

CRUISE REPORT

R/V TRIDENT
CRUISE TR-24

28 June - 2 July 1965

A five-day cruise for Oceanography 390 commenced at 1000 on 28 June 1965 and returned at 1400 on 2 July. The cruise worked on the southern New England continental shelf, continental slope and upper continental rise.

The Scientific Party was composed of the following:

D. Krause	Faculty Advisor
J. Frey	Assistant to Advisor
M. Chramiec	Student Cruise Leader
L. Alzara	Biology
J. Fish	"
L. Igniatades	"
J. Pesch	"
R. Wilcox	"
L. Huff	Physical Oceanography
B. McGregor	Geology
G. Walsh	Ocean Engineering

SUMMARY OF EXPERIMENTS

1. BIOLOGY

(a) L. Alzara - Zooplankton Sampling

Zooplankton samples were taken in shallow water during daylight and after sunset, and in deep water during the day. The deep sample went to the bottom due to miscalculation, but was recovered and provided many interesting specimens.

KRAUSE

TR-024

(b) J. Fish - Whale Sound Recordings, Meter Net Tow-Deep

Whale sounds were satisfactorily recorded on several different occasions. A meter net was towed at approximately 1000 meters and provided samples.

(c) L. Igniatades - Phytoplankton Sampling

Surface phytoplankton collections were made over shallow water and deep water during daylight and after sunset.

(d) J. Pesch - Midwater Trawl

The attempted mid-water trawl was not successful as the depressor somehow inverted closing the mouth of the net.

(e) R. Wilcox - Neuston Tow

Several successful tows were made and some interesting larvae, including possible lobster larvae, were collected.

2. PHYSICAL OCEANOGRAPHY

(a) L. Hull -- Thermal Structures were studied by making repeated BT casts in the same area over a time span. Marked changes in thermal profiles were observed over short time intervals. Some possible instabilities were observed.

(b) L. Huff - Echo Studies

During the Pinger Experiments recordings were made of the direct and bottom bounce pinger signals for later comparison and deduction of bottom effects on the signal.

3. GEOLOGY

(a) B. McGregor - Survey of Hydrographer Canyon

A bottom profile of Hydrographer Canyon was taken using the EDO UQN fathometer and the ALPINE PFR recorder.

(b) D. Krause - Core Sample

A gravity core sample was obtained from the Veatch Canyon Area.

4. OCEAN ENGINEERING

(a) G. Walsh - Pinger Experiments

An attempt was made to key the Pinger with a signal from the PFR in order to obtain a higher resolution synchronized trace of the bottom over Hydrographer Canyon. The inductance of the two conductor hydro-wire and the shape of the keying pulse were not compatible thus preventing this keying mode, however a profile of the canyon was made using the Pinger in normal mode.

5. GENERAL OCEANOGRAPHY

Hydrocasts were made at four stations. The first three stations consisted of single casts and used standard spacing and bottle arrangement. At the fourth station three casts were made in quick succession and were interlaced with BT casts. This was done in an attempt to verify the apparent instabilities in the BT information. The bottle spacings were short and single thermometers were used in most bottles.

Salinities were measured in all the hydrocasts; other quantities were taken where individual experiments required them.

SCHEDULE OF MAJOR EVENTS

<u>Date</u>	<u>Time</u>	<u>Event</u>
28 June	1000	Underway
	1900	Arrived Station One, 40°04'N. - 71°12'W.
		Hydrocast One
		Sampled Zooplankton
		Sampled Phytoplankton
		Two Neuston Tows

<u>Date</u>	<u>Time</u>	<u>Event</u>	
29 June	0900	Arrived Station Two 40°01'N-69°40'W.	
		Recorded Whale Sounds	
		Sampled Zooplankton	
		Sampled Phytoplankton	
		Neuston Tow	
	1200	Attempted one gravity core	
	1600	Hydrocast Tow	
30 June	0200	Arrived Station Three 40°10'N-69°04'W.	
		Commenced Bottom Survey of Hydrographer Canyon	
		0800	Commenced Pinger Experiments
			Commenced Pinger Echo Recordings
		Ran many BT for Thermal Structure Investigation	
		Hydrocast Three	
1 July	0800	Arrive Station Four 39°49'N-70°12'W.	
		Attempted Mid Water Trawl	
1 July	1400	Arrived Station Five 39°21'N-69°58'W.	
		Sampled Phytoplankton	
		Sampled Zooplankton (deep)	
		Neuston Tow	
		Shallow Hydrocasts/BT's	
		Deep Meter Net Tow	
2 July	0200	Secured Experiments	
		Headed for Home	
	1400	Arrived at NML	