15 *The Archaeology of Chechem Ha Cave, Belize: A Late Classic Hiatus in Usage*

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Cave studies have traditionally relied heavily on ethnographic or ethnohistoric analogy to understand the sacred context of Mesoamerican caves. What is little understood are the behavioral processes that produced the artifact assemblages in caves and the nature of the relationship between caves and their ancient users residing in surrounding surface sites. This study demonstrates that caves can provide information that is useful in broader research arenas. A Late Classic hiatus in cave use is described and correlated with regional sociopolitical stress. This correlation demonstrates that caves were not just venues for worshipping rain deities but were important political spaces that required protection from enemies.

Introduction

Beginning in the mid 1970's there has been a steadily increasing amount of research on Mesoamerican ritual in caves (Brady and Prufer 2005). Work in cave archaeology has traditionally relied heavily on ethnographic or ethnohistoric analogy to interpret the meaning of caves and their contents, but despite years of research little is known about the behavioral processes that produced the artifact assemblages in caves or about the nature of the relationship between caves and their ancient users residing in surrounding surface sites. To integrate cave archaeology into wider sociopolitical research arenas requires new methodological considerations that entail a shift in focus from the use of ethnographic analogy as the primary interpretive source to the artifact record itself. This paper demonstrates the utility of the approach at Chechem Ha Cave. The cave has been under investigation by the Western Belize Regional Cave Project (WBRCP) since 1998 under the direction of Dr. Jaime Awe. The overall project goals included the investigation of temporal depth and fluctuations in cave use-intensity in the region (Awe 1998:1). Research at Chechem Ha contributes by identifying fluctuations in cave use and articulating these findings with local and regional histories. Using a robust strategy of excavation and radiocarbon dating, this study identifies a period of hiatus in cave usage between A.D. 560 and A.D. 680 and examines the implications of this finding.

Setting

Chechem Ha Cave is an ancient Maya ceremonial site used from the Early Middle Preclassic (1100-700 B.C.) and possibly as early as 1300 B.C., to the Late Classic period (A.D. 600-900). The tunnel system in the cave is 198m in length and consists of over 300m of tunnels. For the purposes of this paper the cave has been divided into three parts, Tunnel 1, Tunnel 2, and Chamber 2. Chamber 2 is located in the center of the tunnel system, 134m from the cave entrance.

The cave is located in western Belize on the western bank of the Macal River near the Guatemalan border (Awe et al. 2005) (Figure 1). It is positioned at the edge of the Vaca Plateau approximately 26km north of Caracol and 25km southeast of Naranjo. The nearest surface sites are the middle-sized centers of Minanha to the south, Las Ruinas to the north, and Xunantunich to the far north. The Chan site, an agricultural community is located between Las Ruinas and Xunantunich

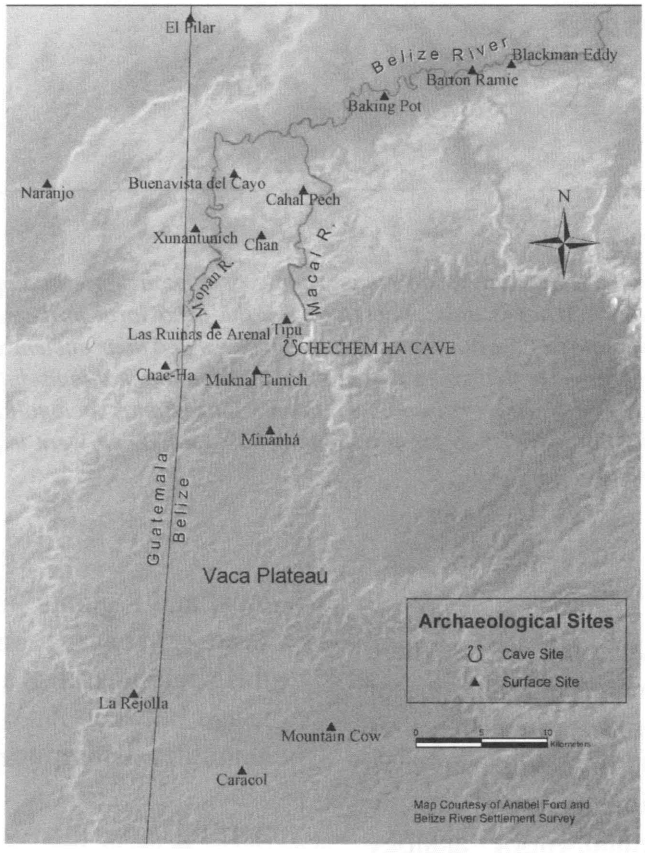

Figure 1. Digital elevation map (DEM) of western Belize showing location of Chechem Ha Cave and surrounding sites (Courtesy of Anabel Ford and the BRASS project).

