

Mercury Bioaccumulation in Pythons from the Florida Everglades Region

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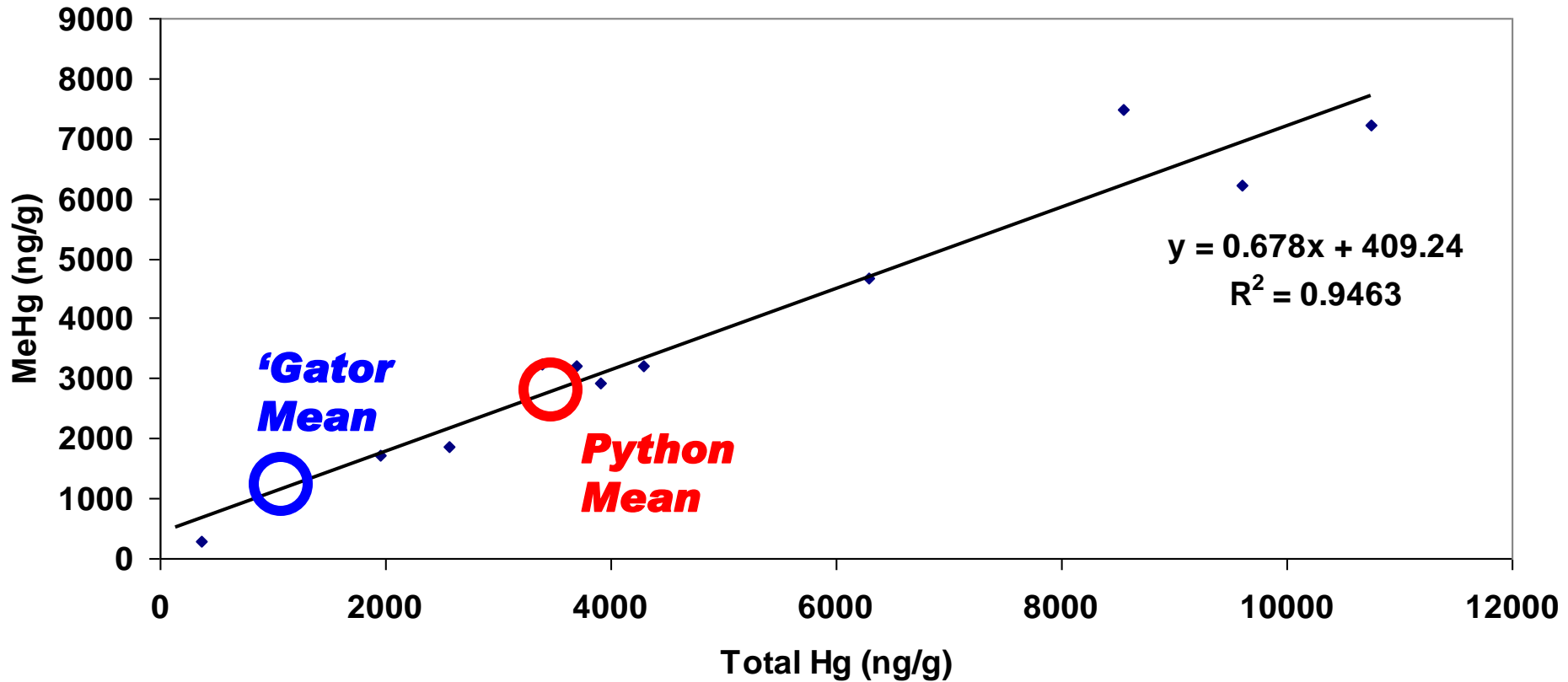
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-USGS PES Program

