

LAV (Housing Laboratory)

# LAV Sustainable Cities and Adaptation to Climate Change in Uruguay

*Within the UHPH<sup>1</sup> Thematic Agenda framework, towards the implementation of Sustainable International Agendas:*

*Theme: Urban Resilience and Environmental Sustainability  
Theme: Regulatory Frameworks, Public Policies and Governance*

## Concept Note

First Virtual Session: Thursday, September 26, 2019

Second Virtual Session: Wednesday, October 09, 2019

2:00 p.m. to 5:00 p.m. Montevideo time

### Summary

The transition to sustainable urban development implies coordination and synergies between climate action and risk management. This LAV's general goal is to incorporate external points of view to enrich the planning, management and financing processes of sustainable cities and their climate adaptation in Uruguay, and at the same time, ways of integrating non-state actors in these processes. This LAV also seeks to share Uruguay's accumulated experience, which may be of interest to other actors in other contexts.

### Keywords

Sustainable development, climate adaptation, risk management, urban planning, territorial planning, coastal zones.

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<sup>1</sup> The Urban Housing Practitioners Hub or UHPH is an open platform for the exchange, gathering and dissemination of practices, knowledge, and stakeholders working around housing and urban habitat in Latin America and the Caribbean. It combines the digital space with face-to-face interactions so that those working in the sector can connect with each other and access information and practical solutions in real time. For further information, visit <https://www.uhph.org/es>

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### Context

Given the interest of The Ministry of Housing, Territorial Planning and Environment of Uruguay (MVOTMA<sup>2</sup> by its Spanish acronym) in addressing issues and alternatives regarding strategies for sustainable cities and adaptation to climate change, an alliance has been formed between members of the Strategic Advisory Council (CCE by its Spanish acronym) of the Urban Housing Practitioners Hub (UHPH by its Spanish acronym), in order to request and develop a Housing Laboratory (LAV) to deepen the referred subject. It should be noted that LAVs are the ***UHPH's Specialized Technical Arm***, and are designed as dynamic and horizontal spaces for the collaborative exchange of knowledge on imperative urban and housing issues between experts and professionals from different sectors (public, private, academic, NGOs, communities and others).

In this context, and as members of the UHPH's CCE, both the Global Platform for the Right to the City, through its ally the Interdisciplinary Center for Development Studies of Uruguay (CIEDUR<sup>3</sup> by its Spanish acronym), a non-governmental and non-profit organization that coordinates various disciplinary perspectives in the social sciences' field; and the Assembly of Ministers and High Authorities on Housing and Urban Planning from Latin America and the Caribbean (MINURVI<sup>4</sup> by its Spanish acronym), the main instance for political agreement, coordination and regional cooperation in the housing and sustainable urban development areas, have requested and supported the development of theme presented below.

## 1 Introduction

### 1.1 Climate crisis

The climate crisis is a major challenge for all countries and regions of the world. The latest report from the Intergovernmental Panel on Climate Change (IPCC) notes that human activity has caused a 1° C global warming considering pre-industrial levels as the basis. In addition, it indicates that between 2030 and 2052 global warming is expected to reach 1.5° C if we continue at the same increase rate, causing changes in the climate system and impacts on natural and social systems. Specifically, climate models project probability of drought and rainfall deficit in some regions, and heavy rainfall in others; hot extremes in most inhabited regions, and average temperature rise in most land and oceans. An increase in sea level, and impacts on land's ecosystems and biodiversity, are also expected. Additionally, it is estimated that some regions (such as the Arctic) and disadvantaged or vulnerable populations, indigenous peoples and coastal communities, are at disproportionately greater risk due to global warming of 1.5° C or more; and certain populations' poverty and disadvantages are expected to increase with global warming (IPCC, 2018a).