Methods

In 1997 the WBRCP undertook an extensive mapping and survey program supervised by the author to record the cave's morphology, cultural features, and artifacts. The survey produced a detailed map of the tunnel system and an artifact catalogue. Extensive test excavations were conducted in 2001. Twenty-two small shovel test pits and six larger units were placed throughout the tunnel system (Moyes 2002).

Based on previous test results a broad horizontal excavation of Chamber 2, the area that demonstrated the heaviest utilization, was undertaken in 2003 to evaluate its usage over time. The excavation consisted of 18 natural or cultural layers excavated to bedrock (Moyes 2004). Charcoal collected from each of the layers as well as 24 samples from surface and subsurface deposits were dated at the University of Arizona Accelerator Mass Spectrometry (AMS) Laboratory. All samples were wood charcoal with the exception of two samples of corn. Dates were calibrated using Oxcal 3 and are reported at the 2 sigma probability.

There were 1901 ceramic sherds, whole, or partial vessels recorded in the cave that represented at least 566 different vessels. Of these 465 were typed for chronology (Jaime Awe 1999; James Aimers 2003; Joseph Ball 1999; Joseph Ball and Jennifer Taschek 2005, Ishihara 2000; Kay Sunahara 2001)[personal communications] using James Gifford's type-variety-mode system (Gifford 1976).

Settlement and Ceramic Chronology

When compared with data from surface surveys the ceramic analysis from Chechem Ha Cave demonstrated that cave ceramics provided a rough proxy for settlement in the local area. The histogram

in Figure 2 shows two data sets from local settlement surveys juxtaposed with the global set from Chechem Ha. The first set is compiled from Jennifer Ehret's preliminary survey of 242 mounds at Xunantunich (in Ashmore et al. 1994:283) and the second is from Cynthia Robin's survey of 100 mounds at the nearby Chan site (Robin et al. 2004:45).

Their data represent the percentage of mounds containing a particular ceramic complex. The data set from Chechem Ha is based on the percentage of the number of vessels representing each complex within the site. In the settlement survey data there is clearly a substantial occupation in the area during the Middle Preclassic period but few ceramics were found in the cave dating to this period. Both settlement and cave use drop off in the Late to Terminal Preclassic and all data sets show continual increases from the Early to the Late Classic Periods. There is a very small Postclassic occupation of areas around Xunantunich and within a single structure at the Chan site that does not show up in the cave data.

What is of interest here is that social disruptions occurring in short temporal frames are not apt to show up in these kinds of data. Although ceramic chronologies based on types are often used for dating there are inherent problems. First, some types may be prevalent throughout more than one time period (LeCount 2004) and second, chronologies are not fine grained enough to pick up small fluctuations in settlement. Data collected from caves that examine fluctuations in cave usage can aid in defining periods of hiatus and social disruption.

Excavations

Results of excavations conducted in the entrance area of the cave suggested that the entrance had been blocked off with small to medium-sized boulders at least three and possibly four times during the cave's history. Antonio Morales, the property owner, has reported that at the time of its discovery, limestone boulders blocked the entrance. Morales' account is credible because it is almost certain that the cave would have been heavily looted had the entrance been easy to find. Today, boulders surround either side of the outside entrance and are also located inside the entrance passage. Boulders were cleared from the center of the interior passage by the owners to create a stairway for tourists leading down into the cave's entrance chamber.

A 1.5m x 1m excavation unit, Unit 02-04, was placed in the center of the interior passageway at the base of the stairs. The matrix of the entire unit consisted of small to medium sized boulders and loose fill. The excavation revealed two use surfaces beneath layers of limestone boulders (Figure 3). The basal surface consisted of compacted clay and was AMS dated to the Middle Preclassic period (770-400 B.C.). Boulders and sediment covered the surface. A sherd dating to this period was horizontally embedded in the surface and a medium-sized boulder sat directly on top of the sherd. The charcoal sample was collected beneath the sherd. This suggested that the cave was in-filled some time after the Middle Preclassic period.