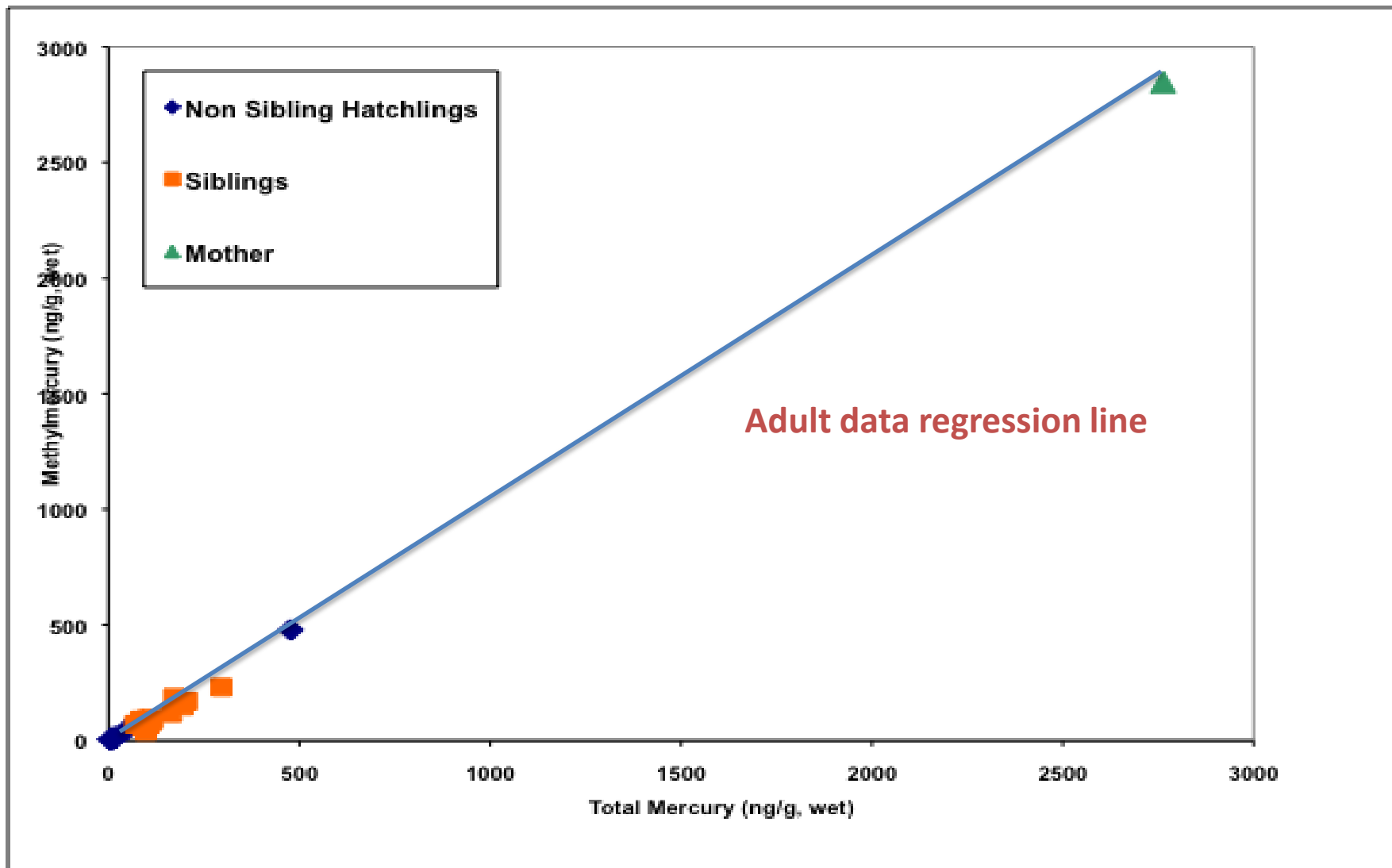
-Everglades Foundation

Mercury vs Methylmercury in Everglades National Park Pythons

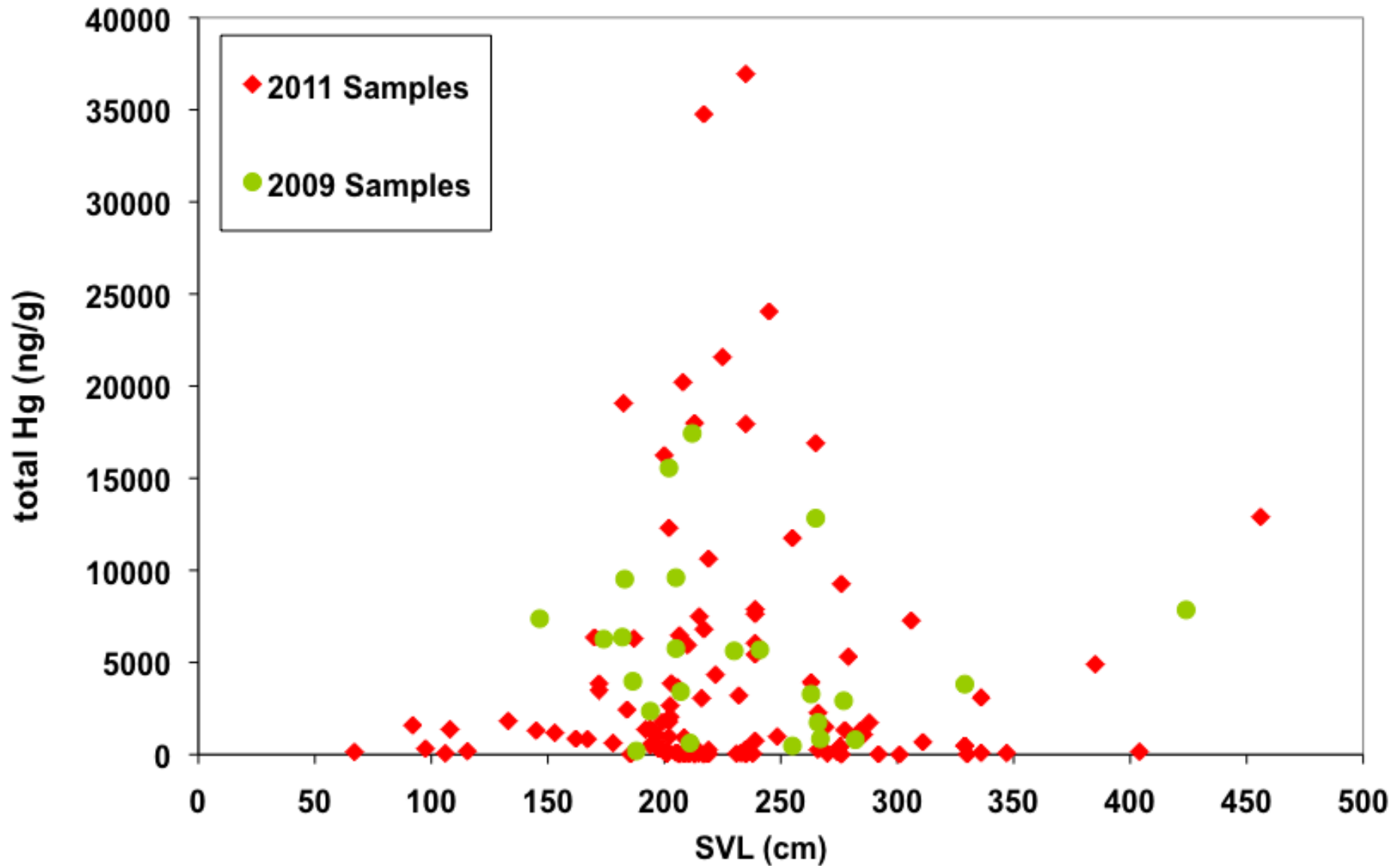
MeHg vs THg - Wet Weight Basis

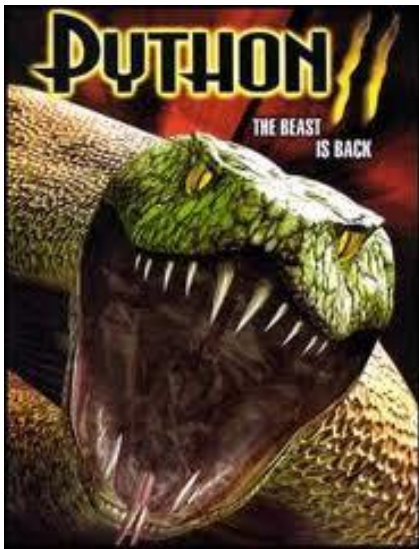


Bioaccumulation of Hg and MeHg in Pythons



2009 versus 2011 Sample Results for Total Mercury in Tail Muscle





Vs.

