



Contributions to the Archaeology
Of Tikal, Naranjo-Sa'aal, Yaxha, and Nakum
Northeast Region of Peten, Guatemala

Approaching a Maya Political Geography of the Northeast Peten, Guatemala: The Holmul River Survey and Settlements in the Hinterlands of Tikal, Yaxha, Nakum, and Naranjo

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Background

The Northeast Peten region was densely occupied by the ancient Maya, mostly in relation to hydraulic features such as rivers (usually seasonal and intermittent), *bajos*, lagoons, streams, and springs. Four main river basins predominate in the Northeast Peten: 1. Cuenca Mopan, which corresponds to the Belize river; 2. Cuenca Holmul, corresponding to the Belizean Río Bravo; 3. the Río Azul-Ixcario basin, which corresponds to the Belizean Río Hondo; 4. the Yaxha basin, whose streams nourish the Yaxha-Sacnab-Champoxté-Lacanha-Juleque lake system (Figure 1). The political geography of the Maya of the Northeast Peten was closely related to those hydraulic basins, which served since the Formative period as immigration routes, natural boundaries, and exchange routes.

This article is based on the regional archaeological research in the Northeast Peten that I have directed since 1993. The Institute of Anthropology and History of Guatemala initiated a large regional archaeological project named *Protección de Sitios Arqueológicos en Petén* (PROSIAPETEN), now known as Department of Conservation and Rescue of Prehispanic Archaeological Sites (DECORSIAP), centered in Northeast Peten. One of the goals was to learn about the density and physical condition of Maya sites, particularly those that exist between the large Maya polities of Tikal, Nakum, Yaxha, and Naranjo. This was motivated by the necessity to document the characteristics and extension of cultural loss in two of the largest Peten National Parks caused by increasing looting and the consequent destruction of archaeological sites. By the year 1999 the project evolved into one that involved not only the

surveying of the intersite area of the previously mentioned large Maya cities, but also the investigation of related settlements of the Holmul River drainage, which is the geographical trait which integrates them. The study has permitted an understanding of the Northeast Peten region on two major levels of appreciation: the intersite and the interregional (Figure 2).

The intersite approach is focused on the nature of territorial and population organization of four large ancient Maya kingdoms documented by three long-distance transects (Tikal-Nakum, Yaxhá-Naranjo, and Nakum-Yaxha). After the results of previous transects directed by Puleston (1983) and Ford (1986), intersite settlement studies were continued in order to attain a general interregional vision of the Northeast Peten. In addition of the basic required documentation of looted endangered buildings, the research goals mainly focused on the determination of settlement political hierarchies and comparison of their characteristics and locations throughout the hinterlands of the four Maya kingdoms previously mentioned (Figure 3). It was possible to learn about the nature of territorial boundaries by the identification of site size and residential group types, associated with diverse environments, such as wetlands, hill slopes, *serranía*, river basins, and plains (Fialko 1993; Lanza 1996) Another research goal was to define the chronology of different settlement types, something critical to demonstrate aspects of frequency and diversity of occupation. After six years of full-time surveys, it was possible to complete the investigation of 60 linear kilometers of transects, obtaining a sample of more than 427 peripheral groups associated with different environments not previously reported (Fialko 1996a, 1996b, 1997, 2000a). Chronological

control was obtained by surface collection and by the excavation of test pits within and outside plazas; more valuable information was gained from structures that had looters' tunnels and trenches. It was found that at least 80% of structures were badly looted.

The interregional approach was centered on the survey of the Holmul River drainage (Figure 2). It allowed for the definition of the sociopolitical roll played by the large Maya states of Tikal, Yaxha, Nakum, and Naranjo in relation to other important polities located along the 186 km of the investigated Holmul River. Understanding of sociopolitical boundaries was facilitated by the identification of distinctive river hydraulic features such as water holes, reservoirs, ponds, canals, *resumideros* (deep ground cavities), and certainly the Holmul River *bajos* known as Ixtinto, Socotzal, Santa Fe, La Justa, and El Jobal.

The project relating to the Maya political geography of the Northeast Peten has benefited from the extended mapping and excavation works at major buildings of the monumental epicenters of the large Maya cities of Yaxha, Nakum, Naranjo, and Topoxte (Hermes 2002; Fialko 2005b), plus archaeological documentation at a sample of 23 intermediate-size centers located around them, listed below:

- a) *Tikal intermediate sites*: Corozal, Uolantun, Chalpate, Tres Cabezas, Navajuelal, Naranjito, Socotzal, Jimbal.
- b) *Yaxha intermediate sites*: Poza Maya, Pochitoca, Holtun, Ixtinto, El Venado, La Naya, Corozal Quemada.
- c) *Nakum intermediate sites*: El Tigre, El Carmen.
- d) *Naranjo intermediate sites*: Balamchak, Kanajau, Tractorada, El Pital, Chunwitz, El Aguacate, El Gavilán, Tzikin Tzakan.

Settlement and Spatial Characteristics of the Maya Kingdoms of Tikal, Yaxha, Nakum, and Naranjo

It has been possible to define (in a very broad way) a basic five-level settlement hierarchy taking into consideration site size, architectural volume, urban group function, and a volumetric analysis of all construction traits (Fialko 1996a, 2005a, 2013, 2019). Each site was measured in the field, including *chultuns*, reservoirs, and the volume of plaza fills. All of the archaeological sites recorded in the regional project were assigned to an appropriate environmental category (Lanza 1995). An example of a Northeast Peten settlement hierarchy based on the Tikal, Yaxha, Nakum, and Naranjo hinterlands general surveys and the

Holmul River drainage is presented according to the Tikal hinterland evidence.

1) *Major Center* (Tikal monumental epicenter). This is the focus of large-scale political, administrative, and ritual activities. The capital settlement includes several architectural compounds such as one E-Group-type complex, two-story palaces, one royal palace compound organized around several patio groups, two ballcourts, two triadic acropolises, causeways, and (comprising the general category) a minimum of three carved monuments with inscriptions (Figure 4).

2) *Internal Intermediate Centers* (Uolantun, El Corozal, and Tres Cabezas, among others). These are located in a radius of approximately five to six kilometers from the Major Centers, being the focus of secondary administrative and ritual activities. Beside elite residential quarters, they may include either a small E-Group complex with at least one carved sculpture or plain stela and altar, or a small triadic acropolis, or a causeway, a ballcourt, or at least three vaulted palaces and two temple pyramids (Figure 5).

3) *Minor Centers* (Jobonche, Bobal, Avila, and Jahua, among others). These are located around or beyond the Intermediate Centers and are usually organized around several patio groups, which include at least three vaulted palaces, several non-vaulted masonry residences, and a medium to small size temple pyramid (Figure 6). This type of peripheral compound might be related to minor elites (important but not royal) spread between Major and Intermediate Centers, and some others beyond the Intermediate Centers (Figure 7). In Figure 7, Intermediate Centers are indicated with green dots, and Minor Centers with purple dots.

4) *Rural Neighborhood Centers* (Toronjo, Escarabajo, Kek Zotz, and Puerta Negra, among others). Some might have one vaulted palace and a small family shrine associated with Plaza Plan 2 (PP2) compounds (Becker 1971) but mostly include commoner households such as found in the Bajo Communities (Kunen et al. 2000) (Figures 8 and 34).

5) *External Intermediate Centers* (El Socotzal, Chalpate, Naranjito, Jimbal, and probably El Palmar and El Zapote). These are located in a radius of approximately 10 to 12 kilometers from the Major Center. They seem to be associated with the territorial boundaries of the polity; the urban organization is similar to the Internal Intermediate Centers (Figure 5).

In addition to the previous categories, there are also low isolated mounds associated with a riverine, aguada, or high stepped terrain, which could be the remains of either a camp, shrine, or an

agricultural facility.

The previous scheme includes settlements that have been designated in other studies as capitals, major or minor ceremonial centers, satellite centers, villages, hamlets, ritual groups, residential groups, patio groups, etc.

The Holmul River Drainage: An Interregional Level Approach

To permit a better understanding, the description of the Holmul River drainage survey and related archaeological settlements has been subdivided into three sub-regions: Upper Holmul, Middle Holmul, and Lower Holmul (Figure 2). Many important settlements linked to the Holmul River are associated with terraces and *micro riverbeds* which resemble canals. One of the most significant characteristics of the settlements of the Holmul River system is their close affiliation with *pozras* (ponds), found in the riverbed, at turns of the river, and at the junction of the river with its tributaries; some *pozras* are half a kilometer long, containing permanent water and a great variety of fauna (Figures 9 and 14). On the other hand, there are the *aguadas* of medium and large size located at the margins of the river (Figure 9); in the present day the *aguadas* still become filled during the rise of the river in the rainy season (Fialko 2001; Fialko ed. 2001). Due to their close proximity to archaeological sites, some *pozras* may have been Maya reservoirs found inside the river course that could be the remnants of the use of ancient dams of the Classic period. The geomorphologic condition of the Northeast Peten makes the hydrologic system of the Holmul River partially subterranean, characterized by a complex system of deep cavities, locally known as *resumideros*, that lead to the subsoil or bedrock.

THE UPPER HOLMUL RIVER AND SETTLEMENT ORGANIZATION OF TIKAL

Tikal was the ancient Maya state which directly dominated the Upper Holmul River drainage (Fialko 2005a, 2008). The vast region begins where the river originates, north of the hills related to Lake Mancanche (Figure 10). Later, the river spreads part of its waters into the Ixtinto and Socotzal *bajos*, south of Tikal, to later join the large Santa Fe *bajo*, east of Tikal (Figure 2). Apparently, a part of the trade system of Tikal was closely tied to the seasonal flow of the river, which during the rainy season was navigable in some areas.

The three sources that give birth to the Holmul River originate in three streams which emanate from the hills north of Lake Mancanche (Figures

7 and 9). Many sectors of the river course are sedimented and frequently covered by high vegetation that include *corozo* palms usually associated with poorly drained terrain (Figure 11). Two of the largest tributary streams known as East and West Arroyo Negro pass through the Socotzal and Ixtinto *bajos*, located south of Tikal, to finally join the main course of the Holmul River in the large *bajo* Santa Fe which represents a territorial area up to 36 square kilometers (see Figures 2 and 12) (Cowgill and Hutchinson 1963). The landscape of the Upper Holmul River to the south of Tikal shows a topography of plains and low hills, which in present times looks deforested and eroded by cattle herders and *milperos*. The Upper Holmul near to the Ixtinto and Zocotzal *bajos* is a moribund river considering that its bed has been modified by agricultural fields and rural roads (Figure 13).

Navajuelal (Green 1970) and El Socotzal, two of south Tikal's Intermediate Centers, predominated in this region (Figure 14). The majority of the archaeological sites found in this region represent Minor and Rural categories, where small settlements such as Tortuga and Escobo occupied *bajo* islands, while four others (Puerta Negra 1, 2, 3, and 4) were found on terrain elevations of irregular shape located near the margins of *bajo* Ixtinto (Figure 15). In the sociopolitical system, some settlements probably were identified with their corresponding springs, streams, and ponds, and the settlers probably used site toponyms that reflected specific hydraulic features.

An important External Intermediate Center of Tikal is El Zapote, located near the origin of the Holmul river next to a conical hill (Cerro Macanché) that resembles a volcano (a sacred *witz*); a few fragments of its looted sculptures remain dispersed in the plazas (Figure 16). The landscape association supports the notion that El Zapote was the location of ritual ceremonies closely related to Classic Maya cosmovision and Tikal's dynastic power (Schele et al. 1992) (Figure 10).

Tikal Bajo Communities

When Anabel Ford (1986) did her pioneering intersite survey between Tikal and Yaxha, she avoided surveying the *bajo* Santa Fe (Tikal), the *bajo* LaJusta (at Yaxhá), and the flood plains of the Holmul River tributaries, considering them unsuitable for human habitation. Almost fifteen years later, it was found that these *bajos* were occupied by people now known as *Bajo Communities* (Kunen et al. 2000; Culbert et al. 2001; Dunning et al 2002), settled in association to *bajo* islands and peninsulas, some of them since the Middle Preclassic period (see Figure 6). In a satellite image shown in Figure 6,

the green dots indicate Intermediate level centers, and purple dots indicate Minor and Rural level centers. Most of the *bajo* Preclassic sites related to water resources were also occupied in Terminal Classic times, when more of the non-river-related sites were abandoned (Figure 3). Some of the *bajo* sites were first identified through the analysis of satellite imagery (Sever et al. 2000; Culbert et al. 2001; Fialko ed. 2001; Gidwitz 2002). Exhaustive ground surveys plus excavations and material analysis at some of the Santa Fe and La Justa *bajo* sites have permitted the understanding of their cultural development.

The important Tikal external intermediate-level centers of Chalpate (east) and Navajuelal (south), can be considered as Bajo Community Centers. Also, research carried out at the *bajo* La Justa, near the city of Yaxha, permitted increased understanding of the organization of the Bajo Communities of the sites of Poza Maya (an Internal Intermediate Center) and Cara Fea (a Minor Center) (Culbert et al. 1997, 2001; Kunen et al. 2000; Grazioso Sierra et al. 2001) (see Figures 3 and 17).

Located in the northern region of Bajo Santa Fe are the Intermediate-level centers of El Encanto, La Flor, and Tres Cabezas, and the Minor level centers of Isla Jahuia, Isla Los Pinos, Isla Canguro, Santa Fe/Aguada Términos, and La Balanza (Fialko ed. 2001; Fialko 2008). With the exception of the sites located on *bajo* islands and peninsulas, the rest are associated with the confluence of the Holmul River with its tributaries, or the confluence of the river with the Santa Fe *bajo* (Figures 17 and 18). In the satellite image, some of the large ponds (*pozas*), appear as black medium-to-small dots; in the riverbed they retain water all year long. Most of the previously mentioned sites indicate Preclassic occupation and appear distributed every five to seven km. By the Early Classic some sites such as El Encanto and Tres Cabezas became Intermediate Centers containing carved stelae, which indicates an already mature political dynastic system led by central Tikal. At the site of Tres Cabezas was found a stela which makes reference to the Lady of Tikal (Simon Martin, personal communication 2001) (Figures 19–21).

Two Minor Centers, Jahuia and Isla de Pinos, are located near Bajo Santa Fe, at the northeast corner of the Tikal National Park, in clear association with a dense pine forest which could be related to anthropogenic activity initiated in Prehispanic times (Figures 22–24). In support to this possibility there is a pine pollen sample gathered by T. P. Culbert in the *bajo* La Justa, near a Holmul river tributary stream at northern Yaxha; also a corn cob was recovered in the site Poza Maya (Culbert et al. 2001).

Satellite images have provided evidence of long lines in the Bajo Santa Fe, not far from the site El Encanto, which may connect with the Holmul river (Figure 25). Surveys and stratigraphic pits have found indications of periodic water currents, although there is not yet any formal evidence of ancient drainage canals (Dunning et al. 2002). Important hydraulic works have been documented at the epicenter of the city of Tikal, some originating in the Preclassic period, indicating that it would not be surprising if hydraulic technology also was present in the hinterlands (Fialko 2000b).

Important Intermediate Centers related to the southern and eastern region of the Bajo Santa Fe were El Corozal, Chalpate, and Uolantun, all located near the river and the *bajo*; one of the ponds near the site of Uolantun, known as Poza Naranjal, is related to the Upper Holmul river (Figure 26). All of them were occupied since Middle Preclassic times (Figures 5, 27, 28). An important Orreogo anthropomorphic sculpture (Jones and Orrego 1987), was found in a site related to the *bajo* Santa Fe, indicating the establishment of formal political leadership (Figure 29). It can be considered that a large part of the agricultural activities of these settlements would have been carried out in appropriate sections of the *bajo*, in a manner similar to modern agricultural use of the Bajo la Pimienta near the site of Naranjo (Folan et al. 1998). The Middle Preclassic centers might have had a relatively independent status, as small chiefdoms, just as at central Tikal.

In the Late Preclassic (350 BC to AD 150), occupation intensified at Corozal, Uolantun, and Chalpate; by this period at least three additional settlements began their cultural trajectory in the southwest section of the Bajo Santa Fe. It is considered that by Late Preclassic the Intermediate Centers may have become politically closely associated with central Tikal. It was observed that all the Preclassic centers of the Bajo Santa Fe were also occupied during the Early Classic (Fialko 2000a, 2008); during this cultural period, the previously mentioned Intermediate Centers erected sculptured monuments and probably already were incorporated as part of the political hinterland of Tikal, which during the Early Classic may have reached 200 sq. km.

Until the beginning of this project, it was considered that the so-called “Defensive Earthworks of Tikal,” some six kilometers from the epicenter near Bajo Santa Fe, were the limits of the hinterlands of Tikal (Puleston and Callender 1967; Puleston 1983; Culbert et al. 1990:115). However, at this time it can be considered that the “Earthworks” probably functioned only as an internal barrier for central Tikal, and the real limits of the hinterlands

were at least 12 km beyond the epicenter as indicated by the present research. The External Intermediate Centers—Jimbal (north), Socotzal (south), Naranjito (southeast), Chalpate (east), and El Palmar (west)—may have worked as frontier settlements (Figure 17). The external Intermediate Centers of Tikal built impressive temples and palaces (Figures 5, 30, 31). The intrinsic territory of Tikal may have been increased to 575 sq. km. In the Late Classic period, the Intermediate Centers of Uolantun (Fialko 2017) and Chalpate (Lou 1996) built Twin Pyramid complexes (Figures 5, 32, 33, 28).

The sample of settlements obtained by transects and the Holmul River surveys indicate that in the Late Classic period, the hinterland occupation of Tikal was five times larger than in Early Classic times. At Bajo Santa Fe, it was possible to identify a sample of fifteen sites of different hierarchies permitting the conclusion that by Tepeu 2 (AD 700–800), the Bajo Communities reached their maximum growth.

Late and Terminal Classic Settlements in the Hinterlands of Tikal Related to Bajo Santa Fe

As to when the External Intermediate Center of Chalpate became assimilated under Tikal's political sphere, important evidence indicates that Chalpate's Twin Pyramid complex was built in Tepeu 1 (Ik phase) (see Figures 5, 32, 33). By then this center was a kind of boundary settlement of the polity of Tikal. Something similar occurred with the External Intermediate Centers of Socotzal and Naranjito during the Terminal Classic; most of the internal and external intermediate centers of Tikal were involved in the amplification of residential platforms built previously during the Tepeu 2-Imix phase, producing very large rectangular mounds, locally known as *caballo*, as well as L- and U-shaped platforms and quadrangles (Fialko 2005c) (Figures 5 and 30). The elongation process of platforms also is visible in residential rural centers (Figure 34).

The clear correlation between Terminal Classic ceramic assemblages including large capacity vessels, and large rectangular L- and U-shaped structures seems to indicate a particular adaptation probably implying the aggregation of several families in one large residential unit where they possibly prepared meals on a communal basis. Some important Intermediate Centers located south of Tikal, such as Navajuelal, Bobal, and Avila (Green 1970; Puleston 1983) near the Holmul River drainage also have plaza groups including large rectangular, L- and U-shaped structures, which apparently coincide with the Terminal Classic ceramics documented by Fry (1969:97) and the

appearance of a distinctive micaceous ware (Fialko 2005c). The scant presence of ceramic groups of the Eznab complex in the major urban center of Tikal can be considered an indication that the diverse activities involving the top tier or major elites concentrated in the main capital center declined in such a manner that apart from the limited construction, there was a dramatic decrease in pottery production and exchange. Apparently the population that fulfilled the service functions gradually abandoned central Tikal and relocated close to the region of the *bajos* and the Holmul River (such as at Poza Naranjal, near Uolantun) (see figure 26), where they had easy access to water and humid terrain necessary for agriculture.

The discovery of a moderate Terminal Classic occupation associated with Intermediate Level Centers mainly located close to the Holmul river drainage at distances that vary between 5 and 13 km from central Tikal indicates that the minor elites tried to reorganize from the periphery, although without success in the long term. Tikal's political crisis at the end of the Classic period may have been a problem with deep roots that could have involved the confrontation of the top tier or major elites of central Tikal with the minor elites of the periphery, as a part of a competition for power and wealth. The labor involved in maintaining the fields for agriculture in the zones adjoining Bajo Santa Fe and the Upper Holmul River drainage, as well as the cleaning of riverbeds and canals for drainage, could have been part of the tribute coordinated by the minor elites (Fialko 2005c).

The excavations conducted in the riverbeds of the Holmul river and some of its tributaries have provided evidence that some of them sedimented over, possibly gradually (Fialko 2001). This condition apparently was motivated by at least two factors: little rain or the lack of periodic maintenance to remove the sedimentation. The abandonment of this maintenance work perhaps constituted a form of resistance toward the centralizing interests of the capital of the state.

The presence of Terminal Classic incensarios and figurines and their likely utilization in ritual activities conducted in the L- and U-shaped palaces of the periphery and at the base of stelae-temples may be seen either as a symptom of the reorganization or the fragmentation of the traditional cult previously realized in temples and shrines of the epicenter of Tikal. A similar situation has been attested in the hinterlands of the major centers of Yaxha, Nakum, and Naranjo, which could indicate that the political crisis was at an interregional level.

MIDDLE HOLMUL RIVER SETTLEMENT ORGANIZATION

The Middle Holmul basin begins at the southeast limit of Bajo Santa Fe, near the confluence of the river tributary known as “arroyo El Carmen” related to the Naranjito site (Chan 2002) (Figures 2 and 35). Important sites located in this region are those known as Xilonche, Paso del Carmen, Laberinto, Chicleros, and El Tigre (Figures 38–41). These correspond to a hierarchy of Intermediate and Minor Centers, apparently functioning as dependencies of the site of Nakum, considered as the Major Center dominating the Middle Holmul river basin (Fialko 2001, 2005a). The Intermediate Centers of Paso del Carmen (west) and El Tigre (north) apparently were boundary sites of Nakum. Three of the Minor centers (Fortaleza, Dos Estelas, and Sin Aliento), corresponding to the west hinterland of Nakum, are located on hilltops north of the Holmul river, apparently to ensure defensiveness towards Tikal; those sites were built by the Late Classic and were also occupied during the Terminal Classic, when central Nakum political dominion was prevalent. There are no Nakum-related hilltop sites at the southern and eastern boundaries, oriented towards Yaxha or Naranjo. Most of the settlements located in the hinterlands of Nakum are ranked from Minor to Rural Centers.

A characteristic of the Middle Holmul River is its current, which after departing from the eastern area of the Bajo Santa Fe, becomes greater and wilder, especially during the rainy season, filling along its path great deposits of water (*pozas*) which in some cases are beyond one kilometer long. Locally known as “Holmul Pozas” of the Middle Basin, these are genuine nature sanctuaries which should be nominated as national natural patrimony: plenty of fish, birds, mammals, and alligators live in such an environment (Figures 36 and 37). Twenty years ago, Petenero peasants invaded the Paso del Carmen *poza*, causing great danger to the environment. They also looted the sites of Laberinto and Chicleros, both characterized by their fine polychrome pottery (Figures 39–41).

Nakum and Yaxha Bajo Communities

The northern Yaxha region is connected to the Middle Holmul river basin through the Arroyo Yaxha, an important tributary, which flows through the large Bajo La Justa (Figures 2, 3, 35, 42). At the junction of both currents is formed an important reservoir, known as Poza Yaxhol; precisely at the southern edge was located a small site known as Yaxhol, which originated in the Middle Preclassic period like Nakum (Figures 43 and 44). The

beginning and the end of the Arroyo Yaxha appear marked by two Middle Preclassic settlements (El Bajon and Yaxhol, both Minor Centers). At this point, it is important to mention that the Arroyo Yaxha divides the Bajo La Justa in two, such that two Bajo Community centers, Cara Fea and Xateros (Minor Centers), developed at the western side of the arroyo (Figures 2 and 42) while the eastern area was occupied by two important Intermediate Centers, Poza Maya and La Pochitoca (Figures 45 and 46). Most of the previously mentioned centers began their cultural trajectory in the Middle Preclassic period (Fialko ed. 1998).

