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The Case of São Paulo

Aligning **subnational** implementation for **climate adaptation** with national priorities

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This case study is part of a special collection developed by Regions4 with the support of the European Climate Foundation (ECF), examining how subnational governments engage with National Adaptation Plans (NAPs) within multilevel governance contexts.

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The collection presents three cases - Gauteng (South Africa), São Paulo (Brazil), and Lombardy (Italy) - each representing a distinct governance configuration with its own strengths, gaps, and contextual conditions in aligning legal mandates and financial capacity for NAPs implementation.

The insights are drawn from interviews and survey data and are intended to inform ongoing research and policy discussions on strengthening multilevel adaptation governance.

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About this Publication

Introduction

As Brazil's most populous and economically significant state, São Paulo is exposed to a range of climate risks, including flooding, heatwaves, water stress, and pressures on infrastructure systems. Its experience reflects broader dynamics in federal governance contexts, where adaptation responsibilities are shared across levels of government, and coordination mechanisms and implementation arrangements continue to evolve.

Key information

Location:
São Paulo State, Brazil

Governance system:
Federal

NAP references to subnationals?
Yes, partially

Areas of focus:
Urban resilience, water, climate risk information, municipal adaptation planning, capacity-building

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Regions4 Sustainable Development with the support of the European Climate Foundation (ECF)

October, 2026 © Regions4

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Background and Context

Case Overview

São Paulo is Brazil's most populous and economically significant state, home to **645 municipalities and an economy that rivals many national GDPs.**

It concentrates a large share of the country's industrial activity, infrastructure, and urban population, making it a critical node in Brazil's development landscape. This concentration also means that climate risks are experienced at significant scale and intensity across the state's diverse territory, from densely urbanised metropolitan areas to agricultural zones and coastal regions.

Brazil's Plano Clima Adaptação, submitted to the UNFCCC in February 2026, establishes the national adaptation framework within which São Paulo's experience is examined in this case study. Grounded in the principles of climate federalism and climate justice enshrined in Brazil's renewed NDC, the Plano Clima explicitly recognises states and municipalities as essential adaptation actors. Crucially, São Paulo had already published its own State Climate Adaptation and Resilience Plan (PEARC) in 2025.

The climate-related pressures São Paulo faces are diverse and interconnected. Flooding events associated with intense rainfall affect urban infrastructure and informal settlements across the metropolitan region.

- **Water stress**, compounded by growing demand, aging distribution systems, and land use change, represents a critical long-term vulnerability, particularly given the state's scale of water consumption.
- **Heatwaves and urban heat island effects** place increasing pressure on public health systems and energy infrastructure.
- **Environmental degradation**, including deforestation and wetland loss, further erodes the natural systems that provide essential climate regulation services.

These pressures interact with existing development dynamics, influencing infrastructure performance, service provision, and environmental management across the state's continental dimensions, and require coordinated responses that cut across sectors, jurisdictions, and levels of government.

Within Brazil's federal governance system, responsibilities for climate policy are distributed across national, state, and municipal levels. The Plano Clima provides an overarching directional framework but does not establish detailed legal mandates or binding obligations for states, a reflection of Brazil's federal constitutional structure and the plan's very recent publication, whose operational coordination arrangements are still being developed.

In this context, São Paulo occupies an important intermediary position, contributing to the integration of national priorities into regional planning while supporting municipalities in developing and implementing adaptation actions. This positioning places the state at the interface between federal guidance and local implementation, where coordination mechanisms continue to evolve and where the state's institutional capacity plays a critical enabling role.

The role of São Paulo in adaptation is multi-dimensional. It encompasses the development of state-level adaptation planning, the integration of climate considerations into sectoral policies, the provision of technical support and regionalised climate information to municipalities, and participation in national and intergovernmental coordination processes. In a country of continental dimensions and significant socio-environmental diversity, where climate priorities vary substantially across regions, states occupy a strategic position connecting federal frameworks with local realities, and São Paulo's experience reflects both the potential and the structural conditions that shape this role in practice.

