

Strategic Spanish Colonial Forts in the “New World”

Galin Hernandez, LtCol, USAF (ret)



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Other research by the author:

The Perceived Needs of the US Customs Air Interdiction System Along the East Coast of the US (Texas to Maine including Puerto Rico) – Embry Riddle Aeronautical University, 2000

World War II, Combined Bomber Offensive, Europe, 1942 to 1945 – Air War College, 2002

Strategic Investigations Training Program – Federal Law Enforcement Training Center, 2005

The Beginnings of Aviation in Puerto Rico, 1911 – 1929, Inter American University of Puerto Rico, 2011

Law Enforcement Aviation in the Caribbean, 1992 to 1997 – St. Augustine High School Aerospace Academy, 2019

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INTRODUCTION

Shortly after Christopher Columbus arrived in the Americas, European explorers began to realize the immensity of the lands they had stumbled on. Discovered within these lands were massive amounts of silver and gold. The Spanish, English, French and Dutch monarchs realized these lands would greatly increase their power if they could bring these riches back to Europe. But to exploit the areas riches the monarchs needed to control the sailing routes between Europe and the New World, especially those in or near the Caribbean. Soon a struggle to control these routes and exploit the riches began between these major European powers.

When these struggles started monarchs did not have the financial resources to fund activities so far from their lands so they relied on privateers to do their fighting. Privateers were civilians that had a monarch's legal permission (Charter) to attack, raid and seize assets from a particular nation in a particular area.^[1] Privateers would base their operation(s) from the safety of ports authorized in their particular charter. During this time frame one nation's privateer was another nation's pirate. When nations became rich enough to fund military actions in the area, the use of privateers was abandoned. The nations still fought each other for new world riches, but now with military officers leading the struggle.

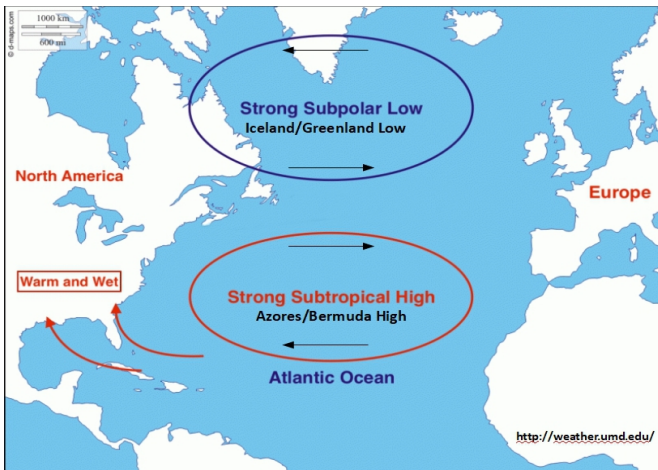
Military officers heavily influenced the monarchs in deciding where particular stronghold would be located and which area should or should not be improved. After decades of struggle, a pattern of fortified locations emerged which is still apparent centuries later. Although hundreds of fortifications were built in the new world during the colonial era, only a few of these emerged as strategically significant.

I will attempt to identify a few strategic Spanish colonial era fortifications, provide a short historical overview and in general terms explain their significance. I relied heavily on statements located within reference material available during my research period and is not intended to be an in depth study of a particular fortification, nation or even time frame. Hopefully it will provide basic information and inspiration for others to further research this topic.

The Winds and Currents

One of the main interests of European monarchs was to increase their power and wealth by bringing back vast amounts of treasures from the “New World”. But to transport goods by sea, colonial era sailors had to use winds and ocean currents to move their vessels. Sailors from all nations eventually discovered which prevailing winds provided the best sailing routes between Europe and the New World. These sailing routes determined the overall importance of a particular location. Therefore having a basic knowledge of how winds and water move on a global level is important in determining a fort’s significance.

Meteorology has shown that wind direction is determined by low or high pressure systems. In the Northern Hemisphere winds around a low pressure system flow counter-clockwise with little to no wind in the center. Winds around a high pressure system flow clockwise with little to no wind in the center. ^[2] Low pressure areas typically are areas of bad weather while high pressure areas normally contain good weather. Between Europe and the New World, two large pressure systems dominate the weather pattern. Although there is a slight north and south movement of these areas during the year, known as the North Atlantic Oscillation, the general pattern does not change. ^[3]



The first area is a low-pressure system between Iceland and Southern Greenland known as the “Iceland Low” or “North Atlantic Low”. ^[4] This low pressure area dominates wind circulation over the North Atlantic. Being an area of low pressure, winds move in a counter-clockwise direction. It provides a sailing route from northern Europe to the north areas of the New World but the

typically bad weather meant sailors generally avoided this area. Therefore it is very possible that Vikings could have used these winds and sailed to North America centuries before Christopher Columbus. It would have also made returning to Europe extremely difficult, even under the best of circumstances. The second area is a high-pressure system centered over the middle Atlantic known as the “Azores High” or the “Bermuda High”. ^[5] Being a high pressure area, the winds move in a clockwise direction with typically good weather. ^[6]

A circular diagram of the Earth showing the global wind system. The diagram is divided into horizontal bands representing different pressure belts and wind systems. The latitude markers are 60°, 30°, 0°, 30°, and 60° from top to bottom. The wind directions are indicated by arrows. The belts and wind systems are labeled as follows:

- 60° to 30° North:** polar easterlies (green band), Subpolar low (green band), prevailing westerlies (blue band).
- 30° to 0° North:** Subtropical high (yellow band), tropical easterlies (blue band).
- 0°:** Intertropical convergence zone (ITCZ) (pink band).
- 0° to 30° South:** tropical easterlies (blue band), Subtropical high (yellow band), prevailing westerlies (blue band).
- 30° to 60° South:** Subpolar low (green band), polar easterlies (green band).

A map of the North Atlantic Ocean showing the tracks of numerous hurricanes from 1967 to 2019. The map includes labels for the Bermuda High, Azores, Canary Islands, and Cape Verde Islands. Numerous colored lines represent individual hurricane tracks, with names and years labeled along them, such as Ivan 2004, Maria 2017, and Dorian 2019.

Historical Category 5 Atlantic Hurricane Tracks ^[7]

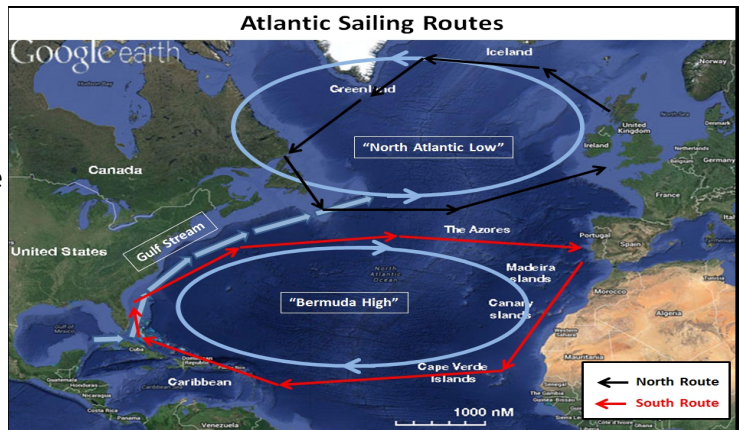
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Using this combination of prevailing winds and the Gulf Stream, typical sailing times between Spain and the New World during the 18th century took about 42 days each way.^[9] Faced with voyages of between 3 - 4 months, the Spanish fleet would typically make two trips per year to the New World and back.^[10] Soon a nation's power and

riches became directly tied to this southern route. Not much travel or trade would be accomplished via the northern route until later when England established colonies in North America.

