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SCHOOL OF OCEAN AND EARTH SCIENCE AND
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APPENDIX I
Proposed

SCHOOL OF OCEAN AND EARTH SCIENCE AND TECHNOLOGY

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FUNCTIONAL STATEMENTS

OFFICE OF THE DEAN

The office of the Dean plans and directs the programs of the School of Ocean and Earth Science and Technology, provides the focus of leadership and direction for the marine sciences, and fosters an environment supportive of excellent research and education. It provides executive leadership in planning, policy formulation and implementation, program development and direction, and budget development and execution. In addition, it will coordinate, focus and facilitate the ongoing activities of the individual organizational units, including curricular, personnel and budget affairs of the School and the ancillary support components such as staff supervision and community relations, and represents the School nationally and internationally.

The Dean serves under the Vice President for Research and Graduate Education and will be the primary spokesperson for all activities of the School, and functions with authority as delegated by the President.

The principal functions of the Dean's office include the following:

Provides liaison between the School and the Vice-President for Research and Graduate Education, the University Administration, the Director of the Research Corporation of the University of Hawaii (RCUH), and represents the School at the State, National and International levels.

Approves all appointments, proposals, tenure and promotion actions, salaries, etc. for all components of the School.

Establishes, directs and maintains the SOEST annual expenditure plan and budget requirements for ensuing years in conjunction with the Vice-President for Research and Graduate Education and the UH Budget Office.

Chairs the SOEST Research Council and Executive Committee.

Provides direction to the school research effort, the graduate, undergraduate and research components of the School and serves in an ex-officio capacity on SOEST special committees as appropriate.

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Provides policy guidance and reviews and evaluates SOEST programs.

ASSISTANT TO THE DEAN

This office provides assistance to the Dean and Associate Dean in all aspects of SOEST operations. The principal functions of this office include the following:

Assures coordination of the Deans administrative affairs.

Provides liaison and coordination for legislative matters.

Assists in SOEST Public Information and Relations affairs.

Provides recording and logistical support of Executive Committee, and Research Council, and other meetings as assigned.

Prepares reports and other correspondence as required.

Conducts special projects as assigned.

SECRETARY TO THE DEAN

This position functions as an executive Secretary to the Dean, providing secretarial services through maintenance of the Dean's calendar, managing and booking his/her travel, and provides administrative and office management services which include the following:

Distribution of mail and correspondence to all school units.

Supervision of secretarial and clerical help within the Dean's office.

Provides office management and telephone services to the Dean and his staff.

Assures maintenance of the Dean's files.

Coordinates the Dean's correspondence.

Facilitates communications between the Offices of the Dean, Associate Dean and the Director of Administration.

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OFFICE OF THE ASSOCIATE DEAN

Under the policies and guidelines approved by the Dean, this office is primarily responsible for providing the central focus and accommodating the needs of the instructional components of the School.

Among the instructional programs under the Associate Dean are four academic departments: Geology and Geophysics; Meteorology; Oceanography; and Ocean Engineering, as well as the Marine Option Program, a certificate program for undergraduates with marine interests, the Hawaii Undersea Research Program, the Joint Institute for Marine and Atmospheric Research, and the Graduate Ocean Policy Certificate Program. In providing overview for these functions, the Associate Dean is responsible for:

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Faculty Development.

Oversees SOEST faculty in the instructional and supervisory roles; academic recruiting; development of programs to attract excellent graduate and undergraduate students to SOEST Departments.

Curriculum Development.

Maintains an overview of all SOEST instructional program needs, including curriculum development, establishing innovative educational programs, evaluation of course proposals, course schedules, and student advisement.

Academic Program Review.

The Associate Dean is responsible for identifying new educational directions, and methodologies, development of new educational programs, advising the Dean on academic matters relating to SOEST research programs, and Federal and State relations.

Program Administration, Planning, Representation and Consultation with Dean.

Continuing interaction is maintained to ensure that the Dean and the Associate Dean each remain aware of problems and opportunities concerning the School's academic program and operations. The Associate Dean is also responsible for administration of the SOEST Marine Option Program, the SOEST Library, and University of Hawaii Aquarium (Waikiki Aquarium).

The Associate Dean represents SOEST on educational matters at the state, national and international levels, as appropriate and represents the Dean on educational matters to the offices of the Vice-President for Academic Affairs, the Dean of Natural Sciences, the Dean of Engineering, and other appropriate units within the University.

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Other responsibilities as required by the Dean shall be fulfilled by the Associate Dean. These may include such matters as public relations, fund raising, budgeting, planning, and inter-national cooperative programs of the School.

Library

The principal function of this unit is to provide specialized scientific and technical library services to SOEST faculty members and students. In conjunction with instructional and research staff, periodicals and books necessary for teaching and research are acquired and maintained. The Library contains over 1600 linear feet of library material. The SOEST Librarian reports directly to the Associate Dean.

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Marine Option Program

The Marine Option Program headed by its Director, who reports to the Associate Dean, SOEST, offers students of all majors throughout the University system the opportunity to discover and develop their marine and marine-related interests and talents. The office is responsible for the development and management of a certificate-granting program of undergraduate community colleges for those students who elect to complete selected academic requirements and a practical project. The office also sponsors special activities including seminars, field trips, workshops, and other hands-on experiences designed to promote marine interests.

Waikiki Aquarium

Office of the Director

The Aquariums Director's Office reports to the Associate Dean, SOEST, and provides guidance to and overall supervision of seven Aquarium departments, their budgets, and activities; acts as liaison and ex-officio member of the board of Directors of the Friends of the Waikiki Aquarium; maintains close working relationships with other aquariums, zoos, and museums; and provides leadership for the long-term development of the Aquarium. The Director is responsible for ensuring that proper standards are maintained for all living organisms at the Aquarium.

Aquarium Science Section and Live Exhibits

The staff in these two areas are responsible for the care of all living organisms at the Aquarium including their collection, quarantine, feeding, and husbandry. Staff design and construct displays, life support systems, perform water quality tests, prepare required reports for State and Federal agencies, and present results at professional meetings. Research emphasizes

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aquaculture and husbandry techniques, field work, physiology, behavior, and other studies which have minimum risk of trauma to the organism.

Education

The Education Department is responsible for the planning and implementation of Aquarium education programs including the Blue Water Marine Laboratory, outreach programs, lecture series, field trips, travel tours, programs for school children, training programs for education volunteers, and the production of education materials including books, pamphlets, video, and other audio-visual programs.

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Aquarium Support and Operations

Aquarium support and operations staff responsibilities include the general operations, safety conditions, appearance, and maintenance of the Aquarium building and grounds; assisting in the planning of new facilities; and overseeing the repair and maintenance or construction of Aquarium facilities.

Business Management

Administered through the University of Hawaii Foundation, prepares budget documents for all earned revenues, processes purchase orders for payment, provides monthly updates to the Director and all departments on the U.H. Foundation budget, and is responsible for personnel matters for all non-state employees.

Development and Marketing

Administered through the University of Hawaii Foundation, this department is responsible for the Aquarium membership program, direct-mail campaigns, bi-monthly newsletter, and all fund-raising activities; preparing a marketing plan, advertising, special events, and community relations, including the volunteer program; and for the production of all graphics, labels, and Aquarium publications.

Gift Shop

Administered through the University of Hawaii Foundation, the giftshop sells marine-related items of educational value or which inspire an appreciation of the ocean, e.g., artwork. A portion of the net-proceeds of the shop benefit other Aquarium programs.

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FUNCTIONAL STATEMENT
HAWAII INSTITUTE OF GEOPHYSICS

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Director

The Director establishes research objectives, unit policy, and directs research, administrative and support activities of the Hawaii Institute of Geophysics (HIG). The Institute serves primarily as the technological and applied research arm of the University in the earth and marine sciences.

Primary objectives of the Institute are to provide research and public service through individual and focused research activities at the local, national, and international levels.

The principal functions of the Director's Office are as follows:

1. Reports to the Dean of SOEST on HIG research activities, budgets and expenditures and personnel matters. Liaison is also maintained with the University administration, the Director of the Research Corporation of the University of Hawaii (RCUH), and outside bodies with whom an official contact with HIG is desirable.
2. Recommends appointments, salaries, tenure, promotion etc., and approves travel involving HIG personnel.
3. Establishes each year an expenditure plan for that year, the budget requirement for the following year, and the upgrading each year of the projected multi-year program.
4. Handles all matters on specifically delegated to others on the HIG administrative staff or to special committees, and serves in an ex officio capacity on all internal HIG committees.
5. Chairs the HIG Advisory Council.

