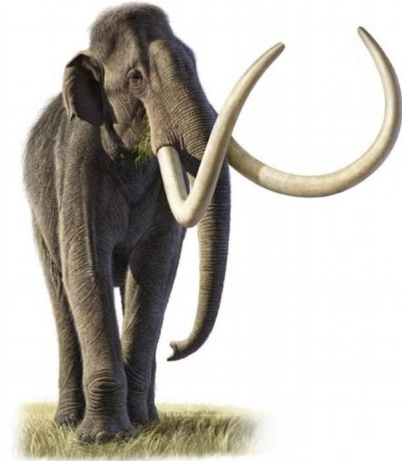


Age Control for the Buck Tank Draw Mammoth Site

Evan Millsap,
April 12, 2018





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<http://www.raul-martin.net/raulmartin/new/mammoth.htm>

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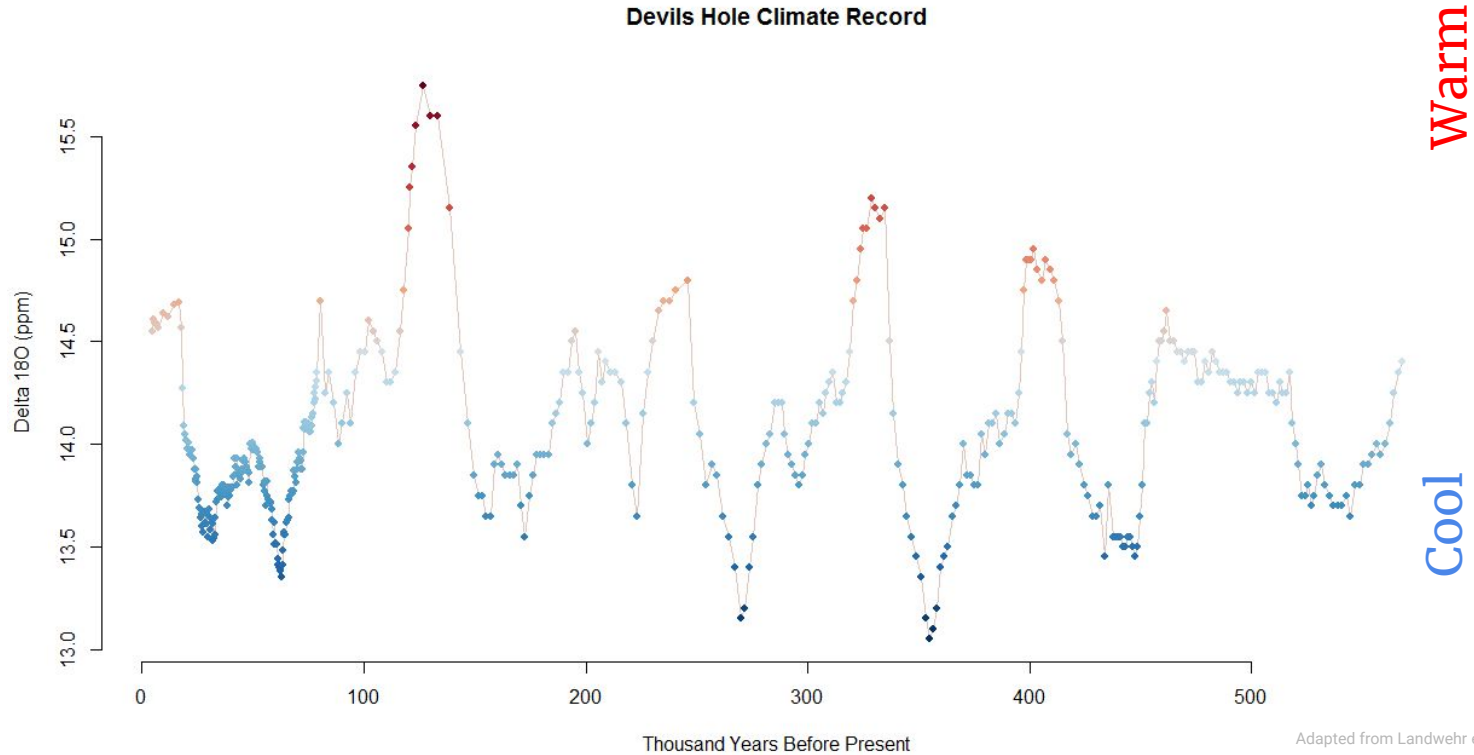