This case study traces that chain: from Brazil's emerging national adaptation framework grounded in climate federalism[1], through the coordination mechanisms linking federal and state levels, to the implementation gaps that emerge where financial capacity, institutional mandates, and operational guidance have not yet caught up with the ambition that both São Paulo and the federal government have articulated.

[1] Climate federalism refers to the coordinated approach to climate governance across all levels of government, i.e., national, state, and municipal. Brazil's updated NDC (2024) makes an explicit "Commitment to climate federalism between the union, states and municipalities," directly referencing the Coalition for High Ambition Multilevel Partnerships (CHAMP) for Climate Action, of which Brazil is a co-chair alongside Germany. This commitment, formalized through Federation Council Resolution No. 3 of July 3, 2024, establishes that federal entities at all levels will develop climate plans, instruments, and targets in a coordinated, participatory manner. For further context see: LGMA (2024)

Institutional and Planning Frameworks

São Paulo's adaptation governance is grounded in a policy and institutional framework that has developed progressively **alongside national climate governance processes.**

At the federal level, Brazil's National Climate Change Policy (PNMC) and the National Adaptation Plan (Plano Clima, 2025) establish general guidelines for adaptation and define a governance structure for implementation through the National Environmental System (SISNAMA).

The plan was approved by the Interministerial Committee on Climate Change (CIM) (December, 2025), Brazil's main federal coordination body for climate policy, and established three advisory chambers to structure participation in NAP implementation, including a dedicated Interfederative Articulation chamber designed to formalise subnational engagement.

At the state level, São Paulo has developed the State Climate Adaptation and Resilience Plan (PEARC), published in 2025, covering five thematic axes: biodiversity, One Health, food and nutritional security, water security, and the coastal zone. The plan was developed through an extensive participatory process coordinated by by SEMIL in partnership with GIZ, incorporating more than 600 contributions from public institutions, the private sector, civil society and communities in vulnerable situations through a participatory process.

Notably, PEARC was developed on the basis of São Paulo's own institutional commitment, grounded in its State Climate Change Policy (PEMC) of 2009, rather than in response to a federal mandate. The state first presented the PEARC framework at COP28 in 2023, before the updated national adaptation framework, and the plan goes beyond federal requirements in scope, incorporating a 10-year implementation horizon, a climate justice and an infrastructure cross-cutting axes, and the accompanying Municípios Paulistas Resilientes programme (PMPR) to support municipal resilience.

According to the NAP Global Network terms, São Paulo's coordination architecture combines vertical mechanisms, linking state government to federal bodies through ABEMA and the CIM's Interfederative Articulation chamber, with capacity-building and knowledge exchange mechanisms such as AdaptaCidades, which positions the state as an intermediary between national programmes and local implementation.

Coordination between the state and federal level operates through a combination of intergovernmental working groups that include subnational representatives, information and knowledge exchange networks, and capacity-building initiatives.

The NAP references engagement with states through the Associação Brasileira de Entidades Estaduais de Meio Ambiente (ABEMA), the association of state environment secretaries, though the specific nature and scope of this engagement is not yet fully defined. Coordination practices are therefore currently a combination of structured initiatives and ad hoc processes, reflecting both Brazil's federal constitutional framework and the very recent publication of the national plan, whose operational mechanisms are still being established.

One concrete area of alignment between the state and federal frameworks is a shared target: the federal NAP establishes a goal for states to support 35% of municipalities in developing adaptation plans, which maps directly onto São Paulo's own municipal support actions through PEARC, GreenBlue Municipality Program (PMVA) and AdaptaCidades.

In practice, this institutional environment reflects a system in transition: planning frameworks and policy guidance are in place and advancing at both state and federal levels, São Paulo's PEARC and the Plano Clima share common priorities and one concrete aligned target, and Brazil's co-leadership of CHAMP signals a national commitment to multilevel governance. At the same time, the operational mechanisms needed to translate these commitments into structured, predictable coordination between federal and state levels are still being defined, making this a critical moment for establishing the institutional architecture that NAP implementation will depend on.

