

MOVING MAYA

Circulations en espaces mayas
de 250 apr. J.-C. à nos jours

sous la direction de
Juliette Danfakha et Clarissa Cagnato

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Presses universitaires de Paris Nanterre

Collection « Ensemble » (MSH Mondes),
dirigée par Ghislaine Glasson Deschaumes

Les directrices d'ouvrage souhaitent adresser leurs remerciements les plus chaleureux au Lesc, à l'Erea, au Germ et au laboratoire ArchAm qui ont soutenu, dès la première heure, le projet, le colloque au musée du quai Branly, puis l'ouvrage *Moving Maya*.

Nous remercions tout particulièrement Marie-Charlotte Arnould, dont les précieux conseils nous ont permis d'apprendre à coordonner un ouvrage. Un très grand merci également à Aurore et Pierre Monod-Becquelin pour leurs encouragements et leur relecture attentive de l'introduction. Merci à Marie Chosson, Dominique Michelet, Philippe Nondédéo, Valentina Vapnarsky, Nicolas Goepfert et Claire Alix.

Nous remercions de tout cœur l'ensemble des populations mayas qui travaillent avec nous. Ce livre leur est dédié.

Enfin, nous souhaitons adresser des remerciements sincères aux Presses universitaires de Paris Nanterre, à David Rochefort et à Laurence Patarit pour leur suivi attentif tout au long du processus de publication.

Cet ouvrage est publié grâce à la contribution financière
de l'université Paris Nanterre, du Lesc, du centre EREA,
de l'école doctorale Espaces, Temps, Cultures (ED 395) et d'ArchAm.



Correction des textes et maquette : Anne Fragonard

2025

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ISBN : 978-2-xxxxxx-xxx-x

ISSN : 2827-3222

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CHAPITRE 5

***Matwil*, the Maya place of origins: Relations between Palenque and Mensabak as evidenced through migrations, material culture, and ecological studies**

Josuhé LOZADA, Joel W. PALKA, and Liseth PÉREZ

Abstract: In many occasions in the Classic Maya hieroglyphic inscriptions at Palenque, the emblem glyph and place name of *Matwil*, or *Matawil*, appears as the head of a cormorant, or *Mat*, which is a bird associated with open water ecosystems with plentiful fish. These Maya associated this origin place with the mythological birth of the triad of tutelary deities of Palenque elites, who epigraphers have named GI, or the rising sun and sky, GII, or *K'awil* of lightning, and GIII, the Jaguar God of the Underworld. Palenque iconography and hieroglyphs demonstrate the importance of the swimming cormorant bird in the lakes of the Lacandon Rainforest and its associations with the surface of the earth, watery underworld, and celestial realms because of its unique behaviors. Recent archaeological research at Metzabok (also Mensabak), Chiapas, Mexico, has identified a large Preclassic Maya city called Noh K'uh, which has a ceremonial E Group oriented towards an impressive hollow water mountain at the edge of a lake. Excavations and sediment cores point to the abandonment of this site at the end of the Preclassic Period (ca. A.D.250) and the reoccupation of Metzabok during Late Postclassic times (ca. A.D. 1350) after a dry spell. It is possible that Metzabok figured into Classic Period (ca. A.D. 500-700) Palenque Maya population movements and myths of *Matwil* as a primordial place of origins, water, and cormorants, in addition to their beliefs of a hollow water mountain. These beliefs may have been especially important due to episodes of drought and population movements seen in the archaeological and sedimentary records in the region.

Keywords: Origin place; lake; migration; sedimentary record; hollow mountain.

Titre

Matwil, lieu maya des origines : les relations entre Palenque et Mensabak éclairées par les études des migrations, de la culture matérielle et de l'environnement

Résumé : Dans les inscriptions hiéroglyphiques mayas classiques de Palenque, le glyphe-emblème et le nom de lieu de *Matwil*, ou *Matawil*, apparaissent à de nombreuses

reprises sous la forme d'une tête de cormoran, ou Mat, qui est un oiseau associé aux écosystèmes d'eau libre où les poissons abondent. Ces Mayas ont associé ce lieu d'origine à la naissance mythologique de la triade de divinités tutélaires des élites de Palenque, que les épigraphistes ont nommées GI, ou le soleil levant et le ciel, GII, ou *K'awil* de la foudre, et GIII, le Dieu Jaguar du monde souterrain. L'iconographie et les hiéroglyphes de Palenque démontrent l'importance de l'oiseau cormoran nageur dans les lacs de la forêt tropicale lacandone et ses associations avec la surface de la terre, le monde souterrain aquatique et les royaumes célestes, en raison de ses comportements uniques. Des recherches archéologiques récentes menées à Metzabok (ou Mensabak), au Chiapas (Mexique), ont permis d'identifier une grande cité maya préclassique appelée Noh K'uh, dont le groupe cérémoniel (E-Group) est orienté vers une impressionnante montagne d'eau creuse située au bord d'un lac. Les fouilles et les carottes sédimentaires indiquent l'abandon de ce site à la fin de la période préclassique (vers 250 apr. J.-C.) et la réoccupation de Metzabok à l'époque postclassique tardive (vers 1350 apr. J.-C.) après une période de sécheresse. Il est possible que Metzabok ait joué un rôle dans les mouvements de population et les mythes de la période classique (vers 500-700 apr. J.-C.) des Mayas de Palenque, concernant Matwil comme lieu primordial des origines, de l'eau et des cormorans, en plus de leur croyance en une montagne d'eau creuse. Ces croyances peuvent avoir été particulièrement importantes en raison des épisodes de sécheresse et des mouvements de population observés dans les archives archéologiques et sédimentaires de la région.

Mots-clés : Lieu d'origine ; lac ; migration ; enregistrement sédimentaire ; montagne creuse.

Palenque is one of the most important Classic Period (ca. A.D. 250-900) and widely studied cities in the Maya area that has yielded many insights on elite Maya history and culture at the site (Figure 1). Since the 18th century we have early reports of this monumental Maya settlement from Spanish explorers, such as José Antonio Calderón, who undertook the first expedition to this ancient city in 1784¹. Subsequently, 19th century investigators, including Guillermo Dupaix, Desiré Charnay, Alfred Maudslay, and the intrepid team of John Lloyd Stephens and Frederick Catherwood drew much attention to the site². Archaeological investigations at Palenque begin with Miguel Angel Fernández'

1. Arnaldo GONZÁLEZ, "Dos siglos de descubrimientos arqueológicos en Palenque, Chiapas", in *Palenque. Investigaciones recientes*, Ana María PARRILLA ALBUERNE, Alejandro SHESEÑA HERNÁNDEZ, Roberto LÓPEZ BRAVO (eds.), Tuxtla Gutiérrez, Chiapas, Universidad de Ciencias y Artes de Chiapas, 2015.
2. Frans BLOM and Oliver LA FARGE, *Tribes and Temples: A Record of the Expedition to Middle America*, 2 vols., New Orleans, Tulane University, Middle American Research Institute, 1926. Mercedes DE LA GARZA, Guillermo BERNAL ROMERO and Martha CUEVAS GARCÍA, *Palenque-Lakamha': Una presencia inmortal del pasado indígena*, Fondo de Cultura Económica, Mexico City, 2012. David STUART and George STUART, *Palenque: Eternal City of the Maya*, New York, Thames and Hudson,

