

INTRODUCTION

GENERALIZED GEOLOGY

Martín's Vineyard is presumed to be underlain by a crystalline bedrock complex of Precambrian and Paleozoic igneous and metamorphic rocks (Calkin, 1959). The bedrock is presumed to be a part of the Cape Cod Complex, which is a large area of Precambrian and Paleozoic rocks that covers much of the Cape Cod area. The bedrock is presumed to be a part of the Cape Cod Complex, which is a large area of Precambrian and Paleozoic rocks that covers much of the Cape Cod area. The bedrock is presumed to be a part of the Cape Cod Complex, which is a large area of Precambrian and Paleozoic rocks that covers much of the Cape Cod area.

FIGURE 1.—LOCATION OF MARTIN'S VINEYARD

Martín's Vineyard, an island located 2 miles south of Cape Cod in southern Massachusetts, is a small, irregularly shaped island. It is located in the Atlantic Ocean, south of Cape Cod, and is a part of the Cape Cod National Seashore. The island is approximately 1 mile long and 0.5 mile wide. It is a popular destination for visitors to Cape Cod, and is known for its beautiful beaches and historic buildings.

CLIMATE

The climate of Martín's Vineyard is characterized by a humid, temperate climate. The island is located in the southern part of the Cape Cod area, and is therefore subject to the same weather patterns as the rest of the Cape. The climate is characterized by warm, humid summers and cool, wet winters. The island is a popular destination for visitors to Cape Cod, and is known for its beautiful beaches and historic buildings.

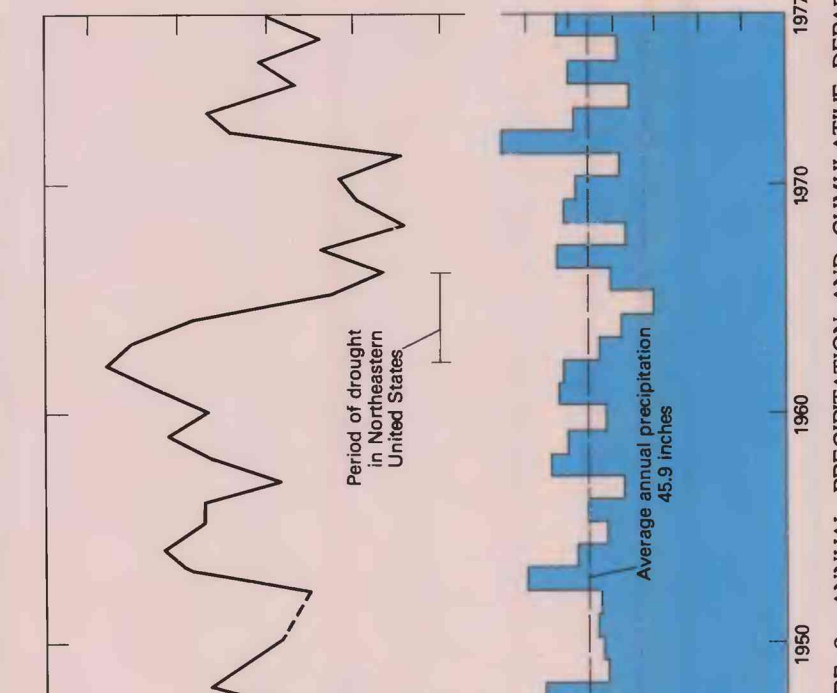


FIGURE 2.—ANNUAL PRECIPITATION AND EVAPORATION FOR MARTIN'S VINEYARD FROM 1950 TO 1977

GENERALIZED HYDROLOGIC BUDGET

The hydrologic budget of Martín's Vineyard is characterized by a high degree of variability. The island is a small, irregularly shaped island, and is therefore subject to a wide range of weather conditions. The hydrologic budget is characterized by high precipitation and low evaporation, which results in a high degree of variability in the water supply. The island is a popular destination for visitors to Cape Cod, and is known for its beautiful beaches and historic buildings.