Financial Capacity and Constraints

São Paulo's financial framework for adaptation draws on four main sources: the state's own budget, its primary and most stable **funding base**, complemented by **international** and **multilateral financing**, **public-private partnerships**, and **national government funding**.

The state has full autonomy to allocate its own resources, and this flexibility represents an important asset in a federal system where dedicated intergovernmental adaptation finance transfers do not yet exist. In 2025, São Paulo continued to rely on state budget resources, complemented by international support for adaptation planning and capacity development.

This financing effort reflects the state's proactive approach to mobilising resources in the absence of structured federal adaptation finance flows, a gap that the Plano Clima acknowledges by identifying the strengthening of federal climate finance instruments, including the Fundo Clima, as a national priority.

Access to funding is influenced by both availability and the administrative capacity to engage with different financial mechanisms. International and multilateral funding opportunities typically involve competitive application processes, complex eligibility criteria, and reporting requirements that demand significant technical and administrative capacity to navigate. For smaller municipalities within the state, where dedicated resources for project preparation and climate finance mobilisation are more limited, these barriers can be particularly constraining.

The state plays an important role in bridging this gap, providing technical support and regionalised climate data to municipalities through initiatives such as Ecological Economic Zoning (EEZ) and AdaptaCidades, though this support is technical rather than financial in nature. This distinction matters: the Plano Clima envisions states as key intermediaries in the national adaptation finance architecture. Federal climate finance instruments are available, but access, scale and predictability remain important issues for subnational adaptation implementation.

A structural challenge in the current financing landscape is precisely this misalignment between the governance ambition of the Plano Clima and the financial architecture available to deliver it. São Paulo's adaptation planning and implementation are financed primarily through state budget resources, complemented by national and international funding sources, international cooperation initiatives, and project-specific financing mechanisms. The Plano Clima calls for the progressive strengthening of the Fundo Clima and other federal instruments to make them more accessible and effective at state and municipal levels, but until these instruments are reformed and scaled, subnational governments like São Paulo must rely primarily on their own fiscal capacity and competitive external funding to finance adaptation actions that the national plan formally assigns to them.

While the overall funding base is assessed as moderately stable, given the reliability of state budget resources, the broader funding landscape remains variable, with international and partnership-based funding often subject to competitive processes and external conditions. Funding is considered only partially sufficient to meet identified adaptation needs, and the state recognises limited financial resources as a key implementation challenge, alongside coordination gaps with national authorities and the need for stronger legal and institutional frameworks. For the national government and international partners, São Paulo's experience signals that climate federalism, as a governance principle, requires a corresponding financial federalism:

predictable, accessible, and dedicated adaptation finance flows that match the implementation responsibilities the national framework assigns to states.



Multilevel Adaptation in Practice

The AdaptaCidades programme

One of the most illustrative examples of adaptation in São Paulo is its central role in the AdaptaCidades programme, a federal initiative designed to support municipalities in developing local adaptation plans, in which states serve as the primary intermediary layer between the federal government and local authorities.

AdaptaCidades directly operationalises one of the Plano Clima's core multilevel governance commitments: that states should support 35% of their municipalities in developing adaptation plans, embedding the climate federalism principle into a concrete national programme.

São Paulo's involvement in this programme is particularly significant: the state had a pre-existing municipal support programme that directly inspired the national initiative's design, positioning São Paulo not merely as a participant but as a model that shaped the programme's architecture. This inversion of the usual top-down logic, i.e., where subnational practice shaped national programme design rather than the other way around, is itself a concrete illustration of what climate federalism looks like when subnational governments have the institutional capacity to lead[2].

