Institute of Meteorology of the University of Stockholm

Note on activities during the academic years 1951—1952 and 1952—1953

The principal task of the Institute of Meteorology of the University of Stockholm is to conduct research on problems of basic importance in the field of meteorology and to provide a milieu which facilitates cooperative effort on an international basis in the scientific study of the atmosphere. Within the limits of its resources the institute shall be open to qualified investigators of *all* countries. For practical reasons lectures and discussions are conducted mainly in English.

To meet the objectives stated above within the framework of a modest budget, the following method of operation has been adopted:

Each year a few problems of fundamental interest to meteorologists are selected for closer study by the institute staff. The choice of problems is naturally to a considerable extent influenced by the talents and personal interests of the small group of permanent staff members and by the technical facilities available. It is recognized that an institute such as ours, which operates with international support, ultimately has the responsibility to provide a setting in which, through cooperative effort, successful advances may be made on all the principal fronts of meteorology. However, to meet this requirement the staff would have to be augmented through long-term appointments of a large number of research workers with marked leadership qualities and additional funds would have to be made available. It is hoped that a beginning towards such an expansion can be made during the next two-year period.

Once the basic program has been decided upon a small number of scientific collaborators and graduate students from other institutions abroad or in Sweden are invited to participate in our work for a limited period of time. In most cases these invitations are issued on the basis of previous personal contacts and interviews. Some of the non-permanent staff members are assigned to Stockholm and maintained there by the organizations with which they are associated permanently. Thus several organizations in the United States have in fact established semipermanent positions with our institute, the holders of which are changed annually or every second year. In other cases our institute pays travel expenses and small monthly stipends to take care of the extra expenses associated with the stay in Stockholm. In general non-permanent staff members are invited for 3, 6 or 12 months. No sharp line of demarkation is maintained between teacher and graduate student. It is rather expected that each new visitor will profit from, and add to, the intellectual capital of the institute.

Each year, during the autumn semester, a fairly concentrated program of seminars and lectures is arranged to provide a basis for the research activities of the group as a whole. During the second half of of the academic year the lecture program is reduced in scope to provide time for research on various phases of the problems reviewed during the autumn.

The table below, which excludes all Swedish participants in our work, shows the distribution by countries of our non-permanent staff members during the two past years:

2 years	*1 year*
Iceland (1)	Germany (2)
United States (3)	Japan (1)
	Norway (1)
	United States (2)
6 months	*3 months*
Belgium (1)	Austria (1)
Finland (1)	Finland (1)
Germany (1)	France (1)
	Germany (2)
	Norway (1)
	United Kingdom (1)

In support of our research, and to provide additional contacts, three informal conferences, each of about one week's duration, have been held at our institute, in May 1951 and in May and October 1952. During these conferences additional visitors from Denmark, Finland, Germany, Norway, the United Kingdom and the United States have been our guests.

Intimate cooperation has been established with the Hydrometeorological Service of Sweden, with the Weather Service of the Swedish Air Force, with the Swedish Board on Computing Machinery and with the Royal Agriculture College of Ultuna. With all these organizations joint projects have been or are about to be established. In the immediate future valuable equipment will be placed at our disposal by the Swedish Air Force.

Scientific reports resulting from work conducted at our institute are generally published in Tellus, the quarterly journal of the Swedish Geophysical Society; our institute serves as editorial office for this periodical and does also in a small measure contribute financially to its maintenance.

Financial support for the activities of our institute during the past two-year period has been partly direct and partly indirect, through salaries paid by foreign organizations to their representatives at our institute. Direct contributions through appropriations, contracts, grants and gifts have been received from the University of Stockholm, the Wallenberg Foundation, the Natural Science and the Technical Research Councils of Sweden, the United States Weather Bureau, the University of Chicago, the Woods Hole Oceanographic Institution and the Fonds National de la Recherche Scientifique in Belgium. The institute acknowledges with particular gratitude an early generous gift of U. S. $ 1000 by Dr L. Lek as an expression of his faith in our undertaking. We are particularly indebted to the U. S. Office of Naval Research for its steady support of our work and for the excellent scientific collaborators it has sent us.

It is difficult to give an exact statement of income and of operating expenditures per academic year, since several grants are made for indefinite periods or for periods which do not coincide with the academic year, and since fairly large sums have had to be spent on such one-time investments as furnitures, basic library books and quite recently on basic scinetific laboratory equipment. The approximate level of yearly expenditures, including permanent Swedish salaries, but excluding salaries paid by foreign organizations directly to their representatives on our staff has been around 250 000 Swedish kronor per annum. With the introduction of experimental work in certain aspects of atmospheric chemistry and physics and with the anticipated establishment of a small "clinical" synoptic weather section, this level will have to be raised considerably.

All grants and contract funds are paid into and disbursed through the fiscal offices of the University of Stockholm.

During the last two years the theoretical work of the institute has been centered around the problem of numerical forecasting. During the academic year 1951—1952 these investigations were directed by Dr Arnt Eliassen, on leave from Det Norske Meteorologiske Institutt, who served as associate director of our institute. During the academic year 1952—1953 the theoretical work in this field was led by Fil. Lic. Bert Bolin, who also served as executive officer of the institute.

Under the direction of Dr C. W. Newton, on leave from the University of Chicago, a group of our staff members have devoted themselves to aerological studies of the structure and behaviour of atmospheric jet streams and to a study of the formation of high-level shear lines through excessive meanderings of such jets. Most of these studies are published in the present issue of Tellus.

During the coming year we expect to take up certain experimental and laboratory studies in cloud physics and certain problems associated with the chemistry of some of the cyclic components of the atmosphere. We expect to be able to build up a small synoptic upper air analysis unit, to aid the work in numerical forecasting and to provide the never-failing inspiration that derives from daily contact with the large- and small scale current events of the atmosphere.

A list of publications resulting from investigations conducted wholly or to a major extent at our institute during the last two years is appended to this note.

C.-G. R.