

MINUTES OF UNOLS ADVISORY COUNCIL MEETING
OCTOBER 31 - NOVEMBER 1, 1973

1. A regular meeting of the UNOLS Advisory Council was convened at 0830 Wednesday, October 31, 1973, at the Harbor Branch Foundation Laboratory, Fort Pierce, Florida. Present were:

Members

Dr. J.V. Byrne, CHAIRMAN
Dr. J.P. Craven
Dr. D.W. Menzel
Dr. A.F. Richards
Dr. P.L. Parker
Dr. R.C. Dugdale

Executive Committee

Dr. A.E. Maxwell
Dr. J.M. Savage
R.P. Dinsmore, Ex. Secy

Guests (All or part time)

Miss Mary Johrde, NSF (OFS)
Dr. H. Burr Steinbach (Harbor Branch)
Mr. E.A. Link
Dr. Allyn Vine (W.H.O.I.)

2. The meeting was convened by Dr. Byrne, Chairman, and followed by a welcome by Dr. Burr Steinbach representing Harbor Branch Foundation, the host. Before taking up the Agenda, Mr. Link reviewed the activities and goals of the Harbor Branch Foundation Laboratory. He described it as a privately endowed organization (Atlantic Foundation) operating in cooperation with the Smithsonian Institution Fort Pierce Bureau. The main thrusts of the Laboratory are ocean engineering and ocean science but the latter in a role which utilizes the technology developments of the former.

Current engineering projects include:

1. submersible development
2. submersible handling and safety
3. ship and small boat control systems
4. development & construction of a semi-submersible research ship (130-ft aluminum construction)

Science projects include:

1. Inventory of flora & fauna of local region
2. Pressure physiology
3. Beach erosion
4. Reef structure & coral sedimentation
5. Aquaculture

3. The Draft Agenda dated 10/23/73 was adopted as submitted with the provisions that the order in which certain items would be taken up could be changed to better adapt to the timing of the meeting.
4. The minutes of previous meeting (Agenda item #2) dated 6/22/73 were reviewed and adopted as written. The Secretary was requested to prefix to future minutes a one page summary of significant decisions and action items.
5. The status of Facilities Funding (Agenda item #4) was reviewed by Miss Johrde so far as regards NSF support. The final level of support for ship operations remains uncertain pending congressional and OMB action over add-on funds. The seventeen UNOLS members currently estimate operating costs of about \$16.9M of which about \$12.5M is proposed from NSF, \$3.3M from ONR, and \$1.0M from other sources. Currently available to NSF is about \$10.2M and a possibility of a "high" reaching to about \$12.1M. This leaves deficiencies for NSF ranging from \$2.3M to \$0.4M for which funding constraints must be applied.

Summaries of current funding and outlooks by the UNOLS Office were examined and discussed. Copies of summaries are appended. The Executive Secretary reported that the ONR support of \$3.3M looks firm and that "other" funds may reach \$1.5M. Funding for other operations will remain about level with last year at about \$1.3M but the outlook for NSF equipment funding is down from \$1.2M to about \$0.8M and probably will remain that way.

The ship operations funding outlook was discussed at some length. It was agreed that if the additional Congressional authorizations are allocated there should be no major problem areas. If not, then constraints must be employed. The existing recommendations by the Advisory Council and by UNOLS which have been transmitted to NSF are considered adequate at this time.

6. Current ship construction was reviewed noting that the Navy AGOR-U's are almost ready for delivery to Texas A & M and to University of Hawaii. The new NSF ship for W.H.O.I. funded with FY-72 funds has not yet been contracted pending Congressional and OAB action which may provide the additional funds needed for construction and even provide a second ship. This is yet unresolved but should be completed before the end of the year.