Through AdaptaCidades, the federal government provides overall coordination and resources in the form of technical capacity (training, technical assistance, and workshops) while São Paulo contributes regionalised climate data, expertise, and contextualised guidance tailored to the state's diverse socio-environmental conditions. This combination allows municipalities to access both national frameworks and locally relevant information in their planning processes. The initiative is ongoing, with an expected duration of approximately two years, and involves collaboration between national ministries, state government offices, and local technical staff. Importantly, the programme does not include direct financial transfers to municipalities; resourcing is delivered in the form of technical capacity, with the state providing complementary support from its own resources.

A defining characteristic of this initiative is the role of São Paulo as a facilitator and knowledge intermediary. The state provides regionalised climate scenarios and data, helping municipalities interpret climate information and translate it into locally relevant planning instruments.

This reflects a collaborative model in which responsibilities are distributed across governance levels, with each actor contributing according to its institutional role and capacity. In addition, São Paulo provides technical support to municipalities that are not part of the federal initiative through capacity-building activities and the provision of data and planning tools under programs such as the GreenBlue Municipality Program (PMVA) and the State Ecological-Economic Zoning framework (ZEE-SP).

The AdaptaCidades experience also illustrates a concrete point of policy coherence between state and federal frameworks. Plano Clima establishes that states should support 35% of municipalities in developing adaptation plans, a goal that maps directly onto São Paulo's own municipal support actions and is also incorporated into its State Adaptation and Climate Resilience Plan (PEARC), representing one of the clearest areas of structured alignment between the two planning frameworks. This shared target is significant not only as a point of policy coherence, but as an example of how common metrics across governance levels can create positive implementation synergies even where formal coordination mechanisms are still developing, a lesson directly relevant to other federal systems navigating similar challenges. More broadly, this case reflects São Paulo's adaptation approach:

the **state as a connecting layer between national strategies and municipal action**, facilitating implementation across Brazil's continental diversity while contributing regional knowledge upward to national frameworks.

[2] For a summary of the programme see here.



From Planning to Implementation

The Plano Clima Adaptação sets an ambitious direction: states are expected to act as intermediaries in a multilevel governance system, connecting federal priorities to municipal delivery.

São Paulo has built the institutional foundations to play this role: PEARC, AdaptaCidades, and active engagement in national coordination processes. Yet the distance between this ambition and consistent implementation across 645 municipalities remains significant, shaped by the plan's very recent publication and the structural gaps in coordination and finance that condition delivery on the ground.

Coordination across levels of government is a central dimension of implementation. Existing mechanisms, including intergovernmental working groups, knowledge exchange networks, and AdaptaCidades, provide structured opportunities for interaction between federal, state, and municipal actors. At the same time, the survey evidence indicates that overall coordination between São Paulo and the federal government is currently assessed as weak, largely because mechanisms are still in an early stage of development and remain limited in scope. Interactions tend to be ad hoc rather than fully institutionalised, and there is no mandatory reporting framework in place, reflecting the recent publication of the federal NAP and the still-developing nature of monitoring arrangements.

The state team notes that PEARC and the federal NAP were developed largely in parallel rather than through a structured joint process, with alignment achieved through internal effort rather than institutionalised coordination. As the Plano Clima's Interfederative Articulation chamber becomes operational, the conditions for more structured and predictable coordination may improve, but this remains the critical institutional gap to close.

Financial and institutional factors also shape implementation dynamics. Strengthening and scaling up federal and state economic and financial instruments for adaptation remains essential, as the pace of implementation continues to depend largely on the state's fiscal capacity and the availability of external funding secured through competitive financing mechanisms. Limited financial resources are identified as a key barrier to implementation. Scaling up adaptation implementation requires adequate and sustained financing, together with effective coordination across levels of government. The state identifies its most pressing need as the establishment of clearer frameworks defining roles, responsibilities, and collaboration mechanisms across governance levels, complemented by more structured coordination platforms and more predictable, accessible funding flows.

The shared municipal adaptation target between PEARC and the Plano Clima remains the clearest point of structured alignment, and a signal of what becomes possible when federal and state frameworks share common objectives. Scaling that coherence across coordination mechanisms, financial instruments, and reporting systems is the central implementation challenge ahead.



