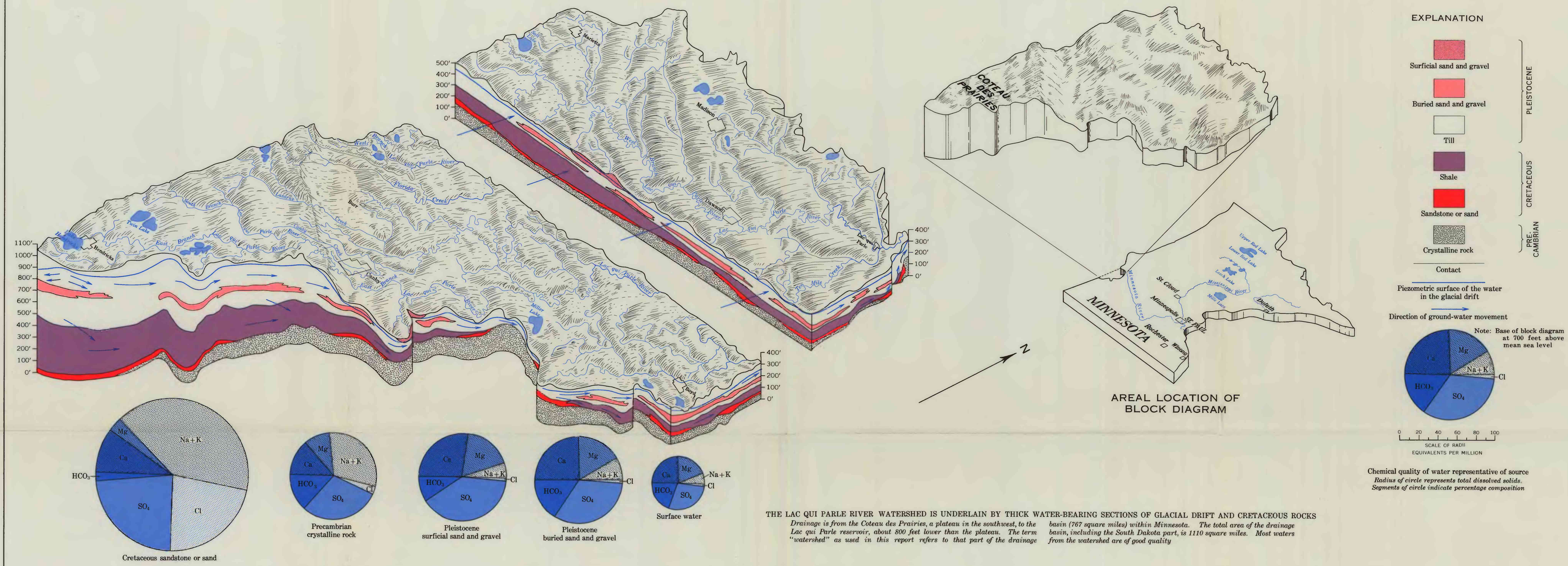
