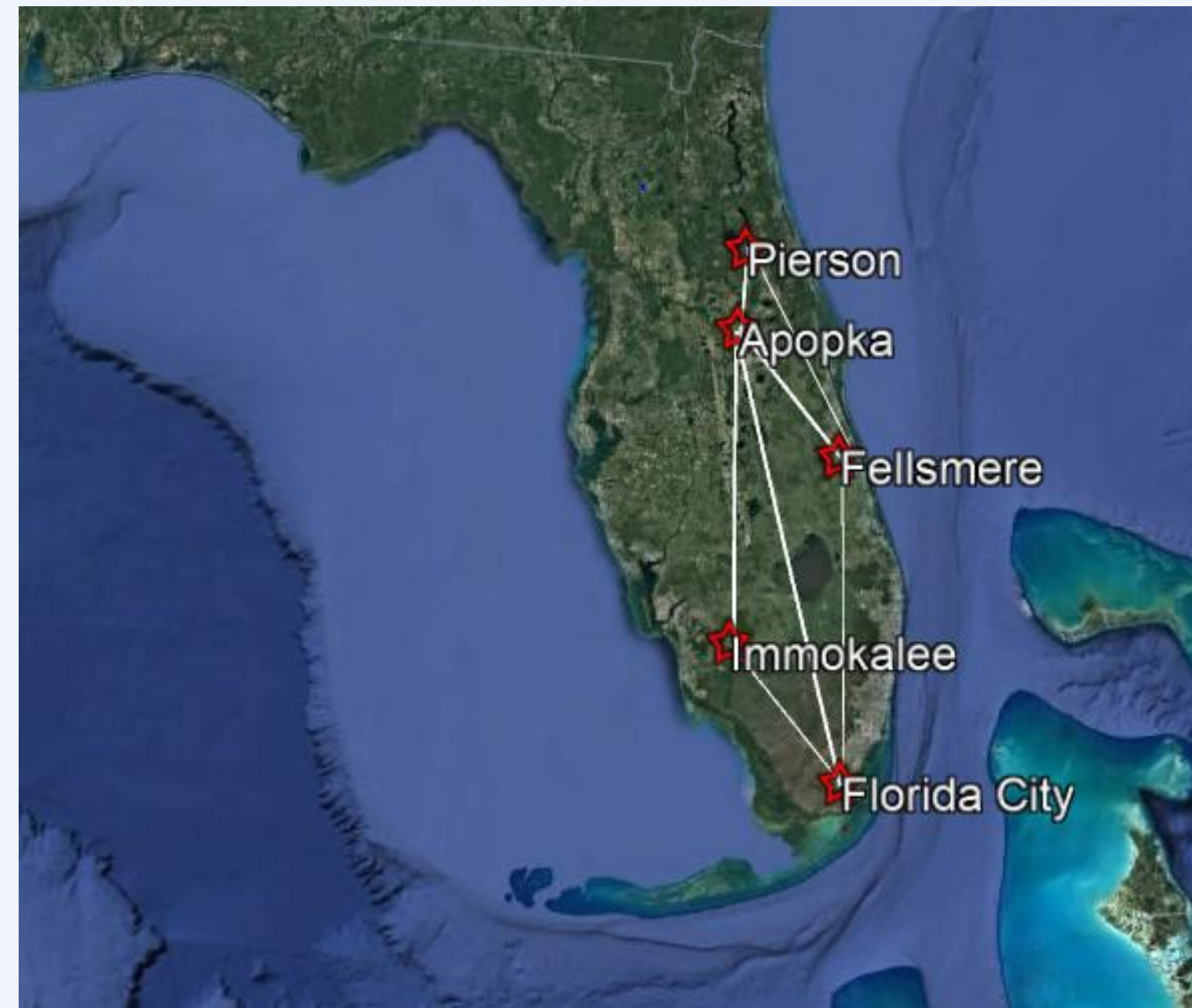


Nezahualcoyotl Xiuhtecutli, Joseph Grzywacz, and Antonio Tovar-Aguilar

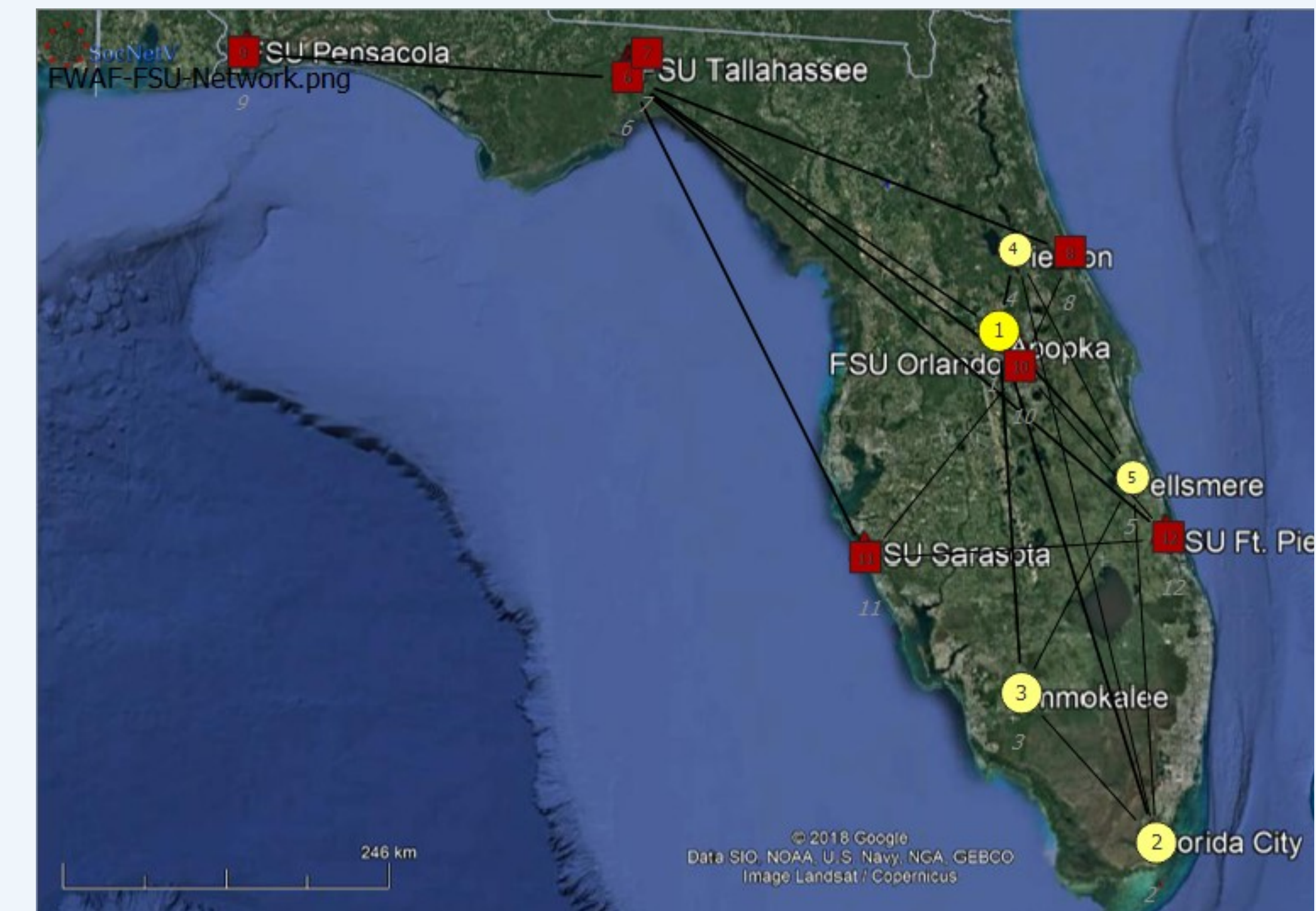


PISCA PROJECT

The PISCA project was developed with the aim of developing curricula in heat and pesticide exposure prevention that was culturally appropriate to Haitian and Hispanic farmworkers. The project was developed as a collaborative effort between the Florida State University (FSU) Department of Children and Family Sciences and the Farmworker Association of Florida (FWAF). FSU is a research university with its main campus in Tallahassee. Its medical school includes clinics in Tallahassee, Daytona, Pensacola, Orlando, Sarasota, and Ft. Pierce.

The Farmworker Association of Florida is a grassroots community organization of farmworking and rural communities throughout the Florida Peninsula. Its main office is in Apopka, just outside Orlando and has additional offices in Pierson, Fellsmere, Immokalee, and Florida City. FWF membership and communities it serves are Hispanic primarily Mexican and Central American, and Haitian immigrants, as well as some African Americans. Its embeddedness in these communities gives it a unique position to address the issue of cultural appropriateness when developing educational material to prevent heat and pesticide exposure among Haitian and Hispanic farmworkers.

