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## 32 **WHAT'S UP WITH THE RIFRAP? AN INTRODUCTION TO THE RIO FRIO REGIONAL ARCHAEOLOGICAL PROJECT**

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*The Rio Frio Regional Archaeology Project was established in 2018 to investigate the poorly studied Mountain Pine Ridge Forest Reserve (MPRFR), with a focus on the Rio Frio drainage, Cayo District, Belize. The permit concession area encompasses two ecological zones within the MPRFR. The larger contains pine-oak forests interspersed with savannahs underlain by granite bedrock. The other has broad-leaf tropical forest underlain by limestone bedrock. Only four short-term archaeological and two archaeologically focused geology studies have been conducted in the MPRFR previously. Those studies have focused on caves in the Rio Frio valley and a nearby granite outcropping, revealing they were used from the Late Terminal Classic through early Postclassic periods (A.D. 700-1200). With one recently reported exception, evidence of settlement has been elusive in the MPRFR. The RiFRAP has relocated, mapped, and digitally recreated many of the cave sites previously documented and recorded several others that are unpublished. Preliminary excavations in Rio Frio Cave recovered evidence of Late to Terminal Classic period burials and agricultural rituals. Reconnaissance of the MPRFR has revealed a variety of sites from lithic reduction locales and quarrying in the granitic ecological zone to settlement including plaza groups and monuments in the broad-leaf forested areas.*

### **Introduction**

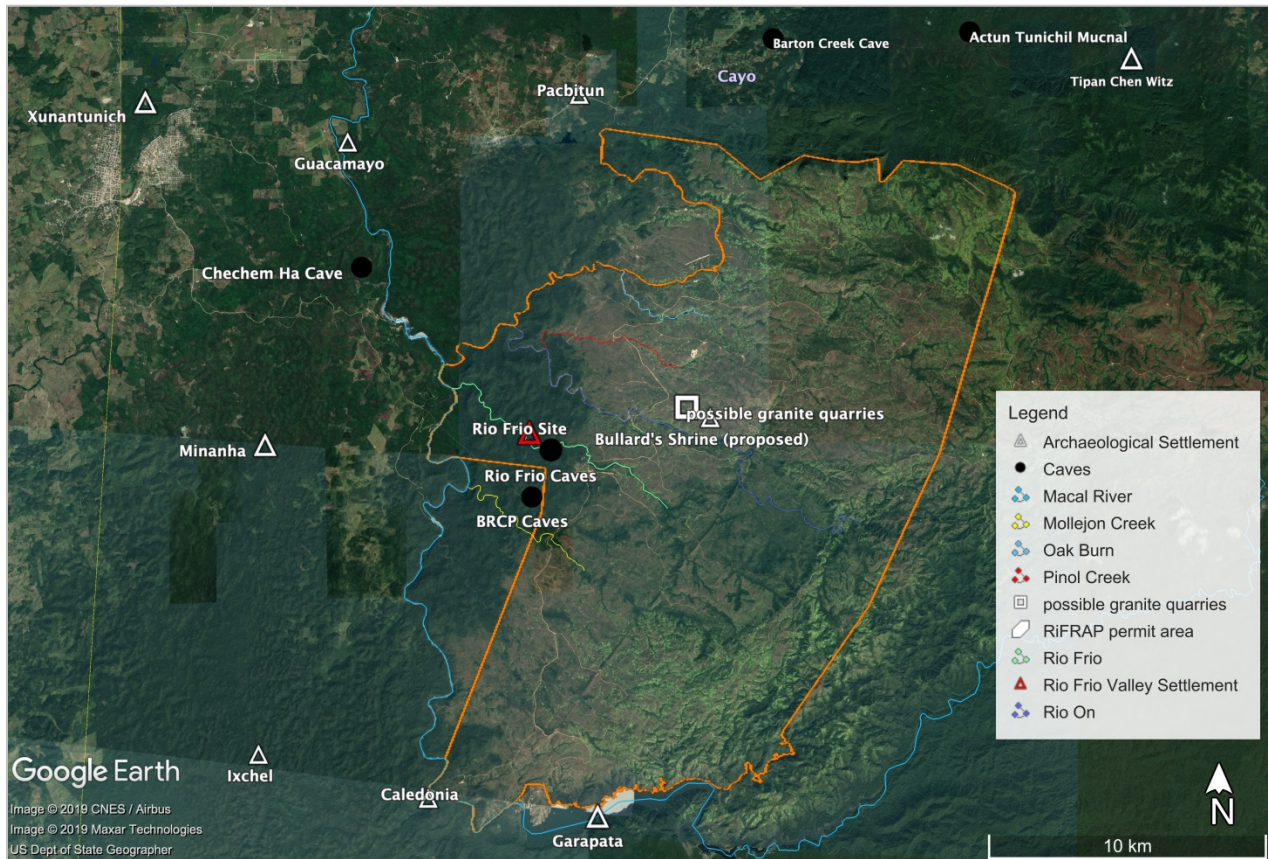
The Rio Frio Regional Archaeology Project (RiFRAP) was established in 2018 as the first long-term archaeological project focused on the Mountain Pine Ridge Forest Reserve, including the adjacent Rio Frio valley. This paper is an introduction to that new research project. In it, we identify the boundaries of the permit concession area and outline the two geographic and environmentally distinct zones within it. Next, we summarize the previous short-term archaeology and archaeology-focused geology studies conducted there and then outline the scope and aim of the RiFRAP. The paper concludes with overviews of our research outcomes to date coupled with suggestion for future work.

