WHOI-83-15

Woods Hole Oceanographic Institution

THE IMPACT OF THE LAW OF THE SEA CONFERENCE ON U.S. MARINE SCIENTIFIC RESEARCH REPORT ON A QUESTIONNAIRE

by

David A. Ross, Rosamund C. Ladner
and
Julie A. Early

May 1983

TECHNICAL REPORT

Funding was provided by the Pew Memorial Trust, the Department of Commerce, NOAA, Office of Sea Grant under Grant NA80-AA-D-00077 (E/L-1), and the Woods Hole Oceanographic Institution's Marine Policy and Ocean Management Program.

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Approved for Distribution: David A. Ross

David A. Ross, Director
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Abstract

Because of the Law of the Sea Conference and other factors there recently has been a continuing expansion in the legal, economic, and scientific control over the ocean by coastal countries. This paper presents the results of a questionnaire survey mailed to U.S. marine scientists, soliciting their experiences during the last decade in conducting research in the coastal waters of foreign countries and their expectations for the future. Tables present the countries where research had been conducted, methods of and difficulties in obtaining clearance from foreign governments, the affect of foreign rules on design, planning and execution of research, and areas of interest for future research. Fifty-eight percent of the seventy-two respondents (136 originally sent) had encountered difficulties in obtaining permission to work in foreign coastal waters. Forty-nine percent anticipate that Law of the Sea Treaty requirements may cause such problems for them in the future. The respondents made comments and recommendations bearing on future U.S. marine research in foreign waters. One set of tables presents results for the total group; another set presents results for subgroups of those in particular scientific disciplines.

Introduction

In last few years there has been an increase in the legal, economic and scientific control over the coastal ocean by many countries. To a large degree this was driven by the Third United Nations Conference on the Law of the Sea (UNCLOS III) and by marine territorial expansion by certain coastal countries. One result is a new regime (generally called the "consent regime") for marine scientific research. Rules, sometimes unclear, are proposed for six specific marine areas: (1) a 12 mile territorial sea; (2) a 200 mile exclusive economic zone (EEZ); (3) certain regions where the continental shelf (legal sense) extends beyond 200 nautical miles; (4) international straits; (5) archipelagic waters; and, (6) the remaining part of the ocean - called the "Area" (see Articles 238 to 265 in UN, 1982). Some feel that these "rules" have already reached the situation where they can be considered as international law. Indeed, about 60 states have already adopted some form of legislation concerning marine scientific research in their waters (including a 200 mile EEZ). These legislations which vary would become fairly uniform if the Law of the Sea Treaty is adopted. Ultimately, marine scientific research in about 42% of the ocean (i.e., "foreign waters") can be affected by the consent regime (see Ross and Knauss, 1982 for specific implications).

For the U.S. oceanographer interested in working in these now "foreign waters" there can be several problems. However, one, the potentially confusing situation due to the United States' position against the Law of the Sea Treaty, has been somewhat ameliorated because of the recent U.S. Presidential Proclamation of a U.S. Exclusive Economic Zone (March 10th 1983) and some pending legislation (the Exclusive Economic Zone Implementation Act H.R. 2061 and the International Marine Scientific Research Act H.R. 703) introduced in the 98th Session of Congress. Material accompanying the

Presidential Proclamation will now allow the U.S. State Department to request permission for scientific research in other countries' EEZ's, but limits such permission requests to "reasonable conditions". In the past the U.S. only recognized science control within a 3 mile territorial sea and on the seabed of the continental shelf. In addition, the President in his actions of 10 March also encouraged establishment of bilateral marine scientific arrangements between certain states, a new type of arrangement whose actual impacts (cost, time, etc.) are often unclear (OPC, 1981).

Discussions of LOS problems have been held within various forums, such as the Ocean Policy Committee and Ocean Science Board (now called the Board on Ocean Science and Policy) of the National Academy of Sciences, within funding agencies such as the National Science Foundation and the Office of Naval Research and in the literature. One concern is if individual scientists actually are now willing to go through the legal and political difficulties in hope of developing a cooperative marine program in some countries' "foreign waters". It is generally perceived that UNCLOS III and the continuing foreign expansion of marine jurisdiction have indeed impacted U.S. marine science and scientists, although there are few specific studies that focus on this point. One that did is Wooster, 1981 who showed that there has been an increase in denials for U.S. scientists to work in areas under foreign jurisdiction. In an effort to get a better appreciation for the feelings of U.S. marine scientists toward working in foreign waters (here simply defined as a 200 mile EEZ) over the last decade and their expectations for the future, a questionnaire (Appendix 1) was sent to 136 marine scientists and administrators. The choice of individuals receiving this questionnaire came from a listing of recent sea-going scientists supplied by UNOLS (University National Oceanographic Laboratory System - a ship coordinating group involving

U.S. Universities and Institutions) and a selection from a recent listing of marine scientists in the United States (Vetter, 1982). The objective of this report is to present the main results of this questionnaire; a more detailed paper is in preparation concerning the implications of the data.