A benefit that has developed out of this collaboration for both institutions has been an increase in outreach and resource accessibility. Through collaboration with FWF, FSU has been able to bring safety information to a greater number of farmworking families. FWF for its part has been able to create a link with FSU and its network of clinics to which to turn for referrals for treatment for the long and short-term effects associated with pesticide exposure and HRI.



The Networks

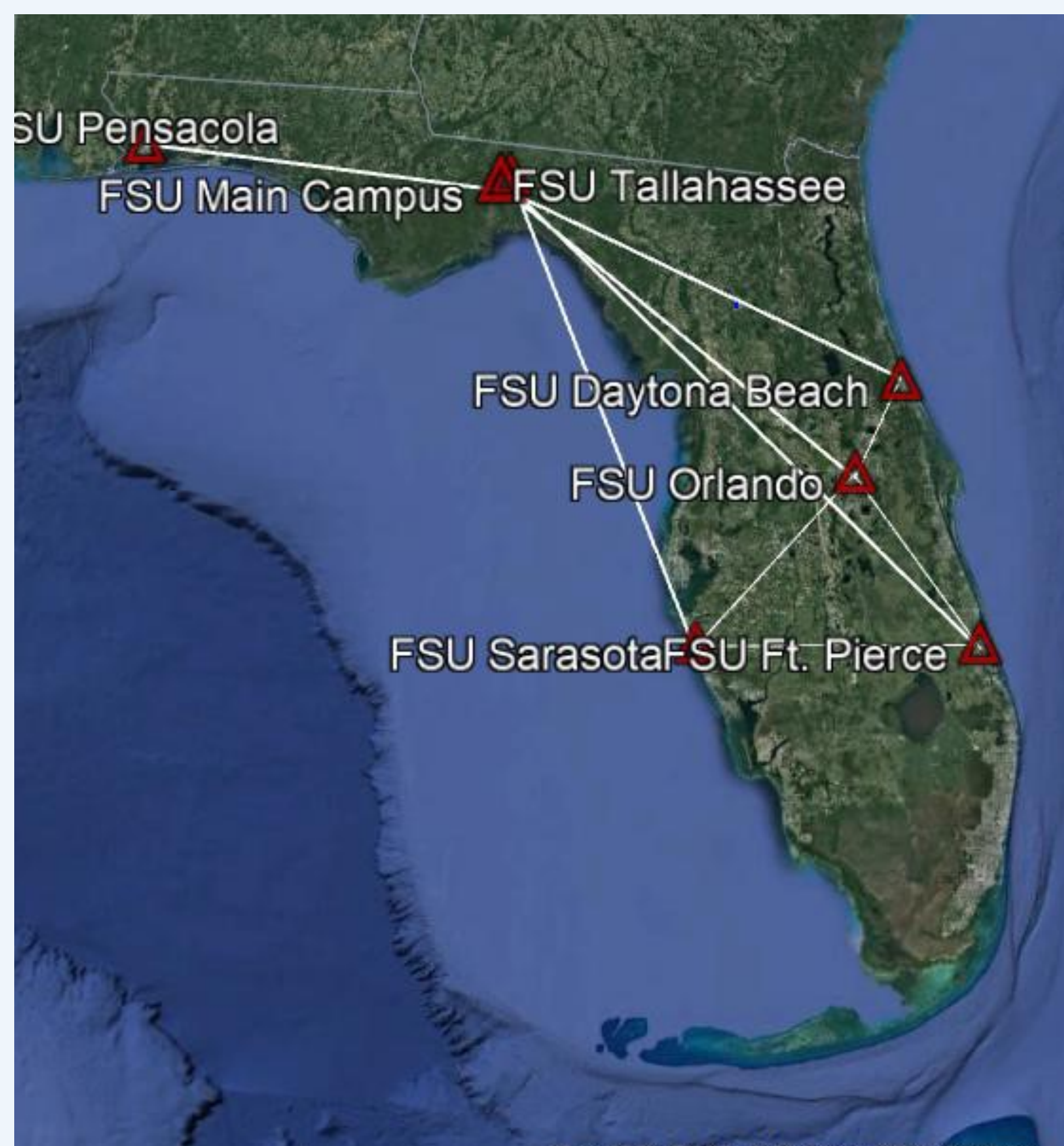
The FWF and FSU networks were assessed along four analytical attributes to compare how linking into a different network affected the interconnectedness and accessibility of both organizations, namely direct centrality, information centrality, closeness centrality, and clustering. Both these networks are highly centralized. While communication exists between some of the smaller nodes allowing them to operate according to developing local situations, policy and resources are allocated from the central offices. These networks can be analyzed in spatial terms through the use of **betweenness, degree, and eigenvector centrality**, and socially using **information and weighted centrality** statistics to assess how interconnecting these networks can help make health care more accessible to farmworkers and other vulnerable populations. By linking these communities with existing health networks through partnerships between research institutions and grassroots organizations that form part of the extended social network on which they rely for assistance when facing the challenges of life in a foreign country, they can become more cognizant of the health resources within their reach.