Latin America and the Caribbean (LAC) are especially vulnerable to climate change negative effects due to its "geographical and climatic situation, its socioeconomic, demographic and institutional condition and its natural assets high sensitivity to climate, such as forests and biodiversity" (ECLAC, 2018). Regarding the above, the region's cities are leading since their development has been accompanied by "a greater demand for transportation, public services, inputs and products and, in general, greater pressure on natural resources and environmental goods and services", resulting in

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<sup>2</sup> For further information, visit <http://www.mvotma.gub.uy/>

<sup>3</sup> For further information, visit <https://www.ciedur.org.uy/>

<sup>4</sup> For further information, visit <https://www.minurvi.org/>

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the production of greenhouse gases (GHG), degradation of soils and water systems, traffic and cardiopulmonary diseases (ECLAC, 2018). Therefore, cities are not only vulnerable, but also fundamental territories for climate action and transit towards sustainable development.

It should be noted that coastal areas are of great environmental and socio-economic importance, since most of them are linked to local economies. However, these areas and their ecosystems are increasingly vulnerable to climate change impacts. According to the IPCC (2018a), these coastal systems and low-lying areas will have more frequent immersion, flood and erosion phenomena, due to rising sea levels. In addition, for people without infrastructure and services or that live in exposed areas, the risks of storms, precipitation, coastal floods, landslides, among others, will increase. In the case of LAC, coastal areas have been key in urban growth and expansion, as they are strategic geographic areas. The number of cities and coastal agglomerations in LAC has been multiplied, going from 42 to 420 from 1945 to 2014 (Barragán & de Andrés, 2016). In the current climate crisis, some of the most vulnerable to climate change areas in LAC are the low-altitude coasts in Argentina, Belize, Colombia, Costa Rica, Ecuador, Guyana, Mexico, Panama, El Salvador, Uruguay, Venezuela and large cities such as Buenos Aires, Rio de Janeiro, Recife, among others (Margulis, 2016).

In the case of Uruguay, its vulnerability to the climate crisis is high, particularly due to the sea level rise and the high exposure of critical economic and natural resources on the coast: Uruguay has a coastline of more than 680 km, and approximately 70 percent of its population resides in coastal areas (World Bank). In addition, some of the country's main economic activities, such as agriculture, livestock, forestry, tourism, among others, are highly susceptible to the climate change problem. Specifically, in the last 20 years an increase and severity in climatic events such as floods and droughts has been observed, this has impacted both the population and the country's economy, particularly in the most vulnerable communities. In 2005 there was a water deficit that impacted the agricultural sector, and a storm with hurricane force winds was recorded that impacted the southern and eastern areas of the country, causing deaths and material losses (MVOTMA, 2016). In 2007, it rained between 350 and 400 mm in 72 hours (well above the monthly average of 100 mm), causing floods that exceeded 13 meters, affecting homes, water and sanitation infrastructure, and more than 110,000 people (Government of the Republic of Uruguay, 2010).

### 1.2 Climate action: current trends and themes

In recent years, part of the discussion on climate action has focused on its coordination with other global agendas: the Sendai Framework, the 2030 Agenda, the Paris Agreement, and the New Urban Agenda, that recognizes the Right to the City. (United Nations, 2015b, 2015c, 2015a, 2016) (Figure 1). The first conference on synergies between the Paris Agreement and the 2030 Agenda, was held in April 2019 in Copenhagen, and the next United Nations climate action summit in September 2019, will seek to create such connections (Zhenmin & Espinosa, 2019). Furthermore, the latest reports from the IPCC and the United Nations Office for Disaster Risk Reduction (UNDRR) emphasize that both climate action and risk management are essential to comply with other agendas (IPCC, 2018a; UNDRR, 2019b). Additionally, the relationship between risks, sustainable development and climate change is being discussed by the academy (Kelman, 2017).

