

# Study of Physical Climate Risks

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**The Business of Sustainability**

## Summary

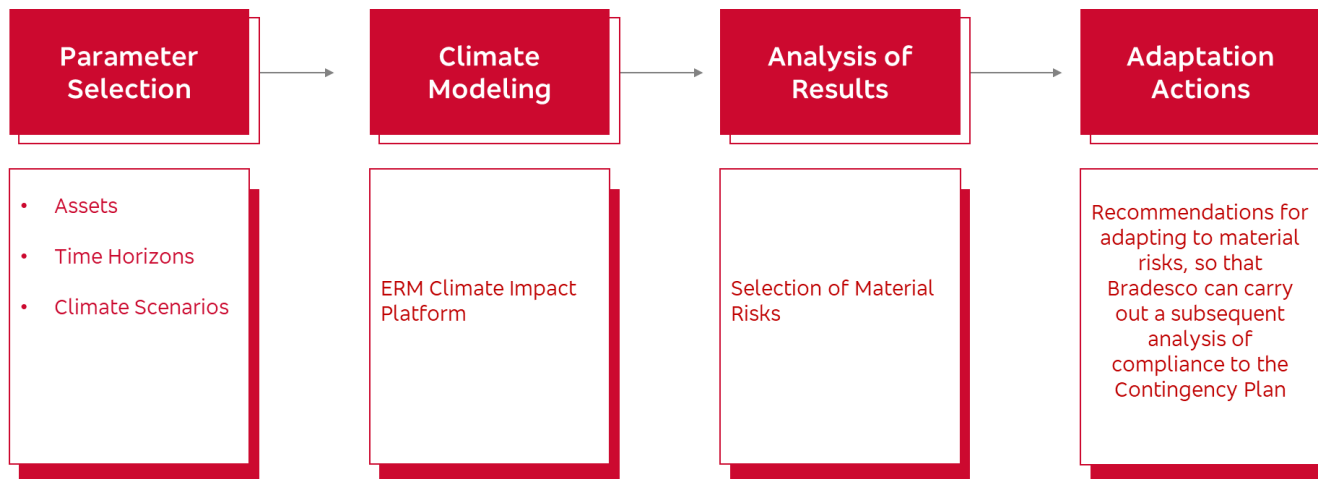
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## Executive Summary

### Scope

- **ERM Brazil** (ERM) was hired by **Bradesco** to carry out a high-level analysis of physical climate risks that may affect the bank's operations. The study focused on 7 assets with the greatest representation in Bradesco's revenue (pre-selected), as shown in the table on page 05.
- ERM used its Climate Impact Platform by ERM for screening of the potential weather events that the assets, represented by their geographic coordinates, are exposed to over time.
- Two Greenhouse Gas (GHG) emission scenarios were selected: a pessimistic high emissions scenario (SSP5-8.5) and an optimistic scenario (SSP1-2.6). For each, the following time horizons were evaluated: baseline (current), 2030, 2050 and 2080.
- This study reviewed nine different weather risks that could damage assets or generate a financial impact for Bradesco. A total of 4 events manifested themselves as material risks (in other words, classified as High or Very High in at least one of the evaluated time horizons, or with upward trend), namely: Extreme Heat, River Flooding, Extreme Rainfall Flooding, and Water Stress and Drought.

### Project Steps



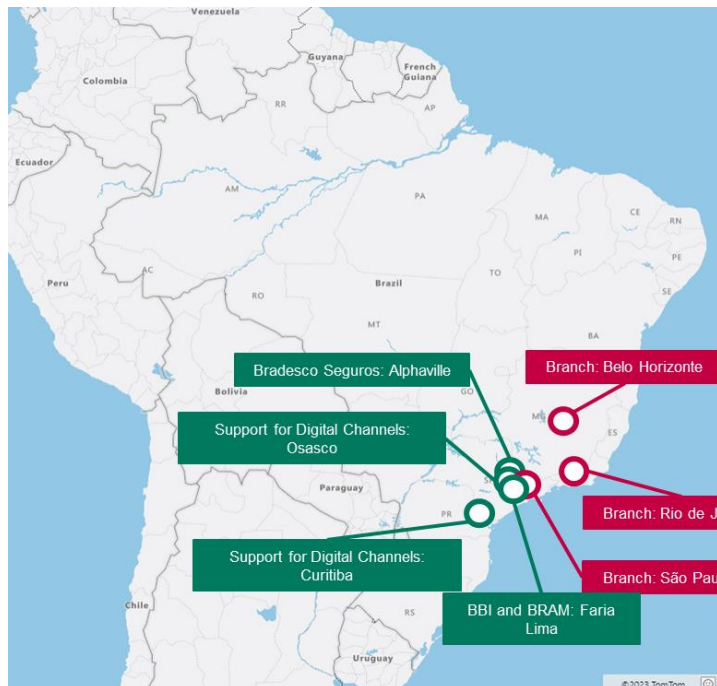
### Methodology and Selection of Parameters

