


1969

Nebraska's Water Supply Map Including Groundwater in Storage, Total Water Withdrawals, Precipitation, and Outflow as of 1969

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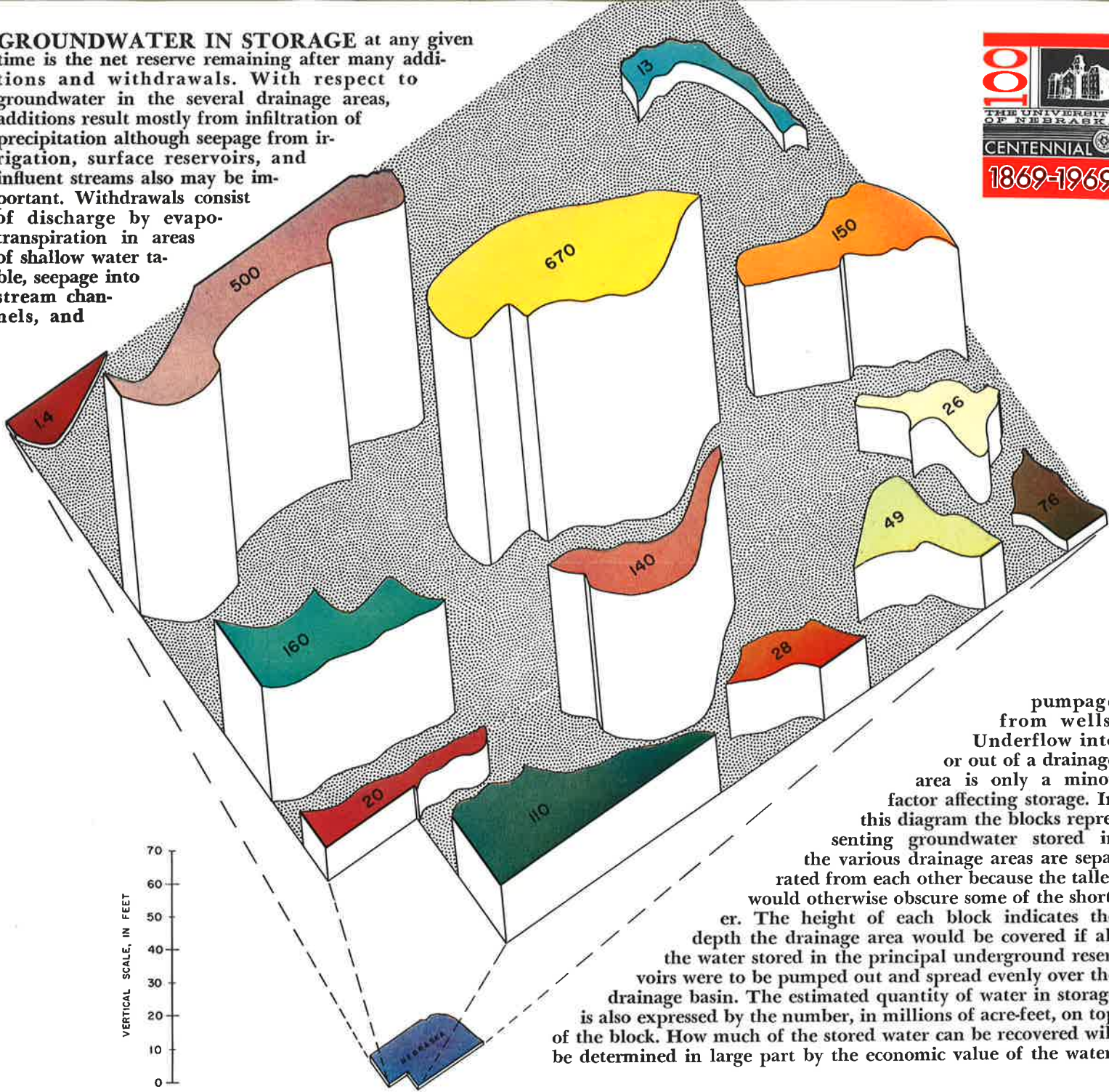
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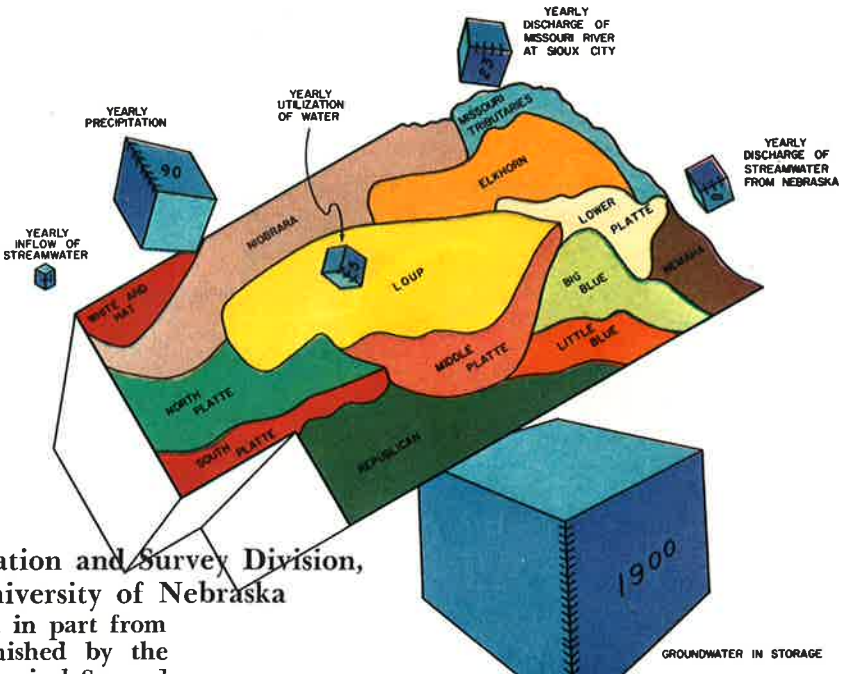
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GROUNDWATER IN STORAGE at any given time is the net reserve remaining after many additions and withdrawals. With respect to groundwater in the several drainage areas, additions result mostly from infiltration of precipitation although seepage from irrigation, surface reservoirs, and influent streams also may be important. Withdrawals consist of discharge by evapo-transpiration in areas of shallow water table, seepage into stream channels, and



