

# Spatial patterns of rhyolite characteristics at Snaggy Ridge

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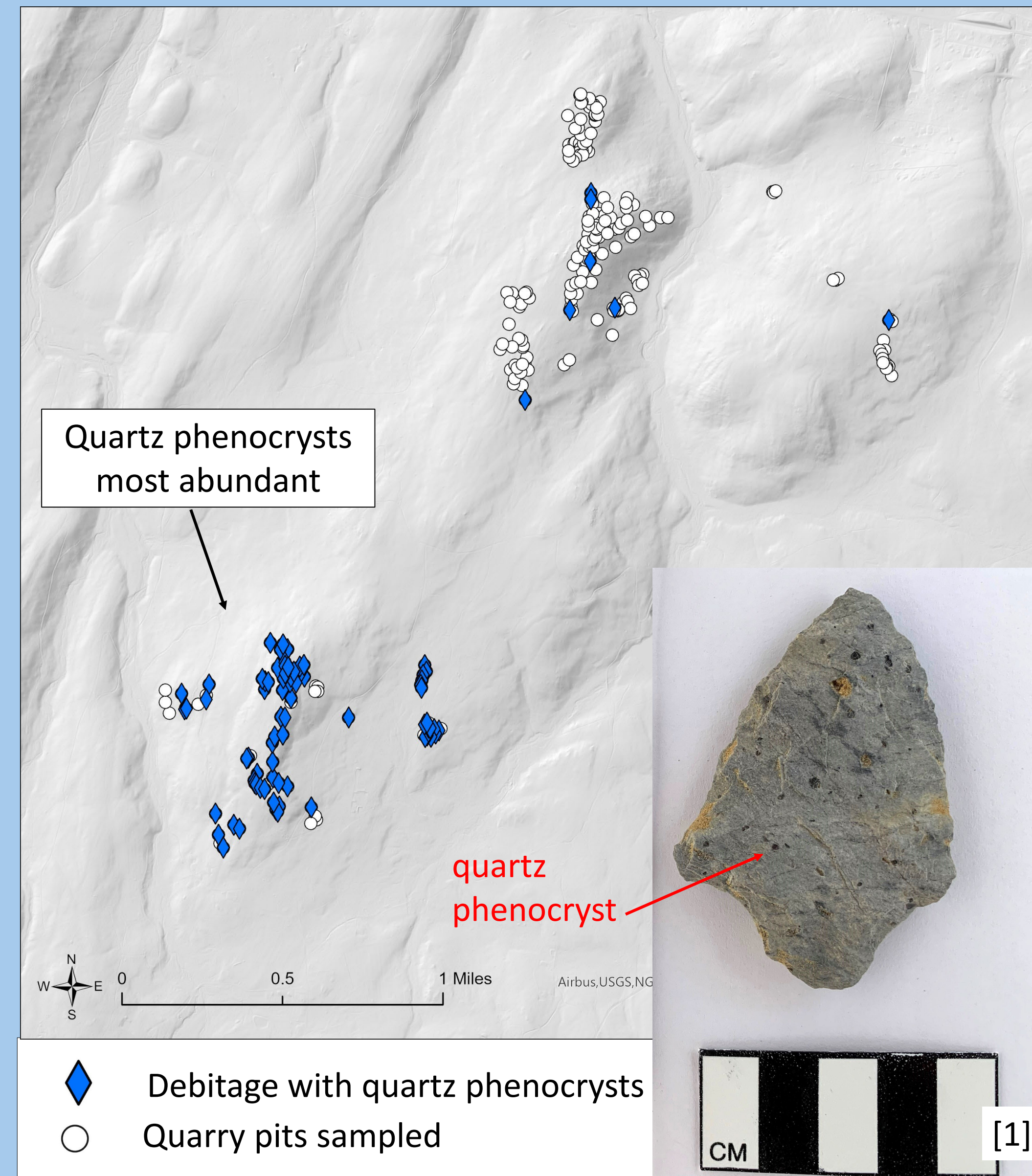
## Summary

At Snaggy Ridge in Pennsylvania's South Mountain region, we analyzed debitage samples from 255 quarry pits to investigate the spatial distribution of rhyolite characteristics. Significant spatial patterns emerged: flow banding and axiolites were most abundant in the northern and northeastern areas while quartz phenocrysts were most abundant in the southern area. Debitage samples lacking both structures and phenocrysts were only found in the northern and northeastern areas. Other characteristics were widespread. The results highlight the variability in the rhyolite characteristics and provide a refinement for artifact sourcing.

