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AREAS OF SHALLOW WATER TABLE,
PRINCE GEORGES COUNTY, MARYLAND

By

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Shown on the map are areas where the water table (the top of the saturated zone) is within 10 feet of the land surface. Below the water table, all voids in the earth materials are filled with water, and this water can move into wells or excavations. Information on the depth to water should, therefore, be of importance to those who are involved in any kind of construction activities.

The water table is lowest where it intersects land surface at natural ground-water discharge points (streams and marshes) and is highest in interstream areas. Generally, the slope of the water table is less than the slope of the land surface, so the depth to the water table is greatest in interstream areas.

Movement of water into or out of the saturated zone causes the water table to fluctuate. When precipitation infiltrates into the saturated zone, water levels rise. This process, called "recharge", generally occurs during the nongrowing season from mid-fall through early spring. Discharge occurs throughout the year as ground-water seepage to streams and marshes and, additionally, as evaporation and plant transpiration during the warmer months. Continued discharge and lack of significant recharge generally cause the water table to be lowest in the early fall. Discharge, by means of a pumping well, causes a decline in water levels, but the effect on the water table is limited to the area immediately adjacent to the well.

Superimposed on the annual cycle of water-level fluctuations are variations caused by climatic conditions. Thus, water levels are highest in wet years, particularly if precipitation is heavy during the recharge season. Also, the range of water-table fluctuation differs according to topography and distance from a stream. The water level in a well located in a valley might fluctuate only a few feet a year, whereas one on a hilltop might fluctuate more than 10 feet.

From the above discussion, it can be seen that the water table is a dynamic surface and any attempt to portray it on a map can be only a generalization. The user should regard the depth-to-water map as a guide and not as precise data. If it should be necessary to have site-specific information on the accurate depth to the water table, field testing is required.

The data used in preparing the depth-to-water map were taken partly from the well records of the U.S. Geological Survey. Most of the water-level data from these records were individual "spot" measurements made at the time that the wells were originally inventoried in the field and consequently were made at various times of year and at times when precipitation had been at, above, or below normal. Where actual water-level measurements were not available, it was necessary to estimate the depth to the water table on the basis of topography and drainage. Because of the scarcity of real data points, by far the largest part of the 10-foot depth-to-water line was drawn by this latter method.

There are some areas within the county where a localized saturated zone may be close to land surface above the main water table. These perched water bodies generally lie above a clay layer and are most likely to occur in areas mapped by Hack ^{1/} as Kps (sand deposits of the Potomac Group) and Tu (Upland deposits).

*Maryland (Prince George's Co.). Ground Water
1:62,500. 1976A
sheet 2
Cap. 1*

^{1/} Hack, John T., 1975, Geologic map for land-use planning, Prince Georges County, Maryland: U.S. Geol. Survey open-file report 75-208.