Secretarial Support

Secretarial support is provided in maintenance of the Directors calendar, managing and booking his travel, and provides administrative and office management services which include the following:

1. Assures coordination of the Director's administrative affairs.
2. Provides liaison and coordination for the Director in all University, outside agency, and legislative matters.

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3. Provides recording and logistical support for the HIG Advisory Council and other meetings as assigned.
4. Prepares reports and other correspondence as required.
5. Distribution of mail and correspondence to all HIG units.
6. Supervision of secretarial and clerical help within the Director's office.
7. Provides office management and telephone services to the Director and his staff.
8. Assures maintenance of the Director's files.
9. Coordinates the Director's correspondence.

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Advisory Council

The principal advisory body to the Office of the Director is the HIG Advisory Council. Its particular concern is long-range scientific planning.

Administrative Support

Administrative support office provides overall administrative, financial, operational and personnel management to the Director and the Institute. While handling all normal day-to-day management problems of the Institute, principal functions of the administrative support office are as follows:

1. Acts as Safety Officer and EEO Officer.
2. Provides administrative and fiscal oversight as follows:
 - HIG General and Extramural Funds
 - Assists faculty in preparation of proposal budgets.
 - Procurement
 - Assists the Director in the preparation of the HIG budget
 - Records maintenance
3. Provides fiscal and personnel management as well as liaison on all contracts and grants handled through RCUH.

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Geophysical Studies, Applied Research, and Technology Development Groups

Individual and focused basic research in the earth and marine sciences is conducted by the Geophysical Studies Group.

The Applied Research and Technology Development Groups conduct surveys utilizing the HIG SeaMARC sub bottom mapping system and other technology in projects such as cable route surveys, and conduct appropriate basic research in Geology and Geophysics and Geothermal exploration.

A new technology development is currently in progress involving the design and construction of a new generation sub bottom profiling system, the DBED Slant Drilling project involving fresh water reservoirs and ocean bottom sea water on the Big Island, and collaboration in the design and construction of a remotely operated underwater research vehicle.

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FUNCTIONAL STATEMENT
HAWAII NATURAL ENERGY INSTITUTE

Director

The Hawaii Natural Energy Institute Director is responsible for providing visibility, focus, and encouragement in bringing renewable energy activities and ocean resources technology into viable systems that will:

- (1) Diminish Hawaii's total dependence on imported fossil fuels,
- (2) meet the State's increasing energy demands with little or no environmental degradation,
- (3) help the State utilize its ocean resources, and
- (4) contribute to the technology base for finding solutions to the national and global energy shortage.

Program Functions

HNEI interacts with and supports UH faculty and staff in renewable energy and ocean resources related activities. The objectives of HNEI are carried out through:

- Administering state, federal, and private funds allocated for renewable energy and ocean resources technology research.
- Maintaining cognizance over ocean resources and renewable energy related projects campus-wide and encouraging cooperative research among academic programs and research institutes.
- Maintaining liaison with government funding agencies, industry and private foundations with energy R&D interests.
- Providing representation on appropriate state and university committees.
- Interacting with state agencies to ensure compatibility of university efforts with state goals and objectives.
- Providing the university community and the public with pertinent information on ocean resources technology and renewable energy research matters.

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- Encouraging the development of institutional courses and programs on renewable energy and ocean resources.
- Providing background data information on sources of material for educational program development.
- Sponsoring graduate programs to encourage top caliber students to participate in ocean resources and renewable energy research projects leading toward theses.
- Developing national and international cooperative agreements for collaborative research efforts.

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FUNCTIONAL STATEMENT
SEA GRANT COLLEGE PROGRAM

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1. Sea Grant College Program

The Sea Grant Director's Office manages the activities and programs of the University of Hawaii Sea Grant College Program (UHSGCP) which include 1) directing the development and submission of a biennial institutional proposal encompassing programs of research, education, and advisory services; 2) administering the projects and programs funded by Sea Grant and other cooperating agencies; and 3) coordinating the publication and dissemination of resulting information.

The Sea Grant College Program is dedicated to the national goal of promoting the understanding, development, utilization and conservation of ocean and coastal resources through university-based research, education and advisory (extension) services. The program is conducted within geographical boundaries extending from Hawaii to Guam and currently collaborates with 44 governmental organizations, and 89 academic institutions. Fifty-three industrial organizations participate in the program. In addition, the Sea Grant Director represents the University of Hawaii on a number of interagency research and advisory committees.

a. Marine Research

The Sea Grant College Program promotes and supports research of state and national priorities at the University of Hawaii. It provides research opportunities and funding to undergraduates and graduates pursuing degrees and experience in marine-related research. Major areas of research are marine resources development including aquaculture, fisheries, marine natural products and ocean minerals; tourism; public policy and law and marine technology.

The Sea Grant College Program provides for the development, coordination, and budget administration of thirty to sixty Sea Grant research projects at any one time. In addition, the program has recently taken over the fiscal responsibilities for the other units which fall under the Director's authority. The Sea Grant College also provides funds for program and project planning at the discretion of the Director.

Many of the new initiative research efforts seek proof-of-concept to qualify for multi-year funding. The Director's Office provides review procedures which prioritize proposed research and evaluate projects to ascertain appropriateness for Sea Grant support and quality of research proposals. The Sea Grant Advisory Council which participates in this process is composed of marine leaders and scientists from private industry and program matching funds (required 2 federal: 1 non-federal) for these projects and monitors their use throughout the year.

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b. Marine Advisory Program

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Marine Advisory Program, through workshops, mass media, person-to-person communication, and other means, promotes the wise use of Hawaii's marine resources and meets the informational needs of Hawaii's people. The information transfer in aquaculture, fisheries and the use of marine and ocean resources by tourists and residents. A network of 16 professional staff, including extension specialists and agents, carry out these activities in Hawaii and throughout the region.

The Marine Advisory Coordinator's Office is responsible for 1) budget and program planning and reporting and 2) communicating with the Sea Grant Director and with the National Sea Grant Office on extension program directions.

c. Marine Education

The Sea Grant College Program assists in the development of a broad spectrum of marine education programs and projects including undergraduate and graduate marine curricula. The program has supported the Marine Option Program and the Blue-Water Marine Laboratory, a marine technician training program at Leeward Community College, a graduate research and training program in tropical marine studies at the Hawaii Institute of Marine Biology, and applied marine research preparatory courses. The present program focuses primarily on undergraduate and graduate education within the University of Hawaii system. However, the program continues to give assistance to the UH College of Education in upgrading high school marine curriculum materials, developed with UHSGCP assistance in previous years, and with teacher training in American areas of influence in Micronesia.

d. Publications

Responsibilities of this office include the management and coordination of publications produced by the Sea Grant College Program. The office 1) edits project proposals and produces the institutional proposal, 2) conducts planning conferences with authors on proposed research and education reports and publication following preliminary manuscript review, 3) institutes procedures for editorial review and publishing, 4) produces camera-ready copy and arranges for publications, 5) edits and distributes the Sea Grant Quarterly, a scientific newsletter with a circulation of 1,700, an extension newsletter with a monthly circulation of 2,500, and other advisory brochures and publications, and 6) institutes sales programs and reviews expenditures and income from sales. The office also prepares news releases for local and national dissemination.

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FUNCTIONAL STATEMENT
HAWAII INSTITUTE OF MARINE BIOLOGY

Director

Directs research activities, curricula support and maintenance operations, and personnel in the Institute of Marine Biology (HIMB), which has facilities located on Coconut Island, Kaneohe, the Mariculture Research and Training Center, Hakipuu, and on the UHM campus. HIMB has an international reputation in the areas of coral reef biology, tropical aquaculture, behavior of marine animals, and management of tropical near-shore ecosystems. The director coordinates the research, teaching and service activities of the staff, and performs a myriad of tasks that relate to the University and State, National and International research programs. HIMB administers a satellite unit (Hawaii Cooperative Fisheries Unit) in Edmondson Hall on the Manoa Campus and it has a Cooperative Research Support Program with the Asian Institute of Technology in Thailand.