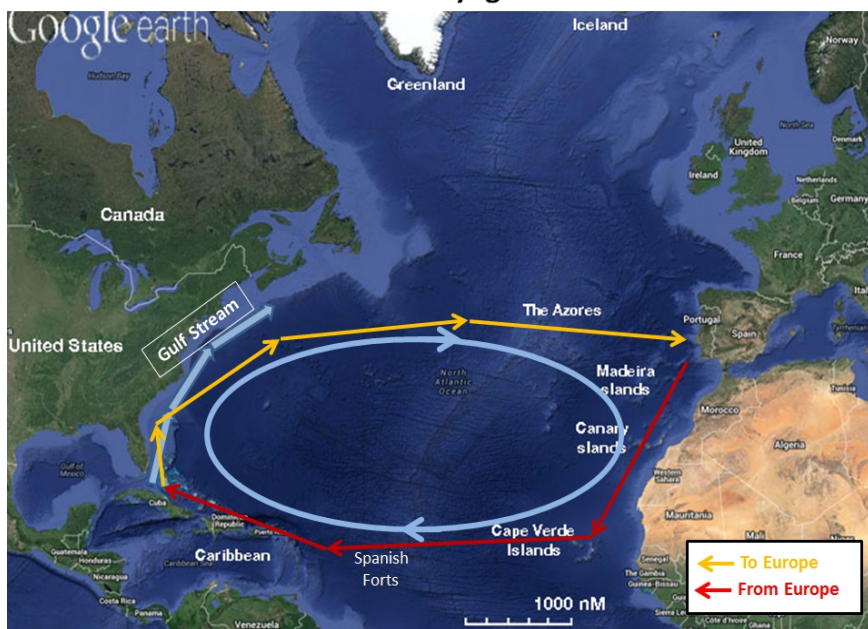
Spain controlled Florida, Texas, Mexico, Central America, the north coast of South America and the Caribbean islands, so this general area became known as the "Spanish Main". However, this term is mostly associated with the Caribbean coastline from present day Colon Panama, through Cartagena Colombia, to the Orinoco river delta in Venezuela.^[11] For centuries competing nations, particularly Spain and England fought for control of the "Spanish Main" and the riches traveling through it.



The Voyage

The first lands a vessel encounters on a sailing voyage from Europe were the islands of the Eastern Caribbean. After a short rest on one of the islands, individual vessels would sail to destinations in South America, Central America or Mexico. There they would load with awaiting treasures and sail to Cuba for the return trip.

The Voyage

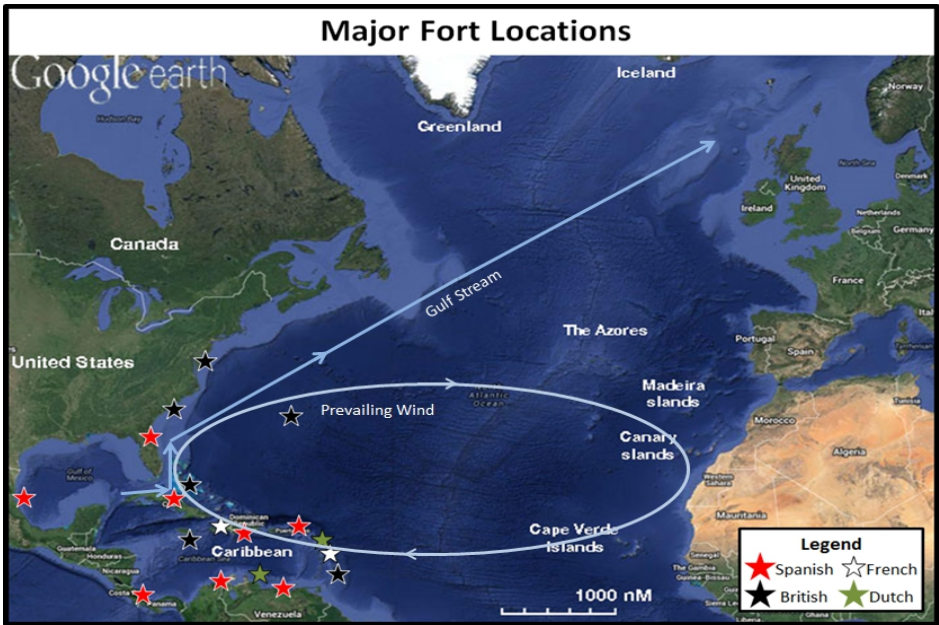


Faced with a dangerous return voyage, vessels loaded with silver and gold would wait in Cuba for Spanish warships to arrive before departing towards Spain. But just a few miles into the voyage, the Gulf Stream flows through the narrow area that separates Florida from Cuba and the Bahamas. Its southern arm opens westward into the Gulf of Mexico, while its northern arm opens into the Atlantic Ocean after passing the Bahamas.^[12] This relatively narrow area, known as the Florida Straits, is where returning ships faced their biggest dangers.

Pirates, Privateers and enemy ships would patrol this relatively small area hoping to capture and loot a vessel that had strayed from the main group. To minimize this threat and force vessels to attack from only one direction, Captains would sail their ships close to the Florida coastline. But with no charts, ships could run aground making them easy prey. If that wasn't dangerous enough, storms and hurricanes could hit while they traveled in that relatively narrow area. Over the centuries many sailing vessels were shipwrecked in this area. Although named for modern marketing purposes, the area is

known as the “Treasure Coast” due to the treasures still being found there.^[13] After passing the “Treasure Coast”, the ships would continue north on the Gulf Stream until they could catch prevailing winds towards Europe.

With this overall knowledge of how best to travel between Europe and the New World during the colonial era as well as some of the dangers, it quickly becomes apparent why forts were built at specific locations. In the next image you can see where strategically significant forts are located in relation to the winds, current and the most commonly used sailing route.



Except for the Castillo de San Marcos, in Northern Florida, Spanish forts were located around the Caribbean Sea and the Gulf of Mexico. They were established as logistical centers to protect vessels traveling in the area. At the same time they provided the first line of defense for the Spanish territories against British forces.

British forts were concentrated north of Cuba where it would be easier to attack and plunder vessels on their return voyage to Europe, particularly between Florida and the Bahamas. At the same time the forts provided the first line of defense for the British territory to the North against the Spanish. Eastern British forts were used to stage attacks on vessels arriving from Europe before they entered more protected areas. Jamaica was used by the British as a staging point to attack vessels within the Caribbean heading to Cuba.^[14]

The French and Dutch situated their forts in a similar manner but those monarchs were never able to finance enough forts to mount anything more than nuisance attacks.

The First Fortress – Santo Domingo, Dominican Republic

Fortaleza Ozama



The first Spanish colonial city in the New World is Santo Domingo, founded in 1496, and for decades the center of colonial Spanish power.^[15] The Forteleza Ozama was built between 1502 and 1508, led by then Santo Domingo governor Fray Nicolás de Ovando y Caceres and is the oldest European fort in the Americas. It was designed to guard the entrance to the port of Santo Domingo and defend the city from seaborne enemies. The main structure is a square-tower built of coral rock that looks more like an ancient Roman fortress than colonial fort.



The fort backs up against the Ozama River and two cannons of the former battery still face the river approaches. The central tower of the building is almost 60ft high, with walls over 6ft thick. The fortified walls around the building are almost 10ft thick, except on the river-side where the walls are 3 feet thick.^[16] The cement holding the stoned walls together is a mixture of gypsum, clay, lime and the blood of animals. Spanish colonizers used enslaved Africans and indigenous people to build the fortress out of local coral stone.

