

REGULATION OF URBAN SPACE IN A COASTAL CITY: THE CASE OF SANTA CATARINA ISLAND (FLORIANÓPOLIS, SC)

REGULAÇÃO DO ESPAÇO URBANO EM CIDADE COSTEIRA: O CASO DA ILHA DE SANTA CATARINA (FLORIANÓPOLIS/SC)

REGULACIÓN DEL ESPACIO URBANO EN UNA CIUDAD COSTERA: EL CASO DE LA ISLA DE SANTA CATARINA (FLORIANÓPOLIS, BRASIL)



<https://doi.org/10.56238/sevenced2026.008-188>

Fabiano Prudêncio da Silva¹

ABSTRACT

Urban space regulation in Brazil has traditionally been analyzed through municipal planning instruments such as master plans and zoning regulations. However, in coastal cities, urban spatial production is shaped by legal and institutional regimes that go beyond urban policy in a strict sense, particularly federal land management. This article examines the territorial implications of federal coastal lands (terrenos de marinha) and the definition of the Mean High Tide Line (Linha de Preamar Média – LPM) within the context of urban planning, based on a case study of Santa Catarina Island, in the municipality of Florianópolis, Brazil. The research adopts a qualitative approach, combining institutional and normative analysis, comparative spatial analysis using GeoFigureic Information Systems (GIS), and an integrated interpretation of territorial effects associated with the coexistence of areas with approved and unapproved LPM. The findings indicate that federal land tenure uncertainty produces normative insecurity, institutional fragmentation, and significant territorial differentiation, directly affecting urban occupation patterns, licensing processes, and spatial consolidation. By engaging with current debates in Urban and Regional Planning, the article argues that federal land management constitutes an active dimension of urban governance in coastal cities and should be explicitly incorporated into analyses of territorial planning and urban policy.

Keywords: Urban Planning. Federal Coastal Lands. Federal Land Management. Mean High Tide Line. Florianópolis.

RESUMO

A regulação do espaço urbano no Brasil tem sido tradicionalmente analisada a partir dos instrumentos municipais de planejamento, como planos diretores e zoneamentos. Contudo, em cidades costeiras, a produção do território urbano é atravessada por regimes jurídicos e institucionais que extrapolam o escopo da política urbana stricto sensu, com destaque para a gestão patrimonial da União. Este artigo analisa as implicações territoriais dos terrenos de

¹ Master's degree in Business Administration. Universidade Federal de Santa Catarina. Ministério da Gestão e Inovação em Serviços Públicos. E-mail: fabiano.prudencio@gestao.gov.br
Orcid: <https://orcid.org/0009-0004-2005-4599>
Lattes: https://www.snpq.br/cvlattesweb/PKG_MENU.menu?f_cod=A1D29F1D868667EA88EF744AF3388E6B#

marinha e a definição da Linha de Preamar Média (LPM) no contexto do planejamento urbano, a partir do estudo de caso da Ilha de Santa Catarina, no município de Florianópolis (SC). Metodologicamente, a pesquisa adota abordagem qualitativa, articulando análise institucional e normativa, leitura espacial comparativa em ambiente de Sistemas de Informação Geográfica (SIG) e interpretação integrada dos efeitos territoriais associados à coexistência de áreas com LPM homologada e não homologada. Os resultados evidenciam que a indefinição patrimonial federal produz insegurança normativa, fragmentação institucional e diferenciações territoriais significativas, incidindo diretamente sobre padrões de ocupação, processos de licenciamento urbanístico e consolidação do espaço urbano. Ao dialogar com o debate atual do Planejamento Urbano e Regional, o artigo sustenta que a gestão patrimonial da União constitui dimensão ativa da governança urbana em cidades costeiras, devendo ser incorporada de forma explícita às análises sobre ordenamento territorial e políticas urbanas.

Palavras-chave: Planejamento Urbano. Terrenos de Marinha. Gestão Patrimonial da União. Linha de Preamar Média. Florianópolis.

RESUMEN

La regulación del espacio urbano en Brasil ha sido analizada tradicionalmente a partir de los instrumentos municipales de planificación, como los planes directores y el zonamiento. Sin embargo, en las ciudades costeras, la producción del territorio urbano está atravesada por regímenes jurídicos e institucionales que exceden el ámbito de la política urbana en sentido estricto, destacándose la gestión patrimonial federal. Este artículo analiza las implicaciones territoriales de los terrenos de marina y de la definición de la Línea de Preamar Media (LPM) en el contexto de la planificación urbana, a partir del estudio de caso de la Isla de Santa Catarina, en el municipio de Florianópolis (Brasil). Metodológicamente, la investigación adopta un enfoque cualitativo, articulando análisis institucional y normativo, lectura espacial comparativa mediante Sistemas de Información Geográfica (SIG) e interpretación integrada de los efectos territoriales asociados a la coexistencia de áreas con LPM homologada y no homologada. Los resultados muestran que la indefinición patrimonial federal produce inseguridad normativa, fragmentación institucional y diferenciaciones territoriales significativas, incidiendo directamente en los patrones de ocupación urbana, los procesos de licenciamiento y la consolidación del espacio urbano. Desde la perspectiva del Planeamiento Urbano y Regional, el artículo sostiene que la gestión patrimonial federal constituye una dimensión activa de la gobernanza urbana en ciudades costeras.

Palabras clave: Planeamiento Urbano. Terrenos de Marina. Gestión Patrimonial Federal. Línea de Preamar Media. Florianópolis.

1 INTRODUCTION

The regulation of urban space in Brazil has traditionally been analyzed from the classic instruments of municipal urban policy, such as the master plan, zoning and land use and occupation codes. Although central to the organization of the urban territory, these instruments do not exhaust the set of state practices that affect the production of space (LEFEBVRE, 2024). As Souza et al (2022) argue, urban planning should be understood as an expanded field of decisions, conflicts, and institutional practices that go beyond formal normative devices, incorporating different modalities of territorial regulation exercised by the State (JESSOP, 2015).