Coordination of Instructional Activities - Although the Hawaii Institute of Marine Biology does not itself confer degrees, its overall goal is to support the educational process at the University. Ten faculty members and more than thirty graduate students from various Manoa departments use the HIMB as a research base without occupying assigned positions or being fiscally affiliated with the Institute.

The Institute carries on research in marine biological sciences, including applied areas such as aquaculture and fisheries resource management, and provides facilities for faculty members, graduate and undergraduate students, and visiting scientists. Furthermore, it affords instructional facilities for introductory and advanced courses throughout the University system on Oahu. From 1983 it has been the site of a graduate research and training summer program in selected topics. Though much of HIMB's activities are largely based on Coconut Island, and secondly at the MRTC, Hakipuu facility, it also maintains a small office in the Marine Science Building and has close interaction with facilities such as: Waikiki Aquarium, Pacific Biomedical Research Center, Look Laboratory, East-West Center, Bishop Museum, Oceanic Institute, Natural Energy Laboratory of Hawaii, and state and federal agencies with common interests.

Office Functions - Administrative support relative to the operation of the Hawaii Institute of Marine Biology which currently has a composite operational budget of approximately 2.3 million dollars annually and involves over 100 people and approximately \$1.5 million in research grants and contracts.

Fiscal Administrative and Laboratory support

Administrative/logistical and technical support for ongoing scientific activity within the Hawaii Institute of Marine Biology includes, but is not limited to: fiscal management of state, federal funds, and private funds, clerical support, i.e., typing maintaining records and

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proposals, preparation of budgets and fiscal reports, reception, switchboard, duplicating, procurement (purchasing/disbursing), and mail handling. It also includes general maintenance of facility and equipment and supplies, vehicles, boats, and coordination of scientific efforts. It is noted that HIMB is largely an independent off-campus facility on an off-shore island and is excluded from many of the services of the Facilities Management Department.

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EXTERNAL ADVISORY COUNCIL

The External Advisory Council comprised of business, government and academic luminaries to organize and develop the interaction between the School and the Legislature as well as the private sector, and to advise the Dean on national and international trends in funding in response to advances in science and technology.

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OFFICE OF THE DIRECTOR OF ADMINISTRATION

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The office of the Director of Administration is responsible for providing the planning and management functions required to effectively support the administration and facilities operations of the School under policies and guidelines approved by the Dean.

Administrative and facilities management responsibilities include Management SOEST fiscal, personnel, contracts and grant management, the University Marine Center and research vessel operations, Scientific Computer Facility, Engineering Support Facility and Analytical Support Facilities. The position, with both line and staff responsibilities, reports directly to the Dean of the School. Major functions include the following:

Provides administrative and fiscal management oversight to division heads who report directly to the Director of Administration in the following offices:

Program and Budget Office
Personnel Office
Financial Management Systems Office

Which provide the following services:

Program and Budget Office

The SOEST Program and Budget Office provides financial planning, for the SOEST annual General Fund Budget of \$14 million, fiscal services to all units, and, together with the Director of Administration, monitors financial aspects of SOEST as well as SOEST State General Fund and position count allocations to all School components.

The principal functions of this Office include the following:

Responsibility for the financial planning, management, and control of all SOEST General (State) funds.

Maintains an overview of the financial conditions of the School.

Advises and assists the Dean and Director of Administration in financial planning and preparation of the SOEST budget and is the focal point for all SOEST budgetary planning and execution.

Maintains an overview of purchases, payments, transfers of funds and other fiscal transactions of the School.

Serves on the SOEST Budget Committee.

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Acts as budgetary liaison contact between the SOEST Administration and the University Business Office, the Budget Office and SOEST Administrative Officers in management of SOEST fiscal matters.

Supervises expenditures of general (State) funds allocated to SOEST Departments, Institutes and Programs.

Maintains, in coordination with the SOEST Personnel Officer, the SOEST personnel inventory for all personnel classifications.

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Personnel Office

The principal duties of the SOEST Personnel Office include central coordination of personnel programs of the school and maintains liaison with the UH personnel Management Office and provides the following service functions:

Maintains a recruitment, appointment, classification and compensation, training, promotion, tenure, leave and benefits system for the School based on established rules and policies and contractual provisions of collective bargaining agreements.

Provides personnel services to all SOEST units in matters of UH and RCUH personnel administration.

Maintains a central personnel records system.

Conducts and/or oversees recruitment, placement, and enrollment activities; processes and/or reviews the processing of position actions; and advises staff in these matters.

Performs other classification related functions including study and review of new specifications, RCUH and contractual hiring, etc.

Establishes and supervises the maintenance of a centralized system of recording and reporting personnel transactions.

Provides guidance, consultation and staff assistance to management in the orientation, training, and planned development of employees to satisfy immediate and/or long-range needs of the School.

Provides labor-management staff and advisory services to all organizational components of the school, and ensures that the terms of the negotiated collective bargaining contract are properly implemented.

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Financial Management Systems Office

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The principal duties of the Financial Management Systems Office for Sponsored Projects and Financial Management Systems are 1) to assure the efficient management of research and training contracts and grants within SOEST (currently 275 in number valued at \$24 million) and the pursuit of such funds; 2) to provide financial planning, reporting, and accounting functions to monitor the viability of the enterprise revolving funds required to finance the operations of the specialized support facilities including the Research Computer Facility, the Engineering Support Facility, the national oceanographic facilities of Ship Operations and the SeaMARC II System, and the internal service facilities including the Publications Program, the SOEST Library, the Geo-Analytical Facilities, and the Physical Plant Support Facility; and 3) to provide management reports on the status of SOEST resources including all funds and personnel; exercise direct management responsibility for SOEST CIP and R&M projects.

Major functions of this office include the following:

Recommends organizational and management systems changes and innovative management practices to improve the effectiveness of program operations, and staffing plans in accordance with program plans, needs and priorities.

Develops management reports on the financial condition of the organization.

Advises and assists the Director of Administration and Program and Budget Office as appropriate in the preparation of the SOEST budget including control of SOEST matching fund commitments in research proposals.

Serves on the SOEST Budget Committee.

Manages, in coordination with the Facilities Management Office, all CIP and Repair and Maintenance projects for SOEST, and directs the operational and fiscal activities of the SOEST Physical Plant Maintenance Facility.

Functions in support of funds seeking:

Serves as the focal point for the administrative and fiscal control and coordination aspects for all SOEST research and training proposals preparatory to the Dean's approval. Supervises SOEST Administrative Officers in preparing research proposal budgets.

Participates in the negotiation of contracts and grants with federal auditors, and federal contracting officers.

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Responsible for the development of and oversight of the maintenance of a data bank on pending proposals for extramural funding, and for preparation of management reports on the status of said proposals and SOEST matching fund commitments.

Management of extramural funds:

Responsible for the financial management of all SOEST sponsored research activities, and supervision of SOEST Administrative Officers and Fiscal Accounting Specialists in the management and administration of extramural awards.

Functions as liaison between SOEST and the UH Contracts and Grants Management Office, on matters pertaining to contract negotiations, and to the administration of extramural funds and revolving funds; and with the Budget Officer of the Office of Research Administration on submission and receipt of extramural projects.

Management of revolving funds

Oversight responsibility for the management and administration of SOEST revolving funds which currently number 33.

Generates reports of long range fiscal plans and manpower projections for specialized service facilities and for major contracts and grants.

Maintains cognizance of SOEST financial position with regards to the enterprise and internal service funds, and prepares regular reports to management on the status of these funds.

Provides administrative, fiscal, and management oversight assistance to following Division

Heads who report to the Director of Administration:

University Marine Center/Ship Operations
Engineering Support Facility
Publications Facility
Research Computing Facility
Analytical Support Facility

For the following functions:

University Marine Center/Ship Operations

The University Marine Center (UMC) which husbands three ships and shore support facilities provides ship operational support to all SOEST and other University research programs as required. The UMC is administered by a Marine Superintendent.

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The principal functions of this center are as follows:

Provide ship operational, logistical, and maintenance services to maintain ship's schedules developed by the SOEST Scientific Coordinator for Marine Operations.

Provide shipboard marine technician (electronic and deck) services in support of SOEST marine geophysics and oceanography research programs.

In conjunction with the SOEST Scientific Coordinator's Office, maintains liaison with U.S. and foreign port authorities, the U.S. Navy Hawaiian Sea Frontier and the U.S. Coast Guard.

