

CONNECTING STAKEHOLDERS: COLLABORATIVE PREVENTIVE ARCHAEOLOGY PROJECTS AT SITES AFFECTED BY NATURAL AND/OR HUMAN IMPACTS

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Over the past thirty years, Leiden University has conducted excavations at pre-colonial and early-colonial indigenous sites across the Caribbean affected by natural and/or human impacts. Several of these sites were either endangered by severe erosion as a result of sea level rise, tropical storms, hurricanes, and sand mining or due to looting, large-scale construction activities and tourist development projects such as the building of megaresorts, golf courses and the construction of an international airport. In this paper we review a number of cases in which we combined our research interests with rescue archaeology and collaborated with local stakeholders, governments, private institutions or foundations, and local communities in diverse geopolitical settings to prevent the pre-colonial and colonial past from eternal loss.

The geopolitical setting of the insular Caribbean, influenced by its complicated colonial history, has resulted in a differential and sometimes poor enforcement of heritage legislation on many of its islands (Hofman 2015; Keegan and Phulgence 2011; Siegel and Righter 2011; Siegel et al. 2013). The islands governed by the United States and France form an exception to this rule. On the latter the European Convention on the Protection of the Archaeological Heritage (also known as the Valetta Treaty or Malta Convention) is administered since many years. The Valetta Treaty is a multilateral treaty initiated by the Council of Europe, signed in 1992 and ratified and put into force in 1995. *The treaty deals with the protection, preservation and scientific research of archaeological heritage in Europe (and also in the overseas municipalities, departments or territories) and is particularly concerned with arrangements to be made for co-operation between archeologists and urban and regional planning offices in order to*

ensure optimum conservation of archaeological heritage. The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage. Finally, the Convention constitutes an institutional framework for pan-European co-operation on the archaeological heritage, entailing a systematic exchange of experience and experts among the various States. The Committee responsible for monitoring the application of the Convention assumes the role of strengthening and co-ordinating archaeological heritage policies in Europe (Details of Treaty No. 143, European Convention on the Protection of the Archaeological Heritage (Revised), Council of Europe 1992, 2000). In the French islands (Guadeloupe, Martinique, St. Martin, and St. Barths) as well as French Guiana the adoption of the treaty

has resulted in a large array of preventive archaeological projects over the past decades (Bérard and Stouvenot 2011). The Institut National de Recherche Archéologique Préventive (INRAP) is very active in this respect. The Dutch Caribbean has not reached this stage yet, but many archaeological projects are already conducted 'in the spirit of Malta', which can be interpreted in various ways, however. Compliance projects in which the developing party is variably collaborating are increasingly being carried out on all of the six Dutch Caribbean islands (Hofman and Haviser 2015). The rate by which construction activities are being developed in the context of tourism in the various islands urges for immediate enforcement of heritage legislation in all Caribbean countries. Natural causes form another threat to the insular archaeological record. However, often these are induced and/or

accelerated by human action, notably sand mining, looting or construction activities. Coastal erosion is probably the most salient threat to the many indigenous archaeological sites located on or near the islands' shores. Many of them have already disappeared or have been severely damaged without being documented. The case studies presented here showcase a number of research projects that we carried out as collaborative archaeological rescue projects, cooperating with local stakeholders, governments, private institutions or foundations, and local communities in order to prevent destruction prior to documentation, so as to promote historical awareness and to safeguard the cultural legacies of the pre-colonial and colonial inhabitants of the Caribbean archipelago.

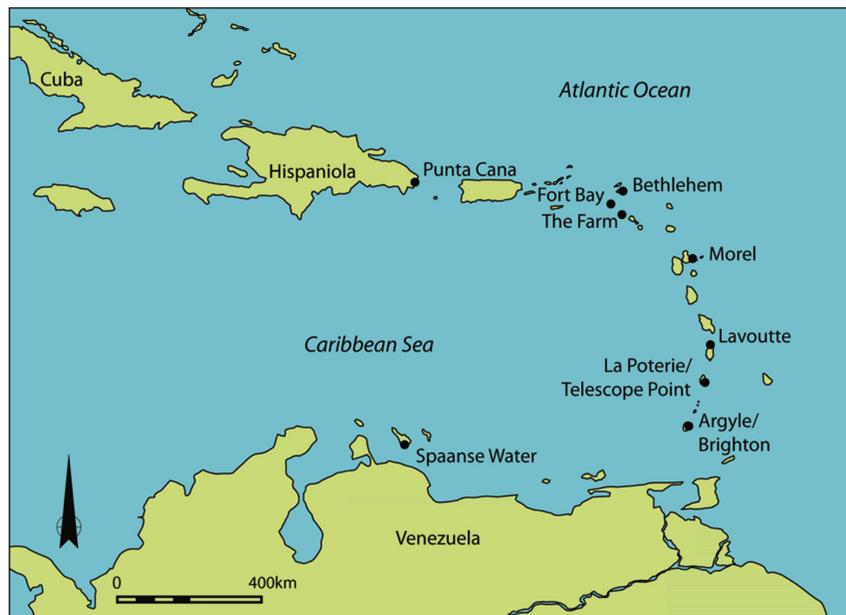


Figure 1. Map of the Caribbean with locations of combined research-rescue projects carried out by Leiden University.

Guadeloupe, Morel (1993-1999)

Guadeloupe is an overseas department (*département d'outre-mer*) of the French *métropole* which adopted the Malta Convention in the early 1990s. The INRAP has been and still is very active on the island, carrying out numerous preventive archaeology projects which produced thousands of report pages. Right at the beginning of the enforcement of the European heritage legislation in the French departments, the Service Régionale de l'Archéologie (SRA), then headed by André Delpuech as the curator of archaeology in Guadeloupe, advocated the rescue of archaeological sites threatened by natural and/or human impacts. This was the case at the well-known multi-component Amerindian site of Morel where the sea continued to destroy the archaeological deposits year after year. The erosion was initiated and accelerated by sand mining. The site is located on the northeastern shore of the island of Grande-Terre, Guadeloupe. It is a key site for the archaeology of the Lesser Antilles and was extensively reported by Edgar Clerc and Henry Petitjean Roget in the 1960s, 1970s and 1980s (Clerc 1964, 1968; Petitjean Roget 1981). The site has a long occupational history, spanning all regional cultural periods from Huecoid and Saladoid to Troumassoid and Suazoid. Over time several burials were exposed in the beach rock after heavy storms. One of

them was reported by Henry Petitjean Roget and Durand in 1991. It yielded a large number of amethyst, quartz and greenstone beads and amulets, probably belonging to a necklace. These human remains were dated to 200 BC. In the 1980s the site was subjected to rescue excavations by Pierre Bodu and in the 1990s a longstanding collaboration was started between the SRA of the Direction des Affaires Régionale (DRAC) of Guadeloupe and Leiden University under the direction of André Delpuech, Corinne Hofman and Menno Hoogland in order to reinvestigate the site and, more importantly, to conduct rescue excavations as it had been severely damaged by the rising sea level intensified by exposure to tropical storms and hurricanes (Delpuech et al. 2002). Comparison of coastline measurements carried out in 1993 to aerial photographs taken in 1948, showed a coastal erosion of about 30 to 40 m (Hofman et al. 1999; Hofman and Hoogland 2015). Morel beach is also known for looting activities. Many archaeological pieces from Morel are currently in the hands of private collectors on the island and probably also abroad. The excavations of 1993 were initiated in order to contextualize the previous investigations at the site and to document its state of preservation. The SRA gave its full financial support to the Leiden team. Thirteen trenches were machine dug perpendicular to the shore line (Figure 2).

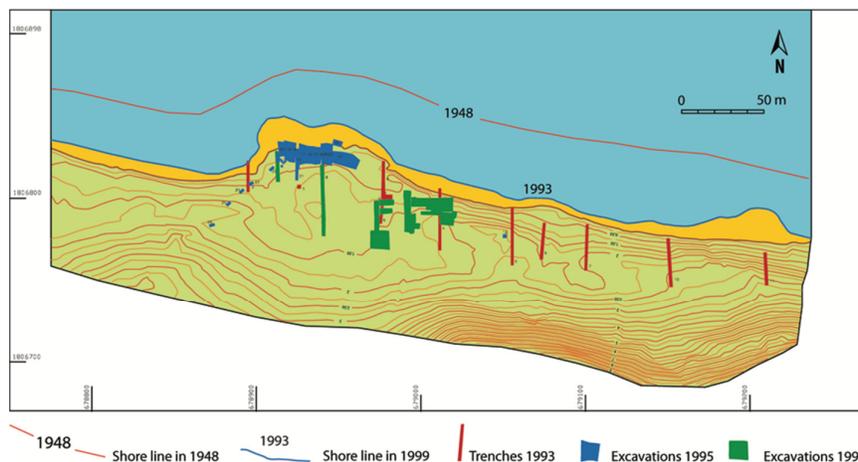


Figure 2. Thirteen trenches dug in 1993 with an excavator perpendicular to the beach of Morel to identify what was left of the site after severe erosion.

