

GEOGRAPHY

Southeast Alaska Rises

Fifty-year-old benchmarks, sunk in bedrock along the Alaskan coast, indicate the southeastern part of the 49th state is rising.

► **THERE HAS** been another change in Alaska besides its political status. The southeastern part of the 49th state is rising, and the U.S. Coast and Geodetic Survey wants to know what is going on.

To find out, the Survey will dispatch next summer from Seattle a ship equipped with fine instruments and a crew of highly specialized men to probe reports from engineers in Alaska that sea level is not the same any more.

These reports asserts that benchmarks, which the Survey sank in bedrock 50 years ago, are now way off. Juneau is two feet higher than it is supposed to be, Skagway is up three feet, and Haines is up five.

Captained by Lt. Cmdr. Gerald L. Short, the Survey ship "Patton" will explore the inland waterway of southeast Alaska and visit 20 places where tide gauges were put in 50 years ago. Survey oceanographer H. B. Stewart said the men might make a study to determine, if possible, the center of the earth disturbance. In any event, the benchmarks will be corrected.

Dr. Stewart indicated there was no cause for Alaskans to become alarmed. The same thing is happening in the Great Lakes region, and the reverse is happening around Texas City, Texas, which has settled nearly three feet in 18 years.

In fact, he said, figures compiled by L.

P. Disney of the Survey's tides and current division show that sea level along the Atlantic coast is rising about one foot in 100 years. Along the Pacific coast, it is rising about one-half foot in 100 years. The rising land in the Great Lakes and Scandinavian regions is attributed to a follow-through shifting of earth traced to the melting of ice of the Pleistocene period thousands of years ago.

"This may or may not be the case in Alaska," Dr. Stewart said. There are various forces at work in the earth called tectonic forces, which are most active in relatively young areas such as the Pacific coast, he said. These forces also may cause earthquakes like the recent rumble at San Francisco.

One of the places hardest hit by such geologic reshuffling is the U.S. Naval Base at Terminal Island, near Los Angeles. This base has sunk nearly 20 feet since 1937, when commercial oil drilling operations got underway. The Navy is understood to have spent several million dollars for a sea wall to stop the Pacific from scuttling its base. The Navy also has brought a damage suit against some of the 134 local oil companies which have 2,000 wells in the vicinity.

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ENGINEERING

"Flying Bicycle" in Works

► **DESPITE** jibes and ridicule, some leading British aviation scientists are planning to take a holiday from supersonic bombers and jet airliners to produce the basic flying machine that man has been striving to make through the centuries. They are working on a "flying bicycle," a plane powered by a propeller driven by the muscles of the men inside it.

They want to prove that Icarus was on the right path when, according to Greek mythology, he cemented wings to his body and attempted to fly toward the sun.

Beverley Shenstone, chief engineer of British European Airways, and one of the leaders of the team working on the project, described the project:

"We are approaching the problem in a sound technical manner and are taking it as seriously as the design of any powered aircraft. From what we have already learned, the outlook is certainly promising and the development will be quite cheap."

One of Mr. Shenstone's collaborators is Terry Nonweiler, a lecturer at Belfast University who is mainly responsible for the design of the manpowered flying machine.

"Once we have got over the problem of finance we could get the machine into the air in about six months or so," Mr. Nonweiler said.

"I am not going to say that eventually there will be such a machine in everybody's cycle shed," he said, "but it will open up a fascinating sport, once the machines are in production."

The big problem has been to determine just how much manpower will be needed for take-off and to maintain the "flying bicycle" in flight.

That is where Dr. W. R. Wilkie of University College Hospital in London, has been helpful. He has been working on this angle for some time, experimenting on the power that a man can produce, and for how long.

It is already known that a healthy man can generate one and a half horsepower with his arms and legs during a split-second burst of energy.

For a minute, a man in training can produce about four-fifths of one horsepower, but after that period it drops off and, for periods up to an hour in duration,

the fittest man cannot maintain an output of more than one-half of one horsepower.

The enthusiasts are working on the idea that their flying bicycle will call for teamwork in the air, and they are trying to calculate whether only two or three men will be enough or if their machine will demand six or eight crewmen.

Science News Letter, January 3, 1959

GENERAL SCIENCE

Postmortem on 1958 Forecasts in Science

► **THE SCIENCE** forecast for 1958 made by Watson Davis, director of Science Service, and issued a year ago was fulfilled in many respects. (See p. 410.)

The possibility that a rocket would reach or circle the moon stated as "no 1958 certainty" did not happen, although two United States' attempts did send missile probes farther into space than anything that had previously left the earth.

Additional satellites were launched by both Soviet Russia and the United States as predicted. However, beginning attempts to join two satellites together for a rudimentary space platform are still in the future.

There were very high balloon flights, as predicted. There was important testing of ICBMs.

Radio astronomy was aided by the amplifying devices called masers.

Medical advances were not as important as hopefully predicted, although some fruitful research in 1958 may still come to light in 1959.

Federal support for science education was voted by Congress although the scholarship program anticipated was whittled down to loans for those who need them.

More youths than predicted engaged in science projects shown in science fairs, some half million of them, which constitute valuable training for future science careers.

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PHYSICS

"Ice Box" Forms Crystals For Scientific Study

See Front Cover

► **AN "ICEBOX"** that makes giant snowflake crystals two to four inches across from super-cooled water is helping scientists study metals.

The device, designed as part of the Harvard University's division of engineering and applied physics research program, supercools water several degrees below freezing. Freezing does not begin until the tank is "seeded" by a tube which is cooled to a very low temperature.

Crystals that form, such as the ones shown in the photograph on the cover of this week's SCIENCE NEWS LETTER, are called "dendritic crystals." They are similar to those formed when the supercooled liquid metal in a casting solidifies. Since crystal formation largely determines the strength and hardness of the metal, metallurgists are interested in the study.

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