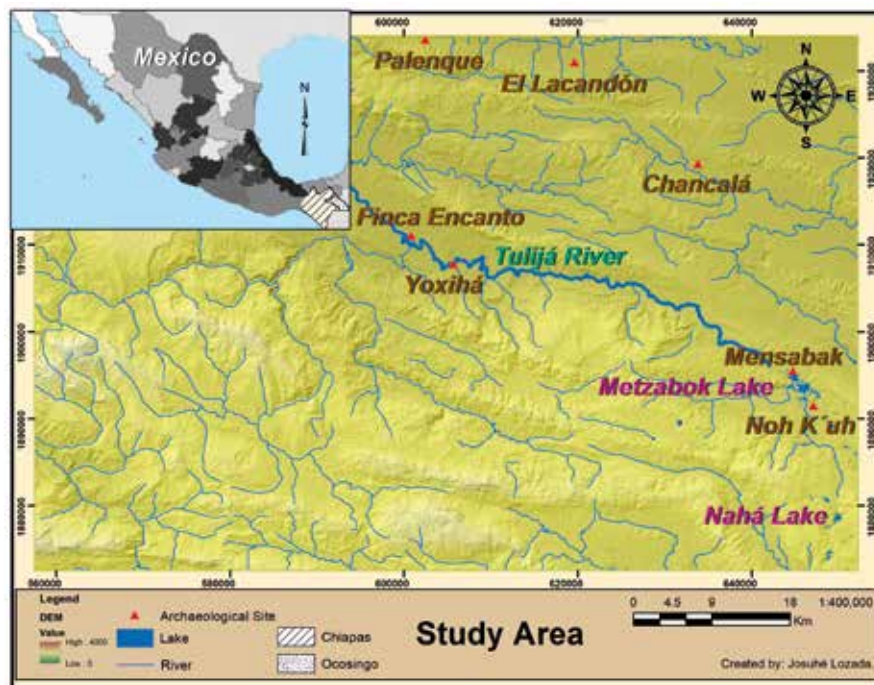


Figure 1: Map of the locations of Palenque and Mensabak and other sites mentioned in the text (J. Lozada)

excavations in the Palace and Cross Group, followed by Alberto Ruz Lhuillier's work and discovery of the tomb of the Maya king K'inich Janab' Pakal I in the Temple of the Inscriptions³. More recently, Rosalba Nieto undertook archaeological explorations at various parts of Palenque under the direction of Roberto García Moll and Alfonso Morales Cleveland excavated in the Cross Group under the supervision of Merle Green Robertson. Contemporary projects include the Proyecto Integración Política del Señorío de Palenque (The Political Integration of the Palenque Kingdom Project⁴, the Proyecto Crecimiento Urbano en la Antigua Ciudad de Palenque (The Project of Urban Growth at the Ancient City of Palenque⁵), and since 1989 the Proyecto Arqueológico Palenque (Palenque Archaeological Project) directed by Arnoldo González has made significant discoveries.

2008. Robert WAUCHOPE, *They Found the Buried Cities: Exploration and Excavation in the American Tropics*, Chicago, University of Chicago Press, 1965.

3. Alberto RUZ, *El Templo de las Inscripciones*, Mexico, Instituto Nacional de Antropología e Historia, Colección Científica 7, 1973.
4. Rodrigo LIENDO, *The Organization of Agricultural Production at a Maya Center. Settlement Patterns in the Palenque Region, Chiapas, Mexico*, México, University of Pittsburgh, Latin American Archaeological Publications/Instituto Nacional de Antropología e Historia (Serie Arqueología de México), 2002.
5. Roberto LÓPEZ BRAVO, "Palenque, la ciudad de las grandes aguas", in *Palenque. Investigaciones recientes*, op. cit., pp. 59-73.

Abundant epigraphic studies have been carried out at Palenque beginning with the studies of Peter Mathews and Linda Schele (1973)⁶, David Stuart (2005)⁷, Alejandro Sheseña (2015)⁸, among many others. This research has provided many details on elite Maya history, politics, and religion at the site. Additionally, much analysis of the archaeological material culture at Palenque, which has presented many insights on Maya demography, trade, and artifact production, include ceramic sourcing studies⁹, iconographic analysis of ceramic incense burner stands¹⁰, ceramic figurines¹¹, architecture¹², and greenstone¹³, to name a few.

More recently, the Mensabak Archaeological Project located in a rural area in the Lacandon Rainforest between Palenque and other Classic Period sites has provided insights on the origins and historic shifts in Maya civilization before and after Palenque's apogee in the north of Chiapas¹⁴. The site of Metzabok (also known as Mensabak) consists of several archaeological settlements and shrines dating to Preclassic and Postclassic times clustered around lakes. Project members have reported archaeological investigations of a monumental shrine on the hollow Mirador Mountain with a red-stained cliff (called *Chäk Aktuun* or 'Red Cave/Mountain [with water]' or 'Red cave-hollow turtle shell mountain of water'¹⁵ by local Lacandon Maya; see Figures 9 and 10; Palka 2014¹⁶), religious sanctuaries with rock art on the lakeshore¹⁷, the Late

6. Peter MATHEWS and Linda SCHELE, "Lords of Palenque. The glyphic evidence", in *Primera Mesa Redonda de Palenque. A conference on the Art, Iconography, and Dynastic History of Palenque*, The Robert Louis Stevenson School. Pre-Columbian Art Research, Pebble Beach, California, 1973.
7. David STUART, *Comentarios sobre las inscripciones del Templo XIX de Palenque*, San Francisco, The Precolumbian Art Research Institute, 2005.
8. Alejandro SHESEÑA, "Aspectos políticos y religión en las inscripciones jeroglíficas de Palenque", in *Palenque. Investigaciones recientes*, op. cit. pp. 75-88.
9. Ronald BISHOP, Robert RANDS and Garman HARBOTTLE, "A ceramic compositional interpretation of incense burner trade in the Palenque Area, Mexico", in *Nuclear and Chemical Dating Techniques*, 176, 1982. pp. 411-440.
10. Martha CUEVAS, *Los incensarios efigie de Palenque. Deidades y rituales mayas*, Mexico, Universidad Nacional Autónoma de México, Instituto Nacional de Antropología e Historia, 2007.
11. Maria de los Angeles FLORES, "Figurillas antropomorfas de Palenque", in *Arqueología Mexicana*, VIII(45), 2002, p. 44-49.
12. Roberto GARCÍA MOLL (ed.), *Palenque 1926-1945*, Antologías, Mexico, Instituto Nacional de Antropología e Historia, Serie Arqueología, 1991.
13. Arnoldo GONZÁLEZ, José Luis RUVALCABA and Francisco RIQUELME, "La malaquita de la máscara de la Reina Roja", in *Arqueología Mexicana*, XIX(113), 2012, pp. 49-51.
14. Joel W. PALKA, Fabiola SÁNCHEZ BALDERAS, "Sitios sagrados de los mayas posclásicos e históricos en el lago Mensabak, Chiapas, México", in *Arqueología reciente de Chiapas*, Mary PYE and Lynne LOWE (eds.), Papers of the New World Archaeological Foundation No. 72, Provo, Brigham Young University, 2013, pp. 341-360.
15. Carlos MONTEMAYOR, *Los mayas y sus raíces de agua*, Mexico City, CONACULTA, 2013.
16. Joel W. PALKA, *Maya Pilgrimage to Ritual Landscapes: Insights from Archaeology, History, and Ethnography*. Albuquerque, University of New Mexico Press, 2014.
17. Josuhe LOZADA, Silvina VIGLIANI, Guillermo ACOSTA, Patricia PÉREZ, Jorge Ezra CRUZ, Diana B. CHAPARRO and Víctor Hugo GARCÍA, "Rock art and rituality in the construction of the Maya person of the Postclassic period at Mensabak Lake, Chiapas", in *Estudios Latinoamericanos*, 41, 2021, pp. 129-145.