The trenches revealed the four occupation phases of the site previously documented by Edgar Clerc. However, the best preserved area was the western portion of the site, where an old mangrove stand was found in one of the trenches. This area was characterized by Huecoid and early Saladoid materials. After Hurricane Hugo in 1995, two rescue interventions were carried out at Morel, again as a collaborative project between the SRA and Leiden University. The site appeared to be heavily damaged and the beach was seriously affected by heavy wave action and wind. At that time two pot stacks, exposed right on the shore, could be rescued from total disappearance. A number of human and dog burials were also excavated from the exposed Amerindian deposits. This was in the portion of the site which was also reported

by Clerc as an area with burials. He excavated a number of human and dog burials here in the 1960s. They are currently curated at the Musée Edgar Clerc in Le Moule. Then, in 1999 SEMSAMAR, an urban development company, created a project for an archaeological park at Morel Beach. Major rescue excavations were financed by SEMSAMAR and a team from Leiden University was contracted to carry out the work in collaboration with the SRA, again focusing on the western portion of the site. Two archaeological deposits, containing both Huecoid and early Saladoid materials, could be dated to approximately AD 200-400. Again a number of human and dog burials were uncovered, totaling the amount of burials recovered from the Morel site since the 1960s to more than thirty (Figure 3).



Figure 3. Human and dog burials uncovered during rescue excavations at the site of Morel in 1995 and 1999.

The burial ritual at the site has been studied extensively by Menno Hoogland and Thomas Romon (Hoogland and Hofman 2013), while osteological analyses were conducted by Darlene Weston (2012), cranial modifications researched by Anne van Duijvenbode (2016), and isotopic analyses carried out by Jason Laffoon (2012). The dog burials were studied by Sandrine Grouard and colleagues (2013). Grave goods consisted of ceramic vessels, beads and pendants. The pottery is typically Saladoid in style. One of the dogs had a number of shell beads at the location of its neck, suggesting that the animal was buried with a shell necklace. The Huecoid pottery, found stratigraphically not clearly distinguishable from the Saladoid ceramics, is very similar to that of the neighbouring islands (Basse-Terre, St. Martin, Vieques, Puerto Rico and Grenada) (Hofman et al. 2016).

Several posthole features indicate the existence of round structures near the burials, coinciding with the 1993 find of a ceramic cache consisting of three pots in a posthole in one of the trenches. The archaeological park has indeed been developed by SEMSAMAR at Morel Beach, showing very large moldings of Amerindian artefacts such as three-pointers and ceramics. The collaboration with the SRA continued up until 2000 when André Delpuech resigned from his post. Subsequently, numerous other sites have been jointly excavated, notably the well-known site of Anse à la Gourde (Hofman et al. 2001). In 2014, an exhibition was staged at the Musée Edgar Clerc in order to present our findings at Morel, Anse à la Gourde and other sites in the northern portion of Grande-Terre (Hofman et al. 2014; Figure 4).

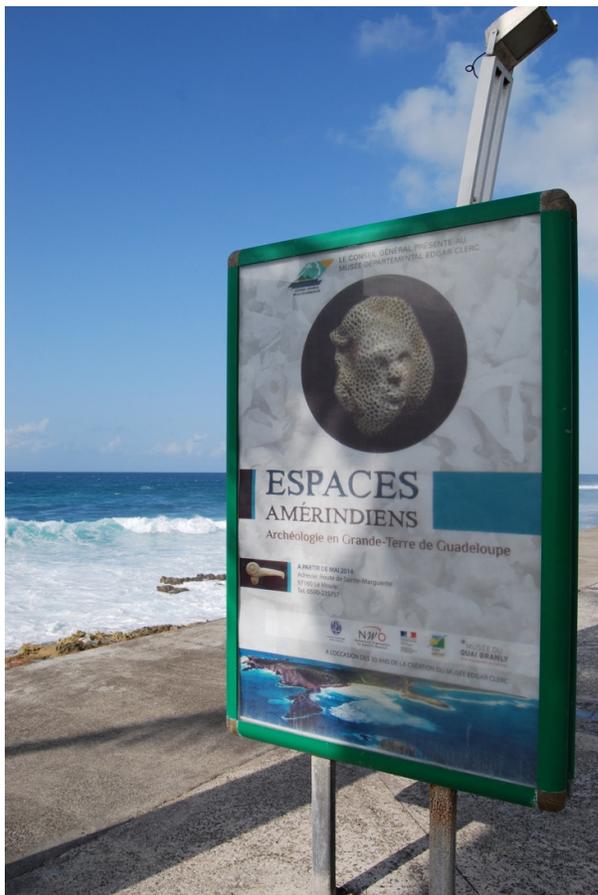


Figure 4. Exhibition organized at the Edgar Clerc museum in Le Moule in 2014 on the finds of Morel and other sites in northern Grande-Terre, Guadeloupe.

Dominican Republic, Punta Cana (2005)

The Dominican Republic, an independent country since 1821, has a set of well-established heritage laws (Prieto Vicioso 2011), which, however, are not systematically enforced when it comes to the protection of archaeological sites. The country, first encountered by Europeans in 1492, became the earliest permanent Spanish colony of the Caribbean, and the Americas at large. It once hosted thousands of pre-Columbian settlement sites, of which too many have been destroyed already or are under severe threat at present. Tourist development in the southeastern Dominican Republic has heavily damaged the indigenous archaeological record. After decennia of looting of major so-called 'Taíno' sites in the area, the indigenous heritage has been destroyed by large-scale construction of hotels, all-inn mega resorts, condominiums, time shares and golf courses. Besides, gated communities have changed the original landscape of one of the most important pre-colonial coastal strips of the Caribbean. Large Amerindian villages, once headed by powerful *caciques*, paved with numerous houses, ceremonial plazas, mounded middens, and causeways, and associated with a wealth of objects of material culture, have been ripped off the map. In various cases rescue archaeology projects have taken place by Dominican archaeologists in collaboration with developers. Famous examples are the site of Playa Grande near Río San Juan in the north of the island (López Belando 2012) at the location of a hotel and resort, the site of Cotuí in Cibao Valley, the first goldmine exploited by the Spanish in the Americas (Olsen Bogaert and Duval 2011), reopened by Barrick Gold, and the site of Macao in the east, also at the location of a hotel and golf course (Atilés 2004; Museo del Hombre 2004; Nadal 2004; Tavares 2006; Ulloa Hung 2008). Leiden University collaborated in analysing the

results of all three rescue projects (Ernst 2015; Laffoon 2012; Mickleburgh 2013; van Duijvenbode 2016), and some of this work is still ongoing. In 2004, the Museo del Hombre Dominicano and Leiden University started a collaborative project in order to excavate the Punta Cana site in the southern Dominican Republic. The area of Punta Cana was the subject of exploration by the Dominican archaeologists Marcío Veloz Maggiolo, Elpidio Ortega and Fernando Luna Calderón in the 1990s (Luna Calderón 1996; Veloz Maggiolo and Ortega 1996). At the site of El Pepe they recovered ceramics of the so-called Punta Cana style as well as Chicoid pottery. Two burials were exhumed which are kept in the Fundación Ecológico Punta Cana. They also reported a very early ceramic horizon from the site of El Barrio (El Barrio style), located on the same property of Punta Cana Beach Resort. Uncalibrated radiocarbon dates suggest an occupation dating to 350 BC, which would mean that El Barrio represents the earliest Ceramic Age site in the Dominican Republic. However, this date has recently been contested and needs to be verified. From the publications at hand it remains very difficult to culturally assign these early ceramics to a definite cultural tradition or ceramic series (Hofman et al. 2007). The El Barrio site has a Chicoid component as well. In 2005, rescue excavations were carried out by Leiden University with the approval of the Punta Cana Resort and Club in order to disentangle the ceramic chronology at the site of El Pepe and to document its state of preservation. Only a very small portion of the El Pepe site was found to be remaining due to the development of a golf course through the main part of the site. Novel construction works had exposed many Chicoid materials which we picked up from the spoil heaps. Our excavation trench revealed an earlier Ostionoid component at the site. The very thin and red colored ceramics were dated to cal. AD 600,

contemporaneous with the first Ostionoid appearance elsewhere in the Dominican Republic (Figure 5). Investigations at the El Barrio site were deemed to be impossible at that time due to property rights and have been ever since after the property was purchased by the Punta Cana

Resort and Club, despite the many proposals that we sent out to ask permission to excavate at the site. The site of El Barrio has recently been destroyed due to the construction of a real estate project (Figure 6).