The present pattern of distribution and location of Preclassic settlements related to the Middle Holmul river and associated with islands and peninsulas of the Bajo La Justa, belonging to the hinterlands of the Major Centers of Yaxha and Nakum, tend to be similar to the pattern previously observed at the Upper Holmul river and the Bajo Santa Fe related to the hinterlands of Tikal (Figures 47 and 48). Both instances are ideal for the documentation of the Bajo Communities’ early adaptive activities and social organization system (Culbert et al 1997, 2001; Kunen et al. 2000). The Bajo Communities were contemporary and probably related to the founders of central Yaxha and Nakum.

The Preclassic sites of the Bajo La Justa continued their occupation during Early Classic times. Particularly relevant is the cultural development observed in the sites Poza Maya and La Pochitoca, located 6 km. from Yaxha; these Intermediate-level centers are equivalent to the relationship existing between El Corozal and Uolantun and Tikal. The Poza Maya site increased its hierarchical level from a Minor Center to an Intermediate Center, becoming an important administrative center filled with vaulted palaces (one of two stories) and pyramidal platforms for ritual use (Figure 45). The monumental architecture was arranged around five plazas for which an enormous quantity of fill was needed involving a massive transport of gray clay from the neighboring *bajo* (Fialko ed. 1998). The construction operations were clearly associated with cultural debris and stratigraphy corresponding to the earliest phase of the Tzakol horizon. The surprising growth of Poza Maya included the construction of an artificial reservoir of approximately 250 m on a side, built 1 km. west of the urban center (Figures 47 and 48). Test pits excavated in Late Preclassic sites located in the foothills between Yaxha and Nakum indicated that they were not occupied during the Early Classic Period (Fialko, 1996a, 1996b, 1997). This situation has allowed us to consider that those populations may have moved down to the *bajo*, becoming

involved on the urban development of Poza Maya.

During the Late Classic there was agricultural production in the Bajo La Justa. Research in the *bajo* provided evidence of canals, which drained some areas at the end of rainy season in order to open the *bajo* for cultivation (Culbert et al 1997, 2001). Excavations were successful in finding evidence of corn cobs and pine pollen (Figures 49 and 50). Yaxha may have been responsible for this development because the canals are located between a tributary of the Holmul river and the Maler Plaza of Yaxha.

In the Bajo La Justa there was a tremendous development of settlements, where the margins and islands as well as the ridge hills north of the *bajo* were intensively occupied. The sites of Cara Fea and Tintalito increased in rank from Rural to Minor Centers (Figure 42). The changes in Poza Maya and La Pochitoca (Figures 45 and 46) were even more dramatic; both sites, already at a level of Intermediate Centers, built ballgame courts and intrasite causeways. Afterwards, late in the Late Classic period some of their palaces were demolished accompanied by evidence of burning; their remains were conditioned into massive ritual platforms. One could suggest that Intermediate Centers were autonomous in the Early Classic, but at the beginning of the Late Classic, as happened in Tikal, the territorial power of Yaxha may have expanded, taking over Poza Maya and La Pochitoca in order to establish a direct control over the Bajo Communities. This transformation indicates a change in function from peripheral administration and minor elite residences to activities more related to ritual activities organized from Yaxha.

Nakum Political Dominion of the Middle Holmul River

The Major Center of Nakum is well known for its location at the northern margin of the Middle Holmul River (Tozzer 1913). Later settlement studies document the political and economic dominion of the Middle Holmul river, from the Middle Preclassic to the Terminal Classic periods (Fialko 1997, 1998, 2000a, 2001; Fialko ed. 2001; Hermes 2002). Although Nakum's intrinsic territory was not larger than 36 sq. km., the epicenter was characterized by functioning as a regional Port of Trade. Even at the present day during the rainy season it is possible to observe the river inundating the road to Nakum, which becomes navigable. Important hydraulic works have been identified at Nakum, in clear connection with the river's seasonal flow, which have important ritual and pragmatic connotations (Figure 51).

In Nakum there is an important connection between the Royal Palace compound and the

river pier, which indicates that the palace was the point of important storage and administrative activities. Next to the pier the builders of Nakum canalized part of the Holmul river to create an artificial reservoir, which also was nourished with the rainfall captured at the Royal Palace patios and buildings (Figures 54 and 55). An underground vaulted canal system of the Royal Palace was found under Patio 4, in addition to a drainage related to Temple 14 at Patio 1 (Figure 54). The excavations in Nakum have identified a Preclassic *aguada* below Ballcourt 2 (Calderón et al. 2019), apparently in accordance with the symbolism related to ballcourts and the underworld (Figure 54). A similar case was observed in relation to Ballcourt 1 in Yaxha (Bernard Hermes, personal communication 2009).

While during the Terminal Classic period central Tikal and Naranjo show symptoms of decline, in Nakum all is florescence. The archaeological investigations undertaken in the periphery as well as in the urban epicenter of Nakum have demonstrated a well-organized and intense occupation and formal building projects during the Terminal Classic, which can be explained as the result of the location of this major urban center in the heart of the Middle Holmul drainage (Fialko 1996a, 1997, 2005c; Fialko and Ramirez 2002; Hermes 2002). The river must have functioned as an important trade route, with Nakum developing into an influential trade center at this time.

Although, the study of the Terminal Classic ceramic collections of the periphery of Nakum is still in process, an estimate of the quantity of material belonging to this cultural period reaches approximately five times the amount found in communities of the Upper Holmul River related to Tikal's periphery. This situation seems to indicate that Nakum was a very prosperous center, and probably the dominant one of the Holmul River system during Terminal Classic times.

Settlement pattern studies carried out in Nakum's hinterland revealed that although the subsidiary centers were organized into a hierarchy of four levels, they were fewer and smaller in comparison with the settlements under the dominions of Tikal, Yaxha, and Naranjo. Nakum had only two Intermediate Centers, in contrast to the average of eight Intermediate Centers related to the aforesaid sites. Considering that the territory controlled by Nakum was smaller, it is possible that its top social tier or major elite segment had a tighter and probably a more integrated relationship with the minor elites. This situation would have allowed the state to keep its sociopolitical stability throughout the Terminal Classic until the first

part of the Postclassic period. The collapse of the kingdom of Naranjo happened before the social complications began in Nakum. After the demise of the major elite of Naranjo, it is possible that Nakum took advantage of the situation, taking over at least two of the west border Intermediate Centers of Naranjo known as Balamchak and El Pital, the latter located near a Holmul River reservoir known as Poza Paso de Julio (Figures 57–59). The centers have a similar settlement configuration, characterized by an internal causeway.

THE LOWER HOLMUL RIVER AND THE HINTERLANDS OF NARANJO

After transiting by Nakum, the river continues its eastern direction forming several large *pozas* before it turns toward the north, a region described as the Lower Holmul River related to the *bajos* La Pita and El Jobal, closely associated to the dominions of the ancient Maya kingdom of Naranjo (Fialko 2019). The northern hinterlands of Naranjo are organized in relation to several Holmul river tributaries and the large *bajo* El Jobal, located between Naranjo and the site of Holmul (Figures 1 and 2). Sites belonging to the hinterlands of Naranjo near the confluence of the tributaries with the Lower Holmul River tend to be Preclassic, such as the important Intermediate Centers of La Tractorada (Bajo La Pita), Kanajau, El Aguacate, and Chunwitz (Figures 60–62); the previously mentioned sites erected monuments. Limited research has been done at El Pital (Ramírez 2004), LaTractorada, and Kanajau; it is relevant to mention that the last two sites include E-Group type complexes built in Preclassic times.

The Intermediate Center of Kanajau is associated with a large Holmul River *poza* known as Poza Kanajau; around it have been documented dozens of residential groups (Figure 63). One of the distinctive features of the site of Kanajau is its internal southeast causeway which connects to a sunken patio, where important Preclassic sculptures were erected (Fialko 2005a; Fialko and Ramírez 2002). In the center of the patio were found two fragments of a carved stela portraying the image of an early ruler, possibly from Naranjo (Figures 64 and 65). Sharing an axis with the stela and the center of the temple was found a zoomorphic sculpture (Figures 66 and 67), while the northeast and northwest corners of the patio were marked by plain semicircular altars. Between the west side of the temple and the causeway stairs was located an altar sustained by circular feet (Figure 68). Similar features have been documented at the site of Izapa, Chiapas.

Inside the looters' tunnel, which destroyed

part of the temple and large eastern platform of the "E- Group" compound, were found several earlier constructions, the deepest of them belonging to the Middle Preclassic period (Figure 69).

Bajo El Jobal Settlements

At the point where the Lower Holmul river shifts its direction toward the north, the topography of the region is characterized by low hills and flat terrain, which connects with the Bajo Jobal system. The territory of the *bajo* between the major centers of Naranjo and Holmul is predominantly swampy, having not many prominent islands and peninsulas, a factor which inhibited the presence of relevant Intermediate Centers between the two major sites. There are two Minor Centers, identified as La Zarca and El Jobal (a Preclassic site); the rest are small rural dispersed settlements culminating near the swampy region of the Yaloch lagoon, associated with an arm of the Holmul river (Figures 1, 2, 70).

There are various sites at the southern and northern margins of Laguna Yaloch, most of them belong to a Minor to Rural hierarchy. Two Minor Centers, Mirador Yaloch and Pacayal, were found surrounded by rural centers. Mirador Yaloch, a site originating in the Late Preclassic, is located on a hilltop half a kilometer northwest of Lake Yaloch. A very eroded sculpture and several dispersed fragments of a probable zoomorph were identified in its main plaza (Figures 71–73). Settlements related to the Lower Holmul river at the north and east of lake Yaloch belong mostly to a Minor level distributed in distances close to the five kilometers. There was no standardization in size, planning, or construction volume, which could be an indication that those political entities had diverse functions in the regional political system to which they belonged.

Apparently, the Yaloch region was dominated by the Major Centers of Holmul (West) and El Pilar (East). The close relationship shared by Naranjo and Holmul is well known. During the survey process the Intermediate level centers known as Sibal, El Perú, and La Palma, located to the north and east of Holmul, were visited.

Approximately 10 km north of Lake Yaloch near the Guatemala-Belize border zone was found the Minor Center of Chintok (Figure 74), organized on several plaza groups, which include Terminal Classic quadrangles and vaulted palaces. Inside the looters' tunnels it has been possible to find evidence of Early Classic palaces, later transformed into huge ceremonial platforms by the Late Classic period. This is a similar situation to the previously mentioned Intermediate Centers of Poza Maya and

Pochitoca, located in the Bajo La Justa, on northern periphery of Yaxha. On top of one of Chintok's platforms there are two small plain stelae (Figures 75 and 76).

The Lower Holmul River Settlements at the North of the Lake Yaloch region

Many of the Intermediate and Minor centers located north of the site of Holmul and Yaloch Lake originated in Preclassic times. Some sites included sculptures, as is the case of Mirador Yaloch, Chintok, Chanchich II, El Tambo, and Witzna; this last one is located in the region of the water divide between the basins of the Lower Holmul and Ixcario-Río Azul rivers (Fialko and Ramírez 2014) (Figure 2).

Near one of the ponds formed by the junction of the Lower Holmul river and a tributary stream is located the site of Chanchich II (Figure 77), an Intermediate level Center in process of becoming a major site. It includes two acropolis complexes, one of them of triadic plan, also an E-Group type compound and a ballgame courtyard. The epicenter is surrounded by residential groups, one of them containing two rustic Preclassic potbelly type sculptures, very similar to those found at *bajo* El Jobal, and the potbelly sculpture found at the periphery of Tikal near the Bajo Santa Fe (Figures 78–80). The E-Group temple and the East Long Platform are affected by large looters' tunnels showing important Preclassic and Early Classic architecture (Figures 81–83). A stucco mask was found at the Eastern Platform of the E-Group (Figures 84–87). Additional sculptural remains associated with the Lower Holmul river basin region are two stelae and a zoomorph-frog, located in front of the Eastern Platform of the E-Group compound of the Minor Center of El Tambo (Figures 88–90). Approximately 4 km east of the site of Chanchich I there is an important pond of the Lower Holmul river known as Poza Benchua, where a large *maderero* camp is located (Figure 91).

Approximately 13 km northwest of Chanchich I and at the southeast of the site known as Las Ventanas is located a large site known as Witzna, another Intermediate Center in process of becoming a Major Center. The site is related to a tributary of the Lower Holmul river and was built near a low *serranía* which divides the Holmul and Ixcario river basins (Figures 1, 2).

The epicenter of the site of Witzna (Figure 92) includes a large acropolis which sustains a temple pyramid, a large palace compound (royal palace), and a ballgame court. There is a causeway which links the acropolis group with a large plaza with

three large stelae and two altars (Figures 93 and 94). The main area of Witzna is surrounded by an important number of residential groups which were not mapped. It is important to mention the two-story main palace compound of Witzna, which presents a quadrangle shape. As a result of the multiple looters' tunnels and trenches (Figure 95), it is possible to define at least three Late Classic construction periods, and apparently one from the Early Classic. The palace compound has various galleries of double tandem precincts finely decorated with salmon color stucco (Figures 96 and 97). In the eastern gallery are the remains of a wall decorated with incised designs resembling a mat, indicating it was a ruler's residence (Figure 98). The palace still conserves wooden lintels (Figure 99).

Final Comments

The surveys along 186 km of the Holmul River basin were a supplement to the original Maya settlement research done by transects at the peripheries of the large Maya cities of Tikal, Yaxha, Nakum, and Naranjo. The result has permitted a determination that both *bajos* and *pozas* of the Homul River were cultural and natural geographical features related to Maya settlement traditions established since the Preclassic period. In addition it was possible to determine that a hierarchy of Major, Intermediate, Minor, and Rural settlements was a trait clearly manifested at the periphery of the large Maya cities previously mentioned. It is very likely that such settlement organization may also be present in Maya sites related to the Ixcario River basin, and perhaps in sites corresponding to the El Mirador basin region in northern Peten. The settlement hierarchy related to the southeast Peten and Belice regions probably contained less categories, or their urban features were less elaborated.

Among the results of the surveys, it was also possible to establish that the settlements in the periphery of each Major Center investigated had their particularities in terms of urban design. For example, from the Intermediate Centers of Tikal, only those located in the periphery of 10 km, such as Chalpate, Jimbal, and El Socotzal, had the possibility of constructing E-Group type complexes, and in the latter case a triadic complex.

A similar case was seen in relation to the periphery of Yaxha, where only its Intermediate Centers located 10 km to the south had E-Group complexes, such as El Venado and Holtun and also the Ixtinto site located in the south basin of Lake Yaxha. However, the Intermediate Centers Poza Maya and La Pochitoca in the Bajo La Justa only

had the option of constructing ballgame courts and intrasite causeways.

In contrast to what has been mentioned related to the peripheries of Tikal and Yaxha, in the surveys carried out in the hinterlands of Naranjo it was established that most of their Intermediate Centers, those located within a radius of 5 km and 10 km, had the possibility of building E-Group complexes, ballgame courts, and intrasite causeways. This situation would indicate a form of decentralization of the Naranjo ruling elites, motivated by a vast interregional area of control, both economically and ritually, which would allow them to sustain the network of political alliances and the process of tribute collection in a more efficient way.

With the reconnaissance in the periphery of Nakum, it could be verified that its sustaining area was much smaller than that of its neighboring states; it may be considered that this reflects the fact that it functioned mainly as a city centered on its role as a Port of Trade. This situation would explain the reason why Nakum did not have to base part of its economy on the productive support and tribute from Intermediate Centers, with the exception of El Tigre and El Carmen sites, which could function as its border settlements. It is still pending to carry out exhaustive surveys in the northeastern periphery of Nakum, where there is knowledge of the existence of several environmental systems, among which is an important savannah (Nicholas Hellmuth, personal communication 2019).

Step by step along 186 km of surveys along the Holmul river drainage, it has been possible to appreciate in general scope the variety and complexity of an important sample of settlements that indicated continuous occupation for approximately fifteen centuries. The political geography related to the Holmul River indicates Intermediate Level Centers with important sculpture traditions going back to the Preclassic period, associated with E-Group compounds. Apparently the river drainage was an early migration route, and the Intermediate Centers distributed every 5 to 10 km were the locus of pristine settlements. It may be possible that since Preclassic times the centers were already politically linked into a regional organization system, probably similar to a confederation, based on their identification with a common geographical trait: the Holmul River and its close relationship to large *bajo* regions, and the formation of large ponds (*pozas*), which may be remnants of ancient reservoirs.

What remains to be done is to compare the northeast Peten Holmul river settlement tradition to the settlements documented on the Río Bravo

and Río Hondo in Belize, and determine if the site hierarchy visualized in the northeast Peten may be functional for the characteristics of the Belize region settlements. The comparative analysis will be critical to develop a multi-dimensional vision of the territorial composition of the diverse Maya states in the Peten and Belize Maya Lowlands.

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To carry out the two phases of the survey of the Tikal, Yaxha, Nakum, and Naranjo hinterlands through long distance intersite transects, as well as along the Holmul River, it was necessary to count on the support of institutions and very capable professional collaborators. The project was largely benefited with funding of the Institute of Anthropology and History of Guatemala, Ministerio de Cultura y Deportes, and German funds from the KFW bank. In particular, I appreciate the decisive confidence in this project manifested by the late Dr. Wolfgang Wurster (German Institute of Archaeology), and Dr. Oscar Quintana, Technical Coordinator of the Triangulo Project. Many brave and enthusiastic archaeologists participated through eleven years of the survey process (1993–2004); I will mention them in order of participation: Brenda Lou, Zoila Calderón, Rafael Chang (architect-topographer), Maria Berta Barrios, Cristina Vidal, Mario Pullin (topographer), Stephanie Teufel, Otto Roman, Vinicio García, Sharon Misdas, Jennifer Kirker, Jennifer Braswell, Nora López, Rosa María Chan, Carlos Batres, José Crasborn, Fernando Duarte (architect-topographer-artist), Mario Vásquez, José Anavizca, Horacio Palacios (topographer), T. Patrick Culbert, Tom Sever, Daniel Irwin, Nicholas Dunning, Laura Levy, Julie Kunen, Brian McKee, John Murphy, Liwi Grazioso, Cármen Ramos, Fredy Ramírez, Laura Gámez, Varinia Matute, Henri Benítez, Silvia Alvarado, Britney Garza, Hugo Carreño, and Mauro Montejo.

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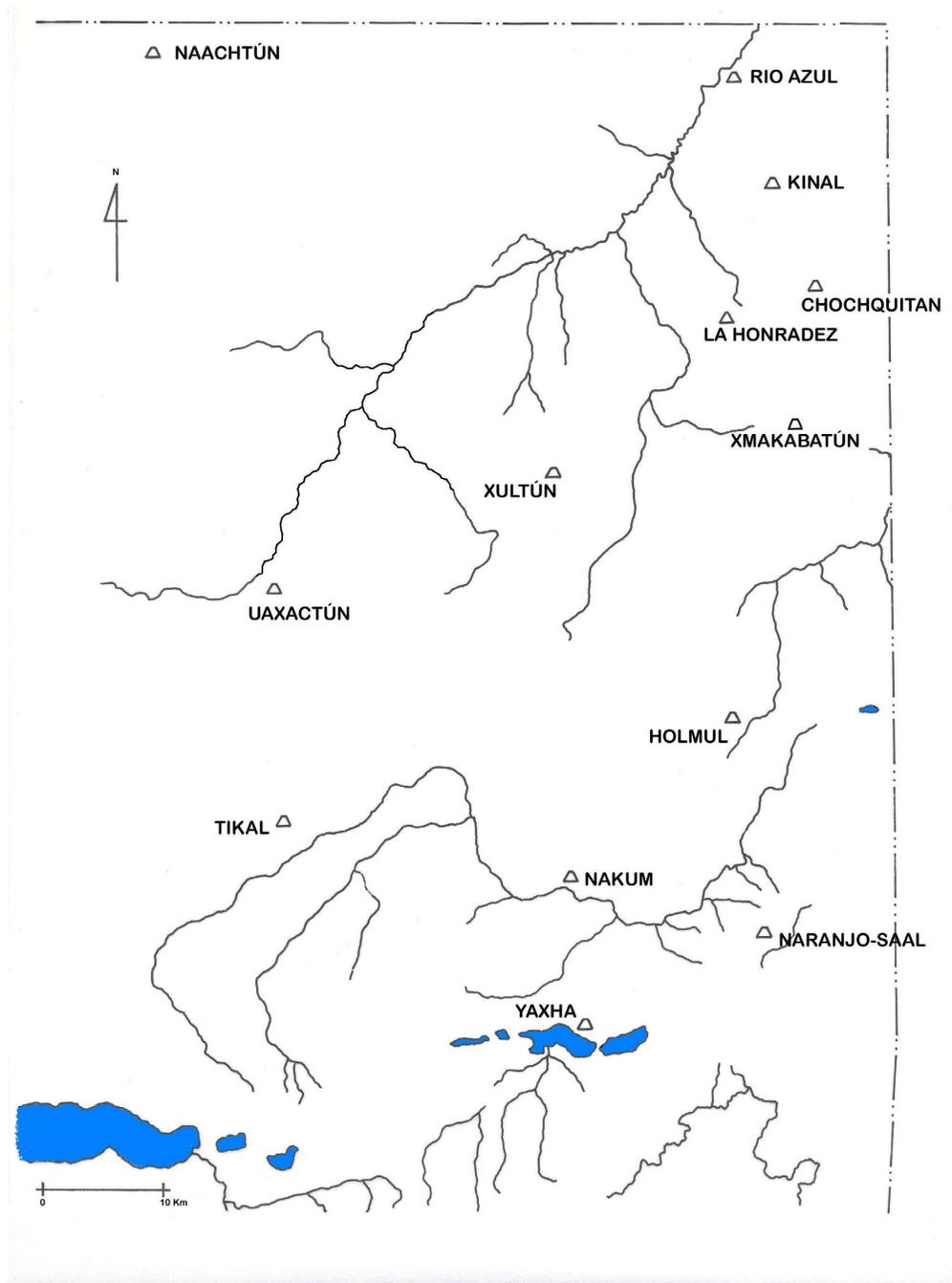


Figure 1. Rivers of the Northeast Peten.

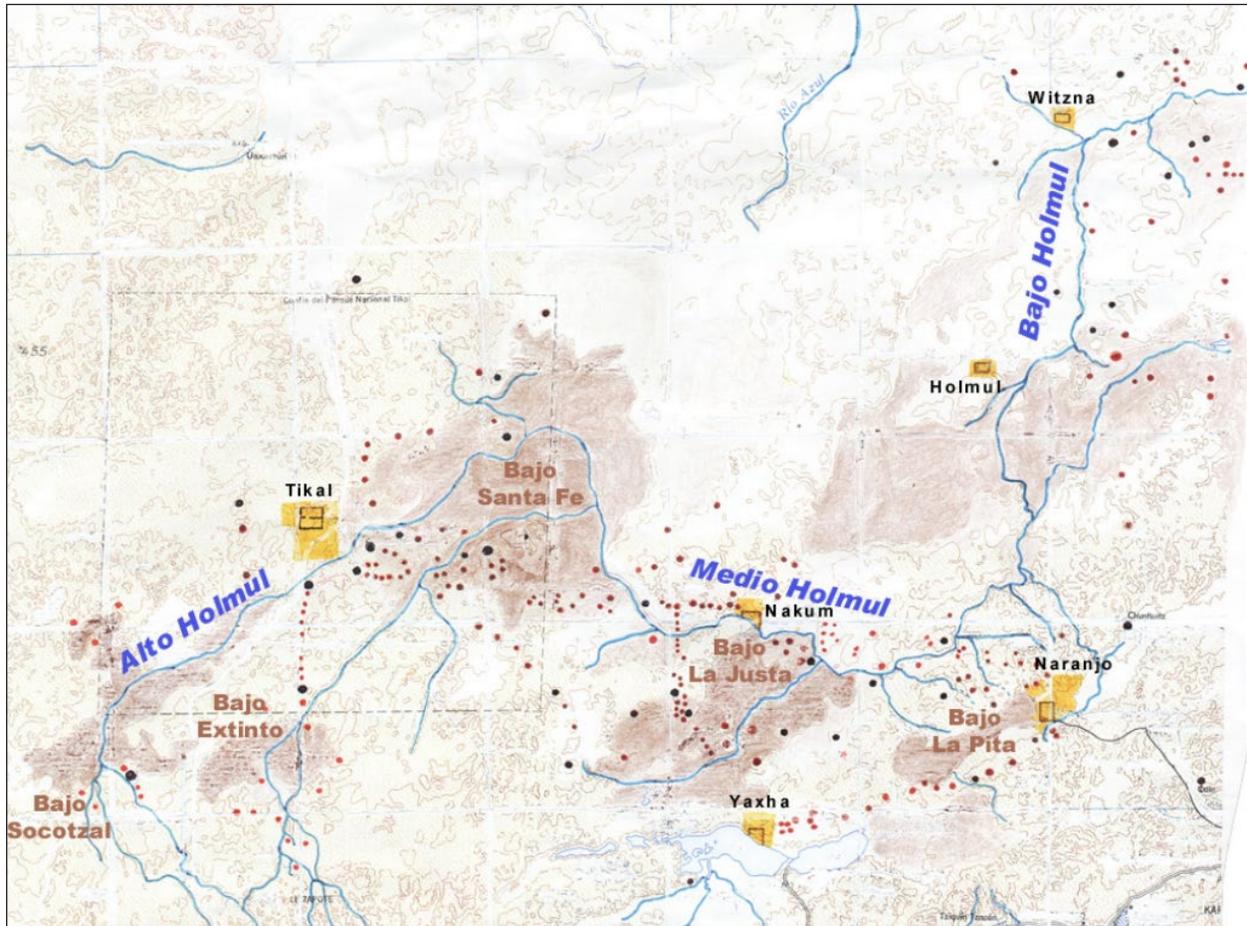


Figure 2. The Upper, Middle, and Lower Holmul River.

