

METEOROLOGY

Predict Rain Modification

A representative group of the nation's meteorologists has responded in the affirmative to a Science Service inquiry concerning man's ability to modify the weather.

► IN TEN TO 50 years it will be possible for mankind to increase or decrease precipitation, prevent hail and prevent lightning.

This is the opinion of weathermen selected from the membership of the American Meteorological Society and asked to answer, anonymously, questions in a SCIENCE SERVICE Grand Jury inquiry. Approximately two percent of the 2,500 professional members were chosen methodically and polled to give a good distribution throughout the nation. Nearly three-quarters responded.

There was an overwhelming affirmative answer to the question: "Is it possible for mankind to increase or decrease precipitation, prevent hail, prevent lightning?" Within ten years was the time judgment of 42% (18) and within 50 years said 37% (16). Only 9% (4) said 100 years or never, while 12% (5) did not vote.

As to man's potential control of severe storms, such as squall lines, tornadoes, and hurricanes, 46% (20) believed that this would be possible in 50 years, while 5% (2) were so optimistic as to believe this

possible in ten years. Within 100 years was the opinion of 19% (8), while 16% (7) said "never" and 14% (6) did not vote.

The possibility of the control of large-scale weather patterns was deemed possible within 50 years by 30% (13) and within ten years by 5% (2). The judgment of 19% (8) was such control will come within 100 years, while 30% (13) said "never" and 16% (7) did not vote.

Expert comment on the rainmaking attempts over the past couple of decades was obtained. Only 16% (7) of the experts were willing to say that there has been improvement in the present status of increasing or decreasing precipitation by seeding with water or other chemicals. However, 54% (23) believed that this prospect has improved. Only 7% (3) considered rainmaking proved, and 23% (10) did not vote on this question.

Large sources of energy might be used in modifying weather, but one expert said that "at present we have no energy sources or energy 'reflectors' available which give a remote promise of control of large-scale weather phenomena" and that "the present system of 'trigger forces' is not the answer

to the modification of large-scale weather control."

Another opinion was more pessimistic: "Man will always have more demanding uses for the large amounts of energy required."

"Within 50 years," another meteorologist declared, "we shall understand the mechanisms of weather and climate well enough, and have control over sufficiently large supplies of energy, to produce appreciable modifications in, but not control over, weather and climate phenomena."

Changes in topography, such as the Russian proposal to create a huge inland sea, will produce some changes in the general circulation of the atmosphere, another weatherman foresees, but this is weather change not "control."

Increasing precipitation, in another opinion, is a problem of purifying air, not contaminating air by seeding.

One meteorologist doubts that the legal problems in weather modification and control will be as readily solved as the scientific and technical ones.

Predictions are not possible, in another judgment, because "it is impossible to set a timetable for the break-throughs of science."

Research Support Needed

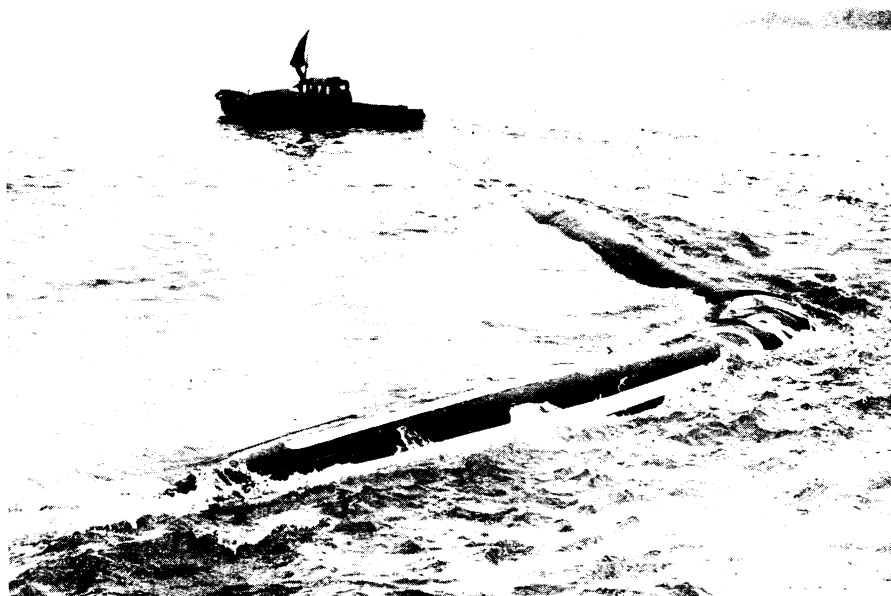
Greatly increased support for research and development of weather control would be justified because such control would be so valuable economically, another meteorologist argued. However, to date, in his opinion the possibilities have been beclouded by premature claims and in many cases outright misrepresentation.

"Possibilities are much more limited than press accounts have led the public to believe," this expert continued, "but the possibilities are nevertheless likely to be very important. Progress will come more rapidly if science and the public take a more sober and deliberate approach to fundamental research in this field."

Money can buy progress, another expert suggested, since he believes that unless research investments are drastically increased to \$10,000,000 to \$20,000,000 annually, 50 years is a fair timetable for weather control. He suggests that the program should have the same priority as guided missiles, satellites and rockets.

"The consequences of the achievement of weather control are so great," said another expert, "that we have no alternative but to proceed immediately with the fundamental research which will provide information necessary for a definitive experiment."

Science News Letter, November 22, 1958



OIL TANKER—A new type British oil tanker is the flexible sausage-shaped barge called *Dracone*. Capable of carrying about 40 tons of kerosene, it is a huge tubular skin of woven nylon fabric impregnated with rubber. *Dracone* is said to be impervious to oil on the inside and to sunshine and salt water on the outside. Invented by Prof. W. R. Hawthorne and developed by *Dracone Development Ltd.*, the 100-footer is five feet in diameter and can carry solids.

● RADIO

Saturday, Nov. 29, 1958, 1:35-1:50 p.m. EST.

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio network. Check your local CBS station.

Dr. Amel R. Menotti, vice president and scientific director of Bristol Laboratories, Syracuse, N. Y., will discuss "Antibiotics Conquer Diseases."