Photo credit: David Rankin

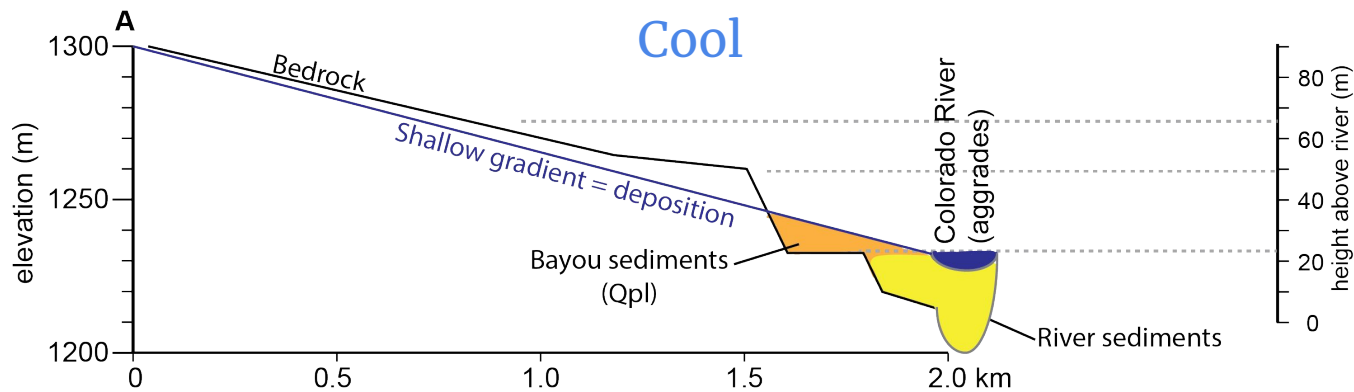
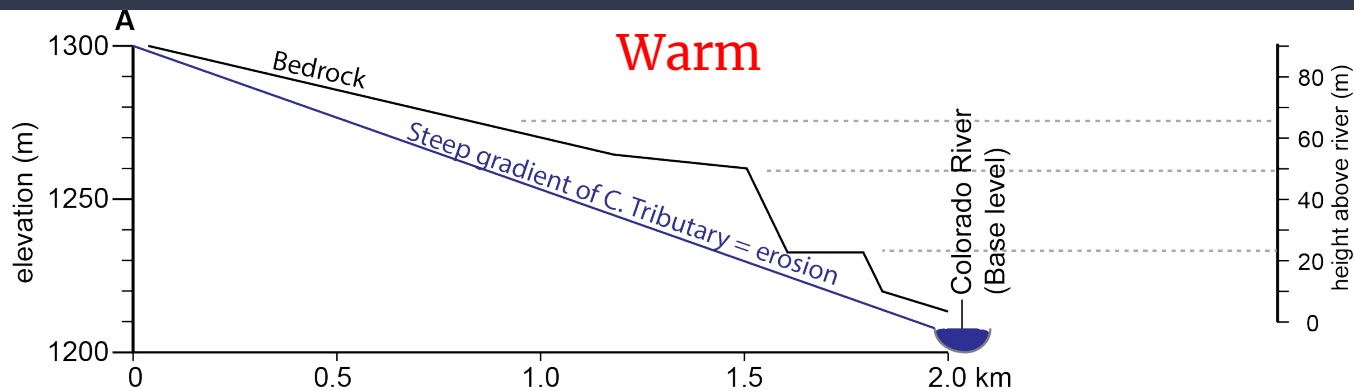
Research Questions

1. What is the depositional age of the mammoth-bearing sediment at Buck Tank Draw?
2. Does this fill a gap in the fossil record for the Colorado Plateau?
3. What was the climate like at this time?