Results

Of the questionnaires sent out, 72 or 53% were returned, and 67 or 93% of the individuals had conducted, within the last decade, marine scientific research within what would now be classified as the 200 mile exclusive economic zone of some foreign nation. Table 1 shows the countries where the research was conducted. It should be noted that research may have been conducted in more than one country by an individual within the last ten years; actually only 19% of the respondents conducted research in one country. In total, there were 266 different research efforts by the 67 scientists. The main areas of work were the waters off Mexico, the Bahamas, Canada, Peru, Ecuador, Brazil, Chile and Cuba.

We, of course, were interested in how permission was obtained for these research efforts. Forty-seven individuals indicated that they had asked the State Department for some or all of their permission requests. Thirty respondents indicated that some of their requests had been made privately, and twenty seven said they conducted their research without clearance. This last number deserves some clarification since during the time period covered by this questionnaire, permission was not always required to work in some of these waters. (It was required, however, for countries like Peru, Ecuador and Chile, but the U.S. State Department did not recognize such claims.) Of those respondents indicating that they had worked in foreign waters, 35 indicated problems in getting research clearance, whereas 25 said they did not encounter

such problems. Although all did not respond to this question it seems significant that 35 respondents or 52% did have some form of difficulty. Some of the types of difficulties are listed in Table 2. Of the 5 respondents who had not done research in foreign waters, 3 said that international factors, operating costs, etc., discouraged them from doing such research.

The respondents were asked if their research interests are such that they would hope to work in foreign waters in the future. Sixty-one (86%) of the respondents indicated in the affirmative; 10 (14%) indicated 'no'. Seven individuals who have worked in foreign waters in the past are not planning to do so in the future, while two who have not worked in foreign waters would like to do so. We asked those who were interested in working in foreign waters what areas of the world they would like to work in. These results are summarized in Table 3.

Of the ten who are not interested in future work in foreign waters, 2 indicated lack of funding as a reason, 4 - clearance problems, 1 - sharing data requirements, 1 had military security constraints, and 7 had research interests which would not require work in foreign waters. Forty-six percent (33) of the respondents thought that the Law of the Sea requirements would prohibit or discourage them from conducting research or obtaining necessary support in the future. Forty-two percent (30) did not think this would be a problem; 4 respondents did not know; five did not respond to this question.

Another question focussed on whether the current legal regime or foreign rules have affected their research, and if so, how. We were especially concerned as to impact on design and execution. The results of this question are given in Table 4.

The questionnaire then asked if it was thought that the consent regime (i.e., the Law of the Sea Treaty) would in the future either begin or continue

to affect their research operations. Fifty-four or 75% said yes, 11 or 15% said no, 5 or 7% did not know, and 2 or 3% did not answer.

Among those that felt that there would be an impact, 41 (76%) indicated that they thought their planning would be affected, 46 (85%) thought clearance would be affected, 28 (52%) were concerned about cost, and 37 (69%) were worried about the geographical location of their work. Respondents were given an opportunity to suggest recommendations that could bear on U.S. scientific research in foreign waters. The responses here were of course variable and not all of them were even printable. Some of them are indicated on Table 5.

Respondents were also given an opportunity to add specific comments, successes or past histories; 29 took the opportunity to do so. Their responses can be summarized as follows: 5 offered positive comments, 2 gave negative anecdotes, 12 urged that scientists cooperate and communicate with their foreign colleagues, and 10 gave names of particular people and studies.

Finally we asked the respondents to describe their main field of interest (Table 6) and compared the previous responses with field of interest (Tables 7-16).

Acknowledgements

We would like to thank Maynard Silva and Monique Trainor who advised on the form of the questionnaire and Captain William Barbee, Executive Secretary of UNOLS for providing a listing of recent U.S. sea going scientists.

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TABLE 1. AREAS WHERE U.S. MARINE SCIENTISTS HAVE WORKED IN THE LAST DECADE (266 responses from 67 individuals)

