An Investigation of Residential Mortuary Trends Among the Southern Lowland Maya: A Case Study at Ka'kabish, Belize

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ABSTRACT

An Investigation of Residential Mortuary Trends Among the Southern Lowland Maya: A Case Study at Ka'kabish, Belize

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Mortuary archaeology presents a unique opportunity to compare cultural and biological factors within burial assemblages. This study expands upon the previous bioarchaeological research in the eastern portion of the Southern Maya Lowlands through a comparative mortuary analysis that highlights burial trends between the site of Ka'kabish, Belize, and surrounding settlements. Ka'kabish spans from the Middle Formative through to the Postclassic periods (ca. 800 BC to AD 1500) and signifies a diverse social-strata with burials ranging from a variety of ritual and domestic complexes. Ka'kabish displays a preference for primary interments of non-extended positioning, greater chultun (subterranean chambers) use than displayed regionally, potential ancestor veneration, and demonstrates a transition from public, monumental burials, to private, domestic burials, from the Middle/Late Formative to the Postclassic periods. Inter-site comparisons demonstrate that Ka'kabish's mortuary patterns do not directly fit within a specific regional trend; rather, Ka'kabish displays a wide range of influences from many sites in the surrounding lowlands.

Keywords: Maya, Belize, lowlands, mortuary, burial, domestic, structure, chultun, multiple-entry, Late Classic, Terminal Classic, Postclassic, Ka'kabish.

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ABBREVIATIONS

BVR	Belize Valley Region
Cem.	Cemetery
Ch-	Chultun
EC	Early Classic
F	Formative
FWCD	Freshwater Creek Drainage
KARL	Ka'kabish Archaeological Research Lab
KARP	Ka'kabish Archaeological Research Project
LC	Late Classic
PC	Postclassic
SE	Southeast
Str.	Structure
TC	Terminal Classic
VPLF	Ventrally Placed Legs Flexed

1.0 Introduction

There is often a disconnect between the physical condition of skeletal and mummified remains and the burial context focusing on characteristic traits like individual bone elements, morphological features, pathologies, and anomalies (Martin et al. 2013:120). This focus on human remains has led to an intellectual trajectory in biological anthropology and bioarchaeology to mainly view remains as biological entities instead of consistently incorporating the lived experiences of the individuals into the discussions. Thus, merging human experience with the body in analyses (Houston et al. 2006:4; Geller 2012; Martin et al. 2013:117, 120). This is especially true in Mesoamerican contexts where ideology, ritual, and beliefs are important aspects of mortuary customs (Fitzsimmons and Shimada 2011:53).

Following the established paradigms of mortuary archaeology, this research will study the site of Ka'kabish, Belize, to facilitate a greater understanding of the population's mortuary trends by analyzing both social and biological variables. The current burials at Ka'kabish have been recovered and analyzed through burial-specific lenses, and therefore have not been used to analyze the site's overall burial patterns. This research examines Ka'kabish's entire burial assemblage using a mortuary perspective to understand the site's burial patterns and situate them among the Maya Southern Lowlands. Thirty-seven individuals recovered from 30 burials ranging from the Middle Formative through to the Postclassic periods (800 BC to AD 1500) from Ka'kabish (Haines et al. 2020) will be compared with 787 burials and 1156 individuals across five regions within the eastern half of the Southern Maya Lowlands.

1.1 Research and Objectives

This research aims to gain an understanding of what constitutes burials at Ka'kabish and to situate the site within regional Maya Southern Lowland mortuary patterns. This research review all burial occupation periods at Ka'kabish with a particular emphasis on Late and Terminal Classic (AD 600-900/1000) and Postclassic (AD 900-1500) burials, as most of the burials at Ka'kabish date to these later occupation periods. This research will address two primary research questions:

1. Can we determine if mortuary behaviours vary by demographics or social status?
2. If burial variations occur, what correlations are associated with the location of these interments? More specifically, how does Ka'kabish fit into the regional mortuary trends in the eastern half of the Maya Southern Lowlands from the Middle Formative through to the Postclassic (ca. 800 BC to AD 1500) periods.

1.2 Significance

Ka'kabish's interments have been analyzed independently (i.e., grave specific analysis, osteological, or dental analysis) (see Howell 2022; Smith 2020), but they have not been analyzed at a site-scale level encompassing cultural factors. A comparative approach using mortuary variables such as body position, orientation, and burial location, will further our understanding of the Maya population that inhabited Ka'kabish, and highlight inter-site and intra-site variation that can be displayed through mortuary customs. This data can further expand on the cultural transmission of mortuary trends throughout the eastern half of the Maya Southern Lowlands by identifying socio-economic and political influences through similar burial patterns, mortuary architecture, and non-local grave inclusions.

The archaeological record is typically fragmented and sparse. This increases the possibility of recovering human remains for which there is no provenance and diminishes the recovery of human remains overall (Martin et al. 2013:120). Chase and Chase (2011a) note that there are not enough bodies in the habitation ruins at Caracol to account for the population density, suggesting that these missing remains were used for ritual purposes for the benefit of the polity. This lack of interment recovery is common in residential Maya archaeology, where physical data and settlement patterns denote large urban Classic and Postclassic Maya populations but there is a lack of burials to support the material record (Chase and Chase 2016:3-4; Chase and Chase 2011a; Marcus 2004). Therefore, the current study aims to address this burial discrepancy within Maya archaeology and provide suggestions for where the remaining residential Maya populations have been interred to further our understanding of residential Maya mortuary trends.

1.3 Thesis Overview

This thesis consists of seven chapters and four appendices. The outline of those chapters is as follows:

Chapter 2: Background: Maya History, Chronology, and Geography

This chapter provides necessary background information about the Maya civilization from the Formative through to the Postclassic periods (ca. 2000 BC to AD 1500) with a brief overview of the Contact period (AD 1500). It provides contextual information about the Maya and their development, including culture, ideology, chronology, politics, economics, and a brief introduction to Maya geography and climate.

Chapter 3: Mortuary Theory and Applications

This chapter will define mortuary archaeology/mortuary theory and expand on different theories for interpreting mortuary contexts. The second half of this chapter will review different perspectives of mortuary theory and their impacts on studying different societies. This will also discuss how mortuary theory is used with Maya archaeology.

Chapter 4: Methods

This chapter defines the key variables used in data collection and analysis of spatial and temporal trends within the mortuary assemblage. This section further emphasizes burial trends and defines key terms such as "elite" and "commoner" to demonstrate their use in Maya mortuary studies. The detailed results of the mortuary analysis are presented in Appendices A-D.

Chapter 5: Data

This chapter will focus on residential (i.e., structures and house platforms) and non-residential (i.e., chultuns, tombs) locations of interment. It will begin by summarizing the different types of burial assemblages identified among five different Lowland regions: Southeastern Peten, Belize Valley Region, Vaca Plateau, Freshwater Creek Drainage, and the New River Region (Briggs 2002; Donis 2013; Schwake 2008; Snetsinger 2012). Mortuary variables recorded in the data chapter are region, sub-region, site, period, burial ID and/or zone, total number of burials, total number of individuals, grave type, interment type, interment style, body position, body orientation, skull orientation, age, sex, associated artifacts, and number of grave objects. The second part of this chapter will introduce Ka'kabish and the site's location, occupation, and history. Ka'kabish's mortuary variables will also be collected and organized to provide a framework for the inter-site comparison of variables in the subsequent chapter.

Chapter 6: Analysis and Discussion

In this section, burial data from Ka'kabish will be compared with the data collected at surrounding settlements; only settlements with the same occupation period (Terminal Classic-Postclassic data) will be used in analysis. Settlements that lack the consistent recording of variables will not be used in analysis, but the data remains in the appendices for potential future use in determining changes in patterns over time. The focus of this chapter is to analyze burial patterns found at Ka'kabish, compare them to other sites in the surrounding areas, and determine if they share similar burial trends. This chapter aims to answer the primary research questions.

Chapter 7: Conclusion

Chapter 7 concludes with a brief summary of the previous chapters and addresses the initial research questions. Additionally, it will outline any limitations and implications of the study and suggest avenues for future research.

1.3.1 Brief Summary of Results

Ka'kabish's mortuary assemblage aligns with Southern Lowland regional burial trends in the preference for single, primary, interments, but differs in the site's high usage of pit interments rather than cist, in-fill, or cemetery-like burial spaces (Briggs 2002; Donis 2013; Schwake 2008). Furthermore, Ka'kabish displays a unique preference for non-extended burial positions (i.e., flexed, semi-flexed, seated, etc.) throughout all periods and only displays a preference for extended body positioning in the Terminal Classic and Postclassic periods, contradicting the regional norm (Briggs 2002; Schwake 2008). Graves with multiple burial entries are observed at Ka'kabish and also frequently noted in the Vaca Plateau region. Often, these multiple burial entries at Ka'kabish were

located in chultuns, following the regional pattern where burial space was most commonly identified final function for chultun use (Carlos 2019). However, a majority of Ka'kabish's chultuns date to the Postclassic period, which contradicts the regional decline of chultun use during the Postclassic (Carlos 2019). Lastly, Ka'kabish displays a clear transition from public-space burials in earlier periods (i.e., Formative and Early Classic periods) to domestic, private-space burials in later periods (i.e., Late Classic to Postclassic periods).

2.0 Background: Maya Geography and Chronology

Within the field of archaeology, understanding temporal and regional developmental patterns of a given culture can provide pivotal information about past human behaviour. This is especially true when literature and archaeological evidence are combined, providing a greater potential for understanding a civilization, and the possible internal and external influences of societal progression (Chase and Chase 2011). For the Maya, changes, and the rate of change, is demonstrated through customary practices (Becker 1992), social stratification, political contexts, and concepts relating to death (Ashmore 2015; Pugh 2021:12). However, these changes do not always occur homogeneously, and can be influenced independently. For example, burial development may have not been as rapid as changes seen in ceramic traditions (Becker 1992:192). The Maya are a very ritualistic society and burial practices offer insight into how members of this society embody their beliefs and transitions between life and death, whilst also providing information about the sociopolitical stance of the community (Becker 1992:185). This chapter will introduce the Maya civilization and outline the developmental stages with the different social and political impacts that contributed to the florescence of Maya society. The last section of this chapter will focus solely on burial development to highlight how Maya mortuary practices are an important aspect of Maya development and are connected with commoner and elite daily life, ritualistic beliefs and practices, and demographic intensification and stratification (Becker 1992:185).

2.1 The Maya

The Maya are one of the largest and well-known Pre-Columbian societies of Mesoamerica, occupying territory in Mexico's Yucatan Peninsula and modern-day

Belize, Guatemala, Honduras, and El Salvador (Adams 1977; Demarest 2004:8). "Maya" is a contemporary term associated with a family of interrelated languages, and the group of people that inhabited eastern portions of Mesoamerica. The Maya did not use this term as a common sense of political unity or identity (Restall 2004:64). Nonetheless, the term refers to a diverse cultural group of people that occupied the region of Mesoamerica for thousands of years including both the ancestral Maya and members of the modern Maya community that still reside (Restall 2004:64). This diversity is translated into the material culture recovered between inter and intra-related Maya regions. In this thesis, the term "Maya" refers to the ancient civilization as a diverse cultural group of people.

2.1.1 Maya Regions

There are two major geographical zones in the Maya region: The Highlands and the Lowlands, with further differentiation between the Northern Lowlands, Southern Lowlands, Highlands, and the Pacific Costal plains (Reyes-Foster 2020) (Figure 2.1). The Northern Lowlands, Southern Lowlands, Pacific Costal plains, and the Highlands have very different ecological and environmental factors which affected phases of development and settlement success. For example, the Pacific Costal plains had a relatively rich environment which favored agriculture; the climate itself may have driven the expansion of human sedentary populations well into the Classic period (Neff et al. 2006). The Highlands have temperate environments suitable for coniferous trees, and sustained occupation throughout the Postclassic period which is associated with the wetter piedmont (McKillop 2004:34-35; Neff et al. 2006). The Northern Lowlands have a more arid forest with scrub-like vegetation that provides high biodiversity and complex patterns of soil distribution, and when combined with strategic social planning, it

supported agro-ecosystems and urban continuity (Barthel and Isendahl 2013:227; Vis et al. 2023:9). Only the Southern Lowlands support true tropical rainforests (McKillop 2004:34-35). The Southern Lowlands are of particular importance as Ka'kabish resides in this region (Figure 2.2). The consistent rainfall, pockets of nutrient-dense soil, and river trade networks allowed for a stable environment for the Southern Lowland Maya to develop and thrive with complex agricultural systems (Lucero 2006: 281-284; Webster 2018). These systems supported the development of densely populated and monumental cities, such as Tikal and Lamanai (Lucero 2006: 281-284; Webster 2018).

Figure 2.1 Map of Maya Geographical Zones. Ka'kabish is situated within the orange highlighted area (map adapted from Sharer and Traxler 2006).

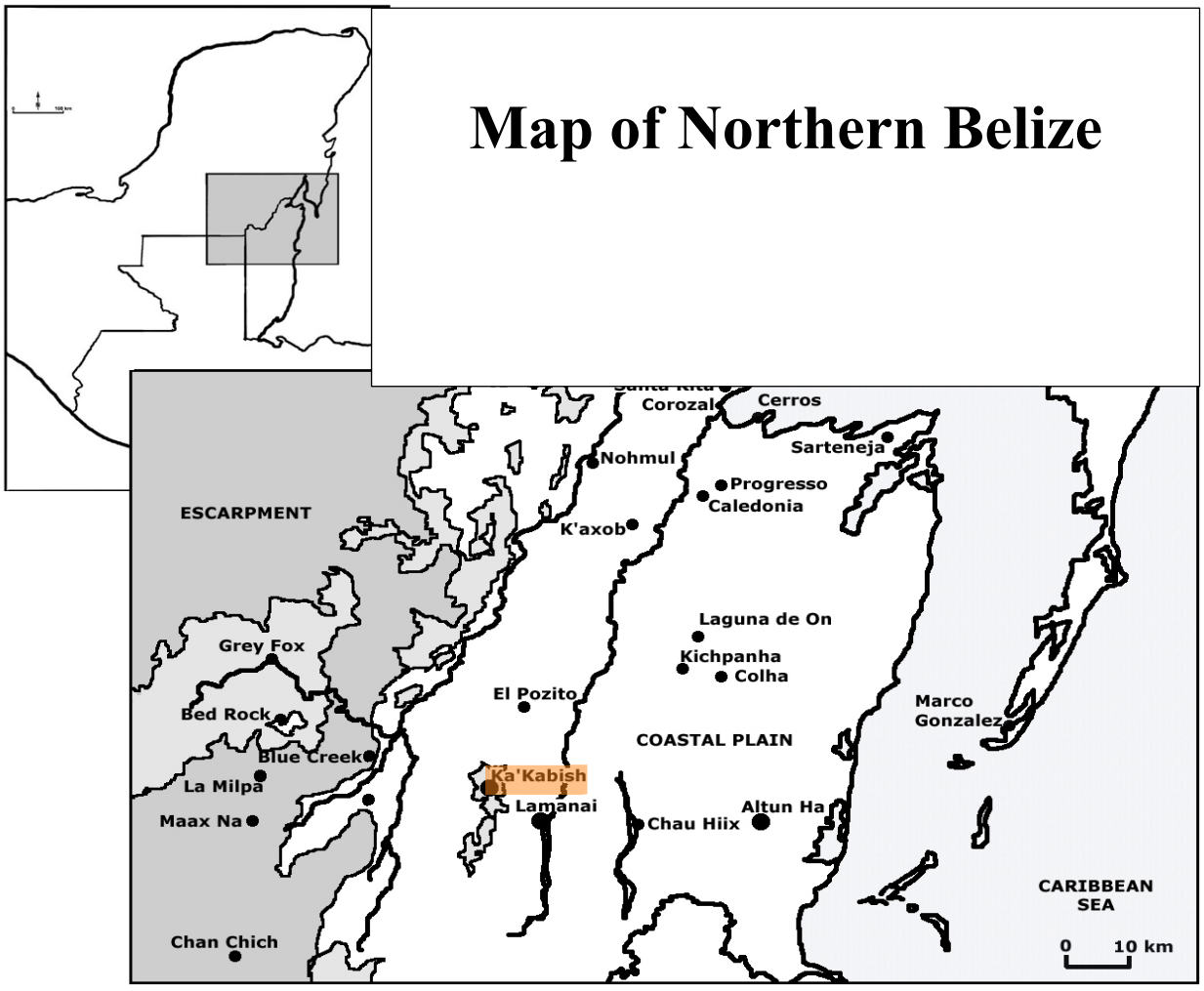

Figure 2.2 Map of Northern Belize and Central Peten. Ka'kabish is highlighted in orange (map provided and adapted with permission by H. R. Haines).

Despite the drastically different ecosystems, the Highlands and Lowlands were able to support gradual and significant socio-economic and political development over time. The ancient Maya are popularly characterized by their writing system, cosmology, complex rituals, state-level political organization, temple or pyramidal-like monuments, and art (Ashmore 2015:215; Demarest 2004; Matthews and Garber 2004; Scherer 2017:133). The monumental architecture and prestige goods are typically indicative of the elite class of the Classic period, which only made up a small percent of the total

population (Demarest 2004). The city centers are comprised of ceremonial and administrative complexes and the surrounding centers are linked with residential districts (Ashmore 1981). Courtyard groups were generally thought to represent residential units, but the architectural arrangement of these groups shows great variation. Instead of being restricted to domestic purposes, they may have had other uses, such as ritualic practices (Ashmore 1981:51; Matthews and Garber 2004:52). Architecturally, city buildings included pyramid temples, ceremonial spaces like ballcourts, and structures associated with Maya cosmology (e.g., structure orientation associated with sunrise and sunset), and ideological beliefs (e.g., monumental constructions) (Ashmore 1991; Sprajc 2009:303).

2.2 Chronology

Maya civilization is typically divided into three major time periods: the Formative period, Classic period, and Postclassic period (Table 2.1). This division excludes the earlier Paleoindian and Archaic periods. The Paleoindian period (1200 BC-8000 BC) includes small hunter-gather groups that have been identified through lithic technologies with simple diagnostic features (Demarest 2004:13; Stemp et al 2016:1). The following period is the Archaic period (8000 BC-2000 BC), when the first developments of agriculture and the earliest villages were established; although the Archaic period is still characterized by hunter-gatherer-fishers, there was an increasing use of plant cultivation, especially in areas around water resources (Demarest 2004:14; Rosenswig 2015:116-117; Rosenswig et al. 2014:308). Archaeological evidence from the Archaic period demonstrates similar subsistence patterns and lithic work carried into the Formative period (2000 BC-AD 250), especially in Belize, where preceramic sites have been reported (Lohse 2010; Marcus 2003:73). The temporal ranges of these periods are based

on observations of social change and may not be consistent between all sites. Table 2.1 provides a generic template for Maya development.

Table 2.1 Ancient Maya Timeline.
Table adapted form Adams (1977: 385-388) and Demarest (2004).

Postclassic	Late/Contact	AD 1220-1500 (1500/Contact)
	Early	AD 900/1000-1220
Classic	Terminal	AD 830-900/1000
	Late	AD 600-830
	Early	AD 250-600
Formative	Late	400 BC-AD 250
	Middle	1000 BC-400 BC
	Early	2000 BC-1000 BC
Archaic	8000 BC-2000 BC	
Paleoindian	1200 BC-8000 BC	

2.2.1 The Formative period

The Formative period (2000 BC-AD 250) is the earliest occupation period of the Maya and is known for the establishment of the first complex societies in the Maya region at places such as El Mirador, Ceibal, Tikal, and Calakmul (Estrada-Belli 2011: 65; Marcus 2003; Wrobel et al. 2016). The Early Formative period (2000 BC-1000 BC) is marked by the introduction of ceramics, sedentary farming communities, and increasing social complexity (Sharer and Traxler 2006:251-278). By the end of the Formative period, this socio-economic complexity increased to include the cultivation of more staple crops in the Maya diet, definitive social stratification with kinship displayed through burial elaboration, stone monuments, hieroglyphic texts, and complex public architecture often comprised of a series of stratigraphic constructions (Hansen 2001:9; Marcus 2003:7; Reese-Taylor and Walker 2002: 89-90). The end of the Formative was also marked by site abandonment and the cessation of construction. Theories for this decline include increased violence, population decline or the overpopulated stress of large cities, and environmental degradation (Demarest 2004:103; Hansen 2001:15; Inomata et al. 2017:1293-1296). However, these abandonments only appear true, or have taken place, at a few sites (see Iannone 2014).

2.2.2 The Classic period

The Classic period (AD 250- AD 900/1000) is one of the most extensively studied Maya periods. Occupation and Formative period sites like Tikal, Calakmul, and Copan continued into the Classic period with architectural and political proliferation. Populations gradually increased along with monumental architecture, and ruler achievements and patrilineal succession were illustrated through specific Maya glyphs

carved on monuments (Demarest 2004:106). These emblem glyphs are a distinct characteristic of the Classic period. Besides identifying specific polities and the governance of a particular region, they were also used for indicating allegiance between polities of different size and political strength (Houston and Inomata 2009:133). Rulership centered around concepts of divine kingship, where the "divine ruler" was believed to be a mediator between mortals and the supernatural realm (Demarest 2004; Iannone 2016:26; Sharer and Traxler 2006: 627). This patronage was a dominant force in Maya politics but how patronage affected politics varied between sites. The "collapse" of the Maya defines the Terminal Classic period (AD 800- AD 950) where changes in political control, abandonment of cities, cessation of stone monuments with hieroglyphic texts, fewer elaborate burials of elite tombs and kinship, and a reduction in material culture suggests a decrease in centralized power (Aimers 2007:331; Demarest et al. 2016:162-171; Rice et al. 2004:2). While the Central Peten in the Southern Lowlands experienced a decline of activity, the Northern Lowlands demonstrated a period of fluorescence and expansion with increased stability and growth (Aimers 2007:343; Demarest 2004:266).

There was an increase in economic and political shifts in the Northern Lowlands, such as the Northern Yucatan, reinforcing Northern dominance (Ashmore et al. 2004: 321; Houston and Inomata 2009:310; Rice et al. 2004:5). Many of the riverine centers in the Southern Lowlands were some of the first settlements to "collapse" as trade to, and through them, ceased (Iannone 2014, 2016). However, each community was impacted differently. For example, Lamanai continued to thrive due to their strategic location for coastal trade on the New River lagoon (Graham 2011; Pendergast 1977: 131, 1986: 245).

This "collapse" has no universally accepted theory and is more widely seen as a period of intense change and societal compression rather than an entire societal downfall (Iannone 2014:41). It is probable that this was a combination of internal and external factors impacting the sociopolitical systems of the Late Classic period (Miller 2015:44).

2.2.3 The Postclassic/Contact period

Following the Classic period of development, the Postclassic (AD 900) became a period of political transformation. However, the Postclassic did not occur homogenously (Rosenswig et al. 2020). Some cities underwent site abandonment (e.g., Puuc centers) while other settlements flourished (e.g., Chichen Itza) (Aimers 2007:338; Demarest 2004:279). The defining features of the Classic era dissolved with the disappearance of divine kingship (Inomata 2016:89) and an increasingly decentralized socio-political system (Demarest 2004:260; McAnany 2012:116; Rice et al. 2004:9). The Postclassic Maya had a more flexible socio-political structure with ruling councils and/or joint rulership linked through lineage rather than an individual ruler (Andrews 1993:59; Demarest 2004:277). Populations were smaller and denser than the Classic period but developed better exchange systems and greater class distinction through the growth of merchants and merchant-based activities (Demarest 2004:278). The first colonial contact between Europeans and the Maya occurred in the 16th century, and not long after a Spanish invasion occurred around AD 1517-1518 (Demarest 2004:286-287). While Mayapan, an urban center in the Yucatan Peninsula, experienced a decline following the arrival of the Spanish, centers in Northern Belize maintained stability despite the European invasion (Andrews et al. 2003: 153; Demarest 2004:286-87). By AD 1546, the

entire Yucatan was largely conquered (Andrews et al. 2003: 153; Demarest 2004:286-87).

2.3 Development of Maya Burial Customs

Changes in mortuary characteristics are displayed temporally and regionally with intra-site and inter-site variability (Pugh 2021:12; Wrobel et al 2021). Mortuary practices tend to reflect both the position of the deceased and the connection between the living and the dead. Therefore, they can be proxies to identify and understand changes in social, religious, and political systems (Carr 1995; Martin et al. 2013). The Maya held a profound reverence for their deceased and paid tribute to them through acts of commemoration and veneration. Prior to Spanish influence, Maya mortuary practices were heavily guided by cosmological beliefs, conception of the afterlife, and the need to appease the gods (Ashmore 1991; Sprajc 2009:303). These practices included sacrificial rituals, mortuary offerings, and the actual placement of the deceased (Tieser 2007). As evidenced by various sites and regional differences, changes in material culture and mortuary practices were indicative of the internal and external influences of different powers during specific periods of occupation (Houston et al. 2021:7,12; Pugh 2021:7, 20). This section will review different examples of burial trends from the Formative, Classic, and Postclassic Maya to emphasize the variability and diversity between mortuary customs, whilst also highlighting temporally significant similarities.

2.3.1 The Formative period

Formative period (2000 BC-AD 250) burials have been recovered from a variety of locations including caves or rock shelters (e.g., Wrobel et al. 2016; Wrobel et al. 2022), chultuns (e.g., Cagnato 2017; Palomo et al 2017), residential subfloors (e.g.,

Hammond 1999:51-52; Palomo et al. 2017: 316), and ritual complexes with ceramics (e.g., Awe 1992:335; Weiss-Krejci 2006b:76; Wrobel et al. 2021). Multiple-entry interments become a more established practice at sites like K'axob while other sites display cave burial activity preferred over architectural-based burials (McAnany et al 1999; Wrobel et al. 2022). Furthermore, homogenous trends have not been identified regionally, as the occurrence rates of mortuary variables vary drastically between settlements (McAnany et al. 1999; McAnany and Varela 1999:154-155; Welsh 198; Wrobel et al. 2021). The Formative period is the precursor for the increased social complexity of the Classic and Postclassic periods, with the introduction of formalized mortuary practices, increasing burial stratification, and acts of ancestor veneration to reaffirm kinship ties.

2.3.1.1 Early Formative period

In the Early Formative period (2000 BC-1000 BC), burials at settlements like the Northern Belizean site of Cuello were often placed their burials in flexed positions where the legs of the deceased are bent at different angles (Hammond 1995:50; Hammond et al. 1991). However, it must be noted that the earliest burials are very diverse, and the limited sample for this period is not representative of the entire population. Multiple-entry interments became an established practice during the Early Formative period at K'axob, where individuals were buried at separate times: the first individual was left undisturbed, and the second interment was in the same assigned area but from a different period (McAnany and Varela 1999:158). Burials, potentially like the one mentioned above, can be associated with the beginnings of ancestor veneration. Rather than an act of social

status, identity, and political authority, ancestor veneration was used to make a statement concerning kinship with the deceased (McAnany et al 1999:129; Wrobel et al. 2016:108).

Additional ritualistic behaviour has been noted in the Belize Valley center of Cahal Pech. Several burnt long bone fragments dating to the end of the Early Formative suggests ritual burning practices rather than typical mortuary treatment (Awe 1992:335). Correspondingly, burial offerings like greenstone celts represent some of the earliest ritual greenstone cache activity in the Early Formative period and are often linked with ritualistic meaning throughout Mesoamerica (Ortiz and Rodriguez 1999:230; Palomo et al. 2017:310).

2.3.1.2 Middle Formative period

There is a prevailing pattern of Middle Formative (1000 BC-400 BC) interments at K'axob that include single burials in an extended position (McAnany and Varela 1999:155). However, K'axob also has secondary burials as early as the Early/Middle Formative period (Robin and Hammond 1991:208; Storey 2004). Ceibal, in Guatemala, favoured burials with multiple secondary burials including infants, some of which are located in public areas, (Robin and Hammond 1991). Human remains at Ceibal were also interred in features similar to chultuns (subterranean chambers cut into bedrock), while other sites have evidence of actual chultuns identified as a typology for burial location during this period (Cagnato 2017; Palomo et al 2017). Burial location between settlements is especially variable among the Lowlands during the Middle Formative period. At Ceibal, subfloor residential burials were rare, whereas these formed most of the burials at Cuello and K'axob (Hammond 1999:51-52; Palomo et al. 2017: 316).

Cremation deposits in caves were also noted during the Middle Formative period and have been identified at the Honduran site of Copan in Caves Tres Zapotes and Veracruz, all thought to be ritualistic (Gordon 1898; Weiss-Krejci 2006b:76). Links to cremation are also seen between fire pits and interments at the center of Santa Rita Corozal, resulting in these Middle Formative period acts being a potential precursor to the ritual burning commonly found at many sites in the Classic period (Chase et al. 2018:164; Wrobel et al. 2021). The burial and ritual offerings of the Middle Formative period continued to exhibit similar attributes to those of the Early Formative period (Palomo et al. 2017).

2.3.1.3 Late Formative period

Demographic and social stratification within mortuary contexts becomes a dependable correlate from the Middle to the Late Formative periods (Wrobel et al. 2021: 547-548). The standardization of burial practices at Cuello had its beginnings in the Middle to Late Formative period (1000 BC-400 BC), appearing alongside increased social complexity and mortuary custom consistency (e.g., vessels covering skulls, and standardized body positioning) (Hammond et al. 1991; Wrobel et al. 2021:547-548).

Rock shelters have been commonly found dated to the Formative period and have been used for both funerary and non-funerary uses based on simple utilitarian artifact assemblages (Wrobel et al. 2022:2). Late Formative cave mortuary treatment has been consistently noted with similar practices documented at Actun Uayazba Kab (AUK), Caves Branch Rock shelter (CBR), Sapodilla Rock shelter (SDR), and the neighboring Caves Branch River Valley (Wrobel et al. 2016:108; Wrobel et al. 2022:2). Burial practices within these rock shelters are primary burials representing both sexes with a

wide range of ages that were all placed in simple, intrusive pits, with few or no grave goods, suggestive of general mortuary use by small local communities or extended kin groups (Wrobel et al. 2016:108; Wrobel et al. 2022:2). However, there was a cessation of primary burials at AUK which also coincided with the construction of monumental civic architecture in this area (Wrobel et al. 2016). An identifiable feature of AUK mortuary customs is that there seems to be an effort to maintain the boundaries of the graves. The tightly packed graves were lined and partially covered with stones. As a result, burials were not disturbed by later inhumations, reflecting the potential effort to maintain the individual social persona of the deceased which implies some sort of social memory and reverence for the living (Wrobel et al. 2016:109). In contrast, at CBR and SDR, graves were not well marked as bones were often displaced or stacked, and later burials intruded through earlier ones (Wrobel et al. 2016:109).

Terminal Formative mortuary deposits featured collections of ancestor remains to indicate the "gathering of ancestors" generally located at a local monumental structure (McAnany et al. 1999:129). Weiss-Krejci (2003:373) suggests this may be a hallmark of increasingly powerful families. At K'axob, this is displayed in the transition of tightly wrapped and flexed burials from the onset of the Late Formative period with evidence of protracted rituals involving prolonged displays of ancestor veneration. Evidence of other rituals such as non-elite rainfall rituals, have been recovered at Ceibal, with complex deposits consisting of primary and secondary deposits of scattered human bone and handprints on the walls of the rock shelter/small cave chambers (Wrobel et al. 2016:99). By the end of the Formative period, burying individuals in extended positions became more of common practice, and status differentiation became more exaggerated through

burial customs (i.e., ritual elaboration, quality and quantity of grave offerings, and residential constructions associated with ancestor socio-economic differentiation) (McAnany and Varela 1999:147, 154-155). This differentiation can be attributed to the increasing social stratification of this period and is significant enough to challenge concepts of simple divisions between elites and the general population (Hendon 2009:112).

