

SNOWFALL MAPS OF OHIO

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To present an accurate representation of the snow cover of Ohio is extremely problematical. The results are not much more than estimates in view of such known limitations as (1) the difficulty of securing a true measurement of snowfall, (2) the insufficient number of well distributed climatological stations, (3) the inadequate number of stations with records for the same period of time, (4) the short duration of the records, and (5) the incompleteness of the data, that is, there are only a few stations with uninterrupted records.

The average annual snowfall map of Ohio, dated to 1937, is based on all of the climatological and first order stations with records for fifteen years or more.

The pattern depicts the heaviest mean annual snowfall in the extreme northeastern counties and the lightest along the Ohio River and in the Scioto Valley. The relation of altitude and snowfall is strikingly apparent. Only minor differences exist between the above map and an average snowfall chart prepared by Mr. William H. Alexander (1921).¹ In general it may be said that the snowfall from 1921 to 1937 has somewhat lightened the mean annual snowfall cover. The difference, however, is not extremely significant and may be partly due to human factors in obtaining station measurements or in the preparation of the isopleths. If two or three of the unusually heavy snowfalls were deleted, the resultant map would be appreciably different from those prepared from all records of fifteen years or more. Particularly, the record snowfall of 1910, when the station amounts ranged from about 35 inches in the southern portion of Ohio to about 125 inches in the northeastern counties. The average for the state, 60.1 inches, was about double the usual amount and was greater than for any other year of record.

¹William Henry Alexander, "A Climatological History of Ohio," Engineering Experiment Station, Ohio State University, Bul. 26, p. 105, 1923.

In the introductory paragraph some of the difficulties encountered in the preparation of snowfall maps were cited. One of these, the lack of complete records, warrants further

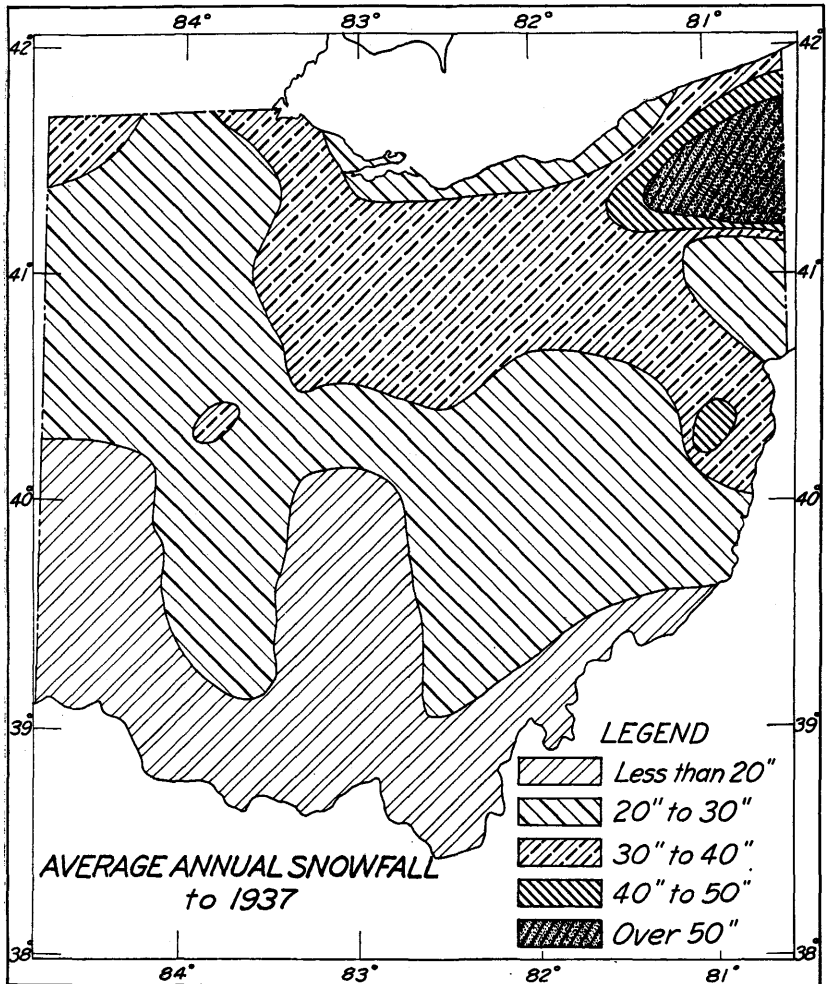


Fig. 1. Average annual snowfall of Ohio to 1937. Based on all climatological and first order stations with records for fifteen years or more.

emphasis. For innumerable reasons, there are only a comparatively few stations with records unbroken and for the same period of time. The original climatological records

