

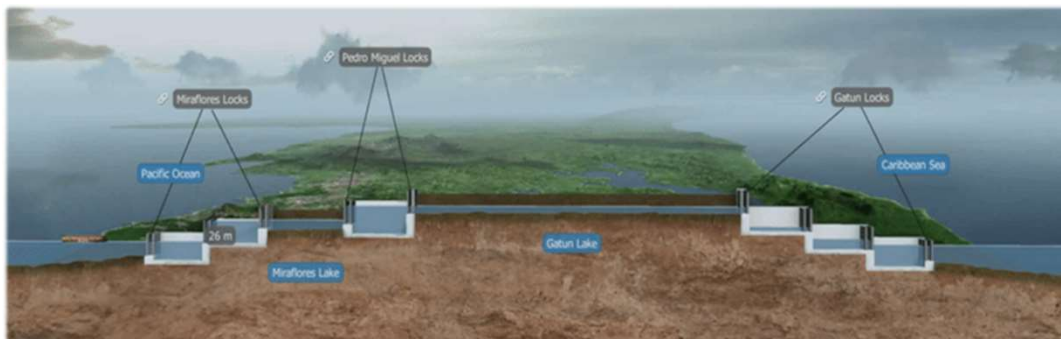


# Panama Canal – Current Status & Mitigation Efforts

Presentation to ECC Sponsors 10<sup>th</sup> April 2024

**R** ROLL GROUP

# Panama Canal



## Panama Canal Basic Facts

Panama Canal commenced Operations in 1914

The Panama Canal runs for **50 miles**

North – South Orientation

- Fiscal Year 2023
- The Panama Canal Transits from Oct 2022 to Sept 2023: **12,638** vessels.
- Old locks transits: **9,015**
- Neopanamax transits: **3,623**
- The Panama Canal Fiscal Year runs from Oct to Sept.

Total Transit Neopanamax locks since opening in 2016:  
**21,998** –Panamax plus **1,112** -Total **23,100**

### Panamax Locks restriction

Length 965' (294.1 m)

Beam 106' (32.3 m)

Draft 39'06" (12.04 m) TFW

### Neopanamax locks restrictions

Length 1,200' (366m)

Beam 168' (51.25m)

Draft 50' (15.2m) TFW during rainy season (May-Dec)



# Panama Canal



In normal times about 5% of global maritime trade uses the Atlantic-Pacific shortcut, and 40% of US container traffic. If the route runs dry, shippers will be forced to find alternatives - lengthening journey times and pushing up costs.

And the lack of water is not just a problem for global trade. The Panama Canal Authority also supplies drinking water for half of the country's population, including the residents of the capital, Panama City.

A lack of rain and the [El Nino](#) weather phenomenon have contributed to the second driest year in the canal's 110-year history.

Quote "The level, as you see on the rulers, is 81.20ft, The level should be five feet more than now". Ref BBC 5<sup>th</sup> March 2024

**WATER SAVING MEASURES**

Records confirm that in the last two decades it has been raining less in Panama, including the Canal watershed, which supplies water to half of the country's population. This is an unprecedented water deficit, which has led the Panama Canal to redouble its measures to conserve water and use it more efficiently in the Canal's operations of the interoceanic waterway.

**CROSS FILLING**  
This consists of sending water between the two lanes of the Panama locks during transits to reduce a percentage of its discharge into the sea.

**THIS IS HOW IT WORKS:**

- The upper chamber of the left lane is filled with water from the reservoir for the vessel to enter the chamber.
- With the vessel in the left chamber, 50% of the water in this chamber passes through to the upper right chamber.
- The other 50% passes into the middle chamber of the same lane bordering the reservoir of the transits and allowing the transit of the vessel.
- The same water passes to the lower chamber and then into the sea.
- When this process is repeated, 50% of the water is saved in each lockage.

**WATER SAVING BASINS**  
The use of water saving basins in the Neopanamax locks is maintained.

The water saving basins allow the reuse of 60% of water in each lockage.

Los pozos de agua reutilizan el 60% del agua que se usó en el proceso de tránsito.

**INNER GATES**  
It consists of making the airlock using one of the upper chamber's intakes, reducing the amount of water required to fill it.

In the Panama locks, the use of this system allows vessels up to 300 feet in length, saving 2 million gallons of water per day per lockage, while the Neopanamax accepts vessels up to 1,000 feet, saving 6.5 million gallons of water per lockage.

**SIMULTANEOUS LOCKAGES**  
Whenever the size of the vessels permits it, two vessels transit at the same time.

In order for this lockage to be done safely, the sum of the combined length of both vessels must not exceed 625 feet.

This action saves 100% of the of the lockage of a vessel in the Panama lock.

