



 **Belém - Pará**



Extreme Weather Event:

Torrential rains, flooding, and strong winds

Period: May/2026

Affected area: City of Belém

Context

Heavy rainfall and **strong winds** affected three waste picker cooperatives monitored in Belém, causing **flooding** in work areas, **damage to roofs** and other structures, and **interruptions to collection and sorting** activities. The impacts were even more severe due to the **poor condition of the facilities**.

Two of the cooperatives were undergoing renovations or temporarily operating in improvised spaces with **little protection** against water entering the premises.

As a result of the rain, materials such as paper, cardboard and plastic became wet, making sorting more difficult and **reducing their market value**.

Workers were also **exposed** to mud, damp conditions, risks of electric shock, accidents and health problems. In addition to damage to infrastructure and materials, the interruptions **directly affected waste pickers' work and income**.



Characteristics of the Monitored Waste Picker Organization

ACCSB

Associação de Catadores da Coleta Seletiva de Belém

Association founded in 2008 and has an agreement with the municipal government, with no financial transfers

38
Waste Pickers

80 tonnes
Average monthly production

Provided sorting facility

53%
women

USD \$9,300
Average monthly revenue

currently under renovation. The cooperative is temporarily operating in tents on the same site

100%
are black or mixed-race

USD \$233
Average monthly income per waste picker

*USD exchange rate as of August 4, 2026

CONCAVES

Cooperativa de Trabalho dos Catadores de Materiais Recicláveis das Águas Lindas

Cooperative founded in 2006 and has an agreement with the municipal government, with no financial transfers

17
Waste Pickers

60 tonnes
Average monthly production

Provided sorting facility

65%
women

USD \$10,094
Average monthly revenue

Masonry structure with a metal-sheet roof

100%
are black or mixed-race

USD \$233
Average monthly income per waste picker

*USD exchange rate as of August 4, 2026

COOTARAL

Cooperativa de Trabalho dos Catadores de Materiais Recicláveis

Cooperative founded in 2005 and has an agreement with the municipal government, with no financial transfers

25
Waste Pickers

88 tonnes
Average monthly production

Provided sorting facility

64%
women

USD \$18,650
Average monthly revenue

currently under renovation. The cooperative is temporarily operating in tents on the same site

96%
are black or mixed-race

USD \$200
Average monthly income per waste picker

*USD exchange rate as of August 4, 2026



When heavy rain meets fragile infrastructure

The impacts were not caused by the volume of rainfall alone

Leaking roofs, drainage problems, exposed electrical installations and temporary workspaces increased the risks for both waste pickers and stored materials



Belém - Pará

Extreme Climate Event Indicator (ECEI):

During May 2026, Belém experienced a prolonged period of heavy rainfall. On four of the most intense days, between **56 and 77 millimeters of rain were recorded within just 24 hours.**

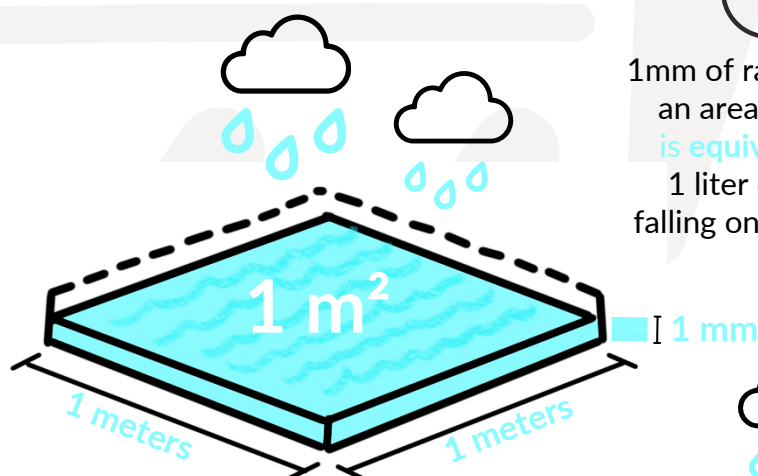
By the end of the month, accumulated rainfall had reached **627 millimeters** (INMET), almost twice the historical average for May, which is **323.6 millimeters** (INMET), based on the 1991–2020 period.

This means that, in addition to rainfall occurring over several days, there were periods when large amounts of rain fell within a short period of time. This concentration of rainfall increases the risk of flooding, water infiltration and damage to workplaces.

