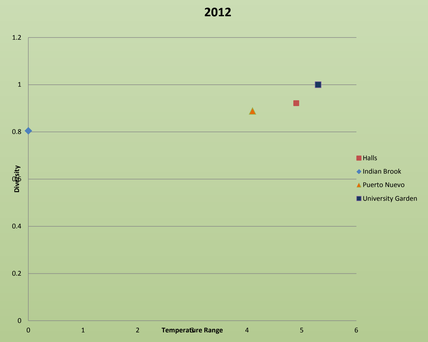
Can’t Take the Heat, Get Out of the Stream

Looking at water temperature range as an intermediate disturbance.

By Richard Rosten, Eliza Goodell, and Hannah Giesing



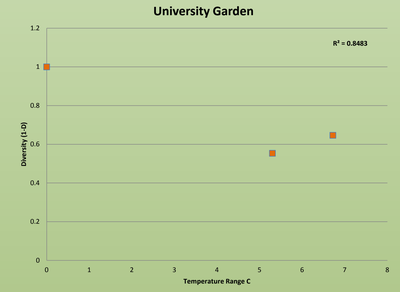
This figure compares our four streams to each other in the year 2012.

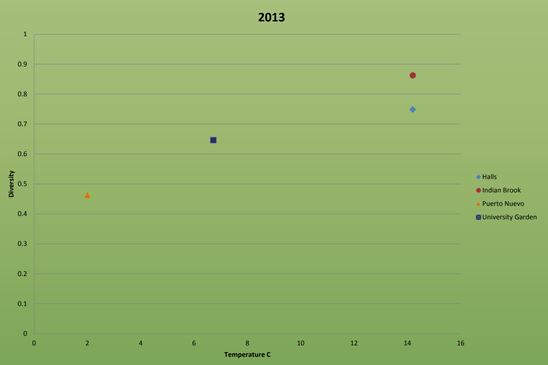
Hall Brook

Our research project compared the diversity of streams in Puerto Rico and Vermont to the range of water temperature annually.

We were looking at temperature range as an intermediate disturbance, and hypothesized that a greater intermediate disturbance, or temperature range, will result in a greater diversity.

These figures show individual streams comparing temperature data to diversity each year from 2011 to 2015.

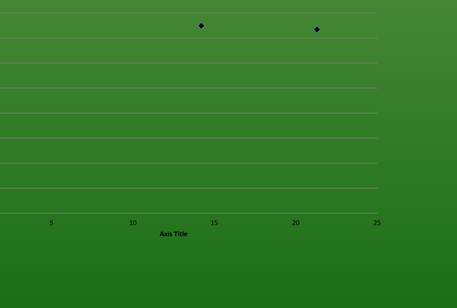


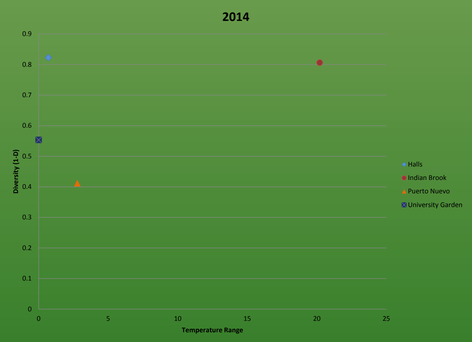


This figure compares our four streams to each other in the year 2013

Methods:

We used data from four streams; two from Vermont and two from Puerto Rico and, using Simpson’s Biodiversity Index, calculated the diversity of each stream annually . We then compared that data to the yearly environmental data, which showed us the correlation between temperature range, and diversity.



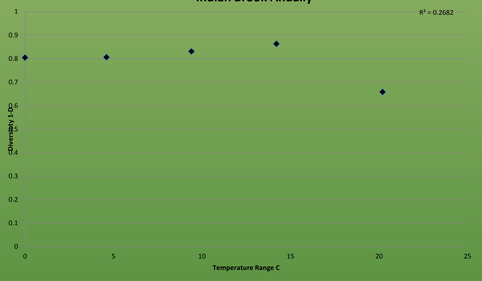


This figure compares our four streams to each other in the year 2014.

Conclusions:
We conclude that there is a fairly strong correlation between temperature range, and bug diversity. When looking at the different streams compared to each other, it is clear that a greater temperature range results in a greater diversity. Comparing a streams data to itself year to year, however, our hypothesis is not completely supported. There are streams where a greater temperature range does not result in a greater diversity.

***Dipetera Simuliidae,* a common organism found in Vermont.**

***Diptera Chironomidae,* a common organism in Puerto Rico.**



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