In coastal cities, this regulatory complexity tends to intensify. Rizzo (2013) considers that the presence of federal public assets and the performance of the Union's patrimonial management introduce additional layers of regulation that, to a large extent, remain marginalized in the debate on Urban and Regional Planning. Monte-Mór (2024) points out that sectoral state decisions, even if formulated outside the strict scope of municipal urban policy, exert concrete territorial effects on the production of space, especially in contexts marked by multi-scale governance arrangements and overlapping institutional competences.

In the Brazilian case, marine land and its additions are one of these specific regulatory layers. Anchored in their own historical, legal and institutional foundations, these federal public goods affect extensive portions of the coastal urban territory, conditioning forms of use, occupation and appropriation of urban land. Rocha (2018) demonstrates that the historical constitution of these assets gives them a unique legal status, whose effects are not limited to the patrimonial plan, but are updated in the current urban context, especially in cities subjected to intense real estate pressures and accelerated processes of land appreciation, as is the case of the municipality of Florianópolis.

Despite its significant territorial relevance, the Federal Government's patrimonial management is rarely systematically incorporated into analyses of urban territorial planning, and is often treated as an external or merely administrative dimension of urban policy. Rolnik (2015) observes that this analytical separation contributes to the invisibility of state mechanisms that, although not classified as urban instruments *stricto sensu*, directly interfere in the processes of production of urban space, land regulation, and unequal distribution of the benefits of urbanization.

2 THEORETICAL FRAMEWORK

The understanding of territory as a social and political construction is a central foundation in the field of Urban and Regional Planning (LEFEBVRE, 2024). Far from being a

mere physical support for human actions, territory expresses power relations, normative disputes and institutional arrangements that materialize spatially (SANTOS, 2001). In view of this, territorial planning processes must be analyzed from the interaction between different scales of government, normative instruments, and forms of state regulation (BRENNER, 2019).

Cunha (2018) and Kabilio (2016) highlight that urban planning in its current configuration operates in contexts of complex governance, in which multiple institutional instances produce often overlapping territorial regulations. This approach shifts the analytical focus from classical urban instruments to a broader reading of the state practices that shape the urban territory, including those derived from sectoral policies and specific legal regimes, often situated outside the strict scope of municipal urban policy.

In the Brazilian context, Lenzi and Gonçalves (2025) argue that urban planning cannot be reduced to a technical set of norms and plans, and should be understood as a field of political and institutional dispute. This reading is particularly pertinent in coastal cities, where municipal urban regulations, environmental legislation and federal patrimonial regimes coexist, producing a complex and sometimes contradictory regulatory architecture on the territory.

2.1 FEDERAL PUBLIC GOODS AND PRODUCTION OF URBAN SPACE

Entering the point "the Navy Lands," in the meaning of the word, in the provisions of Law No. 7,661/1988, which instituted the National Coastal Management Plan:

Article 10. Beaches are public goods for the common use of the people, and free and open access to them and to the sea is always ensured, in any direction and direction, except for stretches considered to be of national security interest or included in areas protected by specific legislation.

ParaFigure 1. Urbanization or any form of land use in the Coastal Zone that prevents or hinders the access ensured in the caput of this article will not be allowed.

ParaFigure 2. The regulation of this Law shall determine the characteristics and modalities of access that guarantee the public use of the beaches and the sea.

ParaFigure 3. A beach is understood to be the area periodically covered and uncovered by the waters, plus the subsequent strip of detrital material, such as sand, gravel, pebbles and boulders, up to the limit where the natural vegetation begins, or, in its absence, where another ecosystem begins. ()

In the course of the bibliographic research, it was possible to identify that the literature on public goods in Brazil emphasizes legal and administrative aspects, leaving its territorial implications in the background. However, there are studies, some even more recent, have been pointing to the need to incorporate the Union's asset management into the urban and regional debate. (LEFEBVRE, 2024) demonstrates that marine land, although instituted in specific historical contexts, remains as active elements in the conformation of urban space, especially in coastal areas subject to real estate appreciation.

Santos (2001) argues that legal instruments and regimes apparently external to urban policy exert a direct influence on the processes of space production, by conditioning access to land and land use patterns. Along the same lines, Cabral and Oliveira (2025) indicate that the Union's role as a landowner in urban areas introduces its own regulatory dynamics, often disconnected from municipal planning instruments.

By establishing particular conditions of occupation, collection of fees and domain recognition, the management of the Union's assets acts as an indirect mechanism of territorial planning, as Maricato (2014) points out. However, this action is rarely integrated in a coordinated way with local urban policies, contributing to institutional fragmentation and the emergence of territorial conflicts, especially in areas of high pressure on urban land (HAESBAERT et al, 2022).

2.2 AVERAGE PREAMAR LINE, NORMATIVE UNCERTAINTY AND MULTI-SCALAR GOVERNANCE

What is the Mean Preamar Line - LPM/1831? the 1831 Preamar Média line constitutes the legal and spatial reference used to identify navy lands, under the terms of article 20, item VII, of the 1988 Federal Constitution (BRASIL, 1988).

The legal concept is provided for in article 2 of Decree-Law No. 9,760/1946, according to which marine lands are those located in the range of 33 meters, measured horizontally for the part of the land, from the average preamar line of the year 1831, - that is, the LPM/1831 is the legal reference to identify the marine lands and their additions, which are property of the Union.

The concept of preamar gained a legal definition in Brazil in 2004, with Decree No. 5,300, of December 7, 2004, as being "the maximum height of sea level along a tidal cycle, also called high tide" (BRASIL, 2004).

Figure 1*Delimitation of LPM/1831*

Source: Boscatto et al. (2018).

The regulation evolved with Normative Instruction SPU/SEDDM/ME No. 28, of April 26, 2022, which delimited the demarcation of marine lands, establishing criteria and procedures for the demarcation of marine lands and their additions and identification of areas under the Union's domain (Brasil, 2022).

