

AERONAUTICS

Intercontinental Airways

Planes flying between North America and Europe or Asia expected to take the North Pole routes. Arctic airways save both mileage and time.

► AIRPLANES OVER the Arctic, following Great Circle routes between the two hemispheres, will probably become common in the next decade or so. The new defense airport at Thule, Greenland, is geographically located to serve as a half-way refueling station. Its primary purpose may some day be to serve civilian planes rather than military aircraft.

Thule alone will not be able to serve all the probable airways of the future that will connect the hemispheres by North Pole routes. But airports are already in use or under construction in Alaska and, thanks to the hundreds of polar exploratory flights made by the U. S. Air Force, Arctic waters and Arctic conditions are no longer secret and other far-northern landing fields will probably follow.

The advantage of the Arctic routes between the hemispheres is the mileage and the time they save. Thule in northern Greenland is on Great Circle routes from much of the United States west of Chicago to much of Europe and Asia. It would serve air traffic between such points just as Gander Airport in Newfoundland is now serving transportation between eastern America and western Europe. Newfoundland is on the Great Circle from New York to the British Isles.

Thule, well north on Baffin Bay and only about 930 miles from the North Pole, has

climatic conditions which present difficulties as a fueling station, but they are not unsurmountable.

Its harbor is open to surface vessels for only about two months each year and giant storage tanks will be necessary to hold the fuel brought in by ocean tankers during those months to supply aircraft for the entire year. For military aircraft, fuel can be delivered by air when necessary. Airborne fuel would be expensive for civil transports.

The long "night" at Thule is somewhat of a disadvantage. For about four months each winter the sun does not get above the horizon. The most advanced system of approach and landing lighting is essential. A powerful omnirange to provide radio beams for pilots to follow from distant points and efficient instrument landing systems will be required.

Ground Control Approach equipment, the radar-radio device for use in overcast conditions, was one of the first installations. Heat and power for buildings and equipment in a region where the summer temperature reaches only about 40 degrees Fahrenheit is another problem. These are all surmountable difficulties and Thule may turn out to be one of the most important civilian airports located anywhere in the world.

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OCEANOGRAPHY

Ocean Part of Campus

► A NEW concept of the job of marine laboratories is working to move the campus to the ocean at Florida State University.

Students in fields ranging from astronomy to zoology are busy at work at Florida State University's bustling Oceanographic Institute. Professors of economics, meteorology, and even psychology are active members of the institute's staff.

Outwardly, the Oceanographic Institute appears to be like any other marine station. It has an excellent laboratory, boats, scientific equipment and fishing gear located on an ideal harbor in the Gulf of Mexico, 30 miles from Tallahassee. On the campus, the institute has its own offices, a regular staff of three scientists, plus a willing crew of graduate students.

The institute differs from other marine laboratories, however, in that it does not limit its activities to the usual subject matter of oceanography. Instead, the institute

is an independent body, set up to serve any department of the university that can use its many facilities.

For instance, the geology department of the university has been working with the institute to get a series of bottom samples from the Gulf of Mexico. This will help the geologists to learn about the formation of the Florida peninsula.

The economics and sociology departments are using the facilities of the institute for studies on the Florida fisheries and living conditions of the fishermen.

Even psychologists are taking advantage of the unique organization of the Oceanographic Institute. Using live mullets captured by regular staff members of the institute, the psychology department has just completed a series of experiments on the fishes' reactions to electrical and mechanical stimuli. The data will be used to design new techniques in commercial fisheries.

Dr. Harold J. Humm, a young, enthusiastic marine biologist, is the organizer and driving force behind the Oceanographic Institute. As its designer and present director, he is satisfied with the progress the institute has made, but is still looking for other ways the marine station can serve the campus.

"When every department on campus can feel that it can have the ocean at its fingertips through the work of our laboratory, then the Oceanographic Institute will have done its job," Dr. Humm said.

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