

ESS Newsletter

December, 2022



Bike Share Winterizes Fleet

At the beginning of shop hours on Friday December 2nd, Bike Share board members and participants weren't in the shop as usual. Instead, they were at the library. With winter weather increasing and temperatures dropping, the season for biking is winding down. Accordingly, the fleet of bikes stored outside the library (available to students for checkout at the library) must be stored somewhere more protected from the elements in the winter months. For Bike Share, this means moving the bikes into storage in the bike shop under Green Living house on Loomis Street. Bike Share club members work together on repairing (and learning how to repair) bikes in the library fleet and planning or participating in bike-related events such as workshops and rides. Bike Share has open shop hours twice a week (hours vary by semester) and anyone is welcome to come check out the bike shop, and maybe learn a thing or two about bikes. Bike Share has some exciting ambitions for the future, such as the reconstruction of smoothie bike: a pedal powered blender, the expansion of a biking community on campus, and a learn to ride a bike event for anyone who hasn't had the opportunity to learn before. With any questions, please reach out to bikeshare@allegheny.edu!



Bike Share members ride and push library bikes down Main St. to winter storage in the Bike Share shop in the basement of Green Living House on Loomis Street.

18th Science Symposium

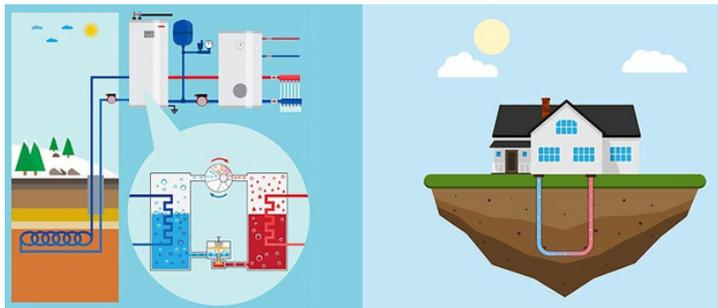
On November 2nd of this year, the 18th Regional Science Symposium started at the Tom Ridge Environmental Center in Erie, Pennsylvania. This symposium focuses on research done relating to the environment or ecology and is three days long. This year Allegheny College had several presenters, one of which, Emma Yesko, won second place! Emma, a senior Biology Major, presented "Exploring factors associated with an amphibian die-off at Bousson Environmental Research Reserve." She conducted research at Bousson over the summer through URSCA working three days a week in the field and two days a week online, studying the mortality of wood frog tadpoles. Although she did not find an answer yet, she was able to present at the Symposium and is continuing the research for her senior composition. Emma's favorite part of the Symposium was winning second place and learning about the research other presenters did on turtle populations and invasion ecology at Presque Isle State Park.





Geothermal Energy Rocks!

Rocks may have their faults, but geothermal energy isn't one of them! As the temperature is plummeting, heating is required and one of the most environmentally friendly solutions is to...you guessed it... plummet into the ground. Geothermal systems are a renewable resource with a very small carbon footprint. They are consistent, efficient, safe, reliable, and versatile. Indoor geothermal systems can last up to 25 years with the underground systems lasting up to 50 years. These systems can be added to new construction or replace old heating systems in their current structures. Geothermal energy systems can be installed in both rural and urban areas and don't take up much land coverage above the surface. Because of the consistent temperature of the Earth's subsurface, geothermal energy can be used for both heating and cooling purposes and requires no combustion making it one of the safest options. While these systems have a high upfront cost, they can cut energy bills by 30-70%! As renewable energy options are gaining traction, geothermal energy might be the hottest new option!



References:

1. Nguyen, O. (2018, December 29). What is geothermal HVAC and how does it work? Refrigeration School, Inc.
2. Refrigeration, L. (2017, September 28). Geothermal heating pros and cons: Long refrigeration. Long Refrigeration | Heating, Cooling & Geothermal Services SW MO.

Low Waste Holidays

The snow is falling, the semester is coming to a close, and suddenly we find ourselves in the midst of the holiday season. For the concerned environmentalist, the waste and consumerism of the holiday season might really put a damper on the festivities! Not to worry – there are many eco-friendly alterations you can make to your holiday traditions.



