USP GLOBAL CITIES

Instituto de
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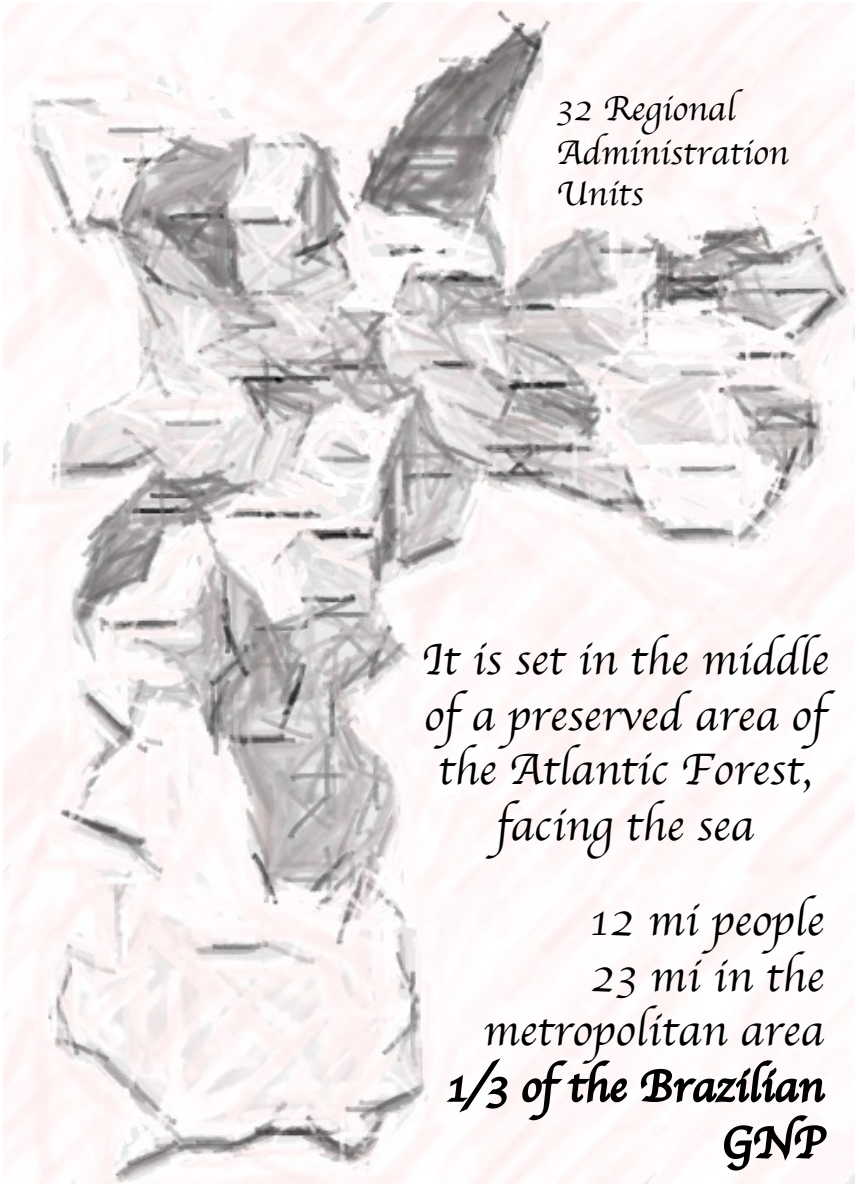
Avançados da
Universidade de
São Paulo

Initial focus: SÃO PAULO

The Dog´s Head



VISION

São Paulo belonging to the elite of the Global Cities (among the first 10), at the same time with an extraordinary increase in the quality of life and well-being of its inhabitants

