Jamie Esler: A cool summer adventure

By DAVID COLE /Staff writer | Posted: Sunday, June 2, 2013 12:00 am

COEUR d'ALENE - Lake City High School science teacher Jamie Esler is looking forward to a cool summer break.

You're going on an Arctic science expedition this summer. Where exactly are you going and what are you doing?

In December 2012, I was selected as one of 15 teachers from a group of approximately 200 applicants from across the country as a 2013 PolarTREC Teacher.

Funded by the National Science Foundation and facilitated by the Arctic Research Consortium of the United States (ARCUS), PolarTREC (Teachers and Researchers Exploring and Collaborating) is a program in which K-12 teachers spend two to six weeks participating in hands-on field research experiences in the polar regions.

The goal of PolarTREC is to invigorate polar science education and understanding by bringing K-12 educators and polar researchers together.

This August, I will be joining polar researchers Dr. Neal Iverson and Dr. Thomas Hooyer, as well as Scandinavian researchers, in a remote location of Iceland for three weeks for my PolarTREC Expedition.

Our team will be conducting research on a unique type of glacial landform that has been created at the base of the glacier Mulajokull, and recently exposed by its rapid melting and recession. I will participate as a research team member by collecting samples of glacial till, as well as operating a ground-penetrating radar along the glacial margin to hopefully locate areas of drumlin formation beneath the ice itself. My primary responsibility as a research team member is to provide educational outreach to schools and community groups before, during, and after the expedition. I am currently working with local teachers and valuable community nonprofit organizations here in Coeur d'Alene who plan to follow along and utilize this excellent opportunity to enhance their existing elementary, middle, or high school curriculum and community programming with my experiences as a research team member in the Arctic.

Can students and parents follow along with what you're doing in the Arctic?

One of the main goals of this program is to connect learners of all ages with real polar researchers and the science they are conducting. There is a vast, motivated, and committed international body of scientists that dedicate many weeks, months, and years of their lives to understanding the polar regions and the current global changes occurring there. By following along with our expedition, learners can get a first-hand account of what it is like to be a polar researcher in the most remote and extreme environments on the planet, and understand why the science that is going on there is so valuable in understanding Earth as whole. It will help build much-needed awareness and interest in STEM (science, technology, engineering, and mathematics) careers amongst our area youth, and will give local students a wonderful context for how the science they learn every day in school is actually applied in the real world.

I am hosting two separate PolarConnect events:

On Wednesday, Aug. 7, Kootenai Environmental Alliance is hosting my first PolarConnect Event at the Coeur d'Alene Public Library. Students, parents, and community members are encouraged to attend this free event, connect and converse with me and the research team in real time from our field site, and show support for a valuable local non-profit organization in our community.

In the fall of 2013, I will travel to Iowa State University and the University of Wisconsin-Milwaukee to help the research team analyze till samples collected this summer in the field. I will facilitate a PolarConnect Event at that time with classrooms all over the school district as well as interested community members tuning in from their home Internet connections.

What's your education experience look like?

I technically began my teaching career during college. At that point in my life I was spending summers in a small, rural community of Alaska in the Wrangell Mountains. A local family in town had heard I was a geology/earth science education major in school and hired me to tutor their daughter in science for the summer. It was a great gig. The family happened to own the local mercantile in town so we bartered the tutoring for weekly groceries. Living that far out of a major city, this was a wonderful trade. Since moving to Coeur d'Alene in 2008 and teaching at Lake City, I have taught to a broad range of learners in a variety of science courses; everything from general science, IB physics, and practical biology to my current assignment of physical science, IB environmental systems, and ATMS 211: Climate Science and Change. I also serve as an outdoor education field instructor for Selkirk Outdoor Leadership and Education (SOLE) where I get the opportunity to teach in the non-traditional/outdoor learning environment.

Do you think there's some advantage to being a young teacher?

As a young educator, I still have lots of room to grow and develop. I still have lots to learn from the amazing veteran and retired teachers in our community. This puts me in a great place to ask questions, seek help, and try new research-based instructional and management strategies in my classroom.

What qualities in a person make them a good teacher?