Preclassic (ca. 200 B.C.- A.D. 250) city of Noh K'uh¹⁸, and the large Late Postclassic to historic (ca. A.D. 1350-1650) population spread out around the lakes¹⁹. Additionally, investigators have obtained information from lake cores at Metzabok and other lakes in the area to study ecological shifts over time in the Maya cultural sequence²⁰.

In the text that follows, we will discuss the cultural developments in Maya civilization at Palenque and Metzabok. We will examine the Palenque inscriptions that contains the emblem glyph known as Matwil or Matawil (associated with cormorants and water) that is linked to the Palenque triad of tutelary deities, especially GI, who figured prominently in the monuments of the temples of the Cross Group and Temple XIX. We will also treat the iconography of the cormorant bird and the representation of the split, hollow mountain at Palenque and Metzabok. We add ecological insights from lacustrine sediments to the archaeological and iconographic studies at these two sites that revise the paleoenvironmental knowledge of the region and the implications for population origin places and movements.

Archaeological evidence of cultural developments at Palenque

It is possible that a Middle Preclassic (ca. 800-450 B.C.) settlement existed at Palenque, but a Late Preclassic (ca. 450 B.C. – A.D. 150) occupation is securely demonstrated at the site due to the presence of Chicanel ceramics of the Sierra Rojo group dating to this period in specific places at the site²¹. The initial occupation at Palenque in Late Preclassic times consisted of two small villages extending across the stream banks at the site. These Maya were early agriculturalists who procured resources from hunting, fishing, and foraging to supplement their crops²². A few sites nearby, such as El Lacandón, had larger populations that dated from the Late Preclassic to Early Classic Periods²³.

18. Santiago JUÁREZ, "Viewing the world through cosmovision at Late Preclassic Noh K'uh in Chiapas, Mexico", in *Cambridge Archaeological Journal*, 33(1), 2022, <https://doi.org/10.1017/S0959774322000154>. Santiago JUÁREZ, Sebastian SALGADO-FLORES and Christopher HERNANDEZ, "The site of Noh K'uh, Chiapas, Mexico: A Late Preclassic settlement in the Mensäbäk Basin", in *Latin American Antiquity*, 30(1), 2019, pp. 211-217.
19. Joel W. PALKA, "Maya pilgrimage, migration, and community connectivity at ritual landscapes at Mensabak, Chiapas, Mexico", in *Latin American Antiquity*, 2023, <https://doi.org/10.1017/laq.2023.14>.
20. Liseth PÉREZ and Matthias BÜCKER, "Rapid drying of large, deep lakes in the karst mountains of the Lacandon Forest, southern Mexico", in *PAGES Mag*, 2(1), 2022, pp. 12-15.
21. Roberto LÓPEZ BRAVO, "Palenque, la ciudad de las grandes aguas", art. cit., p. 60. Alberto RUZ. *El Templo de las Inscripciones*, op. cit., p. 146.
22. Guillermo BERNAL, Martha CUEVAS and Arnoldo GONZÁLEZ, *Guía Palenque, Chiapas, México*, Mexico City, Instituto Nacional de Antropología e Historia, Editorial Raíces, S.A. de C.V., 2010, p. 14.
23. Roberto LÓPEZ BRAVO, "Palenque, la ciudad de las grandes aguas", art. cit.

Palenque becomes a populous center during the Early Classic Period (ca. A.D. 150-250), which was an important time of demographic and cultural development in Maya civilization in the lowlands. At this time, people migrating from other sites in the region populated Palenque and began the monumental construction programs so well known for Classic times. It is likely that Maya populations from Preclassic sites in the region, such as El Lacandón and Noh K'uh at Metzabok migrated to Palenque, possibly down the Tulijá River, to augment its rapid population growth and construction boom in Classic times. Interestingly, Palenque maintained the strongest social and economic ties with sites along the Tulijá River only 30 km to the south, such as Yoxihá, based on ceramic similarities from the Early Classic to Late Classic times²⁴. The Michol River runs west from Palenque and meets the Tulijá River near Salto de Agua where Palenque style architecture and ceramic incense burner stands have been found at sites in the region²⁵. It appears that these riverine and overland routes helped structure ties between Palenque and the Tulijá River sites.

Beginning in the reign of K'inich Janahb' Pakal I during the Otulum ceramic phase (ca. A.D. 600-700), large buildings were erected, including the Palenque Palace Group²⁶. During this period in its cultural apogee, the site extends over 8 km and swells with a population of about 20,000 inhabitants who helped create the monumental constructions at the site. The Palace represents one of the largest and most complex structures at Palenque with its four patios and tower with four floors. The largest patio is known as the Patio of the Slaves because of the presence here of stone monuments depicting submissive war captives and subordinates. Another representative monumental building of the Late Classic Period at Palenque is the Temple of the Inscriptions (Figure 2). The Maya built this funerary monument to King K'inich Janahb' Pakal I in the side of one of the main hollow water mountains at Palenque, which has canals channeling spring water on its north side and under its base. Hieroglyphic texts within the Temple of the Inscriptions mention that Pakal I is the ruler of Matwil, the origin place associated with cormorants and water birds.

Following the reign of Pakal I that ended with his death in A.D. 683, his son K'inich Kaan Bahlam rules Palenque from A.D. 684-702. Kaan Bahlam builds the three temples of the Cross Group (Figure 3)²⁷, which contain hieroglyphic inscriptions that discuss the mythology related to the triad of Palenque tutelary deities known as GI, the Rising Celestial Sun, GII or K'awil, and GIII, the Jaguar Sun of the Underworld. In this triadic group of constructions representing important aspects of the Maya cosmos, the Temple

24. Robert RANDS, "Cerámica de la región de Palenque, México", in *Estudios de Cultura Maya*, 6, 1967, pp. 111-147.

25. Elsa HERNÁNDEZ PONS, *Investigaciones arqueológicas en el Valle del Río Tulijá, Tabasco-Chiapas*, Mexico City, Universidad Nacional Autónoma de México, 1984.

26. Maria Concepcion OBREGÓN MARTÍNEZ, "Evolución temporal del arte monumental palencano. Primeras etapas", in *Cuadernos de Arquitectura Mesoamericana*, No. 31, Universidad Nacional Autónoma de México, Facultad de Arquitectura, 1996, p. 59.

27. Arnoldo GONZÁLEZ, "Dos siglos de descubrimientos arqueológicos en Palenque, Chiapas", art. cit.

of the Cross was considered the house of the god GI (connected to the celestial realm and rain fed aquatic places), the Temple of the Foliated Cross was dedicated to the god K'awil (of terrestrial realms), and the Temple of the Sun was associated with the Jaguar Sun God of the Underworld.



