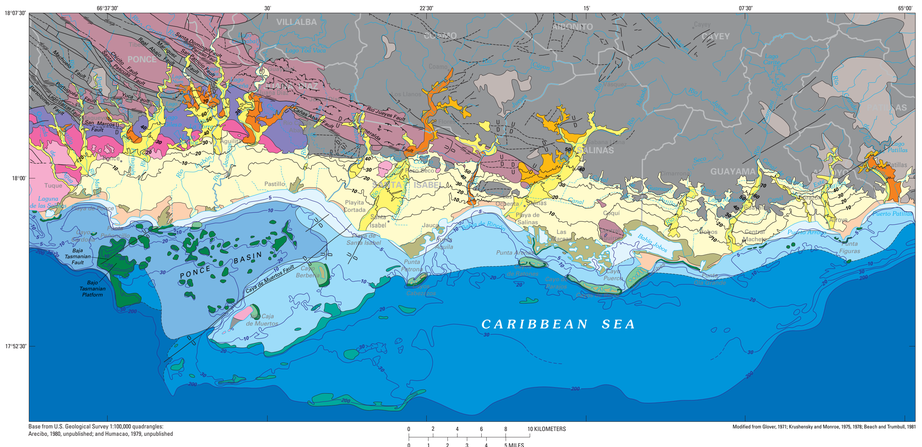


EXPLANATION

Deposits of Quaternary age

Subaerial zone
- Fan-delta plain
- Alluvium
- Colluvium
- Terrace

Marine zone
- Inner shelf
- Ponce shelf basin
- Outer shelf
- Shelf slope
- Live reef
- Carbonate bank and reef
- Submerged reef

Coastal zone
- Marsh or swamp
- Beach
- Nearshore

Deposits of Oligocene to Pliocene (?) age
- Ponce Limestone
- Juana Díaz Formation (limestone and chalk)
- Juana Díaz Formation (clastic sediments)

Rocks of Paleocene to Eocene age
- Tuffaceous sandstone, siltstone, lava and limestone

Rocks of Tertiary and Cretaceous age
- Igneous rocks

Rocks of Cretaceous age
- Lava, lava breccia, bedded volcaniclastic rocks, minor limestone

Contour—Shows altitude of fan-delta plain, in meters above sea level. Contour interval is variable

Contour—Shows altitude of Muertos shelf, in meters above sea level. Contour interval is variable. Dashed where approximately located. Hachures indicate depression

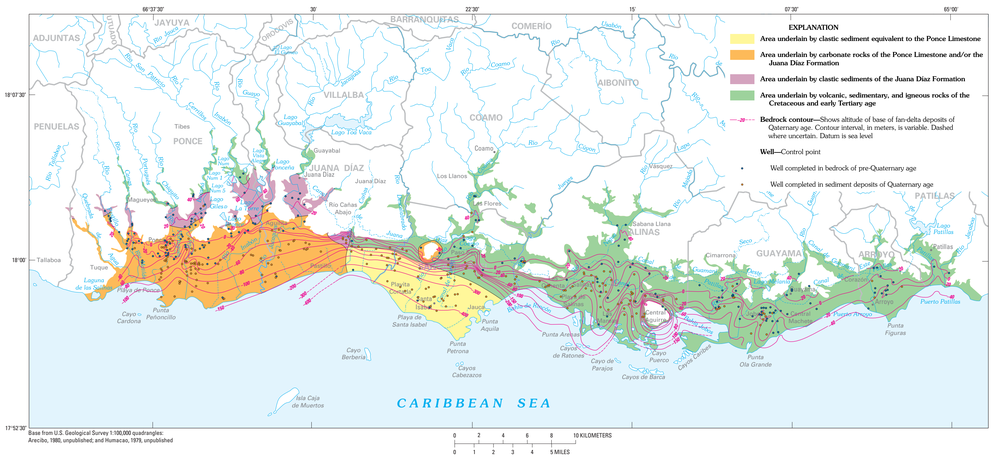
Fault—U, upthrown side; D, downthrown side. Dashed where approximately located

