

# U. S. Scientist Sees New Ice Age Coming

By Victor Cohn

Washington Post Staff Writer

The world could be as little as 50 or 60 years away from a disastrous new ice age, a leading atmospheric scientist predicts.

Dr. S. I. Rasool of the National Aeronautics and Space Administration and Columbia University says that:

• "In the next 50 years," the fine dust man constantly puts into the atmosphere by fossil fuel-burning could screen out so much sunlight that the average temperature could drop by six degrees.

• If sustained over "several years" — "five to 10," he estimated — "such a temperature decrease could be sufficient to trigger an ice age!"

These conclusions — including the ominous exclamation point rare in scientific publication — are printed in this week's issue of the journal *Science* out today, signed by Rasool and co-worker Dr. S. H. Schneider.

They are also being presented by Schneider at an in-

ternational Study of Man's Impact on Climate now being held in Stockholm as a prelude to a world environmental conference there next June.

Dr. Gordon F. MacDonald, scientist-member of President Nixon's three-man Council on Environmental Quality, said in an interview that these conclusions point up "one of the serious problems" U.S. and other delegates must address next year.

He called Rasool "a first-rate atmospheric physicist" whose estimate that fuel dust could drop temperatures by six degrees "is consistent with estimates I and others have made."

Whether this could cause an ice age "within five or 50 years or even more," he said, "I wouldn't want to guess."

But he "agreed completely" with Rasool that it is now urgent to start an international network to monitor atmospheric dust.

If his calculations prove correct, Rasool said, it may

be simply necessary for men to stop most fossil fuel-burning — use of coal, oil, natural gas and automobile gasoline — and switch in the main to nuclear energy, despite the atom's own disadvantages. Pollution controls alone, he said, cannot do the job. "I think you have to stop the source."

A new ice age would flood the world's coastal cities and further lower temperatures to build up new glaciers that could eventually cover huge areas.

Scientists have long debated whether man's activity is actually heating or cooling the earth, if either. A "1970 Study of Critical Environmental Problems" concluded that the Rasool-Schneider kind of prediction was impossible to make yet.

"The area of greatest uncertainty," that study concluded, is "our current lack of knowledge" of the optical properties of man-made dust "in scattering or absorbing radiation on the world's largest earth" fastest computers — at over 100,000 A. The diff. Space Flight Center and Scripps Institute for Space Studies at Columbia University.

They also had available a computer program developed by Dr. James Hansen there to study the optical properties of the clouds of Venus. They applied the same program to make what Rasool called the first sophisticated calculations of fuel dust's sunlight-scattering properties.

They found no need to worry about the carbon dioxide fuel-burning puts in the atmosphere. The fuel particles they do worry about are sulfates, nitrates and hydrocarbons, with the largest single source sulfur dioxide converted to sulfates.