The Mean Preamar Line (MPL) occupies a central position in the delimitation of marine land and, consequently, in the definition of the legal regime applicable to urban coastal areas (BOSCATTO et al., 2018). Recent literature points out that the coexistence of stretches with homologated and non-homologated LPM produces normative asymmetries within the urban territory, affecting both the public authorities and private agents (ROSA et al, 2018).

The non-homologated line (LPM/1831 not homologated) is one that, despite having already been the object of technical studies (cartographic, geodetic, historical and hydrographic), and even having possibly already gone through the demarcation process, but which has not yet been formally approved by the competent authority of the Secretariat of Federal Heritage, through a specific administrative act, given that it did not go through all the required procedural steps (conclusive technical analysis, legal control, administrative publicity, notification of interested parties) (BRASIL, SPU, 2022). As for the homologated line (LPM/1831 homologated), it is the one that was the object of demarcation, underwent complete technical instruction (surveys, georeferencing, confrontations, historical and domain analysis), having been submitted to the competent authority of the SPU and approved by an express administrative act of homologation and due publicity (BRASIL, SPU, 2022).

These asymmetries between the demarcation issue, approved and non-approved areas, are seen as a problem, as Jessop (2015) and Brenner (2019) point out, in which these differences manifest themselves in the form of legal uncertainty, overlapping competences,

and difficulties in articulating between governmental scales. In the conception of Almeida and Reis (2024), normative fragmentation tends to weaken the capacity for integrated planning, compromising the effectiveness of territorial planning policies in complex areas.

In the case of island cities, such as Florianópolis, this problem intensifies due to the physical restrictions of the territory and the high pressure (real estate interests) on urban land. Empirical studies, such as those by Cunha (2018), Castro (2008) and Kabilio (2016) show that the lack of definition of federal patrimonial boundaries directly impacts the processes of urban licensing, land regularization and implementation of housing policies.

2.3 URBAN PLANNING, SPATIAL READING AND INTEGRATED ANALYSIS

In view of this scenario, the literature on Urban and Regional Planning has highlighted the importance of integrated analytical approaches, capable of articulating legal, institutional, and spatial dimensions, as pointed out by Cabral and Oliveira (2025). Moura (2014) supports it, defending the use of geotechnological tools as a support for the critical reading of the territory, not as an end in themselves, but as instruments for interpreting the regulatory practices that materialize in space.

In the Brazilian context, this perspective has been adopted in studies that analyze the overlapping of normative and territorial layers, such as urban zoning, protected environmental areas, and differentiated land regimes (SOUZA et al., 2022; ALMEIDA; REIS, 2024). Such approaches allow us to highlight how different planning rationalities coexist and sometimes conflict in the urban territory.

Thus, by articulating the theoretical debate on territorial regulation, public goods, and multi-scalar governance, this article bases its empirical analysis on the understanding that the Union's heritage management constitutes an active dimension of the production of urban space, and should be explicitly incorporated into the analytical field of Urban and Regional Planning (HAESBAERT, 2022). In this perspective, the territory is conceived as a relational construction and crossed by multiple scales of power, which reinforces the centrality of the State in the mediation of land uses and appropriations (Naspolini, 2019). In addition, recognizing space as a product of social and institutional relations, the analysis is close to the formulation of Lefebvre (2024), for whom the production of space results from practices, representations, and strategies that materialize political and economic projects. In this way, the Union's patrimonial management can be understood as a concrete instrument of territorial planning and dispute for the production of urban space (LEFEBVRE, 2024).

Table 1

Analytical Model of Indirect Regulation

Dimensão	Conteúdo	Implicações
Regime patrimonial federal	Terrenos de marinha e definição da LPM (Decreto-Lei nº 9.760/1946; Lei nº 9.636/1998)	Incidência de domínio da União sobre áreas urbanas costeiras
Mecanismo regulatório indireto	Exigências administrativas, condicionantes para registro, ocupação, aforamento e transferência	Interferência nos processos de licenciamento, uso e ocupação do solo
Efeitos territoriais	Diferenciação entre áreas com LPM homologada e não homologada	Produção de desigualdades espaciais, insegurança normativa e fragmentação institucional

Source: The author (2026).

3 METHODOLOGY

This study adopts a qualitative approach, of an analytical-interpretative nature, articulated with institutional, normative and spatial analysis procedures, with the objective of understanding the territorial implications of the Union's patrimonial management in the context of coastal urban planning. It is based on the assumption that norms, administrative instruments and legal regimes produce concrete spatial effects, which can be apprehended through the integrated reading between legal framework, institutional practices and materializations in the territory.

The methodological strategy is structured in three complementary axes: a) institutional and normative analysis of the Federal Government's asset management; b) comparative spatial analysis in a GeoFigureic Information Systems (GIS) environment; c) analytical integration and interpretation of the territorial effects associated with the coexistence of differentiated heritage regimes in the urban space.

3.1 DELIMITATION OF THE STUDY

The study area comprises the Island of Santa Catarina, corresponding to the insular portion of the municipality of Florianópolis (SC). The choice of this territorial area is justified by three main reasons. First, it is a coastal urban territory marked by high socio-environmental complexity and intense real estate pressure. Secondly, the area has a significant incidence of federal assets, especially marine land and its additions, which makes the performance of federal asset management particularly relevant for the conformation of urban space. Finally, stretches with homologated and non-homologated Linha de Preamar Média (LPM) coexist in

the territory, a condition that allows a comparative analysis of the territorial effects associated with different federal patrimonial regimes.

This configuration makes the Island of Santa Catarina a privileged empirical approach to examine the patrimonial management of the Union as a constitutive dimension of urban regulation, in interaction and, at times, in tension with municipal planning instruments.

3.2 INSTITUTIONAL AND NORMATIVE ANALYSIS

The first methodological axis consisted of carrying out an institutional and normative analysis of the Union's patrimonial management, focusing on marine lands. Legal and administrative provisions that regulate the definition of the LPM, the recognition of the federal domain and the forms of occupation and use of these public assets were examined, including federal legislation, decrees, ordinances and normative instructions issued within the scope of the Secretariat of Federal Heritage (SPU).