“Climatic Summary of the United States,” on snowfall are in part based upon interpolation. From more than 70 stations disclose emphatically that the climatic data, published in the

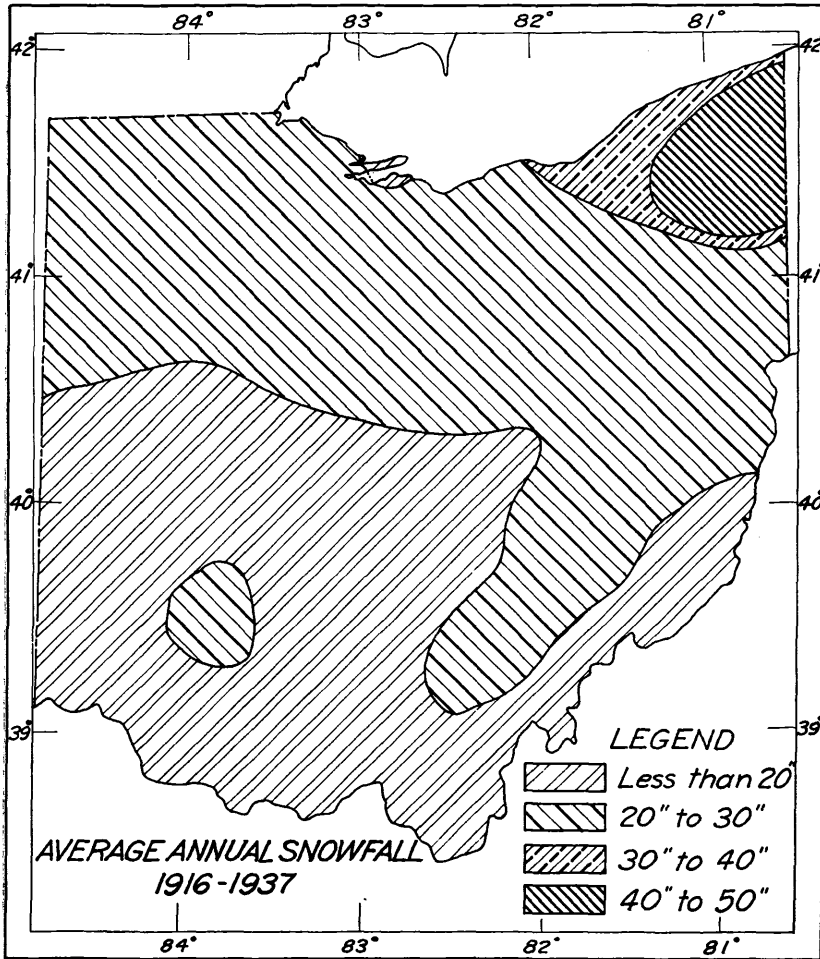


Fig. 2. Average annual snowfall of Ohio, 1936-1937. Based on data of 22 stations of uninterrupted records for the same period of time both in length and in calendar years.

in Ohio, with length of record of fifteen years or more, it is possible to secure only 22 stations of uninterrupted records for the same period of time both in length and in calendar

years. On the basis of the selected station, the map dated 1916-1937 was prepared. While this map is free from interpolation, it is constructed on the basis of so few stations that