### **Geographic Overview of Permit Area**

The RiFRAP permit concession area is demarcated to the north by the Maya Mountains ridge line between the Chiquibul Road and Thousand Foot Falls (Figure 1). With the exception of a small peninsula at the Challilo Dam, the southern boundary is the Macal River, along the north shore of Chalillo Lake. The eastern boundary runs along a ridge line in the Mountain Pine Ridge from Thousand Foot Falls to the first creek downstream from the Macal River and Raspaculo Branch junction. The western boundary begins along the southeast boundary of the Pacbitun Regional Archaeological Project's permit area, which includes the Georgeville/Chiquibul Road from

the intersection of the Maya Mountains ridge line, then proceeds to the Privassion Creek, which it follows to the Macal River. The RiFRAP's western boundary continues along the Macal River until it reaches the top of the oxbow at the Mollejon-Macal junction. From that junction, the boundary stretches 3.3 km inland towards Douglas D'Silva Forest Station. The western boundary turns to the south again along the feet of the hills with caves investigated by the Belize Cave Research Project. From there it continues overland until reaching the Macal River again at the second major bend in the waterway downriver from the Guacamallo Bridge crossing.

The study area encompasses most of the Mountain Pine Ridge Forest Reserve (MPRFR), and there are two primary environmental zones resulting from differences in the underlying bedrock. The majority of the area is the Mountain Pine Ridge (MRP) proper, which is underlain by a complex series of granitic batholiths. The soils there are siliceous, acidic, and prone to erosion making them low in nutrients and incapable of supporting agriculture, and thus long-term habitation (Wright et al. 1959:1730). Although not suitable for agriculture, the acidic soils of the MPR support pine-oak forests and savannah grasslands. Rain runoff is channeled by multiple streams and creeks such as Little Vaqueros, Privassion, Oak Burn, Pinol, Rio On, Rio Frio, Mojellon, Mahogany, and Raspaculo, that compromises the Macal River watershed. Other creeks and



**Figure 1.** Satellite image of central Belize showing RiFRAP permit concession area (orange polygon) sites under investigation, other notable sites in the broader region.