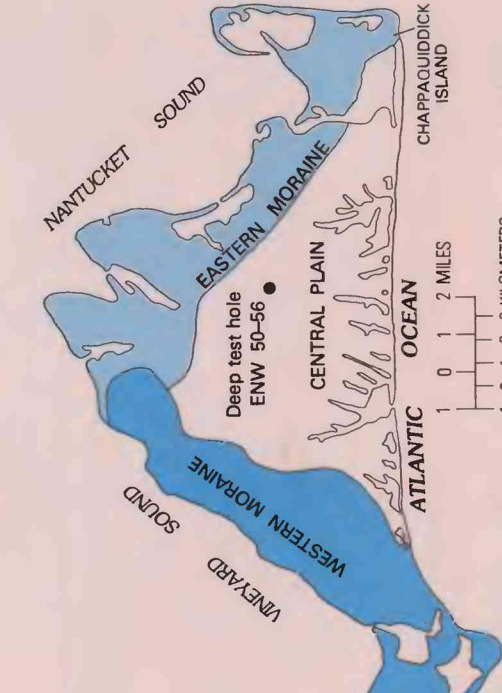


FIGURE 3.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

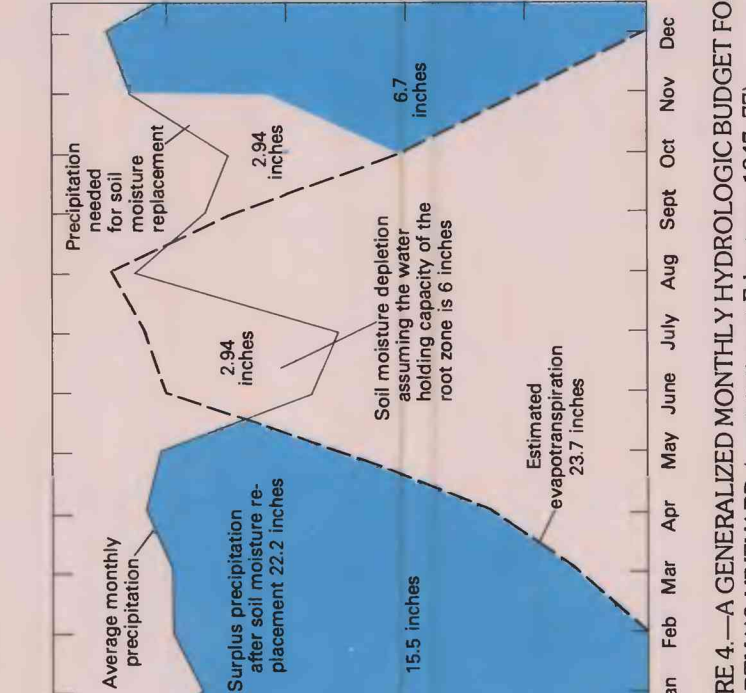


FIGURE 4.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

GROUND-WATER HYDROLOGY
UNCONFINED AQUIFERS

GROUND-WATER LEVELS

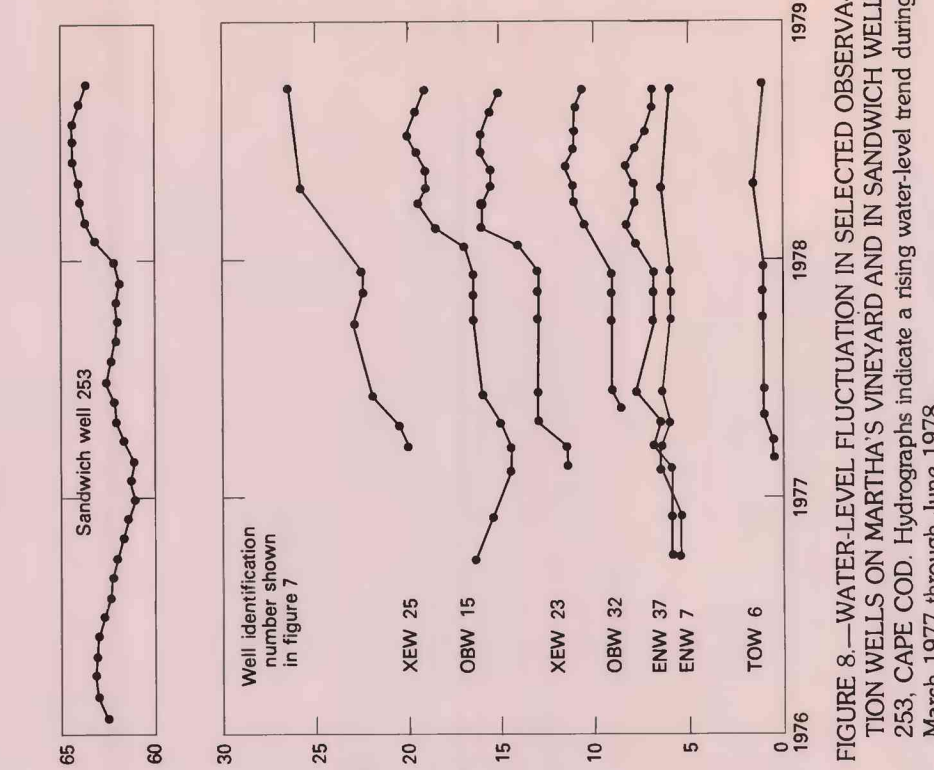


FIGURE 5.—WATER LEVEL FLUCTUATIONS IN UNCONFINED AQUIFERS FROM 1950 TO 1977

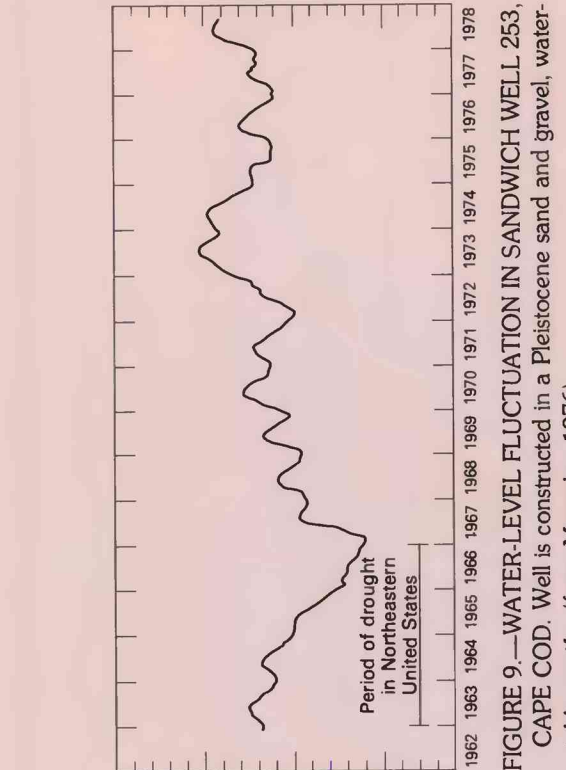


FIGURE 6.—WATER LEVEL FLUCTUATIONS IN UNCONFINED AQUIFERS FROM 1950 TO 1977

EXPLANATION

- (1.9) Municipal supply well—Number in parentheses is yield in million gallons per day
- (0.72) Well—Number in parentheses is yield in million gallons per day
- 22.5 (0.14) U.S. Geological Survey test well—Cross sections appear in figures 5 and 11-13
- XEW 32-28 Municipal supply well—Number in parentheses is yield in million gallons per day
- (0.37) Well—Number in parentheses is yield in million gallons per day
- 20— Isolated margin of western moraine overlain by eastern moraine and central plain
- A—A Line of cross section shown in figure 10
- XEW 25 Well identification number

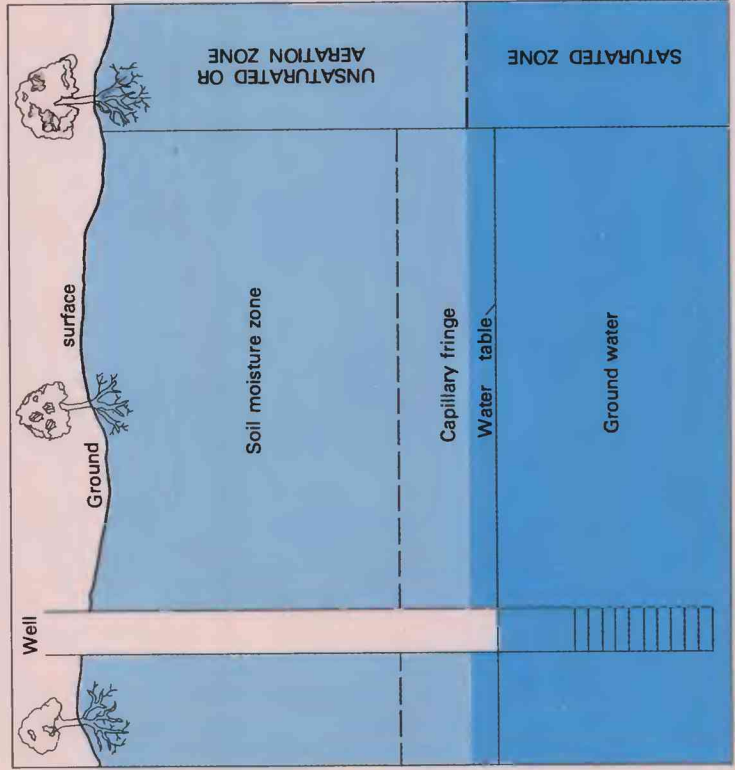


FIGURE 7.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

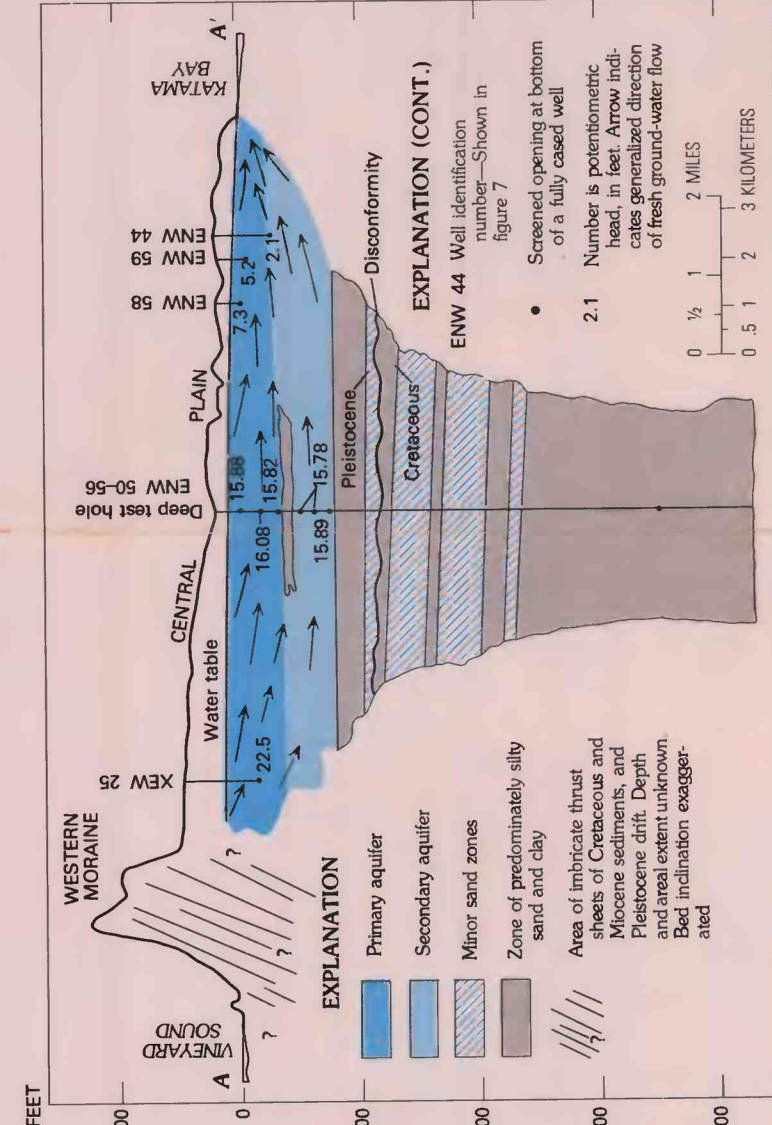


FIGURE 8.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

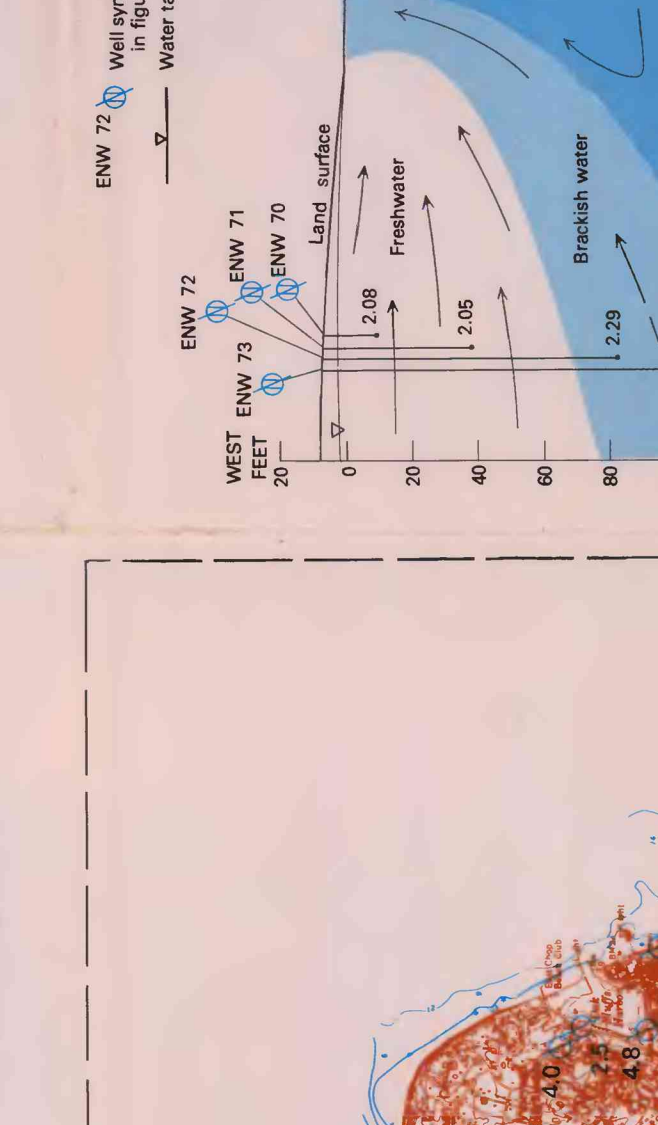


FIGURE 9.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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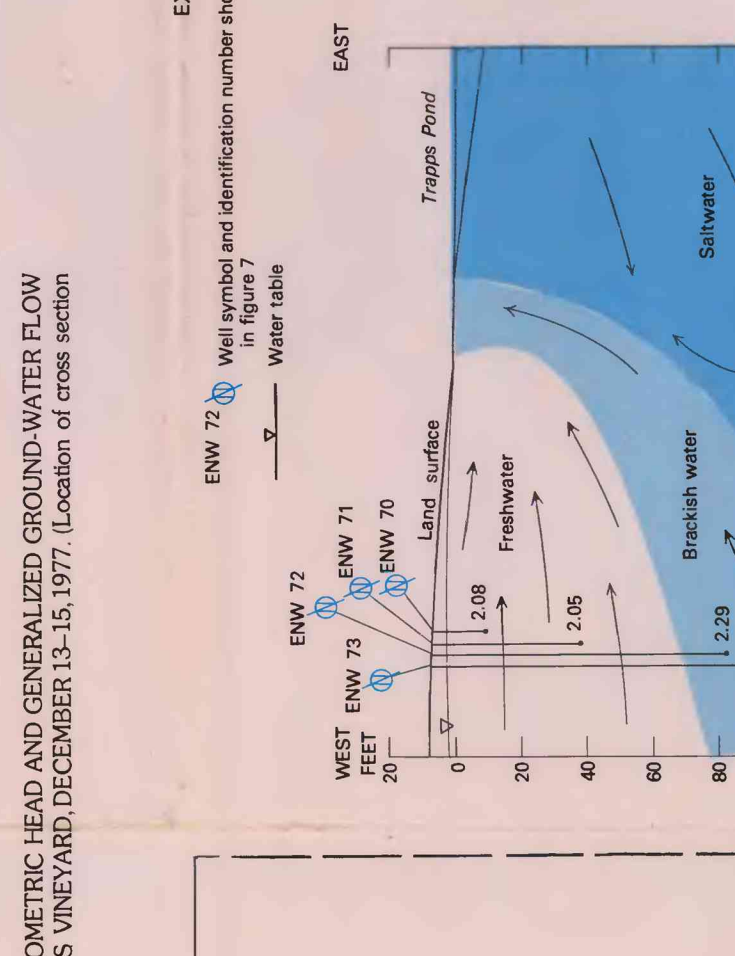


