



Regional and Temporal Variation in Mogollon Ground Stone

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Introduction

Ground stone tools are a productive means of studying subsistence and technology practices in the American Southwest. Excavations at the Gila River Farm Site and other nearby settlements have provided a large collection of ground stone objects used for various tasks. Here, we evaluate the use of the tools from these sites and compare their morphology to tools recovered elsewhere in and around the Mogollon area. Regional and temporal variations in ground stone characteristics provide insights into how earlier archaeological traditions influenced ground stone tool morphology in the Cliff phase in southwest New Mexico.

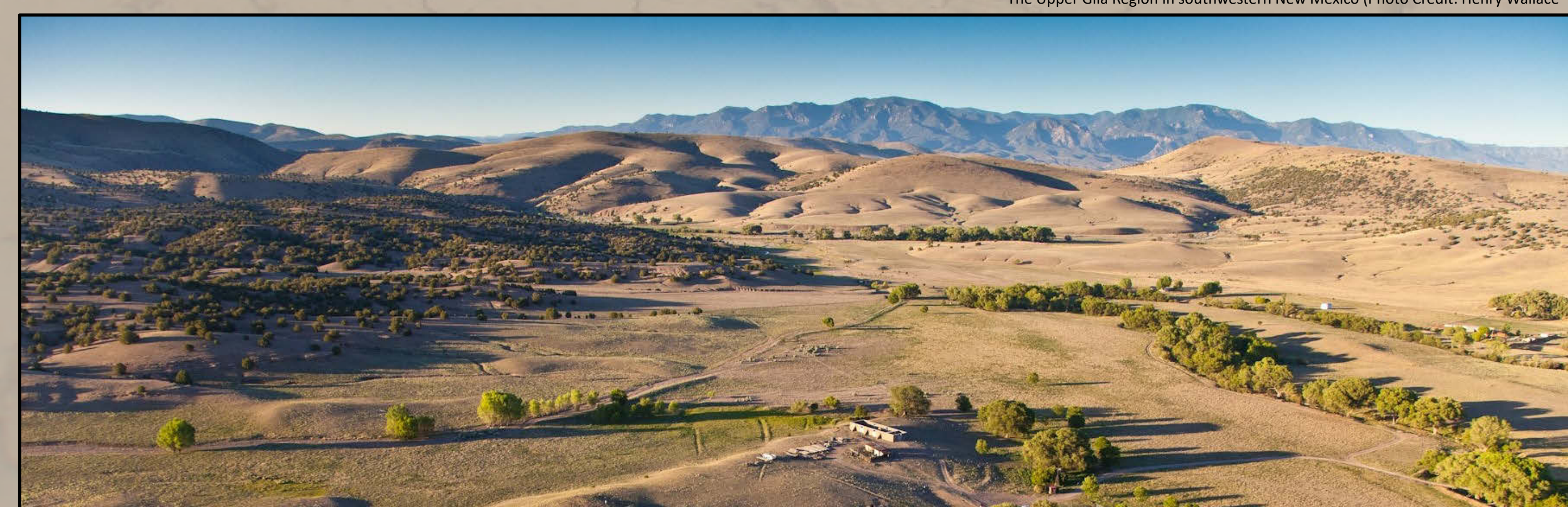
Methods

Data on 3733 discrete ground stone artifacts were compiled using the information available in 77 excavation and analysis reports spanning 1929 to 2017. These reports produced artifacts for 68 sites and spanning the Late Archaic to Late Postclassic Periods (BC 1800-AD 1450). These sites were sorted into 8 regions including the Upper Gila, Mimbres Valley, Reserve Mogollon, and Jornada Mogollon, as well as far Eastern, Southern, and Northern sites. Groundstone artifacts were defined as any stone item primarily manufactured through mechanisms of abrasion, polish, or impaction or is itself used to grind, abrade, polish, or impact (Adams 2014). However, artifacts categorized as architectural stones, ornaments, or hammerstones were excluded from this analysis. Artifacts were sorted into 16 types and 90 subtypes based on their morphology.