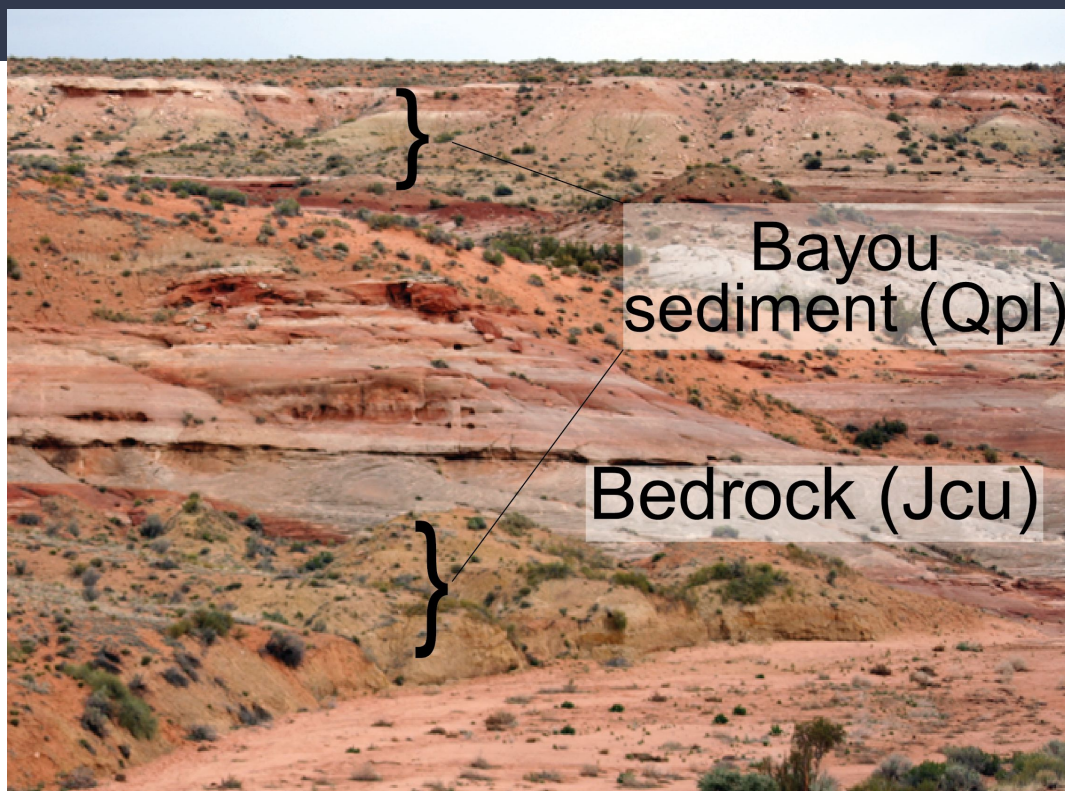
Context



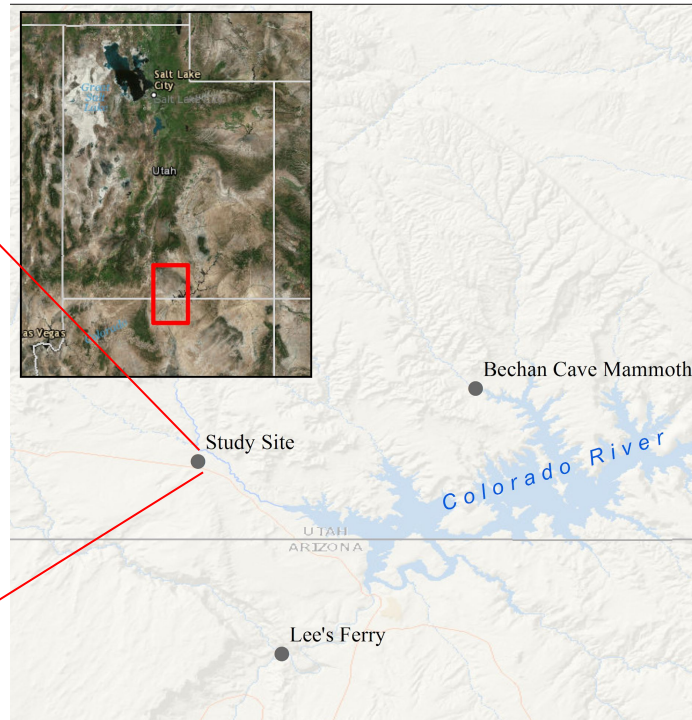
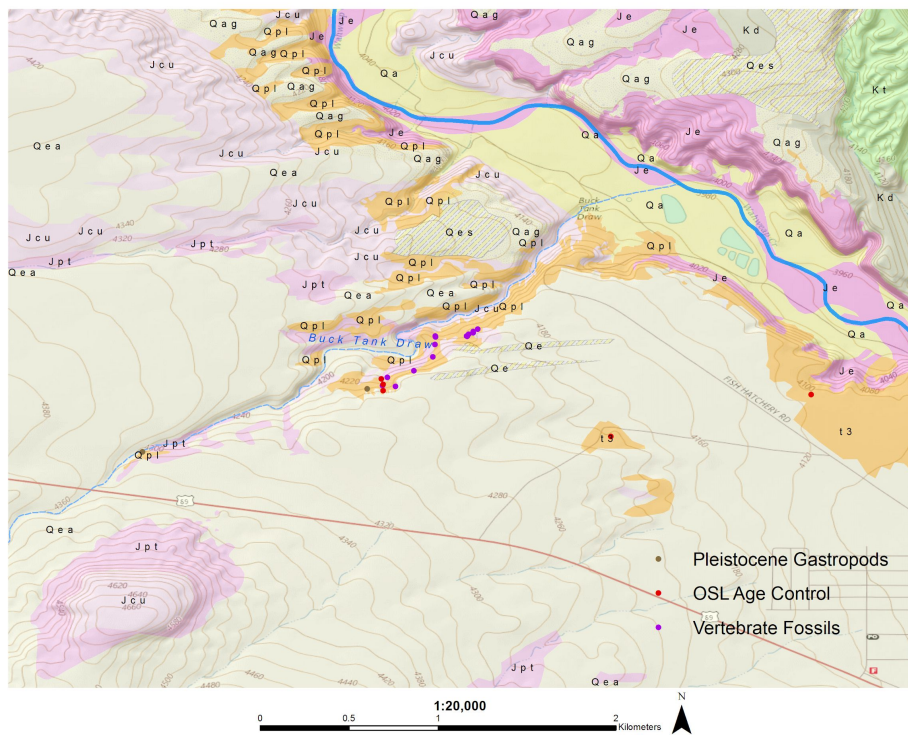
