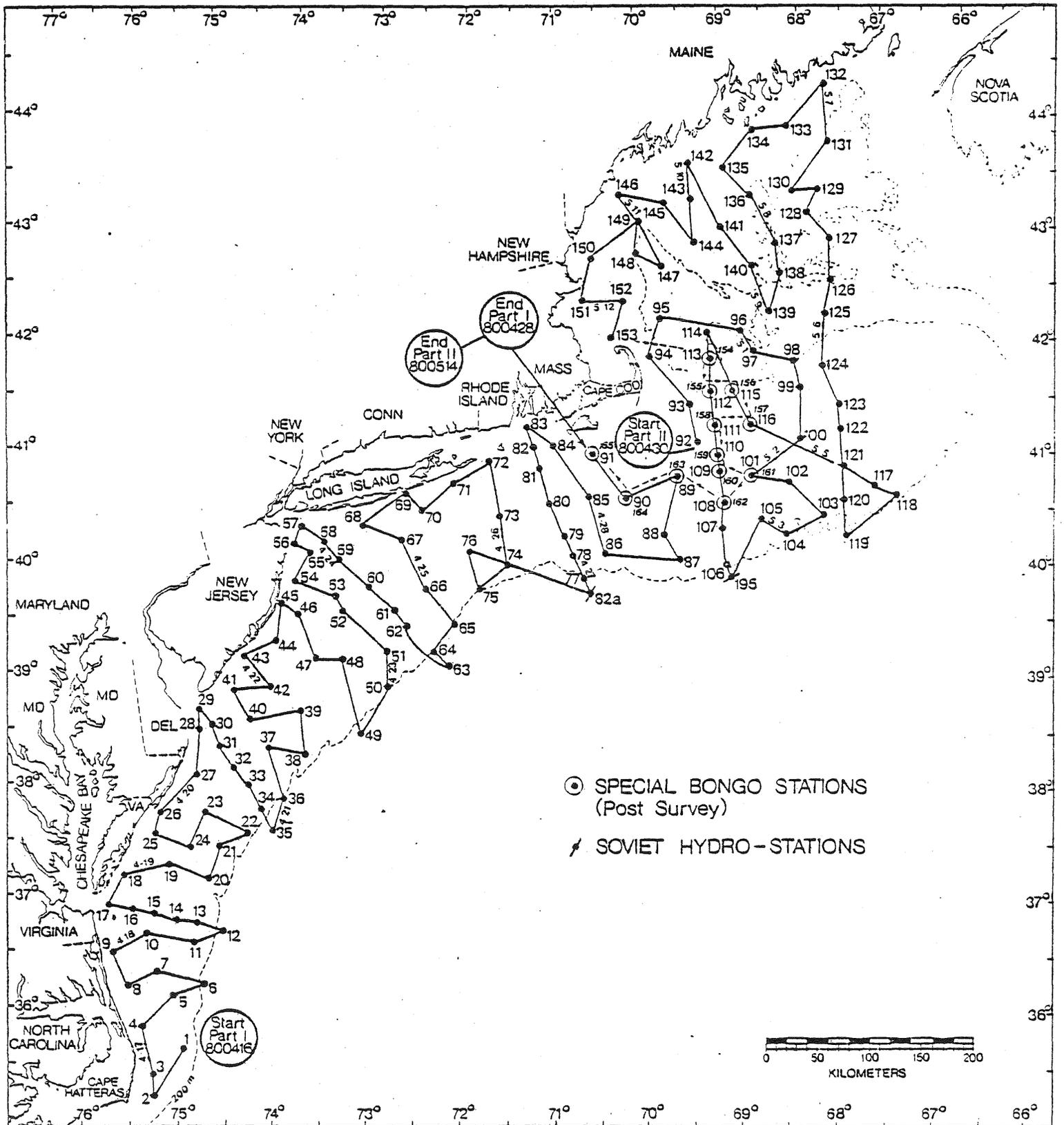
Manomet Bird Observatory, Manomet, MA

Jeffrey Cherry
Galen Pitman

Part I
Part II

Data Collected

	Pt I	Pt II
ICNAF STANDARD STATIONS	_____	_____
ICNAF EXTRA STATIONS	_____	_____
MOCNESS STATIONS	_____	_____
BONGO HAULS .61 meter	90	74
NEUSTON HAULS	88	62
BONGO HAULS .20 meter	40	49
XBT DROPS	29	28
BOTTLE CASTS	92	63
STD CASTS	_____	_____
ROSETTE	_____	_____
SALINITY SAMPLES	825	748
OXYGEN SAMPLES	471	411
NUTRIENT SAMPLES	262	303
CHLOROPHYLL SAMPLES	1630	1288
TRAWLS	_____	_____
FISH SAMPLES	_____	_____
LONG LINE SET	_____	_____
CURRENT METERS	_____	_____
DROGUE	_____	_____
PRIMARY PRODUCTIVITY	25	26
HAEDRICH TOWS	31	30
SECCHI DISC	49	42



Station locations and cruise track for R/V EVRIKA cruise 80-01, ichthyoplankton-zooplankton, oceanographic, primary productivity survey, during 14 April-15 May 1980. (Corrected version).

VESSEL EVRIKA

CRUISE 80-02

DATES May 16-29, 1980

DAYS AT SEA 13

STATIONS 89

Cruise Objective

In general, the intent of this cruise was to make as complete a series of physical and biological observations at as frequent intervals as possible in a small volume of the continental shelf waters known to contain high numbers of larval gadids, in order to begin to understand those factors which contribute to larval survival and year class success.

In particular, the objectives were to: 1) make standard physical oceanographic measurements of temperatures and collect salinity samples in the selected study area; 2) measure primary productivity rates and chlorophyll a abundance; 3) identify and enumerate phytoplankton species from whole water samples; 4) collect and preserve nutrient samples; 5) collect and titrate oxygen samples; 6) collect zooplankton samples using both nets and water bottles; (7) collect and preserve samples using a multiple rosette sampler to determine the spatial distributional variability of microzooplankton; 8) collect and preserve samples from submersible plankton pump hauls to determine the vertical distribution of microzooplankton and phytoplankton; 9) collect and preserve samples from opening and closing nets to determine the vertical distribution of larger zooplankton including ichthyoplankton; and 10) make repeated profiles of in situ chlorophyll a fluorescence along with discrete (water bottle cast) extracted chlorophyll a abundance measurements for comparison between the two techniques.

Scientific Personnel

National Marine Fisheries Service, NEFC, Narragansett, RI

John Green, Chief Scientist
Donna Busch
Joseph Kane
Jerome Prezioso
Jacqueline Frisella

National Marine Fisheries Service, NEFC, Woods Hole, MA

Daniel Patanjo
Robert Halpin
Kyra West

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS .61 cm & .20	_____ 42
NEUSTON	_____
BONGO HAULS .20 meter	_____
XBT DROPS	_____ 83
BOTTLE CASTS	_____ 53
STD CASTS	_____
ROSETTE	_____ 11
SALINITY SAMPLES	_____ 53
OXYGEN SAMPLES	_____ 53
NUTRIENT SAMPLES	_____ 44
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____ 21
HAEDRICH TOWS	_____
SECCHI DISC	_____
PUMP CAST	_____ 7
O/C NET	_____ 21
FLUOROMETER CAST	_____ 10

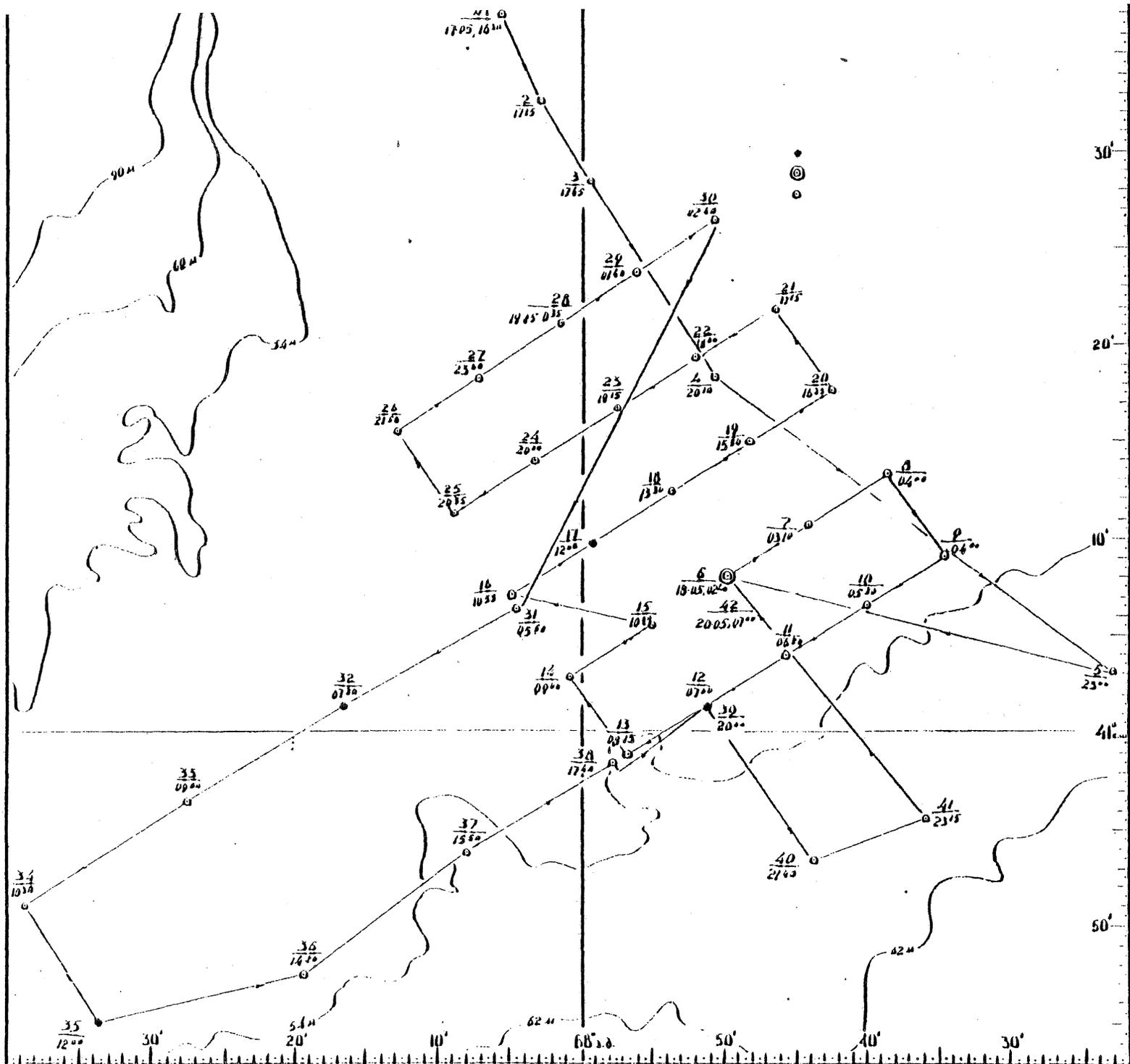


Figure 1. Station locations and cruise track for R/V EVRIKA Cruise 80-02, Phytoplankton, Primary Productivity, Oceanography, Microzooplankton and Ichthyoplankton Study, during 16-29 May 1980.

VESSEL EVRIKA

CRUISE 80-04

DATES June 24-30, 1980

PART III

DAYS AT SEA 7

STATIONS 28

Cruise Objective

This cruise is one of a series of surveys conducted annually to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data.

Scientific Personnel

John Sibunka, Chief Scientist
Sandra Riley
Wendy Stephenson
Annette Pratt
Ralph Bruno
Janet Murphy

AtlantNIRO, Kaliningrad, USSR
Yuri Senin, Chief Scientist
Igor Sigaev, Chief Hydrographer
Vladimir Khalyukov
Mikhail Belevich
Anatoliy Strela
Vladimir Ivanchenko
Nadezhad Zezenskaya
Valentina Mironova
Lyubov Kovatsenko
Yuri Zheronkin

Data Collected

ICNAF STANDARD STATIONS	_____	OXYGEN SAMPLES	334
ICNAF EXTRA STATIONS	_____	NUTRIENT SAMPLES	94
MOCNESS STATIONS	_____	CHLOROPHYLL SAMPLES	275
BONGO HAULS .60 meter	28	TRAWLS	_____
NEUSTON	28	FISH SAMPLES	_____
BONGO HAULS .20 meter	14	LONG LINE SET	_____
XBT DROPS	16	CURRENT METERS	_____
BOTTLE CAST	28	DROGUE	_____
STD CAST	_____	PRIMARY PRODUCTIVITY	10
ROSETTE	_____	HAEDRICH TOWS	10
SALINITY SAMPLES	334	SECCHI DISC	16

Remarks:

See Delaware II 80-03 for Parts I & II.

VESSEL EVRIKA

CRUISE 80-05

DATES July 3-12, 1980

DAYS AT SEA 8

STATIONS 28

Cruise Objective

The purpose of the cruise was to determine the diurnal feeding behavior and catchability of yellowtail, winter, and fourspot flounder. All scientific data of the cruise will be forwarded to the Soviet counterparts in Kaliningrad when the analysis is completed at the Woods Hole Laboratory.

