

Something New Under The Sun . . .

Weather Station In Operation On A. & M. Campus

A new and developing activity of A. and M. College is the weather station in the veterinary medicine building. The Department of Oceanography operates the station as a part of its meteorology training program.

Dr. D. F. Leipper is head of the department.

The station is equipped with the basic weather instruments and facilities. Indoors are the apparatus which measure and continuously records atmospheric pressure, a panel indicating continuously the wind speed and direction which the combination anemometer-wind vane on the roof gives, the weather tele-type and numerous devices for working up weather reports.

Standard outdoor equipment on the ground consists of a rain gage

and instrument shelter. The shelter houses the hygro-thermograph which continuously records temperature and relative humidity, maximum and minimum thermometers, and a wet-and-dry-bulb psychrometer for measuring temperature and humidity more accurately.

There are facilities for measuring winds from the surface upward by the "pilot balloon method." A balloon is filled with helium (or any gas lighter than air) to the point that its force exerted upward corresponds to the desired rate of ascent. After the balloon is released it is followed by means of a theodolite—a modification of the engineer's transit—and its azimuth angle and angle of elevation above the horizon are read at one-minute intervals. At night a small dry

cell lamp or Japanese lantern with candle is attached to the balloon. From the data so obtained the position of the balloon at each reading is determined, and thus the wind direction and speed at each level are computed.

On demonstrations in the weather station is the complete radiosonde rig which is sent aloft to measure pressure, temperature, and humidity. This consists of a large balloon, parachute, and radio-sonde. The radiosonde, a small radio transmitter powered by dry-cell battery, sends signals which a radio receiver-recorder on the ground picks up. Nearly 100 stations over the United States and adjacent areas make such observations on a regular basis. The weather station is not equipped to make these ob-

servations now, but it may well be in the near future. A radar set for tracking such violent phenomena as tornadoes and thunderstorms is planned also as part of the facilities.

The teletype receives the basic weather reports in code from all the United States, bordering land areas and ships at sea. The machine operates 24 hours a day, seven days a week. Reports consist of weather observations made every six hours at all first-order weather bureau stations, pilot-balloon wind reports every six hours, radiosonde reports every 12 hours, and weather summaries and forecasts. The forecasts are those broadcast to the public as well as detailed and specific ones for aviation. Weather maps are prepared daily from the

observations received. A number of weather charts are received regularly by mail from the central office of the Weather Bureau in Washington, D.C. These include the actual weather maps for the entire northern hemisphere, five-day forecast maps for that area, monthly forecast maps, and the Daily Weather Map for the United States. This file is supplemented by the recently acquired set of daily Historical Weather Maps, which extend from the year 1899 to the present.

Although it is maintained as a laboratory and center of the meteorology instruction program, the weather station is open to students and staff of the college and to the public. It is entered through the northeast entrance of the Veterinary Medicine building.

Battalion "Aug."
1958

Laundry Wrapping Leads Leipper To Present Field

By BILL MEBANE

Proving that small incidents sometimes lead to big results, Dale F. Leipper, Head of the Oceanography Department at A&M, became interested in his field through an article in a newspaper in which his laundry was wrapped.

He received the paper when he was in the Signal Corps stationed on the West Coast in 1941. Although it contained no world-shaking news there was a story about applications to meteorological cadet school at the Scripps Institution of Oceanography a UCLA in La Jolla, Cal.

Leipper had graduated from Wittenberg College in Ohio and had received his Masters degree from Ohio State University. But further education was interrupted when he was drafted just before Pearl Harbor. From the newspaper article he learned that he could go on with his education.

Waits Six Weeks

After Leipper waited six weeks for school to start, his year was spent studying the weather and learning how to forecast height of waves for landing purposes.

The next year he lived on Adak in the Alutian Islands forecasting weather for the airlines and the navy. After being transferred to Anchorage, Alaska, Leipper was put in charge of an oceanography research unit at the Air Force

weather station.

From Anchorage he returned to Scripps Institution where he worked on his Ph. D. in oceanography. In his study of physical oceanography, he participated in many projects, one of which was an attempt to bring sardines back to the California coast.

Police Check On Tool Theft

Local police were reported yesterday to be investigating the \$130 tool theft which occurred last Saturday noon at the Anthony Garage in the North Gate business area.

