

# Water Matters

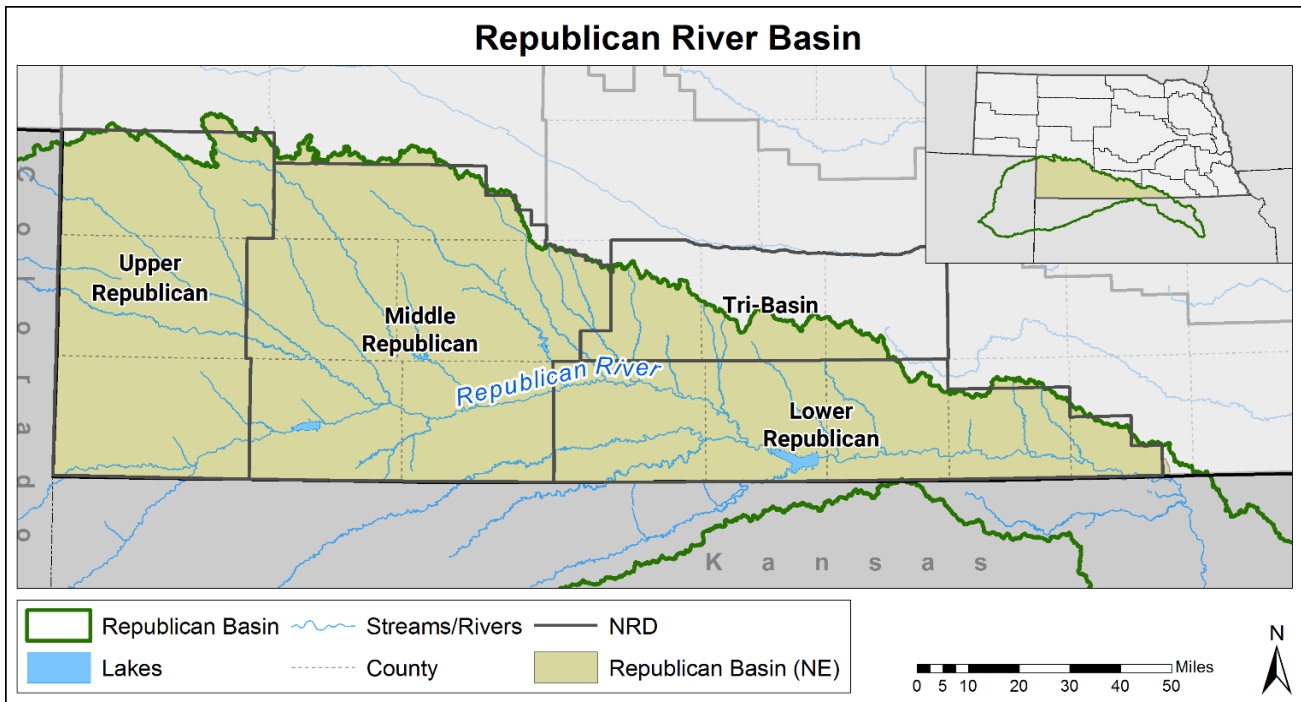
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## The Republican River

by Alexa Davis

### History of the river

The Republican River flows 453 miles through Colorado, Nebraska, and Kansas, with most of the river being in Nebraska (Survey, n.d.). Although people may assume that the Republican River is named after a political party, it is named for a branch of Pawnee Native Americans known as the “Republicans” (Stewart, 1967). The indigenous people within the villages of the Republican basin farmed corn, beans, and pumpkin, and hunted buffalo in the surrounding plains (Hyde, 1951). The plains of the Republican have seen various natural disasters that have made them truly unique to Nebraska.



During the Dust Bowl of the 1930s, below normal rainfall and severe dust storms covered the High Plains region of the United States, which led to a prolonged drought (Team, n.d.). Despite the drought, in May 1935, several thunderstorms rolled across eastern Colorado and southwest Nebraska bringing a historic amount of precipitation to the Republican basin. Between the evening of May 30th and June 1st, an estimated nine inches of rain fell in the Republican basin. The rain fell in eastern Colorado and southwestern Nebraska, and moved east along the basin (Gerhart, 2019). Due to the storm's movement in the direction of the basin, local creeks and tributaries filled up quickly, and consequently drained into the Republican River, which could not handle the sudden influx of water (Gerhart, 2019). The streams that had gages, Frenchman, Red Willow, Medicine, Deer, Muddy, and Turkey, all reached their flood peaks at the same time (Team, n.d.). The flood water in the river was estimated to be moving approximately 8 miles per hour (Gerhart, 2019).

An estimated 113 people and 11,400 to 41,500 head of cattle were killed (Gerhart, 2019). A total of 341 miles of highway, 307 bridges, and 57,000 acres of farmland were inundated in Nebraska alone (Team, n.d.). Including property damage, the cost of the flood was approximately \$26 million (Hamor, n.d.). After such a major drought and flood, stakeholders came together and discussed creating a system of federal dams and irrigation districts (Administration, n.d.). With participation by the states of Colorado, Kansas, and Nebraska, and a representative of the President of the United States, the Republican River Compact was formally signed on December 31, 1942. The Republican River Compact establishes water allocations through an agreement that was ratified in 1943 between these states.