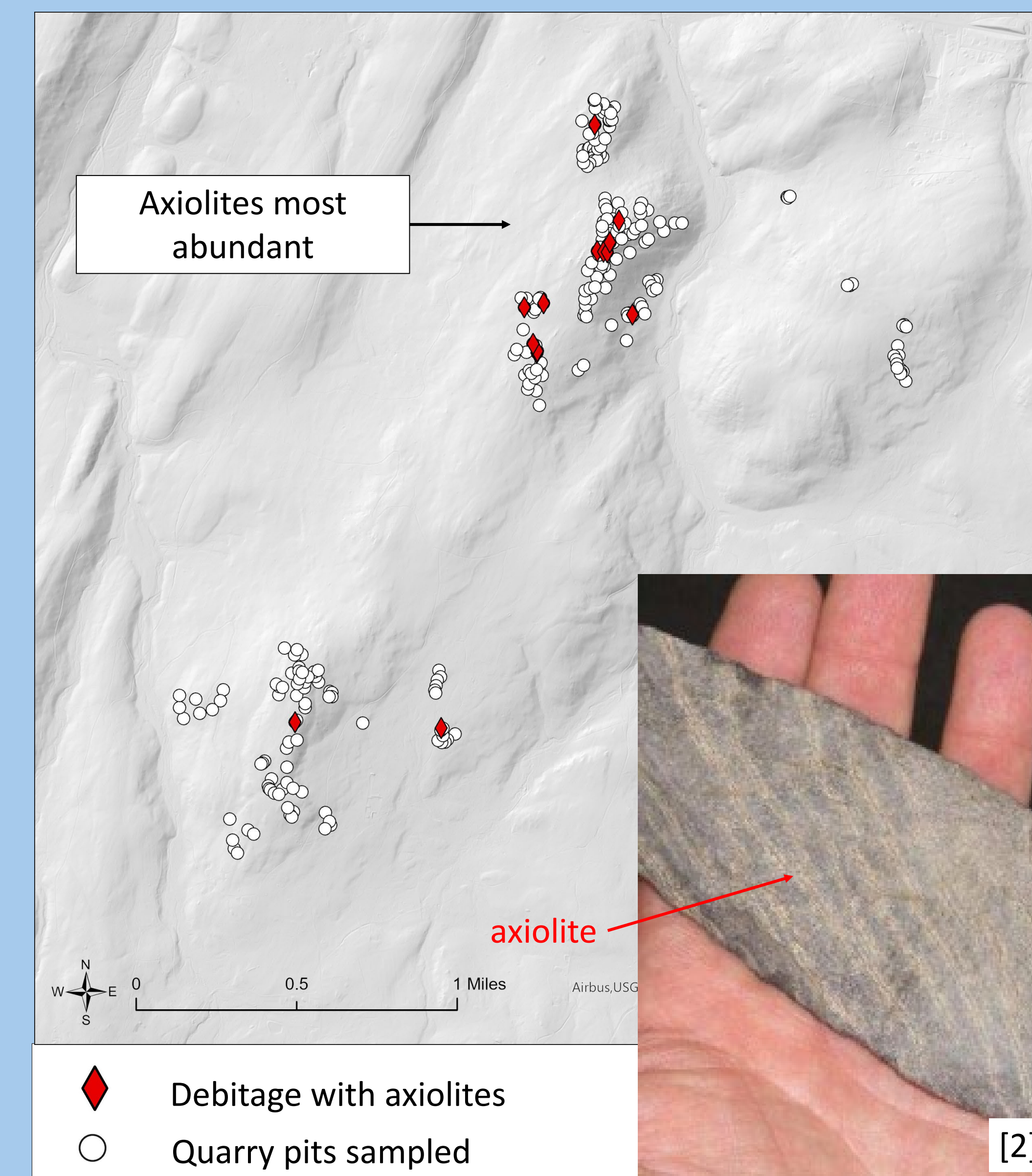
	Southern Area	Northern Area	Northeastern Area
Quartz phenocrysts	A		
Mottles	A	A	
Axiolites		A	
Structureless and lacks phenocrysts		A	
Flow bands		A	A
Feldspar phenocrysts	A	A	A

