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Proinde Circular 26-08-2025: Crackdown on shipboard A/C at Amazon Ports

River pilots have reported concerns regarding air temperature and thermal comfort on ships calling at the hot and humid Amazon ports in Northern Brazil, prompting intervention by local authorities

Background

Longest pilotage zones

The Amazon inland waterways encompass Brazil's most extensive and complex pilotage zones (ZP), affected by substantial seasonal river level fluctuations due to distinct flood and dry seasons. Private pilot associations manage these ZPs under the oversight of the maritime authority.

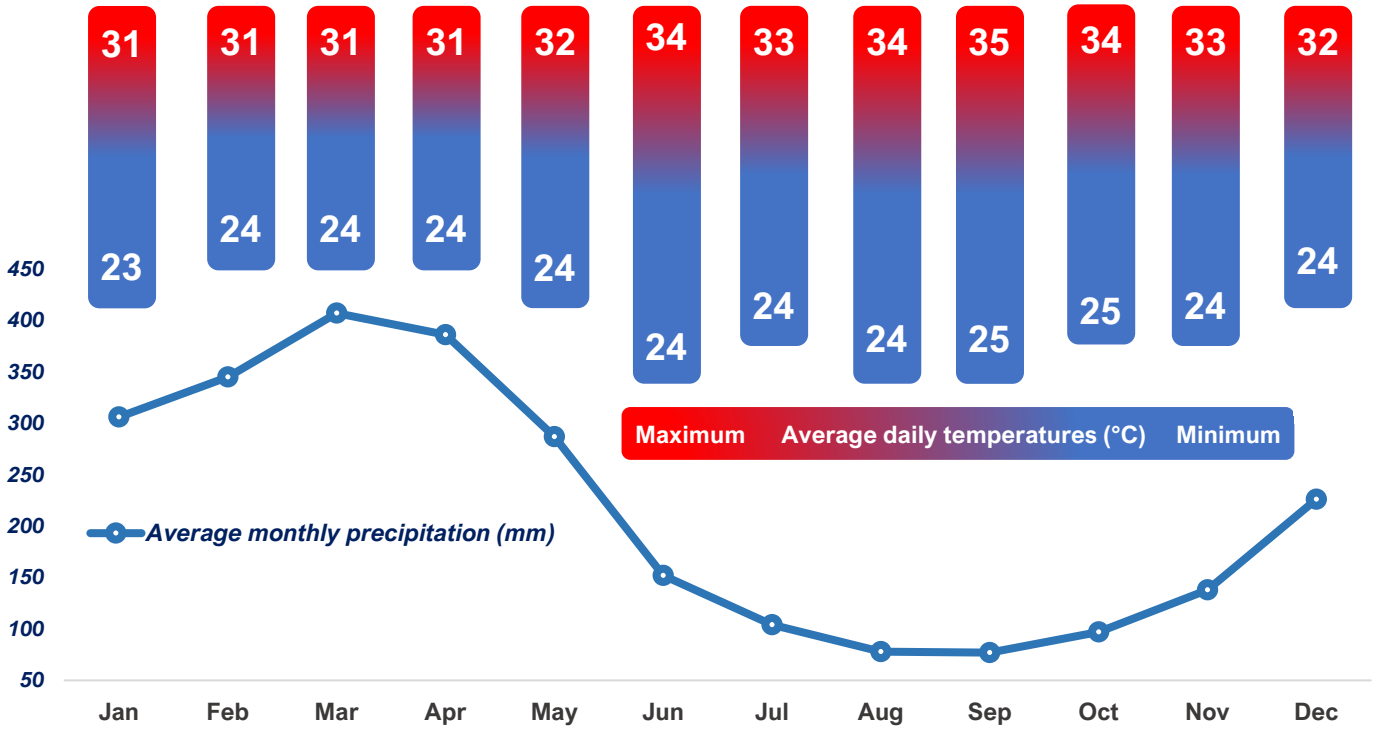
- **ZP-01**: covers the optional pilotage from Amazon's North Bar to Fazendinha Pilot Station (off Macapá), where ships arriving from the Atlantic Ocean are cleared, and compulsory pilotage starts. From Fazendinha P/S, ZP-01 spans approximately 600 nautical miles upstream to Itacoatiara near the Madeira River mouth, with a typical transit time of about 51 hours (less than 40 hours downstream). Ports within its jurisdiction include Santana, Munguba, Trombetas, Juruti, and Santarém.
- **ZP-02**: extends from Itacoatiara to Manaus, and further upstream to Tabatinga in the Western Amazon.
- **ZP-03**: covers upstream passages via the Pará River between the Espadarte and Mosqueiro Pilot Stations to the ports of Belém, Vila do Conde, and Barcarena.

Picture 1: River ports in the Amazon and its tributaries. Source: CONAPRA

Passages exceeding six hours require two pilots (plus any trainees) working in six-hour shifts, applicable within ZP-01 and ZP-02.

Muggy weather

The Amazon region has a predominantly tropical climate marked by high temperatures, high humidity, and persistent rainfall most of the year. Average daily temperatures usually range from 23°C to 24°C at their lowest, and between 31°C and 35°C at their highest, occasionally soaring up to 39°C during heatwaves in the dry season.



