

Introduction

Research question: what is the influence of vegetation transitions on air temperature?

Hypothesis: transitioning from vegetation to impermeable surfaces will have warmer air temperatures when moving away from the greenery, mainly because of sheading effect.



Time (hrs)

Figure 4 shows 23hrs of recorded data for Plot3, sensors



Figure 3, thermal images of the edge of transect 3, These figures show the thermal gradient from vegetation to asphalt; the center picture was taken at 6:00 am while the left photo at 3:00 pm.

Influence of Vegetation **Transitions on Air Temperature** Miguel Valencia (mvale095@fiu.edu) and Darrel Jenerette University of California Riverside and Florida International University

Methods

- A network of 28 iButton air temperature sensors.
- Six different transects.
- Sensors are placed at 1.5 m height.
- Data is recorded hourly for 2 weeks.

Thermal camera: images recorded every 10 minutes for a period of 24 hours.

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$\langle \varphi \varphi \rangle$	5	Y	Filter			
	Plot	÷	Transect			
1		1	Trees			
2		2	Trees-Grass			
3		3	Trees-Asphalt			
4		4	Tree-Asphalt			
5		5	Grass-Asphalt			
6		6	Asphalt			

Table 1 plots and transects.

Conclusion

high vegetation.

References







Figure 1, sensor, sensor reader, and iButton in polystyrene cup.



dark green=grass, asphalt=grey.

- Greater microclimate regulation seen with
- Increasing thermal gradient from the edge of the vegetation towards asphalt.
- Air temperature and vegetation relationship is stronger at night than during the day.
- Crum, S. M, Jenerette, D. G. 2017. Shiflett, S.A., Liang, L.L., Crum, S.M., Feyisa, G.L., Wang, J., Jenerette, G.D., 2017.

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