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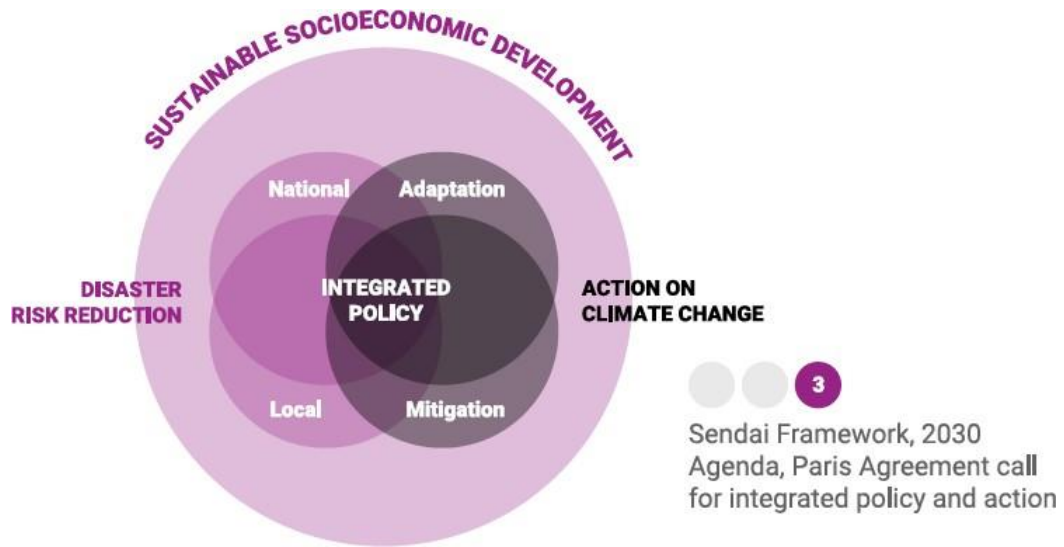


Figure 1. Integration of the Paris Agenda, the Sendai Framework, and the 2030 Agenda. Source: UNDRR (2019b: 362)

Furthermore, discussions on adaptation, mitigation and climate resilience have forcefully integrated the issues of poverty, inequality and gender (Casas, 2017; Dodman, Archer, & Satterthwaite, 2019; Pelling & Garschagen, 2019). This literature emphasizes that the climate crisis is and will continue to greatly affect people in poverty and more vulnerable or disadvantaged groups, such as children, elderly, disabled people and women; therefore, adaptation and mitigation strategies must address and guarantee these groups' active participation, particularly women, so that they can provide effective responses to the specific problem they face from their experience. Based on the above, the incorporation of the gender approach and intersectionality are important, by helping to reduce the existing inequality gaps and responding to climate change impacts.

Cities and urban development are another central element in the discussions on the climate crisis and ways of dealing with it (IPCC, 2018b; Rodríguez Aldabe, 2018; Sanchez Rodriguez, Ürge-Vorsatz, & Barau, 2018). At the regional level, a series of initiatives and literature have focused on exploring adaptation to climate change and resilience in cities (Cohen, Gutman, & Carrizosa, 2018; UN Environment, 2017). Therefore, the rights' approach and especially the Right to the City, are an important part of the framework to produce adequate responses. Considerations from this approach imply recognizing the State's responsibility to act and respond to situations that affect its present and future population, and among other measures, strengthen the inhabitants' participation to obtain sustainable and adaptable responses.

Finally, the region has discussed climate risk management in coastal areas. For example, the Spanish Cooperation led a first study on a regional scale that provides a vision of the impacts, with special attention to populations affected by rising sea levels.

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Some results obtained were on coastal dynamics and their trends, impacts such as flooding and erosion, and data related to the vulnerability component, in a 5 km coastline range (AECID, 2017).

### 1.3 Recent experience in Uruguay

In 2009, Uruguay created the National System for Response to Climate Change and Variability (SNRCC by its Spanish acronym) that coordinates national policies, plans and actions on the subject. Subsequently, in 2016, the National Environmental System (SNA by its Spanish acronym) was created through Executive Decree number 172/016. The SNA aims to design public policies that protect the goods and services provided by ecosystems, promote water conservation and rational use, and provide responses by increasing adaptation to climate change.

