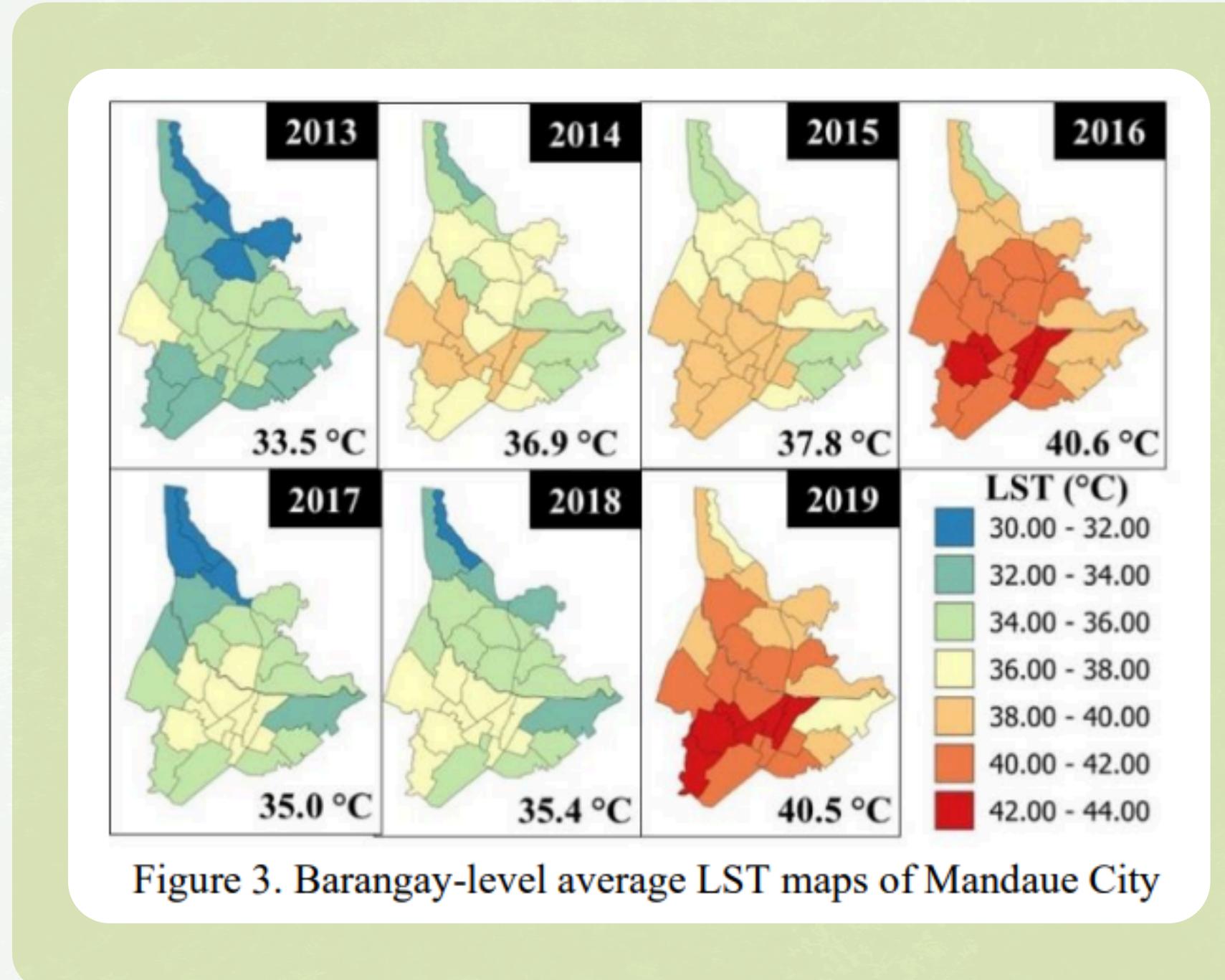




Location:
Mandaue City – highly urbanized hub
in Metro Cebu, Philippines

Urban Growth:
Among the fastest-growing cities in the
Visayas but this same growth
intensifies heat, pollution, and flooding.

A spatio-temporal study shows:



Landsat data (2013–2019) show a clear **UHI pattern in Mandaue City**, with peak LSTs in 2016 (40.6 °C) and 2019 (40.5 °C).

High temperatures occur in built-up barangays, while vegetated areas remain cooler.



GreenPoint

A GIS-Based Greening Suggestions Framework

Where do we green first?

What interventions actually work for a specific area?

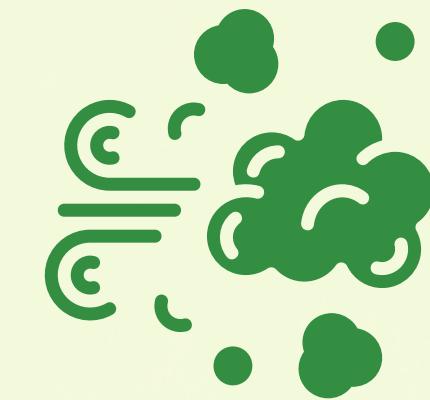
Which communities need cooling and protection the most?



**Satellite-based
heat and
vegetation data**



**Flood and Hazard
Maps**



**Pollution & Air
Quality Data**



**Socioeconomic
Indicators**



**Community-
Contributed Data**

Assesses environmental quality & resilience

Quantifies overall green coverage



Evaluates green space accessibility and equity

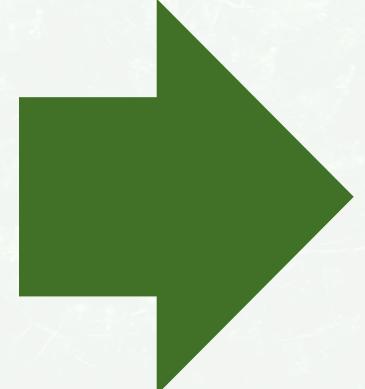
Greenery Index



AI Greening Recommendation Engine

Inputs

- Environmental suitability
- Resilience benefits
- Equity needs
- Cost-effectiveness



Output

- Matches applicable interventions
- Site-specific and hazard-resistant
- Describes their projected effects

Scenario Explorer

- Climate Change Factors
- Greening Strategy Parameters
- Budget Constraints
- Time Horizon



Greener Index

Cooling Potential

Canopy Gain

Stormwater Retention

Pollutant Removal

Priority Actions



M.C. Briones Street
(urban, dense
commercial/industrial)



**Proposed
Solution**

TREE PLANTING



POCKET PARKS



ROOFTOP GARDENS





Mandaue and cities everywhere don't
just need more data, they need direction.



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