Fault—Shows direction of horizontal movement. Dashed where approximately located

Fault—Sawteeth on upper plate. Dashed where approximately located

Contact—Dashed where approximately located

A. GEOLOGY OF THE SOUTH COAST GROUND-WATER PROVINCE



EXPLANATION

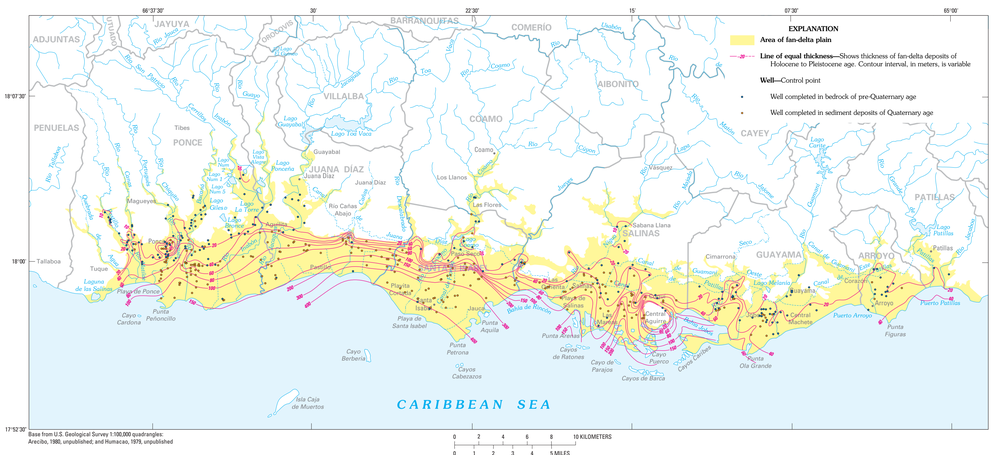
- **Area underlain by clastic sediment equivalent to the Ponce Limestone**
- **Area underlain by carbonate rocks of the Ponce Limestone and/or the Juana Díaz Formation**
- **Area underlain by clastic sediments of the Juana Díaz Formation**
- **Area underlain by volcanic, sedimentary, and igneous rocks of the Cretaceous and early Tertiary age**

Bedrock contour—Shows altitude of base of fan-delta deposits of Quaternary age. Contour interval, in meters, is variable. Dashed where uncertain. Datum is sea level

Well—Control point

- Well completed in bedrock of pre-Quaternary age
- Well completed in sediment deposits of Quaternary age

B. CONFIGURATION OF BEDROCK SURFACE UNDERLYING FAN-DELTA DEPOSITS OF QUATERNARY AGE



EXPLANATION

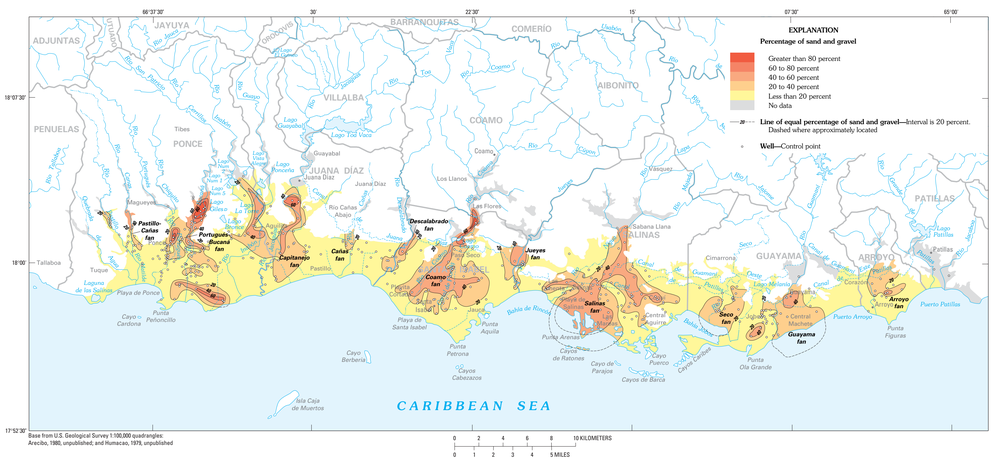
Area of fan-delta plain

Line of equal thickness—Shows thickness of fan-delta deposits of Holocene to Pleistocene age. Contour interval, in meters, is variable

Well—Control point

- Well completed in bedrock of pre-Quaternary age
- Well completed in sediment deposits of Quaternary age

