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18 AN ANCIENT MAYA CITY LIVING ON THE EDGE: THE CULTURE HISTORY OF PACBITUN, BELIZE

Terry G. Powis, Jon Spenard, Sheldon Skaggs, George J. Micheletti, and Christophe Helmke

This paper is a comprehensive overview of nearly four decades of archaeological investigations at the medium-sized Maya center of Pacbitun. Since the initial explorations in the 1980s, Pacbitun's Epicenter, Core, and Periphery Zones have been the subject of three major archaeological studies and several targeted investigations, together producing a narrative of a pre-Hispanic Maya community that lasted for nearly two millennia. From humble beginnings as a small village first settled around 900 BC, the site grew into regional prominence by the end of the Middle Preclassic (300 BC). Signaling the onset of the Late Preclassic period, Pacbitun's Core Zone underwent a significant transformation, encapsulating the entire Middle Preclassic settlement beneath artificially constructed plazas topped with architecture common to the Classic period (AD 250-900) Southern Lowlands. The site's prosperity and prominence continued throughout the Classic period as it grew in both size and population, spreading from the Core Zone into the Periphery Zone. Social status also became more apparent during the Classic period with the emergence of a wealthy, powerful class of ruling elite whose origins likely lie in the transformations of the preceding period. The Late Classic period (AD 550-800) ended as Pacbitun's most opulent era, in terms of construction projects, industrial craft production, population expansion, long-distance trade, and landscape ritual performance. This opulence was short lived and likely helped to usher in the social and political decline of the Terminal Classic period (AD 800-900). Although intensified methods of agricultural production were developed to sustain an exploding population, an untimely drought, archaeologically evident in increased ritual cave use, likely negated these efforts, leading to large-scale socio-political dissolution by AD 900. A population remained in the area through the Early Postclassic period (AD 900-1000), but their presence is marked only by a scattering of artifacts through the site and ritual landscape, thus the ultimate end of Pacbitun yet remains unclear.

Introduction

The pre-Hispanic Maya settlement of Pacbitun, in the Cayo District, Belize, has been the subject of three major archaeological projects, and several targeted studies over the last four decades. The first two major projects, the Trent University Pacbitun Archaeology Project (TUPAP), and the Belize Valley Preclassic Maya Project (BVPMP), were directed by Paul Healy, with the latter co-directed by Jaime Awe. These projects revealed a great deal about Pacbitun, successfully outlining its origins, major chronological periods, their overall development, and the settlement pattern (Healy 1990a; Healy and Awe 1995; Healy et al. 2004; Healy et al. 2007). Limited survey and excavations by the Belize Valley Archaeology Project were also conducted in 2003 and 2004 (Helmke et al. 2006; see also Healy et al. 2007). The Pacbitun Regional Archaeological Project (PRAP), directed by Terry Powis, grew out of the BVPMP, and has been ongoing since 2008. With an original focus on the developments of the Preclassic period, later combined with an interest in the Late Classic period landscape, Core Zone, and Periphery Zone settlement, the PRAP has refined our understanding of Pacbitun's culture history. Considering these new data, we present

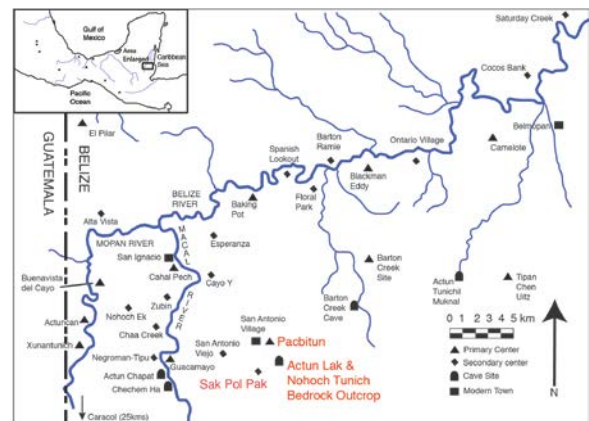


Figure 1. Map of Belize Valley showing location of Pacbitun, karst landmarks discussed in text, and other major centers (Map by Jon Spenard after Chase and Garber 2004:Map 1).

here a refined culture history of Pacbitun, following an updated description of the site and a brief history of investigations there.

Description of Pacbitun

Pacbitun is a medium-sized pre-Hispanic Maya site geographically situated on the southern rim of the Belize Valley, and in the northern limestone foothills of the Maya Mountains, approximately three kilometers to the east of San Antonio village in the Cayo District, Belize (Figure 1). Its position was

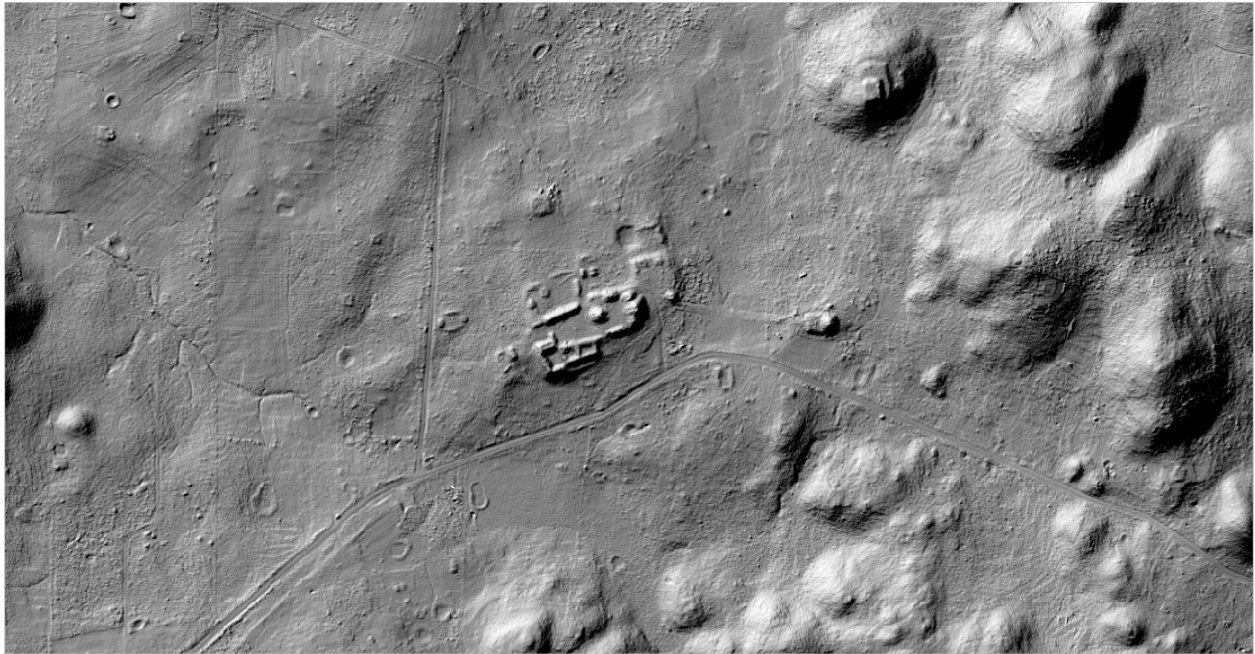


Figure 2. Map of the Pacbitun region.