More boulders were noted below this surface but these were impossible to remove without expanding the unit and building supports to prevent the rock from collapsing. The presence of boulders beneath the early surface suggested an earlier infilling event as the above date was not the earliest date in the cave but was collected at the only possible entrance. This is a good indication that the excavation did not reach the base of

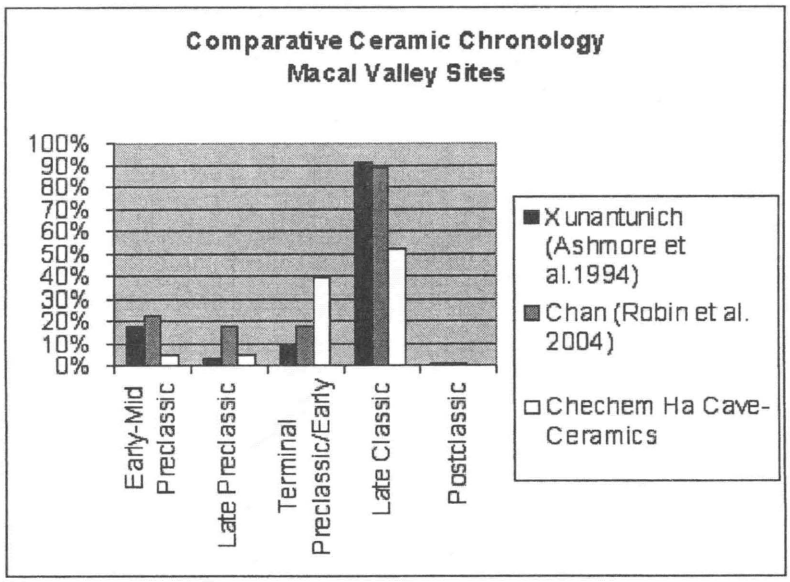

Figure 2. Graph of local settlement survey data sets from Xunantunich (Ashmore et al. 1994:283) and Chan (Robin et al. 2004:45) compared with Chechem Ha ceramic types

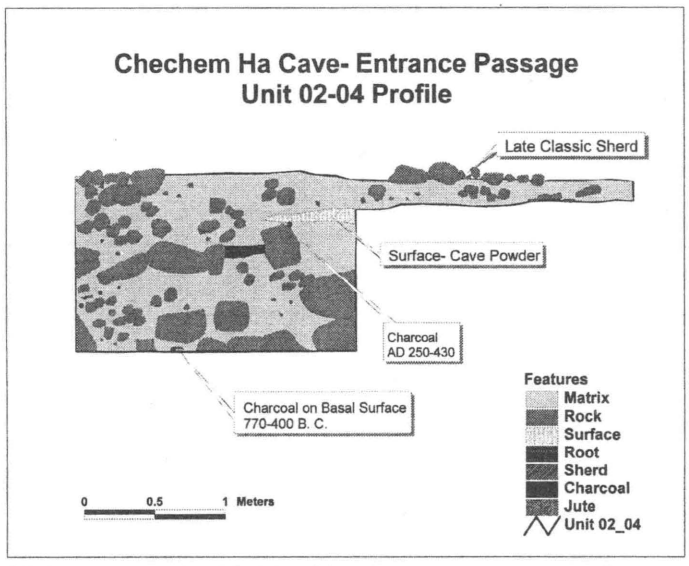

Figure 3. Profile of Unit 02-04 placed in jumbled boulders in entrance passage. Two use-surfaces were overlain by boulders.

the boulder jumble and that another surface lay beneath the rock.

The uppermost surface of the excavation consisted of compact blue-tinged clay with a crusty crystalline powder covering the top. This powder is most likely an autochthonous secondary mineral deposit referred to as "cave powder" (Hill and Forti 1997:87). These types of crusts are very fragile and any trampling immediately destroys them. The presence of the deposit suggests that the cave was unused for a period of time and eventually covered by sediment and rock. A piece of wood charcoal removed from below the compacted surface dated to the Early Classic Period (A.D. 250-430) and above the deposit Late Classic Spanish Lookout complex (A.D. 700-900) ceramics were scattered over the surface and between boulders. The

crust on the Early Classic floor suggests that the cave sat dormant for some time between A.D. 430 and the Late Classic period beginning about A.D. 700.