Existing Advisory Council recommendations regarding ship construction and replacement were reviewed. It was noted that the FY-74 recommendation may be fulfilled but the FY-73

recommendations are totally deficient. It was agreed that the recommendations contained in the 1973 draft should be continued. These are:

- ° In FY-1975 there should be constructed at least two coastal research vessels according to the following priorities:
 - 1 - Replacement of regional coastal vessels
 - 2 - Replacement of institutional coastal vessels
 - 3 - New construction of regional coastal vessels
 - 4 - New construction of institutional coastal vessels
- ° In FY-1976 there should be replacement funding for at least one large (over 175-ft) ship from among those now approaching obsolescence.
- ° The replacement and future construction of conventional research vessels should become the responsibility of the National Science Foundation.
- ° The development and construction of specialized high technology ships for use by university scientists should be undertaken by the U.S. Navy. Early attention should be given to an Arctic research ship and a semi-submersible stable platform to replace or augment existing vessels of the academic fleet.

7. The Long Range Ships Plan was discussed at great length.

The agreement at the last meeting was that a proposed OAB study on facilities and the UNOLS effort proceed jointly. Dr. Byrne reported that as yet, however, OAB doesn't know what sort of a study, if any, it intends. He suggested that UNOLS proceed directly on its own.

Dr. Dugdale submitted that the growing concepts for large programs generally are resulting in needs for highly specialized ships. He discussed, in particular, the needs for biology. Dr. Richards agreed stating the needs regarding ocean engineering. Dr. Maxwell expressed the concern at Woods Hole in thinking of capable special purpose ships. He cited that Navy and industry ships have become essentially single purpose types and have evolved equipment capabilities which far surpass UNOLS ships. It was agreed that a long-range plan should take a strong look at this concept.

Regarding the manner of proceeding, there was discussion on whether a special working group should be formed for this purpose or be handled within the Advisory Council. The latter course was decided upon to start the study. Bearing in mind that facilities should respond to the needs of science - but that sometimes it is the other way around, Dr. Richards and Dr. Parker suggested a two step approach where each individual would take the lead in developing a position paper on a particular discipline; then bring the group together in a combined effort. Dr. Byrne asked Dr. Richards and Dr. Parker to develop this further during an informal evening session and report back during the second day's session.

8. Before recessing for lunch, Dr. Byrne notified the members of the resignation by Henry Stommel from the Advisory Council. By the provisions of Annex III to the Charter the Executive

Committee will appoint a replacement but desired the recommendations of the members present. Following a discussion of potential and appropriate members from non-operator laboratories a list of candidates was presented to Dr. Maxwell, chairman of the Executive Committee. The meeting thereupon recessed for lunch at 1230.

9. During the lunch period, the group was given a tour of the Harbor Branch Foundation Laboratory by Drs. Steinbach and Vine, and reconvened at 1400. Dr. Maxwell announced that the Executive Committee had elected the following candidates for the vacancy on the Council to be tendered in the following order: (1) Rita Colwell (U. Md.), (2) Carl Wunsch (MIT), (3) Peter Dehlinger (U. Conn.) and (4) George Veronis (Yale).
10. The Executive Secretary reported on the first half-years experience with the UNOLS ship utilization data reports which commenced January 1, 1973 (Agenda item #7). Data was shown for 31 ships showing 3272 ship days. A summary is attached and shows clearly that NSF funded 2557 ship days whereas NSF science projects had a prorated share of 1983 days. ONR broke about even with 529 funded days for 514 project days (prorated). Ten other agencies and activities occupied the remainder of project days for a considerable less share of funding. There followed a discussion of Agency responsibilities. The Advisory Council affirmed its position that Federal Agencies should bear their share of ship costs but that the National Science Foundation should not necessarily restrict its funding to only NSF projects. Miss Johrde reported that

the current funded research by NSF as of this date amounts to about \$8.8M of UNOLS ship days and the outlook for the remainder of the year totals about \$10.2M. This contrasts with the sum requested from NSF by UNOLS members of about \$12.6M. Dr. Maxwell observed that the difference between these latter two figures is about the same as the current Congressional "add-on" and could be construed as the "will of Congress" to insure the support of research vessels - by NSF.

The Executive Secretary presented several proposed changes to the data form for 1974 but it was the unanimous opinion of the Advisory Council that there should be no significant changes to the form.