2.3.2 The Classic period

The Formative period (2000 BC-AD 250) into the Classic period (AD 250-AD 1000) exemplifies notable changes in mortuary customs. This is most apparent in the Maya Southern Lowlands where, in the span of a thousand years, a pattern of modestly differentiated interments was replaced by pronounced burial variation linked with increased social complexity and potential population movement through extensive roadways and trade (Becker 2009:90). The growth of urban centers corresponds with a shift in mortuary rituals. Low and high-status burials ranged from simple, subfloor burials, to royal, vaulted tombs and pyramidal architectural complexes placed in the site center (Chase and Chase 1996:61, 2006:178; McAnany et al. 1999:135; Welsh 1988:2). Non-elite interments are commonly found beneath residential structures and extended, single interments become preferred over flexed burials (Chase and Chase 1996:61, 2006:178; McAnany et al. 1999:135; Welsh 1988:2). The use of grave objects within the burial created an even greater separation between elite and commoner burials, where elaborate, expensive, and numerous ritualistic objects, like large quantities of jade, are typically linked with elite interments (Becker 1992:187; McAnany and Houston 1998:292; McAnany and Varela 1999:163). Jade or greenstone beads can be placed

around the mouth to serve as currency for the afterlife journey (Zralka et al. 2011). Jade is often related to rulership, wealth, maize, and water; the green colour is representative of water and fertility, a symbol presumably derived of mimicking the colours of cornstalks which allowed the deceased to follow the path of the Maize God, leading to rebirth (Pendergast 1998:4; Taube 2005:25; Zralka et al. 2011). Additional burial customs include wrapping high-status individuals in cotton mantles before being buried to localize their remains to a finite space, and bundles would include deity depictions to signify rebirth (Pugh 2021:21). Ancestor veneration in the Classic period shifts away from exclusive kinship-based ancestor veneration to ancestor veneration with political control (McAnany et al. 1999:135). It has been proposed that combined burial and caching activities associated with special mortuary practices are widespread and indicative of ancestor veneration during this period (Becker 1992; Chase and Chase 1996:77).

2.3.2.1 Early Classic period

Single, primary interments became popular in the Early Classic (AD 250-600) through to the Late Classic (AD 600-830) in most locales (Chase and Chase 1994:7). A notable feature of Early Classic period is the increased elaboration of burial chambers. For example, at Tikal, elites were buried outside of residential areas in temple or temple-like structures (Becker 2004:131). Household burials at K'axob are characteristically defined by fewer burials, where multiple-entry burials are seen in primary contexts with an increase in secondary burials (McAnany et al. 1999). The location of the house burials is important because it exemplifies how mortuary ritual is closely tied with the daily life of the Maya. These burials were used to commemorate the person buried beneath the residential structure, while in contrast, the elites were buried in public, monumental

architecture (Becker 2009:90). Chultun use for burials continued well into the Classic period. Evidence shows that chultuns constructed in the Early Classic period (AD 250-600) demonstrate continual use into the Late Classic period (AD 600-830) (Cagnato 2017:13). This was common in the Northwestern Peten, where most of the materials deposited in Early Classic chultuns date to the Late Classic period (Cagnato 2017:13).

An Early Classic cremation mass grave (pit pyre) at Caracol had both primary and secondary cremations with evidence of intense fire and thick carbonized wood at the bottom of the pit packed with burial offerings like shell, ceramic vessels, and green obsidian (Chase and Chase 2011a, 2011b). A similar pit was also found at Tikal, but the one at Caracol was slightly larger and had a higher temperature (Chase and Chase 2011b). Deposits from Tikal show signs of Teotihuacan influence, a Central Mexican city, not only because of the presence of green obsidian artifacts imported from Teotihuacan but also because of the evidence of a primary double cremation (Chase and Chase 2011b). Similarly, the date of the cremation burials coincides with a period of intensified contact with Teotihuacan, which was especially strong at Tikal. The pit at Tikal is thought to have resulted from a Maya emulation of Teotihuacan ritual practices or was potentially enacted at Tikal because of the influence of Teotihuacan migrants into the Maya Southern Lowlands, which may also be the case at Caracol (Chase and Chase 2011a, 2011b). Teotihuacan-related burials have also been identified at Tikal and elsewhere in the Maya Southern Lowlands, at sites such as Caracol (Becker 1992: 192). Local rock shelter burials became uncommon after the Early Classic period with the introduction of Late/Terminal Classic period architectural grave inhumations (Wrobel et al. 2022:2).

2.3.2.2 Late/Terminal Classic periods

By Late and Terminal Classic periods (AD 600 to AD 900), the use of multiple-entry familial burial spaces is increasingly noted in the Lowlands (Chase and Chae 2010; Johnson et al 2015; Lamoureux-St-Hilaire et al. 2013). Caracol Structure A38 is a family mausoleum constructed on the eastern side of the plaza, containing few individuals, all of which are primary interments placed in extended position (Chase and Chase 1994:7). Mausoleums typically include greater ritual offerings, suggesting continual engagement among the living and the dead (Johnson et al. 2015:75). As at many other Maya settlements, Caracol commoners were often buried around domestic structures with their bodies placed within residential buildings and plazas (Johnson et al. 2015:75;). At K'axob, low-status individuals were buried away from the residence and most burials outside residences lacked burial offerings and elaborate pit preparation (McAnany et al. 1999:130). There is also evidence of Late and Terminal Classic cremation traditions in the Maya area, with three cremation deposits at Chichen Itza (Ruppert 1935:119, 126) and four deposits at Dos Pilas containing at least eight individuals associated with site abandonment (Weiss-Krejci 2006b:77). These few examples cannot be used to explain potential cremation in residential or commoner burials as they tend to correlate with ritual practices.

Burials located within the eastern perimeter of the residential plaza were typically linked with ancestor veneration (Welsh 1988:1; Matthews and Garber 2004:52). However, variation still exists among the lowlands. While house floor interments reflect honourable commoner residential burials or ancestor veneration at most settlements, some sites do not demonstrate this pattern. McAnany et al. (1999) argued that domestic

interments may not even be overly significant and could be coincidental, occurring at the same time as structural renovations. McAnany et al. (1999:131) notes that due to the ecological factors of the lowlands residential structures tended to be refurbished every 10-20 years, therefore creating an opportunity to bury deceased individuals during such renovations. Another occurrence during the Late and Terminal Classic period is the re-entering and reuse of Formative and Early Classic tombs and burial pits (Chase and Chase 19996:66). Many underground tombs or chultuns were re-entered by digging holes through the top of burial capstones to gain access and then re-sealed by replastering the floor, so the entrance was subsequently hidden beneath the construction (Chase and Chase 19996:66).

2.3.4 The Postclassic/ Contact periods

The Postclassic Maya demonstrate less elaboration but greater diversity in grave inclusions, with the continued presence of burial objects correlating with higher status (Chase and Chase 2006:178). Status differentiation was typically demonstrated with smaller shrines or elaborate goods rather than the predominant Classic period practices that were tied with elaborate and site-center prestigious burials (Chase and Chase 2006:178). Single extended interments also continued to dominate over multiple-entry burials within a primary burial context (Rosenswig et al. 2020:1; Weiss-Krejci 2006a:49). Secondary interments, when present, continued to have ritual significance in the form of the curation of ancestral bones by living descendants, which can be considered indictive of ancestor veneration (Rosenswig et al. 2020:16). However, burial preferences are still highly variable between settlements. At Santa Rita, Postclassic burials usually contained one or more individuals, although single interments were recovered, on occasion, with

disarticulated incomplete remains (Chase 1981:32). Burials at Santa Rita were mostly flexed, with only a few in extended positions, and most were placed into pits dug into earlier construction phases; these later graves often shared similar locations as the earlier graves, but rarely contained the same types or quantities of burial goods (Chase 1981:32).

Cremation was more evident in the Postclassic period than the former periods, and although recorded in the Middle Formative at Copan cave sites and at Tikal and Caracol during the Classic period, it became more widely practiced, and is seen as a Postclassic tradition (Welsh 1988:36; Weiss-Krejci 2006b:76). Most cremation deposits from the Late Postclassic are located around Mayapan, in caves in Chiapas, and at Piedras Negras, (Blom 1954:125-131; Coe 1959:129-133; Smith 1962:238-239). One cremation jar from the Rosario Trabajo Cave in Chiapas, Mexico, contained a Venetian glass bead, thus dating the deposit to the Contact period (Blom 1954:129). Cave burials at Chiptic Cave, Huxjal Cave, and Moxviquil Cave all in Chiapas, Mexico, had cremated remains, and Chiptic Cave had ashes of individuals placed in a ceramic jar decorated with depictions of birds and other animal heads (Blom 1954:127). Furthermore, large quantities of charcoal and pieces of ash from Terminal Classic deposits at Dos Pilas suggest that cremation was practiced in situ, with the material simply left on the surface of the mounds. However, cremated remains from the Terminal Classic and Early Postclassic at Chichen Itza, Zaculeu, and Tonina were deposited in a variety of containers, such as striated vessels, tripod jars, plumbate jars, and pedestal cylindrical vases (Weiss-Krejci 2006b:76). Late Postclassic cremation jars in the Highlands tended to use long-necked jars with multiple handles rather than a variety of containers (Weiss-Krejci 2006a:55).

In the Freshwater Creek region of Northern Belize, Postclassic burials are no longer placed under residential floors (Rosenswig et al. 2020). Rather, formal cemeteries become established and most settlements within Freshwater Creek Drainage displayed similar burial rituals; even the community leaders between neighbouring settlements (i.e., smaller sites within Laguna de On) shared similar burial offerings (Briggs 2002; Rosenswig et al. 2020). Caye Coco is the only site within this region that displayed greater inclusions in graves, as expected as an important political center (Rosenswig et al. 2020:2). Non-domestic cemeteries were seen between AD 1000-1500 in Northern Belize, where they appeared with public proclamations of land ownership (Rosenswig et al. 2020:4). However, Duncan and Schwarz (2015:1, 567) argued that often, mass grave burials can be the product of human sacrifice with increased ritual complexity, violation of enemies, or the war dead. Although cemetery use has been noted for the Postclassic Maya before European contact, early colonial settings in Mesoamerica are reflected through the adoption of, or conversion to, Christianity and Christian norms (Graham 2011; Masson et al. 2021). Churches and church cemeteries are distinguishable through stone chapel construction and a typology has been published based on the evolution of church tiles in the Yucatan Peninsula (Graham 2011; Masson et al. 2021:913). Christian burials lay within adjacent Pre-Columbian mounds and within the nave of Christian churches built on Maya sites. This is especially true for Lamanai, in Northern Belize, and at Tipu in the Belize Valley region (Graham 2011; Masson et al. 2021:923). In excavations of the church cemeteries at Lamanai and Tipu, remains of Spanish individuals have not been recovered but Spanish artifacts are present within Maya burials (Graham et al. 1989; Pugh 2018). This suggests that Belize, unlike other Maya regions,

did not attract Spanish settlers, but rather the adoption of Christianity was widespread among the Indigenous populations, with this influence potentially emanating from the Northern Yucatan (i.e., churches) (Graham et al. 1989; Pugh 2018).

2.4 Summary

The purpose of this chapter was twofold: first, it provided a brief introduction to the ancient Maya culture, the regions they inhabited, and their chronological developments. Second, it familiarized the reader with Maya burial trends. Maya mortuary customs have proven to be diverse since the Formative period. The apparent lack of standardized burials norms between sites has demonstrated that mortuary patterns may be more difficult to understand in the Maya region than other archeological contexts (Cucina and Tiesler 2014:228). Regardless of this lack of predictability, different regions and occupation periods do display some similarities including ancestor veneration, higher-status mortuary practices, and locations for commoner burials. The information provided in this chapter will allow the reader to better understand the basis of Maya mortuary customs and at the same time, it emphasizes the complexity of inter-site mortuary variation.

3.0 Mortuary Theory and Applications:

3.1 Mortuary Archaeology

Mortuary archaeology focuses on analyzing mortuary practices and mortuary behaviours (i.e., structural, architectural, and material aspects of graves), and their implications for understanding the social systems of a given society (Arnold and Jeske 2014:236; Martin et al. 2013:118). Contemporary approaches to bioarchaeology have shifted attention away from biological analysis to create a greater descriptive depiction of interment customs beyond individual bone elements (Martin et al. 2013). This is important because many funerary structures hold purpose even if they contain no human remains (i.e., a shrine) (Pearson 2004:145). As a discipline, the interpretation of social and cultural factors helps foster a more holistic approach to mortuary archaeology (Geller 2012:118; Marcus 2005:140; Martin et al. 2013). With biological and social factors considered, mortuary archaeology can be used to understand individual identities and to conduct population-level investigations that represents broader mortuary customs (Kundson and Stojanowski 2008). This is important because it provides individually specific information like diet, pathology, and demographics, while also elucidating social constructs like culture, beliefs of the living and the dead, customs, and rituals (Martin et al. 2013:120). Throughout this thesis, the discussion of mortuary studies will refer to ancient and pre-colonial populations rather than contemporary and modern contexts of mortuary analyses.

3.2 Leading Theories in Mortuary Studies

Mortuary theory focuses on exploring the importance of social memory, social reproduction, relations of power, mortuary ritual, and social landscapes of mortuary

customs (Adams and King 2010:1). Mortuary theory is used within mortuary archaeology to guide the interpretation of interment customs and the understanding of ideas surrounding death. Mortuary theory is not mortuary archaeology per se, but it is used within archaeology to explain the significance behind mortuary customs rather than just describing the custom itself. Previous scholars like Binford (1971), Hodder (1982), and Carr (1995) have proposed influential theories within the discipline of mortuary studies. Binford argued that the heterogeneity in mortuary practices is a characteristic of a single sociocultural unit, and it is therefore, directly reflective of the complexity and status of the society's overall organization (Binford 1971:14-15). He ultimately expanded this idea to a regional scale, using the traditional view of culture. He posited that the mortuary practices of multiple groups could be compared to one another, and the degree of similarity observed among these independent sociocultural units can be used to demonstrate that the two units also share other cultural behaviours (Binford 1971:9). That said, variability in funerary traditions cannot be interpreted solely based on similarities found in the ethnographic record because specific temporal, spatial, internal, and external forces are important and need to be considered to thoroughly understand the context of cultural system and changes in behaviour.

Rebuttals against Binford's (1971) theory emerged alongside the introduction of post-processual archaeology. Post-processualists argued that mortuary customs are enacted upon by the living, and they do not reflect the wants and needs of the dead as much as they do the needs and desires of the living (Carr 2022:165; Hodder 1981). Theorists like Hodder (1982) argued that rather than solely looking at social organization to explain variability in mortuary practices, archaeologists must also envision the

attitudes, worldviews, and belief systems of society, and attempt to envision how these are filtered through social organization and expressed in mortuary customs. Carr's (1995) theory of interpretative bioarchaeology re-evaluated Binford's approach, with special attention to the philosophical-religious order, wherein mortuary practices are viewed as a product of active, social, and personal identity which comprise the dynamics of social organization and mortuary patterns within a society. Carr encourages a cross-cultural evidence-based approach that supports the original generalizations of Binford (1971) but advances the dynamic view of human behaviour reflected in mortuary practices. Carr (1995) considers that mortuary behaviour can be directly related to the deceased individual or in conjunction with social customs.

3.2.2 Western Perspectives in Mortuary Archaeology

Archaeology faces a persistent challenge of Western biases in interpreting mortuary records, hindering accurate interpretations due to the varying perceptions of death across different civilizations. Typically rooted in a Westernized perspective supported by conscious or subconscious notions of Catholicism, such biases do not necessarily align with the worldview of the civilization being studied (Davies 2005:101). In many cultures, the dead continue to be invoked and negotiated with because they function as social actors within society. Mortuary examination by Sofaer (2006) argues that osteoarchaeologists have failed to engage with recent developments in theoretical archaeology because the archaeologist's perspective of what is "dead" may not be the same as the culture being studied. There have been serious fractures between notions of the biophysical body and the culturally constructed body, and consequently discrete categories such as the physical, the social, or the individual body, are typically used to

classify and understand mortuary customs (Sofaer 2006:145). By contrast, in ancient Mesoamerican contexts the dead are typically still viewed as living because there is a fluid transition between life after death (Cucina and Tiesler 2014:227). Thus, although dead, the deceased continue to function as indispensable social actors that are associated with physical objects that can be communicated with, stored, or owned (Fitzsimmons and Shimada 2011:53). Such objects (e.g., pottery, individual depictions on monuments) are viewed as "alive" and can be used to serve as the embodiment or identity of the deceased individual (Houston et al.2006:35). Even the body itself was viewed as "alive" by the Classic Maya as depicted through glyphic signs (Houston et al.2006:35). However, mortuary research regarding Mesoamerican burials has been practiced in ways that blur traditional Western distinctions and subject a material eye to ancient concepts between the living, the dead, and the self (Fitzsimmons and Shimada 2011:54; Houston et al. 2006:277). Therefore, divisions constructed to categorize the dead, the living, and the self are typically imposed through archaeology, which leads to the body being viewed as a material artifact that is separate from the lived experience of the deceased. This may not accurately represent death ideologies and it can obscure the interpretation of the mortuary customs and beliefs of the society (Lyons 2003:341; Sofaer 2006:142).

Considering these issues, some scholars have suggested that archaeologists view the dead as active representations of the living society. Pearson (2000:3) argues that the dead are active representations of the living because the dead do not bury themselves, and thus, when studying the archaeology of death and burial, archaeologists should choose their theoretical and methodological approach to incorporate everything about the disposition of the dead and its meaning for the living. Mytum (2004) advocates for the

use of diverse data sets in mortuary studies, including information from the burial context, monuments, and architecture. This type of data can demonstrate social change and how it correlates with places reserved for the dead. For example, Mytum (2004) notes how above-ground structures can reveal information on demography, social status, ethnicity, identity, and conflict, through lower and higher-status mortuary architecture and iconography depictions. The integration of multiple data sources in bioarchaeology enables a comprehensive analysis of human remains, facilitating a deeper understanding of the range of socio-cultural identities that combined to create the society in question. Through this approach, interpretation bias may be reduced, while the ability to extract mortuary information from sites with incomplete human remains is enhanced (Mytum 2004; Martin et al. 2013; Pearson 2000).

3.3 Maya Mortuary Theory

The recovery of human remains in Maya archaeology is common and inevitable. The Maya are known for elaborate mortuary rituals, burials, and caches located in both built and unbuilt environments such as caves, residential structures, chultuns, and temples (Scherer 2017:133). Burials reveal a wealth of information about the life and death of the Maya and there has been a profusion of recent bioarchaeology studies that expanded the current knowledge of Maya mortuary customs. Maya archaeology has demonstrated that processing mortuary contexts and human remains is a complex practice (Becker 1992; Geller 2012:115). The complicated nature of funerary rituals, the extensive curation of the deceased, and the evidence from elite contexts have revealed crucial data, however, much can still be learned from commoner mortuary deposits despite poor preservation and the potential absence of epigraphic data (Chase and Chase 1996; Geller 2012:115;

Tiesler 2004). While some mortuary customs are found across multiple culture areas (e.g., residential interment location), the presence of burial differences within the same society has led scholars to believe that there are different notions of mortuary rites between communities of the same cultural group (Chase and Chase 1996; McAnany 1998; Weiss-Krejci 2004:369). Theories that focus on commoner mortuary practices typically emphasize ideas surrounding Maya identity, the body, and more holistic representations of ancient Maya society (Geller 2012; Gillespie 2001). These theories typically focus on the Classic and Postclassic Maya, which reflects mortuary trends within bioarchaeology. There tend to be more skeletal remains available from the Classic period than from the Formative and Postclassic periods. As well, within the Classic period, discrepancies in the data are identified, with fewer burials recovered in the Early Classic period than in the Late Classic, a difference which is reflected in the mortuary literature (Scherer 2017:183).

Gillespie (2001) argues that interpretative difficulties stemming from mortuary contexts can be avoided by using a social collective perspective. The Classic Maya civilization illustrates depictions of the individual through mortuary contexts, art, and texts, but it is important to understand that concepts of individual identity and personhood are derived from social and cultural norms (Gillespie 2001:73). For the Classic and Postclassic Maya, corporate kin-based groups, or houses, are a source of social identity and are expressed through mortuary rituals, monumental imagery, and political action. However, Houston and McAnany (2003:27) argue against this idea of Maya house societies, especially for the royal courts, because it is too narrow in scope to fully characterize that division of society. Houston and McAnany (2003:37) do agree that

Gillespie's (2001) idea may be applicable to Maya commoners. This is because the Maya commoners may have been structured through house societies as mortuary patterns indicate long-term generations of kin cycles (Houston and McAnany 2003:37). There are interlocking components of Maya culture, like kinship and affinity of domestic structures, that house both the living and the dead and perpetuate the estate over time by the maintenance of the estate over multiple generations (Gillespie 2001:94). However, other components go beyond kinships. Craft activities, class, status, and occupation can be considered to accurately interpret the mortuary context. This is due to the nature of the artistic depictions and how they can reveal social constructs, like identity, that are manipulated, and constructed within society. Gillespie (2001: 99-100) argues the same notion should be applied to mortuary archaeology, because personhood is not necessarily something that is property of the individual but rather a status that inheres in the collective social construct. Personhood, the body, and the self can be understood within distinct cultural realms that extend beyond concepts of the physical body (Houston et al. 2006:98,100). It is important to recognize this idea because personhood and individual lives are shaped and enacted through a network of social groupings and none of these social constructs should be analyzed in isolation from societal and cultural norms.

Evidence has shown that civilizations like the Maya conceived of varied types of social constructs. Using a multiscalar analysis with different types of data, (i.e., grave location, architectural features, body position, and ritual aspects like sacred cosmos), increases interpretation accuracy, validity, and reliability of both the biological profile of the individual and the social relations of the society examined (Geller 2012:118; Mytum 2004). For the Maya, the dead were highly politicized and remained an essential part of

everyday reciprocal relations. Elite burials were often used to animate buildings, or the dead served as seeds and sources of regenerative powers in rituals that correlate with new structure construction phases (Fitzsimmons and Shimada 2011:54).

3.4 Summary

The interpretation of mortuary contexts has progressed rapidly since the latter half of the 20th century. Current archaeological interpretations focus on using multiple sources of data to aid in the understanding of mortuary customs from biological, socio-cultural, and political perspectives. Paradigms of mortuary theory are now catered specifically to the society under investigation to accurately interpret mortuary findings from the given culture. This also helps to decrease the projection of Western biases on the mortuary record. The multiscalar approaches discussed in the current chapter will be utilized by analyzing multiple forms of biological and cultural data in the discussion section of this thesis (Chapter 6). The following chapter presents the methods that were used in the collection of burial assemblage data.

4.0 Methods

4.1 Mortuary Variables

The following chapters provided a general background of Maya mortuary archaeology and the types of information that can be generated through the analysis of human remains within burial contexts. The purpose of Chapter 4 is to define, in detail, the variables used in the collection and analysis of the mortuary and osteological data. The variables have been recorded and entered using a Microsoft Excel spread sheet to create frequency graphs and tables to establish trends in the mortuary data (Appendices A-D).

4.1.1 Burials

To interpret the data, categories of mortuary customs were established for Classic Maya burials. Welsh (1988) presented a comprehensive overview that includes descriptions and definitions of burial locations, interment types, and common customs related to Maya mortuary practices. A burial is defined as the action of interring deceased individuals, which can include the remains found in a location, ceremonial or burial objects located with the body, and ritual practices associated with the interment (Becker 1992:187). It is important to note that graves are excavations, pits, or designated locations to accommodate the dead, and they are not synonymous with burials. Grave typology will be defined below following Welsh (1988:42). Burial Zone/Identification refers to the area where the burial was recovered in relation to the settlement (i.e., core zone, settlement zone). The use of zones aids in the analysis of mortuary behaviour within the settlement and is based on where populations of different status normally reside. For the Maya, commoner residential burials are characterized by modest burials within or around residential plazas and structures, while higher-status burials are typically marked with

greater elaboration, in terms of the quality and quality of mortuary offerings (i.e., jade), and the associated architecture (i.e., monumental) (Welsh 1988; Becker 1992).

4.1.1.1 Total Number of Burials vs Total Number of Individuals

Total number of burials refers to the number of burial events located within the grave, while the total number of individuals refers to the minimum number of individuals (MNI) recovered within the burial(s).

4.1.1.2 Burial vs Cache

A cache is a general term given to a ritual context without the presence of human remains (Becker 1992:186). These terms can become difficult when used interchangeably and must be defined through the interpretation of the burial itself. For example, the term "burial" at Tikal has a more restricted definition than just one or more interred individuals (Becker 1992:187). Burials and caches, at least at Tikal during the Classic period, may not have been two distinct things but rather comprised a single category called "earth offerings" (Becker 1992:186). An earth offering is a generalized category under which a burial and a cache are considered subsets (Becker 1992:186). This is because the relationship between a cache and a burial can be difficult to interpret as caches have been known to contain human remains (Becker 1992; Briggs 2002; Welsh 1988:251). Cache data accumulated with burials typically refers to the relationship of the cache with a burial, since information about social complexity provided by skeletal remains is generally less variable in burials than caches alone (Becker 1992: 192). For the Classic Lowland Maya, there is great variability in both the temporal and spatial dimensions of mortuary practices. This variation strongly correlates with socio-political influences (Becker 1992:187).

4.1.2 Grave Typology

This study will consider potential patterning in mortuary variables from the data sample. Welsh's (1988) publication provides a standard grave typology for Maya archaeology. This standard was developed based on 1170 graves from 16 different Maya sites from the Maya Southern Lowlands, resulting in six types of graves with 16 different variables (Table 4.1).

Table 4.1: Grave Typology directly referenced from Welsh (1988:43-45), using table style adapted from Snetsinger (2012:82-84).

Grave Type	Variety	Definition
Simple		Interment in an unlined hole or pit in the ground or structural fill, or inclusion of a body in fill during construction. Any stone that may be present was not intentionally placed for interment but used if available.
	Simple	Formless grave in construction fill. Opportunistically made during structural reconstruction.
	Pit	Unlined hole or pit dug into soil, bedrock, fill or rubble.
	Ceiling Slab	The corpse, or portion of it (i.e., the head), rested on stone slab of a pre-existing stone capped grave.
	Blocked up Room	Technically should be included with simple variety but is considered a separate variety to account for the confused descriptions of burials in Rooms 1 to 4, Str. B, Group II, Holmul, and the graves of Burials Ti-40, Copan, and 18, Mountain Cow.
	Between Graves	Interment placed between existing stone lined graves, benches or room wall and thus forming the illusion of being stone lined when in fact there was no special grave preparation.
Cist		Outlined grave consisting of stone lining on at least one of its sidewalls, cap or floor but rarely, if ever being completely lined with stone; or intentional placing of stone, frequently haphazard, directly on or around skeleton as a means of separation and

		protection from other graves. The fact that stone was used distinguishes it from simple graves and because it was not completely stone lined on all sides distinguishes it from crypts. Cists were rarely capped if lining was present.
	Haphazard Cist	Randomly piled or placed stones lying directly on, or haphazardly placed around, corpse; probably placed in order to separate the burial from others surrounding it and thus, although the placing of the stones may appear haphazard, the act of placing them was intentional.
	Partial Cist	Use of rough, unshaped stones of rubble fill placed as a partial or incomplete lining around under or over the body. Similar to the above variety but less haphazard in appearance. Frequent use of existing structural walls as additional lining to grave.
	Head Cist	Grave in which some sort of stone, mortar or plaster lining has been placed on, under or around cranium of corpse for protection, and with little or no attention to protecting the rest of the body.
	Capped Cist	An unlined, or partly walled pit, partly or totally covered by capstones resting on at least one, bit normally both, sidewalls.
	Uncapped Cist	Grave partly or completely lined by a crude ring of unshaped stones, boulders, or rough, vertically placed slabs. Some gave walls may be covered with plaster.
Crypt		Grave constructed with partly or completely stone lined walls and always covered by capstones, for a ceiling. May or may not have a plastered floor. Some crypts were more complex or elaborate than other by their greater dimensions and/or more carefully placed stones in a more complex stone wall construction, i.e., well cut horizontally placed stone slabs, as opposed to vertically positioned, roughly shaped slabs.
	Simple Crypt	Grave whose walls are usually lined, or partly lined, with vertically placed stone slabs or unshaped stones, and roofed with capstones. Walls, floor and capstones may be covered with plaster. Height of 10-75 cm.
	Elaborate Crypt	Grave whose walls are lined with stone slabs, often horizontally placed, and capped with cut and dressed capstones. May occasionally have stone floors, niches in walls, and/or bench along sidewalls. Walls, floor and or capstones sometimes covered in plaster. May contain an antechamber. Height is higher than the simple crypt variety, ranging from 40 to 135 cm.

	Unspecified Crypt	Designated as a crypt by excavators but, because of disturbance or inadequate description and illustration, the actual sophistication of construction of the grave is uncertain, though the excavator's implication that the grave was a crypt is accepted, i.e., stone walls with a capstone.
Tomb		An elaborate stone lined or rock-cut chamber of considerable dimensions, far exceeding those of the corpse. Usually contains a shaft leading down to the chambers with an occasional antechamber. Height is sufficient for a human to stand, i.e., ca. 135 cm or more.
	Unspecified tomb	Insufficient description to determine precise nature of construction and/or dimensions but accept author's implication that it was a tomb.
	Rock-cut tomb	Large chamber cut out of bedrock, complete with shaft and steps leading to tomb entrance. Walls and ceiling usually covered in plaster and line paintings.
	Stone-lined tomb	Large chamber lined with stone and either vaulted or capped with stone slabs. May have shaft and steps leading to chamber.
Chultun	No Varieties.	Large chamber originally dug out of the soil and/or bedrock for purposes other than mortuary, and with or without a shaft.
Unknown/Unclassifiable		Graves in which here was insufficient or no information, or they were too disturbed to determine morphology. Hence, it was not possible to know what these graves were nor hot to classify them.

4.1.3 Burial Goods

Material artifacts recovered within the grave were considered as grave offerings. The distribution of the material artifacts was organized by frequency and type. Some of these artifacts were recorded individually as they were dated using radiocarbon techniques, others were only recorded by type. Some burial assemblages used in the comparison had inconsistencies in the data on grave goods or the data was unavailable.

Due to this, burial assemblages that reported material artifacts associated with burials were included in the dataset (Appendices A-D) but were not used in analysis.

4.1.4 Contextual Association of Burials

Burials were excavated from a variety of architectural contexts. For the purpose of this study, burial context was analyzed in two types: domestic or public. The context of the burial was determined by the location of the burial in relation to the overall settlement. Burials found in the residential area (i.e., domestic structure) were analyzed as a domestic or private burial space while temple architecture, often linked with core zone burials, were identified as public monumental burial spaces.

4.1.5 Elite vs Commoner

Many defining class and status characteristics are confined to political, economic, and religious roles in Maya society (Blackmore 2011:161). These roles are defined as the activities people perform within the house, and within the broader community, through skills, labour, products, and services (Lucero 2001:2). As societies grow, these roles continue to become more complex and diversify within the economy (Lucero 2001:2-3). Traditionally, these roles equated with status and wealth: the elites vs the commoners, or the upper-class vs the lower-class (Lucero 2001; Sheets et al. 2015:343). This bimodal model may be exceedingly simplistic when analyzing the daily lives and societal interactions of ancient life. These distinctions are not always homogeneous and do not reflect any diversity within each category. As well, the variables in each category may vary from site to site in the mortuary record (e.g., elites can be broken down into upper class nobles and royalty). Nonetheless, this model is usefully applied in mortuary archaeology because different status classes were economically entangled with different

social landscapes (Lamoureux-St-Hilaire et al. 2015:553). These class distinctions have proven useful, and have been widely used, in framing archaeological research because they can be clearly identified in the material record (e.g., mortuary locations) (Gonlin 2007; Lucero 2001; Somerville et al. 2013). Commoners are typically tied to their homelands and residential landscapes (e.g., houses) while the elites are linked with site cores and monumental architecture due to their ties with political, economic, and ritual activity in society (Blackmore 2011:161; Gonlin 2007:83; Masson and Lope 2004:197; Sheets et al.2015:343; Welsh 1988). Therefore, this thesis will refer to commoners as the population who forms the bulk society and fulfilled the productive and supportive roles of labour and supplies (Blackmore 2011:161; Gonlin 2007:83; Lucero 2001:3). These non-elite populations typically reside within the residential periphery outside of the site's core zones (Gonlin 2007:83). The elites are the upper and ruling or royal class typically located within the site's core zones identified with greater art, iconography, and overall burial elaboration (Blackmore 2011).