Rock overlying both of the excavated use- surfaces indicated that there were at least three and possibly four episodes of infilling in the entrance passage: one possibly prior to or during the Middle Preclassic, one after the Middle Preclassic, and another sometime after the Early Classic but before the end of the Late Classic. The final blockage of the entrance had to have occurred at the end of the Late Classic period as the latest radiocarbon date (A. D. 720-900) and presence of Late Classic ceramics suggests.

Regarding the broad horizontal excavation in Chamber 2, AMS dates revealed that the sediment of the modern use-surface dated to the Early Classic period. The lack of sedimentation in the area during the Late Classic period was odd as there were Late Classic sherds on the floor surface and on a small ledge above the chamber.

Radiocarbon Dating

The 37 calibrated AMS dates for the Maya levels of the cave are listed in Table 1. The general areas from which dates were collected are indicated as Tunnel 1, Tunnel 2, Crawl 3, and the Chamber 2 excavations. The dates are listed in chronological order. Note that there is a gap in the dates from A.D. 560-680. There are no overlapping dates in any cave area and almost no ceramics that date to this time period, suggesting that there was a hiatus in cave use.

Excavations in the entrance passage revealed an Early Classic use floor with boulders and sediment covering the top indicating that the cave entrance was blocked sometime after A.D. 430. Recall that a fragile crust or cave powder formed on the top of the use-surface and its presence precluded trampling of the crust. At some point it was protected by being covered over with sediment and rock, possibly as the cave was being unblocked prior to its Late Classic usage. Blocking of the entrance during the early part of the Late Classic period would explain why there was so little sedimentation in Chamber 2 following the Early Classic. Not only would the lack of human usage reduce sedimentation, but by blocking the entrance, the cave would also be inaccessible to bats, further eliminating sedimentation.

Explaining the Hiatus

Too often caves are thought of as remote venues whose sole purpose is devoted to the propitiation of rain deities. The sites are treated as un-integrated entities and it is easy to forget that cave ritual was a vital part of the ancient Maya community that may be expected to reflect the concerns and fortunes of the ancient users. There are no single blanketing explanations for disruptions in cave use just as there are no single explanations for socio/cultural ills. However, some factors must contribute highly to disruptions in community life and therefore disruptions in ritual practices. Disruptions on local community or regional scales will likely correlate with sociopolitical problems or environmental stress.

The Late Classic hiatus at Chechem Ha (A.D. 560-680) is not an isolated occurrence but in fact overlaps the Classic Hiatus Phenomenon (A.D. 534-593) identified and described by Gordon Willey (1987:72-73). Willey considers the hiatus to be a phenomenon of the southern lowlands during which there is a marked drop-off in stela carving and dedication for approximately 60 years dividing the Early and Late Classic periods. The hiatus is not indicated in the northern Maya areas or at

Palenque and some northern sites fluoresce at this time. Although Willey offers no explanation for the occurrence, Richardson Gill (2000:318) struggles to argue that the hiatus is caused by aberrations in the world climate around A.D. 536. Gill mentions that Curtis et al. (1996) record a drought at Punta Laguna in Quintana Roo. The problem is that the northern areas were not the ones affected by the phenomenon, which weakens his argument.

If the hiatus was in fact a result of climatic manifestations, we would expect aberrations in the local climate record. James Webster (2000) conducted a paleoclimate study using a speleothem from the Vaca Plateau in western Belize, which provides an excellent local paleoclimate proxy. Webster evaluated the thickness and frequency of bands, their color, luminescence, and isotopic ratios ($\delta^{18}O$). Although the rings were dated using radiocarbon methods, the speleothem was of a known age so that old carbon could be factored as a variable in the calibration using a standard calculation. Webster's climate record illustrates that moisture was within an average range during the entire hiatus (Figure 4). The hiatus followed one of the wettest episodes in Classic Maya history for the local area therefore there was no preceding drought. It is clear that something else was occurring in the area at this time.

Although there is little epigraphy in the Belize Valley, numerous texts are available for the closest large sites, Caracol and Naranjo. Table 2 is an abbreviated compilation of deciphered texts spanning the Hiatus 3 time period. The table was assembled from the Notebook for the 28th Hieroglyphic Forum at the University of Texas at Austin. War events, skirmishes, births, and accessions are included in the table. The dates that include Hiatus 3 are highlighted in gray.

