

The Panama Canal

A Challenge Met



Dr Kenneth Stein
2022 Grand World Zoom
February 15, 2021

A World Changed



Original Panama Canal



The Atlantic Bridge

Opened August 2, 2019



Hopefully we'll get this welcome...



Left Agua Clara

Right Gatun

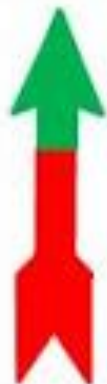








Not ready; lockage cannot take place for some time



Not ready; stand off well clear of lock, prepared to approach on signal



Locks making preparation, probably be ready in 10 minutes or less; you may approach with caution, prepared to tie up or enter on right-side on signal



Locks making preparation, probably be ready in 10 minutes or less; you may approach with caution, prepared to tie up or enter on left-side on signal



Moor to approach wall near chain on right-hand side



Moor to approach wall near chain on left-hand side



Enter right-hand side



Enter left-hand side









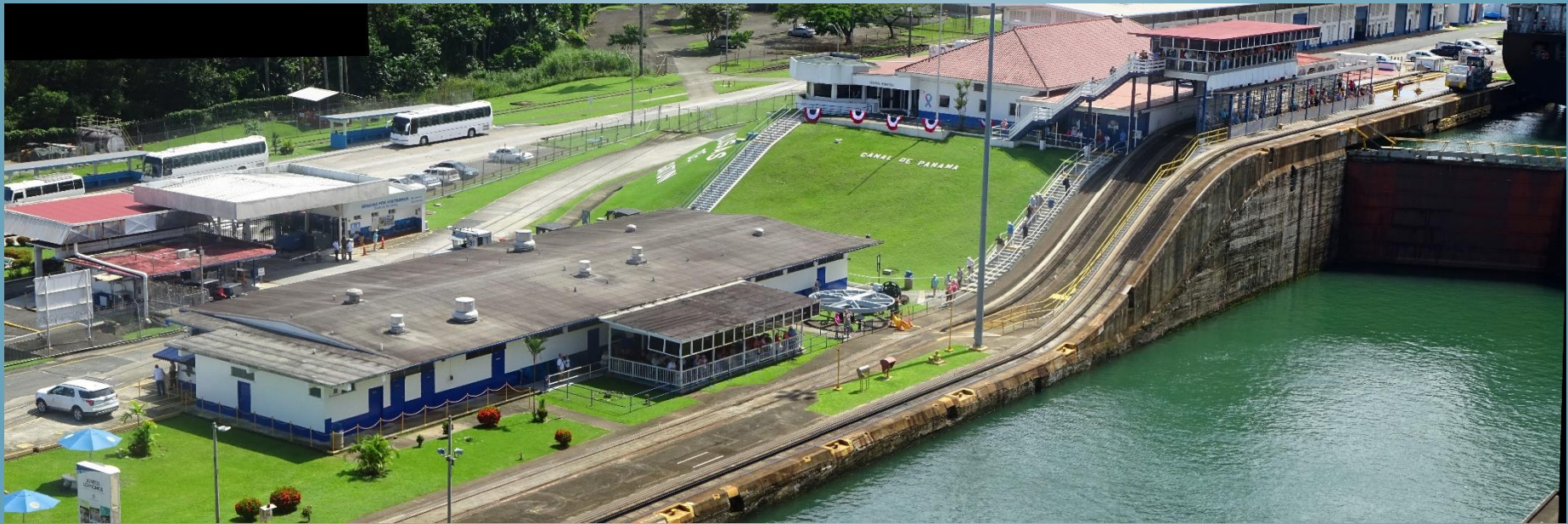
Original Mules



Today's Mules



Visitors Center at Gatun Locks



Agua Clara Locks





Not Always Sunny



Gatun Dam



Welcome to Gatun Lake



Leaving Gatun Lake and Entering the Gantun Channel



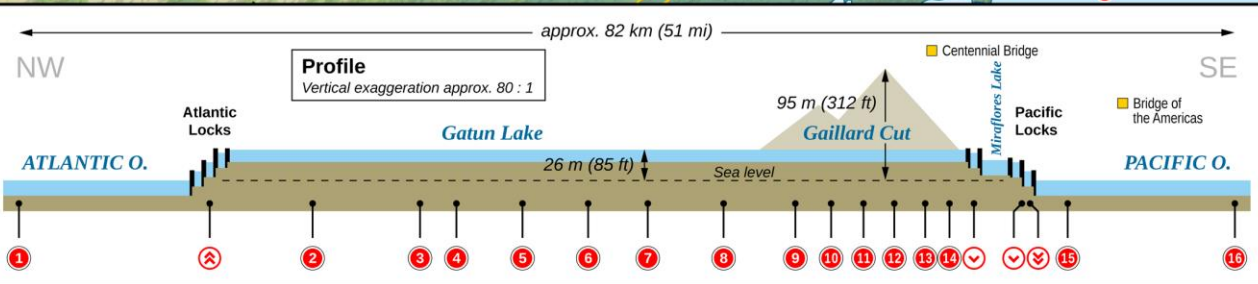
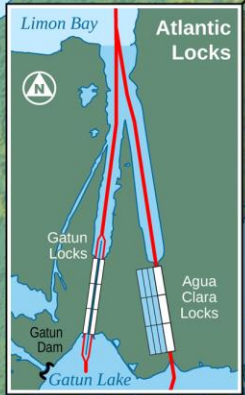
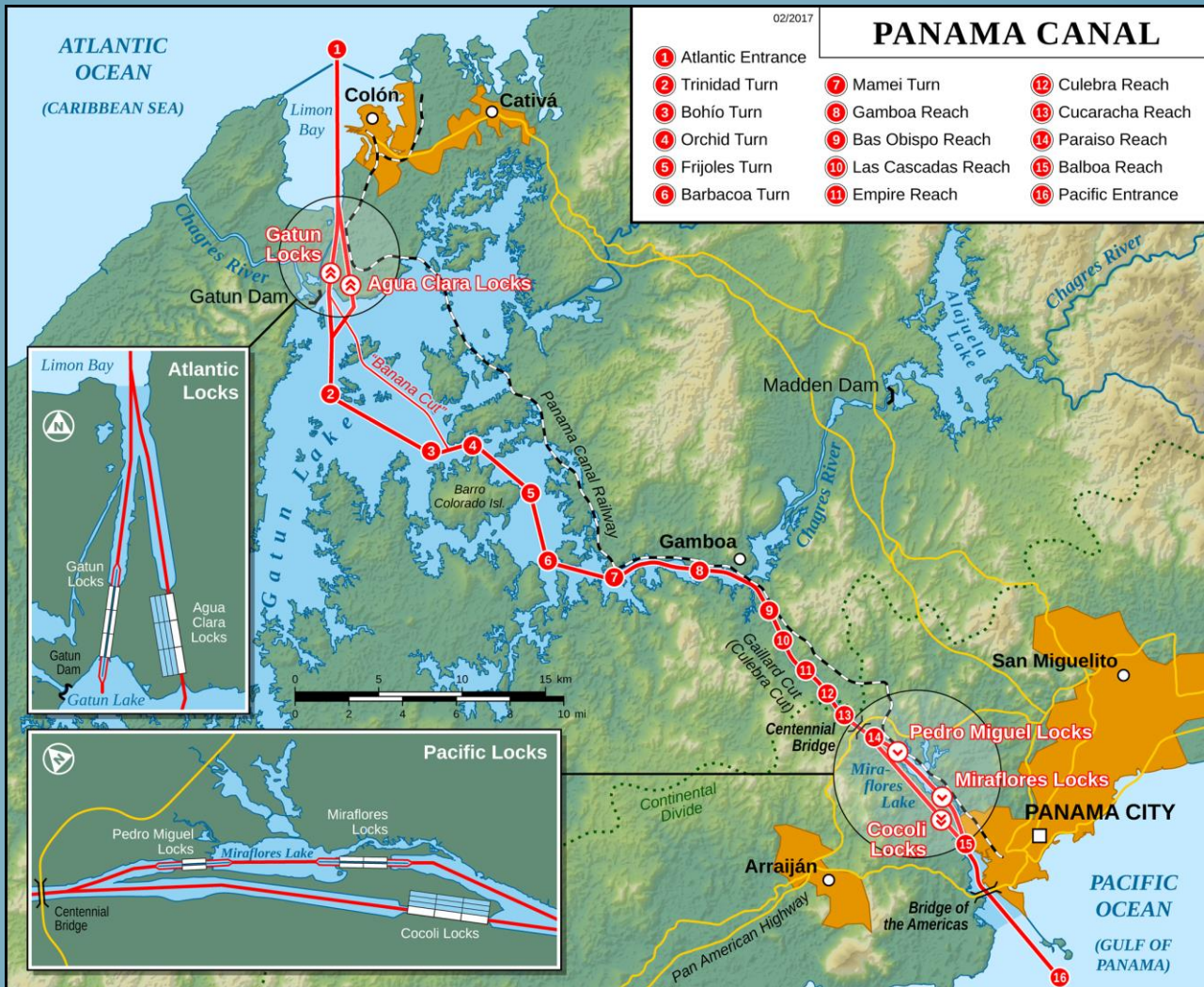