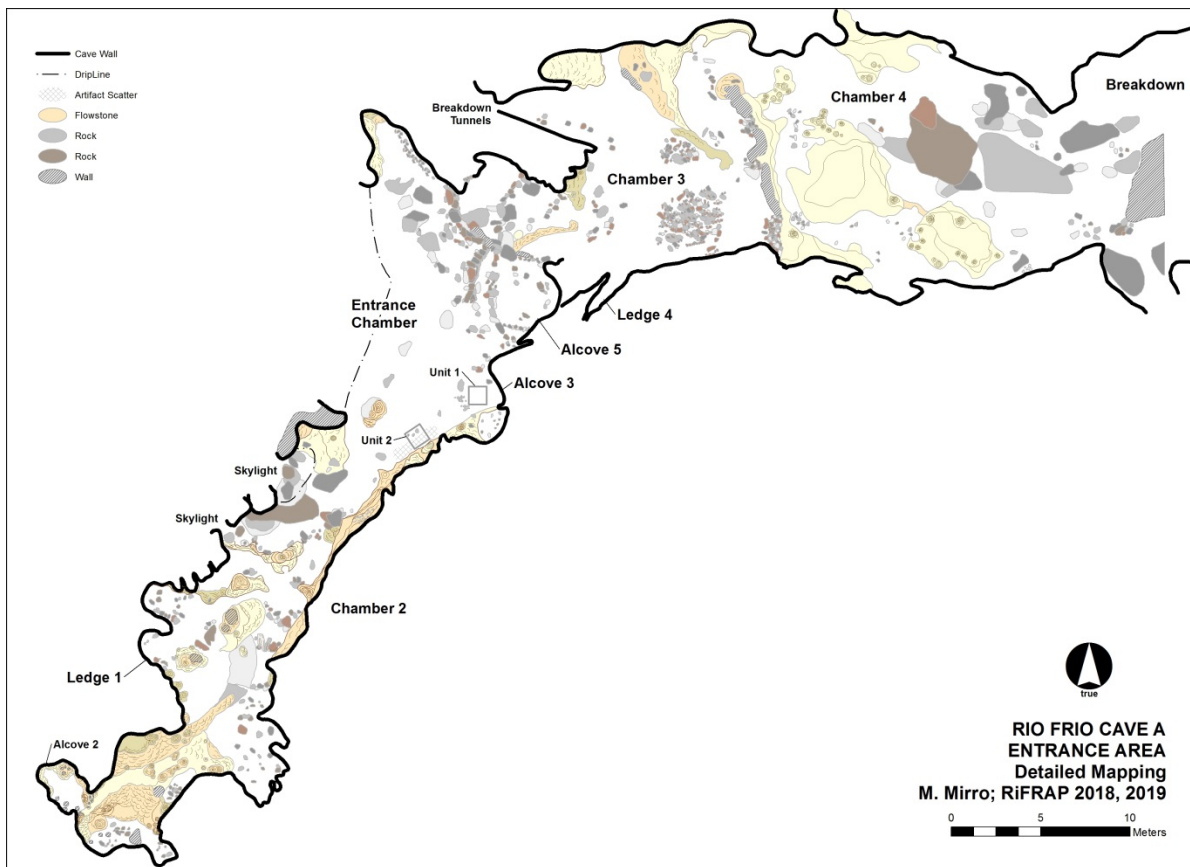
streams comprising part of the Belize River watershed also originate in the MPR, such as Barton Creek, Roaring Creek, and Caves Branch. Flowing over the uneven granitic bedrock, these streams contain picturesque and well-known waterfalls and pools including Big Rock Falls, Thousand Foot Falls, Pinol Sands, Pinol Cascade, and the Rio On Pools. Though rarely studied archaeologically, the MPR has been long recognized as the primary source for vital profane and ritual raw materials including pine wood, slate, granite, other metamorphic rocks, and as a hunting ground (Graham 1987; Healy et al. 1995; Morehart 2011; Tibbits 2016; Ward 2013).

The western side of the permit area contains residual limestone bedrock “islands” that were separated from the parent Vaca Plateau by the Macal River (Pendergast 1970:3). The limestone bedrock areas are covered by broad-leaf deciduous forest with canopy heights

between 70-100 feet high (Pendergast 1970:3). As part of a protected area, the forests team with wildlife including a variety of birds, reptiles, gastropods, and mammals such as toucans, parrots, finches, warblers, snakes, turtles, a wide variety of snails, spider and howler monkeys, tapirs, and jaguars. The soils there are similar to those found on the Vaca Plateau and Chiquibul regions making them ideal for agriculture. Perhaps due to its inclusion in the Mountain Pine Ridge Forest Reserve, archaeologists have long considered these limestone areas as lacking Maya settlement. Yet, we have received reports of house mounds dotting the area, and one settlement has recently been identified south of the RiFRAP permit area (Moyes et al. 2017).

### History of Research and Culture-History of the Mountain Pine Ridge Forest Reserve

With only five short-term archaeology studies conducted in the MPR and Rio Frio



**Figure 2.** In progress plan-view map of Rio Frio Cave A. Note that the survey of this cave remains incomplete. When the cave will be fully surveyed, the final map will continue to the east in the upper right corner for another 60 m.

valley, the area is archaeological *terra incognita* (Pendergast 1970:6). Most of the archaeology conducted there has focused on the Rio Frio Caves, first identified and excavated by Gregory Mason (Mason 1928, 1940), and two more recently discovered caverns described and hastily excavated by A.H. Anderson in 1958 (Anderson 1962; Pendergast 1970). Two other projects investigated stone cairns (Thompson 1938), and a possible granite shrine (Bullard 1963) in the Mountain Pine Ridge proper. Most recently the Belize Regional Cave Project (BRCP) documented multiple caves in the Mollejon Creek area to the south of Rio Frio (Moyes and Awe 2015, 2016, 2017). Two additional archaeology-focused geology projects have tested granite outcrops for locating raw material sources for ground stone tool production (Skaggs and Powis 2014; Tibbits 2016).

