

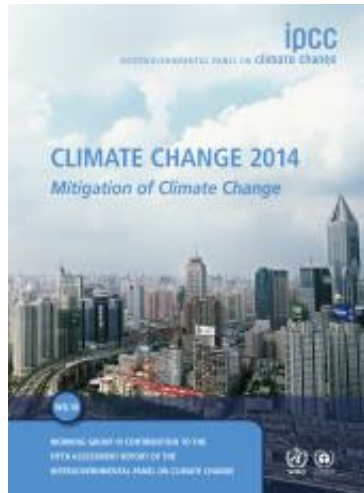
Subnational climate change adaptation and mitigation:

challenges and opportunities for urban settlements

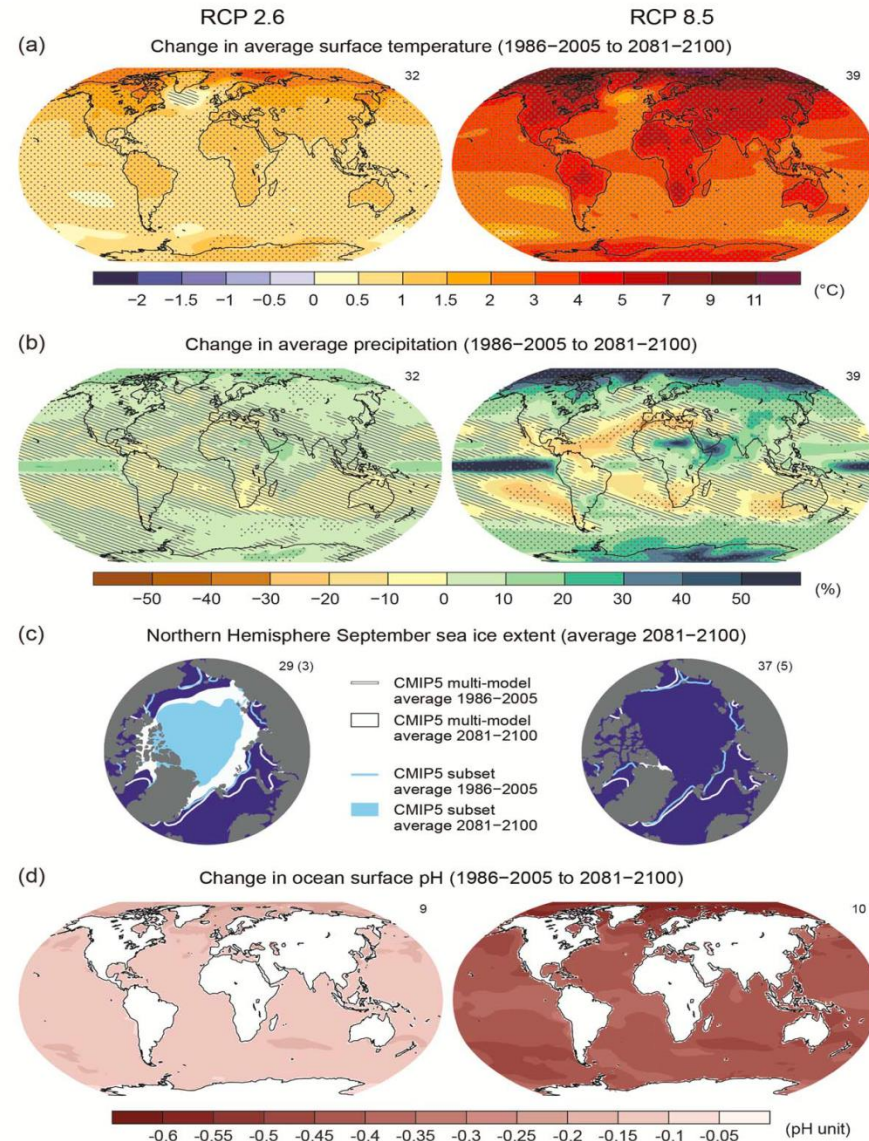


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IPCC Fifth Assessment Report



