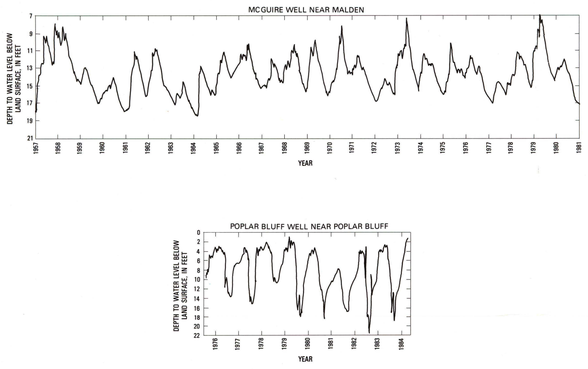
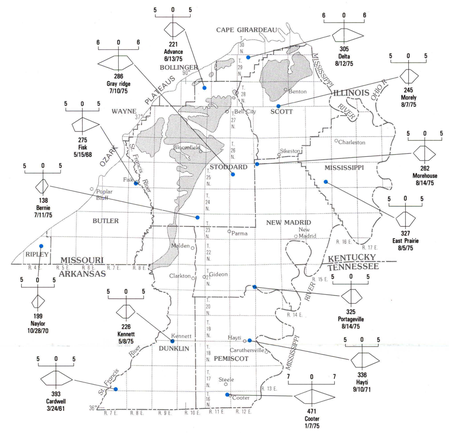
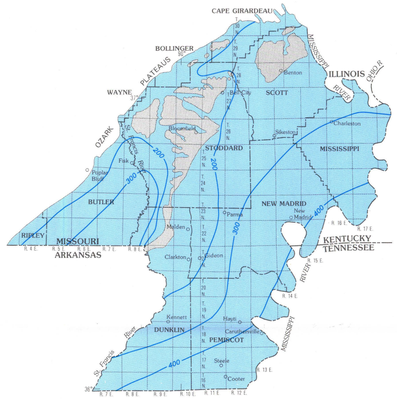
HYDROGRAPHS FROM THE MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER



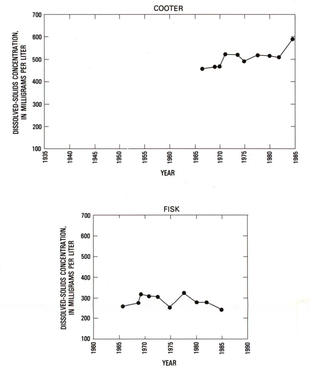
STIFF DIAGRAMS FROM THE MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER



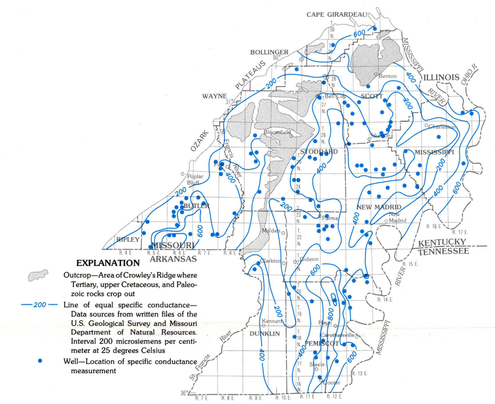
DISSOLVED-SOLIDS CONCENTRATION AND WATER TYPE IN THE MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER



DISSOLVED-SOLIDS CONCENTRATIONS IN THE MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER



SPECIFIC CONDUCTANCE OF THE MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER



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CONVERSION FACTORS

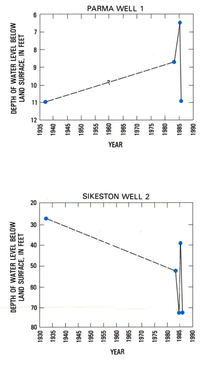
For readers who prefer to use the International System of units (SI) rather than inch-pound units, the conversion factors for terms used in this report are listed below.