11. The status of National Oceanographic Facilities (Agenda item #9) were reviewed. The Executive Secretary reported on the Review Committees' meetings on R/V's ALPHA HELIX and EASTWARD held on 6-7 July and 18-19 October respectively at Woods Hole. Each Committee had the common concern of how it was to review programs on the basis of scientific merit in the face of funding based solely on NSF programs. The EASTWARD Committee had adopted the position to continue to assign priorities on the basis of scientific merit with the program manager reassigning priorities in order to make the ship competitive for funding. The ALPHA HELIX Committee is searching for a mechanism whereby the best, most suitable programs would also be those which command operational funding. It was suggested by Dr. Menzel

that the Review Committee chairmen ought to be invited to a future Advisory Council meeting. Dr. Byrne agreed and the Executive Secretary was asked to explore this possibility with the Committee Chairmen at the next meeting.

The Executive Secretary reported that at the NSF Ship Ops. Panel Review it was recommended that certain ships not be funded over a modest level unless further operations were conveyed as a national facility under UNOLS. He inquired if the Advisory Council wished to pursue this recommendation. Dr. Byrne advised that such action at this time by the Advisory Council would be premature and that furthermore the Council's recommendations for funding this year have been submitted. This view was agreed with by the other members as well as Miss Johrde and the matter was not considered further.

12. The meeting recessed for the day at 1730, October 31, and reconvened at 0830 - November 1.

13. Drs. Parker and Richards reported on their task of the previous evening to draft an outline of a plan to proceed with the long range plan. They envision a three part approach:

° CHRONOLOGY - Facilities needed and not available

- A - 1973
- B - 1980
- C - 1990
- D - 2001?

° DISCIPLINES

Geology, Geophysics, Geochemistry
Chemistry
Biology
Physics
Engineering, undesignated

(Alternate)

- 1. Sea Bed
- 2. Water-column
- 3. Air-Sea interface
- 4. Remote sensing

° FACILITIES

Basic platforms (submarine, surface, airborne)
Winches, wires, shipboard handling equipment
Labs, vans, shops,
Over-the-side equipment, probes, systems
Special environmental conditions to be provided for
(tropics, polar, etc.)
Hotel space-berthing
Computers or special equipment requirements
Navigation: on platform, in water, on bottom
Utilities: power, fluids, gases
Command control and communication

This approach was discussed at some length and was tentatively adopted. Dr. Byrne proposed with agreement by the group that the Advisory Council start the effort without forming any outside group. He further suggested that just prior to and as a part of the next meeting the Council split into two working groups to commence a discipline approach to facility needs; each group to concern itself with and comprise the following:

<u>Sea Bed</u>	<u>Water Column (including atmosphere)</u>
Craven	Parker
Byrne	Menzel
Richards	Dugdale
	Colwell

14. Dr. Pearn Niiler joined the group to discuss the subject of a proposed National Current Meter Facility which the Annual UNOLS Meeting had referred to the Advisory Council for recommendations. Dr. Niiler described the existing capabilities which are at W.H.O.I., NOAA (Seattle), and NOVA University. Each supports ongoing programs with the first two apparently well employed for the foreseeable future. His concern was

for the latter of which he directs and supports the Shelf Dynamics Program with mostly Federally owned and supported instruments. He foresees a continuing need for this capability when the Shelf Dynamics Work terminates and thinks that this extremely complex capability should not be allowed to deteriorate. He looks to UNOLS to say how to proceed in the future. The discussion ranged about possible alternatives for maintaining the facility - in NOAA, Navy, at W.H.O.I., etc., with conclusions that each of these are either mission-oriented or otherwise fully occupied. There was general agreement that such a facility ought to continue. Dr. Niiler estimated that current annual costs of the operation at \$170K.

Dr. Dugdale observed that the matter extended well beyond current meters only and could well include other types of instruments. He estimated that \$1M annually is going into equipment of all types much of which could be reusable on a shared or cooperative basis. Drs. Craven and Maxwell agreed and cited many of the types of instruments would could be considered.

Dr. Craven proposed and the other members agreed to convene a Working Group to study the feasibility of a National Current Meter Facility. Miss Johrde and Dr. Maxwell suggested that other categories of instruments be included in the scope of the study. The Executive Secretary was directed to form an appropriate group in cooperation with Dr. Niiler and to prepare a report for presentation at the May UNOLS Meeting.

