

## **Impacts of Drought on California Farmland Transactions and Sale Prices**

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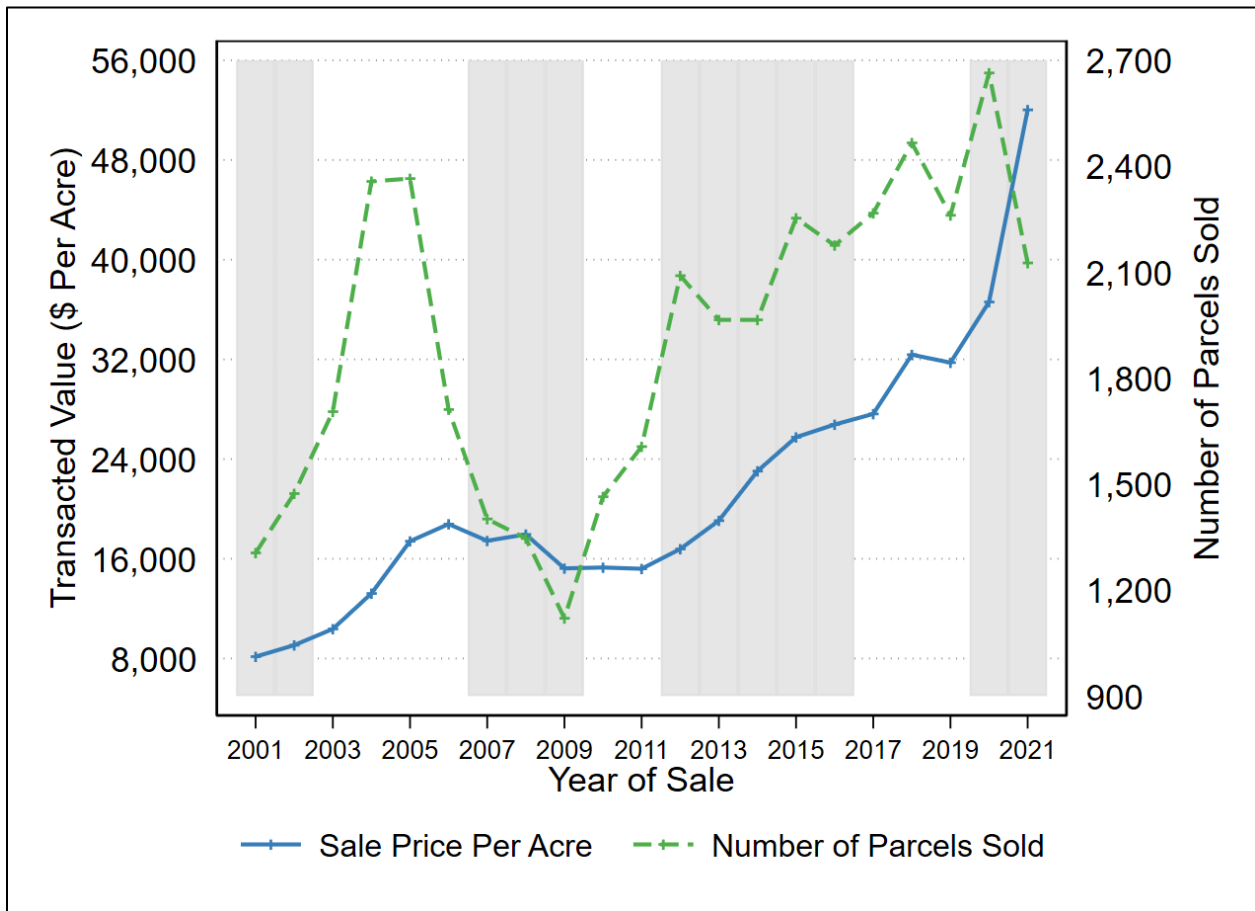
California has seen increase in climate-induced droughts in the past 2 decades. Droughts (during years 2000-2002, 2007-2009, 2012-2016, 2020-2021) have been more frequent and prolonged, affecting California's water-related sectors, especially irrigated agriculture. Farmers facing less water for irrigation can adapt to such situations in many ways, including, in extreme situations, sale of their land. In this note we explore trends in the number of parcel sales and sale prices of farmland (associated with cultivated field crops, orchards, and vineyards) across California counties between 2001 and 2021. Our findings suggest that droughts affect farmers' decisions to remain in farming, especially with certain crops that might be more drought prone. Droughts increase propensity to sale farm land, and introduce volatility to the land market.

Droughts are correlated with an increase in both the number of parcels and acreage sold in California. Importantly, farm parcel sales are primarily associated with annual crops and these sales are concentrated in the San Joaquin Valley—a hub of agricultural activity in the state of California. Figure 1 presents a summary of the recent trends in the prices and the number of parcels sold for California farmland.

Orchards (and other tree crops) account for about 51% of all cultivated farmland sold, followed by field crops and grains (18%), vineyards (15%), pasture and alfalfa (10%), vegetables (4%), and cotton (2%). Farmlands associated with orchards have the highest average sale price (\$48,000 per acre) and sales are concentrated in Napa, Sonoma, Mendocino, Ventura, and Santa Clara counties. Field crops and grains have the second highest sale price (\$46,000 per acre) and are concentrated in Fresno, Tulare, Kern, and Merced. The lowest average prices were for pasture and alfalfa (\$28,000 per acre), and cotton (\$19,000 per acre) farmlands.

In addition to having significant differences in sale prices across types of crops, we could also find significant differences in sale prices between parcels of the same crop sold during droughts compared to sale prices in regular years. The sale price of pasture and alfalfa farmlands during the drought of 2009 was on average \$10,500 per acre, but in 2010, the price increased by

\$5,500. In addition, the price rose even further after the 2012-2016 drought by \$10,000 per acre. In 2021, field and grain farmland were sold for \$71,700 per acre, which was nearly double from 2020 (\$37,000 per acre). The sale price of farmland that produces vegetables increased during drought periods. The sale price in 2016 was \$30,000 per acre compared to \$18,000 per acre in 2012 and \$40,000 per acre in 2021 compared to \$27,000 per acre in 2019. Orchards (and other tree crops) saw an increase in sales prices immediately after drought periods. In 2012, the sale price was \$15,000 per acre compared to \$12,600 in 2009, and in 2018, \$33,000 per acre compared to \$25,700 per acre in 2016. The significant difference between net farm income per acre and farmland sales price per acre suggests that farm earnings are weakly supporting farmland values, perhaps due to uncertainty arising from climate change and lower agricultural productivity.



Source: Authors' calculations based on data from ATTOM Data Solutions for the years 2001–2021.

Note: The figure shows the recent trends in farmland sale price (blue line) and the number of sales (green line). Transacted value is in 2021 U.S. dollars. In the background of the graphs, we highlight the major droughts in California: 2001–2002, 2007–2009, 2012–2016, and 2020–2021.