The earliest archaeology project in the Mountain Pine Ridge region was conducted by

Gregory Mason in the late 1920s who recorded three cave sites in the Rio Frio valley, which he labeled Caves A, B, and C (Mason 1928, 1940). His expedition was aimed primarily at collecting museum-quality artifacts from Belize, Guatemala, and Mexico for the Heye Foundation's Museum of the American Indian's collections (Mason 1928:5). Overall, his reports are short and read like adventure journals. He mentions several times the inhabitants of the caves, indicating his belief that the Maya were living in them, a view that contrasts sharply with current understandings of Maya cave use discussed in more detail below. Today, Caves A and B are collectively referred to as "Twin Caves" by signage posted by the Forestry Department, while Cave C is called Rio Frio Cave. The following descriptions of the three caves are summarized from Mason's (1928, 1940) accounts, and supplemented with our observations of them.

Cave A is a complex, multi-level cavern with two main passages and a large rock shelter entrance connecting both (Figure 2). The rock shelter averages 7 m deep by 15 m long north-south with entrances to deeper passages penetrating the hill at the northern and southern ends of the chamber. The southern passage is about 30 m long and contains multiple alcoves and sub-chambers (Mason 1928:11-12). The northern passage leads to the longer and more complex portion of the cave system. It has multiple, labyrinthine side passages and is multi-leveled. Its entrance had been partially blocked off in antiquity by a wall of large stones, and the main passage terminates at an underground stream 60 m from the entrance. Multiple side passages branch off from the main conduit, at least three of which had also been walled off in the past (Mason 1928:18-20).

In the approximate center of the cave on an elevated ledge overlooking a lower level, is a flowstone column that appeared to Mason to be a “typical Maya stone serpent” (Mason 1928:13) with an agape, fanged maw. At the column’s base were traces of burned copal incense indicating it was a focus of ritual activity. RiFRAP’s investigations of the formation have revealed many of the smaller columns making up the “teeth” described by Mason (1928:13) had been broken in antiquity. Interestingly, when light shines onto the column it casts a shadow of a threatening, toothed anthropomorphic figure readily visible from the chamber below (Figure 3).

Cave B is the smallest of the three recorded by Mason. It consists of two roughly circular chambers each approximately 10 meters in diameter. The front chamber is spacious and well-lit by the gaping entrance providing ample sunlight. The rear chamber is accessed by a large hole in the rear wall of the front room. The hole between the chambers is positioned in such a way that little light enters the rear room. Though few artifacts remain in the cave, Mason collected at least one complete vessel and an unslipped spiked censer (Miseria Applique type [Smith and Gifford 1966:159]; Mason 1928:11).

Rio Frio Cave C is an impressively tall, yet relatively short (400 yards) cavern through which the Rio Frio flows by way of two gaping, 45 m-tall entrances (Mason 1928:28). Many small



**Figure 3.** Image showing shadow cast on Rio Frio Cave A wall of modified columnar formation near center of cavern that Mason (1928:13) initially described as a “typical Maya stone serpent. The bulbous part of the formation forming the “head” is approximately 1.5 m tall (photograph by J. Spenard).

chambers and side passages are present, which all contained ceramic sherds. Excavations in a side passage near the southeastern entrance of the cave revealed poorly preserved human skeletal remains and several jadeite objects (Mason 1928:35). Near the passage was a large platform excavated completely by Mason (1928:36). Those excavations revealed substantial ash deposits and more jadeite objects. He notes that dense sherd scatters lined the floor of the cave between the passage and altar (Mason 1928:38). Sadly, few noticeable artifacts remain in the cave; we have counted fewer than 50 sherds over two field seasons there.

Mason (1928) conducted surface collections and excavations in all three caves, but their locations are difficult to identify as his reports lack maps and often times his descriptions of where he placed them are too overly general to be of use. Nonetheless, his 1928 report contains several black and white images of recovered ceramics showing a wide array of styles and types such as simple, unslipped, sand-tempered bowls, unslipped plain ware and black slipped jars and bowls (likely Cayo Unslipped [Gifford 1976:276], Alexander’s Unslipped [Gifford 1976:283], Mount Maloney Black [Gifford 1976:243] types, and those belonging to Tumbac Unslipped Ware and Macaw Bank Group [Gifford 1976:149; LeCount 1999:381; Spenard 2014:800]), as well as unslipped applied sherds (Miseria Applique type [Smith and Gifford 1966:159]), and Peten



Gloss Ware polychrome cups and bowls/dishes decorated with geometric and curvilinear designs, some with bands of pseudoglyphs. Most of these types are common to the Belize Valley and were used from the Late Classic through Early Postclassic periods (A.D 700-1200).

