Director's Office

16 February 1951

Dr. George A. Pettitt
Assistant to the President
225 Administration Building
University of California
Berkeley 4, California

Dear Dr. Pettitt:

Enclosed is the report of physical facilities and personnel for the Scripps Institution, requested in President Sproul's letter of 17 January, which also indicated that the report was to be directed to you as coordinator on a University-wide basis.

Very truly yours,

Roger R. Revelle
Acting Director

JLF:mcw
Enclosure
cc: Mr. John Kirby

PART I

PHYSICAL PLANT DEVOTED TO INSTRUCTIONAL SERVICES

Section 1: Instructional Plant

Type of Space	Total no. of units	Gross floor area (sq. ft.)	Seating capacity or work station	Number of Rooms Equipped for day-light film projection	Number of Rooms Equipped with public address system
a. Classroom	1	600	70	1	----
b. Laboratory-total	26	12,400	48	----	----
(1) Biological	21	11,000	40	----	----
(2) Physical Sciences	2	450	4	----	----
(3) Electronics	3	700	4	----	----
c. Shop-technical	2	3,213	10	----	----
d. Office	26	5,174	45	----	----
e. Library	1	3,500	40	----	----
f. Auditorium and theatre	none	----	----	----	----
g. Gymnasium and field house	none	----	----	----	----
h. Armory and drill hall	none	----	----	----	----

Section 2: Library

The main library is divided into two sections, (a) a reading room and (b a storage or stack section. The reading room contains 1,170 square feet. The stack section has a total of 2,340 square feet divided into two levels of 1,170 square feet each. The library contains 24,143 volumes, not including maps, charts, reprints, monographs, pamphlets, etc. There is a total of 4,970 linear feet of shelf space in the library and 1,240 feet in the annex. The coverage of library and annex in the order of strength is (a) Biology, (b) Oceanography, (c) Chemistry, (d) Physics, and (e) Mathematics. In addition to the above one member of the Faculty has a library adjoining his office which has 770 feet of shelving and contains 40,000 reprints and volumes on Ichthyology and Fish Biology.

Section 3: Air Fields

There are no air fields.

Section 4: Unusual Research Facilities

Flowing seawater is available in many of the laboratories. A pier 1,100 feet long and extending through the surf zone into the open ocean is owned by the Institution. The pier is somewhat protected from heavy south winds and has covered work space, davits, a landing platform, etc. It is located close to the La Jolla Submarine Canyon and consequently has water of several hundred fathom depths available for work within easy distance by small boats. The Institution operates four sea

going vessels totaling approximately 1,200 tons displacement plus smaller craft for local inshore work. The sea-going vessels have biological and physical laboratory space totaling 940 square feet and are equipped with special oceanographic winches, echo ranging equipment, fathometers and other research equipment. Three of the vessels are equipped with radar and loran.

A radio transmitting-receiving station is located on the campus. The station is equipped with one transmitter capable of 400 watts output on any frequency from commercial broadcast up to 35,000 KC's and one transmitter capable of 2,000 to 3,000 watts output on any frequency from 2,000 KC's to 16,000 KC's using voice or code. Auxiliary power is available for operating the station equipment. Several full coverage receivers are maintained.

Additional special facilities include high pressure hydraulic testing apparatus capable of operating at 30,000 p.s.i. and above.

Section 5: Teacher education, etc.

There are no facilities for teacher education.

Section 6: Other instructional facilities.

A recently completed Museum-Aquarium building containing 12,255 square feet is also available. This is a two story and basement building of reinforced concrete which will house the museum, aquarium, curator's work shop, electrical plant and administrative offices of the Institution.

Section 7: Public address system, etc.

There are no indoor seating areas served by a public address system.