USP CIDADES GLOBAIS

THE FIRST 50 GLOBAL CIEITES

City rank

2017	2016	2015	2014	2012	2012-2017 Δ	City
1	2	1	1	1	0	New York
2	1	2	2	2	0	London
3	3	3	3	3	0	Paris
4	4	4	4	4	0	Tokyo
5	5	5	5	5	0	Hong Kong
6	8	8	9	11	5	Singapore
7	7	7	7	7	0	Chicago
8	6	6	6	6	–2	Los Angeles
9	9	9	8	14	5	Beijing
10	10	10	10	10	0	Washington, D.C.
11	12	12	11	9	–2	Brussels
12	11	11	12	8	–4	Seoul
13	13	16	15	18	5	Madrid
29	29	28	23	23	–6	Frankfurt
30	30	31	29	36	6	Miami
31	34	32	34	33	2	São Paulo
32	31	30	31	25	–7	Zurich
33	35	36	32	28	–5	Rome
34	39	35	35	34	0	Mexico City
35	37	39	48	—	—	Vancouver
36	33	38	37	31	–5	Munich
37	36	40	39	35	–2	Geneva
38	40	37	36	39	1	Atlanta
39	32	33	33	27	–12	Stockholm
40	38	34	38	38	–2	Houston
41	41	43	42	43	2	Bangkok
42	42	45	43	42	0	Copenhagen
43	45	42	44	41	–2	Milan
44	44	41	41	45	1	Mumbai
45	46	51	47	—	—	Prague
46	48	48	45	44	–2	Dublin
47	43	44	40	40	–7	Taipei
48	51	49	50	—	—	Dallas
49	49	47	53	49	0	Kuala Lumpur
50	47	46	—	—	—	Philadelphia

Global Cities methodology

Global Cities Index—current performance

- Measures 27 metrics across five dimensions
  - — **Business activity (30%)**: capital flow, market dynamics, and major companies present
  - — **Human capital (30%)**: education levels

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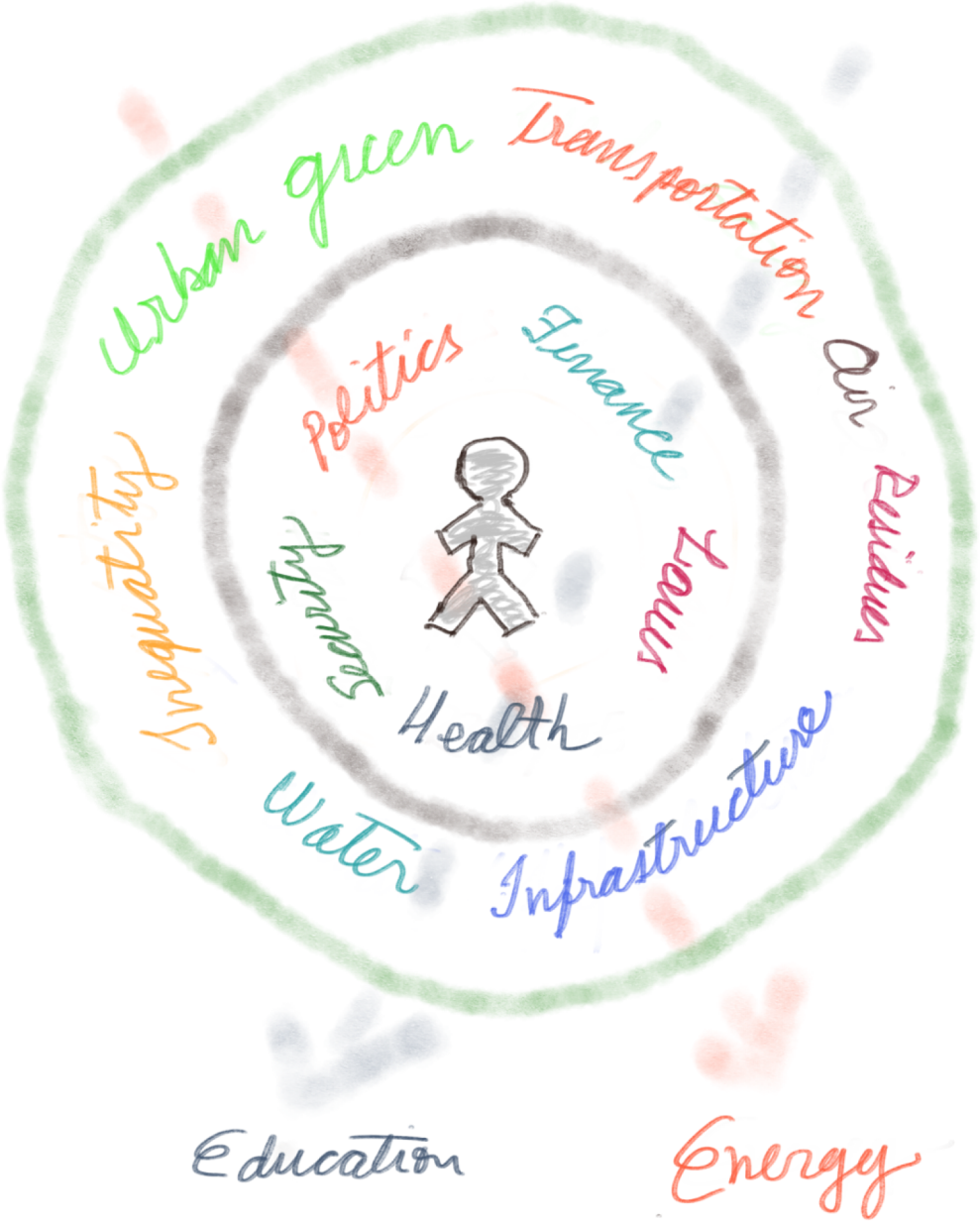
Global Cities 2017:
Leaders in a World of
Disruptive Innovation

