national politics if such attempts continue.

In a speech to the International Cloud Physics Conference, reported in *Weather*, Dr Mason says that, "with some notable exceptions", attempts at weather modification "have generally failed to conform to the accepted principles and standards of scientific experiment and analysis, and are therefore incapable of providing objective answers to such questions as to whether, in what circumstances, and to what extent it is possible to modify precipitation by artificial seeding. . . . Politicians and entrepreneurs are initiating and conducting major weather modification projects without the benefit of proper scientific direction, advice and criticism, and this may have serious repercussions on the reputation of meteorology as a science and profession".

Dr Mason went on to complain "that such operations are being promoted on the assumption that the basic assumptions and techniques are already proven and that the remaining problems are largely of an engineering or logistic nature". But in fact "the protagonists of this approach are continuing to use the same inadequate concepts and techniques that have failed to provide convincing answers during the past twenty years".

"We hardly begin to understand the processes that control the intensity, durability and distribution of precipitation as witnessed by our evident inability to predict these quantities within fifty per cent, even for short periods—shorter than the lifetime of the storm. . . . This leads me to challenge the thesis that weather modification is the main practical justification for cloud physics research and to suggest that, taken world-wide, the potential economic and social benefits of accurate prediction of precipitation outweigh those of modification for the foreseeable future".

Dr Mason went on to say that while, in emergencies, weather modification might be attempted in the hope of ending severe droughts, a sharp distinction should be drawn between such operations and carefully designed experiments "that have some chance of producing answers to properly formulated scientific questions".

The international implications of weather modification also alarm Dr Mason. Suggestions that the World Meteorological Organization should advise the developing world on cloud seeding should be treated with caution. Such advice should not be given until thorough on-the-spot investigations of local conditions had been completed, and even then "an advanced country should consider very carefully the wisdom of urging on a developing country largely unproven techniques".

According to Dr Mason, Project Whitetop, one of the few well designed weather modification programmes, in which Missouri clouds have been seeded with silver iodide for a five-year period, suggests that rainfall actually decreased between 40 and 60 per cent in the 100 miles downwind of seeding, although there may have been some increase 180 miles downwind.

Dr Mason is also concerned that if weather modification does become feasible on a large scale, "an ill-judged attempt by any nation to carry out such a project without international agreement would, almost certainly, plunge meteorology into the cockpit of international politics, controversy and dissension". The effect on programmes such as the World Weather Watch and the Global Atmospheric Research Programme could be disastrous, Dr Mason says.

His solution is that meteorologists should, through learned societies, scan weather modification programmes carefully and "grant scientific recognition and approval only to those that fulfil rather strict scientific criteria, have scientific direction and are open to inspection and evaluation by independent scientists". Projects that are not vetted should not be eligible for presentation at scientific meetings or for publication in scientific journals. Dr Mason admitted this week that such a proposal might be labelled as censorship, but he argued that the situation is potentially so serious that the profession must safeguard its scientific integrity.

SOVIET SCIENCE

Vavilov Commemorated

from our Soviet Correspondent

THE Soviet Ministry of Communications has issued a special commemorative envelope to mark the thirtieth anniversary of the death of Academician Nikolai Ivanovich Vavilov, "the Soviet botanist, geneticist and selectionist", thus marking a further stage in the rehabilitation of the leader of the anti-Lysenko conflict of the 1930s.

Vavilov, whose outstanding services to Soviet agriculture in crop breeding and genetic selection are beyond dispute, was arrested in July 1941 on a number of charges ranging from "sabotage in agriculture" to "spying for England" and "belonging to a rightist conspiracy". His real offence, however, was his opposition to Stalin's sponsorship of the theories of Lysenko. Vavilov was sentenced to death and, although the sentence was later commuted to ten years imprisonment, he died in Saratov prison on January 26, 1943.

Vavilov was posthumously rehabilitated by the Soviet Supreme Court on September 2, 1955. A week later, the praesidium of the Academy of Sciences restored his name to the register of deceased members. Since then the rehabilitation process has gone slowly and tacitly forward. In 1960 a Vavilov memorial volume was published. Articles praising his work have appeared from time to time in the Soviet press. November 26, 1971, the 84th anniversary of his birth, was marked by the unveiling of a memorial plaque on the wall of the Institute of Genetics in Moscow.

SPACE RESEARCH

Astrophysics Unit Moves

THE Science Research Council's Astrophysics Research Unit has been transferred to the council's Radio and Space Research Station at Slough. This transfer, effective from January 1, adds a strong astrophysical side to the support work already carried out by the station.

RSRS is the SRC's chief support centre for university space research, and currently provides such services as prediction satellite orbits, environmental testing of space experiments and provision of data centres for rocket, satellite, ionospheric and solar data. The station also provides support for radio astronomers, and the SRC's Space Research Management Unit which plans rocket and satellite programmes is there.

This supportive role for Slough emerged from an SRC panel report on the station in May 1971, and the addition of the astrophysical unit means that most SRC support of university space work can now come from one centre.

The decision to move the unit ensures its continuity which was very much in question following an examination, in 1968, of the work of the United Kingdom Atomic Energy Authority's Culham laboratory of which the unit was a part. At the time it was suggested that the unit might be disbanded, but the SRC took control and its work on solar physics, laboratory astrophysics and ultra-violet astronomy continued, with the unit still at Culham.

A large part of the unit's work already involves collaboration with university work, so its new role will not be a radical change of direction. Although the unit is now under the control of Dr J. A. Saxton, the director of RSRS, and is now one of the station's divisions rather than an organization in its own right, the unit's staff of forty will not be moving to Slough for some time. Extra accommodation will have to be provided before a physical move can actually take place.

Dr R. Wilson, who was director of the astrophysics unit, has now moved to University College, London, to take the post of Perren Professor of Astronomy.