PART II

SPECIAL PROGRAMS OF TEACHING AND RESEARCH

Section 1: Special Programs in teaching

Descriptive Title	Credit hours and level	Current enrollment	Additional enrollment capacity	No. faculty members and teaching staff F.T. equivalent
(a) Biology of the sea	U3	23	30	1/3
(b) Chemistry of sea water	U3	23	30	1/3
(c) Chemical methods	U1	10	40	1/10
(d) Geology; submarine	U3	23	30	1/3
(e) Hydrodynamics	G3	8	50	1/3
(f) Oceanography; general physical	G3	12	40	1/3
(g) Oceanography; introductive to physical	U3	23	30	1/3
(h) Oceanography; problems in general	G3	5	50	1/3
(i) Oceanography; Research in	G1-6	15	50	4
(j) Oceanography; special studies in	U 1-4	8	50	2
(k) Oceanography; special topics in	G2	8	50	1/5
(l) Sound; principles of underwater	U2	13	40	1/5
(m) Sediments; marine	G3	15	35	1/3
(n) Tides	G3	2	58	1/3
(o) Waves	G3	19	30	1/3

Note (a): Lectures on classifications, descriptions, ecology and morphology of marine organisms.

Note (b): Lectures on chemical composition and chemical processes of the ocean.

Note (c): Laboratory work on methods of chemical analysis of sea water, primarily special methods for use aboard ship.

Note (d): Lectures on topography, structure and sediments of the sea floor; beach and shore line processes.

Note (e): Lectures on theoretical thermodynamics and hydrodynamics of ocean currents, waves and turbulence.

Note (f): Advanced lectures on physical principles controlling currents and turbulence in the ocean.

Note (g): Elementary lectures on temperatures, salinities, density, other physical properties of the ocean; waves, currents, and turbulent motion in the ocean, methods of oceanographic measurement.

Note (h): Seminar in descriptive and theoretical oceanography emphasizing new advances in the science.

Note (i): Graduate research in any one of the major fields of oceanography: submarine geology, oceanographic chemistry and bio-chemistry, marine biology, microbiology and physical oceanography.

Note (j): Supervised research by the student in any one of the major fields of oceanography: submarine geology, oceanographic chemistry and bio-chemistry, marine biology, microbiology and physical oceanography.

Note (k): Lectures on military applications of oceanography.

Note (l): Lectures on the behavior of sound in the sea as dependent on the laws of acoustics and the distribution of variables in the ocean.

Note (m): Lectures and laboratory studies on the distribution and character of recent marine sediments.

Note (n): Lectures and laboratory on theory and computation of oceanic tides and tidal currents.

Note (o): Advanced lectures on physical principles controlling ocean surface wave phenomena.

The Institution has fourteen faculty members in the ranks of Professor, Associate and Assistant Professor. In addition there are twenty-eight staff members holding full or part-time research positions comparable in salary and qualifications to faculty positions in the ranks of Instructor, Assistant Professor or Associate Professor. Several of these staff members participate in the teaching program and are included in the above tabulation.

Section 2: Special programs of research.

Descriptive Title of Program	No. students	No. Faculty and Professorial staff (F.T. equivalent)
Classified research in physics of the sea	2	6
Research on ocean waves, currents and other forms of motion in the sea	10	3
Research on oceanographic and biological problems of marine fisheries	9	6

Descriptive Title of Program	No. students	No. Faculty and Professorial staff (F.T. equivalent)
Geological and geophysical exploration of the sea bottom	6	3
Research on problems of beach erosion	3	1½
Research in marine biochemistry	4	1
Research in marine microbiology	3	2
Research in marine chemistry	6	3
Development of oceanographic instruments	3	2
Processing and assembling of data on thermal structure of the sea	0	2
	46	29½

Section 3: Additional Programs

Descriptive Title	(Check whether:) Teaching	Research	Maximum enrollment capacity	Available faculty members F.T. equivalent
(a) Harbor reconnaissance	T			See Note 1
(b) Sea swell and surf forecasting	T			
(c) Underwater noise				
(d) Exchange processes between sea and atmosphere				
(e) Amphibious oceanography	T			
(f) Survival at sea and air-sea rescue	T			
(g) Oceanography for undersea warfare	T			
(h) Arctic oceanography	T			
(i) Marine fouling	T			
(j) Orientation of personnel to life at sea	T			
(k) General military oceanography	T			
(l) Oceanography of engineering structures	T			
(m) Effect of underwater atomic explosions	T			

Note 1: The above programs are suggested as possibilities only on the assumption that one or more of them could be carried out by a corresponding reduction in other activities or by expanding the staff as necessary to accomodate an altered program. The present staff could supervise the organization and presentation of these courses; most of the actual teaching could be done by our advanced graduate students.

