

The object of this Bulletin is to set forth the nature and the value of the topographic maps of the United States. The maps are well known to State engineers, State highway commissioners, State foresters, and many other officials, and to many professional men; but they are not well enough known to hundreds of thousands of persons who would profit by possessing them. They are immensely serviceable to all who make and use roads. Hence this brief account of them is offered to the members of the National Highways Association.

One of the best things about these topographic maps is that they are easily obtained by any one who wants them. The process is as follows: Write to the "Director, United States Geological Survey, Washington, D. C.," and ask for an "Index Circular" (no charge) of the maps published for the State selected. From this circular it is easy to see if maps are published for the desired district. Make a list of the maps wanted, and send it, with money-order (stamps and checks are not accepted) to cover cost (usually ten cents a sheet; \$3.00 for 50), to the Director of the Geological Survey; and in due course the maps will reach you by mail.

Every school should have the map of its own quadrangle; every town library should have the maps of its State; every city library, of its State and of neighboring States, or of all the States. For this purpose a standing order should be placed with the Geological Survey to send maps of certain States as soon as published. New maps should be posted in suitable frames, as soon as received, so that progress may be followed.

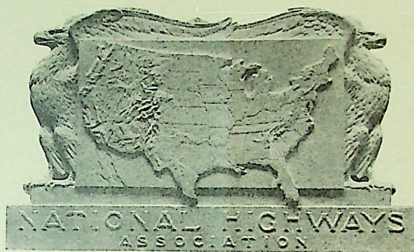
Furthermore, every squad of boy scouts should study their district in the field, with map in hand, and learn to know it so intimately that, when at home but still with map in hand, they can describe the hills, the slopes, and the valleys, and point out the paths and cross-cuts, as well as the roads and bridges.

But while it is highly satisfactory to secure maps for districts specified, it is disappointing to learn, on receiving an index circular, that maps for a desired area are not yet published. Certain States have co-operated with the National Government by paying part of the cost of surveying, and these States are naturally more fully mapped than others. Ohio is completely mapped, but Pennsylvania, Virginia, North Carolina, and many others are not. This is partly because a beginning in the great work of national mapping was not made until 1880; partly because our area is so large that, in spite of liberal appropriations and assiduous work, only 40% of the country had been mapped up to July 1, 1915. At the present rate of progress, about a century will be required to cover the whole country.

A century is too long to wait; the work ought to go on more rapidly. Larger appropriations, both National and State, should be made in order to expedite the completion of our topographical map. Many of the maps published before 1900 are less accurate than they should be, and should be re-surveyed. All the maps should be revised from time to time, in order to introduce new villages, roads, railroads, etc.; and the cost of revision might well be borne by the States concerned. Readers of these pages who are interested in this aspect of the problem are urged to present their views to their Congressmen.

Samples from maps of New York, New Jersey, Pennsylvania, Ohio, Maryland, Virginia, West Virginia, North Carolina, South Carolina, and Alabama are here included. It is proposed to issue similar Bulletins for other States at a later date. A limited number of copies of this Bulletin may be had, free of cost, on addressing the National Highways Association, South Yarmouth, Mass.

[16]



NATIONAL HIGHWAYS ASSOCIATION DIVISION OF PHYSICAL GEOGRAPHY COUNCIL OF NATIONAL ADVISORS

W. M. DAVIS, CHAIRMAN
PROFESSOR OF GEOLOGY, EMERITUS, HARVARD UNIVERSITY,
CAMBRIDGE, MASS.

D. W. JOHNSON, EDITOR
PROFESSOR OF PHYSIOGRAPHY, COLUMBIA UNIVERSITY,
NEW YORK

ISAIAH BOWMAN, DIRECTOR, AMERICAN GEOGRAPHICAL
SOCIETY, NEW YORK

N. M. FENNEMAN, PROFESSOR OF GEOLOGY, UNIVERSITY
OF CINCINNATI, CINCINNATI, O.

L. C. GLENN, PROFESSOR OF GEOLOGY, VANDERBILT UNIVERSITY,
NASHVILLE, TENN.

G. H. GROSVENOR, DIRECTOR, NATIONAL GEOGRAPHIC SOCIETY,
WASHINGTON, D. C.

W. H. HOBBS, PROFESSOR OF GEOLOGY, UNIVERSITY OF
MICHIGAN, ANN ARBOR, MICH.

HENRY LANDES, PROFESSOR OF GEOLOGY, UNIVERSITY OF
WASHINGTON, SEATTLE, WASH.

LAWRENCE MARTIN, PROFESSOR OF GEOLOGY, UNIVERSITY
OF WISCONSIN, MADISON, WIS.

BAILEY WILLIS, PROFESSOR OF GEOLOGY, LELAND STANFORD
UNIVERSITY, STANFORD, CAL.

PHYSIOGRAPHIC BULLETIN NO. 1

MAY, 1917

TOPOGRAPHIC MAPS OF THE UNITED STATES

BY W. M. DAVIS

A WISE people should know their own country. The best way to know a country is to travel over it and see it. All of us know something of our United States in that first-hand way, but none of us can know nearly all of it by seeing. The next best way is to study good maps; not the distorted outlines often published in railroad folders; not the small-scale pages of school or commercial atlases, which give only the rudest indication of surface form; but accurate, large-scale, topographic maps, on which the heights and slopes of mountains and hills, the breadth of valleys, and the fall of streams are as faithfully represented as the outlines of coasts and lakes and the locations of railroads and villages. A country may be said to be civilized in proportion to the accuracy with which its domain is surveyed. "Know thyself" is as good advice to a nation as to a man.

We have made a good beginning. All of our seacoast has been charted by the Coast and Geodetic Survey. The Great Lakes have been well mapped by the Lake Survey, and the Mississippi by the Commission in charge of the great river. More important still, the entire area of our country is in process of mapping by the United States Geological Survey on a uniform plan; but so great is our area that only 40% of it has been topographically surveyed and published in thirty-five years. We must expedite the completion of this invaluable map, for at the present rate of progress it will not be finished for scores of years to come.

[1]