



## WELLS PETROGLYPH PRESERVE REPRESENTATIONAL TIME PERIODS OF PETROGLYPHS

Please note that there may be gaps between periods in the descriptions of time periods. Transition from one culture or way of life into another within an area (thus the end of one and the beginning of another) are difficult to interpret in the archaeological record.

### **EARLIEST ARRIVALS? WHITE SANDS PERIOD – 23,000 to 21,000 years ago**

In 2021, Researchers and NPS staff released evidence of human footprints in wetland deposits of a now dry lakebed in White Sands National Park. Radiocarbon dating (AMS) consistently placed the age of these footprints as the oldest confirmed in the Americas, with the youngest at 21,000 years old and the oldest at 23,000 years old. This indicates a consistent Pleistocene population in that area for a 2,000 year long period of occupation. *A lot of questions remain unanswered!*

- The relationship between the White Sands people and modern Native Americans is unknown
- No associated tools have been published, making any links to later periods speculative
- The route of migration to reach what is now New Mexico is unknown
- The timing of above implied migration remains unknown (whether earlier or not is unknown)
- May or may not be continuous with the PALEOINDIAN PERIOD, but this too is unknown.

### **PALAEOINDIAN PERIOD – 14,000 years ago to about 9500 years ago**

So far, we have very few possible images on Mesa Prieta that we recognize as *possibly* made during the Palaeoindian time period. Two Folsom point fragments have been found, and one possible Palaeoindian biface fragment. During this time, nomadic hunter-gatherers lived in the very different landscape of the terminal Pleistocene, AKA the “end of the last Ice Age.” Geological evidence shows that numerous mountain glaciers in the Sangre de Cristo Mountains created relatively barren high elevation landscapes, while supplying a large perennial water supply to the bajada canyons, river ways, and Española Valley.

### **ARCHAIC PERIOD – 9500 years ago to about 1400 years ago (7500 BCE to 600 CE)**

The Archaic Period is often divided into either two (Early and Late) or three (Early, Middle, and Late) Periods. Dating Archaic sites in the Southwest relies on projectile point types, radiocarbon dating, and other methods that rely on excavations to distinguish between cultural phases during this long period. Since MPPP does not excavate and projectile points are not overwhelmingly common, we only have enough data to distinguish between Early (including both Early and Middle) and Late Archaic Periods.

- **EARLY ARCHAIC (9500-3500 years ago, 7500 – 1500 BCE)** – Early Archaic images are generally abstract and geometric such as meandering lines, asterisk images, one pole ladders and rakes and other abstract forms.
- During the Early Archaic, rock art throughout the western United States looks remarkably similar. The petroglyphs, tools, and other artifacts from this time together are often referred to as belong to the “Desert Archaic Tradition.”
- It is thought that the Archaic People’s use of hallucinogenic substances impacted the images they created.

- **LATE ARCHAIC PERIOD 3,500 to 1,400 years ago (1500 BCE – 600 CE)**

The Late Archaic is characterized by regionalization in the American west, with distinctive cultural traditions emerging and expressing ideas in regionally distinctive rock art styles (Coso, Barrier Canyon, etc.)

- Late Archaic images along the Rio Grande include animal tracks, human handprints, footprints and sandal tracks.
- The Archaic People were hunter/gatherers and did not build permanent structures for shelter, however they did periodically build naturally insulated, semi-subterranean pit houses that may have been used seasonally year after year.
- Archaic images often deeply pecked and are very dark and heavily or totally repatinated. However, not all totally repatinated images are Archaic; images made more recently may be darkened by increased exposure to the chemicals in the air and water
- Archaic images often face upward but can be found on rocks facing all directions.
- No more than 5% of the images on Mesa Prieta are Archaic.