Scientific Personnel

AtlantNIRO, Kaliningrad, USSR

Igor Sigaev, Chief Hydrographer
Vladimir Khalyukov
Mikhail Belevich
Anatoliy Strela
Vladimir Ivanchenko

Nadezhda Zezenskaya
Valentine Mironova
Lyubov Kovatsenko
Yuri Zheronkin

National Marine Fisheries Service, NEFC, Woods Hole, MA

Ray Bowman, Chief Scientist
Gordon Waring
Deborah Dwyer

Bruce Davis
Beatrice Hess
Jacqueline Murray

Cape Cod Times, Hyannis, MA

Brendan Murphy

National Federation of Fishermen, Washington, DC

Carol Saydah

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON HAULS	_____
BONGO HAULS	_____
XBT DROPS	_____ 8
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	_____
OXYGEN SAMPLES	_____
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____ 28
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____
DREDGE (scallop)	_____

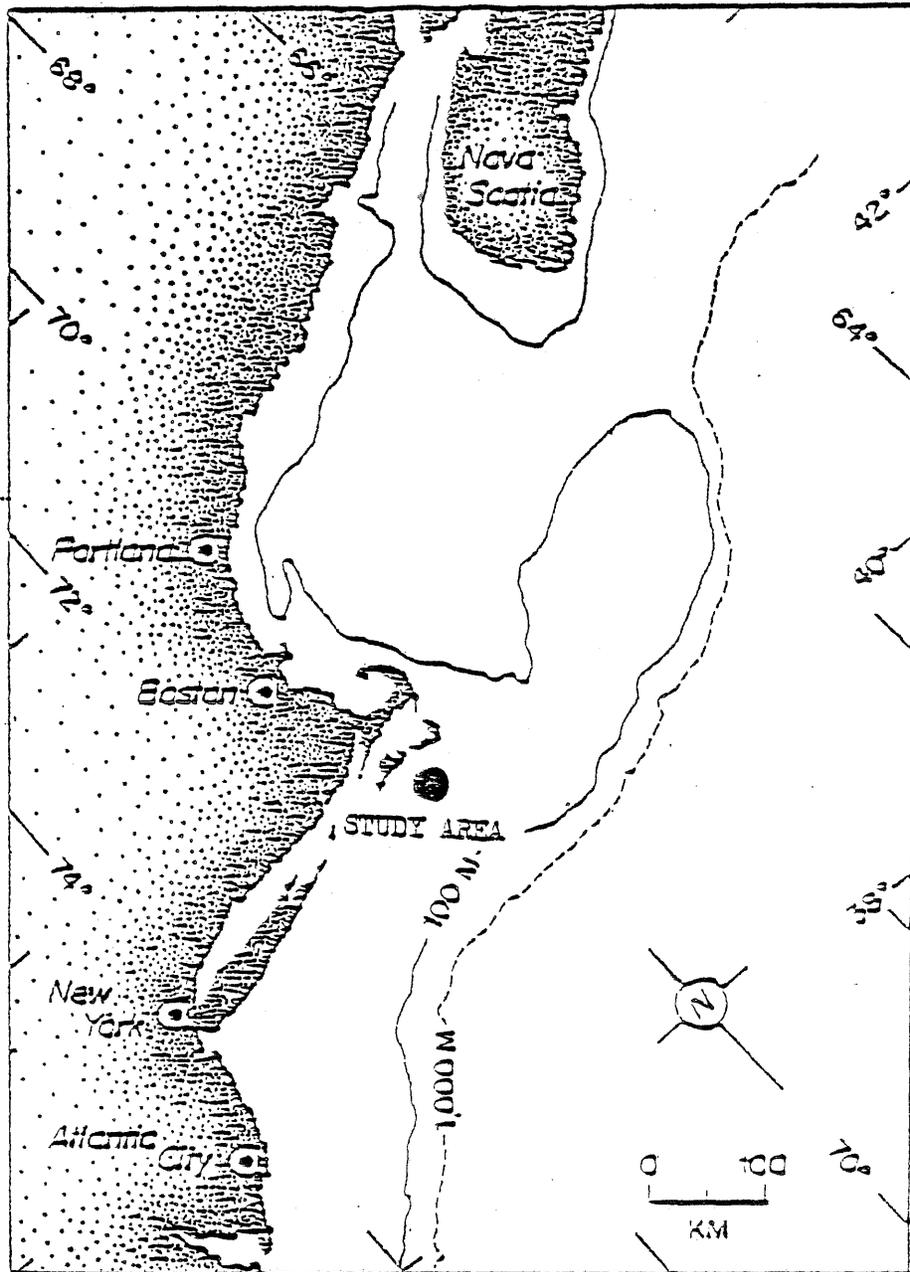


Figure 1. Location chosen for the fish feeding study conducted by scientists during the USSR R/V EVRIKA Cruise 80-05, during 3-12 July 1980.

VESSEL EVRIKA

CRUISE 80-06

DATES July 14-August 11, 1980

PARTS I & II

DAYS AT SEA 15; 12

STATIONS 95;65

CRUISE OBJECTIVE

The survey was one of a series of cruises conducted annually by NEFC to monitor seasonal changes in distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic and primary productivity data.

Scientific Personnel

Part I: 14-28 July

Part II: 29 July-11 August

AtlantNIRO, Kaliningrad, USSR

Igor Sigaev, Chief Scientist

Vladimir Khalyukov

Mikhail Belevich

Anatoliy Strela

Vladimir Ivanchenko

Nadezhda Zelenskaya

Valentina Mironova

Lyubov Kovatsenkø

Yuri Zheronkin

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Michael Fahay, Chief Scientist

Part I

Cindy Fahay

Part I

Ralph Bruno

Parts I, II

Annette Pratt

Parts I, II

Steven Fromm

Parts I, II

Sandra Riley

Parts I, II

Myron Silverman, Chief Scientist

Part II

Patricia Rosenberg

Part II

Donald McMillan

Part II

National Marine Fisheries Service, NEFC, Woods Hole, MA

Deborah Dwyer

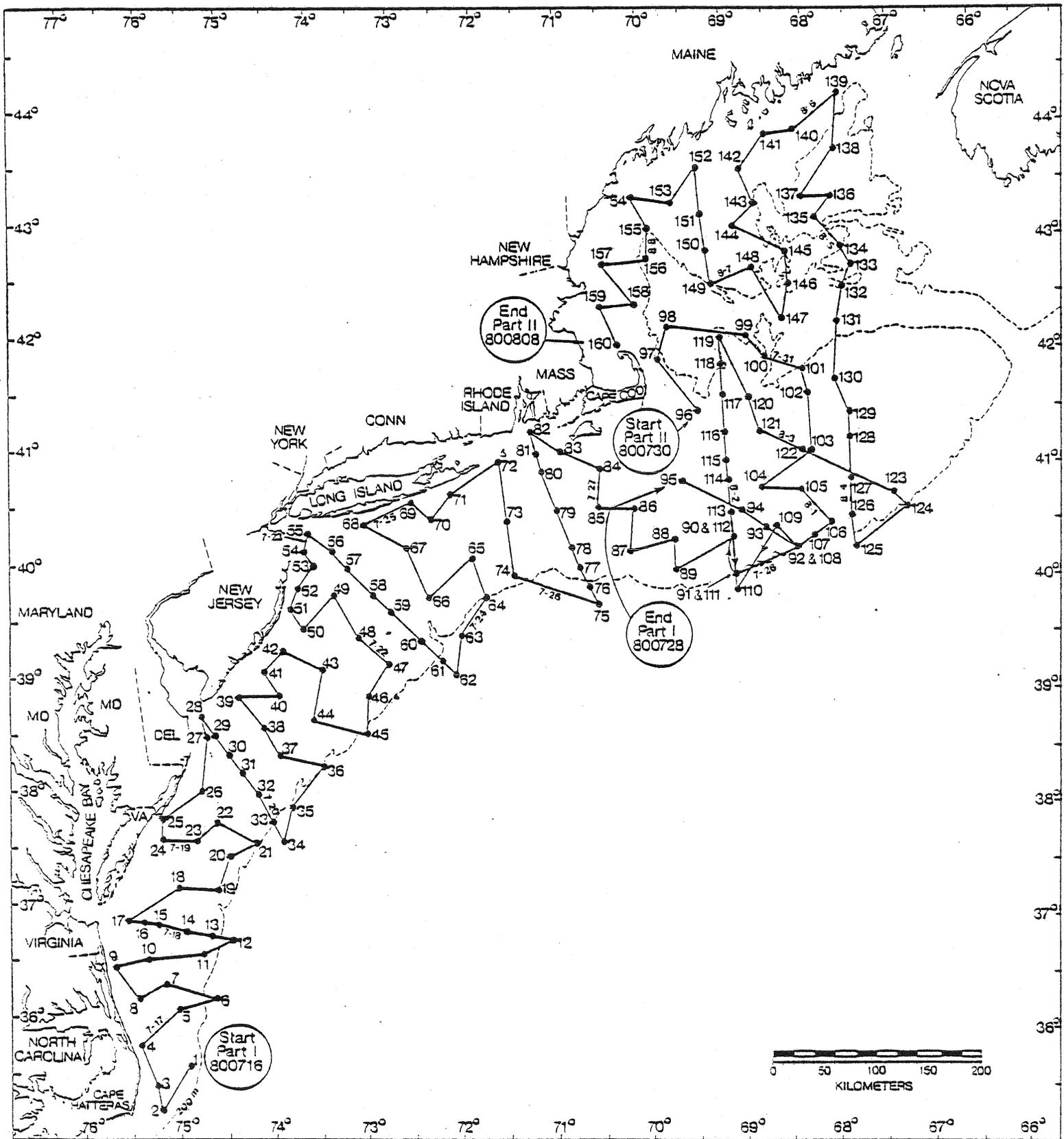
Parts I, II

Ira Palmer

Part I

John Antonellis

Part II



Station locations numbered consecutively for R/V EVRIKA cruise 80-06, Ichthyoplankton-Zooplankton, Oceanographic and Primary Productivity Survey, 14 July-11 August 1980.

VESSEL KELEZ

CRUISE 80-03

DATES March 12-20, 1980

DAYS AT SEA 9

STATIONS 35

Cruise Objective

This cruise is part of the Ocean Pulse/Northeast Monitoring Program (OP/NEMP) to provide long-term monitoring and assessment of the health of the continental shelf area from Cape Hatteras to the northern Gulf of Maine and Georges Bank. The objectives of this cruise were to: (1) collect and provide sea truth data in the area of concern for the calibration and development of remote sensing instrumentation operated by the NASA/Langley Research Center; (2) investigate the three dimensional structure and distribution of the Chesapeake Bay plume with regard to certain variables also measurable via remote sensing (temperature, salinity, and chlorophyll); and (3) initiate sampling to begin identifying the influence of the Chesapeake Bay "outwelling" on the contiguous continental shelf, its water quality, and its living marine resources as part of OP/NEMP.

Scientific Personnel

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

James P. Thomas, Chief Scientist
Craig N. Robertson

NASA/Langley Research Center, Hampton, VA

Wanda McCullom
Diane Stewart

Darien High School, Darien, CT

Linda Johnson
Jean Kim
Elizabeth Rodrigues
Sarah Cowherd

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON	_____
MOCNESS HAULS	_____
XBT DROPS	_____ 35
BOTTLE CAST	_____
STD CAST	_____
ROSETTE	_____
SALINITY SAMPLES	_____ 156
OXYGEN SAMPLES	_____ 246
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____ 184
TRAWLS	_____
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____ 615
SECCHI	_____ 9

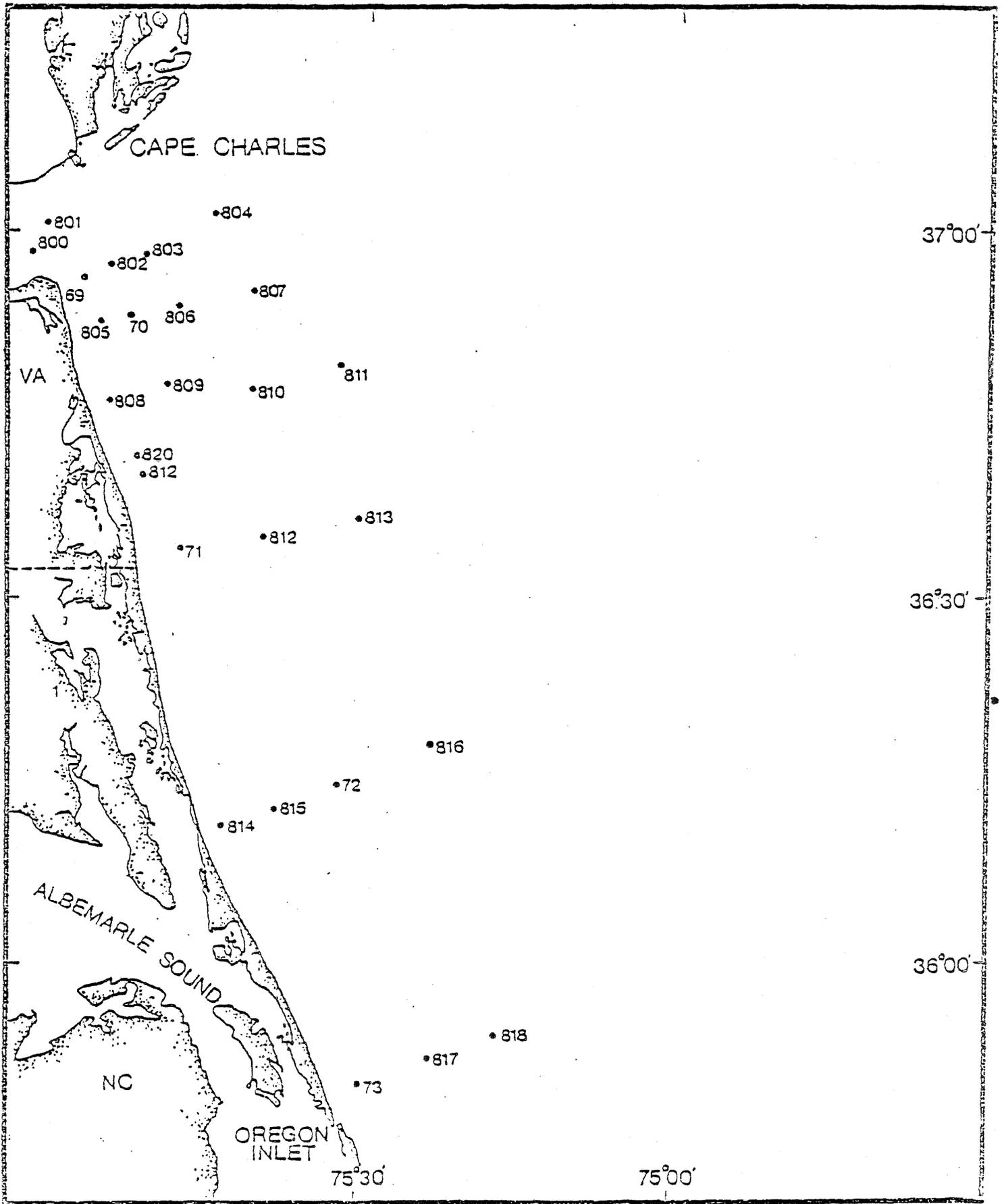


Figure 1a. Station locations for DELAWARE II Cruise 80-03 (Special) and GEORGE B. KELEZ Cruise FRC-06-80, for Chesapeake Bay Plume Study, during 17-27 June 1980.