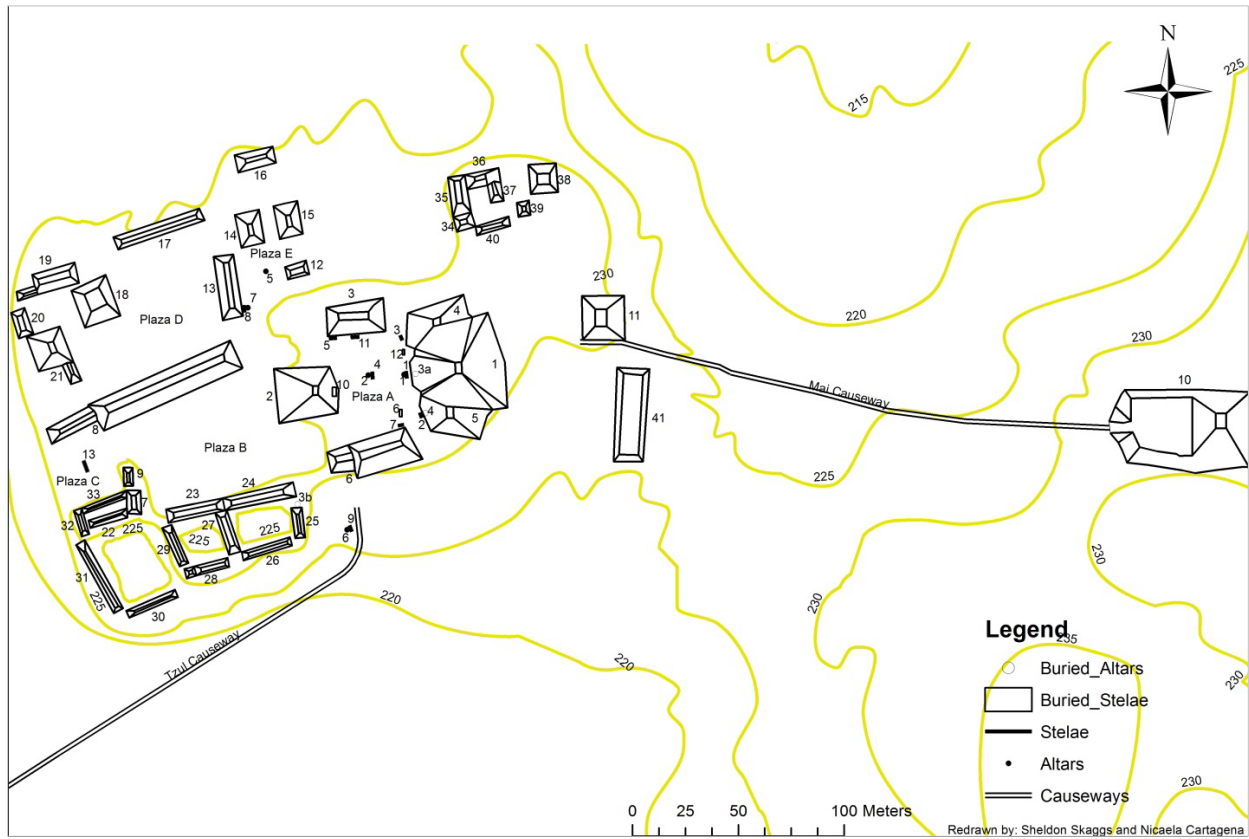


Figure 3. Map of Pacbitun Site Core showing both structures and carved monuments. Map courtesy of Nicaela Cartagena and Sheldon Skaggs.

likely chosen because two eco-zones intersect there, and a wide variety of important economic and ritual resources are locally available, including granite, slate, pine, springs, and fertile agricultural land (Healy 1990a:248).

Settlement is divided into three areas, the Epicenter, Core and Periphery Zones (Healy et al. 2007:17). The Epicenter is the main “downtown” area, the location of the main religious and administrative structures (Figure 2; Healy et al. 2007:17). It sits on an artificially leveled hill, oriented east-west, and has 41 known masonry buildings comprising three main plazas, and an additional two that are adjacent to the north side. Plazas A, B, and C run east to west, as do the two northern plazas, D and E (Figure 3; Healy 1990a:250). An additional architectural group located to the northeast of Plaza A was dubbed the Eastern Court (Cheong 2013). A large reservoir, or possible spring, is located just north of the architectural complex.

Pacbitun hosts a network of five causeways comprising a system of roads connecting the Epicenter to an isolated platform-pyramid-temple (Structure 10) to the east, an unnamed group to the north, and another at the foot of the hill on which the large secondary center, Sak Pol Pak, sits. Another road network in the Periphery Zone connects a patio group with an uncarved stela to a pyramidal structure (Chase et al. 2014:8683; Healy 1990a:257; Weber 2011:91-95, 2012, 2013:148-149; Weber and Kieffer 2013; Weber and Powis 2012:123).

The Core Zone includes the Epicenter and a one square kilometer buffer around it (Campbell-Trithart 1990). The area beyond the Epicenter is dotted with small mounds, although a few larger structures, courtyard groups, agricultural terraces, spring or reservoirs, and four sinkholes are also known (Healy et al. 2007:18, Figure 3; Richie 1990; Spenard et al. 2012; Sunahara 1995). The Periphery Zone is the sustaining area for the site, consisting of several hundred small house mounds spread over the landscape, as well as several smaller (~5 m tall), hill-top pyramidal structures, plaza groups, minor centers, and terraces (Spenard 2011; Turner et al. 2015; Ward 2013; Weber and Micheletti 2016; Weber and Powis 2014). The area of the Periphery Zone was conservatively estimated to extend nine square kilometers

beyond the Core Zone, yet settlement continues unbroken, although less dense in all directions but south, from the Periphery Zone into the vicinity of other nearby major centers making hinterland socio-political affiliations difficult to identify (Conlon 1999; Healy 1990a:251; Reece 2012; Spenard 2011; Spenard, Mai, and Mai 2012; Spenard, Reece, and Powis 2012; Weber 2011). Lastly, caves, rockshelters, bedrock outcrops, sinkholes, and other karstic landmarks, springs, and agricultural terraces abound in the southern and eastern areas of the Periphery Zone.

A Brief History of Archaeological Research at Pacbitun

Since being reported to the Belize government in 1971, Pacbitun has been the subject of three systematic archaeological investigations and a series of smaller research projects (Healy 1990a; Healy et al. 1980; Healy et al. 1983; Helmke et al. 2006; Snow 1969). The first, the Trent University Pacbitun Archaeology Project (TUPAP) ran from 1984 to 1987, and was an extensive survey of the three zones of settlement, outlining the evolution of Pacbitun’s settlement pattern, determined the function of several buildings in the Epicenter, established the regional chronology, and produced focused studies of particular artifact and material classes (Awe and Healy 1994; Bill 1987; Campbell-Trithart 1990; Healy 1988, 1990a, 1990b; 1992; Healy et al. 1995; Healy et al. 1990; Healy et al. 2007; Healy et al. 2004; Healy et al. 2009; Helmke and Awe 2012; Helmke et al. 2006; Richie 1990; Sunahara 1995).

The second systematic project, the Belize Valley Preclassic Maya Project (BVPMP) ran from 1994 to 1997 (Healy 1999; Healy and Awe 1995, 1996). These investigations were largely restricted to the plazas in the Core Zone, and petrographic ceramic analysis (Arendt et al. 1996; Hohmann 2002; Hohmann and Powis 1996, 1997, 1999; Hohmann et al. 1999; Sunahara 2003). Nevertheless, investigations also included short reconnaissance mapping trips to the minor hilltop center of Sak Pol Pak, and Actun Pech cave (Conlon 1999; Healy et al. 1996).