In territorial and urban matters, Uruguay has begun a public policies' elaboration process to ensure cities sustainability, understanding that territorial planning policies constitute the appropriate environment for the integration of climate change response policies, thanks to its complexity, cross-cutting nature and multi-dimensionality (scale, actors, sectors, etc.). So, it is understood that the territorial planning instruments provided in the OT and SD Law (No. 18308/2008), allow implementing measures to reduce vulnerability and risk in the territories, therefore, they are key tools for urban sustainability.

In addition to this, since mid-2018 the project "National Plan for Adaptation to Climate Change in cities and infrastructures" financed by the Green Climate Fund began to be implemented, its main objectives are to reduce vulnerability to change climate effects by creating adaptation and resilience capabilities, and facilitating adaptation measures integration into policies, programs and activities corresponding to development planning processes in cities. As a result of these processes, the following lines of work are being developed:

1. Strengthening of planning processes integrating climate change scenarios in different time horizons,
2. Adaptation indicators' design and measurement,
3. Proposals and financing strategies for the adaptation of buildings,
4. Proposals and recommendations for public spaces and green infrastructures' design,
5. Strategies linked to the awareness and training of different population sectors

Climate change adaptation – Uruguay	
Law N° 18308	Law on Territorial Planning and Sustainable Development
Law N° 19525	National Guidelines for Land Use Planning and Sustainable Development
ENASU	National Strategy for Access to Urban Land
Decree N° 310/017	National Climate Change Policy and First Nationally Determined Contribution
PNCC	National Climate Change Policy
NDC	First Determined Contribution at the National Level
NAP Cities	Website - Presentation
NAP Cities	Project Document
SNRCC	National System for Response to Climate Change and Variability.

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10 years	10 years of the SNRCC
SINAE	National Emergency System

Figure 2 Key references on climate change adaptation and cities in Uruguay

1.4 Challenges

In general, important steps have been taken towards agendas integration and the construction of scaffolding and frameworks to address the climate emergency. However, a series of challenges to move towards sustainable cities and climate adaptation remain pending, among which the following stand out:

- Plan, manage and finance on the ground (cities or metropolitan areas), the transition towards a sustainable and climate compatible urban development: in particular, in coastal settlements, urban infrastructure, among others.
- Involve both of state actors, private sector and civil society in this transition towards sustainable and climate-resilient cities.
- Incorporate gender perspective and intersectionality<sup>5</sup> in the different actions to contribute to reducing the gender gap in climate change adaptation and mitigation.

2 Goal and guiding questions

This LAV’s general goal is to incorporate external views to enrich the planning, management and financing processes of sustainable cities and their climate adaptation in Uruguay and, at the same time, ways of integrating non-state actors in these processes. This LAV also seeks to share Uruguay’s accumulated experience that may be of interest to other actors in other contexts.

The LAV will specifically focus on exploring processes, methods and tools related to planning, management and financing for the construction of sustainable cities through mitigation (GHG and urban temperatures reduction, etc.) and change climate adaptation; especially, climate adaptation in coastal cities, as well as adaptation linked to extreme events such as heavy rains, high temperatures and strong winds. This, considering cross-sectionally a gender and intersectionality perspective.

The LAV will be guided by the following key questions:

Planning

<sup>5</sup> Intersectionality is an analysis tool that allows us to identify different components that have different impacts depending on people’s identity in a given context and society. This analysis dimension allows us to visualize the discriminations or differentiated impacts that people may suffer according to their gender identity (women compared to men, LGBTI people), socioeconomic status (people living in poverty), migratory status, or their location inside or outside the city, among others. Intersectional analysis will allow us to achieve clearer diagnoses regarding the violations and inequalities that people suffer, according to the multiple layers that make up their identity or social situation, and consequently, be able to define adequate responses to guarantee their rights. For further information visit this [link](#)

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1. Is land use planning (OT by its Spanish acronym) a key (necessary) framework for mitigation measures development, adaptation to CC and comprehensive risk management?
2. What strategies are relevant to ensure the right to the city in the climate change context and within the actions used to confront it (policies, programs, etc.)?