USP CIDADES GLOBAIS

USP Global Cities targets

Integrators: *Climate Change and Sustainable Development*



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São Paulo

















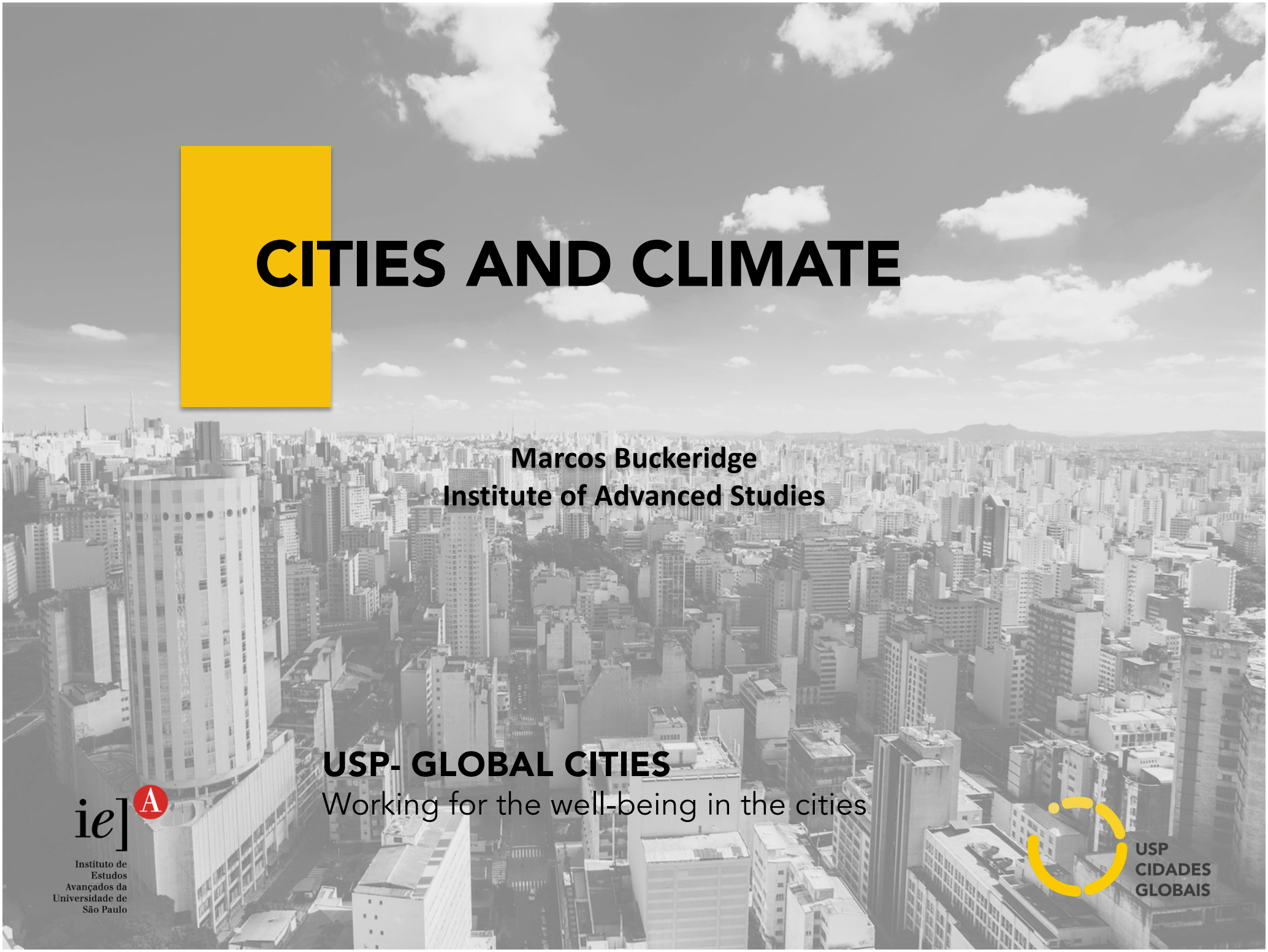

CITIES AND CLIMATE

Marcos Buckeridge
Institute of Advanced Studies