	% of individuals	Number of Responses	% of total Responses
Europe	1.6	1	0.4
Mideast	3.2	2	0.8
SW Africa	1.6	1	0.4
Other	3.2	2	0.8
Argentina	6.3	4	1.5
Australia	6.3	4	1.5
Bahamas	22.2	14	5.3
Barbados	6.3	4	1.5
Belize	3.2	2	0.8
Bermuda	7.9	5	1.9
Brazil	14.3	9	3.4
Bulgaria	1.6	1	0.4
Canada	17.5	11	4.1
Chile	12.7	8	3.0
China-PR	4.8	3	1.1
Colombia	4.8	3	1.1
Costa Rica	6.3	4	1.5
Cuba	12.7	8	3.0
Dom Rep.	3.2	2	0.8
Ecuador	17.5	11	4.1
Egypt	4.8	3	1.1
Ethiopia	1.6	1	0.4
France	11.1	7	2.6
Greece	4.8	3	1.1
Guyana	1.6	1	0.4
Haiti	7.9	5	1.9
Iceland	3.2	2	0.8
India	3.2	2	0.8
Indonesia	1.6	1	0.4
Ireland	1.6	1	0.4
Israel	3.2	2	0.8
Italy	9.5	6	2.3
Ivory Coast	3.2	2	0.8
Jamaica	7.9	5	1.9
Japan	6.3	4	1.5
Libya	3.2	2	0.8
Malaysia	1.6	1	0.4
Malta	1.6	1	0.4
Mauritania	3.2	2	0.8
Mexico	31.7	20	7.5
Morocco	4.8	3	1.1
Nicaragua	1.6	1	0.4
Nigeria	4.8	3	1.1
New Guinea	1.6	1	0.4
New Zealand	4.8	3	1.1
Norway	4.8	3	1.1

TABLE 1. AREAS WHERE U.S. MARINE SCIENTISTS HAVE WORKED IN THE LAST DECADE (266 responses from 67 individuals) (Con't.)

Pakistan	1.6	1	0.4
Panama	11.1	7	2.6
Peru	15.9	10	3.8
Portugal	6.3	4	1.5
Spain	4.8	3	1.1
S. Africa	7.9	5	1.9
Saudi Arabia	1.6	1	0.4
Saint Lucia	1.6	1	0.4
Senegal	3.2	2	0.8
Sri Lanka	1.6	1	0.4
Suriname	3.2	2	0.8
S. Korea	1.6	1	0.4
Tanzania	1.6	1	0.4
Tahiti	4.8	3	1.1
Trin. & Tobago	3.2	2	0.8
Turkey	3.2	2	0.8
United Arab Emir	1.6	1	0.4
United Kingdom	9.5	6	2.3
Uruguay	1.6	1	0.4
USSR	4.8	3	1.1
Venezuela	9.5	6	2.3
Yugoslavia	1.6	1	0.4
Caribbean	9.5	6	2.3
Pac. Islands	9.5	6	2.3
N. Africa	3.2	2	0.8
Mediterr.	4.8	3	1.1
Taiwan	1.6	1	0.4
		266	100%

TABLE 2. TYPES OF DIFFICULTIES ENCOUNTERED BY U.S. MARINE SCIENTISTS IN OBTAINING PERMISSION (Countries and Incidents are Noted)

DELAYS:	Brazil (2) Ecuador (2), Indonesia (1), Mexico (9), U.K. (1), Venezuela (2)
PERMISSION DENIED:	Argentina (1) Trinidad & Tobago (1) Mexico (1)
RECEIVED NO ANSWER:	Cuba (1)
CANNOT ENTER 200 MILE ZONE WITHOUT ADVANCE PERMISSION:	Brazil (1)
LONG LEAD TIME:	Brazil (1)
EXTENSIVE INFORMATION REQUIRED:	Ecuador (2), Indonesia (1)

OTHER:

1) U.S. State Department did not make request in time could not work within 12 miles.....BAHAMAS

2) call suggesting that we get permission next time.....CANADA

3) problem getting permit because of territorial waters claim difference.....ICELAND

4) did not receive reply in time to do scheduled work...MEXICO

5) unstable U.S. relations.....SOMALIA

6) demanded more berths than were actually used as condition for clearance.....VENEZUELA

7) communication problems.....MEXICO

8) U.S. State Department does not operate in line with foreign scheduling requirements.....USA

TABLE 3. AREAS OF FUTURE INTEREST FOR U.S. MARINE SCIENTISTS

	% of individuals	Number of responses	% of Total Responses
South America	50%	36	24%
Central America	39%	28	19%
Europe	21%	15	10%
Caribbean	21%	15	10%
Asia	19%	14	9%
Africa	17%	12	8%
North Pacific	15%	11	7%
Canada	11%	8	5%
Middle East	8%	6	4%
Others	6%	4	3%
		149	*100%

* Due to rounding, % of total responses does not add exactly to 100%

TABLE 4. HAS THE CONSENT REGIME OR ANY OTHER FOREIGN RULE AFFECTED YOUR RESEARCH IN ANY OF THE FOLLOWING WAYS? (number of respondents)

DESIGN

Yes: (25)

- Delays (4)
- Need 3 mile station (2)
- sites selected (13)
- Add local interests (1)
- Abandon sites (3)
- Contingency plans (1)
- Must plan ahead (1)

PLANNING

Yes: (28)