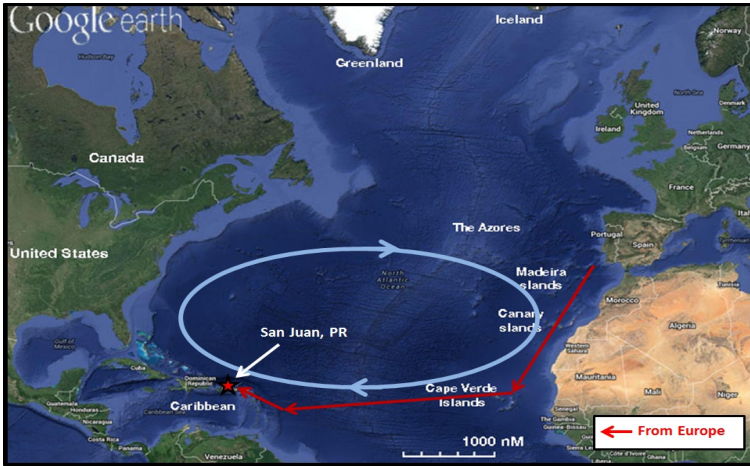


Fort Ozama was important during the 1500s as the center of Spanish power in the New World as well as the departure point for Conquistadors like Pizarro, Cortez and others.^[16]
^[17] In addition to being a military fort it was the center of Spanish administration in the New World and home to Santo Domingo's viceroys, the most famous being Christopher Columbus. But as Viceroy, Columbus was so corrupt and tyrannical the Spanish government removed him and he was jailed in Ozama for a time.^[18]

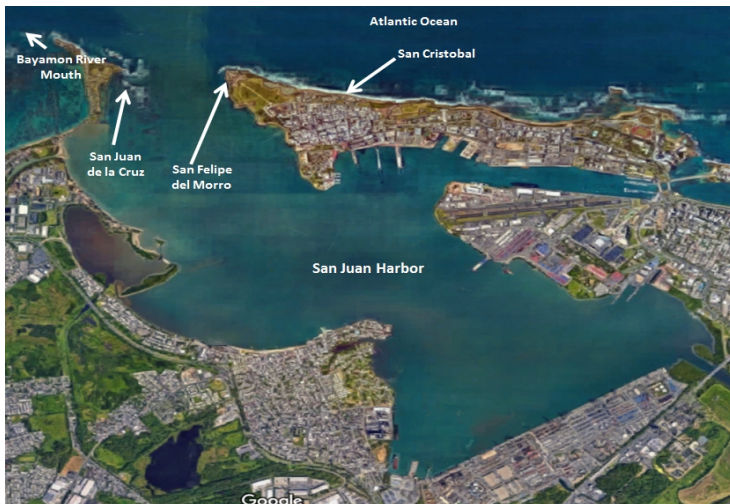
Within a few decades, as trade increased, the port of Santo Domingo could not provide the increased capacity or protection to vessels traveling to and from Spain. Since English and Dutch privateers eventually began operating from Eastern Caribbean islands and the Bahamas, Fort Ozama was too far away to effectively protect Spanish vessels. Therefore, the Spanish stopped investing into Santo Domingo and very little of importance happened there after 1586. Ironically, it remained the center of Spanish administration as the Real Audiencia de Santo Domingo. Over the centuries it was used as a military garrison and/or prison by Spain, England, France, Haiti, Gran Columbia, the US and eventually the Dominican Republic.^[18]

Closest to Europe – San Juan, Puerto Rico (USA)

The island of Puerto Rico is the first landmass with a plentiful supply of fresh water that vessels arriving from Europe would encounter. It was the easternmost Spanish held territory and became the arrival point for vessels from Spain. San Juan was one of only two places the entire Spanish fleet would dock at any one time, making it a tempting target. From there vessels would disperse to other New World ports.



San Juan bay is an enclosed area with only one entrance/exit point making it easily defensible. Fortifications in San Juan include San Felipe del Morro, at the harbor entrance, San Juan de la Cruz, across the narrow harbor entrance, and San Cristobal located over land to the east.



San Felipe del Morro



San Felipe Del Morro (*Construction Started 1539*) is a massive, multi-level fortress built on a strategic outcropping of rock that guards the entrance to San Juan Bay. The top level backs up against a plateau on which stands the city of San Juan. San Felipe del Morro resembles a true medieval European castle and looks as if it had been built during the crusades. A broad open lawn separates the fort from the city, so that the city could not be used as cover for advancing enemies.



Upon the advice of Gonzalo Fernández de Oviedo y Valdés, an artillery battery was constructed on a rocky promontory called "El Morro". This battery consisted of a tower with 4 embrasures and a Water Battery at the foot of the slope for 3 additional guns. By 1555, San Felipe del Morro had an additional 8 bronze cannons.^[19] At its peak, there were 450 cannons at San Felipe del Morro making it a powerful defensive citadel.

Averages of 400-450 troops were garrisoned in San Juan, but during the British attack of 1797 as many as 6,000 soldiers were present.^[20]

Crews of civilian craftsmen, off duty soldiers, prisoners, and slaves were used to build the fort. Although construction started in 1539, it continued for centuries. Most of the walls we see today were built much later, between 1760's and the 1780's. About 400 workers were busy during the peak of construction.^[19] The walls are 140ft above the sea and vary between 18 to 25 feet thick.^[20]

During the colonial Spanish era, San Felipe del Morro survived 5 major attacks. The first was in November 1595 led by Englishman Sir Francis Drake who unsuccessfully attacked with a fleet of 27 ships and 2,500 men.^{[21] [22]} The battle only lasted a few days with the British suffering 400 casualties, mostly when Drake tried to sail into San Juan Harbor, while the Spanish suffered only 40 casualties.^[22] This battle and defeat basically ended English hopes of establishing a significant presence in the Caribbean.^[20]



The English attacked again in 1598 with a force of 20 ships and 1,700 men led by the 3rd Earl of Cumberland George Clifford. Clifford succeeded where Drake failed by attacking San Juan from land instead of attempting to sail into San Juan Harbor. The victory cost Cumberland nearly 60 casualties but the outbreak of dysentery that had crippled much of the Spanish had spread to the British. The outbreak incapacitated nearly 700 soldiers, forcing Clifford to retreat.^[23]

The Dutch, led by Boudewijn Hendricksz, also attacked the island by land during the 1625 Battle of San Juan. To the amazement of the citizens, the invaders were able to pass in front of the castle's defenders and into the harbor, out of reach of the city's cannons. El Morro managed to resist the 39 day siege and eventually made the Dutch retreat. The attackers were still able to sack and burn the city before leaving. The Dutch suffered 400 casualties while the Spanish suffered 17 casualties.^[23] This attack firmly demonstrated a weakness in the defenses of San Juan thus prompting King Carlos III to give the orders to make San Juan "a Defense of the First Order." Soon afterwards construction of fort San Cristobal began.^[25]



In 1797 British General Ralph Abercromby and Admiral Henry Harvey, with 68 vessels and a force of 7,000 men, attacked Puerto Rico. After 13 days of fighting, Captain General Don Ramón de Castro and his forces successfully repelled the attack. The British suffered 107 casualties with another 124 soldiers captured. Almost 400 British soldiers surrendered during the battle. The Spanish suffered 75 casualties with another 56 soldiers captured. Only 18 Spanish soldiers surrendered.^{[26] [27]} Confirmation of actual troop strength is unattainable since only Spanish and Puerto Rican sources are available.^[28] After that the British never mounted another large scale attack on Puerto Rico.

El Morro's last active fight occurred during a naval bombardment by the United States Navy during the 1898 Spanish–American War. This action ended the age of naval warfare in the Caribbean, at least in the classical sense. During the Spanish–American War, the castle was attacked at least three times by American naval forces with the largest being the Bombardment of San Juan on May 12, 1898. The war ended with the signing of the Treaty of Paris, in which Spain ceded ownership of Puerto Rico, Cuba, Guam, and the Philippines to the United States.^[29]

San Cristobal



Attacks by the English in 1598 and the Dutch in 1625 forced the Spaniards to expand the defense system of San Juan. They lengthened the city walls and built an artillery platform, named San Cristóbal, on top of a hill to the east of El Morro. Named after Saint Christopher, the patron saint of land travelers, the Castillo San Cristóbal (*Construction Started 1634*) was built to protect San Juan from attack by land from the east. It is a three level fortification with most work on the fort occurring over a 25 year period. However, the series of outer defenses took over 150 years to complete. Since the entire 27 acres of land that encompasses the city of Old San Juan lay within its walls, San Cristobal is the largest single fort built by the Spanish in the New World.

