



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 08-Dec-2024 | Report No: PIDDC01136



BASIC INFORMATION

A. Basic Project Data

Project Beneficiary(ies) Brazil	Operation ID P508221	Operation Name Santa Catarina Climate Resilience	
Region LATIN AMERICA AND CARIBBEAN	Estimated Appraisal Date 02-Jun-2025	Estimated Approval Date 31-Oct-2025	Practice Area (Lead) Urban, Resilience and Land
Financing Instrument Investment Project Financing (IPF)	Borrower(s) State of Santa Catarina	Implementing Agency Secretariat for Civil Defense and Protection (SDC)	

Proposed Development Objective(s)

To reduce the risk of climate related disasters in targeted areas of Santa Catarina and to strengthen institutional capacities to manage those risks

PROJECT FINANCING DATA (US\$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)? No

Is this project Private Capital Enabling (PCE)? No

SUMMARY

Total Operation Cost	149.40
Total Financing	149.40
of which IBRD/IDA	119.20
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	119.20
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Non-World Bank Group Financing



Counterpart Funding	29.80
Borrower/Recipient	29.80
Trust Funds	0.40
Global Facility for Disaster Reduction and Recovery	0.40

Environmental and Social Risk Classification

High

Concept Review Decision

The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

- Brazil’s real GDP grew by 2.9 percent in 2023 and is projected to expand by 2.8 percent in 2024, driven by strong consumption, supported by a resilient labor market and fiscal transfers.** Growth in 2023 was fueled by private consumption, fiscal stimulus, and declining inflation, while exports benefited from a record grain harvest and favorable external conditions. In the first half of 2024, GDP grew 2.9 percent, driven solid consumption and recovering investment. Growth is expected to moderate to 2.2 percent in 2025 and stabilize at 2.3 percent in the medium term, reflecting structural reforms. The government has made progress in reforms to improve the business environment, financial sector, and indirect taxes. However, faster, inclusive, long-term growth requires additional reforms to enhance competitiveness, reduce financial and market distortions, expand infrastructure investment, integrate into global value chains, and improve education quality.
- In 2023, the poverty rate (US\$ 6.85 per day) fell to 21.8 percent, linked to improvements in economic conditions and social protection policies.** In July 2024, the unemployment rate fell to 6.8 percent (the lowest since 2014), and real household incomes rose 4.8 percent year-over-year. The rapid decline in the poverty rates from 2022 and 2023 has slowed down in 2024 as Bolsa Familia transfers have stabilized. Still, the poverty rate (US\$ 6.85/day per capita, 2017 PPP) continued to decrease gradually to 21.3 percent in 2024, driven by a 3 percent increase in the real minimum wage and the strong labor market. Sustained job growth, strengthening the targeting of the social protection system and lowering inflation could support faster poverty reduction over the coming years.
- Although deforestation decreased by 21.8 percent in the Amazon region in 2023 compared to the year before, climate change risks are still pressured by the high levels of land use emissions in the Amazon and Cerrado ecosystems.** Brazil’s greenhouse gas (GHG) emissions are dominated by land use change (40.1 percent) and agriculture (30.4 percent). Climate change is altering temperature and rainfall patterns in the country, resulting in reduced water availability and extended droughts; it could push another 800,000 to 3 million Brazilians into extreme poverty as soon as 2030.



