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ASLA
AWARDS





LEFT
An *Acacia pruinocarpa* is among 20 mature specimens saved by the arboretum and replanted on campus.

APPLIED SCIENCE FOR ARID LANDS

**THE CAMPUS ARBORETUM AT
THE UNIVERSITY OF ARIZONA
IS HELPING INFORM
CLIMATE-RESILIENT
URBAN DESIGN.**

BY CYNTHIA WILLIAMS

As a land grant school, the University of Arizona’s (UA) mission is to provide research and education to serve the needs of the state. Its location in the Sonoran Desert, the most diverse desert environment in North America, affords the university’s campus arboretum extension program the opportunity to apply more than a century of plant research toward the creation of resilient urban landscapes. In an era of accelerated climate change, taking advantage of that opportunity is a responsibility that the arboretum takes seriously, says Tanya M. Quist, an associate professor of practice in UA’s School of Plant Sciences and the arboretum’s director.

“The University of Arizona has, from the beginning in 1891, collected plants from around the world and tested them on campus to determine

what was suited for arid landscapes,” Quist wrote in an e-mail exchange. “This effort is more important now than ever before as we face unprecedented climate changes.”

Encompassing most of the university’s roughly 400-acre campus, the arboretum allows researchers to observe the adaptive capacity of hundreds of tree and shrub species collected over 130 years from arid climates on every continent. Most recently, Quist worked with Michelle McMahon, the director of UA’s Desert Legume Program (DELEP), to orchestrate the preservation of 20 mature tree specimens threatened by the sale of the arboretum’s 30-year-old field plots.

The Desert Legume Program is a research program for assessing climate performance of novel



ABOVE

Some of the salvaged trees outside their new home at the Gould-Simpson science building.

legume trees. The 20 selected trees were chosen for their superior environmental adaptation and their potential to survive salvage. Grown from seed, the rescued trees included four species of evergreen acacias, a Queensland ebony native to Australia, an *Anadenanthera colubrina* native to Argentina, and a hook thorn and floodplain acacia, both native to South Africa. “Because the irrigation system was not maintained during the pandemic, the trees were stressed,” Quist says. “To prepare them to tolerate the additional stress of the salvage, water trucks were hired to irrigate the trees twice a week from March through May. They dumped 2,000 gallons of water with each irrigation at a total cost of \$3,500.”

Undertaken with the help of Mark Novak, ASLA, the university landscape architect, and Juan Barba, a local ISA consulting arborist, the salvage operation saved all 20 trees, nine of which went to UA’s main campus, where they now provide shade and desert habitat along what Quist says was previously a “rather desolate stretch” of the science concourse.

In addition to their aesthetic, environmental, and social benefits, the trees have expanded the biodiversity and educational value of the campus forest. Undergraduate students from a variety of degree programs, including landscape architecture, will be installing understory plantings and QR-coded botanical signs and creating associated web content, and Pima County Master Gardeners will host public tours. ●