

What Do You Feed A City? Nothing But The Best!!!

Changing Patterns of Land Use in The Phoenix Area.

by
Kennith Foster, Jeff S. Conn,
and Donald F. Post*

Each year a magic wand of bulldozer, mortar and steel is waved over metropolitan Phoenix and thousands of acres of farmland — most of it excellent — are transformed into shopping centers, houses, and factories.

But that, in itself, is hardly surprising. Results of a recent 10-month study by University of Arizona scientists show that cropland around Phoenix is disappearing nearly three times as fast as it is in the rest of the country.

Using high altitude and satellite photographs, researchers from the University's Office of Arid Land Studies and College of Agriculture discovered that where town meets country around Phoenix, country loses at the rate of better than 7,000 acres per year. That was based on a study area of one million acres, including Phoenix, Chandler, Tempe, Mesa, and Sun City.

The study, conducted by Kennith E. Foster and Jeff S. Conn of Arid Lands, and Donald F. Post, an agricultural chemist, showed that 3,650 acres of farm land and 3,350 acres of natural desert were fed into the urban maw over a 10-month period from November 1972 to September 1973.

Even more alarming than the sheer amount of land lost to urban growth is the type of land the authors found being buried by concrete and asphalt.

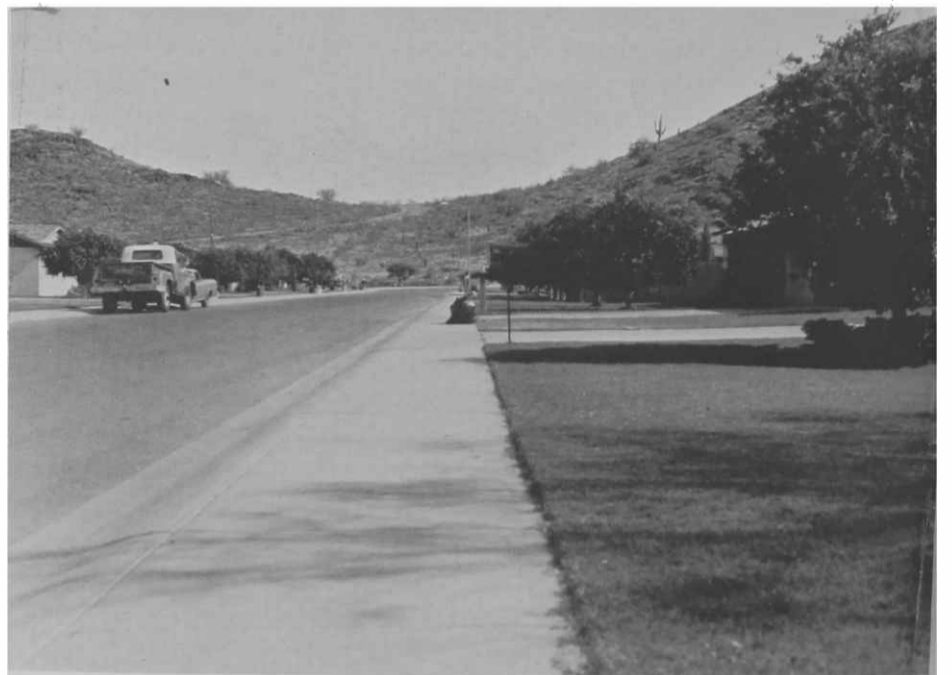
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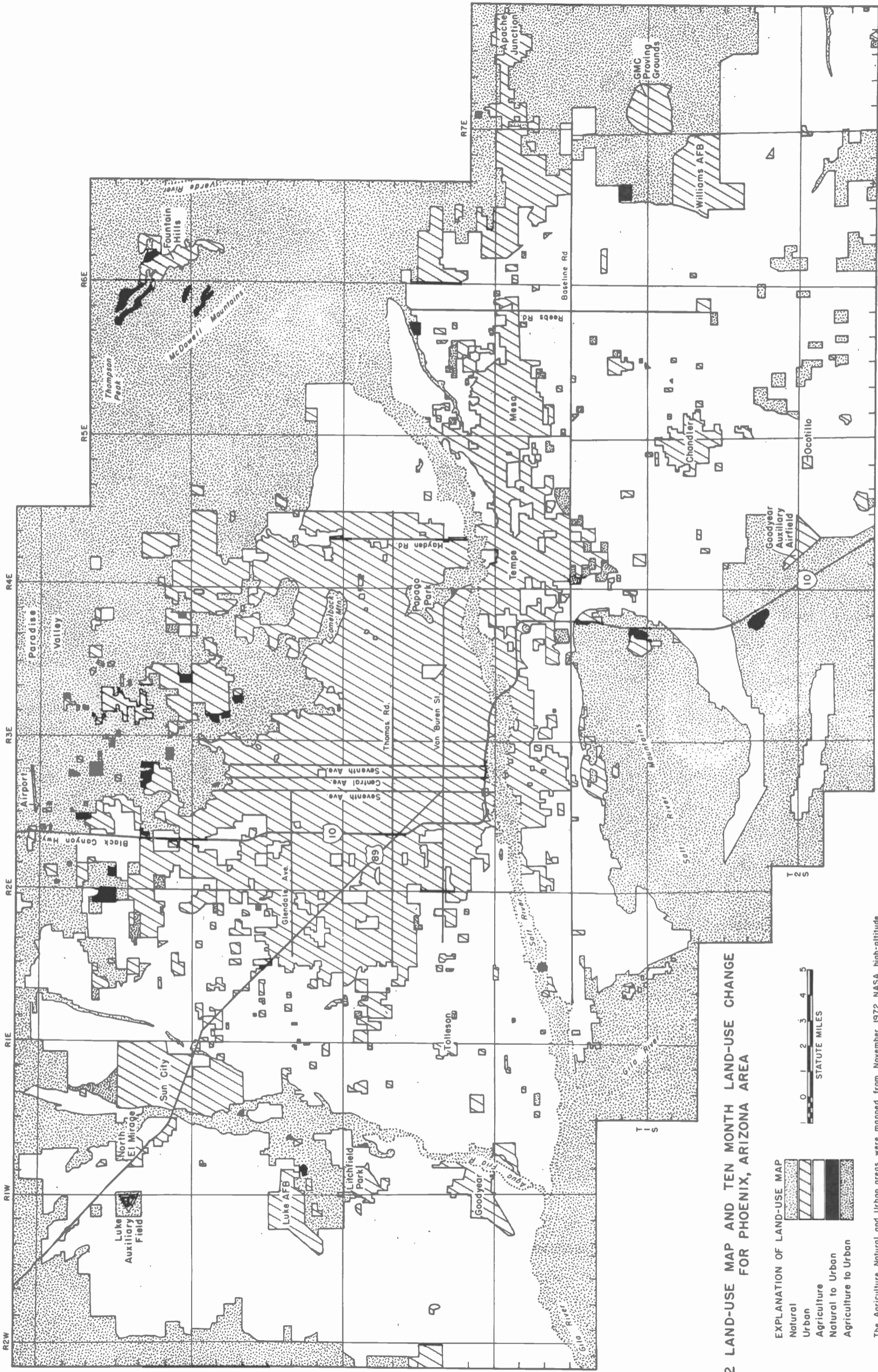
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Above: *New citrus planting, Phoenix area*
Below: *Same place, six years later*