### Management

3. What territorial management tools can be developed and deepened to increase resilience and adaptation-mitigation in cities? How to implement them and what costs do they have?
4. How to promote green infrastructure so that, in addition to promoting climate change adaptation, it promotes social inclusion and the right to the city? Examples of innovative management systems in public spaces

### Financing

5. How to finance CC adaptation-mitigation measures? Should new tax and fiscal tools be developed or are the existing ones sufficient?
6. What financing mechanisms exist for climate change adaptation measures with public-private participation?

### Governance

7. How to ensure effective governance mechanisms that include public and private sectors, academy and civil society - and specifically, women and different groups in inequality situations?

## 3 Inspiring experiences in the region

### 3.1 List of initiatives or programs on climate action in Latin America and the Caribbean

	Name	Leading organizations	Relevant cases
1	Emerging and Sustainable Cities Initiative <a href="https://www.iadb.org/es/desarrollo-urbano-y-vivienda/programa-ciudades-emergentes-y-sostenibles">https://www.iadb.org/es/desarrollo-urbano-y-vivienda/programa-ciudades-emergentes-y-sostenibles</a>	IDB, Housing and Urban Development Division	Ciudad Trujillo case in Peru
2	100 Resilient Cities Program <a href="https://www.100resilientcities.org/">https://www.100resilientcities.org/</a>	Rockefeller Foundation  Avina Foundation in coordination with the private sector	Various cities in Latin America and the Caribbean
3	Climate Resilient Cities Initiative in Latin America <a href="https://genero/crclatam.net/">https://genero/crclatam.net/</a>	Climate Development Knowledge Network (CDKN)  Latin American Future Foundation (FFL by its Spanish acronym)  International Development Research Centre (IDRC)	Participatory Planning for Resilience: Santa Ana in El Salvador; Dos Quebradas in Colombia; and Santo Tomé in Argentina (Hardoy, Gencer, & Winograd, 2019)  Adaptation to participatory and gender-sensitive climate change in Coyuca Mexico (Becerril, de la Parra, Lopez, & Pacha, 2019)

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4	ICLEI Resilient Cities <a href="http://resilient-cities.iclei.org/">http://resilient-cities.iclei.org/</a>		Various publications and webinars
5	Disaster Risk Management Programs <a href="https://www.usaid.gov/what-we-do/working-crises-and-conflict/crisis-response/resources/ofdalac">https://www.usaid.gov/what-we-do/working-crises-and-conflict/crisis-response/resources/ofdalac</a>	USAID/OFDA in collaboration with local organizations	Dominican Republic, Haiti, Jamaica, Peru (USAID, 2018)
6	Low Emission Development Strategy (LEDS) LAC Platform <a href="http://ledslac.org/es/ledslac/">http://ledslac.org/es/ledslac/</a>		Various resources
7	EuroCLIMATE Program <a href="http://euroclimaplus.org/">http://euroclimaplus.org/</a>	European Union	Various resources and projects, including exchange workshop on monitoring and evaluation of policies for climate change mitigation and adaptation (EuroCLIMATE +, 2018)
8	Ibero-American Network of Climate Change Offices (RIOCC by its Spanish acronym) <a href="http://rioccadapt.com/">http://rioccadapt.com/</a>	National governments (to be verified)	Various resources

