

U. S. Seriously Concerned

Cold War May Spawn Weather-Control Race

By Nate Haseltine
Staff Reporter

The next hot fight on the Advisory Committee on cold-war front may well shape Weather Control. The 4-year up into an all-out scientific old special committee goes out race between this country and of existence on Dec. 31. Russia to work out ways to control the world's weather. The committee, headed by Capt. Howard T. Orville, USN, retired, is not expected to ask its own continuation. It will most likely recommend that its functions be turned over to the National Science Foundation with increased powers.

American scientists are seriously concerned that the Soviets may win the race, gaining a fair-weather monopoly for themselves and weather extremes for this continent. The report, still under wraps, may not even mention Russia, but its warnings will be clear that if the United States that the race is on is expected to be fired at the end of this month in the swan-song report of the 11-member See CONTROL, A2, Col. 1

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Race to Control Weather Seen as Next Cold-War Move

tes is to gain any mastery over weather this country st pour money and brains to meteorological research. Excepting some mild bene- reported from cloud-seed- techniques to induce rain, this country lacks search bases to back up the nittedly wild conjectures weather control — more itely called weather modifi-

The weather control comes range from methods break up hurricanes and ados to others designed change whole climates ey include: Spraying vast areas of ar snowfields with lamp- ck that would absorb her that reflect sunshine to it the icecaps.

Spreading chemicals es) over surfaces of the ribbean Sea and the Gulf of xico to better induce eva- tion processes and help sun pool mountainous uds of moisture from these ters.

Cutting off mountain tops otherwise leveling whole ges of present peaks, a pro- ous task that would change ole climate patterns.

Towing Arctic ice fields thward in the oceans to it and change ocean tem- atures known to have im- tant influences on the rid's weather.

Heating up the polar ice- s with atomic oven heat- res. The Antarctic is the rid's present icebox, and if doors were wedged open h atomic heat world wind terns might change dras- ully.

more immediate, a day- scheme to modify the air- ere's "vile" trick.

ex may be tried by the S. Weather Bureau sci- sts next spring or fall. It id involve spraying fuel on the ocean surface along side of a hurricane's move- nt, and setting the oil on

he heat of the burning fuel, ording to Francis W. Reich- er, long-time chief of the ather bureau, might alter fury or at least change the rse of the hurricane. Reich- erfer said he would recom- nd a test of this idea on a size hurricane scale.

ults Uncertain

he ultimate benefits of a n- step-offraces away m- lant, he said, simply jus- such tests.

chief Reichelderfer said is some scientific basis watering the heat pattern hurricanes would draw air- ulation from its inner- es. Whether this effect id actually break up the rricane, or slow it down, or ge its course remains to shown by the proposed

nceivably, he admitted, burning fuel oil might in- se a hurricane's forces, or results might be too un- ctible for practical use. eather scientists still go at reminders of the r officially admitted hur- ne-seeding experiment of

ortly after that attempt- eak up a hurricane by ing a small portion of it- rain-making chemi- estry goes, the hurricane- nly veered into the

United States, leaving a trail of heavy storm damage. Later detailed studies of the hurri- cane's course showed that it followed a normal pattern, and that the cloud-seeding, if any, had not changed its course the least bit.

Knowledge "Abysmal" The incident illustrates that the present state of the sci- ence of meteorology is unpre- pared to tackle the seemingly wild schemes that have been proposed to control or modify weather. As Reichelderfer says, man's knowledge of the basic mechanics of weather is abysmal, and, he said, this is as true in Russia as it is in this country.

The Weather Bureau chief said he has had as much if not more contact with Soviet meteorologists as any weather- man this side of the Iron Cur- tain. Today's only cause for concern, he said, is that Russia is speeding up and expanding basic research in meteorology, training far more new mete- orologists today than are being attracted to the science in the United States.

"The Russians, like us, have carried on some modest cloud-seeding experiments, with just about the same results as we have gotten," Reichelderfer said. "Neither they nor we have any actual experiments underway to drastically mod- ify weather or weather pat- terns."