Note (a): Affecting mine and antisubmarine defense of harbors and radioactive contamination.

Note (b): For use with amphibious landings and other operations at sea.

Note (c): Recognition of noisy organisms affecting ASW and mine warfare.

Note (d): Affecting military weather forecasting.

Note (e): Beach types, gradients, trafficability and other conditions.

Note (f): Drift and location of life rafts, edible marine organisms and fishing methods.

Note (g): Including Pro- and Anti-submarine warfare, underwater sound, diving characteristics of submarines, submarine navigation and radar sea clutter.

Note (h): Thickness, characteristics, distribution and movement of sea ice. Arctic ocean currents and bottom sediments on the Arctic beaches.

Note (i): Fouling of ships, mines, shore installations, etc.

Note (j): What to look for on shipboard.

Note (k): Effect of oceanic environment on military operations.

Note (l): Protection of harbors and shore installations from sea and swell and from seismic sea waves, beach erosion and movement of sediments affecting shore installations; marine borers and other organic effects on structures.

Note (m): Wavee and other destructive phenomena resulting from underwater atomic explosions.

Section 4: Explanatory material.

See notes under sections 1, 2 and 3.

Section 5: Organized programs in professions and vocations.

Bacteriologist; marine
b Biologist; marine
Biochemist; marine
Botanist; marine
Chemist; marine
Forecaster; waves and surf
Geologist; submarine
Oceanography; physical
Planktonologist
Technician; oceanographic

Section 6: Degrees granted 1949-50.

Major field of study	Master's		Doctor's	
	Men	Women	Men	Women
Oceanography	9	1	5	0
Zoology	0	0	0	1
Ichthyology	0	0	1	0

PART III

HUMAN RESOURCES OF INSTITUTION

A. Faculty and Research Staff, data as of 1 February 1951

Section 1	Professor	Associate Professor	Assistant Professor	Assoc. Oceanog. [1]	Asst. Oceanog. [2]	Assoc. in Oceanog. [3]	Res. Assoc. [4]	Lecturer [4]	Total
Division: Biochemistry	1								1
Marine Botany			1				1/3		1-1/3
Marine Chemistry	1				1	1			3
Marine Invertebrates	1						1		2
M Marine Microbiology	1						1		2
Marine Physical Laboratory	1	2			1	1	1		6
Marine Vertebrates	1				1	1			3
P Physical Oceanography	2	1		1	3	6	1		14
v Submarine Geology	1	1				3		1/3	4-1/3
O Oceanographic Instrumentation				1		1			2
TOTAL	9	4	1	2	6	13	4-1/3	1/3	39-2/3

1/ Corresponds in pay and qualifications to Associate Professor. Includes also Associate Marine Biologist.

2/ Corresponds in pay and qualifications to Assistant Professor. Includes also Assistant Physicist and Assistant Marine Chemist.

3/ Corresponds in pay and qualifications to Instructor. Includes also Associate in Physics and Associate in Marine Geology.

4/ Full time equivalent.

B. Enrollment data as of 1 February 1951

Division	Date of Maximum	Full Time Grand Total Men	Women	Undergraduate Men	Undergraduate Women	Graduate Men	Graduate Women	Professional	Part Time
Biochemistry	1950-51	3	1	0	0	3	1		
Marine Botany	1950-51	0	0	0	0	0	0		
Marine Chemistry	1950-51	5	1	0	0	5	1		
Marine Invertebrates	1950-51	6	0	0	0	6	0		
Marine Microbiology	1950-51	2	1	0	0	2	1		
Marine Physical Lab.	1950-51	0	0	0	0	0	0	N.A.	N.A.
Marine Vertebrates	1950-51	6	0	0	0	6	0		
Physical Oceanography	1950-51	19	2	0	0	19	2		
Submarine Geology	1950-51	11	0	0	0	11	0		
Oceanographic Instrumentation	1950-51	3	0	0	0	3	0		
		55	5	0	0	55	0		

Section 2: Other abilities

Usual language qualifications.

