

1971

U.S. Oceanic Programs and Policy

A. Denis Clift

Follow this and additional works at: <https://digital-commons.usnwc.edu/nwc-review>

Recommended Citation

Clift, A. Denis (1971) "U.S. Oceanic Programs and Policy," *Naval War College Review*: Vol. 24 : No. 1 , Article 5.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol24/iss1/5>

This Article is brought to you for free and open access by the Journals at U.S. Naval War College Digital Commons. It has been accepted for inclusion in Naval War College Review by an authorized editor of U.S. Naval War College Digital Commons. For more information, please contact repository.inquiries@usnwc.edu.

U.S. OCEANIC PROGRAMS AND POLICY

In the past the U.S. Navy and Coast Guard have borne a major share of the responsibility for oceanographic research and the management of U.S. coasts and lakes. There are a number of Federal civilian agencies which also have responsibilities in this area, and in recent years they have been receiving a proportionally greater share of the available funding. The proposed establishment of a National Oceanic and Atmospheric Agency and an Environmental Protection Agency will augment this trend toward civilian predominance in oceanic research. It may also encourage additional basic research to complement the present emphasis on applied research in Continental Shelf areas.

A lecture delivered at the Naval War College

by

Mr. A. Denis Clift

Substantial advances are being made in U.S. oceanic programs and policy; in fact, the U.S. ocean program has been in a state of healthy growth since the early 1960's. Decisions are now pending on highly important national and international marine science issues; equally important issues are unresolved. The issue of Federal marine science organization, for example, of intense interest to the U.S. ocean community, is presently receiving the earnest attention of the executive branch and the Congress. The law of the sea, rules for the exploitation of seabed mineral resources, and a seabed arms limitation agreement are subjects of debate in the United Nations and other intergovernmental forums. At the same time, as important as oceanic affairs may be, they are in sharp competition for Federal attention and funding with other pressing national business.

Considering the evolving and flexible nature of the U.S. program, I shall not presume to delineate a single national plan of action. Rather, I would like to identify significant trends in Federal marine sciences policy and support—including the place of the Navy's marine science activities—and to relate these trends to the present state of development of the U.S. ocean program.

The global setting for the Nation's oceanic activities finds us at a point in time when politically, militarily, and economically the nations of the world are intensely interested in national rights and international obligations relating to the oceans, their seabeds, and their resources. At a time of growing economic and social needs, man continues to increase his capabilities to work in the sea. The United States alone has drilled more than 15,000 offshore

wells, and we can continue to expect marked improvements in offshore technology.

The recent Law of the Sea Institute Conference at the University of Rhode Island was devoted to "The United Nations and Ocean Management," reflecting the major attention that ocean issues have been given in the United Nations since the mid-1960's. The vision—albeit premature—of revenues from internationally administered seabed mineral resources has worked a catalytic effect in the General Assembly, the developing nations determined to resolve this issue to their best advantage.

In the Conference of the Committee on Disarmament—formerly the 18-nation Disarmament Committee—the United States and the Soviet Union have for nearly 2 years been leaders in an international effort to draft an international agreement prohibiting the emplacement or fixing of nuclear weapons or other weapons of mass destruction on the seabed. Such an agreement would assist in precluding nuclear arms competition on the seafloor and thus contribute to strategic arms limitations generally.

We are at a point in time when seaward claims to national jurisdiction are being advanced by several nations; a point a time, if you will, when a political chapeau has been placed over formerly separate functional areas of international ocean activity—fishing, naval operations, scientific research, and oil and gas exploitation.

Most recently global concern about the quality of the earth's environment—the likening of the earth to a spaceship with limited life support systems—has become a significant factor in oceanic affairs. During Thor Heyerdahl's first attempted voyage across the Atlantic in the papyrus craft *Ra* he expressed dismayed disbelief at the quantity of man's rubbish encountered in midocean. Nationally, we have become aware of

the degradation of inland and coastal waters that can result from agricultural runoff and industrial and municipal wastes. The losses of the *Torrey Canyon*, the *Ocean Eagle*, and other tankers and the oil spills from offshore wells have become matters of international concern. The concept of the oceans as an infinite sink for the castoff by-products of human activity is becoming less and less acceptable—as evidenced, for example, by Canada's recent enactment of legislation claiming jurisdiction for purposes of pollution control from the coast seaward over a 100-mile zone.

The United States, as a world leader in marine science and technology, has had considerable effect on what is transpiring internationally. One need only recall, for example, that it was the U.S. delegation which introduced a resolution adopted by the U.N.'s Economic and Social Council in March 1966, requesting the Secretary General to survey the present state of knowledge of marine resources and to identify those resources capable of exploitation, especially for the benefit of developing countries. The development of a strong ocean program in the United States was, of course, well underway before this current period of intensified international interest.