In the 1950s, A.H. Anderson received reports of two new caves near those investigated by Mason. Following Mason's naming scheme, Anderson (1962:327) called them Caves D and E. His work in them was primarily salvage in nature, prompted by reports of active, illicit hunting in the Rio Frio region. Unfortunately, he only published one short account of his work in them prior to his untimely passing (Anderson 1962). Later Hurricane Hattie destroyed many of his notes of that work, and many objects from the collection were later stolen from storage (Pendergast 1970:1). Nonetheless, David Pendergast, who accompanied Anderson on a trip to the caves, reconstructed for a technical report some of the work conducted in Cave E. In it, he also provided descriptions from memory and photographs of miscellaneous artifacts recovered. The majority of the report is extensive descriptions and illustrations of ceramics recovered from that cavern (Pendergast 1970).

Anderson (1962:329) describes Cave D simply as a small, dry cave close to Caves A and B with many undecorated olla sherds on the ground. His description for Cave E is much more substantive. That cavern is two miles from Caves A and B, has an average ceiling height of 12 m, and consists of a single passage 158 m long by 35 m wide (Pendergast 1970:6). Several elevated alcoves dot the upper walls of the cavern, though all but two had been looted prior to Anderson's initial trip there (Anderson 1962:330). One of the ledges had a small alcove at its rear that Anderson excavated. He recovered a rich offering that included several whole pots, including an olla filled with over 40 polished stone artifacts made from slate, jadeite, greenish granite, amphibole or nephrite, and albite (Pendergast 1970:47-48). Charcoal and wood recovered from the alcove was radiocarbon dated to AD 830  $\pm$  150 (Pendergast 1970:9).

Besides the alcoves, two main cultural areas were recorded in the cave, one is a dense sherd concentration pushed up against one of the cave walls, excavated by Anderson over the

course of a week (Anderson 1962:330; Pendergast 1970:9). After sorting out unslipped olla sherds, he collected portions of 249 vessels; "a small part indeed of the total mass in the cave, and probably no more than one-fiftieth of the collection from [his] small trench" (Pendergast 1970:10). Overall, the ceramics reveal Cave E to have been one of great ritual significance to the Late to Terminal Classic period (A.D. 700-900) Maya. Moreover, the pottery demonstrates strong stylistic ties to the Belize Valley, particularly Xunantunich, and has very little in common with sites in the Chiquibul region to the south, including Caracol. Pendergast (1970:49-50) speculates the stylistic connection in ceramics between Cave E and the Belize Valley is likely due to the Rio Frio being a tributary of the Macal River, connecting it directly with those sites to the north.

The other main cultural area in Rio Frio Cave E is a carved stalagmitic boulder resembling a seated human figure placed by the Maya close to the midline of the rear of the cavern (Anderson 1962:331). Eight circular depressions were carved into the front and top of the figure, and the sides are scored with diagonal lines (Anderson 1962:331). Both Anderson (1962:331), and Pendergast (1970:51) note this figure was likely worshipped as a god, with the latter tentatively suggesting it was the rain god, Chac, an observation later noted for cave formations throughout the Maya area (Spensard 2014; Stone 2005).

Only two archaeological studies have been conducted in the MPR outside the Rio Frio valley. In 1938, J. Eric S. Thompson reconnoitered the northern section of the MPR for pre-agricultural deposits. He found none but documented and excavated a series of stone cairns piled around erect slate shafts (Thompson 1938:152). He suggested the cairns were used by the pre-Hispanic Maya much like mountain top shrines were used by the Chol and highland Maya into Colonial times (Thompson 1938:152). Their purpose remains uncertain; however, several were erected in the 1780s by Colonel Despard to mark the southernmost boundary of British settlement (Bullard 1963:98).

The other archaeological study conducted in the MPRFR centered on a shrine complex near the Rio On (Bullard 1963:98). That site consists

of a large granite outcrop with slabs placed at its southside base acting as a bench, a stepped platform facing the outcrop, and a naturally rounded boulder placed in front of the platform, resembling an altar (Bullard 1963:98). No excavations of the shrine architecture were attempted, and concentrated surface collection efforts were only able to recover an obsidian flake blade and one non-diagnostic ceramic sherd. As with the cairns investigated by Thompson (1938), the layout of the shrine points to pre-Hispanic Maya use although the period that occurred remains uncertain.