**ANCESTRAL PUEBLO PERIODS 1,400 to about 400 years ago (600 to 1598 CE)**

Ancestral Pueblo times are distinguished from earlier periods by the adoption of pottery, significantly increased reliance on agriculture, and the aggregation of larger, residential communities, often in above-ground permanent structures. To the west of us, archaeologists use the familiar Colorado Plateau timeline for places such as Chaco, Aztec, Salmon, and Mesa Verde. The Colorado Plateau timeline divides Ancestral Pueblo into four periods (Pueblo I – IV), preceded by the Basketmaker Periods (BM II – III) which together roughly correspond to our Late Archaic Period. In the Rio Grande, however, cultural developments took a different trajectory, with some ancestors of today's Pueblos adopting agriculture and above ground buildings much later than in Chaco. The Rio Grande Timeline divides Ancestral Pueblo into three periods, Developmental, Coalition, and Classic Period, each of which is distinguished by migrations, conflict, and community formation.

**EARLY ANCESTRAL PUEBLO: DEVELOPMENTAL PERIOD (600 to 1100 CE)**

The Developmental Period shows significant continuity with the Late Archaic of the Rio Grande, both in residential patterns and in petroglyph designs. Populations living in the area still remained semi-mobile, subsisting primarily off of hunting and foraging with very little farming.

- Seasonal pit houses remained in use, although in some places people constructed these in greater density, founding Northern Tiwa communities such as Taos.
- Small, seasonal pithouse villages also appeared along the Rio Chama.
- Petroglyphs of footprints, sandals, and animal tracks continue.
- Increased amounts of images of serpents, spirals, concentric circles, anthropomorphs.
- Small amounts of pottery began to be produced in the area beginning around this time.

**MIDDLE ANCESTRAL PUEBLO: COALITION PERIOD (1100 to 1300 CE)**

The Coalition Period saw an increase in conflict throughout the southwest, beginning with severe drought and the gradual collapse of the Chaco system. Ancestral Puebloans displaced by drought, famine, and political unrest migrated north to the Mesa Verde, and east to the Jemez Mountains and Rio Chama area. Rising populations in these areas and the stresses of new neighbors are believed to have contributed to a period of ongoing conflict. Ancestors of the Keres and Tewa made cliff dwellings in the areas of Bandelier and Puye, respectively, while other Tewa ancestors lived among the cliffs of Mesa Verde.

- Petroglyphs express many of the same themes of the Developmental period
- Still few images being made at Mesa Prieta, but many throughout the Pajarito Plateau
- Larger communities slowly formed along the Rio Chama drainage

## **ANCESTRAL PUEBLO: CLASSIC PERIOD (1300 to 1598 CE)**

The Classic Period, only roughly equivalent to the Colorado Plateau's Pueblo IV, saw a large population shift towards the Rio Grande area. Some of the ancestors of the Tewa migrated from the Mesa Verde region, as well as from the Galisteo Basin, forming new communities with the already aggregating villages of the Española and Chama Valleys. Thought to have occurred between the years 1300 to 1350 CE, these migrations and the wave of community formation they kicked off mark the start of the Classic Period. Agriculture in the area greatly intensified. Throughout the Classic Period, Ancestral Pueblo Peoples reinvented their political and ceremonial lives to adapt to new surroundings and mediate conflict. Petroglyphs themes reflect migrations, agriculture, religion, and long-range trade.

- Ancestral Pueblo images are generally “figurative” - they resemble things we recognize today such as human and animal figures, implements of war including shields, shield bearers, spear bearers and hunters; celestial images such as stars and crescents and geometric forms.
- Mythological figures include one and two horned serpents, star beings, composite human-animal (a.k.a. “therianthropic”) figures, and other supernatural images.
- Fertility figures include birthing scenes, anatomically correct females and phallic males, flute players, sprouting seeds (apostrophe like images), copulation scenes, water and plant images.
- A large number of Classic Period images depict ceremonial activities much like we see in the Pueblo ceremonies today including deer and buffalo dancers, adornment with feathers, hand rattles, leggings, turtle shell rattles and hand implements that are unknown to us.
- The petroglyphs from the Classic Period range from the crudely done and lightly pecked to others masterfully executed by Puebloans with great skill and a refined sense of line and form. Many of the images created during this time period are abstract forms that resemble nothing in the physical world.
- In addition to petroglyphs, the Ancestral Pueblo people constructed numerous water control features on the mesa including reservoirs, check dams, gravel grid gardens, garden terraces and other structures. Trail constructions are also common.
- Ancestral Pueblo rock images generally face east, south east or south. Exceptions abound.
- About 75% - 80% of the rock images on the Wells Petroglyph Preserve and Mesa Prieta are Ancestral Puebloan.

