



RECOGNIZING

Cool Trees

TOGETHER

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Thank you for supporting the **Grove ReLeaf** program of the
International Center for Tropical Botany at The Kampong.

With your support, we have inventoried **more than 10,000 trees of 170 species**
across Coconut Grove.

As part of our program, we are measuring the eco-benefits of urban trees,
including their cooling effects in our increasingly hotter climate
with our CoolTrees campaign.

We have placed 80 weather stations around Coconut Grove - underneath trees and in
full sun - with over 2 million measures made since May 2021.

Here we report the first results of the campaign.

We are thankful for the funding and contributions from
the William R. Kenan, Jr. Charitable Trust, the Korth Family Foundation Inc, and
the Michael and Dianne Rosenberg Family Foundation Inc.



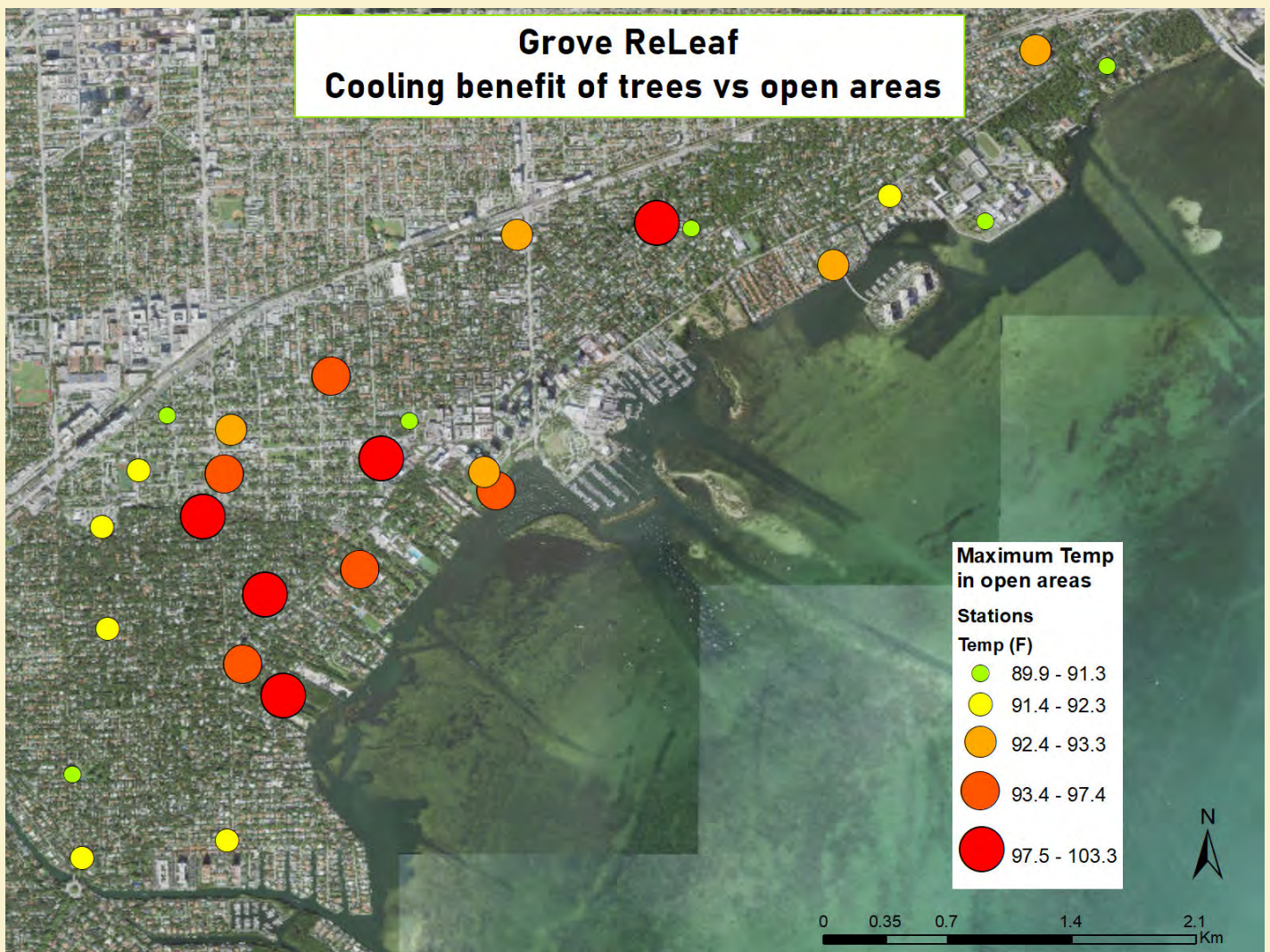
Fine-scale heat data in Coconut Grove.