Sectoral and Institutional Context

4. **Brazil faces recurrent climate-related shocks that cause significant social and economic impacts.** Climate change is leading to more frequent and intense events that, when combined with unregulated urbanization and lagging investment in infrastructure, expose the most vulnerable Brazilians to increasing risks. Brazilian cities are on the frontline of this challenge, having grown rapidly since the mid-20th century, when less than half of Brazil's population was urban. Today, 85% of Brazilians live in urban areas, seeking jobs, improved living conditions and opportunities. As land prices rise, poorer city residents settle in higher-risk areas, such as steep slopes, creeks, and flood plains.
5. **The State of Santa Catarina is one of the most climate-exposed states in Brazil.** Between 1991 and 2023, flooding and landslides caused more than USD 7.2 billion in economic losses in the state, affecting more than 20 million people and displacing 1.3 million people.¹ In absolute terms, Santa Catarina suffered more damages and losses from flooding and landslides than any other state during this period, while droughts also have serious economic impacts in agriculture. A major flood in 2008 was a watershed moment, when over 1.5 million people were impacted, and 120,000 displaced. More recently, floods in October 2023 led to a state of emergency in 89 out of Santa Catarina's 295 municipalities. Between 2004 and 2014 there were 714 landslides events in the region, causing 138 deaths.
6. **The Itajaí-Açu river valley is the most disaster-prone region in the state, accounting for 25% of all recorded disasters and around half of economic losses.** Around 1.9 million people live in the valley—a quarter of the state's population— and the region produces around 22% of state GDP (US\$15.5 billion in 2021). The region is one of the fastest urbanizing in Santa Catarina. The main urban areas are Blumenau (363,000 inhabitants), Itajaí (264,000 inhabitants), Brusque (141,000 inhabitants) and Rio do Sul (73,000 inhabitants). Almost all are directly or indirectly exposed to the risks of floods and landslides. Itajaí city at the mouth of the Itajaí-Açu River is the largest city economy and a major beef export hub, generating a GDP of US\$8.3 billion.² The 2008 floods left this city 90% underwater and caused severe damage to the port. Revenue losses were estimated by the Brazilian Ports Ministry at more than \$400 million, equivalent to \$35 million per day, as vessels are diverted to neighboring states. The federal government provided over \$100 million to repair damages, but this took years to rebuild. The Bank estimated losses and damages from the 2008 floods at US\$ 1.7 billion³.
7. **Approximately 144,000 people live in high or very high risk areas in the Itajaí valley, as defined by the Brazilian National Geological Service, many from lower income families.** Unplanned or poorly planned urbanization, the removal of native vegetation, inappropriate land use, all exacerbate disaster impacts. In a recent survey,⁴ women perceive higher vulnerability to disaster risks than men, with lower coping mechanisms and financial security in the event of a major crisis. Emergency awareness campaigns in general are biased towards men, who are the assumed decision-makers in the event of evacuation or other prevention actions. Education level is the other factor that most influences community perceptions of risks. The positive correlation between schooling and risk perception underscores the importance of investing in educational and awareness programs about socio-environmental risks.
8. **In this context, the Government of Santa Catarina, led by the State's Civil Defense agency, has initiated a program of structural risk mitigation works and built strong institutional arrangements for disaster risk management (DRM).** The Japan International Cooperation Agency (JICA) has been a longstanding technical partner of the

¹ World Bank estimate based on government data (S2iD)

² according to 2021 IBGE data

³ 2023-adjusted values. See <https://documents1.worldbank.org/curated/fr/250881468232500513/pdf/NonAsciiFileName0.pdf>

⁴ Mello et al. (2024) *Community resilience to socio-environmental disasters in Itajaí Valley, Brazil* in International Journal of Disaster Risk Reduction.



Government in this effort, having helped prepare a Masterplan for Disaster Risk Reduction for the Itajaí-Açu River Valley⁵ after the 2008 floods, which remains an important reference point for the current investment plan. The World Bank has been a longstanding partner of this effort, through a series of technical engagements and analytical activities. Prevention strategies, such as the construction of dams, river channeling, and the modernization of meteorological forecasting systems, have had early successes, notably in protecting key urban areas such as Blumenau.