Police said the owners, who were at lunch at the time the tools were taken, did not report the crime until yesterday because they thought someone else had borrowed them.

The alleged borrower was contacted yesterday and said he had not taken the tools as the owners, Will Zimmerman and W. E. Anthony had thought.

Two suspects have already been rounded up according to city patrolman Curtis E. Bullock.

Three rachets, two sets of wrench sockets of various sizes, one flax handle, eight box-end wrenches of various sizes, four open-end wrenches and one electric drill.

Also missing was one set of high speed drill bits varying in size from one-eighth to one-half an inch.

Leipper could be called a pioneer of oceanography at A&M. Idea for his department began when swarms of oysters on the Texas coast were dying several years ago. The A&M Research Foundation discovered that sea wind and currents affected the life of oysters.

Since oceanography is a study of everything under, over, in, or around the ocean, it became only logical that a department be formed to study these things.

Leipper, who received his Ph. D. from UCLA in 1949 was brought here to put the Department of Oceanography on its feet.

His title as department head becomes effective on Sept. 7. A full-scale program with three instructors will begin then for the 50 students who are expected to register for the courses.

Ocean Laboratory

A&M's oceanography students have 700,000 square miles of ocean bed as a laboratory. Not only must they know oceanography, they must have an interest and knowledge in almost everything else because it all ties up with oceanography.

The course is built on a graduate program. An undergraduate majoring in physical science, biological science, or engineering may take an introductory oceanography course as part of his electives. He can complete his graduate work in from 12 to 18 months.

Part of the fun, Leipper said, is that all oceanography students here can go to sea on a 112 foot converted tuna craft docked at Galveston.

Four Jobs Already Open . . .

May 1960

Oceanography Department Ready for Full Operation

By DAVE COSLETT

Four of A&M's first oceanography majors will have a chance to earn and learn this coming fall and summer as participants in the first long range investigation of the Gulf of Mexico.

Part-time jobs, paying \$125 per month, will open to a quartet of graduate students interested in this comparatively new field. Qualifications are that each applicant hold a degree in either mathematics, physics, or engineering and plan to do graduate work in oceanography.

Work will consist of helping to do all the physical oceanography in connection with the overall biological investigation of the Gulf being undertaken by the Fish and Wildlife Service.

The students will spend much of their time aboard the Alaska, a former tuna clipper being converted into an oceanographic research vessel. A large ship capable of covering the entire gulf, the Alaska should be ready to sail by the first of August.

According to Oceanography Department Head Dr. Dale F. Leipper, the work will be especially valuable in that it may lead to a wealth of material for a master's thesis.

The department, which was established last July, will be entering its first year of full-scale work next fall. This semester two courses were offered—An Introduction to Oceanography, and Geological Oceanography. Forty graduating seniors and graduate students enrolled in the first course; 14 enrolled in the second one.

This coming school year, five courses will be offered and A&M graduate students will be afforded their first chance to major in the subject. All work leads to a masters degree.

Leipper feels confident that the department will be able to offer work leading to a doctorate by the time students become qualified for such work.

The department will be staffed this fall by Liepper and four

other professors. Dr. W. Armstrong Price will be professor of geological oceanography and Dr. J. G. Mackin will be professor of biological oceanography.

Donald Hood will take over as assistant professor of chemical oceanography August 1. He gets his doctorate this year at A&M in chemistry and nutrition.

Three types of study are offered—a survey course, eight units of work constituting a minor, and the major course of study.

The oceanography major course of study is divided into five phases. These are biological, chemical, geological, physical and meteorological oceanography.

Graduates planning to major in the field must hold a degree in one of these sciences or in math or engineering. They must have completed eight hours each of math, physics and chemistry or biology.

The new study deals with problems related to the oceans that cannot be solved in one of the other basic sciences alone. According to Dr. Leipper, matter and life existent in or related to, the area in, under, around or over the oceans comes under the scope of the course.

A&M's department of oceanography is one of very few in existence in this country. It is the only such department in the Gulf Coast area and shows promise, according to college officials, of becoming the center of such study in this part of the country.

The science itself it also comparatively new. It came into existence

about 100 years ago. It was first taught in this country less than 50 years ago. Only in the last 30 years has it demanded the attention of major educational institutions.