For the first time, we have fine-scale heat data for Coconut Grove.

Our data confirm that 2021 has been the hottest year on record, with July-August 95% daily maxima averaging more than 95°F and above 103°F in some sites.

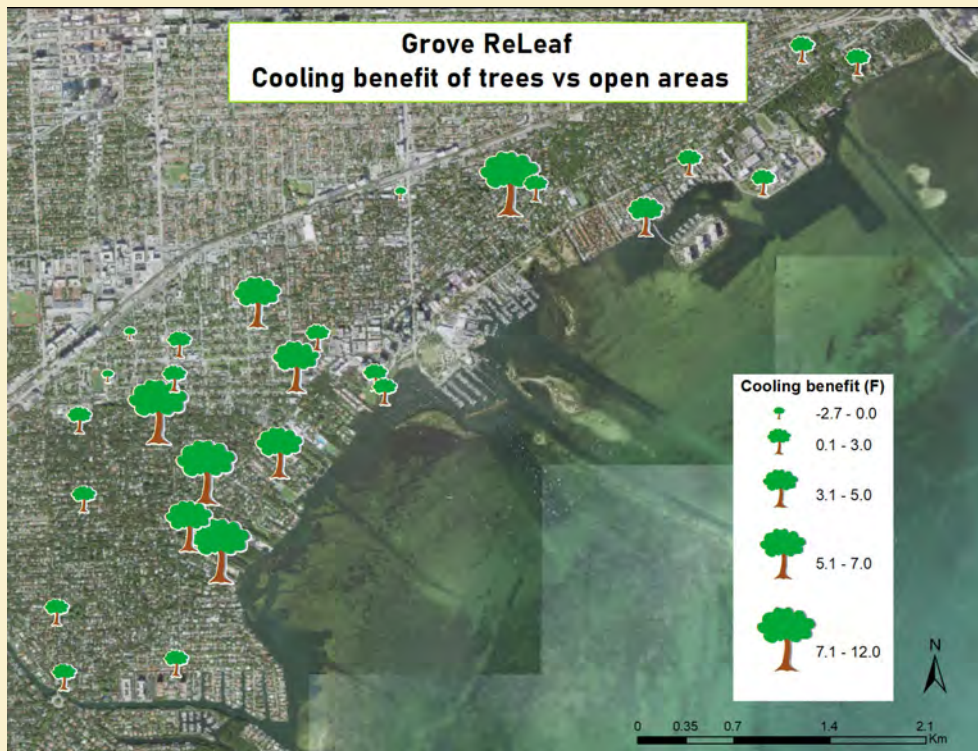
Maximum temperatures were highly variable across Coconut Grove, ranging from 89.8°F to 103.3°F.

The hottest sites actually occurred in full-sun areas surrounded by many trees (without a coastal breeze).



