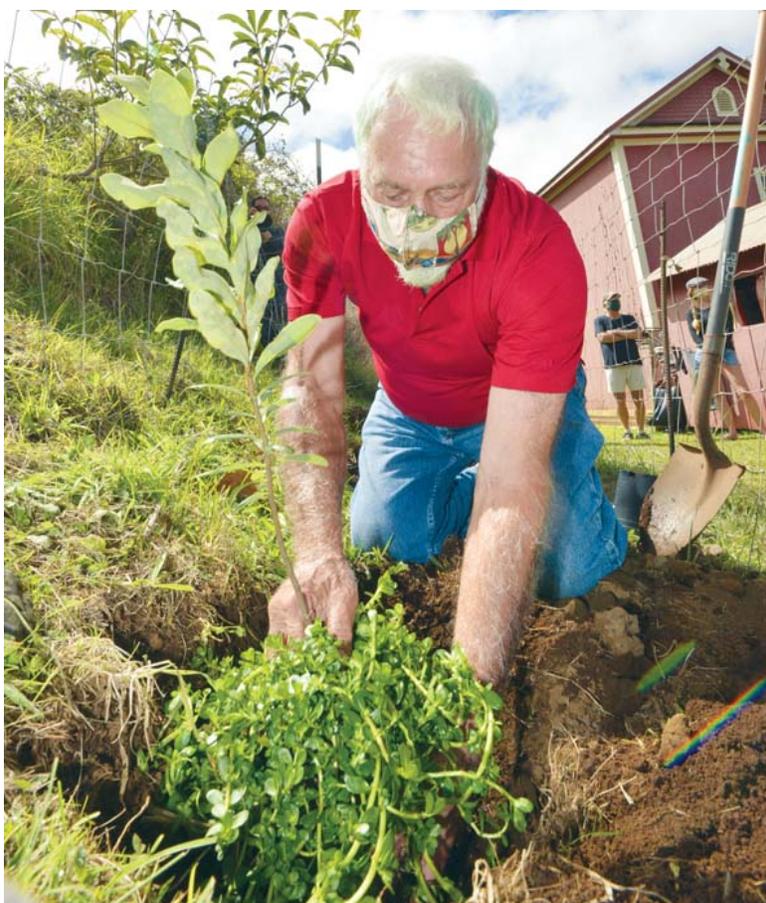


# The Maui News

---

## 'Throwing shade': Tree canopy critical as state grapples with climate change

Conservationists, state officials focus on bringing trees to schools, communities



The planting of trees, like this one in February 2021, will prove vital as Hawaii contends with climate change and greenhouse gases, state officials and conservationists say. Not only do trees benefit the environment, they also contribute to the well-being of people. The Maui News / MATTHEW THAYER photo

If a child's health and well-being can be improved with just a couple of trees, imagine what a whole school campus and a neighborhood with extra canopy coverage could do.

Heather McMillen of the Kaulunani Urban Forestry Program said that these tall, branched and leafy plants can do a lot.

*"Trees are critical for helping our communities adapt to the interacting and escalating health, environmental, social and economic stressors that have been exacerbated by climate change,"* McMillen said during the Hawaii State Climate Conference on Monday morning. *"Increasing the amount of canopy that we have, not only extends the health and well-being benefits to students, to communities, but by focusing in on the campus and the area around campus, you are also making it an option for people to be able to walk and bike instead of drive, and therefore reducing greenhouse gas emissions as well."*

Currently, only 21 percent of elementary school areas across Hawaii have 30 percent or higher tree canopy coverage. Hana Elementary School ranked No. 4 in the state among all elementary school campuses for having the most coverage at 53 percent, McMillen said. Mountain View in Puna, Hawaii island, was at the top with 63 percent, and Puuhale on Oahu was lowest at 2.5 percent.

*"Statewide, most of our schools actually don't have sufficient trees or tree canopy or shade,"* she said. *"It's the canopy that really is critical for delivering all of these ecosystem services that we enjoy."*



Kihei Charter School second-grader Aiden Kurras, 7, rides home from school with dad Greg Kurras along a completed portion of Kihei's Liloa Drive, with its separated bike lanes, benches, lights and sidewalks, in March of last year. State officials are emphasizing the importance of tree canopy around the islands both to help combat greenhouse gases as well as to encourage walking and biking in neighborhoods and near schools. The Maui News / MATTHEW THAYER photo

---

McMillen, whose presentation *"Throwing Shade"* focused on cooler communities, said that the team decided to target elementary schools in a recent effort to expand tree canopy coverage, saying that exposure to nature improves students' focus and their overall health, which ultimately leads to higher academic achievement.