C. THICKNESS OF HOLOCENE TO PLEISTOCENE FAN-DELTA AND ALLUVIAL DEPOSITS



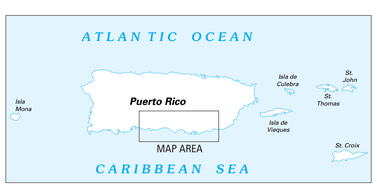
EXPLANATION

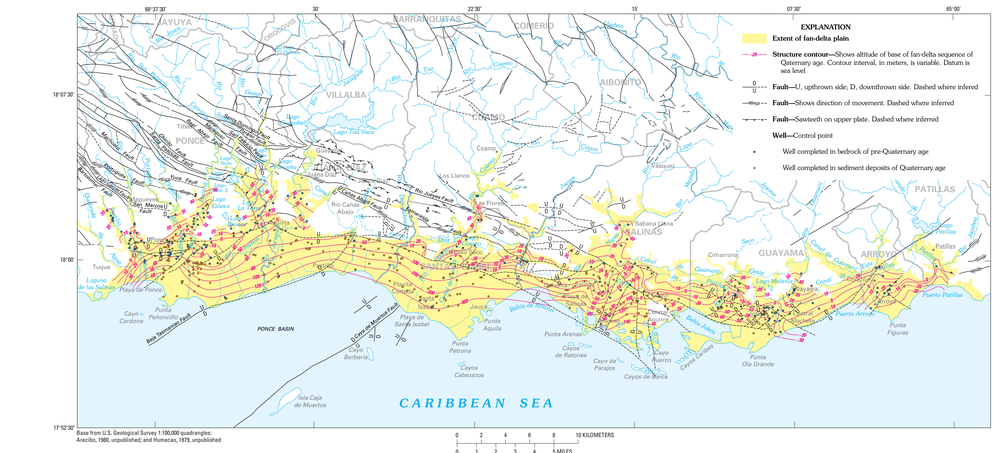
Percentage of sand and gravel
- Greater than 80 percent
- 60 to 80 percent
- 40 to 60 percent
- 20 to 40 percent
- Less than 20 percent
- No data

Line of equal percentage of sand and gravel—Interval is 20 percent. Dashed where approximately located

Well—Control point

D. PERCENTAGE OF SAND AND GRAVEL IN FAN-DELTA PLAIN DEPOSITS





EXPLANATION

Extent of fan-delta plain

Structure contour—Shows altitude of base of fan-delta sequence of Quaternary age. Contour interval, in meters, is variable. Datum is sea level

Fault—U, upthrown side; D, downthrown side. Dashed where inferred

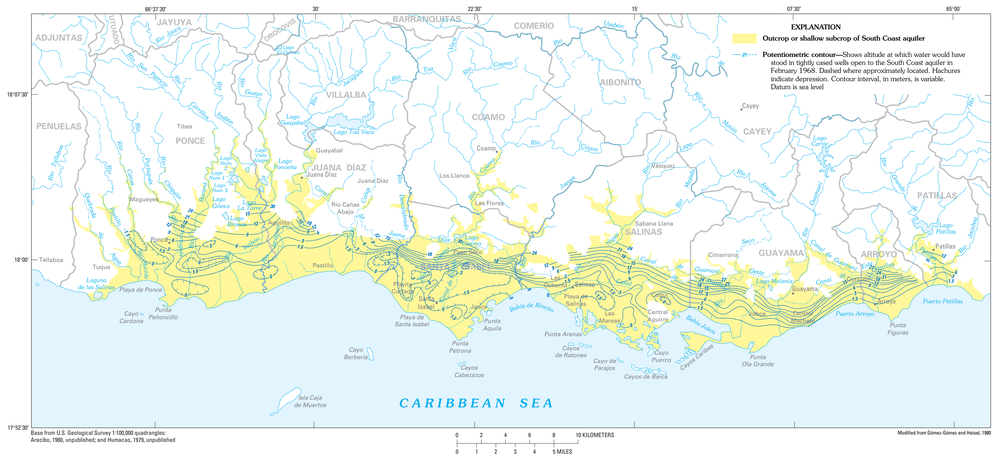
Fault—Shows direction of movement. Dashed where inferred

Fault—Sawteeth on upper plate. Dashed where inferred

Well—Control point

- Well completed in bedrock of pre-Quaternary age
- Well completed in sediment deposits of Quaternary age

E. INTERPRETIVE STRUCTURE AND MAJOR LINEAMENTS OR FAULTS UNDERLYING THE FAN-DELTA PLAIN



EXPLANATION

Outcrop or shallow subcrop of South Coast aquifer

Potentiometric contour—Shows altitude at which water would have stood in tightly cased wells open to the South Coast aquifer in February 1968. Dashed where approximately located. Hachures indicate depression. Contour interval, in meters, is variable. Datum is sea level

