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# Assessing Water Policy Implications of the Changing Agriculture in New Mexico

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## Assessing Water Policy Implications of the Changing Agriculture in New Mexico

Trevor Birt – Water Resources

Agriculture is the dominant water sector in New Mexico, responsible for more than 80% of water withdrawals in 2015 (USGS 2018). Water policy needs to be extremely adaptive and informed to meet the needs of not only farmers, but cities, industry and riparian uses. Since 1840, the U.S. Department of Agriculture (USDA) has conducted census surveys assessing all levels of agriculture. These data are physically published at the county, state, and national level on a 5-year cycle, detailing various material counts such as acreage, yields, and water usage, as well as socioeconomic estimates of farm costs, revenues, and hired workers. Digitally, these data can be found on the USDA's *Quick Stats* online webpage, however is limited to the 1997 census - current. Haines et al., (2018) has used a computer digitizer to sort through all published reports from 1840 to current, and house them in R data frames (.rda) freely available for download on the Inter-University Consortium for Political and Social Research (ICPSR) website. For this project, we have developed a program in R-Studio which uses a New Mexico subset of this data set for the years 1978 – 2012. The code outputs tabular and graphical figures with minimal user inputs and minimal data entry. We believe this is a valuable tool for students, professors, and researchers to quickly examine data for shifts and trends in agriculture and examine how they relate to water in New Mexico. As water managers are made aware of shifts and trends in agriculture, the coming water policy can be 'right sized' to fit the needs of the state as it moves forward.

Haines, Michael, Fishback, Price, and Rhode, Paul. United States Agriculture Data, 1840 - 2012. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2018-08-20. <https://doi.org/10.3886/ICPSR35206.v4>

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