### 3.2 National and municipal cases' mapping

#### Relevant cases for the LAV in the UHPH's Inspiring Best Practices Contest 2018<sup>6</sup> framework

	Institution - Country	Description
1	Municipal Program for Mérida's Urban Development (PMDUM by its Spanish acronym), Mérida, México.	The goal is to promote urban development and housing management in accordance with the Urban and Environmental Policy, through urban actions that consolidate a compact and sustainable City Model.
2	Seremi (Regional Ministerial Secretariat) for Housing and Urban Planning, Biobío region, Chile	Develop a digital evaluation platform for the design, execution and monitoring of public spaces, under sustainability criteria applicable to projects executed by different organizations
3	Urban and Peri-urban Farmer Network - Bogotá, Colombia	The goal is to create an Urban and Peri-Urban Farmers Network in the city of Bogotá that promotes, based on community self-management, sustainable initiatives to inhabit urban housing.
4	Municipal Strategy for Risk Reduction and Climate Change Adaptation - San Antonio de Areco	The main goal of the Municipal Strategy for Risk Reduction and Climate Change Adaptation is to design, coordinate and execute actions for the reduction and mitigation of existing risks; act during emergencies, in the recovery after a crisis and/or disaster, and prevent future risks

#### Other Relevant Cases

<sup>6</sup> Further information available at <https://www.uhph.org/es/concurso?op=3>



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	<b>Institution - Country</b>	<b>Description</b>
1	Ministry of Economy, Planning and Development with the private sector	Second generation territorial strategic planning and public-private alliances in Santiago de los Caballeros, Dominican Republic
2	Ministry of Housing and Urban Development-MINVU (by its Spanish acronym)	Disaster Risk Management Strategies and Neighborhood Recovery Program "Quiero Mi Barrio" in Chile <a href="https://quieromibarrío.cl/index.php/programa/">https://quieromibarrío.cl/index.php/programa/</a>
4	Jamaica	Framework for planning sustainable local development (ENACT, 2001)
6	Brazil (Law no. 10.29)  Colombia (Law no. 697/200)	National policies and regulations for sustainable housing through the promotion of energy efficiency in
7	Vice Ministry of Housing and Urban Development, El Salvador,	Habitat mitigation, adaptation and resilience against climate change and disasters. The project seeks to reduce vulnerability in AUP and recurrent floods in periods of rainy season that cause loss of life, damage to infrastructure and the costs associated with affected areas recovery in the AMSS.
8	Federal Mortgage Society (SHF by its Spanish acronym), Mexico	The project aims to contribute to the Mexican government's efforts to combat climate change by financing the building of affordable, low-CO2 housing, helping to reduce household energy consumption and spending. As well as contributing to transforming construction standards and promoting an energy efficient housing market.
9	Foundation for Multidimensional Education, FEM (by its Spanish acronym), Colombia	UPYA, a sustainable, resilient and replicable housing model that improves the population at risk's quality of life, as a tool to build a public housing policy according to the context.
10	Social Institute for Housing and Habitat of Medellín – ISVIMED (by its Spanish acronym), Medellín, Colombia.	Policies, regulatory frameworks and institutional arrangements for the Strategic Housing Agenda <a href="http://www.isvimed.gov.co">www.isvimed.gov.co</a>

## 4 Other Background

This LAV is part of a broader thinking process that includes a debate promoted by the Lincoln Institute of Land Policy (LILP) with various topics and cases related to sustainable cities development and climate change adaptation. This LAV may allow to continue/expand, in a solid way, the following lines of discussion:

- Pathways to coastal resiliency: the adaptive gradients frameworks (Hamin et al., 2018)
- Land policies, urban law and climate change: urban-tax instruments as measures to face climate change (De la Salsa, Maldonado, & Alterman, 2019)
- Land-based financing instruments in the São Paulo case (opportunity for climate action?)

## 5 Recommended key readings

Global – Regional

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- Summary for Urban Policy Makers: global warming of 1.5° C. (IPCC, 2018b)
- Global Passemment Report Distiller (UNDRR, 2019a)
- Cross-cutting the gender approach in public policies against climate change in Latin America (Casas, 2017)
- Latin American cities vulnerability and adaptation to climate change (Margulis, 2016))
- Public policies portfolio for climate change adaptation and mitigation of its effects with additional benefits or “without regret” in Latin America (Galindo, Samaniego, Beltrán, Ferrer, & Alatorre, 2017)