Geologist is Hired As New Instructor In Oceanography

Dr. W. Armstrong Price of Corpus Christi has joined the new Oceanography Department at A. and M. College and is teaching a course in geological oceanography.

Dr. Price, an independent geologist for 30 years, is a widely known authority on marine aspects of geology and has spent many years studying the shorelines of Texas.

A native of Richmond, Va., he received a bachelor's degree from Davidson College in 1909 and a doctor's degree in geology from John Hopkins University in 1913.

Directed Research

Dr. Price has served the Humble Oil and Refining Company as director of a research project since 1947. He conducted a geology field course for A. and M. College for six weeks during the summer of 1946.

His interest in the marine aspects of geology began in 1930 with a study of the present and Pleistocene shorelines of southern Texas, including the bays and the coastal lagoon.

He later studied the Pleistocene geology of the coast, including the shorelines, from Panuco, Mexico, to the Mississippi river and the Rio Grande delta and the history of the coastal lagoon, Laguna Madre.

Studied Texas Coast

Since 1947, he has been studying the geological history of extensive sections of the coast of southern Texas under a research project sponsored by Humble.

Dr. Price is the first of four men to be added to the faculty in the Oceanography department by next September. Dr. Dale F. Leipper is head of the department.

Please return

Bryan News Feb 5, 1950



JOINS OCEANOGRAPHY STAFF—W. Armstrong Price, left, of Corpus Christi, has joined the new Oceanography Department at Texas A. and M. College. Dale F. Leipper, right, is head of the department. Mr. Price, an independent geologist for 30 years, is a widely known authority on marine aspects of geology and has spent many years studying the shorelines of southern Texas. A native of Richmond, Virginia, he holds a Ph. D., geology from John Hopkins University and an AB from Davidson college.

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Oceanography Class at A&M, First Here, Is Probably Largest in United States

Classes have started in the first courses in oceanography ever offered at Texas A&M College, with enrollment exceeding expectations.

Dale F. Leipper, head of the oceanography department, has announced that enrollment in the two courses offered during the spring semester totals 63, with 21 in the geological oceanography course and 42 in the introductory course.

Dr. Leipper believes the 42 students in the oceanography class make it the largest in the United States.

The subject is offered at A&M only at senior and graduate levels. Since oceanography deals with all sciences that affect, or

are affected by, the ocean, Dr. Leipper points out, the study is of great importance to the Gulf coast area.

About half the enrollment in the introductory course is made up of students in geology or petroleum engineering. There are a number of biology students in the class, but a large portion of the group is composed of students in such seemingly unrelated fields as mechanical engineering, civil engineering, pre-medicine and architecture.

Dr. Leipper conducted a survey to ascertain what prompted his students' interest in the subject. Many, he found, served in the Navy during World War II and are seeking the answers to the mysteries of the sea. Others were

interested because of the various marine industries along the Gulf coast.

But one student, a civil engineer, professed to be taking the course solely because it was the first opportunity he had found to take a course with his roommate, a biology student. Furthermore, he asked that he and his roommate be seated next to each other in the classroom.

Members of the class plan to enter a wide range of vocations, from off-shore drilling to that of a salesman.

While only two courses in oceanography are being offered this spring, plans call for offering 14 courses for seniors and gradu-

El Cajon Man Heads Texas A&M Studies

Dr. Dale F. Leipper heads newest department at Texas A. and M. where they offer one of the best courses in Oceanography.

Dr. Leipper is the son of Dr. and Mrs. Robert Leipper of Grossmont avenue, El Cajon.

After service in Signal Corps during World War II, Dr. Leipper became interested in oceanography. He took his doctor's degree at Scripps Institute of Oceanography and went to Texas in 1949.

There are 45 students taking the courses at Texas A&M with four instructors. Field studies are conducted in the gulf and many industrial firms are interested in the findings. The study of oceanography is one of the newer scientific fields and gives promise to become of greater importance as the years go by, according to university scientists and other authorities.

Dr. Leipper was appointed the president and faculty of W. A. Rouse Johnson College, where he received his BS degree, to represent the college at the inauguration of Marjorie Thomas Harrington as president of Texas A&M on November 9.