1. Instead of wrapping paper, wrap gifts in newspapers, cloth, or make it a double gift with thrifted tins or baskets.
2. Make garlands using dried orange slices, cinnamon sticks, popcorn, cranberries, wine corks... the options are endless!
3. Use the fancy designs on last year's Christmas cards as this year's gift tags or postcards.
4. If you get a real Christmas tree, find out where you can compost it after the holiday is over.
5. If you choose to buy a fake tree, check thrift stores before buying new.
6. Turn off the tree lights at night to reduce energy consumption.
7. Instead of buying plastic decorations, go for more sustainable options like natural wreaths, poinsettias, and candles.
8. Skip the paper plates and plasticware!
9. Try gifting experiences: concert or movie tickets, amusement park passes, museum vouchers, etc.
10. Drop off all your junk holiday mail at your local paper recycling center.

References:

1. Brightly (2022) 6 Simple Ways to Have a Zero-Waste Holiday Season
2. Palmieri, A. (2021). "The Ultimate Guide to a Zero Waste Christmas". Greenify Me





Purple Coneflower

Native to Pennsylvania and the eastern United States, purple coneflower (*Echinacea purpurea*) is a perennial wildflower known for its medicinal benefits and attraction to pollinators. It has pinkish-purple petals and can attain a height of up to four feet. The flower has a distinctive conic head in the center of its petals; the Greek word from which *Echinacea* derives means “hedgehog” or “sea urchin,” describing its bristly appearance. Purple coneflower grows in open woods and prairies.



Indigenous Americans, especially nations of the Great Plains, have used it to treat pain and toothache in addition to some skin injuries, inflammation, cough, cold, and sore throat. The Potawatomi name for the plant is *ashosikwimia'kuk*, which means “smells like muskrat.” The Kiowa-Apache calls it *ize. iso. he.*, meaning “medicine makes you numb.” The Lakota name, *ica'hpehu*, means “something used to knock something down.” Its medicinal roots and tasty flower can be applied in many forms, most commonly in teas, tinctures, and syrups.

Like any other medicine, coneflower should be used with full knowledge and proper caution, as it may cause side effects for those who have autoimmune disorders or are on certain medications. Always forage with care!

References:

1. Jordan C. (2021). "A Botanical History of Echinacea, a Native Plant of the Southeast." *Athens Science Observer*
2. Root L. (2017). "A Wild History of Echinacea." *ICT*



The Snowman

Look! how the clouds are flying south!
The winds pipe loud and shrill!
And high above the white drifts stands
The snow man on the hill.

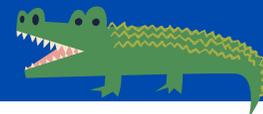
Blow, wild wind from the icy north!
Here's one who will not fear
To feel thy coldest touch, or shrink
Thy loudest blast to hear.

Proud triumph of the schoolboy's skill!
Far rather would I be
A winter giant, ruling o'er
A frosty realm, like thee,

And stand amid the drifted snow,
Like thee, a thing apart,
Than be a man who walks with men,
But has a frozen heart!

- Poem by Marian Douglas





Water Infrastructure and Climate Change in Erie

As winter weather approaches, the nearby city of Erie is preparing to bear the brunt of the season yet again. Known for dealing with countless potholes and waterline breaks, typical conditions cause the city stress as it is. In recent years, however, extreme temperatures have brought immense harm to Erie's water infrastructure in addition to its most prominent feature: Lake Erie.



Increased temperatures during warmer seasons have amplified the presence of algae blooms within the lake, making it unsafe to swim in and toxic for aquatic life due to waters becoming hypoxic. Conversely, frigid winter temperatures have made it easier for water to build up in pipes and under roads, making the aforementioned waterline breaks and potholes even more prevalent. Overall, these conditions highlight major issues associated with the city's water infrastructure and the urgency of addressing the impacts of climate change locally.

Therefore, not only has climate change greatly worsened road conditions throughout the city, but it has also made it clear that if these weather patterns continue, both aquatic life in Lake Erie and people counting on the lake's presence will suffer. With the EPA recently awarding PA over \$240 million to help improve water systems statewide, efforts will most likely be focused on repairs and preventative measures. However, concerns over climate change's impact on both water infrastructure and Lake Erie still remain. Given the complexity and importance of climate change, it is crucial that it is addressed directly before these city-wide issues become too difficult to handle.

References:

1. Erie County Department of Health. (n.d.). Beach Water Testing Results.
2. Stone, Terri. (2021). Six Things to Know About Lake Erie's Algae Blooms.
3. Erie News Now. (2022). Environmental Protection Agency Awards Pennsylvania \$240,167,000 to Improve Water Infrastructure.

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