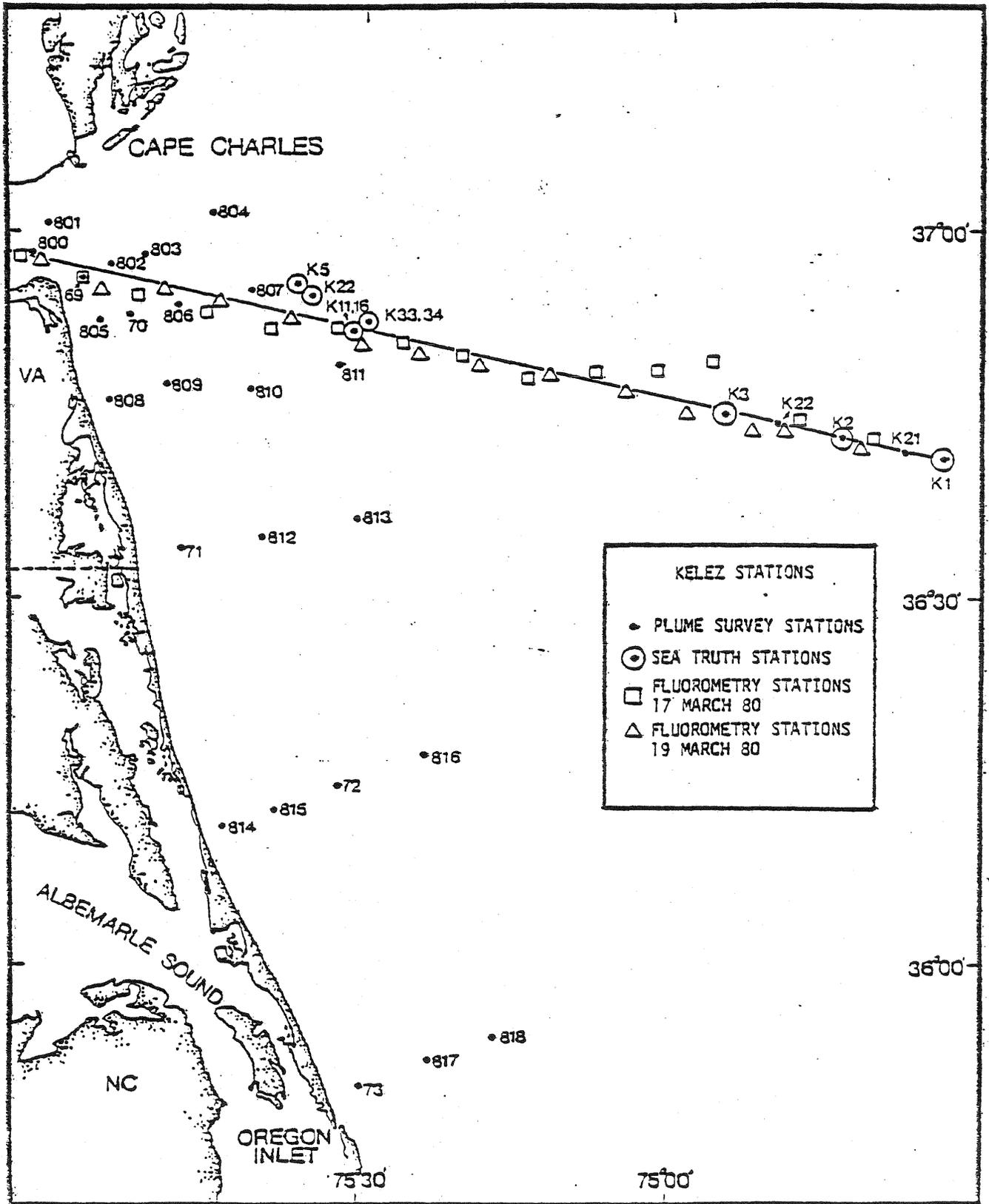


Figure 1. Station locations for GEORGE B. KELEZ Cruise 80-03, Chesapeake Bay "Super Flux" Experiment, during 12-20 March 1980.

VESSEL KELEZ CRUISE 80-04

DATES March 24-31; April 2-10, 1980 PARTS I & II

DAYS AT SEA 7;8 STATIONS 60

Cruise Objective

This periodic environmental monitoring cruise collected samples and measurements relative to assessing the health of the ocean's biota, especially fishery resources. This cruise was part of a seasonal monitoring effort and is the ninth in a series which began in 1978. The specific objectives were to collect selected marine organisms for contaminant analysis or other biological effects analysis to measure seabed respiration, and other hydrographic or geological variables, at a range of stations from Cape Hatteras to the mouth of the Bay of Fundy.

Scientific Personnel

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

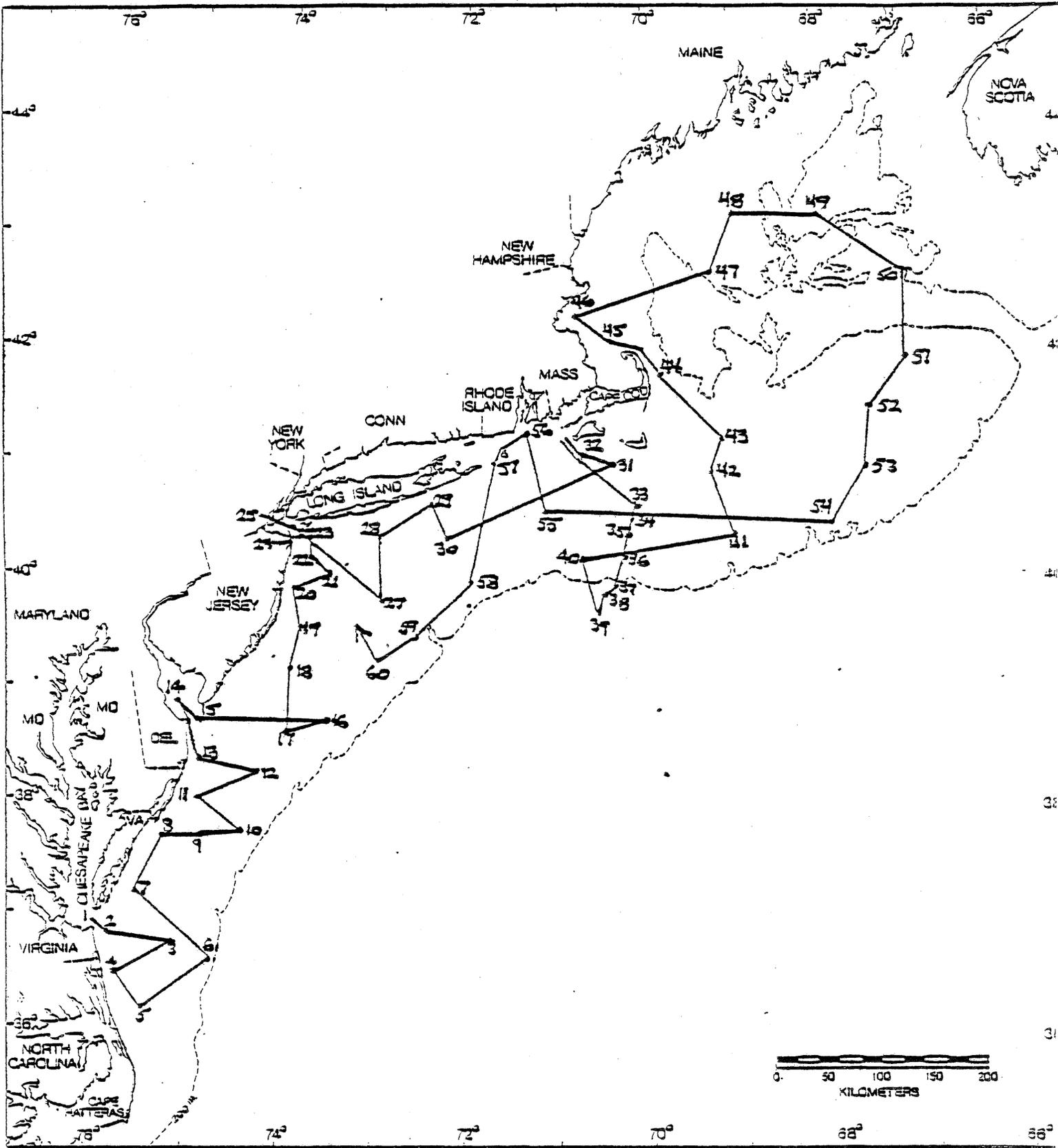
William Phoel, Chief Scientist	Part I, II
Steven Spina	Part I, II
Vincent Zdanowicz	Part I, II
Joann Newcombe	Part I, II
James Duggan	Part I
Sally Marquis	Part I, II

National Marine Fisheries Service, NEFC, Milford, CT

Mary Grojean	Part I
Jennifer Hauser	Part I, II
Michael Calabrese	Part I
Todd Welch	Part I
David Nelson	Part II
Pat Goertz	Part II
Robert Alix	Part II

Data Collected

ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON	_____
MOCNESS HAULS	_____
XBT DROPS	_____ 50
BOTTLE CAST	_____
STD CAST	_____
ROSETTE	_____
SALINITY SAMPLES	_____ 316
OXYGEN SAMPLES	_____ 316
NUTRIENT SAMPLES	_____
CHLOROPHYLL SAMPLES	_____ 198
TRAWLS	_____
FISH SAMPLES	_____
LONG LINE SET	_____
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____
CORES	_____ 203



Cruise track and station locations for GEORGE B. KELEZ Cruise FRC-80-04, Spring Ocean Pulse (OP) Monitoring Survey, during 24 March-10 April 1980.

VESSEL KELEZ

CRUISE 80-06

DATES June 24-27, 1980

DAYS AT SEA 4

STATIONS 11

CRUISE OBJECTIVE

This cruise was part of the Ocean Pulse/Northeast Monitoring Program (OP/NEMP) to provide long-term monitoring and assessment of the health of the continental shelf area from Cape Hatteras to the northern Gulf of Maine and Georges Bank. The objectives of this cruise were to: 1) collect and provide sea truth data in the area of concern for the calibration and development of remote sensing instrumentation operated by the NASA Langley Research Center, Hampton, Virginia; 2) investigate the three-dimensional structure and distribution of the Chesapeake Bay plume with regard to certain variables also measurable via remote sensing (temperature, salinity, and chlorophyll); and 3) initiate sampling to begin identifying the influence of the Chesapeake Bay "outwelling" on the contiguous continental shelf, its water quality, and its living marine resources as part of OP/NEMP.

SCIENTIFIC PERSONNEL

National Marine Fisheries Service, Sandy Hook, NJ

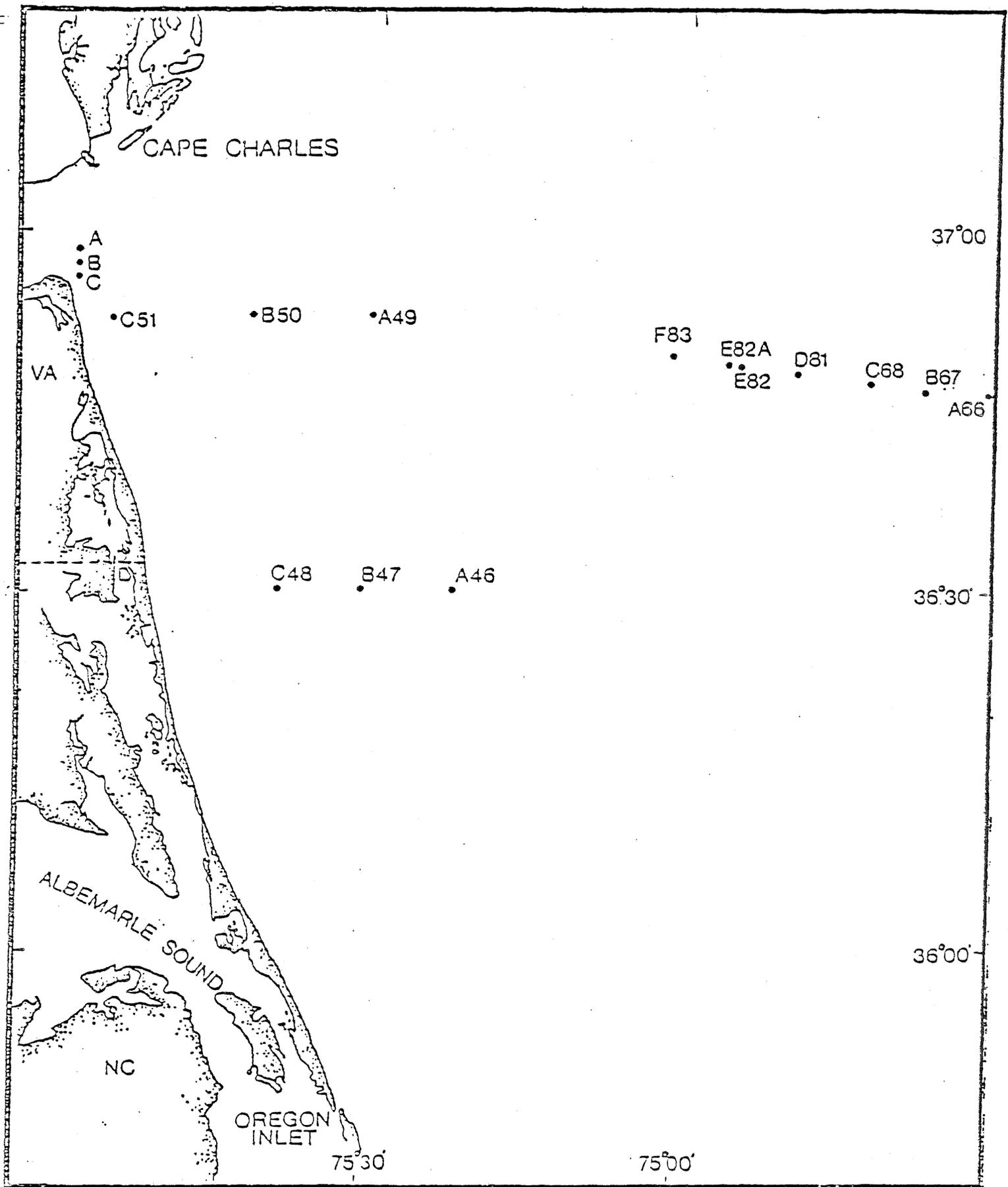
James Thomas, Chief Scientist
Craig Robertson

Old Dominion University, Norfolk, VA

Charles Rutledge
Steve Cibik
James Todd
Robert Brown

Cruise Results

Remarks: See Delaware II 80-03 for data collected.



