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In Admin " R. Bailey

86012

Cruise Report

Vessel: Fishing vessel Mary Louise 86-2

Dates: Depart Woods Hole July 20, 1986
Return Woods Hole July 22, 1986

Personnel: Brad Butman
John Moody

Objective: The Mary Louise cruise was to recover USGS mooring 301, deployed in Rodgers Pass in the Gulf of Maine. It was planned to recover the mooring in June from the R/V GYRE. The release indicated it had let go, but the mooring did not come up. This "rescue" cruise was designed as a two ship operation. Page Valentine agreed to dive on the mooring with the Johnson Sea Link on the first day of his Georges Bank cruise. The Mary Louise would pick up the mooring if the submarine could find and successfully release it. If not, the Mary Louise was equipped to drag for the mooring.

Narrative: July 20, 1200 Depart Woods Hole

July 21, 0400 Arrive mooring site
Range to mooring
0800 Johnson Sea Link dive
1000 Recover mooring
1100 Under-way to Woods Hole

July 22, 0300 Arrive Woods Hole

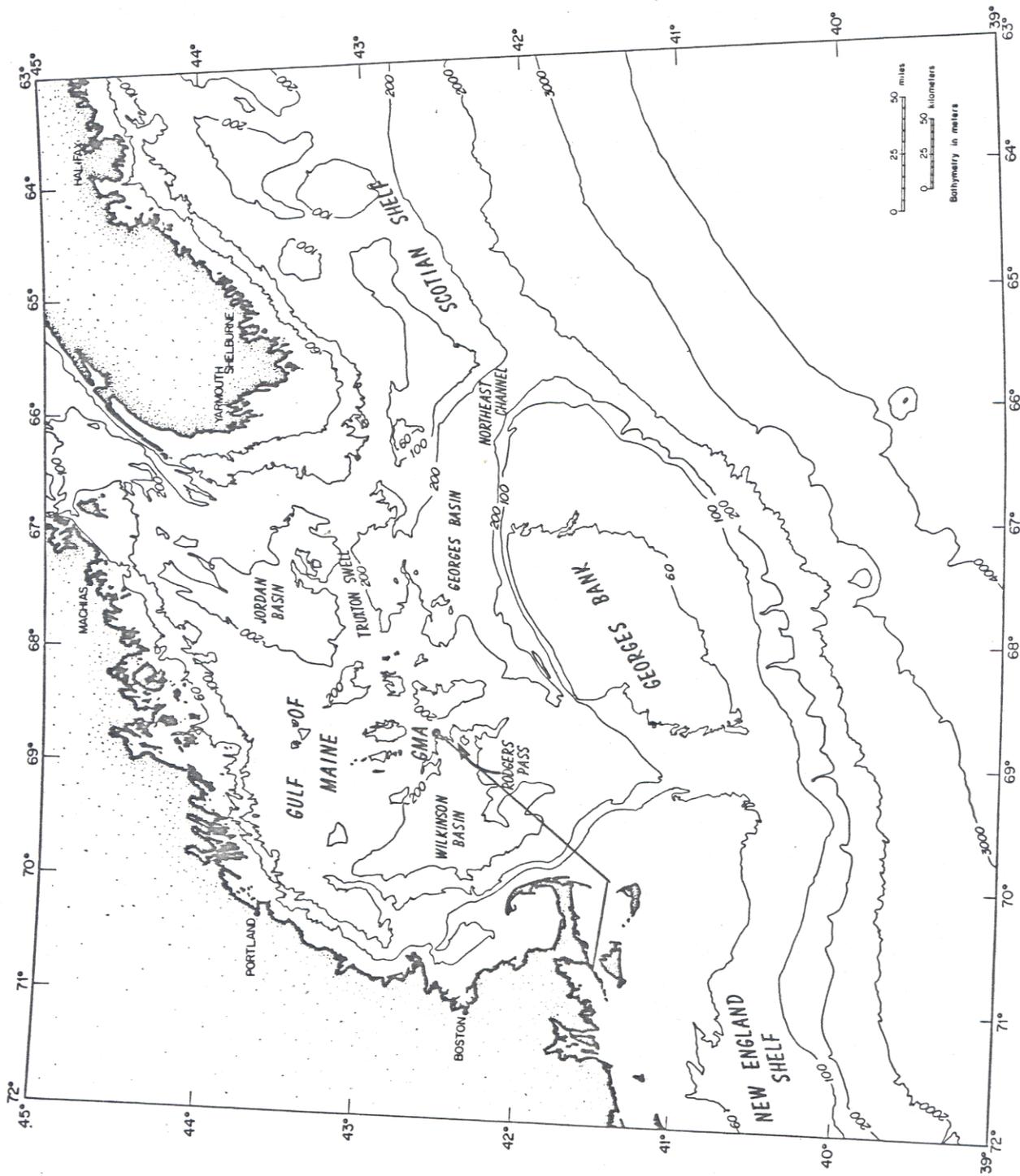
Highlights: The Johnson Sea Link was able to locate the current mooring using sonar. They carefully inspected the instrument string, and then released the anchor by jerking the mooring chain below the acoustic release. As indicated by the acoustic reply, the release mechanism had turned, but the mechanical linkage was somehow fouled. All instruments and an array of sediment traps were successfully recovered.

Preliminary processing of the data indicate that both vector Averaging Current meters functioned for the entire one-year period. There is a steady flow of slope water westward into Wilkinson Basin which is apparently strongest in late summer and early fall. Further analysis should indicate the variability of the deep flow in the Gulf of Maine, and some of the processes which drive it.

The acoustic release and mechanical mechanism have been carefully examined to determine the cause of the release failure. Videotapes show some biological growth on the mechanism and there was some oxide accumulation between the drop-link and the tension arm bar which may have kept the bar

from pulling free. In addition, the tension rod and mechanism was a copy of the EG&G mechanism, machined by Kingston Manufacturing. The copy was slightly different from the EG&G original; all mechanisms are being remachined to exactly match EG&G drawings.

The use of JSL to recover the mooring was extremely successful. We knew the mooring location to about 100 m, and flotation to bring the mooring to the surface was intact. Release of the mooring by JSL ensured that all instruments were recovered; fragile sediment traps on the mooring wire would have been destroyed by dragging. In addition, the mooring line is often cut during dragging and only some of the instrumentation recovered. Visual inspection of the release was extremely useful to determine the cause of release failure.



Cruise track for Mary Louise, July 20-22, 1986.