

Department of Natural Resources

# MARYLAND GEOLOGICAL SURVEY

Kenneth N. Weaver, Director

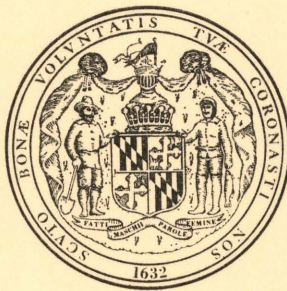
QUADRANGLE ATLAS NO. 6

## BEL AIR QUADRANGLE HYDROGEOLOGY

By

Larry J. Nutter

1977



Prepared in cooperation with  
the Geological Survey  
United States Department of the Interior  
and the  
Harford County Department of Planning and Zoning



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MARYLAND GEOLOGICAL SURVEY  
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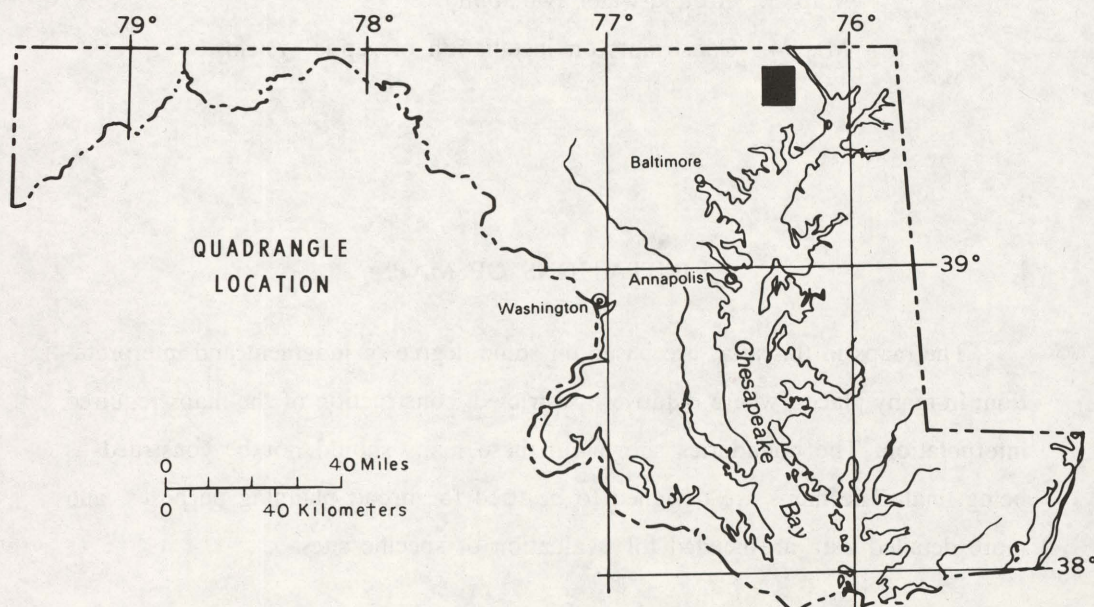
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U.S. Geological Survey

## INTRODUCTION

This atlas describes the hydrogeology of the Bel Air 7½-minute quadrangle, in central Harford County, Maryland. It is intended for use by planners, health officials, consulting engineers, developers, and the general public who are concerned with potential environmental problems and land-use planning.

The land use in much of the quadrangle is agricultural and woodland, but fairly extensive suburban areas have developed, especially around Bel Air, the county seat of Harford County.





## GEOLOGY

The Bel Air quadrangle lies within the Piedmont physiographic province. It is underlain by metamorphosed sedimentary and igneous rocks. The reader is referred to Southwick (1969) for a detailed description of the geology.

The crystalline rocks of the quadrangle are mantled by soil and weathered rock (saprolite) that vary in thickness, depending on the topographic position and the type of rock (Otton and others, 1975). In some places the saprolite is thin or absent, and in other places it is more than 50 feet (16 meters) thick; it tends to be thin beneath steep slopes and thick beneath many broad upland areas.

## MAPS INCLUDED IN THE ATLAS

The information presented in this atlas is in the form of four numbered maps on a standard topographic quadrangle base. The titles of the maps are as follows:

- Map 1. Depth to water table.
- Map 2. Slope of the land surface.
- Map 3. Ground-water availability.
- Map 4. Constraints on installation of septic systems.

## LIMITATIONS OF MAPS

The maps in this atlas are based on some degree of judgment and interpretation; in many places, where data were restricted, construction of the maps required interpolation. The boundaries shown on these maps should not be construed as being final. The maps are designed to be used for broad planning purposes, and more detailed data are needed for evaluation of specific sites.



## CONVERSION OF MEASUREMENT UNITS

<i>English Unit</i>	<i>Multiply By</i>	<i>Metric Unit</i>
inches (in)	25.4	millimeters (mm)
feet (ft)	.305	meters (m)
miles (mi)	1.609	kilometers (km)
gallons (gal)	3.785	liters (l)
gallons per minute (gal/min)	.0631	liters per second (l/s)
gallons per day (gal/d)	.0438	cubic meters per second (m <sup>3</sup> /s)

## REFERENCES

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<sup>1</sup> The name of this agency was changed to the Maryland Geological Survey in June 1964.