Alluvial Damming



Buck Tank Draw Vertebrate Fossils



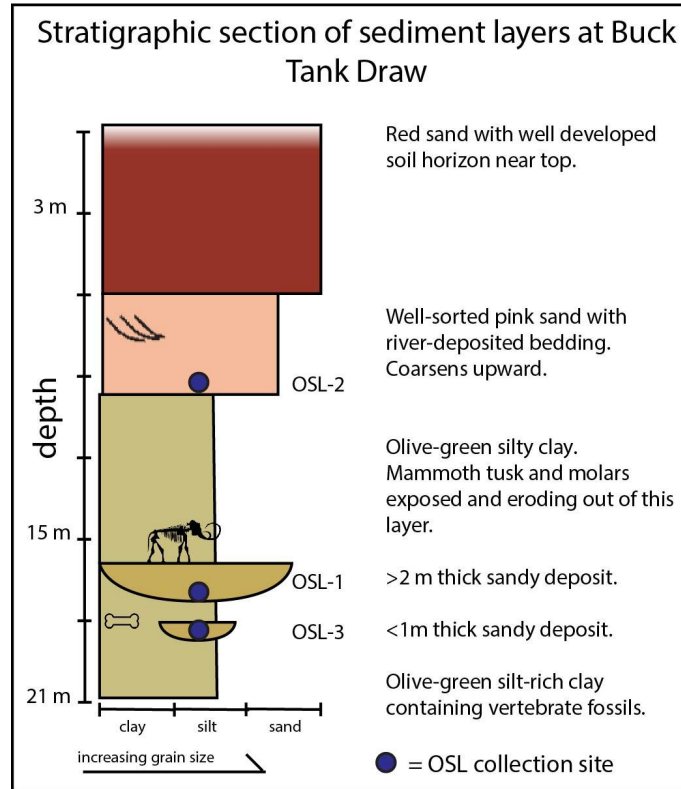
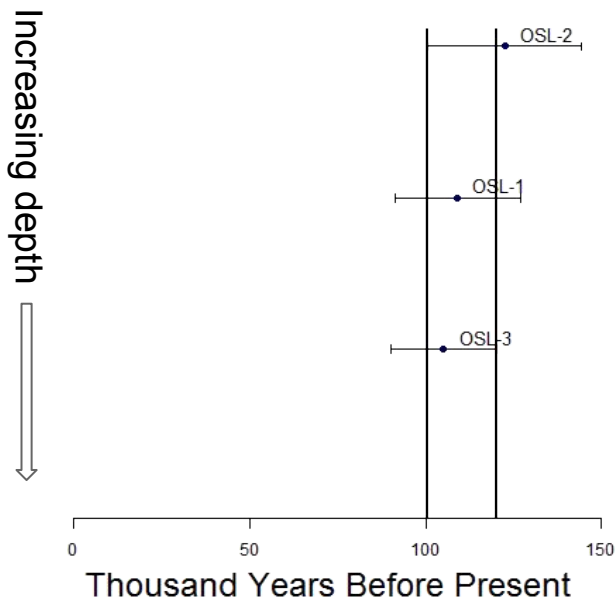
Study area