pumpage from wells. Underflow into or out of a drainage area is only a minor factor affecting storage. In this diagram the blocks representing groundwater stored in the various drainage areas are separated from each other because the taller would otherwise obscure some of the shorter. The height of each block indicates the depth the drainage area would be covered if all the water stored in the principal underground reservoirs were to be pumped out and spread evenly over the drainage basin. The estimated quantity of water in storage is also expressed by the number, in millions of acre-feet, on top of the block. How much of the stored water can be recovered will be determined in large part by the economic value of the water.



NEBRASKA'S WATER SUPPLY is abundant and of good quality. Cubes surrounding the map show the approximate volume of groundwater in storage and the annual quantities of inflow, precipitation, water use by man, outflow, and flow of the Missouri River at Sioux City. Numbers on the cubes are quantities in millions of acre-feet (an acre foot is equivalent to 1 foot of water on an area of 1 acre). Identified on the map are the drainage areas which are portrayed by diagrammatic blocks in the other illustrations of this folder.

Conservation and Survey Division,
 University of Nebraska

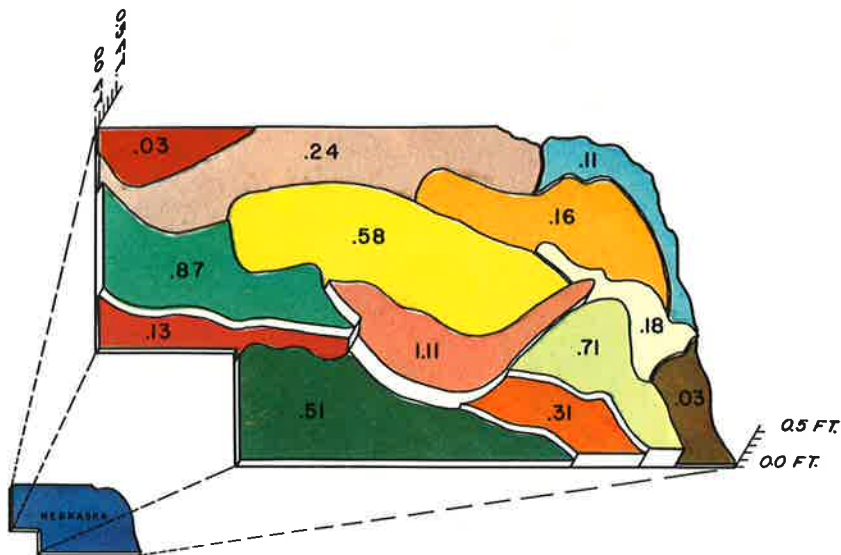
[Prepared in part from data furnished by the U.S. Geological Survey]