Figure 2: The Temple of the Inscriptions at Palenque
built into a hollow water mountain
(photograph by Josuhé Lozada)



Figure 3: The Temple of the Inscriptions at Palenque
built into a hollow water mountain
(photograph by Josuhé Lozada)

Inscriptions in the Temple of the Cross and other parts of Palenque associate the god GI and enthronements of kings with the place called Matwil. The god GI is strongly connected to fauna found at lakes in the area, such as the crocodilian headdress found on a ceramic incense burner stand found on the seventh terrace of the Temple of the Cross. The hieroglyphic text in Temple XIX mentions that GI decapitated the supernatural crocodile god called *Way Paat Ahiin Tz'ihbal Paat Ahiin*, or The Crocodile with a Back Cavity, the Crocodile with the Painted Back, whose sacrifice led to a great inundation of blood and the creation of fire and the earth's surface²⁸. The connections between the Palenque triad of gods and temple constructions indicate the importance of watery places and Matwil that can be connected to lakes in the surrounding Lacandon Rainforest.

The Matwil emblem glyph and primordial waters at Palenque

The hieroglyph **MAT** appears as a variation of the Palenque emblem glyph following Maya kings' and queens' names and alludes to the important toponym of Matwil, the place of creation and mythology of the local Maya



Figure 4: The Matwil Hieroglyph with a Cormorant Bird Head from Palenque Inscriptions (drawing by Josuhé Lozada)

(Figure 4). The main sign of the Matwil hieroglyph consists of the head of cormorant, which is shown with eyelids and a beak with small teeth. This bird's head glyph often contains the phonetic prefix *ma* and a postfix *li* or is sometimes written phonetically as *ma-ta-wil-la*. In the case of an emblem glyph, this sign is understood to be a royal title read as 'holy lord of Matwil.' In Chontal Mayan (*Yokot'an*, likely the source of Spanish *Yucatán*) spoken just to the north of Palenque, *mat* refers to a type of duck (cormorant?), while the neighboring Yucatec Maya say *mach* for cormorant²⁹. Contemporary Lacandon Maya at Metzabok call the cormorant *marach* of which there are many in the lakes there and not so much in the Palenque streams.

The Matwil place was key for the mythological history and politics of Palenque as being a place of origin and creation. The Palenque triad of gods was born there³⁰ and they came to the Cross Group at Palenque to be the patron gods and protectors of the royal elites. Pakal I was the first ruler to use the Matwil emblem glyph, which was seen as a mythological place³¹. In the Temple of the Cross, a tablet inscription recounts

28. Guillermo BERNAL, "Portaincensario del dios GI. Palenque, Chiapas", in *Arqueología Mexicana*, XVI(92), Mexico City, Editorial Raíces, 2008, p. 16.

29. David STUART, *Comentarios sobre las inscripciones del Templo XIX de Palenque*, *op. cit.*

30. *Ibid.*, p. 22.

31. Simon MARTIN and Nikolai GRUBE, *Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya*, Second Edition, London, Thames and Hudson, 2008, pp. 162-168. Joel SKIDMORE, *The Rulers of Palenque: A Beginner's Guide*, Third edition, MESOWEB, 2008, p. 60.

the birth on the 2nd of January, 3120 B.C., of *Muwaan Mat*, known as a progenitor of the Palenque triad of gods. This text also mentions the mythical enthronization of Muwaan Mat as the holy ruler of Matwil or Palenque. This event is also described with the phrase *k'al sak juun*, or “the white headband was tied”, which is used to associate Pakal I with Muwaan Mat as one of the mythical founders of the city of Palenque³². In a text on the Tablet of the Slaves, a king called *K'inich Ahkal Mo' Nahb III* lists his father and mother with the name or title of Mat, *Tiwol Chan Mat* and *Kinuuw Mat*, which indicates the importance of the cormorant over time.

Furthermore, on the stucco tablet of Temple XIX the ruler *K'inich Ahkal Mo' Nahb III* appears inside the mouth of a large bird head with a large-toothed beak and eyelids referring to the sacred Mat bird or cormorant (Figure 5). This symbol likely represents a mask or a headdress emblematic of the Palenque royal line. The limestone tablet of Temple XIX also shows this king adorned with the large Mat bird mask while being assisted by two kneeling dignitaries³³. He appears in a fantastic bird suit with its beak shown wide open towards the front. Similarly, the stucco walls of the tomb of Pakal I in the Temple of the Inscriptions show the portraits of nine people, or



Figure 5: Stucco Tablet of Temple XIX at Palenque on which the Ruler *K'inich Ahkal Mo' Nahb III* appears inside the head of a cormorant (photograph by Josué Lozada)

32. Mark Alan WRIGHT, *A Study of Classic Maya Rulership*, Ph.D. Thesis, University of California, Riverside, 2011.

33. Guillermo BERNAL, Martha CUEVAS and Arnoldo GONZÁLEZ. *Guía Palenque, Chiapas, México*, op. cit., p. 36. David STUART. *Comentarios sobre las inscripciones del Templo XIX de Palenque*, op. cit., p. 21.

ancestors (nine lords of the night), each richly attired with a cormorant bird (mat) headdress³⁴.

Cormorant imagery is found at other sites in the region, including Yoxihá, which is near Metzabok on the Tulijá River, where explorers found an Early Classic polychrome plate with painted cormorant designs³⁵. The river is narrow at this site, meaning that local Maya had to have visited lakes nearby, like Metzabok, where the Tulijá River actually originates³⁶. Additionally, inscriptions from sites outside of Palenque mention Matwil, such as the unprovenanced vase K792 of the Justin Kerr collection, and a looted lintel from the Yaxchilan area, possibly from La Pasadita near the Usumacinta River to the southeast of Palenque³⁷.

With regards to the cultural importance of the cormorant bird and Matwil, we note that many studies have focused on Maya bird symbolism, especially quetzals, macaws, hummingbirds, hawks, and vultures. Furthermore, scholars have pointed out the central mythological beings, such as the feathered serpent, winged dragons, and the *Muan* bird (also *Moan*³⁸). However, the cormorant has not been studied as often, even though it can be found frequently in large numbers throughout the lakes and large rivers of the Maya region and the Lacandon Rainforest of Chiapas. The representation of a crest on the cormorants in the art of Palenque suggests that the Maya portrayed the olive-green cormorant, also known as the neotropical cormorant (*Phalacrocorax olivaceus mexicanus*), which is the dominant resident bird of the area of Metzabok and nearby Nahá³⁹. Importantly, the cormorant displays the particular behavior of perching and walking on land, flying through the air, and swimming underwater to capture fish. Hence, for ancient Maya this bird accessed the three cosmic realms of the heavens and the underworld, the terrestrial realm, in addition to the watery worlds of origin and the underworld, which also happen to be the realms of the Palenque triad of gods (GI, GII, and GIII). The three levels are dominated by these gods and the cormorant bird that provides a metaphor for entities that like people after death can ascend to the heavens and then descend into the land of the dead, or *Xibalba*.

At Palenque, the use of cormorant bird symbolism and Matwil as an emblem glyph and place name suggest that the local Maya dynasty came from a mythological or past place and city of origin on a large lake that issues from a hollow water mountain

34. Arnaldo GONZÁLEZ, "Dos siglos de descubrimientos arqueológicos en Palenque, Chiapas", art. cit., p. 38. Alberto RUZ, *El Templo de las Inscripciones*, op. cit., p. 100.

35. Frans BLOM and Oliver LA FARGE, *Tribes and Temples: A Record of the Expedition to Middle America*, op. cit., p. 233.

36. Joel W. PALKA, "Maya pilgrimage, migration, and community connectivity at ritual landscapes at Mensabak, Chiapas, Mexico", art. cit.