## **POSTCONTACT (“HISTORIC”) PERIODS 400 to 50 years ago (ca. 1598 – about 1970 CE)**

Although colonial contact in what is now Albuquerque is marked with the arrival of Coronado's army in 1540, contact in the Española Valley began more than half a century later, with the arrival of Juan de Oñate in 1598, who established the crown colony at Ohkay Owingeh (San Juan Pueblo). While the words “Prehistoric” and “Historic” were once used to describe the times prior to, and following initial European/Euroamerican contact (respectively), these are now disfavored as they implicitly ignore the historical accuracy and significance of indigenous oral traditions. Nonetheless “Historic” may sometimes be used, especially in legal literature such as in preservation law (e.g. NHPA). Currently, about 15% of the petroglyphs at Mesa Prieta are believed to be of Postcontact age, by far dominated by variations on the crucifix motif. Postcontact times can be divided into three *colonial* periods, plus the concurrent “Pueblo V/Historic Pueblo” covering specifically native Pueblo culture during the whole of the Postcontact:

### **SPANISH COLONIAL PERIOD (1598 – 1821 CE)**

### **MEXICAN NATIONAL PERIOD (1821 – 1848 CE)**

### **AMERICAN PERIOD (BOTH TERRITORIAL AND STATEHOOD) (1848 – 1970 CE)**

## **SPANISH COLONIAL PERIOD (1598 to 1821 CE)**

- Oñate established crown colony
- Moorish-derived Spanish acequias combined with smaller-scale indigenous ditch irrigation, gradually leading Pueblos to stop using a variety of other traditional irrigation measures
- Hacienda at Los Luceros built near the site of the depopulated pueblo of Phioge, ca. 1700 CE.
- During early Colonial times, rock images were created reflecting subject matter relevant to their lives. Christian crosses, churches, horses and equestrians, names, dates and initials are among the most common Historic Period elements, probably made by both Europeans and Puebloans.
- Mesa Prieta lies at the northern terminus of the Camino Real de Tierra Adentro
- A section of the Old Spanish Trail connecting Santa Fe to Los Angeles passed along the foot of Mesa Prieta
- In California and other areas, this was sometimes known as the “MISSION PERIOD” because of the extreme political and economic power of the Catholic mission system.
- A unique feature on the mesa is that of Spanish lion images; perhaps 25 have been found and some are magnificently done.
- In 1680, the Eastern (Rio Grande) Pueblos rose up against Spanish rule in the Pueblo Revolt, maintaining independence for 12 years thereafter; some petroglyphs are believed to depict this.
- Po'Pay of Ohkay Owingeh is largely credited with organizing the Pueblo Revolt.
- From 1692 onward, the return of Spanish authority came gingerly, with the Pueblos earning enough latitude to preserve the languages, cultures, and ceremonies that thrive today.

## **MEXICAN NATIONAL PERIOD (1821 to 1848 CE)**

In 1821, Mexico became an independent nation, ending centuries of Spanish rule over a vast area of colonial territory. One of the first nationwide policies Mexico's government enacted was the secularization of the missions, a move largely thought by historians to have been aimed at diminishing the political and economic power of the Catholic Church. Lands previously controlled by missions were redistributed through a land grant system to a new class of wealthy gentry. While the impacts on and reorganization of settler-colonial and indigenous communities as a result of this policy are more pronounced in California, the legacy of the land grant system still defines some county lines and property lines in New Mexico, including the line dividing the Wells Petroglyph Preserve from the “Cook” parcel.

- Literacy was limited among Hispano/a residents until the late 1800s. It was not until then that names or even initials began to appear in the Historic rock images.
- Sheep herding was widespread on the mesa in the 1800s and early 1900s; structures such as corrals, fences and rock shelters exist all across the mesa.
- Historic images face any direction; those made by sheepherders often face the pastures where the sheep were grazing or on the leeward side of their shelters away from the wind.
- During the end of the Mexican-American War, Native American and Hispano residents resisted US annexation through several military battles with US Brig. Gen. Kit Carson's forces in what is known as the Taos Revolt.
- One of the battles of Taos Revolt, the Battle of Embudo, took place at the foot of La Mesita between La Joya and Embudo/La Plaza (now Velarde and Dixon, respectively), with Mesa Prieta featuring in first-hand accounts of troop movements related to this battle.

