PANAMA CANAL - GEOGRAPHY

News: *The Panama Canal, an essential artery for global maritime trade, is currently facing operational challenges due to persistent drought conditions amplified by climate change.*

What's in the news?

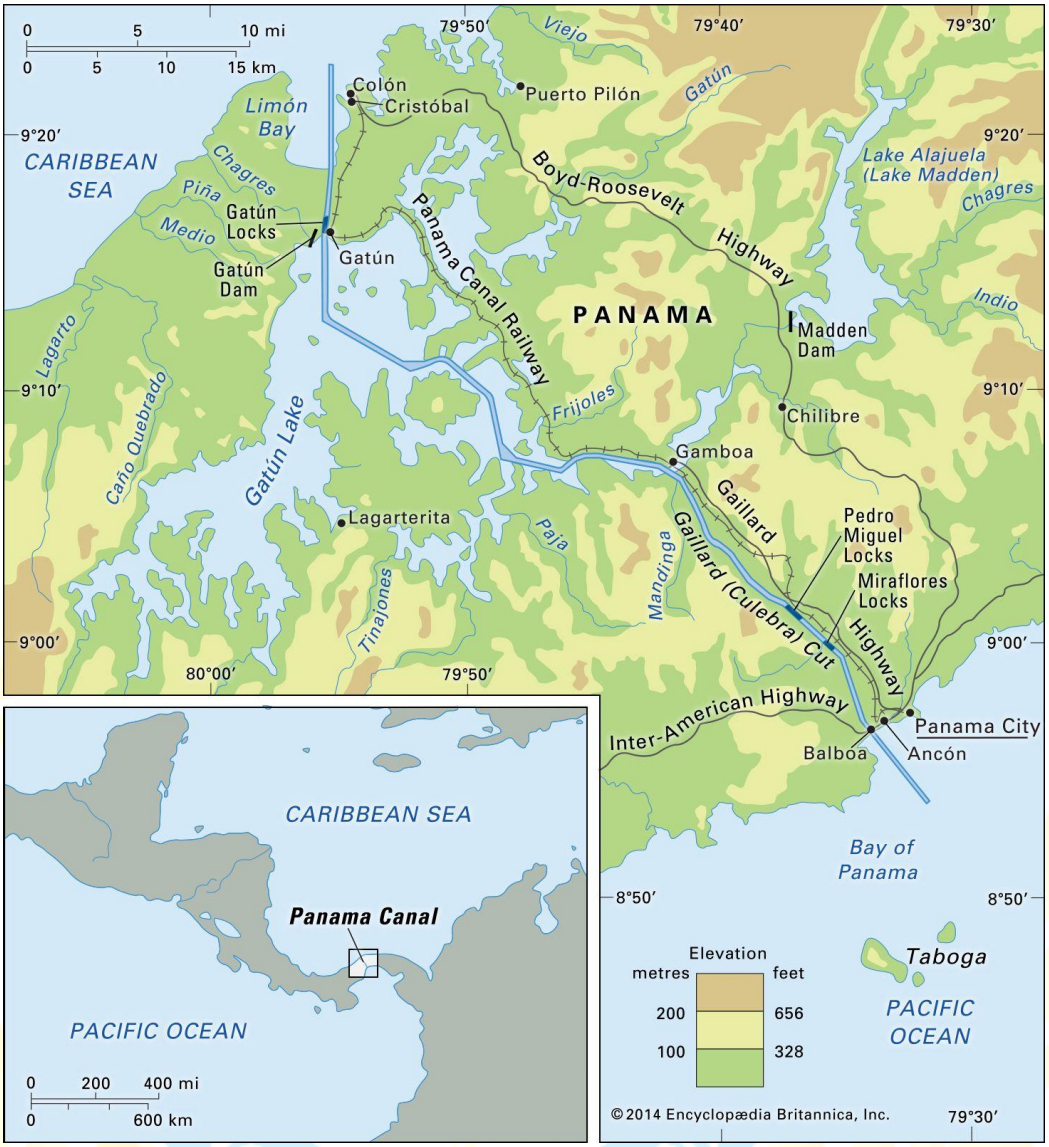
The drought has notably decreased water levels in Lake Gatun, which is crucial for the canal's operation. This reduction in water levels has sparked extensive discussions on developing long-term strategies to ensure the continuous functionality of the canal, emphasizing the need for sustainable solutions to mitigate the impact of environmental changes on critical global infrastructure.

Impact of Climate Change on the Panama Canal:

- **Drought Conditions**: A significant drought starting in early 2023 has resulted in the driest October since the 1950s, with rainfall 43% below the norm.
- **Reduced Canal Traffic**: December 2023 saw a reduction in canal traffic, down from 36-38 to just 22 ships per day due to diminished water levels in Lake Gatun.
- **Vessel Limitations**: The lower water levels have led to limitations on the size and weight of ships that can traverse the canal, increasing the risk of larger vessels running aground.
- **Operational Challenges**: Ships require more water to be lifted in the canal locks, impacting their ability to navigate through the canal efficiently.
- **Economic Impact**: Representing 5% of global shipping, disruptions in the canal significantly impact the global supply chain, causing delays, increased fuel consumption, and economic downturns.
- **Alternate Routing**: Some vessels are compelled to navigate around South America, taking longer routes to their destinations.

Key Facts about the Panama Canal:

- **Geographic and Functional Details**:
  - The canal is an 82-kilometer artificial waterway in Panama, linking the Atlantic and Pacific oceans.
  - It traverses the Isthmus of Panama, playing a crucial role in global maritime trade by saving around 12,600 km on voyages between New York and San Francisco.
  - The canal began operation on August 15, 1914.
- **Engineering and Operation**:



- The canal employs a sophisticated system of locks and elevators to transport ships between the oceans, which are at different elevations.
- The Pacific Ocean is slightly higher than the Atlantic, necessitating the use of locks to adjust ship elevations for seamless passage.
- There are a total of 12 locks within the canal, supported by artificial lakes and channels to manage water levels and ship movements effectively.

Source: https://indianexpress.com/article/explained/explained-climate/climate-change-existential-threat-panama-canal-9516055/