33 Electronic tracking & Navigation Stations



PANAMA CANAL

- ① Atlantic Entrance
- ② Trinidad Turn
- ③ Bohío Turn
- ④ Orchid Turn
- ⑤ Frijoles Turn
- ⑥ Barbacoa Turn
- ⑦ Mamei Turn
- ⑧ Gamboa Reach
- ⑨ Bas Obispo Reach
- ⑩ Las Cascadas Reach
- ⑪ Empire Reach
- ⑫ Culebra Reach
- ⑬ Cucaracha Reach
- ⑭ Paraiso Reach
- ⑮ Balboa Reach
- ⑯ Pacific Entrance



Dredging continues every day;
day in & day out



And every night



Shore Side Erosion



Baru Drill Barge



Crocodiles



Sloth



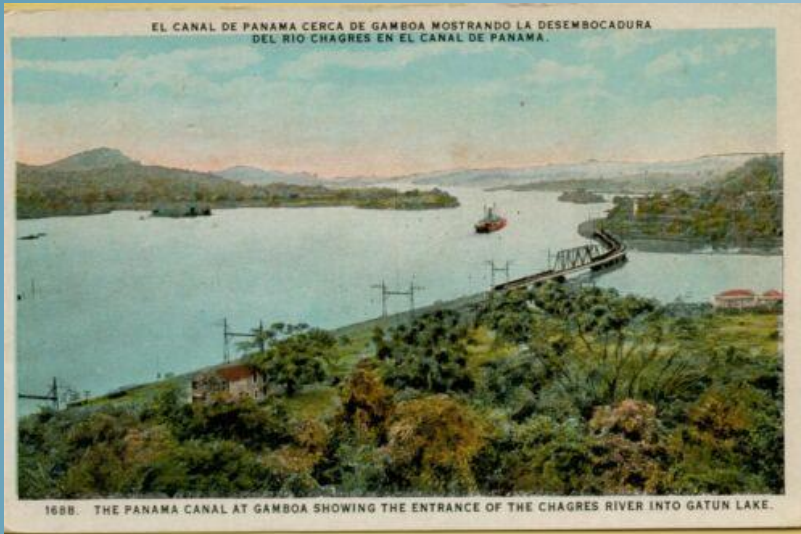
Blue-Footed Booby



Primates



Chagres River flows into the Panama Canal Gamboa



Original Panama Canal Housing

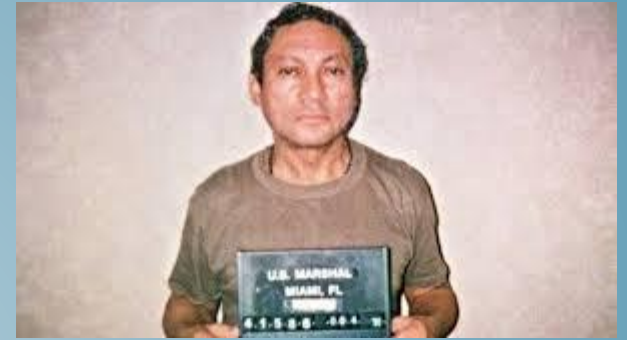


Titan Heavy Lift Crane

- Built 1941 Germany
- Lift 385 Tons
- Boom 367 Feet High



El Renacer Prison - Gamboa



Home of Manuel Noriega
Died 2017



The Culebra Channel



Christensen Dipper Dredge

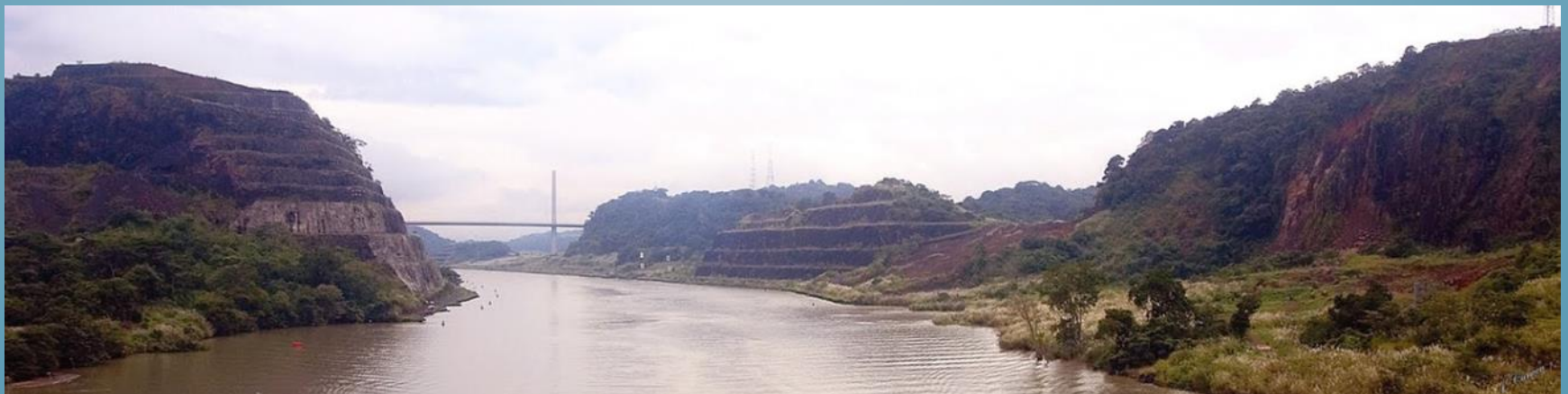


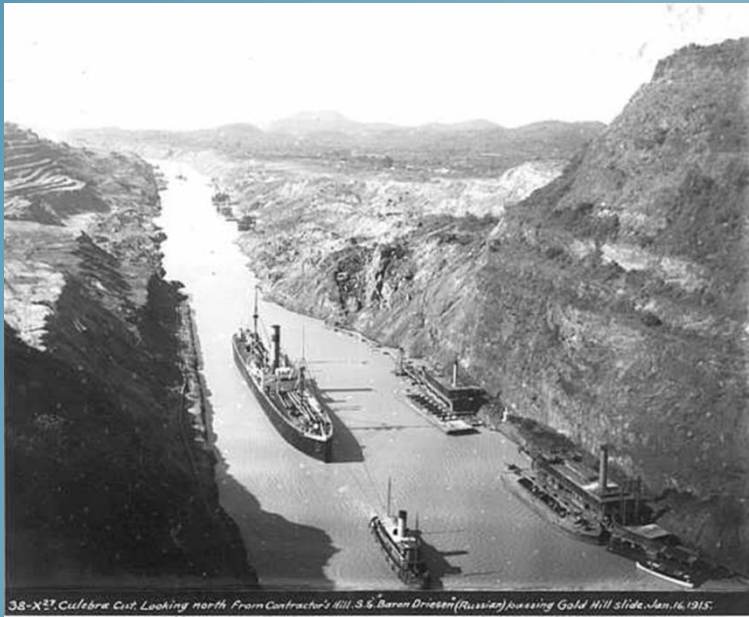
Christensen in Action at the Culebra





Culebra Cut





38-X27, Culebra Cut. Looking north. From Contractor's Hill. S.S. Baron Driesen (Russian) passing Gold Hill slide. Jan. 16, 1915.

What a difference a 100 years and a little landscaping can make.

1915

2015



The Centennial Bridge

August 2004



Cucaracha Landing







Centennial Bridge – Pedro Miguel Lock – Miraflores Locks



Original and Expanded Canal – Pedro Miguel Lock





Pedro Miguel Lock Control Station



Pedro Miguel Boat Club





MIRAFLORES LOCKS
PANAMA CANAL
1913

Miraflores Visitors Center Canal Side





Tug Landing



Miraflores Dam



Miraflores Power Station

Swing Bridge
Miraflores Locks
June 3, 1942



The Nao Victoria



Cocoli Southern Exit





Bridge of the Americas Pacific Side

Awesome in Daylight

Beautiful at Night



What Is It?





Questions

Comments



Ideas

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Dr. Kenneth Stein

A World Changed



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