At the same time, the main instruments of municipal urban planning incident on the study area were analyzed, with emphasis on the Master Plan of Florianópolis and the legislation of land use and occupation. This stage sought to identify convergences, overlaps and normative conflicts between federal patrimonial regulation and municipal urban regulation.

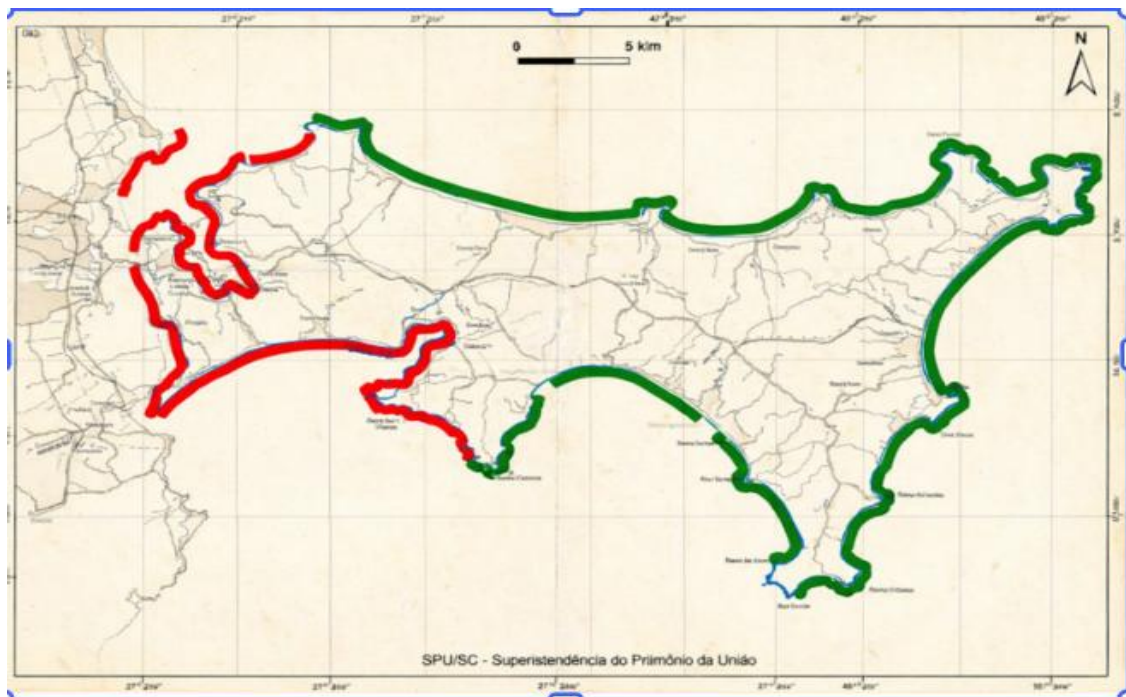
The institutional analysis was guided by the identification of situations of institutional fragmentation, understood as the coexistence of normative and decision-making regimes not fully articulated between the federal and municipal scales, as well as normative insecurity, expressed in the lack of definition or ambiguity regarding the legal regime applicable to certain areas of the coastal urban territory.

3.3 COMPARATIVE SPATIAL ANALYSIS IN GIS ENVIRONMENT

The second methodological axis was based on the performance of comparative spatial analysis through Geospatial Information Systems (GIS). Geospatial layers were used referring to the delimitation of the approved and non-approved LPM, the municipal urban zoning, the use and land cover and the delimitation of the urban perimeter of the Island of Santa Catarina.

Figure 2

CartoFigureic map – situation of the LPM/1831 of Santa Catarina Island.



Blue line: complete demarcation-----

Green line: not homologated-----

Red line: approved-----

Source: BRAZIL. Secretariat of Federal Heritage (SPU), 2024.

The spatial analyses consisted mainly of overlay operations and comparative reading between the different layers, with the objective of identifying differentiated patterns of urban occupation and normative incidence associated with the different federal heritage regimes. The comparison between areas with homologated and non-homologated LPM allowed us to highlight how the definition – or lack of definition – of the federal patrimonial boundaries is reflected in the spatial organization of the urban territory.

It is important to highlight that the use of GIS was not conceived as a merely technical or cartoFigureic procedure, but as an analytical tool, aimed at the critical interpretation of regulatory practices that materialize spatially, according to the approach advocated by Almeida and Reis (2024).

Finally, based on the cartoFigureic base made available by the SPU and the administrative acts published between 2020 and 2025, the spatial crossing between the demarcated and approved stretches of the LPM was carried out, allowing us to estimate that approximately 100% of the island portion is demarcated, while about 10% have formal approval completed. It is possible to identify that only the neighborhoods: Centro, Sacos dos limões, Prainha / José Mendes and Beira Mar Norte have the LPM / 1831 – approved.

The cartoFigureic bases used included:

- a) vector files referring to the delimitation of the Medium Preamar Line made available by the Federal Heritage Secretariat;
- b) administrative acts and demarcation notices published between 2020 and 2025;
- c) layers of urban zoning and urban perimeter obtained from the Municipality of Florianópolis;
- d) auxiliary bases for land use and cover. The systematization and spatial crossing of this information allowed us to estimate the demarcated and homologated territorial extension of the LPM in the insular portion.

3.4 LIMITATIONS OF EQUITY DATA AND ANALYTICAL VALIDATION

The research recognizes that the data regarding the delimitation of the LPM have limitations inherent to its administrative and cartographic nature, related to the date of approval, the accuracy of the surveys and the updating of the records. These limitations do not invalidate the analysis, but are considered in the interpretation of the results, especially with regard to the areas where the LPM has not yet been formally approved.

The explanation of these limitations is part of the methodological rigor adopted, since the normative lack of definition itself is understood as a constitutive element of the phenomenon analyzed, producing relevant territorial effects in the context of urban planning.