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Engineering Support Facility

The principal functions of this unit are:

To provide machine shop design and production services in support of SOEST research contracts and grants in the fabrication and repair of precision scientific instruments.

To provide electronics design, production, and maintenance service in support of SOEST research contracts and grants.

To provide electromechanical design and development services for SOEST scientists having unique scientific instrumentation development requirements.

Publications Facility

The principal functions of this unit are as follows:

To provide editorial review of all technical manuscripts submitted by researchers and edit for clarity, continuity, coherence and grammatical construction.

To provide national and international distribution of and exchange of SOEST publications with other research institutions.

To proofread galley and pages of materials from publishers of HIG papers.

To collect and organize material for the SOEST annual report, which describes SOEST research programs and accomplishments for each year.

To provide the following graphic design and production services to SOEST scientists in the publication of research papers and reports: cartographic charts and graphics, single and multi-color; scientific illustrations; slide materials (visuals); calligraphy and layout.

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To provide photographic services to researchers, staff and students for scientific publication, instruction, presentation, or display.

Research Computing Facility

The purpose of this facility is to provide specialized computing capability for SOEST researchers and other campus-wide researchers in need of these specialized facilities. Current computers in this facility are a SUN Network and an Alliant FX8. They are connected to terminals in various offices and laboratory areas.

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Analytical Support Facility

This facility provides central management of various chemical analytical activities that take place school-wide. The equipment managed by this facility includes an induction coupled plasma spectrophotometer, atomic absorption spectrophotometer, scanning and transmission microscopes, an electron microprobe, an autoanalyzer and various other equipment as assigned.

All SOEST facilities have Oversight Committee comprised of users which advise the Director of Administration as to the operational efficiency and future direction of each facility.

SOEST RESEARCH DIVISIONS

SOEST Research Divisions are structured to respond to programmatic research the school may identify that are multi-disciplinary in nature involving several or all SOEST organizational components.

The research interest and disciplinary functions are as follows:

Marine Geology, Geochemistry -- studies the geology and chemistry of the earth as determined from the marine environment, including the studies of chemical processes in modern marine systems and how they are involved in the formation of sedimentary rocks and the chemistry of submarine magmatic cycles and submarine mineral formation.

Marine Geophysics, Seismology -- investigates the geology and tectonics of the earth beneath the sea and the geologic process that have shaped our earth in the past; provides evaluation of resources in marine environments; studies coastal and deep-sea environments and ancient analogues of the modern marine environment in marine and non-marine systems whether buried or exposed.

Volcanology, Petrology, and Mineral Physics -- focuses on volcanic and petrological processes and employs new investigative technologies to characterize the physical and structural properties of various earth materials (minerals, rocks, sediments,

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silicate glasses and melts, metals, and alloys) under simulated high-pressure and high-temperature conditions in Earth's deep interior.

Biological Oceanography -- includes the study of biological processes as they relate to oceanography involving the study of oceanic productivity and the influence of biology on marine geochemistry, particularly with regard to the role of macro and microorganisms in the cycling of carbon, essential nutrient and energy in the sea.

Meteorology, Physical Oceanography -- focuses on meteorological research and the study of the circulation of ocean both observationally and theoretically including the interaction with the atmosphere and the sea floor.

Marine Biology/Coastal Ecosystems -- conducts basic research in marine biology and applied research in aquaculture and fisheries resource management, studies coral reef biology, mariculture, and research in tropical near shore ecosystems.

Energy Resources and Ocean Engineering -- investigates methods to diminish the state dependance on fossil fuels, develop alternative and renewable energy resources, and utilization and development of the states ocean resources and attack problems or exploit opportunities in Ocean Engineering.

Planetary Geosciences Division -- investigates the origin, evolution and present state of the Solar System. This objective is achieved by studying the composition and geology of solid bodies in the Solar System, including the Earth, other planets, satellites, asteroids, comets, meteorites and cosmic dust. The Planetary Geosciences Division also administers the NASA Pacific Regional Planetary Data Center and the Hawaii Space Grant College.

RESEARCH COUNCIL

Divisions within SOEST are headed by Chairs who are chosen by the Dean in consultation with their research constituencies and who, taken together, form the Research Council of the School. They will advise the Dean on allocations of resources and on programmatic priorities and be expected to keep abreast of federal activities in their field and to routinely inform division members and the Executive Committee of development in the field.

EXECUTIVE COMMITTEE

Department Chairmen and SOEST Directors, constitute the Executive Committee of the School, which provides advice to the Dean in administrative and operational matters, and in an advisory status participates in policy making, long range planning, and program development.

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FUNCTIONAL STATEMENT
DEPARTMENT OF OCEAN ENGINEERING

Chair

Administers a balanced program of instruction and research in ocean engineering. The academic program is a graduate program and leads to the degrees of M.S. and Ph.D., but the departmental has responsibility for the instruction of both graduate and undergraduate courses in the field. The instructional program also involves curriculum planning and advising of students in their research. The research program consists of carrying out research in accordance with the purpose for which the proposals were funded. The research effort blends with the instructional effort in that it provides students with support through research assistantships, and it provides students with research subjects for their thesis. As part of their function, faculty members serve in committees at the College and University level and participate in other service activities.

Research Support

J.K.K. Look Laboratory of Oceanographic Engineering is a research and instructional laboratory that provides research facilities and services to faculty, students, and staff involved in academic research, including extramural, intramural, and/or in-house studies relating to ocean engineering. Assistance is provided to state and federal agencies in solving many ocean-related problems; in educating the graduate students in all aspects of physical and mathematical modeling techniques as applied to waterways, harbors, coastal engineering, and shop hydrodynamics through an ocean hydrodynamics laboratory course and on-the-job training; in educating the public on the awareness of marine science and ocean engineering by making the Look Laboratory facilities and researchers available to study-tour groups or individuals. Advisory services to a variety of organizations and/or general public in the field of ocean engineering are also provided.

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FUNCTIONAL STATEMENT
DEPARTMENT OF GEOLOGY AND GEOPHYSICS

Chair

The Department of Geology and Geophysics is organized on the basis of a Departmental Chairman, Standing Committees, and Ad Hoc Committees, as agreed by the faculty of the Department during the reestablishment of the Department in 1971 and revised in the 1985 and 1990.

The purpose of the Department of Geology and Geophysics is to provide, through its faculty for instruction, research, and service as follows: (a) Provide a properly-taught undergraduate curriculum in geology and geophysics, including introduction, core, and advanced courses and laboratories. (b) Conduct research and provide graduate-student instruction in scientific areas in which Hawaii has certain natural advantages by virtue of its geography and existing faculty interests, namely Hydrology, and Engineering Geology, Marine Geology and Geophysics, Mineral Physics, Planetary Geosciences, Seismology and Solid-Earth Geophysics, and Volcanology-Geochemistry-Petrology; and (c) provide public service in the earth and marine sciences at the local, national and Pacific-wide, and world-wide levels.

The Departmental Chairman presides at Departmental meetings. Departmental policy is decided at Departmental Meetings. The agenda for these meetings is established by the Chairman in consultation with the chairman of the standing committees.

The Departmental Chairman is responsible to the Dean of the School of Ocean and Earth Science and Technology for the functions listed in the Faculty Handbook, and to the faculty of the department for the functions listed in its Departmental Organization. The more important functions are listed below.

- Direct the activities, curricula, and personnel of the Department of Geology and Geophysics.
- Represent the Department when asked for comment or contribution ex-officio by the University Administration, or other bodies outside the Department.
- With the assistance of ad hoc and standing committees, recruit, evaluate, accept, confer with, and assign advisors of new graduate students; assign study space; evaluate yearly the progress of existing students; coordinate appointments to research assistantships, teaching assistantships and fellowships for qualified and deserving graduate students; coordinate with Hawaii Institute of Geophysics, Water Resources Research Center, other university institutes, other departments, state and federal agencies, and private companies regarding joint projects, possible employment, and equipment used by graduate students; award departmental computer funds to graduate students; organize the weekly departmental seminar.

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-Provide service to the Department by acting on its standing and ad hoc committees; to the University through committee work and special assignments; to the State of Hawaii in the manner of the Geological Surveys of the other states or as otherwise requested; to the United States as requested; to local, national, and international professional organizations as requested; provide professional services on an overload fee basis as allowed by current regulations.