The nature of farm work creates isolated farmworking communities with little access to information to protect those communities from the hazards with which their occupation is associated. Chief among these hazards are pesticide exposure and heat related illness. This poster focuses on research using network analysis to determine how a partnership between non-profits advocacy organizations like the Farmworker Association of Florida and state research institutions such as Florida State University, has allowed greater outreach to both organizations by augmenting the network through which both of these organizations operate, making prevention information more accessible to vulnerable farmworking populations. This poster addresses the use of spatial nodes as well as the cultural and institutional resources that both sectors of community-based research bring to the partnership to maximize outreach education on pesticide and heat-related illness information to Hispanic and Haitian Farmworkers.

INTRODUCTION

Farmworkers in Florida represent a vulnerable population. There are several factors that make this a vulnerable population. These include **language barrier, migratory status**, and most of them are members of a **minority group**. In Florida most farmworkers are Hispanic and Haitian immigrants as well as some African-Americans. Additionally, occupational risks to which they are exposed include **exertive and environmental heat**, and **pesticides**. Like many Americans, but especially because they live in rural or semi-rural areas, they also **lack access to affordable health care and prevention**. This situation is exacerbated by the fact that many farmworkers are immigrants who do not know the health care system well, or only come as temporary migrant workers with H2-A visas.

Heat and pesticide exposure are especially prevalent occupational hazards for farmworkers that extend beyond a single event when workers are exposed to large amounts of pesticides or a single occurrence of heat exhaustion and dehydration, both of which can send a worker to the hospital. Prolonged exposure to these two hazards can also lead to long lasting effects of heat exposure that can result in heat related illness (HRI) such as hypertension and kidney damage. On the other hand, pesticide exposure can lead to neurological damage and cancer. This last problem is further compounded by pesticide drift that can affect not only the workers in the fields, but also their families and communities that often live close to the fields. Children are especially vulnerable to the neurological damage that has been linked to pesticide exposure.