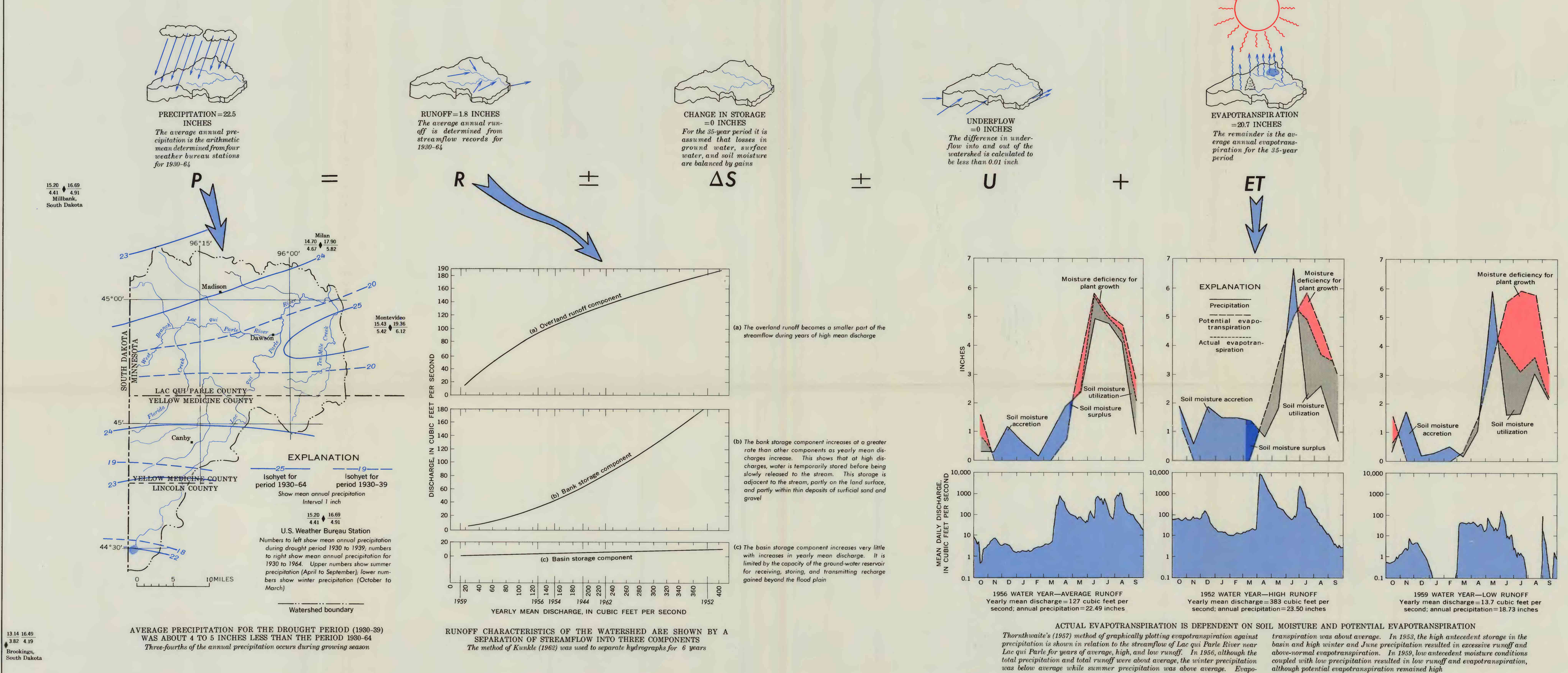


