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National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Center
Pascagoula Facility
P O Drawer 1207
Pascagoula, MS 39568-1207

NOAA Ship OREGON II Cruise 159
4/22-5/23/86

INTRODUCTION

The NOAA Ship OREGON II departed Pascagoula, MS at 1000 hour (hr) on April 22, 1986 to conduct a bluefin ichthyoplankton survey in the Gulf of Mexico, 24°00' to 30°00' N. Lat. and 84°00' to 93°00' W. Long. (Figures 1 and 2). One port call was made on May 7th, with the cruise terminating in Pascagoula on May 23.

OBJECTIVES

1. Determine abundance and distribution of bluefin eggs and larvae within the United States Fishery Conservation Zone (FCZ) in the Gulf of Mexico.
2. Collect environmental and chlorophyll data at each station.
3. Obtain collections of deepwater specimens for Florida State Museum.

Materials and Methods

Plankton samples were taken with standard MARMAP bongo and neuston samplers. The bongo sampler consisted of two conical 61 centimeter nets with 333 micron mesh. Oblique tows were made with a towing speed between 1.5 and 2.0 knots. Bongo nets were set at 50 meters per minute and retrieved at 20 meters per minute. Sampling depth was between 106 and 200 meters. A torpedo shaped digital flowmeter was used to compute the amount of water filtered per tow. Neuston samples were taken with 947 and 707 micron mesh nets on 1 X 2 meter frames. Tows were of ten minute duration with half of the frame submerged.

Ichthyoplankton samples were initially preserved in 10% formalin except for the 707 neuston samples which were preserved in 95% ethyl alcohol. After 24 hours all samples were transferred to 95% ethyl alcohol for final preservation.

Deepwater specimens were collected with a 55 foot semi-balloon shrimp trawl with 8' x 40" wooden chain doors.

Trawling time per set was two hours. Collections were preserved in 10% formalin.

A CTD was used to obtain temperature and salinity profiles. To verify CTD data, a XBT probe was dropped and salinity samples from the CTD were returned to the Pascagoula Laboratory for analysis from the first station of each day. Dissolved oxygen measurements were taken with an oxygen meter and three surface chlorophylls were collected at every station. At all stations cloud cover, water color, secchi disc, barometric pressure, wave height, wind speed and direction were recorded; however, water color, cloud cover and secchi disc records could only be obtained at day stations.

Results

One hundred and forty five ichthyoplankton (bongo and/or neuston) stations were completed. Bongo and double rigged neuston tows were completed at sixty nine stations and only double rigged neuston tows at seventy six stations. Due to a CTD malfunction extra bottle casts were made. Environmental collections returned to Pascagoula for interpretation included: 84 cloud cover observations, 41 XBT drops, 57 CTD temperature salinity profiles, 26 secchi disc readings, 28 water color measurements, 12 niskin bottle casts, 435 surface chlorophylls, 169 salinity samples, and 162 dissolved oxygen measurements.

Bongo samples were sent to Miami for shipment to the Polish Sorting Center. Neuston samples were sent to GCRL for archiving (947 micron net samples) and to the NMFS Panama City Laboratory for sorting and identification (707 micron net samples).

Two trawl stations in 225 to 232 fathoms were completed at the end of the first leg. Deep water specimens were collected for housing in the Florida State Museum at the University of Florida.

Several whale sightings were made during the cruise. These included: April 29, 26°00' N. and 88°00' W., six large unidentified whales; April 30, 26°35' N. 87°00' W., three false killer whales (Pseudorca crassidens) 18-22 feet long rode the bow wave for approximately ten minutes; May 14, 26°00' N. and 88°00' W. a sperm whale (Physeter catodon) was sighted 50 feet from the ship; April 16, 29°10' N. and 87°00' W. a large herd of unidentified whales was spotted a mile from the ship.