### Uruguay Case

- UNDP Project - Green Climate Fund: Integration of the adaptation approach in cities, infrastructure and land use planning in Uruguay (UNDP, 2018)
- Uruguay's fourth national communication to the conference of the parties in the United Nations Framework Convention of Climate Change (MVOTMA, 2016)

## 6 References

- Barragán, J; & De Andrés M (2016). Expansión urbana en las áreas litorales de América Latina y Caribe. *Revista de Geografía Norte Grande* (Urban expansion in the coastal areas of Latin America and the Caribbean. Norte Grande Geography Magazine), 64:129-149 (2016). In: <https://scielo.conicyt.cl/pdf/rgFeong/n64/art09.pdf>
- AECID. (2017). *Gestión de riesgos vinculados al cambio climático en zonas costeras: experiencias y prioridades de trabajo para los próximos años*. (Risk management linked to climate change in coastal areas: experiences and work priorities for the coming years)
- Barragán, J. M., & de Andrés, M. (2016). Expansión urbana en las áreas litorales de América Latina y Caribe. *Revista de Geografía Norte Grande*, 149 (64), 129–149. (Urban expansion in the coastal areas of Latin America and the Caribbean. Norte Grande Geography Magazine) <https://doi.org/10.4067/s0718-34022016000200009>
- Becerril, H., de la Parra, A. M., Lopez, R., & Pacha, M. J. (2019). *Coyuca Resiliente al Clima. Iniciativa Ciudades Resilientes al Clima. Reporte de Investigación*. (Coyuca Resilient to Climate. Climate Resilient Cities Initiative. Investigation report).
- Casas, M. (2017). *La transversalización del enfoque de género en las políticas públicas frente al cambio climático en América Latina* (p. 99). p. 99. CEPAL. (Crosscutting the gender approach in public policies against climate change in Latin America).
- CEPAL. (2018). *La economía del cambio climático en américa latina y el caribe. Una visión gráfica*. Santiago. (The economics of climate change in Latin America and the Caribbean. A graphic vision)
- Cohen, M., Gutman, M., & Carrizosa, M. (Eds.). (2018). *Enfrentar el riesgo. Nuevas prácticas de resiliencia urbana en América Latina*. CAF. (Face the risk. New urban resilience practices in Latin America)
- De la Salsa, S., Maldonado, M., & Alterman, R. (2019). *Políticas de Suelo, Derecho Urbanístico y Cambio Climático: Instrumentos Urbanísticos- Tributarios como Medidas para Enfrentar al Cambio*

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*Climático* (No. WP19SD1SP). (Land Policies, Urban Law and Climate Change: Urban-Tax Instruments as Measures to Cope with Climate Change)

Dodman, D., Archer, D., & Satterthwaite, D. (2019). Editorial: Responding to climate change in contexts of urban poverty and informality. *Environment and Urbanization*, 31(1), 3–12.

<https://doi.org/10.1177/0956247819830004>

ENACT. (2001). *A Framework for Local Sustainable Development Planning in Jamaica*. Retrieved from [http://nepa.gov.jm/symposia\\_03/Policies/LSDPF.PDF](http://nepa.gov.jm/symposia_03/Policies/LSDPF.PDF)

Euroclima+. (2018). *Taller de intercambio: Monitoreo y Evaluación de Políticas de Mitigación y Adaptación al Cambio Climático*. (Exchange Workshop: Monitoring and Evaluation of Climate Change Mitigation and Adaptation Policies)

Galindo, L. M., Samaniego, J., Beltrán, A., Ferrer, J., & Alatorre, J. E. (2017). *Portafolio de políticas públicas de adaptación al cambio climático y mitigación de sus efectos con beneficios adicionales o “sin arrepentimiento” en América Latina*. Retrieved from <http://200.9.3.98/handle/11362/42725> (Public policies portfolio for climate change adaptation and mitigation of its effects with additional benefits or “without regret” in Latin America)

