Near Real-Time Monitoring Extreme Weather Events and Impacts on Waste Pickers' Cooperatives (NRTM)

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Florianópolis - Santa Catarina

Extreme Weather Event:
Flooding following torrential rain
Period: January 16th and 17th / 2025

Monitored Waste Pickers Organization

ACMR - Associação de Coletores de Materiais Recicláveis

About the Monitoring

The Monitoring Extreme Weather Events project is developed by WIEGO with support from the Mãos Pro Futuro Program. It aims to create a monitoring system that relates extreme weather events to the impacts on workspaces, working conditions, and livelihoods of waste pickers in six Brazilian cities: Belo Horizonte, Belém, Brasília, Florianópolis, Manaus, and Salvador.

Context

On January 16th, 2025, extreme rainfall caused flooding, flash floods, and landslides in Florianópolis. The event began in the early hours of the morning, initially affecting Itajaí and Camboriú. It became more intense in Greater Florianópolis between late morning and early afternoon.

Epagri (Santa Catarina State's Agricultural Research and Agricultural Extension Company) recorded volumes above 200 mm, reaching 350 mm in Tijucas and Santo Antônio de Lisboa —nearly twice the monthly average for January (170 mm).

There was severe flooding in several neighborhoods. Although the access road to the ACMR was not affected, one of the three sorting center warehouses was flooded due to poor coverage. This space is used to sort recyclable waste from selective waste collection.

Since 1999, the ACMR has been recycling dry materials collected through selective waste collection by COMCAP/SMMA, the municipality's public cleaning company.

ACMR Characteristics :

Foundation: March 2000

No. of Waste Pickers: 63

43% are women

50% of its board members are women

87% of the waste pickers are black or mixed-race people

41% of the waste pickers are foreign immigrants

300 tons per month of average prodution

BRL 233,000.00 of average monthly revenue

BRL 1,800.00 of average monthly income per waste picker

Reverse Logistics Partnership: MÃOS PRO FUTURO PROGRAMA DE LOGÍSTICA REVERSA

Florianópolis - Santa Catarina

Affected Area: Middle and low Itajaí Valley and Florianópolis Metropolitan Area.

Extreme Weather Event Indicador (EWEI):

In Florianópolis, the expected average rainfall for the month of January is **170 mm**. However, on **January 16th, 2025**, some areas of the city recorded **up to 306 mm of rain in a single day.** According to the **Environmental Resources and Hydrometeorology Information Center (Ciram),** the measuring point closest to the **Agricultural Research and Agricultural Extension Company of Santa Catarina** (Epagri) recorded **198 mm –that's 16% more than expected for the entire month.** This demonstrates a volume well above normal, thus characterizing an extreme weather event. (Source: Epagri/Ciram, 2025)

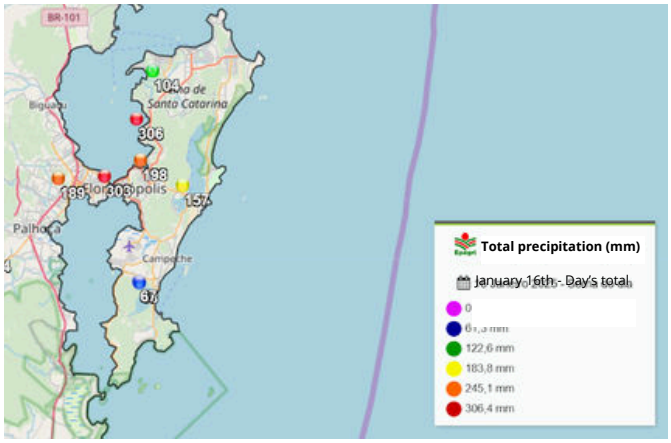

Image Santa Catarina Coastal Region hit by extreme rain on Jan/16/2025. Source: Epagri, Ciram, 2025.

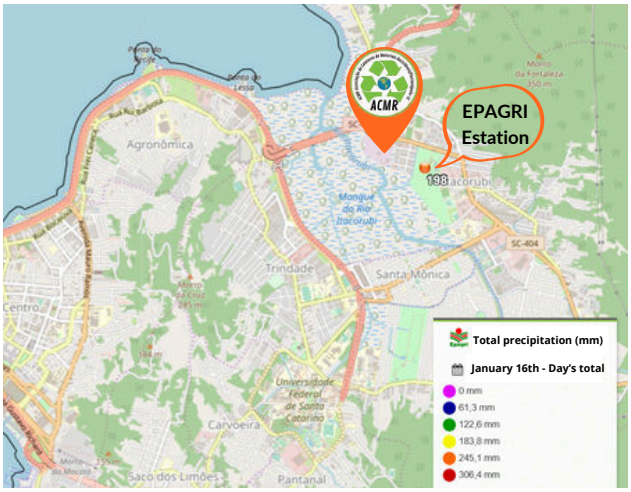

Image 2: Location of the Waste Pickers Association and the Epagri Station. Source: Epagri, Ciram, 2025.

Main Impacts on the Monitored Waste Pickers Association:

Flooded areas:

The association has three warehouses. The most affected was its central warehouse, which houses the area for receiving and sorting recyclable materials, as well as the restrooms.

Absence from work

Fifty-nine of the 66 waste pickers from the association were unable to show up for work due to the warehouse's inability to operate and due to access problems, **directly impacting 89% of the workers.**

Impacts on production

Heavy rain caused severe flooding in the sorting warehouse, interrupting the production line **for two days.**

Impacts on commercialization

The quality of the material was compromised, especially cardboard and paper, which got wet. Consequently, **the average price of these materials decreased by approximately 6%.**

Florianópolis - Santa Catarina

Indicators of Climate Adaptation and Coping

Receiving Weather Warning

Waste pickers from the ACMR received an alert from Civil Defense two hours after the storm started, which made it impossible to adopt preventive measures.

Risk Perception and Emergency Actions

Waste pickers from the ACMR have not received any training on risk identification or emergency measures in the event of extreme weather situations.

Prevention and Contingency Plans for Weather Disasters

The association did not receive any instructions on the existence of prevention and contingency plans to deal with possible weather disasters.

Immediate Response Actions

Mitigation of losses: Moving bulk bags with sorted materials to dry areas.

Contact with authorities: The competent authorities were called to report on the situation.

Future Measures:

The ACMR plans to renovate the warehouse to minimize the impact of future heavy rainfall. However, although the association has resources, City Hall has not yet granted the use permit for the warehouse, which makes it impossible to carry out the renovation.

Damages and losses

- **Administrative equipment:** Damaged security cameras
- **Production equipment:** not affected
- **Infrastructure:** Water leaks; flooding of sorting areas and restrooms
- **Estimation of damage and losses:** Waste pickers could not estimate the damage and losses suffered.

Impacts on workers' health

As both the material and the warehouse are wet, the humidity level in the work environment has increased, compromising the team's health and reducing production performance.

Main Health Issues Reported:

- Flu and colds
- Drop in immunity
- Increase in physical effort
- Fever
- Headaches
- Cough
- Breathing problems in general

Level of importance of the Extreme Weather Event in the co-op's daily life:

Extreme Weather Event of Medium Importance

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Sources:

EPAGRI/CIRAM. Monitoramento climático e hidrometeorológico de Santa Catarina. Available at: https://ciram.epagri.sc.gov.br/agroconnect/ Acessed on: january 23, 2025.