License Commission ordered T. McCaffery ordered to file financial statement.

ate students during the 1950-51 school year. The staff, now consisting solely of Dr. Leipper and Dr. W. Armstrong Price, will be increased to five by next September.

Dr. Leipper was mildly concerned for the future of the oceanography department during registration this week when a student approached his desk and asked to enroll in a course in water polo. His concern was alleviated, however, by the fact that students were being enrolled in physical education classes at the desk adjoining.

NOTICE

Will pay 50c under Fort Worth packer top for top hogs. Buying dates — Mondays, Tuesdays and Wednesdays. No commission.

M. J. TREMONT

A&M Scientists To Reveal Complex Ocean Secrets

Texas A&M scientists will soon be using automation to electronically tabulate and reveal some of the ocean's most complex secrets.

Starting in September, investigators in the school's Department of Oceanography and Meteorology will begin a project known as "Environmental Studies Off Panama City, Florida."

That title is simple enough, but behind it is the goal of determining just what goes on in sea water and in the air immediately above.

More specifically, the study is an attempt to analyze the natural influences that affect the physical features of sea water, such as temperature, salinity, wave action, currents and internal waves.

Making these measurements is nothing new. It has been going on among oceanographers for some time, but progress has been hindered by slow, tedious manual procedures.

This is where automation comes in on the Panama City project. The entire operation, from data gathering to data processing, will be automated. Scientists won't do any of the actual measuring or computations. They'll just check the equipment now and then to see that no electronic fibs are being served up.

A&M's Oceanography Department will carry out the research under contract with the Office of Naval Research. Data will be gathered on an off-shore platform in the Panama City area.

Several hundred of these platforms can be found on coastal waters of the southern states. Nearly all the structures were built for oil exploration or production. But two were built off Pan-

OFFICIAL NOTICES

Official notices must be brought, mailed or telephoned so as to arrive in the Office of Student Publications (Ground Floor YMCA, VI 6-6415, hours 8-12, 1-5, daily Monday through Friday) at or before the deadline of 1 p.m. of the day preceding publication — Director of Student Publications.

Ph. D. Language Examination Examinations for meeting the foreign language requirement for the Ph. D. degree will be given Wednesday, August 23, at 1:30 P. M. in Room 129, Academic Building. Students wishing to take this examination should leave the material over which they wish to be examined with the Secretary in the Department of Modern Languages not later than 5:00 p. m. Monday, August 21. J. J. Woolket, Head, Department of Modern Languages. 129t3

ama City by the U. S. Navy Mine Defense Laboratory for underwater acoustics work. The Navy calls them Stage 1 and Stage 2.

The platform available for A&M's project is Stage 1, which is about 11 nautical miles offshore in 100 feet of water.

Principal investigator is Roy Gaul, research scientist. Dr. Dale Leipper, head of the A&M Oceanography and Meteorology Department, is project supervisor.

Other personnel include Mr. and Mrs. Dean Letzring, field scientist and assistant, respectively; A. D. Kirkan Jr., research scientist; and Charles Hodges, boat captain.

Gaul says this will be the first time that this type of study will be completely automated. More important, however, is the fact that the electronic equipment will allow the researchers to collect and analyze in one year the equivalent of several years of data obtained by the usual shipborne techniques. Considerable advantage is to be realized in this research by the ability to observe the natural environment for long periods of time at a fixed position.

He said the plan is to obtain water temperatures at five levels, water velocity and direction at three levels, and to measure waves. Above, the water, measurements will be air temperature at three levels, wind velocity at two levels, and barometric pressure.

All this will be recorded automatically on the stage. There won't be a soul around. The only noises will be the gurgle of water at the base of the platform, as the electronic apparatus goes silently about its business.

After the measurements are recorded by the equipment on the stage, the information is then automatically radioed across the 11 miles of water to shore station. The information is received by radio and then recorded automatically on magnetic tape.

The field party, permanently assigned at Panama City, will be on hand at the shore station to check the equipment once a day and make any needed adjustment.

The tapes will be sent back to A&M, there to be thoroughly analyzed under the direction of the

scientific staff in the school's new Data Processing Center.

"To do all this without electronic equipment would require tremendous amounts of manpower," Gaul said.

Scout Troop 802 Holds Parents' Nite, Court of Honor

On the shore of the Lake at Pleasant Acres Boy Scout Troop 802 held a Court of Honor and Parents' Night recently, with Senior Patrol Leader David Maddox as M.C.