Picture 2: Average minimum and maximum temperatures (°C) and precipitation (mm) for Belém, Santarém and Manaus. Source: INPE

Given the low seasonal thermal amplitude in the region, instead of a traditional four-season cycle, the Amazon climate is markedly divided into a dry season (June-November) and a flood season (December-May). While water levels and rainfall fluctuate significantly between these seasons, the overall w eather r emains consistently hot and humid year-round.

Pilots' complaints

Local pilots have voiced concerns about working conditions, notably concerning air quality and temperature on vessels calling at Amazon ports. Complaints submitted to maritime and labour authorities include extreme heat and thermal discomfort inside ship bridges and accommodations – especially during the dry season, when prolonged daylight and intense solar radiation exacerbate shipboard temperatures.

There have been reports of incidents where pilots have refused to undertake vessel manoeuvring, leading to substantial delays, increased operational costs, and expenses such as pilot stand-by fees, overtime, last-minute cancellations, as well as class surveyor and occupational health and safety (OHS) professionals' fees, and the procurement of portable air conditioning units for bridges and pilot cabins. Pilots often carry portable thermometers to measure indoor temperatures before proceeding with manoeuvres.

The rising number of these complaints has triggered heightened scrutiny and regulatory actions by local maritime and labour authorities to address thermal comfort on ships and improve working conditions for crews and pilots.

Regulatory framework

International standards

The ILO Maritime Labour Convention (MLC), 2006, sets broad standards for decent living and working conditions on ships. While it lacks specific technical requirements for heating, ventilation, and air-conditioning (HVAC) systems, it recommends that flag states ensure ships maintain adequate indoor air temperature and humidity relative to prevailing outside conditions.

Domestic standards

- **Federal Law 9,537/1997 (Waterway Traffic Safety Law)**: this law was amended in 2024 to include a requirement that shipmasters provide pilots with conditions akin to those of ship officers, ideally accommodating them in individual cabins that ensure thermal comfort and adequate rest. No temperature zones in living quarters are specified in this statute.
- **Ministry of Labour and Employment Regulatory Standard 17 (NR-17)**: last updated in 2022, it governs ergonomic and comfort standards in workplaces, mandating employers to control and monitor temperature, airflow, and humidity to ensure thermal comfort during working hours. NR-17 specifically requires maintaining air temperature between 18°C and 25°C in air-conditioned environments.
- **ANVISA Resolution RDC 72/2009**: this port health regulation by the National Health Surveillance Agency (ANVISA), revised in 2022, stipulates that shipboard HVAC systems must be well-maintained, clean, and functioning properly. Although it does not define a specific temperature range for air-conditioning, it requires that records of periodical maintenance, cleaning, and disinfection be kept and made available to port health authorities upon request.
- **Maritime Authority Standards for Pilot Service (NORMAM-311/DPC)**: These standards, issued by the Brazilian Navy's Directorate of Ports and Coasts (DPC) and updated this year, require that masters ensure HVAC systems are maintained in adequate operating conditions to provide thermal comfort for pilots. However, they do not specify target indoor temperature ranges.

Repercussions

Delays and extra pilotage costs

These incidents have led to significant delays and increased costs. Notably, in one case in Santarém, where these issues are apparently more prevalent, the cost stemming from a non-compliant A/C system, followed by pilots' refusal to manoeuvre the ship, reached nearly half a million dollars for the shipowner.

Updated maritime authority standards

The Standards of the River Captaincy of the Western Amazon (NPCF-CFAOC), with jurisdiction over the ports covered by ZP-01 and ZP-02, now prescribe minimum conditions for pilot accommodation and thermal comfort on board. In an update issued last July, the local maritime authority lowered the required indoor temperature range from 21°C–26°C to 18°C–25°C, aligning with NR-17 standards.

Labour inquiries

Beyond routine port state control inspections, which typically assess the maintenance and operational status of HVAC systems, the Regional Labour Public Prosecutor's Office (MPT), prompted by frequent pilot complaints, has initiated investigations related to thermal controls in workspaces and accommodations, as required by NR-17 and MLC 2006, respectively.

Recommendations

As the drought season approaches, the MPT is collaborating with local maritime authorities, pilot associations, local unions of shipping agents, and other stakeholders to develop strategies for addressing thermal comfort concerns for crews and pilots navigating the Amazon rivers.

To mitigate operational and regulatory risks, ship operators and masters must ensure HVAC systems comply with both international standards and national regulations concerning thermal comfort prior to entering the Amazon ports. Practical steps to achieve compliance include:

- Maintaining indoor air at a satisfactory temperature within the recommended 18°C to 25°C range across all accommodation spaces, ensuring adequate air exchange
- Minimising excessive noise and vibrations from HVAC systems
- Ensuring easy access for HVAC maintenance, cleaning, and disinfection procedures, with detailed records available for verification by relevant authorities
- Implementing appropriate control measures to prevent the risk of mosquito-borne diseases.

While proactive inspections of visiting ships by local labour authorities are unlikely due to resource constraints, they are expected to respond swiftly to complaints about faulty A/C systems. Such responses may include dispatching inspectors to measure air temperatures, assess system performance, or require shipowners to provide independent verification of thermal comfort compliance from OHS providers or other qualified professionals.

Non-compliance may result in administrative inquiries against the shipowner, and depending on the severity of the infraction, fines and other regulatory penalties may be imposed under the applicable statutes.

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26 August 2025

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