3.5 FEDERAL PATRIMONIAL REGIME AS A MECHANISM OF INDIRECT TERRITORIAL REGULATION

The analysis developed in the previous sections allows us to move towards an interpretative synthesis about the incidence of the federal patrimonial regime on the urban dynamics of the Island of Santa Catarina. Starting from the understanding of space as a social product (SANTOS, 2001; LEFEBVRE, 2024) and the State's action on multiple scales (JESSOP, 2015; BRENNER, 2019), it is proposed to understand the 1831 Average Preamar Line (LPM/1831) not only as a technical-cartographic instrument, but as a legal-territorial device with concrete effects on the organization of urban space.

The regime established by Decree-Law No. 9,760/1946 and updated by Law No. 9,636/1998 establishes the Federal Government's dominionality over marine land, directly affecting areas within the municipal urban perimeter. Such a configuration reveals a normative overlap in which federal and municipal competences coexist over the same territory.

From the empirical systematization carried out, especially regarding the condition of full demarcation of the LPM on the island and the formal homologation still restricted to the

reduced portion of the territory, it is evident that federal dominiality produces different effects according to the administrative stage of the line. This difference is not merely formal: it interferes in the processes of real estate registration, land regularization, licensing and circulation of urban property.

Based on these findings, the following analytical chain is proposed:

Federal Property Regime → Indirect Regulatory Mechanism → Territorial Effects

The patrimonial regime constitutes the normative basis; the indirect regulatory mechanism is manifested in the requirement of administrative procedures linked to the Secretariat of Federal Heritage. The territorial effects materialize in the spatial differentiation between areas with a greater or lesser degree of normative security, impacting dynamics of valorization, occupation and planning.

This structure allows us to understand the LPM as an active element in the production of urban space, articulating with processes of fragmentation and territorial dispute already observed in Florianópolis (NASPOLINI, 2019; RIZZO, 2013; SIQUEIRA; LUCAS, 2023). The patrimonial instrument, although conceived in a different historical context, continues to operate as a structuring variable in contemporary territorial governance.

Thus, the LPM should not be interpreted only as a historical coastal reference line, but as a legal device whose multi-scale incidence reconfigures urban planning practices.

4 RESULT AND DISCUSSION

This section examines the empirical results of the research based on the spatialization of the 1831 Average Preamar Line (LPM/1831) in the insular portion of Florianópolis, articulating the cartographic analysis to the legal and institutional foundations discussed above. Considering space as a product of social relations mediated by normative structures (SANTOS, 2001; LEFEBVRE, 2024) and the multi-scale role of the State in territorial regulation (JESSOP, 2015; BRENNER, 2019), seeks to highlight how the federal patrimonial regime materializes in the territory and produces concrete spatial differentiations. From the identification of the demarcated and approved areas, it is analyzed how the incidence of the dominiality of the Union configures a mechanism of indirect regulation that tensions and conditions the dynamics of use, occupation and valorization of urban land on the Island of Santa Catarina.

4.1 SPATIAL CONFIGURATION OF FEDERAL PATRIMONIAL REGIMES ON THE ISLAND OF SANTA CATARINA

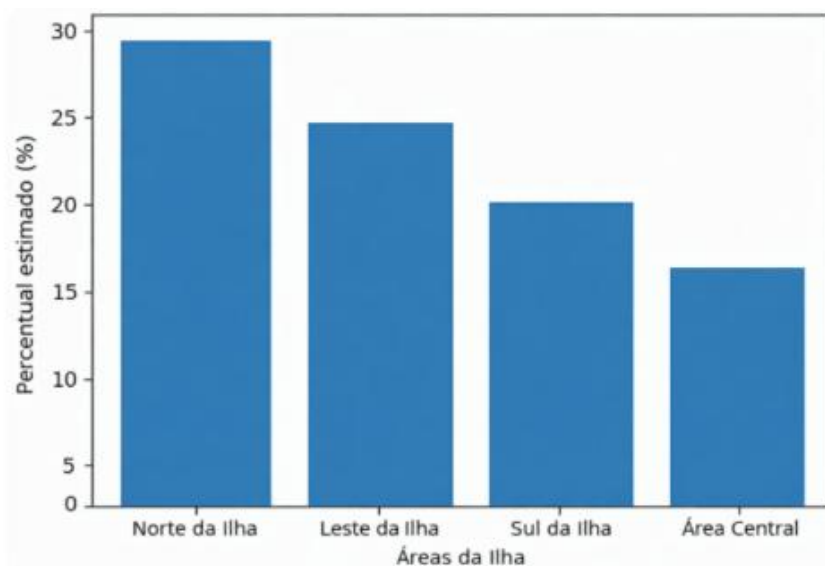
The spatial distribution of the Island of Santa Catarina shows that the marine lands and their additions affect the urban space of the Island in an unequal and territorially selective way. As illustrated in Figure 3, there is a significant concentration of these federal assets in specific areas of the island, especially in coastal areas subjected to intense processes of real estate appreciation and urban transformation, that is, where market dynamics, land scarcity and environmental constraints are combined.

The overlap between the areas of management of the Union's patrimony and municipal zoning produces a composite regulatory architecture, in which federal administrative decisions directly interfere in the possibilities of urban transformation.

The spatial reading allows us to identify that areas with a higher incidence of marine land tend to present greater regulatory complexity, as they are simultaneously subject to municipal urban regulation and federal asset management. This intertwining of normative regimes contributes to the institutional fragmentation of territorial planning, as discussed in the literature on multi-scalar governance (BRENNER, 2019; JESSOP, 2015).

Figure 3

Estimated distribution of marine land on Santa Catarina Island



Source: Prepared by the author (2026).

Here, the result reinforces Napolini's (2019) interpretation, according to which navy lands are no longer just remnants of a historical heritage logic, but rather active elements in the conformation of urban space. The spatialization of the data demonstrates that the Union's

patrimonial management directly affects strategic areas of the urban fabric, conditioning uses, densities and possibilities of territorial transformation.