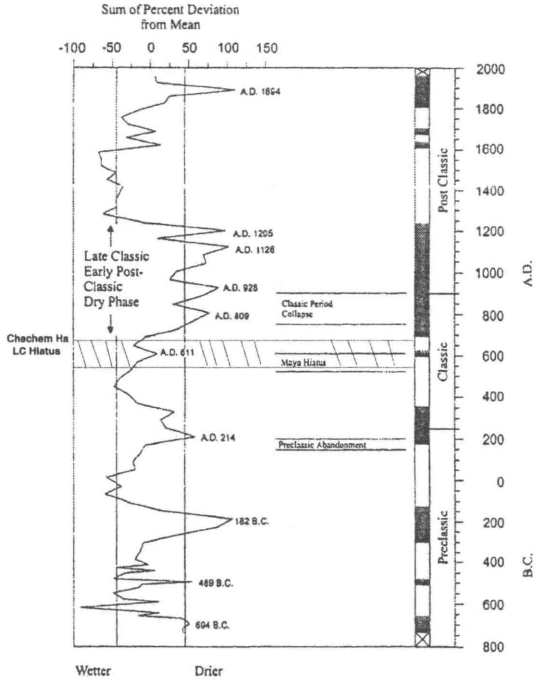

Figure 4. Reconstruction of moisture conditions for the Vaca Plateau for the past 2,700 years. The bar chart indicates drier conditions in black. Diagonal lines illustrate the hiatus in cave usage at Chechem Ha. Note the overlap with the Maya Hiatus. (after James Webster 2000:197, fig.8.2)

During the hiatus there are wars between Tikal, Naranjo, and Caracol. Tikal is defeated by Caracol by A.D. 562, the beginning of the Chechem Ha hiatus. Following Tikal's defeat there is a war between Caracol and Naranjo that lasts until A.D. 680 when Caracol goes into a hiatus lasting until A.D. 700. Naranjo continues its domination until the Late Classic period and is mentioned on texts from Xunantunich in the early 9th century. The cave is blocked off (A.D. 560-680) during the same time period that conflicts arise between Caracol and Naranjo (A.D. 596-680). It is unlikely that this is a coincidence. Recall that Chechem Ha is located halfway between the two sites and could easily be pillaged by either side.

AZ Lab #	Period	Area	Radiocarbon Age	Calibrated Date 2 Sigma
AA57293	LC	T1	1187±33	AD 720-900
AA57288	LC	T1	1210±31	AD 690-900
AA59754	LC	T1	1224±38	AD 680-900
AA59753	LC	T1	1239±36	AD 680-890
AA57291	LC	T1	1244±31	AD 680-890
AA57271	EC	Ch2_excL2	1587±34	AD 400-560
AA57290	EC	T1	1605±32	AD 390-540
AA57310	EC	T1	1607±32	AD 380-540
AA57307	EC	T1	1638±42	AD 260-540
Beta	EC	Ch2_excL1	1660±40	AD 250-540
AA57301	EC	T1	1685±32	AD 250-430
AA59755	EC	T1	1696±36	AD 250-430
AA57272	EC	Ch2_excL3	1673±34	AD 250-440
AA57273	EC	Ch2_excL4	1668±34	AD 250-440
AA57274	EC	Ch2_excL5	1685±39	AD 240-440
AA57289	EC	T1	1714±33	AD 240-420
AA57299	EC	T1	1716±36	AD 240-410
AA57275	EC	Ch2_excL6	1744±40	AD 130-420
AA57311	LPC	T1	1944±71	120 BC-AD 250
AA57291	LPC	T2	2096±33	200 BC- AD 0
AA57276	LPC	Ch2_excL7	2120±34	350-40 BC
AA57306	LPC	T1	2156±34	360-60 BC
AA57308	LPC	T2	2130±34	360-40 BC
AA57312	LPC	T2	2135±32	360-50 BC
AA57309	LPC	T1	2275±34	400-200 BC
AA57313	LPC	T1	2295±34	410-200 BC
AA57314	LPC	T1	2309±37	410-200 BC
AA57298	MPC	T1	2339±42	800-200 BC
AA57302	MPC	T1	2432±33	600-400 BC
AA57300	MPC	T1	2465±33	770-400 BC
AA57296	MPC	T2	2517±37	800-510 BC
AA57278	EPC	Ch2_excL9	2755±35	1000-820 BC
AA57279	EPC	Ch2_excL10	2760±34	1000-820 BC
Beta170518	EPC	Ch2_excL12	2780±40	1010-820 BC
AA57277	EPC	Ch2_excL8	2826±34	1130-890 BC
AA57280	EPC	Ch2_excL11	2865±33	1190-920 BC
AA57282	EPC	Ch2_excL13	2847±34	1320-910 BC
AA57281	EPC	Ch2_excL12	2931±62	1320-930 BC
LC=Late Classic	EC=Early Classic	LPC=Late Preclassic	MPC=Middle Preclassic	EMPC=Early Middle Preclassic