Figure 5. Ostionoid ceramics recovered from rescue excavation at the Pepe site, Punta Cana area, southeastern Dominican Republic.



Figure 6. Construction works in the area of the El Barrio site, Punta Cana, southeastern Dominican Republic.

St. Maarten, Bethlehem Plantation (2006)

The historic sugar plantation site of Bethlehem is to be found on the Dutch side of the island of St. Maarten (Martin). While on the French side of the island the Malta Convention has been enforced since the 1990s, on the Dutch side this is not the case. The Dutch side of the island once hosted important Amerindian sites, as still does the French side, but the tourist industry has erased many of them in favor of the economic development. In the 1980s the famous Maho Cave, dated to AD 1300, was one of these sites. Due to a lack of interest from the government at that time, it was destroyed during the construction of the Concord Hotel, now the location of the Sonesta Maho Beach Resort (Patullo 2005). The same happened to the Late Ceramic Age Cupecoy Bay site, which disappeared as a result of the construction works for a hotel after some test excavations. The lack of historical awareness and the urge for economic development impeded the preservation of major heritage sites during the early years of tourism in the island. In 2005, the Sint Maarten Archaeological Center (SIMARC) was created by Jay B. Havisier as a non-profit foundation intended to develop heritage pride and interest among the St. Maarten population and particularly its youth (Havisier 2015). This initiative, advocating community archaeology programs, has definitely changed the

mindset on heritage matters on St. Maarten. Slowly, preventive archaeology projects have become more common on the island. The fortunate encounter with the Plantz family, personal friends and owners of the terrains of the Bethlehem plantation, in 2004, and their personal interest in St. Maarten's cultural heritage, stimulated one of the first real preventive archaeology projects 'in the spirit of Malta' on the island. Plans for the development of the Bethlehem area for a housing project formed the instigation for a documentation project of the historical ruins prior to development. The idea was to incorporate the historic ruins into the development plans. A collaborative project between Bethlehem Real Estate Development (BRED NV) and Leiden University was started in 2006 with the purpose of making an inventory of the historic ruins in order to incorporate them into the development project and to check the area for possible other, notably pre-colonial, archaeological remains. The St. Eustatius Center for Archaeological Research (SECAR) in the person of Grant Gilmore III participated in the project as well. The financing of the project was entirely covered by BRED NV (Hoogland et al. 2015). The ruins of the plantation complex were found to be very well preserved, including its plantation house, curing house, cotton-processing facilities, cistern boiling house, and animal-driven crushing mill (Figure 7).



Figure 7. Ruins of sugar estate at Bethlemen, St. Maarten uncovered during the investigations of the area in 2006.

Other remains that were documented were a burial ground with graves marked with stones, agricultural walls and many artefacts. The eighteenth to nineteenth-century sugar estate at Bethlehem is a typical small-scale cane-sugar processing complex, similar to those on Statia and Nevis, but smaller than others in the northeastern Caribbean. Archival research was combined with the archaeological data and together served preliminarily to reconstruct the history of the estate. Recommendations have been made as to make a public park, which would require some maintenance and organization. However, before any construction work, additional archaeological documentation should be done, especially in the boiling house and the plantation house, while perhaps the huts of enslaved Africans and burial grounds can be located. BRED NV is to be applauded for their prompt action, based on personal goodwill and their awareness of the cultural values attached to their property, showing that economic development can very well go hand-in-hand with the preservation of archaeological sites and monuments for the promotion of a sustainable heritage tourism.

Curaçao, Spaanse Water (2008-2009)

Curaçao has currently one of the best archaeological heritage legislation systems in the Caribbean due to the efforts of the National Archaeological Anthropological Museum (NAAM). Although the Malta Convention is not enforced by law on the island, the NAAM ensures that building activities are carried out 'in the spirit of Malta', assuring that the destroyer collaborates and often pays for the necessary preventive archaeology projects prior to development (Ansano and Kraan 2015). The shell middens along the Spaanse Water lagoon in southwest Curaçao have long been a well-known spot for Amerindian occupation to the present-day inhabitants of Curaçao, gathering at

Santa Barbara beach for the weekends and holidays. A number of these Archaic Age features have been recorded during an excavation by Jay B. Haviser, then archaeologist of the Archaeological-Anthropological Institute of the Netherlands Antilles (AAINA), in the 1980s (Haviser 1987). The development of the area by the Santa Barbara Development Company during the early years of the 2000s, and the construction of a hotel, condominiums and a golf course on its property was a serious threat to the archaeological heritage of Curaçao. On the initiative of the Santa Barbara Development Company, a collaborative project was started with Leiden University in order to conduct rescue excavations on their land. The project was financially supported by the Santa Barbara Development Company, the Leiden University Fund (LUF) and the Faculty of Archaeology of Leiden University. Following the Malta Convention and the Dutch Archaeology Quality Standards, the excavations were carried out by Leiden University (as the executing contractor) under supervision of the Curaçao *Monumenten Bureau* (representing the Curaçao government as the competent authority) and NAAM (as their professional consultant). The first archaeological inventory by Leiden was made in 2007, and excavations took place in 2008 and 2009. Fourteen archaeological deposits were recorded dating from the Archaic Age to the early colonial period, showing the intensive use of the lagoon area by Amerindians. The Archaic Age shell heaps date to cal. 2900 BC, the early colonial hearth to cal. AD 1520. One of the sites, Seru Boca, represents a rockshelter with an Archaic Age component (2900-2700 cal. BC), rock paintings and a Late Ceramic Age component (around cal. AD 1485) (Figure 8). The prehistoric sites are interpreted as temporary campsites for the exploitation of *Lobatus gigas* gastropods and mangrove clams from the Spanish Water lagoon (Figure 9).



Figure 8. Seru Boca rockpaintings documented during rescue excavations at Spaanse Water, Curaçao in 2009.



Figure 9. *Lobatus* shell heaps identified at Spaanse Water, Curaçao during rescue excavations in 2008 and 2009.

The conch shells were prepared on the location based on several hearths that were found showing burned conchs around them. The meat was probably extracted subsequently and taken home to the Amerindian settlements which may have been on the Venezuelan mainland some 100 km from Curaçao's shore. The early colonial hearth contained the remains of dolphin and whale vertebrae and earbones. The hunting of dolphins and whales was a common practice in the Mediterranean. The Caribbean indigenous peoples, however, were not practicing this kind of hunting in pre-colonial times. The preparation method, on the other hand, is likely of indigenous origin, as is shown by other hearths at the site and other locations in the Caribbean. We have suggested that the Amerindians in canoes forced the sea

mammals into the Spanish Water lagoon from the Caribbean Sea and, once kept in the quiet waters of the lagoon, they hunted, butchered and roasted them in fire pits filled with rocks (Hoogland et al. 2015). Curaçao was visited for the first time by Europeans, led by Alonso de Ojeda, on July 26, 1499. Many of the indigenous people of the island were transferred to the Hispaniolan gold mines in 1515. Curaçao was first settled by the Spanish in 1527. The contemporary whale and dolphin hunting site is located near Santa Barbara, one of the first Spanish settlements on the island. The developer, the Santa Barbara Development Company, took into account the areas of high archaeological value for the final design of Fairways 8 and 9 of the golf course (Figure 10).



Figure 10. Landscaping activities for fairways 8 and 9, after excavation and documentation of the campsites at Spaanse Water, Curaçao in 2009.

The final report has been handed over to NAAM and the archaeological materials have been deposited in their storage facilities (Hoogland et al. 2015). The project and its results have also been the subject of several publications (Hoogland and Hofman 2011, 2015). The agreement to stage an exhibition on the grounds of the Santa Barbara Beach and Golf Resort has not yet been fulfilled, partially due to the passing away of two of the major stakeholders in the development project. The collaborative effort at Spaanse Water is evaluated as successful, more so as the project was carried out according to Dutch compliance archaeology regulations. Schools and the general public were invited to come and see the excavations, while a television documentary has been made of the proceedings. The site is now closed to the general public and people of Curaçao.

