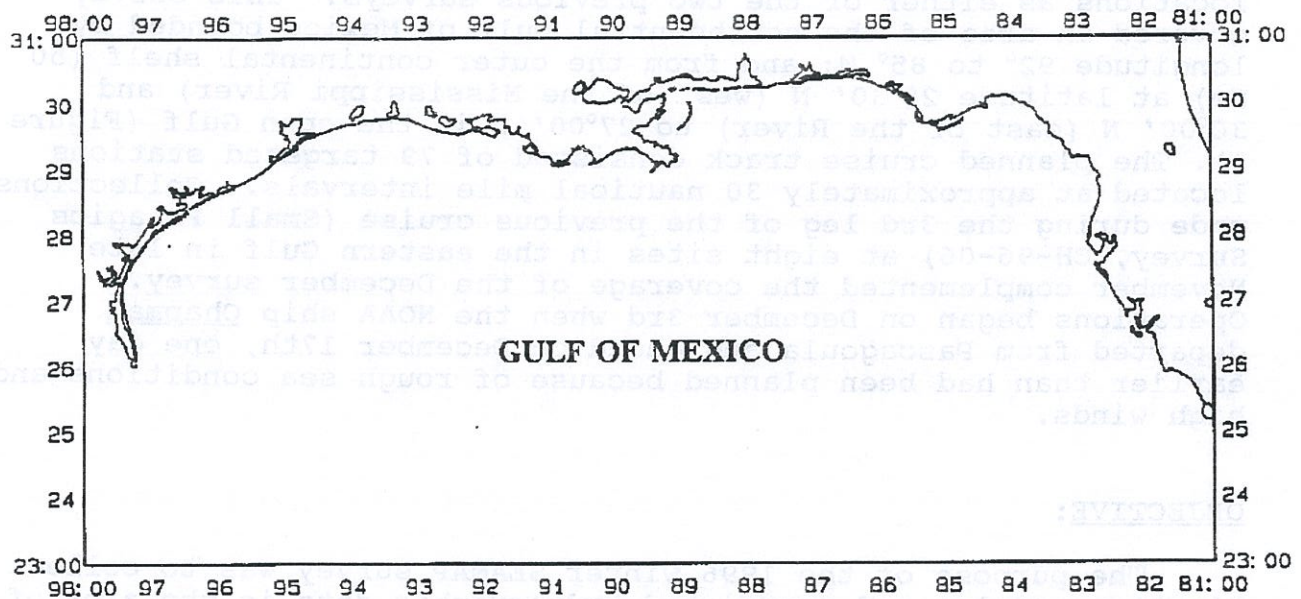


CRUISE RESULTS

Southeast Area Monitoring and Assessment Program (SEAMAP) Winter Plankton Survey

NOAA Ship CHAPMAN Cruise CH-96-07 (77)
12/03-17/96



U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
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CH-96-07
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Chapman Cruise CH-96-07 (77)
December 3 - 17, 1996

INTRODUCTION

Prior to cruise CH-96-07 there had been only two, SEAMAP wintertime plankton surveys in offshore waters of the Gulf of Mexico in the month of December; once in 1983 and again in 1984. The 1996 survey yielded observations from over twice as many locations as either of the two previous surveys. This survey covered an area of the northcentral Gulf of Mexico bounded by longitude 92° to 85° W; and from the outer continental shelf (50 fm) at latitude 28°30' N (west of the Mississippi River) and 30°00' N (east of the River) to 27°00' N in the open Gulf (Figure 1). The planned cruise track consisted of 79 targeted stations located at approximately 30 nautical mile intervals. Collections made during the 3rd leg of the previous cruise (Small Pelagics Survey, CH-96-06) at eight sites in the eastern Gulf in late November complemented the coverage of the December survey. Operations began on December 3rd when the NOAA ship Chapman departed from Pascagoula and ended on December 17th, one day earlier than had been planned because of rough sea conditions and high winds.

OBJECTIVE:

The purpose of the 1996 winter SEAMAP survey was to collect plankton samples and associated hydrographic data in the area of the northcentral Gulf where striped mullet spawning is known to occur.

MATERIALS AND METHODS:

Station operations followed standard SEAMAP procedures as described in the SEAMAP Operations Manual. At each station (as sea conditions permitted) plankton samples were taken with a 61 cm mouth diameter, bongo net fitted with 0.335 mm mesh nets and a 1 x 2 m neuston net made of 0.950 mm mesh netting. Additionally for this survey, at selected stations a second neuston sample was taken using a 1 x 2 m neuston net frame that carried a 0.335 mm mesh net instead of the standard SEAMAP, 0.950 mesh net. The

oblique bongo net hauls were made to a depth of 200 m or less depending on station depth. Neuston tows were made for 10 min or less if large quantities of sargassum weed or other floating materials were present. An Seabird SBE-19 SEACAT PROFILER (Seacat) was used to fish the bongo net in real-time, as well as, to provide a profile of temperature and salinity for each tow.

Vertical profiles of sea temperature, conductivity (converted to salinity), dissolved oxygen, transmissivity, and fluorescence (measure of chlorophyll a) were made with a Seabird SBE-25 Sealogger CTD unit at each station as sea conditions permitted. Reference water samples (for analysis onshore) or at sea measurement for salinity (surface, mid, and maximum depth), dissolved oxygen (mid or maximum depth) and chlorophyll a (spectrophotometric analysis, surface only) were taken with niskin bottles on a rosette once a day at the station nearest midday (1200 hrs).

Plankton samples were initially preserved in either 5-10% formalin or 95% ethanol. The formalin fixed samples were then transferred after 48 hrs to 95% ethanol.