## **AMERICAN COLONIAL PERIOD (1848 – 1912 CE) AND STATEHOOD (1912 to 1972 CE)**

During this latest period, images were largely made by Anglos using metal tools as well as rocks to incise, abrade, scratch and peck images into the boulders. Copies of early petroglyphs are among these images as well as modifications to older petroglyphs. Drawings, initials and names also were made during this time period.

- The WPA (Works Progress Administration) workers were active in the Lyden area working on roads and perhaps irrigation dams and ditches on the nearby river.
- Extensive mining occurred on the mesa from the 1950s on and continues today.
- Preservation and education are foremost in the mission of the petroglyph project today. Project members work with landowners, schools and residents in the northern Rio Grande Valley to help protect the archaeological features of the mesa.
- Much of the imagery that is placed on the boulders on the mesa today are additions, some of which are defacement of earlier images, using paint, scratching, gouging, and shooting or in other ways damaging the images.
- Peace signs from the 1960s and 1970s are now coming of “historic” age, recording another major migration and countercultural movement in the area’s history.

## **OTHER CULTURAL INFORMATION**

### **HOW DO WE “DATE” THE PETROGLYPHS?**

- Dating of the petroglyphs is subjective based primarily on subject matter as described in the time periods above.
- Repatination is often used to categorize time periods but is not always accurate as images are affected in varying manners by the chemicals in the environment and constituents of the boulders.
- Often the cultural features found in the same area of the petroglyphs assist in approximating time periods such as Archaic projectile points in the area of Archaic appearing images.
- Scientific studies using infrared photography, spectroscopy and, more controversially, desert varnish lamination and micro erosion studies are being developed to attempt to date the images more accurately.

### **REPATINATION OR DESERT VARNISH**

- Repatination is a dark, sometimes reflective coating or patina made over time on rock surfaces through chemical processes involving many factors such as oxidation, mineral weathering, moisture, bacteria and wind-blown pollutants.
- In deserts, basalt develops a dark black patina called “desert varnish”
- Repatination is the re-establishment of patina broken by a rock breaking or spalling or the making of a rock image.
- Archaeologists look at repatination to approximate the age of petroglyphs. The darker the repatination and closer to the original color of the rock an image is, the older it MIGHT be. Images made 100 to 1000 years ago have begun the repatination process to some degree.
- Recently applied features are very light and have little or no repatination.

### **SUPERIMPOSITION**

- Superimposition is the placement of rock images over older images; many examples of this exist on the Wells Petroglyph Preserve.
- Sometimes superimposition changes the character of the image to represent another subject.
- Sets of superimposed images can also be call “palimpsests”

### **MYTHOLOGICAL IMAGES**

- The Rio Grande Style of petroglyphs include many styles of mythological images
- Awanyu –
  - The one and two horned serpents are among the most common of the mythological images seen on the mesa; both are called Awanyu – a water deity in Puebloan culture.
  - The one horn serpent is seen in profile with the horn arcing behind or in front of the head. This figure is sometimes called a “plumed” or “feathered” serpent.
  - The two horned serpent image is seen much more frequently in images on the mesa.

- The images may be hastily drawn but most often are carefully and elaborately crafted on the boulders.
- The images are often seen near water or springs, near water drainages and often seen “emerging” from a crack in a boulder or from the ground level of a boulder.
- Other mythological images include star-beings (stars with life forms), composite human – animal figures, cloud terraces and other supernatural images.