Cruise Participants

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Patricia Hernandez-Cardero, Cooperator, Mexico 4/22-5/23/86
Alan Collins, Fishery Biologist, Panama City, FL 4/22-5/7/86
Caroline Rogers, Cooperator, Pascagoula, MS 5/8-17/86

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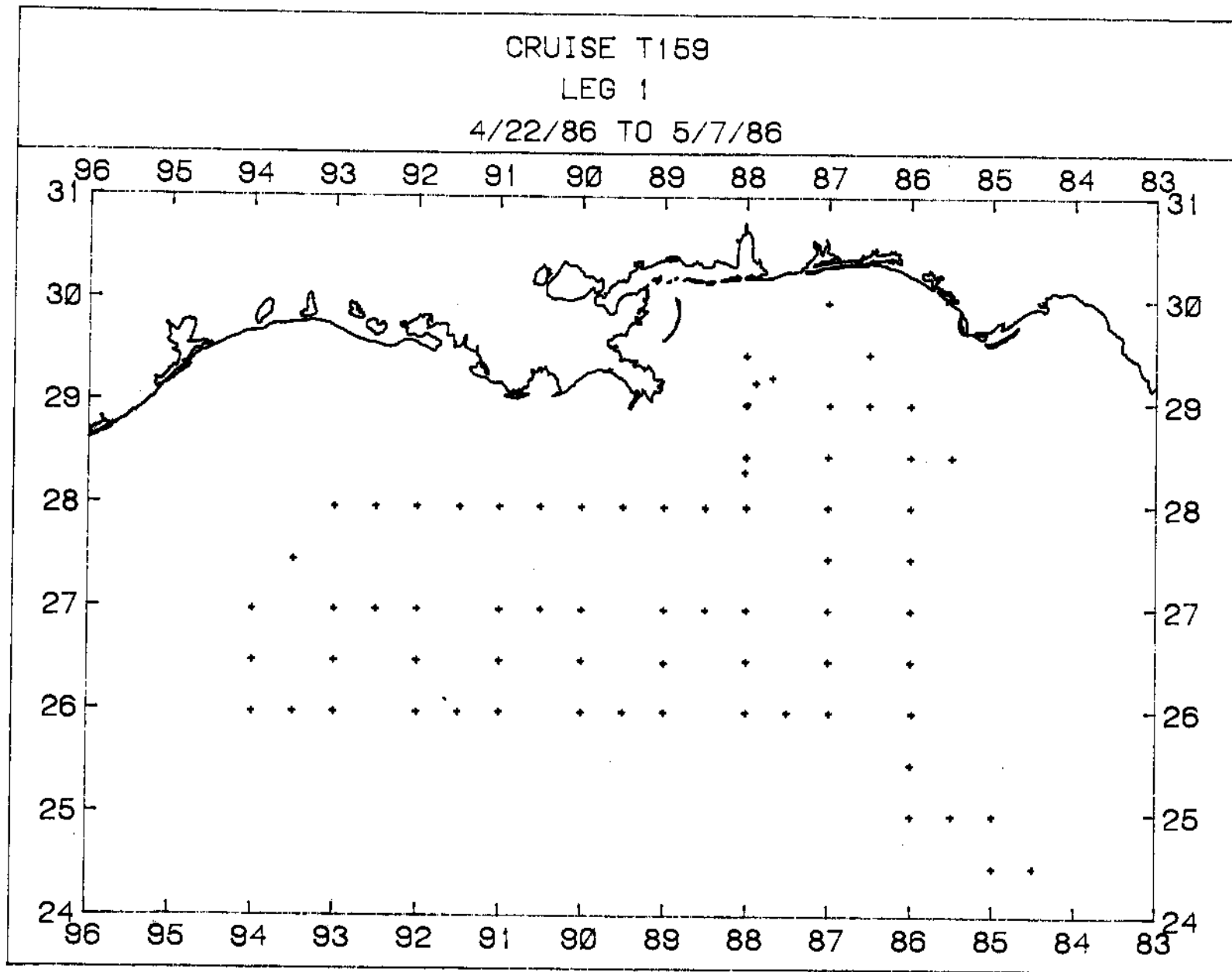


Figure 1.