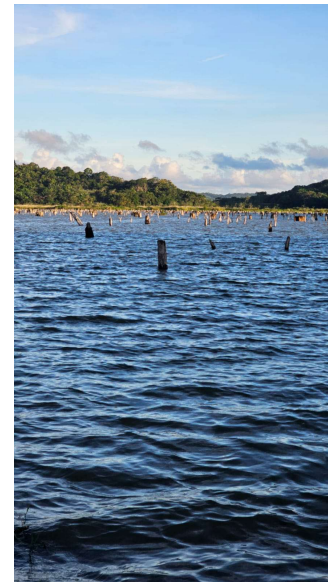
380 feet  
440 feet in length

**SUSPENSION OF POWER GENERATION AT THE GATUN HYDROELECTRIC POWER PLANT**  
This action began in October 2018 to avoid using water from the Gatun Lake through the turbines.

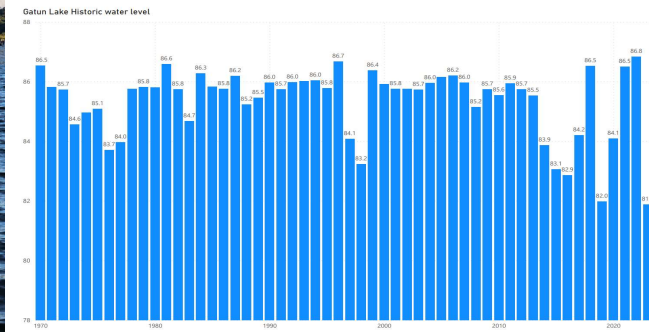
Gatun Landfill  
Gatun Reservoir  
Bridge over the Landfill  
Interior gate  
Gate disabled  
Embalse

The space between the two gates does not receive water from the reservoir, producing more water savings.

CANAL DE PANAMÁ



## Low Water.



Drought conditions.

Panama Canal Authority – Water saving mitigation measures

# Passage Process & Wait Times



Vessel Type	Passages per Day		
	Regular Scenario	Dec 2023	Jan 2024
Neopanamax	10	6	7
Panamax	26	16	17
<b>TOTAL (Per Day)</b>	<b>36</b>	<b>22</b>	<b>24</b>

**\*\* LIVE March 2024 – 27 Ships per day \*\***

**Process for  
Booking Passage**

Owners Appoint  
Shipping Agent

Shipping Agent  
Single Point of  
Contact with Canal  
de Panama  
Authority (CdP)

Approximate ETA  
submitted by  
Agent to CdP  
AFTER leaving Port  
of Origin

Provisional Time  
Slot Allocated

Principle of  
Timeslot is first  
come first served

Final Timeslot  
allocated at the  
Sole Discretion of  
the CdP.

Congestion (if any) was limited in nature and length with 2-3 days on average, but with occasional waits of up to 1 week.

Initial congestion was caused by heavier traffic. Now, with the low water crisis, waits can extend up to 4 months.

# Ranking & Allocations



## Customer Ranking Formula

60%: the amount of tolls paid

40%: the number of transits in the previous 12 months

Bulk, Breakbulk and Tanker carriers receive lower priority due to perceived inequities between their ability to pay/absorb cost impacts when compared to container carriers. Roll Group ranks in the 30s so unlikely to get precedence for passage either direction.

No.	Company	Code	Weight
1	MAERSK A/S	MAERSK	1.00
2	CMA CGM	CGMCIE	3.40
3	MEDITERRANEAN SHIPPING CO.	MEDITE	3.60
4	NIPPON YUSEN KAISHA (NYK LINE)	NIYUKA	3.80
5	TRAFIGURA BEHEER B.V.	TRAFIG	6.60
6	ZIM AMERICAN INTEGRATED SHIPPING SERVICES CO. INC.	ZIMISR	7.80
7	MITSUMI O.S.K. LINES	MITSUMI	8.00
8	CHINA COSCO SHIPPING CORPORATION LIMITED	COSCO	8.40
9	EVERGREEN MARINE LATIN AMERICA S.A.	EVERGR	8.80
10	HAPAG LLOYD	HAPAGL	9.20