Multiply	By	To obtain
foot (ft)	0.3048	meter
foot squared per day (ft^2/d)	0.0929	meter squared per day
gallon per minute (gal/min)	0.06308	liter per second
mile (mi)	1.609	meter

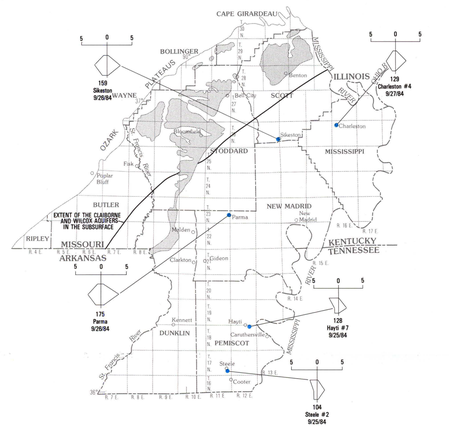
To convert temperature in °C (degrees Celsius) to °F (degrees Fahrenheit), add 32 and then multiply by 1.8.

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Sea Level Datum of 1929."

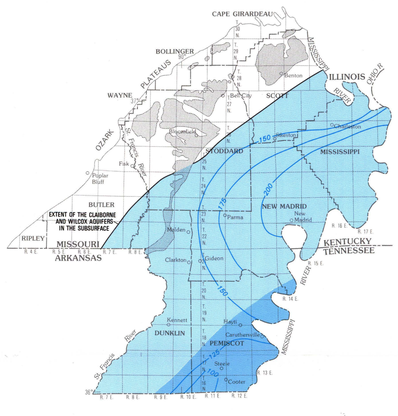
HYDROGRAPHS FROM THE CLAIBORNE AND WILCOX AQUIFERS



STIFF DIAGRAMS FROM THE CLAIBORNE AND WILCOX AQUIFERS



DISSOLVED-SOLIDS CONCENTRATION AND WATER TYPE IN THE CLAIBORNE AND WILCOX AQUIFERS



DISSOLVED-SOLIDS CONCENTRATIONS IN THE CLAIBORNE AND WILCOX AQUIFERS

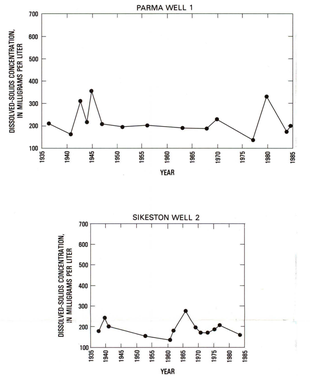
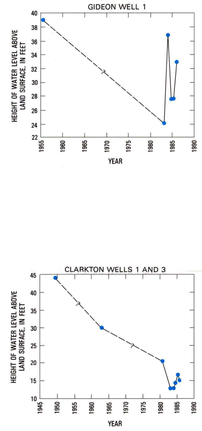


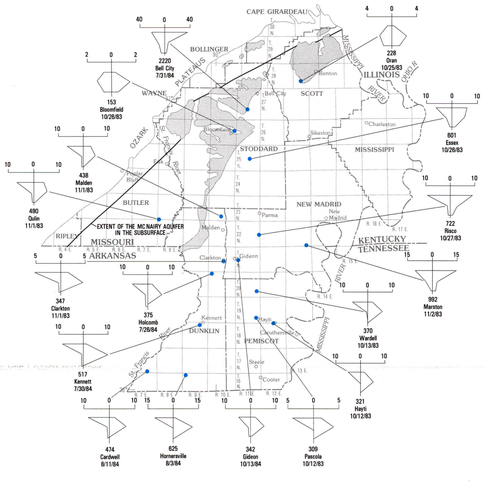
Table 1.—*Generalized section of geologic formations and their hydrologic properties in southeastern Missouri*