FIGURE 10.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

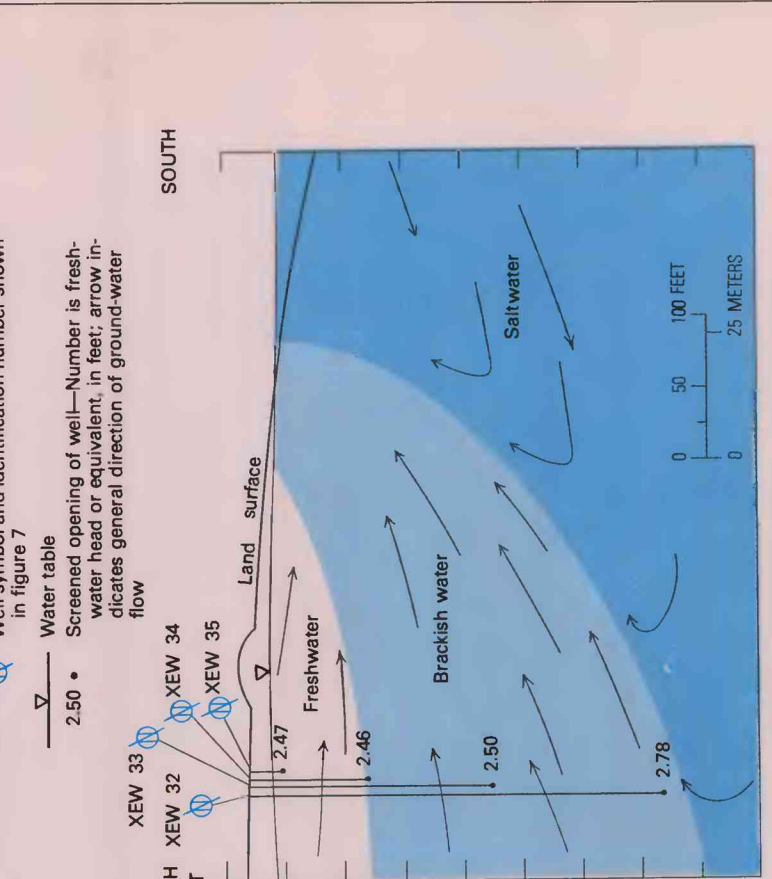


FIGURE 11.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

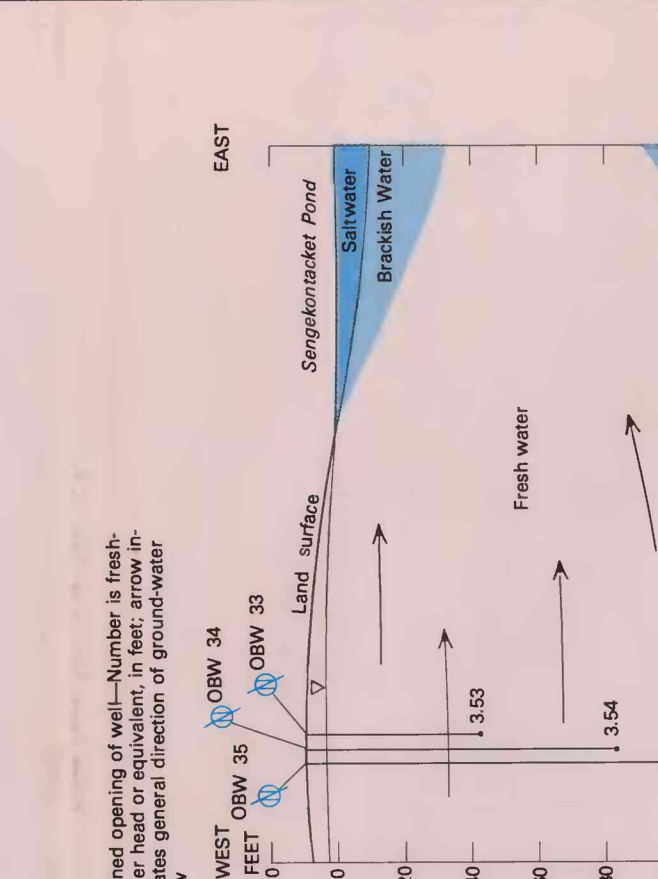


FIGURE 12.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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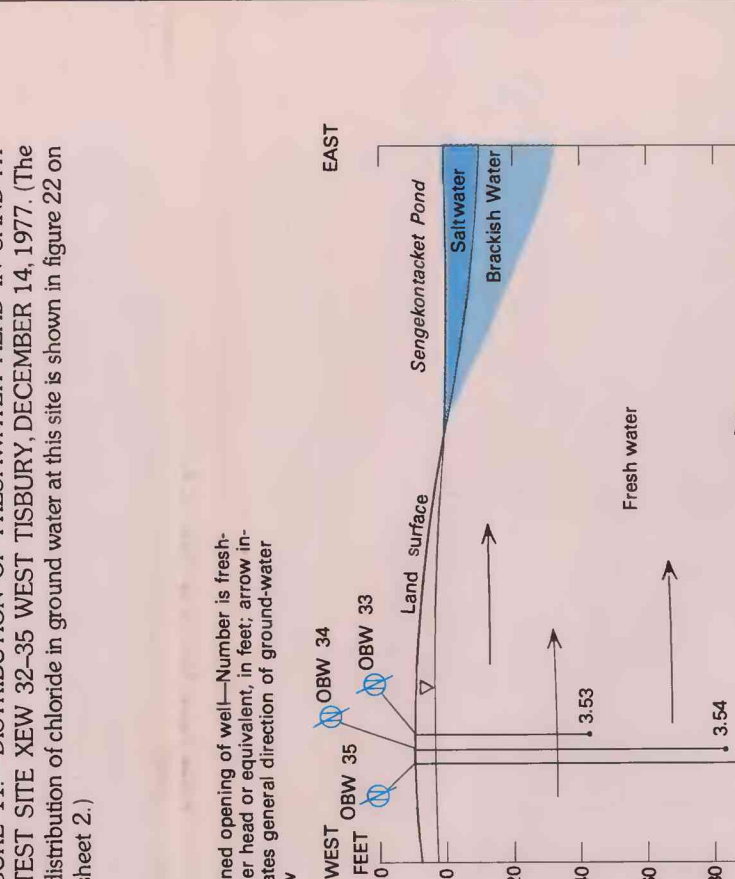