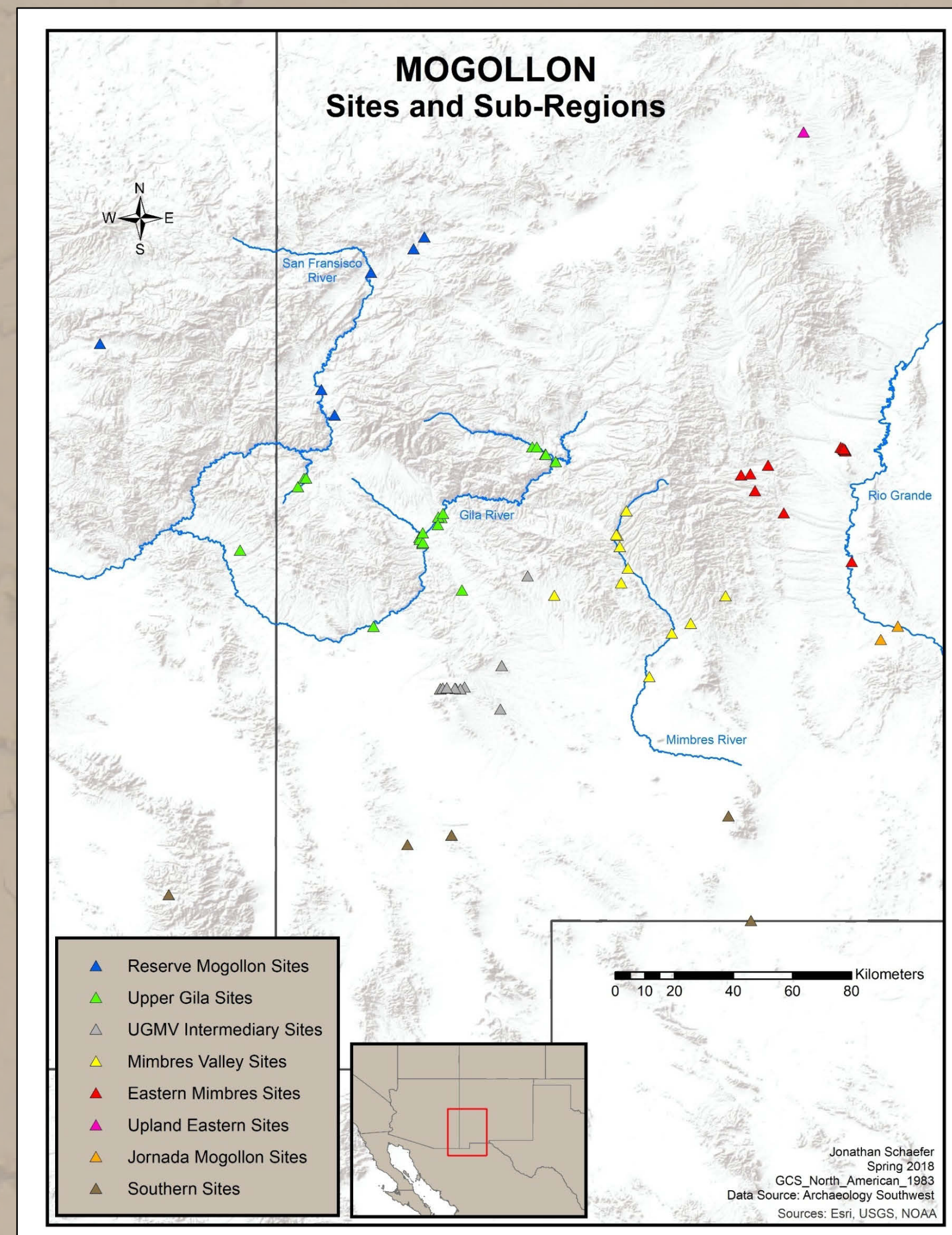
Analysis of these artifacts included extensive use of GIS software which was used to search for regional and temporal variation in the assemblages. Statistical significance testing was run using a Chi-Square analysis when applicable.