Graduate Teaching Assistants have these departmental functions:

-Under supervision, assist in laboratory sections of undergraduate courses; assist instructors in preparation of teaching materials, audiovisual aids, and related tasks; assist in grading examinations and counselling students in classes.

Operational and Administrative Support

Operational support for research in marine and earth sciences is provided through operation and maintenance of research laboratories, instruments, and data reduction, analysis, and synthesis. Assist in appropriate educational specialist tasks.

Secretarial support is provided as follows: Organize and supervise operations of the Departmental Office; type, mail, and file departmental correspondence; maintain security of files, reproduce examinations; assure availability of office supplies; prepare requisitions and maintain expenditure records; maintain student and faculty records; take and forward messages; dispose of routine requests and reports; assist chairman or committee chairmen in assembling information to respond to unusual requests; supervise student help, type manuscripts, grant applications, and reports of departmental faculty; other duties as requested by departmental faculty.

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FUNCTIONAL STATEMENT
DEPARTMENT OF OCEANOGRAPHY

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Chair

Directs and Coordinates teaching and research activities, curricula, and personnel in the Department of Oceanography. The Department is a graduate department providing instruction and performing research in biological, physical, chemical and geological oceanography leading to the M.S. and Ph.D. degrees. Six undergraduate service courses are offered, and have a total enrollment of approximately 2,000 each year. In addition to formal instructional activities, department faculty are actively involved in research supported by extramural grants.

These research functions are essential to graduate and undergraduate education, and provide the facilities and opportunities for thesis and dissertation research. Research is also important to the economic development of the State of Hawaii in terms of resource evaluation and environmental protection.

The Chair coordinates departmental, instructional and research activities; prepares departmental budget requests; reviews and makes recommendations in regard to all personnel actions involving members of the department; and serves as contact point for the department to other marine programs at the University.

Departmental Functions

Provide instruction, conduct research, and undertake community service pertaining to all branches of oceanography (physical, chemical, biological, and geological). These include formal instruction, symposia, advising, and thesis and dissertation research direction.

The Department of Oceanography presently has 25 graduate faculty who advise students, serve on students' committees, and serve on appropriate college and university committees.

Operational and Administrative Support

Operational support for research conducted in the department is provided through operation and maintenance of research laboratories, instrumentation, and data reduction analysis, and synthesis.

Secretarial services are provided to the department chairperson in addition to servicing the graduate faculty and the department's graduate students and preparing instructional materials for the large undergraduate courses. Other services include: Overall operation of the department office, maintenance of student and faculty records and assist with preparation of instructional and research materials for faculty, consultation with the chairperson concerning

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administrative matters, typing personnel forms, supervising and coordinating the work of several student helpers, answering the telephone and answering the many queries posed by students and visitors to the office.

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FUNCTIONAL STATEMENT
DEPARTMENT OF METEOROLOGY

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Chair

Directs and coordinates instructional and research activities curricula and personnel in the Department of Meteorology. The Department offers B.S., M.S. and PhD degrees emphasizing tropical meteorology.

Serves as graduate chairman of the Meteorology area of study.

Prepares unit's budget requests and administers budgets allocated to the unit.

Reviews and makes recommendations in regard to all personnel actions involving members of the Department.

Acts as administrative liaison with the School of Ocean and Earth Science and Technology.

Conducts individual research and provides leadership in pursuing new research initiatives both within the State and nationally.

Acts as liaison with federal and international meteorological agencies. Represents the University at the University Corporation for Atmospheric Research annual meetings.

Departmental Functions

Provides instruction; conducts sponsored and unsponsored research into tropical meteorology, emphasizing synoptic and dynamic meteorology, satellite meteorology, monsoon systems and meteorology of the Hawaiian Islands as related to rainfall, hazardous weather and alternate energy resources; undertakes community and consultant service pertaining to the weather and climate of Hawaii and the Pacific Basin.

Operational and Administrative Support

Operational support for research conducted in the department is provided through operation and maintenance of the research laboratories, instrumentation, and data reduction analysis, and synthesis.

Secretarial support is provided in the overall operation of the department office, maintenance of student and faculty records and assistance in preparation of instructional and research materials for faculty.

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Secretarial services to the department include: consultation with the department chairperson concerning administrative matters, typing personnel forms, supervising and coordinating the work of several student helpers, answering the telephone and answering enquiries from students and visitors to the office.

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Graduate Ocean Policy Certificate Program

The wise use and careful stewardship of the ocean require people with multidisciplinary and interdisciplinary advanced education in the natural and social sciences. This graduate certificate program is designed for classified graduate students and community professional practitioners who wish to complement their existing degree or curriculum. An advisory committee assists each student in custom-designing an 18-credit program that draws on marine-related courses in law, geography, political science, economics, oceanography, or ocean engineering. In addition, an interdisciplinary seminar and two practica (one in a natural science and one in a social science) are required.

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JOINT PROGRAMS

Joint Institute for Marine and Atmospheric Research (JIMAR) -- jointly sponsored by the University of Hawaii and the National Oceanic and Atmospheric Administration, JIMAR pursues research involving both theoretical and observational studies on climate, equatorial oceanography, and tsunamis.

Hawaii Undersea Research Laboratory (HURL) -- established by a cooperative agreement between the National Oceanic and Atmospheric Administration (NOAA) and the University of Hawaii, HURL primarily supports research projects that require data acquisition at depths greater than scuba limits and concentrates its research efforts using submersibles in these areas: fisheries; pollution; sea floor properties and processes; and ocean technology and services.

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FUNCTIONAL STATEMENT
OFFICE OF THE DEAN

The Office of the Dean of the School of Ocean and Earth Science and Technology will provide the focus of leadership for the marine sciences and direction to foster an environment supportive of excellent research and graduate education. In addition, it will coordinate, focus and facilitate the ongoing activities of the individual organizational units, including curricular, personnel and budget affairs of the School and the ancillary support components such as budget management, staff supervision, community relations, grievance and litigation, and travel.

The Dean serves under the Vice President for Research and Graduate Education and will be the primary spokesperson for all activities of the School, and functions with authority as delegated by the President.

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FUNCTIONAL STATEMENT
SEA GRANT COLLEGE PROGRAM

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1. Sea Grant College Program

The Sea Grant Director's Office has line responsibilities for the Sea Grant College Program, the Waikiki Aquarium, and the Marine Option Program.

The Director's Office manages the activities and programs of the University of Hawaii Sea Grant College Program (UHSGCP) which include 1) directing the development and submission of a biennial institutional proposal encompassing programs of research, education, and advisory services; 2) administering the projects and programs funded by Sea Grant and other cooperating agencies; and 3) coordinating the publication and dissemination of resulting information.

The Sea Grant College Program is dedicated to the national goal of promoting the understanding, development, utilization and conservation of ocean and coastal resources through university-based research, education and advisory (extension) services. The program is conducted within geographical boundaries extending from Hawaii to Guam and currently collaborates with 44 governmental organizations, and 89 academic institutions. Fifty-three industrial organizations participate in the program. In addition, the Sea Grant Director represents the University of Hawaii on a number of interagency research and advisory committees.

a. Marine Research

The Sea Grant College Program promotes and supports research of state and national priorities at the University of Hawaii. It provides research opportunities and funding to undergraduates and graduates pursuing degrees and experience in marine-related research. Major areas of research are marine resources development including aquaculture, fisheries, marine natural products and ocean minerals; tourism; public policy and law and marine technology.

The Sea Grant College Program provides for the development, coordination, and budget administration of thirty to sixty Sea Grant research projects at any one time. In addition, the program has recently taken over the fiscal responsibilities for the other units which fall under the Director's authority. The Sea Grant College also provides funds for program and project planning at the discretion of the Director.

Many of the new initiative research efforts seek proof-of-concept to qualify for multi-year funding. The Director's Office provides review procedures which prioritize proposed research and evaluate projects to ascertain appropriateness for Sea Grant support and quality of research proposals. The Sea Grant Advisory Council which participates in this process is composed of marine leaders and scientists from private industry and state and national agencies. The Director negotiates program matching funds (required 2 federal: 1 non-federal) for these projects and monitors their use throughout the year.

b. Marine Advisory Program

Marine Advisory Program, through workshops, mass media, person-to-person communication, and other means, promotes the wise use of Hawaii's marine resources and meets the informational needs of Hawaii's people. The current Marine Advisory Program focuses on technology and information transfer in aquaculture, fisheries and the use of marine and ocean resources by tourists and residents. A network of 16 professional staff, including extension specialists and agents, carry out these activities in Hawaii and throughout the region.