37. David STUART, *Comentarios sobre las inscripciones del Templo XIX de Palenque*, op. cit.

38. Mercedes DE LA GARZA, *Aves Sagradas de los Mayas*, Universidad Nacional Autónoma de México, Centro de Estudios Mayas, 1995.

39. José HERNÁNDEZ NAVA and Manuela MORALES, *Informe Anual. Monitoreo de Avifauna 2007*, Mexico, Comisión Nacional de Áreas Naturales Protegidas, 2007.

according to Maya and Mesoamerican lore. In this case, early inhabitants of Palenque could have come from Preclassic populations at Metzabok to the south in the Lacandon Rainforest, which has the impressive Mirador Mountain with its multiple caves on the lakeshore. In the section that follows, we discuss another important iconographic and cultural element in the area of Palenque and Metzabok: the split hollow mountain of water and sustenance in the place of origins.

The split water mountain at Palenque and nearby sites

Multiple myths in Mesoamerica describe how mountains and the earth emerged from or floated on primordial waters⁴⁰. The moment of the creation of the earth surrounded by water occurred when the first mountains arose. In central Mexico, the hollow water mountain that emerged at the time of world creation was known as *altepetl*, or “water mountain”, which was also synonymous with “community” and “polity”. Furthermore, a place of creation of Nahuatl people in central Mexico was known as *Aztlan*, which was perceived as a mountain on an island in a paradisiacal lake that initiates a river⁴¹, is similar to the place Matwil of ancient Maya at Palenque.

On an interior wall of a room within the Palenque Palace is a stucco representation of a split hollow mountain painted in red (Figure 6). From this primordial mountain emerges wind, which is symbolized by the T-shaped *ik'* (wind, air) icons, in addition to water and vegetation shown by scrolls flowing down its sides. This image faces the Temple of the Inscriptions that the Maya built on a water mountain with air and streams moving down its sides. The Palenque Palace design has stepped greca designs that represent a cave opening or that the mountain has been split open by lightning.

It is important to note here that the split hollow mountain at Metzabok was recognized by the ancient Maya as being a significant place of origin. The impressive Mirador Mountain, called *Chäk Aktuun* [*k'uh*], or “Red Cave/Hollow [Water] Mountain [Deity]” by contemporary Lacandon Maya, has a red limestone cliff on its east side, which links it to the rising sun and direction of cosmic creation. At the base of this mountain is a cenote cave where water drains to form the Tulijá River just to the west. This mountain, or the Preclassic city of Noh K'uh located nearby, may have been the place in Classic inscriptions called *Chäk K'uh* “Red Deity” from where Maya elites at the secondary sites of Chancalá and Las Cascadas⁴², are found between Metzabok and Palenque, came from. The Tulijá River just to the south of Palenque was a major transportation

40. Angel Maria GARIBAY (ed.), “Historia de México”, in *Teogonía e Historia de los Mexicanos. Tres Opúsculos del Siglo XVI*, Sexta Edic., Mexico, Porrúa, 2005, pp. 91-120. Joel W. PALKA, *Maya Pilgrimage to Ritual Landscapes: Insights from Archaeology, History, and Ethnography*, *op. cit.*

41. Joel W. PALKA, “Maya pilgrimage, migration, and community connectivity at ritual landscapes at Mensabak, Chiapas, Mexico”, *art. cit.*

42. David STUART and George STUART, *Palenque: Eternal City of the Maya*, New York, Thames and Hudson, 2008.



Figure 6: Red painted stucco design in the Palenque Palace showing a split mountain with wind (T or *ik'* glyphs) and water scrolls emerging from a stepped greca opening (photograph by Josuhé Lozada)

and communication route, which is demonstrated in the inscriptions, art, and ceramics from sites in the area⁴³. The ceramic similarities between Palenque and sites on the Tulijá River demonstrate their strong economic and social ties⁴⁴.

At an archaeological site on the Tulijá River near the Finca Encanto, which is found just to the south of Palenque and west of Metzabok, Blom⁴⁵ reported a Palenque-style carved stone panel that depicts a hollow split mountain with a zig-zag cave or lightning strike mark (Figure 7). On this panel, the Maya artists depicted the rain, lightning, and

43. Frans BLOM and Oliver LA FARGE, *Tribes and Temples: A Record of the Expedition to Middle America*, *op. cit.*, pp. 221-233.

44. Robert RANDS, "Cerámica de la región de Palenque, México", *art. cit.*

45. Frans BLOM, "Notes from the Maya area", in *American Anthropologist*, 26(3), 1924, pp. 403-413.



Figure 7: Carved stone Encanto panel showing the Maya rain, storm, and lightning deity Chak (Mensabak) and water scrolls emerge from the stepped greca cleft in a split water mountain
(drawing by Joel Palka, after Blom “Notes from the Maya Area”, p. 404)

storm god Chak (Mensabak of the Lacandon Maya) emerging from or standing on the hollow mountain split open by lightning, likely from the god Chak himself.

Carved volutes and lines streaming down the mountain indicate water falling on it and flowing down its sides. A Maya lord carries offerings of incense in a bag. The scene depicted on this panel recalls the Lacandon myth where celestial deities throw meteors and lightning bolts at the hollow mountain Chak aktun at Mensabak to release the deity Mensabak. This god had relocated to this mountain after living in a mountain in the Ocosingo Valley, which indicates that Maya gods can move from one sacred place to another. This image shows the importance of split hollow mountains of water, like at Mensabak and Palenque.

On the Tablet of the Temple of the Foliated Cross at Palenque, the place name Matwil (bottom glyph) is inscribed on a shell emerging from water (Figure 8) on which the

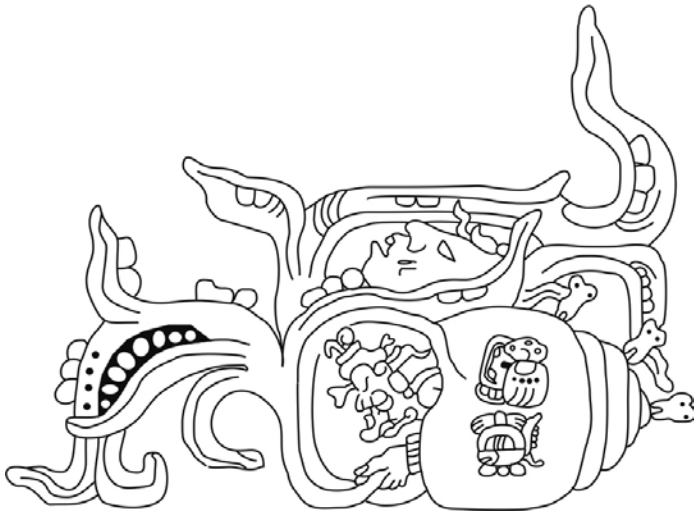


Figure 8: The Matwil hieroglyph (bottom) written on a hollow shell with water and vegetation scrolls symbolizing a hollow water mountain (drawing by Josuhé Lozada)

young heir to the throne K'inich Kan Bahlam stands. We can interpret the shell as a hollow water mountain much like the split hollow mountain on which the older ruler K'inich Kan Bahlam stands on the left side of the panel. The places on which this king stands at different times in his life metaphorically refer to his ritual connections to the split hollow water mountain from which the Palenque gods, water, sustenance, life, and the first inhabitants originally came from at Matwil.