Results

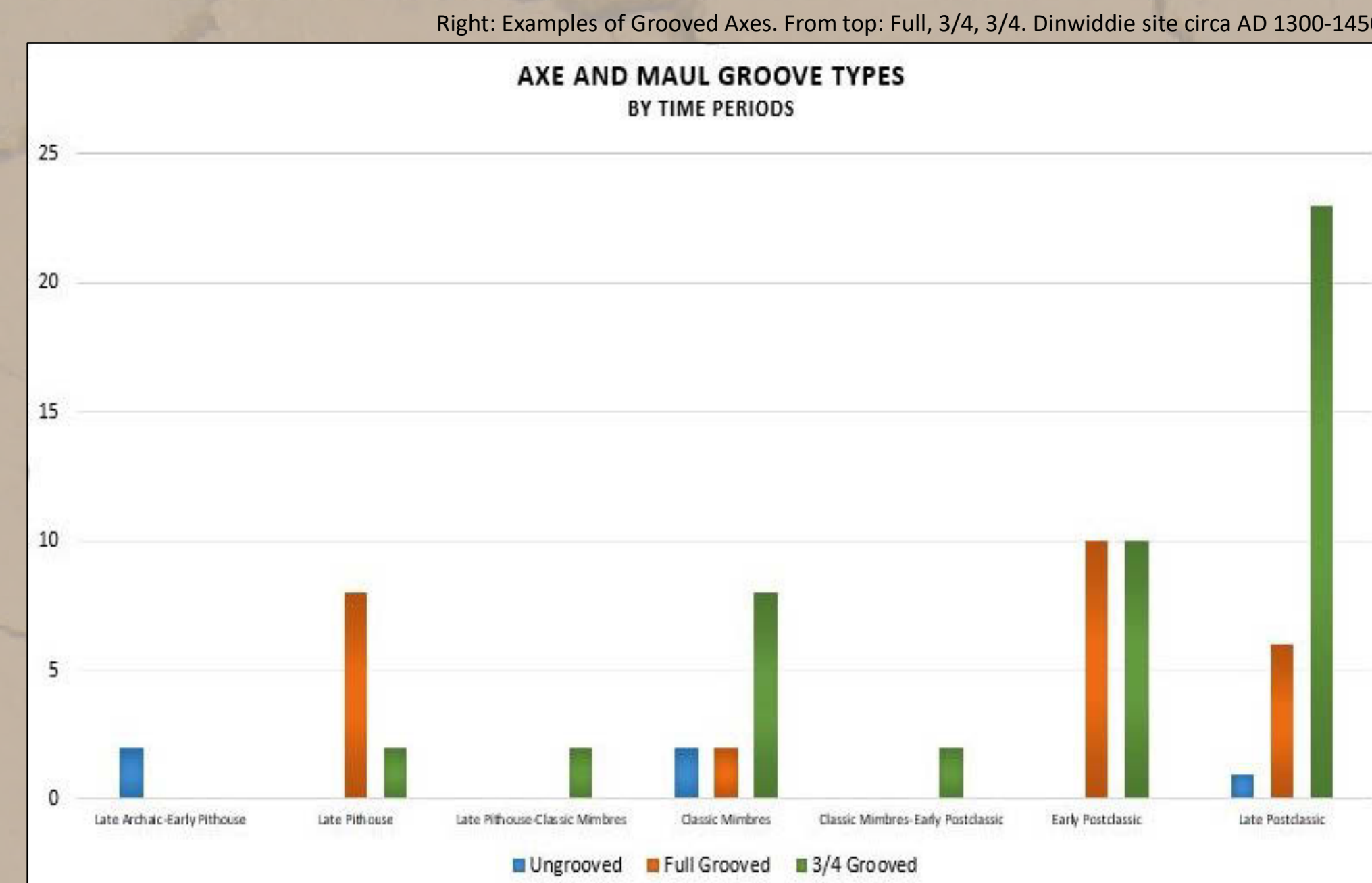
Significant regional and temporal variation in ground stone assemblages was observed for the study area. Patterns ranged from trends observable for the entirety of the sites, as well as inter and intra regional differences. A selection of the more intriguing findings have been included in this poster.



The Upper Gila Region in southwestern New Mexico (Photo Credit: Henry Wallace)



Axes and Mauls



Ground stone axes and mauls were observed in assemblages from the Late Archaic period onward in all regions save Eastern and Jornada Mogollon. The earliest examples were ungrooved, with grooved examples appearing by the Late Pithouse phase (AD 550). Grooving methods included into 3/4 and full. Full grooved tools were found to make up the majority of Late Pithouse examples, with 3/4 moving into the majority by the Late Postclassic (AD 1300). Chi-squared analysis was run on sub-types returning a p-value of 0.006 and the null hypothesis of no difference was rejected. While some have hypothesized that the implementation of 3/4 grooving techniques resulted in the discontinuation of full grooved tools, full, and even ungrooved axes and mauls were observed in assemblages until the Late Postclassic, albeit in lower numbers. The lack of complete discontinuation of these subtypes is intriguing and lends itself to further analysis.

Palettes

Palettes are defined as specialized lapstones of a generally tabular shape often decorated with incised borders. These artifacts are often associated with ritual use based on their association with other areas and artifacts recognized as such (Adams 2014). Furthermore, these artifacts are most commonly associated with the Hohokam region of Southern Arizona.

Palettes were found to only occur in site assemblages west of the Mimbres River Valley. The first examples are present in contexts dating to the Late Pithouse phase (AD 550).

