**Motivation**

- Any amount of mercury is biologically harmful.
- Readily forms a variety of ions and complexes.
- Easily integrates, transfers, and biomagnifies within and between ecosystems.
- Economic loss due to decreased IQ & productivity: $8.7 billion
- Mercury has been shown to exhibit a diurnal response to solar radiation and temperature, whereby gaseous mercury is released into the atmosphere, soil and bodies of water during peak hours into the atmosphere. Post-peak hours show a depositional effect.

**Mercury in Wetlands**

- Have the ability to acquire, store & release significant amounts of mercury. Specifically, methyl mercury (the most toxic form).
- Transfers mercury to and from the atmosphere, hydrosphere, and various levels of the food chain.

**Research Questions**

- Does Hg content in leaves fluctuate predictably over a 24-hour period?
- Do evergreen leaves accumulate additional mercury as they age through the years?
- What is the nature of the mercury content that is released daily and subsequently redeposited? Is there measurable deposited Hg that can be washed off the leaf?

**Methods**

- Leaves were sampled from the dominant wetland vegetation species, stored in individual bags and chilled for transport.
- Sample were split & one half was rinsed (first half of the sample remains unmodified)
- Frozen (24 hours) Vacuum freeze dried (minimum 24 hours) Ground into near homogenous sample.
- Total Mercury analysis via thermal decomposition using DMA-80.