Federal support for the marine sciences, or oceanography as it was then known, was stimulated by the experience gained from naval operations of World War II, during which it had become quite clear that the Navy would have to have a greater knowledge of oceanic characteristics and processes for effective operation of its submarine, surface, and air units. Federal funding to the Navy and other agencies was devoted in large part to underwriting basic scientific research to permit the development of an enlarged base of oceanographic knowledge.

The Soviet space accomplishments of the late 1950's led to increased U.S. attention to science and technology,

26 NAVAL WAR COLLEGE REVIEW

including the creation of the Federal Council for Science and Technology in 1959. The Federal Council established an Interagency Committee on Oceanography to coordinate the multiagency Federal ocean program, an expanding program which in the early 1960's encompassed basic and applied research, surveys, ship construction, and the development of marine facilities.

In 1966, largely as the result of congressional interest and effort, Federal attention to the oceans advanced from the program to the policy level. The Marine Resources and Engineering Development Act, passed on 17 June 1966, declared it to be a policy of the United States "to develop, encourage, and maintain a coordinated, comprehensive, and long-range national program in marine science for the benefit of mankind." The act assigned responsibility to the President to provide the Nation's oceanic activities with leadership and direction; created an interim Cabinet-level, Marine Sciences Council chaired by the Vice President to help set goals and strategies; and established a public advisory Commission, the Commission on Marine Science, Engineering, and Resources, to recommend a national ocean program capable of meeting present and future needs.

In January 1969 the Commission delivered its report, entitled "Our Nation and the Sea," to the President and the Congress—the report containing more than 120 recommendations in the fields of marine research, technology, resource exploitation, and Federal organization. With regard to the latter, the Commission proposed that an independent agency—a National Oceanic and Atmospheric Agency, or NOAA, be established to report directly to the President and to give the civil sector of the Federal program the critical mass required for the Nation's oceanic business—bringing under the same roof the Coast Guard, the Bureau of Commercial Fisheries, the Environmental Science

Services Administration, the U.S. Lake Survey of the Corps of Engineers, the National Sea Grant Program, and the National Oceanographic Data Center. The Commission, in keeping with the provisions of the Marine Sciences Act, went out of existence 30 days after the completion of its assignment.

Shortly after he entered office, President Nixon asked the members of the Marine Sciences Council for their views on the Commission's recommendations. And in May 1969 he directed the Chairman of his Advisory Council on Executive Organization to evaluate the NOAA proposal in the broader context of its overall review of Federal organization. The Ash Council, as it is known after its chairman, Mr. Roy Ash of Litton Industries, delivered its recommendations to the President shortly thereafter, and on 9 July the President announced that he was sending to Congress two reorganization plans which implemented the recommendation of the Commission of Marine Science. At the same time, planning and the development of marine science policy continue in the Marine Sciences Council.

The Council and its Assistant Secretary-level Committee for Policy Review seek to mobilize the marine science resources of the 11 Federal agencies with marine science interests into a coherent, multiagency framework—to identify needs, impediments, and opportunities; to recommend lead-agency assignments for Federal planning and implementation of programs cutting across several agencies' responsibilities; to assure that there is a match between goals and resources—in sum, to produce a whole which is greater than its parts.

The need to match goals to resources is, of course, of paramount importance. As a Nation we are in a period of "tight money." In the words of Herbert Stein, a member of the President's Council of Economic Advisers:

OCEANIC PROGRAMS 27

We hear much talk of national priorities. Almost invariably this means only that somebody wants more of something. It almost never means that someone has surveyed the alternative uses of the national output and decided what is best to have less of as well as what is best to have more of. If we continue to press more and more claims upon the national output, if we are unprepared ever to say no, the necessary task of saying no will be done by inflation, haphazardly and unfairly.

As many of the Nation's program budgets reflect, the President has been willing to say "No," as required. In the marine sciences, however, the President's budget request for Fiscal Year 1971 shows an overall increase of some \$20 million over Fiscal Year 1970—from \$514 million to \$533 million. And, in the marine sciences, choices have been made.

Marine programs in the Nation's coastal margins have been singled out for emphasis, in recognition of the fact that increasing pressures of multiple use are being brought to bear on the U.S. coastal counties, shorelines, and coastal waters. The U.S. population is migrating to the coasts. Uses of the coastal zone—be they for recreation, wetland preserves, waste disposal, industrial parks, urban developments, mining, power plants, or commercial fishing—are in competition for limited space.