USP- GLOBAL CITIES
Working for the well-being in the cities

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Instituto de Estudos Avançados da Universidade de São Paulo

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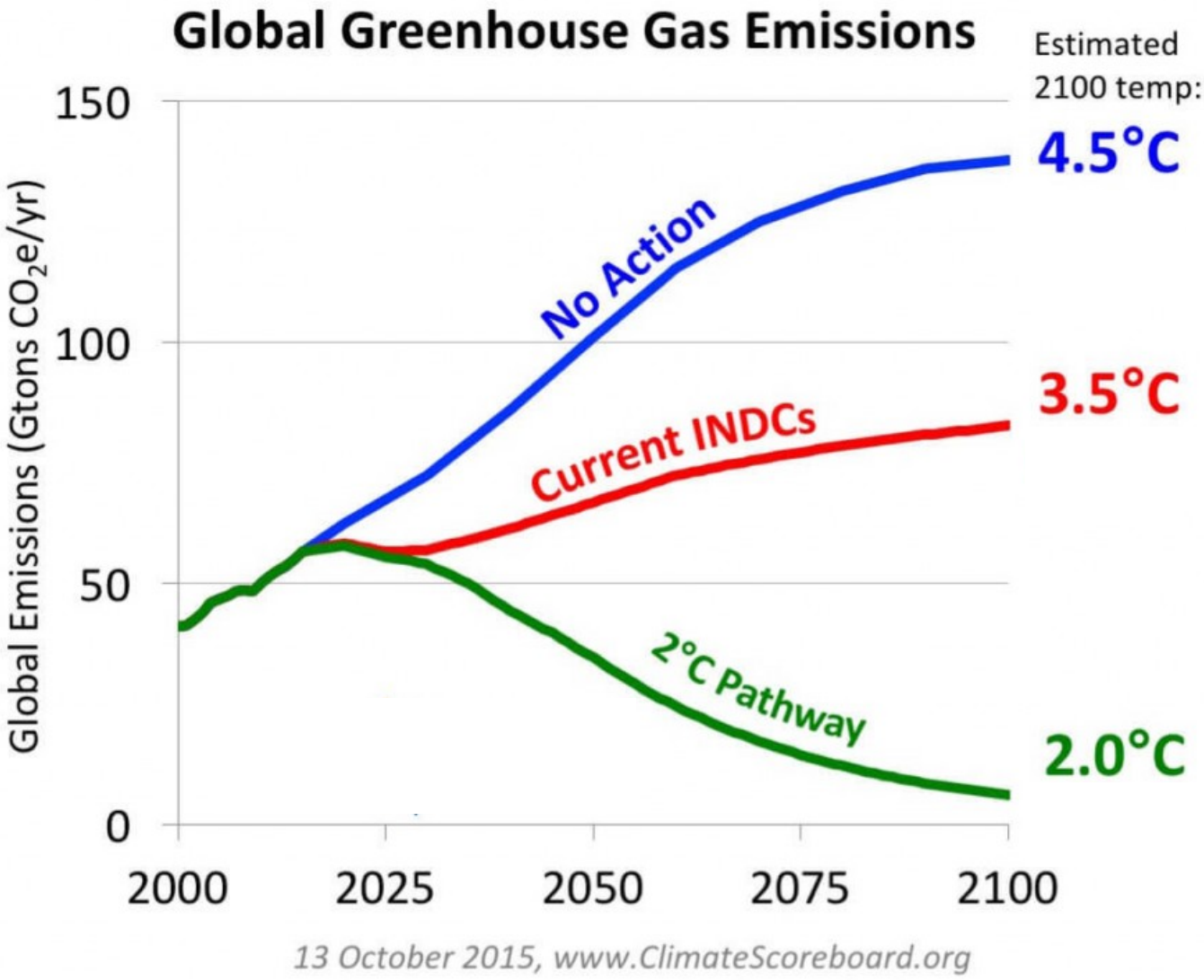
CLIMATE CHANGE