--Courtesy Soil Conservation Service





1972 LAND-USE MAP AND TEN MONTH LAND-USE CHANGE FOR PHOENIX, ARIZONA AREA

EXPLANATION OF LAND-USE MAP

- Natural
- Urban
- Agriculture
- Natural to Urban
- Agriculture to Urban

The Agriculture, Natural and Urban areas were mapped from November 1972 NASA high-altitude color infrared photography (Flight 72-193). The land-use change is over a ten month period to September 1973, and was mapped from Skylab-3 photography (Roll 86). This study was funded by NASA grant NGLO3-002-313, Office of University Affairs.

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Class 1 soils, as defined by the U.S. Soil Conservation Service, will grow just about anything well — cotton or row crops or alfalfa all do nicely with virtually no modification. Class 2 soils will also give reasonably good yields with some modification required.

And it is precisely these soils — rich, loamy, level, that are being lost the fastest.

Of the 3,650 acres of crop land lost to sprawl, the UA team found that 3,000 acres were Class 1 and another 500 Class 2. Simply, 96 percent of the crop land lost was prime growing material.

In addition, of the 3,350 acres of natural desert that went to progress, 1,100 acres, or 33 percent, was potential Class 1 crop land.

In some areas of Phoenix, land is scarcely readied for irrigated agriculture before it becomes "Vista Del Monte Estates" or some such.