A new Federal policy is being proposed to encourage States to improve their management of coastal areas and the Great Lakes, with a grant program to aid States to plan and manage coastal activities. To this end, the Department of the Interior, on behalf of the administration, submitted a legislative proposal to the Congress in November 1969 providing for the establishment of a national policy for the development of

coastal areas and authorization of Federal grants, with matching State contributions, to encourage and facilitate the establishment of State planning and regulatory mechanisms. Such legislation should assist in insuring that rapid coastal development does not destroy limited coastal land and water resources and that all interests in the coastal regions will be assured consideration. The Senate Commerce Committee's Subcommittee on Oceanography has been holding hearings on this legislation.

Rational management decisions on the use of the coastal zone should be predicated on the best possible scientific information as to the effects of man's activities on the coastal region. The relationship of these effects to economic and social factors should be known, and methods should be available both to forecast and monitor these effects. The administration's legislative proposal for coastal zone management requires that States' management plans provide for the availability of management-oriented coastal zone research.

Planning is under way under the Department of the Interior's leadership to identify the needs and to assess the adequacy of existing Federal, State, and other institutions to provide the required research. Specific attention is being given to determining how existing capabilities can be better utilized and how this research can be used by States in improving their management of coastal zone resources. This will include an assessment as to whether or not we require new facilities and, if so, how they should be funded.

The Department of the Interior has been assigned lead-agency responsibility for a pilot demonstration of lake restoration with \$1 million included in the FY 71 budget request of the Federal Water Quality Administration for this purpose. FWQA has several related projects in the environmental quality field, and in planning this pilot project consideration is being given to

28 NAVAL WAR COLLEGE REVIEW

techniques which will be applicable to larger bodies of water such as the Great Lakes. The President has proposed legislation that would stop the dumping of polluted dredge spoil into the Great Lakes and has additionally charged his newly established Council on Environmental Quality with recommending steps to combat problems posed by ocean dumping.

Increased support is being sought for the Sea Grant program administered by the National Science Foundation—a program emphasizing the development of resources of the marine environment through applied research, education and training, and advisory and extension services.

Since the program's establishment in 1966, eight universities—Rhode Island, Miami, Michigan, Wisconsin, Texas A&M, Hawaii, Oregon State, and Washington—have been awarded Sea Grant institutional support for the conduct of broad-based, multidisciplinary programs. Institutional support programs emphasize development of regional capabilities to solve regional problems and participation by State and local governments and industry. In addition, some 200 individual Sea Grant project awards have been made to other universities, colleges, junior colleges, and technical institutes for curriculum development, technician training, and studies of aquaculture, ocean engineering, marine mineral development, and ocean law.

Sea Grant funding has grown from \$5 million in fiscal year 1968, the first full year of operation, to \$9.6 million in fiscal year 1970; and the President's budget request for the coming year includes \$13 million—particularly to support coastal zone research.

Because of the Arctic's overall significance and resource potential, Arctic environmental research was another marine science area selected by the President for priority attention in FY 71. Several Federal agencies are

planning to expand or mount efforts of varied scope and intensity in fields including engineering, meteorological and environmental research, resource assessment and development, health and welfare, and Arctic transportation. The National Science Foundation has been given the lead-agency responsibility for Arctic research programs. Of the \$2 million requested for new Arctic programs by NSF in support of the Arctic initiative, \$1.2 million would be funded for marine-related activities. Major objectives of the Arctic program include:

- Investigations of the polar icepack, including its effect on transportation and global weather, its interaction with coastal installations, and its impact on coastal ecology;

- Study of the polar magnetic field and its effect on communications;

- Investigations of geological structures underlying the Arctic lands and polar seas as both potential mineral sites and hazards to construction and resource development;

- Comprehending the balance of the Arctic ecosystem; and,

- Experiments on the degradation of liquid and solid wastes under Arctic conditions. Additional funding is being requested by the Advanced Research Projects Agency of the Department of Defense for the development of an Arctic surface effect vehicle.

Another significant increase is in the budget request of the Department of Transportation where an additional \$7.2 million is provided for the advanced development stage of the Coast Guard's National Data Buoy System.

The administration believes that cooperative marine sciences research, providing the nations of the world with a foundation of fundamental knowledge, will be essential to better future use of the world ocean. To this end, in 1969 the President approved U.S. participation in the International Decade of Ocean Exploration; the National

Science Foundation has been designated lead agency; and \$15 million has been included in the NSF budget request for initial U.S. Decade programs. These programs will place emphasis on preservation of the ocean environment by accelerating scientific observations of the natural state of the ocean and its interaction with the coastal margin; improved environmental forecasting; seabed assessment to permit better management domestically and internationally of seabed mineral resource exploration and exploitation by acquiring needed knowledge of seabed topography, structure, and resource potential; and improved worldwide data exchange.