- Mean surface temperature has increased 0.85 °C since 1880.
- Oceans have warmed since 1971 affecting warm and cold currents
- Absorption of ever-increasing quantities of CO₂ by oceans has caused their acidification by about 26% with negative implications for marine biodiversity
- Se level has increased 19 cm since 1901.
- There is an important ice mass loss in the Arctic and Greenland
- Mean surface temperature could increase to 2.7° C if the INDCs of the Paris Agreement are actually achieved



Special Report on Global Warming of 1.5 °C



If INDCs are fully achieved, as presented in the *Paris Agreement*, the average global temperature will increase beyond 2°C as a consequence of adding 55 Gt of GHG.



The *IPCC 1.5 °C Special Report* (October, 2018) subscribes that global climate change governance will rely on what cities may contribute through the design and implementation of subnational climate change adaptation and mitigation strategies

Cities as drivers

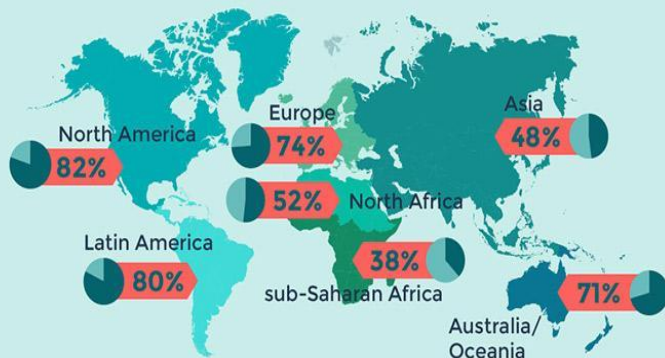


Share of the Urban Population Worldwide



Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, custom data acquired via website

Share of Urban Population on all Continents

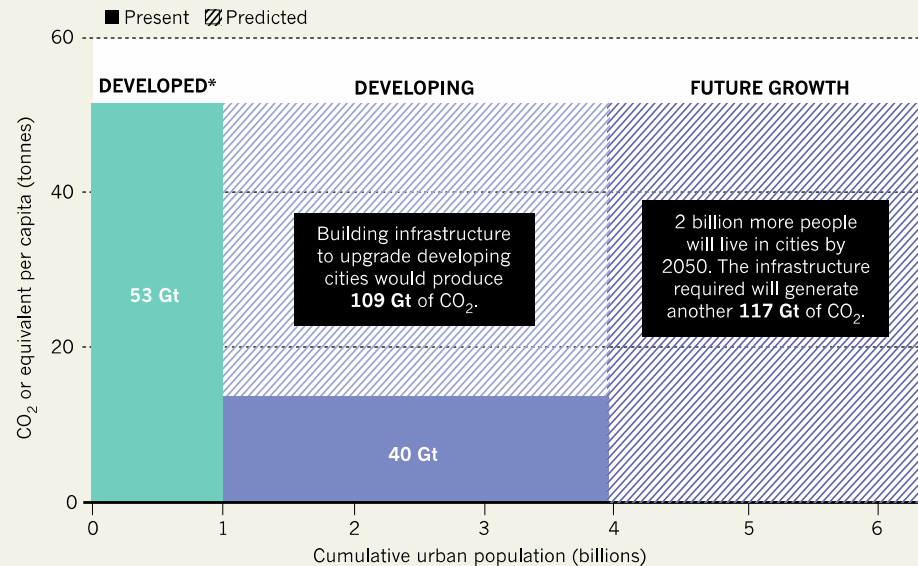


Source: United Nations Department of Economic and Social Affairs (UNDESA) 2016, online database



URBAN DEVELOPMENT CHALLENGE

Building infrastructure for fast-growing cities in developing countries could release 226 gigatonnes (Gt) of carbon dioxide by 2050 — more than four times the amount used to build existing developed-world infrastructure. To curb emissions, cities need low-carbon construction, alternative transport and better planning and design.



