



# How the Panama Canal is addressing the issue of water head on

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The Panama Canal has been a diligent steward of its most precious resource—water, dedicating extensive research and investments to its management. However, 2023 has recorded some of the highest temperatures in history, causing far-reaching consequences for millions around the world.

For the Panama Canal, it has been no different. Elevated temperatures in the Atlantic Ocean, compounded by the presence of the El Niño phenomenon and the delayed onset of the rainy season, have directly impacted the levels of freshwater in the Canal's reservoirs, which are essential for its operations.

The Panama Canal takes the issue of water scarcity very seriously and is committed to exploring all solutions available to minimize the impact on our operations.

During this edition of our Canal Connection newsletter, we would like to provide you with a summary of steps we have taken to address this challenge, the long-term solutions the Canal is currently exploring and answers to some of the most frequent questions our teams receive from customers, media, and other key partners.

There is no silver bullet to this issue. That is why we are leveraging a multitude of action-oriented solutions.

Our current operational strategy is focused on saving water while ensuring reliability on transit for our customers around the world. For that, transparency in communicating with customers is critical.

We are being proactive in letting the industry know of any adjustments that have been required under these challenging circumstances and will continue to do so. As of today, all transits that have been booked ahead of time are going through the Canal on schedule. That is why we urge our customers to make reservations ahead of time, so the measures we put in place are reliable for everyone.



Our operational and water saving strategies are focused on critical steps, including:

- **Adjusting the maximum draft and daily transit capacity.** The lack of rainfall in the Panama Canal Watershed made it necessary to reduce the number of daily transits, while managing the available water to maintain Gatun Lake at a level that allows us to continue offering a competitive draft for our customers and, above all, to maintain the availability of water necessary to supply the population. As in every dry season, draft restrictions were also announced at the waterway. Currently, vessels transiting the Neopanamax locks are allowed maximum drafts of up to 44 feet, while vessels transiting the Panamax locks have had no draft restrictions.

- **Managing Water Shortage.** At the Panamax locks, the Canal has found ways to reuse water from one lock chamber to another and has incorporated this technique as part of its daily operations. This maneuver, known as cross-filling, saves the equivalent consumption of six daily transits.

Other measures include tandem lockages, with two ships transiting at the same time occupying one chamber, whenever the size of the vessels allows it. Furthermore, the transit schedule has been optimized to maximize water savings in each chamber and accommodate the highest number of vessels. In the Neopanamax locks, the direction and scheduling of transits are analyzed to make the most of every drop of this resource.

Additional procedures, such as the incremental usage of water saving basins in Neopanamax locks; short chamber lockage in Panamax locks when vessel dimensions allow it; minimal changes of direction in the Gatun locks; stricter control of water leaks in valves and gates; suspension of hydraulic assistance during lockages; and maintaining Lake Miraflores at its maximum operating level, all add up to saving as much as 50% of this resource.

• **Planning and Communicating in Advance.** Despite all measures taken, the level of Gatun Lake has continued to decline to unprecedented levels for this time of year. Precipitation in October was the lowest on record for the month since 1950, coming in 41% below expected levels. So far, 2023 is on par to become the second driest year on record. Our hydrological department provides updates on the watershed situation and a projection of water consumption, under multiple scenarios given the poor rainfall experienced so far and expected in the upcoming months. Based on their forecasts, the Canal determined that a gradual reduction to 18 daily transits would be necessary to ensure water for human consumption and business continuity during the upcoming dry season. As always, the Canal has announced these changes far in advance to ensure ships can adapt long before departing for the waterway. Additionally, customers are provided with real-time information to make their business decisions.

In addition to these water-saving measures, we are currently exploring additional shorter-term solutions to help optimize the use and storage of water at the Canal. One such project is already in the tender process and will improve the use and reliability of water stored at Gatun Lake. (Tender No. 201803 1.2 Detalle de RFQ (pancanal.com))

The search continues for a set of long-term, concrete solutions.

In recent years, the implementation of a more robust water management system has become a critical priority and a series of potential solutions have been studied, looking first at options within the Canal's jurisdiction. However, the waterway's specialists—in conjunction with US Army Corps of Engineers (USACE)—have confirmed that technical solutions within the Panama Canal's jurisdiction are not sufficient to meet the growing demand for water. Instead, a set of solutions will need to be pursued, some of which fall outside of the Panama Canal Watershed.

Advancing any solutions outside the Canal Watershed requires approval from the Panamanian government. Therefore, the Board of Directors, as part of its mandate, delivered a proposal to the government to advance this process in September. The proposal focuses on two key asks:

- Define the Canal Watershed and modify or expand the limits established in Law 20 of 2006
- Eliminate the restrictions imposed on the Canal in Law 28 of 2006 for the construction of new reservoir

We are proud to remain a logistical hub and will continue striving to deliver reliable service to all customers.

Panama and the Panama Canal continue to offer unsurpassed advantages to the world's maritime commerce due to our strategic geographic location. We are aware of our responsibilities as the logistics hub of the Americas. The Panama Canal will continue to uphold its role, not merely as a path between seas but as a bridge to a sustainable future, navigating through change with steadfast resolve.

There is no simple answer or project that can immediately solve the challenge of water. However, Panama will rise to the occasion to safeguard the Panama Canal for years to come. In the meantime, we continue to proudly serve more than 180 maritime routes, connecting 170 countries and reaching approximately 1,920 ports in the world.

### **Frequently Asked Questions**

How is the water situation impacting shipping companies?

Dry Bulk and LNG segments have been the most affected by limited transits. Container ships have been better able to handle these restrictions, as confirmed by customers, since a maximum draft of 44 feet serves up to 70% of containerships transiting the waterway. Vessels with reservations, which often arrive early and wait for their booked slot, continue to transit on schedule, while waiting times for vessels without reservations are updated daily at the Panama Canal's website.

Panama has seen rainfall in recent weeks/days. How come the water levels are still low?

Panama has encountered storms in recent weeks, offering welcome precipitation as we approach the dry season. Nevertheless, the rainfall has not occurred consistently within the Canal Watershed, resulting in a minimal rise in the water levels. Alleviating the current scarcity in fresh water would require significantly more rain in a short period of time to avoid or postpone the upcoming restrictions for transits.

The Canal urges customers to make reservations in order to transit as programmed. In addition, information is provided in advance, as well as in real-time, so that shipping companies can plan and make the best decisions.