ERATHEM	SYSTEM AND SERIES	AQUIFER NAME	GROUP	FORMATION	HYDROLOGIC PROPERTIES
CENOZOIC	Quaternary	Mississippi River Valley alluvial aquifer		Alluvium	Major aquifer in southeast Missouri. May yield 3,000 gallons per minute. Transmissivities of 50,000 feet squared per day. Thickness ranges from 0 to more than 250 feet.
	Tertiary	Claiborne aquifer	Claiborne	Jackson Formation	May be a semiconfining unit where present. Thickness ranges from 0 to about 100 feet.
				Cockfield Formation	May be a distinct aquifer where the Jackson Formation overlies it, but normally has water-table conditions where it is in contact with the alluvium. Thickness ranges from 0 to about 140 feet.
				Cook Mountain Formation	May be a confining unit where present. Thickness ranges from 0 to more than 150 feet.
				Memphis Sand	Secondary aquifer that is used for public and municipal supplies. May be confined where the overlying Cook Mountain or Jackson Formations are present as clay. Thickness ranges from outcrop (?) to more than 700 feet.
		Wilcox aquifer	Wilcox	Flour Island Formation	May be a semiconfining unit present. Thickness ranges from outcrop (?) to more than 100 feet.
				Fort Pillow Sand	A secondary aquifer that is used for public and municipal use. May yield as much as 1,500 gallons per minute. Transmissivities may be 17,000 feet squared per day. Thickness ranges from outcrop to more than 400 feet. May be confined east of Crowley's Ridge.
			Midway	Old Breastworks(?) Formation	A silty clay, less than 38 feet thick, tentatively assigned to the Midway group.
				Porters Creek Clay undivided	A major confining unit throughout the area. May be leaky where faulting has occurred. Thickness ranges from outcrop to more than 600 feet.
				Clayton Formation	Hydrologic properties are unknown. Thickness may be as much as 30 feet.
MESOZOIC	Upper Cretaceous	McNairy aquifer		Owl Creek Formation	May be a confining unit where present. Thickness may be as much as 100 feet.
				McNairy Sand	A major aquifer used for public and municipal use. Transmissivities may range from less than 1,500 to more than 4,000 feet squared per day. In confined areas east of Crowley's Ridge, wells generally are flowing artesian with a positive hydraulic head ranging from 1 foot to more than 40 feet with flow rates that may be more than 300 gallons per minute.
PALEOZOIC	Ordovician and Cambrian	Ozark aquifer		Sedimentary rocks, undifferentiated	An aquifer in southern Missouri that underlies the unconsolidated sediments in southeast Missouri as bedrock.
	Cambrian	St. Francois aquifer		Sedimentary rocks, undifferentiated	An aquifer in southern Missouri that underlies the unconsolidated sediments in southeast Missouri as bedrock.

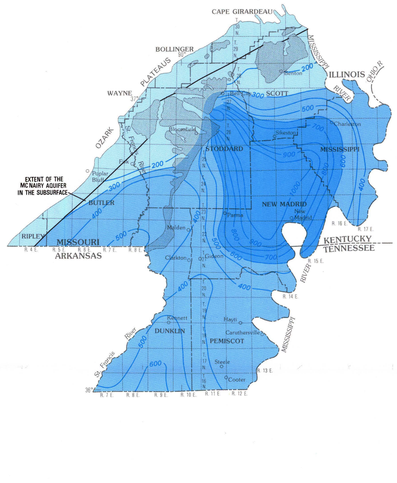
HYDROGRAPHS FROM THE MCNAIRY AQUIFER



STIFF DIAGRAMS FROM THE MCNAIRY AQUIFER



DISSOLVED-SOLIDS CONCENTRATION AND WATER TYPE IN THE MCNAIRY AQUIFER



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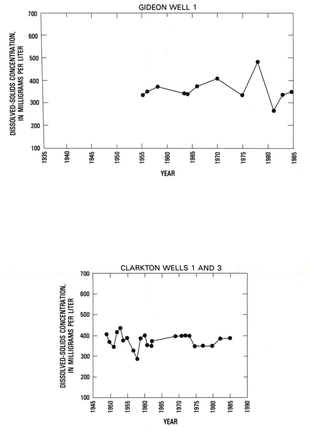

LOCATION OF SITES AND OBSERVATION WELLS

INTERIOR—GEOLOGICAL SURVEY, RESTON, VA—1990

Base from Missouri Geological Survey, 1979

SCALE 1:1 000 000

25 0 25 50 75 100 MILES

25 0 25 50 75 100 KILOMETERS

GEOHYDROLOGY AND WATER QUALITY OF CENOZOIC AND MESOZOIC UNITS IN SOUTHEAST MISSOURI

By
T. O. Mesko

1990