4.2 Osteological Variables

The osteological variables in the current study were determined by previous *in-situ* and in-lab examinations. Therefore, the current study did not analyze the human remains but gathered data from previous research (Briggs 2002; Donis 2012; Izzo 2018; Schwake 2008; Smith 2020; Snetsinger 2012) to compare variables. Below are the descriptions used for osteological analysis as found in the extant literature (Briggs 2002; Donis 2012; Izzo 2018; Schwake 2008; Smith 2020; Snetsinger 2012).

4.2.1 Interment Type vs Interment Style

Interment type refers to primary or secondary interments. Primary interment refers to when the remains of the individual(s) are found in the same grave in which they were originally placed after death with no further manipulation (Welsh 1988:71). Secondary interments are when the remains of the individual(s) are not found in the same location in which they were placed at death. It may occur after the primary interment when there is additional and intentional manipulation (e.g., disarticulation and placed in an urn) of the human remains (Welsh 1988:71).

Interment style refers to single or multiple interments. The term single interment is used when one individual is represented (primary or secondary), while the term multiple interment refers to when more than one individual is represented within the same grave. In the literature, the term multiple interment can be used when several individuals are interred simultaneously, or when individuals are buried in within the same grave at different times (i.e., sequentially).

At Ka'kabish, burials that were in the same location (i.e., a chultun) but were clearly interred at different times (i.e., in Formative period and then in the Postclassic period), were considered, and recorded as, multiple-entry burials comprised of single interments. The term multiple interment was reserved for instances where more than one individual was interred at the same time, or it was not possible to determine if the individuals were interred at different times.

4.2.2 Age/Sex

Age and sex determination were identified prior to the current study in all assemblages. However, confident assessment of age and sex estimates for the Ka'kabish

remains was hindered by poor preservation especially in individuals that were highly fragmented, comingled, or with only partially recovered remains for which demographic characteristics were often not available. Therefore, demographic variables will not be discussed in this thesis. However, the Appendices A-D includes any demographic variables that were identified.

4.2.3 Body Position and Deposition

Body position refers to the position the skeleton is placed during the time of inhumation (e.g., extended) and the deposition refers to the overall configuration of the body in the grave (Ubelaker 1989:14). For example, the position and deposition of the remains of the body within its grave can be referred to as extended, with additional indicators of supine or prone. Examples of body position can be seen in Figure 4.1.

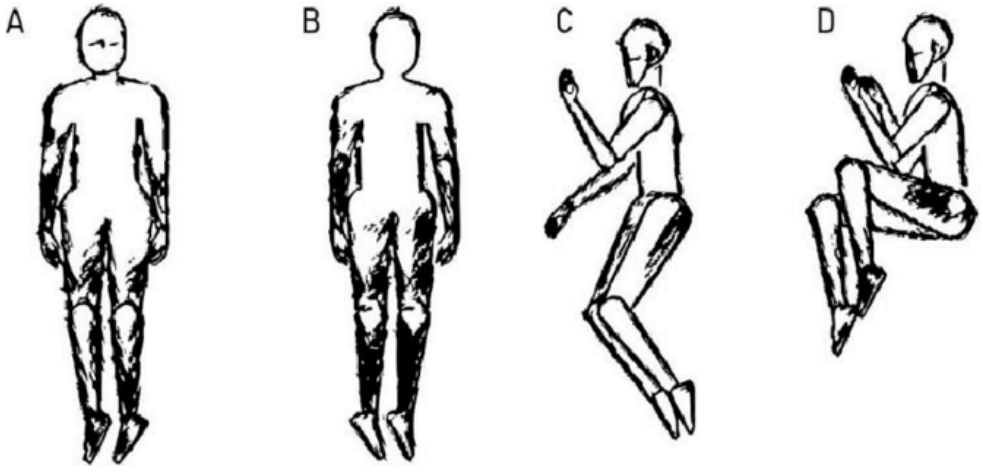

Figure 4.1 Body Positioning: A) Supine extended. B) Prone extended. C) Lateral semi-flexed (on the right side). D) Lateral flexed (on the right side). Illustration adapted from Moilanen (2021).

4.2.4 Orientation (Body and Skull)

Orientation was recorded in cardinal directions: primary (N, E, S, W), intermediate directions (NE, SE, SW, NW), or between directions (e.g., Lamanai burial N10-4/11: head-to-WNW 296˚and facing N) (Appendix C). Body orientation is recorded by the cardinal direction that the top of the head of the individual is pointed towards (Briggs 2002; Snetsinger 2012). Orientation can be further confirmed by a line drawn from the center of the pelvis to the skull (Briggs 2002:85; Snetsinger 2012:81). Skull orientation is the direction in which the face of the cranium points in the grave (i.e., which direction the individual faces). This is recorded in a cardinal direction, and sometimes with the addition of "up" or "down" descriptions (Briggs 2002; Welsh 1988:95). This is not to be confused with body orientation, where the orientation of the body may be NS (head-to-north, feet-to-south) and the orientation of the skull is directed E. In some records of the current burial assemblage, skull orientation was either not discerned, or it was not clarified from body orientation.

4.2.5 Modifications

Like age and sex variables, modification to skeletal elements such as cranial and dental modifications that were recorded for any remains were included in the data set. These modifications were noted in the Appendices A-D but will not be discussed in this thesis.

4.3 Mortuary Practice Testing

Nonparametric tests such as Chi-square tests were not possible with the Ka'kabish assemblage because the sample size is too small. The only variable, where a consistent measure of data was present, was analyzing the shift from public to private structures for

burial contexts (Conolly 2023: personal communication). Correlational analysis was unable to be statistically computed; regardless, a pattern is distinguishable among the burial assemblage for this variable. Patterns of mortuary practice were also compared to Welsh's (1988) survey of Classic period Lowland mortuary practices when patterns in the current assemblage were notable within that occupation period.

4.4 Summary

This chapter provides an overview of the mortuary variables that will be discussed in the following chapter (Chapter 5). These variables will be analyzed to examine spatial and temporal trends. The raw data containing all osteological and mortuary variables are available in Appendices A-D. Appendices were formatted using Microsoft Excel Spreadsheets. The results of the comparison will be available in Chapter 6.

5.0 Data

The purpose of this chapter is two-fold: 1) to summarize general burial trends that have been previously identified among the eastern half of the Southern Maya Lowlands and to further recognize which mortuary variables correlate regionally; 2), to define Ka'kabish's burial assemblage and identify the mortuary variables present in the site's excavation records. I will then categorize these variables following Welsh's (1988) classification of Lowland Maya burials to identify which mortuary trends are present within the site of Ka'kabish. This will provide a database for Ka'kabish's burial assemblage that will be used to situate the site in consideration of overall Southern Lowland mortuary trends.

5.1 Data Sampling

A total of 817 burials were analyzed from five different regions using 15 variables (Table 5.1).

Table 5.1 Burials Used in the Current Study (based on data from Briggs 2002; Donis 2013; Schwake 2008; Snetsinger 2012).

Region	***Number of Burials***
Southeast Petén	213
Belize Valley Region	227*
Vaca Plateau	237
Freshwater Creek Drainage	75
Lamanai (New River Region)	35
Ka'kabish (New River Region)	30
Total	**817**

*Note: *BVR sum is 228. Only 227 shown on the chart due to discrepancies between grave information and loose phalanges/dentition (Schwake 2008:249). Ref. pg. 48 for BVR data.*

Variables included in the current study are region, sub-region, site, occupation period, burial ID and/or zone within the site, total number of burials, total number of individuals (MNI), grave type, interment type, interment style, body position, body orientation, skull orientation, age, sex, associated artifacts, number of grave objects. A major issue in mortuary research is a lack of standardized practices for studying and analyzing *in-situ* remains. Archaeologists may not use the same mortuary terms or measure and record the same variables during excavation. To avoid the presence of confirmation bias, a pre-set number of mortuary variables (as listed above) was not distinguished before data collection. Any, and all, variables that were noted in the mortuary record by researchers were included in my raw data (Appendices A-D). If a region/site recorded a variable that was not identified at other regions/sites, it was still included. However, only the variables that are consistently recorded throughout all regions are used in the analysis (e.g., some sites recorded body orientation while it was unavailable for others, thus, body orientation will not be compared between all sites).

The regions used in this study are those previously identified in the literature. All the sites that were combined and given a regional name were also previously classified and established by their cultural distinctions within the archaeological record (Estrada-Belli 2011:37,112; Schwake 2008). The focus of the current literature is to analyze residential burials patterns. However, some burials noted in the data are from the core zone of a settlement. It is acknowledged that individuals buried in the core zone typically demonstrate higher status (i.e., elites). Core zone interments have greater burial spaces and are usually associated with monumental architecture, which does not adhere to the

typical burial customs of residential or commoner burials located outside the core zone, which represents the population that formed the bulk of Maya society (Chase and Chase 2017:222; Haines et al. 2020:52;). Core zone data is still included because it is important for identifying the burial distribution and mortuary pattern within the specific settlement. Additionally, literature on Maya settlement patterns has demonstrated that the relationship between epicentres and/or core zones and burials is not limited to elite tombs, and that burials of individuals of lower status may also be found in epicentre and core areas (Chase and Chase 2017:230-231; Somerville et al. 2013:1543-1544).

5.2 Lowland Burial Trends: A Regional Perspective

Compilations of mortuary data facilitates the synthesis of regional patterning, creating an interpretative depiction of the Maya Southern Lowlands ranging from the Formative through to the Postclassic periods. Researchers have identified such mortuary patterns in the Southeast Peten (Schwake 2008), Belize Valley Region (Schwake 2008; Novotny 2015), the Vaca Plateau (Schwake 2008; Snetsinger 2012), Freshwater Creek Drainage Region (Briggs 2002; Rosenswig and Masson 2020), and at Lamanai in the New River Region (Donis 2013; Izzo 2018; Pendergast 1981, 1989) (Figure 5.1). It is useful to compare mortuary patterns from Ka'kabish, also in the New River Region, with broader regional patterns to identify how Ka'kabish best fits within regional burial trends. The following discussion summarizes the data from previous research to identify mortuary similarities and variabilities from each region.

Figure 5.1 Map of Maya Southern Lowlands. Map indicates the general regions used in the current study. Map adapted from Rice (2020).

Notes: SE Peten = Southeastern Peten, BVR= Belize Valley Region, NRR= New River Region (i.e., Lamanai and Ka'kabish), FWC= Freshwater Creek Drainage.

5.2.1 Southeastern Peten

The Southeastern Peten (SE Peten) is a large region encompassing several different ecological zones and waterways, yet it displays particularly uniform mortuary patterns (Schwake 2008:231). Data from this region was drawn from Schwake (2008; 221, 231). Twenty-two sites in this region are included in Schwake's (2008) analysis, within 15 political regions along the Mopán, Salsipuedes, Poxté, and Río San Juan, and the interfluvial region between the Poxté, San Juan, and Mopán (Figure 5.2).

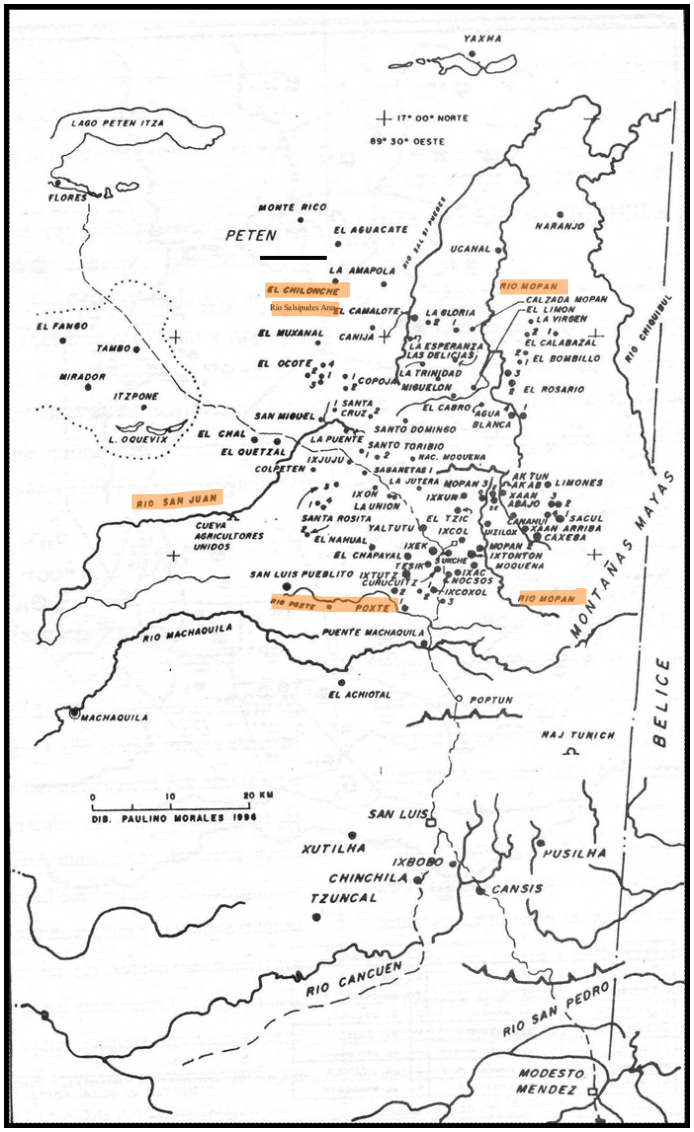

Figure 5.2 Map indicating sites in SE Peten (adapted from Schwake 2008:274). Highlighted in orange are the sub-regions of the SE Peten burial sample.

Of the 22 sites reviewed, 213 Maya burials containing 253 individuals were identified: nine dates to the Formative period, nine date to the Early Classic period, 139 from the Late Classic, and 56 from the Terminal Classic period (Table 5.2). The only consistent variables found at sites across this region were occupation period, grave type, body position, and body orientation (see Appendix D for additional variables recorded in this region). For the purposes of documenting trends in mortuary behaviour, only the consistently variables recorded across the region are presented in the current dataset.

Table 5.2 Summary of SE Peten Burials by Occupation Period (based on data from Schwake 2008).

Southeast Peten Interments	
Period	***Burials***
Formative	9
Early Classic	9
Late Classic	139
Terminal Classic	56
Total:	213

The low number of burials in the Formative and Early Classic periods can be attributed to greater population density in different occupation periods, differential preservation, and the nature of ancient Maya building practices (i.e., Formative construction levels are often deeply buried and difficult to excavate) (Schwake 2008:231). The most common grave type was cist, representing 58% (n=123/213) of the sample followed by simple graves (18%, n=38/213), fill burials (8%, n=17/213), and formal chambers (4%, n=8/213) (Schwake 2008:221; Snetsinger 2012:195). Any

remaining interment types were identified in chultuns (2%, n=5), middens (2%, n=4), on floor/on-structure (1%, n=2), and less than one percent were in pottery (<0.5%, n=1), while the rest were unknown (7%, n=15) (Schwake 2008:221; Snetsinger 2012:195) (Figure 5.3).

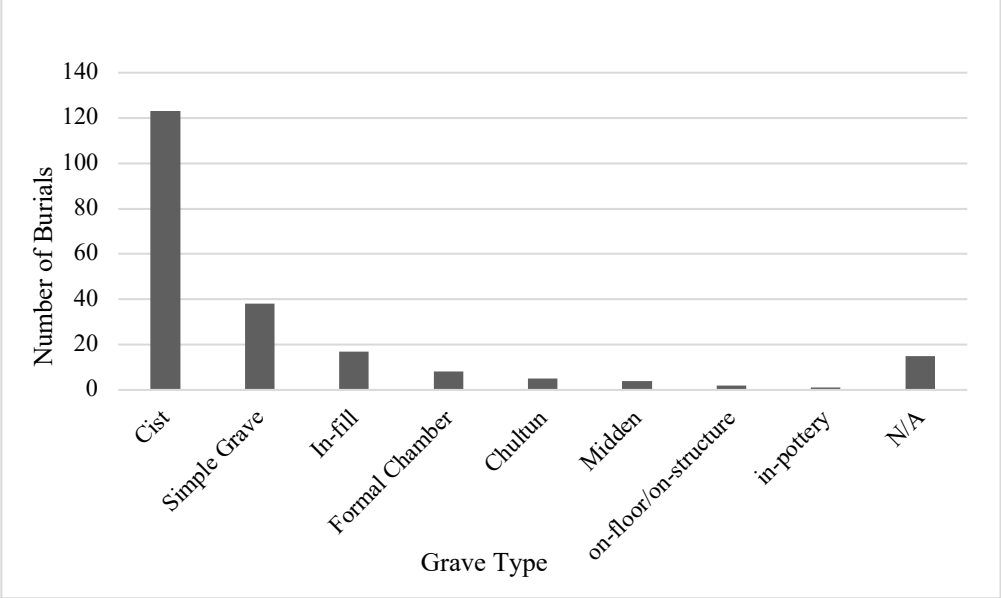

Figure 5.3 Southeastern Peten Grave Typology (based on data from Schwake 2008).

Table 5.3 Summary of SE Peten Body Positioning (based on data from Schwake 2008).

Southeast Peten Positioning	
Position	***Burials***
Extended	130 (100/130=supine)
Flexed	17
Seated	5
N/A	101
Total:	**253**

Body position was determined for 152/253 individuals (Table 5.3): 86% (n=130/152) were in an extended position (of which at least 100/130 [77%] were supine (extended), 11% (n=17/152) were flexed, and three percent (n=5/152) were in a seated position (Schwake 2008:233).

Body orientation was determined for 44 of the extended supine individuals: 23% (n=23/100) extended supine individuals had body orientation to the north while 21% (n= 21/100) had body orientation to the east (Schwake 2008:233). Although this is not statistically significant, or an exclusive pattern to the Southeast Peten, there is an obvious preference for supine extended body positioning with northern or eastern body orientation (Schwake 2008:233).

5.2.2 Belize Valley Region

Settlements in the Belize Valley Region (BVR) are divided into two main areas: the Central Belize River and the Upper Belize River (Schwake 2008). Data from this region was largely drawn from Schwake (2008), with additional information from Novotny (2015). A total of 10 settlements and six caves were used to assess the BVR. Sites included in the Central Belize River Valley analysis are Baking Pot, Barton Ramie, Esperanza, Blackman Eddy, Ontario Pook's Hill, and Cahal Uitz Na, which are adjacent to Roaring Creek Valley at the eastern edge of the Belize Valley (Schwake 2008:235). The Upper Belize River Valley included nine sites in the western portion of the Belize Valley and adjacent upland zones: Cahal Pech, X-ual- Canil, Chaa Creek, and caves of Actun Tunichil Muknal, Actun Uayazba Kab, Actun Nak Beh, Barton Creek Cave, Actun Halal, and Actun Yaxteel Ahau (Schwake 2008:235) (Figure 5.4).

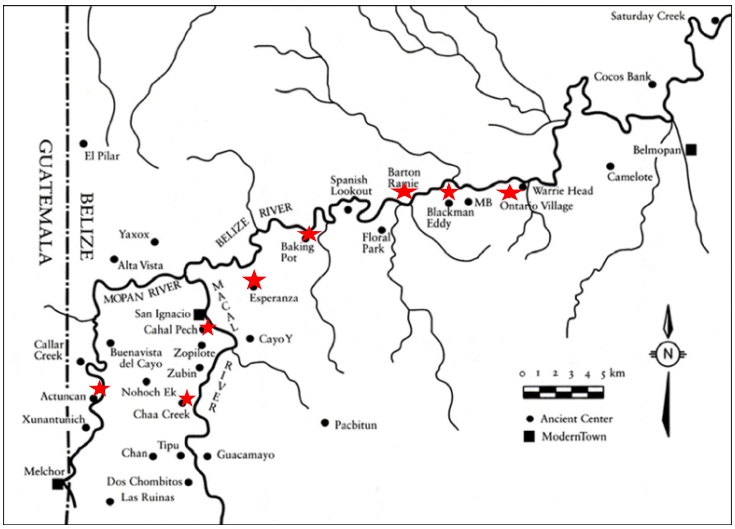

Figure 5.4 Map of Belize Valley Sites (adapted from Schwake 2008:275). Highlighted in red are the key sites that make up the BVR burial sample.

The sample consists of 228 burials (Table 5.4) with 290 individuals: 30 Formative, 23 Early Classic, 169 Late Classic, four Terminal Classic, and one Postclassic burial (Schwake 2008:249). The only consistent variables found at sites across this region were occupation period, grave type, body position, and body orientation (see Appendix D for other variables).

Table 5.4 Summary of BVR Burials by Occupation Period

Belize Valley Region Interments	
Period	***Burials***
Formative	30
Early Classic	23
Late Classic	169
Terminal Classic	4
Postclassic	1
Total:	**227***

**Sum of BVR data is 228; the data only adds up to 227 because there are discrepancies in the burial data with loose phalanges/dentition (based on data from Schwake 2008:249)*

Thirty-two of the 228 graves were multiple interments, making up 14% of the burial assemblage at BVR (Schwake 2008:249). The most common grave type was in-fill interments representing 33% (n=75/228) of the burials, followed by cists (18%, n=42/228), simple grave (10%, n=23/228), simple crypt (8%, n=19/228); other recorded interment style includes on-surface (n=16), on-floor (n=6), and seven tombs/elaborate crypts (3%) (Figure 5.5) (Schwake 2008:235,250; Snetsinger 2012:195-196).

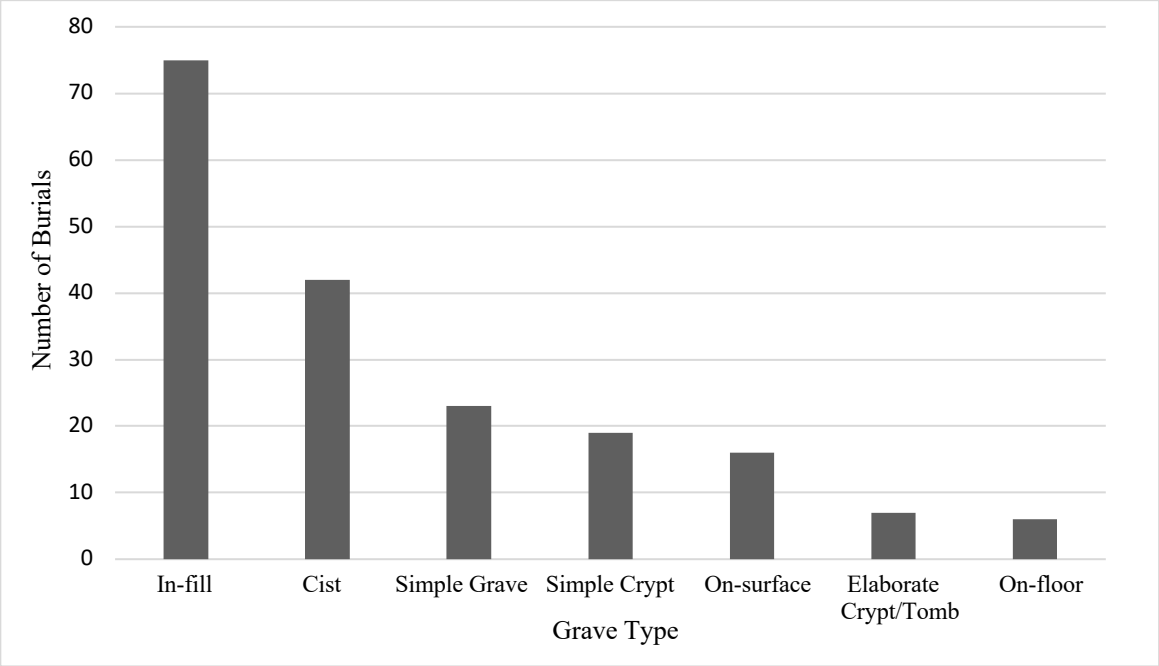

Figure 5.5 Belize Valley Region Grave Typology (based on data from Schwake 2008).

Belize Valley shows a preference for extended interments with southern body orientation (68%, n=154/290) (Schwake 2008:250). This patterning is most clear during the Late/Terminal Classic (Novotny 2015:269, 279). Of the 154 extended interments with south body orientation, 105 of these were prone extended (68%), 15 extended supine (10%), and 34 extended undetermined (22%) (Schwake 2008:250). Other burials

positions included extended (n=6), flexed (n=7), "prone" (n=16), prone, flexed, and head to the south (n=6), seated (n=8), and disarticulated (n=5) (Table 5.5) (Schwake 2008:250; Snetsinger 2012:196).

Table 5.5 Summary of BVR Interment Position (based on data from Schwake 2008).

Belize Valley Positioning	
Position	***Burials***
Extended	160
Flexed	13
Prone	16
Seated	8
Disarticulated	5
Total:	**202**

Further research in the BVR displayed that at major ceremonial centres (e.g., sites possessing ballcourts, pyramid temples, etc.), prone position is common starting at the Late/Terminal Classic, which has a larger sample size than Early Classic periods that favours supine positioning (Novotny 2015:276, 501). However, residential level sites (e.g., house groups), public residential sites (e.g., sites with 5m pyramids, public plazas, etc.), displayed preference in all structures for prone positioning through all periods (Novotny 2015;276, 501). Regardless of prone or supine deposition, extended, head-to-south orientation, predominates all burials styles, representing an overall 68% of the total BVR mortuary assemblage (Schwake 2008). If only body orientation is considered, 75% of the mortuary sample demonstrates head-to-south orientation (Schwake 2008:250). It is still clear there is a lot of variability in body position between all BVR site types with the

presence of flexed, seated, and disarticulated interments. Overall, BVR demonstrates that extended, head-to-south orientation, and single interments predominate other mortuary variables (Novotny 2015). As well, there is a preference for prone deposition, that at some settlements demonstrates significant associations with eastern structures (Novotny 2015).

5.2.3 The Vaca Plateau

The Vaca Plateau is the northern region of the Maya Mountains and is known for its numerous caves (Reeder et al. 1996:121; Schwake 2008:251). Data from this region was drawn from Schwake (2008) and Snetsinger (2012). Information was gathered from sites in the Plateau (Caracol, Caledonia, Mountain Cow, Minanha), and two settlements from an interstitial area between the Vaca Plateau and the Upper Belize Valley (Las Ruinas de Arenal and Pacbitun) (Schwake 2008:251) (Figure 5.6). In this study, Las Ruinas de Arenal and Pacbitun continue to be classified within the Vaca Plateau region to remain consistent with Schwake (2008).

The Vaca Plateau region had a total of 237 burials encompassing at least 488 individuals (Chase and Chase 1987, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005; Schwake 2008:251; Zehrt and Iannone 2005) (Table 5.6). Nine of the burials are Formative, 19 are Early Classic, 12 are between the Early to Late Classic, 196 are Late/Terminal Classic, and one is a probable historic/colonial leproid burial (Table 5.6) (Schwake 2008:262). The only consistent variables found at sites across this region were occupation period, grave type, body position, and body orientation (see Appendix D for additional variables that were recorded at some sites within this region).

Table 5.6 Summary of Vaca Plateau Burials by Occupation Period (based on data from Schwake 2008; Snetsinger 2012).

Vaca Plateau Interments	
Period	***Burials***
Formative	9
Early Classic	19
Early/Late Classic	12
Late/Terminal Classic	196
Colonial	1
Total:	**237**

One important feature of the Vaca Plateau assemblage is that some of the mortuary vocabulary differs from other Maya literature. Burial records at Caracol do not follow Welsh's (1988) typology for Maya mortuary customs and Caracol makes up 77% (n=182/237) of the Vaca Plateau sample. At Caracol, "tombs" and "non-tombs" are the two major gave typologies. "Tombs" would be differentiated by Welsh (1988) into elaborate crypts and tombs whilst "non-tombs" refers to simple cists, crypts, and graves (Snetsinger 2012:197) (refer to Table 4.1). "Tombs" was the most common grave type noted at Caracol representing 30% of all burials (n=70/237) and "non- tombs" make up the second highest burial typology representing 29% of graves (n=68/237). The broad categories do not allow for the differentiation of these graves in accordance with Welsh's classification. The rest of the regional sample follows Welsh's (1988) typology and were recorded as simple crypts (15%, n=33/237), simple burials (9%, n=20/237), chultuns

(5%, n=13/237), cists (5%, n=13/237), and elaborate or vaulted crypts (2%, n=5/237) (Schwake 2008:262; Snetsinger 2012:197).

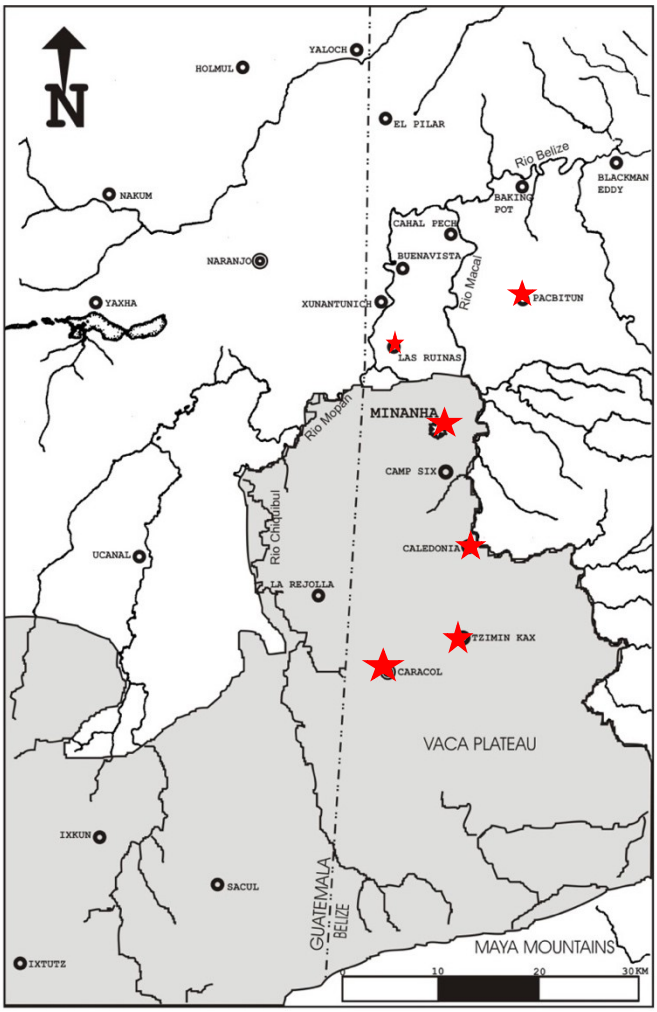

Figure 5.6 Map of Vaca Plateau indicating key sites discussed (adapted from Schwake 2008:276). Highlighted in red are the sites used in the Vaca Plateau burial sample.

At Caracol, a majority (85%) of burials identified are from the eastern structures of residential groups. This association between burials and eastern structures is similar to Novotny's (2015) findings from the BVR data, however, it may be due to possible sampling bias of the excavators (Snetsinger 2012:190). Of the 488 individuals recovered

in the Vaca Plateau, only 10% had recorded skeletal position (n=49/488) due to the poor preservation associated with burials in this region (Schwake 2008:262; Snetsinger 2012:197). Extended and supine positioning was the most recorded body placement, both representing 38% (n=18/49), while 10% were identified as prone (n=5/49), with both seated and flexed representing 8% (n=4/49) (Schwake 2008:262; Snetsinger 2012:197) (Table 5.7).