Saint Lucia, Lavoutte (2009)

Saint Lucia, one of the Caribbean Small Island Development States (SIDS), has been an independent island nation within the Commonwealth of Nations since 1979, with the British Queen as the Head of State. Saint Lucia is a mixed jurisdiction, which means that its legal system is based on both the civil law and English common law. The lack of enforcement of heritage legislation and the increasing tourist industry have accelerated the loss of important heritage sites as on many other islands of the archipelago. Despite the huge efforts of the Saint Lucia Archaeological and Historical Society (SLAHS) and the retention of its current director, Milton Eric Branford, to cooperate with other countries of the

Organization of Eastern Caribbean States (OECS) in matters of cultural heritage management, the island's Amerindian and colonial heritage is endangered (Branford 2011). The archaeology of Saint Lucia was put on the map by Marshall B. McKusick in the 1960s. He documented several sites and developed a chronology for the island (McKusick 1960). Branford has been very active in promoting the archaeology of Saint Lucia, first working with the Bullen's in the 1960s and 1970s. In the 1980s an Austrian team came to the island, carrying out excavations at the site of Pointe de Caille in the south (Negrete Martinez 2015). Leiden University, collaborating with the University of Florida, conducted surveys on the island, particularly in the south, between 2001 and 2004 (Keegan et al. 2001, 2002, 2007; Hofman et al. 2004). The Late Ceramic Age site of Lavoutte, known as the 'Carib ceremonial site' since the work of the Bullen's in the 1970s (Bullen and Bullen 1968), is located on the northeastern coast of Saint Lucia in the bay of Cas-en-Bas. Both the Bullen's and the Austrian team excavated several burials at Lavoutte, now kept in the deposits of the SLAHS in Castries. The area has been affected by the recent construction of the Cotton Bay Village Hotel which has impacted the natural environment around the bay, formerly largely characterized by a mangrove stand. A number of severe tropical storms and hurricanes, among which Hurricane Dean in 2007, dramatically accelerated the erosion of the coastal area of the Lavoutte site. The site was severely damaged and large parts of it disappeared in the sea, while many cultural remains and human burials were exposed (Figure 11).



Figure 11. Exposed burials after hurricane Dean at the Lavoutte site, Saint Lucia.

Of the latter some of the crania were taken away by passers-by or trampled by horse-riding tourists. A first examination of the damaged site was made in 2001, followed by a joint survey project with the University of Florida (Dr. William F. Keegan) in 2004. Finally, in 2009 rescue excavations were started at the site in collaboration with the Saint Lucia Archaeological and Historical Society and the St. Lucia Ministry of Culture. A formal Memorandum of Understanding (MOU) was signed between the different parties involved. As part of the site assessment in 2009 an elevation map was made which was compared to those made forty years earlier by the SLAHS and by the Bullen's in the 1970s, suggesting that most of the site had been lost. A total of 48 burials, including 53 individuals, have been excavated at the site since the 1960s, of which the largest part during our rescue interventions. In addition, a number of posthole features, hearths and midden deposits have been recorded. The cultural remains pertain to the Troumassoid and Suazoid series, including Calvinity pottery. The part of the site excavated has been radiocarbon dated to between the twelfth and sixteenth centuries (Hofman and

Branford 2011; Hofman and Hoogland 2009). The vast majority of the burials was preserved in conditions varying from very poor to poor. The burial ritual was studied by Menno Hoogland, while osteological analyses were made by Darlene A. Weston, dental anthropological investigations by Hayley L. Mickleburgh, and isotopic analyses by Jason E. Laffoon and Bart R. de Vos (Hofman et al. 2012; Hoogland and Hofman 2013; Laffoon 2012; Laffoon and de Vos 2011; Mickleburgh 2013). Any future plans for the development of the area should consider the excavation of what still remains of the Lavoutte site, which is very limited. Together with other, now destroyed, prehistoric sites on the island, particularly in the north, Lavoutte formed part of major social networks connecting the communities on St. Lucia with those of the neighboring islands. Hundreds of visitors were welcomed during the rescue excavations and many newspaper articles and television presentations were made. An exhibition of the finds, stating the importance of management of threatened archaeological sites, is planned.

Saint Vincent, Argyle and Brighton (2010-2015)

Saint Vincent and The Grenadines is an independent nation which forms part of the Commonwealth of Nations, just as St. Lucia. As in other East Caribbean countries, preservation of the island's cultural heritage faces a number of challenges while legislation is not enforced (Lewis 2011). However, at present St. Vincent is undertaking efforts to improve its heritage protection (Callaghan 2011). Tourism on the island is in a state of growth and with the construction of a new international airport at Argyle, the island has huge potential for future economic development. The Argyle site is located on the southeastern coast of St. Vincent. In the

1990s it was Louis Allaire who did the first excavations at the site and reported to have found Cayo ceramics together with some European artefacts (Allaire 1994). Cayo ceramics were first reported from St. Vincent by Earle Kirby in the 1970s and were associated with the Island Carib, the Amerindian people who inhabited the Windward Islands in early colonial times, by Arie Boomert in his article 'The Cayo complex of St. Vincent' (Boomert 1986, Kirby 1974). In 2009 Henry Petitjean Roget introduced us to Kathy A. Martin of the Saint Vincent and The Grenadines National Trust (SVGNT) with respect to the construction of the Argyle International Airport and the potential loss of numerous archaeological sites, both pre-colonial and colonial (Figure 12).



Figure 12. Construction works of the Argyle International Airport in Saint Vincent which led to the rescue excavation of the early colonial Cayo site of Argyle.

A collaborative project was set up with the SVGNT and the Saint Vincent and The Grenadines Airport Development Company, Ltd. The project started in 2010 and was financially and logistically supported by the Saint Vincent and The Grenadines Airport Development Company, Ltd., the Faculty of Archaeology and the Netherlands Organisation for

Scientific Research (VICI-project). The excavations revealed for the first time the remains of an early colonial Carib (*Kalinago*) village in the Lesser Antilles. The layout of the settlement confirms the descriptions of such villages by the early French missionaries of the seventeenth century (Figure 13).

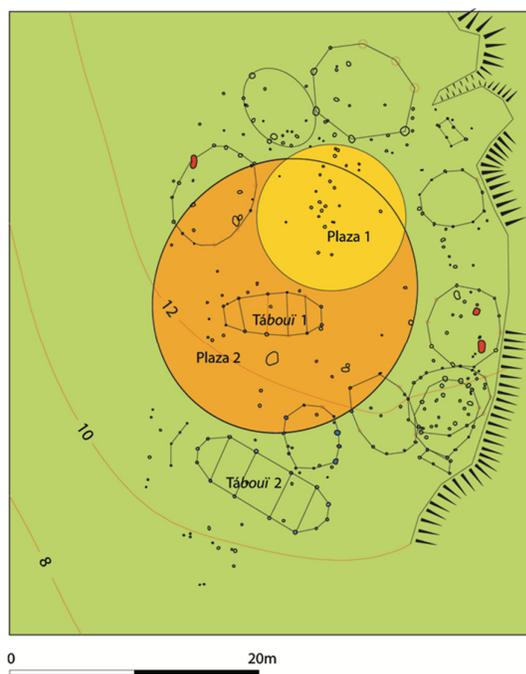


Figure 13. Layout of the *Kalinago* village at Argyle excavated in 2010.

It consists of two subsequent building phases in which a large oval house (*tabouï*) is facing a plaza surrounded by a number of smaller round houses (*manna*). Radiocarbon samples from one of the posthole features provided a date of cal. AD 1540-1620. Apart from Cayo ceramics, the associated material, which was swept to the cliff, consisted of European trade wares such as beads, glass and iron fragments, a Spanish olive jar, and various European earthenwares. A model of the village has been made by our colleague Eric Pelissier and was offered to the Public Library in Kingstown during the Second Garifuna Conference in March 2015

(Figure 14). Here we also presented the results of the rescue excavations at Argyle (Hofman and Hoogland 2011, 2012; Hofman et al. 2015). On the request of the Ministry of Tourism and the Saint Vincent and The Grenadines Airport Development Company Ltd., in 2015 agreements were made to (re)construct the Amerindian village at Argyle, not far from the airport terminal, for heritage tourism and outreach purposes. The involvement of the Garifuna in the construction of the houses is essential. One of houses has been built in an experimental way in early 2016 (Figure 15).



Figure 14. Model by Eric Pelissier of the Argyle *Kalinago* village, now in the National Public Library in Kingstown



Figure 15. Experimental construction of a round house or manná as found during the excavations at Argyle in 2010.

The project at Argyle can serve as an extremely successful example of collaborative efforts in the preservation of archaeological heritage.