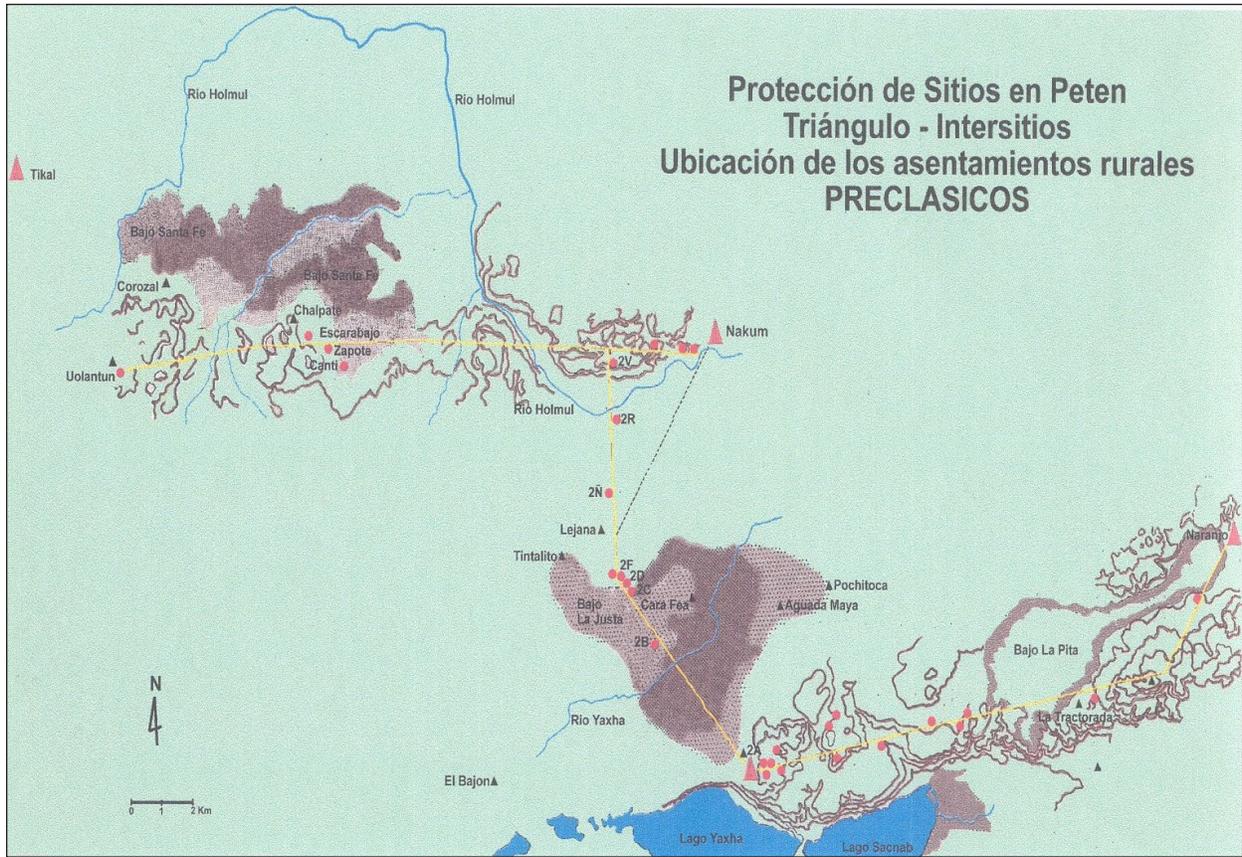


Figure 3. Survey transects in the hinterlands of Tikal, Yaxha, Nakum and Naranjo.

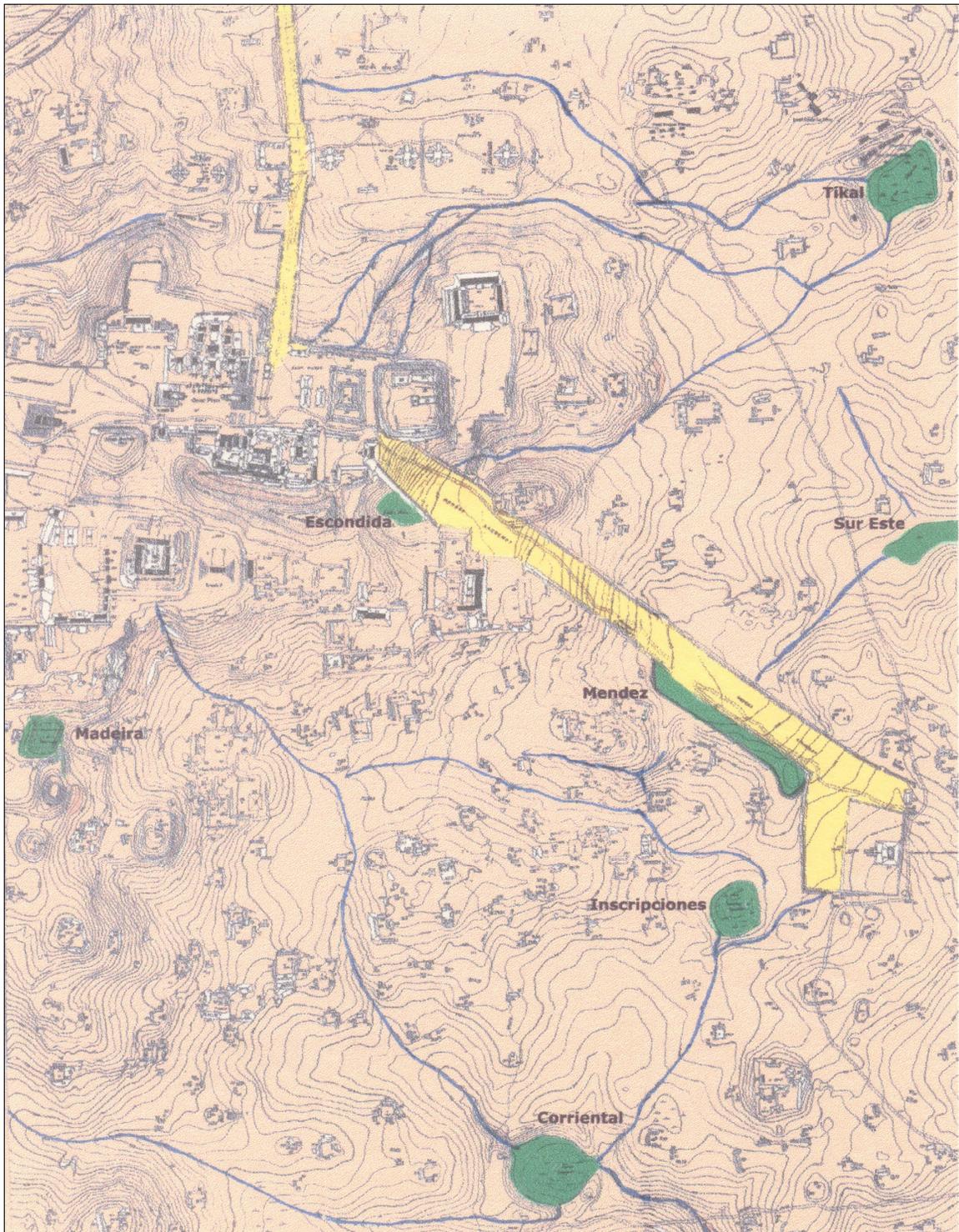


Figure 4. The epicenter of Tikal, a Major Center.

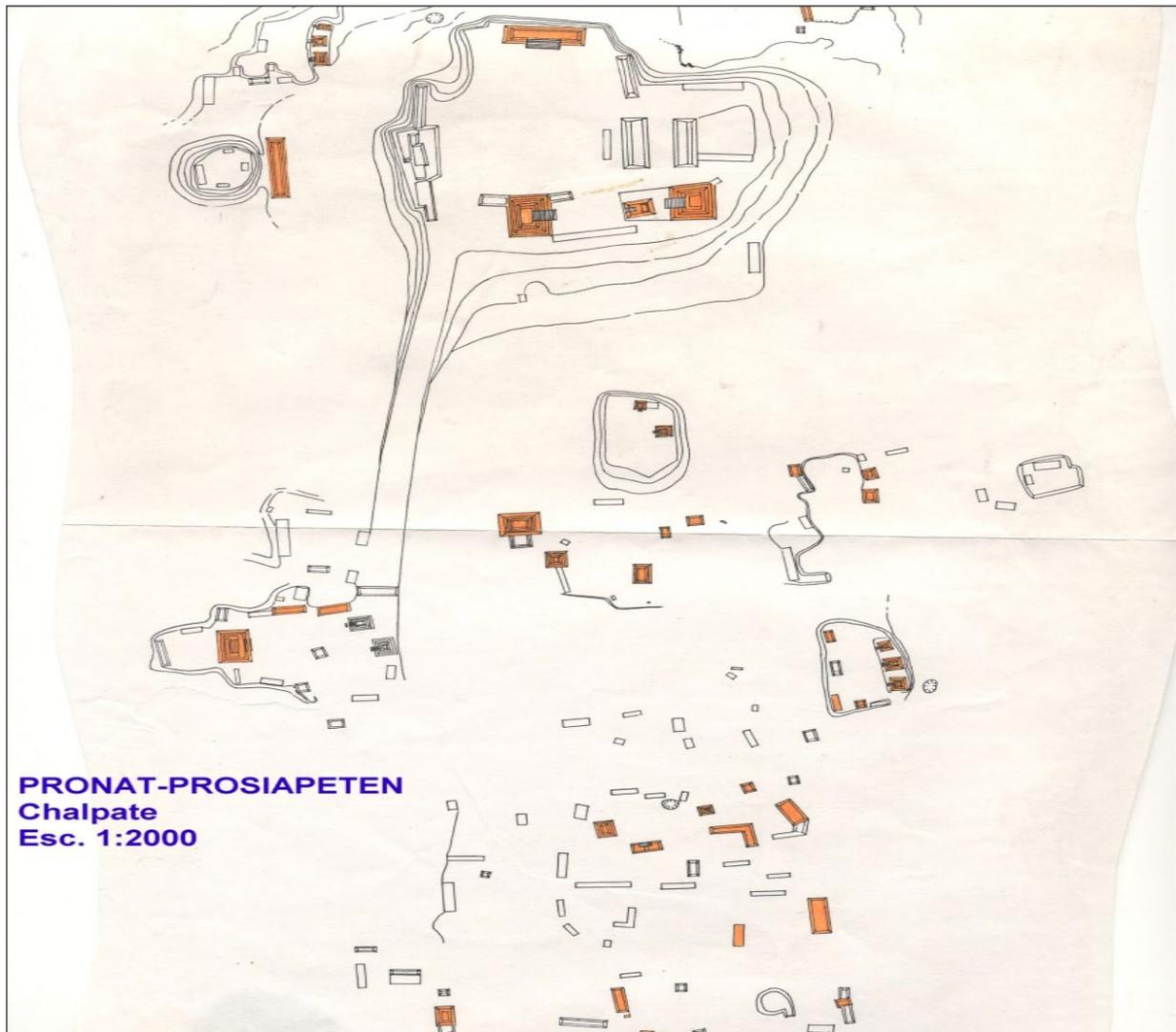


Figure 5. Chalpate, an Intermediate Center at the eastern periphery of Tikal, near the Holmul River.

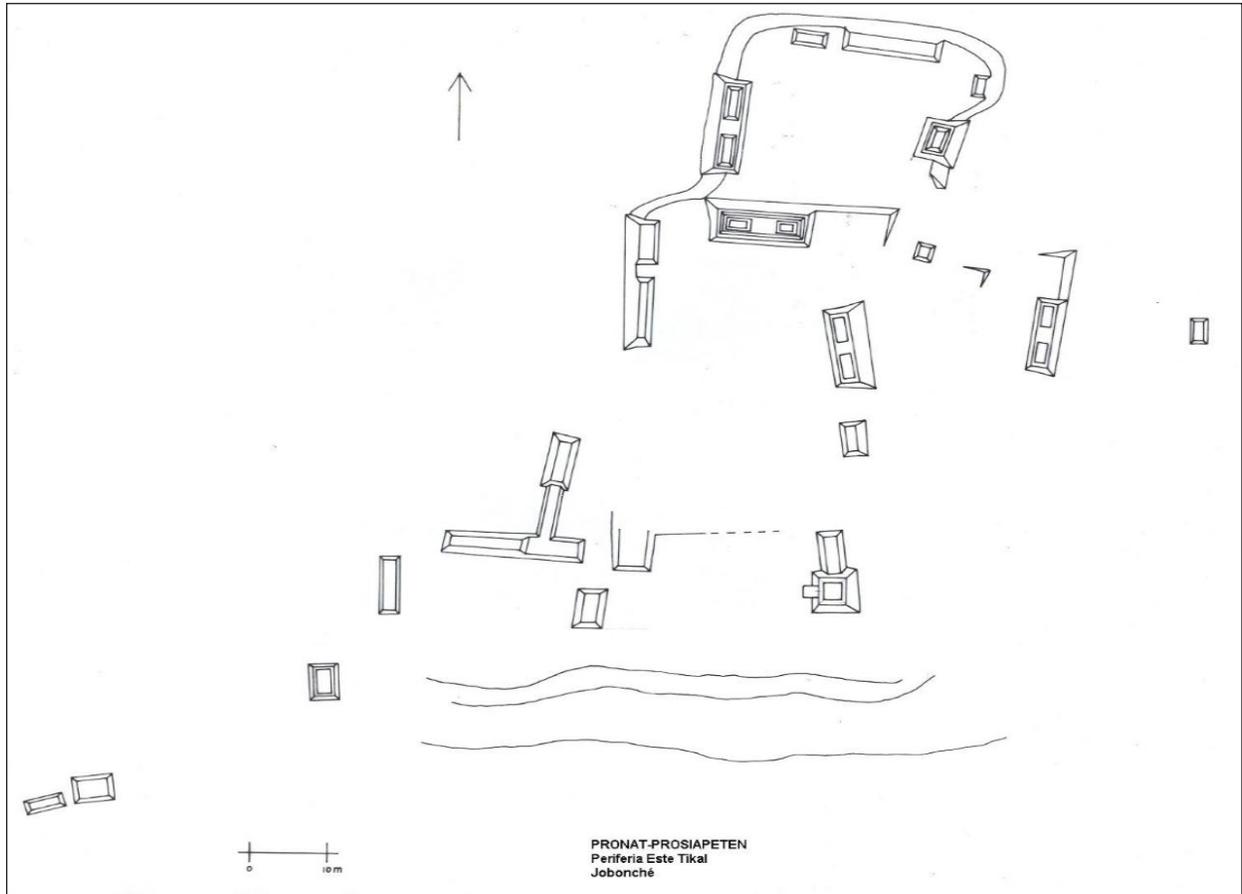


Figure 6. Jobonché, a Minor Center at the eastern periphery of Tikal.

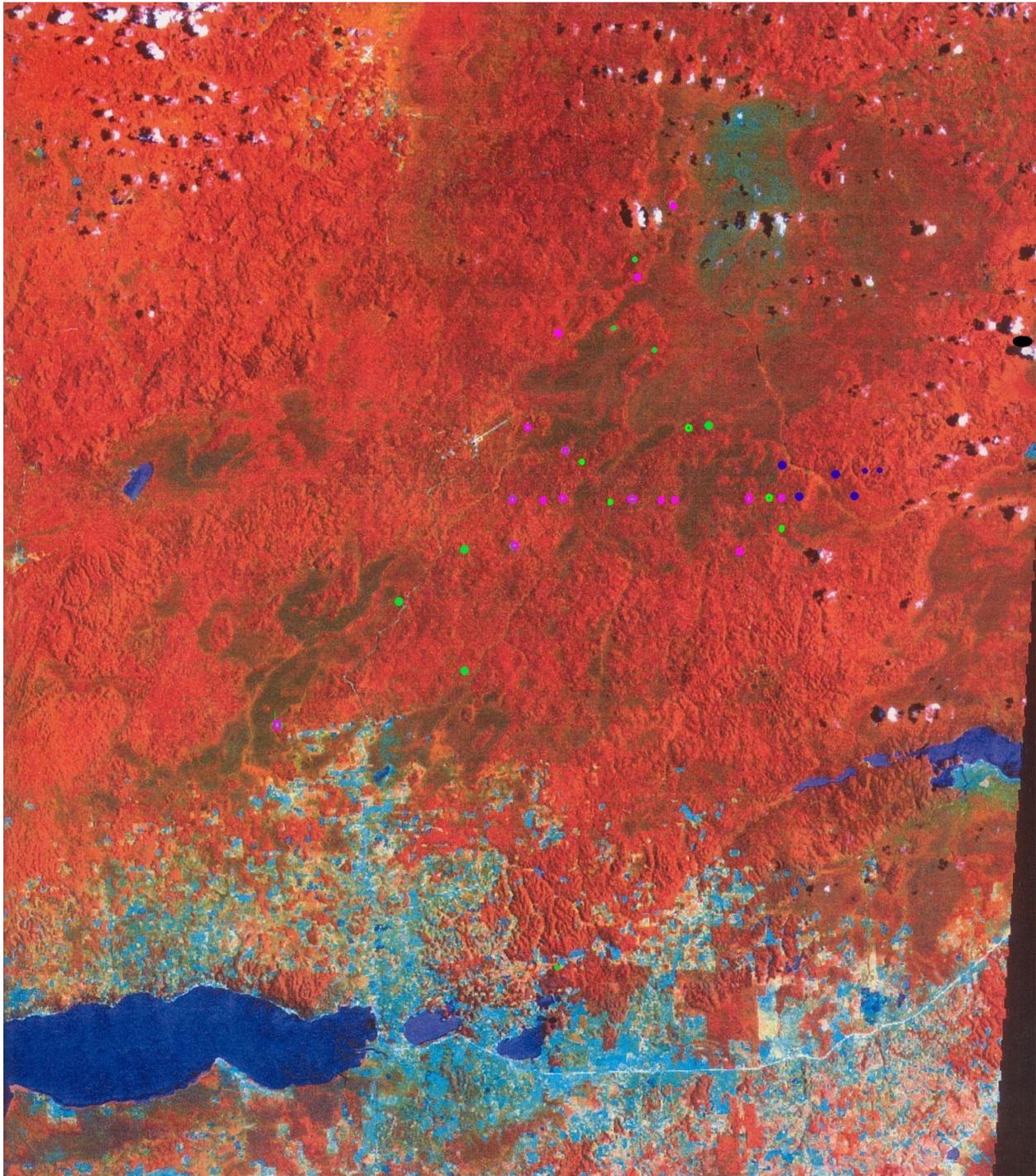


Figure 7. An image of the Upper Holmul River and its related bajos.

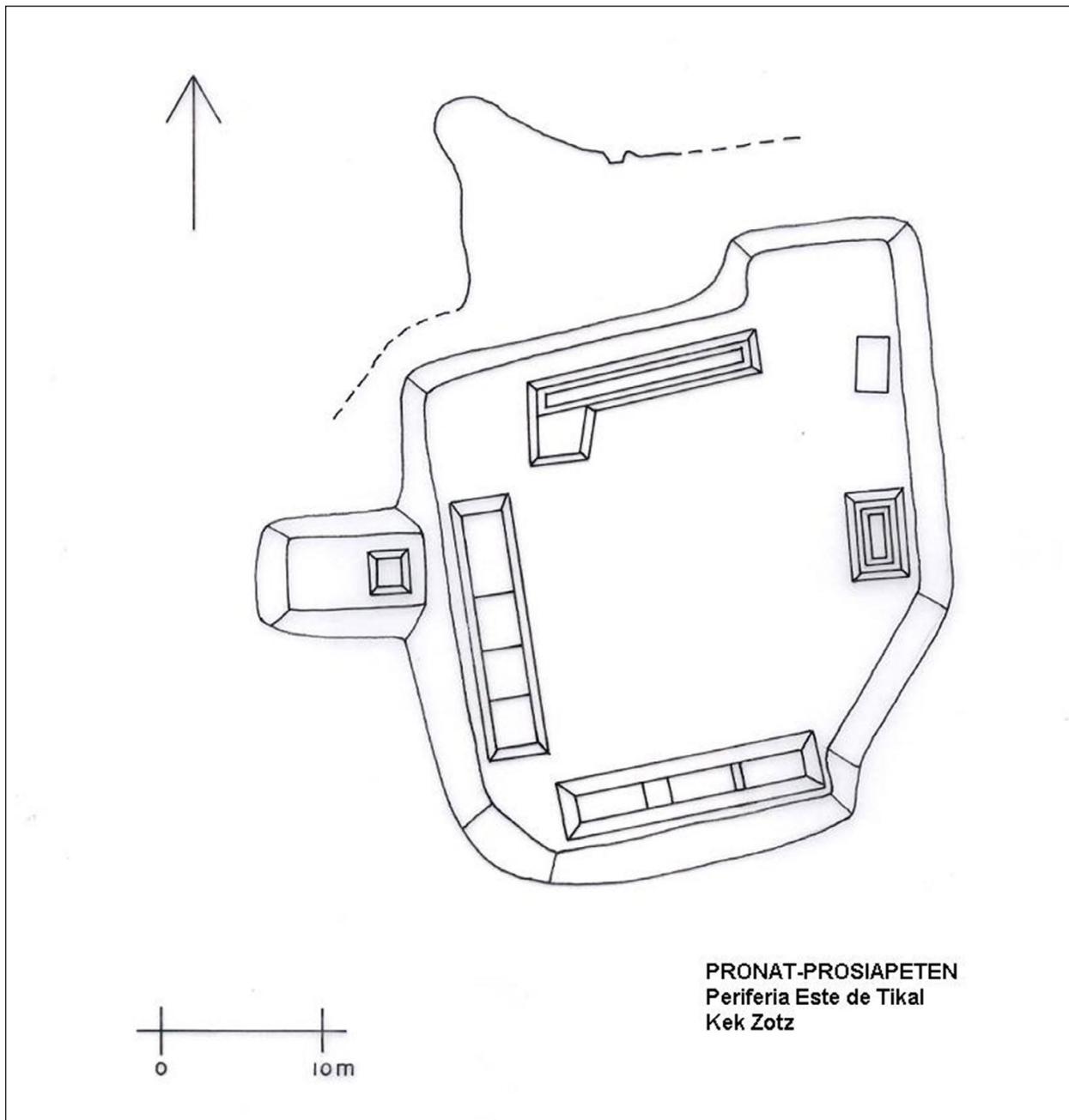


Figure 8. Kek Zotz, a Rural Center at the eastern periphery of Tikal.

