U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Center
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Pascagoula, Miss. 39568-1207

OREGON II CRUISE 88-04 (176)
8/24-9/30/88

INTRODUCTION

The NOAA Ship OREGON II cruise 176 was divided into three segments and extended from August 24 to September 30, 1988. Segment 1 was a 10 day cruise around the plume of the freshwater discharge from the Mississippi River; segments 2 and 3 were standard SEAMAP ichthyoplankton surveys and operated throughout the northern Gulf of Mexico within the Exclusive Economic Zone (EEZ). Seven days were lost during the cruise due to hurricanes Florence and Gilbert. This lost time resulted in some cruise modifications; however, 80 of the originally scheduled 96 stations were successfully completed.

Digital imagery was provided by NASA through U-2 overflights off the mouth of the Mississippi River. These flights were rescheduled from segment 1 to segment 2, therefore, the digital imagery was provided during the standard SEAMAP ichthyoplankton survey rather than during the originally scheduled plume study.

OBJECTIVE

1) Monitor seasonal changes in abundance and distribution of ichthyoplankton and neuston in the U.S. EEZ.

2) Obtain data on ichthyofaunal assemblages associated with the freshwater plume from the Mississippi River discharge.

3) Obtain hydrographic data throughout the survey area.

METHODS

Digital imagery off the mouth of the Mississippi River was provided from U-2 overview flights and compared with larval distribution.

Temperature and salinity profiles from CTD and SEAS III Systems were obtained throughout the cruise. Secchi disc

and Forel-ule measurements were taken at preselected day stations; and chlorophyll samples were obtained at each station.

A preselected list of sampling stations was provided to the vessel captain with gear deployment noted at each station location. Modifications to the cruise tract were the responsibility of the chief scientist. Standard ichthyoplankton stations included collections made with bongo, Tucker, and neuston nets.

Ichthyoplankton sampling gear consisted of a standard SEAMAP 0.61 cm double bongo sampler with two 0.333 mm mesh nets, a Tucker trawl with three 0.333 mm mesh nets, and a neuston sampler with a 0.947 mm mesh net on a 1 x 2 m frame. Oblique bongo and Tucker trawl tows, up to a maximum of 200 m, were made. Surface neuston nets were towed for 10 min at 2.5 knots. Special plume stations were scheduled and included drift card studies, night light stations, and plume observation stations. Trash watches were conducted during the plume study with all floating debris recorded.

RESULTS

CTD profiles were obtained at 32 stations and SEAS III temperature profiles at 132 stations (Fig.1). Standard ichthyoplankton stations were completed at 164 sampling sites and 6 special plume stations consisting of one drift card, four night light, and one plume observation station were also completed. Three replicate chlorophyll samples were taken at each station occupied during the cruise.

U-2 flights over the plume area were rescheduled due to inclement weather; however, digital imagery was provided during segment 2 of the cruise.

Plume samples were divided between NMFS Beaufort, NC and Panama City, Fla. Laboratories for sorting, identification, and housing. Right bongo samples from standard ichthyoplankton stations were shipped to Miami, Fla. for shipment to ZSIOP, Szczencin, Poland for sorting and identification. Left bongo samples will be stored at the Gulf Coast Research Laboratory, Ocean Springs, Miss. Chlorophyll and salinity samples will be processed at the Mississippi Laboratory in Pascagoula, Miss.

Cruise Participants

NAME	TITLE	ORGANIZATION
Segment 1 (August 24-September 2, 1988)		
Alonzo Hamilton	Field Party Chief	NMFS Pascagoula, Miss.
Churchill Grimes	Ecologist	NMFS Panama City, Fla.
Doug DeVries	Fishery Biologist	NMFS Panama City, Fla.
Harold Brusher	Fishery Biologist	NMFS Panama City, Fla.
John Isley	Fishery Biologist	NMFS Panama City, Fla.
Don Hoss	Fishery Biologist	NMFS Beaufort, NC
John Burke	Fishery Biologist	NMFS Beaufort, NC
Mike Murrell	Cooperator	LUMCON
Larry Settle	Fishery Biologist	NMFS Beaufort, NC
Bob Lutz	Cooperator	LUMCON
Segment 2 (September 6-9, 1988)		
Alonzo Hamilton	Field Party Chief	NMFS Pascagoula, Miss.
Carolyn Massey	Biological Technician	NMFS Pascagoula, Miss.
Jean Scheuren	Biological Technician	NMFS Pascagoula, Miss
Jay Lacey	Data Transcriber	NMFS Panama City, FLa.
Joseph Arceneaux	Cooperator	Auburn University, Auburn, Ala.
Segment 3 (September 17-30, 1988)		
Alonzo Hamilton	Field Party Chief	NMFS Pascagoula, Miss.
Diane Hill	Division Secretary	NMFS Pascagoula, Miss.
Harold Brusher	Fishery Biologist	NMFS Panama City, Fla.