The 1997 investigations marked the final

year of major study at Pacbitun until 2008 when the Pacbitun Regional Archaeological Project (PRAP) was initiated (Powis 2009). Its initial focus was the shell bead industry of the Preclassic period (Hohmann et al., in press; Powis 2009, 2010a; 2011; Powis and Healy 2012). Research soon expanded into topics little investigated by the TUPAP and BVPMP, including ritual landmarks (caves, rockshelters, and bedrock outcrops), the causeway system (Powis 2009, 2010b, Spenard 2011, 2012, 2013, 2014; Spenard and Powis 2014; Spenard et al. 2013; Weber 2011, 2012, 2013, 2014; Weber and Powis 2010, 2014), larger settlement surveys of the Periphery Zone and beyond (Spenard, Mai, and Mai 2012; Turner et al. 2016; Ward 2013), excavations at the minor center, Sak Pol Pak (Reece 2012; Spenard et al. 2011), and poorly understood areas of the site core, including the Eastern Court, Structure 10, Structure 3 (the northern bounding range building in Plaza A), and Structure 5 (the southernmost structure of the eastern triadic assemblage also in Plaza A) (Cheong 2013; Micheletti 2016; Micheletti et al. 2015; Micheletti and Stanchly 2014; Weber 2014; Weber and Kieffer 2013; Weber and Powis 2013). Landmark investigations focused on excavating the cave named Actun Lak, and the many rockshelters and other geological features of the Nohoch Tunich Bedrock Outcrop Complex (NTC), both located two kilometers from Pacbitun. Approximately 60 other ritual landmarks have been documented in varying levels of detail, and are awaiting further study.

Middle Preclassic period (Mai phase 900 – 300 BC)

To date, the earliest occupation at Pacbitun can be dated to the Middle Preclassic period, which Healy (1990) defined as dating from 900-300 BC. Other sites in the Belize Valley have earlier occupation dating back to the terminal Early Preclassic (ca. 1200-1000 BC). Based on ceramic and radiocarbon dating, sites like Actuncan, Blackman Eddy, Cahal Pech, and Xunantunich have sealed deposits dating to this Cunil period. The Cunil period represents the earliest sedentary agricultural communities in the Maya lowlands (Awe 1992; Sullivan et al. 2009) and, while a number of valley sites are

occupied at this time, there are no pure Cunil deposits found at Pacbitun. However, Cunil sherds have been found at Pacbitun in mixed deposits in Plazas A and B.

Pacbitun's Middle Preclassic was identified locally as the Mai phase, and is comparable ceramically to the Jenney Creek phase at Barton Ramie (Gifford 1976: 61-83). Throughout the 1990s, archaeological investigations in the site core were able to further refine the Mai phase into an early facet (900-650 BC) and a late facet (650-300 BC). The early and late facets are based on both ceramic cross ties with other valley sites like Barton Ramie (Gifford 1976) and Cahal Pech (Awe 1992) and radiocarbon dates obtained from stratigraphic contexts in Plaza B. Four radiocarbon dates fall between 620-450 BC (cal BC 905-375, 2 sigma, 95 percent probability), which not only securely set the date for initial habitation of Pacbitun but also enable a division of the Mai phase into early and late facets (Healy et al. 2004:224).

The Middle Preclassic period settlement at Pacbitun is restricted to the site core. There is considerable architectural and artifactual evidence for occupation in the majority of plazas dating to both the early and late facets of the Mai phase. However, in the periphery only ceramic material has been found (Healy et al. 2007:23). Despite testing 50 out of 396 sampled mounds within one square kilometer of the site core only occasional traces of pottery, belonging mainly to the Jocote and Savana Groups, were identified (Healy et al., 2004:24). At present, it appears that the earliest occupation remains are confined to the site core. Future investigations in the Periphery Zone, however, will help to clarify this.

Plaza B Investigations

In the site core, early Mai phase occupation is found at 1.25 meters below Plaza B. Through large scale horizontal excavations by the BVPMP, co-led by the primary author, portions of two basal platforms (Sub-Structures B-1 and B-4) were found dating back to ca. 900 BC. Neither structure has been completely exposed. Sub-Structures B-1 and B-4, identified as domestic structures, are dated by both ceramic and radiocarbon dating (Hohmann and Powis



Figure 4. Rectangular building [Sub-Structure B-2] dating to the late Middle Preclassic (600-400 BC) with beads, drills, and shell detritus found embedded in the floor. Photograph courtesy of Terry G. Powis.

Table 1. Refined Pacbitun chronology and ceramic sequence of Pacbitun (adapted from Healy et al. 2004:208).

Date range	Period name	Phase name
AD 900–1000	Early Postclassic	Canto phase
AD 800–900	Terminal Classic	Tzib phase
AD 550–800	Late Classic	Coc phase
AD 300–550	Early Classic	Tzul phase
100 BC–AD 300	Terminal Preclassic	Ku phase
300–100 BC	Late Preclassic	Puc phase
900-300 BC	Middle Preclassic	Mai phase

1996:Table 1). Test units penetrating to bedrock in each structure has identified early Mai/early Jenney Creek pottery sherds only, with over 90% of the sherd material belonging to the Jocote and Savana Groups. Both platforms consisted of a single wall each and measured approximately 6-6.5 meters long (no corners were observed on either structure to determine whether they are square or rectangular in shape). The wall of each platform was oriented in a northeast-southwest position (29 degrees east of

north). Both walls were constructed of two courses of roughly hewn limestone blocks and separated by a meter-wide alleyway made of white tamped marl. The overall height of each platform measured approximately 40cm high above bedrock with a floor thickness of 2-3cm. Sub-Structure B-1 exhibited a western entry or porch area facing Sub-Structure B-4. At the level of decomposed bedrock, several postholes were detected running parallel to the wall of Sub-Structure B-4 indicating this platform likely

supported a perishable superstructure. Within one posthole were 50 intact marine (*Strombidae*) shell beads clumped in a row as if they were once strung together (Hohmann and Powis 1999:4). This bead cache represents the earliest offering at Pacbitun.

Sometime around 650-600 BC, Structures B-1 and B-4 were abandoned with some of the limestone blocks removed for later construction efforts. Both structures were then partially covered by the construction of five additional platforms (Sub-Structures Structures B-2, B-3, B-5, B-11, and B-13). Of note, prior to the building of these late Mai platforms, the inhabitants laid down a thin layer of marl over the top of them to level off their living area prior to the construction of Sub-Structures B-2 and B-3.

These five platforms, like their predecessors, likely would have supported perishable, wattle-and-daub structures. However, these late Mai phase platforms were larger and more elaborate than their earlier counterparts. Despite these differences, similarities did persist. Like the early Mai platforms, these late Mai structures also ran parallel to each other and were separated by a one-meter wide alleyway. The close proximity and common extramural areas suggest that the structures were organized as a small *plazuela* group with several structures situated around an open patio area, a pattern that continues to this day in most traditional Maya communities (Hohmann et al., n.d; Vogt 1964). The tamped marl alleyways between these platforms provide additional evidence that these architectural features were associated and contemporaneous. The exposed walls of Sub-Structures B-2 and B-3 were made of well-dressed limestone blocks 20cm wide and at least three courses high. Both were aligned 20 degrees west of north, a major reorientation/realignment from early Mai times. Tamped marl floors were present in each, measuring 2-3cm in thickness. PRAP excavations fully exposed Sub-Structure B-2 as well as the alleyway separating it from Sub-Structure B-3 (Figure 4). Sub-Structure B-2 was rectangular in shape and measured nine meters by six meters (or at least 54m² of living/working space) (Powis 2009, 2010). To date, this structure represents the largest late Middle



Figure 5. A reconstruction of El Quemado, or Q, in Plaza A. Image courtesy of George Micheletti.

Preclassic example of Maya domestic architecture unearthed in the Belize Valley.

Associated with all seven platforms (Sub-Structures B-1, B-5, B-11, and B-13) in Plaza B was evidence of early and late Middle Preclassic shell ornament production. Investigations into the floors and alleyways revealed large quantities of shell ornaments in various stages of production, marine shell detritus, and chert microdrills and burin spalls spanning the entire Middle Preclassic period. The Pacbitun shell assemblage (n=8,783) represents the largest Preclassic collection in the Belize Valley, consisting of 5,670 modified shell specimens and 3,113 pieces of marine shell detritus, which is defined as fragmented shell that has not been intentionally shaped or worked (Hohmann et al., in press). The formal tool assemblage shows clear evidence of burin spall technology, including both burin spalls and microdrills (n=390).