RESULTS:

Plankton collections were taken at 73 stations during the fourteen operational days of this survey (Figure 1). This total includes collections at two sites (out of eight) where samples had also been taken in November during the previous cruise (CH-96-06). One bongo and one or two neuston samples were taken at each station except in two instances when sea conditions only permitted neuston tows (Table 1). Environmental data collection (including the SBE-19 profiles associated with bongo net hauls) are summarized in Table 2.

Table 1. Summary of ichthyoplankton samples collected during Chapman cruise 96-07, December 3 - 17, 1996.

GEAR	Number of Samples
Bongo (right/left)	71/71
Standard Neuston	73
Finemesh Neuston	24

Table 2. Summary of environmental data collected during Chapman cruise 96-07, December 3 - 17, 1996.

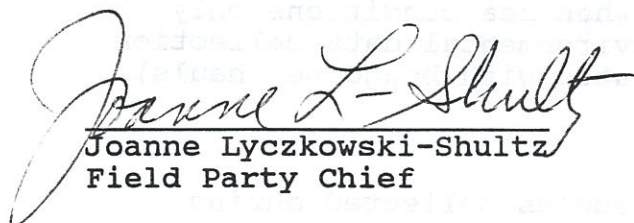
Sample or Measurement	Number
Reference surface chlorophyll	12
Reference Salinity: surface, mid and maximum depth	12;9;11
Dissolved Oxygen Measurement: surface, mid and maximum depth	3;5;7
CTD (SBE-25) Profile	48
Seacat (SBE-19) Profile	70

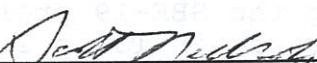
CRUISE PARTICIPANTS:

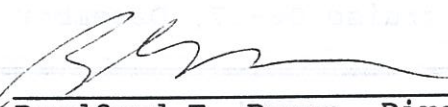
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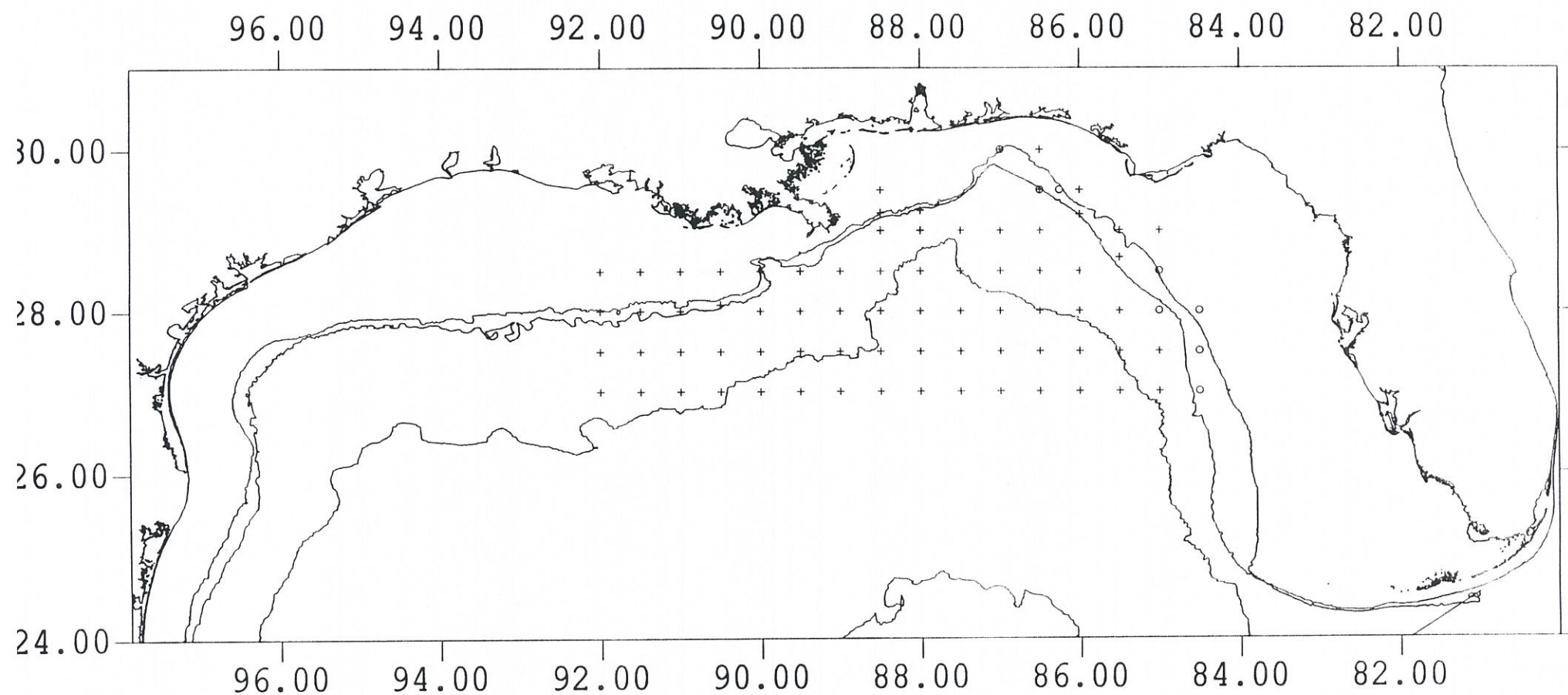


Figure 1. Location of sites where plankton collections were taken and environmental measurements were made during cruise CH-96-06 (open circles) in late November 1996; and CH-96-07 (crosses), December 3-17, 1996.