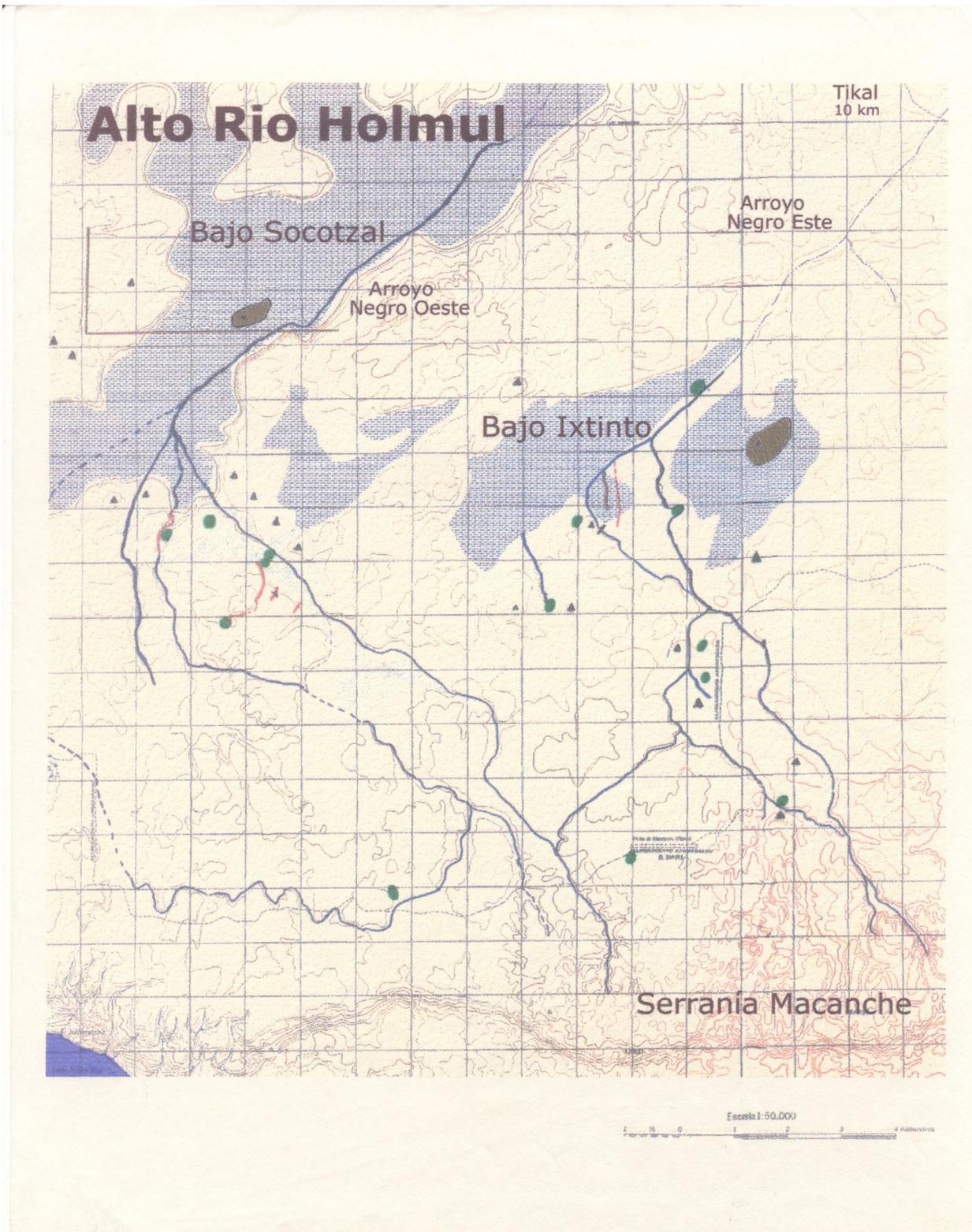


Figure 9. Pond location, Upper Holmul River.



Figure 10. Cerro Macanche and Lake Macanche.



Figure 11. Riverbed near the site El Zapote.



Figure 12. An image of the Upper Holmul River and the Bajo Santa Fe.



Figure 13. Deforestation near the Upper Holmul River.

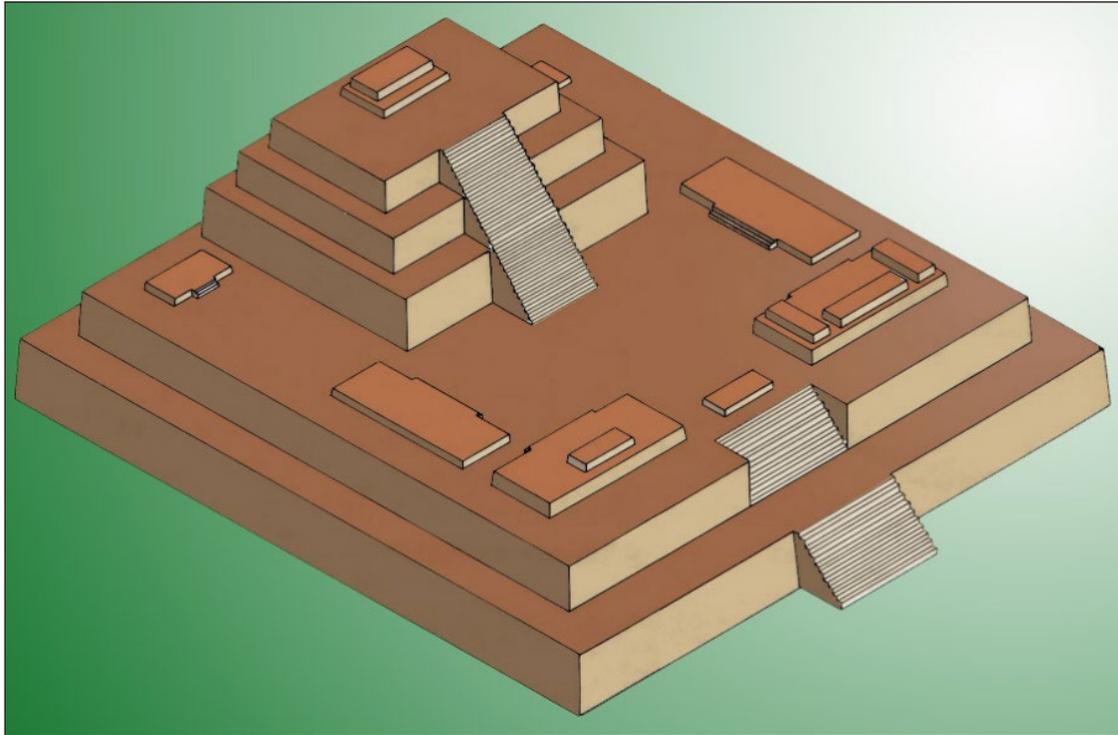


Figure 14. El Socotzal, an Intermediate Center, southern Tikal. The Triadic group.

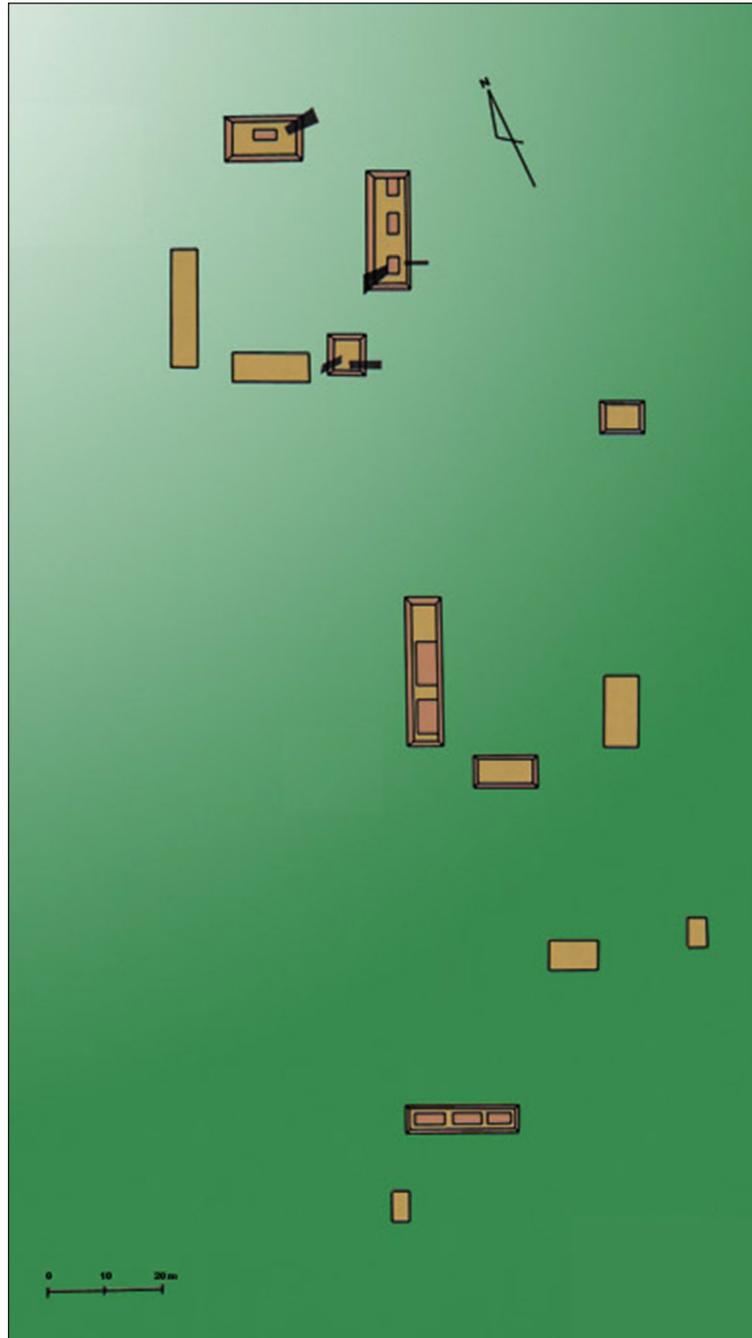


Figure 15. Location of the Triadic Complexes of Naranjo

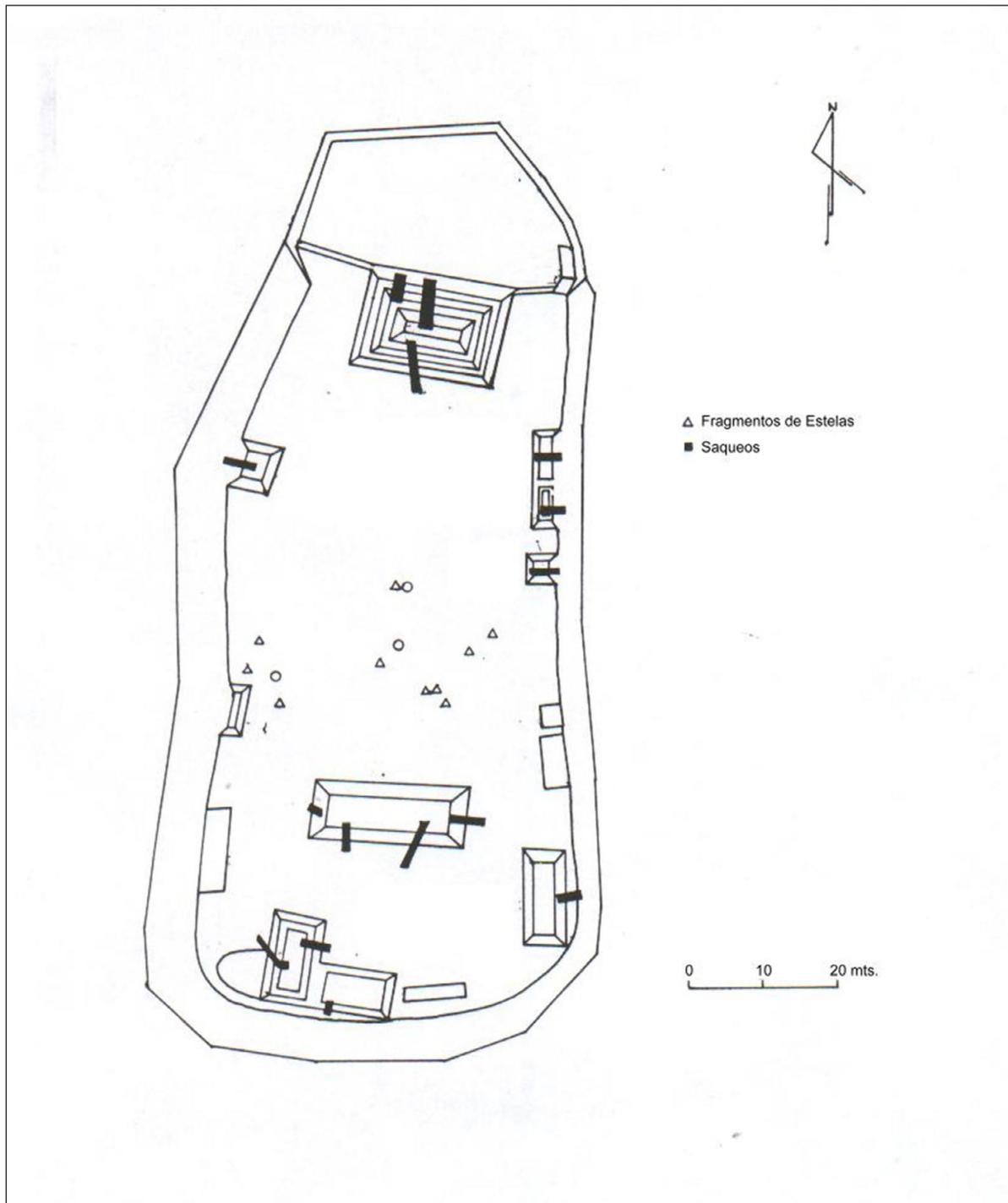


Figure 16. Archaeological site El Zapote, a posible Intermediate Center of Tikal.

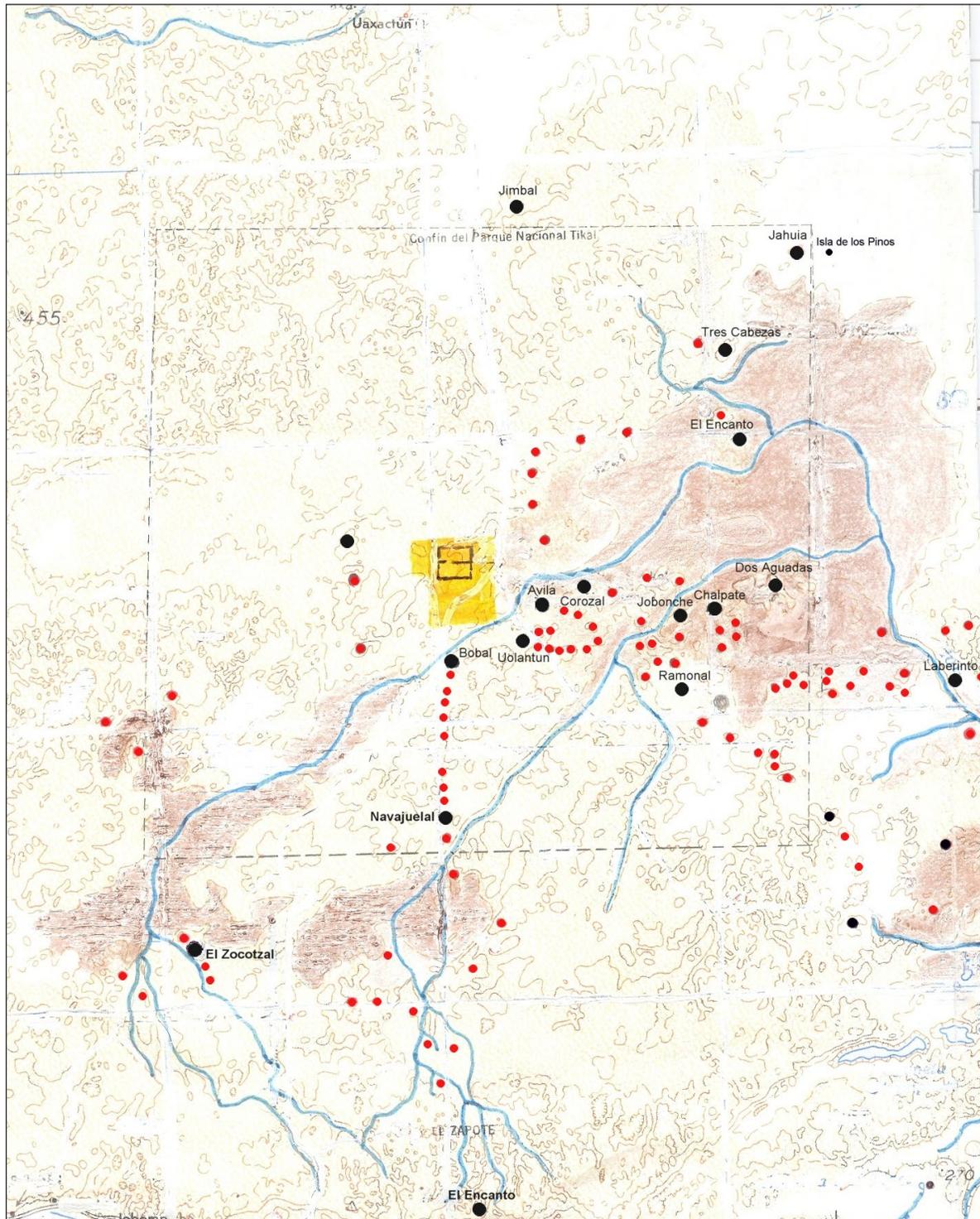


Figure 17. Upper Holmul River settlements.



Figure 18. An image of the Upper Holmul River, and the Bajo Santa Fe islands and peninsulas.



Figure 19. Documenting Stela 1 of Tres Cabezas, at the northeast periphery of Tikal.



Figure 20. Tres Cabezas Stela 1.

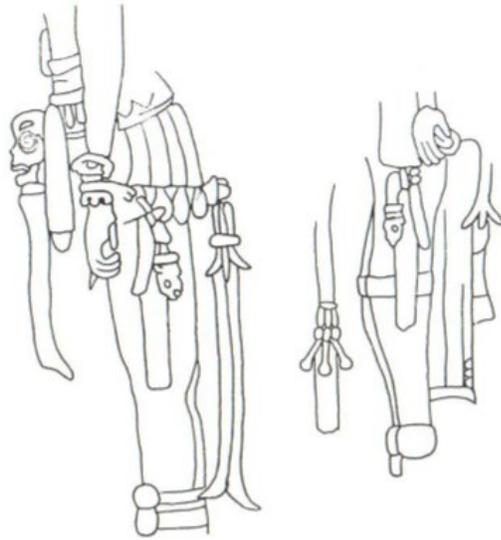


Figure 21. Tres Cabezas Stela 1 iconography.

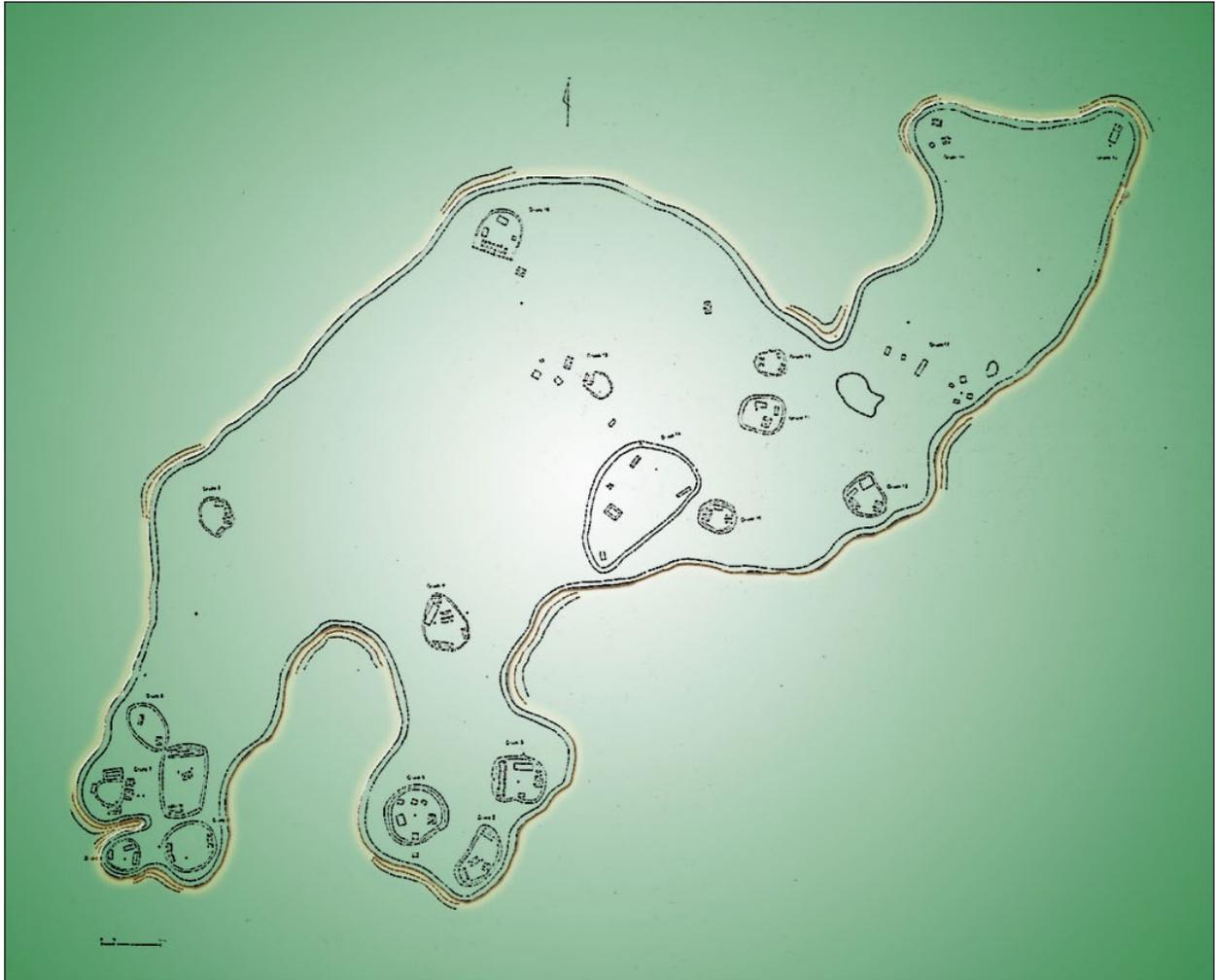


Figure 22. Jahuia Island, a Minor Center of Tikal, at the north of Bajo Santa Fe.

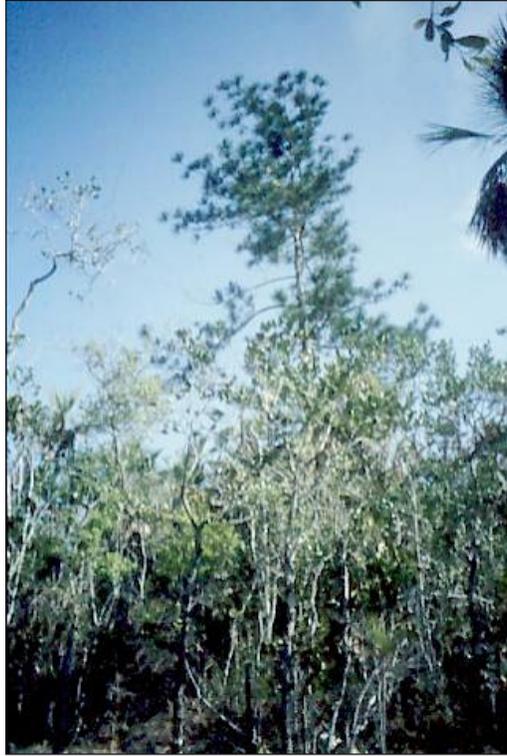


Figure 23. Pine forest, at the north of the Bajo Santa Fe.



Figure 24. Baby pine trees.