PART IV

NON-INSTRUCTIONAL FACILITIES OPERATED BY THE INSTITUTION.
INFORMATION AS OF 12 FEBRUARY 1951.

A. Housing Facilities

Section 1

Building or Unit	For occupants who are Single	Married
a. No. of units	3	24
b. Gross area in square feet	34,100	
c. Normal capacity	98	
d. Maximum capacity	98	
e. Percentage of gross area (item b) that is:		
Permanent type - practically new	0%	
Permanent type - good	80%	
Permanent type - nearly obsolete	20%	
Temporary	0%	

Section 2. Features of housing facilities.

Housing facilities consist of twenty-four, 1, 2 and 3 bedroom units principally occupied by the staff.

Section 3. Institution cost.

The Institutional cost per student per week for housing is approximately $7.00 each.

Section 4. New housing.

There are no new housing facilities on which construction has been started.

B. Feeding facilities

There are no general facilities for feeding the staff, although individual kitchens exist in each one of the 24 units reported under Item A above.

C. Section 1.

There are no special actions which the Institution can take to meet an epidemic or emergency health situation other than those which could normally be expected of a scientific institution possessing bacteriologists, bacteriological laboratories, microscopes and other similar facilities.

Section 2. There is no specific health service facility for personnel.

Section 3. None.

D. Section 1. Recreational facilities.

Tennis courts -- 1 outdoor
Swimming beach -- 1 outdoor

Section 2. Reading rooms, etc.

There is one reading room (previously reported) under the Library containing 1,170 square feet.

E. Operation and Maintenance of Physical Plant and Related Services

Section 1.

Items	No. of Units	Total area in sq. ft.
(a) Offices for building and grounds staff	1	200
(b) Service shops	1	2,800
(c) Power plants	none	-----
(d) Garages	1	3,280
(e) Storage facilities	limited	-----
(f) Laundries	none	-----

Section 2.

There are seventeen persons employed full time in the Buildings and Grounds Department.

Section 3.

For our present enrollment, the service facilities are essentially adequate. New power and sewage disposal lines have just been installed. A new fire truck has been purchased. Policing is somewhat inadequate but is satisfactory. Repair and maintenance work suffers from lack of personnel to some extent.

Section 4.

The number of personnel for the various service facilities of this Institution is essentially adequate. This also pertains to the janitorial service under

the load of present enrollment. Personnel to perform repair and maintenance work are not entirely adequate.

Section 5.

There is no new construction of facilities under this category.

PART V

PROPOSALS FOR DEFENSE USES OF THE INSTITUTION'S FACILITIES

A. This Institution is at present and has been for several years engaged in various phases of teaching, research and special development work closely associated with the national defense and war effort. It is believed that maximum results to the National Defense effort would be achieved by continuing and expanding the present program.

B. In World War II the program indicated in paragraph A above was carried out.

PART VI

INFORMATION ABOUT COMMUNITY IN WHICH INSTITUTION IS LOCATED

The University of California Scripps Institution of Oceanography is located in the outskirts of La Jolla, California, approximately fifteen miles from the center of San Diego, California. The population of La Jolla is between 12,000 and 12,500. The weather, averaged over a sixty year period, has a low of 58 degrees and a high of 68 degrees. The housing conditions are fair, rents high and vacancies mostly furnished apartments. There is an elementary schoola and junior and senior ghigh schools, both of which are public schools. There is a private pre-school which goes to the third grade. There is a private school for girls from the seventh grade through high school. There is also a Catholic grade school. Also located in La Jolla is a Community House, playgrounds and a private golf course at which visitors are allowed to play fby paying green fees. There are several tennis courts which are free to the public and a free putting course. The community has several riding stables. There are eight churches for white people and two churches for colored persons. There are nine hotels. Adequate bus service is available from San Diego to La Jolla and from Los Angeles through La Jolla. There are two theatres, numerous beaches, a city fire department and a police department.