

# Ogallala aquifer

[Science](#), [Geography](#)



due: Ogallala Aquifer The Ogallala Aquifer underlies the Panhandle and is the origin of irrigation water in the entire Texas Panhandle region, where agricultural production has been one of the major economic activities.

However, as a result of continued pumping from the Aquifer, its water table has declined at an alarming rate. In the 1960's, wells could produce 1000 to 1200 gallons per minute but has since reduced to less than 200 gallons in the 1990's. The decreasing amounts of the water level of the Ogallala Aquifer have impacted negatively on the communities depending on it. This has resulted to unfavorable economic realities which include reduced agricultural production, reduced revenue, lower tax revenues and also a reduction in the availability of community services (Kabbes 84).

Reduced agricultural production can be attributed to increased irrigation cost as a result of the decline in the water levels of the Aquifer. Pumping the reduced water level is capital-intensive bearing in mind that the farmers in the region depend on natural gas to pump water. This, therefore, has increased the cost of irrigation. The increased cost of irrigation as a result of the declining water level has resulted to small profit margins for the Texas Panhandle producers (Kabbes 84).

As a result of the decreased profits in agricultural production in the Texas Panhandle region, farmers have opted to practice non-irrigated farming, conservation tillage, precision irrigation systems, as well as different crop selection. They have adopted an alternative of cotton farming since it requires less water. This has had a positive impact since cotton farming has turned out to be profitable, from the fact that it requires far less irrigation water as compared to corn and alfalfa. The reduced production costs have

produced an increased economic return, leading to an increase in the acreage for cotton (Kabbes 85).

Reduced groundwater has also resulted in a decrease in the economic activities members of the public engage in. With increased cost of production, a number of farmers have been pushed out of the farming business, rendering them jobless. This has created a double effect of them having to rely on the working group, meaning limited contribution in the economy. The reduction in the water levels of the Aquifer has also produced environmental impacts, with the most prominent one being land subsidence. The intensity of increased water pumping has resulted in land subsidence of vast areas. The land subsidence can permanently reduce the aquifer's storage capacity, meaning an even much aggravated water reduction (Hornbeck & Keskin 3). Reduced agricultural production has resulted from the increased costs of production. The demand for the produce has far much surpassed the supply by the farmers, resulting in a situation of deficiency. Diminishing returns has resulted from the application of groundwater to fixed land base surrounding the aquifer.

The other impact has been regulation by the government in an attempt to conserve the endangered water. As a result, farmers have adopted an efficient use of the water, something which has resulted in increased production of grains, even with the reducing levels of water. However, the continuation of this trend in the future is still questionable, bearing in mind that the depletion of the water table is still on-going (Almas, Colette & Wu 7).

#### Works cited

<https://assignbuster.com/ogallala-aquifer/>

Almas, Lal K., W. Arden Colette, and Zhen Wu. "Declining Ogallala Aquifer and Texas

Panhandle Economy." Selected paper prepared for Southern Agricultural Economics Association Annual Meeting, Tulsa, OK. 2004.

Hornbeck, Richard, and Pinar Keskin. The evolving impact of the Ogallala Aquifer: Agricultural

adaptation to groundwater and climate. No. w17625. National Bureau of Economic Research, 2011.

Kabbes, Karen C. Restoring Our Natural Habitat: Proceedings of the 2007 World

Environmental and Water Resources Congress, May 15-19, 2007, Tampa, Florida. Reston, VA: American Society of Civil Engineers, 2007. Print.