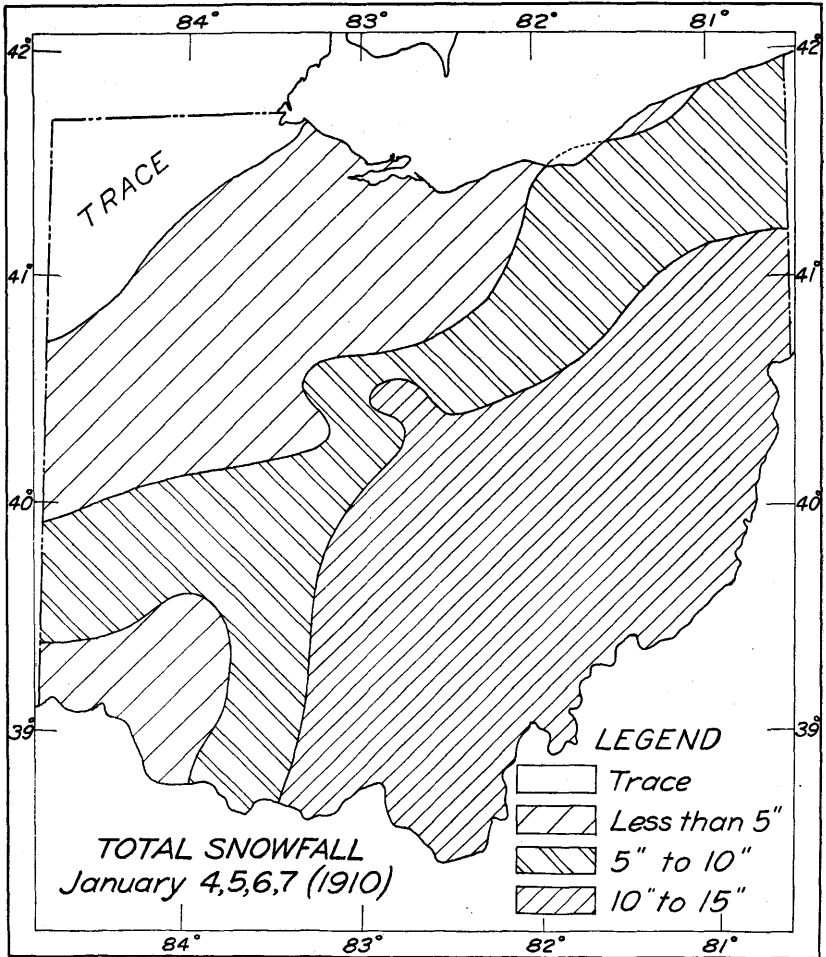


Fig. 3. Period of snow storm in Ohio for January 4, 5, 6, and 7 (1910):

it is probably not as representative of the mean annual snowfall of Ohio as the one previously cited.

Undoubtedly, the climatological interpretation of the distribution of Ohio's snowfall is the foremost question. The

method of procedure was to study periods of snow storms. For this occasion the heavy snowfalls of 1910 is reviewed. The accompanying maps and others not included suggest a preliminary summary as follows:

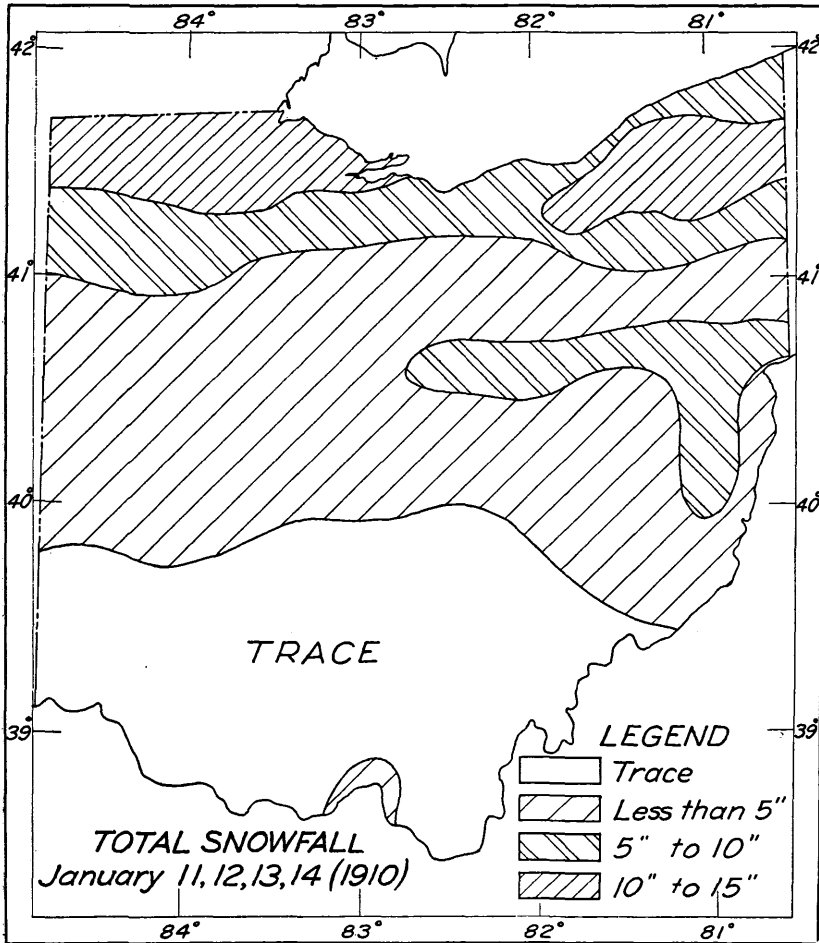


Fig. 4. Period of snow storm in Ohio for January 11, 12, 13 and 14 (1910).

(1) That the snow cover over the entire state is primarily associated with air masses. January is the month of greatest snowfall, followed by December and February.

(2) The excess snowfall in northeastern Ohio suggests a lake, wind, and relief association.