

Zeitschrift: Geographica Helvetica : schweizerische Zeitschrift für Geographie = Swiss journal of geography = revue suisse de géographie = rivista svizzera di geografia

Herausgeber: Verband Geographie Schweiz ; Geographisch-Ethnographische Gesellschaft Zürich

Band: 12 (1957)

Artikel: [s.n.]

Autor: [s.n.]

Kurzfassung: The air masses over the northern hemisphere

DOI: <https://doi.org/10.5169/seals-40400>

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THE AIR MASSES OVER THE NORTHERN HEMISPHERE

Attempts to classify the climates of the earth are as old as the science of climatology itself. Nevertheless, a classificatory system adhered to by the majority of geographers has not yet been devised. This is partly due to the nature of the subject, partly because there are two distinctly different methods by which the problem might be solved. Most climatic systems established heretofore are based upon the *effects of climate* on organic and anorganic phenomena of the earth's surface. Recent classifications have their origin in *dynamic climatology* taking weather or wind systems, fronts, and air masses as classificatory criteria.

This paper endeavours to make the air masses the major causative factors of the climatic differentiation of the Northern Hemisphere. A five years series of weather maps was used in order to determine the type and the characteristics of air masses at sixty stations in the Northern Hemisphere. By this method, called «aerosomatic» by the author, air mass regions were delimited for alternative months (Figs. 11—16) selecting the 80 %, 50 % and 20 %-isarithms as logical boundary lines. Air mass diagrams («somograms», Figs. 10—15) show the frequency of each air mass at six type stations as well as mean and extreme values of the major meteorological elements observed with each air mass. By combining January and July distributions (Fig. 10) there arise 35 aerosomatic provinces, 19 of which are annually or at least seasonally monosomatic, and 16 annually or seasonally polysomatic. Taking Europe as an example as short description of the climate of each province is given according to the occurrence, sequence, and effectiveness of individual air masses. With the increasing availability of Southern Hemisphere weather maps a genetic classification of the world's climates might become possible through further development of the aerosomatic concept.