It is possible that Maya residents populating Palenque in the Classic Period came from a nearby Late Preclassic settlement associated

with a hollow water mountain, ancestral gods, primordial waters, and cormorants and other water birds in extensive lakes. The Metzabok lakes and water mountain that initiates the Tulijá River provide a prime location that recalls the Palenque origin place of Matwil. It is interesting to note that the Late Postclassic place sign of Metzabok found on numerous ceramic stamps depict a split hollow water mountain flanked by cormorants or other water birds on its sides⁴⁶. Preclassic Maya living in the city of Noh K'uh at Metzabok also viewed the Mirador Mountain as a split hollow water mountain since they created pilgrimage shrines on its sides and summit⁴⁷. A temple on top of the mountain is oriented towards a large vertical cave shaft near where the mountain is split.

The site of Noh K'uh at Metzabok

The large site of Noh K'uh is located about 1 km south of the Mirador Mountain and lakes at Metzabok (Figure 9). Noh K'uh extends over 200 hectares and has a site core of monumental structures surrounded by over 400 other ritual and habitational buildings⁴⁸.

46. Joel W. PALKA, "Maya pilgrimage, migration, and community connectivity at ritual landscapes at Mensabak, Chiapas, Mexico", art. cit., p. 7.

47. Joel W. PALKA, *Maya Pilgrimage to Ritual Landscapes: Insights from Archaeology, History, and Ethnography*, op. cit.

48. Santiago JUÁREZ, "Viewing the world through cosmovision at Late Preclassic Noh K'uh in Chiapas, Mexico", art. cit. Santiago JUÁREZ, Sebastian SALGADO-FLORES and Christopher HERNANDEZ, "The site of Noh K'uh, Chiapas, Mexico: A Late Preclassic settlement in the Mensabak Basin", art. cit. Joel W. PALKA, *Maya Pilgrimage to Ritual Landscapes: Insights from Archaeology, History, and Ethnography*, op. cit. Sebastian SALGADO-FLORES, "Operación NK-1: excavaciones en el Sitio Noh

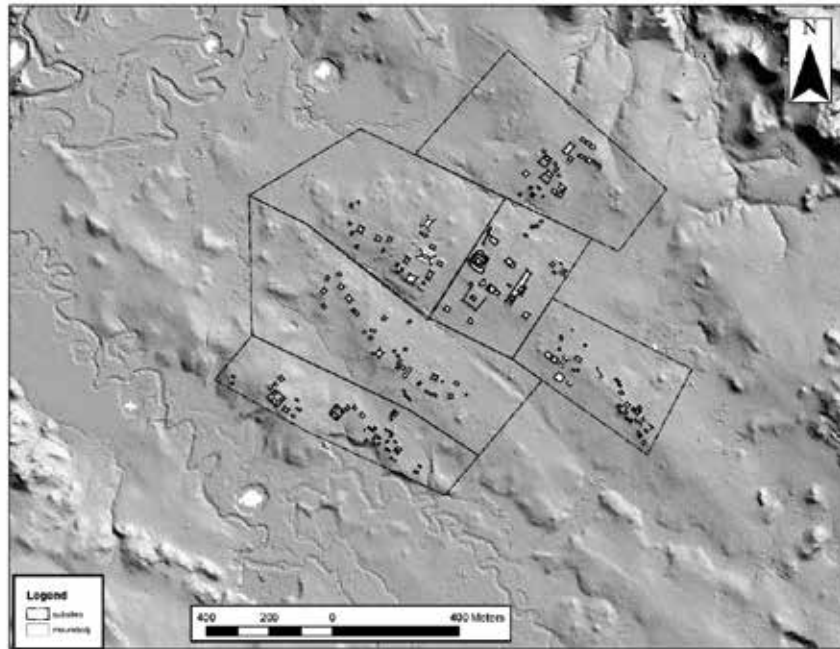


Figure 9: LiDAR map of the large Late Preclassic site of Noh K'uh at Metzabok, Chiapas (map by Santiago Juárez)

The main occupation of the site was during the Late Preclassic Period (ca. 400 B.C. – A.D. 250) and was re-inhabited during Late Postclassic times. This area, which is located about 30 km west of the Usumacinta River, is perceived by archaeologists as a peripheral region due to the lack of Classic Period sites with hieroglyphic texts and elite tombs.

Recent LiDAR (Light Detecting and Ranging) mapping at Noh K'uh has shown that the site is larger than previously known and that the E Group towards the center of the site may have been initially constructed during the Middle Preclassic Period (ca. 800-400 B.C.) due to its architectural characteristics (Figure 9). This E Group, used by Maya to track the rising sun across the solar year, consists of a temple that faces a long platform to the east. These buildings are also oriented towards the vertical cave entrance on Mirador Mountain to the northwest of the site (Figure 10).

The LiDAR mapping also revealed patterns on the monumental constructions at the Late Preclassic ritual site of Tzibana (also Tz'ib'ana) on the lakeshore just to the east of Mirador Mountain. The ceramic evidence suggests that this site had an occupation that continued after construction or habitation at Noh K'uh. On the summit of a main temple at Tzibana, Maya constructed a triadic temple group similar to the Cross Group at Palenque, which were the houses of the tutelary gods GI, GII, and GIII. It is possible

Kuh, Operación 1 (NK-1)", in *Informe Temporada 2011, Proyecto Arqueológico Mensabak, Chiapas, Mexico*, Rebecca DEEB, Caleb KESTLE and Joel PALKA (eds.), Mexico City, Report on file at the Instituto Nacional de Antropología e Historia, 2011, pp. 81-89.



Figure 10: The split hollow Mirador Mountain, or Chäk Aktuun,
on the lakeshore at Metzabok
(photograph by the Mensabak Archaeological Project)

that Maya viewed this site as an origin place of the Palenque god triad who were born at Matwil and then later resided at Palenque when the site grew in importance during Classic times.

It is important to note that while Maya communities along the Usumacinta River and its nearby areas developed during the Early Classic Period (ca. 250 B.C. – A.D. 550) and created regional polities like at Palenque, sites such as Noh K’uh, were abandoned towards the end of Late Preclassic times (Juárez *et al.* 2019). Although we do not understand the reasons for site abandonment around A.D. 250, it is possible that abrupt climate change and drought affected the region considerably. We must consider the evidence for ecological change from the lake sediments in the area to better understand the decline of Noh K’uh, population migration from Metzabok, and the subsequent ascendancy of Palenque.

Lacustrine sediments and ecological change in the Lacandon Rainforest

Studies of sediments in lake basins provide high resolution paleoenvironmental information. Although the majority of studies in this line of investigation in southern Mexico have concentrated on the lowlands of the Yucatán peninsula⁴⁹, the karst mountain region of the Lacandon Rainforest of Chiapas has also been targeted for the important analysis of lacustrine sediments.

For the Late Preclassic period, investigators have noted the evidence for droughts in the lowlands of Campeche and Tenosique, Tabasco⁵⁰, to which Chiapas rivers flowed just to the north of Metzabok, as well as at Palenque itself⁵¹. Gunn and colleagues⁵² studied the hydraulic system and the amounts of water moving down rivers in the region across time, which could have negatively affected the environment of the Lacandon Rainforest and resulted in abundant water at Palenque.

The mountains of the Lacandon Rainforest due to their karstic nature and high precipitation (<3 000 mm per year) contain a large number of water bodies in funnel shaped depressions, sinkholes, and floodplains, especially between 500 and 1 000 masl⁵³. Seven extensive lakes with areas up to 1.2 km² were formed by rivers, like Lakes Nahá (830 masl) near the Nahá Lacandon Maya community and lakes Tzibana and Metzabok at Metzabok (542 masl). The actual trophic state of these lakes is oligo-mesotrophic with high water quality⁵⁴.