## **ARTIFACTS**

- In addition to the rock images and structures found on the mesa, a number of different artifacts also exist from all time periods.
- The most common artifacts are ceramic sherds - pieces of broken pots dating back to the Ancestral Puebloan times. Occasionally historic pottery pieces or glass are found.
- Lithic material or worked stone includes stone chips, knives, scrapers and projectile points. The materials most often used for these stone tools were obsidian and chalcedony. Cerro Pedernal chert is occasionally found on the mesa. Fine grained basalt tools and flakes are also found.
- Other stone tools include ax heads, hoes, mauls, hammer stones, manos and infrequent metates.
- The Ancestral Puebloans often enhanced boulders with more than rock images. Often, worked boulder edges, worked natural holes, grinding slicks and other rock alterations are noted. The natural feature of a depression in a boulder that holds water following snow or rain is called a tinaja; rock images are often seen nearby suggesting that prehistoric people may have relied on those water sources while they lasted.
- Historic artifacts include pots and lids, buckets, rope, wire, steel tools such as ax heads and shovels, horse shoes, cisterns and other items useful for living and working on the mesa.
- Other indications of human occupation are also noted on the mesa including hand axed tree stumps, trails, old roads, water management features, structures, etc.

**ALL ARTIFACTS AND CULTURAL EVIDENCE OF HUMAN OCCUPATION FOUND ARE RECORDED AND LEFT IN THE FIELD.**

date	Lipe 1993	Woodbury 1979	Wendorf 1954	Colorado Plateau	*Northern Rio Grande*											
1900 CE	American Period...	Pueblo V (after 1598 CE)	Historic (after 1600 CE)	American (after 1848)	American (after 1848)											
1800 CE	Historic Period (1598-1848 CE)			Rio Grande Classic Period (1325 - 1600 CE)	Mexican (1821-1848)	Mexican (1821-1848)										
1700 CE					Spanish Colonial (1600-1821)	Spanish Colonial (1598-1821)										
1600 CE																
1500 CE	Pueblo IV (1350-1598 CE)			Pueblo IV (1300-1598 CE)	Coalition (1200-1325)	Pueblo IV (1350-1600 CE)	Classic Period (1300 - 1598 CE)									
1400 CE	Pueblo III (1150-1350 CE)	Pueblo III (1100 - 1300 CE)	Pueblo III (1150-1350 CE)													
1300 CE	Pueblo II (900 - 1150 CE)	Pueblo II (900 - 1100 CE)	Rio Grande Developmental Period (600-1200 CE)	Pueblo II (900 - 1150 CE)	Coalition Period (1100 - 1300)											
1200 CE				Pueblo I (750-900 CE)		Pueblo I (700-900 CE)	Pueblo I (750-900 CE)									
1100 CE	Basketmaker III (500-750 CE)	Basketmaker III (400-700 CE)	Basketmaker III (500- 750 CE)	Basketmaker III (500- 750 CE)	Developmental Period (600-1100 CE)											
1000 CE																
500 CE	Basketmaker II (late) (50 CE - 500 CE)	Basketmaker II (250 BCE - 400 CE)	Basketmaker II (1500BCE - 500CE)	late period 50- 500 CE	Rio Grande Ancestral Pueblo											
CE/BCE	Basketmaker II (early) (1500BCE - 50CE)	San Jose (Oshara Tradition) (7000 -250 BCE)				Preceramic Period (15,000 BCE - 600 CE)	early period (1500 BCE - 50 CE)	Late Archaic (1500 BCE - 600 CE)								
500 BCE									Archaic Period (6500 - 1500 BCE)	San Jose (Oshara Tradition) (7000 -250 BCE)	Archaic Period (7500 BCE - 600 CE)	Early Archaic (7500 - 1500 BCE)				
1000 BCE													Archaic Period (7500 BCE - 600 CE)	Early Archaic (7500 - 1500 BCE)		
1500 BCE															Paleoindian (before 7500 BCE)	Paleoindian (before 7500 BCE)
2000 BCE																
3000 BCE	Paleoindian (before 7500 BCE)	Paleoindian (before 7500 BCE)														
4000 BCE																
5000 BCE	Paleoindian (before 7500 BCE)	Paleoindian (before 7500 BCE)														
6000 BCE																
7000 BCE	Paleoindian (before 7500 BCE)	Paleoindian (before 7500 BCE)														
8000 BCE																
9000 BCE	Paleoindian (before 7500 BCE)	Paleoindian (before 7500 BCE)														
>10,000 BCE																