Table 5.7 Summary of Vaca Plateau Interment Position (based on data from Schwake 2008; Snetsinger 2012).

Vaca Plateau Interments	
Position	***Burials***
Extended	18
Supine	18
Prone	5
Flexed	4
Seated	4
Total	**49**

Detailed information about body orientation was only available for 24 individuals. The most common body orientation was to the south (46%, n=11/24), followed by head-to-north orientation (29%, n=7/24) (Schwake 2008:262-263). A limitation of this mortuary sample is that individuals in prone or supine positions were not always specified as to whether they were in extended positions, thus, the body orientation and the body position were not always differentiated. Consequently, the low availability of known body orientation/position does not allow for significant characterizations of this practice for the area.

Another significant feature of the Vaca Plateau is the presence of multiple interments. Forty percent of the Vaca Plateau mortuary sample (40%, n=94/237) includes burials with multiple interments (Schwake 2008:263). Two multiple interments date to the Formative period, seven to the Early Classic, and 73 to the Late/Terminal Classic (Schwake 2008:263). Twelve are not specifically dated since these multiple interments have a long history of use from the Early Classic through to the Late Classic periods (Schwake 2008:263). The Classic period makes up the majority of multiple interment data. However, this majority is also representative of the sample from this period compared to the number of burials identified from the Formative and Early Classic periods (Schwake 2008:263) (Table 5.8).

Table 5.8 Summary of Vaca Plateau Multiple Interments by Occupation Period (based on data from Schwake 2008; Snetsinger 2012).

Vaca Plateau Multiple Interments	
Period	***Burials***
Formative	2
Early Classic	7
Late/Terminal Classic	73
Classic Period Re-use	12
Total:	**94**

The study of Minanha and Pacbitun was included in the regional analysis but analyzed separately in comparison with the regional burial patterns. Pacbitun was dealt with separately because it is located between the Vaca Plateau and the Belize Valley, thus, it resembles mortuary patterns from both regions (Snetsinger 2012:197). Like the

Belize Valley Region, where a majority of burials were in extended positions with body orientation to the south, a majority (50%) of Pacbitun burials were also in extended positions with southern orientation. However, Pacbitun had a high frequency of multiple interments (40%; n=15/47) and many were male-female pairs buried at the same time (Snetsinger 2012:19, 200). Considering the Southeast Peten region and BVR demonstrated low rates of multiple interments (10% and 14%, respectively), the 40% occurrence rate in the Vaca Plateau is interesting since Pacbitun displayed the same inherent mortuary behaviour as the two nearby regions (Schwake 2008:263,333). Minanha mortuary patterns are also quite diverse, displaying characteristics resembling the sites of both Pacbitun and Caracol (Snetsinger 2012:199). Therefore, Minanha is highlighted independently to show how Maya sites are known to have mortuary trends from more than one settlement. At Minanha, most multiple interment burials consisted of three or more individuals, some even up to 20 individuals, and often the individuals were not interred in one event but over an extended period of time (Snetsinger 2012:199-200). Eastern shrines are more prevalent at Minanha, like Caracol and the BVR, and including the emphasis on multiple interments is thought to reinforce collective and group residential identity (Novotny 2015; Snetsinger 2012:200).

5.2.4 Freshwater Creek Drainage Region

Freshwater Creek Drainage (FWCD) Region is an area in Northern Belize investigated as part of the Belize Postclassic Project, which excavated sites along three major lagoons (Laguna de On, Progresso Lagoon, and Laguna Seca) inland from Corozal Bay and parallel with the New River and Rio Hondo (Briggs 2002:27-28; Masson 2000; Rosenswig and Masson 2020:5). Although, it is no longer navigable, the Freshwater

Creek channel once connected these three lagoons (Masson 2000; Rosenswig and Masson 2020:5) (Figure 5.7, 5.8).

Figure 5.7 Map of Northern Belize indicating the Freshwater Creek Drainage Sites (adapted from Briggs 2002:28). Highlighted in red are key sites from the burial sample.
**Note: Laguna de On previously identified as Honey Camp Lagoon*

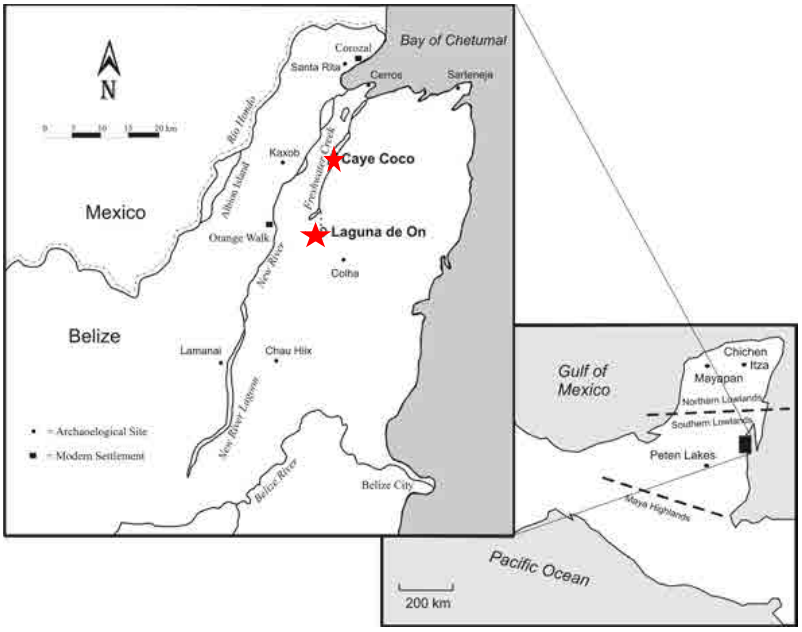

Figure 5.8 Map including the site of Caye Coco from Freshwater Creek Drainage (adapted from Rosenswig et al. 2020:2). Highlighted in red are key sites from the burial assemblage.

Data for this region was drawn from the Briggs (2002) and Rosenswig et al. (2020) assemblage. This mortuary sample is made up of the sites of Laguna de On Islands (LOI) and Laguna de On Shore (LOS) in the southern-most inland lagoon of Freshwater Creek Region, a sub-region of Progresso Lagoon. Additionally, data from the sites of Caye Coco, Chuk Group, and Strath Bogue from this region were indicated (Rosenswig and Masson 2020:5) (Table 5.9, Figure 5.9). The consistent variables recorded were occupation period, number of individuals, grave type/structure, interment type, body position, body orientation, skull orientation, age, sex, and associated artifacts. A larger number of variables were reported for some of the sites across this region (Appendix B).

Table 5.9 Summary of Freshwater Creek Drainage Burials by Site, Structure, and Occupation period (based on data from Briggs 2002; Rosenswig and Masson 2020).

Freshwater Creek Drainage						
Site	***Cemetery***	***Structure***	***Ballcourt***	***N/A***	***Burials/MNI***	***Period***
LOI	11	5	2	2	20	PC
LOS	--	9	--	--	9	TC
Caye Coco	31	10	--	--	41	TC= 10 (all Str.) PC = 31 (all Cem.)
Chuck Group	--	1	--	--	1	TC
Strath Bogue	--	4	--	--	4	TC
Total:	***42***	***29***	***2***	***2***	***75***	

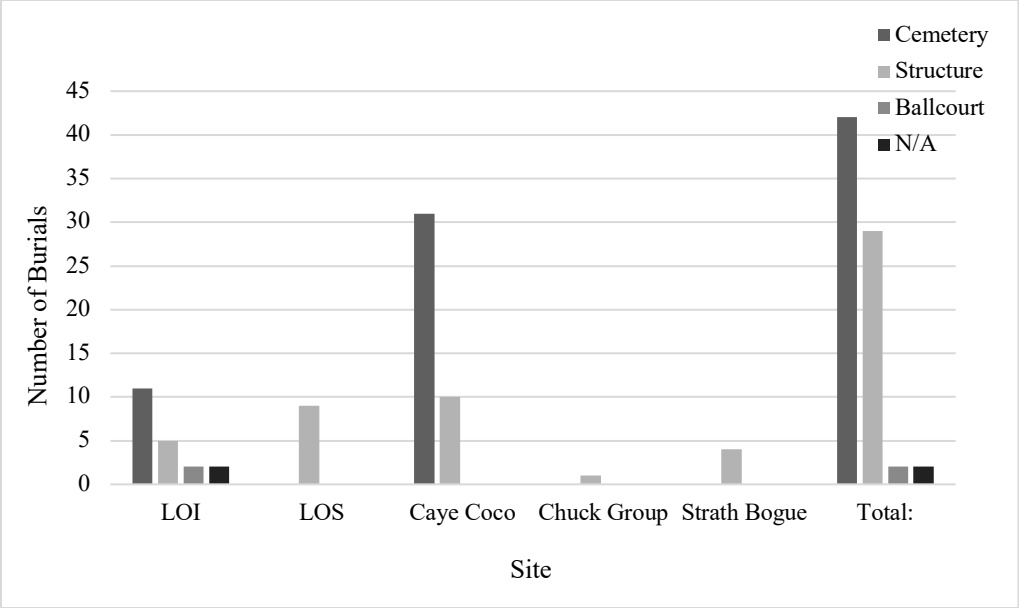

Figure 5.9 Freshwater Creek Drainage Burial Assemblage by Site and Grave Typology (based on data from Briggs 2002).

Seventy-eight burials were identified. However, 75 burials were used in in the Freshwater Creek regional burial analysis due to data accessibility: 32% burials (n=24) were from the Terminal Classic and 68% (n=51) from the Postclassic period (Briggs 2002; Rosenswig and Masson 2020) (Table 5.10).

Table 5.10 Summary of Freshwater Creek Burials by Occupation Period (based on data from Briggs 2002).

Freshwater Creek Drainage Interments		
Period	***Burials***	***MNI***
Terminal Classic	24	24
Postclassic	51	51
Total:	***75***	***75***

Burials were recorded both on-shore and on-island locations at Progresso Lagoon and Laguna de On (Briggs 2002; Rosenswig and Masson 2020). Primary interments made up 80% (n=60/75) of the mortuary assemblage and comprised only single interments (Briggs 2002:137). Secondary burials were only seen during the Terminal Classic period. However, this may be an inaccurate representation of secondary interment usage due to the difficulty of identifying primary and secondary interments in cache contexts (Briggs 2002:137). Regardless, the burial data continues to demonstrate correlations between mortuary customs and the temporal occupation of the site. Seventy-five percent of Postclassic burials were recovered from *cemetery- like* groupings rather than structure-based burials (Briggs 2002). At Caye Coco, the vast majority of Postclassic burials were within cemetery contexts (76%, n=31/41), where the majority (55%, n=11/20) of Postclassic burials at Laguna de On were in cemetery contexts (Briggs 2002:138,141).

Nearly all Terminal Classic burials in this sample are located within structural contexts; while a majority of Postclassic burials are within cemetery-like groupings (Briggs 2002:140; Rosenswig 2001:156). During the Terminal Classic, approximately 67% of females were recovered from structural contexts while only 33% of males were buried in structural contexts (Briggs 2002:142). These numbers reverse during the Postclassic where 67% of males were in structures while and 33% of females were buried in structures (Briggs 2002:142). Location was also separated by age. In the Terminal Classic, young adults and adolescents were more likely to be recovered from domestic structures, while older adults were buried in non-domestic structural contexts within public (or unknown) areas of the site (Briggs 2002:144). This division is not necessarily

seen in the Postclassic period. However, there is only a small sample from the Postclassic Classic period (n=11), which can create discrepancies when comparing the wide range of Terminal Classic reported age classes (Briggs 2002:145).

Body position also correlates temporally, where 46 burials had position recorded (n=5 Terminal Classic, n= 41 Postclassic) (Briggs 2002:150). Of the 46 body positions recorded (Table 5.11), 31 were flexed seated, eight were flexed (n=4 right side flexed, n=4 left side flexed), four were semi-flexed, and three were supine extended (Briggs 2002:148). Extended body position was only recorded in the Terminal Classic whereas the Postclassic demonstrated a preference for flexed body positioning (Briggs 2002:148).

Table 5.11 Summary of Freshwater Creek Drainage Burials by Interment Position (based on data from Briggs 2002).

Freshwater Creek Drainage Interments			
Position	***Burials/MNI***	***Terminal Classic***	***Postclassic***
Flexed Seated	31	1	30
Flexed Seated R side	4	--	4
Flexed Seated L side	4	--	4
Semi-flexed	4	1	3
Extended	3	3	--
Undetermined	29		
Total:	***75***	**5**	**41**

**Note: R = right side, L = L side*

There was a preference recorded in Postclassic burials for body orientation to the west (30%, n=11/37) while seven were northwest, five southwest, four east, and the remaining 10 varied from north (n=1), northeast (n=2), southeast (n=2), south (n=3), up (n=1) and down (=1) (Briggs 2002:149-150; see Appendix B). Skull orientation was observed in 41 interments, but this variable was dependent on the body position. Most supine extended burials observed the skull facing upwards while in seated positions the skull was facing the same orientation as the body (Briggs 2-002:150). Postclassic interments had 39% of skulls facing the west, all of which had west facing body orientation (Briggs 2002:150). Overall, the mortuary assemblage of the Freshwater Creek Region may not have a large enough sample size to statistically demonstrate significance. However, there is a pattern in the preference of mortuary style with changes from extended positioning in the Terminal Classic to flexed/seated positioning in the Postclassic period.

5.2.5 Lamanai

Lamanai is a settlement located on the New River Lagoon and has been the focus of on-going excavations since the 1980s (Pendergast 1981). This region is commonly referred to as the New River Region (refer to Figure 2.1, 2.2). However, this regional name is a loosely used term referencing the river itself, which flows along several river towns and is used as a source of food, water, and transport resources (Barbosa et al. 2022). Unlike the previous regional data, Lamanai and Ka'kabish are the only settlements within the New River Region that will be analyzed in the current study due to accessible data and the proximity of the sites with one another. Thus, I will refer to them by their site name rather than the region. Like other Maya sites, Lamanai demonstrates a wide

range of variability in mortuary customs, including body positions, grave goods, grave types, and interment styles. The only consistent variables found at Lamanai were occupation period, number of individuals, grave type/structure, interment type, body position, body orientation, age, sex, and associated artifacts. Additional variables were recorded for some of the burials (Appendix C), but for the purposes of documenting trends in mortuary behaviour, only the variables consistently recorded across the site are presented in the current dataset. Data from Lamanai is comprised mostly from Donis (2013), with additional information form Pendergast (1981, 1989) and Izzo (2018).

During the Postclassic period at Lamanai, many burials were identified as prone, with the legs bent back and the feet touching the pelvis (Donis 2013; Pendergast 1981, 1989). Originally, this was referred to as "frogged" positioning (Pendergast 1981, 1989), but most recent literature refers to as Ventrally Placed Legs Flexed (VPLF) (Donis et al. 2011; Izzo 2018). VPLF burials appeared in several structures at Lamanai and also have been documented elsewhere, including the coastal area of Belize at the sites of Marco Gonzalez, San Pedro, and the nearby site of Chau Hiix and Ka'kabish (Graham 2004:235; Graham et al. 2013; KARP archives; Wrobel 2007).

Excavations at Lamanai occurred in multiple phases with approximately 413 individuals recovered (Donis 2013:48). The majority of these burials date to the Postclassic period and many excavation efforts focused on ceremonial structures and administrative-residential structures within the central precinct (Donis 2013:48; Pendergast 1981). This resulted with a majority of the Lamanai mortuary research representing individuals of potentially higher socio-economic status. Regardless, for the purpose of the current research, individuals with the most burial records available were

used in analysis following Donis' (2013:51) sample size. There is a bias towards individuals interred in VPLF due to the nature of Donis' (2013) study; however, priority in this thesis was given to individuals with the most completed burial data (age, sex, burial information) and those are the ones included in the current study (Donis 2013:51).

Thirty-six individuals from Lamanai were included in this analysis and all were from the Postclassic period. The 36 individuals came from 35 burials, and Lamanai demonstrates few examples of secondary burials (n=1) and no difference in mortuary treatment for males, females, adults, or juveniles (Donis 2013:46). All burials were single interments except burials N11-5/7A and N11-5/7B, which they were found together with N11-5/7B's arms around the shoulders of N11- 5/75, for which came to be known as the "loving couple" (Pendergast 1989). As Table 5.12 shows, 26 of the individuals were adults, five were subadults, two were children, one infant, and two were of unknown age. Of the adult and sub-adults, 44% were males (n=16), 25% were females (n=9), and the rest of the sample were of unknown sex (30%, n=11) (Donis 2013; Izzo 2018). Sixty-four percent of the sample were interred in VPLF (n=23/36), six percent were seated (n=2/36), six percent (n=2/36) were flexed, three percent (n=1/36) disarticulated, three percent semi-flexed (n=1/36), and 19% (n= 7/36) unknown (Table 5.13).

Table 5.12 Summary of Lamanai Burial Assemblage by Demographic Variables (based on data from Donis 2013).

Lamanai Burial Assemblage				
Burials	***MNI***	***Period***	***Age***	***Sex***
35	36	PC	Adult (n=26), Subadult (n=5), Child (n=2), Infant (n=1), N/A (n=2)	Male (n=16), Female (n=9), N/A (n=11)

The most prevalent pattern found in this group was the VPLF, where the body was flexed with the legs bent posteriorly behind the pelvis (n=23/36) (Izzo 2018:63). This style was apparent across all age groups and sexes. It has been suggested that the legs were bound before burial to keep the feet placed at the pelvis (Graham et al. 2013). There is no patterning between the positioning of the hands and arms with occupation period (arms flexed, by the side, across chest) and age, sex, or occupation period (Donis 2013:112). Body orientation was highly variable with no direct association with any other mortuary variables like body positioning or skull orientation. Fourteen percent (n=5/36) oriented their head to the south, 14% to the north (n=5/36), 6% (n=2/36) to the west, 34% (n=12/36) between directions (e.g., SSE, SW, NE, etc.), three percent to the east (n=1/36), and 30% were unknown (n=11/36). Grave goods were identified in 24 of the 36 graves (67%), with a majority of these interments containing more than one grave good. As previously mentioned, Lamanai demonstrates a wide range of mortuary variables that do not demonstrate the most consistent patterns. Regardless of the variation in the orientation and position of the upper body in VPLF, this burial position is still an unusual and distinct characteristic of Lamanai's mortuary assemblage. All burial data mentioned thus far, with the addition of Ka'kabish's data, is displayed Table 5.14.

Table 5.13 Summary of Lamanai Burials by Interment Position (based on data from Donis 2013).

Lamanai Interments	
Position	***MNI***
VPLF	23
Seated	2
Flexed	2
Semi-Flexed	1
Disarticulated	1
N/A	7
Total:	***36***

Table 5.14 Distribution of Burials by Region/Site and Occupation Period
(based on data from Donis 2013; Schwake 2008; Snetsinger 2012; Briggs 2002).

	Region/Site						
Occupation Period	***SE Peten***	***BVR***	***Vaca Plateau***	***Freshwater Creek***	***Lamanai***	***Ka'kabish***	***Total:***
Colonial	--	--	1	--	--	--	1
Postclassic	--	1	--	51	35	10	97
TC/PC	--	--	--	--	--	3	3
Terminal Classic	56	4	--	24	--	--	84
LC/TC	--	--	196	--	--	4	200
Late Classic	139	169	--	--	--	4	312
EC/LC	--	--	12	--	--	--	12
Early Classic	9	23	19	--	--	7	58
Formative	9	30	9	--	--	2	50
Total:	213	227*	237	75	35	30	817

**Note: BVR sum is 228. Only 227 is shown on the chart due to discrepancies between grave information and loose phalanges/dentition (Schwake 2008:249).*

5.3 Current Research

5.3.1 Ka'kabish

Ka'kabish, located in the New River Region in North-central Belize, has a long occupation history spanning from the Middle Formative period (800-600 BC) through to the Postclassic/Contact period (AD 1500), with a hiatus noted around AD 600-800 (Haines et al. 2020:46,53). Ka'kabish is flanked by a host of political centers including Lamanai and Altun Ha to the east, and La Milpa and Maax Na in the Three Rivers Region to the west (Haines et al. 2020:45). Ka'kabish has 27 structures identified within the core of the site, and while excavations have focused on the epicenter, rigorous survey methods have been undertaken in the surrounding settlement zones (Haines et al. 2020:46; Howell 2022:30; McLellan (2013:78).

Ka'kabish has three main areas in which burials have been located (Figure 5.10). The Core Zone highlights the epicenter in which higher status and temple structures have been identified (e.g., Group D and F). Outside Core refers to burials identified close to the center of the settlement but outside of the Core Zone (e.g., burials found in group B and C); these are typically understood as residential complexes in which domestic structures (i.e., house) are located. The Settlement Zone is the surrounding area of the Core/Outside of the Core Zone. Most of the burials identified at Ka'kabish have been located Outside the Core Zone within domestic structures and chultuns (Figure 5.11).

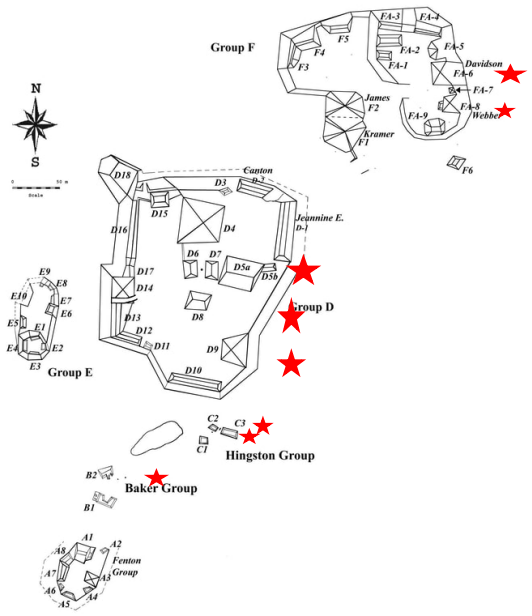

Figure 5.10 Map of Ka'kabish Burial Locations. Sourced from Haines (2008:273). *Core Zone*: Groups A, D, E, F. *Outside Core Zone:* Group B, C. The red stars indicated where burials have been recovered.

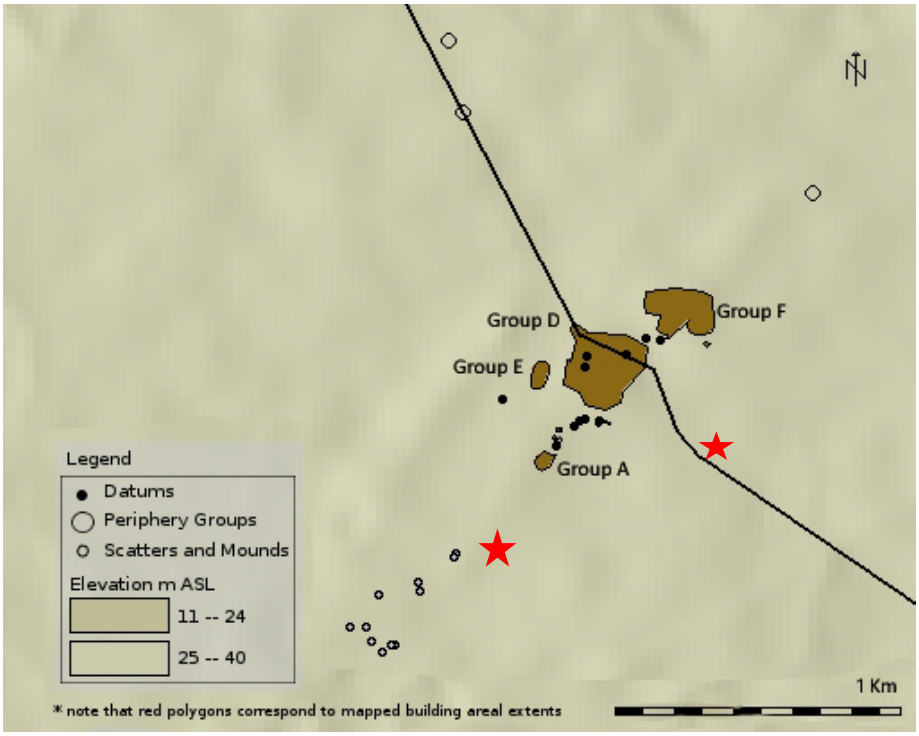

Figure 5.11 Ka'kabish Settlement Zone: Surrounding Periphery. Map adapted from McLellan (2013:78). The red stars indicated where burials have been recovered.

Before discussing the burial data, it is essential to note that Ka'kabish has been extensively looted. There are looters' trenches present in many structures and burial chambers, which has caused considerable disturbance to the material record. Furthermore, the surrounding settlement zone has been subject to rapid development for agriculture over the last two decades, which has also impacted much of the archaeological assemblage (Tremain 2011). As well, the soil composition is highly acidic in this region, and therefore, the remains are subjected to major fragmentation and a lack of preservation. Interments are often difficult to locate, highly disturbed, and many have been recovered from complex contexts such as chultuns and burial platforms. Many of the human remains recovered from Ka'kabish were also not excavated by researchers specialized in bioarchaeological methods. Thus, there is limited burial information compiled to reconstruct the burial deposition and the excavation context of these remains.

5.3.1.1. Excavation Material

Ka'kabish Archaeological Research Project (KARP) uses a unique method when excavating structures to separate strata into levels and lot numbers. Lots are used to identify uniquely isolated clusters of assemblages in any given level, while a level is the variation in archeological strata or can also be an arbitrary designation to subdivide a layer (a naturally or culturally occurring deposit) (Moore 2021; 54-55). There can be multiple lots for a level if there are multiple features within that level. Therefore, in burials, if there are multiple interments within one level, each will have their own lot number. The level and lot numbers will not be discussed in the current data. However, they are accessible within the grey literature (Oxford English Dictionary 2023; Seymour 2010) for Ka'kabish burial assemblages. To communicate burial data, the burial is

numbered by the Zone/Group identification and then the burial number, (e.g., Ch-C-2/1 reads as Chultun C-2, Burial 1. Str. C-2/2 identifies as Structure C-2, Burial 2). Burials were largely dated using ceramic styles and ceramic dating techniques following the type/variety/mode methods of analysis (Sagebiel 2005) and diagnostic sherds (e.g., rims, painted body sherds) were used for dating based on ceramic complexes (Haines and Sagebiel 2018:27-28; Haines and Sagebiel 2020). Additionally, some of the burials were radiocarbon dated. All burial data comes from both published dissertations and unpublished field notes from corresponding field seasons.

5.3.1.2. Ka'kabish Excavation Definitions

Welsh (1988:44-45) defines a crypt as having partly or competently stone-lined walls that are covered with capstones for a ceiling and may have a plaster floor (refer to Table 4.1). Comparatively, a tomb is an elaborate stone-lined or rock-cut chamber of considerable dimensions that greatly exceeds the corpse with the height sufficient for a human to stand and may be vaulted or have walls that are vertically capped (Welesh 1988:44-45). At Ka'kabish, many graves were described as "tombs" to be consistent with Pendergast's (1981) Lamanai definition. However, many of these "tombs' at Ka'kabish do not have the dimensions or sufficient space for a human to stand completely upright; however, some tombs have a vaulted roof (i.e., a small-scale tomb or a tomb with the dimensions more closely of a crypt) (Welsh 1988). This could be considered an elaborate crypt (Welsh 1988), but Welsh's description does not account for the nature of the roof. Thus, at Ka'kabish, this grave type is called a crudely vaulted crypt (CVC). This term distinguishes between the different types of crypts at Ka'kabish and clearly identifies the

type of roofing used in the mortuary architecture (Haines 2022: personal communication). This term will be further discussed in Chapter 6.

5.3.2 Burial Data

The data that comprises Ka'kabish's burial assemblage was drawn from KARP archives. The identified MNI of the Ka'kabish skeletal assemblage is currently 37 from 30 identified burials. Further investigation of the dental assemblages and in-lab osteological analysis (post-excavation) have yielded different MNI for chultun data, which are attributed to maximum number of teeth present in these burial locations and osteological analysis identifying multiples of bones (Howell 2022; Smith 2020). The MNI that is used in the current research is based solely on skeletal information identified during *in-situ* excavation. The post-excavation analysis MNI will be acknowledged in this data section. However, they will not be used in analysis. For example, original excavation data for Ch-C-2 identified an MNI of four, but post-excavation, in-lab osteological analysis identified an MNI of six, yet the dental assemblage containing 15 teeth identified an MNI of five (Howell 2022:34; Smith 2020:217). Since these updated MNI do not change the total number of burials that are associated with the skeletal assemblage, and the purpose of the current research is to identify mortuary trends through burial patterns, excavation burial records will only be used. It is also acknowledged that the MNI is subject to change with the exportation of human remains from Belize to Trent University, Ontario, Canada for KARP's on-going in-lab analysis.

Consistently available variables found at Ka'kabish were occupation period, number of individuals, grave type/structure, interment type, interment style, body position, body orientation, and associated artifacts. Some variables, such as skull

orientation, were only recorded for some of the burials (Appendix A). Of the 30 burials identified, two date to the Formative period (6.7%), seven date to the Early Classic (23.3%), four to the Late Classic (13.3%), four to the Late Classic/Terminal Classic (13.3%), three to the Terminal Classic/Postclassic periods (10%), and 10 to the Postclassic periods (33.3%) (Table 5.15). If we combine occupation periods for an overall distribution of burials following Schwake (2008), Ka'kabish demonstrates a majority of burials dating from the Classic period (Formative period n=2, Classic period n=15, Postclassic n=13). However, many of these date ranges, such as that of Ch-C-3, demonstrate continual use where the first use of the chamber dates to the Formative period but the final use (i.e., burial use) dates to the Postclassic period.

Table 5.15 Summary of Ka'kabish Burials and MNI by Occupation Period.

Ka'kabish Burials		
Occupation	***Burials***	***MNI***
Formative	2	2
Early Classic	7	7
Late Classic	4	4
Late/Terminal Classic	4	5
Terminal/Postclassic	3	3
Postclassic	10	16
Total:	30	37

Source: Burial information obtained from Dr. Helen Haines and unpublished student field notes (Ka'kabish Archaeological Research Lab [KARL] Trent University Durham, GTA).

The 30 burials were dispersed among 24 grave types: one tomb, one bench, one crudely vaulted crypt (previously known as Str. FA-8/Tomb 1), four crypts, five chultuns, 10 pits, and two unknown (Table 5.16, Figure 5.12). One of these unknown interments remains in the wall of the B-2 Baker structure and has not been fully exhumed. Therefore, the grave type and position has not been confirmed. The second unknown burial was part of Hingston Structure C-2, and the grave type was not identifiable. Seventeen individuals were located inside of chultuns (n=11 burials), 11 individuals were in pits (n=10 burials), four individuals were in crypts (n=4 burials), one individual was in a crudely vaulted crypt, one individual was in a vaulted tomb, one individual was located in a bench, and two unknown burial locations each as single interments.

Table 5.16 Distribution of Grave Type and the Frequency of Burials and MNI at Ka'kabish.

	Ka'kabish Interments	
Grave Type	***Burial Sum***	***MNI***
Pit	10	11
Bench	1	1
Chultun	11	17
Crypt	4	4
C.V. Crypt	1	1
Tomb	1	1
Unknown	2	2
Total:	30	37

Source: Burial information obtained from Dr. Helen Haines and unpublished student field notes. (KARL Trent University Durham, GTA).