The Chief Engineer (Irishman Tomás O'Reilly) followed the basic outline of a French Vauban-style fortification with walls over 150 feet straight up from the Atlantic shoreline and in some places up to 50ft thick. It features triangular shaped bastions and a "Defense in Depth" strategy prevalent during the era. San Cristóbal contained a deep dry moat and a series of tunnels which provided protection to the soldiers from enemy fire allowing safe movement of troops, weapons and supplies. With this "Defense in Depth" strategy, soldiers could engage the enemy before they got to the city gate if attacked by land. Gunpowder could be placed in tunnels that ran under the attacking enemy lines which could be exploded if needed. These counter-mining tunnels would destroy parts of the battlefield and block the enemy from accessing the fort through them. ^{[26][30]}

The main plaza of San Cristóbal is where troops drilled, were inspected and assembled for different events. Eleven casemates, large vaulted rooms designed with gun ports for cannons, border the plaza. Casemates also housed living areas, storage areas, the kitchen and latrine with the arch in the ceiling providing strength for the gun desks above. Thick-walled gunpowder magazines were built near the plaza and were designed to provide a good gunpowder storage area. Ramps provided access to the main firing battery and to the dry moat.

The fort was even designed to catch rainwater, storing it in 5 underground cisterns that could hold approximately 800,000 gallons. These cisterns are still used for park maintenance. It provides an excellent example of how self-sufficient practices of centuries ago are still in use.^[30]

San Juan de la Cruz

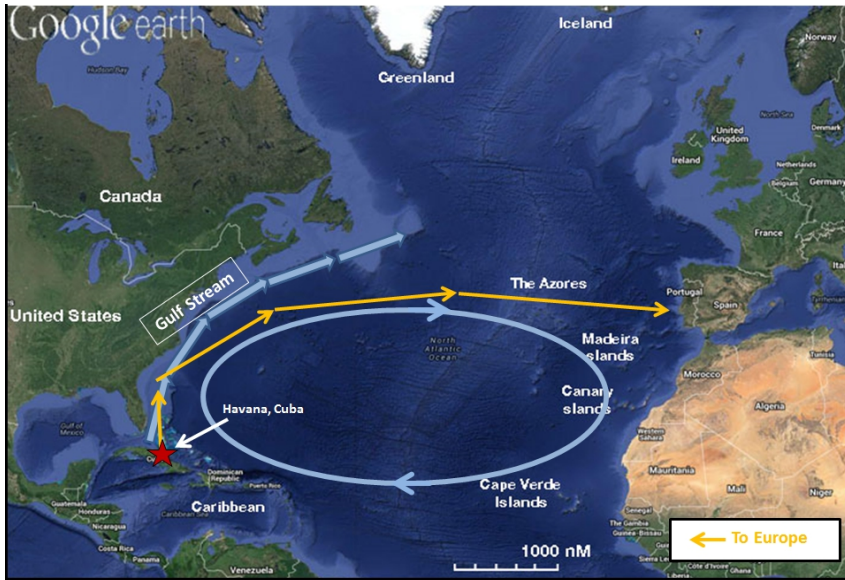


Between the years 1608 and 1610, a small wooden fort named San Juan de la Cruz (often called “El Cañuelo” which is Spanish for “small channel”) was built on a small island on the opposite side of the bay from San Felipe del Morro. Its construction served two purposes. It protected the mouth of the Bayamón River, which was heavily used for transportation to the interior of the island and an ideal place to support the cannons of fort San Felipe del Moro. Enemy ships trying to enter the bay and avoid the guns of El Morro would be pushed by winds and tides into the shallow waters surrounding the small fort making them easy targets for San Juan de la Cruz. The fort was burned during the Dutch attack of 1625 and was rebuilt with masonry construction starting in 1630. It remained in use until the large 24 and 32 pound cannon batteries of El Morro, which could reach well beyond fort San Juan de la Cruz, were finished in the early 1800’s. From that point on the small fort became unnecessary.

Originally, fort San Juan de la Cruz was completely surrounded by water and only accessible by boat. The small 50-foot-square fort was provided with a sleeping area, a kitchen and a cistern, but little else. Far from their comrades at El Morro and with little opportunity for recreation, it must have been very lonely duty for the handful of soldiers stationed there. More than likely a posting to fort San Juan de la Cruz would have been the result of some kind of disciplinary action.

In the early 1800's, infectious diseases, like leprosy and cholera, were affecting the population of San Juan. The isolated location of fort San Juan de la Cruz made it an ideal place to quarantine sick residents and new-arrivals. The fort was modified by adding sleeping quarters and a kitchen in order to accommodate patients. However, there is no documentary evidence that it was ever used for this purpose.^[31]

Center of Spanish Power – Havana, Cuba



The island of Cuba was the central and most strategic Spanish territory in the New World. In 1561, following a royal decree by Philip II of Spain, all ships returning to Spain from the New World were required to assemble in Havana and await protection by the Spanish Armada before departing back towards Spain.^[32] That made Havana the only place the entire Spanish fleet would dock while loaded with treasures making it the most important location in the New World.

Havana bay is an enclosed area with only one small entrance/exit point making it easily defendable.

Fortifications in Havana include Los Tres Santos Reyes del Morro, at the harbor entrance and La Cabaña located over land to the east.



Los Tres Santos Reyes del Morro

In 1558, King Phillip II of Spain ordered the construction of El Morro, an imposing fort that has become a long-lasting symbol of Havana. The fortress was built by Italian engineer Juan Bautista Antonelli to repel raiders from the Cuban capital and completed in 1590. Slave laborers were used to dig rocks from the moat and build the thick castle walls, although it took 30 years to complete due to economic problems and political wrangling.



El Morro, as it is known, is an irregular polygon-shaped bastion, rising more than 120ft above the sea, with thick walls and defensive extensions.^[33] El Morro, which is perched on a rock cliff at the entrance to Havana Bay, served to protect the harbor from pirate attacks from 1590 to 1762.^[33] Then, during the 7 year war it was heavily damaged during the 1762 Battle of Havana and Cuba was captured by the British. Cuba remained a British possession until the Paris Peace Treaty of 1763 when England handed Cuba to Spain in exchange for Florida.^[35] It is currently a symbol of modern Cuban pride.

San Carlos de la Cabaña

A key factor in the British capture of Havana was the vulnerability of El Morro fortress to by land attack.^[36] Realization of Havana's land weakness, and the fear of future attacks on Havana, prompted the Spanish to build a new fortress improving the land defense of Havana. In 1763 King Carlos III of Spain ordered the construction of San Carlos de la