First and foremost I would say flexibility. From the lessons that just do not go as planned, to the ones that leave a few extra minutes at the end before the bell, being able to think quick on my feet and maintain a flexible attitude has been the best thing I have learned from veteran teachers in the district. I also feel that compassion and patience are important qualities. Students come to my room from all sorts of backgrounds and home lives. I find each year there are a handful of students that really seek refuge in my classroom, from what I sometimes never find out.

Is there a scientist who inspires/inspired you?

I am more inspired by a particular science educator than a scientist. Anna Botsford Comstock (1854-1930) was a revolutionary in science education during her time. Much of her work focused on the

outdoor classroom and engaging students in their natural learning environment in order to teach basic science concepts. This teaching practice, called Nature Study, was the foundation of science instruction throughout the entire U.S. in the 19th and early 20th centuries.

Why did you study science in college, and why do you enjoy teaching it now? What keeps you interested?

I studied geology as my major in college because I became fascinated with the immense scales of time and energy driving the systems of our planet. It became clear pretty quick during my geology courses that the only constant in the universe is change. I think that's why I really love science; from the microscopic to the macroscopic, it allows humanity to constantly discover new and fascinating things about the universe through the simple lens of empirical observation.

Explain what's meant by "climate literacy," and why it's important for it to spread?

With all of the hype surrounding climate change in the national media these days, it has become more important than ever for individuals to educate themselves about the basic functioning of Earth's climatic systems. It has become far too easy for us to form opinions about these topics before properly educating ourselves with the data and direct observations regarding them.

Before we can begin to understand the claims surrounding climate change, we must first understand the basics: Earth's energy budget, the mechanics of the greenhouse effect, changes in solar activity/intensity, paleoclimates and proxy records, etc. Here's an analogy I use in my classroom: Before a mechanic can diagnose and fix a malfunction with a vehicle, he or she must first have a solid understanding of the vehicle's basic operating systems and how they interact/work together. Otherwise, how would they know if something has shifted from the "norm"?

How do you measure success as a teacher?

This is a simple answer: "Ah-ha!" moments. The greatest successes in my classroom occur every single time one of my students spends an entire period working at 100 percent of their potential and then shouts "I get it!" or "Oh, that's why!"

"Ah-ha!" moments are the essential components of a healthy learning environment and a healthy learner.

What would students in your classes be surprised to learn about you?

I think they would be surprised to find out that I struggled in my high school science classes. I never imagined in high school that I would end up as a high school science teacher. It was not until college that I really "learned how to learn."

What do you do with your free time?

I do a lot of skiing, kayaking, hunting, and growing food at my home. My wife and I have transformed pretty much every square foot of our one-half acre property into some sort of food plot. We take pride in raising and eating our own homegrown foods, and even though it requires significant amounts of hard work, we really enjoy the process (and the taste!) of it all.

Where do you see yourself in 10 years? 20?

I see myself heading back to graduate school for outdoor environmental education, and continuing to try and raise an informed, empowered, responsible, and compassionate young woman. Oh, and I hope that in 10 years I can still keep up with her when we are out skiing.

If you had not become a teacher what would you be doing right now?

I had considered becoming a glaciologist during college. Had I not chosen the Earth science education route I imagine I would be doing that for my career right now, and still living in the Wrangell Mountains of Alaska. But who knows, every day brings new opportunities, and the true answer to this question will remain unknown forever.

Joining the expedition

Students, parents, community members can connect with Esler this summer

Anyone with an Internet connection can follow along with Jamie Esler's Arctic science expedition this summer. Here are the three best ways students, parents, and community members can connect with Esler and the research team before, during, and after the expedition:

1.) Virtual Base Camp: Learn about the expedition and research team through Esler's daily journal entries, photos, and videos. Sign-up and receive an email notification each time the Virtual Base Camp is updated.

http://www.polartrec.com/expeditions/drumlin-formation-in-iceland

2.) Ask the Team Forum: Ask questions and communicate with Esler and the rest of the team about the research and their lives as scientists in the Arctic in a forum environment.

http://www.polartrec.com/forum/drumlin-formation-in-iceland

3.) Live PolarConnect Events: These real-time Internet presentations from the field literally connect the research team with learners through live online slideshow presentations, voice over IP, audio, and text chat functions. http://www.polartrec.com/polar-connect