The multi-component site of Brighton Beach is located on the southeastern shore of St. Vincent as well. The Amerindian

village was inhabited for hundreds of years and contains early Saladoid, Troumassoid, Suazoid (including Caliviny) and Cayo cultural remains. While on the island for the Argyle excavations, the site of Brighton Beach was frequently visited. The beach is a well-known spot for sand mining which has accelerated the erosion

rate of the exposed midden deposits tremendously and prompted Kathy Martin to continuously monitor the site's condition. The exposure of the rich deposits obviously was an open invitation for looters. In all, the site is in a very bad state of preservation, making a rescue project very necessary. In 2011, a team of Leiden University with Arie Boomert and Angus A.A. Mol spent a number of weeks on the island to get a grip on the deteriorating situation of the site and to document its cultural occupational history as much as possible. They obtained radiocarbon dates for the site around AD 200, associated with early Saladoid deposits (Boomert et al. 2015). Similarly to Argyle, the Cayo remains co-occur with European artefacts, mainly beads and earthenware (Boomert et al. 2015). During our visit to the island in March 2015 for the Second Garifuna Conference, we took the opportunity to monitor the condition of

the site once more and make some video images to be used in a documentary on threatened heritage in the Caribbean and shown at the 26th IACA Congress for Caribbean Archaeology on St. Maarten in July 2015 (Figure 16). In the meantime sand mining had been prohibited in the area, but although it has not produced major changes to the erosion of the site yet and did not make it stop, it seemed to have slowed down the process of deterioration (Boomert et al. 2015). The exposure of cultural remains, amongst which a Cayo deposit in several areas of the site, deemed another rescue project necessary in due time. However, during our visit to the island for the experimental house construction in January 2016, we were confronted with the fact that severe erosion of the coastal deposits had taken place once again over the past few months and that a rescue project was not feasible anymore.



Figure 16. Severe coastal erosion at the Brighton site, Saint Vincent. Sand mining activities have increased erosion over the past decennia.

St. Eustatius, The Farm (2011)

St. Eustatius or Statia is part of the Caribbean Netherlands and is located in the Leeward Islands of the Lesser Antilles. Since 2010, the island is a special municipality (officially ‘public body’) of The Netherlands, together with Saba and Bonaire. Archaeological heritage management is covered by the St. Eustatius Center for Archaeological Research (SECAR), a NGO founded by Grant Gilmore III in 2004, intended to protect and develop the historic resources of the island in full cooperation with the local community. Since 2010 quite a few preventive archaeology projects have been carried out ‘in the spirit of Malta’. In all cases the builder paid for the archaeological rescue.

The historic sugar plantations in the area of Cul-de-Sac, locally known as The Farm, are located between Signal Hill and the town of Oranjestad. The Farm hosts the plantations of Benners and Schotsenhoek. The intentions of oil company NuStar Terminals NV to expand its facilities on Statia by building an additional forty tanks on their property prompted cooperation with archaeologists. The project was initiated as a form of collaboration between NuStar Terminals NV and SECAR in 2011 (Stelten 2011). The Dutch Ministry of Infrastructure and the Environment (Rijkswaterstaat) played a crucial role in making the developer aware of the regulations of the Malta Convention. Phase I consisted of a watching brief. In the summer of 2011 Phase 2 was carried out as a collaborative project between NUSTAR Terminals NV, SECAR and Leiden University (Gilmore et al. 2012, 2015). It included the excavation of a number of test trenches. The entire project was financially supported by NUSTAR Terminals NV. Apart from locating the plantation ruins, one of the objectives of the project was to look for the eventual presence of Amerindian materials as The Farm is located in the Cultuurvlakte, close

to the well-known Saladoid Golden Rock site (Versteeg and Schinkel 1992). The rescue project had a follow-up the following years, when SECAR excavated a village of enslaved Africans at Schotsenhoek, the first of its kind in the Lesser Antilles (Stelten 2015). In the meantime a map showing the archaeological values of the island had been produced by the team, together with *ARGEograph* (Maaïke de Waal and Jochem Lesparre). This is an indispensable tool for planning officers and developers as well as for archaeologists and the general public. It is also valuable for education purposes and for raising local heritage awareness (de Waal et al. 2015). A similar map has been produced for Saba by the same team.

Saba, Fort Bay (2014-2015)

The first archaeological expedition to Saba took place in 1923 by J.P.B. de Josselin de Jong, then curator at the Museum of Ethnology in Leiden. In the 1980s, Jay Haviser, at that time archaeologist at the AAINA on Curaçao, conducted an archaeological inventory of the island and recorded numerous pre-colonial and colonial sites. Leiden University started its longstanding archaeological involvement with the island in 1987.. Over the past thirty years excavations have been carried out at the pre-colonial sites of Plum Piece, Spring Bay, The Bottom and Kelbey’s Ridge and from on 2008 also in the colonial sites of Mary’s Point, Middle Island, flat Point and Spring Bay Flat amongst others (Espersen 2016; Hofman 1993; Hoogland 1996; Hofman and Hoogland 2003, 2016; Hofman et al. 2006). In 2012, the Saba Archaeological Research Center (SABARC) was created as an NGO with Jay Haviser as its president and Ryan Espersen (a former Leiden student) as its director. Similar to SIMARC on St. Martin and BONAI on Bonaire, SABARC intends to preserve the island’s rich cultural heritage through conducting archaeological surveys and

excavations, and creating heritage trails, with the involvement of the local youth and community (Espersen 2015; Havisser 2015). An Archaic Age presence at Fort Bay on Saba was first mentioned by two geologists, Roobol and Smith in the early 1980s, when they found four shell adzes during their surveys (Roobol and Smith 1981). The artefacts were dated to approximately 1500 BC. In 2014, the Saba government planned a new Power Plant by the Saba Electric Company BV on the spot and the construction works were due to start in the spring of that year. Cooperating with the Saba government, rescue excavations were performed at the site by SABARC. Apart from an Archaic Age occupation layer with numerous ground stone and shell tools as well as faunal remains, the area also appeared to yield colonial structures dating to the mid-eighteenth century (Espersen 2014; pers. observation 2015). The Archaic Age materials are currently under analysis at the laboratories of the Faculty of Archaeology, notably for use wear and starch grain analysis. Radiocarbon dates

have provided two age ranges, i.e. between 1520-1445 BC and 800-400 BC. In the meantime a new excavation campaign started towards the end of 2015 as a collaboration between SABARC (Ryan Espersen) and Leiden University (Hofman and Hoogland) in order to better contextualize the Archaic Age deposits in relation to the contemporaneous one at Saba's mountainous site of Plum Piece (Hofman and Hoogland 2003; Hofman et al. 2006). The Archaic Age occupation layer was not found but during the excavations a burial of an 18th century pregnant woman was unearthed belonging to the colonial structures identified earlier (Figure 17). In January 2016 the Saba Cultural Heritage Center will be opened, displaying amongst others the pre-Columbian and historical archaeological finds from Leiden's excavations of the past decennia (Espersen 2016; Hofman and Hoogland 2016) and also highlighting the importance of rescue archaeology in connection to development projects and the collaboration between different stakeholders.



Figure 17. Burial of a pregnant female dating to the 18th century, uncovered during rescue excavations at the Fort Bay, Saba in December 2015.

Grenada, Telescope Point and La Poterie (2014-2016)

After a complicated geopolitical history, alike many other islands in the region, the island of Grenada and six smaller islands of The Grenadines became an independent nation state in 1974. It is also a Commonwealth realm and Queen Elizabeth II is its Head of State. Heritage laws are not enforced (Byer, pers. communication 2015), but there is a growing awareness of the archaeological values on the island. Amanda Byer and Angus Martin, both Grenadians and PhD students at Leiden University (NEXUS1492 project; www.nexus1492.eu), are currently doing research on heritage legislation and preservation in the Windward Islands with case studies on Grenada. Several severe hurricanes hit the island over the past decennia and brought heavy damage to its archaeological sites, in particular to those located in coastal areas. The extremely rich Amerindian site of Pearls is well known for its looting: its artefacts are part of prominent private collections on the island and continue to be sold to whoever wants to buy them. In fact, they were long advertised on eBay. The early colonial indigenous sites of Telescope Point and La Poterie are situated on the east coast of Grenada. The two sites date to the early colonial period and both contain Cayo materials as well as European artefacts (Figure 18). The east coast of the island is severely threatened by coastal erosion due to its exposure to heavy wave action. Erosion has recently exposed the archaeological deposits; the find material has been collected by local individuals and is kept in private collections. Through the

intermediary of local community members, the former Museum director and member of the Grenada National Trust Angus Martin and Dr. Henry Petitjean Roget, a collaborative project was established under the auspices of the Grenadian Government in order to document the rich archaeological heritage of these endangered sites. The project is supported by Leiden University with the logistical help of the Grenadian government and local community members. In the years 2014-2016 the collection from Telescope Point was extensively studied. It is an extremely interesting Cayo collection with possibly funerary vessels, never documented before in the Caribbean. Affiliations with the South American Koriabo style as well as influences from the Greater Antillean Chicoid pottery have been established (Hofman et al. 2014; Petitjean Roget 2015; Figure 19). In the winter of 2016 excavations were started at the sixteenth century site of La Poterie in order to contextualize the findings from the eroded coastal profile and establish possible relationships with the contemporaneous Argyle site on Saint Vincent. La Poterie is located on private property; the project is conducted in collaboration with the community of La Poterie with permission of the Grenadian Government. Two round houses, similar to the Argyle ones, have been documented on top of the ridge (Figure 20). This collaborative project, which also promotes presentations for the general public, education programs for local schools and specialized workshops, is expected to contribute to the archaeological heritage management of the community and the country as a whole (Figure 21).