Possible members were suggested and included: Halperin (NOAA), Pillsbury (OSU), Sturgis (FSU), Schmitz (W.H.O.I.), Collins (IDOE), Shule (Navy) and Lee (Miami).

15. University Submersible Programs (Agenda item #8) was taken up. Dr. Richards reported on his efforts to assure submarine time from Navy boats and referred to that section in the draft of the Annual Report. Dr. Dugdale posed the question of how many scientists are there who require submersibles for their work. Miss Johrde observed that few scientists were willing to risk stating that submersibles were their only alternative. Dr. Craven remarked that there is little research from a sub that cannot be done badly some other way. It was agreed that the Submersible Working Group should document further the needs and uses of submersibles for academic research. Dr. Byrne asked Dr. Richards to get together with the Executive Secretary and develop ways of proceeding further.
16. Under Agenda item #10 Plans for 1974 it was proposed that the Annual Meeting be held on or about May 15, 1974 at Washington, D. C.
17. The UNOLS Charter (Agenda item #11) was discussed. The Secretary reported that the change to the charter regarding election of Chairman and Vice-Chairman of UNOLS from among member institutions vice delegated representatives was approved on July 13, 1973, and is now operative.

A draft change to Annex I which was directed by the members in May 1973 was reviewed by the Advisory Council. This was

approved by the Advisory Council and will be submitted to the Members prior to the next Annual Meeting.

Regarding the overall Charter which expires in September 1974, there was discussion on if and how it ought to be changed. Dr. Richards pointed out that the main concern of which he was aware was in how "non-members" were represented. He suggested an associate or affiliate membership. Dr. Byrne and Dr. Maxwell asked Dr. Richards and the Executive Secretary to develop this further, possibly by soliciting the comments of "non-operator" institutions.


18. The Draft of the Annual Report (Agenda item #3) was reviewed and approved in its general. Members submitted written annotations or comments to the Executive Secretary. The Executive Secretary was directed to verify and update all data presented and to proceed with the report.
19. Under Other Business (Agenda item #12) the Executive Secretary reviewed the current work on and proposal for a study on the insurance situation. This proposal is to be reviewed at the forthcoming RVOC meeting whereupon the results will be transmitted to UNOLS members for final recommendations to proceed.
20. Further under other business Dr. Maxwell discussed the developing U.S. position on the Law of the Sea Convention and those areas which may particularly affect the future business of obtaining research clearances. He pointed out that even the U.S. position which represents a starting point contains a set of requirements

for clearances to which all investigators must pay close attention. Dr. Maxwell submitted a copy of the Draft Articles to be attached to the Minutes which indicate the level of involvement implied for future clearance efforts. This is attached.

21. It was agreed that the next meeting would be in February at Seattle with Dr. Dugdale acting as host.
22. There being no other business the meeting was adjourned at 1330, 1 November 1973.

Respectfully submitted,

J. V. Byrne, Chairman



R. P. Dinsmore, Ex. Secy

AGENDA

UNOLS ADVISORY COUNCIL MEETING

OCT. 31 - NOV. 1, 1973

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Convene 0830 - Wednesday 31 Oct. 1973

1. Adoption of Agenda
2. Minutes of Previous Meeting
3. 1973 Annual Report
 - Review and comment on draft of Annual Report
4. Status of Facilities Funding
 - A review of available data on current ship and other facilities funding and projected costs.
5. Ship Construction and Replacement Program
 - Review and discussion of current construction and outlooks
6. Long Range Plan
 - OAB is projecting a major report on oceanography in which facilities will be considered; looking to UNOLS to assist. A strategy should be developed to proceed.
7. Ship Utilization Data
 - A review and discussion of information emerging from current reporting system of ship cruises.
 - 1974 Ship Schedules and Utilization Outlook
8. University Submersible Program
 - Does UNOLS wish to set priorities for a submersible program as a part of current funding? How to proceed?
9. National Oceanographic Facilities
 - A review of current programs by existing NOF's
 - The NSF Ship Ops Review Panel recommended that certain other ships be operated part time as NOF's. This to be reviewed and action proposed.
10. Plans for 1974
 - Development of Advisory Council Recommendations
 - Working Groups?
 - Annual Meeting
 - Annual Report
11. UNOLS Charter
 - Present Charter comes up for renewal in 1974. Should it be changed? How?
12. Other Business
13. Next Meeting