In dialogue with Brenner (2019), it can be stated that this configuration expresses a form of state regulation that operates outside the classic instruments of urban planning, but that produces concrete territorial effects. It is a multi-scale regulation, in which federal administrative decisions interfere in municipal urban planning, often without effective inter-institutional coordination mechanisms (BRENNER, 2019).

4.2 AVERAGE PREAMAR LINE AND NORMATIVE INSECURITY IN COASTAL URBAN PLANNING

The situation of the Average Preamar Line (MPL) is a central element for understanding the territorial effects of the Union's asset management. The comparative analysis between stretches with homologated and non-homologated LPM, summarized in Figure 2, shows distinct patterns of normative stability within the island's urban territory.

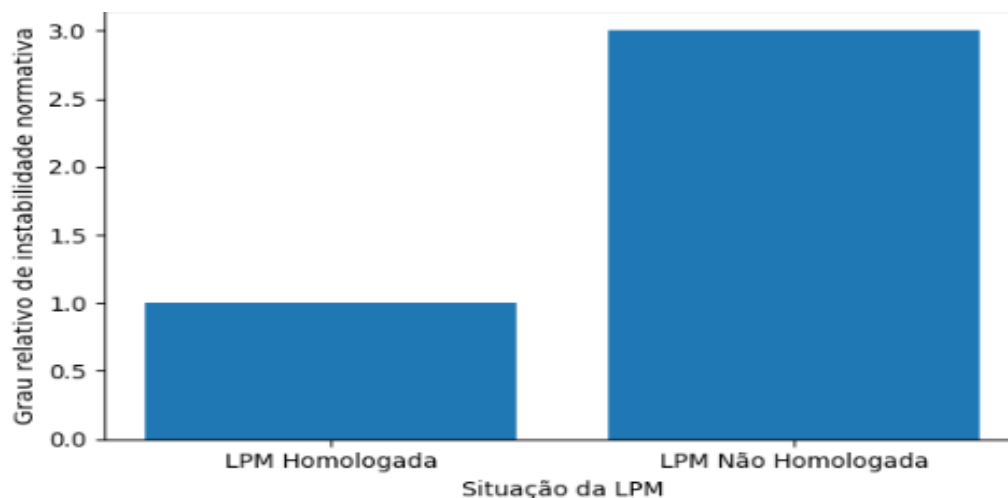
Here it is worth detailing what is homologated and what is only demarcated, not entering into the homologated LPM in this case, since the demarcation corresponds to the technical definition of the line based on cartographic and historical surveys, while the homologation consists of the formal validation of the route by the competent body of the Union, giving it full administrative effectiveness (CABRAL; OLIVEIRA, 2025).

In the areas where the LPM is approved, there is greater predictability as to the applicable legal regime, which tends to facilitate the urban licensing processes and the articulation between the federative entities. On the other hand, in the stretches where the LPM has not been formally ratified, the lack of definition of the federal patrimonial limits produces high levels of legal uncertainty, affecting both the municipal government and private agents.

This insecurity manifests itself in the form of overlapping competences, judicialization of land conflicts and difficulties in the implementation of urban policies. The spatial analysis suggests that areas with non-homologated LPM often coincide with regions of recent urbanization or high real estate value, where the normative vagueness tends to favor disputes between public and private interests, reinforcing asymmetries in access and appropriation of coastal urban space.

Figure 2

Qualitative comparison of the normative stability associated with the Mean Preamar Line (LPM)



Source: Prepared by the author (2026).

These findings corroborate the analysis of Cabral and Oliveira (2025), who point to the lack of homologation of the LPM as a central factor of normative insecurity in Brazilian coastal cities. As Jessop (2015) points out, such insecurity compromises the capacity for integrated planning, by generating ambiguities regarding land ownership and the regulatory competences of each sphere of government.

In the case of Florianópolis, this territorial differentiation takes on even more critical contours due to its insularity and the relative scarcity of urban land. Recent studies (LENZI and GONÇALVES, 2025; NASPOLINI, 2019; CUNHA, 2018) already indicated that the lack of definition of federal assets directly impacts land regularization processes and the implementation of housing policies, which is confirmed by the spatial patterns identified in this research.

4.3 INTERACTIONS AND CONFLICTS BETWEEN FEDERAL PROPERTY REGULATION AND MUNICIPAL URBAN PLANNING

Table 2 summarizes the main territorial effects associated with the different patrimonial regimes identified in the study area. The integrated analysis of the data shows that the Federal Government's patrimonial management acts as a mechanism of indirect territorial planning, by establishing specific constraints for the use and occupation of urban land, regardless of the existence of municipal urban guidelines.

Table 2

Federal patrimonial regimes and territorial effects on urban planning in Florianópolis

Situação da LPM	Regime patrimonial federal	Grau de insegurança jurídica	Efeitos sobre o planejamento urbano
Homologada	Domínio federal plenamente reconhecido	Baixo a moderado	Maior previsibilidade normativa e integração parcial com o planejamento municipal
Não homologada	Domínio federal presumido / indefinido	Elevado	Conflitos institucionais, incerteza no licenciamento e fragmentação regulatória

Source: Prepared by the author (2026).

This result dialogues directly with Rolnik (2015), when he demonstrates that legal regimes apparently external to urban policy produce central effects on land valuation and the production of space. Similarly, Maricato (2024) points out that institutional fragmentation between scales of government tends to generate territorial conflicts and weaken the effectiveness of urban planning.

The comparison between the regimes shows that the Federal Government's asset management acts as an effective regulatory body, although not formally integrated with municipal urban planning. While in areas with approved LPM there is a greater predominance of normative predictability, in areas without approval there are recurrent institutional conflicts, uncertainty in licensing processes and fragmentation of state action.

In the context analyzed, the absence of systematic articulation between federal asset management and municipal planning instruments results in a fragmented regulatory architecture. Such fragmentation manifests itself not only in administrative conflicts, but also in concrete territorial inequalities, reflected in differentiated patterns of occupation, density, and access to urban land.