Table 1. AMS dates for the Maya Levels of Chechem Ha Cave. Late Classic gap in cave use highlighted

AD 514	Caracol	Stela 13	accession of king Yajaw Te K'inich I
AD 531	Caracol	Stela 15	accession of king K'an I, also-axe event against Caracol-mentions Tikal and Calakmul
AD 546	Naranjo	Stela 25	accession of Aj Wosal-supervised by ruler of "snake" kingdom (Calakmul?)
AD 556	Caracol	Altar 21	Tikal inflicts axe event on Caracol
AD 562	Caracol	Altar 21	Starwar defeat of Tikal by Caracol?probably Calakmul?
AD 562-692	Tikal		Tikal Hiatus
AD 596	Naranjo	Altar 1	War event with Caracol
AD 599	Caracol	Stelae 5,6	New boy king
AD 619	Caracol	Stela 3	Calakmul mentioned
AD 621	Caracol	Stela 22	Calakmul mentioned
AD 622	Caracol	Stela 3	Present of deity figure? From Calakmul King
AD 626-680	Naranjo		Naranjo Hiatus
AD 627	Caracol	Stela 3	Calakmul attacks Naranjo
AD 631	Naranjo	HS1, StepVI	Calakmul conquers Naranjo in star war
AD ?	Caracol	Stela 3	Calakmul conquers Naranjo in star war
AD 680	Caracol	B16 Stucco	Starwar defeat Caracol by Naranjo
AD 680-798	Caracol		Caracol Hiatus-only Stela 21 erected around 700
AD 682	Naranjo	Stelae3,18,24,29	Arrival Lady Six Sky of Dos Pilas-links to
			Calakmul-daughter of warrior king
AD 692	Naj Tunich		mention of Caracol king
AD 693	Naranjo	Stela 22	Burning of B'ital-unknown site between
			Naranjo and Caracol
AD693-698	Naranjo	Stela 22, 29	Skirmishes

Table 2. Selected events in the eastern Maya lowlands recorded in epigraphic texts from A.D. 514-700. Time spanning Hiatus 3 at Chechem Ha highlighted in table.

In a recent publication Brady and Colas (2005) demonstrate from epigraphic evidence that caves can be places for aggression in war events. Three seventh century panels that were looted and thought to have come from the Piedras Negras region, record the story of the ruler Nikte Mo' who scatters fire into the cave of ruler K'ab Chante. Following this event Nikte Mo' is beheaded and the authors interpret the fire scattering event as act of war.

Although we do not know exactly where Maya wars were fought it makes sense that soldiers moving between the sites may have frequented rural areas between the two creating a war zone. Because the cave was re-opened after the fall of Caracol, this suggests that the users of Chechem Ha may have been allied with Naranjo and that the cave was blocked as a defensive maneuver.

Conclusion

Although methods that relied heavily on ethnographic analogy have been vitally important in understanding the sacred meaning of the cave context, it is the archaeological record that offers information on how caves were used by the ancient Maya. These data can be useful in broader archaeological contexts. By shifting the focus of cave study to a behavioral approach it becomes clear that caves were not regarded exclusively as ritual spaces but as political spaces as well. Correlating periods of usage and abandonment with events occurring in the local and regional areas

sheds light on the nature of cave use and demonstrates the importance of the cave to the local community. These sites were not just venues for worshipping rain deities but were important political spaces that required protection from enemies. These data help to integrate ritual cave use with local and regional sociopolitical events and with them in hand it is possible to better understand ritual practice within the social and natural environmental contexts.