FIGURE 13.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

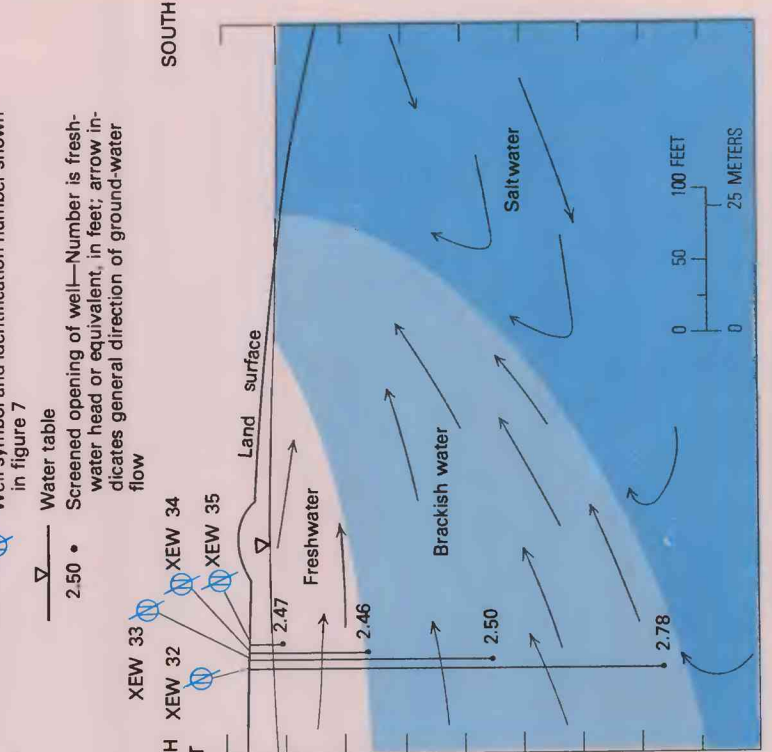


FIGURE 14.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

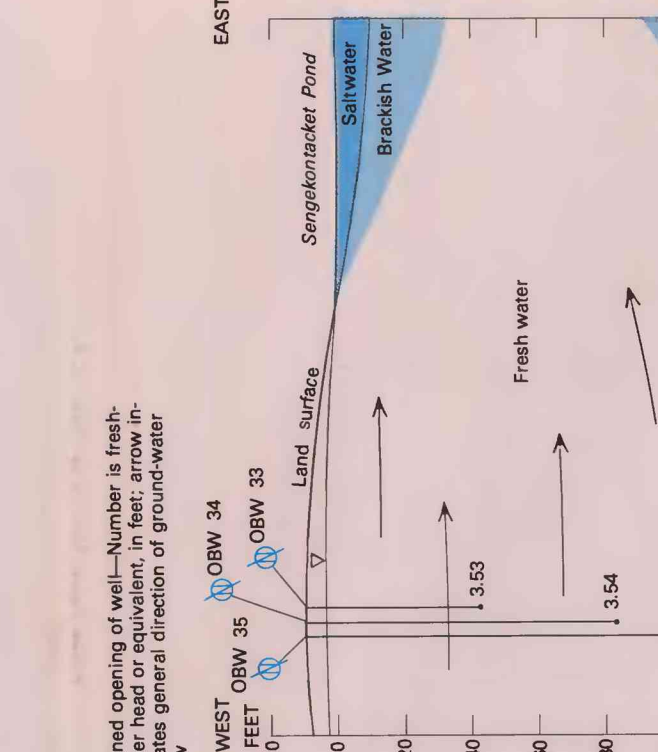


FIGURE 15.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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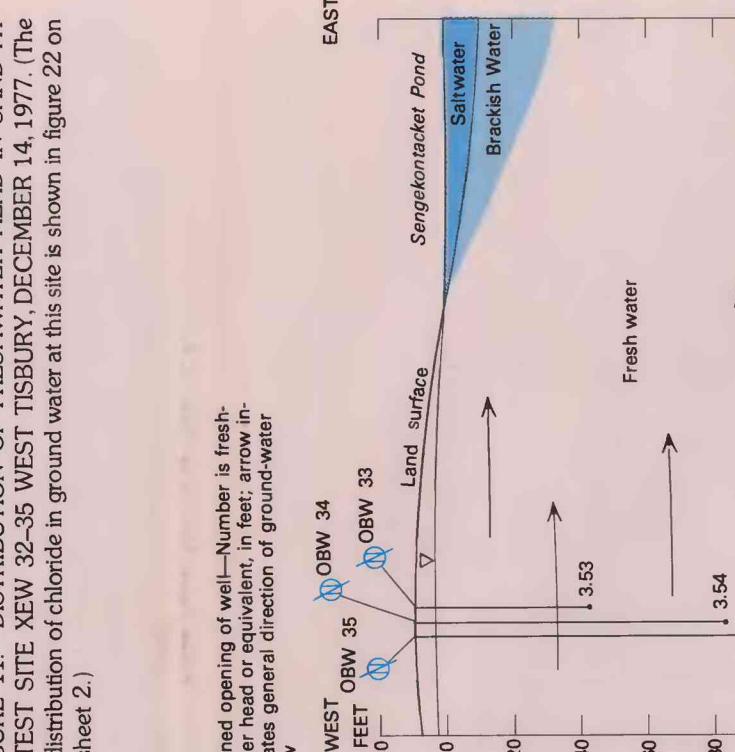


FIGURE 16.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

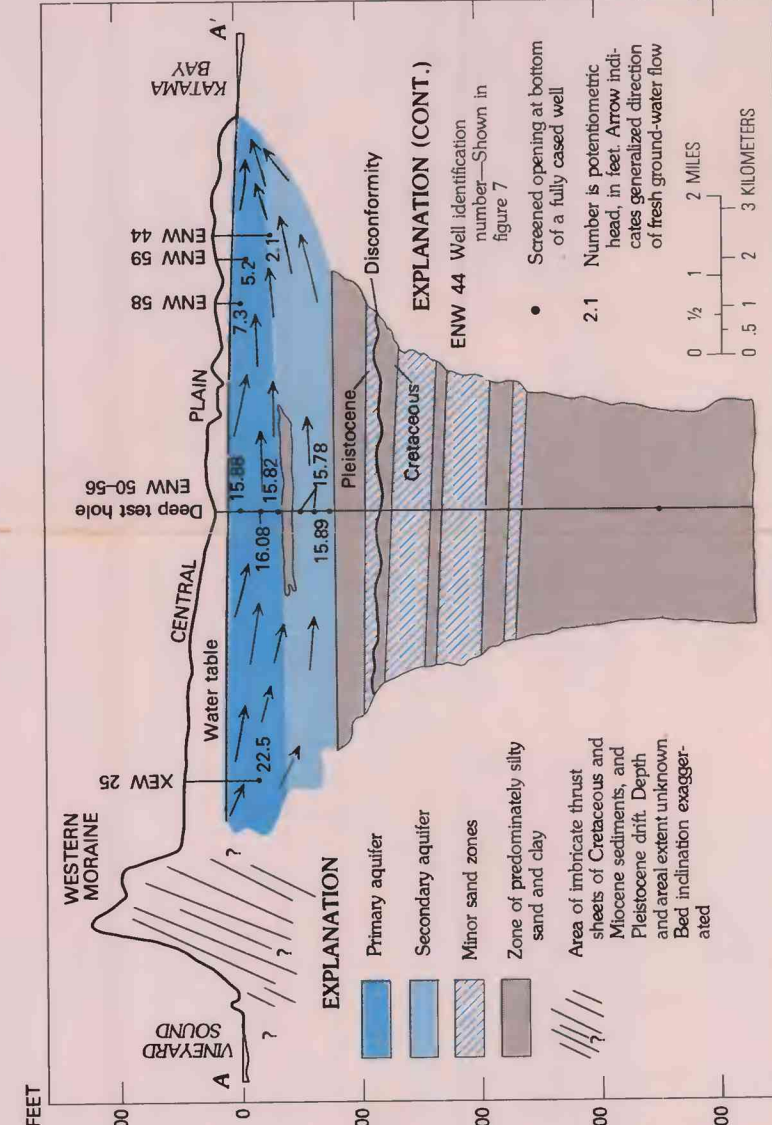


FIGURE 17.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

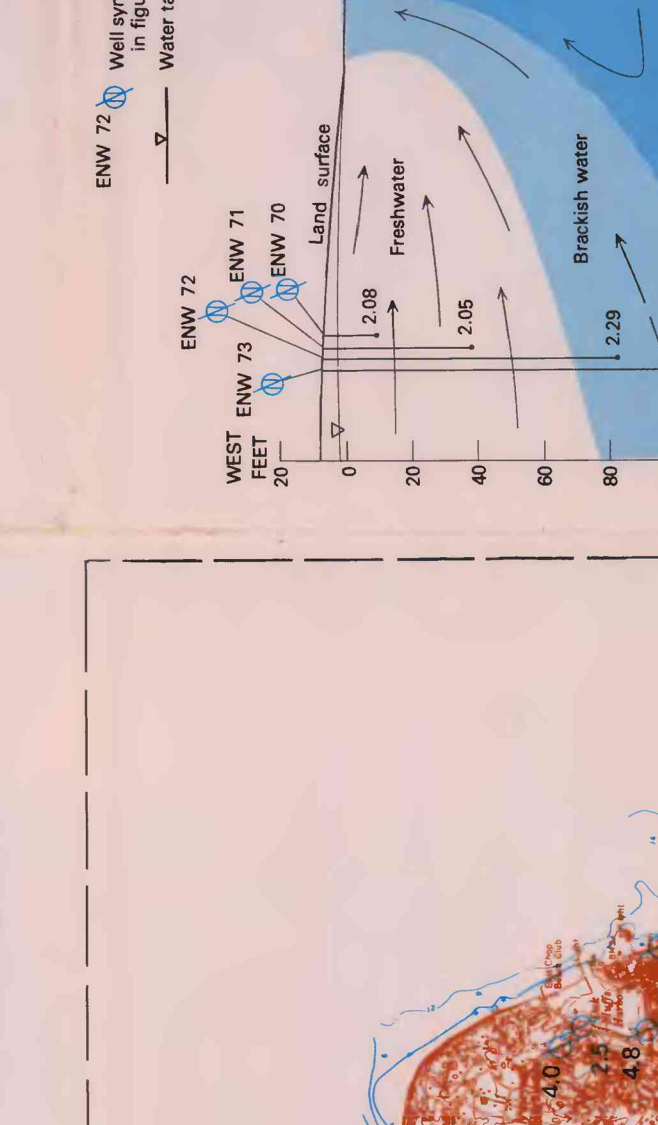


FIGURE 18.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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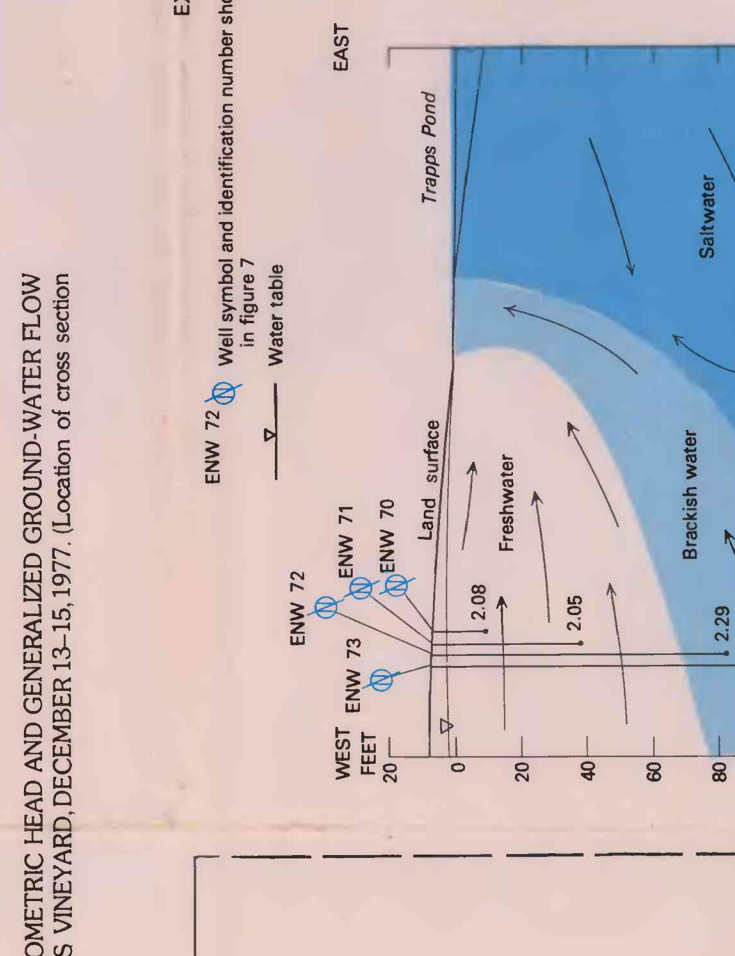