Stations sampled in conjunction with NASA overflights aboard DELAWARE II Cruise 80-03 (Special) and GEORGE B. KELEZ Cruise FRC-06-80 for remote sensing, during 17-27 June 1980.

VESSEL KELEZ

CRUISE 80-07/08

DATES July 28-August 5, 1980

DAYS AT SEA 8

STATIONS 57

CRUISE OBJECTIVE

The cruise was designed as the first annual survey of organic and inorganic contaminant loads in sediments and resource fin- and shellfish of the NYB, and contaminant effects on benthic microflora and macrofauna. Subordinate objectives were to collect one-two liters of sediment at selected stations for a more detailed analysis of types and quantities of organic contaminants, and to collect sediments and Cancer crabs to determine presence of viruses.

Scientific Personnel

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

Robert Reid, Chief Scientist
Florence Wood
Wendy Stephenson
David Radosh
Jennifer Kennedy
Marie Cheung

National Marine Fisheries Service, NEFC, Milford, CT

John Graikowski
Jennifer Hauser
Donna Luedke

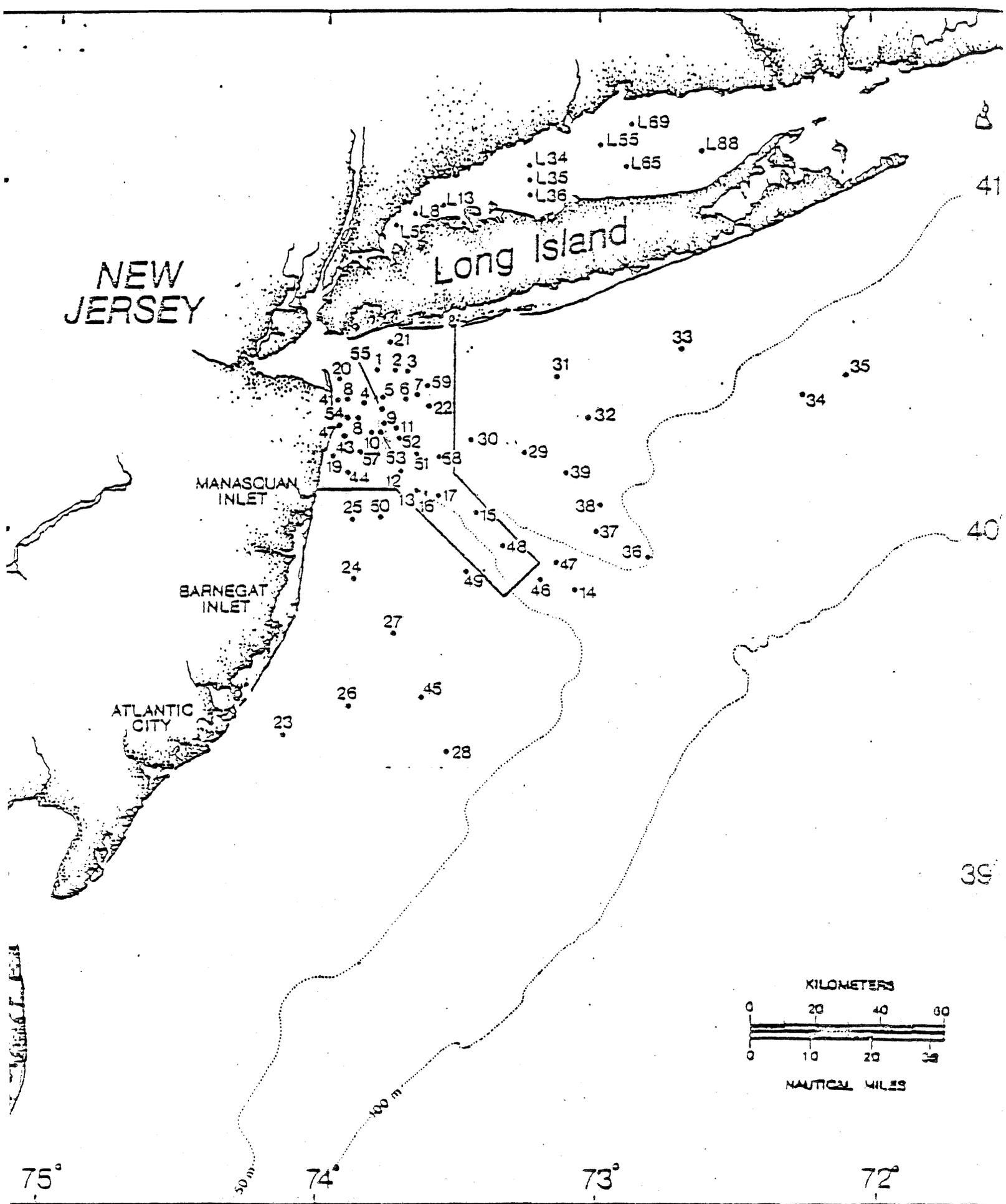
National Marine Fisheries Service, Oxford, MD

Mark Galasso

Cruise Results

ICNAF STANDARD STATIONS	_____	OXYGEN SAMPLES	_____
ICNAF EXTRA STATIONS	_____	NUTRIENTS SAMPLES	_____
MOCNESS STATIONS	_____	CHLOROPHYLL SAMPLES	_____
BONGO HAULS	_____	TRAWLS	_____
NEUSTON HAULS	_____	FISH SAMPLES	_____
MOCNESS HAULS	_____	LONG LINE SET	_____
XBT DROPS	_____	CURRENT METERS	_____
BOTTLE CASTS	_____	DROGUE	_____
STD CASTS	_____	PRIMARY PRODUCTIVITY	_____
ROSETTE	_____	CORE	<u>300</u>
SALINITY SAMPLES	_____		

REMARKS: Special cruise, please contact Chief Scientist.



Station locations, GEORGE B. KELEZ Cruise FRC-07/08-80, New York Bight Benthic Sampling Survey, during 28 July-5 August 1980. Stations within heavy lines in NYB apex were tentatively considered "contaminated" for sampling purposes and those outside the lines, "uncontaminated".

VESSEL KELEZ

CRUISE 80-10

DATES Oct. 14-22, 1980

DAYS AT SEA 9

STATIONS 123

Cruise Objective

This cruise was part of the Ocean Pulse/Northeast Monitoring Program (OP/NEMP) to provide long-term monitoring and assessment of the health of the continental shelf area from Cape Hatteras to the northern Gulf of Maine and Georges Bank. The objectives of this cruise were to: 1) collect and provide sea truth data in the area of concern for the calibration and development of remote sensing instrumentation operated by the NASA Langley Research Center, Hampton, Virginia; 2) investigate the three-dimensional structure and distribution of the Chesapeake Bay plume with regard to certain variables also measurable via remote sensing (temperature, salinity, and chlorophyll); and 3) initiate sampling to begin identifying the influence of the Chesapeake Bay "outwelling" on the contiguous continental shelf, its water quality, and its living marine resources as part of OP/NEMP.

Scientific Personnel

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

James Thomas, Chief Scientist
Craig Robertson

Old Dominion University, Norfolk, VA

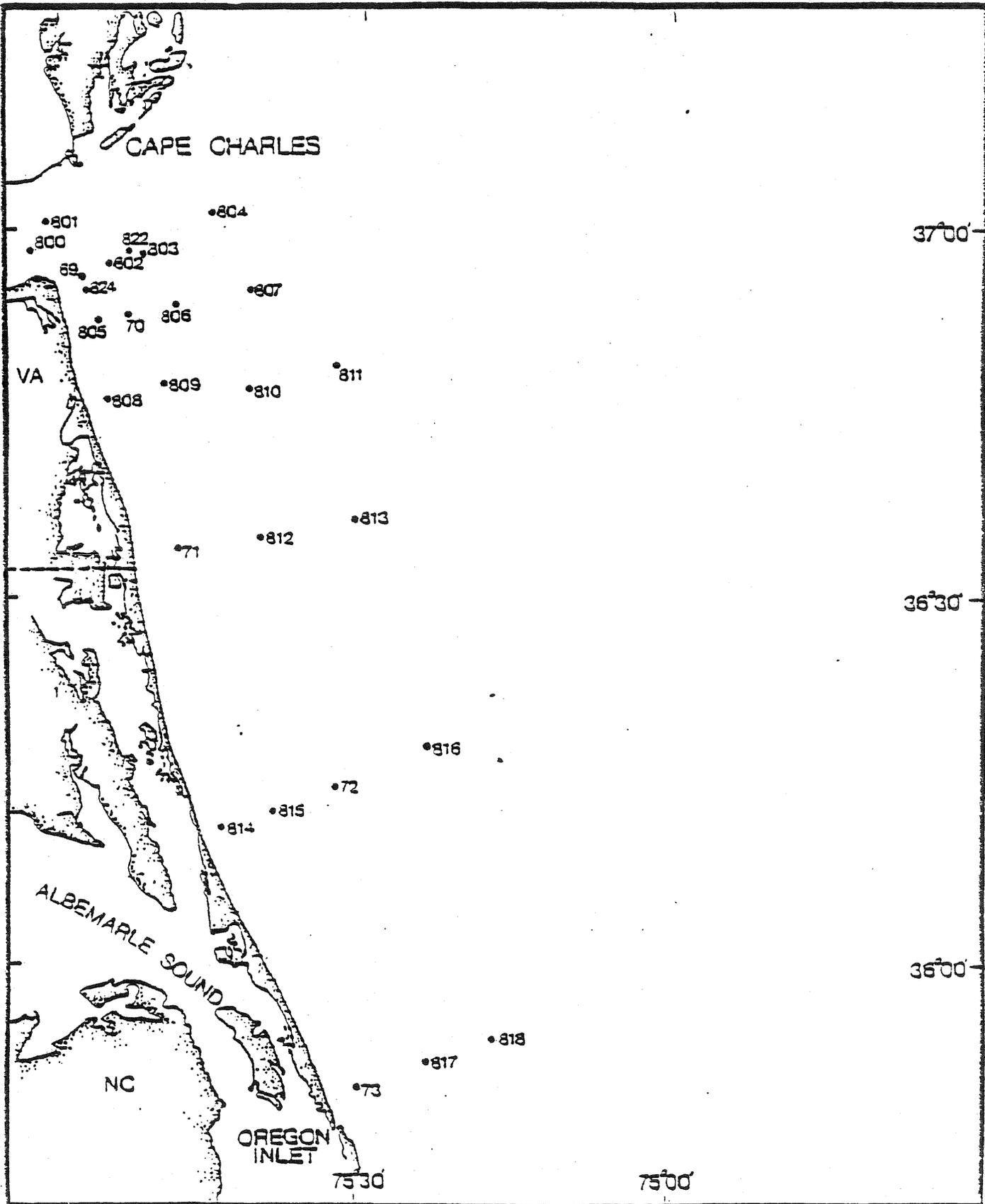
Charles Rutledge
Steve Cibik
Malcolm Kay
James Todd
Robert Brown

Virginia Institute of Marine Science, Gloucester Point, VA

Dwight Hunt
Howard Kator
Paul Zubkoff

Data Collected

<u>Type of Study</u>	<u>Station Occupied</u>
Plume survey.	24
Sea truth-concurrent with overflight.	9
-total	74
Tidal survey.	20
Special stations.	5
	<u>123</u> stations (total)
Phytoplankton species composition	150
Total suspended matter (NMFS)	19
Total suspended matter (ODU).	120
Coulter counting (ODU).	111
Lambda quantum meter.	12
Total days isolation.	8
Total plankton respiration.	505
Bacterial biomass	
total heterotroph.	64
direct counts.	72
Heterotrophic uptake.	58
Heavy metals (Pb, Cu, Mn, Zn, Fe) - 72 each	360
Hydrocarbons.	60
Nutrients (ammonia, nitrite, nitrate, phosphate, silicate) - 420 each.	2100
Water samples for algal bioassay.	20
DOC, POC, PON, TDN.	421
Selenium (ODU).	8
XBT drops	42
CTD casts	52
Salinity samples.	162
Oxygen samples.	202
Chlorophyll samples	360
Secchi.	30



Station locations for GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980.

VESSEL KELEZ

CRUISE 80-11

DATES Oct. 28-Nov. 6, 1980

DAYS AT SEA 9

STATIONS 38

Cruise Objective

This survey is part of a continuing series that makes collections and measurements relative to assessing the health of the ocean's biota, especially fishery resources. Specific objectives were: 1) to make estimates of the primary production and biomass of the phytoplankton on the continental shelf of the Northwest Atlantic; 2) to survey these waters, underlying sediments and select groundfish for the presence of certain species or types of bacteria which are either indicators of severe pollution or could possibly contaminate fishery products; 3) to hematologically examine certain species of groundfish for evidence of elevated incidence of mutagenic abnormalities; and 4) to collect benthic samples at Deep Water Dumpsite (DWD) 106 in an attempt to detect the presence of fly ash on the bottom from a recent test dump of this material.