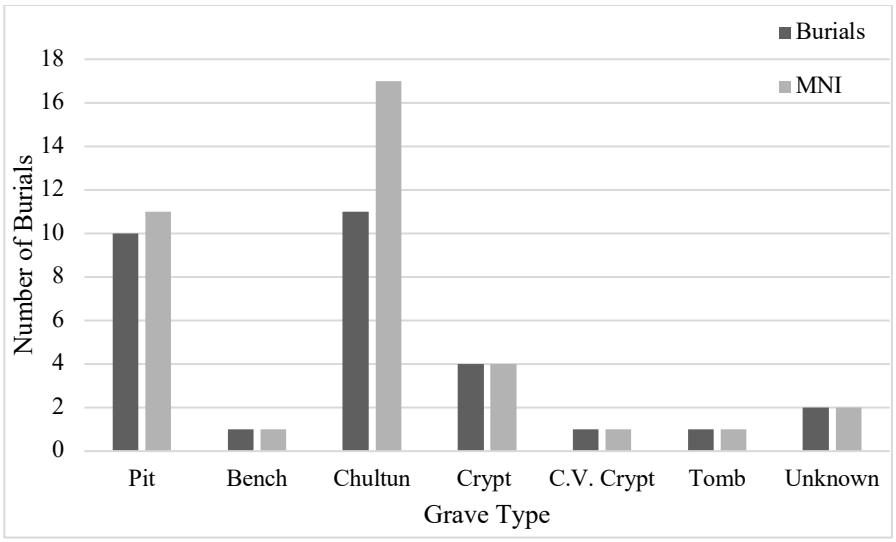

Figure 5.12 Summary of Ka'kabish Distribution of Grave Typology

Table 5.17 Summary of Ka'kabish's "Simple" and "Non-Simple" Diagnostics (Welsh 1988).

Pit Burials at Ka'kabish		
Simple	***Non-Simple***	***N/A***
--	Str-B2, B/1	Str-C1, B/1
--	Str-B2, B/2	Str-C1, B/2
--	Str-B2, B/3	Str-C2, B/1
--	Str-D, B/1 "founder burial"	--
--	Blanco Field, F6-M7, B/1	--
--	Settlement Zone, HF1-M27, B/1	--
--	Settlement Zone, HF1-M52, B/1	--

Source: Burial information obtained from Dr. Helen Haines and unpublished student field notes. (KARL Trent University Durham, GTA).

Of the 10 pit burials, seven were not simple interments (i.e., built opportunistically during reconstruction) and as seen in Table 5.17, three were unidentifiable due to architectural disturbance (Welsh 1988:43). Six of the 10 pit burials were on the floor of residential buildings, Structures C-1, C-2, and B-2, all dating between the Late Classic and Postclassic periods. At least three of these six pit burials were deliberately dug into the plaster floor (Str. B- 2/1, Str. B-2/2, Str. B-2/3). The other three pit/floor burials (Str. C-1/1, Str. C-1/2, Str. C-2/1) were too disturbed to determine the category of the pit burial. The remaining three pit burials were dug into soil in the settlement zone: two dating to the Terminal/Postclassic occupation and one dating to the Early Classic. Settlement zone burials were originally placed within a house platform, but due to agricultural plough severity, and general decomposition of the simplistic nature of the platform, they are now situated in mixed soil/rubble mounds. There is only one Formative period pit burial which is in the core zone (D-plaza) of Ka'kabish's "Founder burial", where the pit was carved into bedrock with a gravestone marker. While pit burials make up the highest percentage of all burial locations (42%, n=10/24), they only comprise 30% (n=11/37) of the individuals recovered at Ka'kabish. Chultuns represent 46% of the individuals buried at Ka'kabish even though the five chultuns comprise only 21% (n=5/24) of the total burial locations identified and excavated to date.

Currently, the chultun excavations hold multiple-entry burials. Chultun excavations are ongoing, and therefore, the MNI of the chultuns are subject to change as more data becomes readily available. Primary interments make up the majority of burials at Ka'kabish, representing 70% of individuals identified (n=26/37). Only five percent were secondary interments (n=2/37), while three percent (n=1/37) were identified as

potential secondary interment, and 22% (n=8/37) were unknown. There are five chultuns identified and excavated to date at Ka'kabish: Ch-C-1, Ch-C-2, Ch-C-3, Ch-C-4, and Ch-B-2. All of the chultuns are outside of the core zone.

The Ch-B-2 is double-chambered and excavation records identified two individuals buried in the west chamber. Osteological data by Smith (2020:98) identified an MNI of six (n=2 adults 20-35 years old, n= 3 subadults 5+ years old, n= 1 infant <1 year). Dental analysis by Howell (2022:37) identified an MNI of four. Current analysis of Ch-B-2 has an MNI of two.

Chultun C-1 has an MNI of six in the current study, all comingled, and separated into two burial clusters (eastern burial cluster and western burial cluster). However, osteological analysis for Ch-C-1 identified an MNI of 11: n=4 adults, n=2 subadult (15-18 years), n=1 juvenile (2+ years), n=1 infant (9 months±3 months), n= 3 perinatal (n=1 4-6 months, n=2 7-12 months) (Smith 2020:98). The dental assemblage identified 171 teeth which indicates an MNI of 11 (n=8 adults, n=3 subadults) (Howell 2022:33).

Chultun C-2 excavation records identified four individuals compared to osteological data that had an MNI of six (n=6 adults), and the dental data which identified an MNI of five (Howell 2022:34; Smith 2020:98). Chultun C-3 excavation records identified an MNI of four, osteological data identified an MNI of 6 (n=1 adult 20-35 years old, n=4 adults unknown, n=1 subadult 15-18 years old) whilst dental analysis identified an MNI of five (Howell 2022:35; Smith 2020:98).

Lastly, Ch-C-4 excavation records identified an MNI of one, which does not have any osteological or dental analyses. However, due to the poor preservation and highly disturbed context of the remains, aging and sexing of individuals were possible only in

rare circumstances. Excavation documents for the 37 individuals had estimated age ranges for 35% (n=13) of the burial assemblage with nine adults and four subadults identified. Nevertheless, age and sex variables are still under current investigation and will be confirmed at a later date.

Body position was determined for 12/37 individuals (32%): 11% (n=4/37) were flexed, three percent (n=1/37) was supine flexed, three percent (n=1/37) was semi-flexed with only the lower portion of the body was positioned towards the north, five percent (n=2/37) were supine extended, three percent (n=1/37) were extended unknown, three percent (n=1/37) was seated, three percent (n=1/37) was "prone fetal position", also identified as VPLF at Lamanai (Donis et al. 2011), 3 three percent (n=1/37) was disarticulated and loosely bundled (unknown if wrapped), and 68% (n=25/27) had unknown body positioning. If we combine these groups for overall body position, six individuals are flexed (n=5 flexed, n=1 semi-flexed) and three are extended. Seated, VPLF, and bundled each had one individual recovered in that position.

Like body positioning, body and skull orientation were difficult to identify either due to the poor condition of the human remains, or it was unavailable at the time of excavation. Forty-one percent (n=15/37) of the remains had an unknown or unrecorded body orientation while five were identified as NS body positioning (n=2 head-to-north, n=3 head-to-south), the bench burial was NE-SSW (head to NE), one burial was EW (head-to-west), while the secondary disarticulated bundled burial had no body positioning but the cranium was placed on top of the bundled remains. The direction of the cranium was not identified. The chultuns do not all have direct cardinal directions for body orientation and have typically been described in coordinates in relation to the chamber

itself: Chultun B-2/1 burial was included in the NS sum while Ch-B-2/2 is unknown, Ch-C-4/1 was oriented SW-NW, with the lower body to SW corner of the chultun, Ch-C-3/1 was seated with back against south wall, Ch-C-3/2 was oriented in the southeastern portion of chultun, Ch-C-3/3 was located in the central axis of chultun, and Ch-C-3/4 was oriented towards the southwestern portion of chultun. Chultun C-2/1 was in eastern part of chultun, Ch-C- 2/2-3 was oriented in the southern portion of the chultun, and Ch-C-2/4 was unknown as it is a potential fourth burial. Chultun C-1 was broken into two clusters and the amount of remains found in each cluster is unknown. The Western burial cluster was located in the NW portion of the chultun, and the Eastern burial cluster remains found in the SE area of the chultun. Skull orientation was recorded for six burials: two oriented head-to-south, two oriented head-to- northwest, one head pointed downwards towards feet (seated burial), and one head to north.

5.4 Summary

The previous 13 years of excavations at Ka'kabish have produced a robust sample of archaeological evidence to understand fluctuations in socio-economic, socio-political, and cultural integration and expression through time. This data set, in combination with previous data from the SE Peten, BVR, Vaca Plateau, Freshwater Creek Drainage, and Lamanai provides an opportunity to explore these changes at a regional level and situate Ka'kabish among these well-excavated settlements. This chapter has provided a summary of the mortuary assemblages that comprise the data used in the current study; thus, variables included in these mortuary data were selected following a multiscalar approach in which both social, cultural, and biological factors were included when possible. The mortuary assemblages will be compared and discussed in the follow chapter (Chapter 6).

6.0 Analysis and Discussion

Chapter 5 provided an overview of the mortuary data collected from multiple burial assemblages throughout the Southern Maya Lowlands. The primary topics covered in Chapter 5 include occupation period, burial sum, MNI, grave type, interment type, interment style, body position, body orientation, skull orientation, demographic variables (age/sex), and associated burials goods. The data will be analyzed in a threefold system. First, this chapter will compare the mortuary data from all regions. Second, settlement-based mortuary variables will be analyzed (i.e., location of burial within the site). The final section of this chapter will discuss any special mortuary finds from Ka'kabish and answer the research questions presented in Chapter 1. Chapter 7 will conclude with avenues of future research, including the standardization of excavation methods for exhumation. These suggestions will benefit (bio)archaeological investigations by maximizing analyses between settlements through consistent recording of mortuary variables during excavation.

6.1 Analysis of Mortuary Variables

Variables that were consistently recorded between all regions/sites will be used for analyses, these included grave type, body position, interment style, total number of burials, total number of individuals, and occupation period. Those variables will be used for regional analysis. Skull orientation was consistently recorded at Freshwater Creek Drainage, with additional data from the Lamanai and Ka'kabish assemblages. Thus, only those three sites will be used to analyze orientation variables. Lastly, the SE Peten and Freshwater Creek Drainage are the only regions with marked burial pattern location in relation to the overall settlement pattern of the site. However, Schwake (2008) grouped

the SE Peten data by their general location rather than reporting each burial's specific location (e.g., the Upper Rio Mopan Valley has four Formative burials in residential and periphery zones, but it was not specified of the four burials which ones were located in residential zone and which ones were located in the periphery zone). The Belize Valley Region and the Vaca Plateau only recorded burial location for specific sites. Therefore, this variable will only be compared between FWCD and Ka'kabish rather than a regional comparison. It must be noted that sampling bias is important to consider and can be seen among all burial assemblages. Sampling biases occurs when all members of a population do not have an equal chance of being selected for the sample. This can lead to an error in making conclusions about the population (Drennan 2008). Sampling bias can occur even when samples are selected at random without bias, but the populations still differ from each other (Drennan 2008). For example, the lack cist interments at Ka'kabish may be due to sample bias, and as the assemblage continues to grow with future excavations, this biased may be reduced. Limitations like sampling bias will be discussed in more detail at the end of this chapter (6.3.3).

6.1.1 Grave Type and Location

There is a preference among the lowlands for cist and simple grave (*sensu* Schwake 2008:231-232) interments, which make up the highest rate of grave typology among the SE Peten and Vaca Plateau, similar to Ka'kabish. Pit burials, as per Welsh (1988:44), are defined as an unlined hole/pit that can be dug into soil, bedrock, or fill. Welsh expanded this definition from A.L. Smith's 1950 description of a "simple grave", defined as a burial in an unlined hole in the ground or the inclusion of a body in-fill during construction (1988:30). Welsh (1988) uses the term "simple" to define any form

of grave that was formed in construction fill or opportunistically during structural reconstruction (refer to Chapter 4, Table 4.1). In this analysis, the term "grave" burials are comparable to Welsh's "pit" burials because, overall, it refers to an unlined grave that has been dug into the earth; the intention behind the grave construction would classify if the inhumation was simplistic or not. Therefore, in accordance with Welsh (1988), cist and pit burials make up the majority of SE Peten and Vaca Plateau interments (Schwake 2008), similar to Ka'kabish.

The BVR also has a high number of cist burials; however, in-fill interments were the most common form of grave type throughout all BVR occupation periods (Schwake 2008; Snetsinger 2012). Freshwater Creek Drainage and Lamanai grave data was recorded in relation to the structure of the grave. Data from Postclassic interments of the Freshwater Creek Drainage region have a high rate of cemetery use rather than structure-based interments, which have been noted at other Postclassic settlements outside of the current burial samples **(**Briggs 2002; Graham 2011; Masson et al. 2021:923; Rosenswig and Masson 2020). Of the Freshwater Creek interments, 42 burials were in cemetery-like areas (open group settings not associated with a structure) while 29 (all Postclassic) were within a structure, two were identified with an architectural feature (i.e., possible ballcourt but context of undetermined nature), and two were unknown burial location (Briggs 2002:138,147). The Lamanai burial assemblage did not include the location of the burials in relation with the site. However, using the burial identification numbers, I was able to identify the area/structure of each burial. Of the burials that were used in analysis, many of the individuals from this assemblage are from ceremonial or elite based residential structure complexes. Only two individuals, N11-5/7A and N11-5/7B, were

found in a residential structure and they were buried together known as the “loving couple” (Donis 2013:90; Pendergast 1989 and White et al. 2009).

Unlike the surrounding Lowland regions, Ka’kabish does not have a high frequency of cist or cemetery-like interments. Rather, chultun (n=11) and pit burials (n=10) make up most of the burial assemblage. Chultuns will be discussed independently from this current sub-section as they will be analyzed as a grave structure. Ka’kabish has few graves that fully conform to Welsh’s (1988:44) definitions of a tomb or crypt (1988:44) (as discussed on page 75, and in Figure 4.1). For example, the Cocoon crypt of the D-5 structure, in accordance with Welsh (1988), would be an elaborate crypt. This is because the dimesons of the grave do not exceed a body and the grave is lined with stone slabs but, it is more elaborate in the effort put into the grave type in that there is a plaster and fabric ‘cocoon’ over the body (Figure 6.1) Thus, it is identified as a Cocoon crypt with its construction design sharing similarities with two at Lamanai (see Pendergast 1981). However, Tomb FA-8/1 is now part of a new category called Crudely Vaulted Crypt (CVC). The CVC falls somewhere between Welsh’s (1988) “elaborate crypt” and ‘tomb’. While it might be considered an elaborate crypt, as other vaulted crypts can be identified among the lowlands, the use of the CVC designation at Ka’kabish clearly notes the architectural variation in the ceiling (Figure 6.2, Figure 6.3). It also should be noted that these CVCs do not substantially exceed the size of a body, nor is it possible to stand upright in them, making them materially smaller than a tomb (Haines 2022: personal communication).

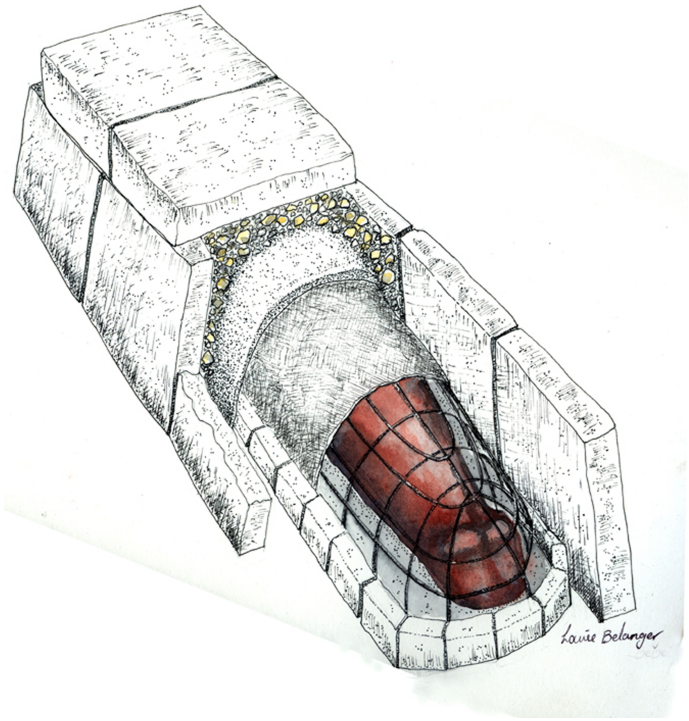

Figure 6.1 Cocoon "crypt". Illustration from Haines et al. (2020:49).

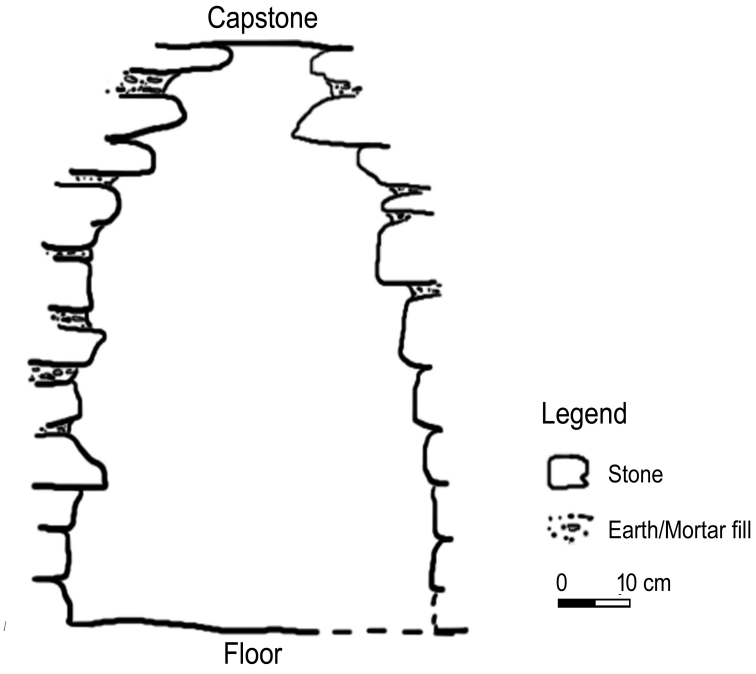

Figure 6.2 Section line of Crudely Vaulted Crypt FA-8/1 (Haines 2023; used with permission)

Figure 6.3 Photo of Victor Lopez in Crudely Vaulted Crypt in Structure F-1 (KARP Archives, used with permission).

Table 6.1 New Grave Type (Crudely Vaulted Crypt) Identified at Ka'kabish. To be added to Table 4.1.

Crudely Vaulted Crypt (CVC)	Stoned lined crypt which does not have the dimensions or sufficient space for a human to stand completely upright in. Includes the presence of a vault (i.e., it is a small-scale tomb: a tomb with the dimensions more closely of a crypt). The shape of the tomb and nature of the roof are constructed of small cut stones.

Although the sample size at Ka'kabish is too small for statistical analysis, the data suggests that there is still an association between grave typology and occupation period. All the tombs and crypts at Ka'kabish date to the Early Classic period while the Late Classic and Postclassic periods exemplify greater chultun and pit burial variation. The data presented below in Table 6.2. can be used for future research when more burial data is acquired. This shift is seen with a decrease of crypt and tomb burials and an increase of pit burials. Data following the Early Classic period has not been reported in a tomb or crypt burial. It must be acknowledged that Ch-C-1 was not included in this burial count since the total number of burials for the chultun is not accessible (N/A), but the MNI is assumed to be six (Appendix A). Therefore, it can be assumed that there is at least one burial within the chultun but due to discrepancies with the burial data, it was removed from this analysis.

Table 6.2 Ka'kabish burials vs Occupation Period

Grave Type	***Formative***	***Early Classic***	***Late Classic***	***Late/Terminal Classic***	***TC/PC***	***Terminal/ Postclassic***	***PC***	***Total***
Pit	1	1	3	3	0	2	0	10
Bench	0	0	0	0	1	0	0	1
Chultun	1	0	0	0	0	0	10	11
Crypt	0	4	0	0	0	0	0	4
C.V. Crypt	0	1	0	0	0	0	0	1
Tomb	0	1	0	0	0	0	0	1
Unknown	0	0	1	1	0	0	0	2
Total:	2	7	4	4	1	2	10	30

Source: Burial information obtained from Dr. Helen Haines, unpublished student field notes, and official field reports (KARL Trent University Durham, GTA).

The SE Peten and the Vaca Plateau had the highest rate of pit interments (i.e., "simple grave", *sensu* Schwake 2008:231-232), making them most comparable with Ka'kabish's pit interments. Since most of the Vaca Plateau assemblage is made up of Caracol, where the grave type is grouped into "tombs" and "non-tombs", grave topology like cists, simple graves/pits, and crypts cannot be differentiated since they are in the broad category of "non-tomb". The SE Peten had simple graves (*sensu* Schwake 2008:231) (i.e., pits), representing 18% of their sample size (n=38/213). However, none of the pits at Ka'kabish were categorized as "simple" which may be a potential indicator that there was more effort placed into Ka'kabish burials, since all the burials (i.e., chultuns, pits, tombs) were all created for the act of inhumation rather than the grave being dug during opportunistic reconstruction.

6.1.2 Body Position

Extended burials made up most of the body positioning at all sites between the Formative through to the Classic period. The Postclassic period demonstrated that variations of flexed burials were more common than any other body position (Briggs 2002; Donis 2013; Izzo 2018; Schwake 2008; Snetsinger 2012). Although extended positioning makes up most of the body positioning across the lowlands, there is still variation between supine and prone placement (Table 6.3). The SE Peten demonstrated a preference for supine extended body positioning (77% of extended burials were supine) while the BVR demonstrated the opposite, having prone extended burials (68% of extended burials were prone) (Schwake 2008; Snetsinger 2012). The Vaca Plateau reported 38% of individuals extended and an additional 38% of individuals as supine. However, due to preservation issues, it was not always possible to determine if the supine

individuals were also placed in extended positions (Schwake 2008; Snetsinger 2012). Freshwater Creek Drainage and Lamanai make up a majority of the Postclassic data in which flexed and seated body positions appear far more frequently than in any of the earlier periods (Briggs 2002: Donis 2013: Izzo 2018: 63). Welsh (1988:217) suggested that preference for body positioning is dependent on grave type among the Classic Maya Southern Lowlands. It is apparent in the Freshwater Creek sample that variation of body position correlates temporally, rather than regionally, and skull orientation corelates with body positioning, which is correlated with grave type and interment location (Briggs 2002:147,149-150).

Table 6.3 Frequency of Interment Position by Region

	Body Position									
Region	***Extended***	***Flexed***	***Seated***	***"Prone"***	***"Supine"***	***Semi-flexed***	***VPLF***	***Disarticulated***	***Bundled***	***Unknown***
Southeast Peten	130	17	5	--	--	--	--	--	--	101
Belize Valley Region	160	13	8	16	--	--	--	5	--	88
Vaca Plateau	18	4	4	5	18	--	--	--	--	439
Freshwater Creek	3	8	31	--	--	4	--	--	--	29
Lamanai	--	1	2	--	--	1	24	1	--	7
Ka'kabish	3*	5*	1*	--	--	1*	1*	--	1*	25*

Source: Burial data with an * are sourced from Dr. Helen Haines and students unpublished field notes from KARL (Trent University Durham, GTA)

Ka'kabish has a very different burial sample than the other regional variations. Of the burials that had identifiable body position, only three were extended, two dating to the Late/Terminal Classic and one burial dating to the Terminal/Postclassic. When analyzing the distribution of these body positions in relation to occupation period, there is no obvious trend like this seen in other regions among the lowlands. This can be attributed to the disturbed and fragmented condition of the remains. Due to this, body position cannot be statistically analyzed because the lack of data makes the dataset equivalent to a statical random (Conolly 2023: personal communication, Table 6.4). Although the sample size of body positions is too small to make any significant conclusions, there is a general preference at Ka'kabish for burials to be interred in a non-extended position (flexed, semi-flexed, bundled, seated, etc.) rather than extended.

Table 6.4 Ka'kabish Body Position of Identifiable Skeletal Remains by Occupation Period

Body Position	***Formative***	***Early Classic***	***Late Classic***	***Late Classic/ TC***	***TC/ PC***	***TC/ PC***	***Total***
Extended	--	--	--	2	1	--	3
Flexed	1	--	3	--	--	1	5
Seated	--	--	--	--	--	1	1
Semi-Flexed	--	1	--	--	--	--	1
VPLF	--	--	--	--	--	1	1
Bundled	1	--	--	--	--	--	1
Total	2	1	3	2	1	3	12

Source: Burial information obtained from Dr. Helen Haines and unpublished student field notes (KARL Trent University Durham, GTA).

**Note: TC= Terminal Classic, PC= Postclassic*

6.1.3 Orientation (Body and Head) With Body Position

Southern body orientation was preferable among the BVR and Vaca Plateau, and northern and eastern body orientation made up most of the SE Peten (Schwake 2008:233, 262). Lamanai was variable, and there was no clear patterning of body or skull orientation. Freshwater Creek displayed a preference for western body orientation among Postclassic interments, and a direct correlation with skull orientation dependent on body position (Briggs 2002). For example, cases of extended supine individuals had a skull orientation facing "up" and seated burials had a skull orientation facing the same direction as body orientation (Briggs 2002:147,149, 152). In the mortuary assemblages and assessments here, it seems that skull orientation tends to differ between Lowland regions, yet body positioning is uniform among the Lowlands. For example, Freshwater Creek Drainage Region presented a correlation between body and skull orientation with body positioning, BVR displays a preference for extended positioning combined with southern body orientation, and the SE Peten displays a preference for supine extended positioning with northern or eastern body orientation (Schwake 2008:233). The Vaca Plateau and Lamanai did not display any correlations. However, with the data from Vaca Plateau, this may be due to the unavailability of the orientation variables. Therefore, a link is possible but cannot be compared within the current study.

Ka'kabish also did not display any strong associations between skull orientation and body orientation, or skull and body orientation with body positioning, like Lamanai and the Vaca Plateau. Northern and southern directions tended to be preferred for body orientation at Ka'kabish as 10/22 orientations recorded were north-south, but this varied depending on if the head or the feet of the individual were at the south end (Appendix A).

As well, chultun burial coordinates were measured cardinally within the chamber itself. None of the chultuns had the same recorded body orientations within the chamber (i.e., all placed on the southeastern portion of chamber). This information is important as it shows that there might not be an overall practice for chultun burials, as each chultun has been treated independently with differing burial orientation. Additionally, other ideological features may affect the position and location of burials in chultuns (Fitzsimmons 2009; Jurasek 2023 N.D). Other burial orientations ranged from direct coordinates (e.g., east-west [BF6-M7]) to between directions (e.g., northeast-southwest [Str. B-2 B2/5]). It must be noted that due to the small sample size of recorded orientations and coordinate discrepancies between chultun and other burial types, statistical values cannot be confidently achieved. Nonetheless, it is important to acknowledge that the lack of consistency in burial orientations is still important information. This tells us that orientation of the body/skull may not be considered an important aspect of burial customs at Ka'kabish, may be linked with other variables like structural or architectural orientation (Welsh 1998:312), or could even reflect convenience or organizational purposes rather than ritualistic needs.

6.1.4 Interment Style (Single vs Multiple interments)

Only four regions consistently recorded interment style: the SE Peten, BVR, the Vaca Plateau, and Ka'kabish. Even though the Vaca Plateau assemblage is largely derived from the site of Caracol, the data of the Vaca Plateau still displays a comparable frequency of multiple interments. For example, Minanha has a sample size of 13 but demonstrated a 38% frequency of multiple individual burials, and overall, 72% of those recovered from Minanha were buried in multiple burial contexts (*sensu* Schwake

2008:268). Ka'kabish's interments were labeled as single (n=15/37, 40%), comingled (n=8/37, 22%), or not-accessible (N/A) due to the disturbed nature and comingling of remains (n= 14/37, 38%). Most of the comingled remains at Ka'kabish have been recorded as multiple-entry burial contexts that are comprised of single interments. Comingling can create difficulties in identifying remains as single or multiple burials, because of this, "comingled" has been included as its own category. As previously mentioned, the Vaca Plateau displays high instances of multiple interments (40%) with greater grave elaboration compared to all sites with recorded interment style. Only 14% of the Belize Valley Region burials and 10 % of the SE Peten burials are multiple interments (Schwake 2008:267). Grave elaboration typically relates to the greater investment in labour for the construction of graves with greater dimensions to accommodate for multiple interments (Snetsinger 2012:155). However, the absence of multiple interments does not mean that there is an absence of grave elaboration. As previously mentioned, most of Ka'kabish's graves were intentionally built for the act of inhumation rather than opportunistically, thereby displaying greater effort during the act of inhumation. Multiple burials may be an act of group identity where power is shared across the landscape, and rituals are put forward as a group identity (Schwake 2008:334). Conversely, additional research suggests that previous multiple interments may correlate with the shift towards the establishment of a royal court (Chase and Chase 1996; Chase and Chase 2017:214; Snetsinger 2012:155).

6.1.5 Interment Type (Primary vs Secondary)

The remains from the SE Peten, BVR, and Vaca Plateau did not report on primary and secondary interments in their burial sample. The Freshwater Creek Drainage

assemblage had primary interments in 82% of observed cases (Briggs 2002: 137). The Lamanai burial sample had all primary interments except for one secondary burial which was a disarticulated interment. Ka'kabish has two secondary interments and one probable secondary interment while the rest were primary interments (n= 26 primary) or unknown (n=8). The high frequency of primary interments among these sites is consistent with Welsh's (1988:301) analysis of Classic Maya burial patterns, where the preference for primary single interments became the "pan-lowland Maya" mortuary custom. However, the assessment of secondary interments among the following sample is complicated. A lack of secondary interments can lead to faulty assumptions. There is considerable difficulty in assessing the difference between caches and secondary interments. For example, of the entire burial sample used in this study, only 10 caches were identified from the 817 burials (Briggs 2002; Donis 2013; Schwake 2008; Snetsinger 2012). The distinction between primary and secondary interment when discussing a cache is difficult to make without a high probability of human error (Becker 1992; Briggs 2002:137) and thus, the attempt to distinguish a cache from an interment was not attempted in this study. Furthermore, as noted in the discussion of Maya mortuary theory (Chapter 3), archaeologists have emphasized the Maya's long-term interaction between the living and the dead (see Fitzsimmons and Shimada 2011; Gillespie 2008). Excavations at the site of Caracol noted that burials are not single events but comprised of a mortuary process which includes the potential re-entry of tombs through the construction and the distribution of articulated and semi-articulated remains with fully articulated individuals (Chase and Chase 2011a; Snetsinger 2012:190; Stuart 1998). Caracol tombs and Minanha crypts have shown they were sometimes constructed long before they were used to inter

human remains, or were never even used, indicating such chambers were built before the death of an individual (Chase and Chase 2011a:311; Snetsinger 2012:192). Evidence of such re-use and re-entry of tombs has been displayed at Ka'kabish, particularly in chultun chamber burials.

6.1.6 Chultun Use

Chultun use has been noted at multiple sites in the Maya Southern Lowlands, displaying a frequent use for ritual and/or burial spaces (Carlos 2019:95). Burial and ritual functions were especially common throughout the Formative period. However, the Classic periods display higher use for practical applications, like storage function or utilitarian spaces following a decline of chultun use in the Postclassic period (Carlos 2019:94). Although, there was a decline in chultun use in the Postclassic, there are still multiple functions noted for Postclassic chultuns, including the most frequent being storage, followed by ritual/burial purposes (Carlos 2019:95). Previous literature argues that chultuns were adapted to funerary architecture but were not traditionally built for this purpose (Fitzsimmons 2009; Welsh 1988:17). This idea of adaptation comes from the imitation of chultuns as cave funerary architecture (Fitzsimmons 2009:19). Additional literature ties this idea to the use of chultuns as a ritual space, like ancestor veneration (see Jurasek 2023 N.D.). Dead ancestors were an important part of Maya mortuary culture, with many kin-groupings being buried beneath domestic structure floors, like houses, for the commemoration of apical ancestors (McAnany 1995:1-4, 11). Burial use is most frequently identified as the final function of the chultun, and it cannot be determined if the construction of the chultun was dug intentionally for burial space. In Carlos' (2019:103) study of chultun functionality, it was found that burial function was

the most prevalent in the study's dataset. This included chultuns with burials as the only function and chultuns with burial-use combined with some other function (i.e., storage).