*Developed countries are as listed in Annex I to the Kyoto Protocol. Developing countries are those not listed in Annex I.

Cities as Opportunity: urban transition for sustainability and resilience



CITIES
AND REGIONS
TALANOA
DIALOGUES



TALANOA DIALOGUE
FOR CLIMATE AGREEMENT

Driving multilevel
climate action worldwide

Facilitated by



Special partners



Only around 60% of countries incorporate an urban dimension into their national plans, according to UN Habitat.

Current commitments by local and regional governments have the potential to reduce 5 to 15 gigatons by 2020 to 2030



- ❖ Energy transition: (1) diversification of sources; (2) improve S&T funding for renewables; (3) move towards a decentralized scheme of energy production; (4) energy efficiency; (5) reduction of consumption patterns; (6) low carbon transport, non-motorized mobility & Transport Oriented Development.
- ❖ Improve land use / land planning and consequently infrastructure (including green and blue), mobility, public space, urban equipment, etc.
- ❖ Sustainable architecture and bioclimatic design
- ❖ Urban land reserves and mid- and long- term planning
- ❖ Climate budget development at the urban scale + green jobs
- ❖ Diversification of funding (international funding, increasing local value capture, PPPs, etcetera) and insurance

SENDAI Framework

UN Sustainable Development Goal



SUSTAINABLE DEVELOPMENT GOALS



Latin America's CC Legislative Action



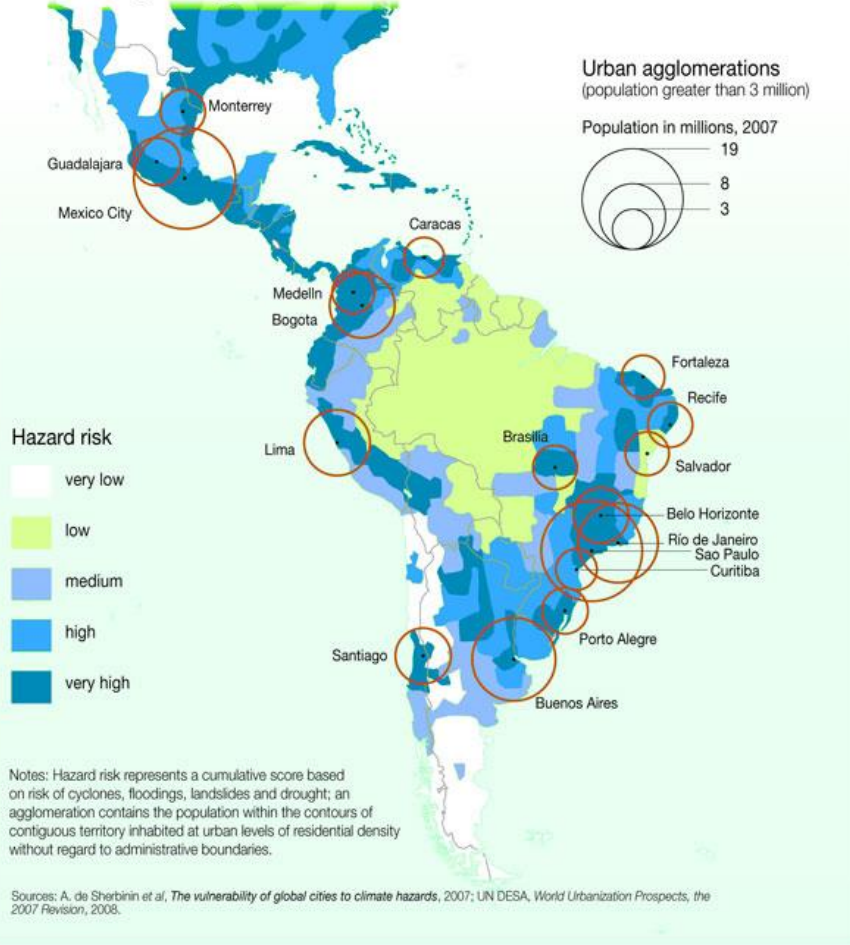
Country	Climate Change Law		CC National Plan		CC National Strategy		National Adaptation or Resilience Plan		Local CC or Resilience Plan	
	Status	Year	Status	Year	Status	Year	Status	Year	Settlement	Year
Argentina (NC3, 2015)	√	2007	In process	2019	√	2011 ^h	In process	2018	Buenos Aires	2009
									Rosario	2016