Fragile infrastructure
turns heavy rainfall
into material losses,
health risks and loss
of income

Rainfall is measured in millimeters!

Rainfall is measured in millimeters (mm). This measurement indicates the volume of water that falls over a given area. This is because 1 mm represents the depth of the layer of water that would form over one square meter. In reality, this water may soak into the ground, drain into stormwater systems, evaporate or accumulate, depending on local conditions.



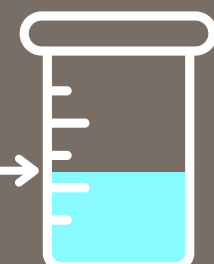
1mm of rainfall over
an area of 1 m²
is equivalent to
1 liter of water
falling on that area

Situation in Belém, Pará

Historical average
rainfall in May

323.6 mm

over an area of 1 m², this is equivalent to
approximately 323.6 liters of water



Rainfall in Belém was

94%

above the historical average

Extreme
event in May
2026

627 mm

over an area of 1 m², this is
equivalent to 627 liters of water



Belém - Pará

Key Impacts on the Work of Monitored Organizations



Flooded areas

Water entered all three facilities. At ACCSB, the sorting facility was covered in mud; at Concaves, the drainage system overflowed



Equipment losses and damages

ACCSB lost the conveyor belt motor, a refrigerator and a freezer. Cootaral had to repair its weighing scale four times



Infrastructure damage

Collapsed wall, damaged or blown-away tents, roof damage, problems with gutters, leaks and indoor flooding



Interruption of operations

Sorting and collection activities were temporarily suspended, and the volume of materials available for processing decreased



Impacts on the sale of materials

Wet materials were sold at discounted prices or lost value, particularly paper, cardboard, plastic film and scrap iron



Estimated economic losses

Cootaral: average reduction of approximately 70%;
Concaves: price reductions of 15% to 20%;
ACCSB: approximately R\$6,000 in materials lost



Absences from work

Cootaral: 5 workers absent;
Concaves: 6 workers absent, equivalent to 35.3% of the workforce



Difficulty commuting to work

The rainfall made it difficult for workers to travel between their homes and the sorting facilities.

Health and safety impacts



Wet materials and waterlogged facilities increased humidity levels in the workplace, affecting workers' health and reducing productivity.

Health and Safety Issues Reported

- flu and colds;
- pneumonia
- fever and muscle pain
- suspected leptospirosis;
- exposure to venomous animals
- workplace accident risks involving slippery floors, mud, holes, and uneven ground

Statements from Leaders

"(...) 'We had to face the water and the rain. We couldn't stop working because we depend on this for our livelihood.'"

Maria do Socorro Ribeiro,
President of ACCSB

"We contact the authorities, but we get no response. In the end, we have to bear the losses ourselves because this is our source of income"

Sarah Reis, president of Cootaral

"The facility's drainage system couldn't handle it. The water tank overflowed and flooded the entire facility. The gutters gave way under the force of the rain, and it was like having a waterfall inside." **Lourdes and Adriana,** president and treasurer of Concaves



Manaus - Amazonas

Indicators of Climate Response and Adaptation

Immediate response actions



Actions were mainly reactive and short-term, focusing on compensating for income losses. The cooperatives sought buyers offering better prices, sold mixed materials, and took on additional work at cultural events

Risk awareness and emergency response



Waste pickers from the monitored organizations had not received training to identify risks or adopt emergency measures during extreme weather events, limiting their capacity to respond and protect themselves

High-Impact Extreme Weather Event

Belém - Pará

Torrential rains, flooding and strong winds
Period: May/2026



Extreme Climate Event
High Importance

The event in Belém simultaneously affected workers' health and safety, the infrastructure of the sorting facilities, equipment, production, and the sale of materials. There was flooding, interruption of work, loss of materials, reduced sale prices, and a need for emergency responses. Even after activities resumed, the damage remained extensive, and the cooperatives had to deal with the situation using their own resources and improvised solutions

References:

National Institute of Meteorology - INMET. Available at: <https://tempo.inmet.gov.br/Graficos/A001>
National Institute of Meteorology - INMET. Available at: <https://clima.inmet.gov.br/GraficosClimatologicos/DF/83377>