Chultun burials were identified in the SE Peten, BVR, Vaca Plateau, and Ka'kabish (Carlos 2016; Gonzalez 2014, 2015; Schwake 2008; Snetsinger 2012). The SE Peten had six chultun grave types: 50% (n=3) held multiple interments and 50% (n=3) held single interments; the BVR had two chultun burials, one holding multiple interments and the other with a single interment (Schwake 2008). The Vaca Plateau had 13 chultun interments where three chultuns were confirmed to have single interments, three with multiple interments, and seven of the chultuns were unclear as to whether they are single or multiple interments; however, it is implied they house multiple individuals (Schwake 2008). Ka'kabish's five chultuns excavated to date all house human remains although the double chamber Chultun B-2 only housed human remains in the west chamber (Carlos 2016; Gonzalez 2013, 2014, 2015, Howell 2022; Jurasek 2023 N.D; Verdugo 2014). Four of the five chultuns have multiple individuals buried within the chultun and most of them are single primary interments that have become comingled over time (Carlos 2016; Gonzalez 2013, 2014, 2015, Verdugo 2014). What is of utmost interest is the re-entry and reuse of these chultuns and the presence of both primary and potentially secondary interments (Carlos 2016; Gonzalez 2013, 2014, 2015, Verdugo 2014). As previously mentioned, evidence of these re-entry events can be displayed through the distribution of disarticulated and semi-articulated human remains with centrally placed fully articulated individuals. This can also include the inclusion of secondary burials with primary interments and additions of partial individuals, typically secondary burials, and other materials within the mortuary context (Chase and Chase 1996:63; Chase and Chase

2011a; Snetsinger 2012:190). Chultuns C-1 and C-2 at Ka'kabish have secondary burials within the chamber, which have been identified through the addition of disarticulated or partial remains with individuals that were fully articulated. That said, this may not be entirely indicative of secondary interments, as there is a possibility that the interments may have been pushed aside to make room for later burials, which has been seen amongst the lowland Maya (Chase and Chase 1996; Chase and Chase 2011a; Snetsinger 2012:190; Lamoureux-St-Hilaire et al. 2013). Therefore, at Ka'kabish, this indicates potential continual use of the chamber as a burial space with the final use in the Postclassic period. Ka'kabish complies with the regional chultun pattern as burials are the most prominent function of chultun use in North/Central Belize; however, 80% (n=4/5) of the chultuns at Ka'kabish date to the Postclassic period demonstrating an atypical pattern that goes against general chronological function of chultuns in the Southern Lowlands (Carlos 2019:94,98,120). This is important because more than half of the North/Central Belize sample size for chultuns had burial as a singular function rather than being multi-functional (Carlos 2019). Burial was the final function of all the Ka'kabish chultuns and even chultuns without re-entry may potentially fit into this trend of burial being a singular function for chultuns in this region (Carlos 2019:98).

6.2 Ka'kabish Settlement Variable

6.2.1 Grave Context and Location

Ka'kabish has three main areas in which burials have been located (Table 6.5, refer to Figure 5.10, and Figure 5.11).

Table 6.5 Summary of the Distribution of Burials at Ka'kabish in Relation to the Settlement Pattern.

Burial Distribution at Ka'kabish	
Site Zone	***MNI***
Core Zone	6
Outside Core	28
Settlement Zone	3

There are obvious and distinct regional patterns associated with mortuary variables like time and location. However, like in other areas of the Maya Southern Lowlands, there is a sample bias towards a greater representation of later time periods. For example, the Vaca Plateau assemblage is almost completely lacking Formative burial remains, although such early burials have been recovered from the large site of Caracol (Schwake 2008:262). This can introduce sampling error when analyzing occupation and burial context, with correlational association as well as archaeological limitations during the excavation projects (Briggs 2002:139). When analyzing Ka'kabish's distribution of burials in relation to the settlement pattern, the Formative and Early Classic periods have fewer domestic locations with burials located in the Core Zone, an indicator of higher status. The Formative period had two burials: one was in a chultun (Ch-C-4) and the other was in Plaza D (site core). The Early Classic burials were distributed with one burial located in Group I (outside core zone/residential), one in the settlement zone, and five burials within the Core Plaza (Structures D-5, FA-6 and FA-8). There have been no other temple-like burials identified at Ka'kabish in any of the later periods. The four Late Classic burials were all located in Structure C-1 (outside core zone/residential), and the

four Late/Terminal Classic were in Structure B-2 (outside core zone/residential). The three burials identified in the Terminal Classic/Postclassic were also found in Structure B-2 (n=1) while two were in the Settlement Zone. All Postclassic burials were found in chultuns in Group B (the Baker Group), Group C (the Hingston Group), and between groupings which include Ch-C-1, Ch-C-3, and in the domestic residential zones of the site. What is interesting about this distribution of burials in relation to the settlement pattern is that burials dating from the Late Classic period or later are all located outside of the Core Zone. The lack of evidence for burials outside of the domestic area (Groups B and C) does not mean that there is an absence of burials elsewhere. There is a high probability that additional burials have not yet been located by excavations. However, it is still acknowledged that there is a preference for residential structure-based interments in these later periods.

At Freshwater Creek Drainage, the placement of grave context was analyzed through public and domestic structures. Of the 29 structure interments, 17 were identified within public areas while 12 were located domestically (Briggs 2002:140). These domestic structural burials decreased into the Postclassic, correlating with the transition to less structural burials and greater cemetery-like burial spaces (Briggs 2002:140). Although Ka'kabish does not have any cemetery-like burials, this type of burial space is not unknown to the region, as cemetery burials have been identified at Lamanai and Tipu, although associated with potential Christian influence (Graham 2011; Masson et al. 2021:923). It is possible that cemetery use existed prior to the Postclassic period, but it is clear with the number of cemetery interments, at least in the Freshwater Creek Region, that the practice of burying individuals in cemeteries rather than structures became

typical in the Postclassic (Briggs 2002). By contrast, almost all burials near Santa Rita Corozal were encountered in structural contexts (Briggs 2002:139; Chase and Chase 1987). If we analyze Ka'kabish's burial context like Briggs (2002), by looking at structure feature and then structure (public vs domestic), the Ka'kabish burial distribution can be seen below (Table 6.6).

Table: 6.6 Summary of Burial Context by Time Phase

Ka'kabish Burial Context by Time Period					
Period	***Residential/Domestic Structure***	***Public Structure***	***Chultun Structure***	***Settlement Zone***	***Total per period***
Formative	--	1	1	--	2
Early Classic	1	5	--	1	7
Late Classic	4	--	--	--	4
Late/ Terminal Classic	4	--	--	--	4
Terminal Classic	1	--	--	2	3
Postclassic	--	--	10	--	10
Total Burials					***30***

Source: Burial information obtained from Dr. Helen Haines and unpublished student field notes (KARL Trent University Durham, GTA).

In Table 6.6, the Settlement Zone and chultun structure have been separated from the residential/domestic structures to display the distribution of burials in accordance with the structure type the burials are in. All Settlement Zone and chultun burials are considered residential due to their location. Chultuns B-2, C-2, and C-4 are confidently recognized as domestic burial spaces as they were placed within domestic structure

plazas. Chultuns C-1 and C-3 are still under investigation due to their location. Their association with the Core Plaza D group suggesting higher status; however, their position behind the plaza suggests they are still private burial spaces, unlike the Groups F and D-Structure temples. Therefore, these chultuns will be included in the domestic private burial category along with the Settlement Zone and domestic structure burials (Table 6.7).

Table 6.7 Burial Context Structure Function by Occupation Period Actual Values

Actual Values			
Occupation Period	***Domestic***	***Public***	***Total***
Formative	1	1	2
Early Classic	2	5	7
Late Classic	4	0	4
Late/Terminal Classic	4	0	4
Terminal Classic	3	0	3
Postclassic	10	0	10
Total	24	6	30

There is an association expressed between occupation period and structural burial context (i.e., domestic vs public). Ka'kabish's burials from the Late Classic and later periods are more likely to be interred within a domestic structure than compared to those in earlier occupation periods. Time appears to be the dependent variable; however, statistical analysis cannot be computed at this time. Once greater burial data is accumulated at Ka'kabish, a Chi-square analysis can be used to determine if there is any statistical association with this observed pattern.

6.3 Discussion of Special Finds

As the preceding sections of this chapter describe, there is high variability of mortuary patterns among the Southeastern Peten, the Belize Valley Region, the Vaca Plateau, the Freshwater Creek Drainage Region, and the New River Region (Lamanai and Ka'kabish). Ka'kabish's mortuary assemblage displays similarities with the general and established Lowland burial trends, such as increased extended positioning into the Classic and later periods, multiple-entry graves, and a focus on primary interments rather than secondary interments (Briggs 2002; Chase and Chase 2011a; Welsh 1988). Nevertheless, Ka'kabish also demonstrates major differences with these settlements through a preference for non-extended body positioning (flexed, semi-flexed, bundled, seated, etc.), no apparent or distinct patterning for body and skull orientation, greater chultun use among the Postclassic period, and fewer public (cemetery-like) burials in the Terminal and Postclassic periods.

6.3.1 Burial Symbolism

6.3.1.1 Ancestor Veneration

Ancestor veneration is used as an act to commemorate the dead and honour kinship (Geller 2012). Ancestors were able to intervene with the living and over the generations, wealth of the ancestors accumulated to the heirs (Geller 2012:116; Walker 2019:58). Although this act can be traced back to early Formative period, ancestor veneration became very distinct and formalized in the Classic and later periods (Chase and Chase 2011a, 2001b; McAnany et al. 1999). Ancestor veneration is typically identified by locating individuals that are buried beneath residential structures, within the eastern structures, evidence of burning ceremonies, quantity and quality of burial

offerings, and signs of residence abandonment prior to veneration where the structure remains the burial site of honourable ancestors (Barnhart 1999:2; Chase and Chase 2011a; Welsh 1988:266). Some settlements have identifiable elaborate shrines for ancestors located on pyramidal platforms on the east side of residential groups (Becker 1971; McAnany 2013:53), while other settlements have veneration identifiable through less elaborate interments within residential structures that are anchored to landscape via such ritual practices (McAnany 2013). As noted by Chase (1997), less than 10% of individuals living in a residential group were buried within that residential grouping, and thus, the individuals selected were honourable (Chase and Chase 2010:4). Research suggests that presence of metates, ceramics, organic residues, and localized burning is evidence of offerings for ancestor veneration rituals. However, this list is also very similar to the overall identification of residential activity as the continuity between the realm of death and living for the ancient Maya is often expressed in the common use of residential activity and living spaces (Barnhart 1999:2,11; Cucina and Tiesler 2014:227).

Complex shrines and earth offerings, including human bones kept as ornaments and heirlooms, are typically associated with the elite community (McCauley 2019:77). These may be easier to identify due to their greater elaboration compared with the material culture of the lower classes (McCauley 2019:77). The lower classes were unlikely to be able to afford the resources necessary for commemorative constructions for ancestor veneration (McAnany 2013). Therefore, their familial residence became an important location for ancestor veneration, with ancestors buried beneath the residence; burying individuals beneath the residence also allowed the ancestors to interact with the living (Fitzsimmons and Shimada 2011:53; McAnany 2013). Each generation continued

the tradition by burying ancestors within the structure by either modifying an existing house platform or building a new platform in a different place to retain the former residence as an active venerated tomb (Barnhart 1999:11).

The presence of ancestor veneration at Ka'kabish displays similarities to sites in the Maya Southern Lowlands (Barnhart 1999; Welsh 1988:268). Settlement studies at Caracol, and other settlements not included in the current study, such as Seibal and Sayil, have demonstrated that the size and distance of the burial location from the site epicenter do not necessarily correlate with the wealth and status of lineage shrines identified (Barnhart 1999:4). Mountain Cow, and other settlements like Tikal and Holmul, demonstrated that lineage shrines are not confined to eastern locations (Welsh 1988:267-268). Therefore, ancestor veneration displays generalized symbols of identification but are not limited to these markings, with inter-site variability being the norm. Ka'kabish displays potential symbols of ancestor veneration along the central and western side of Structure B-2. Structure B-2 burials B2/2 and B2/5 demonstrate deliberate renovation of graves as shrines, and they have more prestigious grave offerings compared with the other burials in this structure. Such symbols denote ancestor veneration as mentioned by Barnhart (1999: 2), Chase and Chase (2011a), and Welsh (1988:266).

Burial Str. B-2/2 was identified beneath the centre of the structure's plaster floor, and a construction phase was associated with that burial. The individual is extended with the hands placed over the pelvis and an inverted plate placed over the skull. Half a conch shell, a small jar, a greenstone pendant, lip-to-lip vessels, and a ceramic vessel with human remains (unidentified) inside were placed around the body (Appendix A). The ceramic vessel with human remains is an indication of ritual symbolism (Becker 1992;

Geller 2012:116; McCauley 2019). Human remains in ceramic vessels (e.g., finger caches often in plain wear bowls) can be associated with ancestor veneration or sacrificial ritual but the full scope of this is not yet fully understood, making it difficult to confidently determine the meaning or function behind the act (McCauley 2019:67). Becker (1992) suggests that body-part caches represent the death-rebirth cycle, and thus, they are more closely associated with ancestor veneration than other ritualized violence (Kunen et al. 2002; Mock 1998). Articulated bodies are not the only option for interment, and even singular bones can represent ancestor veneration or earth offerings (Ashmore 2015; McAnany 1995). The presence of the human remains placed within a ceramic vessel around the Str. B-2/2 interment can symbolize how the dead represent objects that can be owned, stored, and communicated with through the process of ancestor veneration, allowing the living community to reconfirm generational relations (Fitzsimmons and Shimada 2011; Geller 2012:116), such as the Str. B-2/2 interment.

Burial Str. B-2/5 was recovered from a bench on the plaster floor along the western side of the structure. It was extended with multiple ceramic concentrations: four highly eroded vessels, ceramic sherds including striated and lemonal cream sherds, and a Red Neck Mother jar sherd (Appendix A). Bench burials are of particular importance because the bench also serves a function in the living as house altars, and for sitting or sleeping purposes, which enhances the sacrality and ritual status of the house (Gillespie 2008:70; McAnany 1998:273; Welsh 1988:188). With respect to the burial's physical context, the bench burial is associated with the Terminal and Postclassic period, unlike the rest of the structure's burials which are associated with earlier periods of Late/Terminal Classic occupation. This is interesting because the burial was

stratigraphically above the plaster floor, which potentially indicates that the structure was architecturally renovated for the inclusion of the burial. Excavations of the B-2 structure are still underway on the east portion of the structure. Burials connected with the east side of residential complexes have shown to be an important ritual context among the lowland Maya (Becker 1971; McAnany 2013:53,102). Once excavations are complete, the history of the structure can be analyzed to assess whether additional architectural renovations have occurred and whether one can identify additional burial symbolism. As mentioned by Barnhart (1999:7, 9), archaeological evidence has shown that commoners may potentially abandon their homes after burying the ancestor rather than building on top of them. This allows ancestors to remain at the surface level and embody and animate the entire structure, exemplifying the transition from residence to shrine. Future excavation on Structure B-2 can examine the building's history to identify any examples of the structure's discontinuance as a residence.

Overall, this section has established that identifying ancestor veneration can be a complex process. The presence of non-ritualized house burials and the similarities between occupational and ritual mortuary offerings can make it difficult to identify ritual versus residential activity (Barnhart 1999; Cucina and Tiesler 2014:227). From the evidence shown above, Ka'kabish displays symbolism of ancestor veneration in Structure B-2 burials B-2/2 and B-2/5 because of the clear, and intentional, architectural renovations used to construct the graves for inhumation, the location of the graves beneath and above the structure's floor, and the quantity and variation of the burial goods. All these variables can elucidate ancestor veneration by defining the property and structure's future ownership. The interment of deceased relatives within the residence

establishes and maintains the primacy of the lineage residing there, which could also be connected to other sociopolitical possessions like agricultural resources, land ownership, and material heirlooms (Novotny 2015:84; McAnany 1995:161, 1998:273). The other identified burials in Structure B-2 structure appear to lack these mortuary variables present, separating them from the ritual act of ancestor veneration.

6.3.1.2 Chultun Use

Ka'kabish stands out from many other settlements among Northern Belize due to the abundant use of chultuns and the amount of chultuns excavated to date. Ka'kabish has the second highest number of chultuns found on site and excavated (the site of Cerros has 16) (Carlos 2019:80). Research has shown that the placement of remains in a chultun could represent acts of ancestor veneration or alternatively, may be used as a ritual involving burials to ensure the successful transfer into the afterlife (Welsh 1988:2). This can be a separate function for the chultun since the idea of transferring life into the next world ties with the storage functionality of the structure. Continuing with this idea of functionality, additional research has suggested that non-elite farmers may have engaged in a market economy which was interwoven with the chultun use for feasting and ceremonies, with individuals producing fermented goods correlated with burial rituals (Gray 2001:31). However, experimental research challenges the use of chultuns for food storage due to the high humidity of the chambers, which support ideas surrounding ritual food offerings rather than food storage purposes (Brady and Layco 2018:52). Although the chultuns at Ka'kabish all contain burial-related goods, which may not support ideas of the market economy and farming, this still highlights how the function of the chultun structure itself can be analyzed.

The chultuns at Ka'kabish are understood to be private burials which can be interwoven with socio-economic factors like status. Many of these chultuns contain multiple-entry burials, which, like ancestor veneration, support ideas surrounding familial lineage (Carlos 2019:104). Therefore, the burial data suggests that the chultuns at Ka'kabish may potentially act as a mausoleum. Functional mausoleum-like structures have been interpreted at other Maya sites. Caracol Structure A38 was interpreted as a special function building that worked as a mausoleum due to the architecture and lack of residential features (Chase and Chase 1994:7). Similarly, at K'axob, a mausoleum was constructed above ground to contain select individuals and that possibly shared familial relations and status (McAnany et al. 1999:130). The site of Minanha had multiple individuals placed within a chultun. The articulated individuals in the center of the chamber had likely deposited around the same time, and the final two individuals were placed in a chultun that had previously housed at least three individuals, each of which had been interred at different times (Lamoureux-St-Hilaire et al. 2013). Additional room was made by pushing aside previously deposited remains which further comingled all the individuals (Lamoureux-St-Hilaire et al. 2013). There are thus, different interment dates for the remains that were moved aside for additional burials prior to finally sealing the mausoleum (Lamoureux-St-Hilaire et al. 2013:3). Another example of group mortuary strategies at Minanha is Structure 77S, which has two interment loci associated within the structure (Schwake 2010:20). The first interment locale is a simple crypt encompassing nine individuals in the Late Classic period (Schwake 2010:20). The second interment locale is an elaborate crypt with the presence of an access point within the chamber (Schwake 2010:21). This crypt has at least 15 individuals articulated in extended

positions, and others displaced and disarticulated, indicating re-entry and reuse during different time periods (Schwake 2010:21). The grave goods associated with 77S signify an elite complex (i.e., shell, polychrome ceramics); however, the location of this structure is not within the epicentral elite architecture and indicates a lesser elite status (Schwake 2010:21). The mortuary customs still do not overlap with commoner variables (Schwake 2010:21, 23). These are just few examples to demonstrate how mausoleum use is not a foreign concept to the Maya, and therefore, there is a possibility that the chultuns at Ka'kabish with multiple-entry burials can be interpreted as such. Due to the fragmentary state of the remains, it is not possible to draw conclusions as to sacrificial or ritualized violence victims. As well, lab-analysis of the chultun remains identified the presence of adult individuals in association with younger individuals (e.g., burials in Ch-C-1), which might be evidence of parent-child burials. Such burials have been well documented in the Maya area (Welsh 1988:75). Ancient DNA testing can confirm if the remains in these chultuns are related and support or negate this idea of private familial burial chambers.

6.4 Research questions

Osteological and archaeological data has allowed for the construction of a mortuary analysis at the site of Ka'kabish in comparison with other settlements in the eastern half of the Southern Maya Lowlands. These data were used to identify which mortuary variables were present at the time of excavation at Ka'kabish, to compare these variables with other settlements to gain further insight into its mortuary assemblage, and to assess how Ka'kabish was situated in the Lowlands. To conclude this analysis, I will now address the research questions pertaining to mortuary analyses presented at the beginning of this thesis.

1) ***Can we determine if mortuary behaviours vary by demographics or social-status?***

Of the 37 individuals identified at Ka'kabish, few had recorded demographic variables (Appendix A). Most of remains at Ka'kabish are too fragmented or comingled to determine age or sex variables. As well, many of the remains that had documented age and sex from the time of excavation were re-analyzed in-lab, revealing different MNIs, more complex age variation (i.e., infant bones among the inclusion of adult remains), and different sex estimates. Therefore, with the current case study, demographic variables were not analyzed in relation to burial location. Of the other surrounding Southern Lowland settlements that had recorded demographics, sex correlations were not identified in relation with mortuary treatment (Donis 2013; Briggs 2002); however, Freshwater Creek Drainage Region demonstrated that burial structure location was linked with age (Briggs 2002). Overall, the lack of demographic and burial correlations does not mean that demographic variables will not display patterns associated with mortuary behaviours (e.g., burial location), and it cannot be assumed that demographics do not play a role in stratifying mortuary treatment. Demographic variables have proven to be complex and difficult to measure and when applicable, they can potentially show to influence Maya mortuary treatment.

Social status indicators continue to be one of the central questions sought in Maya bioarchaeology (Cucina and Tiesler 2005:33). Evidence shows that burial location does vary by social status factors, and it is displayed at many lowland Maya settlements, including Ka'kabish. Core zone burials tend to include public, monumental burial spaces

potentially linked with elite political and social organizations and significant occupation periods (Haines et al. 2020:52; Schwake 2010). Residential, private burial locations are much more representative of commoner burials within domestic structures (Briggs 2002). Some of the residential burials at Ka'kabish display ritual-like variables, which will be discussed with the next question. The range of graves at Ka'kabish are also very diverse. Most of Welsh's (1988) grave typologies have been identified in the Ka'kabish mortuary assemblage. The degree of elaboration at Ka'kabish ranges from temples and vaulted crypts burials (CVC) with various grave goods to soil-cut unlined pits. The quantity and quality of these offerings also varied quite a bit, where some graves did not contain artifacts (i.e., Str. B2 B/1 and Str. B2/4), while others had a quantity of grave goods (i.e., Str. B2 B/2, Ch-C-3). The lack of artifacts can be due to the extensive looting of the site. Ka'kabish only displayed in-grave inhumations. To date, there has been no signs of cremation or a cemetery use, as displayed at Lamanai and in the Freshwater Creek Drainage Region (Briggs 2002; Donis 2013; Izzo 2018). The process of interring human remains appears to be an important experience. All the graves at Ka'kabish shown signs of intentional grave cuts (i.e., in accordance with Welsh [1988], none were considered "simple", and thus, it can be assumed that the experience of burying individuals at the site were purposeful and thorough. There is also evidence of movement of the human remains within the burial chambers themselves, with the reburial of partial and secondary individuals. In some cases, this included both primary and secondary interments interred within the same grave. This may further indicate that the grave type or structure location associated with a burial (i.e., the chultun) holds significance, as the Maya continued to re-

use that specific location for interment purposes rather than creating a new location for interment.

2) ***If burial variations occur, what correlations are associated with the location of these interments? More specifically, how does Ka'kabish fit into the regional mortuary trends in the eastern half of the Maya Southern Lowlands from the Middle Formative through to the Postclassic (800 BC to AD 1500) periods***.

As displayed in the current study, there is social status variation associated with the location of burials. Higher status graves displaying elaborate grave constructions are situated in the Core Zone of the site (Plaza D, FA-8, FA-6). These graves (i.e., tombs, vaulted crypt, crypt) are generally associated with elites, where public monuments were constructed for interments. Although these burials did not have many associated artifacts recovered from them due to looting, the energetically expensive grave types, monumental effort, and location of the burial themselves is indicative of the higher status, especially when compared with the commoner burials in the residential complexes. However, these Core Zone burials are not the only burials at Ka'kabish that display socio-cultural symbolism. Structure B-2 Burials B/2 and B/5 and all the chultun burials exhibit elaboration within the grave and the various quality and quantity of offerings (Appendix A). The presence of these offerings and the grave elaboration differentiates them from the other commoner burials on site. This differentiation is also present within structures like Structure B-2, where grave good elaboration is only present in the B2/2 and B2/5 burials. Both Structure B-2 burials appear to have ritual aspects to them, and they may be

potential settings for ancestor veneration. This conclusion was determined based on the effort put into building the graves themselves, and the grave goods found within the burials, that hold ritual significance of these offerings (refer to section 5.3.1.1). The chultuns, especially those with multiple-entry burials, may have served as a mausoleum, linking them not only to ancestor veneration but potential lineage burial chambers (refer to section 5.3.1.2).

Ka'kabish's burial assemblage and mortuary patterns are not consistent with only one region. Similar to Minanha demonstrating similarities with neighboring sites like Pacbitun and Caracol, and Pacbitun exhibiting variables from neighboring regions like the BVR and the Vaca Plateau (refer to page 60), Ka'kabish demonstrates correlations with many regions in the Southern Lowlands. Ka'kabish's preference for extended and non-extended burials in different occupation periods is a correlation observed throughout multiple regions (Briggs 2002; Donis 2013; Schwake 2008; Snetsinger 2012). As well, pit burials at Ka'kabish have the second-highest frequency of interments, similar to the SE Peten and the Vaca Plateau (Schwake 2008). However, chultun burials encompass the majority of interments at Ka'kabish, unlike surrounding regions. Ka'kabish also displays similarities to the Freshwater Creek Drainage Region, undergoing a transition from public to private burial locations over time (Briggs 2002). As well, Ka'kabish shows strong relations with Lamanai, as evidenced by the recovery of numerous Lamanai-style artifacts from Ka'kabish's grave goods (Appendix A), the presence of the cocoon crypt, and VPLF body positioning in burial Ch-C2/1. Overall, Ka'kabish demonstrates many regional correlations, rather than strong relations with just one region. The implications of these findings suggests that Ka'kabish interacts with many sites throughout the

Southern Lowlands and may be a settlement with considerable movement through, or migration to, the site.

This mortuary evidence is not the first to suggest Ka'kabish's interactions throughout the lowlands. Ka'kabish has ceramics identified from the Northern Yucatan (Haines 2023: personal communication), painted hieroglyphs and tomb designs linked to the Central Peten (Haines and Helmke 2016:124), and structural design (FA-8) that is unique to the lexicon of Maya architecture (Haines et al. 2017:131). Nonetheless, Ka'kabish has demonstrated considerable ties with the nearby site of Lamanai (Haines et al. 2020:52) and has shown an unrestricted ability to establish contacts beyond the New River Region. This idea can be further expanded across the Southern Lowlands as a whole. The previous literature presented in this thesis links influences between regions and sites (Chase and Chase 2011a, 2011b; Haines and Helmke 2016; Haines et al. 2020; Snetsinger 2012:197), indicating Maya cultural movement between neighboring regions and beyond.

6.5 Limitations

The current study has faced many limitations when comparing Maya literature. One of the most impacting limitations is the lack of consistency and recording of mortuary variables. Many sites did not record the same variables, and although it may not be viable when remains are highly disturbed or comingled, it still appears that some variables were just never considered. As well, not all settlements follow the same definitions, which increases the difficulty of comparing mortuary variables between sites. Another limitation of the current research stems from archaeology as a discipline. As mentioned by Barnhart (1999:11), physical evidence used to identify ritual activity, like

ancestor veneration, can be very similar to the evidence suggesting residential activity. This issue presents itself as a function argument; therefore, it is up to the archaeologist's discretion to discern what the material record supports. As well, there is significant variability between sites and how each settlement displays burial symbolism. These two limitations are certainly present within the Ka'kabish mortuary assemblage, where the archaeological record is highly disturbed, which limits the information that can be collected and analyzed *in-situ*. As well, it complicates the information that can be compared with other regions because of the great inter-site variability, since Ka'kabish does not display variables that are regularly recognized across the Lowlands (e.g., lack of eastern-located burials).

Another issue, not limited to Ka'kabish, is the inability to determine precise demographics given fragmented, comingled, and poorly preserved remains (Walker 2016). With the environmental conditions of the Southern Lowlands, demographic characteristics like sex can often not be determined, exact age cannot be specified, and mortuary variables like body positioning are hard to distinguish, as seen in the Vaca Plateau sample (Saul and Saul 2009:134; Snetsinger 2012; Walker 2016:61). This can also exacerbate difficulties associated with any attempt to make generalizations about burial patterns among the Maya (Chase and Chase 2011a) and increase sampling bias. As mentioned earlier, sampling bias can decrease as the Ka'kabish burial data continues to expand. However, it may continue to exist depending on excavation strategies (e.g., a preference for excavating structures). This also causes difficulty in maintaining the commoner/elite dichotomy when analyzing the data. At Ka'kabish, the burial assemblage is small and to get an accurate depiction of burial patterns all burials had to be included in

the current study, including Core Zone burials that are not considered commoner. Similar to the Lamanai burial sample, where many individuals were interred in ceremonial structures, including the ceremonial core, no significant differences in grave goods were observed across the sample (Somerville et al. 2013). Thus, a limitation of this research is that the analysis slightly blurs the commoner/elite dichotomy. To reduce the impact of this limitation, burials that were not within residential areas or considered commoner were labeled as such.

6.6 Summary

Maya mortuary behaviour has long been recognized as complex. Many of these mortuary patterns exhibit inter-site variability where regions/sites display different variables compared to their neighboring regions. Ka'kabish does not display a high frequency of cist or cemetery-like interments like the surrounding regions, but rather exhibits a preference for chultun and pit burials. Body position did not display any distinct patterning beyond the preference of individuals to be interred in non-extended body positioning such as flexed, semi-flexed, seated, VPFL, or bundled positions. The few extended burials identified at Ka'kabish do correlate with the regional trend of extended burials being more prevalent prior to the Postclassic period; however, a majority of the extended burials at Ka'kabish are identified in the Terminal Classic, which is later than the regional trends (Briggs 2002; Donis 2013; Izzo 2018; Schwake 2008; Snetsinger 2012; Welsh 1988). Body position does not display any strong patterning like the BVR, SE Peten, or Freshwater Creek Drainage regions but an obvious preference for primary single interments has been seen at Ka'kabish and the surrounding regions (Briggs 2002; Donis 2013; Schwake 2008; Snetsinger 2012). Classic, Terminal, and Postclassic

commoner burials display evidence of greater private functions, where the Formative and Early Classic periods have public monumental displays associated with Core Zone burials. Ka'kabish's chultuns (n=5) all exhibit burial usage as the final function of the structure, and this is displayed through a preference for multiple-entry burials within one chamber. This may be an act of a lineage ritual as discussed in the Chapter 5. Additional burial symbolism is seen in Structure B-2, where ritual variables of ancestor veneration are present in burials B-2/2 and B-2/5. Chapter 7 will reiterate the primary findings of the current study and provide avenues of future research that can facilitate a greater understanding of Maya mortuary patterns.

7.0 Conclusions

The purpose of this chapter is twofold: first, it will summarize the primary findings of the current research, and secondly, it will propose suggestions for future research. These suggestions will expand mortuary research at Ka'kabish, and further, contribute to the study of Maya mortuary customs.