By highlighting these effects, the analysis reinforces the need to understand the Union's heritage management as a constitutive dimension of multi-scale urban governance, whose performance directly affects the production processes of coastal urban space, especially in insular and highly valued contexts such as Florianópolis.

5 FINAL CONSIDERATIONS

This article analyzed the management of the Union's assets as a constitutive dimension of the regulation of urban space, based on the case study of the Island of Santa Catarina, in the municipality of Florianópolis. By articulating institutional analysis, spatial reading and integrated interpretation of territorial effects, it was sought to show that marine land and the definition of the Mean Preamar Line (MPL) are not only legal or administrative issues, but active elements of urban governance in coastal cities.

The results demonstrate that the coexistence of areas with homologated and non-homologated LPM produces significant territorial differentiations, in the case of Santa Catarina Island, considering that the island portion of Florianópolis has approximately 172 km² (FLORIANÓPOLIS, 2026) although approximately 100% of the LPM line has been subject to demarcation, and homologation has not been completed in a large part of the island territory, and approximately 10% of this demarcated island area is approved (BRASIL, 2023; BRAZIL, 2020; BRAZIL, 2025; TJSC, 2025), which highlights the spatial amplitude of the phenomenon analyzed, associated with different degrees of normative security, administrative predictability, and urban consolidation. This finding reinforces the literature that points to legal uncertainty as a structuring factor for territorial inequalities in Brazilian cities (Maricato, 2024; Rolnik, 2015), indicating that the lack of definition of federal assets acts as a mechanism for indirect regulation of land use and occupation.

By dialoguing with Brenner (2019) and Jessop (2015), the study contributes to broadening the understanding of urban planning as a multi-scale field of state practices, in which sectoral decisions and specific legal regimes exert a concrete influence on the production of urban space. In the case of Florianópolis, the performance of the Union's patrimonial management focuses on strategic areas of the island territory, often dissociated from municipal planning instruments, which deepens institutional fragmentation and hinders the construction of integrated territorial planning strategies (ALMEIDA, 2016).

From a methodological point of view, the articulation between normative analysis and spatial reading in a GIS environment proved to be fundamental to evidence the territorial materialization of regulatory practices (LEFBVRE, 2024). More than a technical support, the use of geotechnologies has made it possible to critically interpret the overlapping of normative regimes and their spatial implications, as advocated by recent approaches in the field of Urban and Regional Planning (SANTOS et al., 2022; RAFAEL et al., 2025).

As a theoretical contribution, the article reinforces the need to incorporate the Union's patrimonial management explicitly into the analyses of urban territorial planning, especially in coastal cities. In doing so, it tensions readings that restrict urban planning to classic

municipal instruments, evidencing the centrality of federal land and patrimonial regimes in the conformation of urban space.

By dialoguing with the current debate on Urban and Regional Planning, this article contributes specifically to discussions on multi-scale governance and territorial regulation in complex urban contexts, by highlighting the role of the Union's heritage management as an active — albeit indirect — instance of the production of urban space. The debate enters into discussions about normative insecurity and institutional fragmentation, contributing to a critical reading of the role of the State not only as an urban regulator, but also as a landowner, whose decisions produce relevant and unequal spatial effects, especially in coastal areas subjected to intense pressures from the civil construction industry.

From the proposed analytical chain — federal patrimonial regime → indirect regulatory mechanism → territorial effects — it was found that the Federal Government's domination over marine land operates as a form of indirect regulation of urban space. Although it is not a classic planning instrument, its incidence interferes in the processes of real estate registration, land regularization, and land use, dialoguing and sometimes stressing the guidelines of the municipal Master Plan (FLORIANÓPOLIS, 2014; 2023).

In this sense, the research brings the debate on multi-scalar governance closer to the

The findings suggest the need for institutional mechanisms of coordination between the Federal Government's asset management and municipal urban planning, especially in contexts of high real estate pressure. Instruments such as technical cooperation agreements, integration of cartographic bases and the compatibility of licensing procedures could reduce the normative fragmentation currently observed, promoting greater legal predictability and territorial security.

In the light of the discussions presented, it is recognized that the research has limits, notably in the empirical cut circumscribed to the insular portion of Florianópolis. Future studies may expand the analysis to other Brazilian coastal municipalities, as well as deepen the investigation on the impacts of federal asset management on specific policies, such as social housing and land regularization. Even so, the results presented provide relevant subsidies for the academic debate and for the formulation of public policies that are more articulated and sensitive to the complexity of territorial governance in coastal urban areas.

REFERENCES

Almeida, I. T. L., & Reis, A. (2024). Urban centrality: A characterization in the urban agglomeration of Florianópolis-SC. *Journal of Urban Morphology*, 11(2), 1–15.