By the end of the late Middle Preclassic (ca. 400-300 BC), a thick midden was deposited over the top of the late Mai structures in Plaza B. The deposit consisted of dark, organic soil densely packed with domestic refuse (ceramics, lithics, animal remains, plant remains), as well as shell ornaments in various stages of production, marine shell macro-detritus and chert microdrills and burin spalls. Additionally, tens of thousands, perhaps hundreds of thousands, of *jute* were also found in this midden. The presence of the midden over top the Middle Preclassic community signifies a change of space in this part of the site. This late Mai phase community of houses and associated shell workshops was replaced with the first lime-plastered plaza floor in Plaza B. Similar

changes occurred in Plaza A but this involved covering a monumental structure, designated as El Quemado, with successive plaza floors at the end of the late Middle Preclassic period.

Plaza A Investigations

With the complete exposure of one late Middle Preclassic platform below Plaza B, along with portions of several others, PRAP's investigations shifted to sub-plaza investigations in Plaza A. The purpose of this research was to connect the residential area found in Plaza B with early ceremonial architecture in Plaza A. Our main goal was to gain a more complete (and comprehensive) understanding of the entire Middle Preclassic community at Pacbitun. Up to this point, our view of this early period was defined by domestic structures.

A geophysical survey using magnetometry and ground penetrating radar revealed several anomalies buried below Plaza A (Skaggs and Powis 2014; Skaggs et al. 2016). One test unit adjacent to Structures 3 and 4, and horizontal revealed one of those anomalies to be the summit of a late Middle Preclassic temple buried approximately 50cm below the main plaza of the site. Extensive burning was encountered on all surfaces of the temple, which led to the building being called El Quemado, or the Burned One. The extensive burning helped to preserve this building.

Investigations have shown that El Quemado, also known as Q, is a large, non-radial pyramidal structure measuring 32m long (east-west) x 12m wide (north-south) x 2m high (Figure 5); however, it extends under Structure 3 and therefore the north-south dimension is approximate. Ceramics and radiocarbon assays from inside three excavation units that penetrated Q's summit indicate it was built sometime around 550 BC and was buried by 400-300 BC. No evidence of a superstructure is present on the summit of Q, suggesting it had a public ritual/ceremonial function.

El Quemado is oriented to the south, aligned 16 degrees west of north. The main stairs leading up the south face consist of five inset stairs each measuring six meters wide. These stairs rise to two sets of terraces before one reaches the summit of the building. Two sets of upper and lower armatures flank the large

central staircase. There is no evidence they were adorned with stucco masks. Adjacent to the armatures on the east and west sides are a pair of small inset stairs that are reminiscent of Structure E-VII-Sub at Uaxactun (Ricketson and Ricketson 1937). We have found several pieces of sculptural plaster located on the small inset stairs located on the southeastern and southwestern sides indicating that masks may have once adorned the corner facades of the temple.

The masks appear to have been chopped off the corners of the building, as were the terraces, armatures, and corners (and noses) of each stair. Coupled with the extensive burning across the entire surface of Q (an indication it was calcified or calcined), the temple appears to have been partially destroyed (terminated?) at the end of the late Middle Preclassic (ca. 400-300 BC). Prior to the act, its surface had been swept clean of artifactual material, save for two caches/offerings. Cache Q-1 was found on the summit of Q along the centerline. It consisted of a single ceramic dish, which has been identified as a Savana Orange: Rejolla Variety vessel. Cache Q-2 was found along the traverse line of the building. It consisted of a single ceramic spouted jar, which has been identified as a Savana Orange: Rejolla Variety vessel.

Other than these two vessels it appears the temple was prepared for burial. It was first covered in a thin layer (3-5cm) of light brown marl and then covered with a thick layer of muck. This was done before four task units, measuring the length of Plaza A, were laid down in a north-south alignment. The task units were used to divide Q's plaza area into manageable sections prior to the construction of successive plaza floors beginning in the early Late Preclassic period. These plaza floors would serve as the base on which the monumental constructions of the Classic period would sit.

To date, little comparable architecture has been found in the Belize River Valley and elsewhere in the Maya area. In the Belize Valley, Structure B1-3rd-g at Blackman Eddy (Garber et al. 2004:43) looks like Q. If future testing can confirm that the architecture beneath Structure 3 belongs to Q, then its architectural design would bear a striking resemblance to Tikal's Lost World Pyramid and Uaxactun's E-

VII Sub, although at a smaller scale. Both of these structures share a similar architectural style with Q. Both structures were adorned by stucco masks; also thought to be present on Q. Interestingly, the Lost World Pyramid and E-VII sub had earlier buildings within them dating back to the Middle Preclassic periods (Laporte and Fialko 1994:336; Ricketson and Ricketson 1937), which look like Q in some way. This suggests to us that perhaps the form of Q may have been similar to Preclassic precursors of the Tikal and Uaxactun buildings.

Aside from the structure's architectural uniqueness, what further distinguishes Q from other architecture in the Belize Valley is the method of its abandonment. Evidence suggests that Q was abandoned around 400-300 BC. Rather than razing and incorporating elements of Q as core within a later building construction, a common practice throughout Mesoamerica, the inhabitants of Pacbitun decided to bury this monumental building virtually intact to start anew. Evidence such as chopped corners, extensive burning, ceramic offerings, and the possible destruction of masks suggest that the platform may have been ritually terminated. The platform was then covered in a thick layer of muck aiding in its preservation. Task units were set to build up and enlarge the plaza to its maximum extent, ultimately covering the massive early platform with a floor just above its summit, thereby sealing Q below what became the main plaza during Pacbitun's subsequent Classic period apogee.

Late Preclassic period (Puc phase [400/300 – 100 BC] and Ku Phase [100 BC – AD 300])

The Late Preclassic period represents one of the most dynamic in Pacbitun's history. Healy (1990a:256) originally divided it into two phases represented by distinct pottery types; however, most notable activity began in the Ku phase, thus the phases are combined here for ease of discussion. Construction events occurring in the Epicenter include the renovation of the Eastern Court (Cheong 2013:89). In Plaza A, a trio of aligned platform structures on the eastern edge of the plaza (Structures 1, 4 and 5), were constructed along with a single platform structure, Structure 2, centered on the plaza's western edge. Although with some

idiosyncrasies, the architectural configuration of Plaza A resembles a variant form of an E Group, a ceremonial architectural complex (Aimers and Rice 2006; Micheletti 2016; Micheletti et al. 2015; Micheletti and Stanchly 2014). The ceremonial assemblage of Plaza A was accompanied by the initial version of Structure 3, the plaza's northern structure (Micheletti and Stanchly 2014). This period also witnessed the first iteration of the site's ballcourt, another Late Preclassic Mesoamerican architectural archetype (Healy 1992).

Plaza A's Late Preclassic transformation, which entombs the Middle Preclassic ceremonial structure El Quemado, is clearly indicative of an ideological shift at Pacbitun. Together, the construction projects in Pacbitun's Epicenter suggests a move towards social inequality, with an elite class capable of expressing control over the population, convincing or coercing them to abandon and bury their homes after generations, ultimately making a space for the ensuing monumental constructions (Micheletti 2016; Micheletti et al. 2016; Spenard 2014:62). Obsidian from the Guatemalan highlands and shell from the Caribbean Sea appear in deposits from this period, and the ballcourt and E Group-like arrangement suggests connections to greater Mesoamerica, which surely brought further prestige to those commissioning its construction (Scarborough 1991; Taladoire 2001).

