of the data presented in the following pages should disprove the common belief in definite trends in any one direction sufficient for one to forecast conditions in succeeding seasons. It is doubtful whether anyone will be able to note recurring cycles of the elements which make up our climate and weather.

The most valuable studies of weather and climate must be based on statistics. Meteorological conditions that have occurred at one time may recur, and when many years are involved the reasonable assumption is that all types of weather that may ever be expected will be represented. For such studies the longer the records the more dependable are the conclusions. Each year is different and yet the variations from the average are seldom of marked degree. It is true that every few years some meteorological record is broken in each community, but if 50 or more years of records are available one may be fairly certain that the extremes will not vary materially from extremes previously recorded.

As shown on the following pages, records of Lehigh County weather are available for a fairly long period of time, yet much longer records would be highly desirable. Longer and more complete records have been made for Philadelphia and Reading. In the Northampton County report* the writer included data from nearby stations, but in this volume records from Lehigh County localities only are used. An exception is that some gaps in records are filled by data from adjoining counties.

The weather elements noted and each observer's length of service are given in the table below, as far as the records are preserved. Nearly all the observations were taken either wholly or in part with instruments furnished by the U. S. Weather Bureau, and most of the original records are preserved in the Philadelphia or Harrisburg office of that organization. Duplicate records are on file also at the respective stations where meteorological observations are still being made. Much of the available data is contained in the publications of the U. S. Weather Bureau, mainly in the monthly reports and annual summaries of Climatological Data, Pennsylvania Section, which are preserved in many libraries.

All the observational data used were taken according to the regulations of the U. S. Weather Bureau. These observations are frequently greatly at variance with those given by local papers and passed about by word of mouth. The extreme temperatures of summer are almost invariably lower than those recorded by the ordinary thermometers on the street level or where they are not properly shielded from the direct rays of the sun. The winter extremes, likewise, are apt to be higher than those recorded by poor or improperly placed thermometers.

The U. S. Weather Bureau gives specific instructions for the installation of the instruments. Naturally, only the data obtained under the same standard conditions are exactly comparable. The miscellaneous precipitation data of untrained observers are more reliable than temperature records, but they, too, may be inaccurate, and, therefore, some available information has been ignored in the prep-