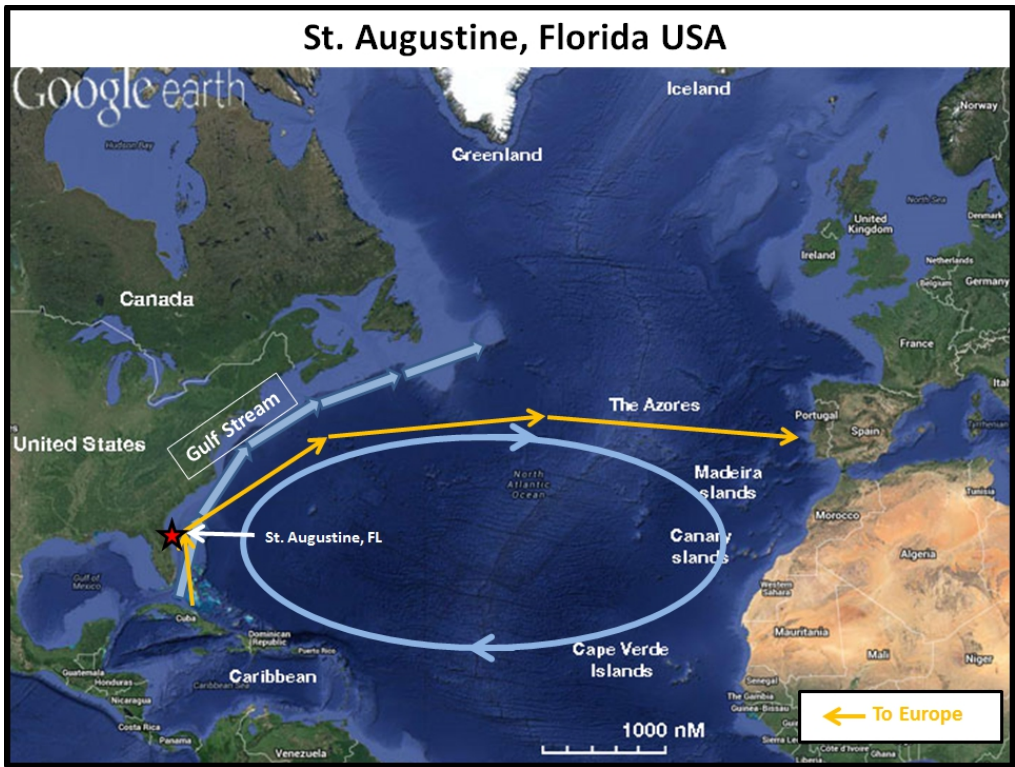
Cabaña to reinforce Havana and the less extensive 16th-century El Morro fortress. The plans were drawn up by a Frenchman named De Vallière while his compatriot Ricaud de Tirgole was responsible for the design. Built on high bluffs overlooking the harbor entrance, this titanic white fortress is like a traditional gunpowder-era fort on steroids. The Fortress includes a 1300ft long plaza, within a polygon surrounded by walls measuring a total of about 1400ft with bastions, terraces, firing slits and an outer curtain wall. In 1859, 1,300 soldiers were garrisoned there, equipped with 120 cannons.^[37]



By the time it was completed in 1774 La Cabaña was the second-largest colonial military installation in the New World. It cost so much to build it is said that King Carlos III requested a spyglass to see it, claiming that such an expensive project, approximately 14 million gold pesos, could surely be seen from Madrid.^[38] La Cabana was also among the very last of the colonial-era forts constructed in the Caribbean. After completion, La Cabaña enjoyed a quiet existence since Havana was never again attacked.

Northern Most – St. Augustine, Florida (USA)

Castillo de San Marcos



The Castillo de San Marcos is located on the western shore of Matanzas Bay in the city of St. Augustine, Florida. Being at 29.9° North latitude^[39], it is located where the prevailing winds begin to shift to the East and was the last fortified Spanish possession ships could stop before crossing the Atlantic towards Spain. Due to this strategic location it became the front line between the Spanish and English empires in the New World. It is unique in North America, is the only extant 17th century military construction and the oldest masonry fortress in the United States. It is a prime example of the "bastion system" of fortification, the culmination of hundreds of years of military defense engineering.^[40]

San Marcos was designed by the Spanish engineer Ignacio Daza, with construction beginning in 1672. The fort's construction was ordered by Governor Francisco de la Guerra y de la Vega after a raid by the English privateer Robert Searles in 1668 that destroyed much of St. Augustine and damaged the existing wooden fort. Work proceeded under the administration of Guerra's successor, Manuel de Cendoya in 1671. The first blocks of the locally available semi-rare form of limestone, called "coquina",

were laid in 1672. Given its nature, coquina would seem to be a poor choice of building material for a fort but it was the only locally available material that would not burn. Due to how it is formed, coquina contains millions of microscopic air pockets making it compressible. This property turned out to have an unexpected benefit.^[41]

When a cannon ball hits solid material, such as granite or brick, the material shatters violently. But cannon balls hitting the Castillo walls simply sunk into the coquina instead of shattering, much like firing a “BB” in to Styrofoam. The Castillo is one of only two fortifications in the world built out of coquina. The other one is Fort Matanzas located 14 miles south on the Matanza River protecting the southern entrance to St. Augustine.^[42]

The particular star shape design of the Castillo is a result of architecture adapting to technology. The change in warfare brought about by artillery created new types of defensive structures adapted, both to withstand or avoid the impact of cannon projectiles and to effectively mount cannons to repel any attackers. Of the major architectural variations the "bastion system," named for the projecting diamond or angle shaped formations added onto the fort walls, was the most commonly and effectively used. The construction of the core of the current fortress was completed in 1695, though it would undergo many alterations and renovations over the centuries.



Castillo de San Marcos was attacked several times and twice besieged. The first time was by English Carolina colonial Governor James Moore in 1702 and his forces. About 1,500 town residents and soldiers crammed into the fort during the two-month siege. The small English cannon had little effect on the walls of the fort, because the *coquina* was very effective at absorbing the impact of the shells. The siege was broken when the

Spanish fleet from Havana arrived, trapping some English vessels . The English were defeated, decided to burn their ships to prevent them from falling under Spanish control and marched overland back to Carolina. The town of St. Augustine was destroyed, in part by the Spanish and in part by the English, as a result of the siege. After recovering from the 1702 siege, St. Augustine's defenses were strengthened starting in 1738, but economic issues left the city wanting for supplies.^[42]

In June 1740, British Governor of Georgia James Oglethorpe, led an English fleet of seven ships and attacked St. Augustine. As in the 1702 siege, three hundred soldiers and 1,300 town residents found refuge within the Castillo's walls. For 27 days the British bombarded the Castillo and St. Augustine. Realizing his cannon could not penetrate the Castillo's walls, Oglethorpe decided to starve the people of St. Augustine by blockading the inlet at the Matanzas River and all roads into St. Augustine. With morale and supplies running low among British troops, the possible arrival of Spanish reinforcements from Cuba and the start of Hurricane season, Oglethorpe decided to retreat after a total of 38 days.^[41]

In order to protect the city from future blockades and sieges, the Spanish built Fort Matanzas to guard the south entrance to the river, which could be used to avoid St. Augustine's primary defense system.^[42] San Marcos was never taken by force; however, the fort changed hands six times by peaceful negotiations among four different governments.

With the Paris Peace Treaty of 1763, after the 7 year war, Britain gained control of Florida. St. Augustine became the capital of British East Florida, and the fort was renamed Fort St. Mark.^[43] Different from the Spanish, the British used the fort role as a base of operations and as a military prison especially during the American Revolutionary War. Several revolutionary fighters who had been captured in Charleston were held there. Among those imprisoned was Christopher Gadsden, the Lieutenant governor of South Carolina. He was also a delegate to the Continental Congress and a brigadier general in the Continental Army during the war. He was released after 11 months.^[43]

Improvements were begun on the fort, in keeping with its new role. The gates and walls were repaired, and second floors were added to several rooms increasing the forts housing capacity. Although Florida was targeted by several aborted expeditions by colonists from Georgia, none ever succeeded. During the American Revolution the Castillo saw little action. The only major British operation that used troops from St. Augustine was the poorly coordinated but successful capture of Savannah, Georgia. The city was taken by troops from New York before those from St. Augustine arrived. At the

end of the American Revolution, the 1783 Treaty of Paris called for the return of Florida to Spain. So on July 12, 1784, Spanish troops returned to St. Augustine and the fort's original name was restored.^[43]

By the early 1800's steam ships began replacing sailing vessels for transportation of goods^[44] and when on June 20, 1819 the steamship SS Savannah crossed the Atlantic in 29 days^[45], locations based on prevailing winds lost overall strategic importance. In 1821 with the loss of strategic importance, a massive Spanish debt and tensions with the United States, Spain ceded Florida to the United States under the Adams-Onís Treaty. This ended 287 years of Spanish rule over Florida. The fort became a United States Army fort and renamed Fort Marion, in honor of American Revolutionary War hero Francis Marion.^[46]