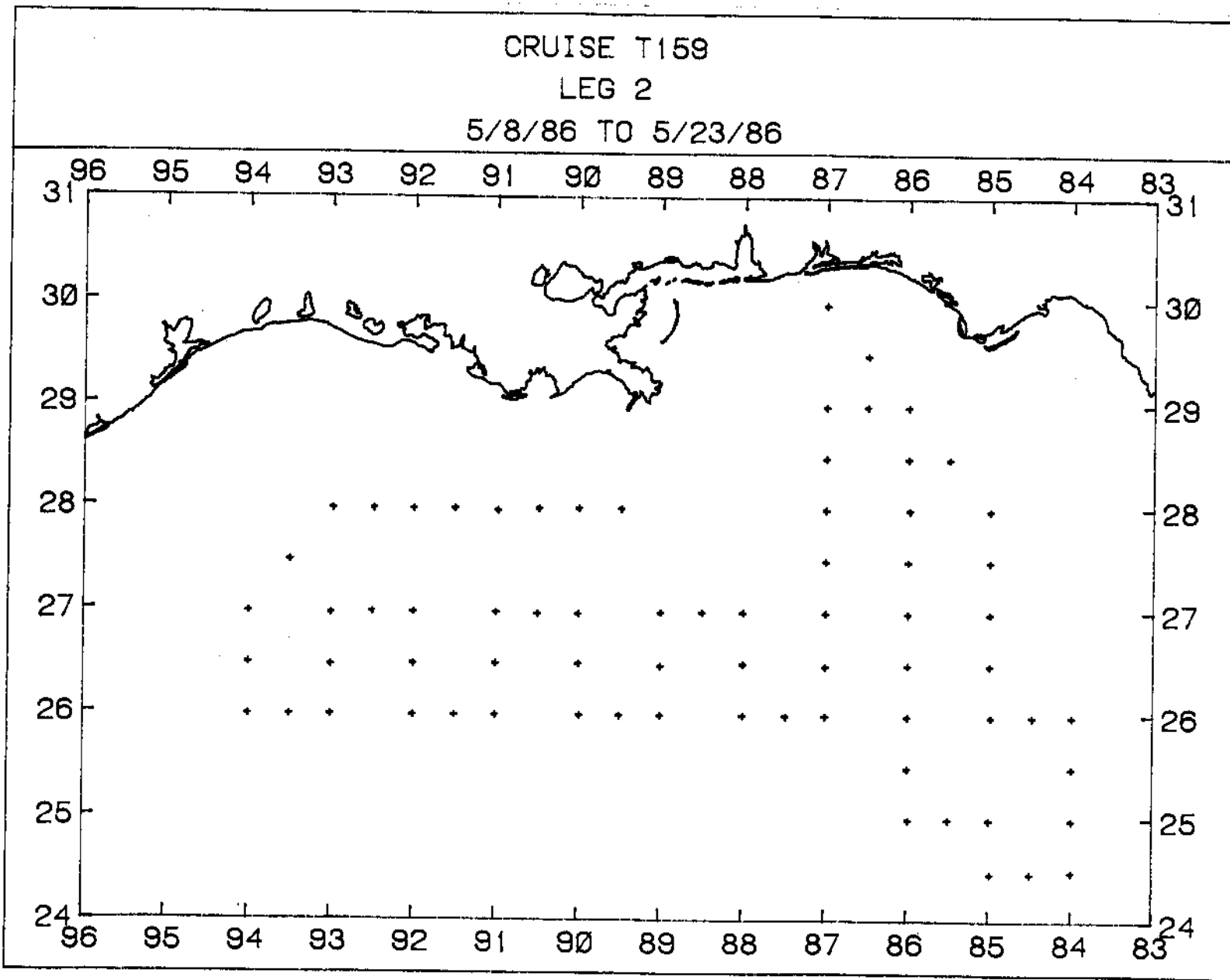


Figure 2.