



THE UNIVERSITY OF TEXAS

MARINE SCIENCE INSTITUTE
 GEOPHYSICS LABORATORY
 GALVESTON, TEXAS 77550

14 September 1977

700 The Strand
 713 765-2173

RESEARCH CRUISE REPORT

SHIP NAME:

Ida Green

OPERATING INSTITUTION:

University of Texas
 Marine Science Institute

CLEARANCE COUNTRIES:

Honduras
 El Salvador
 Guatemala
 Nicaragua

DATES:

3 April-5 June 1977; 7-15 July 1977

PROJECT TITLES:

- 1) Survey of Middle America Trench
 IPOD Drill Sites
- 2) Tectonics of the Middle America
 Trench

PORTS OF CALL:

Puntarenas	31 March - 3 April
Puntarenas	6 April - 9 April
Acajutla	17 April - 23 April
Acajutla	3 May - 6 May
Acajutla	11 May
Puntarenas	16 May - 17 May
Acajutla	23 May - 26 May

FOREIGN PARTICIPANTS:

German Leandro C.
 Escuela de Geología
 Universidad de Costa Rica
 San José, Costa Rica
 Alberto Horacio Comínguez and
 J. Hector Sandoval:
 Centro de Ciencias del Mar y Limnología
 Ciudad Universitaria
 México 20, D.F., México
 José Bustamante
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 San Salvador, El Salvador, C.A.

SENIOR SCIENTISTS:

Joel S. Watkins
 John W. Ladd
 Mark H. Houston
 Gary V. Latham

DESCRIPTION OF SCIENTIFIC PROGRAM:

The scientific program offshore Central America was designed to investigate the geology of the continental shelf and slope. The continental shelf between the Nicoya Peninsula of Costa Rica and the Gulf of Tehuantepec of Mexico is approximately 30 nautical miles wide and is underlain by a thick basin of mildly deformed sediments that are apparently ponded behind a structural high at the seaward edge of the shelf. From the shelf edge the seafloor slopes down to the Middle America Trench (MAT). This continental slope is underlain by a thick wedge of highly deformed sediments that thins seaward to the MAT where there is very little sediment.

DESCRIPTION OF SCIENTIFIC PROGRAM, continued:

Our data collection was designed to investigate the present structure within these major geologic units and to determine their tectonic history. It has been suggested that the deformed sediments of the continental slope are accumulated during a process of subduction in which the ocean floor west of the MAT slips eastward beneath Central America causing earthquakes and volcanoes. We are looking for evidence of this subduction process within the sediments of the continental margin.

OBSERVATIONS AND SAMPLES:

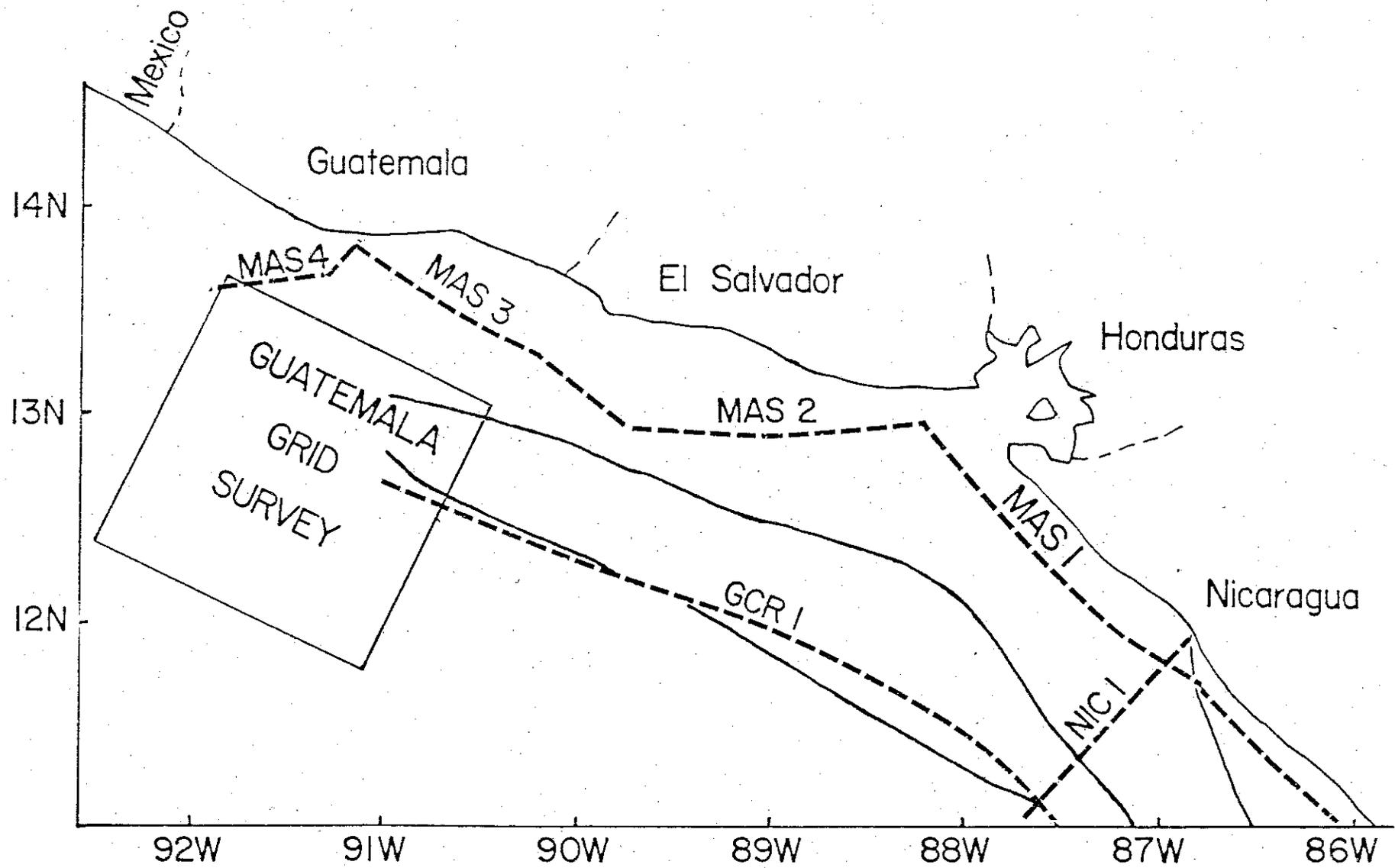
Data: 1800 n.m. of deep penetration multichannel seismic reflection data with magnetics and bathymetry collected simultaneously along dashed track line and in Guatemala survey grid plus an additional 400 n.m. of bathymetry and magnetics along regional lines between Guatemala grid and Costa Rica (see accompanying charts).

In Guatemala grid survey area we took 24 piston cores, deployed 4 ocean bottom seismometers (OBS's) which were left on the sea floor for 1 month, and shot 5 seismic refraction lines using OBS's (see accompanying track charts).

Location and Custodian: See letterhead address.

NAME AND ADDRESS OF CONTACT TO WHOM INQUIRIES REGARDING CRUISE SHOULD BE MADE:

John W. Ladd
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- multichannel seismic reflection
- bathymetry and magnetics only