In January 1861, Florida seceded from the United States during the opening months of the American Civil War and Confederate troops marched on the fort. But Union troops had already withdrawn from the fort, leaving only one man behind as caretaker. The Union soldier manning the fort refused to surrender it unless he was given a receipt for it from the Confederacy. He was given the receipt and the fort was handed over without a shot. Most of the artillery in the fort was sent to other locations, leaving only five cannons in the water battery.^[47]

The fort, along with the city of St Augustine, was re-taken by Union forces on March 11, 1862 when the 48 cannon steam frigate USS Wabash entered the bay.^[48] Confederate forces had left the city the previous evening in anticipation of the arrival of the Union fleet. The fort and St. Augustine returned to Union control after acting Mayor Cristobal Bravo officially surrendered the city to Union Navy Commander C.R.P Rodgers. City leaders were willing to surrender in order to preserve the town so the city and fort were retaken without firing a shot.^[48]

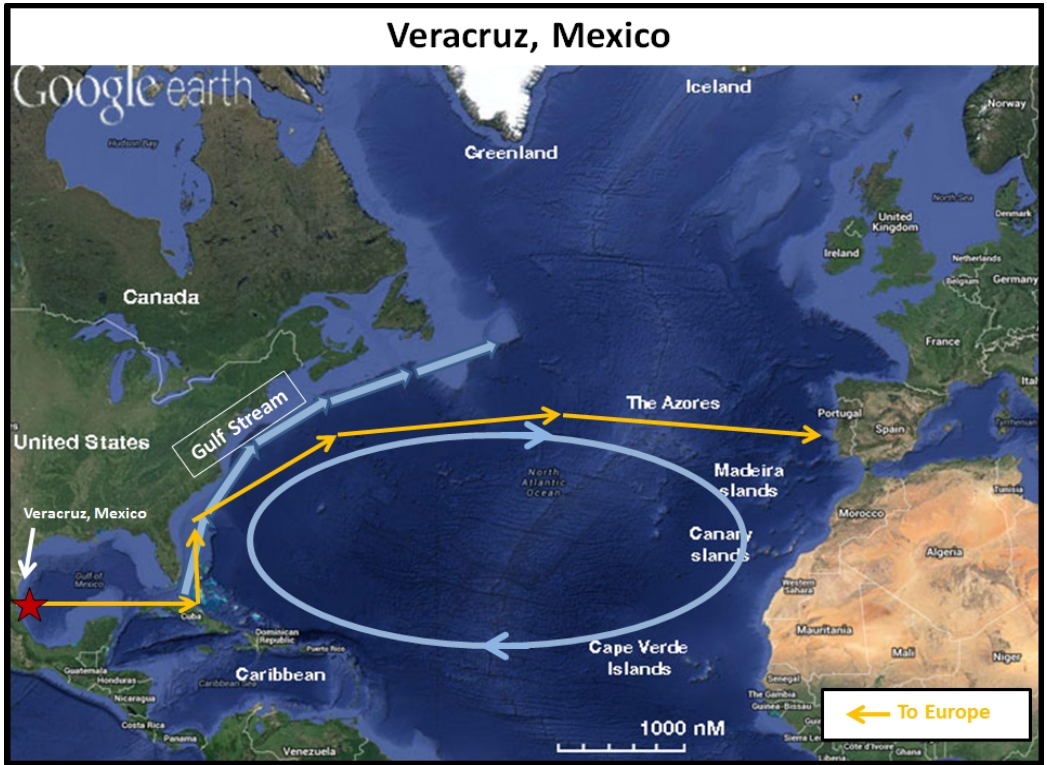
Under United States control the fort was used as a military prison to incarcerate members of Native American tribes, including the famous Seminole warrior Osceola, during the Second Seminole War. Other members of western tribes, including Geronimo's band of Chiricahua Apache to include his then wife Ih-Tedda were held at the fort. Geronimo's daughter, that was born in the fort, was named Marion by the US Soldiers in honor of the fort. As an adult and not wanting to be associated with the repression represented by the fort, she changed her name to Lenna. The Native American art form known as "Ledger Art" had its origins at the fort during the imprisonment of members of the Plains tribes, such as Howling Wolf of the southern Cheyenne.^{[49] [50]}

The fort was declared a National Monument on October 15, 1924 by President Calvin Coolidge, and after 251 years of continuous military possession, was deactivated in 1933. The 20.48-acre site was subsequently turned over to the United States National Park Service. In 1942 the original name, Castillo de San Marcos, was restored by an Act of Congress.^[51]

The Gulf of Mexico – Veracruz, Mexico

San Juan de Ulúa

Veracruz, Mexico



San Juan de Ulúa is a fortress on La Gallega Island facing the Mexican port of Veracruz. Before arrival of the Spaniards the island was a sanctuary dedicated to the Aztec God Tezcatlipoca. According to legend the name comes from the Nahuatl language Gulhua and Ulli. The San Juan part of the name was allegedly added by Spanish Conquistador Juan de Grijalva due to having arrived to the island on the day of San Juan Bautista in 1518. Hernan Cortés also landed there in 1519 to start his exploration of the New World. San Juan de Ulúa was the main location, within the Gulf of Mexico, that Spanish vessels docked to pick up silver and gold for eventual shipment to Spain.^[52]

Initial construction on the island began in 1535, under the guidance of Antonio de Mendoza with fort construction starting in 1565. Later, Juan Bautista Antonelli began its actual fortification, which was completed by Jaime Franck in 1692. To build the fort, a mortar made out of oyster shells, turtle eggs, sand and salt water was made. This made the walls resistant to the strong north winds that are frequent in the area. The internal arches reflect different architectural styles, from the midpoint to the elliptical vaults

which enhance the structure. The most representative feature of the fort is the "Muro de las Argollas" (the Wall of Rings) where there were around 35 rings to tie the boats to the port. In this fashion, they were able to protect the ships from the strong north winds that whipped through the port, preventing them from crashing into each other during bad weather.

Over the centuries several battles and skirmishes were fought within the port of Veracruz involving fort San Juan de Ulúa. In 1568, the Spanish Navy trapped the English fleet of Sir John Hawkins, including his cousin the young Francis Drake, at San Juan de Ulúa. Richard Hakluyt's book, *The Principal Navigations, Voiages, Traffiques and Discoveries of the English Nation (1598–1600)*, claims Drake and Hawkins were on a private venture, peacefully trading with the local Spanish colonists in violation of Spanish law, when the Spanish naval fleet arrived. It has been speculated that Drake and Hawkins likely had raided Spanish settlements elsewhere during that voyage. Historians have also speculated that the Spanish colonists were forced to trade with them illegally under threat of raids and attacks.