Fred Maddox received his Life Scout award and Bill Loveless attained First Class. Sixty-three merit badges were awarded to Carl Gough, David Holmgreen, David Maddox, Jim Amyx, John Perry, Ravid Riedel, Fred Maddox, and Bill Loveless. Many of these awards were earned by the boys at Camp Strake and El Rancho Cima in the preceding weeks.

Buzz Loveless answered questions concerning the 1600 mile bicycle trip he and David Gay made from Washington, D.C. to Bryan this summer. They rode 12 to 16 hours a day covering from 50 to 100 miles many days and wore out three tires and one bicycle chain. They camped out most nights and found people very helpful and interested in the trip all along the way.

Scoutmaster Sid Loveless gave a report on the activities of the Troop at Camp Strake and Assistant Scoutmaster Amyx explained the program followed by the group of older scouts who attended El Rancho Cima.

Camping each Monday at Pleasant Acres will be resumed next August 7 and a Scout Swimming Meet will be held in Sue Haswell Park on August 14th.

Tom Cartwright, Carl Gough, David Holmgreen, Tommy Hannigan and John Perry received the Director of Civil Defense Marksmanship Medals and Mark Riedel, David Riedel, John Perry and David Holmgreen also received their National Rifle Association Marksmanship Certificates.

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Typing of term

Scientists To Reveal Ocean Secrets

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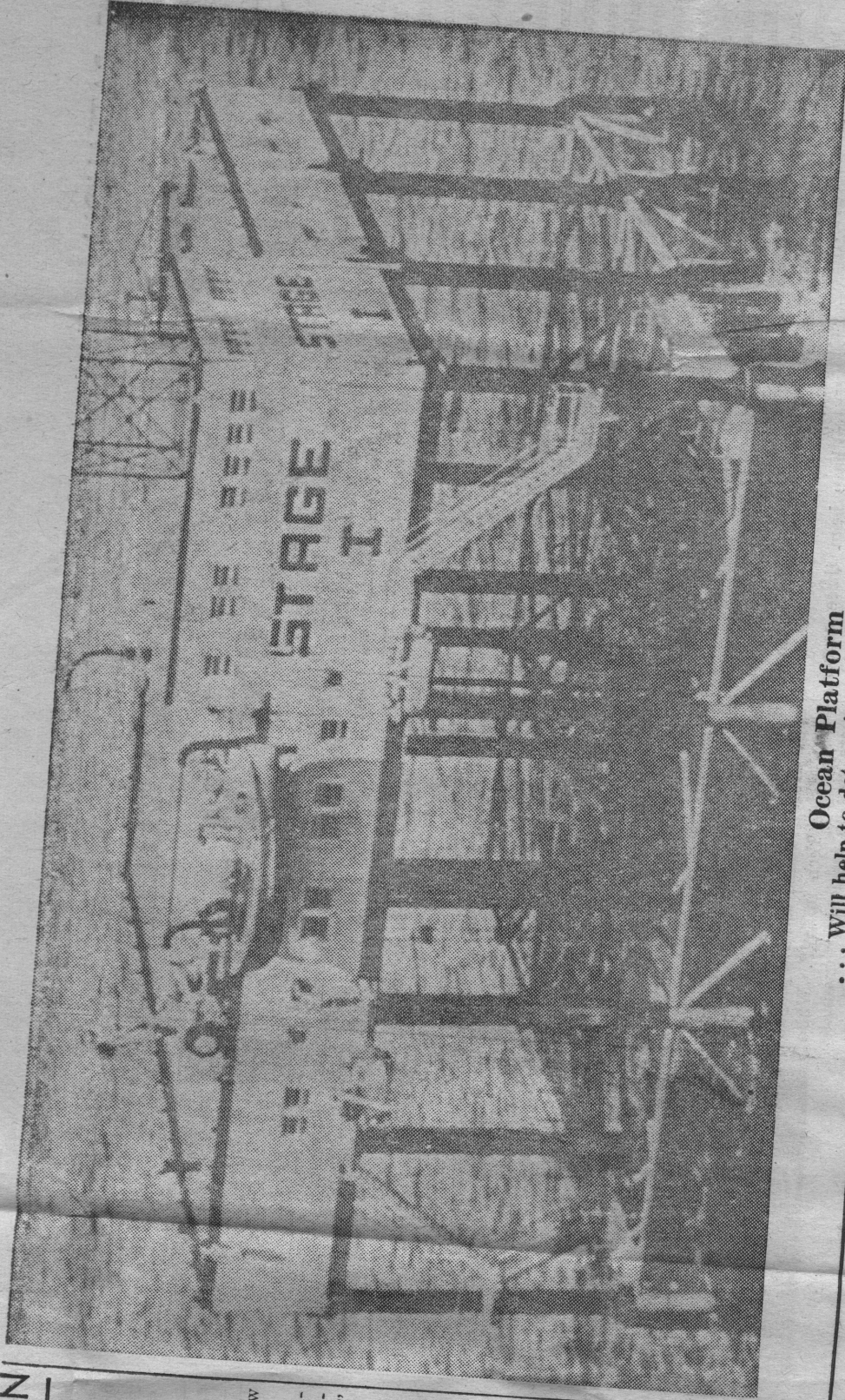
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THE HOUSTON CHRONICLE