The BCRP has conducted the most recent archaeological research in the MPRFR centered around the Mollejon Creek area southwest of the Douglas D'Sliva Forest Station. That project has recorded up to seven caves in the MPRFR. Overall, this work has revealed most ritual use occurred during the latter portion of the Late Classic period with some evidence of early Postclassic period use (A.D. 900-1200; Moyes and Awe 2015, 2016, 2017).

The two archaeology-focused geology studies in the MPR have sampled multiple granite outcrops to determine favored sources for the raw material. One of these studies was conducted by members of the Pacbitun Regional Archaeological Project who collected samples to be studied petrographically and by electron microprobe analysis. Their goal was to locate the sources of raw granite processed in the groundstone tool production workshops at Pacbitun (Skaggs and Powis 2014). The other geologic study used portable X-Ray Fluorescence on ground stone tools collected from archaeological sites throughout Belize (Tibbits 2016). That data set was then compared with another collected from granite outcrops throughout the Maya Mountains, including the MPR. That study revealed that the great majority of granite used to make stone tools found at sites throughout Belize comes from the region near the shrine Bullard (1963) reported in the 1960s (Tibbits 2016).

### **Theoretical Approach and Aims of the RiFRAP**

With a lack of known settlements in the study area coupled with the economic importance of the MPR and presence of several ritually used

caves, the long-term research questions developed for the RiFRAP have been formulated through the lens of archaeological landscape theory, particularly social landscape theory (Ashmore 2004; Knapp and Ashmore 1999). Simply stated, landscape archaeology is the study of non-traditional sites (e.g. settlements) created through human interactions with the world (Knapp and Ashmore 1999:1). Social landscape theory understands the world that people inhabit as more than a backdrop upon which culture is enacted; instead, it is an active participant in the cultural making process. Such a theoretical approach is ideal for studying pre-Hispanic Maya society particularly because Maya people understood the world they inhabited to be alive and imbued with animate, generative forces including Earth spirits and ancestors (Astor-Aguilera 2010; Brady 2005). Among the core tenets of this understanding of the world is the ideational interconnectedness of mountains, caves, and water (Brady and Ashmore 1999).

Seven primary research questions guide RiFRAP's long-term research agenda at its onset, but due to the relative lack of archaeological knowledge about the region, they will be modified as we learn more about the region. The questions are as follows: 1) What kinds of sites are in the research area? Are there pre-Hispanic settlements? If so, when do they date to; were they centralized or scattered; how large were their populations; and what were their relationships with surrounding center? Are there raw material quarries in the MPR? If so, who was using them? Are there affiliated permanent settlements or temporary work camps? Are there more ritually used landmarks such as caves, rockshelters, bedrock outcrops, cairns, and shrines? If so, where are they located and what are their purposes? 2) What is the culture history of the region, and does it vary by site? 3) What is the regional pattern of ritual cave use? 4) Why were the caves used and did the reasons change over time? If changes in use patterns are recorded, what caused them? 6) Were the people using the Rio Frio caves from a heretofore unknown local population, or were they pilgrims from other regions? 7) Who were the people constructing shrines and cairns in the Mountain Pine Ridge? What were the functions of these



**Figure 4.** Long exposure (15 second) photograph in Rio Frio Cave A Chamber 4 facing toward cave entrance demonstrating extent of light filtering in through previously blocked bedrock wall. When the walls were in place, little to no light would have passed into the chamber (Photograph by J. Spenard).

constructions? Was ritual a component of raw material extraction?

### Summary of Results

Our goals for the inaugural 2018 seasons were modest. We aimed to: (1) relocate the sites documented by Anderson (1968), Bullard (1963), Mason (1928), and Thompson (1938); (2) record and describe cave sites open to tourism identified by the Forest Department; (3) begin surveying and mapping of known sites; (4) record, describe, and photograph archaeological features to create three-dimensional (3D) digital models; (5) make 360° photospheres for creating virtual tours of cave sites; and (6) collect in-situ artifact data to establish site chronologies. The goals of the 2019 field season were to continue with those of 2018 with the addition of conducting excavations in the entrance of Rio Frio Cave A, and mapping and excavating in Domingo Ruiz Cave, a cavern that had been opened for tourism by the Forest Department sometime between July and December 2018.