The chief deterrent to ac- tual attempts to change cli- mate patterns is, of course, the real fear that such chang- ings may worsen rather than better one's own weather.

Flooding Possible

Diverting the course of the Gulf Stream, whose warm waters benefit both this coun- try and the British Isles, is at least theoretically possible. But, as one meteorologist put it, it would make no one happy if in that diverting Washing- ton got London's weather and London Washington's.

Similarly, man's attempts to melt polar ice won't be at- tempted until scientists can force with reasonable ac- curacy what the overall ef- fects of that melting will be. One already estimated effect is that if all the ice around both poles were turned to water the ocean levels would rise some 100 to 200 feet, inun- dating coastal cities all over the world—without and within the Iron Curtain.

Other, perhaps even more dire effects of man-made weather changes, such as those which might change the patterns of prevailing winds over earth's surfaces, are un- known for lack of basic infor- mation of the mechanics of at- mospheric motions.

A weather change that might transform present des- erts into farmlands also might desolate present world bread- baskets.

Although the special Ad- visory Committee on Weather Control spent most of its time and attentions on evalu- ating rain-seeding efforts its final report is expected to recommend that the Govern- ment, through the National Science Foundation, promote basic research in meteorology at a much greater rate than current studies.

More specifically, the re- port will undoubtedly call the Nation's attention to the ur- gent need for support of long- term weather study projects. Such studies, some requiring years if not decades to com- plete, are needed before man can sensibly tamper with cli- mate control.

Along these lines, the com- mittee will likely ask that the National Science Foundation be given a free and liberal hand to promote studies on such subjects as:

- What natural processes are involved in rain or snow formation and precipitation?
- How do disturbances on the surface of the sun affect earth's weather?
- Which weather factors do, and which do not, affect at- mospheric circulation on a world-wide basis?

What is the role of elec- tricity in weather?

What gives birth to tor- nados and hurricanes, and why do they behave as they do?

The answers to all of these questions cannot be obtained without basic research.

It would not be unreason- able for the Committee to bolster its final report with re- cent statements by a number of scientists urging the United States to go all out in weather control studies.

Vannevar Bush, now chair- man of the corporation of the Massachusetts Institute of Technology and wartime head of the Office of Scientific Re- search and Development, on Dec. 2 stated:

"We do not know whether it will be practically feasible for man to control the weath-

er, or favorably alter the cli- mate in which he lives . . . It is entirely possible, were he wise enough, that he could produce favorable effects, per- haps of enormous practical significance, transforming his environment to render it more salutary for his purposes.

"By all means let us get at it."

Says Control Essential

Henry G. Houghton, MIT meteorologist, speaking on the need to come up first with the answers to weather control, told the First National Con- ference on Applied Meteorol- ogy:

"I shudder to think of the consequences of a prior Rus- sian discovery of a feasible method of weather control . . . International control of weather modification will be essential to the safety of the world as control of nuclear energy now is.

"Unless we remain ahead of or abreast of Russia in mete- orology research the prospects for international agreements on weather control will be poor indeed."

Perhaps the Advisory Com- mittee will remind those it seeks to influence of the words of Edward Teller, the hydro-

gen bomb scientist, before Nov. 25 session of the Military Preparedness Committee

Said Teller: "Please in- duce a world in which the Russian control weather in scale where they can the rainfall over Russia that—and here I am—about a very definite s—might very well in be rainfall in our cou- an adverse manner. Th say, we don't care. I sorry if we hurt you, meely trying to do w need to do in order to people live."

The late atomic mat- cian, John von Neumar- discussion on the fanta- sies which could be pi- method of weather control . . . by changing climate p- International control of declared

"Probably inter-ent- mospheric and climate- will come in a few a- and will unfold on a s- difficult to imagine as p- Such intervention, he- would merge each- affairs with those of other more thorough- the threat of a nuclear other war may already done."

The next war clouds- truly atmospheric.