from Atlantic to Pacific, islands to rain forests, the Panama Canal invites you to

explore

Bridge Between Worlds

CONSTRUCTION EVENT OF THE CENTURY

Even before its opening, reporters, photojournalists, adventurers and the curious came from around the world to witness this colossal undertaking. What they found was almost beyond description: Locks with walls 1,000 feet long, gates seven feet thick, the world's largest manmade lake—"too big for photo" wired one photographer.

Teddy Roosevelt

Admirers poured into the locks for a close-up look.

Panama Canal

Gatún Locks

Early efforts

As early as the days of Columbus, man was set on finding a sea-level shortcut through the American landmass. But not until Frenchman Ferdinand de Lesseps, fresh from his triumph of building the Suez Canal in 1879, did anyone make a serious attempt. Long story short: The project was poorly managed, underfinanced, and in 1889 the French company went bankrupt. Clearly, an engineering project of this magnitude was too much for a private company. This was a job for a nation.

Enter the United States

In 1902 President Theodore Roosevelt revived the dream. The United States purchased the French holdings in Panama for a record $40 million. Col. George Washington Goethals of the U.S. Army Corps of Engineers was put in charge. And the construction of the Canal proceeded with unprecedented speed.

Against all odds

Despite malaria, yellow fever and 130°F days, the work went on. One foot at a time across fifty miles of jungle, laborers dug an enormous trench, dammed rivers and constructed six immense locks. On August 15, 1914, the steamer *ss Ancon* made the 50-mile inaugural transit in nine hours and 40 minutes — shaving some 9,000 miles from the usual trip around Cape Horn.

A flood of water

To provide the perpetual water supply necessary to operate the locks, an earthen dam was built across the Chagres River, causing flooding and creating Gatún Lake (at the time, the world's largest manmade lake). In the process, hilltops became islands, as in the case of Barro Colorado Island, a lush living laboratory for the Smithsonian Tropical Research Institute.

On time, under budget

In 1913, a full year ahead of schedule and under budget by almost $23 million, the Panama Canal was completed. Still, at a final cost of $375 million in other materials, the price of the Canal was five times higher than the total cost of the Louisiana Territories, Florida, California, New Mexico, Alaska and the Philippines, combined.

Good to go

The first vessel, the tugboat *Gatún*, tested the locks on September 16, 1913, and the Canal was officially opened on August 15, 1914.

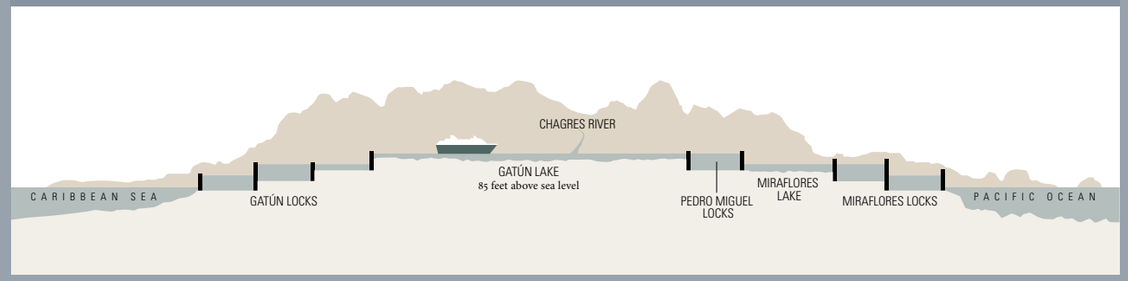
Panama Canal Expansion

THE BIG DITCH TO GET BIGGER

While the Panama Canal was under construction, one early reporter wired, "This canal is both a first and a last . . . man will never again build with such scope, such imagination." Who knew that one day the Canal would be too small to handle today's maritime traffic and supersize ships? Solution: Dig another Big Ditch. Come witness history in the remaking as Panama expands and modernizes the Canal, all in time for its 100th anniversary in 2014.

Panama Canal locks

Panama Canal Elevation



Panama Canal maxed out

For years, major shipping and cruise companies built vessels designed to fit the Canal's lock chambers. (The largest ships the locks can handle are Panamax size, maximum width 106 feet, maximum length 965 feet.) Increasingly, however, global shippers are supersizing their vessels in order to carry more cargo, and they cannot fit in the locks.

Two new sets of triple locks

To accommodate today's post-Panamax ships, Panama officials will construct two enormous sets of single-lane, three-step locks — one set on the Atlantic side, the other on the Pacific side. Another colossal undertaking with lock chambers 1,400 feet long and 180 feet wide — the longest lock complex in the world.

Technological breakthrough

Even in the tropics, where more than 100 inches of rain falls annually, the biggest challenge facing Canal engineers is how to save water. (It currently requires more than two billion gallons of fresh water a day to operate the locks, all of which is flushed out to sea.) Canal officials found their solution on a visit to the Hohenwarthe Locks on the Elbe River in Germany: Capture the water in recycling basins as it is emptied from the locks and use it again for the next lockage. The result: a water savings of six million gallons per transit.

The dirt on the canal

In all, crews will dredge 130 million cubic meters of rock and soil to accommodate the expanded Canal — more than half the amount removed during 34 years of French and U.S. digging — enough to fill the Empire State Building nearly 13 times.

Sideways

The Isthmus of Panama stretches sideways from northwest to southeast, so if you exit the Canal on the Pacific side, you have actually sailed 50 miles southeast of where you entered on the Atlantic side.

Weighing in

Go ahead, have another hand-dipped chocolate. Your Holland America Line ship was weighed and measured at christening and the Purser has already cut the check for your passage. About $2.90 per ton. You do the math.

Bridging the divide

Among the many original obstacles on the isthmus: the Continental Divide, once looming 534 feet above sea level. You'll cross it at an elevation of 85 feet (reduced from 312 feet) via the winding, eight-mile channel, the Gaillard Cut — The Ditch!