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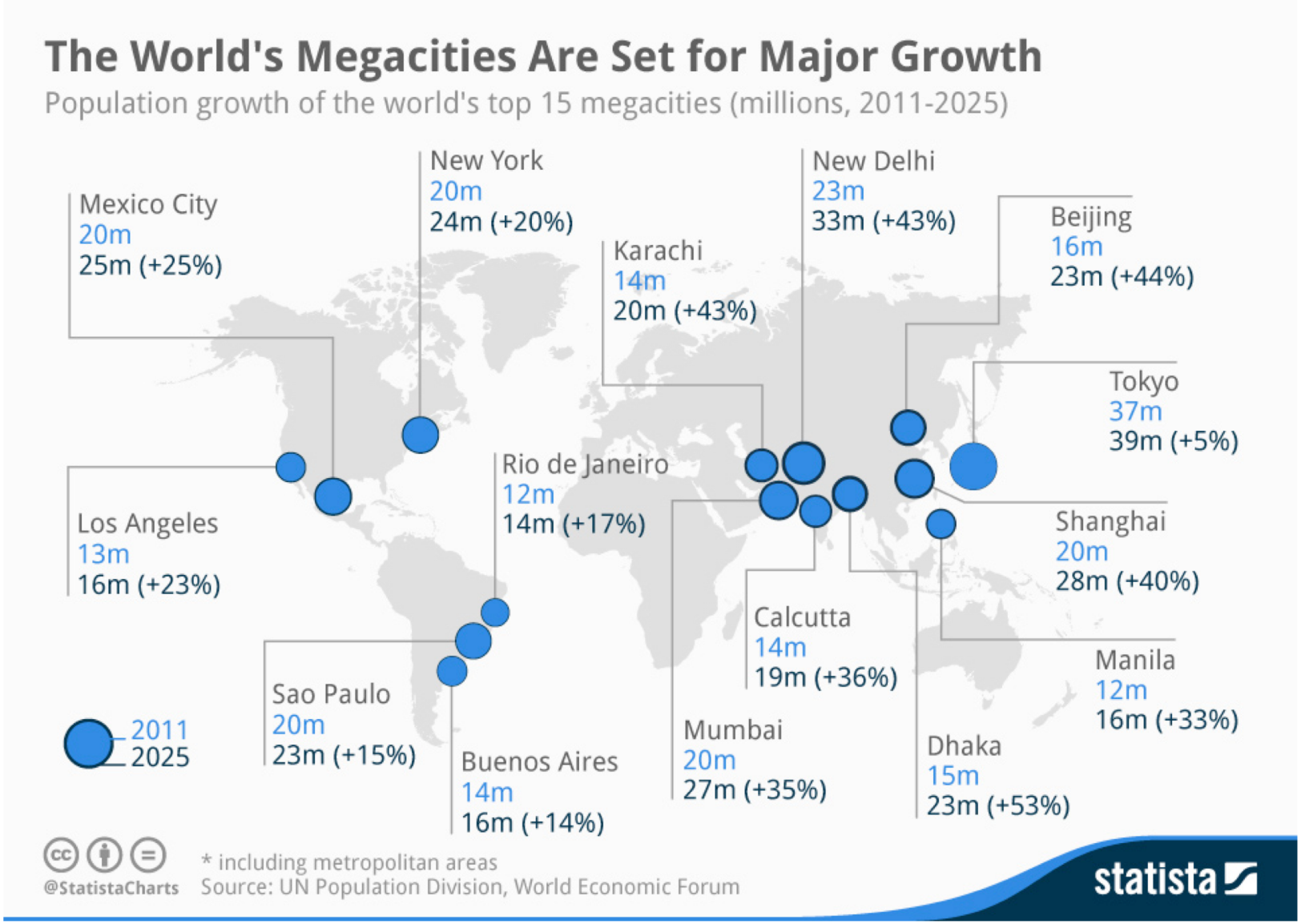
MEGACITIES AROUND THE WORLD – 2011 to 2025



