



## Ancient Islands in the Sky – Archaeology in the Beartooth Ice

By Shane Doyle, EdD

Dear Student,

Shodajee! This is an Apsáalooke (Crow) greeting that is pronounced “show-dah-jay”, and it means “hello, how are you?” I am thankful you have chosen to learn more about the Native American people and cultures of Montana. This is a lesson that will inform and amaze you and, hopefully, entice you to learn more.

One question people have asked about Native Americans in Montana is, “how long have they been here?” The answer to this question can be found using archaeology and genetic analysis, usually in that order. Archaeology is a science that helps us discover and protect ancient artifacts, whether they be above ground, in the water, beneath the surface of the Earth, or stuck in ancient ice. Here in Montana we have many ancient ice patches located high up in the Rocky Mountains, some of them older than 10,000 years. Check out this [video](#) about what is happening right now and will continue into the future at an ice-patch in the Beartooth Mountains, not far from the town of Red Lodge. After viewing the film, read the short passage below and do some deep thinking about the questions posed.

The video introduces us to many different research topics, including Native Montana history, archaeology, ancient ice-patches, and climate change. All these topics help us gain a more complete understanding of our place in history, and when we put them all together, a story comes alive based on the artifacts discovered. The artifacts shown in the video have all come from the same ancient ice-patches, but so far none of them have been found to be the same age, with the oldest being over 10,000 years old and the youngest being around 400 years old. The story being pieced together by the artifacts is that this 11,000-foot mountain plateau has been an important place for Native American families and communities for over 10,000 years. This is an amazing discovery because the area is so difficult to access at such a high altitude, and it is largely cold and frozen for most of the year.

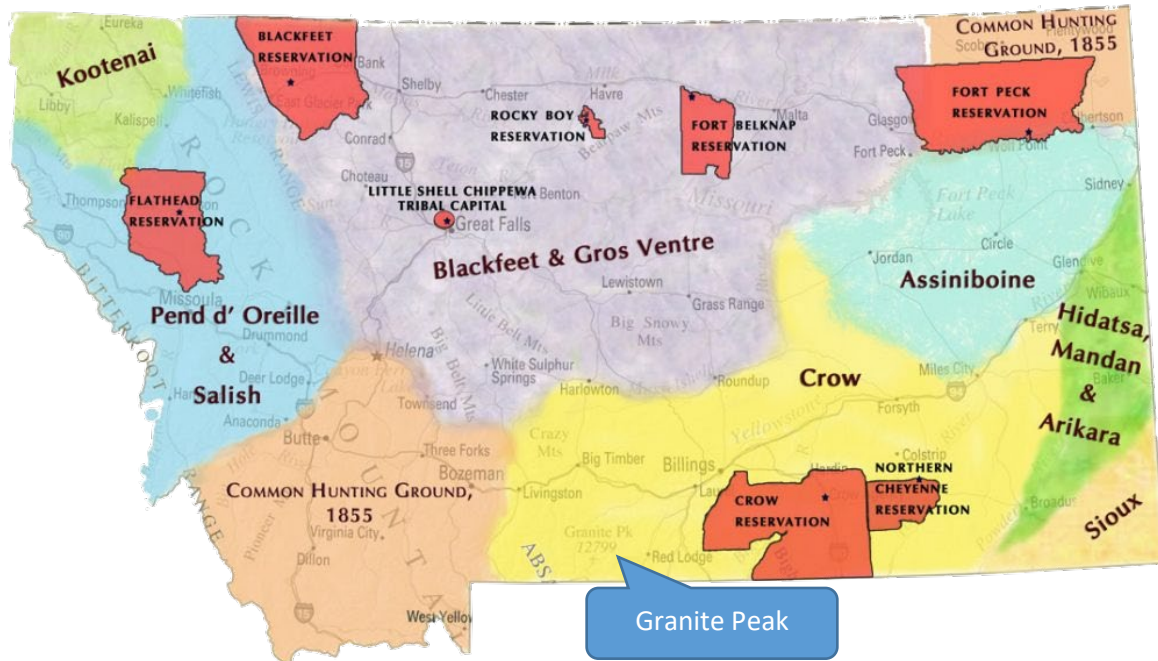
You can identify the area where the Beartooth Mountain ice-patches are located on the map below. It is near the point on the map called Granite Peak.

**Note: The Antiquities Act protects archaeological sites on federal land and individuals who remove, disturb, or destroy antiquities on federal land without obtaining an Antiquities Act permit are subject to punishment by fine and/or imprisonment. So, if you ever come across ancient artifacts please leave them undisturbed.**



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For background information, visit this [website](#) from the National Museum of the American Indian, which tells about the Native American history of the area. This information will help you answer the summary questions at the end of this lesson.

One of the most obvious questions about any archaeological study is, “who were these ancient people who created and left the artifacts behind?” Today we have the knowledge and technology to decode ancient DNA to identify genetically who the people were who left their objects thousands of years before us. To learn more about how ancient DNA is studied, watch an amazing [PBS Nova film Great Human Odyssey](#). **Movie tip: If you want to learn more about the study of ancient DNA here in Montana, watch the video and move the timeline cursor to 1:14, this is where the story of the most ancient person ever discovered in Montana begins.**

Ice-patch archaeology has never been more important because the ice-patches are melting quickly in the high mountains. The ice melt is a result of higher temperatures which are being caused by a warming global climate. To learn more about climate change check out this [resource from NASA](#) and read about its causes and effects.

The ice-patch archaeology research shows us that Native people were living and thriving in even some of the most remote and extreme areas of the region we now call Montana. If you are interested in reading more about archaeology and archaeological sites in America, [The Archaeological Conservancy](#) has some excellent resources available online. Every place in the world has potential for archaeological study, so keep this in mind – we all live on top of ancient history, whether it is revealed or not.

## Beartooth Islands Under the Big Sky

Answer the following questions based on what you have learned about ancient ice-patch archaeology from the video and reading.

- 1) Why is ice-patch archaeology such an important field of study right now?
  
- 2) What can we learn from studying the artifacts found in ancient melting ice-patches?
  
- 3) How do we know who the people were who left their hunting, gathering, and other tools behind in the Beartooth Mountains? What makes this research possible?
  
- 4) According to the scientist in the film, how many ancient objects are found on lying on the ground in a football field size area in the Beartooth Mountains? Why do you think there are so many?
  
- 5) According to archaeologist Craig Lee, what is the oldest artifact ever recovered from an ancient ice-patch in the world, and what was it used for?
  
- 6) What is the most fascinating aspect of the science you learned about in the lesson and how does it relate to you and your past, present, and future?

Dr. Shane Doyle is an educational consultant and member of the Apsáalooke (Crow) Nation. His Apsáalooke name means Old Buffalo Bull, and he lives in Bozeman with his wife, Megkian, and their five children.