- Logistics (2)
- Add foreign advisors (4)
- Sites selected (3)
- Delays (5)
- Omit areas (6)
- Contingency plans (3)
- Cannot alter plans (2)
- Need 3 mile station (1)

EXECUTION

Yes: (25)

- Avoid areas (3)
- Delays (3)
- Modify plans (6)
- Without clearance, cannot work (5)
- Cannot alter plans (2)
- Other (6)

TABLE 5. RECOMMENDATIONS FOR FUTURE U.S. WORK IN FOREIGN WATERS

	%	N
COOPERATION, COMMUNICATION AMONG SCIENTISTS:	28%	(13)
BILATERAL AGREEMENTS:	19%	(9)
FUNDING AGENCY NEGOTIATE:	2%	(1)
U.S. STATE DEPARTMENT RESOLVE:	13%	(6)
SIGN TREATY:	6%	(3)
REDUCE DELAYS:	2%	(1)
NO RECOMMENDATION:	13%	(6)
OTHER (TABLE 5A):	47%	(22)

TABLE 5a. RECOMMENDATIONS (AND OTHER COMMENTS) BY RESPONDENTS FOR FUTURE U.S. WORK IN FOREIGN WATERS

Keep the "policy" idiots out of the act.

Maybe the Navy could make contacts for us.

Training and educational aspects of research really do work.

Lead time should be sufficient to avoid delays that may occur because of LOST.

Be more conscientious about fulfilling obligations for reporting results of work to coastal states.

U.S. develop an international cooperative agreement.

Let's try to incorporate local needs into our experiments.

It seems odd that the U.S. is so concerned about freedom to do work in foreign waters, rather than in our own.

Obtain agreements for areas where a lot of work can be done, minimize time on others.

Stop pretending we want to work within 3 miles.

Well covered in previous work by you and your colleagues.

Make personal contacts well in advance of clearance regulations.

Reject the treaty; scrap the UN; bring back gunboat diplomacy.

See my article.

Don't let foreign scientists in our graduate schools.

Don't panic.

Carry out work on board foreign ships.

Carry weapons onboard ship.

Deal with Mexico City well in advance of cruise.

"Foreign office" to expedite international research.

Publication rights spelled out in advance.

TABLE 6. PRINCIPLE FIELD OF INTEREST OF RESPONDENTS (As Indicated By Respondents)

Field	Number	% of total
Geology & Geophysics	8	14
Marine Geology	13	23
Marine Geophysics	6	11
Chemical Oceanographers	8	14
Ocean Engineering	1	2
Biological Oceanography	9	16
Physical Oceanography	9	16
Fishery Science	1	2
Research Vessel Operation	1	2
Geochemistry	1	2
	57	100%

TABLE 7. WAS RESEARCH DONE IN FOREIGN WATERS?

Field	YES	NO
Geology & Geophysics	88% (7)	13% (1)
Marine Geology	92% (12)	8% (1)
Marine Geophysics	100% (6)	0
Chemical Oceanographers	100% (8)	0
Ocean Engineering	100% (1)	0
Biological Oceanography	89% (8)	11% (1)
Physical Oceanography	100% (9)	0
Fisheries	100% (1)	0
Research Vessel Operation	100% (1)	0
Geochemistry	100% (1)	0

TABLE 8: COUNTRY WHERE RESEARCH WAS CONDUCTED

FIELD			
M. Geology (12)	Australia	8%	(1)
	Bahamas	33%	(4)
	Belize	17%	(2)
	Brazil	8%	(1)
	Canada	8%	(1)
	China-PR	8%	(1)
	Cuba	17%	(2)
	Dominican Republic	8%	(1)
	Ecuador	8%	(1)
	France	8%	(1)
	Greece	8%	(1)
	Haiti	17%	(2)
	Iceland	8%	(1)
	Italy	8%	(1)
	Jamaica	17%	(2)
	Mexico	17%	(2)
	Norway	8%	(1)
	Panama	8%	(1)
	Portugal	8%	(1)
	Spain	8%	(1)
	S. Africa	8%	(1)
	Suriname	8%	(1)
	Turkey	8%	(1)
	U.K.	17%	(2)
	Mediterranean	8%	(1)
	Yugoslavia	8%	(1)
	Caribbean	8%	(1)
	North Africa	8%	(1)
M. Geophysics (5)	Australia	40%	(2)
	Brazil	20%	(1)
	China	20%	(1)
	Ecuador	20%	(1)
	France	20%	(1)
	Greenland	20%	(1)
	Iceland	20%	(1)
	Japan	20%	(1)
	Mexico	20%	(1)
	Morocco	20%	(1)
	Norway	20%	(1)
	Pacific Islands	20%	(1)
	Senegal	20%	(1)
	U.S.S.R.	20%	(1)
	Other	20%	(1)

TABLE 8: COUNTRY WHERE RESEARCH WAS CONDUCTED (Con't)