Despite being suspicious of each other, the Spanish allowed Drake and Hawkins to take shelter from a bad storm, under truce, on an otherwise open coastline near San Juan de Ulúa. The Spaniards attacked the British, taking them completely by surprise. Hawkins and Drake escaped in the ships *Minion* and *Judith*, but their larger ships were taken or destroyed while many of the English sailors were killed. The attack and subsequent hardships were instrumental in fueling Drake's great hatred of Spain and Catholicism.^[53]



In 1683 fort San Juan de Ulúa was taken by Lorenzo Jácome (Lorencillo), who also captured and sacked Veracruz. It was the last stronghold of the Spanish crown on the continent and resisted sieges from 1821 until 1825. The fort was occupied by French troops in 1838 and American forces in 1847. During 1915 the fortress became the presidential residence of Benito Juárez during the war of the Reform and of Carranza in the Revolution.^[54]

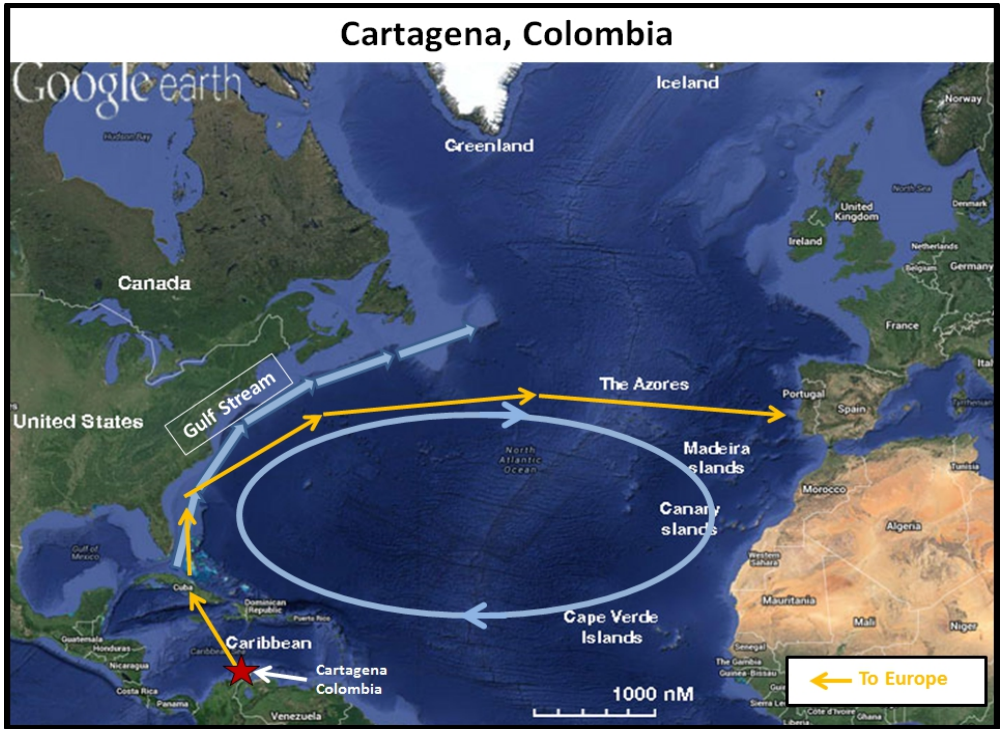
The most famous use of the fort occurred in 1767. On April 2, 1767 and by order of Spanish King Charles III all members of the "Society of Jesus" (Jesuits) were expelled from Spanish lands and all their goods were confiscated. Local officials were ordered to surround the Jesuit colleges and residences, arrest the Jesuits, and arrange their passage to ships awaiting them at various ports. King Carlos' closing sentence read: "If a single Jesuit, even though sick or dying, is still to be found in the area under your command after the embarkation, prepare yourself to face summary execution." During June 1767, Spanish soldiers removed the Jesuits from their 16 missions and 32 stations in Mexico. Many died on the trek along the cactus-studded trail to Veracruz. There they were imprisoned at fort San Juan de Ulúa until ships could transport them to their Italian exile.
[55]

When the modern port of Veracruz was completed in 1902, the island which the fortress stands was connected to the mainland by a breakwater. All but abandoned for many years, San Juan de Ulúa was restored in 1991 to help preserve four centuries of Mexican and American history.

South America – Cartagena, Colombia

San Felipe de Barajas

Cartagena, Colombia



The Castillo San Felipe de Barajas (originally known as Castillo de San Lázaro) is a Spanish Colonial era fortress in the city of Cartagena, Colombia. The fort is located on San Lázaro Hill in a strategic location dominating approaches to the city by land or sea. Initial construction began in 1536 in what many historians believe was the single most lucrative, and looted, port city in the New World. Cartagena was the capital of trade and a city which was easy enough to breach, both by land and sea. The original fortress was quite small but was significantly expanded in 1657. It was given repairs and improvements by José de Herrera y Sotomayor in 1739. San Felipe was often in need of repairs due to the unfortunate habit Cartagena had for attracting pirate raids. The last major expansion occurred in 1763 by Antonio de Arévalo. Its final name, San Felipe, was given in honor of Philip IV of Spain.^[56]

The genius of San Felipe lies very much in its design. This giant complex is actually a collection of 8 smaller, individual forts. You can take one, maybe two...or even three but the rest will remain secure. The overall fortification consists of a series of walls, wide at the base and narrow toward the parapet, forming a formidable pattern of bunkers with

eight artillery batteries and a garrison of 200 soldiers. The batteries and parapets protect one another, so making it practically impossible to take a battery without taking the whole defense system. Key features include the triangular Castillo de San Felipe de Barajas, surrounded by the batteries Santa Barbara, San Carlos y Los Apostles, Del Hornabeque, de la Cruz, de la Redencion and San Lazaro. The combined 68 guns all faced away from the city. The main underground gallery runs along the perimeter of the complex at sea level. Chambers within it could be exploded preventing the advance of overhead attackers. The castle is striking for its grand entrance and its complex maze of tunnels. It towers 135ft above sea level and is a formidable example of Colonial Spanish Military architecture.

To conquer Castillo San Felipe, you'd have to conquer every single fort, one after the other, while keeping all others under control which turned out to be an impossible feat. It was truly impregnable and was never taken despite numerous attempts to storm it. A complex system of tunnels connected strategic points to allow provisions to be distributed and to facilitate evacuation. The tunnels were constructed so that any noise reverberated all the way along them, making it possible to hear the slightest sound of an approaching enemy's feet, and also making internal communication easy.



San Felipe Castle's main aim was to defend the Spanish Caribbean trade of Cartagena; those immense loads of gold, silver, cacao, tobacco and chilli, not to mention African slaves, which the Spaniards transported, home from Latin America, for over 200 years. Invaluable and highly coveted cargos, as it were, especially during a period in history where possession belonged primarily to the one with the strongest weapons. Piracy was strife in the region, looting occurred from the farms and mines to the ports and even the seas, although the group sailing strategy – whereby more than 3 dozen ships would sail the Atlantic together – always ensured no huge collective losses could ever be suffered.

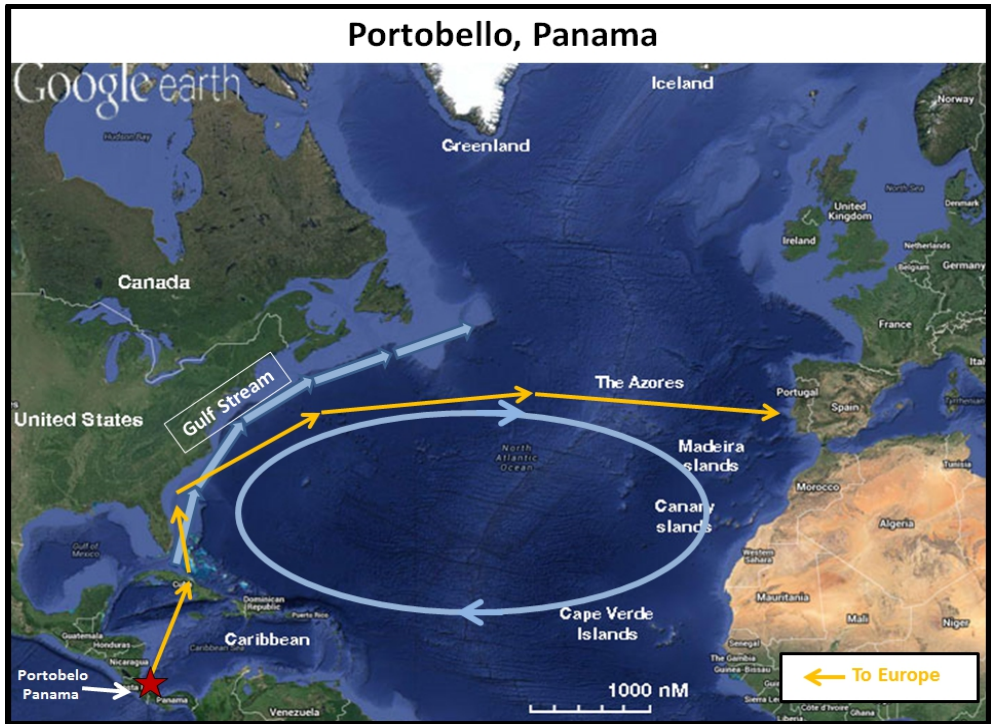
The castle first fell to an assault in 1697 by the French privateer Sir Bernard Desjean, Barón de Pointis and Jean Baptiste Ducasse, during the War of the Grand Alliance, a nine-year conflict fought between Louis XIV of France and a European coalition which included the Spanish Empire. The castle was repaired by José de Herrera y Sotomayor in 1739 which included strengthening the defensive capabilities of the fortress by adding extra fortifications and gun turrets. These additions would prove useful during the 1741 war between England and Spain.^[56]

