The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1892, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions. The maps are published on sheets that measure about 10 by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales: the scale selected for each map being that which is best adapted to general use in the development of the country, and consistent with the standard map of uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{2}$ (1 inch means that 1 mile on the map is equal to 2000 feet, according to the relief of the particular area mapped.

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamations of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{2}$ (1 inch means that 2000 feet, with a contour interval of 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the lands of the United States and its territories, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{2}$ (1 inch means that 2000 feet, with a contour interval of 200 feet.

3. The contour lines are now being used in mapping. From the information recorded on the photographs, photometric maps, which show easily drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photograph is utilized also in the making of the topographic map, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1892, which area has never been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{2}$ (1 inch means that 8 miles. For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{2}$ (1 inch means that 4 miles. For some areas of partic-ular economic importance, covering about 5,000 square miles, the maps published are on a scale of $\frac{1}{2}$ (1 inch means that 1 mile) or larger. In addition to the area covered by topographic maps, about 11,500 square miles of southeastern Alaska has been covered by plans made on scale of $\frac{1}{2}$ and $\frac{1}{2}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{2}$.

A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{2}$.

The features shown on topographic maps may be arranged in three groups: (1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water, (2) relief, including mountainous, hills, valleys, and other features of the land surface, (3) culture works of man, such as towns, cities, roads, railroad and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water line or blue tint. Intermediate streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The contour or area of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the same line if the sea should rise 20 feet above mean sea level.

The contour lines represent also the slope of the land, and are used to indicate the direction in which the land is higher or lower. On the map each of these features is represented, directly beneath its position, merely by a symbol. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transverse traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, town, village, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public roads shown to indicate the laying out of streets of a city are shown as dotted lines. Each quadrangle is designated by the name of the city, town, or prominent natural feature within, and on the margin of the map has been printed the name and number of the quadrangle and those figures which indicate which maps have been published. More than 1,400 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published. Indices of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained in the form of pamphlets. The maps of the standard topographic maps may be obtained for 75 cents each; some special maps are added at different prices. A discount of 40 percent is allowed on an order amounting to $10 or more. The diagrams will be sent on request.

Appraisals for maps or folios should be accompanied by cash, draft, or money order (no postage-stamps) and should be addressed to THE DIRECTOR, United States Geological Survey, Washington, D. C.

November 1917.