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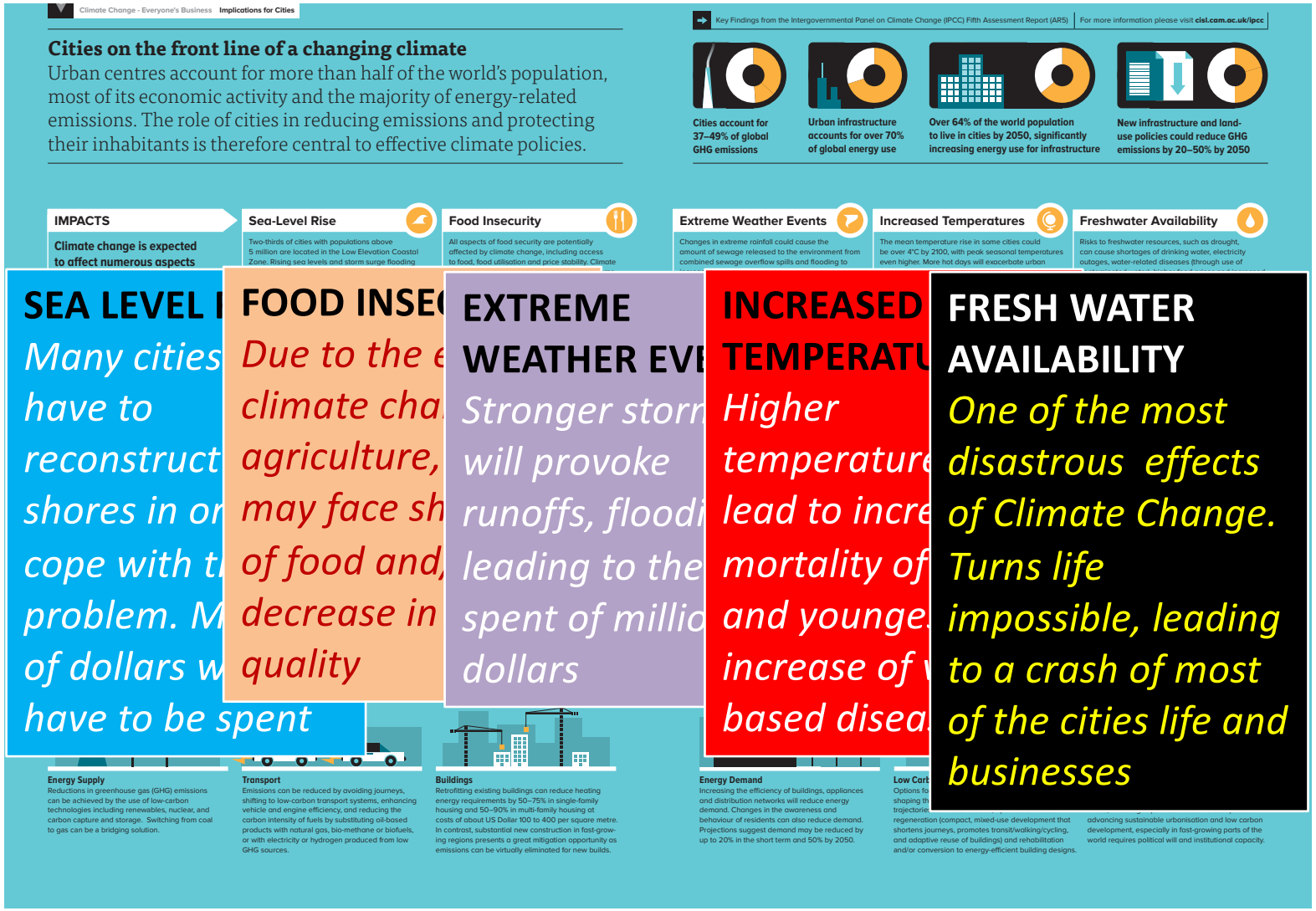
IMPACTS OF CLIMATE CHANGE ON CITIES