FIGURE 19.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

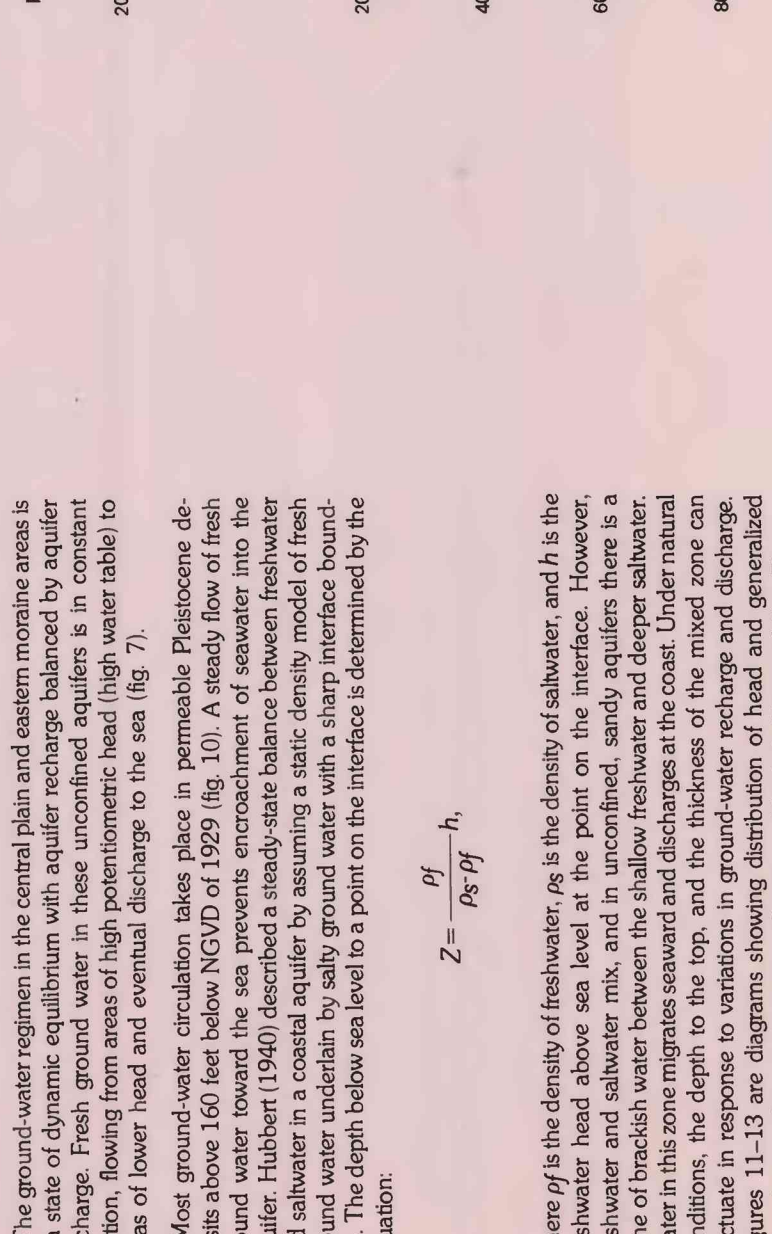


FIGURE 20.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES



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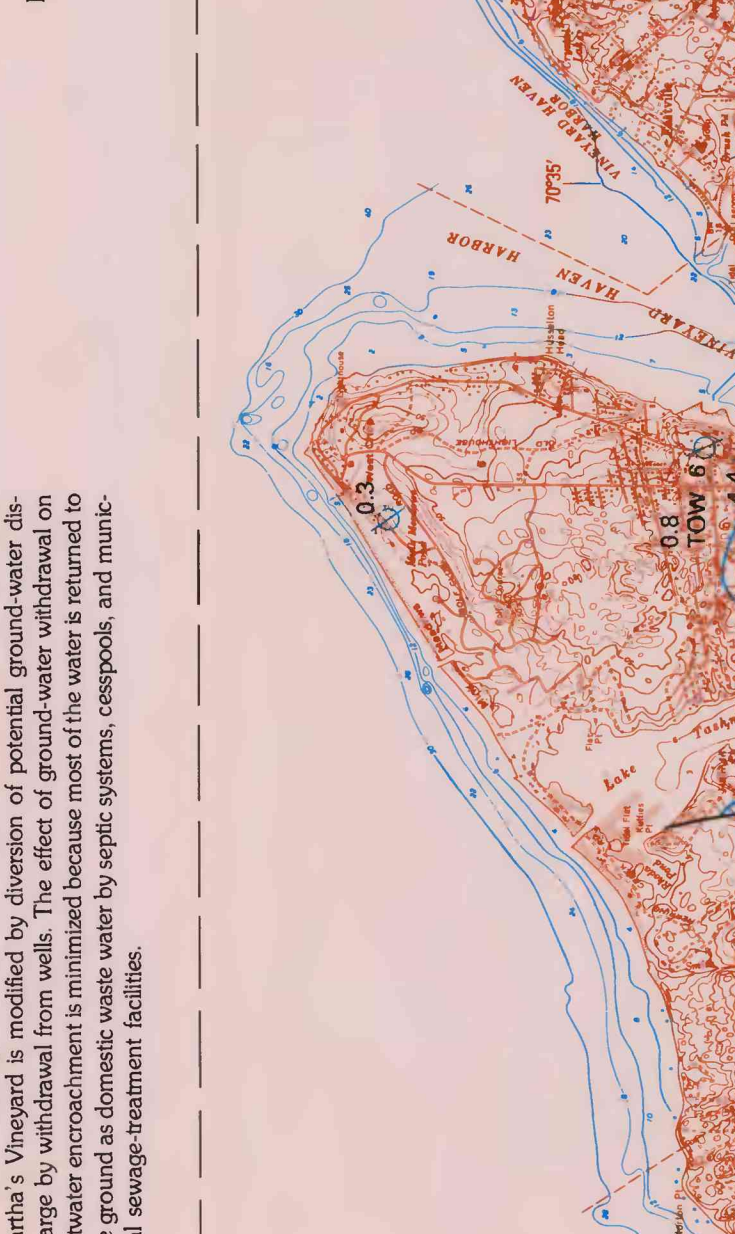