9. **In 2024, building on these initial efforts, the Governor of Santa Catarina announced⁶ an ambitious, multi-year investment plan totaling around US\$ 1 billion over 10+ years to:** (i) implement infrastructure to reduce risks and control floods and landslides in the Itajaí Valley; (ii) expand assessment of regional risks to better understand and prioritize adaptation needs under new climate scenarios; (iii) update and expand climate monitoring and early warning capacity; and (iv) improve communication and increase risk awareness at the local level, especially among vulnerable populations, and with the private sector.
10. **Institutional gaps exist and capacities must be reinforced to ensure Santa Catarina’s disaster resilience program is inclusive and sustainable.** First, underpinning analytics must incorporate climate models to ensure investments are fit-for-purpose for the coming decades. Second, links to relevant sectoral policies are critical to ensure flood protection benefits are enjoyed by all. In particular, a strong link to housing policy is necessary to mitigate risks of exacerbating existing social inequalities, i.e. by gentrifying protected areas, and risking displacement of low-income residents to less safe areas. Understanding risks at a regional scale is crucial better manage land use dynamics and reduce occupation of high-risk areas. Third, there is scope to introduce greener, more nature-based solutions (NBS) to structural risk mitigation strategies in Santa Catarina, which are traditionally more “grey”. Federal policies do not typically incentivize NBS, although current Programs led primarily by the Ministry of Environment and Climate Change seek to scale up NBS approaches at the subnational level, but this remains ad-hoc. Finally, there is scope not only to replicate the Itajaí masterplan in other river basins in Santa Catarina, but also improve on it, and to seek positive spillover effects to neighboring states, for example in cooperation agreements for the generation and handling of climate monitoring data and early warning systems.

Relationship to CPF

11. **The proposed operation aligns with the World Bank’s Country Partnership Framework (CPF) for Brazil for FY24–FY28.** It is aligned with the existing Higher Level Objectives (HLOs), specifically HLO3: Greener Economy with Reduced Vulnerability to Climate Shocks. The operation particularly contributes to objective 3.3 Promote Green and Resilient Cities & Communities, as it will increase resilience and reduce the impacts of floods through infrastructure works, risk assessment, risk monitoring and alerting and local resilience and institutional strengthening.

C. Proposed Development Objective(s)

12. The PDO is to reduce the risk of climate related disasters in targeted areas of Santa Catarina and to strengthen institutional capacities to manage those risks.

Key Results (From PCN)

⁵ <https://openjicareport.jica.go.jp/pdf/12043642.pdf>

⁶ <https://www.defesacivil.sc.gov.br/protecao-levada-a-serio/>



- I. Mitigate public and private losses related to disasters in the Itajaí Valley through investments in flood control river works and river flow monitoring and control.
- II. Increase understanding of disaster risks in a changing climate for the territory of Santa Catarina.
- III. Improve the accuracy, timeliness and reach of climate risk information and early warning of adverse events.
- IV. Increase local resilience by supporting municipalities and sectoral agencies in enhancing their capacity to manage risks and protect the most vulnerable households.

D. Concept Description

The proposed project will be structured as a USD149.00 million Investment Project Financing (IPF) operation comprising a USD119.20 million IBRD loan and USD29.80 million in counterpart funding. The project will contribute to the State’s multi-phase climate resilience investment program known in Portuguese as "Proteção Levada a Sério". The objective of the project is to strengthen the Borrower’s capacity to manage climate-related disaster risks and reduce those risks in targeted areas of the Borrower’s territory. To achieve the proposed development objective, the Project includes five components described below:

- Component 1: Infrastructure Works and Nature Restoration for Reducing Disaster Risks in Urban Areas of the Itajaí Valley - USD 105.00 million
- Component 2: Enabling Municipal investment in adaptation and a resilient private sector - USD 20.00 million
- Component 3: Climate risk monitoring and Early Warning - USD 9.30 million
- Component 4: Climate risk analytics to establish DRM masterplans across the State - USD 7.20 million
- Component 5: Program Administration - USD 7.50 million (5.0% of total).

Legal Operational Policies

Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No



Summary of Screening of Environmental and Social Risks and Impacts

CONTACT POINT

World Bank

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APPROVAL

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