UNITED STATES OF AMERICA
DRAFT ARTICLES FOR A CHAPTER ON
MARINE SCIENTIFIC RESEARCH

ARTICLE 1

Scientific research in the sea being essential to an understanding of global environment, the preservation and enhancement of the sea and its rational and effective use, States shall promote and facilitate the development and conduct of all scientific research in the sea for the benefit of the international community. All States, irrespective of geographic location, as well as appropriate international organizations may engage in scientific research in the sea, recognizing the rights and interests of the international community and coastal States, particularly the interests and needs of developing countries, as provided for in this Convention.

ARTICLE 2

Scientific research shall be conducted with reasonable regard to other uses of the sea, and such other uses shall be conducted with reasonable regard to the conduct of scientific research.*

ARTICLE 3

Scientific research shall be conducted with strict and adequate safeguards for the protection of the marine environment.**

*A general treaty article on the subject of accommodation of uses dealing with all uses of the sea might be included in the general articles of the Law of the Sea Convention. This could obviate the need for a specific article for each use, such as that suggested above for scientific research, that prepared as Text 17 of the texts dealing with principles for the seabed areas beyond the limits of national jurisdiction (A/AC.138/SC.VL.22, 4 April 1973) or that included in Article 2, paragraph 2, of the Convention on the High Seas.

**The need for and wording of the article might be further considered in the light of the draft articles prepared by the Working Group on marine pollution.

ARTICLE 4

Scientific research activities shall not form the legal basis for any claim to any part of the sea or its resources.*

ARTICLE 5

States shall promote international cooperation in scientific research exclusively for peaceful purposes:

a. by participating in international programs and by encouraging cooperation in scientific research by personnel of different countries;

b. through effective publication of scientific research programs and dissemination of the results of such research through international channels and promotion of the flow of scientific research to developing countries;

c. through measures to strengthen scientific research capabilities of developing countries, including assistance in assessing the implications for their interests of scientific research data and results, the participation of their nationals in research programs, and education and training of their personnel.

ARTICLE 6

Coastal States in the exercise of their sovereignty shall cooperate in facilitating the conduct of scientific research in their territorial sea and access to their ports by research vessels.

*There may be merit in the inclusion of an article in the general articles of the Law of the Sea Convention to the effect that no claims to any part of the sea can be made except as specifically provided in the Convention. This could obviate the need for a specific article for each use of the sea (see e.g. Texts 4 and 11 of the draft seabed articles prepared by the Working Group of Subcommittee I; Article 2 of the U.S. draft seabeds treaty).

ARTICLE 7

In areas beyond the territorial sea where the coastal State exercises jurisdiction pursuant to Articles ____ over seabed resources and coastal fisheries, States and appropriate international organizations shall ensure that their vessels conducting scientific research shall respect the rights and interests of the coastal State in its exercise of such jurisdiction, and for this purpose shall:

- a. provide the coastal State at least ____ days advance notification of intent to do such research, containing a description of the research project which shall be kept up to date;
- b. certify that the research will be conducted in accordance with this Convention by a qualified institution with a view to purely scientific research;
- c. ensure that the coastal State has all appropriate opportunities to participate or be represented in the research project directly or through an appropriate international institution of its choice; the coastal State shall give reasonable advance notification of its desire to participate or be represented in the research within ____ days after it has received notification;
- d. ensure that all data and samples are shared with the coastal State;
- e. ensure that significant research results are published as soon as possible in an open readily available scientific publication and supplied directly to the coastal State;
- f. assist the coastal State in assessing the implications for its interests of the data and results directly or through the procedures established pursuant to Article 5;
- g. ensure compliance with all applicable international environmental standards, including those established or to be established by insert name or names of appropriate organizations.

ARTICLE 8

Any dispute with respect to the interpretation or application of the provisions of this Chapter shall, if requested by either party to the dispute, be resolved by the compulsory dispute settlement procedures contained in Article ____.

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