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TOP STORY

Teacher shares research from Antarctica trip

JONELLE BOBAK Staff Writer Sep 17, 2018



Smith is pictured here placing “krill pies” onto the bellies of starfish as part of the scientific experiment he was involved with in Antarctica this past summer.

submitted photo/ Keith Smith

An environmental teacher at Freedom High School is taking it to the next level when educating his students.

This past summer, Keith Smith went on an expedition to Antarctica to Anvers Island to conduct research about different species. He gave a presentation to several different classes at FHS on Sept. 6. to give his students an in-depth look at what he learned.

Smith was chosen by a program called PolarTrec to travel with Dr. Charles D. Amsler, a biology professor at the University of Alabama at Birmingham, to complete research and conduct bioassays on seaweed and starfish at Palmer Station in Antarctica.

He was able to help with dive tending, which is where he would help the divers get on their suits and air tank and make sure their air respirator was working properly.

“If you were to just fall into the water, you would go into hypothermia in about two and a half minutes,” he told students.

The suits that the divers wore only allowed parts of their face to be exposed and nothing else.



One of Smith's (far right) responsibilities was to be a dive tender.

submitted photo/ Keith Smith

"When they are (underwater) they usually have lights so they can see what they are collecting," Smith said. "When I was there , the main thing they were collecting was a type of seaweed called Plocamium."

The researchers were trying to see what type of chemicals the seaweed was producing to keep them from being eaten by a specific type of crustacean, he said.

Once the starfish or sea stars were taken from the ocean, Smith took them to the lab at Palmer's Station to conduct the experiment. They were placed in a tank and given different "krill pies" to eat with a chemical from the seaweed placed on it to see if they would eat it or not. This was the experiment to see what chemical the seaweed was producing and what would not attract the starfish.

“I would take little pieces of these pies and stick them onto one of their arms and I would watch their little tube feet ... if they didn’t like it they would push it off and I would record that they pushed it off,” Smith said.

He was also a part of research involving king crabs, whales, krill, sea ice and climate change. He will be traveling to the University of Alabama at Birmingham later this fall and see what they do with the data collected in Antarctica and how it is used.



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The learning did not stop when Smith got back to North Carolina. He is now implementing what he has learned at Lake James with his students.

A new plant called the Yellow Floating Heart has sprouted up in Lake James in the past year and Smith says it is due to an increase in the water’s temperature. The plant is filling up part of the coves in Lake James and causing issues. He plans to make a volunteer opportunity for his students to help remove the plant.

It will completely clog up the coves, so where most people have their boats (it) will (eventually if we don't take care of it) be completely covered with (the plant).

“Obviously , outreach to my students is huge, but community outreach is another big part of the PolarTrec program,” he said.



Smith, an environmental science teacher at Freedom High School, spent weeks in Antarctica conducting research on different species.

submitted photo/ Keith Smith



Pictured is Smith (second from left) with several other professors, scientists and chemists who also joined along on the trip.

photo submitted/ Keith Smith

He hopes that his students see the “big, overarching environmental concerns” as not something that is happening somewhere else, but right in their hometown as well.

The experience as a whole was something Smith will never forget.

“Every day you would wake up and you would (wonder) ‘How is today going to beat yesterday?’ and somehow it would,” he said. “We would be 15 feet from whales listening to them breathe and the next day you would see the leopard seal attack the crab eaters, so every day was more amazing than the day before.”

Smith will be giving the presentation about his research at Brown Mountain Bottleworks on Sept . 19 at 7 p.m. This event is free and open to the public.

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WANT TO GO?

Smith will be giving the presentation about his research at Brown Mountain Bottleworks in downtown Morganton on Sept . 19 at 7 p.m. This event is free and open to the public.