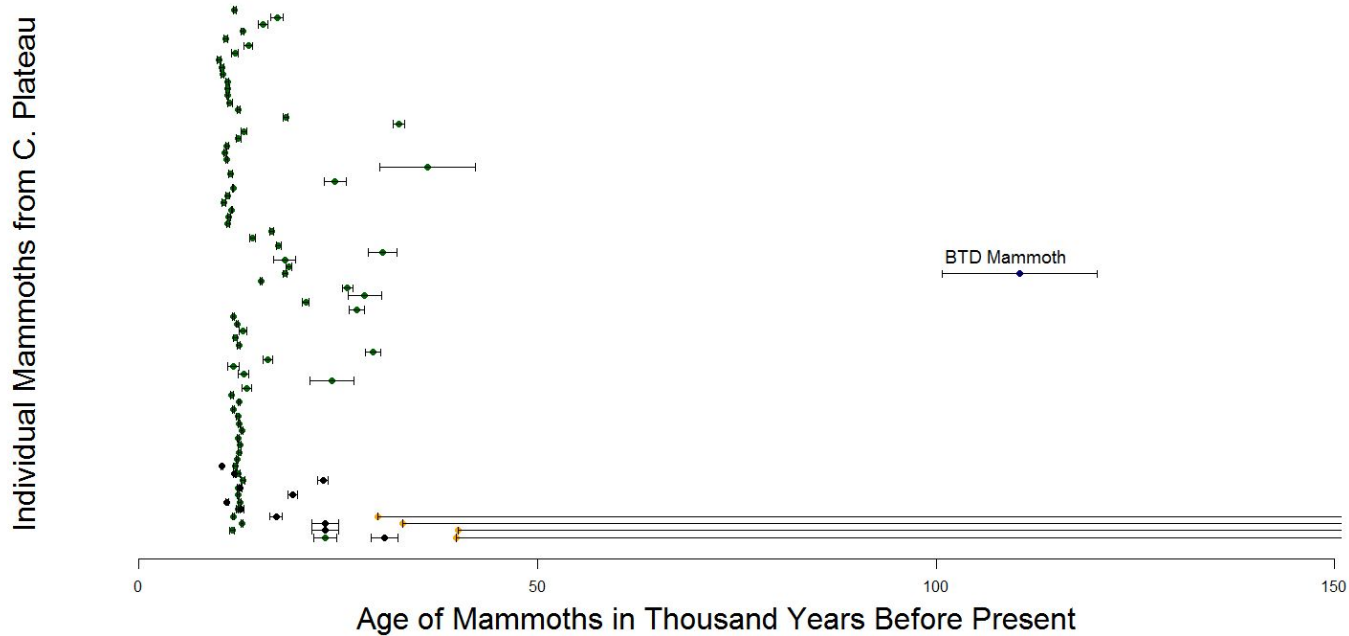
Data credits: ESRI, GoogleEarth

When did the Buck Tank Draw Mammoth die?