Chem Ocean. (7)	Australia	14%	(1)
	Bahamas	14%	(1)
	Barbados	29%	(2)
	Bermuda	14%	(1)
	Brazil	29%	(2)
	Canada	29%	(2)
	Caribbean	14%	(1)
	Chile	14%	(1)
	Cuba	14%	(1)
	Haiti	14%	(1)
	India	14%	(1)
	Jamaica	14%	(1)
	Mediterranean	14%	(1)
	Mexico	71%	(5)
	Mideast	14%	(1)
	Nigeria	14%	(1)
	Norway	14%	(1)
	Pacific	14%	(1)
	Pakistan	14%	(1)
	Panama	29%	(2)
	Portugal	14%	(1)
	Saint Lucia	14%	(1)
	Tahiti	14%	(1)
	Trin. & Tobago	14%	(1)
	Venezuela	29%	(2)
Ocean Engineer (1)	Bahamas	100%	(1)
	Bermuda	100%	(1)
Geology & Geophysics (7)	Southwest Africa	14%	(1)
	Argentina	14%	(1)
	Barbados	14%	(1)
	Bermuda	14%	(1)
	Canada	43%	(3)
	Chile	29%	(2)
	Cuba	14%	(1)
	Egypt	14%	(1)
	France	14%	(1)
	Greece	14%	(1)
	Indonesia	14%	(1)
	Italy	14%	(1)
	Ivory Coast	14%	(1)
	Libya	14%	(1)
	Mexico	29%	(2)
	Morocco	14%	(1)
	Nigeria	29%	(2)

TABLE 8: COUNTRY WHERE RESEARCH WAS CONDUCTED (Con't.)

	Peru	29%	(2)
	Portugal	14%	(1)
	Spain	14%	(1)
	South Africa	29%	(2)
	U.S.S.R.	14%	(1)
	Caribbean	14%	(1)
	Pacific Islands	14%	(1)
Research Vessel Operation (1)	Mexico	100%	(1)
Geochemistry (1)	Europe	100%	(1)
	Mideast	100%	(1)
	India	100%	(1)
	New Zealand	100%	(1)
	North Africa	100%	(1)
	Pacific	100%	(1)
	Mediterranean	100%	(1)
Fisheries (1)	United Arab Emirates	100%	(1)
	Tanzania	100%	(1)
	Malaysia	100%	(1)
	New Zealand	100%	(1)

TABLE 8. COUNTRY WHERE RESEARCH WAS CONDUCTED (Con't.)

Biol. Oceano. (8)	Bahamas	63%	(5)
	Barbados	13%	(1)
	Bermuda	13%	(1)
	Brazil	13%	(1)
	Canada	13%	(1)
	Chile	13%	(1)
	Costa Rica	13%	(1)
	Ecuador	25%	(2)
	France	13%	(1)
	Guyana	13%	(1)
	Ireland	13%	(1)
	Israel	13%	(1)
	Italy	13%	(1)
	Mauritania	25%	(2)
	Mexico	25%	(2)
	Morocco	13%	(1)
	New Guinea	13%	(1)
	Panama	25%	(2)
	Peru	25%	(2)
	Portugal	13%	(1)
	Senegal	13%	(1)
	Spain	13%	(1)
	U.K.	13%	(1)
	Uruguay	13%	(1)
	Caribbean	13%	(1)
	Pacific	13%	(1)
Phys. Oceano (11)	Argentina	13%	(1)
	Bahamas	13%	(1)
	Bermuda	13%	(1)
	Brazil	13%	(1)
	Chile	13%	(1)
	China-PR	13%	(1)
	Colombia	13%	(1)
	Cuba	13%	(1)
	Ecuador	25%	(2)
	France	25%	(2)
	Haiti	13%	(1)
	Italy	13%	(1)
	Jamaica	13%	(1)
	Japan	25%	(2)
	Libya	13%	(1)
	Malta	13%	(1)
	Mexico	13%	(1)
	Nicaragua	13%	(1)
	New Zealand	13%	(1)
	Peru	38%	(3)
	U.K.	25%	(2)
	Venezuela	13%	(1)
	Caribbean	13%	(1)
	Pacific	13%	(1)

TABLE 9. IN TERMS OF MENTIONED RESEARCH: HOW CLEARANCE OBTAINED - % Checked

FIELD	U.S. STATE DEPT.	PRIVATE REQ.	WORKED WITH NONE
Geology & Geophysics	72% (5)	29% (2)	57% (4)
Marine Geology	75% (9)	58% (7)	33% (4)
Marine Geophysics	33% (2)	67% (4)	33% (2)
Chemical Oceanographers	88% (7)	25% (2)	25% (2)
Ocean Engineering	0	0	100% (1)
Biological Oceanography	63% (5)	50% (4)	25% (2)
Physical Oceanography	78% (7)	44% (4)	56% (5)
Fisheries	0	100% (1)	0
Research Vessel Operation	100% (1)	0	0
Geochemistry	100% (1)	0	0