First in Houston—First in Texas

VOL. 49 NO. 162

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HOUSTON, TEXAS, FRIDAY, MARCH 24, 1950

SIXTY PAGES

Our City Balance

18 5

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Our City

HOUSTON, as well as the rest of Texas, has been negligent about digging into the many problems of oceanography created by our location on the Gulf of Mexico. But a start has been made and an unexpected amount of interest shown in marine problems.

Locally, the University of Houston is planning numerous projects. Already a summer field course in oceanography is scheduled with 100 or more students registered to do research work at the Texas Game, Fish and Oyster Department's laboratory at Rockport. Three students now are engaged in research at the laboratory.

A program for an oceanography department is planned at the university. It will be headed by T. E. Pulley, who will return to Houston for that purpose when he concludes research work at Harvard University, according to Dr. H. J. Sawin.

* * *
RESEARCH ON MARINE problems by the university staff has included a pollution project for the Dow Chemical Corporation and a contamination project for Sheffield Steel. Biological research is being conducted at Rockport through the cooperation of J. L. Baughman, head of the state laboratory there.

The major need of the university for its marine work is a laboratory as close as possible to Houston. The problems of each area are different from those of other parts of the coast and the university is primarily interested in solving problems affecting Houston.

While the university considers a nearby laboratory as the primary need, it also would like to have some aquaria in which to study marine biology. Tentative plans for aquaria have been drawn, and it is hoped that the Museum of Natural History or Hermann Park Zoo will be interested in making the project a joint affair.

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* * *
THE MUSEUM OF NATURAL HISTORY recently has become more marine-minded. A natural history forum will be held April 8 and 9 at the Texas Game, Fish and Oyster laboratory at Rockport under the auspices of the museum. Outstanding scientists from Mexico, Florida, Washington and Texas will lecture and conduct field trips.

Texas A. and M. College is another institution that has become interested in marine problems. It has a new department of oceanography with a full curriculum for senior and graduate students. Laboratory work is done at the shore laboratory at Grand Isle, La.

Negotiations are in progress for the department to handle work in physical oceanography and marine meteorology on the Alaska, oceanographic vessel of the United States Fish and Wildlife Service.

Both the University of Houston and Texas A. and M. report unusual attraction of oceanography for engineers and engineering students. This has been intensified by the industrialization of the Texas coastal areas.

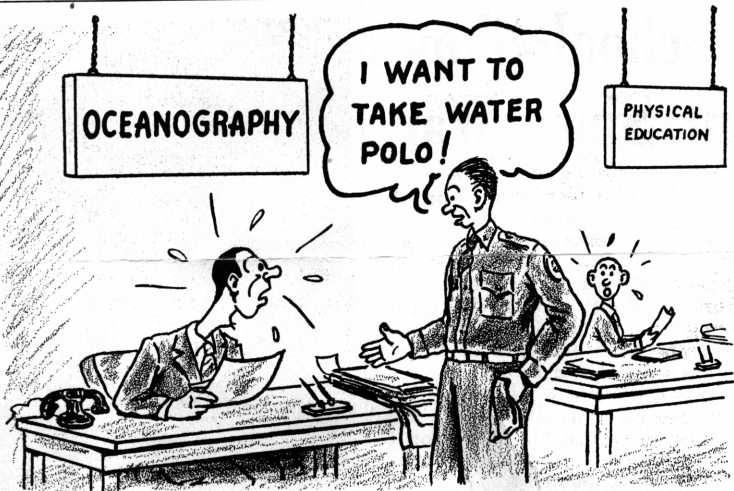
* * *
OCEANOGRAPHY has been defined by Mason Lockwood, president of the San Jacinto Chapter, Texas Society of Professional Engineers, as "the study of everything which affects or is affected by the oceans." Doctor Dale F. Leipper, head of the Texas A. and M. department of oceanography, added: "It is the systematic analysis of the seas and everything that is in them, under them, around them and over them."