Submitted By:

Alonzo Hamilton, Jr.
Field Party Chief

Approved By:

Andrew J. Kemmerer, Director
Mississippi Laboratories

Bradford E. Brown, Acting
Southeast Science & Research
Director

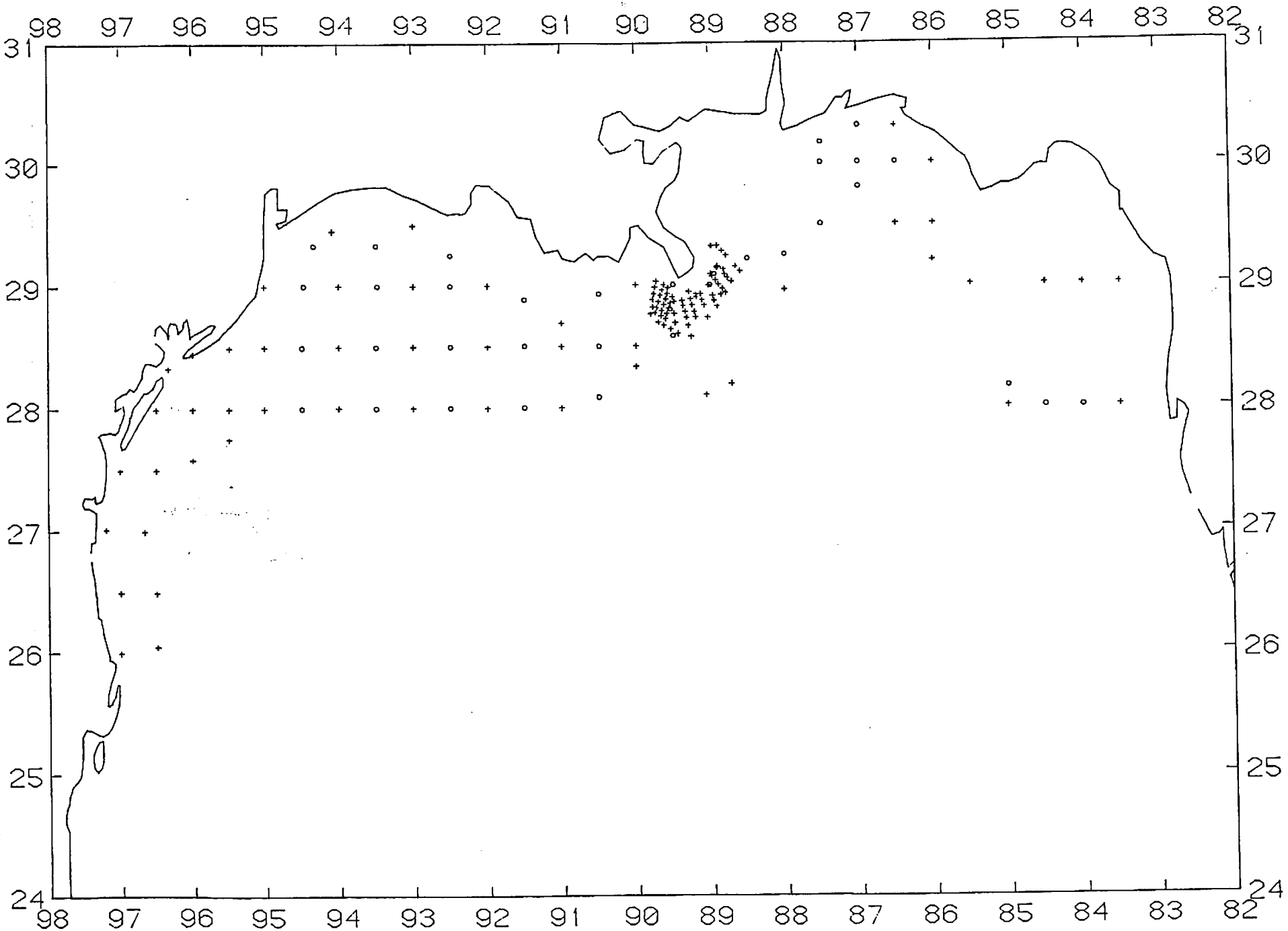

Figure 1. Location of all environmental stations (0 = CTD and + = SEA III XBT). Ichthyoplankton was collected at each environmental station

10/18 - 11/1
11/2 - 11/15
11/16 - 11/21
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