Internationally the Decade has been endorsed by resolution of the United Nations as part of an expanded international program of oceanic exploration and research, and the U.N. has given the Intergovernmental Oceanographic Commission of UNESCO the task of planning the international program.

Briefly then, these are the areas of policy and program emphasis; I am sure you have detected the emergence of some rather clear trends. First, marine science programs receiving strong support are aimed at the solution of practical problems of priority interest to the United States. Basic oceanographic research, of course, is still needed, and support for such research will continue. Present emphasis, however, is on applied research. Secondly, and in keeping with the first trend, priority support is being given to programs off our own coastlines and concerning the U.S. Continental Shelf. Most of our present oceanic pollution problems are in these areas; heavy shipping follows the coastlines, the recovery of seabed minerals is largely from inshore waters, and some 90 percent of U.S. commercial fisheries are within the bounds of our Continental Shelves.

Still another related trend is that of increased funding for the marine

programs of civilian agencies. For the first time since the present scope of the marine sciences program was defined in 1966, funds for the civilian agencies are more than half of the marine sciences budget request—which brings us to the place of the Navy in the Federal marine sciences program.

The Navy is, of course, the strongest, ablest marine sciences participant in the U.S. ocean program and has been since the days when Lieutenant Maury first offered shortcuts on his wind and current charts to enterprising masters of square-riggers. Today, the Navy's marine science program includes the science, technology, engineering, and operations which are required for use of the marine environment to enhance national security. The national security portions of the President's FY 71 marine sciences

BIOGRAPHIC SUMMARY



Mr. A. Denis Clift is a graduate of Stanford University (1958) and holds a master's degree in international politics from the London School of Economics and Political Science (1967). As a Naval

Reserve officer he served on active duty from 1958 to 1962, including a tour of duty in Antarctica with Operation Deep Freeze. Upon his release from active duty, Mr. Clift joined the staff of the *Naval Institute Proceedings*, serving as editor of that publication from 1963 to 1966. Following a year of graduate work in London, Mr. Clift entered the executive branch of the Federal Government on the staff of the interagency Committee on Marine Research. In November of 1969 he became the Executive Secretary of the National Council on Marine Resources and Engineering Development Committee for Policy Review. In this capacity he evaluates the importance of national oceanic issues and develops recommendations for consideration by the Cabinet-level Council.

30 NAVAL WAR COLLEGE REVIEW

budget request are down some \$13 million from last year—a minor amount, perhaps, when compared to overall budget cuts of more than \$5 billion the Navy has experienced since 1968—but an amount which has involved a slowing down of certain portions of the Navy's program. In mapping and charting, for example, old fleet survey ships are being retired well before their replacements, now under construction, are put into commission. In the deep submergence program, R&D funds for Deep Submergence Search Vehicle planning are being stretched from FY 70 to FY 71. Funding for Antisubmarine Warfare Environmental Prediction (ASWEPS) has remained level from FY 70.

Navy support of the national program continues, tempered by section 203 of the Military Procurement Authorization Act, approved in November 1969—and known as the Mansfield amendment—which states: "None of the funds authorized to be appropriated by this Act may be used to carry out any research project or study unless such project or study has a direct and apparent relationship to a specific military function or operation."

With regard to pending organiza-

tional decisions, whatever they may be, we can assume—as did the Marine Sciences Commission—that the Department of Defense, and more specifically the Navy, will continue to have a major marine sciences role in support of its national security mission.

In recent years the United States has moved the focus of primary attention from the expansion of its oceanographic research capabilities to the development of marine technology, to the major problems which confront us today: rational management of our 17,000-mile coastal zone; restoration of our lakes and solutions to the problems of marine pollution; careful development of Arctic resources; international cooperative marine research which will provide the basis for peaceful development of deep seabed resources—multidisciplinary problems involving scientific, legal, and political considerations.

In the near future, arrangements for the civil sector of the Federal marine science program hopefully will enable it to manage the challenging tasks which properly are its responsibilities. The objective is a balanced marine sciences program—a prospect to be welcomed by the Navy.

— ψ —

Our Navy has led us to a great beginning in oceanography. But it is now up to the nation, to our total scientific, industrial and military establishment to carry on and make the most of this beginning.

*Roger Lewis, President, General Dynamics,
to the National Press Club,
27 October 1965*