TABLE 10. HAD PROBLEMS GETTING PERMISSION TO WORK

FIELD	%	N
Geology & Geophysics	67%	(4)
Marine Geology	50%	(6)
Marine Geophysics	40%	(2)
Chemical Oceanographers	86%	(6)
Biological Oceanography	38%	(3)
Physical Oceanography	50%	(4)
Research Vessel Operation	100%	(1)

TABLE 11. CLEARANCE PROBLEMS ENCOUNTERED IN SPECIFIC COUNTRIES

FIELD		
M. Geology (5)	DELAYS:	Ecuador 50% (1); U.K. 50% (1)
	RECEIVED NO ANSWER:	Cuba 100% (1)
	OUR STATE DEPT. DID NOT SEND REQUEST IN TIME:	Bahamas 100% (1)
	TERRITORIAL WATERS CLAIM DIFFERENCE:	Iceland 100% (1)
Chemical O. (6)	DELAYS:	Mexico 75% (3); Venezuela 25% (1)
	DENIED PERMISSION:	Trin. & Tob. 100% (1)
	COMMUNICATION PROBLEMS:	Mexico 100% (1)
Biological O. (4)	DELAYS:	Mexico 100% (1)
	DENIED PERMISSION:	Argentina 100% (1)
	CONSTRAINED BY PLANNING AHEAD:	Brazil 100% (1)
	EXTENSIVE INFO. REQUIRED:	Ecuador 100% (1)
Physical O. (4)	DELAYS:	Brazil 50% (1); Mexico 50% (1)
	UNSTABLE U.S. RELATIONS WITH COUNTRY:	Somalia Republic 50% (1)
	DID NOT RECEIVE REPLY IN TIME:	Mexico 50% (1)

TABLE 11. CLEARANCE PROBLEMS ENCOUNTERED IN SPECIFIC COUNTRIES (Con't.)

Geology & Geophysics (6)	DELAYS:	Ecuador	50% (1)
		Indonesia	50% (1)
	DENIED PERMISSION:	Mexico	100% (1)
	EXTENSIVE DATA REQUIREMENTS:	Ecuador	50% (1)
		Indonesia	50% (1)
	CALL SUGGESTING WE GET PERMISSION IN FUTURE:	Canada	100% (1)
M. Geophysics (1)	DELAYS:	Mexico	100% (1)
Research Vessel Operation (1)	DELAYS:	Mexico	100% (1)

TABLE 12. INTEREST IN FUTURE FOREIGN WATER RESEARCH

FIELD	YES	NO
Geology & Geophysics	63% (5)	38% (3)
Marine Geology	92% (12)	8% (1)
Marine Geophysics	100% (6)	0
Chemical Oceanographers	100% (8)	0
Ocean Engineering	0	100% (1)
Biological Oceanography	100% (9)	0
Physical Oceanography	89% (8)	11% (1)
Fisheries	100% (1)	0
Research Vessel Operation	100% (1)	0
Geochemistry	0	100% (1)
Total	(50)	(7)

TABLE 13. AREA OF INTEREST FOR FUTURE RESEARCH

Field	Central America	South America	Europe	Caribbean	Asia	Africa	Pacific	Canada	Mid-East	Others
Geology & Geophysics	40% (2)	60% (3)	20% (1)	0	-	40% (2)	20% (1)	40% (2)	20% (1)	-
M. Geology	33% (4)	42% (5)	25% (3)	33% (4)	25% (3)	25% (3)	17% (2)	17% (2)	17% (2)	08% (1)
M. Geo-physics	33% (2)	50% (3)	50% (3)	17% (1)	33% (2)	33% (2)	33% (2)	-	17% (1)	17% (1)
Physical O.	25% (2)	75% (6)	25% (2)	13% (1)	25% (2)	25% (2)	25% (2)	-	-	13% (1)
Chemical O.	75% (6)	75% (6)	25% (2)	38% (3)	13% (1)	0	-	25% (2)	13% (1)	-
Biologi-cal O.	33% (3)	44% (4)	22% (2)	44% (4)	22% (2)	11% (1)	11% (1)	-	-	-
Fisheries	-	-	-	-	100% (1)	-	-	-	-	100% (1)
Research V. Operations	100% (1)									

TABLE 14. HAS CONSENT REGIME/FOREIGN RULES AFFECTED YOUR RESEARCH? (CON'T.)