A = Abundant

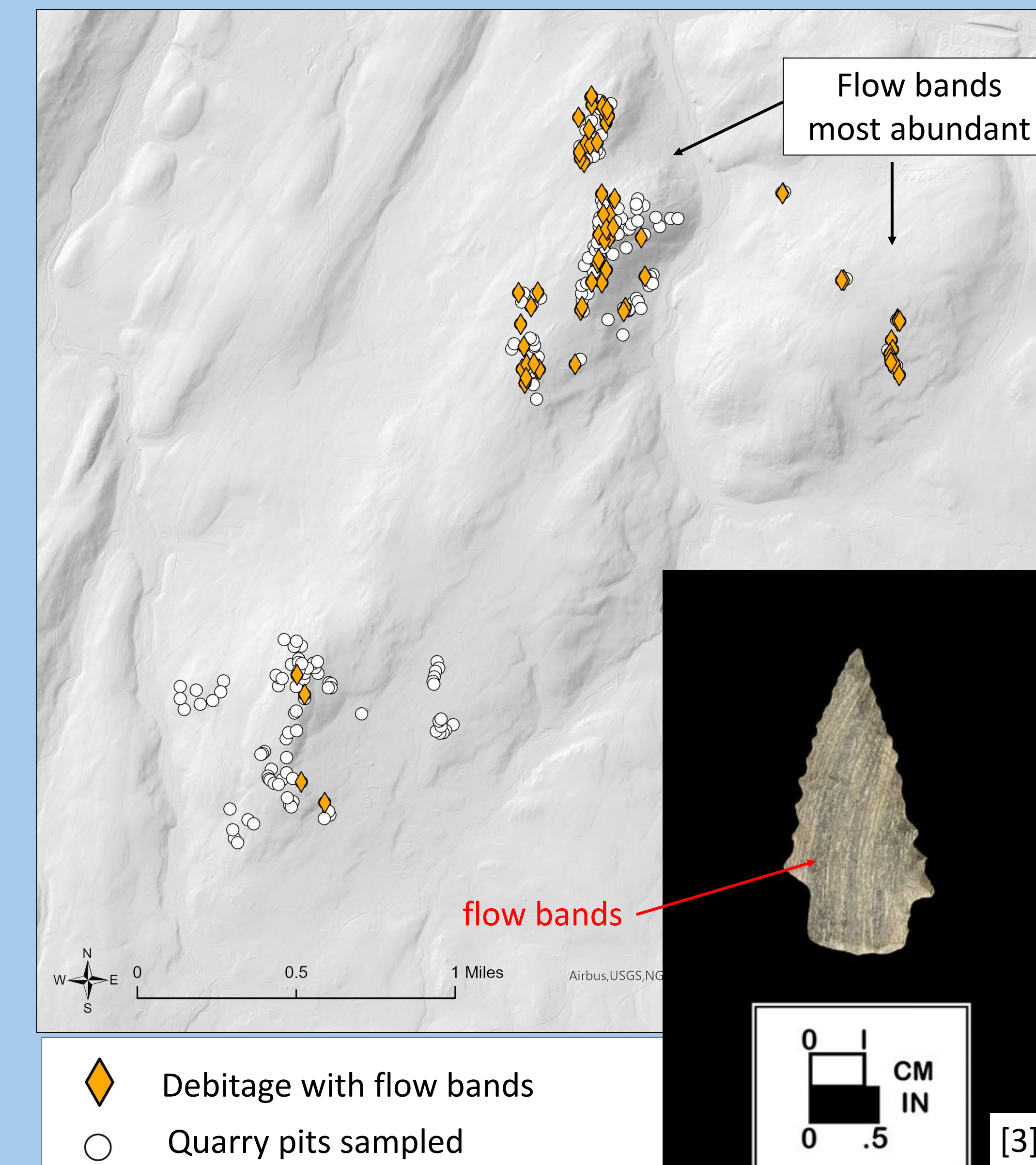
## Quartz Phenocrysts



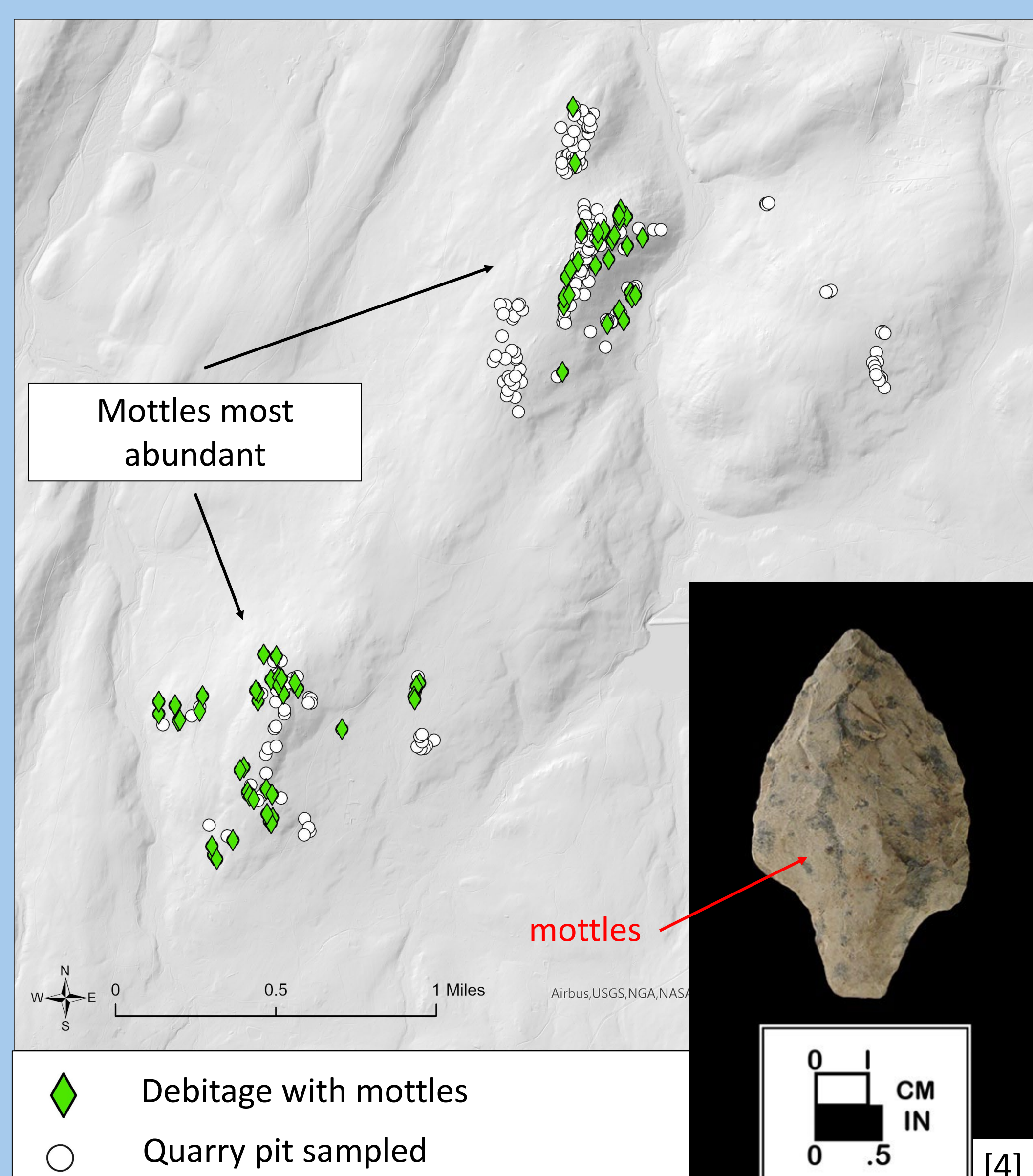
## Axiolites



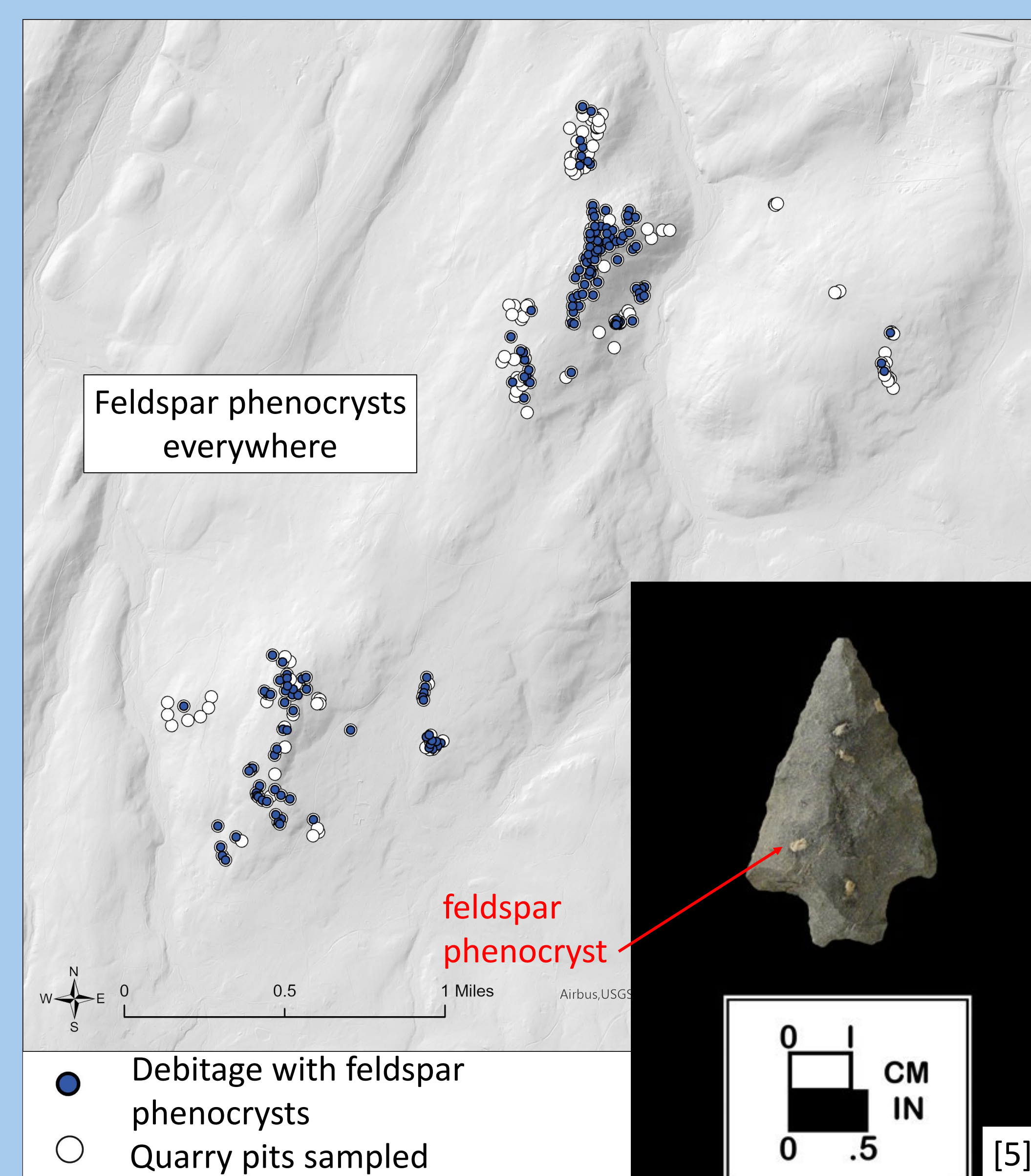
## Flow Bands



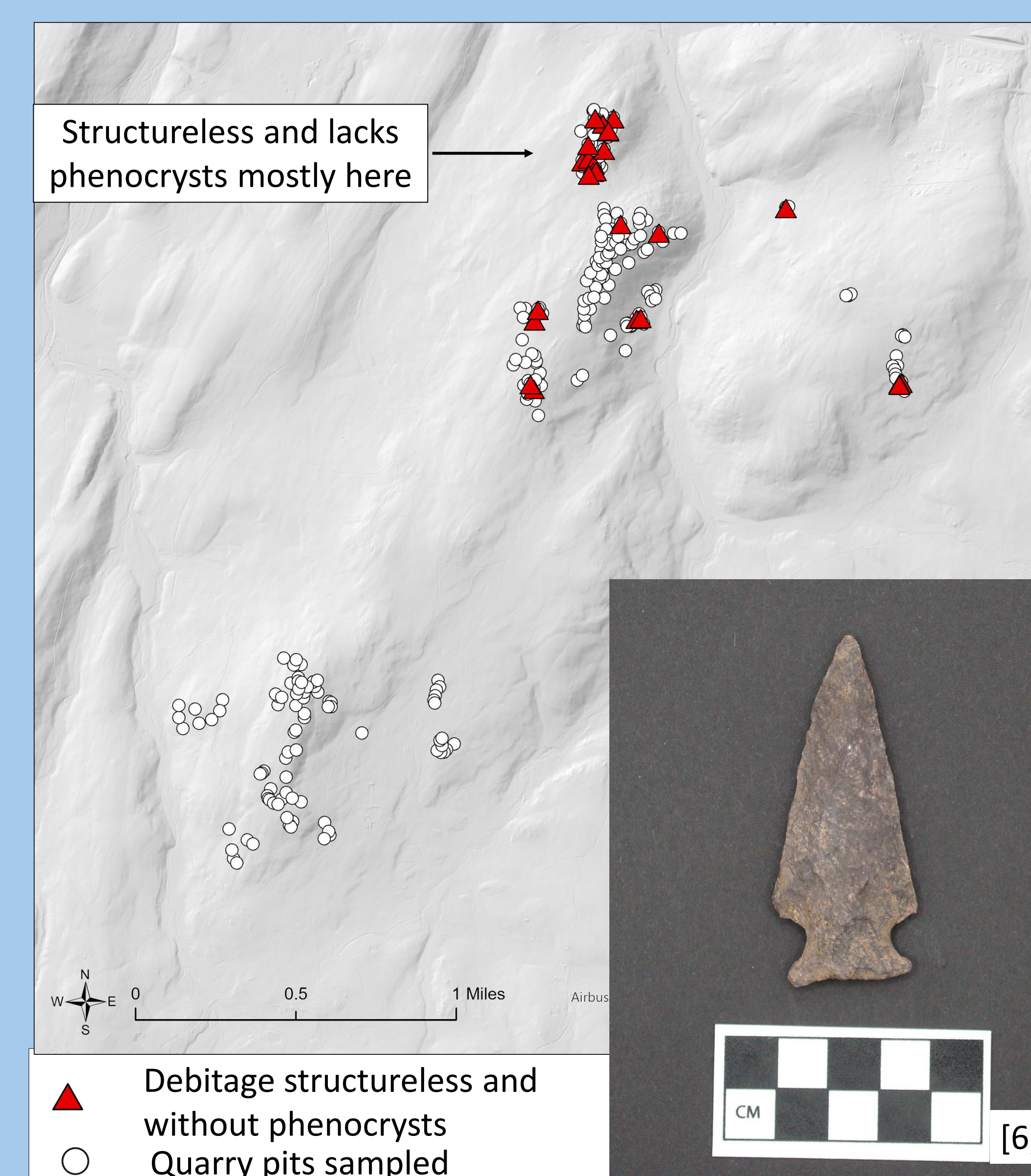
## Mottles



## Feldspar Phenocrysts



## Structureless and lacks phenocrysts



## Glossary

**Axiolites** – thin seams of crystallization, often appear as a thin dark line between two white lines.

**Feldspar phenocrysts** – feldspar crystals formed in magma prior to extrusion, appear as white rectangles.

**Flow bands** – alternating light gray and dark gray bands, formed within flowing lava prior to solidification.

**Mottles** – patches of dark gray and light gray formed by segregation of microscopic dark minerals in lava prior to solidification.

**Structureless** – lacking structures such as flow bands, mottles and axiolites.

**Quartz phenocrysts** – quartz crystals that formed in magma prior to extrusion, appear as small gray dots.

## Photo Sources

[1], [3], [4] and [5] Maryland Archaeological Conservation Laboratory, Diagnostic Artifacts in Maryland.

[2] Darrin Lowery, A response to the paper entitled "The CINMAR discovery and the proposed pre-Late Glacial Maximum occupation of North America" by three University of Missouri "Scholars".

[6] Photo by Mark Tucker, artifact from Snaggy Ridge curated at the State Museum of Pennsylvania, Harrisburg, PA.