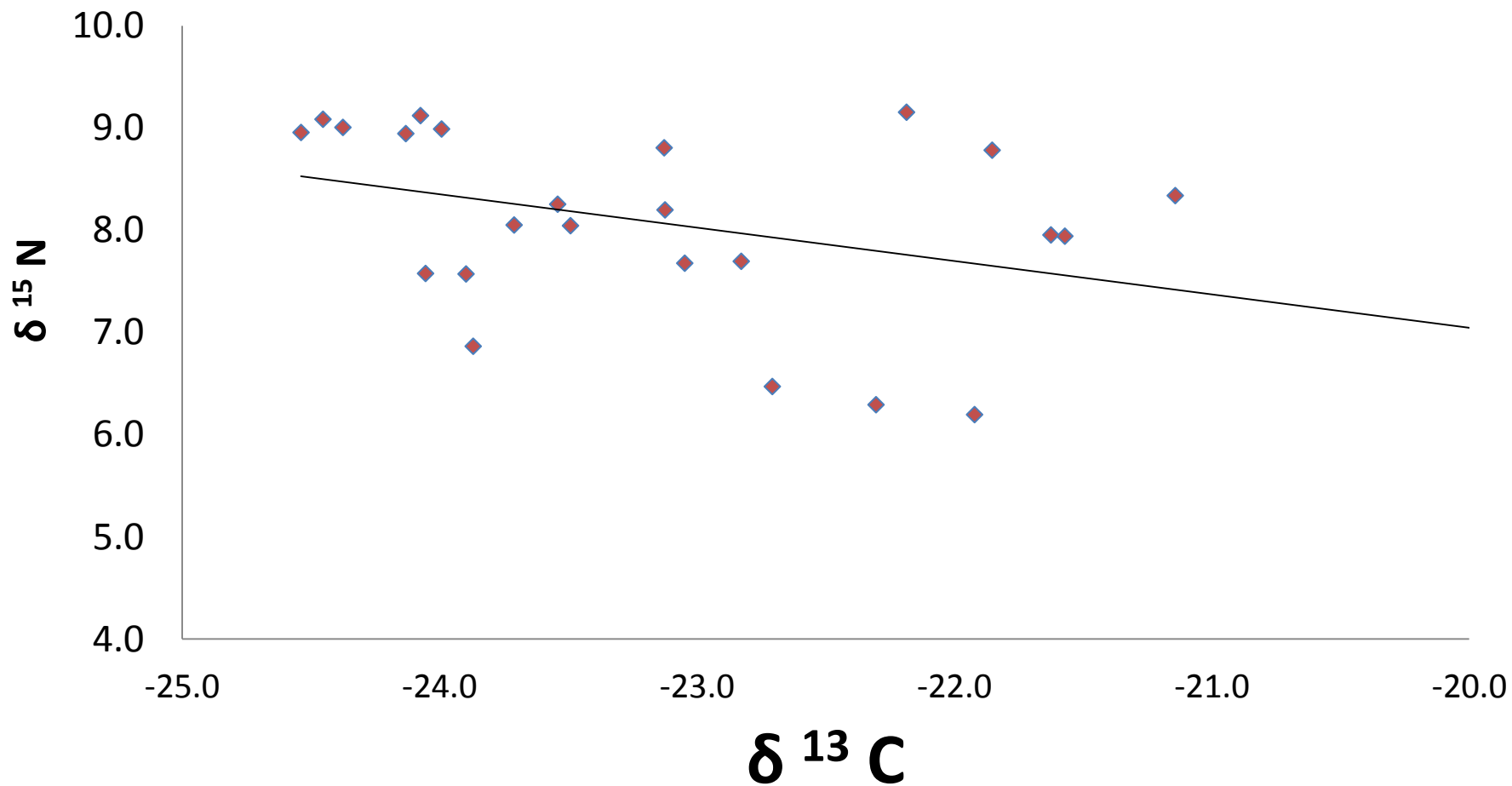


Everglades Python Data

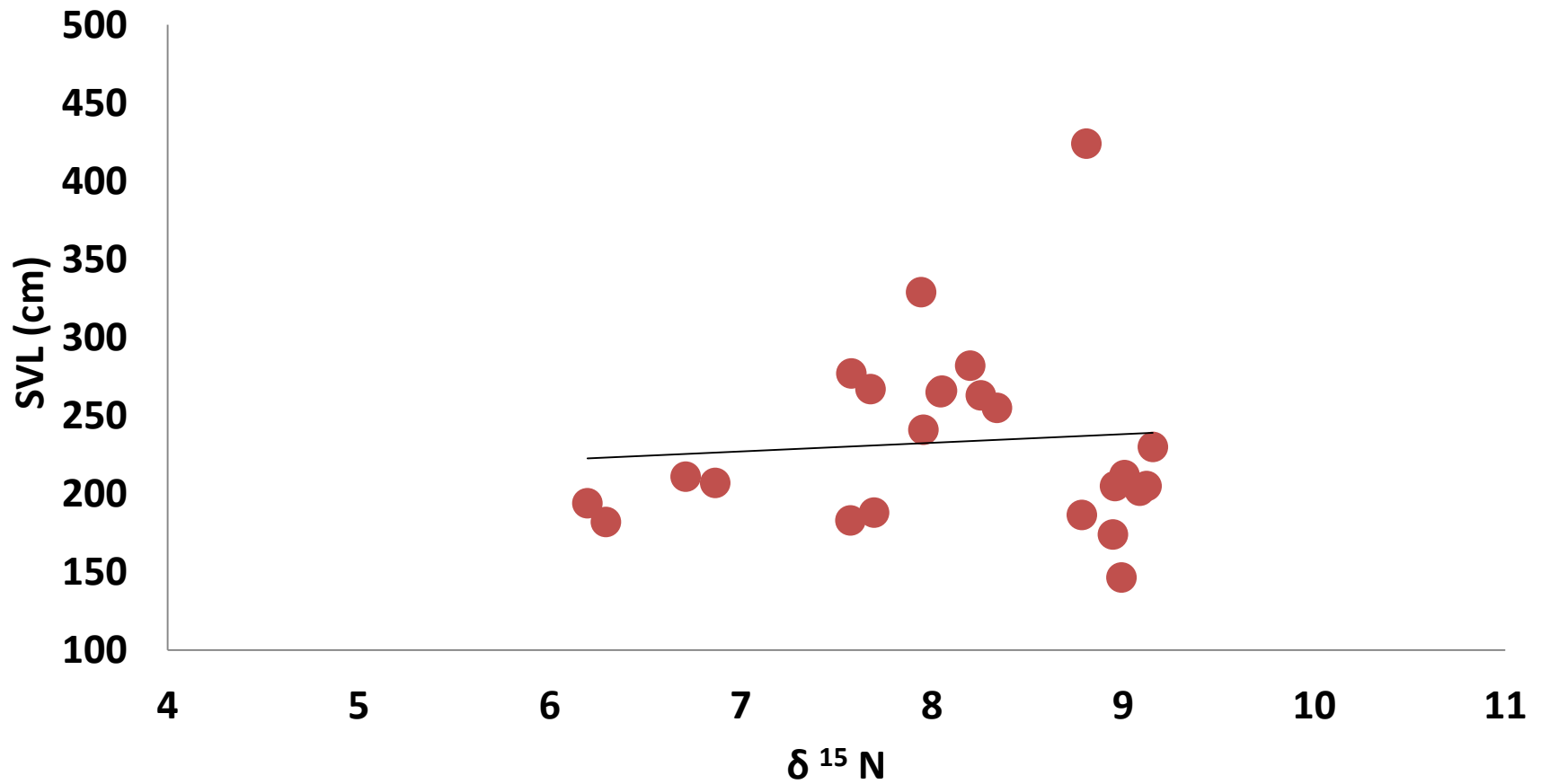
Bonanza Hg
Mine

	All individuals	Males	Females	Mine Waste
Mean Hg	4353	4285	4480	17,500
Mean Mass	10.14	8.468	13	
Mean SVL	229	219.04	246	