Figure 18. Cayo ceramics and European artefacts found after a landslide on the northeastern coast of Grenada in 2011.



Figure 19. Koriabo style ceramics found after a landslide on the northeastern coast of Grenada in 2011.



Figure 20. Remains of a round house structure documented at the Cayo site of La Poterie, Grenada in 2016.



Figure 21. Visit of schoolchildren of the Tivoli primary school to the La Poterie excavation in Grenada in January 2016.

DISCUSSION AND CONCLUSIONS

Caribbean archaeology has changed tremendously over the past thirty years. When we started our research on Saba in 1987, heritage matters were hardly talked about, the impact of natural disasters and human interference on archaeological sites was hardly assessed and collaboration with local stakeholders was still very limited. Since then, Caribbean archaeology is definitely in a stage of transition. Of course, Puerto Rico and the Virgin Islands, being US territory, follow US regulations, but the implementation of the Valetta Treaty in the French *départements* and the concurrent boom of preventive archaeology in Guadeloupe, Martinique, St. Martin and French Guiana has shifted the way archaeology was conducted formerly in the French Caribbean islands. The only downplay of this development is that the many reports that are produced are not made public, and due to time constraints involved in compliance archaeology these reports remain excellent descriptions of the work carried out, but are often too little research based. A weak reflection of the French system are the compliance archaeological projects conducted ‘in the spirit of Malta’ in the Dutch Caribbean. However, on all six Dutch islands archaeological institutions or foundations have been created taking care of heritage issues and archaeological projects and especially SIMARC, SABARC and BONAI are recommendable for their involvement of youngsters in their programs. Preserving the past through community engagement is the prime goal. The diverse geopolitical settings resulting from the complex colonial Caribbean history makes it very difficult to compare situations across islands, notably concerning heritage values, legislation and the enforcement thereof. However, many best practices can be shared and the case studies presented in this paper show what has been successful and what has not in terms of collaborative initiatives in the preservation of endangered archaeological

sites. The fragmented and complicated histories of the Caribbean islands make it often difficult to raise local interest in all episodes of history and the historical awareness of the pre-colonial or Amerindian occupation varies greatly per island. In the Dominican Republic, for example, the ‘Taíno’ history is known by everybody, from young to old. The other side of the medal is that in schoolbooks only very few pages are spent on the first inhabitants of the island and when you say that you are an archaeologist, people point to the first Spanish town of La Isabela, downplaying the faith that one is indeed aware of the importance of the pre-colonial indigenous past. The Caribbean indigenous peoples were the first to be colonized in the New World and Santo Domingo was the first permanently settled Spanish town in the Americas. The importance of the indigenous social networks for the rapid expansion to the rest of the Americas is too often ignored. For many years the legacies of the Caribbean indigenous peoples have been looted or bulldozed and their material remains hidden away from the public in private collections. In global history they are part of a forgotten chapter. In most of the Dutch Caribbean, on the other hand, the prime interest lies foremost in the colonial history, starting with the Dutch West India Company, enslaved Africans, plantations, and piracy. In contrast, on Aruba and Bonaire awareness of the Amerindian past is at the forefront. In the former British colonies various phases of history are remembered, in some islands more emphasis is laid on slavery, while on St. Vincent, for example, the legacies of the *Garifuna* or Black Carib are omnipresent and their heritage is publicly celebrated, amongst others during the *Garifuna* Conferences. Similarly, on Dominica the contemporary *Kalinago* presence makes the commemoration of the first occupants much more alive. Historical awareness plays a crucial role in how people feel about their heritage, and, consequently, it has implications for the

way the archaeological heritage management is organized. The case studies in this paper have shown that in an ideal world collaborative projects, in which research interests are combined with preventive incentives, all stakeholders are involved on an equal basis, research questions are jointly formulated, the past is interpreted together, community engagement and capacity building are a prime goal, the publishing of preventive archaeology reports is recommendable, and, finally, outreach and education are considered crucial for creating and enhancing historical awareness, and are the best guarantee for sustainable archaeological heritage management. Many of the examples detailed in this paper have worked this way and proved to be extremely successful, although, sadly, not all. In the Punta Cana (Dominican Republic) case for example, despite several proposals for preventive archaeology in collaboration with national institutions our intents failed because the developer was reluctant to cooperate for reasons ranging from delay of the development plans to the ownership of the potential finds. The site of El Barrio has been destroyed around 2012 without being documented. This

contrasts completely with the exemplary projects that were carried out in the Lesser Antilles, such as that on Saint Vincent where we teamed up with the government, the National Trust, non-governmental institutions, developers, private collectors, and community members in order to research and preserve through proper documentation the Argyle site prior to the construction of the island's new international airport. Making the excavation results available to the people of Saint Vincent, the *Kalinago* and *Garifuna* communities, the general public and the tourism industry. The model of the Argyle village which was made for the Public Library and the ideas for the reconstruction of the village *in situ* were both initiatives of the collective stakeholders. In many islands we worked on, heritage legislation exists like that of the Dominican Republic and Saint Vincent, but it is variably enforced. The Saint Vincent case, however, demonstrates that connecting stakeholders and raising heritage awareness through the establishment of longstanding relationships and community engagement is the key to take up the Caribbean challenge (Hofman 2015)!

REFERENCES CITED

Allaire, L.

1994 Historic Carib site discovered!
*University of Manitoba St. Vincent
 Archaeological Project Newsletter* 1.

Ansano, R., and C.T. Kraan

2015 Heritage management on Bonaire and Curaçao: A step towards an integral approach to heritage. In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Haviser, pp. 89-102. *Tabouï Caribbean Archaeology Series* 3. Leiden: Sidestone Press.

Atilés, G.

2004 *Excavaciones Arqueológicas de Punta Macao: Informe de campo*. Inédito. Santo Domingo: Museo del Hombre Dominicano.

Bérard, B., and C. Stouvenot

2011 French West Indies. In *Protecting Heritage in the Caribbean*, edited by P.E. Siegel and E. Righter, pp. 80-89. Tuscaloosa: University of Alabama Press.

- Boomert, A.
1986 The Cayo Complex of St. Vincent: Ethnohistorical and Archaeological Aspects of the Island-Carib problem. *Antropológica* 66: 3-68.
- Boomert, A., A.A.A.Mol, C.L. Hofman, J.E. Laffoon & J. Mans
2015 *Archaeological rescue investigations at the multi-component indigenous site of Brighton Beach: New insights into the cultural history of St. Vincent and the Grenadines*. Paper presented at the 26th Congress of the International Association for Caribbean Archaeology, St. Martin.
- Branford, M.E.
2011 Saint Lucia. In *Protecting heritage in the Caribbean*, edited by P.E. Siegel and E. Righter, pp. 90-95. Tuscaloosa: University of Alabama Press.
- Bullen, R.P., & A.K. Bullen
1969 The Lavoutte site, Saint Lucia, a Carib ceremonial center. *Proceedings of the Third International Congress for the Study of Pre-Columbian Cultures in the Lesser Antilles*: 61-86. St. George's, Grenada.
- Callaghan, R.T.
2011 Saint Vincent and the Grenadines. In *Protecting heritage in the Caribbean*, edited by P.E. Siegel and E. Righter. Tuscaloosa: University of Alabama Press.
- Clerc, E.
1964
Le peuplement précolombien des Antilles et ses vestiges en Guadeloupe. *Bulletin de la Société d'histoire de la Guadeloupe* 2, 18-31.
- Clerc, E.
1968 Sites précolombiens de la Grande -Terre de Guadeloupe. *Proceedings of the Second International Congress for the Study of Pre-Columbian Cultures in the Lesser Antilles*, Barbados Museum, Barbados, 47-60.
- Council of Europe
1992 *European Convention on the Protection of the Archaeological Heritage*. Valetta, Malta.
- Council of Europe
2000. *European Landscape Convention*. Florence.
- de Waal, M.S., J. Lesparre, J.B. Havisser, M.L.P. Hoogland, R. Espersen, and R. Stelten
2015 **Mapping sites, mapping expectancies, mapping heritage: The archaeological maps of St. Eustatius, Saba and Sint Maarten**. In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Havisser, pp. 335-350. Tabouï Caribbean Archaeology Series 3. Leiden: Sidestone Press.
- Delpuech, A., C.L. Hofman and M.L.P. Hoogland
2002 Premiers horticulteurs amérindiens dans l'archipel guadeloupéen : Morel I (Le Moule) et la question Huecan/Cedrosan Saladoïde. In *Archéologie précolombienne et coloniale des Caraïbes*, edited by A. Delpuech, J.-P. Giraud and A. Hesse, *Actes du 123^e congrès national des sociétés historiques et scientifiques, Antilles-Guyane, 1998*. Paris : Éditions du CTHS, 127-140.
- Duijvenbode, A. van
2016 *Facing Society*. PhD dissertation, Leiden University (forthcoming).
- Durand, J.F., and H. Petitjean Roget
1991 A propos d'un collier funéraire à Morel, Guadeloupe: Les Huecoïdes sont-ils un mythe. In *Proceedings of*