Organic material (generally pollen extracts from lacustrine sediments) have been dated in the deepest lake sediments and the preliminary results from radiocarbon suggest a

49. David HODELL, Jason CURTIS and Mark BRENNER, "Possible role of climate in the collapse of Classic Maya civilization", in *Nature*, 375, 1995, pp. 391-394. Liseth PÉREZ, Alex CORREA-METRIO, Sergio COHUO, Laura MACARIO-GONZÁLEZ, Paula ECHEVERRÍA-GALINDO, Mark BRENNER, Jason CURTIS, Steffen KUTTEROLF, Mona STOCKHECKE, Frederik SCHENK, Thorsten BAUERSACHS and Antje SCHWALB, "Ecological turnover in neotropical freshwater and terrestrial communities during episodes of abrupt climate change", in *Quat. res.*, 101, 2021, pp. 26-36.
50. Joel GUNN, John FOSS, William FOLAN, María DEL CARRASCO and Betty FAUST, "Bajo sediments and the hydraulic system of Calakmul, Campeche, Mexico", in *Ancient Mesoamerica*, 13(2), 2002, pp. 297-315.
51. Kirk FRENCH, Christopher DUFFY and Gopal BHATT, "The hydroarchaeological method: A case study at the Maya site of Palenque", in *Latin Am. antiq.*, 23(1), 2012, pp. 29-50.
52. Joel GUNN, John FOSS, William FOLAN, María DEL CARRASCO and Betty FAUST, "Bajo sediments and the hydraulic system of Calakmul, Campeche, Mexico", art. cit.
53. Sarah TEUBER, *Lake Inventory of the Karst Mountains of Southern Mexico*, Master Thesis. Program: Environmental Sciences. Institute of Geosystems and Bioindication, Technische Universität Braunschweig, Germany, 2022.
54. Rabea WESS, *Limnological Characterization of Karst Lakes Tzibana, Metzabok and Sibal in the Selva Lacandona Region in Southern Mexico*, Bachelor Thesis, Program: Environmental Sciences. Institute of Geosystems and Bioindication. Technische Universität Braunschweig, Germany, 2023.

maximum age of Lake Nahá of ~1,872 cal yr BP (calibrated years before present time⁵⁵) and Tzibana of approximately 7,000 cal yr BP⁵⁶ (now ~5,000 cal yr BP according to a new dating model shown in Table 1). However, the results of the dating by radio-carbon in this type of lacustrine ecosystems should be utilized with caution due to the effect of hard water or the reservoir effect that can present older dates. Due to these reasons, instead of dating pollen extracts as previously done, recent studies have dated the humin fraction, or organic compounds of high molecular weight formed by polymerization in the soils or sediments that have received acid-base-acid pre-treatments eliminating carbonates, and adsorbed organic compounds (humates). In effect these results led to a new age model for Lake Tzibana that differed by 2,000 years.

The new ages of a 4.5 m sediment core extracted from Lake Tzibana in June 2013 at a depth of 17 m revealed a mixing of sediment between 3.05 and 1.48 m of which the dated humin fraction suggested the same date for both samples as approximately 250-255 cal. A.D. (1,872-1,701 cal yr BP; Table 1, Figure 11). We believe that sediment mixing led to similar radiocarbon dates between upper and lower sediments. The nature of the mixed highly organic clay and silty-clay sediments suggest high levels of erosion of the soil related to deforestation and agricultural activities during a period of lower water levels than today. This period is the time that the Late Preclassic Maya population may have abandoned Noh K'uh at Metzabok to relocate at Palenque. To further study the climate conditions and ecology associated with the abandonment of Metzabok it is necessary to extract additional parallel sediment cores in Lake Tzibana and other nearby lakes to understand and confirm this water level lowering. The preliminary evidence suggests that the lower water levels were caused by extensive droughts at Metzabok and the intensive mixing of sediments during agricultural activities or constructions on the lakeshore, as seen at the Tzibana site.

Table 1: Radiocarbon AMS dates from the humin fractions of a sedimentary sequence of Lake Tzibana at Metzabok in the Lacandon Rainforest

LabID	Depth (cm)	Age ¹⁴ C (± 1σ BP)	Error (+/-)	Cal Age (2σ, cal BP)	Median cal BP
MET-13-III-D1-5cm	5.1	Modern			
MET-13-III-D2-41cm	147.7	1822	24	1872	1958
MET-13-III-D4-5cm	305.0	1833	23	1701	1732
MET-13-III-D5-81cm	434.0	4478	32	5031	5165

55. Gabriela DOMÍNGUEZ-VÁZQUEZ and Gerald ISLEBE, "Protracted drought during the late Holocene in the Lacandon rain forest, Mexico", in *Veget Hist Archaeobot*, 17(3), 2008, pp. 327-333.

56. Anais CISNEROS, *Paleoenvironmental Inference Using Fossil Ostracodes from Lake Tzibaná in the Lacandon Forest, Chiapas, Mexico*, Bachelor Thesis, Program: Biology. Faculty of Sciences, Universidad Nacional Autónoma de México, 2017.

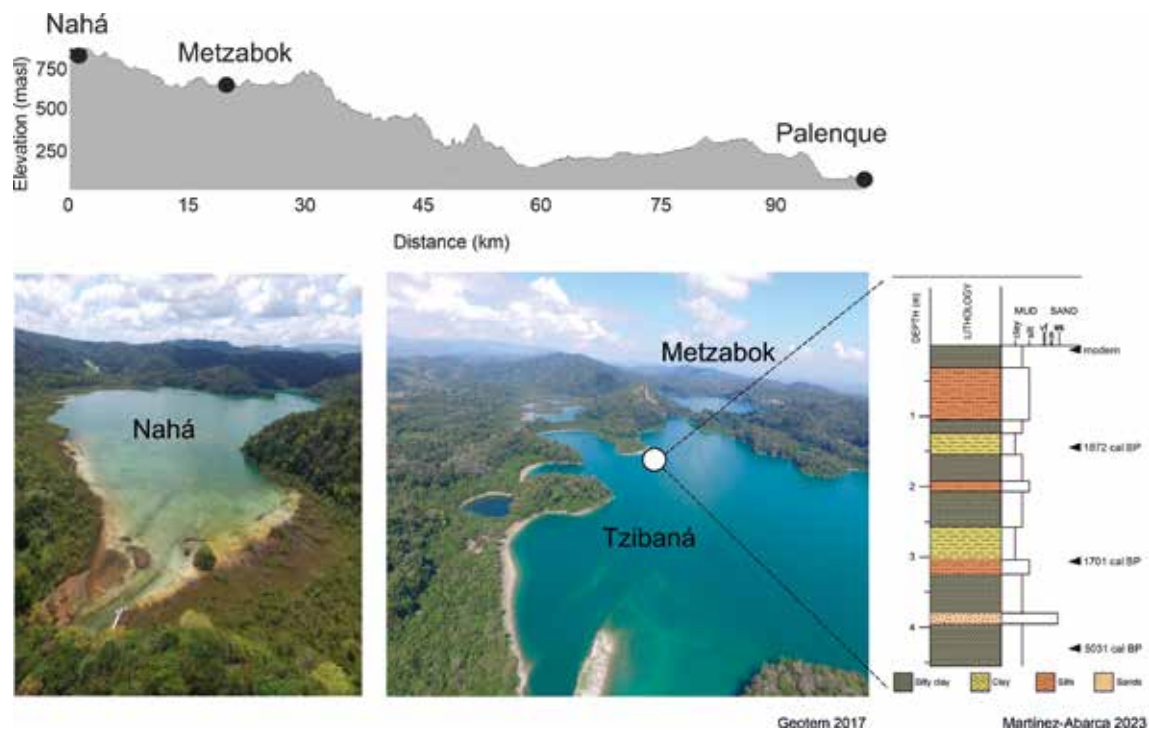


Figure 11: Location, elevation, and distance between Palenque and the lakes at Nahá and Metzabok where environmental and sedimentary studies took place
 Right: Lithology sequence from Lake Tzibana, Metzabok, that was dated by radiocarbon AMS samples (black arrows)