F. ESTIMATED POTENTIOMETRIC SURFACE OF THE SOUTH COAST AQUIFER, FEBRUARY 1968

EXPLANATION

Outcrop or shallow subcrop of South Coast aquifer

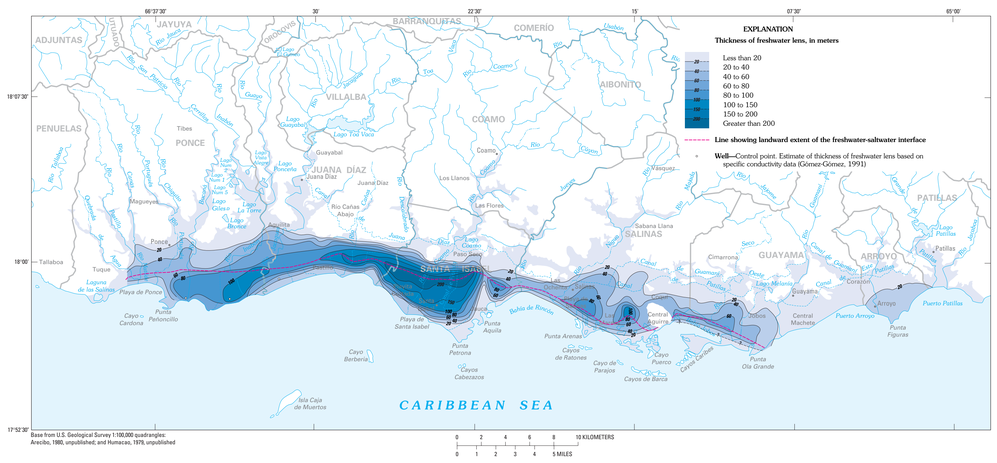
Potentiometric contour—Shows altitude at which water would have stood in tightly cased wells open to the South Coast aquifer in March 1986. Dashed where approximately located. Hachures indicate depression. Contour interval, in meters, is variable. Datum is sea level

Well—Control point

Surface-water measurement

Spring

G. ESTIMATED POTENTIOMETRIC SURFACE OF THE SOUTH COAST AQUIFER, MARCH 1986



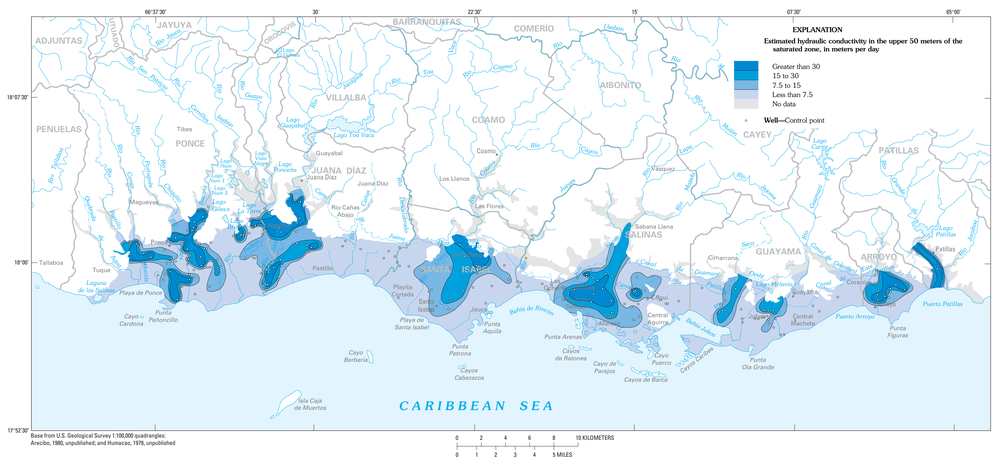
EXPLANATION

Thickness of freshwater lens, in meters
- Less than 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 150
- 150 to 200
- Greater than 200

Line showing landward extent of the freshwater-saltwater interface

Well—Control point. Estimate of thickness of freshwater lens based on specific conductivity data (Gómez-Gómez, 1991)

H. ESTIMATED THICKNESS OF THE FRESHWATER LENS CONTAINED IN THE SOUTH COAST AQUIFER, 1986–87



EXPLANATION

Estimated hydraulic conductivity in the upper 50 meters of the saturated zone, in meters per day
- Greater than 30
- 15 to 30
- 7.5 to 15
- Less than 7.5
- No data

Well—Control point

I. DISTRIBUTION OF HYDRAULIC CONDUCTIVITY WITHIN THE SOUTH COAST AQUIFER

GEOLOGY, HYDROGEOLOGY, AND HYDROLOGY OF THE SOUTH-COAST GROUND-WATER PROVINCE BETWEEN PONCE AND PATILLAS, PUERTO RICO

By
Robert A. Renken, W.C. Ward, I.P. Gill, Fernando Gómez-Gómez, Jesús Rodriquez-Martinez, and others
2002