Replicability and Key Lessons Learned

São Paulo's experience offers a set of transferable insights for subnational governments operating within federal systems where national frameworks provide directional guidance but do not establish binding mandates. It illustrates what the climate federalism principle looks like when put into practice by a capable and proactive subnational government.

Subnational ambition can precede and shape national frameworks.

São Paulo developed PEARC before the updated national adaptation framework, presenting its framework at COP28 in 2023, and its pre-existing municipal support programme directly inspired the design of AdaptaCidades. This demonstrates that capable subnational governments can function not only as implementers of national priorities but as innovators whose experience informs national policy design[3]. For other regions, this points to the value of investing in institutional capacity and planning instruments even where national mandates are not yet fully defined.

The intermediary role of states is a structural asset in federal systems.

São Paulo's positioning between the federal government and 645 municipalities, providing regionalised climate data, technical expertise, and implementation support, illustrates how states can extend the reach of national programmes while incorporating regional specificities that continental-scale national frameworks cannot capture. Formalising and resourcing this intermediary role through structured coordination mechanisms and dedicated financial channels would significantly enhance its effectiveness and replicability across Brazilian states.

Policy coherence across levels strengthens implementation.

The alignment between São Paulo's municipal adaptation target and the federal NAP's equivalent goal represents a concrete example of how shared objectives can create positive synergies across independently developed planning frameworks. This highlights the value of establishing common metrics and targets across governance levels, even where formal coordination mechanisms are still developing.

Multilevel Governance Framework at a Glance - São Paulo, Brazil

Subnationals referenced in NAP	**Partial:** States and municipalities are explicitly addressed in the national adaptation framework. For states, coordination through ABEMA is indicated as a strategy, with scope for further coordination mechanisms and operational arrangements to be developed.
Legal mandates	**No:** no formal mandate for states; PEARC developed on state's own initiative
Regional adaptation plan	**Yes:** standalone PEARC (2025), developed ahead of the federal updated NAP
Capacity building	**Partial:** technical support via AdaptaCidades
Coordination mechanisms	**Partial:** AdaptaCidades provides a structured federal-state-municipal coordination channel, but broader mechanisms remain ad hoc and early-stage; no mandatory reporting
Financial capacity	**Partial:** Formal mechanisms include the CIM's Interfederative Coordination Chamber, while AdaptaCidades provides a structured channel for coordination among federal, state and municipal governments. Broader coordination arrangements and reporting procedures can be further developed and consolidated.
Mandate–finance alignment	**Weak:** plans developed in parallel; alignment achieved through internal effort, not structured coordination

[3] This dynamic is formally recognised through Brazil's engagement under CHAMP and the principle of climate federalism. Other federal systems would benefit from institutionalising this approach by establishing structured mechanisms that enable subnational governments to participate in the development and revision of National Adaptation Plans (NAPs).



Takeaways

São Paulo's experience demonstrates what climate federalism looks like in practice: a state that developed its own adaptation plan ahead of the updated national framework, shaped a federal programme through its own prior work, and mobilised international finance in the absence of structured federal funding flows.

It also shows that sustaining and scaling these efforts depends on progressively embedding regional leadership within coherent national governance arrangements, supported by clear mandates, effective coordination, and dedicated financing.

For Brazil, the Plano Clima and CHAMP commitment provide the architecture, the critical next step is ensuring it reaches states with the operational support and financial flows that implementation requires.

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For More Information

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This case study was prepared with the support of the European Climate Foundation (ECF). The data were provided by the Government of the State of São Paulo (Secretariat for the Environment, Infrastructure and Logistics), the Gauteng Provincial Government (Department of Environment), as well as the regional authorities of Île-de-France (Department of Environment, Agriculture, Rural Affairs and Ecological Transition) and Lombardy. The findings and interpretations are the responsibility of the authors.

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This publication was supported by the European Climate Foundation. The authors are solely responsible for the information and opinions expressed in this publication. The European Climate Foundation cannot be held responsible for any use that may be made of the information contained in or expressed in this document.

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