A second period of prolonged drought in the region was observed between 1172 and 649 cal yr BP (A. D. 778 – 1302) from pollen grain analysis in lacustrine sediments from Lake Nahá found only some 11 km to the south of Metzabok (Figure 11). The evidence for droughts here were the increased presence of pine trees (*Pinus* sp.) during a time of reduced tropical forest floral taxa⁵⁷. The arid events between A.D. 778 and 1302 seen at Nahá coincide with the so-called collapse of Classic Maya civilization⁵⁸ and the abandonment of the great regional centers such as Palenque at the end of the Classic Period. Due to drought and the abandonment of the area by the local Maya populations and their ceasing of agricultural activities around A.D. 1302, the tropical montane forests at Nahá slowly began to recover at this time. By around A.D. 1350 during the Late Postclassic Period, the Maya returned to Metzabok to live along the lakeshores and

57. Gabriela DOMÍNGUEZ-VÁZQUEZ and Gerald ISLEBE, “Protracted drought during the late Holocene in the Lacandon rain forest, Mexico”, art. cit.

58. David HODELL, Jason CURTIS and Mark BRENNER, “Possible role of climate in the collapse of Classic Maya civilization”, art. cit. Gerald HAUG, Detlef GÜNTHER, Larry PETERSON, Daniel SIGMAN, Konrad HUGHEN and Beat AESCHLIMANN, “Climate and the collapse of Maya civilization”, in *Science*, 299, 2003, pp. 1731-1735.

possibly near Nahá as well, although surveys have not identified archaeological sites near this lake.

Sediment cores in the Términos Lagoon in Campeche found the same two extended drought periods described above. The dating of the Términos cores coincide with the periods of less discharge from the Candelaria River, which is found just to the northeast of Nahá and Metzabok, around A.D. 300 and A.D. 800⁵⁹.

The diverse paleoecological studies on lacustrine sediments in the karstic mountains of the Lacandon Rainforest have demonstrated that the local aquatic ecosystems were quite dynamic and that abrupt changes in the water levels have taken place⁶⁰, forcing Maya populations to coexist with a highly variable environment or even migrate as in the case of possible population movement from Metzabok to Palenque around A.D. 250 at the time of the Late Preclassic collapse. Recently, in June 2019 in a period of two weeks Lake Metzabok, which is found just to the north of Lake Tzibana, dried up completely⁶¹. However, a few months later in January 2020 the Lake Metzabok and other surrounding lakes had recuperated by 80%⁶². As these extensive lakes played a fundamental role in early Maya civilization in the region, it can be suggested that Metzabok was the location of Matwil or helped inspire the creation of this mythological place of origin of the Palenque gods, cosmos, and people.

Final comments

It is apparent that the cormorant bird, or *Mat*, is associated with the founding of Palenque. This connection was derived from divine origins to the cultural and demographic development of Palenque from other areas when Maya people populated this site in the Classic Period. The hollow water mountain was also important in the mythology and history of the founding of Palenque and the birth and movement of the Palenque Triad gods to the site.

59. Joel GUNN, William J. FOLAN, John W. DAY and Betty B. FAUST, “Laguna de Términos/Río Candelaria core: Conditions of sustainable urban occupation in the interior of the Yucatán Peninsula”, in *Estudios de Cultura Maya*, 39, 2011, pp. 67-97.

60. Rodrigo MARTÍNEZ-ABARCA, Matthias BÜCKER, Johannes HOPPENBROCK, Adrián FLORES-OROZCO, Carlos PITA DE LA PAZ, Karoline FRÖHLICH, Johannes BUCKEL, Theresia LAUKE, Bárbara MOGUEL, Mauricio BONILLA, Karla RUBIO-SANDOVAL, Paula ECHEVERRÍA-GALINDO, Santiago LANDOIS, Miguel GARCÍA, Margarita CABALLERO, Sergio RODRÍGUEZ, Wendy MORALES, Oscar ESCOLERO, Alex CORREA-METRIO, Marta WOJEWÓDKA-PRZYBYŁ, Anja SCHWARZ, Kim KRAHN, Antje SCHWALB and Liseth PÉREZ, “Evidence of large water-level variations found in deltaic sediments of a tropical deep lake in the karst mountains of the Lacandon forest, Mexico”, in *J Paleolimnol*, 69(2), 2023, pp. 99-121.

61. Liseth PÉREZ and Matthias BÜCKER, “Rapid drying of large, deep lakes in the karst mountains of the Lacandon Forest, southern Mexico”, art. cit.

62. Rabea WESS, *Limnological Characterization of Karst Lakes Tzibana, Metzabok and Sibal in the Selva Lacandona Region in Southern Mexico*, op. cit.

Even though some investigators have proposed that Matwil could be found in the area of Tumbalá because of the river that comes forth from the Don Juan Mountain nearby⁶³, we propose that the location of Tumbalá in the high mountains in addition to the lack of Preclassic sites and aquatic birds in large bodies of water makes this place a less than ideal candidate for this origin site. Alternatively, various indications for the interpretation of the place of origins, Matwil, often mentioned in the Palenque hieroglyphic inscriptions quite possibly could be the area around Metzabok. This site has large lakes with cormorants, a temple with three superstructures, or god houses like the Palenque Cross Group, and a large occupation in the Late Preclassic at the site of Noh K'uh. The abandonment of Noh K'uh around A.D. 250 that may have occurred during droughts may have led to Maya migrations to the site of Palenque, which saw a subsequent population rise at this time.

Maya migrations could have followed the Tulijá River that exits Mensabak and flows near Palenque. This river provided an excellent communication route between Palenque and sites on the Tulijá River, which is seen in close ceramic ties in the archaeological record. Furthermore, strong ties between Palenque and Metzabok can be seen in the triadic constructions, like the Cross Group, and the depictions of split hollow water mountains in the Palenque Palace, the Temple of the Foliated Cross, and the Encanto site, which could symbolize the red split mountain of Metzabok from which the lakes and the Tulijá River originate.

Further studies of the ceramics from Metzabok, Palenque, and the Tulijá River sites may demonstrate the strong connections between these areas as posited in this text. Future strontium and DNA analysis of human skeletons at these sites will provide further evidence of demographic and genetic ties, in addition to cultural ones, between Palenque and Mensabak across time.

63. Karen BASSIE-SWEET, Julie C. MILLER and Alfonso MORALES C. , *Donjuán Mountain and the Road to Palenque*, electronic document, 2001, <http://www.mesoweb.com/features/DonJuan>.