Environmental Science Newsletter
Allegheny College

**Congratulations to all seniors graduating in Environmental Science and Environmental Studies! We wish all of you the best of luck in all of your future endeavors!**

**From Mountaintops to Solar Rooftops**

On Friday, March 30, Amy Ochsenreiter, Allegheny class of 2013, returned to campus to give a lunchtime talk on her work with sustainable roofing. As a senior, Amy's comp dealt with potential sustainable roofing materials for Bentley Hall, and she followed that work with an M.E.S. in Sustainability from the University of Pennsylvania. At UPenn, she found that her graduate work was considerably more manageable because of the rigorous academic standards she had faced at Allegheny, a reassuring sentiment for those of us feeling the weight of such heavy workloads. Once she graduated, Amy began working with GAF, the world's largest roofing manufacturer, as the Renewable Energy Product Manager. GAF is one of just a few players left in the sustainable roofing sector, encouraging the industry by taking the money they would have had to pay if they weren't a private company, and putting it into solar investments.

The solar industry still has a lot of room for growth, both in its technology and in the readiness of the consumer to embrace change. Amy shared the fun fact that mid-50 year-old Republican males are the most likely demographic to install solar panels, because of the tax incentives in specific states and the leeway they provide in breaking off the energy grid.

Beyond her specific industry work, Amy has learned several valuable tips she shared with students. “Never be afraid to network in any place, in every place,” she said, telling how she met her current boss in a hotel bar, and learned of another job prospect at the checkout line in a mall. Furthermore, do not be afraid of failure. “We had the joke,” Amy recalled, “Allegheny: the place where your best is never good enough.” But learning how to deal with failure was an asset for Amy, as it taught her how to not only cope with disappointments, but how to persevere and demonstrate admirable resilience and unwavering motivation.

In an ever-changing industry facing challenges from consumers, governments, and competitors, Amy continues to show grit and determination in her work for a more sustainable future, and sends a message of comfort and inspiration for Allegheny students wondering how any of us will survive the future, if we can survive these four years in the first place.

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**Congratulations to Kerstin Martin, Sophie Dodge, and Sarah Nathan**

Martin won the chamber’s Female Emerging Leader Award, Dodge was featured for her film on Parenting and Education in Meadville, and Nathan won the Davies Award for Outstanding Community Service. All three stories can be found in the April 26 issue of the Meadville Tribune

Editor: Brittany Lutheran ’19
Firth Maple Farm

If I asked you to tell me anything about maple syrup, you would probably tell me it comes from trees and that Canada is famous for making it. If I asked you where to buy the best maple syrup in Pennsylvania, you would probably point me to Tops, Giant Eagle, or Walmart. Before last week, I would have agreed with you. However, the best maple syrup I have ever had is not found in any of those stores. It's found in an unassuming little building, standing alone on a small country road.

In Rich Bowden’s Forest Ecology, we visit outdoor sites almost every lab. We toured forests or collected data, and always conducted both on and off the beaten path. Consequently, I didn’t expect much of touring Firth Maple Products. However, upon arrival it was clear this trip would be out of the ordinary for all the right reasons.

Firth Maple Products is a great example of a relatively small-scale operation. I say relatively because, as the representative we met with explained, they gather around thirty-five thousand gallons of raw sap annually. However, the operation is still mostly contained in just two rooms. The first uses reverse osmosis to “dry out” the sap; the other boils and cooks the sap while further removing water. There was no assembly line, no multiple lanes of production. The machines weren’t sparkling white and gleaming. They were well worn from years of service, and this all contributed to the richness of culture present. The employee we met with had clear enthusiasm, and I could immediately tell this wasn’t just a job to him. He explained that he also makes syrup at his house and had been making it since was a kid. Founder Troy Firth did the same, and I believe this small, local operation represents part of America at its best. Communities fueling a local business that has connections back to them, along with a commitment to protecting the environment that they make a profit of off, is a point of pride not only for the company for the area as a whole.

As for the syrup, it spoke for itself. Instead of being sickeningly sweet, as store-bought varieties often are, it was tangy and almost sour. It held greater flavor than any syrup I’ve had before, which was fitting for a process and business that were also deeper than I expected. Firth Maple Products is a gem hiding in plain grey rock, I believe that our class’s trip was a lesson also hiding in plain sight.
**Sharks: More than Monsters**

Humans have consistently branded sharks as the villainous monsters of the ocean. Unfortunately, the surplus of shark themed horror films have overshadowed many of the benign qualities which make sharks remarkable animals.

Sharks are unique creatures because of the diverse reproduction processes that are between species. Some species lay eggs while other species develop in utero for 10 to 12 months. Female lemon sharks are particularly interesting parents because they have never forgotten their home roots. At the end of her pregnancy, a female lemon shark returns to the exact same location that she was born to birth her babies: in the mangrove forests of Fiji. The shallow waters of the mangrove forests create a nutrient rich nursery for baby lemon sharks and provide a safe area to grow up in before entering adulthood in the vacuous ocean.

Although sharks are some of the oceans most incredible predators, they are also capable of maintaining non-predatory relationships with other sea creatures. In the case of pilot fish and sharks, fish are friends, not food (*Finding Nemo*). Pilot fish are small, striped carnivorous fish that interact in close harmony with sharks. Pilot fish feed on various parasites and excrements left over from the larger creatures, and they commonly accompany sharks, sea turtles, and rays. This arrangement appears to be the most cost effective dental practice in the ocean.

Great White sharks are unsurprisingly one of the most villainized species in human cinema. They are certainly one of the most intimidating and forceful predators; however, they are not thoughtless monsters. They are highly introverted creatures who lead solitary lives. When they are not on the hunt and they encounter other sharks they actually have specific body motions to communicate with one another. For example, when a great white is feeling territorial, it will likely show the interior black tips of its fin to indicate it wants more space. They are concerned with their own survival as much as humans are. While it is still perfectly natural to be afraid of sharks, hopefully one can acknowledge the innocent similarities between them and the other animals that share this planet together.

**Chasing Ice**

On this April’s Earth Day, the Meadville Council of the Arts held a screening of the film *Chasing Ice*. Allegheny’s Students for Environmental Action partnered with Meadville to show the 2012 documentary about glacial photography. The event went spectacularly. The recipient of over 30 awards, the documentary *Chasing Ice* catalogs the immense scale of the change humans are capable of. It follows James Balog, a veteran photographer who set out to capture the most human aspects of some of the most inhumane regions on Earth.

This documentary is exceptional in the way in connects emotion to the very detached process of carbon dioxide trapping heat in the atmosphere. This film is also unique because you can’t actually spoil any of it. You can be told what the results show, but it is impossible to capture both the grandeur and the terror of the sheer scale and speed climate change is currently capable of. This is captured through the many lenses of the Extreme Ice Survey. Over the course of the documentary, we see victories and setbacks as Balog carries out one of the most ambitious photographic expeditions ever dreamt of.

*Chasing Ice* is available to stream on Netflix, and to rent on most major platforms. If you consider yourself an environmentalist, it’s definitely worth a watch. If you still are not convinced of global warming’s existence, this might just change your mind. I look forward to the Students for Environmental Action hosting more excellent films.