

14,000 foot plane is obtained from tables (II and III). It is obtained from three variables: horizontal gradient of mean virtual temperature; absolute value of mean virtual temperature; and pressure at the base plane. This component has been termed the "thermal component", because it is always parallel to the isotherms of mean virtual temperature and depends to a great extent upon the horizontal gradient of mean virtual temperature.

6. The vector sum of the isobaric and thermal components gives the

wind direction and velocity at the 14,000 ft plane.

This method is much more simple in application than a description of it might lead one to expect. Once the isobars for the lower plane and the isotherms of mean virtual temperature have been drawn, only a few moments are required for computing the wind at the upper plane over a given point on the chart. The computed wind will be accurate, provided a close approximation of the horizontal gradient of mean virtual temperature has been used.

✧ Editorial ✧

More Funds Needed for Publication of Meteorological Research

According to Science Service the report of the science subcommittee of the National Resources Committee entitled "Research, a natural resource" calls attention to the fact that lack of publication hampers government research. This is very evident in the U.S. Weather Bureau where for many years there has been a rather limited output of scientific papers. One of the most obvious reasons is, of course, the lack of sufficient funds for the actual cost of printing. This is only part of the story, however, for the actual printing of a paper is but a part of the work and expense of preparing a piece of research for publication. In the Weather Bureau there has been an inadequate drafting force for necessary diagrams and lack of sufficient time on the part of qualified meteorologists in the central office to give immediate editorial attention to the numerous papers which are constantly coming in from the field stations as well as from the different divisions of the Bureau in Washington.

Indeed, the dearth of published papers goes even farther back than this, for the best research men, who have many problems in mind for investiga-

tion, are so heavily encumbered with routine demands of an insistent public that they have relatively little time for research. Thus papers which should be written are not finished, and papers that should be edited and prepared for the printer must lie idle for months, and, even when ready, the limited funds for publication may delay final printing for additional months.

This is in no wise to be construed as a criticism of the Weather Bureau. It is a situation frequently met in other scientific institutions, but the cure for which is perhaps more obvious in the government service than outside.

We hope that the Weather Bureau will include in its next estimates for funds needed a really adequate amount for the promotion of research, and for the expense of prompt editing, drafting and printing of the results. Perhaps it would be a good thing to emphasize the need for including in the cost of any group of research projects or for miscellaneous projects a fairly large percentage of the total cost for editing, drafting, and printing.—*Charles F. Brooks.*