The Marine Advisory Coordinator's Office is responsible for 1) budget and program planning and reporting and 2) communicating with the Sea Grant Director and with the National Sea Grant Office on extension program directions.

c. Marine Education

The Sea Grant College Program assists in the development of a broad spectrum of marine education programs and projects including undergraduate and graduate marine curricula. The program has supported the Marine Option Program and the Blue-Water Marine Laboratory, a marine technician training program at Leeward Community College, a graduate research and training program in tropical marine studies at the Hawaii Institute of Marine Biology, and applied marine research preparatory courses. The present program focuses primarily on undergraduate and graduate education within the University of Hawaii system. However, the program continues to give assistance to the UH College of Education in upgrading high school marine curriculum materials, developed with UHSGCP assistance in previous years, and with teacher training in American areas of influence in Micronesia.

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d. Publications

Responsibilities of this office include the management and coordination of publications produced by the Sea Grant College Program. The office 1) edits project proposals and produces the institutional proposal, 2) conducts planning conferences with authors on proposed research and education reports and publication following preliminary manuscript review, 3) institutes procedures for editorial review and publishing, 4) produces camera-ready copy and arranges for publication, 5) edits and distributes the Sea Grant Quarterly, a scientific newsletter with a circulation of 1,700, an extension newsletter with a monthly circulation of 2,500, and other advisory brochures and publications, and 6) institutes sales programs and reviews expenditures and income from sales. The office also prepares news releases for local and national dissemination.

2. Marine Option Program

The Marine Option Program Office offers students of all majors throughout the University system the opportunity to discover and develop their marine and marine-related interests and talents. The office is responsible for the development and management of a certificate-granting program of undergraduate community colleges for those students who elect to complete selected academic requirements and a practical project. The office also sponsors special activities including seminars, field trips, workshops, and other hands-on experiences designed to promote marine interests.

3. Waikiki Aquarium

a. Office of the Director

The Aquarium Director's Office provides guidance to and overall supervision of Aquarium programs, projects, and activities; acts as liaison and officio member of the Board of Directors and Friends of the Waikiki Aquarium and the Hawaiian Islands Aquarium Corporation; and maintains close working relationships with other aquariums, zoos and museums. The Director is responsible for all living marine organisms at the Aquarium, including their collection, care, maintenance, and feeding; for keeping accurate records on the acquisition, growth and disposition of Aquarium animals; for the design, construction and maintenance of live displays and support systems; and for field research and collection and shipment of specimens to the Aquarium and other cooperating institutions from local and remote areas.

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b. Aquarium Support and Operations

Aquarium support and operations staff responsibilities include 1) designing and overseeing new systems for support of research on live marine organisms, including live exhibits, aquaculture, and marine mammal husbandry, 2) the general operations, safety conditions, appearance, and maintenance of the Aquarium facility, 3) preparation reports on Aquarium systems (including selected management information systems and data processing) for internal distribution and for publication, and 4) assisting and advising Aquarium staff on efficiency of data management systems, and their use and maintenance.

c. Education

The Education Staff at the Aquarium is responsible for 1) the design, planning, and implementation of all Aquarium education programs, including School System Support, General Public Education, travel tours, and private sector co-ventures, 2) administration, budgeting, and planning of Blue Water Marine Lab which provides University-developed marine laboratory services to high school and University students, and 3) for design and implementation curriculum development, production and publication of education materials including books, video, and audio-visual programs (e.g. Byword).

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FUNCTIONAL STATEMENT
HAWAII INSTITUTE OF GEOPHYSICS

Director

The Director establishes research objectives, unit policy, and directs research, administrative and support activities of the Hawaii Institute of Geophysics (HIG). The Institute serves as the research arm of the University in the earth and marine sciences concerned with volcanology, geology, solid earth geophysics, geochemistry, physical oceanography, deep-water marine biology, and planetary geosciences and as an adjunct to graduate instruction in those departments of instruction concerned with the above branches of earth and marine sciences.

The primary objectives of the Institute are to provide graduate instruction, research and public service through its eight research divisions: Marine Geochemistry, Marine Geology and Geophysics, Materials Science, Oceanic Biology, Physical Oceanography, Planetary Geosciences, Seismology and Solid Earth Geophysics, and Volcanology, Geochemistry and Petrology. The scope of HIG research operations is local, national, and international.

The principal functions of the Director's Office are as follows:

1. Provides liaison between HIG as an institute and the Vice-President for Research and Graduate Education, the University administration, the Director of the Research Corporation of the University of Hawaii (RCUH), and outside bodies with whom an official point of contact with HIG is desirable.
2. Approves all appointments, proposals, reports, travel, tenure, salaries, etc. involving HIG personnel.
3. With the aid of the HIG administrative staff, establishes each year an expenditure plan for that year, the budget requirement for the following year, and the upgrading each year of the projected 5-year program.
4. Chairs the HIG Advisory Council.
5. Handles all matters not specifically delegated to others on the HIG administrative staff or to special committees, and serves in an ex officio capacity on all HIG special committees (personnel, ship operations, space allocation, budget, etc.).

Associate Director

The Associate Director assists the Director in all functions of that office as required and appropriate and assumes the duties of the Director in his absence from the campus with full power of representation.

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The principal functions of the Associate Director's Office in addition to the above are as follows:

1. Maintains an overview of the overall scientific program in the Institute and brings areas of program weakness to the attention of the Director and the HIG Council.
2. Serves as liaison between HIG and the affiliated departments of instruction.
3. Serves as an ex officio member along with the Director on all HIG special committees and the HIG Council.

Advisory Council

The principal advisory body to the Office of the Director is the HIG Advisory Council. Its particular concern is long-range scientific planning.

Assistant Director

The Assistant Director provides assistance to the Director for overall administrative, financial, operational and personnel management of the Institute. He reports directly to the Director while handling all normal day-to-day management problems of the Institute, serves as an ex officio non-voting member on the HIG Council, and acts as Director in the absence of both the Director and the Associate Director.

The principal functions of the Assistant Director's Office are as follows:

1. Acts as Personnel Officer, Safety Officer, EEO Officer and serves on the following committees:

- APT Personnel Committee
- Safety Committee
- Budget Committee
- University Ship Scheduling Committee

2. Provides administrative and fiscal oversight for:

- Fiscal Office
- University Marine Center
- Engineering Support Facility
- Publications Facility
- Library
- Research Computing Facility
- Analytical Support Facility

3. Provides fiscal and personnel management as well as liaison on all contracts and grants handled through RCUH.

4. Direct operational and fiscal management of University Ship Operations Facility.

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Fiscal Office

The HIG Fiscal Officer provides fiscal services, and along with the Assistant Director monitors the financial aspects of HIG operations including various contracts and grants as well as general (State) funds allocated to the various HIG divisions.

The principal functions of the Fiscal Officer are as follows:

1. Assists Principal Investigators in preparing budgets for proposals.
2. Advises and assists the Director in preparing the HIG budget.
3. Serves as an ex officio non-voting member of the HIG Council.
4. Serves on the HIG Budget Committee.
5. Acts as budgetary liaison contact between HIG, the University Business Office, and the Budget Officer of the Office of Research Administration.
6. Supervises expenditures on all grants and contracts handled through the Office of Research Administration.
7. Supervises the expenditures of general (State) funds allocated to HIG.

University Marine Center

The University Marine Center (UMC) which houses three ships and shore support facilities provides ship operational support to HIG and University research programs as required. The UMC is administered by a Marine Superintendent.

The principal functions of this center are as follows:

1. Provide ship operation, logistical, and maintenance services to maintain ship's schedules developed by the HIG Scientific Coordinator for Marine Operations.
2. Provide shipboard marine technician (electronic and deck) services in support of HIG and University marine geophysics and oceanography research programs.
3. In conjunction with the HIG Scientific Coordinator's Office, maintains liaison with U.S. and foreign port authorities, the U.S. Navy Hawaiian Sea Frontier and the U.S. Coast Guard.