Min - Max	3 - 36,943	3 - 36,943	3 - 24,049	5,000, 27,800
N	136	89	47	

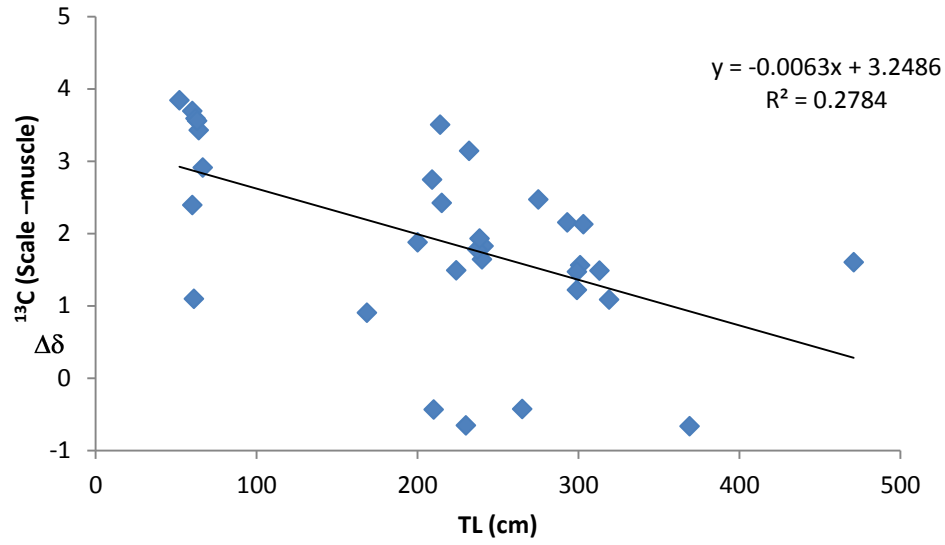
C and N isotope plot: Muscle-N=25 pythons



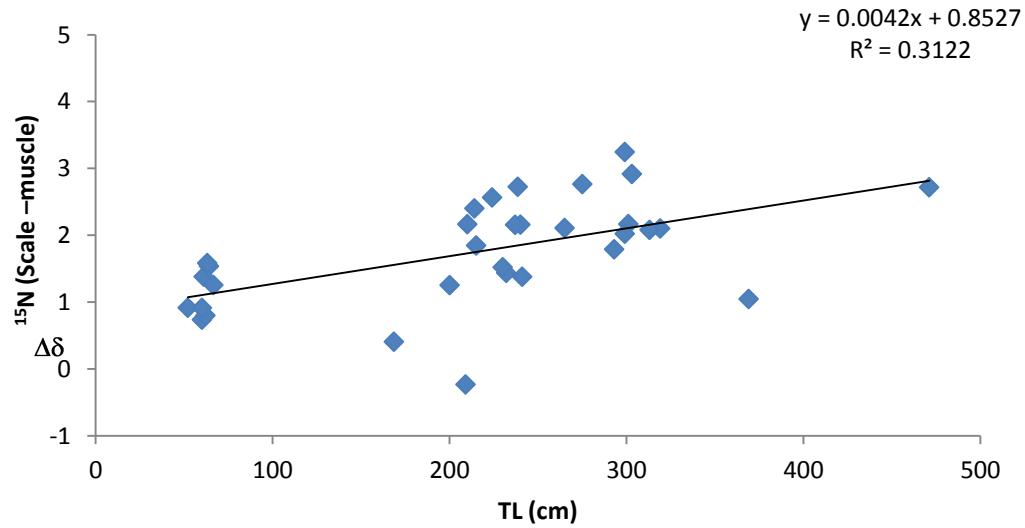
No clear relationship between $\delta^{15}\text{N}$ and length (N=25)