FIGURE 22.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

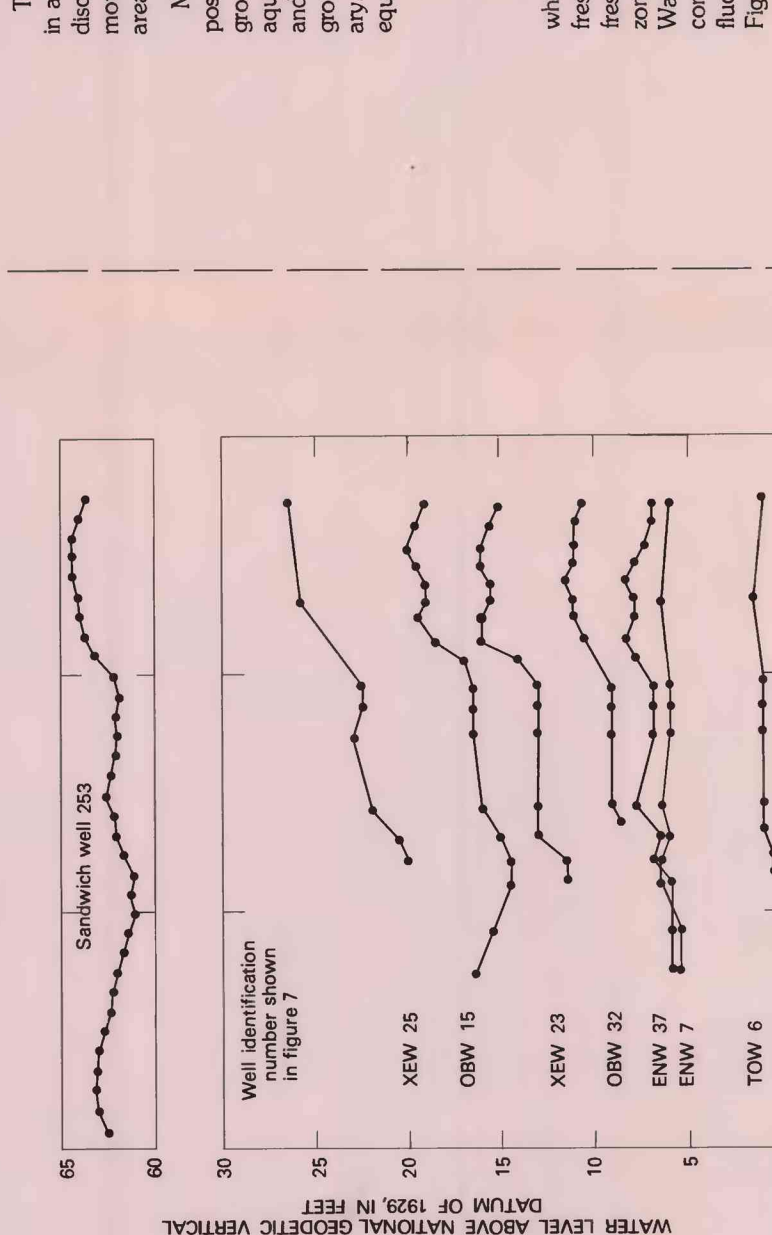


FIGURE 23.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

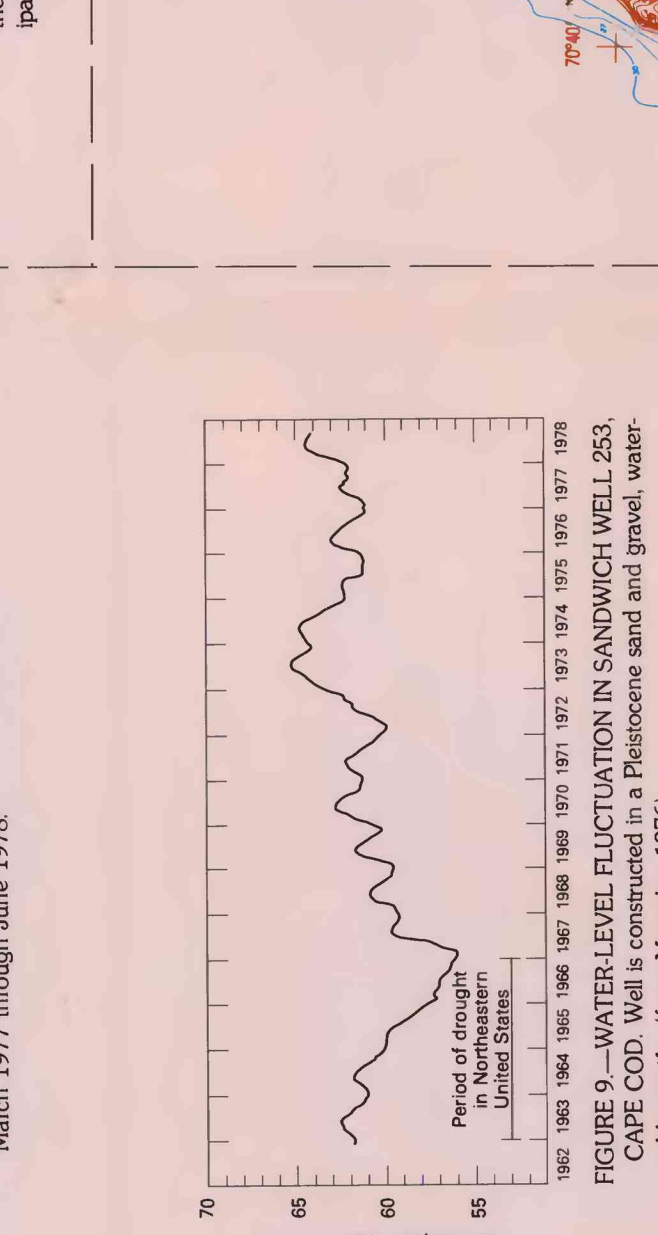


FIGURE 24.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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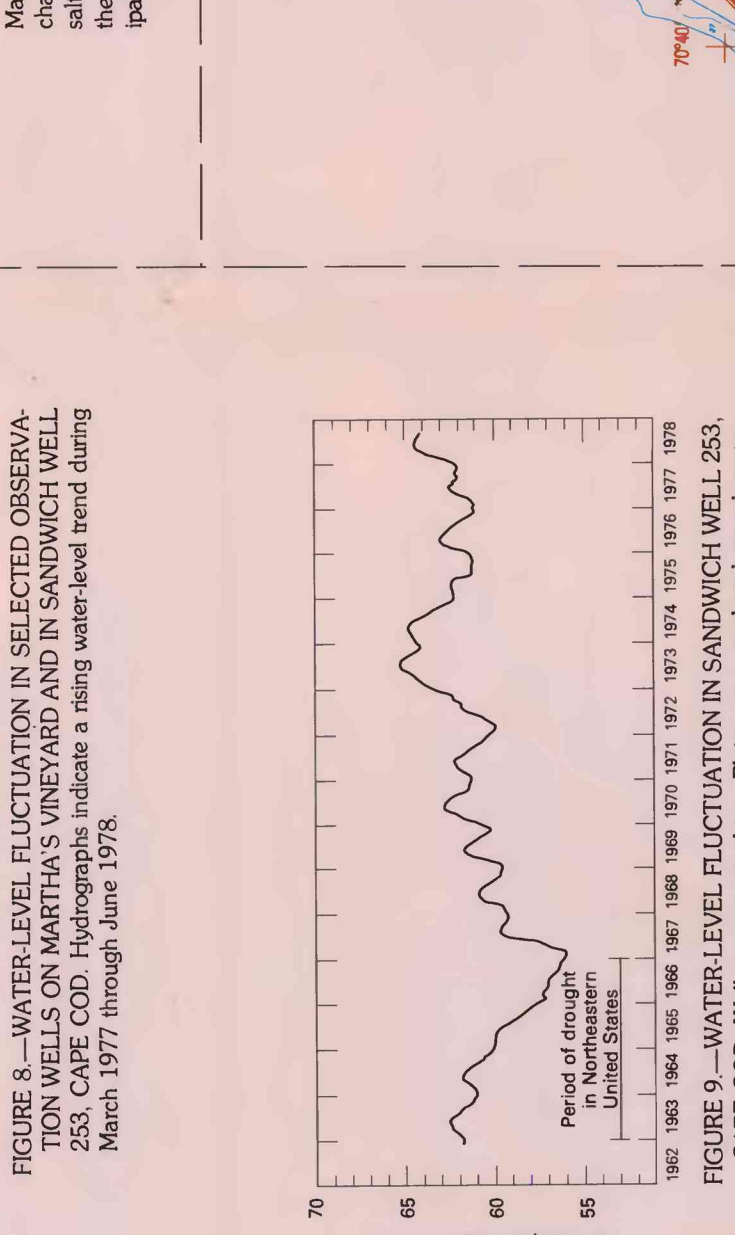