In 1741 Vice-Admiral Edward Vernon attacked Cartagena with 23,000 British troops and 186 ships. What followed was a crushing loss for Britain, as the Spanish Admiral Blas de Lezo successfully defended the city, helped in no small way by the defensive strength of San Felipe. The British lost around 10,000 men in the battle, many to yellow fever, with around 3,000 falling during the assault. The city was successfully defended by just 3,000 men and six ships.^[55]

After the province of Cartagena declared its independence from Spain in 1811, a Spanish force led by Pablo Morillo attacked the city in 1815. By the end of the year, Cartagena had fallen and was back in Spanish hands until 1821 when the city was recaptured by local forces.^[57]

Central America – Portobello, Panama

San Lorenzo



In 1502, during his fourth and final voyage, Christopher Columbus was caught in a severe storm and forced to seek refuge in a native village along a river on the Isthmus of Panama. According to legend, he named it Puerto Bello (Beautiful Port). Over the centuries, Portobello developed into a strategic Spanish establishment in the New World as it was well-linked with a stone paved road to Panama City.^[58]

By 1534, the Monarchy of Spain had, following its conquest of Peru, established a route over the Isthmus of Panama ("Camino Real de Cruces") between the Pacific Ocean and the Caribbean Sea, of which most was the Chagres River. They transported Peruvian treasure on donkey caravans north along the Pacific coast to Panama. Tons and tons of gold, silver and other riches from conquered territories in the Americas were sent to Panama City. From Panama City the treasures would be moved to the Isthmus ports on the Caribbean: Nombre de Dios, and later Portobello for eventual shipping to Spain via Cuba. Therefore Panama became a major part of the legendary Spanish treasure trail and an important site for international trade, particularly between Europe and its new colonies. Control of this area was extremely important to the Spanish Crown.

Attracted to these vast treasures, pirates and privateers began attacking Panama's coast around 1560. Spain then decided to build fortifications (Portobello and Fort San Lorenzo) at the Chagres River's mouth to protect the Caribbean arrival point of the "Camino Real de Cruces" on the Isthmus of Panama.^[59] In 1586, Juan Bautista Antonelli, the same Engineer who worked on Los Tres Santos Reyed del Morro in Havana, prepared the plans for the first of the fortifications on the mouth of the Chagres River. From 1587 to 1599, the fortifications slowly evolved into a sea-level battery.

Built upon a cliff overlooking the mouth of the Chagres River in 1595, Fort San Lorenzo was originally constructed out of wood but in 1596, the fort was attacked by the English pirate Sir Francis Drake. The attack was unsuccessful, Drake died of Dysentery during the attack but it emphasized the importance of the location. The next year on 20 March 1597, the town of San Felipe de Portobello was officially established.

Even though Portobello and Fort San Lorenzo were built to bear it all, in 1671 both fell to Privateer Henry Morgan. Morgan and over 2000 men destroyed the wooden fort, crossed the isthmus and sacked Panama City. For this campaign Morgan used fort San Lorenzo as his base of operations.^[60]

This action forced the Spanish to construct a new fort 80 feet above the water on a cliff overlooking the entrance to the harbor during the 1680's. The fort was protected on the landward side by a dry moat with a drawbridge. The town of Chagres was established under the protection of the fort during this time.



In November 1739 Portobello and Chagres were again attacked by British forces led by Admiral Edward Vernon. The British destroyed the fortress and other key buildings before withdrawing. Although British control lasted just three weeks, the effect on Portobello was devastating. With Portobello's fort destroyed, Spain did a complete re-organization of trading practices in Panama. The changes were designed to make trade in the area less vulnerable to attack by strengthening fortifications at Chagres and Gatun so Portobello was largely abandoned.^[60]

By the middle of the 18th century the Spanish had largely abandoned the old trails over the isthmus, preferring to sail around the tip of South America at Cape Horn. For over a century, Fort San Lorenzo was just used as a prison. In 1848 gold was found in California

stimulating activity at the mouth of the Chagres River. Prospectors would use the ancient “Camino Real de Cruces” in reverse (north to south) on their trip to California. This way they would avoid crossing the “Great American Desert” or rounding Cape Horn on their way to California. They began their crossing at a place named “Yankee Town” or “Yanqui Chagres”, a wild-west style boomtown that sprang up on the bank opposite the original village and fortress.^{[61] [62]}



The rebirth of Chagres' importance was short-lived. By 1853 arrival of steamboat service on the River had shortened the time needed to cross the isthmus from several days to about twelve hours. In 1855 the Panama Railway was completed from the town of Colon to Panama City, further reducing travel time to about three hours. As a result Colón became Panama's Atlantic/Caribbean port, and Chagres lost importance.^[63]

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ABOUT THE BOOK:

Shortly after Christopher Columbus arrived in the Americas, European monarchs realized the immensity of the lands he had stumbled on. But to exploit these riches they had to control the sailing routes between Europe and the New World so a struggle to control these routes began. Decades later a pattern of fortified locations emerged which, centuries later is still apparent. Although hundreds of forts were built in the new world during the colonial era, only a few emerged as strategically significant.

This booklet identifies strategic Spanish colonial era forts, provides a short historical overview and explains their importance from a military officer's perspective. It provides basic information and hopefully inspires others to research this topic further.

ABOUT THE AUTHOR:

Galín Hernández was born and raised in Aguadilla, Puerto Rico in the same area where Christopher Columbus landed in 1493 during his second voyage to the new world. He graduated from the Community College of the Air Force (AAS), Cleveland Institute of Electronics (Broadcast Engineering), Inter American University of Puerto Rico (BA), Embry-Riddle Aeronautical University (MAS), Air Command & Staff College and the Air War College. He is an FCC licensed Electronics technician, an FAA licensed Commercial Pilot and is fluent in both English and Spanish.

Galín is retired from the U.S. Air Force Reserves (LtCol) and the Department of Homeland Security (DHS) as a Senior Special Agent. From 2002 – 2006 Galín taught at the Federal Law Enforcement Training Center in Brunswick, Georgia. During 2003 he was the Commander of the 491st Aeromedical Evacuation Squadron, Det-2, Ramstein Germany during Operation Iraqi Freedom. From 2007 – 2010 he served as the DHS Attaché at the U.S. Embassy, El Salvador and for a while as Regional DHS Attaché for all Central America.

In retirement Galín volunteers at the Castillo de San Marcos National Monument in St. Augustine Florida with the Historic Weapons section. He is qualified on 1700's Spanish cannon crew positions and 18th century flintlock muskets. Galín has visited every fort in this book except for San Felipe de Barajas in Cartagena Colombia which he hopes to visit in the near future.



The author in historically accurate 1700's Spanish Artillery uniform with a working replica Spanish Fusil.