Elementary schools were chosen over high schools because they are more neighborhood based.

Trees lining streets adjacent to campuses also offer relief from intense UV rays and reduce traffic, which makes it safer for families and keiki who may be walking to school, she said.

Overall, Kaulunani Urban Forestry Program focuses on being *"cities in forests, not just cities with trees,"* which includes trees located on private

property as well as in large and small parks, gardens, bioswales, community orchards, lo'i, green spaces and on school campuses.

Some of the challenges of meeting this vision are that there aren't enough trees; there isn't enough space, funding or policy; and that there's an inequitable distribution of existing trees. Another obstacle is changing the mindset of community members and builders to incorporate more trees into projects.

According to the Hawaii Tree Canopy Viewer, a public map that displays tree canopy data for the state and other information on socioeconomic, health and urban heat, the majority of Maui's tree coverage is throughout East Maui and the areas surrounding the West Maui Mountains.

For example, 56 percent of Hana has canopy coverage compared to the 7 percent and 9 percent of Kihei and Kahului, respectively, or the 38 percent reported for Wailea. The Waihee-Waikapu area is 52 percent shaded by trees, according to the map.

In East Molokai, 53 percent of the land has tree canopy coverage while the west side is 30 percent shaded with trees. The entire island of Lanai has 15 percent canopy cover.

Unsurprisingly, the areas with less tree coverage have higher urban heat indexes, like the Lahaina-to-Kapalua shoreline, Central Maui, areas in Pukalani and lower Kula, portions of Maalaea to Kihei, and small sections in Paia and Haiku.

Urban trees — ones located on buildings and sidewalks, for example — can reduce surface temperatures by up to 45 degrees Fahrenheit and through evapotranspiration, they can reduce ambient temperatures by up to 25 degrees, she said.

*“So given the warming and drying trends that we are already experiencing, as well as rising energy prices, it's really important to continue to plant trees and perhaps as important, if not more important, to maintain the existing large trees that we already have,”* McMillen

added. *“These are critical investments into cooler, safer, more affordable communities.”*

The state has a total canopy coverage goal of 35 percent. Currently, only 7 percent of residents in Honolulu are living with more than 30 percent of tree shade, as well as 54 percent of Kauai residents, 42 percent of Hawaii island residents and 22 percent of Maui residents.

Knowing where areas of high heat are located or where more tree shade is needed can help a county government plan for mitigation strategies, she said.

*“There’s just a growing reservoir of research that talks about how urban trees improve human health, improve environmental health,”* she said. *“Communities that have more trees are healthier and more resilient to the impacts of climate change.”*

Teaching students about the value of plants will also set a foundation moving forward since they are the future caretakers of the island. For example, having community gardens and hands-on preservation projects will help inform keiki on environmental education, natural resources management, leadership development and collaboration, said Pauline Sato of the nonprofit Malama Learning Center, which is located in West Oahu.

*“There are so many benefits,”* Sato said.

Forest manager Jennifer Grimm from the state Department of Land and Natural Resources’ Division of Forestry and Wildlife shared some statewide pilot programs that are underway to promote tree preservation, like the Koa Forestry program and climate smart commodities.

Also, \$1.5 billion in Inflation Reduction Act funding is going toward urban and community forestry projects nationwide. In Hawaii, Grimm said they have been in discussions on how to use that funding toward long-lasting and scalable solutions.

*“It’s a very exciting time,”* she said.

Newly elected Gov. Josh Green said during the conference that he'll devote \$100 million of the \$1.9-billion Hawaii budget surplus to take "*meaningful action*" against climate impacts, like rising temperatures and declining air and water quality.

About \$25 million from Inflation Reduction Act funding will also be coming in for "*green banks*" — financing to accelerate the transition to clean energy.

Green said that Hawaii is "*already poised*" to lead the nation by example as the state pushes toward renewable energy, green technology and jobs, among other initiatives, but needs to be up for any challenge and opportunity to "*deal with this fever that we have.*"

"*Our path as a global community and what we do in the next era is going to be daunting, intimidating, but also something we have to deal with,*" he added. "*If we don't deal with climate change, we're finished.*"

Hawaii Climate Week continues through Thursday with a spotlight on other climate issues. For more information, visit [climate.hawaii.gov/hawaii-climate-week-2023/](https://climate.hawaii.gov/hawaii-climate-week-2023/).

\* Dakota Grossman can be reached at [dgrossman@mauinews.com](mailto:dgrossman@mauinews.com).

## NEWSLETTER

Today's breaking news and more in your inbox

I'm interested in (please check all that apply)

Daily Newsletter

Breaking News

Obituaries

Are you a paying subscriber to the newspaper?

Yes

No

SUBSCRIBE