FIGURE 25.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

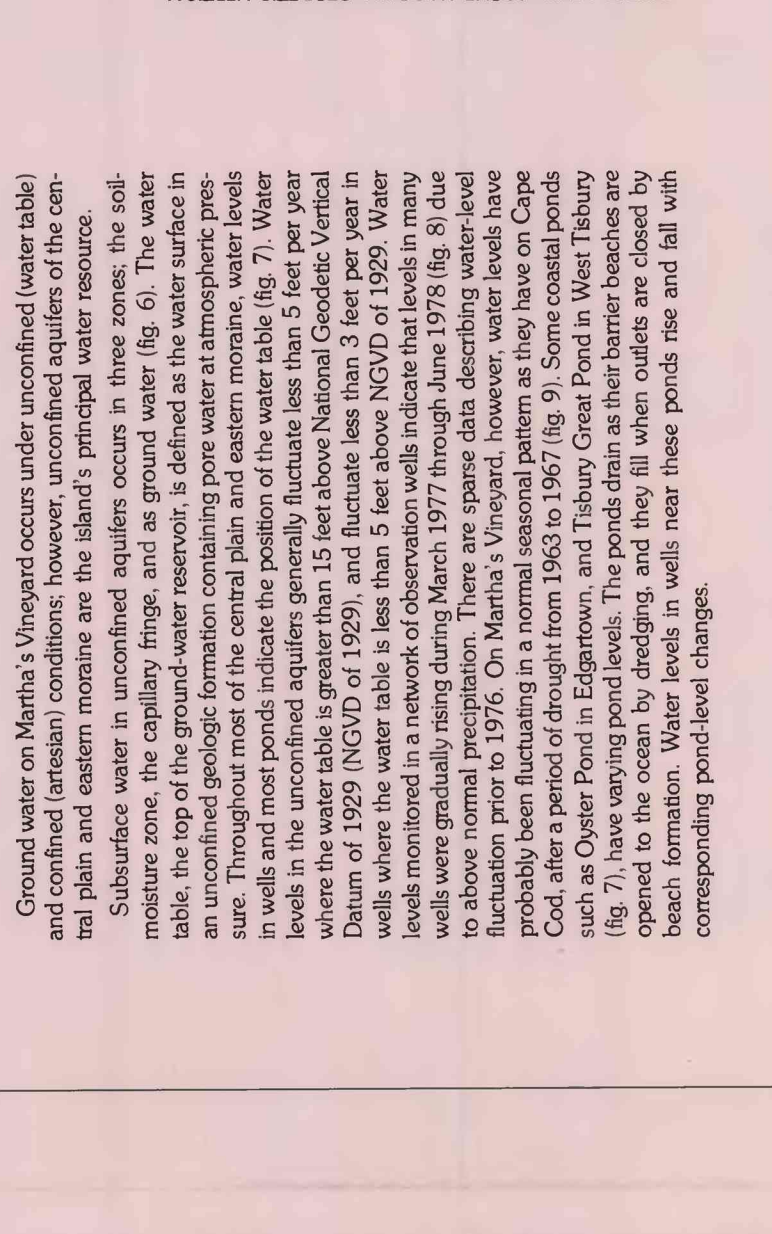


FIGURE 26.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

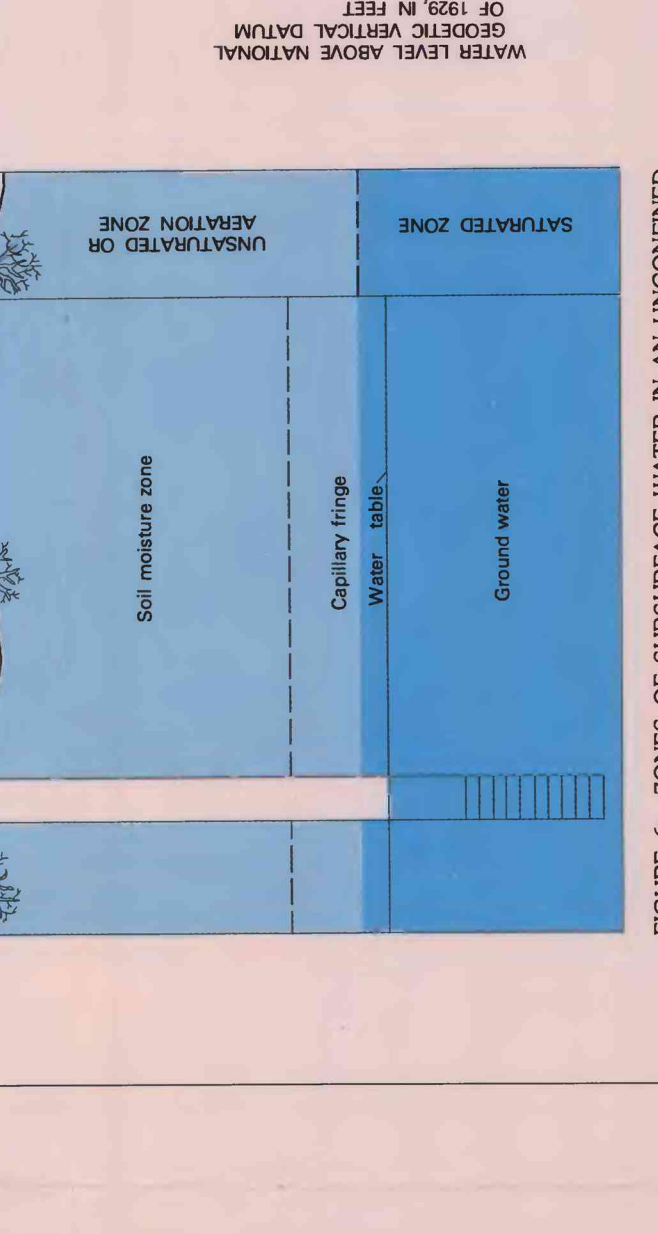


FIGURE 27.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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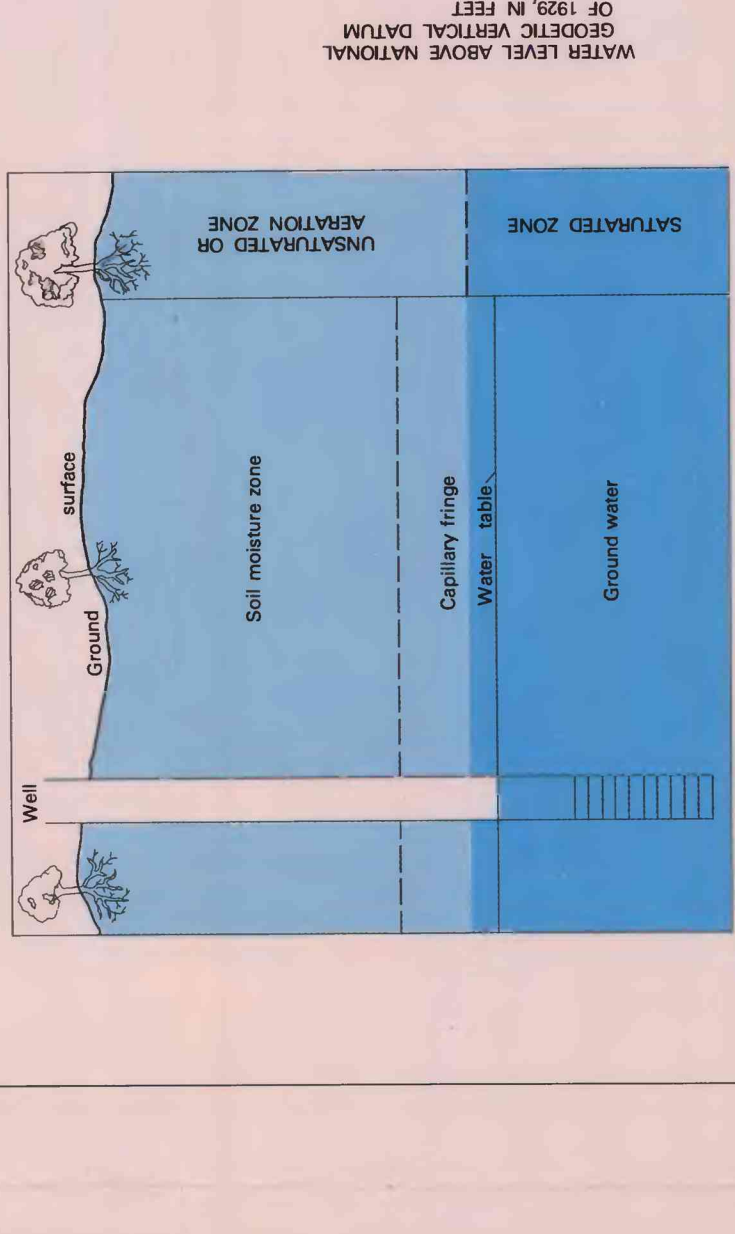