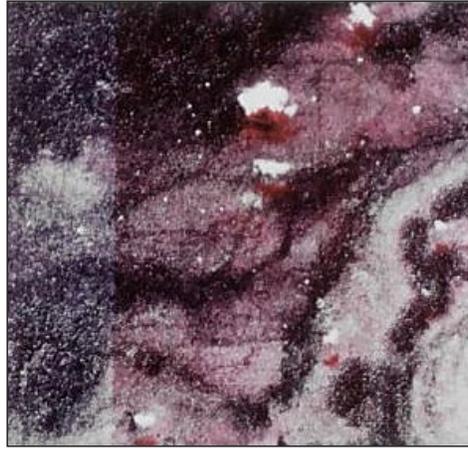
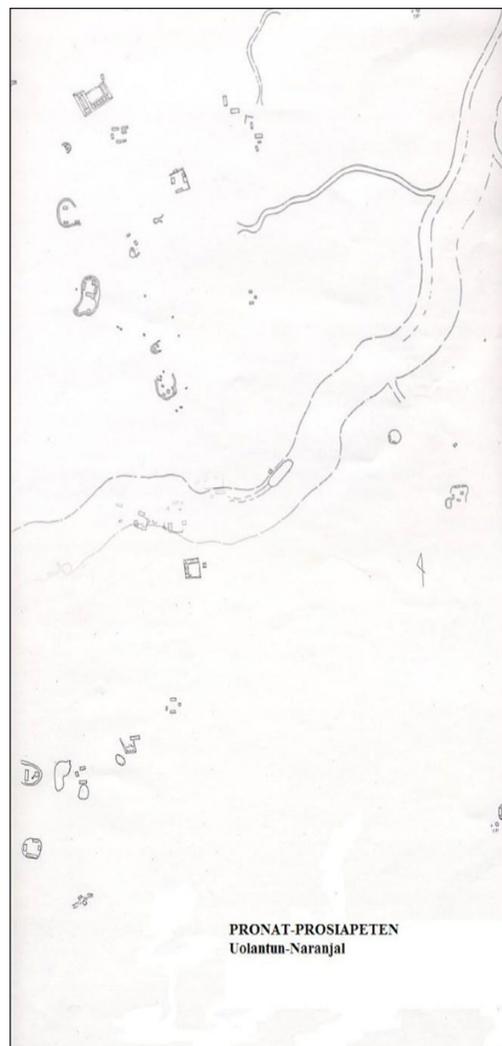


Figure 25. An image of posible canals, near the Bajo Santa Fe and the site El Encanto, an Intermediate Center of Tikal.



a



B

Figure 26. (a) Poza El Naranjal, near Uolantun and the Holmul River, Eastern Tikal; (b) residential groups of Uolantun, an Intermediate Center of Tikal, near the Holmul River and Poza El Naranjal.

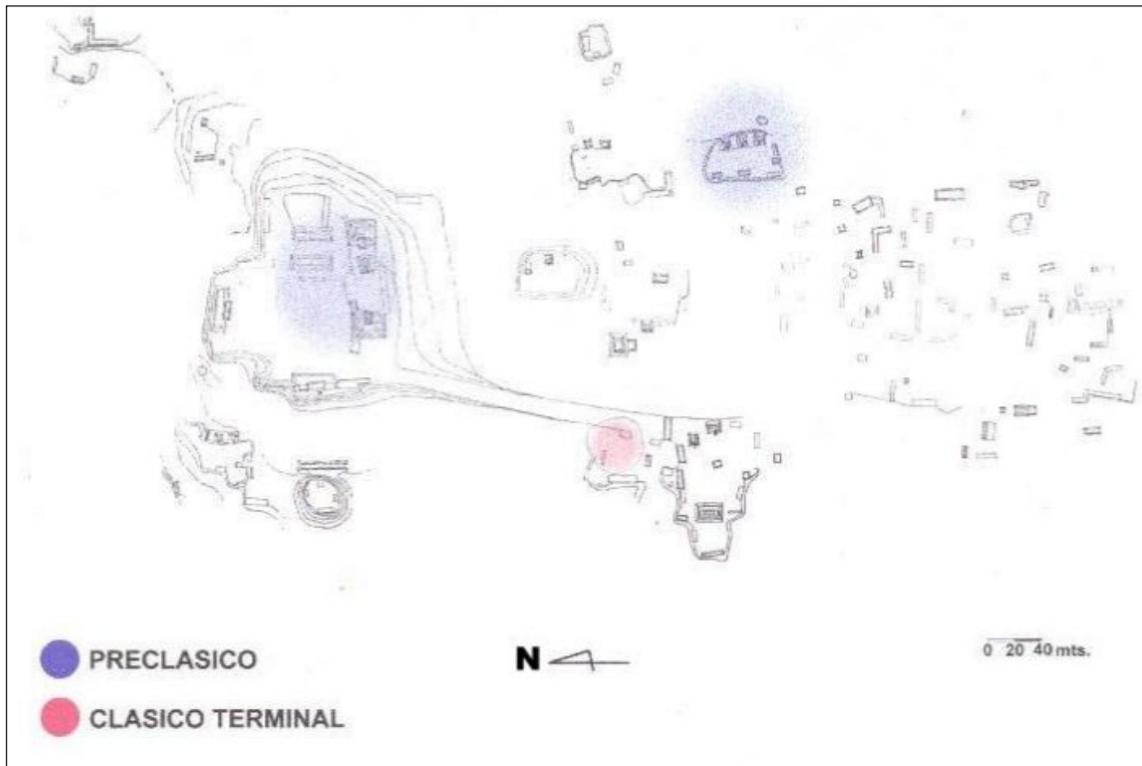


Figure 27. El Corozal, an Intermediate Center of Tikal, near the Holmul River and the Bajo Santa Fe.

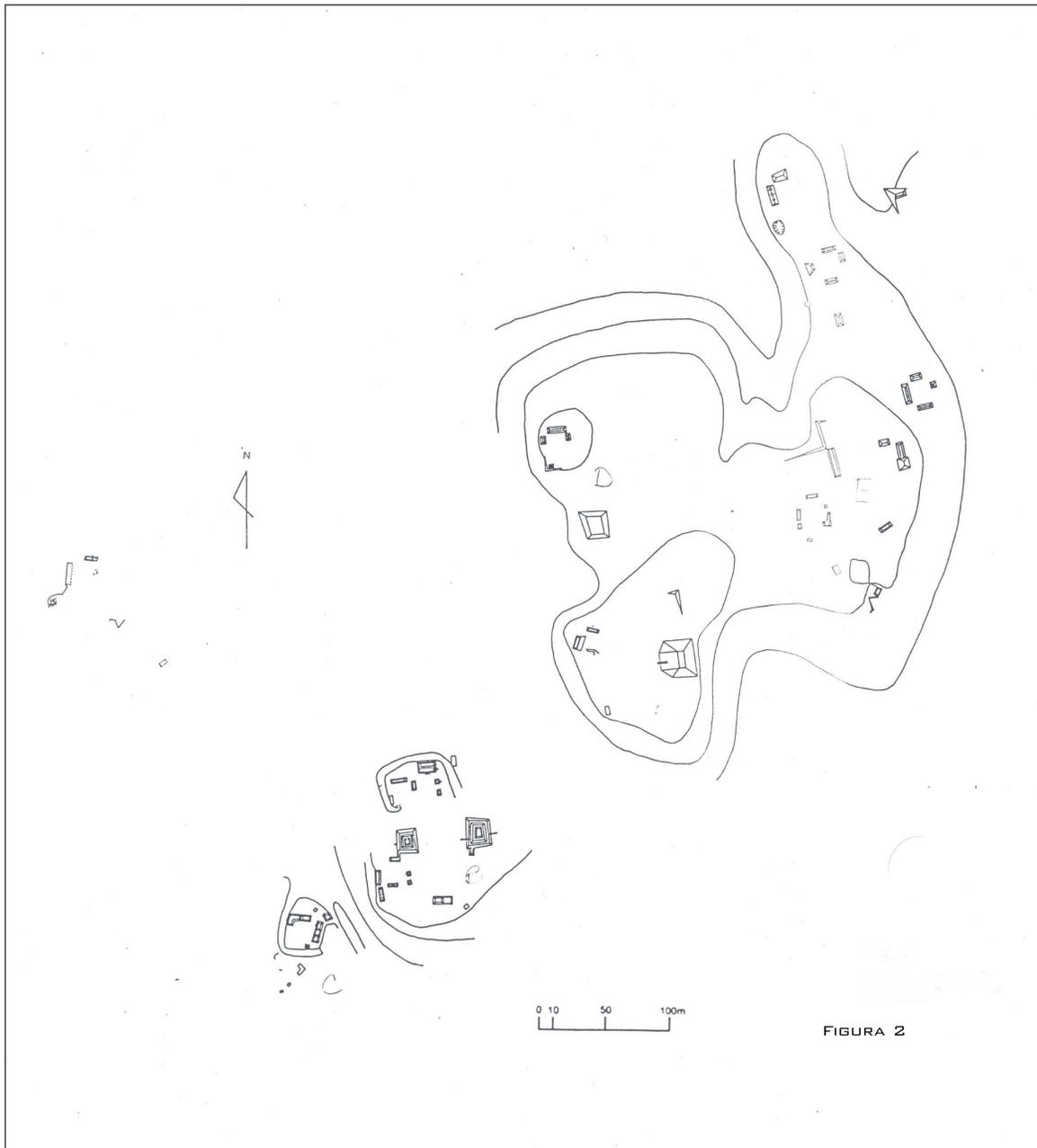


Figure 28. Uolantun, an Intermediate Center of Tikal, near the Holmul River.

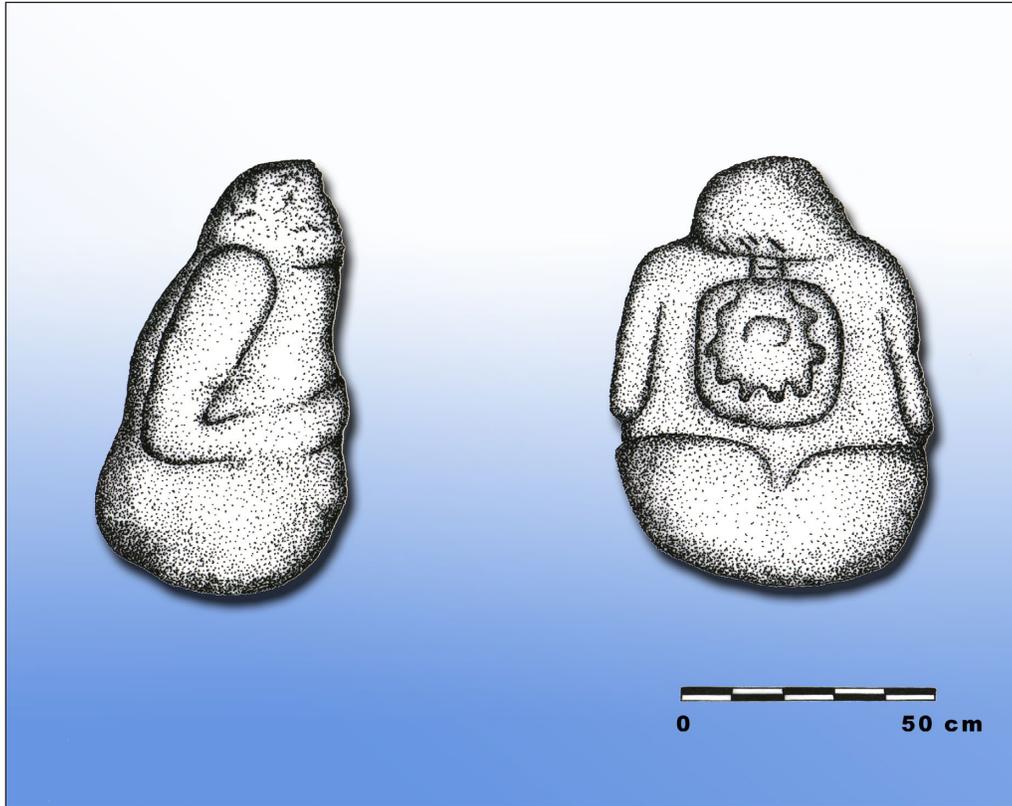


Figure 29. A potbelly of Tikal.

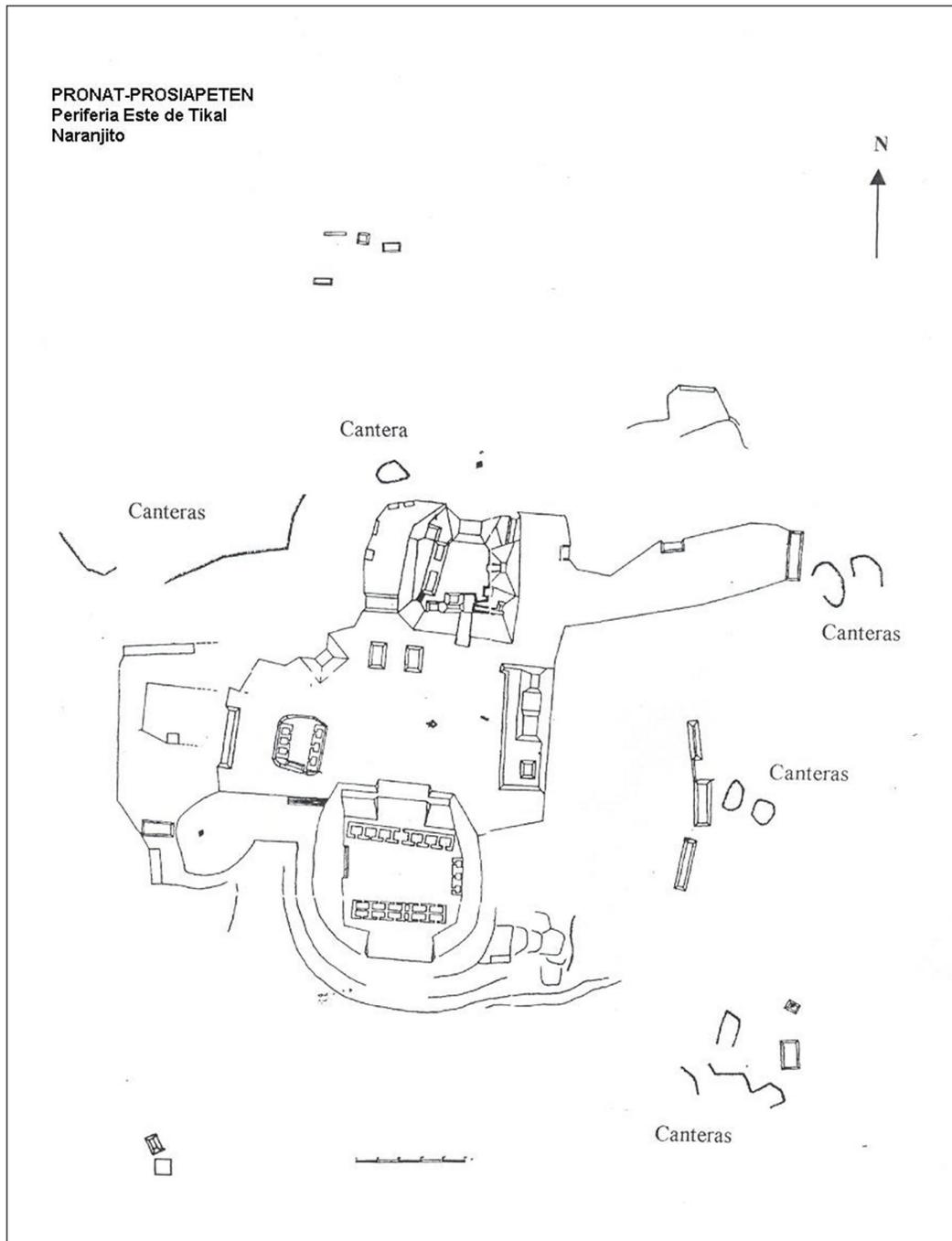


Figure 30. Naranjito, an Intermediate Center, at the Eastern hinterland of Tikal, near the Holmul River.



Figure 31. A looted temple at the site of Naranjito.

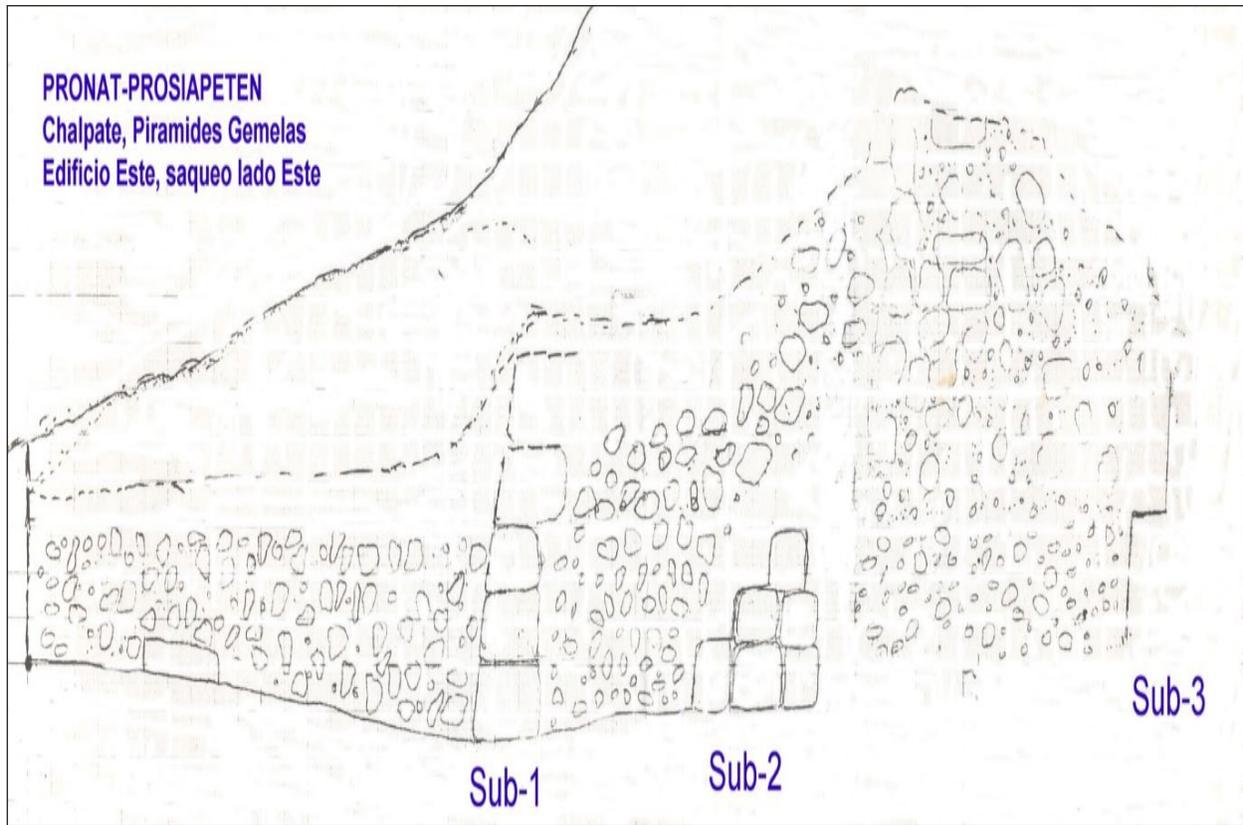


Figure 32. Chalpate: a looters' tunnel in one of the Twin Pyramids.

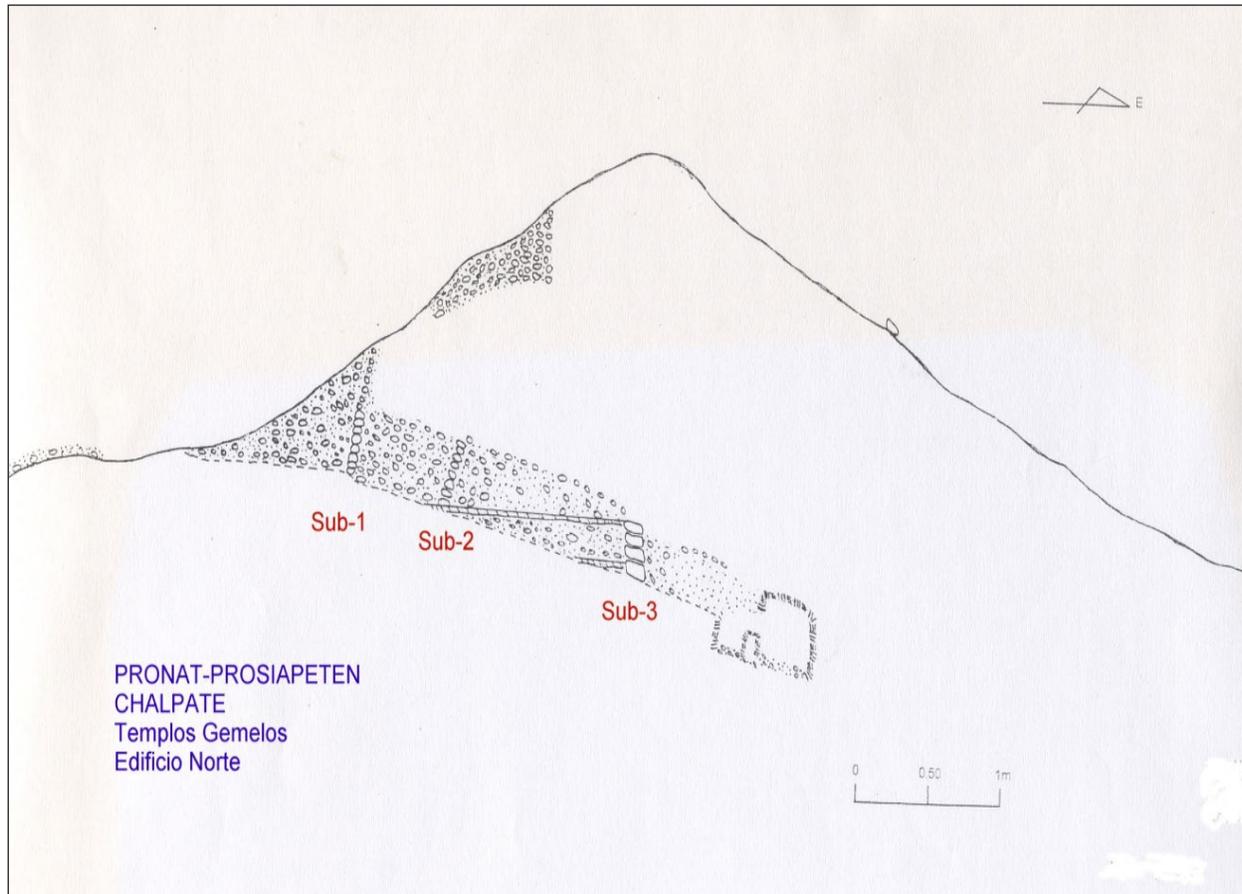


Figure 33. Chalpate: a looters' tunnel in one of the Twin Pyramids.