# Panama Canal Severe Drought – Booking Periods



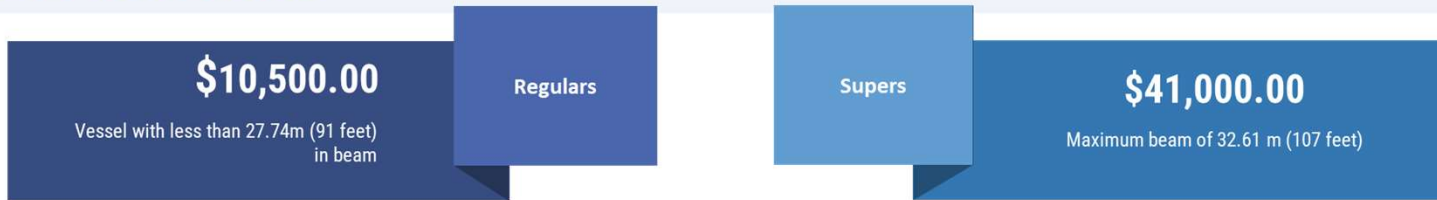
Transit date	Vessel category	Special period	Period 1	Period 1.A	Period 2	Period 3	Total
		730 - 366 days	90 - 31 days	30 - 15 days	14 to 8 days	7 to 2 days Auction slot	
Nov. 3rd - 7th	Neopanamax	1	2	2	2	1	8
	Super	3	4	N/A	3	2	12
	Regular	2	-	N/A	2	1	5
	Total	6	6	2	7	4	25
Nov. 8th - 14th	Neopanamax	1	2	2	2	0	7
	Super	3	6	N/A	2	2	13
	Regular	2	-	N/A	2	0	4
	Total	6	8	2	6	2	24
Nov. 15th -30th	Neopanamax	1	2	2	1	1	7
	Super	3	6	N/A	2	2	13
	Regular	2	-	N/A	2	0	4
	Total	6	8	2	5	3	24
Dec. 1st - 31st	Neopanamax	1	2	1	1	1	6
	Super	3	6	N/A	2	1	12
	Regular	2	-	N/A	1	1	4
	Total	6	8	1	4	3	22
Jan 16th - Until further notice (Adv. 54)	Neopanamax	1	2	2	1	1	7
	Super	3	4	N/A	4	2	17
	Regular	2	-	N/A	2		
	Total	6	6	2	7	3	24



# Booking Fees 2024 - Mitigation



## Panamax Locks:



## Neopanamax Locks:



## Neopanamax Locks

**Extraordinary auction:** slots that become available due to cancellation, change in transit date early transit of pre-booked vessels 4 days before the booking date.

**Special auction:** Additional slot for the Neopanamax at the Canal's discretion. (Temporarily suspended due to low water levels)

**Daily 3rd period auction:** Slot offered 7 days prior the transit date at the opening of the new 3rd booking period.

- 1) Standard Booking
- 2) Auction System - Panamax
- 3) Auction System - Neopanamax



Initial bid: \$93,500.00



Initial bid: \$100,000.00

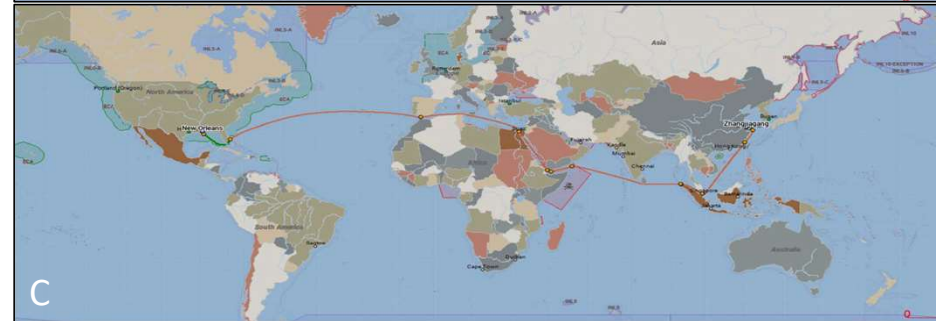


# Mitigation - Alternative Sailing Options



Example Sailing: China to USA @ 12 kt's

- As Planned:
  - Panama Canal: 10,036 Nautical Miles [36 days + 1 day]
- Alternative Routings:
  - A. Magellan Strait: 17146 Nautical Miles [60 days]  
Seasonal Restrictions
  - B. Cape of Good Hope: 15,072 Nautical Miles [53 days]  
Weather Criteria Restrictions
  - C. Suez Canal: 13,805 Nautical Miles [49 Days]  
War Risk Restricted
  - D. North West Passage: 9,678 Nautical Miles [33 days]  
Seasonal Restrictions





# Mitigation - Considerations



## Alternative route planning

- Cargo suitability / integrity
- Engineering - grillage design & acceleration forces
- Weather and sea state
- Seasonal Passage restrictions
- Reverse engineering route planning
- Cost/benefit Analysis

## Project Planning

- Selection of fabrication yard
- Decide early and engage with logistics providers
- Plan passages around favorable water levels i.e. April to September
- Work on critical path and prepare contingency scenarios
- Consider Geopolitical impacts and other external factors

## Entering in Auctions

- Unreliable option
- Costly
- Regular carriers and container vessels



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THANK YOU