Cooling effects of trees

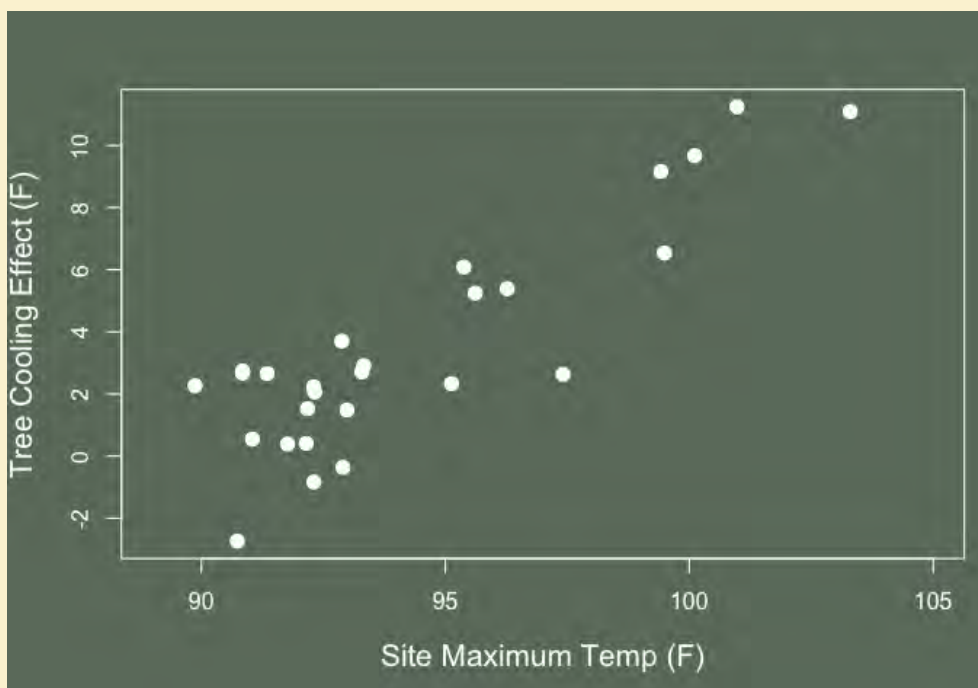
Overall, trees are providing an average cooling effect of about 7°F, but we have observed variable amounts of cooling, from negligible effects to more than 11°F.

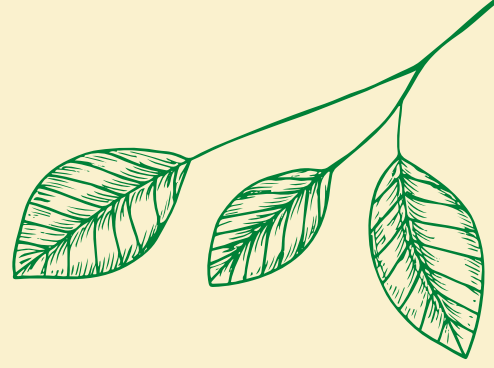


Trees are keeping us cool where we need it most.

Full sun maximum temperatures vary widely. However, during our hottest season, trees have maintained a constant maximum temperature under their canopy of about 84°F.

As a result, we see a strong correlation between full sun maximum temperatures and the actual cooling effect of trees. This suggests that **the location where we plant or remove trees is a very important factor to consider.**





Our Impact

Our initiative is one of the first studies in the world that actually measures cooling effects of individual urban trees.

Our results underline the important effects that individual (large) trees can provide in mitigating urban heat!

This highlights the dangerous consequences of large tree removal.

And it gives us incentive to plant more large trees - especially in areas with low canopy cover and increasingly hot temperatures.

Our initiative is powered by Coconut Grove residents. Please contact us if you would like to get involved or would be interested in additional information.



Established in 2015, The International Center for Tropical Botany at The Kampong (ICTB) is a collaboration between the National Tropical Botanic Garden and Florida International University (FIU).

As part of FIU's Institute of Environment, we are dedicated to developing research, education and outreach programs inspired by a faculty with global presence in tropical regions and commitment to our local community.



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FLORIDA INTERNATIONAL UNIVERSITY
tropics@fiu.edu