INTRODUCTION



WATER BUDGET



SUMMARY

WATER UTILIZED IN THE WATERSHED IS LARGELY FROM GROUND-WATER SOURCES, ALTHOUGH SURFACE WATER IS A POTENTIAL SUPPLY FOR MANY USES

Use	Source	Lac qui Parle River and major tributaries	Small lakes, sloughs, and minor streams	Surficial sand and gravel	Buried sand and gravel	Cretaceous sandstone
Municipal and industrial supply	Adequate with development of storage facilities	Adequate with development of storage facilities	Wide areal distribution	Well yields of several hundred gallons per minute possible Generally good quality Good recharge Aquifer easily delineated	Wide distribution Well yields of several hundred gallons per minute possible Generally good quality	Wide distribution
	Storage necessary Low flow in some reaches Treatment necessary	Storage necessary Low flow in some reaches Treatment necessary	Inadequate storage capacity Many dry up during droughts Treatment necessary Limited inflow	Limited distribution Easily contaminated	Limited recharge	Low well yields Quality may be unsuitable Limited recharge
Rural-domestic and stock supply	Adequate for stock	Adequate for stock	Wide distribution	Adequate well yields Generally good quality	Wide distribution Adequate well yields Generally good quality	Wide distribution Adequate well yields Soft, somewhat salty, water
	Restricted areal distribution Storage required Treatment necessary for domestic use	Restricted areal distribution Storage required Treatment necessary for domestic use	Many dry up during droughts Treatment necessary for domestic use Limited inflow	Limited distribution Easily contaminated	Limited recharge	Quality may be undesirable
Irrigation supply	Adequate with development of storage facilities	Adequate with development of storage facilities	Wide distribution	Well yields of several hundred gallons per minute possible Generally good quality Good recharge	Wide distribution Well yields of several hundred gallons per minute possible Generally good quality	Wide distribution
	Restricted areal distribution Storage required Low flow during irrigation season	Restricted areal distribution Storage required Low flow during irrigation season	Limited storage capacity Many dry up during droughts Limited inflow	Limited distribution	Limited recharge	Limited recharge Low yields Quality may be detrimental to plant growth
Recreation	Suitable for hunting Some fishing in lower reaches	Suitable for hunting Some fishing in lower reaches	Wide distribution Favorable for water sports on Hendricks Lake Many hunting areas	Wide distribution	Wide distribution	Wide distribution
	Variation in flow	Variation in flow	Shallow Many dry up during droughts	Shallow Many dry up during droughts	Shallow Many dry up during droughts	Shallow Many dry up during droughts
Fish and wildlife habitat	Suitable for wildlife along banks Numerous wildlife areas	Suitable for wildlife along banks Numerous wildlife areas	Scattered marsh areas are favorable for wildlife habitat Fishing in Hendricks Lake	Scattered marsh areas are favorable for wildlife habitat Fishing in Hendricks Lake	Scattered marsh areas are favorable for wildlife habitat Fishing in Hendricks Lake	Scattered marsh areas are favorable for wildlife habitat Fishing in Hendricks Lake
	Variation in flow Floods	Variation in flow Floods	Shallow Many dry up during droughts Fish winterkill in Hendricks Lake some years Floods	Shallow Many dry up during droughts Fish winterkill in Hendricks Lake some years Floods	Shallow Many dry up during droughts Fish winterkill in Hendricks Lake some years Floods	Shallow Many dry up during droughts Fish winterkill in Hendricks Lake some years Floods

EXPLANATION

SURFACE WATER

- The Lac qui Parle River and major tributaries are potential sources of water for moderate supplies if storage and transmission facilities are constructed.
- Sites for large storage reservoirs are limited to lower reaches of the river.
- Evaporation of about 2.4 cubic feet per second per square mile of water surface must be considered in the design of storage reservoirs.
- None of the streams have much natural storage; they cease to flow during droughts, and flood as the result of snowmelt, ice jams, and excessive precipitation.
- Streams and ditches in the till plain overflow to widths of about 1/4 to 1 mile during extreme floods with resulting interflow over tributary divides. Flood water enters the watershed in the north and some flood water leaves the basin in the southeast.
- Hendricks Lake, sloughs, swamps, and streams are habitat for fish and wildlife and provide important recreational opportunities.
- Surface water is of good quality and is suitable for most purposes although it is commonly hard.

GROUND WATER

- Most of the water used in the area is obtained from ground-water sources and the potential for additional withdrawal is good.
- Ground water from one of the three principal aquifers is available most anywhere in the watershed:
 - Surficial sand and gravel aquifers, which can yield several hundred gallons per minute (gpm) to wells, are not widespread. The water is of good quality, although commonly hard and high in iron. Most wells are less than 100 feet deep. The exposed sand and gravel are subject to rapid contamination by surface wastes.
 - Buried sand and gravel aquifers, which can yield several hundred gpm to wells, are widespread. The water is of good quality, although it is commonly hard and high in iron. Most wells are less than 150 feet deep.
 - Cretaceous sandstone or sand aquifers, which generally yield less than 100 gpm to wells, are common in the north-central part of the watershed. Although the water may be relatively soft and low in iron, it may also be high in sodium, chloride, boron, and total dissolved salts.
- None of the aquifers are being fully utilized.
- Weathered Precambrian rocks are not a dependable aquifer although a few wells have been completed in them.

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