- Boscatto, F., Cabral, C. R., & Silva, E. da. (2018). Analysis of the guidelines on how to demarcate the imaginary average preamar line of 1831. In Brazilian Congress of Multipurpose Registration and Territory Management (13th ed.). Florianópolis: Federal University of Santa Catarina. Recuperado em 12 de fevereiro de 2026, de <https://d1wqtxts1xzle7.cloudfront.net>
- Brazil. (1946). Decree-Law No. 9,760, of September 5, 1946: Provides for the real estate of the Union. Recuperado em 13 de janeiro de 2026, de <https://legislacao.presidencia.gov.br>
- Brazil. (1988). Law No. 7,661, of May 1, 1988: Establishes the National Coastal Management Plan and provides for measures. Recuperado em 15 de fevereiro de 2026, de <https://www.planalto.gov.br>
- Brazil. (1998). Law No. 9,636, of May 15, 1998: Provides for the regularization, administration, forfeiture and disposal of real estate owned by the Federal Government. Recuperado em 8 de fevereiro de 2026, de <https://www.planalto.gov.br>
- Brazil. (2022). Law No. 14,474, of December 6, 2022: Amends Law No. 9,636/1998 and related legislation. Recuperado em 22 de dezembro de 2025, de <https://legislacao.presidencia.gov.br>
- Brazil. (2005). Constitutional Amendment No. 46, of May 5, 2005. Recuperado em 22 de janeiro de 2026, de <https://www.planalto.gov.br>
- Brazil. Ministry of Management and Innovation in Public Services. Secretariat of Federal Heritage. (2023). Notices and notifications regarding the demarcation of the average preamar line of 1831 (LPM/1831) in the municipality of Florianópolis/SC. Brasília, DF. Recuperado em 2 de fevereiro de 2026, de <https://www.gov.br>
- Brazil. Ministry of Management and Innovation in Public Services. Secretariat of Federal Heritage. (2020). Characterization plan – PNC. Brasília, DF. Recuperado em 14 de fevereiro de 2026, de <https://www.gov.br>
- Brazil. Ministry of Economy. Secretariat for Coordination and Governance of Federal Heritage. (2022). Normative Instruction SPU/SEDDM/ME No. 28, of April 26, 2022. Brasília, DF. Recuperado em 14 de fevereiro de 2026, de <https://www.in.gov.br>
- Brazil. Ministry of Management and Innovation in Public Services. Secretariat of Federal Heritage. (2024). Final report of the demarcation of Santa Catarina Island. Brasília, DF. Recuperado em 14 de fevereiro de 2026, de <https://www.gov.br>
- Brazil. Ministry of Management and Innovation in Public Services. Secretariat of Federal Heritage. (2025). Report No. 09/2025/CGDEM/DECIP/SPU. Brasília, DF. Recuperado em 14 de fevereiro de 2026, de <https://www.gov.br>
- Brenner, N. (2019). New urban spaces: Urban theory and the scale question. Oxford University Press.
- Cabral, C. R., & Oliveira, F. H. de. (2025). Demarcation of navy lands: Historical aspects. *Revista Percursos*, 26, 1–23.

- Castro, L. L. P. (2008). Urban occupation in a coastal area: The urban-environmental interface on the Campeche seafront, Santa Catarina Island (Master's thesis, UFSC). Recuperado em 13 de janeiro de 2025, de <https://repositorio.ufsc.br>
- Cunha, L. F. (2018). Urban planning and multiple territorialities: The resistance of Campeche (Florianópolis-SC) in the elaboration of the master plan. *Caminhos de Geografia*, 19(65), 56–68.
- Haesbaert, R., Leopoldo, E., & Cruz, R. de. (2022). For a new regional geography. Editora Consequência.
- Jessop, B. (2015). The state: Past, present, future. Polity Press.
- Kabilio, M. L. (2016). Urban environmental planning in the district of Campeche, Florianópolis, SC (Master's thesis, UDESC). Recuperado em 13 de dezembro de 2025, de <https://www.udesc.br>
- Lefebvre, H. (2024). The urban revolution (3rd ed.). UFMG.
- Lenzi, M., & Gonçalves, T. C. (2025). Urbanization, discourses and power relations: Tourism and urban planning in Florianópolis (1950–1980). *GEOUSP Espaço e Tempo*, 24(3), 425–443.
- Florianópolis. (2014). Complementary Law No. 482, of January 17, 2014. Recuperado em 15 de fevereiro de 2026, de <https://leismunicipais.com.br>
- Florianópolis. (2023). Complementary Law No. 739, of May 4, 2023. Recuperado em 15 de fevereiro de 2026, de <https://leismunicipais.com.br>
- Florianópolis. (n.d.). Planning network. Recuperado em 3 de fevereiro de 2026, de <https://redeplanejamento.pmf.sc.gov.br>
- Maricato, E. T. M. (2024). To understand the urban crisis. *Expressão Popular*.
- Monte-Mór, R. L. (2024). Urban planning and critical social theory. *Cadernos de Arquitetura e Urbanismo*, 8(8), 9–20.
- Moura, A. C. M. (2014). Geoprocessing in urban management and planning. *Interciência*.
- Naspolini, V. (2019). Spatial fragmentation in Florianópolis: Urbanization, planning and ideology (Doctoral dissertation, UFSC).
- Pitombeira, S. C. (2022). Occupation of the territory in coastal areas: Proposal for management and planning of coastal zone. *Revista de Direito da Cidade*, 15(3), 1039–1069.
- Rafael, C. R. P., et al. (2026). Integrated geoprocessing in the monitoring of land use and urban expansion. *ReGeo Revista Interdisciplinar*, 16(4), 1–10.
- Rizzo, P. M. B. (2013). Urban planning in the context of globalization (Doctoral dissertation, UFSC).

- Rosa, C. N. da, et al. (2018). Preamar's line: A review of its concepts and implications. *Revista Brasileira de Geomorfologia*, 19(4), 849–858.
- Rocha, A. A. da. (2018). “Through space” in Doreen Massey’s pathway: A pedagogical analysis of “material geographies”. *Para Onde?*, 19(2), 85–95.
- Rolnik, R. (2015). The colonization of land and housing in the age of finance. *Boitempo*.
- Santa Catarina. Court of Justice. (2025). Provision No. 49/2025. Recuperado em 10 de fevereiro de 2026, de <https://dcradvocacia.com.br>
- Santos, M. (2001). *Metamorphoses of inhabited space* (6th ed.). Edusp.
- Santos, P. H. N., Cruz, M. G., & Santos, W. F. da S. (2022). City science and urban planning: Geoprocessing as an instrument of municipal strategic planning. *Geopauta*, 6, 1–25.
- Siqueira, M. T., & Lucas, A. T. (2023). Not all that glitters is gold: Florianópolis and competitive urbanism. *Cadernos Metr pole*, 25(57), 419–442.
- Souza, M. L. de, et al. (2022). Changing the city: A critical introduction to urban planning and management. *Novos Cadernos NAEA*, 25(2), 323–334.
- Supreme Federal Court. (n.d.). Extraordinary Appeal No. 636.199/ES. Recuperado em 10 de fevereiro de 2026, de <https://portal.stf.jus.br>