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Engineering Support Facility

The principal functions of this unit are:

1. To provide machine shop design and production services in support of HIG research contracts and grants in the fabrication and repair of precision scientific instruments.
2. To provide electronics design, production, and maintenance service in support of HIG research contracts and grants.
3. To provide electromechanical design and development services for HIG scientists having unique scientific instrumentation development requirements.

Publications Facility

The principal functions of this unit are as follows:

1. To provide editorial review of all technical manuscripts submitted by researchers and edit for clarity, continuity, coherence and grammatical construction.
2. To provide national and international distribution of and exchange of HIG publications with other research institutions.
3. To proofread galley and pages of materials from publishers of HIG papers.
4. To collect and organize material for the HIG annual report, which describes HIG research programs and accomplishments for each year.
5. To provide the following graphic design and production services to HIG scientists in the publication of research papers and reports: cartographic charts and graphics, single and multi-color; scientific illustrations; slide materials (visuals); calligraphy and layout.
6. To provide photographic services to researchers, staff and students for scientific publication, instruction, presentation, or display.

Library

The principal function of this unit is to provide specialized scientific and technical library services to HIG researchers and graduate assistants. In conjunction with instructional and research staff, periodicals and books necessary for teaching and research are acquired and maintained. The Library contains over 1600 linear feet of library material.

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Research Computing Facility

The purpose of this facility is to provide specialized computers for HIG researchers and other campus-wide researchers in need of these specialized facilities. Current computers in this facility are several VAX's, Harris 800 and Alliant FX8. They are connected to terminals in various offices and laboratory areas.

Analytical Support Facility

This facility provides central management of various chemical analytical activities that take place in the Institute. The equipment managed by this facility includes an induction coupled plasma spectrophotometer, atomic absorption spectrophotometer, scanning and transmission microscopes, an electron microprobe, an autoanalyzer and various other equipment as assigned.

Research Divisions

1. Marine Geochemistry -- studies the chemistry of the earth as determined from the marine environment, including the studies of chemical processes in modern marine systems and how they are involved in the formation of sedimentary rocks and the chemistry of submarine magmatic cycles and submarine mineral formation.
2. Marine Geology and Geophysics -- investigates the geology and tectonics of the earth beneath the sea and the geologic process that have shaped our earth in the past; provides evaluation of resources in marine environments; studies coastal and deep-sea environments and ancient analogues of the modern marine environment in marine and non-marine systems whether buried or exposed.
3. Materials Science -- focuses on employing new technologies of investigate and characterize the physical and structural properties of various earth materials (minerals, rocks, sediments, silicate glasses and melts, metals, and alloys) under simulated high-pressure and high-temperature conditions in Earth's deep interior.
4. Oceanic Biology -- includes the study of biological processes as they relate to oceanography involving the study of oceanic productivity and the influence of biology on marine geochemistry, particularly with regard to the role of macro and microorganisms in the cycling of carbon, essential nutrient and energy in the sea.
5. Physical Oceanography -- focuses on the study of the circulation of the ocean both observationally and theoretically including the interaction with the atmosphere and the sea floor.

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6. Planetary Sciences -- studies the origin, evolution and present state of the solar system by studying the composition and geology of solid bodies in the solar system -- including the Earth, other planets, satellites, asteroids and comets -- and in applying this knowledge to develop and utilize terrestrial and near-Earth space resources.
7. Seismology and Solid Earth Geophysics -- includes the study of earthquakes throughout the Pacific, studies of elastic wave propagation through the Earth, and detailed studies of the structure of the Hawaiian Islands and the Pacific Ocean crust.
8. Volcanology, Geochemistry, and Petrology -- focuses on the study of the dynamics of volcanoes, geothermal energy exploration and development, identification of geologic hazards from eruptions, dating of the earth, and the study of the origin of the ocean basins and their volcanic islands.

The research activities of HIG are maintained on a discipline basis irrespective of department affiliations and whether the individuals are on the State payroll or supported out of grant and contract funds. The Division Chairmen are appointed by the Director of HIG on the basis of recommendations made by members of each disciplinary group. The division chairmen serve as members of the HIG Council, set the tone of the research program in each division, and serve on special HIG committees at the request of the Director.

Principal functions of the individual division chairmen are as follows:

1. Submit budgets and programs for their respective research divisions.
2. Administer HIG state funds allocated to each division.
3. Screen all proposals, reports and papers generated in a division before they are submitted to the Director for approval.
4. Serve as the first arbiter in resolving problems within a division.
5. Make recommendations to the HIG administrative staff regarding division matters and personnel.
6. Maintain active liaison with the HIG administrative staff, the other HIG research divisions, and along with the Associate Director, the affiliated departments of instruction.

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Research Projects

Two major research projects administered by the Hawaii Institute of Geophysics are:

1. Joint Institute for Marine and Atmospheric Research (JIMAR)
-- jointly sponsored by the University of Hawaii and the National Oceanic and Atmospheric Administration, JIMAR pursues research involving both theoretical and observational studies on climate, equatorial oceanography, and tsunamis.

2. Hawaii Undersea Research Laboratory (HURL)
-- established by a cooperative agreement between the National Oceanic and Atmospheric Administration (NOAA) and the University of Hawaii, HURL primarily supports research projects that require data acquisition at depths greater than scuba limits and concentrates its research efforts using submersibles in these areas: fisheries; pollution; sea floor properties and processes; and ocean technology and services.

Approved by: 

Title: _____

Director, Hawaii Institute of Geophysics

Date: _____

May 18, 1987

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FUNCTIONAL STATEMENT
HAWAII INSTITUTE OF MARINE BIOLOGY

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Director

Directs research activities, support and maintenance operations, and personnel in the Hawaii Institute of Marine Biology (HIMB), which has facilities located on Coconut Island, Kaneohe, the Mariculture Research and Training Center, Hakipuu, and on the UHM campus. HIMB has an international reputation in the areas of coral biology, tropical aquaculture, behavior of marine animals, and management of tropical near-shore ecosystems. The Director coordinates the research, teaching and service activities of the staff, and performs a myriad of tasks that relate to the University and State, national and international research programs. HIMB administers a satellite unit (Hawaii Cooperative Fisheries Unit) in Edmondson Hall on the Manoa Campus and it has a Cooperative Research Support Program with six other U. S. Universities and the Asian Institute of Technology in Thailand.

Coordination of Instructional Activities - Although the Hawaii Institute of Marine Biology does not itself give degrees, its overall goal is to support the educational process at the University. Several faculty members and graduate students from various Manoa departments use the HIMB as a research base without occupying assigned positions or being fiscally affiliated with the Institute.

The Institute carries on research in marine biological sciences, including applied areas such as aquaculture and fisheries resource management, and provides facilities for faculty members, graduate and undergraduate students, and visiting scientists. Furthermore, it affords instructional facilities for introductory and advanced courses throughout the University system on Oahu. From 1983, it has been the site of a graduate research and training summer program in selected topics

Though much of HIMB's activities are largely based on Coconut Island, and secondly at the MRTC, Hakipuu facility, it also maintains a small office in the Marine Science Building and has close interaction with facilities such as: Waikiki Aquarium, Pacific Biomedical Research Center, Look Laboratory, East-West Center, Bishop Museum, Oceanic Institute, Natural Energy Laboratory of Hawaii, and state and federal agencies with common interests.

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Office Functions - Administrative support relative to the operation of the Hawaii Institute of Marine Biology which currently has a composite operational budget of approximately 3.0 million dollars annually and involves over 100 people and approximately \$1.5 million in research grants and contracts.

Chart V - The overall organization of the Institute is shown relating the research program to the administrative/support elements.

Chart VA - Administrative/logistical and technical support for ongoing scientific activity within the Hawaii Institute of Marine Biology which includes, but is not limited to: fiscal management of state, federal funds, and private funds, clerical support, i.e. typing and maintaining records and proposals, preparation of budgets and fiscal reports, reception, switchboard, duplicating, procurement (purchasing/disbursing), and mail handling. It also includes general maintenance of facility and equipment, i.e. laboratory buildings, docks, ponds, tanks, equipment and supplies, vehicles, boats, and coordination of scientific efforts. It is noted that HIMB is largely an independent off-campus facility on an off-shore island and is excluded from many of the services of the Facilities Management Department.

Changes in Functional Plan - No major changes in the function plan to July 1, 1990. At that time, major reorganization under SOEST takes place.