7 different assets were considered, with greater representation of the Organization's revenue, in physical risk assessment. The chosen locations account for more than 90% of our revenue.

As 98% of transactions are carried out through digital channels, we use the locations of our administrative headquarters and data centers.

For the activity sectors, we covered Insurance, Investment Banking, Asset Management, Corporate and Retail Branches in the locations with the highest revenue representation:

Operation Type		Location
Administrative Headquarters	Support for Digital Channels	Osasco: Rua Aurora Soares Barbosa 775, Osasco, SP, 06023-010 Curitiba: Av. Luiz Xavier, 11 - Centro, Curitiba - PR, 80020-020
	Bradesco Seguros	Alphaville: Avenida Alphaville 779, Barueri, SP, 06454-003
	BBI and BRAM	Faria Lima: Av. Pres. JK, 1309, São Paulo, SP, 04543-011
Branches		São Paulo: latitude 23°33'01" S and longitude 46°38'02" W
		Rio de Janeiro: latitude: 22°54'10" S and longitude: 43°12'27" W
		Belo Horizonte: latitude: -19.9208300° and longitude: -43.9377800°



## Adaptation Actions

### Adaptation measures to priority risks

- From the set of results obtained, the ERM listed general recommendations for adaptation to priority climate risks, as indicated below.

Weather Event	Material	Description of Potential Impacts	Potential Adaptation Actions
Extreme Heat	Administrative headquarters: Osasco, Curitiba, Alphaville and Faria Lima  Branches: São Paulo, Rio de Janeiro and Belo Horizonte	<ul style="list-style-type: none"> <li>Reduction in efficiency of electrical equipment.</li> <li>Increased water and energy consumption.</li> <li>Additional pressure on power transmission lines and potential outages.</li> <li>Electrical issues in equipment, affecting service access by customers.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring of weather conditions and warning systems.</li> <li>Adoption of a specific emergency plan.</li> <li>Cooling systems for closed environments (both for employees and customers, as well as environments with heat-sensitive electrical equipment).</li> <li>Measures to increase the resilience of assets to grid power supply.</li> </ul>
River Flooding	Branch: Rio de Janeiro	<ul style="list-style-type: none"> <li>Damage to the infrastructure of electrical assets and equipment, and impact on public utility services.</li> <li>Electrical issues in equipment, affecting service access by customers.</li> <li>Repairs and maintenance costs, insurance, among other financial impacts.</li> <li>Blockage of main access roads.</li> <li>Electrical issues in equipment, affecting service access by customers.</li> </ul>	<ul style="list-style-type: none"> <li>Proper sizing of drainage network in the assets;</li> <li>Monitoring of weather conditions and warning systems.</li> <li>Adoption of a specific emergency plan.</li> <li>Suitability of asset infrastructure (including elevation of critical areas and construction of surrounding physical barriers, use of water-resistant materials and sealing of openings (such as doors and windows), etc.)</li> </ul>
Extreme Rainfall Flooding	Administrative headquarters: Osasco and Faria Lima  Branch: Rio de Janeiro		
Water Stress and Drought	Administrative headquarters: Osasco, Alphaville, Faria Lima  Branches: São Paulo and Rio de Janeiro	<ul style="list-style-type: none"> <li>Lack of water for cooling certain electrical equipment, especially in datacenters.</li> <li>Worsening of situations of regional water stress.</li> <li>Additional costs due to the potential increase in water and energy fees (due to likely decrease in hydroelectric generation).</li> </ul>	<ul style="list-style-type: none"> <li>Strategic measures to save water in assets (including consumption reduction, resource reuse, rainwater harvesting, etc.).</li> <li>Specific emergency plan, including potential asset access restrictions.</li> <li>Measures to increase the resilience of assets in relation to grid power supply.</li> </ul>

Note The Bradesco Organization established a period of 5 to 10 years to implement all adaptation actions. This time horizon was defined considering current operations as well as new operations.