Stone walls set onto the limestone bedrock and a midden deposit with ceramics dating from both the Middle and Late Preclassic periods were found at the north end of what later becomes Courtyards 1 and 2 (Bill 1987; Skaggs et al. in press). The midden is most likely a continuation of the Plaza B midden deposit noted earlier, but it is uncertain if the walls are platform edges or simply to retain the midden deposit. The first floor in both of these courtyards occurs above the midden deposit dating to the Early Classic (Bill 1987; Skaggs et al. in press).

With estimates ranging between 550 and 700 inhabitants, population expanded both in terms of the number of inhabitants and areas where they lived (Healy et al. 2007:32-33). Most habitation growth appears in the Periphery Zone, presumably resulting from the village being buried, forcing population

decentralization. Limited excavations suggest 11 percent of all recorded mounds in the Periphery Zone, and only 5 percent of recorded mounds in the southeast quadrant within the Core Zone were established at this time (Healy et al. 2007:23-24).

The first definitive evidence of ritual landmark use in the Pacbitun region comes from this period. Late Preclassic period ceramics were recovered in mixed contexts from the cave of Actun Pech, as well as the rockshelters of Actun Subuul and Actun Xtuyul in the NTC (Healy et al. 1996; Spenard 2014). Yet another cavern, Actun Lak was a major focus of local community ritual (Figure 6).

The ceremonial activities in Actun Lak were largely restricted to a cluster of stalagmitic columns in the center of the cave, in front of which the Maya constructed a cobble altar (Figure 7). Smashed remains of thousands of bowls of the Hewlett Bank Unslipped type, many smudged or burned, littered the altar and comprised the entire matrix of the floor surrounding it (Spenard 2012; 2014). Throughout Pre-Hispanic Mesoamerica, cave formations were worshipped as the physical manifestations of the rain god, Chaahk, thus the rituals performed in this part of the cave were likely rain-related (Stone 2005b; Spenard 2014:421). Although the landmarks in the NTC area and in Actun Lak held the largest collection of Late Preclassic period ritual landscape ceramics, they were also the most intensively investigated in the Pacbitun region. Thus, future excavations may reveal broader use at this time.

Early Classic Period (Tzul phase AD 300 – 550)

The two-and-a-half centuries of the Early Classic period were a prosperous time for Pacbitun, and included several updates to the Epicenter, the earliest known record of a divine royal lineage, increased external connections, and a further geographic expansion of Periphery Zone settlement. Updates to the Epicenter include modifications and enlargements to the E Group and multiple plastering events of the ballcourt (Healy 1990a:256, 1990b, 1992:234). A small shrine, likely dedicated to a simple crypt burial dating to the Ku phase, was added to Structure 1 (Healy 1990a:256). A second burial

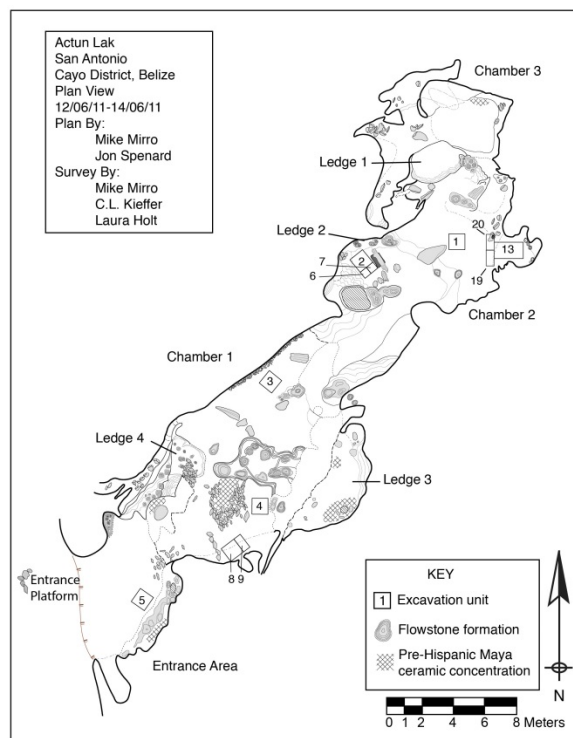


Figure 6. Plan view sketch map of Actun Lak. Map courtesy of Jon Spenard.



Figure 7. Stalagmitic altar and cobble pavement, focus of Late Preclassic period ritual, Actun Lak. Map courtesy of Jon Spenard.

placed in the same structure, but dating to the Tzul phase may be indicative of the growing importance of ancestor veneration; a common practice associated with E Groups at this time (Chase and Chase 1995). Ritual landmark use also became more common as indicated by the regular presence of ceramics stylistically dated to the period noted within many of them (Spenard 2014:Table 6.2).



Figure 8. Drawing of Pacbitun Altar 3, largest fragment recovered from Structure 1 cache, smaller fragment from Late Classic period wall, Structure 25. Drawing by Christophe Helmke.

The remains of at least 20 monuments have been recovered at Pacbitun, 13 stelae and 7 altars (Healy et al. 2004:213). Three retain evidence of being carved, of which two date stylistically to the Early Classic, Altar 3 and Stela 6 (Figure 8; Helmke and Awe 2012). Both monuments had been removed from their primary contexts and redeposited at various locations within the site in at least two events, one in the latter portion of the Early Classic period (ca. AD 400-550), and again at the onset of the Late Classic period (ca. AD 700); they likely originally formed a paired set (Healy et al. 2004; Skaggs et al. in press). Portions of Altar 3 and pieces of another altar—too fragmented for identification—were cached during renovations of Structures 1, 5, and 25, whereas Stela 6 was placed on the terminal floor of Plaza A at the base of Structure 5 (Helmke et al. 2006, Skaggs et al. in press). The text and imagery of Stela 6 records a royal accession on 9.2.10.0.0 (22 March AD 485), while Altar 3 may depict the same ruler holding a ceremonial bar, standing on a short glyphic caption, containing the logogram of the site, possibly read *Bajniil*, which can be translated as ‘Where there are Gophers,’ or

‘Place of Gophers’ (Helmke et al. 2006; Helmke and Awe 2006; Skaggs et al. in press). Aside from the developments of Pacbitun’s Core Zone ceremonial architecture, residential areas, including Structures 23, 25, 36 and 37, were expanded (Bill, 1987; Cheong 2013; Skaggs et al. in press).

Pacbitun’s Early Classic period prosperity is not only suggested by the expansion of the monumental and royal architecture in the Core Zone, but also in the presence of exotic goods found in the one burial and three caches from this time. From them, obsidian from highland Guatemala and Hidalgo, Mexico, chert from northern Belize, jadeite from highland Guatemala, and shells from the Caribbean were recovered (Healy 1990a:259-260, 1992:234; Healy et al. 2004).

In the Periphery Zone, limited excavations revealed a slight increase in the geographic footprint of the polity with 14 percent of known mounds occupied during this time, while 10 percent of mounds in the Core Zone contain evidence of occupation (Healy et al. 2007). Population estimates indicate between 700 to 900 people inhabiting the broader Pacbitun settlement, with the Core Zone population doubling from the previous period (Healy et al. 2007).