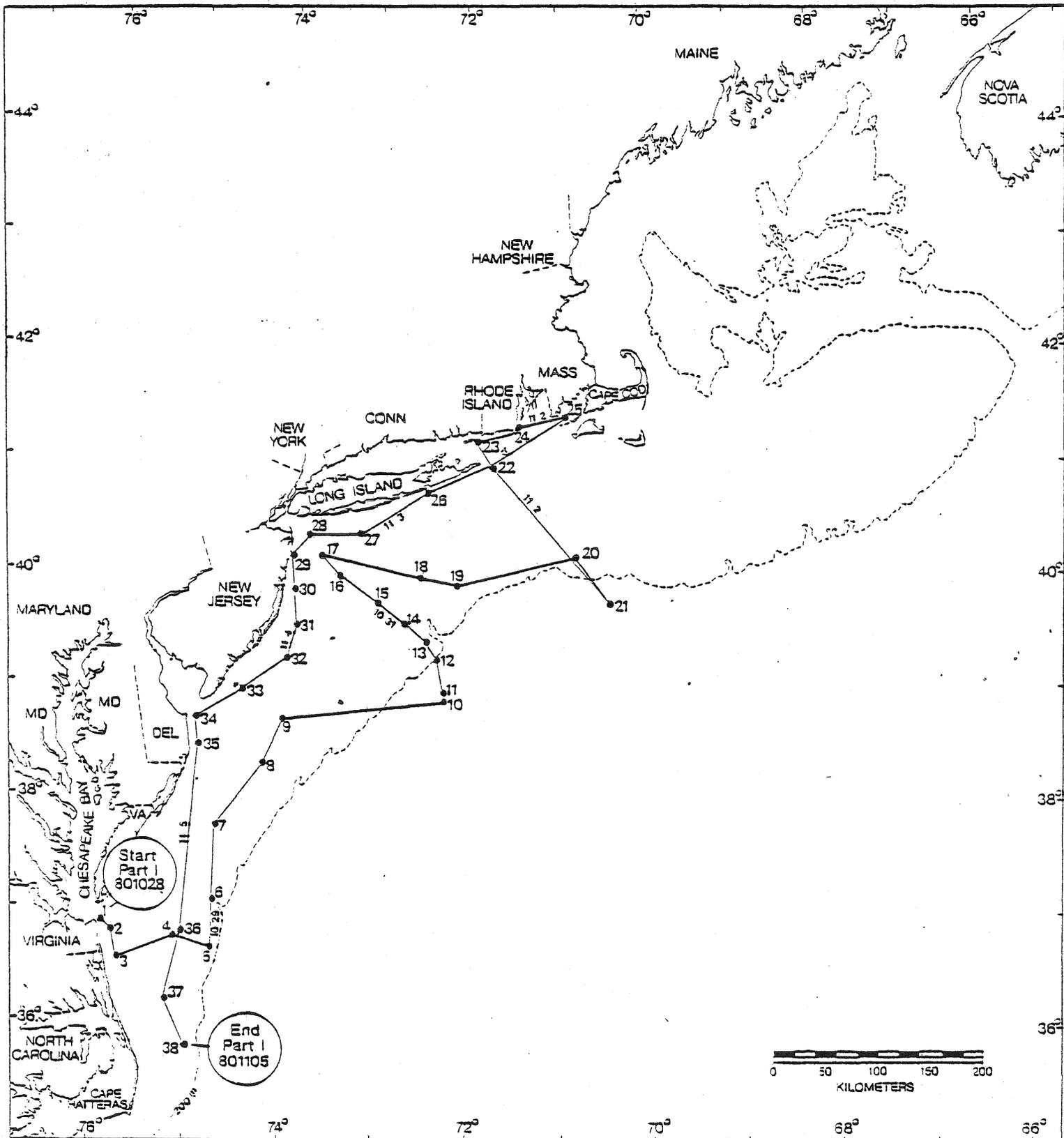
Scientific Personnel

David Nelson
Jennifer Hauser
Michael Elliott
Dean Perry

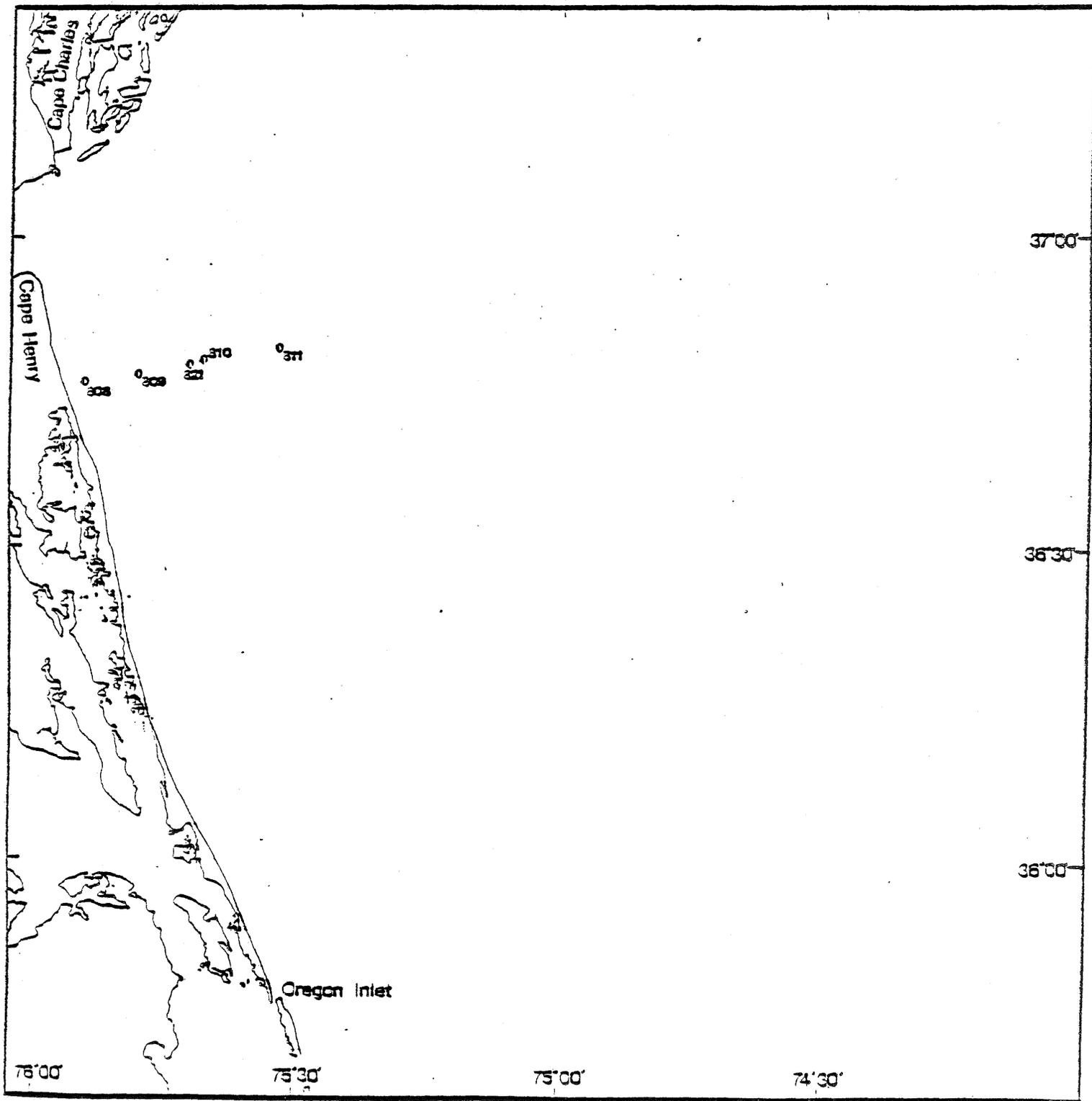
Ralph Bruno
Kathleen Workman
Robert Medved

Date Collected

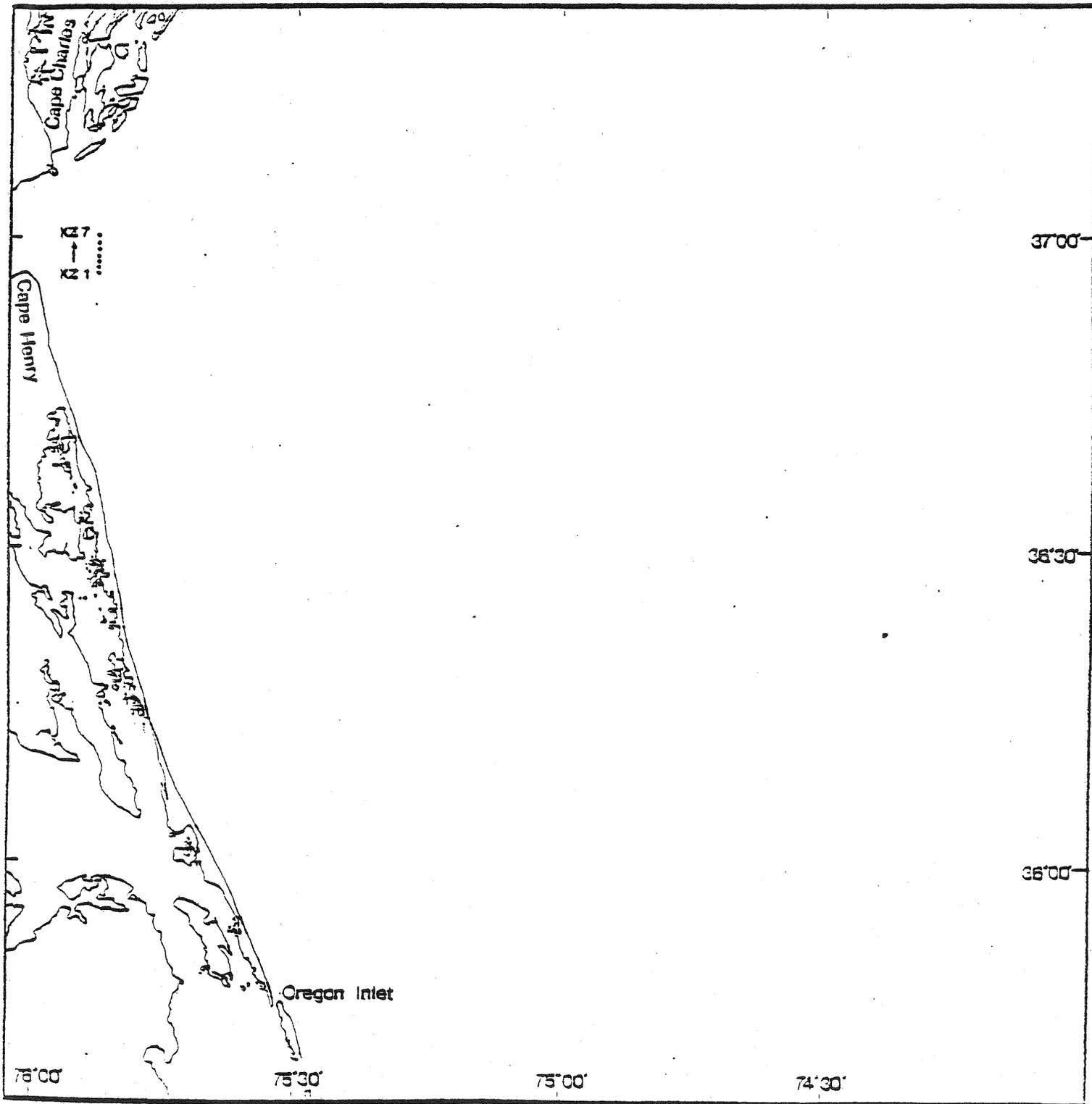
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	<u>512</u>
NEUSTON HAULS	_____	TRAWLS	<u>14</u>
MOCNESS HAULS	_____	FISH SAMPLES	<u>519</u>
XBT DROPS	_____	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	<u>15 sta.</u>



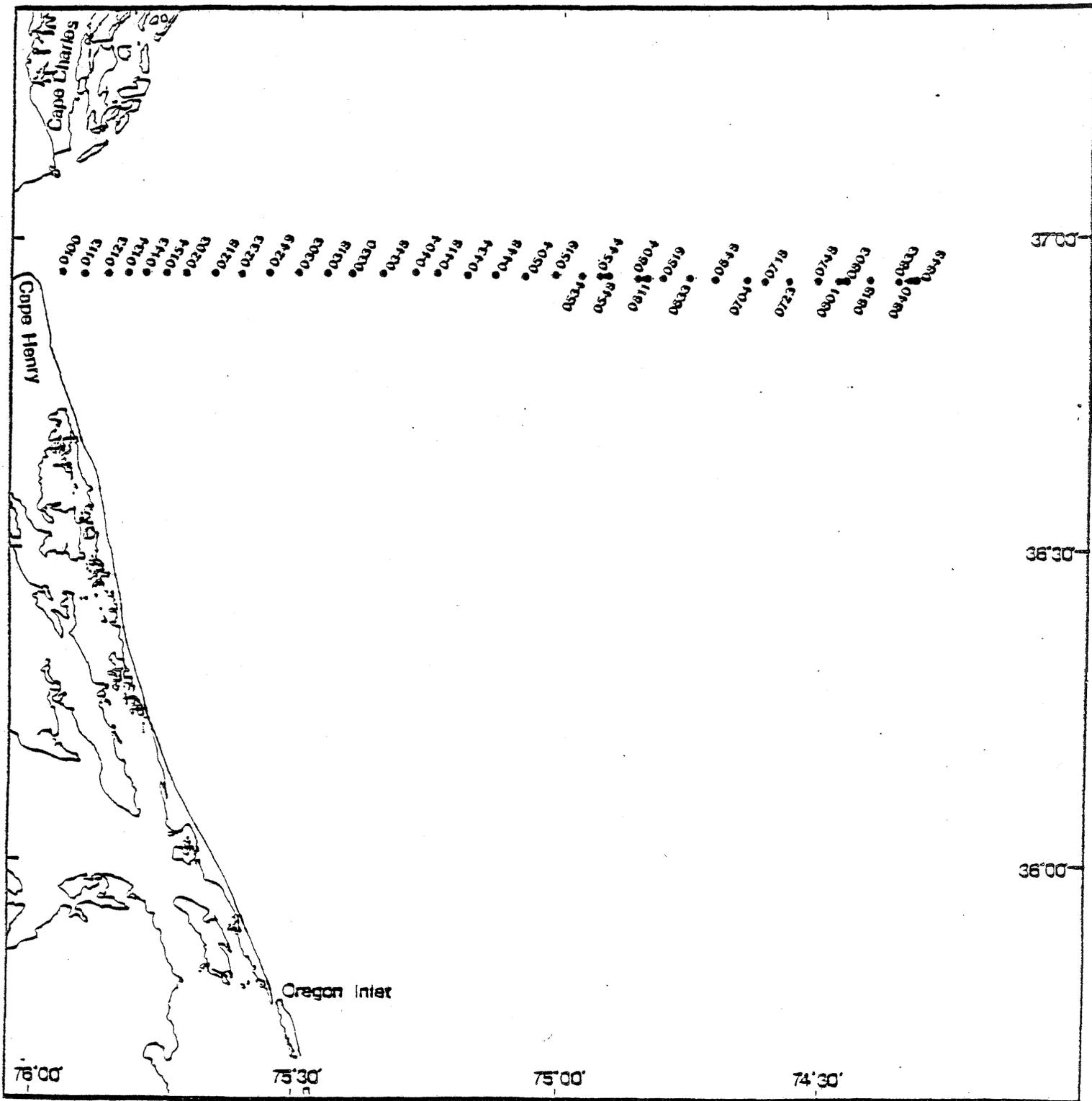
Cruise track and station locations for GEORGE B. KELEZ Cruise FRC 10/11-80 Northeast Monitoring Program (NEMP 80-19) Biological Effects Survey, during 28 October-6 November 1980.