FIGURE 28.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

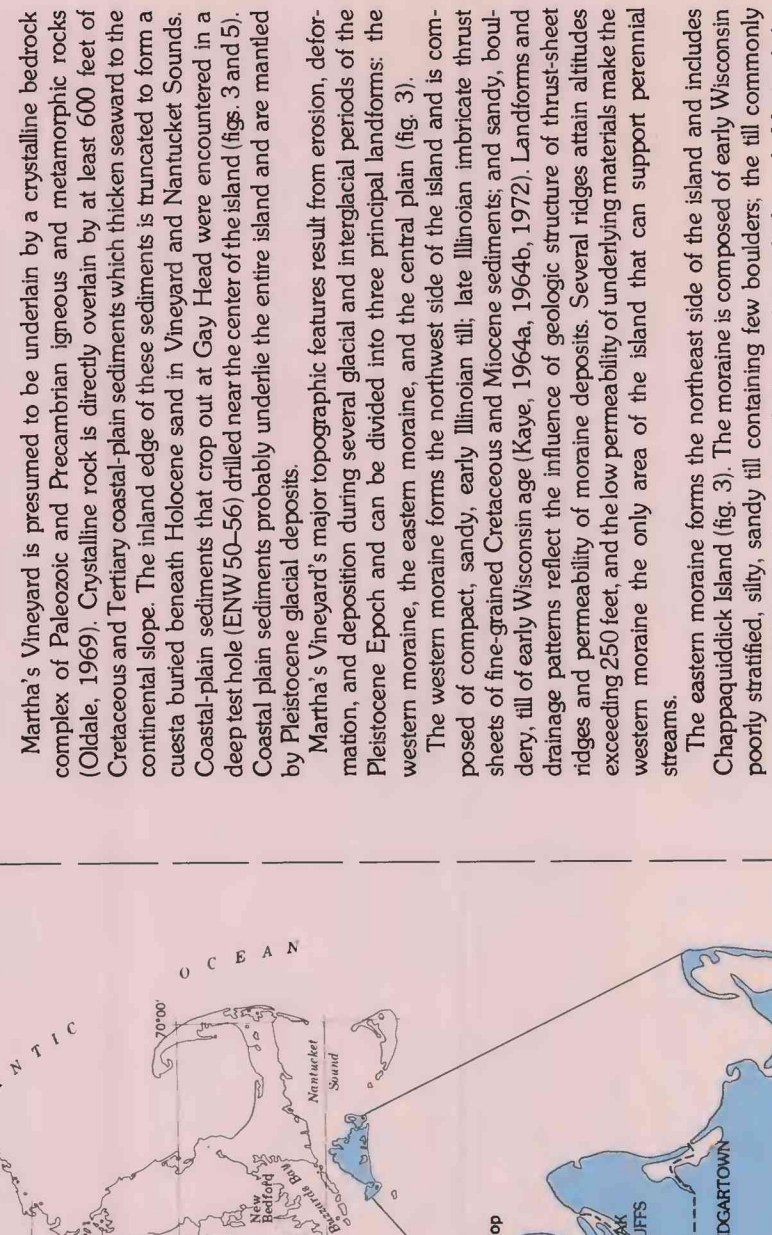


FIGURE 29.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

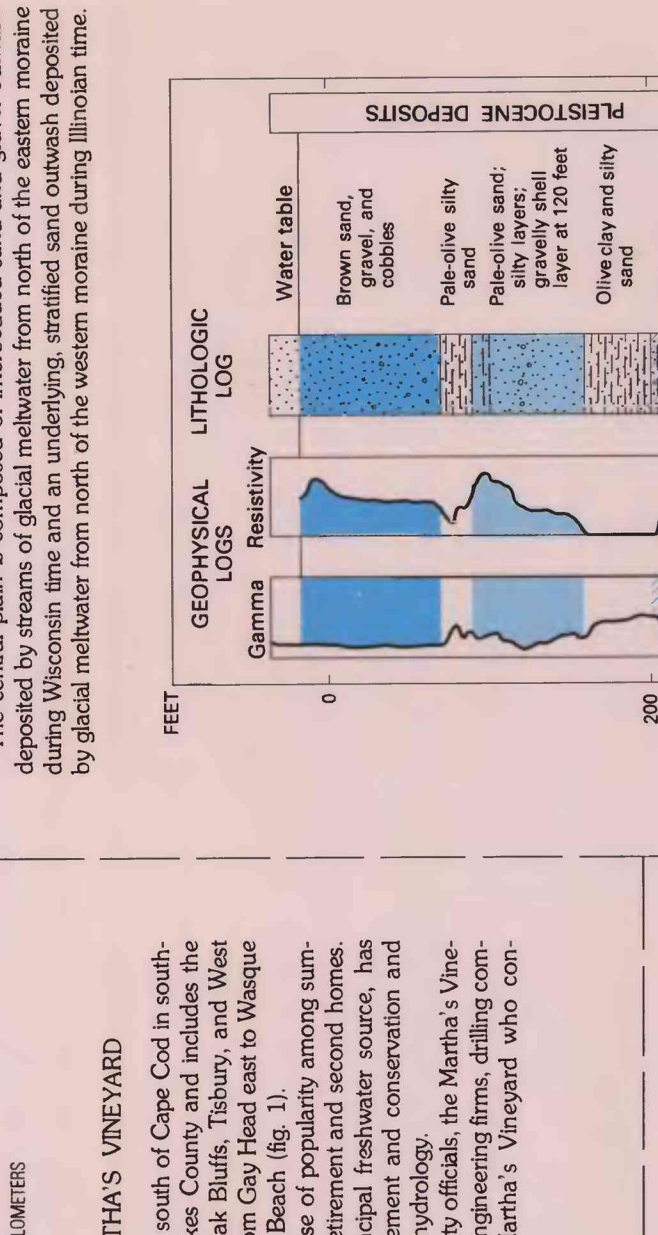


FIGURE 30.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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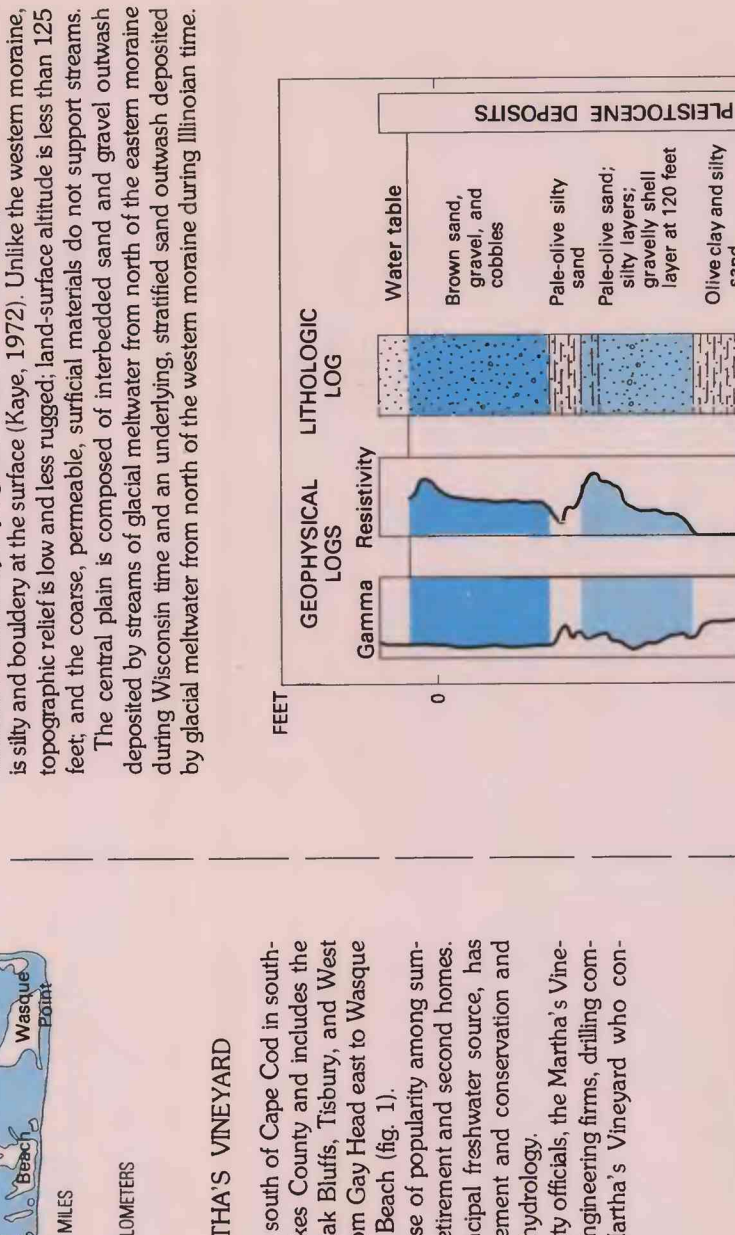


FIGURE 31.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

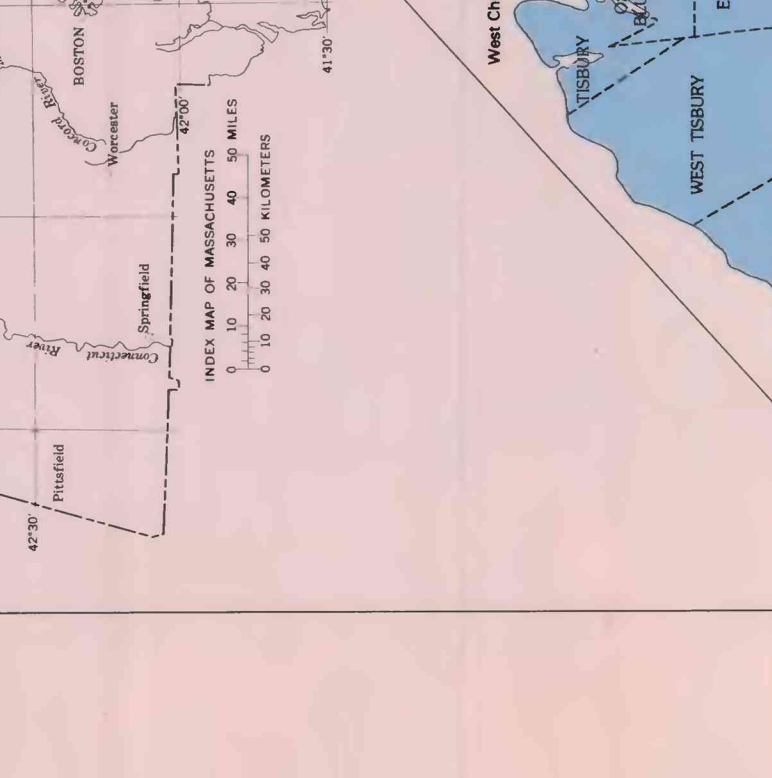


FIGURE 32.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

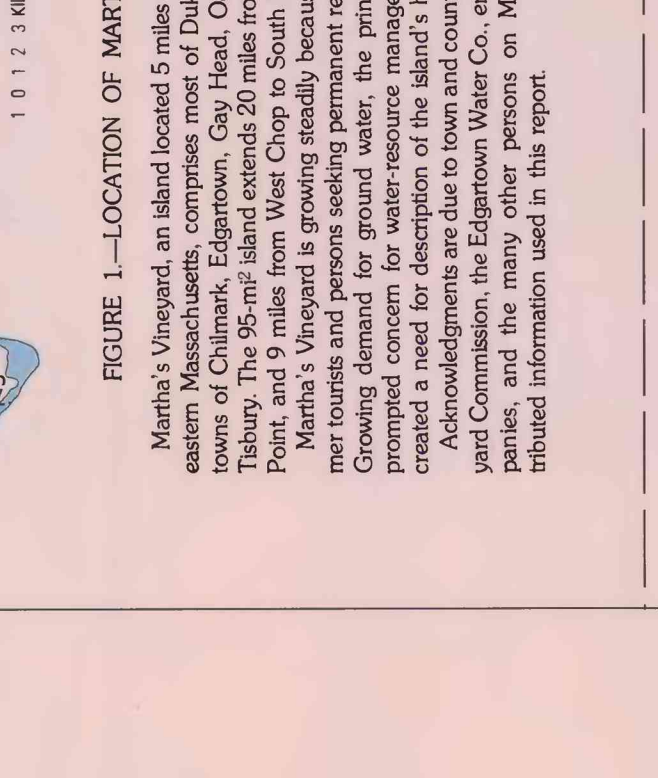


FIGURE 33.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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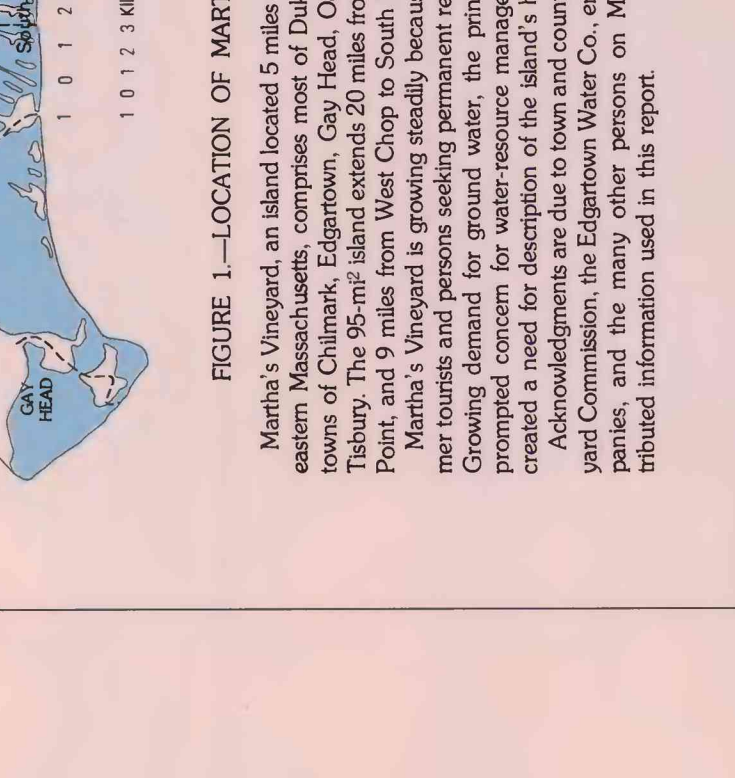


FIGURE 34.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

FIGURE 35.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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FIGURE 37.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

FIGURE 38.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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FIGURE 40.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

FIGURE 41.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

FIGURE 42.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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FIGURE 43.—CROSS-SECTION OF UNCONFINED AQUIFERS

GROUND-WATER FLOW

FIGURE 44.—LOCATION OF MARTIN'S VINEYARD AND THE DISTRIBUTION OF WATER RESOURCES

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FIGURE 46.—CROSS-SECTION OF UNCONFINED AQUIFERS