In addition to an increase in scattered settlement, the Early Classic period witnessed a major construction boom, if not the initial settlement, at Sak Pol Pak, the earliest known satellite center of Pacbitun (Figure 9; Conlon 1999; Reece 2012; Spenard et al. 2012). With a population of 50 individuals at its height, this center consists of three interconnected court yards around which the Maya constructed 14 structures, two of which are ceremonial (Conlon 1999:32). The ceremonial structures include an 11 m-tall pyramid (Structure 1), nearly the same height as Pacbitun Structure 1, and a round structure (Structure 4), similar to those commonly constructed elsewhere in the Maya area during the Terminal Classic period. The site sits on an isolated hilltop in the otherwise undifferentiated span of foothills to the south of Pacbitun. At the foot of the hill is a complex series of massive caves that drain runoff from the surrounding landscape into the hill itself. Limited excavations by the PRAP team revealed

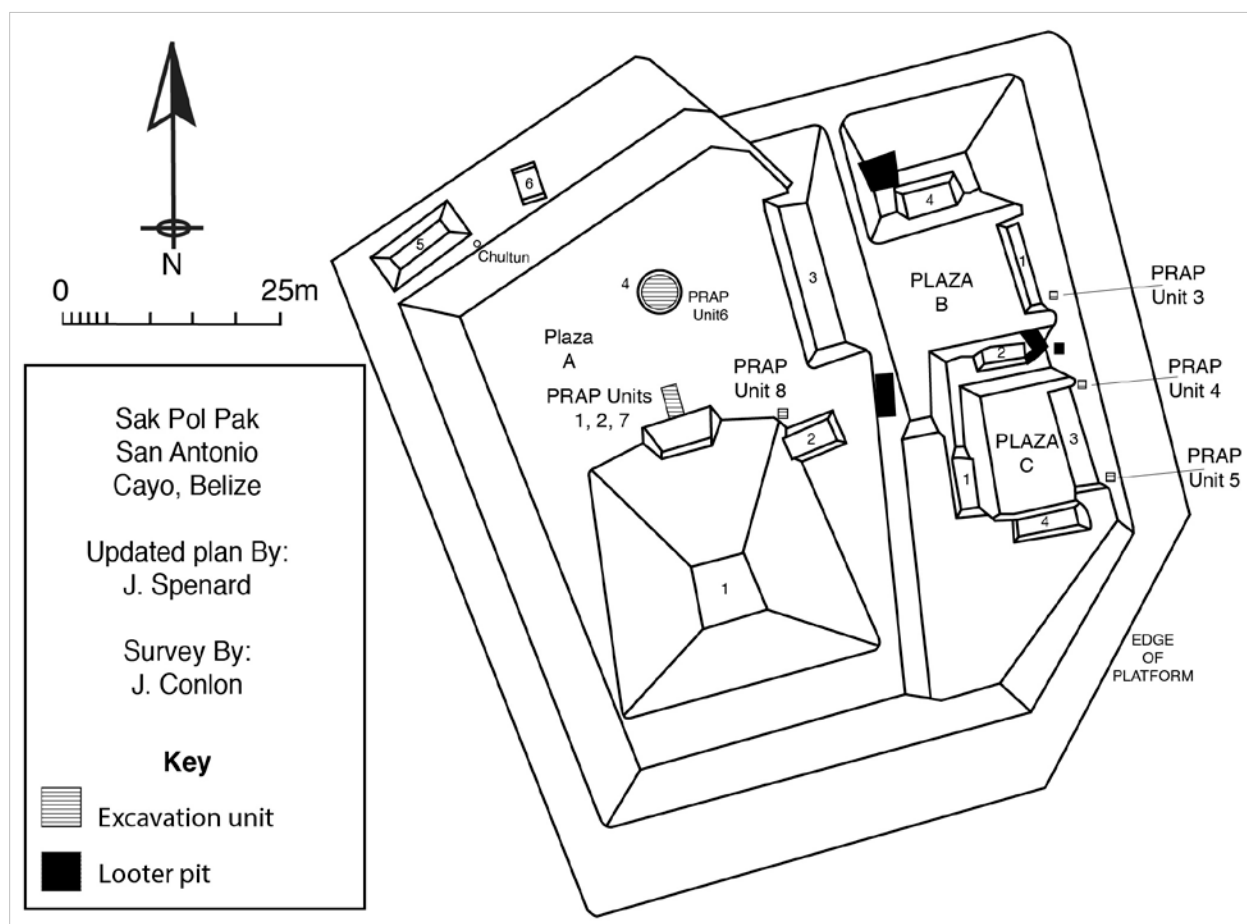


Figure 9. Map of Sak Pol Pak showing locations of PRAP excavation units (Map by Jon Spenard after Conlon 1999:32).

the pyramid and the plaza in front of it (Plaza A) to be the earliest structure at the site; ceramics recovered from structures surrounding the other two plazas, B and C, stylistically date to the Late Classic period, indicating they were constructed at that later date. Thus, this hill was likely selected for settlement due to its status as a landmark of ceremonial significance, perhaps as another water shrine for the inhabitants of Pacbitun (Spenard et al. 2012).

Late Classic Period (Coc phase AD 550–800)

Healy (1990a) originally identified Pacbitun's Late Classic period as the Coc phase, comparable ceramically to the Tiger Run phase at Barton Ramie (Gifford 1976: 191-225). PRAP's investigations allow us to further refine the Coc phase into an early facet (AD 550-700) and a late facet (AD 700-800). We maintain Healy's association of the early Coc phase with

Barton Ramie's Tiger Run phase, while associating the late Coc phase with Barton Ramie's Spanish Lookout phase (Gifford 1976:225-288). Both facets are based on ceramic cross ties with other valley sites, particularly Barton Ramie (Gifford 1976) and Xunantunich (LeCount et al. 2002). Architectural construction and renewal continued in the Late Classic period (AD 550-800) though on a much grander scale than occurred in previous phases. These construction efforts greatly altered the appearance of the Epicenter, Core, and Periphery Zones, and were accompanied by a doubling of the sustaining population. Ten rich burials were also interred in the Core Zone, a class of sub-royal elites emerged, and new specialized craft production appeared in the Periphery Zone (Cheong 2013; Healy 1988, 1990a:255; Healy et al. 2004:229; White et al. 1993). The construction boom

included enlarging the E Group, expanding the palace complex, the North Group of the Eastern Court, reshaping the ball court, and the construction of Plazas B and C at Sak Pol Pak mentioned above (Bill 1987; Cheong 2013:92; Healy 1990a:252-257, 1992; Healy et al. 2004:209-211). Lastly, the causeway system reached its fullest extent between the Late Classic period and subsequent Terminal Classic, although its exact chronology is still being refined (Weber 2011, 2012, 2013, 2014; Weber et al. 2012:123; Weber and Powis 2011:202-204).

Early Coc phase (AD 550-700)

Around the onset of the Coc phase, Pacbitun experienced a site-wide construction event, ultimately transforming much of the architecture in the Epicenter and Core Zones. Modifications to the E Group complex varied greatly from the previous pattern of construction and seemed to disregard the physical attributes typically associated with this archetype (Micheletti 2016). The placement of several elaborate and well-furnished elite graves into each of the four structures of the complex supports the idea of the assemblage's physical and functional conversion to an Eastern Triadic Assemblage, a recently described architectural archetype under investigation in the Belize River Valley (Awe et al. 2016). The ramifications of a physical and functional transformation of an assemblage known to be associated with both communal reverence and elite aggrandizement is almost surely evidence of sociopolitical change. Supporting evidence of sociopolitical unrest may also be exhibited in the reconfiguration of the site's ballcourt, an architectural archetype known to have both ritual and political affiliations (Fox et al. 1996; Healy 1990, 1992:234-235).

Early Coc phase burials are the richest yet found at the site, the most prominent of which is a vaulted royal tomb found within Structure 1 (Healy 1990a:255; Healy et al. 2004:229). In the tomb, the regent's body was laid to rest in an elaborately executed, oval-shaped cavity, excavated via a shaft into the preexisting structure. The cavity was then capped with slate slabs, and buried under a dense lens of thousands of chert flakes (Healy et al.