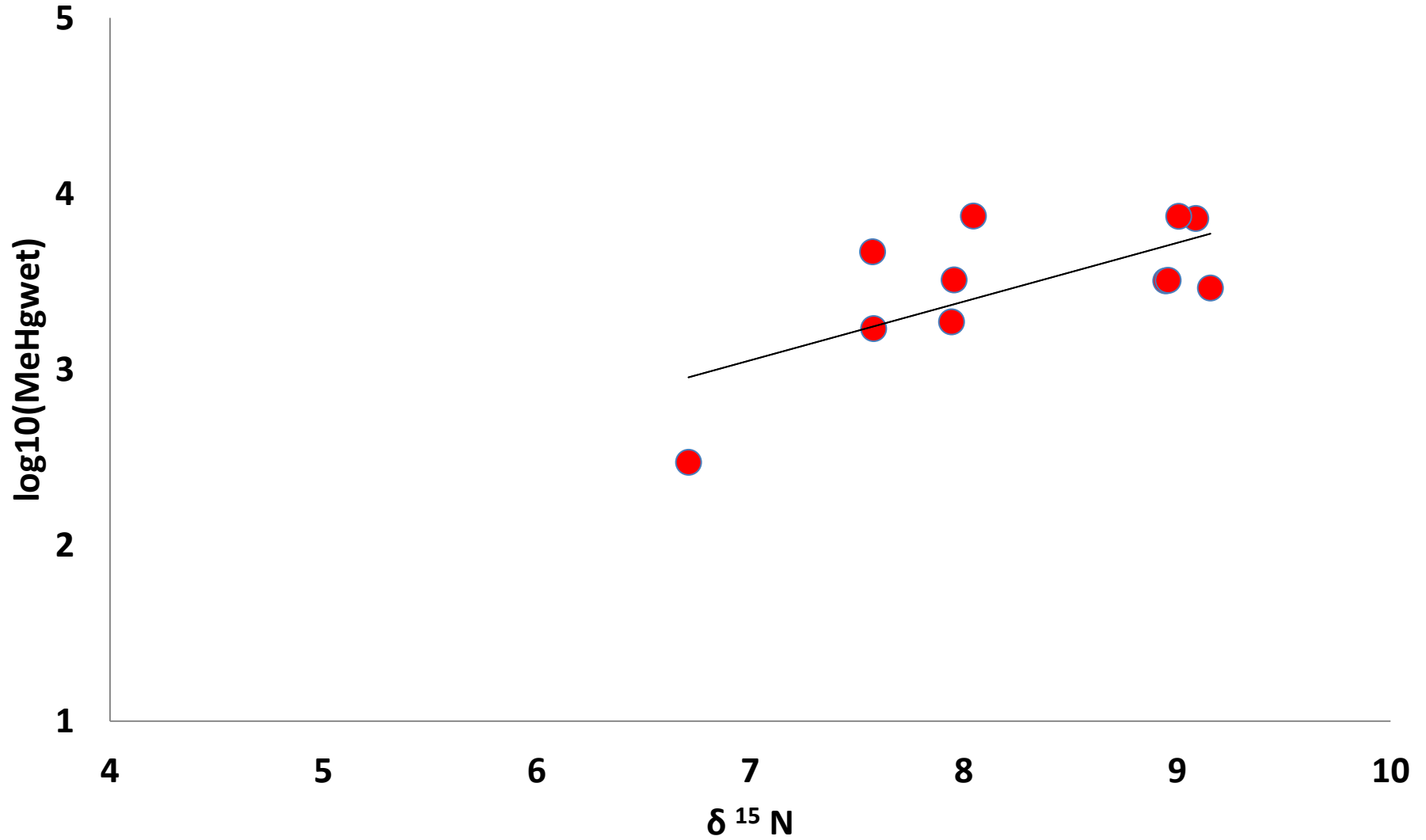
size vs tissue $\delta^{13}\text{C}$ difference



