SOIL AND ATMOSPHERIC CHEMISTRY IN URBAN ATLANTA: FINDINGS FROM THE CSAW (COMMUNITY, SOIL, AIR, AND WATER) NSF RESEARCH EXPERIENCES FOR UNDERGRADUATES SITE

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Study Area

Neighborhood Planning Unit V
NO$_2$ Sampling and Analysis
Nitrogen Dioxide Sample Sites in NPU-V
Pb Sampling and Analysis
Lead in Soil Samples from NPU-V

Lead in Soil Samples (parts per million)
- 20 - 63
- 64 - 120
- 121 - 191
- 192 - 333
- 334 - 572
Conclusions

Air Quality
• The spatial analysis showed higher NO$_2$ levels concentrated near the major highways as well as the railroads that border and cross-cut NPU-V.
• This preliminary assessment provides a foundation for understanding the physical realities of NPU-V in terms of air pollution, but more research needs to be done to correlate the air pollution to health data.

Soil
• Soil and dust levels ranged from 10.67 to 968.33. Median values for all three sample types are above background levels; and a few of the samples are over 400 ppm and are therefore considered to be toxic.
• The lack of detection of Pb by SEM suggests that Pb is well distributed within small, dispersed particles rather than in distinct or detectable particles. Initial XRD results have shown a need for further analysis to specifically identify lead bearing minerals.
Community Contribution
Questions?

Check out the posters from the REU students!

Today – Session 238 – Booth # 129 - 132