2004:230). The body was covered in red pigment, and then 19 painted vessels, jadeite and pyrite beads, shell ear ornaments, a series of bone tubes, a slate mirror backing, and a *Spondylus* shell with a painted hieroglyph on its interior, were included as burial costume and furniture (Healy et al. 2004:231-232; Helmke et al. 2015). After the tomb was sealed, the entire structure was reshaped with a special stair block added to the central stairway, placed above the in-filled shaft. Lastly, a stela and altar complex was erected at the foot of the structure (Healy et al. 2004:233).

Evidence of specialized craft production is seen in a slate workshop attached to Structure 23 in Plaza B (Bill 1987; Healy et al. 1995). While slate appears in the earliest dated deposits at Pacbitun, it was most frequently used for artifacts throughout the Late Classic period (Healy et al. 1995:343). Worked slate was regularly encountered in ritually-charged, elite spaces, including caches, caves, and burials throughout Pacbitun, while a low density debitage scatter litters the surface of the Epicenter (Healy et al. 1995:340; Spenard 2014).

A trend in settlement distribution during this period suggests greater elite control over the Epicenter than in previous periods. Overall population expanded to between 1400 and 1800 persons, inhabiting roughly 31 percent of the periphery mounds tested, but only 5 percent of the structures in the Core area continued to be occupied (Healy et al. 2007:33). This population movement out of the Epicenter and into the periphery suggests habitation of the Central Zone may have been restricted to the royal family and court (Healy et al. 2007:33). A similar centralization of elite and concomitant expulsion of non-elite from core areas may account for the disparity in dates between the ceremonial and habitation areas of Sak Pol Pak.

Although the Early Classic period is well represented ceramically in the ritual landscape, pottery dating to the early Coc phase appears in fewer ritual landmarks. This change in ceramic distributions may suggest a decrease in ceremonial activity, possibly related to a cessation of ritual caused by external warfare (Moyes 2006). Alternatively, due to the conservative nature of ritual practice, use of ceramics of earlier periods may have continued



Figure 10. Photograph of mold-made ocarinas, and a large palanquin-shaped whistle from Pacbitun's Eastern Court. Photograph by Kong Cheong.

into this time period.

Late Coc phase (AD 700-800)

The late Coc phase of the Late Classic period (AD 700-800) began as the most lavish time in Pacbitun's history, but this success also quickly led to the demise of the community; by AD 900, at the end of the following Terminal Classic period, the site was nearly completely depopulated, its Epicentral structures abandoned (Healy 1990a:259; Healy et al. 2004; Skaggs and Powis 2014; Weber 2014). During this century, the Epicenter was renovated for a final time, accompanied by an increase in caching behavior throughout the site, and burial practices continued (Healy 1990a:259; Healy et al. 2004:215). An increase in specialized craft production is seen in the development of a ground stone production industry in the Periphery Zone (Ward 2013). Additionally, the periphery settlement quintupled, necessitating experimentation with agricultural technologies, primarily in the form of terracing to feed the newly expanded population, and a spike in ritual landmark use and modification occurred (Healy et al. 1980; Healy et al. 2007:33; Spenard 2014; Weber 2011b:90). In the case of the NTC, its features were heavily, yet subtly modified with crude architectural constructions, seemingly in an effort to enhance the natural beauty of the place, ultimately transforming it into a pleasure garden (see Spenard this volume).

Epicenter renovations at Pacbitun involved the enlargement of the structures in Plaza A including the massive expansion of Structure 3, a final renovation to the ballcourt,

and an update to the palace complex (Healy 1992:235; Healy 1990a:251-253; Micheletti and Stanchly 2014). Ballcourt modifications included the addition of a low-platform superstructure and stairs along the rear of each of the buildings. Final updates to the palace complex added a series of interior and exterior chambers topping range structures, several containing masonry benches (Bill 1987; Healy 1990a:253). Many of these renovations included lavish burials ($n=7$), and caches, although, except for a single *Spondylus* shell, all the latter contained only local or regionally manufactured items, indicating a disruption of long-distance exchange contacts (Healy 1990a:256; Healy et al. 2004:215-2166).

Although the breakdown of some external ties is suggested in the changes in caching behavior, others arose. PRAP investigations of the Tzib Group in the Periphery Zone resulted in the excavation of a ground stone workshop focused on granite mano and metate production (Skaggs et al. 2016; Ward 2013). A total of 146 mano fragments, the majority being ends of mano preforms, 72 metate fragments, and 109 chert hammer stones were found in the 21.75 square meters excavated. Additionally, this single mound contained 1099kg of excavated granite flakes and an estimated 9 cubic meters (10,800kg) of anthropogenic granite sand. Although most of the ceramics recovered from excavations indicate a primarily Late Classic period occupation (AD 700-800), some Late Preclassic period material was recovered (Ward 2013: Appendix A, Appendix B). Shovel testing of the area surrounding the mound revealed two other mounds with granite sand debris, suggesting a community of crafters (Skaggs et al. 2016). Located near the granite source, Pacbitun may have been a hub of a regional ground stone production network emerging in the late Coc phase, and continuing into the following Tzib phase of the Terminal Classic period that included harvesting granite from the nearby Mountain Pine Ridge, creating preforms in the outlying settlements, and then exporting the objects to markets yet to be identified (Skaggs et al. 2016).

Several of the other late Coc phase burials from Plaza A and the North Group of the Eastern Court were accompanied by a variety of

figurines and musical instruments (Cheong 2013; Cheong et al. 2014; Healy 1988, 1990a:255; Healy et al. 2004:214-215, White et al. 1993). These objects include a drum, figurine ocarinas, flutes, flute-maracas, and flute-rattles (Cheong 2013:C1-C16; Healy 1988; Healy et al. 2009). Among the instruments from the Eastern Court were a series eight mold-made, seated-figure ocarinas, likely pressed from the same cast, and a large palanquin-shaped whistle (Figure 10; Cheong 2013:Figure C5, Figure C16-C18). The presence of burials with instruments and high quality jadeite artifacts in the North Group, in addition to its position adjacent to and on the same elevated platform as Plaza A, strongly indicate secondary or sub-royal elites likely inhabited the group (Cheong 2013:92).

Other notable changes during this time include a geographic expansion with all known mounds tested in the Core and Periphery Zones having evidence of habitation (Healy et al. 2007). Accompanying this geographic expansion was a population explosion of several thousand people to between 4000 and 7000 (Healy et al. 2007:33; Weber 2011:90). One of the outcomes of this unprecedented population boom was a need for greater agricultural production. Experiments with intensification in the form of hillside terrace agriculture were made around Pacbitun; they were made necessary because much of the area's prime farmland was likely already in use, and the more established fields had been unable to accommodate the increased demand for food (Healy et al. 1980; Healy et al. 2004:222; McAnany 1995:95-96).

All but one of the approximately 70 ritual landmarks known in the Pacbitun region contains extensive ceramic evidence of use during this period. Unfortunately, most artifacts were recovered from mixed contexts—a common occurrence in cave archeology—and are insufficiently temporally diagnostic for placing them in either the late Coc or Tzib phases; they compare ceramically to the Spanish Lookout phase (AD 700-900) at Barton Ramie (Gifford 1976:225-288). Nevertheless, Mount Maloney Black type bowl fragments were frequently encountered in the ritual landscape artifact assemblage, and Spenard has observed it

regularly in the settlement ceramic assemblage although its presence has yet to be formally described there. On the one hand, the presence of this pottery type at Pacbitun verifies a heretofore only speculated connection between Pacbitun and western Belizean sites, such as Xunantunich, where the type has strong affiliations (LeCount et al. 2002). On the other hand, and more pertinent to the present discussion, this ceramic type is a highly sensitive chronological marker at Xunantunich (LeCount et al. 2002). Although the type has yet to be quantified from Pacbitun's settlement ceramic assemblage, 23 percent of identifiable pieces of the type from Pacbitun's ritual landmarks belong to Xunantunich's Samal phase (AD 600-670), 36 percent to the Hats' Chaak phase (AD 670-780), and 14 percent to the Tsak' phase (AD 780-890), while the remaining 27 percent are indeterminate (Spenard 2014:329). While we acknowledge LeCount and colleague's (2002) chronology for the type may not align perfectly with that of Pacbitun, it has offered us a starting point for refining the Late Classic and Terminal Classic period chronology at Pacbitun. In short, the Samal phase at Xunantunich is roughly equivalent to the early Coc phase, the Hats' Chaak to the late Coc phase, whereas Tsak' aligns to the following Tzib phase.