The presence of these artifacts extending into the Mogollon region from west, and their common association with the Hohokam region, may suggest a type introduced and borrowed from the latter region. A question for further study may involve the lack of this artifact type east of the Mimbres Valley.



Hohokam palette. Safford, Arizona circa AD 950-1150.

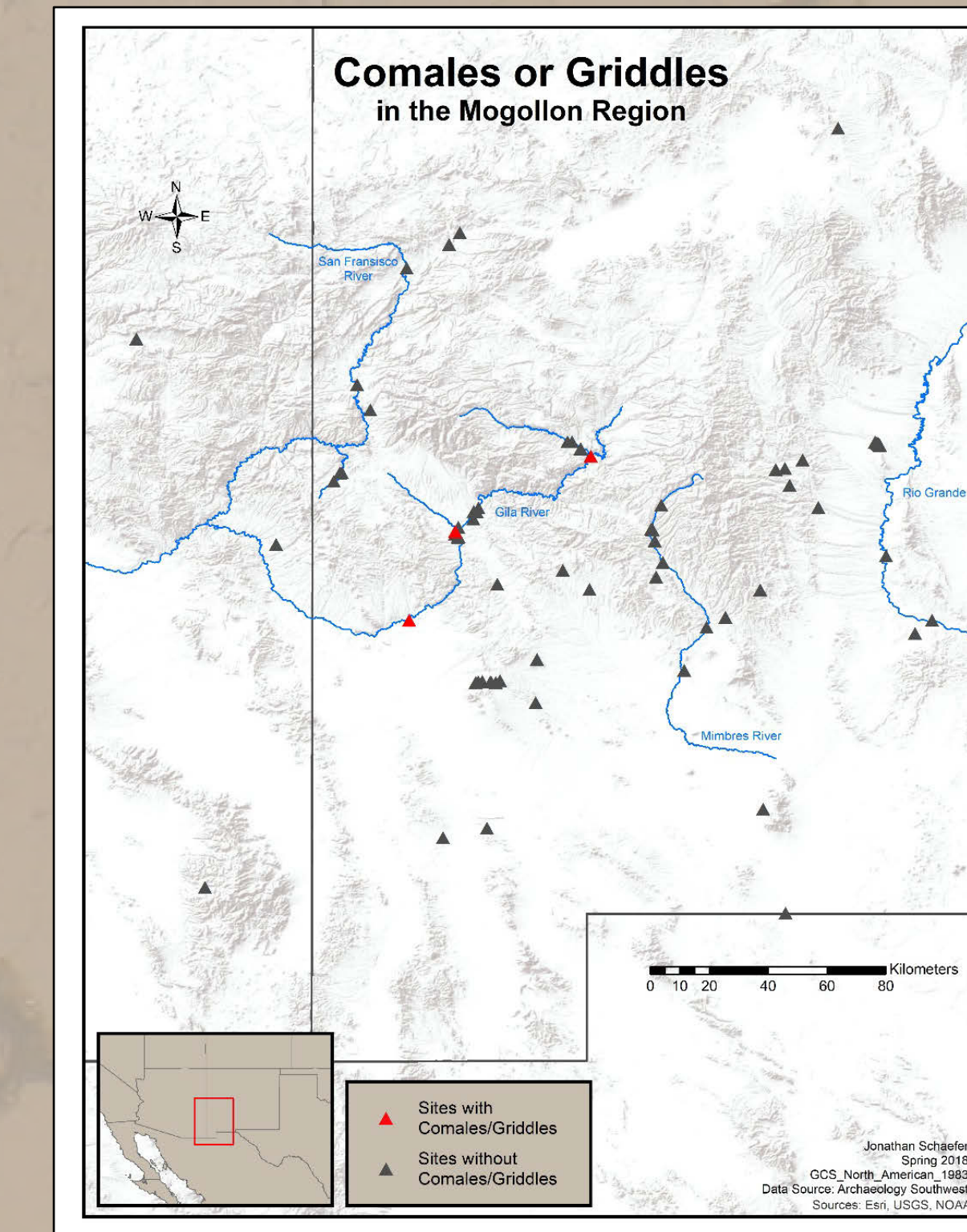


Palette recovered from the X-S-X-1 site. Upper Gila region circa AD 1000-1300



Various palettes recovered from the Harris site. Mimbres Valley circa AD 650-1000.