FIELD	B) PLANNING	LOGISTICS	ADD FOREIGN ADVISORS	SITES CHOSEN	DELAYS	OMIT AREAS	CONSTRAINED BY PLANNING AHEAD	CONTINGENCY PLANS	OTHER
Geology & Geophysics	60% (3)		33% (1)					33% (1)	33% (1)
M. Geology	36% (4)	25% (1)		25% (1)	25% (1)	25% (1)			50% (2)
M. Geophysics	80% (4)			25% (1)	25% (1)	25% (1)			25% (1)
Chemical O.	63% (5)		20% (1)		20% (1)	40% (2)		20% (1)	20% (1)
Biological O.	38% (3)					33% (1)	33% (1)		
Res. Ves. Oper.	100% (1)							100% (1)	
Geochemistry	100% (1)				100% (1)		100% (1)		
Physical O.	33% (2)		50% (1)						50% (1)

TABLE 14. HAS CONSENT REGIME/FOREIGN RULES AFFECTED YOUR RESEARCH? (CON'T.)

FIELD	C) EXECUTION	NO CLEARANCE, NO WORK	AVOID AREAS	DELAYS	MODIFY PLANS	CONSTRAINED BY PLAN	OTHER
Geology & Geophysics	33% (2)	100% (2)					
M. Geology	27% (3)	33% (1)					67% (2)
M. Geophysics	60% (3)		33% (1)	33% (1)			33% (1)
Chemical O.	25% (2)	50% (1)			50% (1)		
Biological O.	14% (1)		100% (1)				
R.V. Oper.	100% (1)				100% (1)		
Geochemistry	100% (1)					100% (1)	
Physical O.	56% (5)	20% (1)		20% (1)	20% (1)		40% (2)

TABLE 14. HAS CONSENT REGIME/FOREIGN RULES AFFECTED YOUR RESEARCH?

FIELD	A) DESIGN	DELAYS	NEED 3 MILE STATION	SITES CHOSEN	CONSTRAINED BY PLANNING AHEAD	ABANDON SITES	CONTINGENCY PLANS	OTHER
Geology & Geophysics	29% (2)			50% (1)		50% (1)		50% (1)
M. Geology	36% (4)			75% (3)		25% (1)		50% (2)
M. Geophysics	83% (5)	20% (1)		40% (2)		20% (1)		40% (2)
Chemical O.	38% (3)	33% (1)	33% (1)	33% (1)				33% (1)
Biological O.	22% (2)			100% (2)				
Res. Ves. Oper.	100% (1)						100% (1)	
Geochemistry	100% (1)	100% (1)			100% (1)			
Physical O.	29% (2)		100% (2)					

TABLE 15. a. DO YOU EXPECT THE CONSENT REGIME TO AFFECT YOUR FUTURE RESEARCH EFFORT?

FIELD	YES	NO	DON'T KNOW
Geology & Geophysics	100% (8)	0	0
Marine Geology	75% (9)	25% (3)	0
Marine Geophysics	100% (6)	0	0
Chemical Oceanographers	75% (6)	13% (1)	13% (1)
Ocean Engineering	0	100% (1)	0
Biological Oceanography	78% (7)	22% (2)	0
Physical Oceanography	78% (7)	11% (1)	11% (1)
Fisheries	0	0	100% (1)
Research Vessel Operation	100% (1)	0	0
Geochemistry	100% (1)	0	0

TABLE 15 b. WHAT EFFECT DO YOU ANTICIPATE?

FIELD	1) PLANNING OF WORK
Geology & Geophysics	63% (5)
Marine Geology	67% (6)
Marine Geophysics	67% (4)
Chemical Oceanographers	83% (5)
Biological Oceanography	57% (4)
Physical Oceanography	100% (7)
Research Vessel Operation	100% (1)
Geochemistry	100% (1)

	2) ABILITY TO GET CLEARANCE
Geology & Geophysics	88% (7)
Marine Geology	89% (8)
Marine Geophysics	100% (6)
Chemical Oceanographers	100% (6)
Biological Oceanography	71% (5)
Physical Oceanography	57% (4)
Research Vessel Operation	100% (1)
Geochemistry	100% (1)

	3) AFFECT COST
Geology & Geophysics	25% (2)
Marine Geology	33% (3)
Marine Geophysics	83% (5)
Chemical Oceanographers	50% (3)
Biological Oceanography	29% (2)
Physical Oceanography	71% (5)
Research Vessel Operation	100% (1)

	4) GEOGRAPHIC LOCATION
Geology & Geophysics	75% (6)
Marine Geology	78% (7)
Marine Geophysics	83% (5)
Chemical Oceanographers	67% (4)
Biological Oceanography	29% (2)
Physical Oceanography	57% (4)
Research Vessel Operation	100% (1)