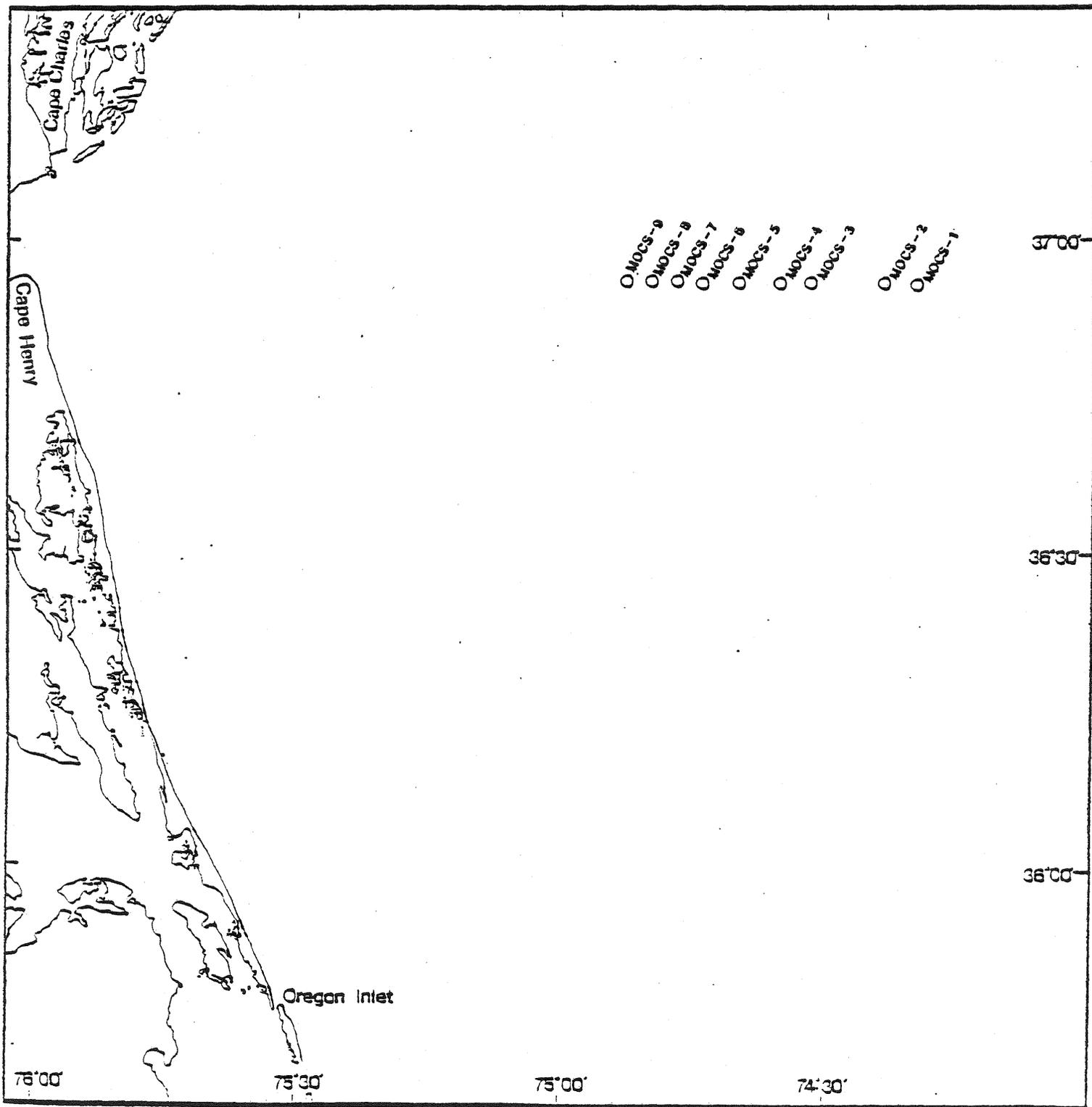
Stations sampled during the NASA Ocean Color Scanner (OCS) overflight on 15 October aboard GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980.



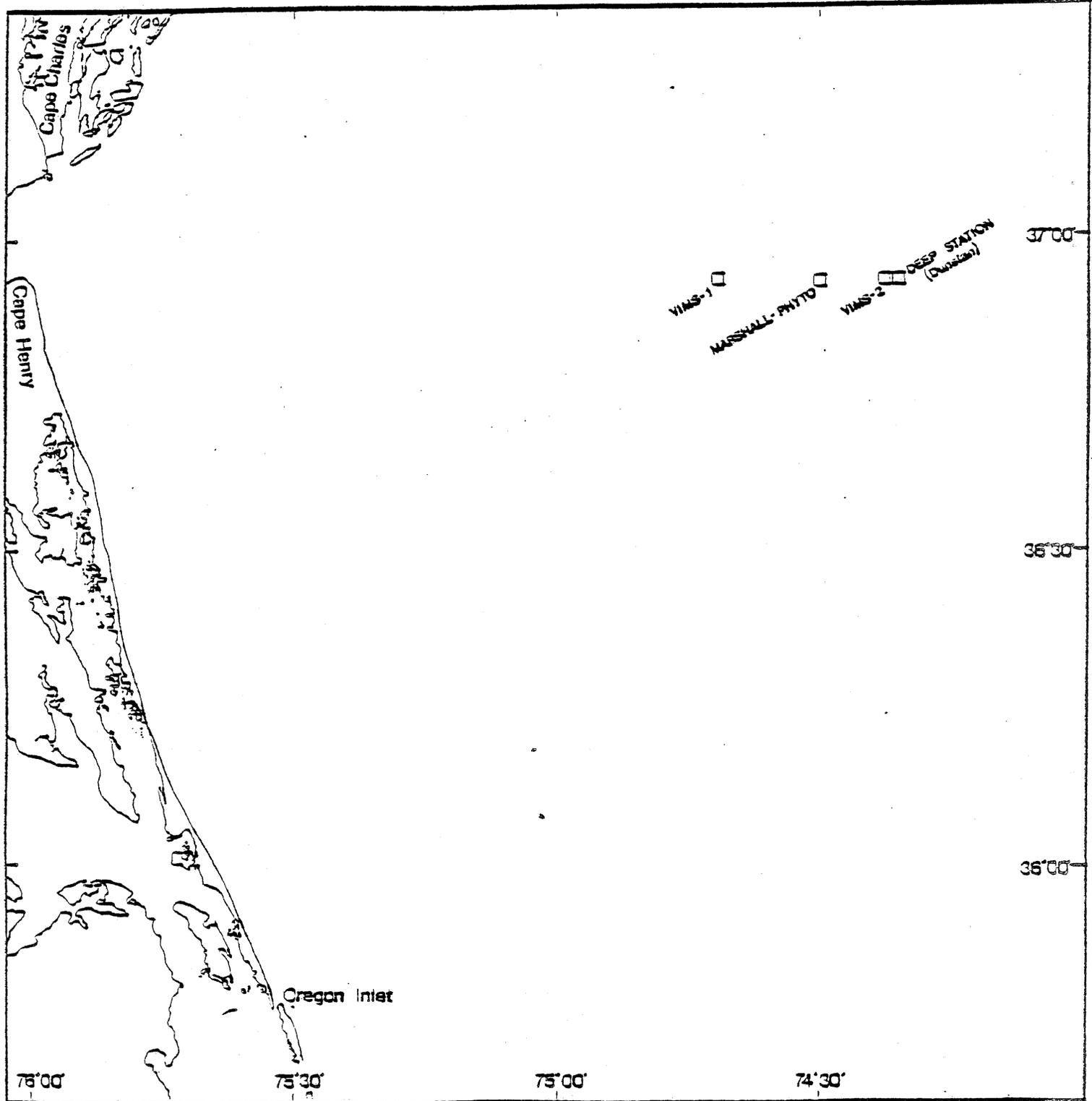
Surface bucket stations sampled in conjunction with the NASA Ocean Color Scanner (OCS) overflight on 20 October aboard GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980.



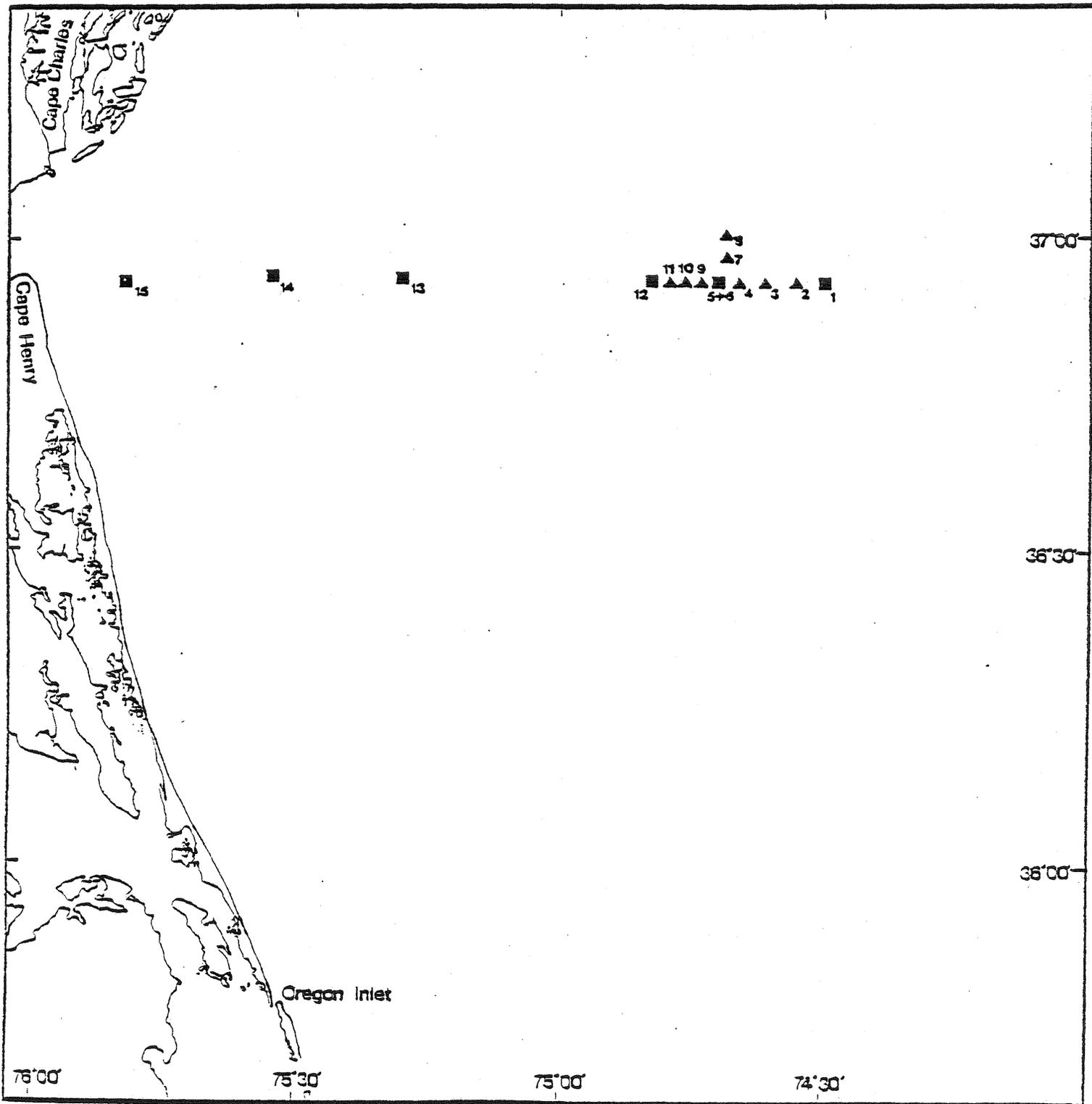
Surface bucket stations sampled for chlorophyll a, phaeophytin, and temperature on 21 October aboard GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980.



Stations sampled in conjunction with the NASA Multichannel Ocean Color Scanner (MOCS) overflight on 21 October aboard GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980. Hydrocast taken at 0, 1, 3 meters at stations 1 and 5. All other stations are surface bucket only.