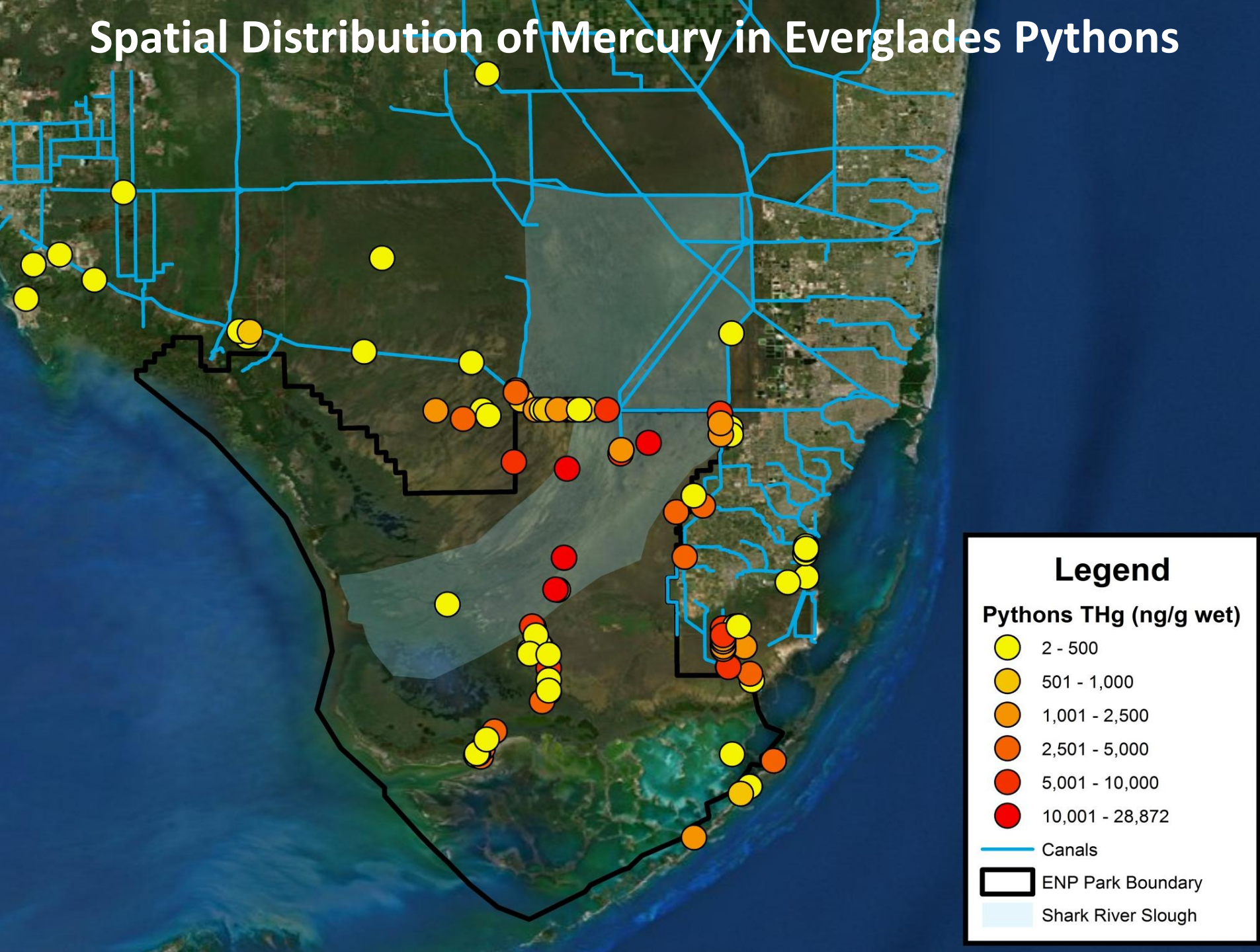
size vs tissue $\delta^{15}\text{N}$ difference