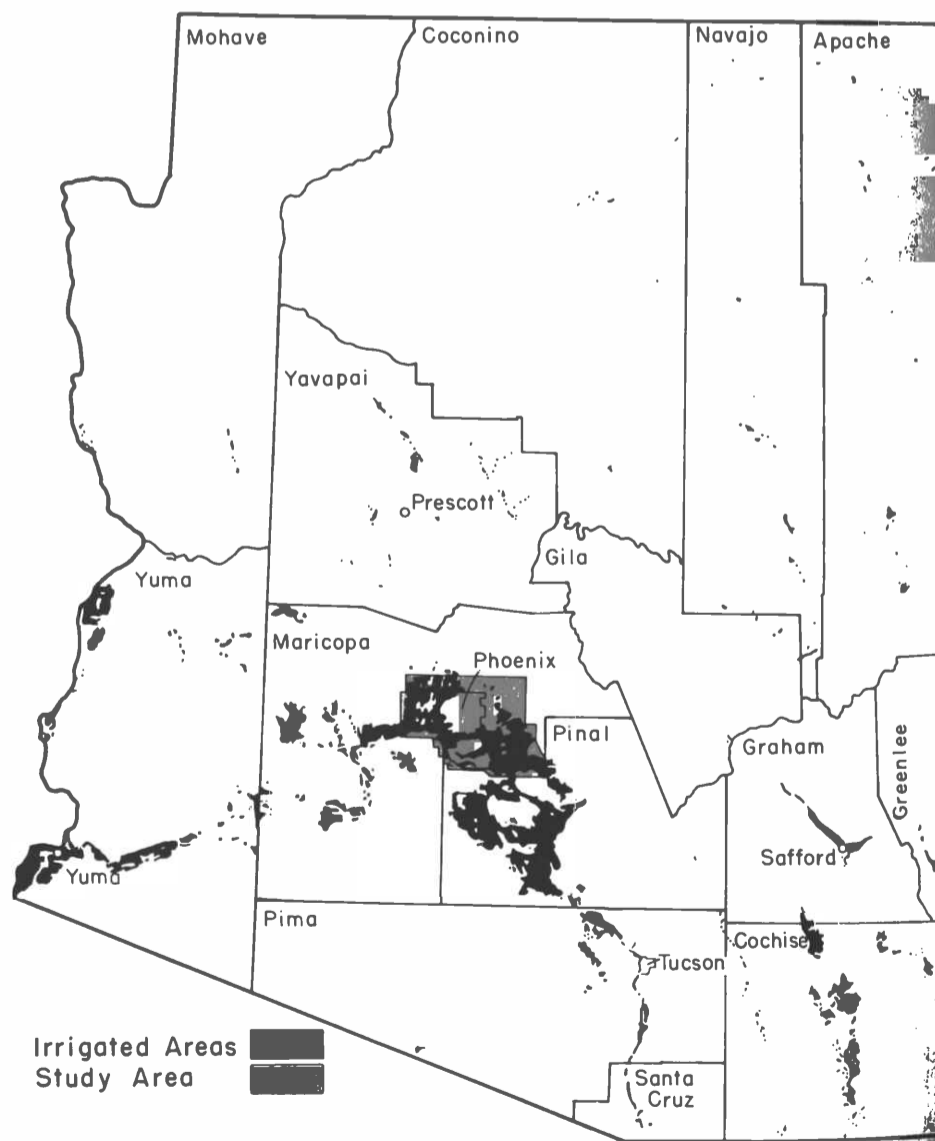
Indeed, while the nation as a whole is losing farmland to citification at the rate of .34 percent annually, the loss in the Valley of the Sun was running at .89 during the 10-month study. An additional two months might have turned up an even higher figure.

The authors aren't suggesting that Phoenix stop in its tracks. Rather, they point out that development could be turned away from the best crop land.

"The encroachment of residential areas, factories, and shopping centers removes land permanently from continued or potential agricultural use," they point out. "If irrigated agriculture is to continue, it should be continued on Class 1 land, rather than on marginal land."

Once development is turned away from prime growing lands, the authors suggest permanent pro-

tection: "The future of agriculture in Arizona must be determined," they write, "because the acreage of Class 1 land nationally is limited. Class 1 land in the state has been identified through an ongoing soil survey program and perhaps this land can be declared a non-renewable resource and set aside for agriculture."



Arizona Irrigated Areas (Mayes, 1973).