Bolivia (NC2, 2009)	√	2012	√	2005 / 2015	---	---	√	2007	---	---
Brazil (NC3, 2016)	√	2009	√	2008	---	---	√	2016	Curitiba	2013
									Porto Alegre	2016
									Río de Janeiro	2016
									Sao Paulo	2011
Chile. (NC3, 2016)	Bill	2018	√	2008, 2012, 2017	---	---	√	2014	Metropolitan Region of Santiago de Chile.	2012/ 2017
									Comuna de Santiago	2015
Colombia. (NC3, 2017)	√	2018	√	2017	---	---	√	2012	Bogotá	2014
									Cali	2018
									Cartagena	2013
									Medellín	2016
Costa Rica. (NC3, 2017)	√	2013	√	2015	√	2009	---	---	---	---
Cuba. (NC2, 2015)	√	1997	√	2015	Environmental Strategy	2011	<i>Tarea Vida</i>	2017	---	---
Ecuador. (NC3, 2017)	Decree	2009	√	2015	√	2013	In process	---	Quito	2009/ 2017
									Guayas / Guayaquil	2012
El Salvador (NC2, 2013)	√	2012	√	2016	√	2013	---	---	---	---
Guatemala (NC2, 2016)	√	2009 2014	√	2016	√	2013	√	2014	---	---
Honduras. (NC2, 2012)	√	2014	√	2015	√	2011	---	---	Tegucigalpa y Comayagüela	2015
Mexico (NC6, 2018)	√	2012	√	2014	√	2013	---	---	CDMX	2008 / 2014
									Guadalajara	2012
									Nicolás de los Garza	2012
									> 100 municipalities	2016-2018
Nicaragua (NC3, 2018)	Decree	2014	National Human Development Plan	2012	√	2010	√	2013	Managua	2013
Panama (NC2, 2012)	√	2007	√	2002 / 2011	√	2015	---	---	Panamá	2015/ 2018
Paraguay (NC3, 2017)	√	2017	√	2014	---	---	√	2016	---	---
Peru (NC3, 2016)	√	2018	√	2015	√	Decree 2015	In process	2016	Lima	2015
Dominican Republic (NC3, 2017)	√	2015	√	2008	---	---	√	2008 2016	Santiago de los Caballeros	2018
	(National CC Policy)									
Uruguay (NC4, 2016)	√	2017	√	2010	---	---	National System for CC Response	2009	Metropolitan Region of Montevideo	2012
Venezuela (NC2, 2018)	Bill	---	√	2015	---	---	---	---	Strategic Plan Caracas Metropolitana 2020	2012

NC# = national communication, number of the NC, and year of registration.