Special stations sampled on 21 and 22 October aboard GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980. VIMS stations 1 and 2 were sampled for submarine photometry. The Deep Station was sampled to collect control water for algal bioassays. The Marshall-phyto station was sampled twice in rapid succession to examine variability in phytoplankton species composition.



Stations sampled in conjunction with MOCS-OCS overflights on 22 October aboard GEORGE B. KELEZ Cruise FRC 10-80 Chesapeake Bay Plume Studies (Third Cruise), during 14-22 October 1980. Squares indicate locations of hydrocast sampled at 1 meter and 3 meters. Triangles indicate locations of surface bucket samples only.

VESSEL VIANDRA

CRUISE 80-03

DATES August 14-September 2, 1980

DAYS AT SEA 18

STATIONS 75

CRUISE OBJECTIVE

The objectives of the cruise were to: (1) collect marine birds for food habits analysis and morphological and physiological studies; (2) collect neuston samples to correlate with bird stomach and proventriculi contents; (3) collect thermal hydrographic data to correlate bird density with physical oceanographic features; (4) conduct transect censuses of marine birds, mammals, and turtles to continue monitoring their seasonal changes in distribution and abundance on the shelf and slope areas of Georges Bank and surrounding waters; and (5) conduct as many transects (as described above) under paired conditions (2 observers) to aid in the development and analysis of an observer training program currently under study at the Manomet Bird Observatory (NOAA/NMFS Grant No. NA80-FA-D-0004).

Scientific Personnel

AtlantNIRO, Kaliningrad, USSR

Aleksandr Romanchenko (Chief Scientist)
Stanislav Babich
Aleksandr Yulin

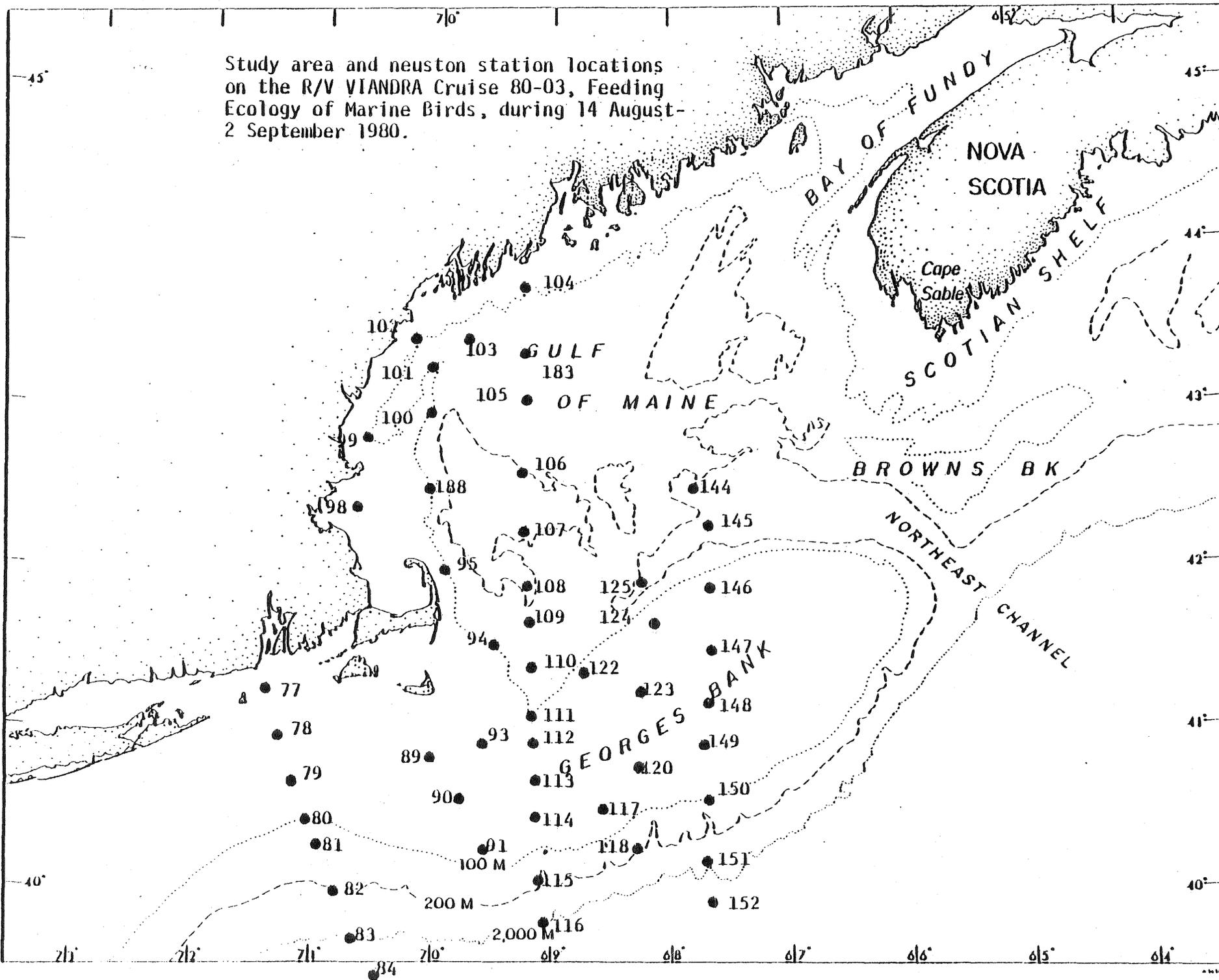
Manomet Bird Observatory, Manomet, MA

Michael Payne (Chief Scientist)
Avery Taylor

Cruise Results

ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____52	TRAWLS	_____
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	_____36	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____

Study area and neuston station locations
on the R/V VIANDRA Cruise 80-03, Feeding
Ecology of Marine Birds, during 14 August-
2 September 1980.



VESSEL VIANDRA

CRUISE 80-05

DATES Sept. 23-Oct. 3, 1980

DAYS AT SEA 10

STATIONS 24

Cruise Objective

The objectives of the cruise were to locate and obtain samples of Atlantic herring for data on lengths, age at various lengths, sex and gonadal development. An effort would be made to obtain the majority of the samples from as many different spawning areas as possible.

Scientific Personnel

AtlantNIRO, Kaliningrad, USSR

Aleksandr Romanchenko, Chief Scientist
Stanislav Babich
Aleksandr Yulin

National Marine Fisheries Service, NEFC, Woods Hole, MA

Gordon Waring, Chief Scientist

University of Rhode Island, Kingston, RI

Edward Lemire, Mammalogist

Data Collected

ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	_____
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	_____ 24
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	_____	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
STD CASTS	_____	DROGUE	_____
ROSETTE	_____	PRIMARY PRODUCTIVITY	_____



Station locations for the USSR R/V VIANDRA Cruise 80-05 Adult Herring Survey, during 23 September-3 October 1980.

VESSEL WHITEFOOT

CRUISE 80-01

DATES February 4-6, 1980

DAYS AT SEA 2

STATIONS

Cruise Objective

The objectives of the cruise were to:

1. Repair lights which were reported out on buoys at positions N1 and N3.
2. Obtain a temperature section with XBTs along the mooring line from N1 to N6.
3. Repair light at N6 which failed shortly after launch.
4. Check condition of all surface floats.

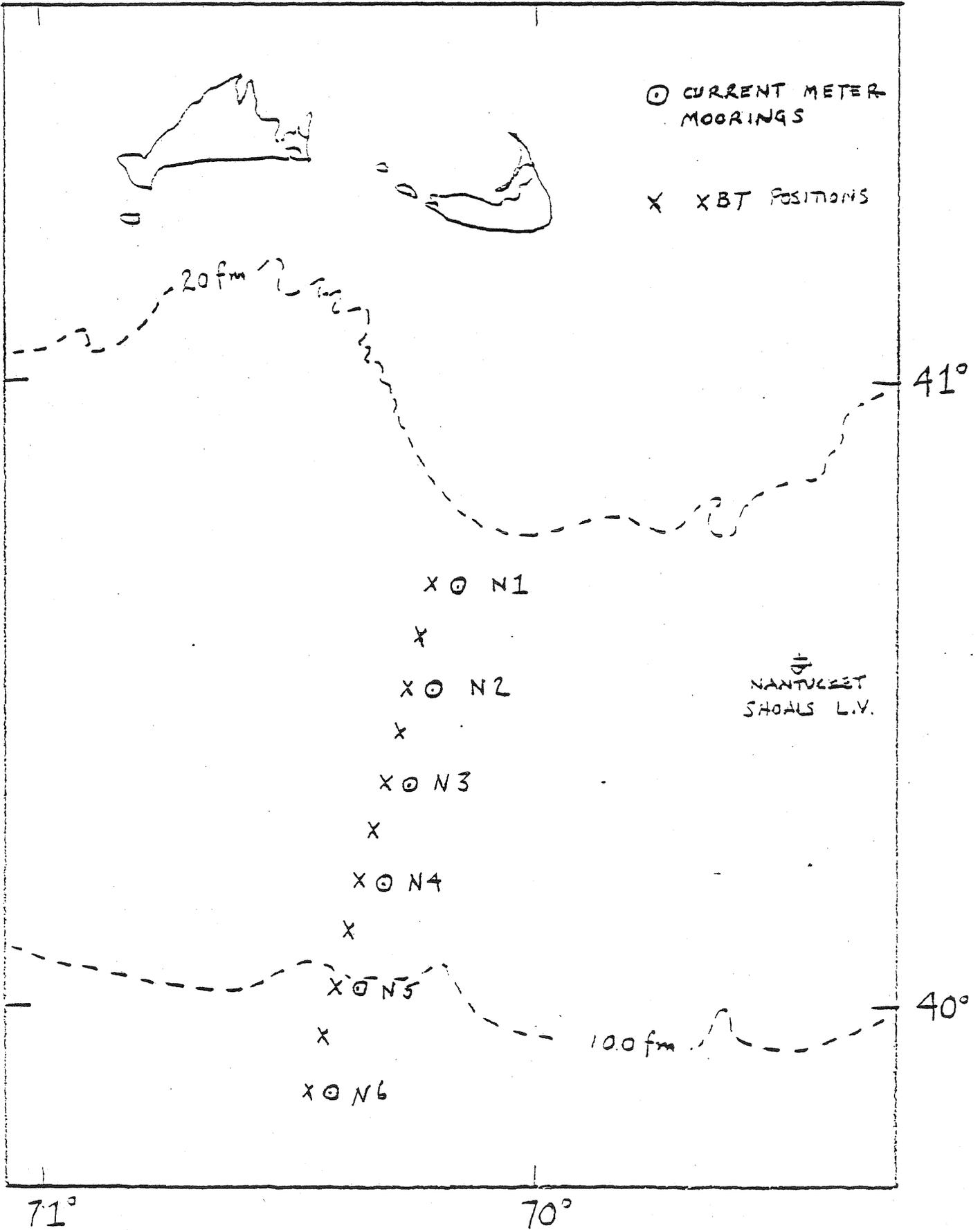
The first two objectives and the fourth were accomplished; the third was not attempted because the seas were too rough to try to bring the buoy on board.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

W. Redwood Wright
Derek Sutton

<u>Data Collected</u>	<u>TOTAL</u>		<u>TOTAL</u>
ICNAF STANDARD STATIONS	_____	SALINITY SAMPLES	11
ICNAF EXTRA STATIONS	_____	OXYGEN SAMPLES	_____
MOCNESS STATIONS	_____	NUTRIENTS SAMPLES	_____
BONGO HAULS	_____	CHLOROPHYLL SAMPLES	_____
NEUSTON HAULS	_____	TRAWLS	_____
MOCNESS HAULS	_____	FISH SAMPLES	_____
XBT DROPS	11	LONG LINE SET	_____
BOTTLE CASTS	_____	CURRENT METERS	_____
CTD CASTS	_____	DROGUE	_____
ROSETTES	_____	PRIMARY PRODUCTIVITY	_____



Station positions, WHITEFOOT cruise NEFC 30-01, 4-6 February 1980.

VESSEL WIECZNO

CRUISE 80-01

DATES February 11-16, 1980

DAYS AT SEA 23

STATIONS 17

Cruise Objective

The purpose of the cruise was to determine the distribution and abundance of yellowtail flounder and associated fish species from depths between 20-40 fathoms (37-73 meters) and to compare sampling results with the F/V FREEZELAND which was conducting a yellowtail survey in association with the State of Rhode Island in the same area.