- the Twelfth Congress of the International Association for Caribbean Archaeology*, Martinique, 53-70.
- Ernst, M.
2015 *(Ex-)changing the potter's process*. RMA Thesis, Leiden University.
- Espersen, R.
2014 *SB 037, the Fort Gut Ridge Site: An archaeological survey and limited excavations*. Saba Archaeological Center Site Report #1, Saba.
- Espersen, R.
2015 **Heritage Management and the Public Sphere: doing archaeology on Saba**. In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Haviser, pp.103-112. Tabouï Caribbean Archaeology Series 3. Leiden: Sidestone Press.
- Espersen R.
2016 *Race, Class, and Gender in Pre-Emancipation Colonial Era Saba, Dutch Caribbean*. PhD dissertation, Leiden University (forthcoming).
- Gilmore III, G., M.L.P. Hoogland & C.L. Hofman
2011 *An archaeological assessment of Cul-de-Sac (The Farm), St. Eustatius*. Report Leiden University.
- Gilmore III, G., M.L.P. Hoogland and C.L. Hofman
2015 An archaeological assessment of Cul-de-Sac (The Farm), St. Eustatius: the Nustar project. In *Managing our past into the future: Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Haviser, pp.271-290. Tabouï Caribbean Archaeology Series 3. Leiden: Sidestone Press.
- Grouard, S., S. Perdikaris and K. Debue
2013 Dog burials associated with human burials in the West Indies during the pre-Columbian Ceramic Age (500 BC-AD 600). *Anthropozoologica* 48(2): 447-465.
- Haviser, J.B.
1987 *Amerindian Cultural Geography on Curaçao*. PhD dissertation, Leiden University.
- Haviser, J.B.
2015 Three early examples of Valetta Treaty application in the Dutch Windward Islands. In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Haviser, pp. 245-270. Tabouï Caribbean Archaeology Series 3. Leiden: Sidestone Press.
- Hofman, C.L.
1993 *In Search of the Native Population of Pre-Columbian Saba (400 - 1450 A.D.), Part One: Pottery Styles and their Interpretations*. PhD dissertation, Leiden University.
- Hofman, C.L.
2015 The Caribbean challenge, in *FERNWEH. Crossing borders and connecting people in archaeological heritage management. Essays in honour of prof. Willem J.H. Willems*, edited by M.H. van den Dries, S.J. van der Linde and A. Strecker, pp. 105-109. Leiden: Sidestone Press.
- Hofman, C.L., and E.M. Branford
2009 Lavoutte revisited, preliminary results of the 2009 rescue excavations at Cas-En-Bas, St. Lucia. *Proceedings of the 23rd Congress of the International Association for Caribbean Archaeology*, pp. 690-700. Antigua.

- Hofman, C.L., A.J. Bright and M.L.P. Hoogland
2006 Archipelagic resource mobility. Shedding light on the 3000 years old tropical forest campsite at **Plum Piece**, Saba (northern Lesser Antilles). *Journal of Island and Coastal Archaeology* 1(2): 145-164.
- Hofman, C.L., A. Delpuech and M.L.P. Hoogland
2014 *Espaces Amérindiens: archéologie en Grande-Terre de Guadeloupe*. Exposition au Musée Edgar Clerc, Le Moule, Guadeloupe. Leiden.
- Hofman, C.L., and J.B. Haviser, eds.
2015 *Managing our past into the future: Archaeological heritage management in the Dutch Caribbean*. Tabouï Caribbean Archaeology Series 3. Leiden: Sidestone Press.
- Hofman, C.L., and M.L.P. Hoogland
2003 Plum Piece: Evidence for Archaic seasonal occupation on Saba, northern Lesser Antilles around 3300 BP. *Journal of Caribbean Archaeology* 4: 12-27.
- Hofman, C.L., and M.L.P. Hoogland
2009 *Interim report on the results of the 2009 (May and June) rescue excavations at the site of Lavoutte (Cas-en-Bas), St. Lucia*, Leiden University.
<http://media.leidenuniv.nl/legacy/lavoutte-interim-report-2009.pdf>
- Hofman, C.L., and M.L.P. Hoogland
2011 Unravelling the Multi-Scale Networks of Mobility and Exchange in the Pre-Colonial Circum-Caribbean. In *Communities in contact. Essays in archaeology, Ethnohistory and Ethnography of the Amerindian circum-Caribbean*, edited by C.L. Hofman and A. van Duijvenbode, pp. 15-43. Leiden: Sidestone Press.
- Hofman, C.L., and M.L.P. Hoogland
2012 Caribbean encounters: rescue excavations at the early colonial Island Carib site of Argyle, St. Vincent. *Analecta Praehistorica Leidensia* 43-44: 63-76. Leiden University Press.
- Hofman, C.L., and M.L.P. Hoogland
2015 Beautiful tropical islands in the Caribbean Sea. Human responses to floods and droughts and the indigenous archaeological heritage of the Caribbean. In *Water and heritage: Material, conceptual and spiritual connections*, edited by W.J.H. Willems and H. Schaik, pp. 99-119. Leiden: Sidestone Press.
- Hofman, C.L., and M.L.P. Hoogland
2016 *Saba's first inhabitants. A story of 3300 years of Amerindian occupation prior to European contact (1800 BC – AD 1492)*. Leiden: Sidestone Press.
- Hofman, C.L., M.L.P. Hoogland and A. Delpuech
2001 *Le site de l'Anse à la Gourde, St. François, Guadeloupe. Fouille programmée pluriannuelle 1995-2000. Rapport de synthèse*. Leiden University/DRAC (401 pp.).
- Hofman, C.L., M.L.P. Hoogland and A. Delpuech
1999 *New perspectives on a Huecan Saladoid assemblage on Guadeloupe: The case of Morel I*. In *Archaeological Investigations on St. Martin (Lesser Antilles). The sites of Norman Estate, Anse des Pères and Hope Estate. With a contribution to the 'La Hueca problem'*, edited by C.L. Hofman and M.L.P. Hoogland, pp. 303-312. Archaeological Series Leiden University 4, Leiden.

- Hofman, C.L., M.L.P. Hoogland and W.F. Keegan
 2004 *Archaeological Reconnaissance at Saint Lucia, West Indies. 4-18-2004 to 5-12-2004. Annual Report prepared for the Archaeological and Historical Society, St. Lucia.* Gainesville: Florida Museum of Natural History and Leiden University.. Online resource accessed 6 June 2008: http://www.archaeology.leiden.edu/general/img/st.luciareport2004_tcm45-50166.pdf
- Hofman C.L. , M.L.P. Hoogland and B. Roux
 2015 Reconstruire le táboüi, le manná et les pratiques funéraires au village caraïbe d'**Argyle**, Saint-Vincent. In *A la recherche du Caraïbe perdu. Les populations amérindiennes des Petites Antilles de l'époque précolombienne à la période coloniale*, edited by B. Grunberg, pp. 41-50, Paris: L'Harmattan.
- Hofman, C.L., M.L.P. Hoogland, D.A. Weston, J.E. Laffoon, H.L. Mickleburgh and M.H. Field
 2012 Rescuing the dead. Settlement and mortuary data from rescue excavations at the pre-colonial site of Lavoutte, Saint Lucia. *Journal of Field Archaeology*, 37(3): 209-225.
- Hofman, C.L., R. Rodríguez Ramos and J. Págan Jiménez
 2016 The neolithisation process in the northeastern Caribbean: mobility and social interaction. In *Early Farmers of the Caribbean and Circum-Caribbean*, edited by Basil Reid. Gainesville: University of Florida Press (*forthcoming*).
- Hofman, C.L., J. Ulloa Hung and L.F.H.C. Jacobs
 2007 Juntando las piezas del rompecabezas: Dándole sentido a la cronología cerámica del este de la República Dominicana. *El Caribe Arqueológico* 10: 104-15.
- Hoogland, M.L.P.
 1996 *In search of the Native Population of pre-Columbian Saba. Part two: Natural and social environment.* PhD dissertation, Leiden University.
- Hoogland, M.L.P., and C.L. Hofman
 2011 Archaeological investigations at Spanish Water, Curaçao. *Proceedings of the 23rd International Association for Caribbean Archaeology*, 631-639. Antigua.
- Hoogland, M.L.P., and C.L. Hofman
 2013 From corpse taphonomy to mortuary behavior in the Caribbean: A case study from the Lesser Antilles. In *The Oxford Handbook of Caribbean Archaeology*, edited by W.F. Keegan, C.L. Hofman and R. Rodríguez Ramos, pp. 452-469. New York: Oxford University Press.
- Hoogland, M.L.P., and C.L. Hofman
 2015 **Archaeological assessment in compliance with the Valetta Treaty: Spanish Water, Curaçao.** In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Haviser, pp. 183-194. Tabouï Caribbean Archaeology Series 3. Leiden: Sidestone Press.
- Hoogland, M.L.P., C.L. Hofman and R.G. Gilmore III
 2015 Archaeological assessment at Bethlehem, St. Maarten: An early Valetta Treaty project in the Dutch Windward Islands. In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman, and J.B. Haviser, pp. 217-232.