Latin America's CC Legislative Action



Vulnerability of large cities to climate hazards



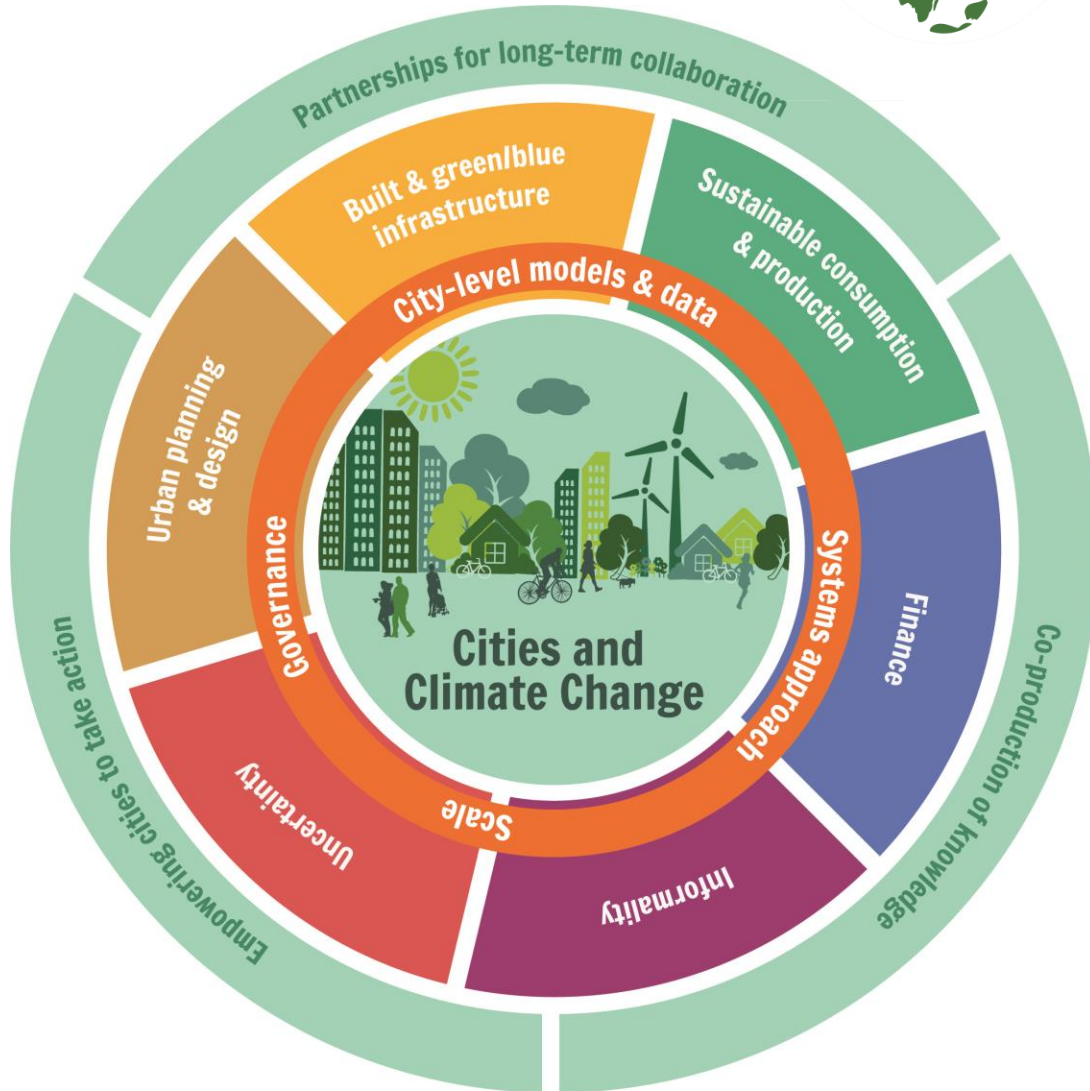
Risk	Vulnerability	Adaptive Capacity
Torrential rains	Flooding and landslides	Extension/strengthening of the meteorological network*
		Risk maps*
		Early warning system* / Contingency plan
		Social communication of risk / Promotion of a culture of adaptation*
		Shelter network
		Capacity building / Training for public, private, and civil society organizations*
		Improved inter-secretarial and –sectorial coordination*
		Evaluation of the vulnerability of strategic public infrastructure to flooding in order to ensure its functioning
		Rainwater drainage network and other hydraulic infrastructure
		Green and/or blue infrastructure / renaturation / urban gardens
Temperature increases	Heat islands / heat waves	Recovery or regeneration of ecosystem services / establishment of protected natural areas (public or private)*
		Inclusion of adaptation in land use planning and urban design / Containment of irregular urban expansion*
		Oversight of land use and occupation to reduce socio-environmental inequalities*
		Attention – relocation of vulnerable populations*
		Inclusion of gender dimension in monitoring and oversight of actions*
		Subsidies, financing*
		Risk transfer through financial schemes / Assurance / Public-private partnerships for resilience*
		Epidemiological surveillance / identification of vector-borne diseases*
		Geo-referenced identification of vulnerable populations
		Communication / warning of heat waves
Training for public, private, and civil society organizations*		
Sea level rise	Coastal invasion and erosion	Urban woodlands – other interventions in public spaces to mitigate the effects of heat islands
		Drought
		Regenerated water
Sea level rise	Coastal invasion and erosion	Protective infrastructure
		Conservation of mangroves and/or dune systems
		Oversight of urban coastal development
Sea level rise	Saline intrusion and increase in the level of the water table	Creation of information on the development of hydrodynamic and other numerical models