Republic of Uruguay Government. (2010). *Fortalecimiento de Capacidades Departamentales para la Gestión de Riesgos en Uruguay*. (Strengthening of Departmental Capabilities for Risk Management in Uruguay)

Hamin, E. M., Abunnasr, Y., Dilthey, M. R., Judge, P. K., Kenney, M. A., Kirshen, P., ... Fricke, R. (2018). Pathways to coastal resiliency: The Adaptive Gradients Framework. *Sustainability (Switzerland)*, 10(8). <https://doi.org/10.3390/su10082629>

Hardoy, J., Gencer, E., & Winograd, M. (2019). Participatory planning for climate resilient and inclusive urban development in Dos Quebradas, Santa Ana and Santa Tomé. *Environment and Urbanization*, 31(1), 33–52. <https://doi.org/10.1177/0956247819825539>

IMPLAN Merida. (2018). *Estrategias municipales para la resiliencia urbana*. Merida. (Municipal strategies for urban resilience)

IPCC. (2018a). *Global warming of 1.5°C*.

IPCC. (2018b). *Summary for urban policy makers. What the IPCC special report on global warming of 1.5°C means for cities*.

Kelman, I. (2017). Linking disaster risk reduction, climate change, and the sustainable development goals. *Disaster Prevention and Management*, 26(3), 254–258. <https://doi.org/10.1108/DPM-02-2017-0043>

Margulis, S. (2016). *Vulnerabilidad y adaptación de las ciudades de América Latina al cambio climático* (p. 82). p. 82. CEPAL. (Climate change vulnerability in Latin American cities)

MVOTMA. (2016). *Uruguay’s fourth national communication to the conference of the parties in the United Nations Framework Convention of Climate Change*.

UN Environment. (2017). *Análisis costo-beneficio de medidas de adaptación al cambio climático en*

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*areas urbanas de America Latina.* (Cost-benefit analysis for climate change adaptation measures in urban areas of Latin America.)

Pelling, M., & Garschagen, M. (2019). Put equity first in climate adaptation. *Nature*, 569(7756), 327–329. <https://doi.org/10.1038/d41586-019-01497-9>

Rodríguez Aldabe, Y. (2018). *Potenciar la resiliencia de las ciudades y sus territorios de pertenencia en el marco de los acuerdos sobre cambio climático y de la Nueva Agenda Urbana.* CEPAL. (Strengthen the resilience of cities and their territories within the climate change agreements and the New Urban Agenda framework. ECLAC.)

Sanchez Rodriguez, R., Ürge-Vorsatz, Di., & Barau, A. S. (2018). Sustainable Development Goals and climate change adaptation in cities. *Nature Climate Change*, 8(3), 181–183. <https://doi.org/10.1038/s41558-018-0098-9>

UNDP. (2018). *Integración del enfoque de adaptación en ciudades, infraestructura y ordenamiento territorial en Uruguay.* (Integration of the adaptation approach in cities, infrastructure and land use planning in Uruguay)

UNDRR. (2019a). *Global Assessment Report Distilled.* Geneve.

UNDRR. (2019b). *Global assessment report on disaster risk reduction.* Geneve.

United Nations. (2015a). *Paris Agreement.* Paris.

United Nations. (2015b). *Sendai Framework for Disaster Risk Reduction 2015 - 2030.* <https://doi.org/A/CONF.224/CRP.1>

United Nations. (2015c). *Transforming our world: The 2030 agenda for sustainable development.* <https://doi.org/10.1007/s13398-014-0173-7.2>

United Nations. (2016). *New Urban Agenda.*

USAID. (2018). *Performance evaluation in LAC Urban DRR Programming: The Neighborhood Approach.*

World Bank. (n.d.). Climate change knowledge portal. Retrieved July 16, 2019, from <https://climateknowledgeportal.worldbank.org/>

Zhenmin, L., & Espinosa, P. (2019). Tackling climate change to accelerate sustainable development. *Nature Climate Change*, 9(7), 494–496. <https://doi.org/10.1038/s41558-019-0519-4>