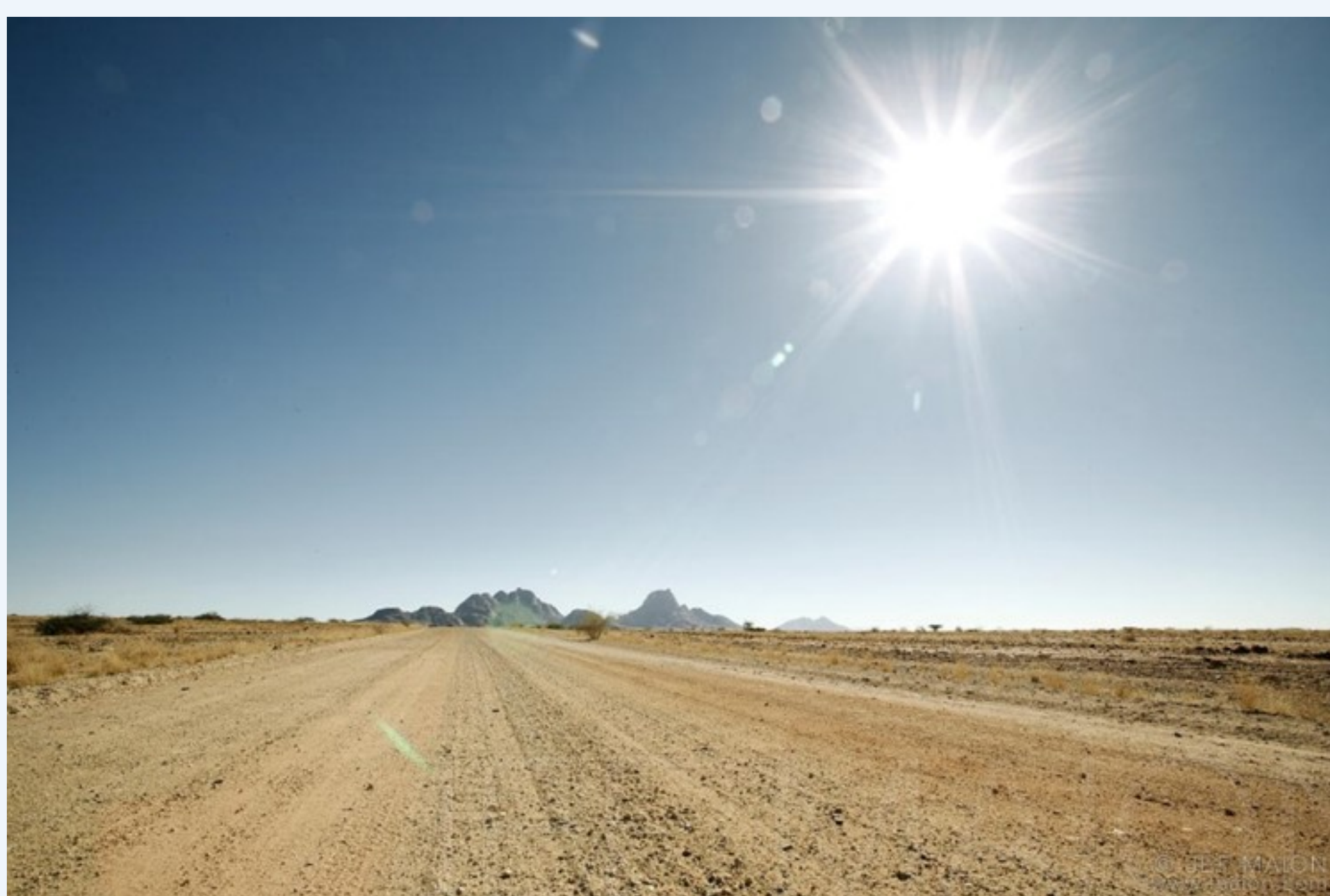
Integrated Network Centrality

Institution	Location	DC	DC Unweighted	IC	BC	Weighted EVC
FWAF	Apopka	8	4	1.575	4	0.51
FWAF	Florida City	4	3	1.646	0	0.439
FWAF	Immokalee	4	3	1.646	0	0.439
FWAF	Fellsmere	3	2	1.253	0	0.307
FWAF	Pierson	5	4	1.994	0	0.51
FSU	Main Campus	12	6	0.976	13	0.547
FSU	Tallahassee	2	1	0.408	0	0.157
FSU	Daytona	3	2	0.706	0	0.293
FSU	Pensacola	2	1	0.408	0	0.157
FSU	Orlando	5	4	0.893	0	0.477
FSU	Sarasota	4	3	0.816	0	0.411
FSU	Ft. Pierce	4	3	0.816	0	0.411

Unintegrated Network Centrality

Institution	Location	DC	DC Unweighted	IC	BC	Weighted EVC
FWAF	Apopka	9.5	5	0.576	32	0.376
FWAF	Florida City	4	3	0.459	0	0.237
FWAF	Immokalee	4	3	0.459	0	0.237
FWAF	Fellsmere	3	2	0.422	0	0.173
FWAF	Pierson	5	4	0.483	0	0.273
FSU	Main Campus	13.5	7	0.672	43	0.49
FSU	Tallahassee	2	1	0.317	0	0.131
FSU	Daytona	3	2	0.472	0	0.226
FSU	Pensacola	2	1	0.317	0	0.131
FSU	Orlando	5	4	0.549	0	0.356
FSU	Sarasota	4	3	0.519	0	0.308
FSU	Ft. Pierce	4	3	0.519	0	0.308

The five forms of centrality decrease when the network becomes larger, although the small size of these networks limits the diffusion that occurs as these networks become integrated. This model does not take into account other social issues such as language barriers and health care affordability. These are issues that the nation is still grappling with as a whole. Rather, it is a model through which programs can be developed to address those issues. The collaboration between these two organizations to create culturally appropriate material is a step in that direction.



Environmental Heat:

Heat in the environment outside workers' control.



Exertional Heat:

Heat generated from the body's movement and pace of work. Workers have more control over this kind of heat.



Dangerous for pregnant women!