Low carbon urban transition: key challenges and opportunities



- ❖ The lack of information (climate and urban related) cannot hold back policy and local decision making processes.
- ❖ North– South cooperation is relevant but cannot be the only mechanism for climate change action at the local level, mainly because solutions for the Global North cannot merely be transplanted for the Global South.
- ❖ The development of novel platforms of knowledge, based on multi-stake holders collaboration and co-production, is desirable for supporting policy making at the local level.
- ❖ Regional / national networks of local governments (and other key stakeholders) are valuable for sharing experiences, improve learning and enhance local capacities (e.g. Red Chilena de Municipios ante el Cambio Climático - redmunicc.cl).
- ❖ A better balance between adaptation and mitigation strategies is still needed. Opportunities in the long term can profit synergies and co-benefits while taking care of potential trade-offs.
- ❖ Private sector engagement and coordination with governments actions can still be improved.
- ❖ Climate change action should be seen as part of the local and national development agenda as a way to better support the transit towards more sustainable and resilient development pathways.

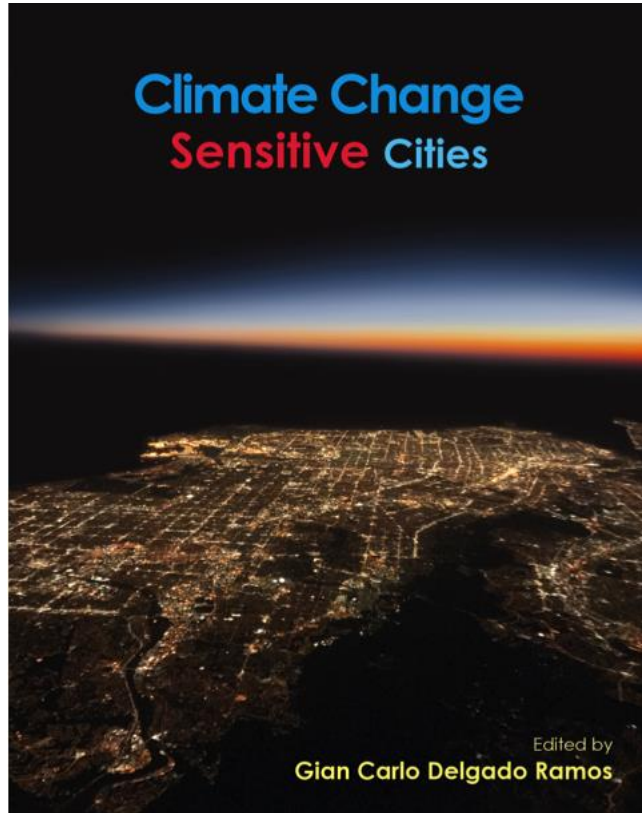
IPCC Cities Research Agenda



CITIES
2018 CONFERENCE
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The inner circle (orange) presents key crosscutting issues and knowledge gaps for a step-change of knowledge generation on cities and climate change. The middle circle (multi-coloured) presents six topical research areas where more evidence is needed to inform action. The external circle (green) presents three suggested approaches that may facilitate implementation of this Research and Action Agenda

IPCC Cities Research Agenda



Thank you!!

Mexico, 2017.

Available at:

www.pincc.unam.mx/IMG/ccsc/CCSC.pdf

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