Unique to the Upper Gila

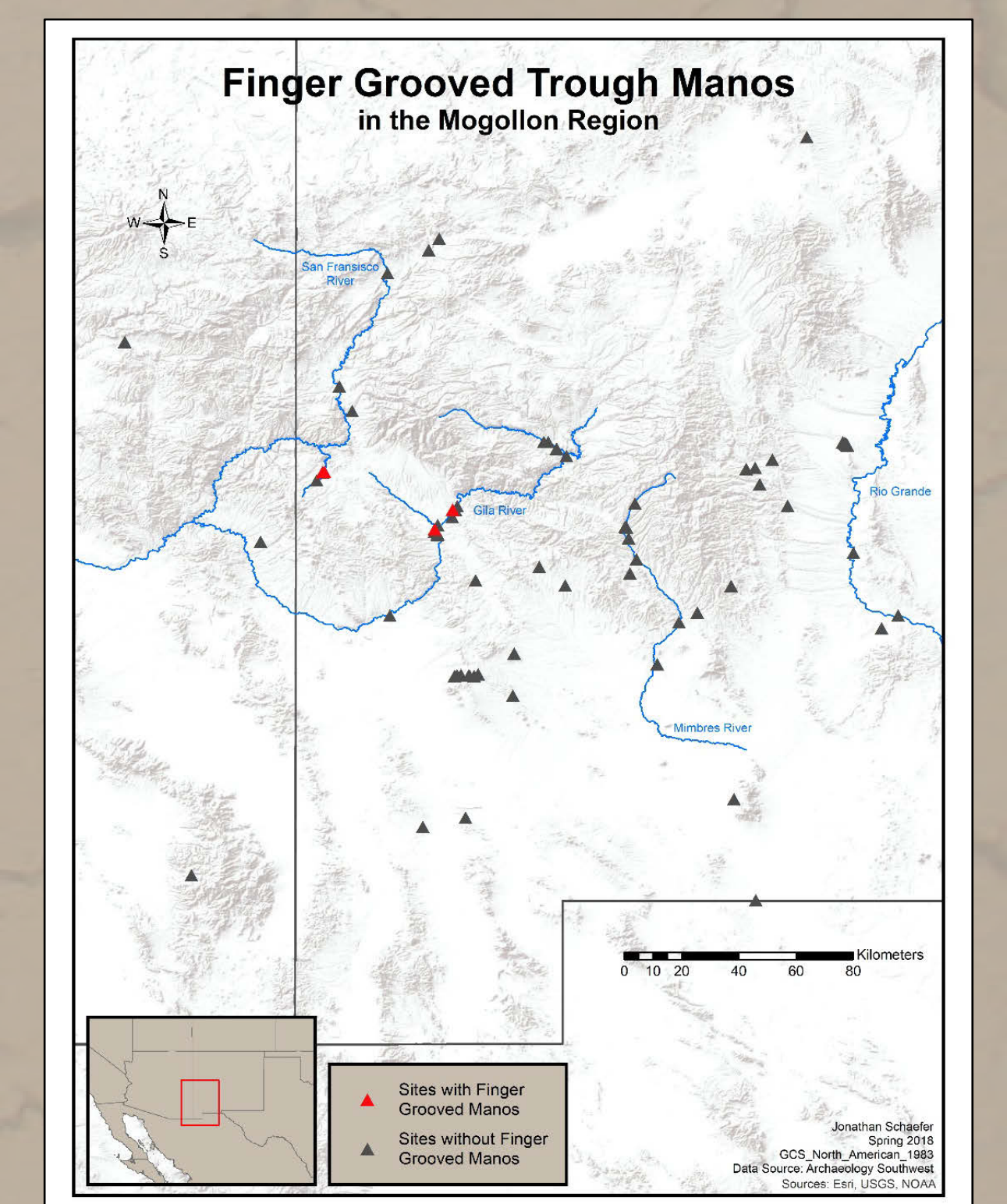


Left: Griddle. Dinwiddie site circa AD 1300-1450.

Right: Finger Grooved Trough Mano. Upper Gila Farm Site circa AD 1300-1450.



Rectangular **finger-grooved trough manos** were a variant of trough manos which have a horizontal groove pecked along their long axis to facilitate more comfortable holding. This type has been associated with the Kayenta region of the four-corners region, and is recognized as a technology brought with these immigrants into the Upper Gila during the Late Postclassic. This study supports this hypothesis, as the Upper Gila was the only Mogollon sub-region where this artifact was found. Furthermore, finger-grooved manos first appear in limited numbers in the Early Postclassic (AD 1130-1300) and increase in density during the Late Postclassic (AD 1300-1450) or Cliff Phase for this region.



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