- Tabouï Caribbean Archaeology series
3. Leiden: Sidestone Press.
- Hoogland, M.L.P., J. Vermeer, D. Nieweg,
and D. van den Biggelaar
2015 *Spaanse Water, Curaçao: Archaeologische onderzoek naar de vindplaatsen C-038, C-039 en C-215*. Leiden: Technical Report for NAAM, Curaçao, Leiden University.
- Keegan, W.F., C.L. Hofman and M.L.P. Hoogland
2002 *Archaeological reconnaissance at St. Lucia, West Indies. Preliminary report. Report prepared for the Archaeological and Historical Society, St. Lucia*. Florida Museum of Natural History and Leiden University, Gainesville / Leiden. <http://www.flmnh.ufl.edu/anthro/caribarch/slucia.htm>.
- Keegan, W.F., C.L. Hofman and M.L.P. Hoogland
2003 *Archaeological reconnaissance at St. Lucia, West Indies. Preliminary report. Report prepared for the Archaeological and Historical Society, St. Lucia*. Florida Museum of Natural History and Leiden University, Gainesville / Leiden. <http://www.flmnh.ufl.edu/anthro/caribarch/slucia.htm>.
- Keegan, W., and W. Phulgence
2011 Patrimony or Patricide? In *Protecting Heritage in the Caribbean*, edited by P. Siegel and E. Righter, pp. 143–151. Tuscaloosa: University of Alabama Press.
- Keegan, W.F., C.L. Hofman and M.L.P. Hoogland
2007 St. Lucia archaeological project: An update. In *Proceedings of the 22nd Congress of the International Association for Caribbean Archaeology, Jamaica*, pp. 128-140.
- Kirby, I.A. Earle
1974 The Cayo pottery of St. Vincent – A pre-Calivigny series. *Proceedings of the Second International Congress for the Study of Pre-Columbian Cultures in the Lesser Antilles, Antigua 1973*, pp. 61-64.
- Laffoon, J.E.
2012 *Patterns of Paleomobility in the Ancient Antilles: An Isotopic Approach*. PhD dissertation, Leiden University.
- Laffoon J.E. and B.R. de Vos
2011 Diverse Origins, Similar Diets: An Integrated Isotopic Perspective from Anse à la Gourde, Guadeloupe. In *Communities in Contact. Essays in archaeology, ethnohistory & ethnography of the Amerindian circum-Caribbean*, edited by C.L. Hofman and A. van Duijvenbode, pp. 187-204. Leiden: Sidestone Press.
- Lewis, P.E.
2011 St. Vincent and the Grenadines. In *Protecting heritage in the Caribbean*, edited by P.E. Siegel and E. Righter, pp. 96-105. Tuscaloosa: University of Alabama Press.
- López Belando, A.
2012 *El sitio arqueológico Playa Grande. Río San Juan, María Trinidad Sánchez. Informe de las excavaciones arqueológicas campaña 2011-2012*. Inédito. Santo Domingo: Museo del Hombre Dominicano.
- Luna Calderón, F.
1996 Características del cementerio indígena de Punta Cana, República Dominicana. In *Ponencias del Primer Seminario de Arqueología del Caribe*, edited by M. Veloz Maggiolo and A. Caba Fuentes, pp. 15-28.

- Museo Arqueológico Regional Altos de Chavón, República Dominicana.
- Nadal, J.
2004 *Palinología de Punta Macao*. Inédito. Santo Domingo: Museo del Hombre Dominicano.
- Negrete Martinez, M.A.
2015 *Pointe de Caille. Desarrollo Cultural Postsaladoide en la Isla de Saint Lucia*. Vienna: Austrian Academy of Sciences Press.
- McKusick, M.
1960 *Distribution of ceramic styles in the Lesser Antilles, West Indies*. PhD dissertation, Yale University, New Haven.
- Mickleburgh, H.L.
2013 *Reading the dental record: A dental anthropological approach to foodways, health and disease, and crafting in the pre-Columbian Caribbean*. PhD dissertation, Leiden University.
- Museo del Hombre Dominicano
2004 *Informe del proyecto de excavaciones de rescate arqueológico en la zona de Punta Macao, provincia Altagracia, Higuey*. Inédito. Santo Domingo: Museo del Hombre Dominicano.
- Olsen Bogaert, H., and S. Duval
2011 *Sitio II. Investigación de las Estructuras Coloniales. Pueblo Viejo, Cotuí. Sánchez Ramírez*. Inédito. Santo Domingo: Museo del Hombre Dominicano.
- Pattullo, P.
2005 *Last resorts: The cost of tourism in the Caribbean*. London: Latin American Bureau.
- Petitjean Roget, H.
1981 Les populations amérindiennes : aspects de la préhistoire antillaise. In *l'Historial Antillais vol. I, Guadeloupe et Martinique : des îles aux hommes*, edited by J.-L. Bonniol, pp. 77-152, Pointe-à-Pitre.
- Petitjean Roget, H.
2015 *Tainos et Callinas des Antilles*. Société d'Histoire de la Guadeloupe, Volume I. Basse-Terre, Guadeloupe.
- Prieto Vicioso, E.
2011. Dominican Republic. In *Protecting Heritage in the Caribbean*, edited by P.E. Siegel and E. Richter, pp. 35-45. Tuscaloosa: University of Alabama Press.
- Siegel, P.E., and E. Richter, eds.
2011 *Protecting Heritage in the Caribbean*. Tuscaloosa: University of Alabama Press.
- Siegel, P.E., C.L. Hofman, B. Bérard, R. Murphy, J. Ulloa Hung, R. Valcárcel Rojas, and C. White
2013 Confronting Caribbean heritage in an archipelago of diversity: Politics, stakeholders, climate change, natural disasters, tourism and development. *Journal of Field Archaeology* 38(4): 376-390.
- Stelten, R.
2011 *Campaign in the Cul de Sac area, St. Eustatius, Caribbean Netherlands. Excavation Report*. St. Eustatius Center for Archaeological Research.
- Stelten, R.
2015 Heritage management of an 18th-century slave village at Schotsenhoek plantation, St. Eustatius. In *Managing our past into the future. Archaeological heritage management in the Dutch Caribbean*, edited by C.L. Hofman and J.B. Havisser, pp. 291-304. Tabouï Caribbean

Archaeology Series 3. Leiden:
Sidestone Press.

Tavares, G.

2006 *Informe de Antropología Física del cementerio de Macao*. Inédito. Santo Domingo: Museo del Hombre Dominicano.

Roobol, M.J., and A.L. Smith

1980. Archaeological implications of some radiocarbon dating on Saba and St. Kitts. In *Proceedings of the VIIIth International Congress for the Study of the Pre-Columbian Cultures of the Lesser Antilles*, edited by S.M. Lewenstein, pp. 168–176. Anthropological Research Papers No. 22, Arizona State University, Tempe, AZ.

Ulloa Hung, J.

2008 La alfarería del yacimiento Macao en el contexto de la arqueología Dominicana. *Boletín del Museo del Hombre Dominicano* (42): 289-305.

Veloz Maggiolo, M., and E.J. Ortega

1996 Punta Cana y el origen de la agricultura en la isla de Santo Domingo. *Ponencias del Primer Seminario de Arqueología del Caribe*, edited by M. Veloz Maggiolo and A. Caba Fuentes, pp. 5-11. Museo Arqueológico Regional Altos de Chavón, República Dominicana.

Weston, D.A.

2012 *Human skeletal report: Lavoutte site*. University of British Columbia/Leiden University.

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