TABLE 16. RECOMMENDATIONS

FIELD	NONE	BILATERAL AGREEMENTS	COOPERATION AMONG SCIENTISTS	U.S. STATE DEPT. RESOLVE	SIGN TREATY	REDUCE DELAYS	OTHER
Geology & Geophysics		43% (3)	57% (4)				29% (2)
M. Geology	43% (3)		14% (1)	29% (2)			14% (1)
M. Geophysics	50% (1)		50% (1)				50% (1)
Chemical O.	17% (1)	17% (1)	17% (1)	17% (1)			67% (4)
O. Engineering	100% (1)						
Biological O.		50% (2)	25% (1)	25% (1)	25% (1)	25% (1)	50% (2)
Res. Ves. Oper.							100% (1)
Physical O.		25% (2)	50% (4)	13% (1)	13% (1)		38% (3)

APPENDIX I

MARINE SCIENCE QUESTIONNAIRE

1. In the last decade, have you conducted marine scientific research in waters that are or could be claimed as an economic zone or fisheries zone by a foreign nation (ie., within about 200 miles of a foreign coast)? ____ YES ____ NO

   (a) (IF YES) Off which countries was your research conducted?

   (b) (IF YES) In terms of this research: (Check those which apply)

   Did the U.S. Department of State request clearance for your research? ___

   Did you make private requests? ___

   Did you conduct the research without clearance? ___

   (c) (IF YES) Did you encounter difficulties/problems in obtaining permission from coastal countries to conduct your research? ___YES ___NO

   i. (IF YES) What is the nature of the difficulties you have encountered? With which countries?

2. If you have not conducted research in foreign coastal waters in the past decade, was it because:

   (a) Such research is of no interest to you. ____ YES ____ NO

   (b) You were by international factors (e.g., complexities of distant-water operations, increased operating costs, anticipated difficulties with clearance etc.) discouraged from pursuing such research? ___YES ___NO

1. (IF YES) What were the constraining factors?

(c) The research was precluded by domestic factors (e.g. funding limitations, unfavorable reviews etc.)?

___YES
___NO

3. Is it likely that your research interests will encourage you to work in foreign waters in the near future?

___YES
___NO

(a) (IF YES) Where would you like to work? (Check those which apply and list particular country/countries)

__Central America _____

__South America _____

__Europe _____

__Africa _____

__Middle East _____

__Other _____

(b) (IF NO) Why are you deterred from pursuing such research? (Check those which apply)

Lack funding __

Clearance problems __

Sharing data requirements __

Other _____

4. Do you anticipate that the LOST requirements might prohibit or discourage you from conducting such research or from obtaining necessary financial support within the U.S.?

___YES
___NO

5. Has the consent regime or any other foreign rules affected your research in any/all of the following ways?

(a) Design ___YES ___NO

1. (IF YES) How?

(b) Planning ___YES ___NO

1. (IF YES) How?

(c) Execution ___YES ___NO

1. (IF YES) How?

6. Do you expect that in the future the consent regime will either begin or continue to affect your research efforts?

___YES
___NO

(a) (IF YES) What are the effects you anticipate? (Check those which apply)

Research planning ___

Ability to get clearance ___

Cost ___

Geographic location ___

7. Do you have any recommendations that could bear on future U.S. scientific marine work in foreign waters?

8 Please add any specific comments, successes or past histories that you wish to share (such as reprints, key contacts, procedures, techniques, etc.)

9. If there are any scientists you feel we should send a questionnaire, please list their names and where we might contact them.

10. What describes your main field of interest? (Please check)

Marine Geology __ Biological Oceanography __

Marine Geophysics __ Physical Oceanography __

Chemical Oceanography __ Fisheries Science __

Ocean Engineering __ Marine Policy __

Other __ _____

11. Would you like a copy of our results? ___YES ___NO

(a) (IF YES) Please indicate name and address

May 1982

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16. Abstract (Limit: 200 words)

Because of the Law of the Sea Conference and other factors there recently has been a continuing expansion in the legal, economic, and scientific control over the ocean by coastal countries. This paper presents the results of a questionnaire survey mailed to U.S. marine scientists, soliciting their experiences during the last decade in conducting research in the coastal waters of foreign countries and their expectations for the future. Tables present the countries where research had been conducted, methods of and difficulties in obtaining clearance from foreign governments, the affect of foreign rules on design, planning and execution of research, and areas of interest for future research. Fifty-eight percent of the seventy-two respondents (136 originally sent) had encountered difficulties in obtaining permission to work in foreign coastal waters. Forty-nine percent anticipate the Law of the Sea Treaty requirements may cause such problems for them in the future. The respondents made comments and recommendations bearing on future U.S. marine research in foreign waters. One set of tables presents results for the total group; another set presents results for subgroups of those in particular scientific disciplines.

17. Document Analysis a. Descriptors
1. Consent regime
2. Law of the Sea Treaty,
3. U.S. marine scientists; U.S. 200 mile EEZ

b. Identifiers/Open-Ended Terms

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