7.1 Primary Findings

The Ka'kabish mortuary assemblage has many similarities with other established Lowland mortuary trends (i.e., pan-lowland Maya patterning) (Welsh 1988:301). These similarities include a preference for single, primary, interments as displayed in the SE Peten, BVR, Freshwater Creek Region, and at Lamanai (Briggs 2002; Donis 2013; Schwake 2008; Snetsinger 2012) and multiple-entry burials primarily comprised of single interments, sometimes with the inclusion of secondary remains (Lamoureux-St-Hilaire et al. 2013; Welsh 1988). Many of these secondary interments are located within chultun chambers (Ch-C-1, Ch-C-2,). These chambers are also the only confirmed location of re-entry and re-use (Ch-C-3) (Chase and Chase 19996:66, 2011a; Carlos 2016; Gonzalez 2013, 2014, 2015, Verdugo 2014). Ka'kabish's chultun use conforms to the regional patterning for chultun functionality, with burials being the most frequently recorded use of chultuns in North/Central Belize. All Ka'kabish's chultuns (n=5) excavated to date house human remains (Carlos 2019).

Ka'kabish further displayed a majority of extended body positions dating to the Late/Terminal Classic, as documented regionally by Welsh (1988), and preference for pit burials, similar to the SE Peten. However, Ka'kabish displayed greater effort within the grave construction as many of the graves were not diagnostically "simple". Greater grave

elaboration was only displayed in the Formative and Early Classic periods among the Core Zone burials, where public temple and crypt-like structures were identified with burials and has not yet been identified in any later dates at the site. The Classic and Later periods are made up of domestic burials indicating a transition to private burial spaces within the residential zone.

Ka'kabish also demonstrates differences from the surrounding regions. The largest difference exhibited at the site is the overall preference for non-extended body positioning. Although there are three extended burials dating to the Late/Terminal Classic periods, as mentioned above, the rest of the site's burials tend to be flexed, semi-flexed, VPLF, or bundled. Notwithstanding, Lamanai's preference for VPLF, the diversity in non-extended interments at Ka'kabish has not been seen at other settlements, especially during later periods. Furthermore, Ka'kabish did not display any clear or distinct patterning for body and skull orientation as seen in the surrounding regions (e.g., Briggs 2002; Schwake 2008; Snetsinger 2012). This was noted for both burials where there was no pattern displayed between skull and body orientations and where there was a correlation between orientation and body positioning (Welsh 1988). Although chultun functionality correlated regionally, chultun use in relation to occupation period did not. Many of the chultuns at Ka'kabish date to the Postclassic period, with the majority of Postclassic burials being in chultun chambers (Carlos 2016; Gonzalez 2013, 2014, 2015, Verdugo 2014), which goes against the regional pattern wherein chultun use declines during the Postclassic period (Carlos 2019:94, 98). As well, Ka'kabish does not have any public or cemetery-like burials as seen in other Terminal and Postclassic assemblages

such as Lamanai and the Freshwater Creek Drainage Region (Briggs 2002; Donis 2013; Izzo 2018).

7.2 Future Research

The interpretations drawn from this thesis can be expanded upon with future research to draw supplementary conclusions for the Ka'kabish mortuary assemblage. One area of research would be future excavations on Structure B-2 to examine the east side of the building and to reveal more information concerning the structure's history. Since this structure houses many interments, some with ritual-like qualities, it would be interesting to see if the building has been renovated, reused, or abandoned in different occupation periods. The Maya Southern Lowlands have displayed symbolism with burials interred in the eastern side of structures; thus, excavations on this side of the building may potentially reveal additional mortuary symbolism (Barnhart 1999; Novotny 2015). As excavations continue at Ka'kabish, future burial information can be added into my database, which will enable the use of statistical analysis for investigating burial patterns. This would produce significant results that can be further studied to see how Ka'kabish compares with other Lowland settlements and to understand social implications of mortuary variables, including how sites personalize their rituals as a form of group or individual identity (Geller 2012; Schwake 2008:334). Additional lab research would also expand on Ka'kabish's demographics to determine and confirm the sites MNI, sex, and age variables to see if demographics correlate with burial location or interment styles. Ancient DNA analysis could also determine if burials in the chultuns are lineage related. These demographic variables would further our understanding of different social and economic factors in Maya society.

The previous suggestions of future research build upon the current study. There are two more suggestions for future research that I think would offer greater overall insight into Maya mortuary patterns. The first is research into potential ideas of cremation. Excavations at numerous settlements have shown the fluorescence of the Maya and their large populations supported by state-level societies (Marcus 2003; McKillop 2004:32). However, burial assemblages do not support these large numbers. While a lack of cremation has been noted throughout the lowlands (Chase and Chase 1997; Novotny 2015:399; Snetsinger 2012:202; Welsh 1988:300), it often has been proposed as an ancestor veneration ritual (Fitzsimmons 2009; Tiesler and Cucina 2007). I propose that this practice may be different for settlements near bodies of water. The creation story for the Maya depicts the Hero twins being burned, their bones ground, cast into the river by Xibalba, where they re-emerged as fishmen with special powers (Brown and Garber 2003:106; Tedlock 1996). Although the Popol Vuh is foundation narrative of the creation myths for the Maya, it displays the history of sacred events of the Quiche mythical ancestors (Himelblau 1989:97). The mythical content of the underworld events, such as the reincarnation of the Hero Twins in the Popol Vuh, has been argued to have a long history behind it, where scenes have been depicted on Maya pottery dating to the Classic/Late Classic period (Coe 1973; Himelblau 1989:121). Consequently, there may be a fraction of truth among the Maya mythical stories, and future research focusing on water-residing settlements may indicate that cremation or "ground bone", and act of disposing of the remains in water, may be one of the many potential reasons for the lack of burials recovered settlements.

The second suggestion I make for future research is the standardization of protocols for exhumation. One of the greatest ways to increase our understanding of mortuary patterns is through the comparison of burial practices at different settlements. As previously noted, a major limitation in Maya literature is the lack of consistency in the recording of mortuary variables which comes with the difficulty of working on complex excavations in complex environments (Freiwald 2019). As well, bioarchaeologists are often tasked with managing both field excavations and in-lab analysis with ongoing curation of human remains (Freiwald 2019). With the dual demands of the field season, bioarchaeologists are not always present or able to excavate burials but are still held responsible for interpreting them (Freiwald 2019:10). Consequently, important mortuary variables may not even be considered for measurements and recording by excavators who lack a specialization in exhuming human remains (i.e., skull orientation vs body direction), causing a deficiency in the data collected from human remain contexts. Standardizing a protocol of measurements and the recording variables is an active way to help combat this limitation. It is acknowledged that for some remains *in-situ* measurements are not possible (i.e., highly disturbed, comingling). However, creating well-recorded excavation notes including elevations with bone clusters can provide information that, in combination with lab analysis, can be used to reconstruct the archaeological record (Freiwald 2019:15). Future research can focus on curating a list of specific Maya mortuary variables to measure to ensure that all information is being recorded before remains are removed from situ. This extra documentation associated with a holistic mortuary archaeology practice demonstrates respect for the communities affiliated with those being excavated and overall, goes beyond good scientific practice

(Freiwald and Miller Wolf 2019:7). Lastly, an increase of the variable recorded can further be used to create an updated typology for Maya archaeology. As bioarchaeologists, we must take the lead on the future direction of the field (Freiwald and Miller Wolf 2019:7). There has been an abundance of research since Welsh's (1988) categorization, and thus, collecting mortuary data that includes updated variables can expand upon Welsh's typologies to include more variability (i.e., like the CVC) and create a more accurate depiction of Lowland trends.

7.3 Contributions and Final Thoughts

This research considered the importance of using mortuary perspectives in bioarchaeology while analyzing Ka'kabish's burial variables in relation to surrounding settlements. The principal contribution of this thesis is the establishment of a comprehensive dataset concerning mortuary trends within the eastern half of the Southern Maya Lowlands. This dataset encompasses burials gathered from five diverse regions, accompanied by the recording and analysis of their variables. Maya mortuary practices have long been acknowledged for their pronounced variability. I have elucidated that despite these mortuary variables initially appearing random, or unaccustomed with the regional norm, the Maya were deliberate and purposeful with their burial customs and manipulated the deceased to adhere with specific rituals.

Another key finding of this research is the demonstration that mortuary customs (i.e., burial location, body position, interment type and style) reveal important social, ideological, political, and cultural information (Martin et al. 2013). The comparative examination across regions revealed discernible similarities in these mortuary variables, suggesting cross-regional influence and the transmission of cultural traits. The current

study, regardless of the small sample size and potential sampling bias, still provides detailed compilation of the Ka'kabish mortuary assemblage to facilitate an inter-site regional analysis of Southern Maya Lowland mortuary behaviour. Detailed studies like this are necessary as the foundation for larger-scale comparisons and new data can divulge an updated mortuary analysis like Welsh (1988). This research is important not just for archaeologists studying Mesoamerican contexts, as it will help all archaeologists to better understand the dynamic processes of ritual and mortuary practices.

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Appendix A: Ka'kabish Master Data Table

Occupation Period	Burial Zone	Burial ID	Total # of Burials	Total # of Indiv.	Grave Type	Interment Type	Interment Style	Position	Body Orien.	Head Orien.	Age (years)	Associated Artifacts	# of Grave Object	Data Source:
LC	Hingston C-1 Residential Structure	Op 20, unit 8, burial 1	1	1	pit (potentially simple: too architecturally disturbed)	Primary	Single	Flexed	NS (head-to-north, feet-to-south)	N/A	N/A	"Lamanai-Style" Polychrome plate, potentially a second orange (polychrome?) plate, folded rim jar and triangular rim jar	N/A	2019 field journals and maps; 2020 official field report
		Op 20, unit 8, burial 2	1	1	pit (potentially simple: too architecturally disturbed)	Primary	Single	NA	NS (head-to-south, feet-to-north)			Orange (polychrome?) plate, Puletan red-and-unslipped jar, Sierra red jar, and few ceramic sherds	N/A	
LC	Hingston C-2 Residential Structure	Op 20, unit 7, burial 1	1	1	pit (potentially simple: too architecture disturbed)	Primary	Single	Flexed	N/A	N/A	Adult? Modified dentition	Ceramic sherds (orange and black bowl rim), lithic sherds and part of a biface lithic, carved animal head (Similar to Lamanai Stela 9?), "Lamanai-Style" polychrome plate	N/A	Moore 2019 field journal; 2020 official field report; Newton 2022 field journal
		Op 20, unit 7, burial 2	1	1	N/A	Primary	Single	Flexed	N/A		N/A	Two "Lamanai-style" polychrome plates, orange ceramic sherds	N/A	
LC/TC	Baker B-2 Residential Structure	Op 19, unit 19, burial 1 (burial 6)?	1	2 (?)	Pit (not simple)	Primary (n=2)	N/A Only cranium fragments, humerus fragment	N/A	N/A- cranium located along the north wall of trench	head-to-north (n=1)	Adult. Potential subadult mandible (previously identified as Str. B-2/6). These human remains will be confirmed when exported to Canada. For now MNI=1	N/A	N/A	Haines 2019 field journal; Lightner 2019 field journal; 2020 Official field report
		Op 19, unit 19, burial 2	1	1	Pit (not simple)	Primary	comingled	Supine Extended, hands placed over pelvis	NS (head-to-south, feet-to-north)	Head-to-N/W (n=2)	1 adult, 1 unknown	1 inverted plate placed over skull (burial 2), 1/2 conch shell, small jar, greenstone pendant, 2 lip-to-lip vessel, ceramic vessel with human remains inside of the vessel	N/A because comingled	Haines 2019 field journal; 2020 Official Field Report; Newton 2022 field journal
		Op 19, unit 19, burial 3	1	1	Pit (not simple)			Supine Extended (right side unexcavated- still in East wall)						
		Op 19, unit 19, burial 4	1	1	N/A	Primary	Burial unexcavated in West wall	N/A	N/A	N/A	N/A	N/A	N/A	Lightner 2019 field journal; 2020 Official Field Report; Newton 2022 field journal
TC/PC	Baker B-2 Residential Structure	Op 19, unit 18, burial 5	1	1	Bench	Primary	Single	Extended	NE-SSW (head-to-NE, feet-to-SSW)	N/A	N/A	multiple ceramic concentrations: 4 highly eroded vessels, ceramic sherds including striated and lemonal cream sherds, red neck mother and jar sherds, and bench sherds/wear, 2 disc-shaped shell beads	approx. 5 vessels, 2 shell beads, n=7	Haines 2019 field journals; Lightner 2019 field journal; 2019 lot/burial forms; 2020 Official field report
F	Hingston Chultun C-4	Op 18, C-4, burial 1	1	1	Chultun	Primary	Single	Flexed supine	SW-NW (lower body oriented to SW corner, upper body towards NW corner of chultun)	N/A	N/A	2 intact ceramic vessels (chocolate pot and ground vessel), faunal fragments, ceramic sherds	N/A	Haines Ka'kabish burial document; 2016 lot forms; Carlos 2015/16 field journal

PC	Hingston Chultun C-3	Op 17, C-3, burial 1	1	1	Chultun	Primary	Single	Seated (knees pulled up to chest)	back against south wall	head pointing down towards feet	Adult (with modified dentition: filed incisors)	4 large rocks (1 possible capstone), 9 lithics, 1 2cm side notched point, 1 small l slate celt, 1 biface point, 35 ceramic beads, 1 ball of red ochre, 10 bone ear spools (7-8 flares), 4 small polished basalt celts, 1 orate biface, 1 polished chert nodule, a PC tripod vessel, 1 chipped point, 13+ pieces debitage, 5 red ochre balls, copper tweezers	n=83 (approx..)	Haines 2015 field journal; Carlos 2015/16 field journal; 2015 Official field report
		Op 17, C-3, burials 2-4 (combined due to lack of information regarding separating these burials)	3	3		N/A (n=3)	N/A	N/A	C-3/2= southeastern portion of chultun, C-3/3= central axis of chultun, C-3/4= southwestern portion of chultun	NA	N/A			
PC	Hingston Chultun C-2	Op 14, C-2, burial 1	1	1	Chultun	Primary	Single	Prone fetal (Flexed, legs ventrally placed)	Located in the eastern part of chultun	head-to-south?	Adult	3 whole ceramic vessels (1 unslipped collared jar, one orange-slipped and fire-clouded tripod vessel, 1 red-on-orange trickle collared jar), 1 spear point, 1 biface fragment, 1 speleothem	N/A	Gonzalez 2014 field journal, Carlos 2015/16 field journal, 2015 official field report; 2018 Posthumous Pots: Postclassic Ceramic Contexts and Chronology at Ka'kabish, Belize. (second author with Kerry L. Sagebiel). Paper presented at the South-Central Mesoamerican Conference, 19-20 October 2018; Bari 2021 mortuary report; Kennedy 2021 mortuary report
		Op 14, C-2, burial 2 and burial 3	2	2		Primary (n=2)	N/A n=1 full interment, n=1 disturbed and highly fragmented cranium	N/A	Located the southern area of chultun	N/A	Adult			
		Op 14, C-2, potential 4th burial	1	1		Secondary	N/A only cranium	N/A	N/A		N/A			
PC	Hingston Chultun C-1	Op 11, Hingston 1 (C-1): Eastern Burial Cluster, Western Burial Cluster	N/A	6 (?)	Chultun	Primary n= 5, n= 1 secondary burial?	All comingled	N/A	Western burial cluster located in the NW portion of the chultun, Eastern burial cluster remains found in the SE area of the chultun (?)	N/A	n= 4 adults, n= 2 subadults	Western burial cluster: 3 jade beads, 18 copper bells, 5 copper rings, Ochre balls, Obsidian, shell beads, Eastern Burial Cluster: 2 jade beads, Jade plaque fragments, 14 copper bells, 3 copper rings, Ochre balls, Obsidian, Shell beads, Bone beads, 1 chert projectile point, 2 ceramic earspools.	N/A	2014 official field report; 2018 Posthumous Pots: Postclassic Ceramic Contexts and Chronology at Ka'kabish, Belize. (second author with Kerry L. Sagebiel). Paper presented at the South-Central Mesoamerican Conference, 19-20 October 2018; 2020 Grant thesis
PC	Baker Chultun B-2	Op 9, B-2, burial 1	1	1	Chultun	Primary	Single	Flexed	NS (head to north, feet to south)	N/A	Adult (30+)	1 shark bone earspool, a bone needle, and a bone flute, and laid out on a compact surface of small pebbles/or snail shell?	N/A	Gonzalez 2012 field journal, Haines 2012 field journal, plan maps of chultun B-2, 2014 official field report; 2018 Posthumous Pots: Postclassic Ceramic Contexts and Chronology at Ka'kabish, Belize. (second author with Kerry L. Sagebiel). Paper presented at the South-Central Mesoamerican Conference, 19-20 October 2018; Smith 2020; Howell 2022
		Op 9, B-2, burial 2	1	1 (potentially 3)	Chultun	Primary	Single	N/A	N/A	N/A	Subadult (16-21)	bone earspool and a bone bead		
(Middle) F	Core Zone- Plaza D	Op 8, unit 1, burial 1: "founder burial"	1	1	Pit grave (carved into bedrock with tomb plaque)	Secondary	Single	Bundled- disarticulated (loose- not tightly bundled, unknown if wrapped)	N/A- cranium placed on top rest of remains	N/A	N/A	17 jade objects, ~2000 marine shell beads	N/A	2012 lot and plan map; Haines 2012-2013 field journal; 2013 official field report; 2014 official field report; 2015 official field report; Lockett-Harriss 2016 thesis,

EC	FA-8	Op 16, unit 5, burial 3	1	1	Crudely vaulted crypt ("Tomb 1")	N/A (n=3)	N/A	N/A- looted and highly disturbed	N/A- all disturbed fragments	N/A	N/A	Highly disturbed and looted. Only artifacts recovered were: Lidded God Pot, two Aguila Orange vessels, shell labret	N/A	Haines 2016 field journal, 2016 lot forms; 2016 official field report
		Op 16, burial 1 or 2	1	1	"Tomb 2" crypt									
		Op 16, burial 1 or 2	1	1	"Tomb 3" crypt									
EC	FA-6	Op 4, burial 1	1	1	Vaulted Tomb	N/A	N/A	N/A- looted and highly disturbed	N/A- all disturbed fragments	N/A	N/A		N/A	2010 lot forms; 2011 official field report
EC (end of EC)	D-5	Op 10, unit 4, burial 1	1	1	"Cocoon tomb" crypt	N/A	N/A	Highly disturbed bones- extending north and becoming less frequent- ceasing approx. 3.5m from the interior of the building	N/A- disturbed from looters	N/A	N/A	looter's trench yielded large quantities of obsidian (blades and cores), ceramics (assumed to be caried from tomb in flour sack into looter's trench and broken), and potentially shell	N/A	2019 Trent Lab- burial analysis, 2012 Ka'kabish lot forms, Haines 2012 field journal
EC	Settlement Zone/Blanco Field: Chained/cleared field between Ka'kabish and Lamanai	BF6-M7, burial 1	1	1	Pit grave (soil)	Primary	Single	Fragmented- semi-flexed- legs bent towards N	EW (head to west, feet to east)	head-to-south	N/A	cubeta incised cuspidor, Zakpah orange chalice, tinaja red bowl	2	McLellan 2011 field journal; 2018 Posthumous Pots: Postclassic Ceramic Contexts and Chronology at Ka'kabish, Belize. (second author with Kerry L. Sagebiel). Paper presented at the South-Central Mesoamerican Conference, 19-20 October 2018; 2019 Ka'kabish burial data forms
TC/PC	Settlement Zone: Chained/cleared field between Ka'kabish and Lamanai	HF1-M27, burial 1	1	1	Pit grave (soil)	Primary	Single	N/A	N/A	N/A	N/A	Achote black vase, Darknight chalice and Zakpah orange chalice (similar to Lamanai-style)	3	2018 Posthumous Pots: Postclassic Ceramic Contexts and Chronology at Ka'kabish, Belize. (second author with Kerry L. Sagebiel). Paper presented at the South-Central Mesoamerican Conference, 19-20 October 2018., 2019 burial data forms; 2016 official field report
TC/PC	Settlement Zone: Chained/cleared field between Ka'kabish and Lamanai	HF1-M52, burial 1	1	1	Pit grave (soil)	Primary	Single	N/A	N/A	N/A	N/A	1 red neck mother jar, anchote black vase, polychrome plates, and highly eroded ceramic sherds	N/A	Settlement zone lot forms; 2016 official field report
EC?	Group I	Building 5, burial 1	1	1	Crypt (looted)	Primary	Single	N/A - highly disturbed via looters (only bone frag left)	N/A	N/A	N/A	Ceramic, lithic, obsidian- highly looted	N/A	KARL burial archives

Source: Ka'kabish archives: obtained from Dr. Helen Haines, unpublished student field notes, and official field reports.
?= probable- to be confirmed
N/A= Not-Accessible/Unknown data

Appendix B: Freshwater Creek Drainage Master Data Table

Sub-region	Site(s)	Time Period	Burial ID/Zone	Total # of Indiv.	Grave Type	Interment Type	Position	Body Orien.	Head Orien.	Age (years)	Sex	Associated Artifacts	# of Grave Object
Laguna de On Island (LOI)		PC	LOI-01	1	Unknown	Unknown	N/A	N/A	N/A	Adult	N/A		
		PC	LOI-02	1	Cemetery 1	Primary	Semi-flexed, right side	NE	NW	Adult	Female	3 Pomacea shells at head	1
		PC	LOI-03	1	Structure 1	Unknown	Flexed, seated	E	E	Adult	Male		
		PC	LOI-04	1	Structure 1	Primary	Flexed, seated	NE	NE	Child (3-12)	N/A		
		PC	LOI-05	1	Structure 1	Primary	Flexed, seated	SW	SW	Adult	Male		
		PC	LOI-06	1	Structure 1	Primary	Flexed, left side	W	N	Child (3-12)	N/A		
		PC	LOI-07	1	Cemetery 1	Primary	Flexed, seated	W	W	Adult	Male		
		PC	LOI-08	1	Cemetery 1	Primary	Flexed, seated	W	W	Subadult (12-20)	N/A	12 cobbles cover burial	
		PC	LOI-09	1	Structure 1	Primary	Flexed, left side	S	W	Adult	Female		
		PC	LOI-10	1	Cemetery 1	Primary	Flexed, seated	W	W	Child (3-12)	N/A		
		PC	LOI-11	1	Unknown	Primary	Semi-flexed, prone	E	Down	Adult	Female		
		PC	LOI-12	1	Cemetery 1	Primary	Flexed, right side	W	W	Adult	Female		
		PC	LOI-13	1	Cemetery?	Primary	N/A	N/A	N/A	Adult	Female (?)		
		PC	LOI-14	1	Cemetery 1	Primary	Flexed, seated	W	W	Adult	Female		
		PC	LOI-15	1	Cemetery 1	Primary	Flexed, seated	NW	NW	Adult	Male	1 quartz bead near face	1
		PC	LOI-16	1	Ballcourt	Cache	Flexed, right side	NW	SW	Adult	Male	20 Pomacea shells	1
		PC	LOI-17	1	Cemetery 1	Primary	Flexed, seated	W	W	Adult	Male	1 Payil tripod dish, carved big cat femur, ceramic effigy face, greenstone bead	4
		PC	LOI-18	1	Ballcourt	Cache	N/A	N/A	N/A	Adult	N/A		
		PC	LOI-19	1	Cemetery?	Primary	Flexed, seated	N/A	N/A	Adult	N/A		
		PC	LOI-20	1	Cemetery?	Primary	Flexed, seated	N/A	N/A	Adult	N/A		
Laguna de On Shore (LOS)		TC	LOS-01	1	Str. I-2	Primary	N/A	N/A	N/A	Subadult (12-20)	N/A		
		TC	LOS-02	1	Str. I-3	Primary	N/A	N/A	N/A	Subadult (12-20)	N/A		
		TC	LOS-03	1	Str. I-3	Primary	N/A	N/A	N/A	Adult	N/A		
		TC	LOS-04	1	Str. I-3	Primary	N/A	N/A	N/A	Adult	N/A		
		TC	LOS-05	1	Str. I-3	Primary	N/A	N/A	N/A	Subadult (12-20)	N/A		
		TC	LOS-06	1	Str. I-6	Primary	N/A	N/A	N/A	Subadult (12-20)	N/A		
		TC	LOS-07	1	Str. I-6	Primary	N/A	N/A	N/A	Adult	N/A	1 quartz bead	1
		TC	LOS-08	1	Str. I-1	Primary	N/A	N/A	N/A	Adult	N/A		
		TC	LOS-09	1	Str. I-4	Primary	N/A	W	N/A	Subadult (12-20)	N/A		

Progresso Lagoon	Caye Coco	PC	PR01-01	1	Cemetery 1	Primary	Flexed, seated	SW	SW	Adult	Female	1 conch shell cup	1
		PC	PR01-02	1	Cemetery 1	Primary	Flexed, seated	Up	W	Adult	Male	1 bone & 1 greenstone bead	2
		PC	PR01-03	1	Cemetery 1	Primary	Flexed, seated	Down	W	Adult	Female	1 Payil tripod dish	1
		PC	PR01-04	1	Cemetery 1	Primary	Flexed, seated	W	W	Child (3-12)	N/A		
		PC	PR01-05	1	Cemetery 3	Primary	Flexed, seated	N/A	N/A	Adult	N/A	1 conch shell horn, 1 stone bead, 2 net weights, 1 spindle whorl	2
		PC	PR01-06	1	Cemetery 3	Primary	Flexed, seated	N/A	N/A	Adult	Female	1 conch shell horn, 4 net weights	1
		PC	PR01-07	1	Cemetery 1	Primary	Flexed, left side	N/A	N/A	Adult	Female	1/2 Payil tripod dish	1
		PC	PR01-08	1	Cemetery 1	Primary	Flexed, seated	W	W	Adult	Female	1/2 Payil tripod dish; part of a second skull	1
		TC	PR01-09	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		PC	PR01-10	1	Cemetery 1	Primary	Flexed, seated	W	W	Child (3-12)	N/A		
		PC	PR01-13	1	Cemetery 1	Primary	Flexed, seated	S	S	Adult	Male	1 Payil tripod dish, 1 bird effigy, 1 Colha chert biface	3
		PC	PR01-14	1	Cemetery 1	Primary	Flexed, left side	NW	W	Adult	Male		
		PC	PR01-15	1	Cemetery 2	Primary	N/A	N/A	N/A	Adult	Male		3
		PC	PR01-16	1	Cemetery 2	Primary	Flexed, right side	SE	S	Adult	N/A		
		PC	PR01-17	1	Cemetery 2	Primary	N/A	N/A	N/A	Adult	Male (?)	1 conch shell horn	1
		PC	PR01-18	1	Cemetery 1	Primary	Semi-flexed, seated	NW	Down	Adult	Female	5 Pomacea shells	1
		PC	PR01-19	1	Cemetery 2	Primary	N/A	N/A	N/A	Child (-4yrs)	N/A	1 Santa Unslipped olla	1
		PC	PR01-20	1	Cemetery 2	Primary?	Flexed, seated	E	E	Subadult (12-20)	Female	3 large incense burners, 1 olla, 1 lenticular biface, 1 uncarved stela, 11 deer crania	6
		PC	PR01-21	1	Cemetery 2	Primary	Flexed, seated	NW	Down	Adult	N/A	3 deer skulls, 1 obsidian point, 2 net weights	1

Progresso Lagoon	Caye Coco	PC	PR01-22	1	Cemetery 2	Primary	Flexed, seated	N	N/A	Adult	N/A	second skull and teeth	1
		PC	PR01-23	1	Cemetery 1	Primary	Flexed, seated	W	W	Adult	N/A		4
		PC	PR01-24	1	Cemetery 1	Primary	Flexed, seated	E	NE	Adult	N/A		
		PC	PR01-25	1	Cemetery 1	Primary	Flexed, seated	SW	SW	Adult	N/A		
		PC	PR01-26	1	Cemetery 1	Primary	Flexed, seated	SW	SW	Adult	Male	1 painted mano fragment	
		PC	PR01-27	1	Cemetery 2	Primary	Flexed, seated	SE	Down	Adult	Male (?)	36 cobbles over burial	
		PC	PR01-28	1	Cemetery 2	Primary	N/A	N/A	N/N	Adult	N/A		
		PC	PR01-29	1	Cemetery 2	Primary	N/A	N/A	N/	Adult	N/A	6 cobbles over burial	
		PC	PR01-30	1	Cemetery 2	Primary	Flexed, seated	NW	Down	Adult	Male	28 cobbles over burial, drilled deer femur, complete obsidian blade	2
		PC	PR01-31	1	Cemetery 2	Primary	Flexed, right side	NW	Down	Adult	N/A	10 cobbles over burial, 3 net weights	1
		TC	PR01-32a	1	Structure 1	Secondary	N/A	N/A	N/A	Subadult (N/A)	N/A		3
		TC	PR01-32b	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		TC	PR01-32c	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		PC	PR01-33	1	Cemetery 3	Primary	Flexed, seated	SW	SW	Adult	N/A		
		TC	PR01-34	1	Structure 19	Primary	Flexed, seated	S	S	Adult	Female		
		PC	PR01-35	1	Cemetery 2	Cache	N/A	N/A	N/A	Adult	N/A		
		TC	PR01-36	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		PC	PR01-37	1	Cemetery 3	Primary?	N/A	S	S	Child (3-12)	N/A	3 cobbles cover burial	2
		TC	PR01-38	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		TC	PR01-39	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		TC	PR01-40	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
		TC	PR01-41	1	Structure 1	Secondary	N/A	N/A	N/A	Adult	N/A		
Progresso Lagoon	Chuk Group	TC	PR09-01	1	Structure 3	Secondary	N/A	N/A	N/A	Adult	Female (?)		
	Strath Bogue	TC	PR10-01	1	Structure 5	Primary	Extended, supine	NE	Up	Adult	Female		
		TC	PR10-02	1	Structure 5	Primary	Semi-flexed, supine	N	Up	Adult	Female (?)	1 conch shell dish	
		TC	PR10-03	1	Structure 5	Primary	Extended, supine	NE	Up	Adult	Male	Achote Black vessel	
		TC	PR10-04	1	Structure 5	Primary	Extended, supine	E	Up	Subadult (12-20)	Male (?)		

Source: Briggs (2002: 191-192); Rosenswig et al. (2020).
?= Probable (male/female)
N/A= Not-Accessible /Unknown data

Appendix C: Lamanai Master Data Table

Region	Site(s)	Time Period	Burial ID/Zone	Total # of Burials	Total # of Indiv.	Grave Type	Interment Type	Position	Body Orien.	Head Orien.	Age (years)	Sex	Associated Artifacts
New River Region	Lamanai	PC	N10-1/2	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed	N/A	N/A	Adult	Male	N/A
		PC	N10-12/6a	1	1	Residential/ Administrative complex - Ottawa Group	Primary	Flexed, legs ventrally placed.	head-to-south	N/A	Adult	Male	>200 drilled marginella shells; drilled bone bead; 49Spondylus beads; 5 cowry shells; pottery including Buk Chalice, Frying pan censer, stuccoed effigy dish, daylight darknight dish, orange flaring tripod dishes, and Buk urns
		PC	N10-12/8	1	1		Primary	Flexed, legs ventrally placed	head-to-west	N/A	N/A	Male	LA1896/1-11 & 1716/1; 1 chalice; 1 incised bowl; 1 courseware jar; 1 frying pan censer handle with part of dish attacked alongside right arm; some ceramics underlay left leg and most others overlay left arm
		PC	N10-2/14	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-north	Down/tilted to right	Adult	Female	N/A
		PC	N10-2/16	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-east	Down/tilted to right	Adult	Male	118/1 - 9; ceramics (likely pre-inhumation breakage), needles, pin or awls, oliva beads, obsidian blade
		PC	N10-2/20B	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-north	Down	N/A	N/A	127/1 jar, primarily W of skull of Individual A; all remaining vessels smashed prior to inhumation and spread over and around the bodies; 127/2 et seq."; ~ 15 vessels
		PC	N10-2/21	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-west	W	Subadult	N/A	128/1jar,handled at side of body,pre-inhumation breakage
		PC	N10-2/22	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	Head-to-SW	SW/tilted down	Adult	Male	130/1 bead, stone, at face (possibly originally in mouth?)