Over those two field seasons, we have successfully relocated Rio Frio Caves A, B, and C thanks to them being well-known and easily accessible tourist destinations. Rio Frio Caves D and E, as well as the shrine and cairns reported by Bullard (1963) and Thompson (1938) respectively were not. We have documented three previously unpublished cave sites, Tunnel Cave, Closing Jaw Cave, and an unnamed sinkhole, designated Sinkhole 001. The former

two caves are just off the main road between the Douglas D'Silva Forest Station and Rio Frio Cave C, and they have hand-painted signs pointing to maintained trails leading to them. The third new cave is a sinkhole located about 100 m east of the Rio Frio Nature Trail, near Cave A. We have collected digital photospheres in Rio Frio Caves A, B, and C, Tunnel Cave, Closing Jaw Cave, and Sinkhole 001 that we will turn into a fully navigable virtual tour to be posted when completed on the RiFRAP project website, <https://www.rifrap.org>.

Survey, mapping and excavation efforts focused on Rio Frio Cave A. Domingo Ruiz Cave was inaccessible during the 2019 field season due to military training in the area. In Rio Frio Cave A, we described over 50 archaeological features in the front three chambers including ceramic concentrations, areas of formation breakage, architectural constructions such as platforms with retaining walls, rock alignments demarcating different spaces, and standing walls and stacks of rocks blocking passages and natural windows in cave walls overlooking sheer, multi-meter drops.

The largest wall in the cavern is at the entrance to the more complex portion of the cave reported by Mason (1928). He proposed that it was defensive, protecting the people inhabiting it from aggressors and from errant large stones rolling in (Mason 1928:12). As noted above, Maya people did not inhabit caves long-term, instead they used them primarily for ritual purposes (Brady 2005). If not defensive, what purpose did the large wall at the cave entrance and others found within serve? Drawing from our recognition of the light and shadow play of the modified column in the middle of Rio Frio Cave A, we propose that many of the large walls and infilled bedrock windows within were intended to block natural light from filtering into the cave, making parts of the cave darker (Figure 4). This find also suggests at least some ritual activities occurred during daylight hours.

To begin constructing a site chronology and to understand how Rio Frio Cave A was used, we placed two, 1 m x 1 m test excavation units in the rockshelter entrance. One was situated in the middle of a dense ceramic cluster and the other in an adjacent alcove (see Figure 2 for excavation unit locations). Ceramics

recovered from both units are culturally affiliated with the Belize Valley and date stylistically to the Classic period (A.D. 250-900) with Early Classic period (A.D. 250-600) Peten Gloss types Aguila Orange (Smith and Gifford 1966:154), Pucte Brown (Smith and Gifford 1966:161) and Santa Teresa Incised (Gifford 1976:190) identified. Late to Terminal Classic period types identified include Dolphin Head Red (Gifford 1976:227) and Rubber Camp Brown (Gifford 1976:233). Peten Gloss wares, specimens of the Belize Red group, and Late to Terminal Classic period jar forms were also identified.

In addition to ceramics, excavations in both units uncovered *jute* river snail shells, carbonized immature maize cobs, and obsidian blades and flakes. Most of the *jute* shells were recovered from the unit in the alcove. That excavation pit also contained the edge of a thin plaster or tamped earth floor, beneath which human skeletal remains were recovered. The remains are poorly preserved, and we were unable to determine how many individuals are present, and if they had been disturbed in the past. Among the bones recovered was a partially fused sacrum, indicating a person who passed away between 16-25 years old.

Berdeja (2019) has proposed the *jute* snail shells were imported to the cave for ritual purposes. *Jute* snail shells are often found in large quantities mixed with chert and obsidian flakes topping human burials in rockshelters throughout Belize (Saul et al. 2005; Wrobel et al. 2017; Wrobel et al. 2018). Drawing on those data, Garcia (2019) suggests that the *jute* shells were likely part of a burial ritual and that expanding excavations in the alcove will likely uncover other buried individuals. In addition to burying the deceased, the entrance of Rio Frio Cave A may have also been used for agricultural rituals. Specifically, the presence of the immature maize cobs suggests first fruit ceremonies may have been performed there (Yanez 2019). First fruit ceremonies are common to agricultural societies throughout the world, and they are made to give thanks to the beings who provide the food (Morehart 2011).

RiFRAP investigations have also included pedestrian survey of approximately 12 hectares on the Mountain Pine Ridge proper. The results of these activities have led to the identification of



**Figure 5.** Image of possible granite reduction site south of Granite Cairn road near shrine complex identified by Bullard (1963; photograph by J. Spenard).