In 1998 Kansas filed suit in the U.S. Supreme Court to clarify and establish enforcement terms of the compact. This lawsuit was settled four years later on December 15, 2002, when the final settlement stipulation was signed by the member states with the consent of the federal government (Administration, n.d.). To ensure the settlement could be implemented an Accounting Procedures document was created which includes definitions, procedures, formulas, data requirements, and reporting formats to be used by the RRCA.

During the period immediately following the settlement the basin fell into drought. This extended drought period and new regulatory framework caused compliance issues for Nebraska and Colorado, which ultimately led to Kansas filing an additional lawsuit. As that litigation came to conclusion in the fall of 2014 the states agreed to find a new way to work through unresolved issues. The three states began to meet monthly to reach agreements that would resolve various accounting issues for the state's compliance activities. These efforts resulted in a series of six interim agreements between 2014 to 2016 (Administration, n.d.). Of those six interim agreements, two long-term agreements were approved at the 2016 annual meeting of the RRCA: one agreement focused on Colorado's augmentation project (Colorado Compliance Pipeline or CCP) and South Fork compliance and the second agreement on Nebraska's two augmentation projects (Rock Creek and the Nebraska Cooperative Republican Platte Enhancement or N-CORPE) (Administration, n.d.).

On May 25, 2017, the RRCA adopted revised accounting procedures to implement the 2016 long-term agreement and approved accountings for the years 2007-2015 (Administration, n.d.). In 2018, Colorado entered two settlements regarding past use of water under the Republican River Compact: One with Nebraska, and one with Kansas (Administration, n.d.).

## Role of the Compact Administration

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The RRCA is responsible for creating, tracking, maintaining, and sharing many reports and documents such as the Annual Report, Accounting Procedures and Reporting Requirements, Accounting Procedure Tracking document, and following the Rules and Regulations document (Administration, n.d.). The Annual Report includes the official actions taken by the RRCA at the annual meeting and any special meetings, including a summary of the compact accounting for the previous year, and any other appropriate matters, such as Engineering Committee reports published every year after approval from all three states (Administration, n.d.). The purpose of the Accounting Procedure Tracking document is to provide a historical summary of relevant RRCA-approved changes to the Accounting Procedures and groundwater model versions (Administration, n.d.). For more information on the RRCA and the various documents please visit <http://republicanriver.org/>.

## Future of the river

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Through years of constant communication, collaboration, and understanding of water management within the Republican basin, the three states (Nebraska, Colorado, and Kansas) have come to appreciate that they have more in common than different and have developed a cooperative relationship. Nebraska, Colorado, and Kansas have numerous projects within the Republican Basin to comply and maximize water conservation.

The Nebraska Department of Natural Resources (NeDNR) represents Nebraska's interests on interstate water compacts, decrees, and has jurisdiction over matters pertaining to surface water rights for storage, irrigation, hydropower, manufacturing, diversions, instream flows, and other beneficial uses. The State of Nebraska has a unique system of 23 Natural Resources Districts (NRDs), which manage natural resources including groundwater. NeDNR partners with these NRDs to produce Integrated Management Plans to conjunctively manage hydrologically connected surface water and groundwater resources. NeDNR also partnered with all four NRDs in the Republican basin to produce a Basin-Wide Plan for the Republican River basin. Within the Republican River basin in Nebraska, there have been various efforts to sustain water, such as automating flow meters on irrigation pumps throughout NRDs. NeDNR invested \$2 million dollars in the Frenchman-Cambridge Irrigation District for automation of their Meeker-Driftwood System. Working with the Middle Republican NRD and Lower Republican NRD, NeDNR provided \$3.3 million, with a 40% match of local dollars. NeDNR has a \$6 million dollar contract with Upper Republican NRD to support work to target long-term decertification of groundwater use. These projects also include improving technology that producers can use to reduce their water use. The NRDs are advocating for better real-time data on irrigated water use. Middle Republican NRD is even working towards producing a dashboard for irrigators to make better management decisions. For additional information on what Nebraska is doing with the Republican water management please visit <https://dnr.nebraska.gov/water-planning/republican-river-compact>.

NeDNR manages Nebraska's natural resource through sound partnerships, cooperation, and science-based decision making. Finding a balance between competing demands is a key to Nebraska's resource future. NeDNR is committed to providing Nebraska's citizens and leaders with the data and analyses they need to make wise resource decisions for the benefit of all Nebraskans both now and in the future.

## References


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## Useful links

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- RRCA weblink
  - o <http://republicanriver.org/>
- NeDNR webpage
  - o <https://dnr.nebraska.gov/water-planning/republican-river-compact>
- Lower Republican NRD webpage
  - o <https://www.lnrnd.org/>
- Middle Republican NRD webpage
  - o <https://www.mnrnd.org/>
- Tri-Basin NRD webpage
  - o <https://www.tribasinnrd.org/>
- Upper Republican NRD webpage
  - o <https://www.urnrd.org/>

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