Leipper's department divides the subject into five major components: Biological, physical, geological and chemical oceanography and marine meteorology.

Speaking in Houston this month to the members of the San Jacinto Chapter, Leipper said engineers are interested in problems arising due to action of ocean currents and others brought about by waves, tides, winds, the growth of organisms and chemical reactions.

* * *
THESE PROBLEMS involve beach erosion and sedimentology, fouling, effects of weather, corrosion, fresh water supply, navigation, extraction of raw materials from the sea, sanitation, recreation, defense and offshore construction and operation.

Much of the new interest in marine problems in Texas no doubt is caused by the invasion of the gulf by oil well drilling crews. Publicity given to oil exploration and the fight between Texas and the federal government over the tidelands have focused attention on the state's most neglected natural resources.



Oceanography may be a wet subject, but . . .

Dr. Dale F. Leipper, head of the Oceanography Department at A. and M. College, feels that some promotional work may be in order to point out that the study of oceanography takes in more than just plain water—more, even, than water with a strong salty taste.

At spring registration recently—when students were registering for the first courses in oceanography ever offered at A. and M. College—one student approached Dr. Leipper's desk and asked to enroll in a course in water polo.

Dr. Leipper might have been deeply chagrined, had the nature of the student's mistake not been so obvious. Students were being registered for physical education classes at the adjoining table.

Oceanography Report . . .

Projects Exceed \$500,000 Today

Dr. Dale F. Leipper, head of the Oceanography Department, presented an outline of the buildup in the equipment, facilities and staff of his department when he appeared recently before the board of directors of the A. and M. College System.

Since January 1950, he revealed, the staff has grown from three to more than 100 persons. The department established on an initial authorization of \$50,000 for equipment and facilities today includes the Grand Isle (La.) laboratory, research installations at Caplen and Galveston, an offshore platform at Morgan City, La., and a 40-foot boat at Port Aransas — in addition to the campus offices and classrooms, and the A. A. Jak-kula, officially designated as the flagship of the Texas Navy.

"This vessel," Dr. Leipper told the directors, "is outfitted with much of the most modern electronic equipment and other instrumen-

tation. It is manned by a highly trained crew. But it carries no guns; it is a flagship of peace."

At present a large portion of the program of the department consists of 19 projects handled through the A. and M. Research Foundation. The annual budget for these projects exceeds a half-million dollars, of which \$375,000 come from sources outside the state of Texas, according to the report.

The department now offers approximately 29 different courses each year, Dr. Leipper said. There are programs leading to BS, Masters and Ph. D. degrees. Normal teaching program, it was disclosed, calls for delivery of about 1,600 one-hour lectures in oceanography and meteorology in a year.

This semester enrollees include 25 graduate oceanography students and 15 undergraduates in meteorology study. Of these eight are

working toward a Master's degree, 17 toward a Ph.D.

Present staff of the department, which was launched by Dr. Leipper, Prof. W. Armstrong Price and one stenographer, consists of 32 full-time professional employes and 73 secretarial and part-time workers. Of the 32 first mentioned, 14 have Doctor's degrees and 18 the Master's.

A recent report from the University of Washington indicated that insofar as staff, number of students, number of courses, and degrees offered, the A. and M. Department of Oceanography is now one of the top three programs of its kind in the United States.

Looking to the future, Dr. Leipper emphasized "biological and chemical aspects of the program have not been developed to their desirable extent". And he pointed up need for still more personnel and establishments of machine and electronics shops, and a library.