Scientific Personnel

National Marine Fisheries Service, NEFC, Woods Hole, MA

Linda Despres, Chief Scientist
Ralph Mayo
Deborah Dwyer
James Townes

Morski Instytut Rybachi, Gdynia, Poland

Marianna Pastuszek, Chief Scientist
Julian Knurowski
Ryszard Sobczak
Borys Kisler

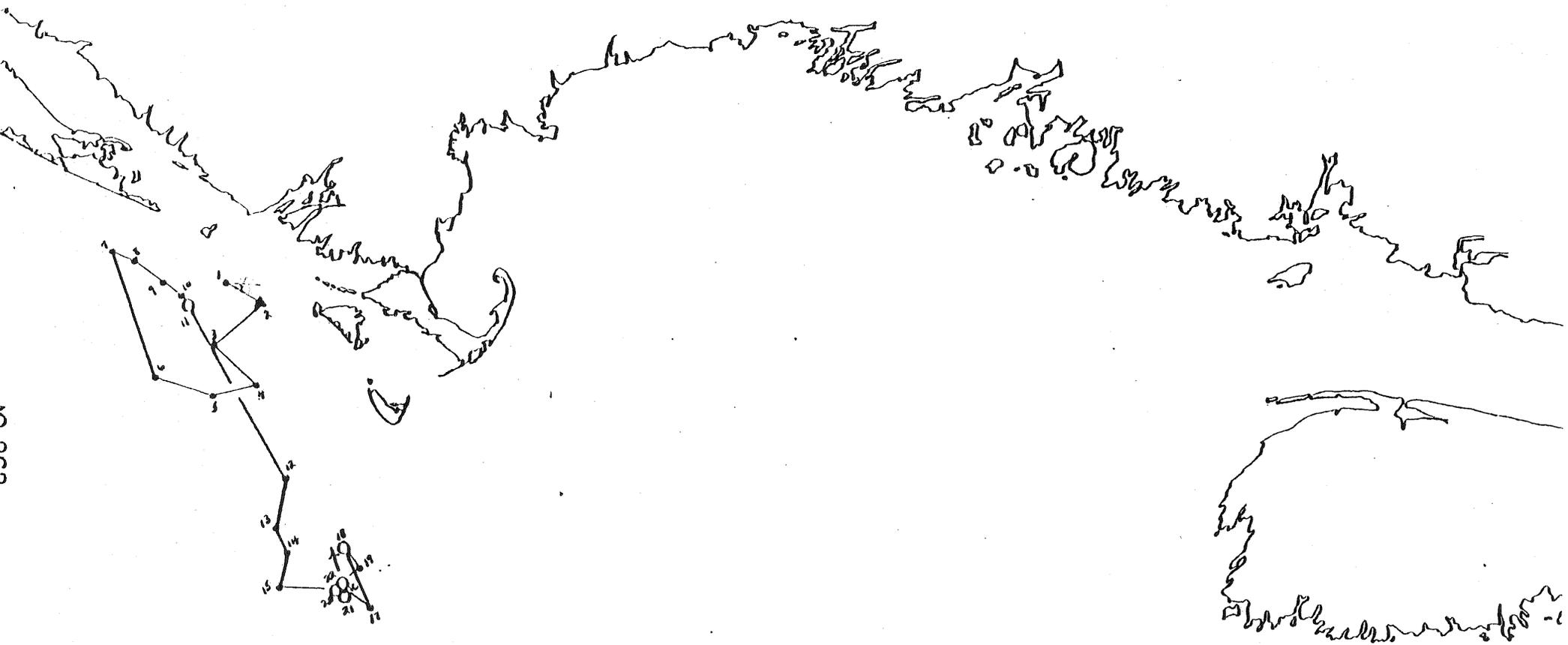
Manomet Bird Obsevatory, Manomet, MA

David Twitchell

<u>Data Collected</u>	<u>TOTAL</u>		<u>TOTAL</u>
.61 cm BONGO	_____	SALINITY SAMPLES	_____
.20 cm BONGO	_____	OXYGEN SAMPLES	_____
.61 cm NEUSTON	_____	NUTRIENT SAMPLES	_____
.20 cm NEUSTON	_____	CHLOROPHYLL SAMPLES	_____
HAEDRICH	_____	PRIMARY PRODUCTIVITY	_____
XBT	_____ 21	DROGUES	_____
BOTTLE CAST	_____	SECCHI DISC	_____
CTD CAST	_____	TRAWLS	_____ 17
CURRENT METERS	_____	FISH SAMPLES*	_____ 20

* Live yellowtail for aquarium.

○ = FISHED FOR AQUARIUM
▲ = TEARUP



Station locations and cruise track for R/V WIECZNO Cruise 80-01 during 11 February to 16 February 1980.

VESSEL WIECZNO

CRUISE 80-02

DATES Feb. 18-27; 27-11 March 1980

PARTS I, II

DAYS AT SEA 23

STATIONS 229

Cruise Objective

This cruise is a part of the annual effort to monitor seasonal changes in the distribution and abundance of fish eggs and larvae, zooplankton and phytoplankton, and to collect oceanographic information and sea truth data for LAMPEX.

Scientific Personnel

Sea Fisheries Institute, Gdynia, Poland

Marianna Pastuszek, Chief Scientist

Julian Knurowski

Borys Kisler

Ryszard Sobczak

National Marine Fisheries Service, NEFC, Woods Hole, MA

Deborah Dwyer, Chief Scientist Parts I and II

Roger Clifford Parts I and II

National Marine Fisheries Service, NEFC, Sandy Hook, NJ

James Duggan Parts I and II

Doris Finan Part I

Cinda Fahay Part I

Manomet Bird Observatory, Manomet, MA

Galen Burrell Part I

Data Collected

TOTAL

TOTAL

.61 cm BONGO

80

SALINITY SAMPLES

617

.20 cm BONGO

30

OXYGEN SAMPLES

617

NEUSTON

60

NUTRIENT SAMPLES

.20 cm NEUSTON

19

CHLOROPHYLL SAMPLES

808

HAEDRICH

48

PRIMARY PRODUCTIVITY

XBT

87

DROGUES

BOTTLE CAST

87

SECCHI DISC

26

CTD CAST

TRAWLS

CURRENT METERS

FISH SAMPLES

JET DREDGE

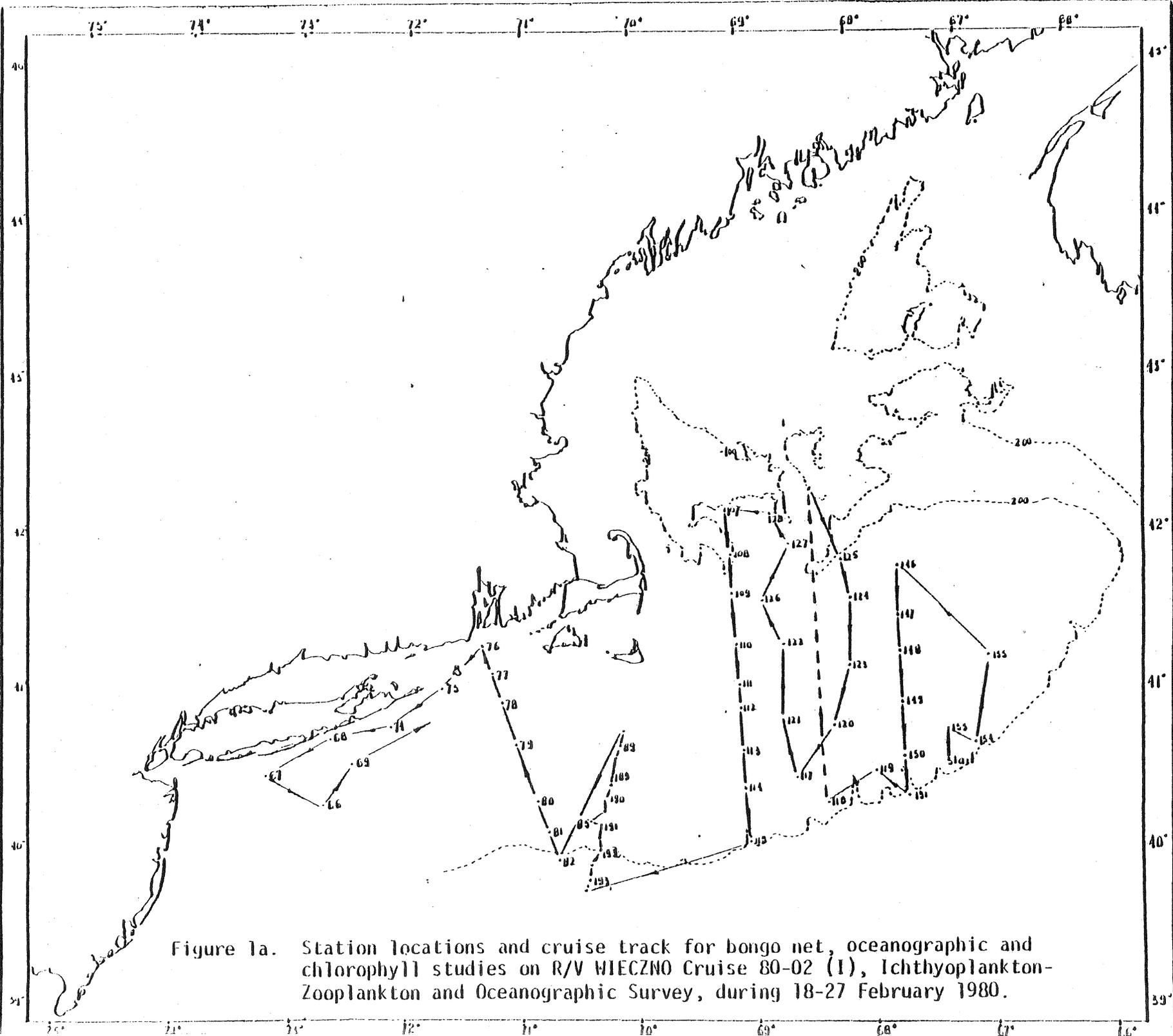


Figure 1a. Station locations and cruise track for bongo net, oceanographic and chlorophyll studies on R/V WIECZNO Cruise 80-02 (I), Ichthyoplankton-Zooplankton and Oceanographic Survey, during 18-27 February 1980.

VESSEL WIECZNO

CRUISE 80-03

DATES March 13-30

DAYS AT SEA 18

STATIONS 12

CRUISE OBJECTIVE

The objectives of the cruise were to: 1) collect food and feeding related information from sharks and swordfish, 2) collect embryos and examine reproductive organs from sharks, 3) collect samples of livers from sharks for analysis as indicators of fish condition, 4) collect vertebral samples from sharks for age growth studies, 5) obtain samples of shark muscle and livers for technological studies (Morski Institute Rybacki, Poland), and 6) tag sharks and swordfish for migration studies.

Scientific Personnel

Morski Instytut Rybacki, Gdynia, Poland

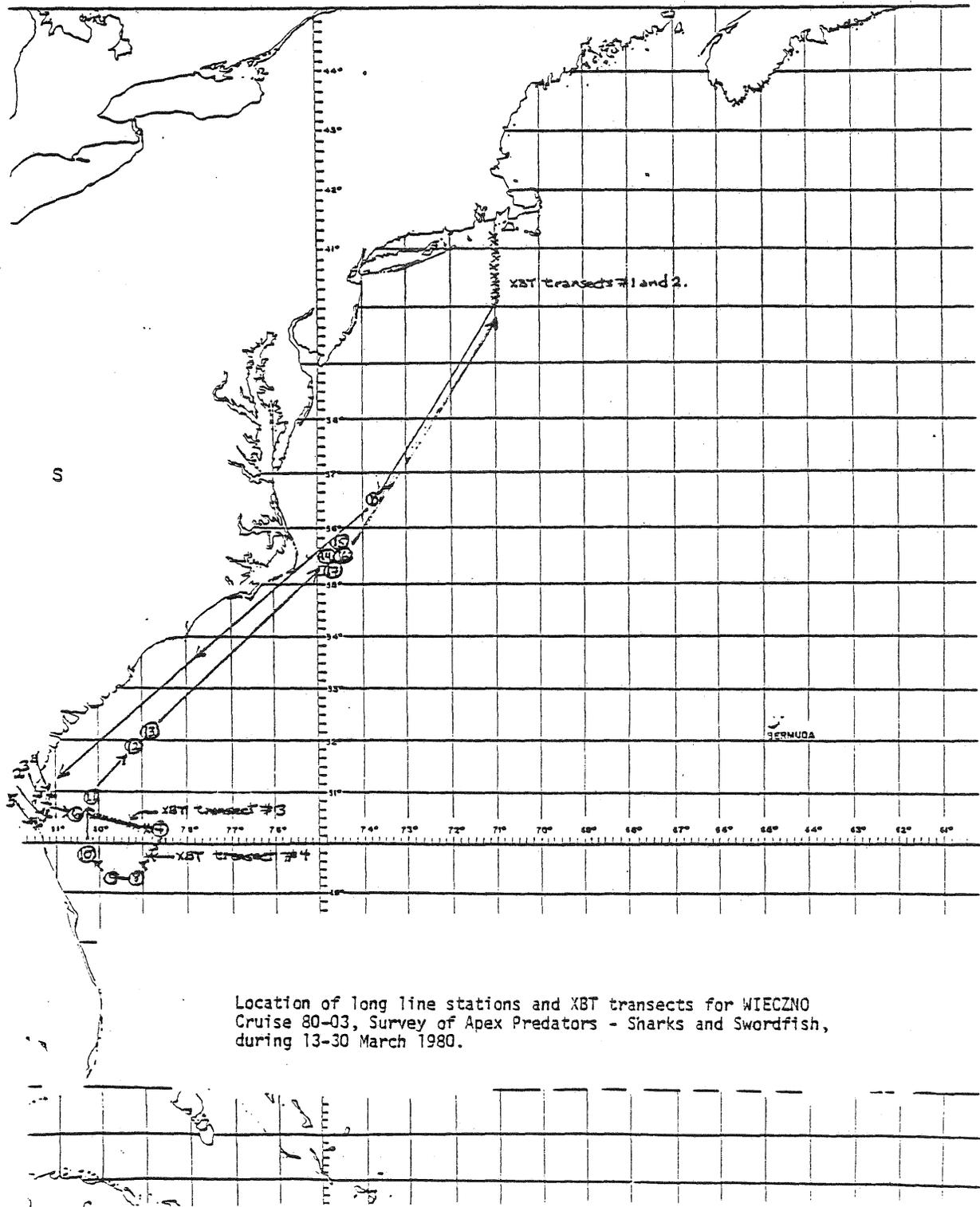
Julian Knurowski, Chief Scientist
Borys Kisler
Ryszard Sobczak

National Marine Fisheries Service, NEFC, Narragansett, RI

John Casey, Chief Scientist
Charles Stillwell
Harold Pratt
Alan Lintalla
John Green

Cruise Results

	TOTAL
ICNAF STANDARD STATIONS	_____
ICNAF EXTRA STATIONS	_____
MOCNESS STATIONS	_____
BONGO HAULS	_____
NEUSTON HAULS	_____
MOCNESS HAULS	_____
XBT DROPS	17
BOTTLE CASTS	_____
STD CASTS	_____
ROSETTE	_____
SALINITY SAMPLES	_____
OXYGEN SAMPLES	_____
NUTRIENTS SAMPLES	_____
CHLOROPHYLL SAMPLES	_____
TRAWLS	_____
FISH SAMPLES	275
LONG LINE SET	17
CURRENT METERS	_____
DROGUE	_____
PRIMARY PRODUCTIVITY	_____



Location of long line stations and XBT transects for WIECZNO
 Cruise 80-03, Survey of Apex Predators - Sharks and Swordfish,
 during 13-30 March 1980.