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COSTS AND ECONOMICAL ISSUES RELATED TO THE IMPACT OF CLIMATE CHANGE ON CITIES

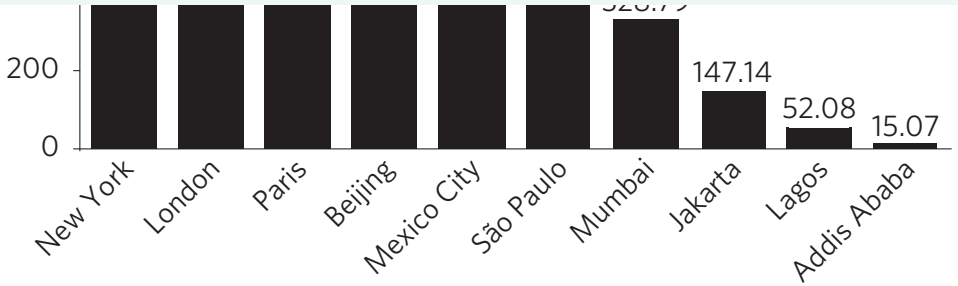
NATURE CLIMATE CHANGE DOI: 10.1038/NCLIMATE2944

NATURE CLIMATE CHANGE DOI: 10.1038/NCLIMATE2944 LETTERS

1,624

Table 1 | Growth in the adaptation economy between 2008/09 and 2014/15.

City	Spend (£million)	Annual growth (%)						Spend (£million)	2008/09–2014/15 average
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2014/15	annual growth (%)
New York	1,275.50	3.15	3.41	3.71	4.27	5.62	4.53	1,624.39	4.11
London	786.31	3.07	3.38	3.54	4.20	5.30	4.14	991.32	3.94
Paris	712.03	3.09	3.34	3.69	6.68	2.89	4.51	902.25	4.03
Beijing	665.97	3.00	3.34	3.60	5.53	5.38	4.50	853.36	4.22
Mexico City	493.53	3.11	3.37	3.64	4.21	3.06	5.37	617.01	3.79
São Paulo	485.23	3.08	3.36	3.72	5.63	3.54	8.53	614.71	4.02
Mumbai	264.36	3.12	3.36	3.69	2.62	3.56	5.90	328.79	3.70
Jakarta	114.93	3.28	3.34	3.73	5.06	3.81	6.02	147.14	4.20
Lagos	44.42	2.88	3.50	3.70	−5.76	5.44	6.85	52.08	2.69
Addis Ababa	15.18	2.83	3.84	4.07	−25.78	9.74	9.68	15.07	−0.12