**Figure 6.** Image of chipped-stone flakes recovered from low density lithic scatter on deflated hilltop above Pinol Cascade (photo by J. Spenard).

two possible granite processing sites near the shrine Bullard (1963) recorded (Figure 5). Around them were several rounded flat quartz cobbles with battering ware similar to production tools found at the ground stone workshops at Pacbitun (Ward 2013). We also recorded several isolated artifacts between Granite Cairn and Naval Roads, and a low-density lithic scatter above Pinol Cascade (Figure 6). These chipped stone objects are located on deflated hilltops and no associated features were observed making dating them difficult.

In summer 2019, we also attempted to relocate Rio Frio Cave E, but were unsuccessful.





**Figure 7.** Image of in situ uncarved slate stela and butt in plaza group encountered in Rio Frio Valley. The stela would have measured approximately 1.5 m from the ground surface when standing (Photograph by J. Spenard).

The trail leading to the cave has been buried by extensive treefall following the long string of powerful tropical storms impacting Belize over the last few decades. Although efforts to relocate the cave were unsuccessful, we recorded 18 new rockshelters, most of which contain evidence of ritual use, a hilltop and several plaza groups in low-lying areas, isolated mounds of varying size, agricultural terracing and a possible water control feature in the Rio Frio valley. One of the plaza groups included a 5 m tall range structure with a broken, uncarved slate stela and its butt at the building's centerline (Figure 7). Time did not permit full exploration of these settlements, but they may be evidence of a previously undocumented population center in the region.

#### **Discussion and Avenues for Future Research**

Even though we have only completed two short field seasons, our research has begun

answering many of the overarching research questions guiding the RiFRAP. We have documented a wide variety of archaeological sites in the study region, which have challenged us to rethink how we employ the term site. Rather than being just places where people lived, farmed, and performed rituals, we employ the term to mean as any place on the landscape where evidence of past human activity is found. Using that definition, sites in the MPR include discarded chert flakes made perhaps when sharpening a biface on-the-go or creating an expedient tool, cave-like features and other geographic landmarks where rituals were performed, as well as traditional settlements with isolated house mounds, plaza groups, and public monuments.

Our understanding of the culture history of the cave sites in the region indicate most ritual use occurred during the Late to Terminal Classic

periods, although some Early Classic period material was recovered in Rio Frio Cave A. This temporal pattern of cave use is common throughout Belize where most caverns began to be used near the end of the Late Preclassic through the Early Classic periods, but use-intensity, measured by comparing the quantity of material correlates over different times, indicates most use occurred during the last two centuries of the Classic period (Moyes 2006:20-21). Due to the limited number of caves intensively investigated we have yet to collect sufficient data to begin to understand regional patterns of cave use, although we have noted shadow play and control of ambient sunlight to darken particular places in multiple caves.

Collectively, the research conducted to date on the Rio Frio Caves since 1928 indicates they were used for a variety of ritual purposes and, even particular spaces within them served as stages for different kinds of ceremonies including burials, agricultural rituals, and rain ceremonies. When did these activities occur? Ceramic data suggests most ritual activity occurred during the Late to Terminal Classic periods with a comparatively limited Early Classic component. Unfortunately, with limited excavations our data remain insufficient to determine temporal changes in behavior.

The question of who were using the Rio Frio Caves became much more interesting following our encountering the mounds and plazas in the Rio Frio Valley at the end of the 2019 field season. At this point we can only speculate that the people who lived there were the ones regularly using the Rio Frio caves. Future research will certainly address that question. Were they the same group of people who constructed shrines and cairns in the MPR? Our current data are unable to address that question, and until we can relocate those sites, we are unable to learn their functions.

As the above discussion demonstrates, the Mountain Pine Ridge Forest Reserve is not an archaeologically barren region of Belize, nor are all of the broad-leafed forested regions bordering the Macal River along its west side devoid of pre-Hispanic Maya settlement. Instead, we have been learning about cultural practices related to raw material resource extraction at their sources. We have also learned that pre-Hispanic Maya

people were living and performing rituals in the landmarks throughout the region, and they were well connected with downriver communities in the Belize Valley. Rather than studying a land of archaeological ruffraff, by broadening our definition of what constitutes an archaeological "site," the findings of the RiFRAP to date have begun to reveal the great and varied archaeological potential of the Mountain Pine Ridge Forest Reserve.

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