- Law of Superposition
- Optically Stimulated Luminescence Dating
- Mammoth is between 100.8 and 120.2 ka



Does this fill a gap in the fossil record?



Climate

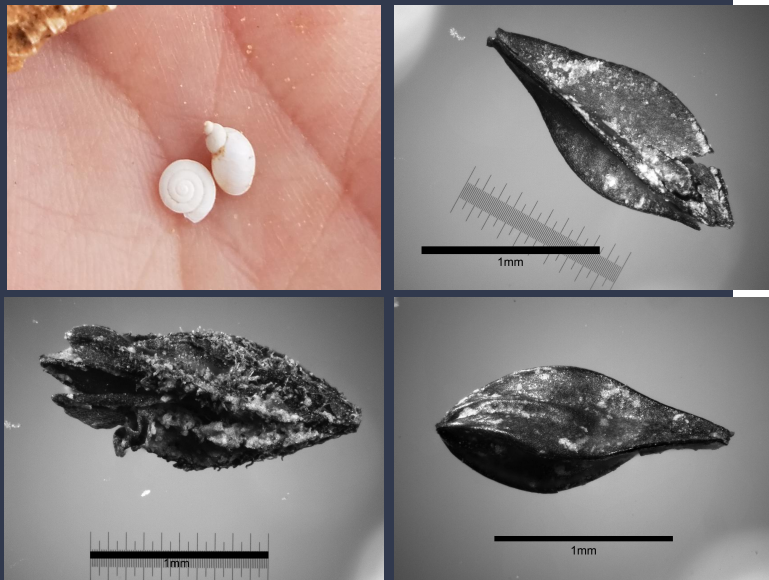
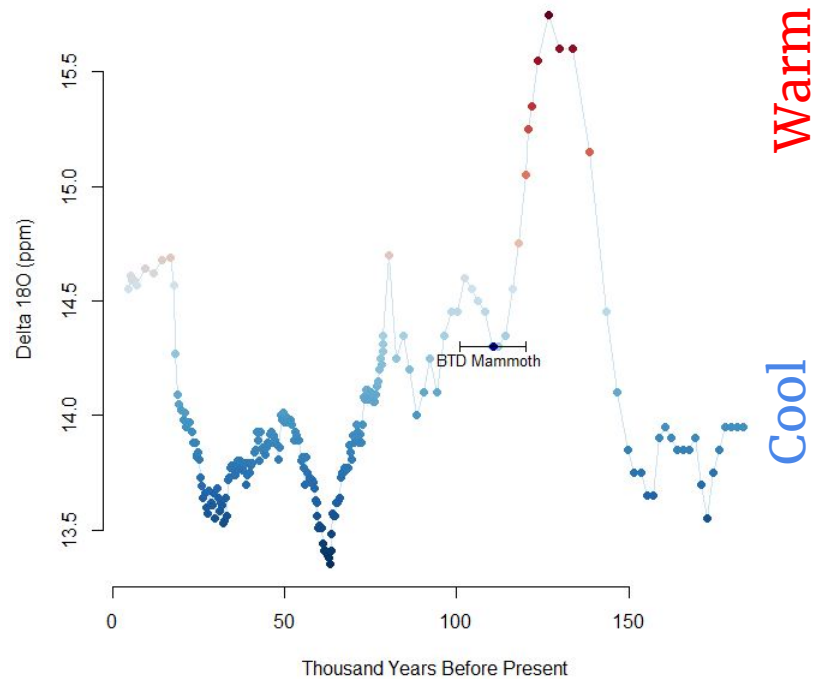


Photo credit: David Rankin

Devils Hole Climate Record



Summary

1. The sedge seeds and oxyloma shells indicate a wetter, cooler climate. This is reinforced by the Devils Hole Climate data.
2. The Buck Tank Draw Mammoth died between 100.8 and 120.2 thousand years ago. This number may become more precise as we process more aliquots.
3. This is the oldest dated mammoth in the Colorado Plateau and it fills a gap in the Colorado Plateau fossil record.
4. Now that this mammoth has been dated, other undated sites could perhaps be correlated to this one.

Acknowledgements

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