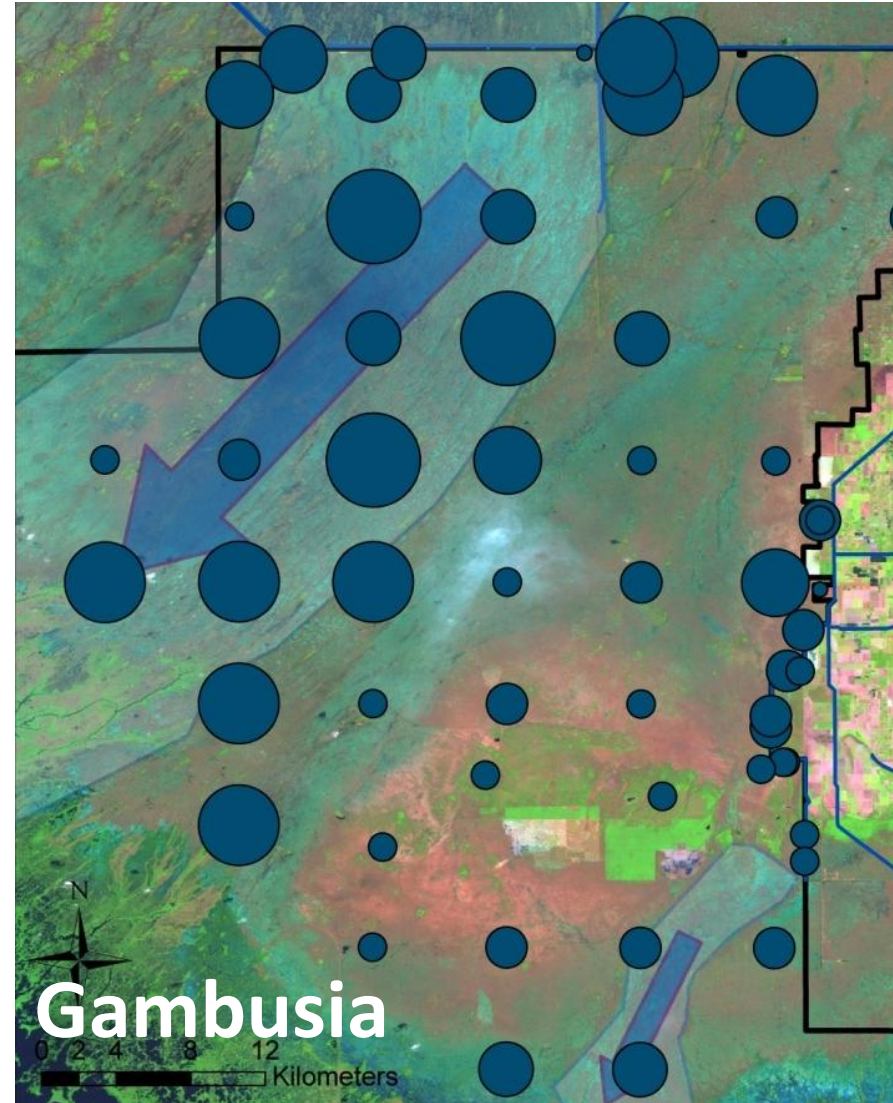
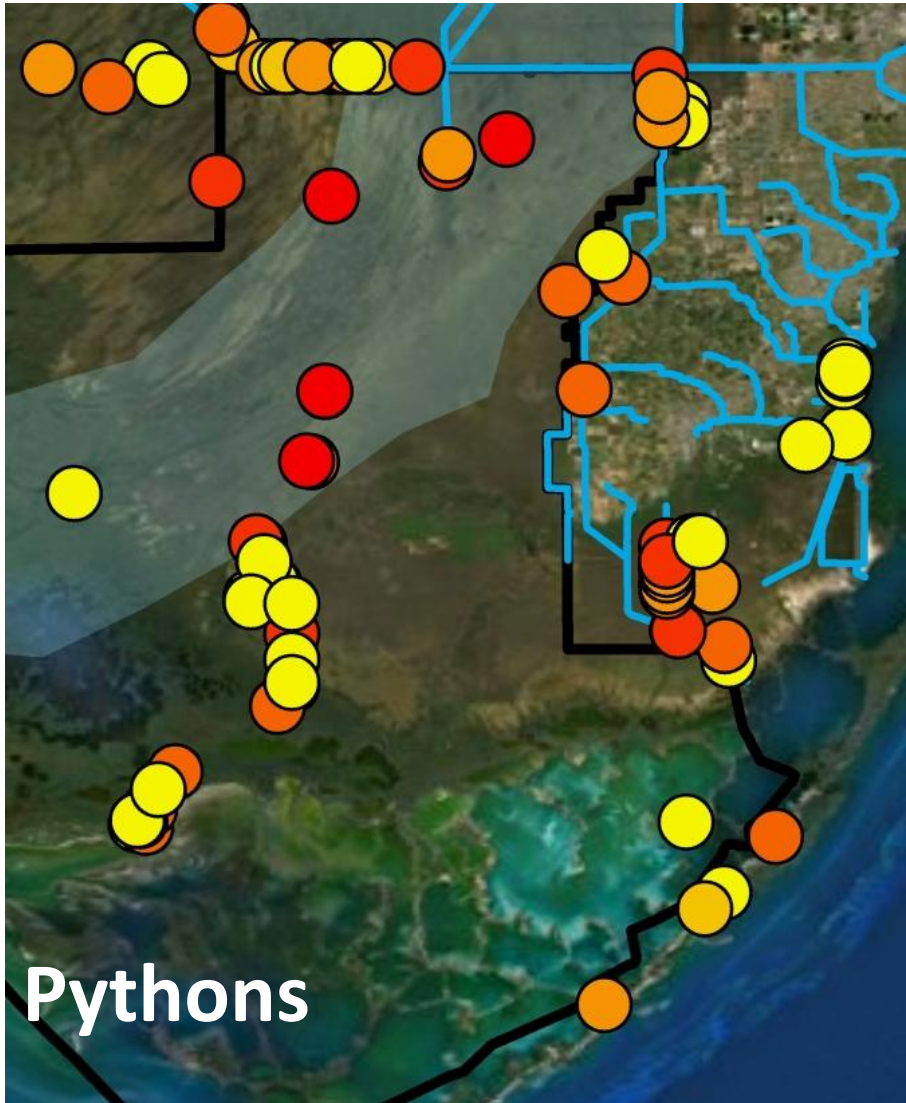
Python $\delta^{15}\text{N}$ versus $\log(\text{Methyl mercury})$



Spatial Distribution of Mercury in Everglades Pythons



Mercury in Everglades Pythons and Gambusia – Ecosystem Controls



Summary and Future Plans:

- Python Hg and MeHg levels are remarkably elevated, especially given their diet (see poster #46) is mostly rodents
- A remarkable continuity of the fraction MeHg (MeHg/Hg) from juvenile → adult life stages (unique among organisms in the published literature)
- No apparent (or traditional) relationship with size, length, sex, but, geographic trends make sense (SRS highest)
- Some indication that trophic position $\delta^{15}\text{N}$ is affecting Hg levels among individual samples
- Future plans to examine Hg concentrations in sensitive organs (e.g., brain & liver), which are generally elevated over muscle tissues