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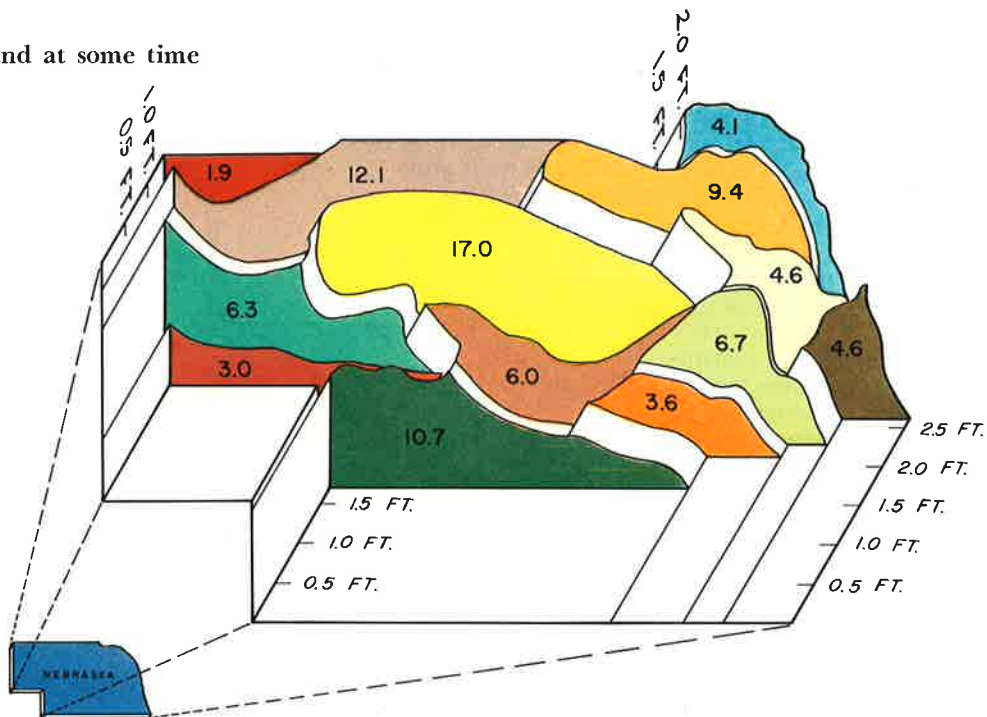
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TOTAL WATER WITHDRAWALS

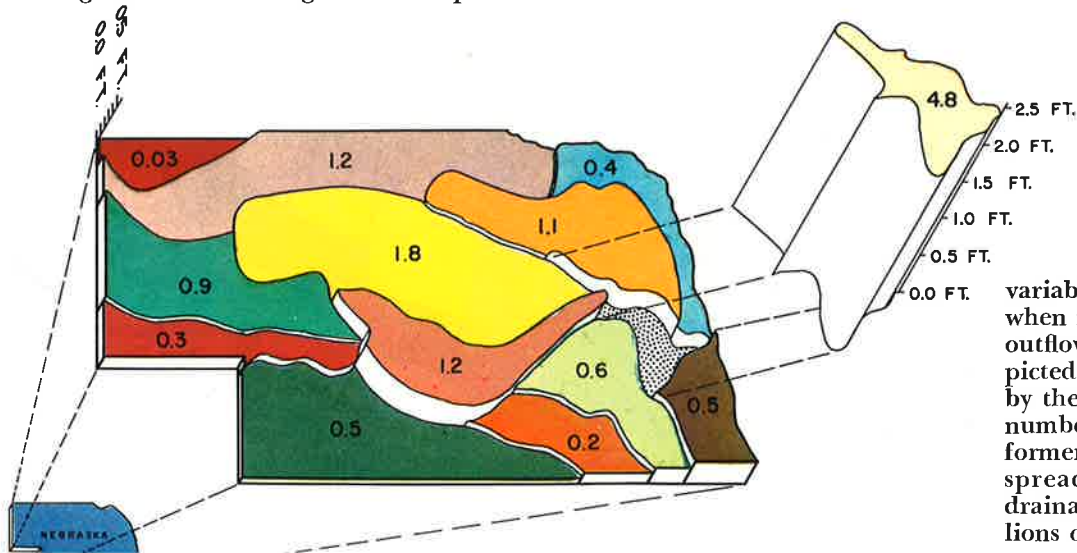
for irrigation, rural domestic, livestock, municipal and industrial supplies in each of the drainage areas are shown here by the relative volumes of the drainage-area blocks. The height of each block represents withdrawals expressed in feet of water spread uniformly over the basin and the number on top of the block expresses utilization in millions of acre-feet. An estimated one-fourth of the water withdrawn for use either infiltrates to groundwater storage or runs off to streams, thereby becoming available for re-use; the remaining three-fourths returns to the atmosphere.



PRECIPITATION at some place and at some time is the ultimate source of Nebraska's entire water supply. The blocks in this diagram show the relative volumes of average annual precipitation on each of the drainage areas. Block heights indicate the depth to which each area would be covered if no part of the annual supply were to evaporate, infiltrate the ground, or run off to streams. The figure on top of each block expresses the same quantity in millions of acre-feet. Transpiration by vegetation and evaporation together return about 90 percent of the annual precipitation to the atmosphere.



OUTFLOW from a drainage area comprises those parts of inflow, precipitation, and releases from surface and groundwater storage that escape



return to the atmosphere. Outflow is highly variable, being much greater in years when flooding occurs. Average annual outflow from each drainage area is depicted in the accompanying diagram by the height of the block and by the number on top of the block. The former is expressed in feet of water spread uniformly over the entire drainage area and the latter in millions of acre-feet.