Terminal Classic period (Tzib Phase AD 800-900)

Healy (1990a) originally identified Pacbitun's Terminal Classic period as the Tzib phase, ceramically associated with the Spanish Lookout phase at Barton Ramie (Gifford 1976:225-288); however, this period is recognized throughout the Maya Lowlands as one of great social and political upheaval and change (Rice et al. 2004), prompting our revision of the site's chronology. Although this period remains poorly understood at Pacbitun, PRAP's ceramic research and investigations in the Periphery Zone has begun to shed some light on it.

Molded-carved ceramics are a diagnostic marker of the Terminal Classic period, and the transition to Early Postclassic, throughout Belize and are common to terminal occupation deposits in the Core and Periphery Zones at Pacbitun (Helmke 2000:5-6). Most of this material can be

identified as Ahk'utu' Molded-carved, a ceramic type with an iconographic program dated stylistically to between AD 840-879 (Helmke 2000; Helmke and Reents-Budet 2008). This pottery type was largely restricted to the Belize River and its tributaries, and the accompanying texts always refer to a Lady Olom, who is cited in the texts of Uaxactun between AD 810 and 830, with what may be a posthumous reference at Jimbal in AD 879 (Helmke and Reents-Budet 2008). These vessels were intended as objects to be gifted, with Lady Olom as the patron of these gifts (Helmke 2001). Additionally, a fragment of a production mold whose iconographic program indicates it was used to make Sahcaba Molded-carved vessels, was recovered in a small rockshelter in the NTC, suggesting Pacbitun may have been involved in the production of such vessels in some capacity (Spenard 2014, n.d.).

Regional paleoclimatological data points to two multidecadal droughts between AD 800 – 900, which would have affected Terminal Classic period food production at this time, and coupled with an exploding population, caused great social stress (Kennett et al. 2012; Webster et al. 2007). In fact, isotopic data collected from both human and faunal remains demonstrate differential access to maize by age, sex, and class at this time. Overall, the agricultural intensification developed in the previous period was insufficient to meet the needs of the recently expanded population, and the site experienced a demographic collapse at the close of the Tzib phase (White et al. 1993:366-370).

Relatedly, ritual landmark use peaks during this time, likely in response to the changing climate, a pattern common throughout Belize (Kennett et al. 2012:791; Moyes et al. 2009; Spenard 2014). One of the primary functions of Maya rulers was the successful performance of water and agricultural cave rituals. Thus, curing the droughts and supplying adequate food for the community would have been the purview of the royal lineage. Actun Lak cave was subject to an extensive construction program that created an elevated, stone-lined earthen platform just outside the cave's entrance. A cobble stairway, leading 90 m downhill to the entrance of another massive cavern acting as a landscape drain for the region

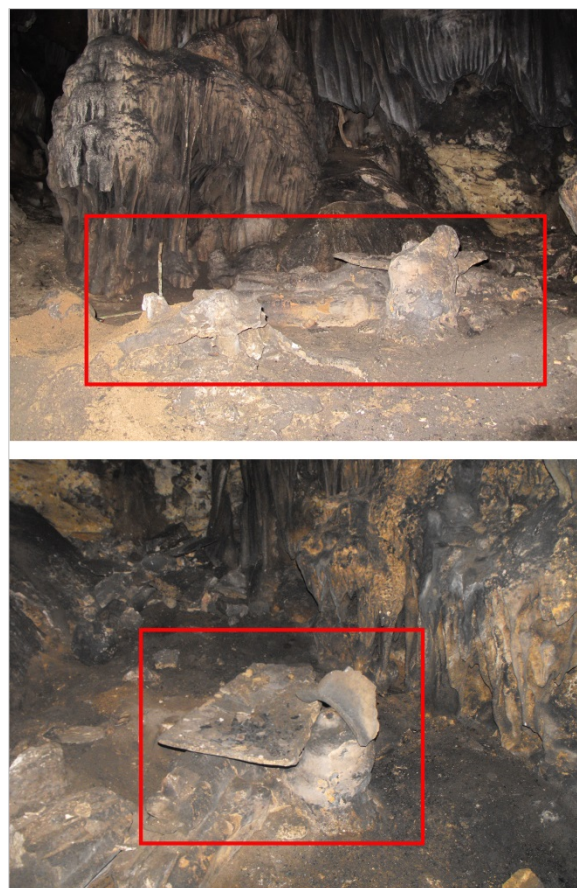


Figure 11. Photograph of Actun Lak speleothem altar. Map courtesy of Jon Spenard.

connected to the front of the platform. Adjoining its rear, the entire entrance area was raised over three meters, and a small terrace was constructed on the artificial floor, passively restricting access to all but ritual performers (Spenard 2014). Excavations revealed these features to have been the result of a single construction event. Moreover, an Altar Orange type bowl was recovered from beneath an artificial slate floor below the terrace surface. This ceramic type is a highly sensitive chronological marker, appearing rapidly throughout the Maya Lowlands between AD 820 and 830, thus providing a *terminus post quem* date for the modifications (Foias and Bishop 1997).

A heavily burned chamber in the rear of the cave contains a cave formation altar, and the matrix surrounding it is comprised completely of ceramics and raw pine charcoal (Figure 11; Parker 2014; Spenard 2014). One radiocarbon

assay of cal AD 770-940, was collected from a piece of partially burned wood recovered from the floor near the altar. This date range closely overlaps with the appearance of Altar Orange pottery in the Maya Lowlands, as well as molded-carved ceramics, indicating significant social-political changes were underway in the Terminal Classic period. Moreover, the use of raw pine would have created high volumes of smoke (Parker 2014), suggesting ritual activities. Excavations at the foot of the altar uncovered over 100 jadeite beads and other objects, and three earspool fragments of the same material. This assemblage represents the largest collection of jadeite objects yet found in Pacbitun, indicating the ritual practitioners were high-level elites, if not royalty (Spenard 2014). In addition to its ties to the elite, jadeite, as well as aromatic pine smoke, had strong symbolic connections to rain in pre-Hispanic Maya thought (Taube 2001). Taken together the Terminal Classic period data from Actun Lak suggests the Pacbitun elite co-opted a community rain shrine during the climatically tumultuous times to ritually stave off the drought (Spenard 2014). They were unsuccessful, and only a few short decades later most of the site was largely abandoned.

Early Postclassic period (Canto phase AD 900-1000)

Although Pacbitun experienced a demographic and political collapse at the end of the Terminal Classic period, recent PRAP investigations have revealed some continued habitation and ritual landmark use. One flexed burial found in the site core may date to this period, as it was found in an abandonment context; however, it lacked diagnostic artifacts to help date the interment (Healy et al. 2004:215). While the purpose of the landmark ritual activities are unknown, investigations in Actun Lak Cave, and the NTC recovered from mixed contexts several sherds belonging to the Augustine Group, and a fragment of a More Fore Unslipped Type tecomate-style bowl. Moreover, although common to the Terminal Classic period, Fine Orange and molded-carved pottery continue to be produced into the Early Postclassic period throughout the populated Maya Lowlands (Helmke 2000), thus some of

that recovered material from Pacbitun may have been deposited by a remnant population sometime after AD 900, but prior to AD 1000.

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