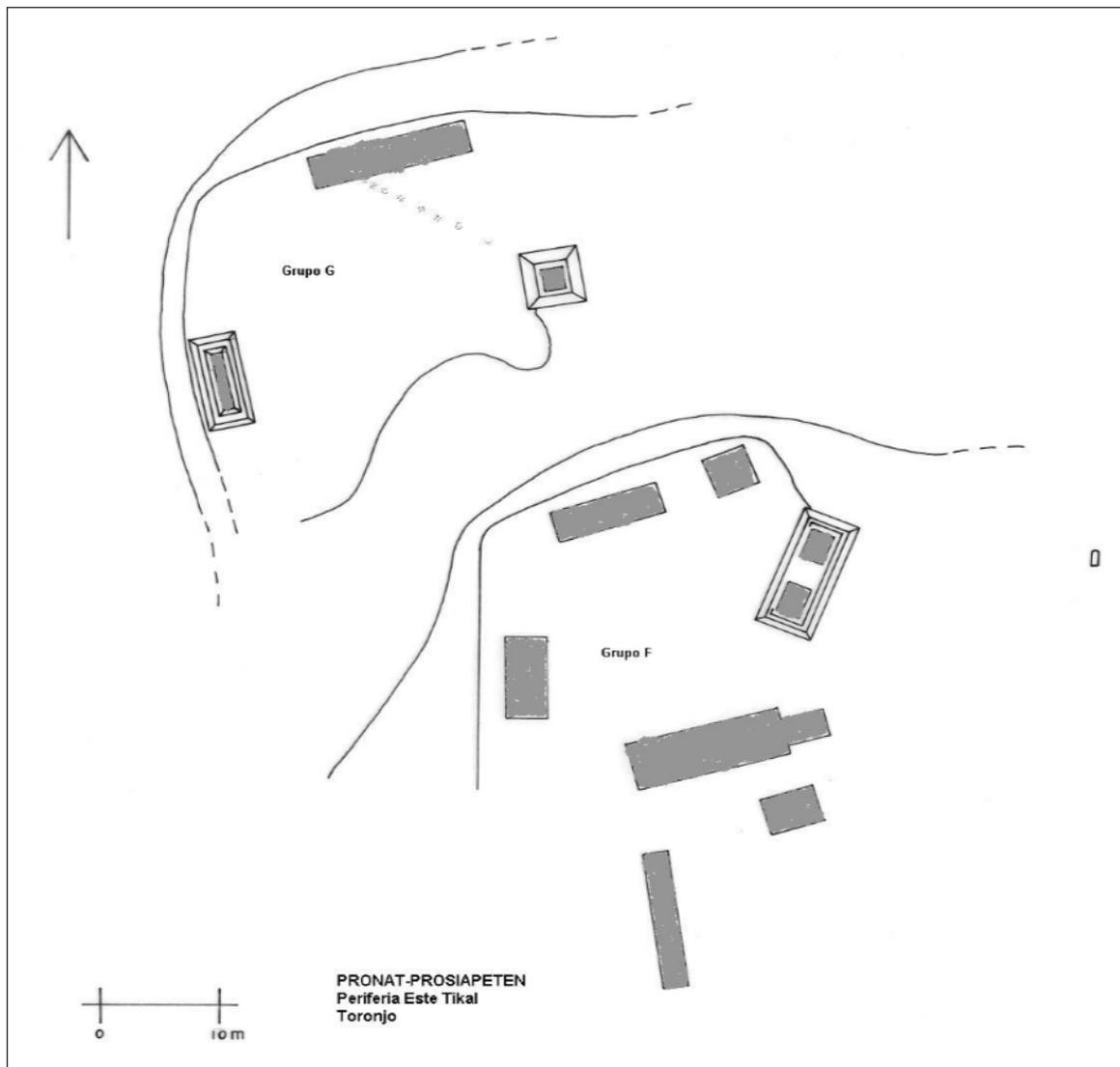


Figure 34. Toronjo, a Rural Center, in the eastern hinterlands of Tikal.

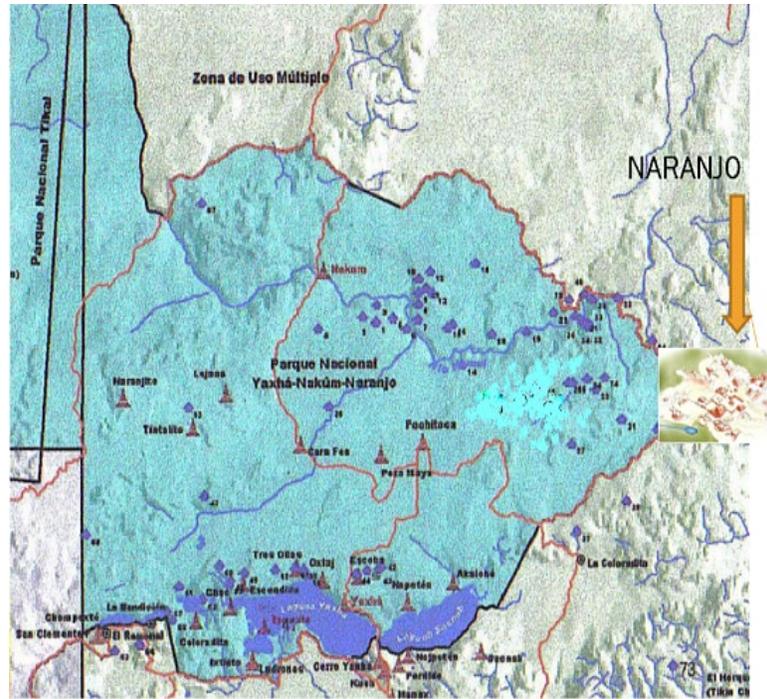


Figure 35. Middle Holmul River settlements.



Figure 36. Poza El Carmen of the Middle Holmul River.



Figure 37. Documenting the Poza El Carmen.

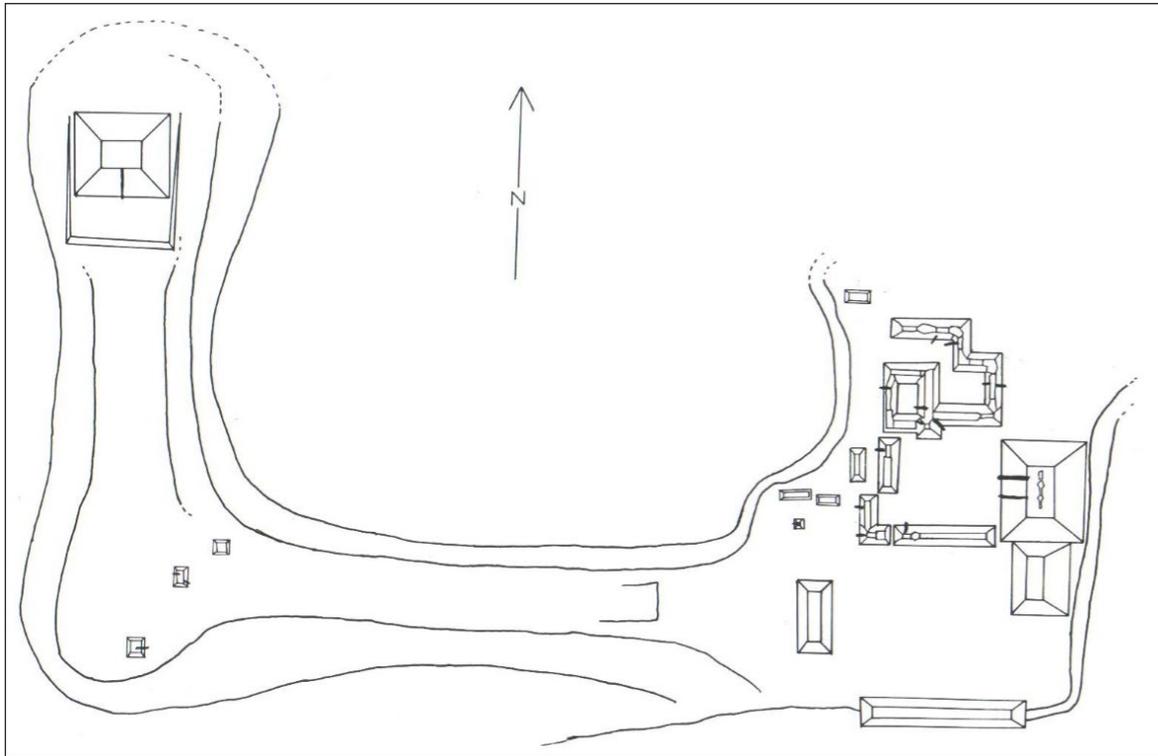


Figure 38. Xilonche, a Minor Center in the hinterlands between Tikal and Nakum.



Figure 39. Looters' trench at Laberinto a Minor Center, near the Middle Holmul River, west of Nakum.



Figure 40. A Terminal Classic cream polychrome dish from the site Chicleros, a Minor Center, near the Middle Holmul River, western hinterlands of Nakum.



Figure 41. A Terminal Classic orange polychrome dish from the site Chicleros, a Minor Center, near the Middle Holmul River, western hinterlands of Nakum.

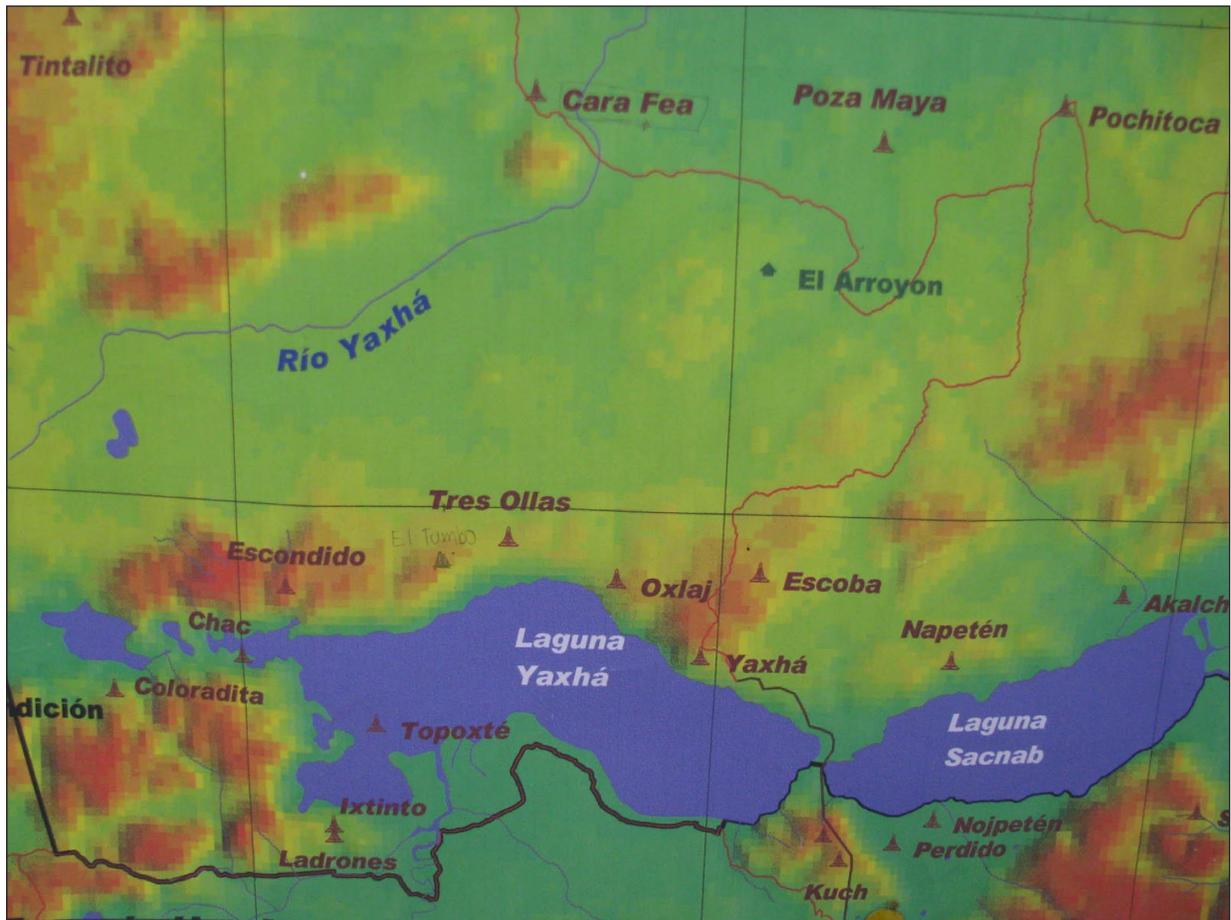


Figure 42. Settlements of the Bajo La Justa, northern Yaxha, and Arroyo Yaxha (a tributary of the Middle Holmul River).



Figure 43. Poza Yaxhol of the Middle Holmul River.



Figure 44. Looters' trench at Yaxhol, a Minor Center, near the Middle Holmul River, east of Nakum.

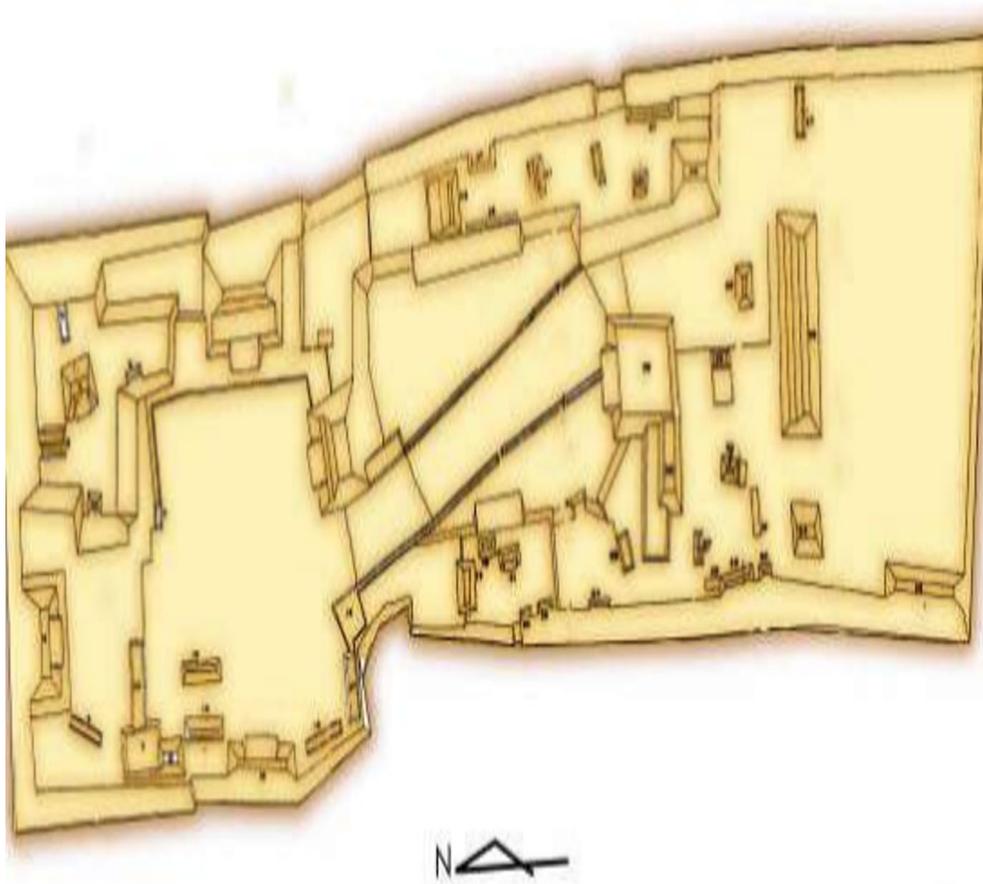


Figure 45. Poza Maya, an Intermediate Center, at the Bajo La Justa, northern periphery of Yaxha.

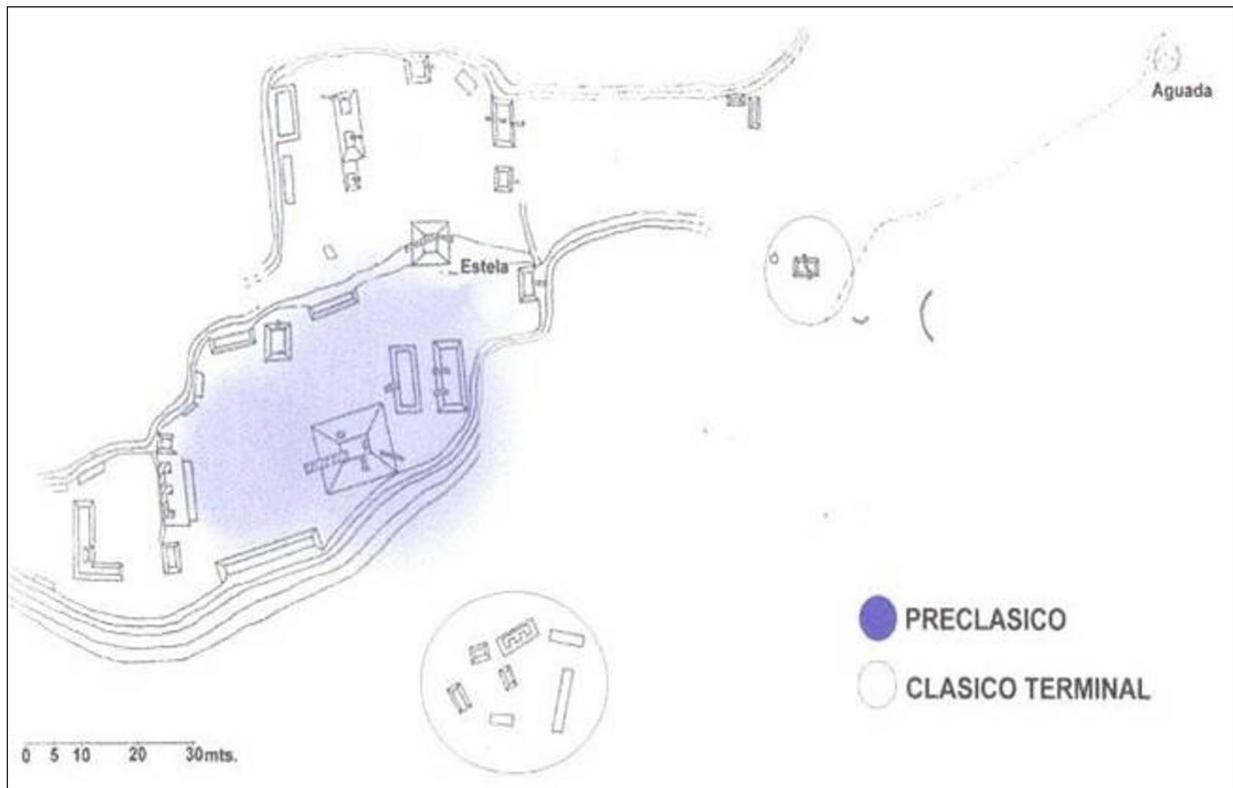


Figure 46. La Pochitoca, an Intermediate Center, at the Bajo La Justa, northern periphery of Yaxha.

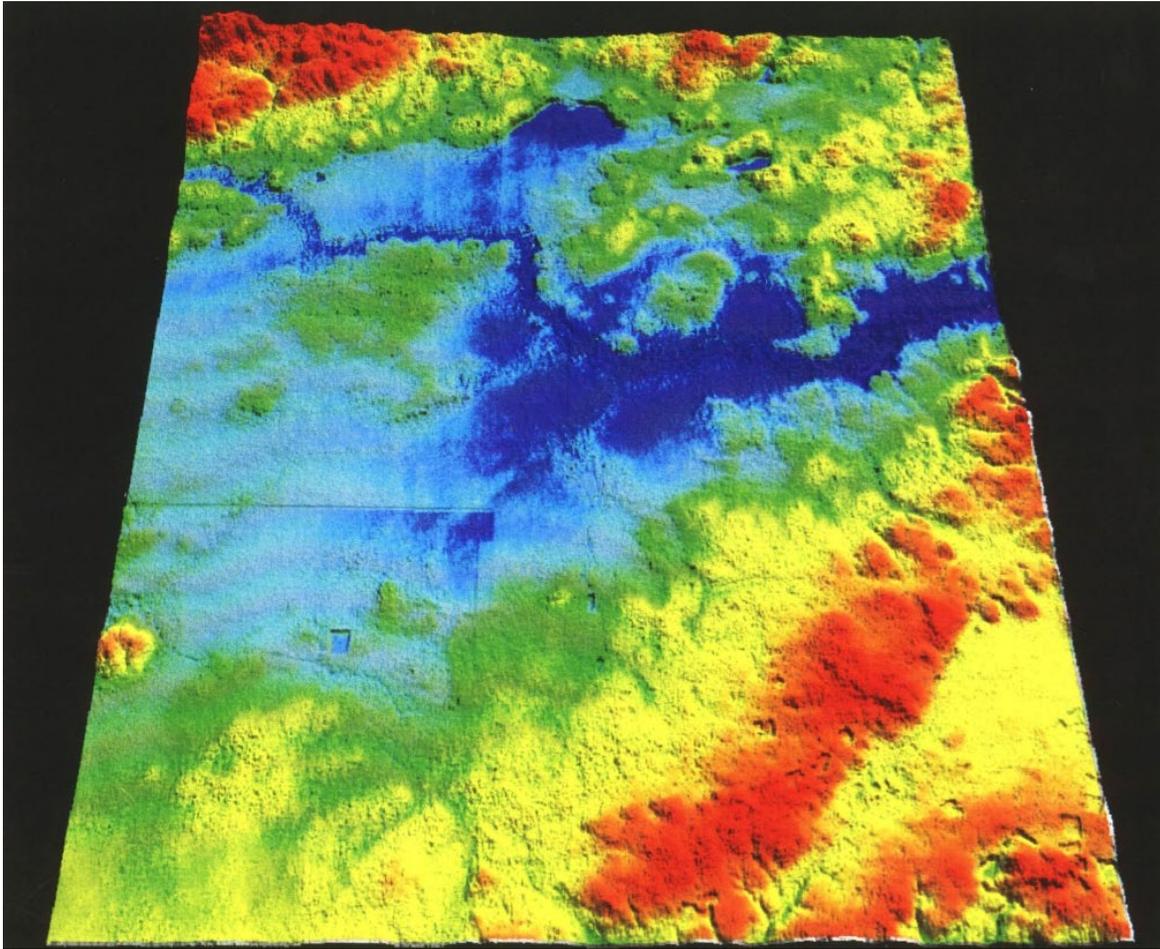


Figure 47. An image of Bajo La Justa, Arroyo Yaxha, and the artificial poza of the site Poza Maya.



Figure 48. An image of Bajo La Justa islands and peninsulas, and the artificial pozo of the site Poza Maya.



Figure 49. An ancient canal in the Bajo La Justa.



Figure 50. Ancient corn cobs from the Bajo La Justa.



Figure 51. An aerial view of the Holmul River near Nakum.



Figure 52. The Holmul River covering the road to Nakum.



Figure 53. The Holmul River in Nakum.

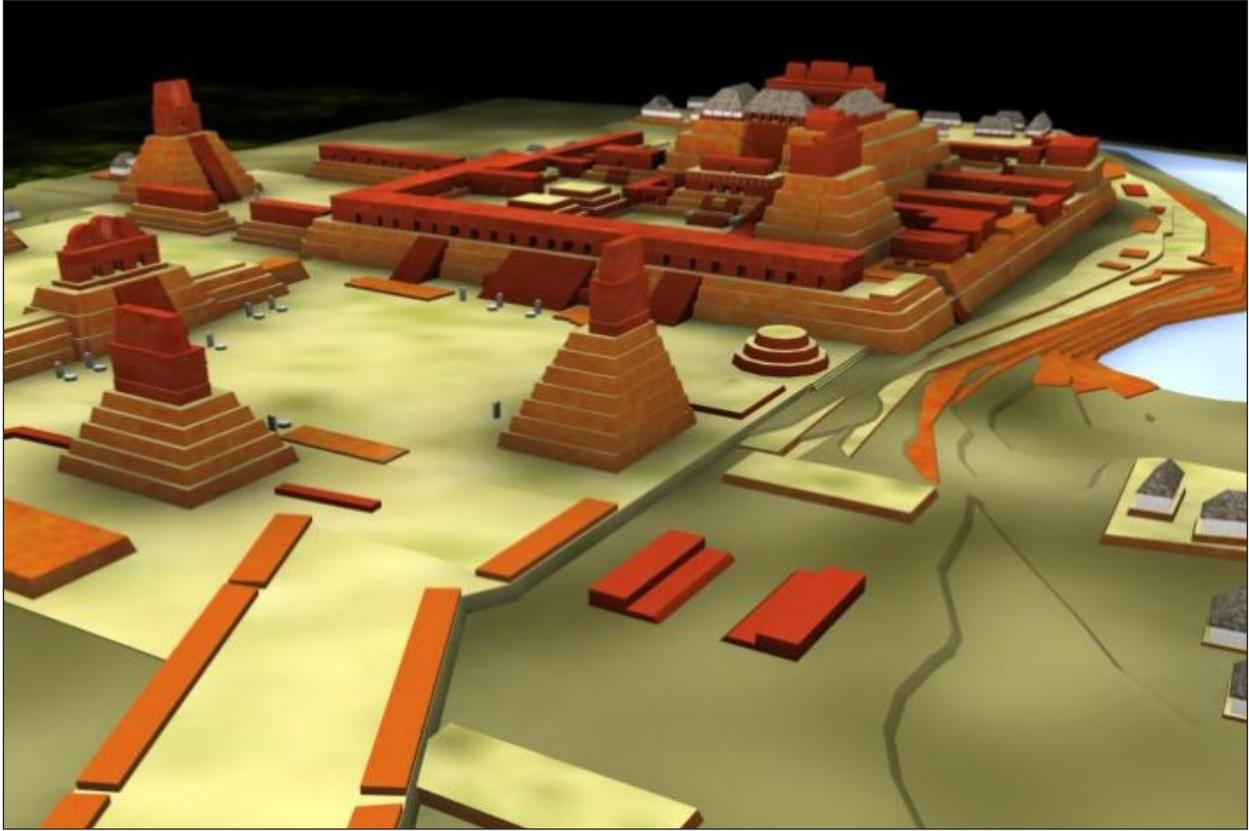


Figure 54. An ideal reconstruction of the Acropolis of Nakum and the Holmul River pier.