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References Cited

Ashmore, Wendy, Sam V. Connell, Jennifer J. Ehret, L. Theodore Neff, and Jon C. Vandenbosch
1994 The Xunantunich Settlement Survey. In *Xunantunich Archaeological Project 1994 Field Season,* Manuscript on file, Xunantunich Archaeology Project.

Awe, Jaime J.
1998 The Western Belize Regional Cave Project: Objectives, Context, and Problem Orientation. In *The Western Belize Regional Cave Project: A Report of the 1997 Field Season*, Department of Anthropology Occasional Paper No. 1, edited by Jaime J. Awe, pp. 1-22, University of New Hampshire, Durham.

Awe, Jaime J., Sherry Gibbs, and Cameron Griffith
2005 Stelae and Megalithic Monuments in the Caves of Western Belize. In *In the Maw of the Earth Monster: Mesoamerican Ritual Cave Use*, edited by James E. Brady and Keith M. Prufer, pp. 223-248, University of Texas Press, Austin.

Brady, James. E. and Keith M. Prufer
2005 Introduction: A History of Mesoamerican Cave Interpretation. In *In the Maw of the Earth Monster: Mesoamerican Ritual Cave Use*, edited by James E. Brady and Keith M. Prufer, pp. 1-18, University of Texas Press, Austin.

Brady, James E. and Pierre R. Colas
2005 Nikte Mo' Scattered Fire in the Cave of K'ab Chante: Epigraphic and Archaeological Evidence for Cave Desecration in Ancient Maya Warfare. In *Stone Houses and Earth Lords: Maya Religion in the Cave Context*, edited by Keith M. Prufer and James E. Brady, University Press of Colorado, Boulder.

Curtis, Jason H., David A. Hodell, and Mark Brenner
1996 Climate Variability on the Yucatan Peninsula (Mexico) during the Past 3500 Years, and Implications for Maya Cultural Evolution. *Quaternary Research* 46:37-47.

Gifford, James C.
1976 *Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley*. Memoirs of the Peabody Museum of Archaeology and Ethnology 18, Harvard University, Cambridge, Mass.

Gill, Richardson B.
2000 *The Great Maya Droughts: Water, Life, and Death*. University of New Mexico Press, Albuquerque.

Hill, Carol A., and Paolo Forti
1986 *Cave Minerals of the World*. National Speleological Society, Huntsville, Alabama.

Ishihara, Reiko.
2000 An Investigation of the Ancient Maya Ritual Cave Activity at Actun Chechem Ha,

Cayo District, Belize. Unpublished Honors Thesis, University of Tsukuba, Japan.

LeCount, Lisa J.
2004 Looking for a Needle in a Haystack the Early Classic Period at Actuncan, Cayo District. In *Archaeological Investigations in the Eastern Maya Lowlands: Papers of the 2003 Belize Archaeology Symposium*, edited by Jaime J. Awe, John Morris, Sherilyne Jones, pp. 27-36. Institute of Archaeology, National Institute of Culture and History, Belmopan.

Moyes, Holley
2002 Excavations at Chechem Ha Cave: Preliminary Results of the 2002 Field Season. Manuscript on file at the Institute of Archaeology, Belmopan.

Moyes, Holley
2004 Changes and Continuities in Ritual Practice at Chechem Ha Cave, Belize: Report on Excavations Conducted in the 2003 Field Season. Report submitted to the Foundation for the Advancement of Mesoamerican Studies, Inc., http://www.famsi.org/reports

Robin, Cynthia, William D. Middleton, Santiago Juarez and Mary K. Morrison
2004 Surveying an Agrarian Community: The 2002 Field Season at the Chan Site, Belize. In *Research Reports in Belizean Archaeology Vol.1: Archaeological Investigations in the Eastern Maya Lowlands: Papers of the 2003 Belize Archaeology Symposium,* edited by Jaime J. Awe, John Morris, and Sherilyne Jones, pp. 38-48, Institute of Archaeology, National Institute of Culture and History, Belmopan, Belize.

Webster, James W.
2000 Speleothem Evidence of Late Holocene Climate Variation in the Maya Lowlands of Belize Central America and Archaeological Implications. Unpublished Ph.D. dissertation, University of Georgia, Athens.

Willey, G. R.
1987 *Essays in Maya Archaeology.* University of New Mexico Press, Albuquerque