New River Region	Lamanai	PC	N10-2/23	1	1	Ceremonial structure	Primary	dorsal? Extended Arms legs flexed (semi-flexed)	Head-to-south	SW/tilted down	Adult	Male	131/1 group of shells, perforated, at W side of grave more or less opposite L elbow; 131/2 deer ulna awl, under skeleton; 131/3 smaller double hand drum, orange - smashed and scattered with /4 and /5 at E side of grave; 131/4 larger double hand drum, orange; 131/5 olla unslipped
		PC	N10-2/24	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-north	S/tilted up	Adult	Male (?)	None
		PC	N10-2/4 A	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-NW	Down	Subadult (14-18)	Female (?)	44/1 jar, red, incised decoration, part NW of head, part at R arm, remainder atop back & L arm; 44/2 stone, plano-convex, ovoid, at R side of pelvis; 44/3 hammerstone, between knees; 44/4 Oliva shell, on stones atop L elbow; 44/5 obsidian flake blade, fragmentary, with fragments of 44/1 at R side of head
		PC	N10-2/40	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-south	W/tilted down	Adult	Female	165/1+ group of vessels smashed and spread over back; number to be determined in lab
		PC	N10-2/44	1	1	Ceremonial structure	Primary	Flexed, legs ventrally placed.	head-to-SW	Down	Child (~8)	N/A	175/1 & 2 pendants "jade, reworked from a larger object, above burial; 175/3 pendant, shell, with /1 and /2; /4 dish, flaring-side, scattered over burial
		PC	N10-2/50	1	1	Ceremonial structure	Primary	Flexed	N/A	N/A	Child (6-7)	N/A	None
		PC	N10-3/4	1	1	Residential/ Administrative complex - Ottawa Group	Primary	N/A	N/A	N/A	Adult	Male	N/A

New River Region	Lamanai	PC	N10-4/10	1	1	Residential/ Administration structure	Primary	Flexed, legs ventrally placed.	body curved southward) main body WNW 291˚,	Head-to-SW/tilted down	Subadult (15-20)	Male	73/1 dish/bowl, outcurving-side, redware, tripod, Tulum-related; at L hip, pre-inhumation breakage; 73/2 Marginella beads, single punched body perforation, total 22; scattered with /1 at feet and L leg with one at skull; 73/3 portion of obsidian flake blade, beneath torso; possible chance inclusion
		PC	N10-4/11	1	1	Residential/ Administration structure	Primary	Flexed, legs ventrally placed.	head-to-WNW 296˚ and facing down to N	N/tilted down	Adult	Female	74/1 blade, chert; above burial, but probably associate
		PC	N10-4/16	1	1		Primary	Flexed, legs ventrally placed.	head WNW 293˚, facing down	Down	Adult	N/A	None
		PC	N10-4/19 A	1	1		Primary	N/A	N/A	N/A	Adult	Female (?)	N/A
		PC	N10-4/21	1	1		secondary	disarticulated	N/A	Skull-to-south	Adult	Male	83/1 bowl, Tulum-style incised decoration, all pieces inverted, possibly pre-inhumation breakage; 83/2 bowl, main portion beneath skull of Burial 19;"relationship between burials 19 and 21 is not entirely clear
		PC	N10-4/22	1	1		Primary	Flexed, legs ventrally placed.	Head-to-SSE	Down	Adult	Female	85/1 dish, outcurving-side, tripod, part inverted over L shoulder, amongst rocks, with large rocks beneath the vessel portion, with remaining portions over mid-body and an additional piece E of the skull; pre-inhumation breakage"

New River Region	Lamanai	PC	N10-4/26	1	1	Residential/ Administration structure	Primary	Flexed, legs ventrally placed.	Head-to-WNW 284˚	NE/tilted down	Adult	Male	89/1 dish, outcurving-side, tripod, on edge W of skull with top towards skull; in situ breakage; 89/2 Marginella shells, total 10, just N of R shoulder; 89/3 freshwater mussel shell single valve, interior down on knee; 89/4 dish, outcurving-side, tripod, fragmentary
		PC	N10-4/27B	1	1		Primary	Flexed, legs ventrally placed	Head-to-SW	Down (?)	Adult	N/A	None
		PC	N10-4/28	1	1		Primary	Flexed, legs ventrally placed	Head-to-WNW 292˚	Down	Adult	Male	0/1-24 including ceramics with pre-inhumation breakage, animal jaw, mirror, shell and jade disc beads, copper button-shaped (Monte Alban form) ornaments, human tooth beads, carved bone representation of human fingers
		PC	N10-4/31	1	1		Primary	Flexed, legs ventrally placed	Head-to-south	E	Adult	N/A	93/1 dish, outcurving-side, tripod, Tulum-style feet, inverted 9 cm above L elbow; apparently in situ breakage, but incomplete
		PC	N10-4/33	1	1		Primary	Flexed, legs ventrally placed	N/A	Head-to-NE	Adult	Female	97/1 sherd mass, or possibly a vessel, W of L leg, 0-10 cm above leg
		PC	N10-4/42	1	1		Primary	Flexed (tightly) laying on side	Head-to-SE	N/A	Adult	Female	44/1 bone disc (spindle whorl?), at feet; sherds of a number of vessels were massed at the feet
		PC	N10-4/44	1	1		Primary	Flexed, legs ventrally placed	Head-to-North	Down/tilted right	Adult	Male	None

New River Region	Lamanai	PC	N10-4/45	1	1	Residential/ Administration structure	Primary	Flexed, legs ventrally placed	Head-to-north	N	Adult	Male	246/1-7 including a whole jar atop skull, ceramics with pre-inhumation breakage, a shell ornament west of the hips, and a lamina of pyrite atop the thoracic vertebrae
		PC	N10-7/1	1	1	Ceremonial structure/ high status	Primary	N/A	N/A	N/A	Adult	N/A	8 vessels, including elaborate censers; 46 irreg. pcs. of obsidian; 1 Oliva bead; 1 bone pin or awl"
		PC	N10-9/1	1	1	Ceremonial Structure/ "Jaguar Temple"	Primary	N/A	N/A	N/A	Infant (9month-1yr)	N/A	None
		PC	N10-9/10	1	1		Primary	N/A	N/A	N/A	Adult	Male	vessels, including censer and elaborate bowl, 2 bone pins (one a human fibula), 1 carved jade pendant"
		PC	N10-9/2	1	1		Primary	N/A	N/A	N/A	Child (2 yr)	N/A	None
		PC	N10-9/6	1	1		Primary	N/A	N/A	N/A	Child (5-6 yr)	N/A	N/A
		PC	N11-5/7A	1	1	Residential Structure	Primary	Seated	N/A	N/A	Adult	Male	Copper tweezers, shell horse-collar ornament (individual was the male of "Loving Couple" see Pendergast 1989 and White et al. 2009 for more details)
		PC	N11-5/7B	1	1	Residential Structure	Primary	Seated (arm around shoulders of N11-5/7A)	N/A	N/A	Adult	Female	5 copper-tin hair rings (individual was the female of "Loving Couple" see Pendergast 1989 and White et al. 2009 for more details)

Source: Donis (2013:157-161); Pendergast (1981), (1989).
?= Probable (male/female)
N/A= Not-Accessible/Unknown data

Appendix D: SE Peten, Belize Valley Region, and Vaca Platea Master Data Table

Region	Sub-region	Site(s)	Occupation Period	Burial ID/Zone	Total # of Burials	Total # of Indiv.	Grave Type	Interment Style	No. of Individuals for Multiple Interments	Position	Body Orien.	Head Orien.	Age (years)	Sex	Associated Artifacts
SE PETEN	Upper Rio Mopan Valley	Ixtontón, Moquena, and Ixac from the Ixtontón polity, Ixkún and El Tzic from the Ixkún polity, Ixcól and Sukché from the Ixcól polity, and the site of Sacúl, the center of the Sacúl polity	F	Residential and Peripheral Zones	4	9	Cist	Single	N/A	Extended (n=2), flexed seated (n=2), lateral flexed (n=1), flexed (n=1) Unknown (n=3)	N/A	N/A	Adults (n=2), infants (n=2), unknonw (n=5)	N/A	N/A
							Simple Grave	Single							
							Chultun (n=2)	Multiple (n=2)							
			EC	Core Funerary Architecture and Peripheral Residential Structures	5	8	Chultun	Single	N/A	Extended (n=3), flexed (n=1), unknown (n=4)	N/A	N/A	Adult (n= 4), subadult (n=1), unknown (n=3)	N/A	N/A
							Grave (n=2)	Single (n=1), multiple (n=1)							
							Cist (n=2)	Single (n=1), multiple							
			LC	Site Centre and Peripheral Residential Zone	72	78	Formal Chamber (n=3)	Single (n=3)	N/A	Extended (n= 46) Flexed (n=5) Unknown (n=27)	N/A	N/A	Adults (n=44), Subadults/Infants (n=10), Unknown (n=24)	Adult Male (n=19), Adult Female (n=16), Unknown (n=43)	N/A
							Cist (n= 47)	Single (n=44) Multiple (n=3)							
							Simple Grave (n=8)	Single (n=7) Multiple (n=1)							
							Fill (n=6)	Single (n=6)							
							Chultun (n=1)	Multiple							
							Looted (n=5)	Single							
							Unknown (n=2)	Single							
			TC	Residential Contexts (n=33, 80%), Site Center (n=8, 20%)	41	43	Formal Chamber (n=1)	Single (n=1)		Extended (n=28), Flexed (n=3), Urn/Pottery (n=1), Unknown (n=11)	N/A	N/A	Adults (n=34), Subadults (n=3), Infants (n=3), Unknown (n=3)	Adult Male (n=12), Adult Female (n=11), Subadult Male (n=2), Subadult Female (n=1), Unknown (n=17)	N/A
							Cists (n=20)	Single (n=19) Multiple (n=1)	Multiple (MNI=2)						
							Simple Grave (n=13)	Single (n=12) Multiple (n=1)	Multiple (MNI=2)						
							Fill (n=3)	Single (n=3)							
							Pottery Vessel (n=1)	Single (n=1)							
							Looted or Unknown (n=3)	Single (n=3)							
SE PETEN	Middle Rio Mopan Valley	Calzada Mopán, and Yaltutu from the Ucanal polity	F	Site Center	1	7	Cist (n=1)	Multiple (n=7)	Multiple (MNI=7)	N/A - disturbed	N/A	N/A	Adult (n=7)	Adult Male (n=3), Adult Female (n=2), Unknown (n=2)	N/A
			LC	Residential Plaza	5	13	Plaza floor fill (n=2)	Single (n=1) Multiple (n=1)	Multiple (MNI=7)	Extended (n=1) Seated (n=1) Lateral Flexed (n=1) Unknown (n=10)	N/A	N/A	Adults (n=3), Infants (n=2), Unknown (n=8)	Adult Male (n=1), Unknown (n=12)	N/A
							Center of plaza floor (n=1)	Single (n=1)							
							Cist (n=2)	Single (n=1) Multiple (n=1)	Multiple (MNI=3)						
			TC	Residential Zone	4	4	Structural Fill (n=3)	Single (n=3)		Supine Extended (n=4)	N/A	N/A	Adult (n=1), Unknown (n=3)	Unknown (n=4)	N/A
							Floor Fill (n=1)	Single (n=1)							

SE PETEN	Rio Salsipuedes	El Chilonché, the center of the El Chilonché polity	LC	All Residential Contexts	2	2	Simple Grave (n=1)	Single (n=1)		N/A	N/A	N/A	N/A	N/A	N/A
							On-floor Deposit (n=1)	Single (n=1)							
			TC	Site Center	1	1	On-floor Deposit (n=1)	Single (n=1)		N/A	N/A	N/A	N/A	N/A	N/A
	Interfluvial Area	Area between the Poxté, San Juan and Mopán rivers is represented by the sites of Ixek and Tesík of the Ixek polity	F	Residential Zone	1	1	Cist (n=1)	Single (n=1)		Supine Extended	N/A	N/A	Adult	N/A	N/A
			EC	Residential Zone (n=1), Site Center (n=1)	2	3	Cist (n=1)	Single (n=1)		Supine Extended	N/A	N/A	Subadult	N/A	N/A
							Simple Grave (n=1)	Multiple (n=1) *M.I. from site center*	Multiple (MNI=2)	Supine Extended (n=2)			Adult (n=2)	Adult Male (n=1), Unknown (n=1)	
			LC	Residential area (n=15), Site Center (n=1)	16	16	Cist (n=11)	All Single Interments (n=16)		Supine Extended (n=10) Unknown (n=6)	N/A	N/A	Adults (n=14), Subadult (n=1), Unknown (n=1)	Adult Male (n=4), Adult Female (n=5), Subadult Male (n=1), Unknown (n=6)	N/A
							Chultun (n=1)								
							Simple Grave (n=1)								
							Structure (n=1)								
							Unknown (n=2)								
			TC	Site Center	1	1	Cist (n=1)	Single		Supine Extended	N/A	N/A	Adult	Female	N/A
	Rio Poxte Valley	Ixtutz and El Chapayal of the Ixtutz polity, Curucuítz and Ixcoxol of the Curucuítz polity, and Pueblito of the Pueblito polity	F	Residential Zone	1	2	Cist (n=1)	Multiple	Multiple (MNI=2)	Supine	N/A	N/A	Adult (n=1), Infant (n=1)	Adult Female (n=1)	N/A
			EC	N/A	2	4	Simple grave (n=1)	Multiple	Multiple (MNI=3)	Supine Extended (n=2), Unknown (n=1)	N/A	N/A	Adult (n=2), Subadult (n=1)	Adult male (n=2), Unknown subadult (n=1)	N/A
							Chultun (n=1)	Single		Unknown			Unknown	Unknown	
			LC	N/A	40	42	Cist (n=31)	Single (n=29) Multiple (n=2)	Both multiple burials (MNI=2)	Supine extended (n=19), Extended (n=11), Flexed (n=3), Seated (N=1), Unknown (n=8)	N/A	N/A	Adults (n=25), Subadults/infants (n=7), Unknown (n=10)	Male (n=10), Female (n=10), Unknown (n=22)	N/A
							Simple Graves (n=7)	Single (n=7)							
							Disturbed/looted (n=2)	Single (n=2)							
			TC	N/A	3	3	Cist (n=3)	Single (n=3)		Supine Extended (n=3)	N/A	N/A	Adults (n=3)	Adult male (n=1), Female (n=1), Unknown (n=1)	N/A
	Upper Rio San Juan Valley	La Puente, Copojá, El Ocote, and El Chal	F	N/A	1	4	Simple Grave (n=2)	Single (n=1) Multiple (n=1)	Multiple (MNI=3)	Supine Extended (n=4)	N/A	N/A	Subadult (n=1), Infant (n=3) *all infants found in the multiple interment*	N/A	N/A
			LC	Residential Zone	4	7	Cist (n=2)	Single (n=2)		Supine Extended (n=2)	N/A	Both head-to-North (n=2)	Adult (n=2)	Both Female (n=2)	N/A
							Plaza fill grave (n=1)	Multiple	Multiple (MNI= (n=3)	Flexed (n=1, male), Unknown (n=2)	N/A: Female and Infant were only cranial elements		Adult (n=2) Infant (n=1)	Adult male (n=1), Adult Female (n=1)	
							Looted burial (n=1)	Multiple	Multiple (MNI=2)	N/A	N/A		Adult(n=2)	Male adult (n=1), Female Adult (n=1)	
			TC	Residential Zone	6	6	Plaza fill (n=2)	Single (n=2)		N/A: too disturbed		N/A	Adults (n=5), Unknown (n=1)	Male adult (n=3), Unknown (n=3)	N/A
							Midden Context (n=4)	Single (n=4)		N/A: too disturbed					

BELIZE VALLEY REGION	Baking Pot	EC	Structure G	3	5	Elaborate Crypt (n=1)	Single		Prone Extended	N/A	Head-to-South	Adult	Unknown	N/A
			Site core			Cist (n=2)	Single (n=2)		Supine Extended (n=2)		Head-to-south	Adult (n=2)	Adult male (n=1), adult female (n=1)	
		LC	Residential Zone	26 burials, 1 cache	36	in-floor/fill (n=8)	Single (n=6) Multiple (n=6)	Multiple (MNI=N/A)	Prone extended (n=15), Supine Extended (n=2), Extended (n=2), Flexed (n=2), unknown (n=15)	N/A	Head-to-south (n=19), head-to-east (n=3)	Adults (n=24), juvenile (n=5), Unknown (n=7)	Adult males (n=8), Adult females (n=8), male juvenile (n=1), unknown (n=19)	N/A
						Simple Grave (n=4)	Single (n=3) Multiple (n=1)	Multiple (MNI=N/A)						
						Mound on floor (n=3)	Single (n=3)							
						Cist (n=2)	Single (n=2)							
						Tomb (n=1)	Single							
						Bench (n=1)	Single							
						Head in pot (n=1)	Single							
						Surface burial (n=1)	Single							
						Unknown (n=5)	Single (n=5)							
						Cache	Multiple	Multiple (MNI=N/A)						
	Barton Ramie	F	N/A	13	13	Cist (n=2)	Single		Prone extended (n=7), Supine extended (n=2) , Extended (n=2), Supine flexed (n=1), flexed in pottery (n=1)	N/A	Head-to-south (n=5), head-to-north (n=6), head-to-east (n=1) *no head orientation for pottery vessel burial*	N/A	N/A	N/A
						Floor graves (n=4)								
						In mound fill (n=2)								
						Pottery Vessel (n=1)								
						With pottery vessel over head (n=1)								
						in-floor fill (n=1)								
						Unknown (n=2)								
		EC	N/A	6	6	Simple graves (n=4)	Single		Prone extended (n=3), Supine extended (n=1), extended unknown (n=1), Seated (n=1)	N/A	Head-to-south (n=5), Unknown (n=1)	Adults (n=5), Child (n=1)	Adult males (n=4), Unknown (n=2)	
						Unknown (n=2)								
		LC	N/A	79	96	in-fill (n=50)	Single (n=41) Multiple (n=9)	Multiple (MNI=N/A)	Prone extended (n=66), Supine extended (n=6), extended (n=5), seated (n=6), Unknown (n=13)	N/A	Head-to-south (n=77) *all extended*	Adults (n=79), Infants/children (n=15), Unknown (n=2)	Adult male (n=16), Adult female (n=26), Unknown (n=54)	
						Simple grave/pit (n=12)	Single (n=10) Multiple (n=2)	Multiple (MNI=N/A)						
						Cist (n=6)	Single (n=6)							
						On-floor (n=2)	Single (n=2)							
						Under pottery vessel (n=1)	Single							
						Unknown (n=8)	Single (n=8)							
		PC	N/A	1	1	in-fill	Single		N/A	N/A	N/A	Adult	Adult Female	

BELIZE VALLEY REGION	Blackman Eddy and Ontario (burial data combined from these sites since Ontario only has one burial)	Blackman Eddy	LC	N/A	3	7	Crypt (n=3)	Multiple (n=2) Unknown (n=1)	Crypt 1 (MNI=4), Crypt 3 (MNI=3), Crypt 2= no remains found due to looted but assumed (not counted in MNI)	Extended (n=1) Unknown (n=6)	N/A	Head-to-south (n=1) Unknown (n=6)	Adult (n=2), Subadult (n=1), Unknown (n=4)	Unknown (n=7)	N/A
		Ontario	TC	N/A	1	1	in-fill	Single		Supine Extended	N/A	Head-to-south	Adult	Adult male	
	Roaring Creek Valley	Pooks Hill, Cahal Uitz Na, and Slate Altar Group	EC	N/A	3	1	grave in bedrock (n=1), in-fill (n=2	Single (n=3)		Prone extended (n=1), Flexed prone (n=1), unknown (n=1)	N/A	Head-to-south (n=3)	Adult (n=2), unknown (n=1)	N/A	N/A
			LC	N/A	3	5	Cist (n=1)	Single		Extended (n=1), unknown (n=4)	N/A	Head-to-south (n=1), unknown (n=4)	Adult (n=5)	Adult male (n=1), Adult female (n=1), unknown (n=3)	N/A
							crypt (n=1)	Single							
							unknown (n=1)	Multiple	Unknown context (MNI=2)						
			TC	N/A	3	5	Capped pit (n=1)	Single		Flexed prone (n=3), unknown (n=2)	N/A	Head-to-south (n=3) Unknown (n=2)	Adult (n=5)	Adult male (n=2), Adult female (n=1), Unknown (n=2)	N/A
							in-fill (n=1)	Multiple	Multiple (MNI=2)						
							Simple grave in mdden (n=1)	Multiple	Multiple (MNI=2)						
	Actun Caves	Actun Tunichil Muknal Cave	LC	N/A	N/A	10	N/A	N/A	N/A	N/A	N/A	N/A	Adults (n=4), Juvenile (n=1), infant (n=3), unknown (n=2)	Adult male(n=3), adult female (n=1), unknown (n=6)	N/A
		Actun Uayazba Kab Cave	LC	N/A	6	6	Crypt (n=3)	Single	N/A	Prone extended (n=1), Flexed (n=5)	N/A	N/A	Adults (n=4), Infant (n=1), unknown (n=1)	Adult female (n=1), unknown (n=5)	N/A
							Cist (n=2)								
							Simple pit (n=1)								
		Actun Nak Beh Cave	LC	N/A	3	7	N/A	Single (n=2), Multiple (n=1)	Multiple (MNI= 5)	N/A	N/A	N/A	Adults (n=4), juvenile (n=1), unknown (n=2)	N/A	N/A
		Actun Halal Cave	LC	N/A	1	1	N/A	Single		N/A	N/A	N/A		N/A	N/A
		Actun Yaxteel Ahau Cave	LC	N/A	5	14	N/A (Scattered in cave)	Single (n=3), Multiple (n=2)	Multiple (MNI=N/A)	N/A	N/A	N/A	Adults (n=4), Juvenile (n=2), unknown (n=8)	Adult female(n=2), Unknown (n=12)	N/A
	Esperanza		LC	Residential Plazuela	3	6	Plazuela	Multiple (n=2)	All 3 burials (MNI=2)	N/A	N/A	N/A	N/A	N/A	N/A

BELIZE VALLEY REGION	Cahal Pech		F	Site core and rectiliniar groups connected via sacbeob	17	21	cist (n=10)	Single (n=9) Multiple (n=1)	Multiple (MNI=4)	Prone extended (n=10), Supine Extended (n=1), extended (n=4), disarticulated (n=3), head in bowl (n=1) unknown (n=2)	N/A	Head-to-south (n=14), Head-to-north (n=1, supine extended), unknown (n=6)	Adults (n=14), Juvenile (n=6), infant (n=1)	Adult male (n=5), adult female (n=4), unknown adults (n=5), unknonw (n=6)	N/A
							Simple grave (n=4)	Single (n=3) Multiple (N=1)	Multiple (MNI=2)						
							Simple crypt (n=2)	Single (n=2)							
							Cache	N/A							
			EC	N/A	9	10	Cist (n=4)	Single (n=4)		Prone Extended (n=4), Supine extended (n=1), cranium in pottery (n=1), unknown (n=4)	N/A	Head-to-south (n=5), Unknown (n=5)	Adults (n=7), juvenile (n=1), unknown (n=2)	Adult male (n=3), unknown (n=7)	N/A
							Simple crypt (n=3)	Single (n=3)							
							Simple grave (n=1)	Single							
							Elaborate crypt (n=1)	Multiple	Multiple (MNI=2)						
			LC	N/A	29	36	cist (n=13)	Singe (n=11) multiple (n=2)	Cist under shrine (MNI=5), Simple cist (MNI=2)	Prone extended (n=17), Supine extended (n=4), extended (n=3), flexed prone (n=2), disarticulated (n=2), cranium (n=1), unknown (n=7)	N/A	Head-to-south (n=25), unknown (n=9)	Adults (n=28), Juvenile (n=4), unknown (n=4)	Adult male (n=9), adult female (n=3), unknown (n=16)	N/A
							Simple crypt (n=6)	Single (n=6)							
							elaborate crypt/tomb (n=2)	Single (n=1) Multiple (n=1)	Multiple (MNI=2)						
							capped pits (n=2)	Single (n=2)							
							simple fill (n=2)	Single (n=2)							
							skull in vessel (n=1)	Single							
							cache (n=1)	Multiple	Multiple (MNI=2)						
							Unknown (n=2)	Single (n=2)							
	Chaa Creek and X-ual Canil	X-ual Canil	EC	N/A	1	4	Chultun	Multiple	MNI=4	N/A		N/A	Adults (n=4)	N/A	N/A
		Chaa Creek	EC-LC	N/A	1	1	Chultun	Single		Seated		N/A	Adult	Male	N/A
VACA PLATEAU	Cayo District of West Belize	La Ruinas de Arenal	EC	N/A	1, 1 cache	2	Simple crypt	Single		Prone	N/A	Head-to-south	Adult	N/A	N/A
							cache (lip-to-lip vessel)	Single		Several human phalanges		N/A	N/A	N/A	
		Pacbitun	F	N/A	2	2	patrial cist/crypt grave (n=1)	Single		Semi-flexed prone	N/A	Head-to-west	Adult	N/A	N/A
							Simple Crypt (n=1)	Single		Extended prone		Head-to-south	Adult	Male	
			EC	N/A	1	1	Crypt	Single		N/A	N/A	N/A	Adult	N/A	N/A
			LC	N/A	4	4	Simple Crypt (n=1)	Single	N/A	N/A	N/A	N/A	Adult (n=4)	Male	N/A
							Cist (n=2)	Single (n=2)		N/A		N/A		Adult male (n=1), adult female (n=1)	
							Elaborate vaulted tomb (n=1)	Single		Supine Extended	*highest status interment recorded in Vaca Plateau*	Head-to-south		Male	
			TC		16	16	Simple crypt (n=4)	Single (n=16)	N/A	N/A	N/A	N/A	Adult (n=13), juvenile (n=3).	Adult mae (n=5), adult female (n=7), unknown (n=4)	N/A
							Cist (n=4)								
							Pits (n=3)								
			there is 1 post-abandonment in-fill adult female burial with no date not included in burial count				Urns (n=2)					*all urn burials were juvenile*			
							Unknown (n=3)					N/A			

VACA PLATEAU	North Vaca Plateau	Minanha	F	Site center	1	1	In-floor cache	Single		Disarticulated (only cranial and long bones present)	N/A	N/A	Adult	N/A	N/A
			EC	Epicentral sacbe	1	1	partial cist grave	Single		Extended prone	N/A	N/A	N/A	N/A	N/A
			LC-TC	N/A	11	44	Simple crypt (n=4) Chultun (n=2) in-fill (n=2) cist (n=1) elaborate crypt (n=1) lip-to-lip vessel cache (n=2)	Single (n=6) Multiple (n=5)	N/A	Supine extended (n=11), extended (n=2), Unknown (n=31)	N/A *Only interred phalanges*	Head-to-west (n=4), head-to-north (n=1), head-to-south (n=1), unknown (38)	Adults (n=4), unknown (=40)	Adult male (n=1), unknown (n=43)	N/A
	Caledonia		EC-LC (reuse of tomb)	N/A	1	9	Vaulted tomb	Multiple		N/A	N/A	N/A	Adults (n=8), juvenile (n=1)	Adult male (n=1), adult female (n=1), unknown (n=7)	N/A
	Mountain Cow	Tzimin Kax, Cahal Cunil, and Hatzcap Ceel	F	N/A	5	11	Simple Crypt (n=2)	Single (=1) Multiple (n=1)	Multiple (MNI=7)	Seated (n=2), disarticulated (n=5), Single burial= unknown (n=1)	N/A	N/A	Adult (n=1), unknown (n=7)	Adult male (n=1), unknown (n=7)	N/A
							Chultun (n=3)	Single (n=3)		Flexed (n=2), unknown (n=1)			Adults (n=2), unknown (n=1)	N/A	
			LC	N/A	8	15	Simple graves (n=2)	Single (n=2)		Seated (n=1), Semi=flexed (n=1), extended (n=1) unknown (n=12)	N/A	N/A	Juvenile (n=1), unknown (n=14)	N/A	Vaulted crypt with 6 interments: n= 25 whole vessels. Juvenile burial (burial 13): multiple lip-to-lip vessels containing finger caching
							Simple crypt (n=2)	Single (n=2)							
							Vaulted crypt (n=2)	Single n=1) Multiple (n=1)	Multiple (MNI=6)						
							Tomb (n=2)	Single (n=1) Multiple (n=1)	Multiple (n=3)						
VACA PLATEAU	Caracol		F	N/A	1	3	Chultun	Multiple	MNI=3	Unknown	N/A	N/A	Adult (n=1), subadult (n=1), unknown (n=1)	N/A	N/A
			F-EC transition	N/A	1	1	Simple grave	Single		Unknown	N/A	N/A	Adult	N/A	N/A
			EC	N/A	14	27	Tomb (n=8) Chultun (n=4) In-terrace (n=1) non-tomb grave (n=1)	Single (n=7) Multiple (n=7)		Supine Extended (n=2), unknown (n=25)	N/A	Head-to-south (n=2), head-to-north (n=1), head-to-east (n=1) unknown (n=23)	Adult (n=10), Subadult (n=2), unknown (n=15)	Adult male (n=4), adult female (n=3), unknown (n=20)	N/A
			EC-LC Transition	N/A	11	27	tomb (n=7) chultun (n=2) elaborate crypt (n=1) non-tomb (n=1)	Multiple (n=11)	N/A	N/A	N/A	N/A	Adults (n=12), subadults (n=9), unknown (n=6)	N/A	N/A

VACA PLATEAU	Caracol	LC	N/A	134	274	non-tomb (n=54) tomb (n=47) crypt (n=7) chamber (n=6) fill (n=6) Simple grave (n=6) cist (n=4) under slab graves (n=3) On bench (n=1)	Single (n=78) Multiple (n=56)	N/A	Supine (n=10), Prone (n=2), Flexed (n=1), seated upright (n=1), unknown (n=260)	N/A	Head-to-south (n=4), head-to-north (n=3), unknown (n=267)	Adults (n=148), subadults (n=32), infants (n=22)	Adult male (n=26), adult female (n=23), unknown (n=225)	N/A
		LC-TC Transition	N/A	14	32	non-tomb (n=6) tomb (n=3) crypt (n=3) cist (n=1) cave burial (n=1)	Single (n=7) Multiple (n=7)	N/A	Supine extended (n=3), unknown (n=29)	N/A	head-to-south (n=1), head-to-the-north (n=2)	Adults (n=12), subadults (n=11), unknown (n=9)	Adult male (n=2), adult female (n=2), unknown (n=28)	N/A
	one issue with Caracol burial data is the lack of body position accessible in published data	TC	N/A	9	29	non-tomb (n=6) tomb (n=1) chultun (n=1) simple grave in fill (n=1)	Single (n=6) multiple (n=3)	one of the multiple interments consistent of 17 mandibles and post cranial elements from 2 individuals	N/A	N/A	N/A	Adults (n=2), subadults (n=2), infants/children (n=4), unknown (n=21)	N/A	N/A

Source: Novotny (2015); Schwake (2008); Snetsinger (2012).
**Note: SE Peten, BVR, and Vaca Plateau Raw Data is subject to discrepancies due to the available raw data in cited sources. Note all burials were accessible to be entered into the current datasheet*
N/A= Not-Accessible/Unknown data