Figure 55. A Holmul River reservoir near the Acropolis of Nakum.

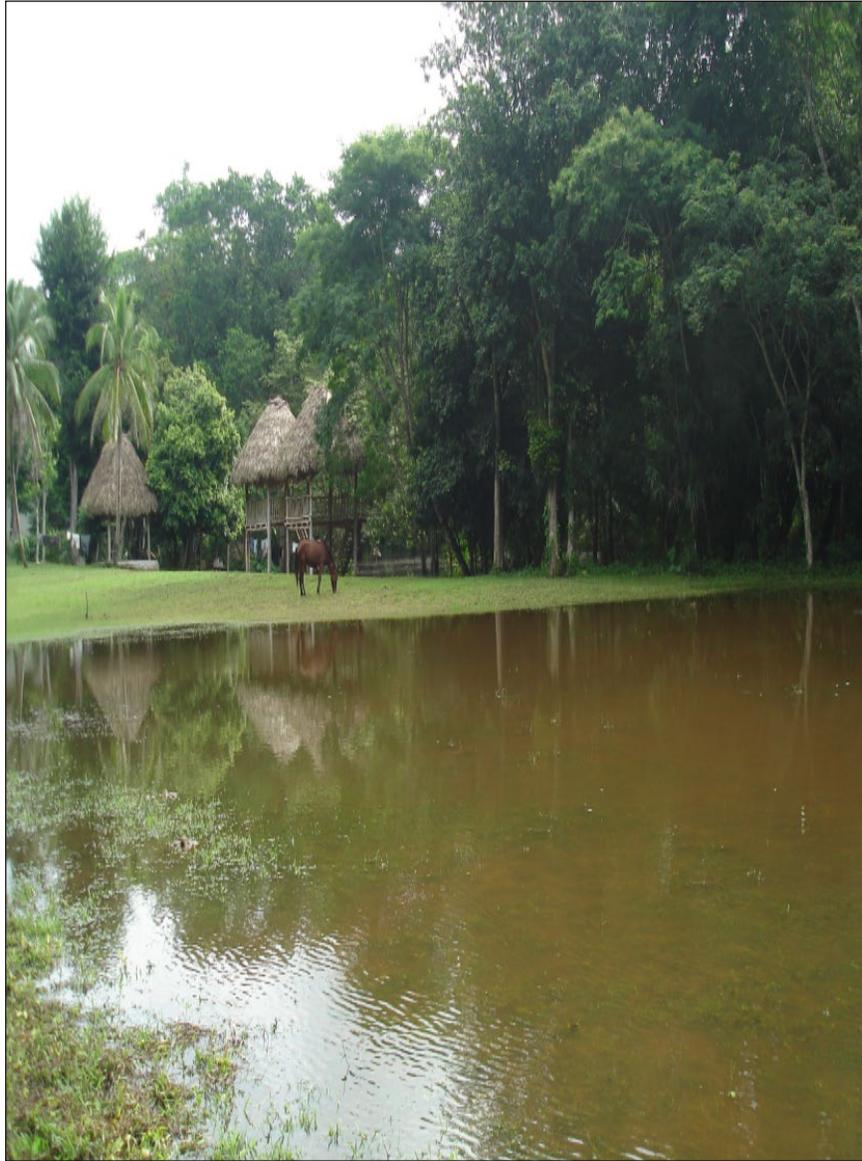


Figure 56. A Holmul River seasonal aguada, near the camp at Nakum.



Figure 57. Poza Paso Julio of the Middle Holmul River.



Figure 58. Balamchak, an Intermediate Center in the western hinterlands of Naranjo.

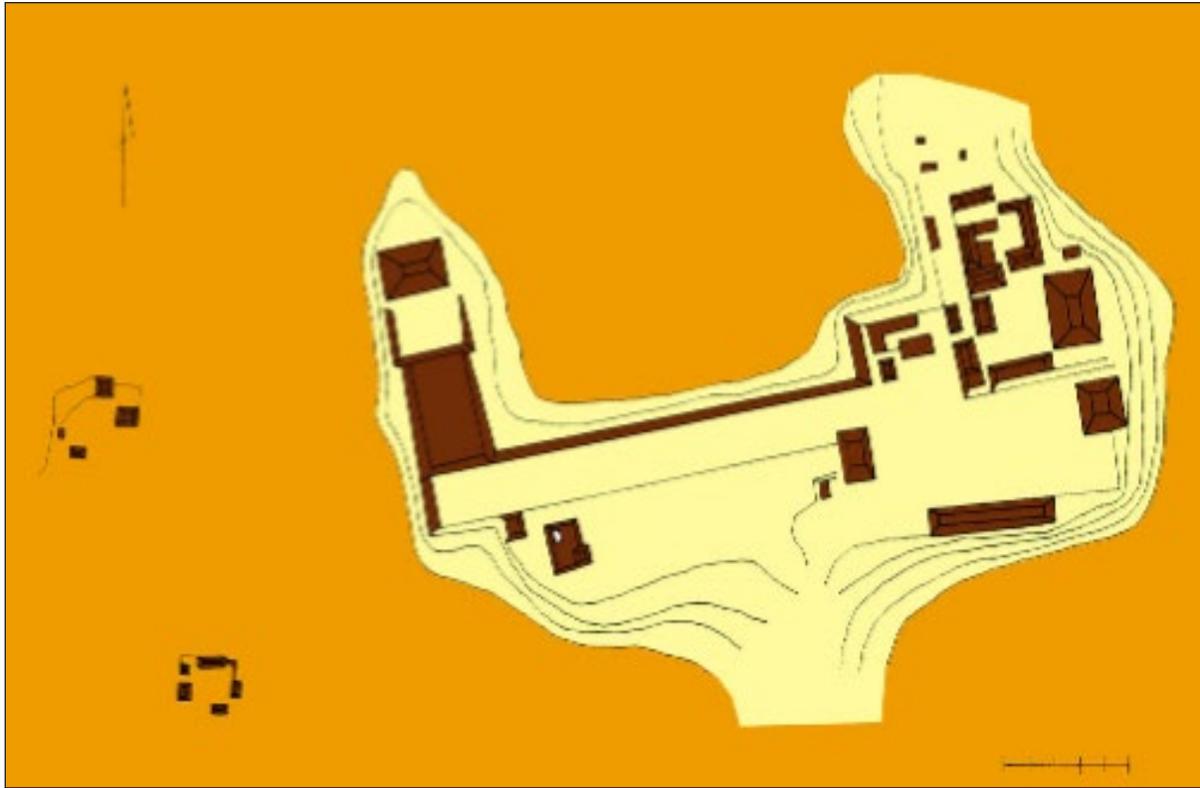


Figure 59. El Pital, an Intermediate Center at the northwestern periphery of Naranjo.



Figure 60. La Tractorada, an Intermediate Center at the western periphery of Naranjo.

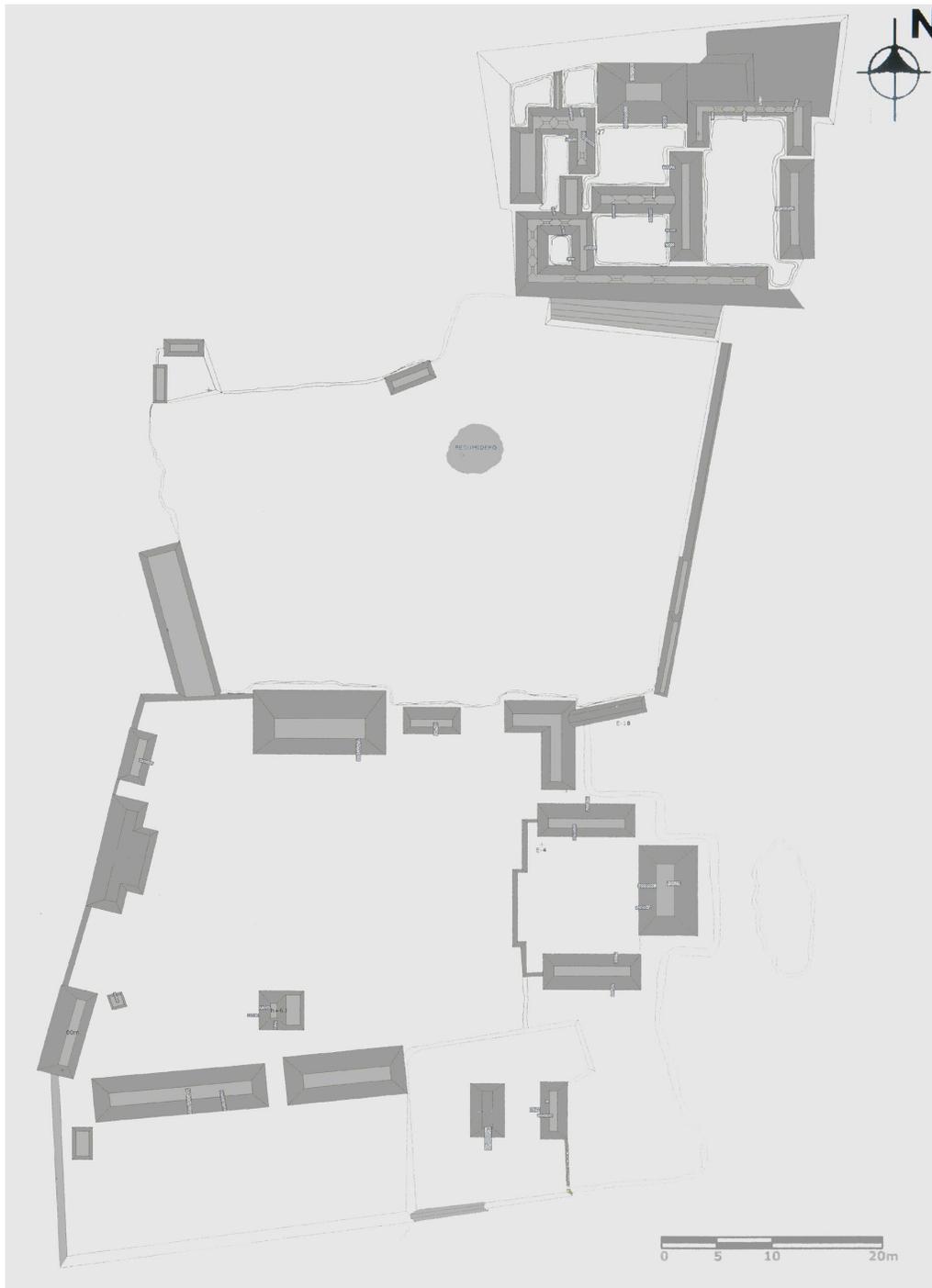


Figure 61. El Aguacate, an Intermediate Center at the Eastern periphery of Naranjo.

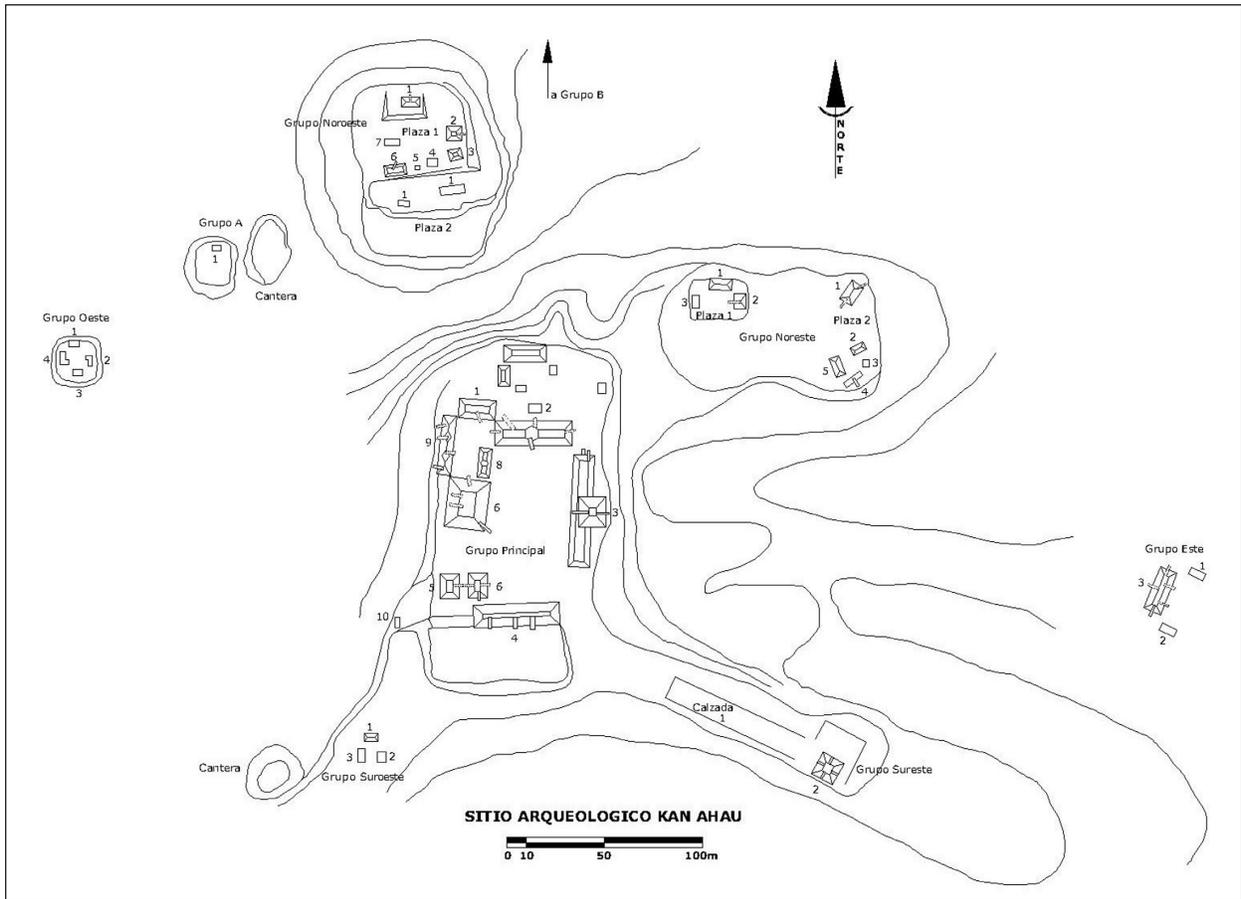


Figure 62. Kanajau, an Intermediate Center at the northern periphery of Naranjo.



Figure 63. Poza Kanajau, of the Lower Holmul River.

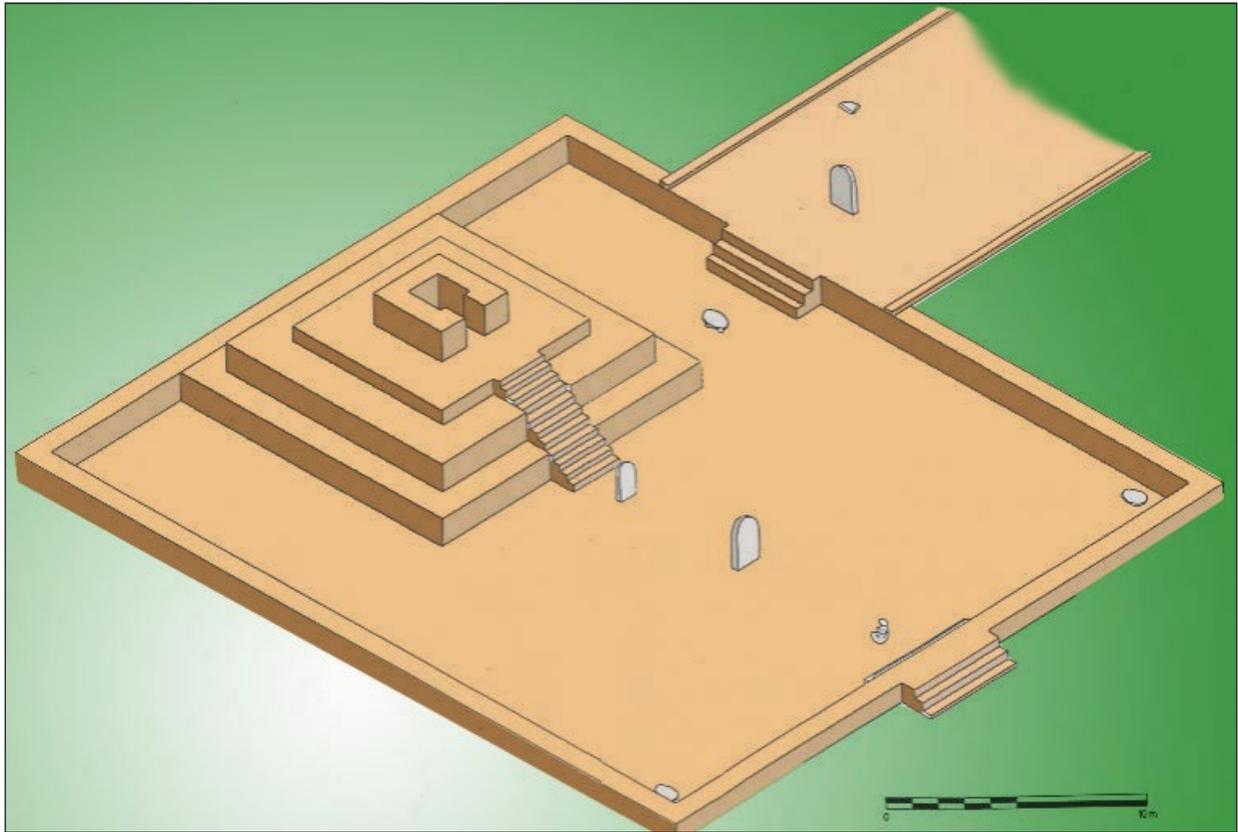


Figure 64. Kanajau Preclassic sunken patio and a causeway terminal.



Figure 65. Kanajau Stela 1.



Figure 66. Kanajau, Zoomorph 1.



Figure 66. Kanajau, drawing of Zoomorph 1.

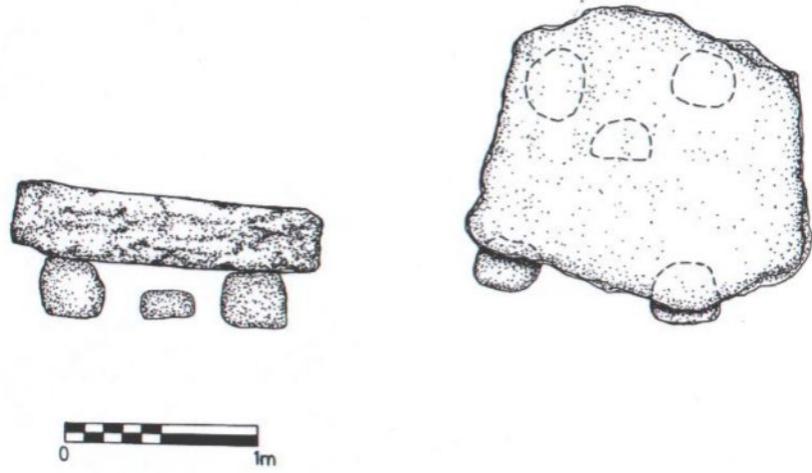


Figure 68. Kanajau, Altar 1.



Figure 69. One of Kanajau's looted temples.



Figure 70. Yaloch lake.

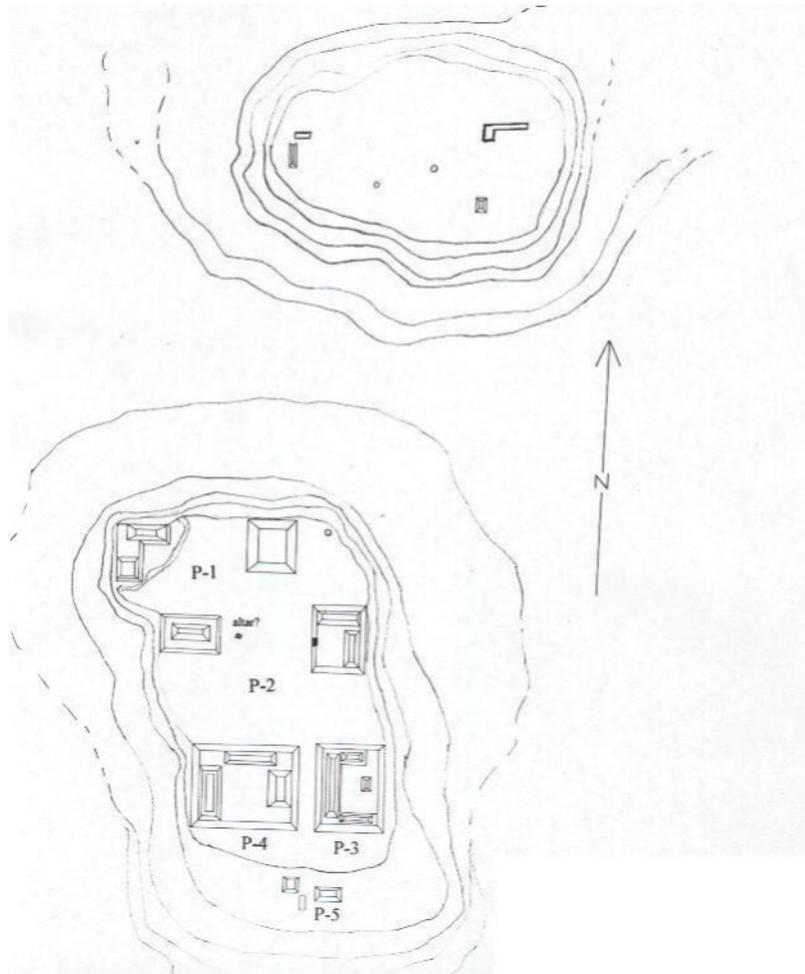


Figure 71. Mirador Yaloch, a Minor Center, north of Yaloch lake.



Figure 72. Mirador Yaloch, Stela 1, badly eroded.



Figure 73. Mirador Yaloch, a fragmented sculpture.