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SCHOOL OF OCEAN AND EARTH SCIENCE AND TECHNOLOGY

FUNCTIONAL STATEMENT
HAWAII NATURAL ENERGY INSTITUTE

The Hawaii Natural Energy Institute is responsible for providing visibility, focus, and encouragement in bringing renewable energy activities and ocean resources technology into viable systems that will:

- (1) diminish Hawaii's total dependence on imported fossil fuels,
- (2) meet the State's increasing energy demands with little or no environmental degradation,
- (2) help the State utilize its ocean resources, and
- (3) contribute to the technology base for finding solutions to the national and global energy shortage.

HNEI interacts with and supports UH faculty and staff in renewable energy and ocean resources related activities. The objectives of HNEI are carried out through:

- Administering state, federal, and private funds allocated for renewable energy and ocean resources technology research.
- Maintaining cognizance over ocean resources and renewable energy related projects campus-wide and encouraging cooperative research among academic programs and research institutes.
- Maintaining liaison with government funding agencies, industry and private foundations with energy R&D interests.
- Providing representation on appropriate state and university committees.
- Interacting with state agencies to ensure compatibility of university efforts with state goals and objectives.
- Providing the university community and the public with pertinent information on ocean resources technology and renewable energy research matters.
- Encouraging the development of institutional courses and programs on renewable energy and ocean resources.
- Providing background data information on sources of material for educational program development.
- Sponsoring graduate programs to encourage top caliber students to participate in ocean resources and renewable energy research projects leading toward theses.
- Developing national and international cooperative agreements for collaborative research efforts.

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FUNCTIONAL STATEMENT
DEPARTMENT OF GEOLOGY AND GEOPHYSICS

Chair

The Department of Geology and Geophysics is organized on the basis of a Departmental Chairman, Standing Committees, and Ad Hoc Committees, as agreed by the faculty of the Department during the reestablishment of the Department in 1971.

The Departmental Chairman presides at Departmental Meetings. Departmental policy is decided at Departmental Meetings. The agenda for these meetings is established by the Chairman in consultation with the chairmen of the standing committees.

The Departmental Chairman is responsible to the Dean of the College of Natural Sciences for the functions listed in the Faculty Handbook, and to the faculty of the department for the functions listed in its Departmental Organization. The more important functions are listed below.

- Direct the activities, curricula, and personnel of the Department of Geology and Geophysics.
- Represent the Department when asked for comment or contribution ex-officio by the University Administration, or other bodies outside the Department.
- With the advice and consent of the Graduate Work Committee (standing), whose members are elected by and from the research program in the Department: recruit, evaluate, accept, confer with, and assign advisors of new graduate students; assign study space; evaluate yearly the progress of existing students; coordinate appointments to research assistantships, teaching assistantships, and fellowships for qualified and deserving graduate students; coordinate with Hawaii Institute of Geophysics, Water Resources Research Center, other university institutes, other departments, state and federal agencies, and private companies regarding joint projects, possible employment, and equipment used by graduate students; award departmental computer funds to graduate students; organize the weekly departmental seminar.
- Conduct research and make its results public. Improve professional skills. Normally most faculty members of Department of Geology and Geophysics are jointly appointed with units of Organized Research at the University; currently in September 1975 all are jointly appointed. Research functions will be listed in more detail by those units.

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- Provide service to the Department by acting on its standing and ad hoc committees; to the University through committee work and special assignments; to the State of Hawaii in the manner of the Geological Surveys of the other states or as otherwise requested; to the United States as requested; to local, national, and international professional organizations as requested; provide professional services on an overload fee basis as allowed by current regulations.

Graduate Teaching Assistants, in rank 1, have these departmental functions:

- Under supervision, assist in laboratory sections of undergraduate courses; assist instructors in preparation of teaching materials, audiovisual aids, and related tasks; assist in grading examinations and counselling students in classes.

APT Personnel

None.

Civil Service Personnel

Organize and supervise operations of the Departmental Office; type, mail, and file departmental correspondence; maintain security of files, reproduced examinations, and office supplies; prepare requisitions and maintain expenditure records; maintain student and faculty records; take and forward messages; dispose of routine requests and reports; assist Chairman or committee chairmen in assembling information to respond to unusual requests; supervise student help who assist in office; as time permits, type manuscripts, grant applications, and reports of departmental faculty; other duties as requested by departmental faculty.

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FUNCTIONAL STATEMENT
DEPARTMENT OF METEOROLOGY

Chair

Directs activities, curricula and personnel in the Department which offers B.S., M.S. and Ph.D. degrees emphasizing the meteorology of the tropics.

Coordinates instructional activities.

Prepares unit's budget requests.

Reviews and makes recommendations in regard to all personnel actions involving members of the Department.

Conducts research and exercises general editorial supervision over faculty research reports and papers.

Acts as administrative liaison with the School of Ocean and Earth Science and Technology (SOEST).

Instructional Staff

Provides instruction; conducts sponsored and unsponsored research into tropical meteorology, emphasizing cloud physics, synoptic and numerical modeling, satellite meteorology, monsoon meteorology and the meteorology of the Hawaiian Islands as related to rainfall and alternate energy resources; undertakes community and consultant service pertaining to the weather and climate of Hawaii and the Pacific basin.

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FUNCTIONAL STATEMENT
DEPARTMENT OF OCEANOGRAPHY

Chair

Directs and coordinates teaching and research activities, curricula, and personnel in the Department of Oceanography. The Department is a graduate department providing instruction in biological, physical, chemical, and geological oceanography leading to the M.S. and Ph.D. degrees. Six undergraduate service courses are offered, and have a total enrollment of approximately 2,000 each year. In addition to format instructional activities, department faculty are actively involved in research supported by extramural grants. Research at present is performed in the Oceanography Department, through the Hawaii Institute of Geophysics, the Hawaii Institute of Marine Biology, and the Hawaii Natural Energy Institute. The combined research support for all oceanography for 1986 is in excess of 4.5 million dollars. These research functions are essential to graduate and undergraduate education, and provide the facilities and opportunities for thesis and dissertation research. Research is also important to the economic development of the State of Hawaii in terms of resource evaluation and environmental protection.

The Chairman coordinates instructional activities; prepares departmental budget requests; reviews and makes recommendations in regard to all personnel actions involving members of the department; and serves as contact point for the department to other Marine Programs at the University.

Instructional Staff

Provide instruction, conduct research, and undertake community service pertaining to all branches of oceanography (physical, chemical, biological, and geological). These include formal instruction, symposia, advising, and thesis research direction.

The Department of Oceanography presently has 22 graduate faculty who advise students, serve on students' committees, and serve on appropriate college and university committees.

Civil Service Personnel

Responsible for overall operation of the department office, maintain student and faculty records and assist with preparation of instructional and research materials for faculty.

The Department of Oceanography presently has only one civil service person, a Secretary II, who provides secretarial services to the department chairman in addition to servicing the graduate faculty and

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the department's graduate students. Some of the other responsibilities of the secretary include: consulting with the chairperson concerning administrative matters, typing personnel forms, supervising and coordinating the work of three student helpers, answering the telephone and answering the many queries posed by students and visitors to the office.

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FUNCTIONAL STATEMENT
DEPARTMENT OF OCEAN ENGINEERING

Administers a balanced program of instruction and research in ocean engineering. The academic program is a graduate program and leads to the degrees of M.S. and Ph.D., but the department has responsibility for the instruction of both graduate and undergraduate courses in the field. The instructional program also involves curriculum planning and advising of students in their research. The research program consists of carrying out research in accordance with the purpose for which the proposals were funded. The research effort blends with the instructional effort in that it provides students with support through research assistantships, and it provides students with research subjects for their theses. As part of their function, faculty members serve in committees at the College and University level and participate in other service activities.

J.K.K. Look Laboratory of Oceanographic Engineering is a research and instructional laboratory that provides research facilities and services to faculty, students, and staff involved in academic research, including extramural, intramural, and/or in-house studies relating to ocean engineering. Assists state and federal agencies in solving many ocean-related problems. Educates the graduate students in all aspects of physical and mathematical modeling techniques as applied to waterways, harbors, coastal engineering, and ship hydrodynamics through an ocean hydrodynamics laboratory course and on-the-job training. Educate the public on the awareness of marine science and ocean engineering by making the Look Laboratory facilities and researchers available to study-tour groups or individuals. Provide advisory services to a variety of organizations and/or general public in the field of ocean engineering.

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