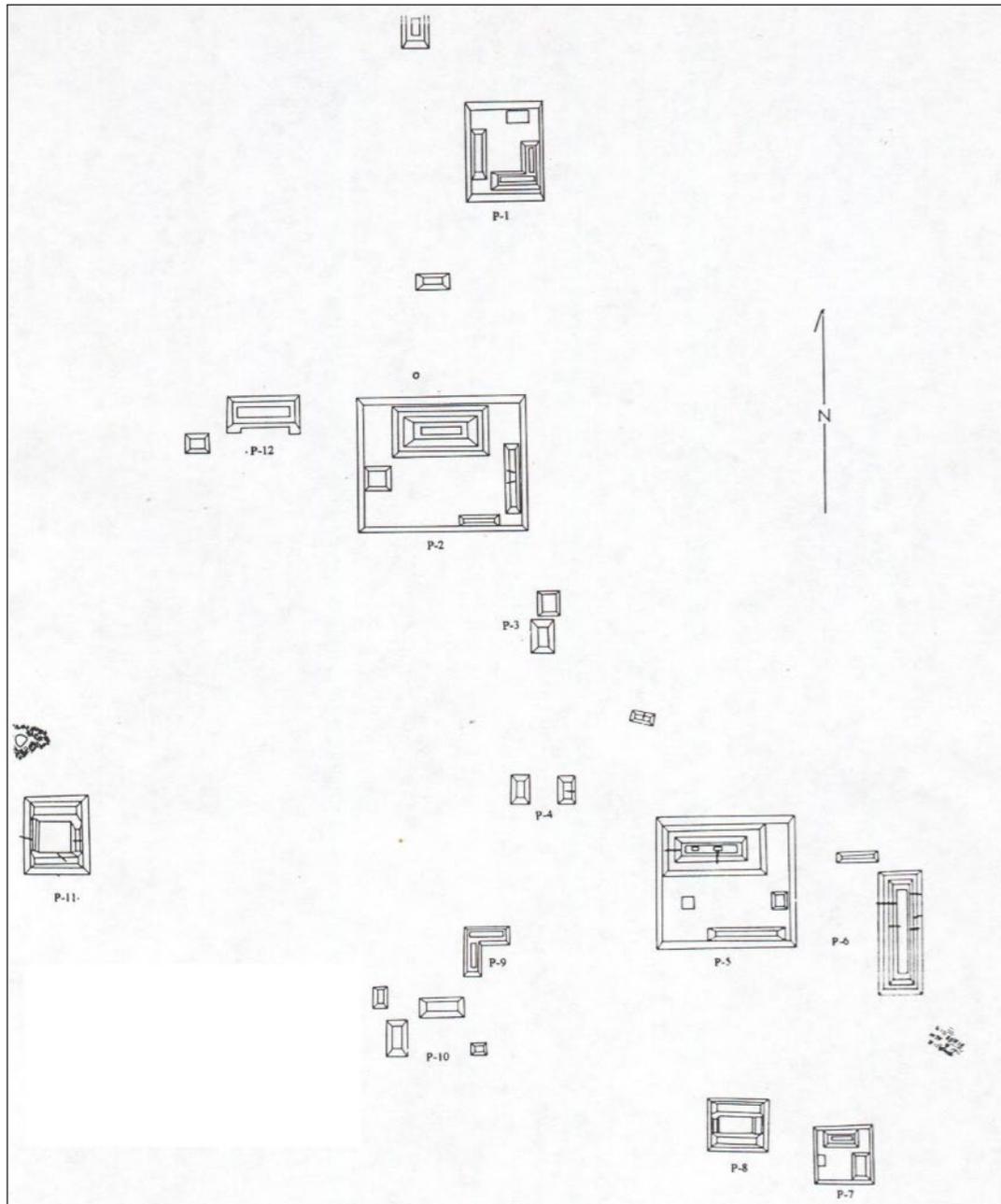


Figure 74. Chintok, a Minor Center of the Lower Holmul River.



Figure 75. Chintok, Stela 1, fragmented.



Figure 76. Chintok, Stela 2, fragmented.

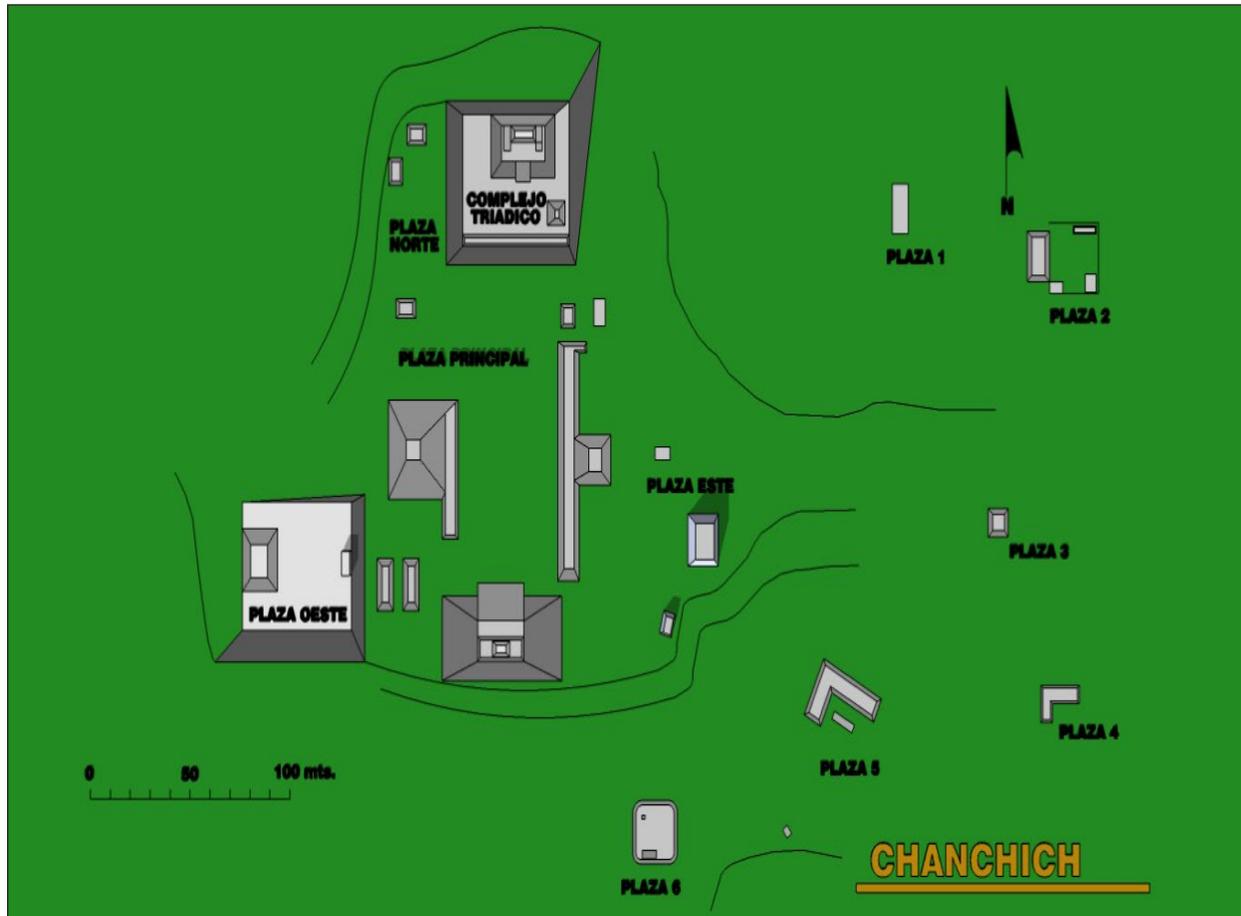


Figure 77. Chanchich, an Intermediate Center of the Lower Holmul River.



Figure 78. Chanchich, Potbelly 1, fragmented.



Figure 79. Chanchich, Potbelly 2.

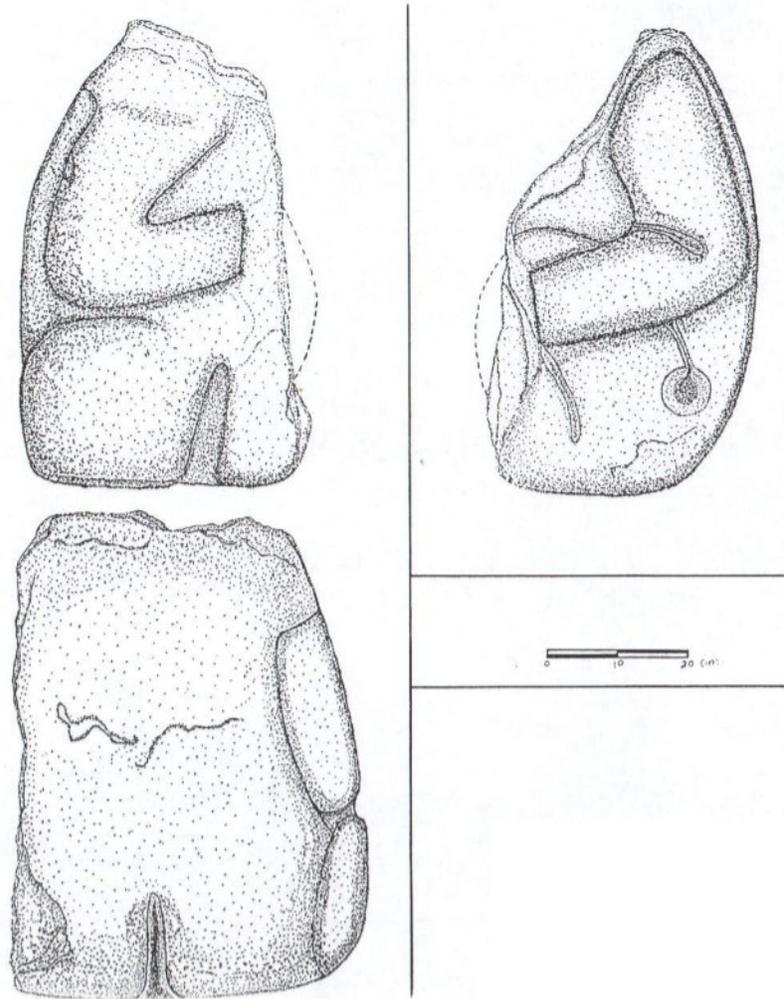


Figure 80. Chanchich, Potbelly 2 (drawing by Laura Gámez).



Figure 81. Chanchich, a temple badly looted.

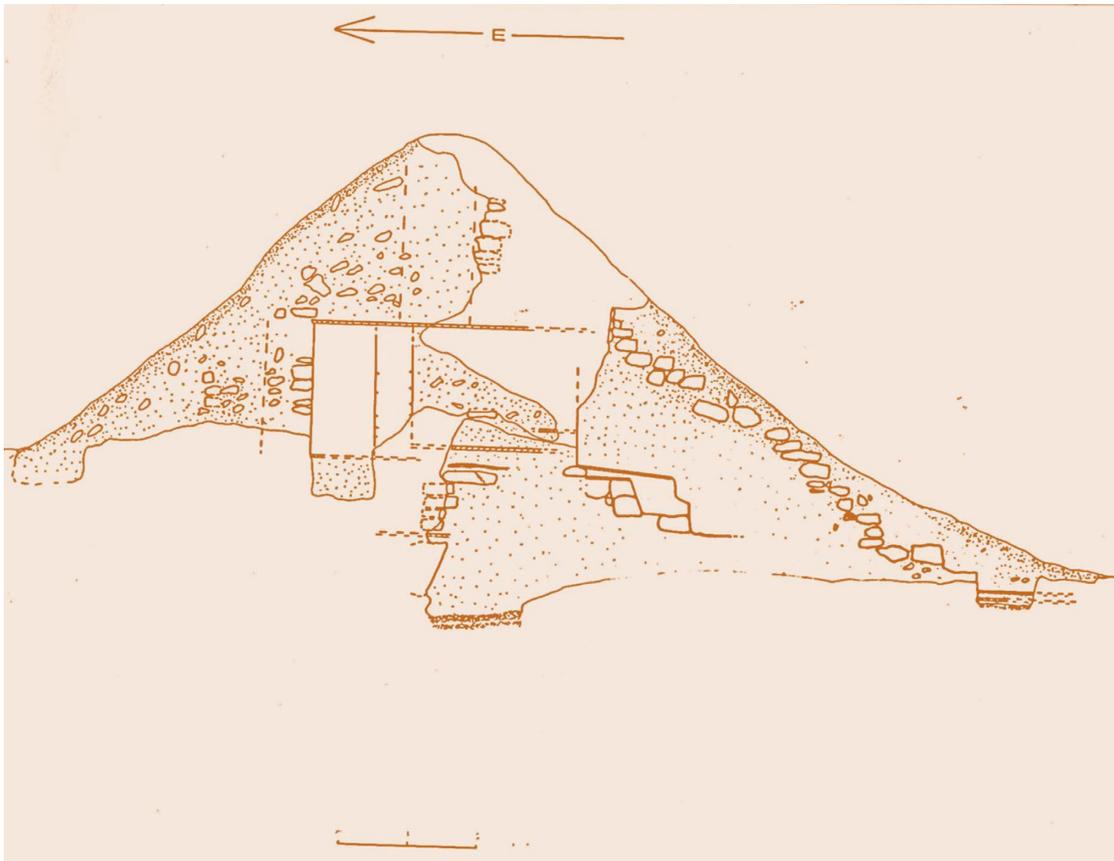


Figure 82. Chanchich, a looted temple (drawing by Vilma Fialko).

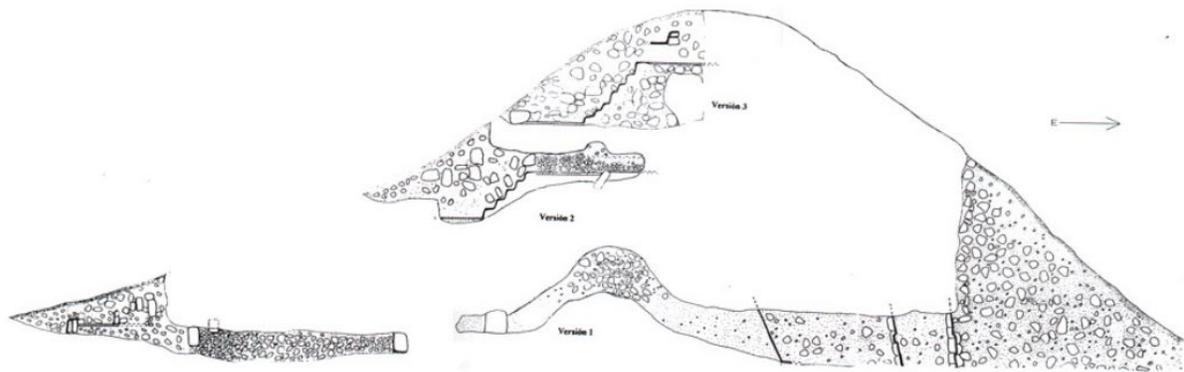


Figure 83. Chanchich, a looted pyramid, (drawing by Vilma Fialko).



Figure 84. Chanchich, mask inside a structure.

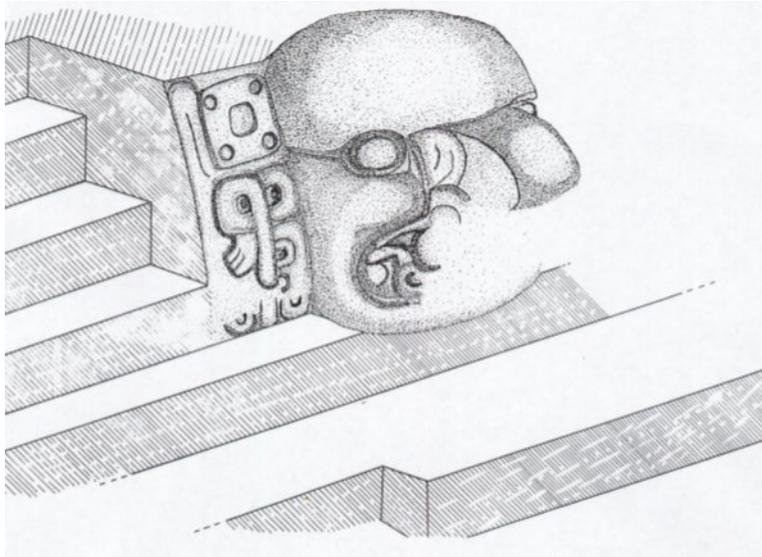


Figure 85. Chanchich, structure stairs and mask (drawing by Laura Gámez).



Figure 86. Chanchich, mask, profile view.

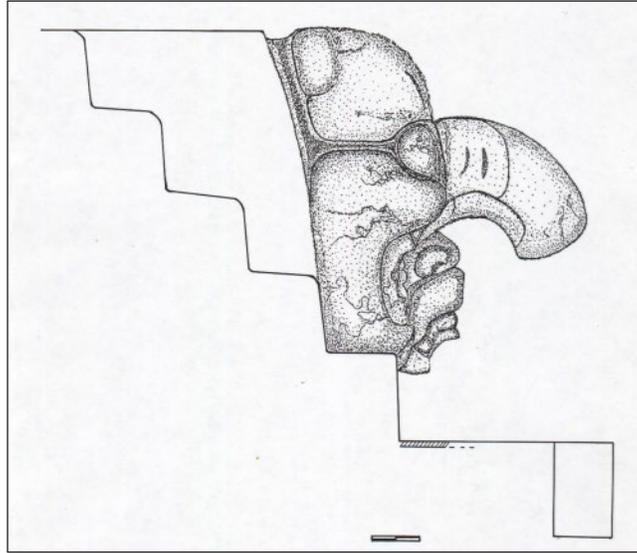


Figure 87. Chanchich, mask (drawing by Laura Gámez).

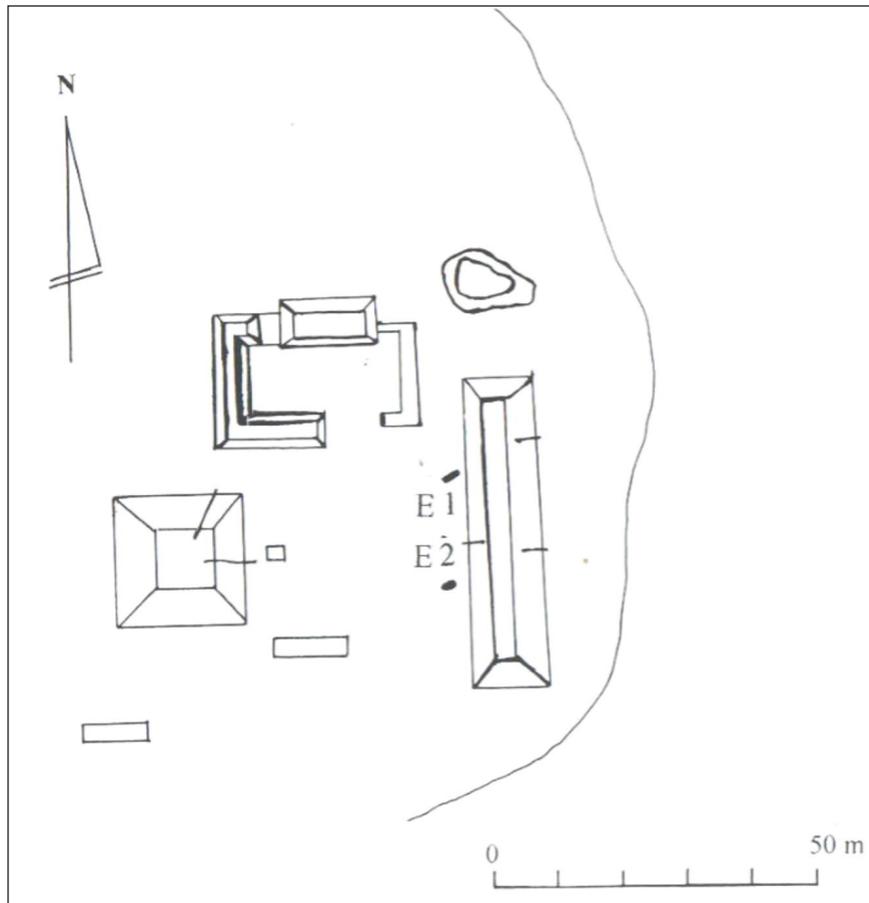


Figure 88. El Tambo, a Minor Center of the Lower Holmul River.



Figure 89. El Tambo, a looted temple and sculptures.

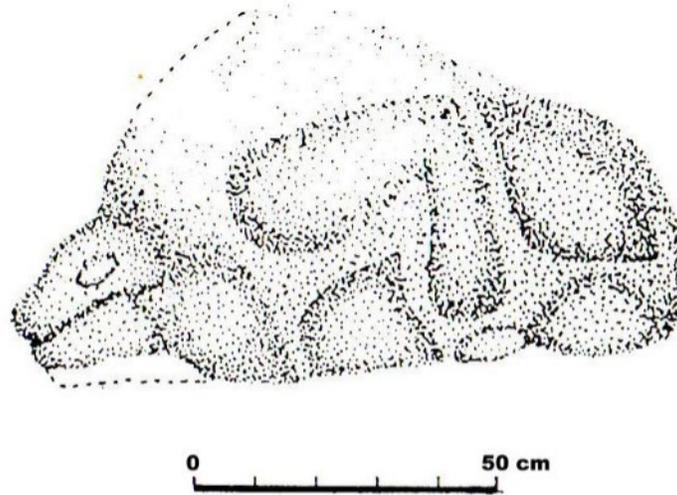


Figure 90. El Tambo, Zoomorph 1 (drawing by Laura Gámez).



Figure 91. Poza Paso Benchua (picture by Raúl Noriega).

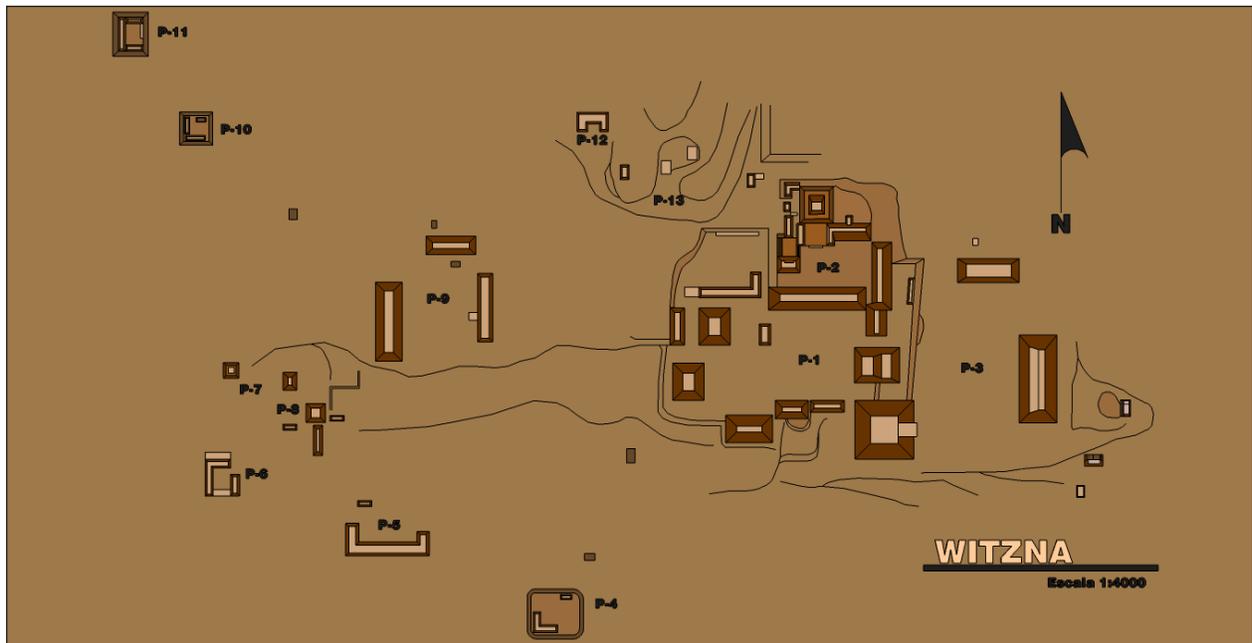


Figure 92. Witzna, an Intermediate Center of the Lower Holmul River.



Figure 93. Witzna, scattered sculptures.



Figure 94. Witzna, eroded sculptures.

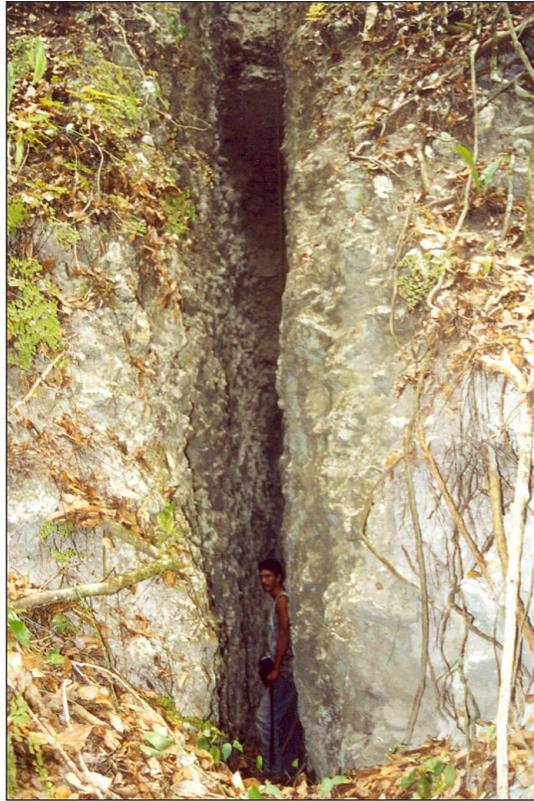


Figure 95. Witzna, a temple badly looted.



Figure 96. Witzna, Royal Palace with painted rooms.



Figure 97. Witzna, Royal Palace with painted walls and vaults.



Figure 98. Witzna, Royal Palace, a wall with mat (*pop*) design.