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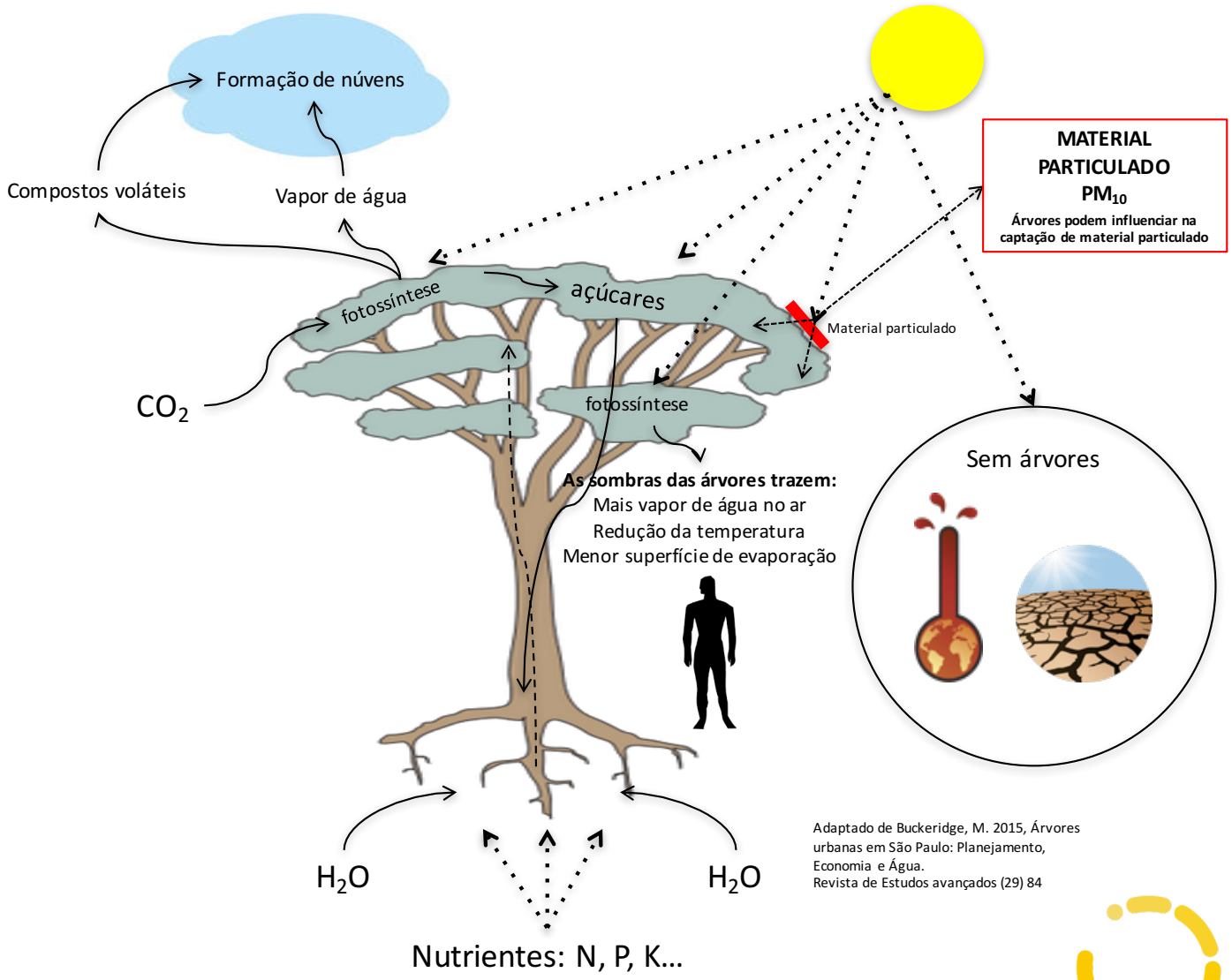
USP-CG
The Urban Green



Adaptado de Buckeridge, M. 2015, Árvores urbanas em São Paulo: Planejamento, Economia e Água.
Revista de Estudos avançados (29) 84

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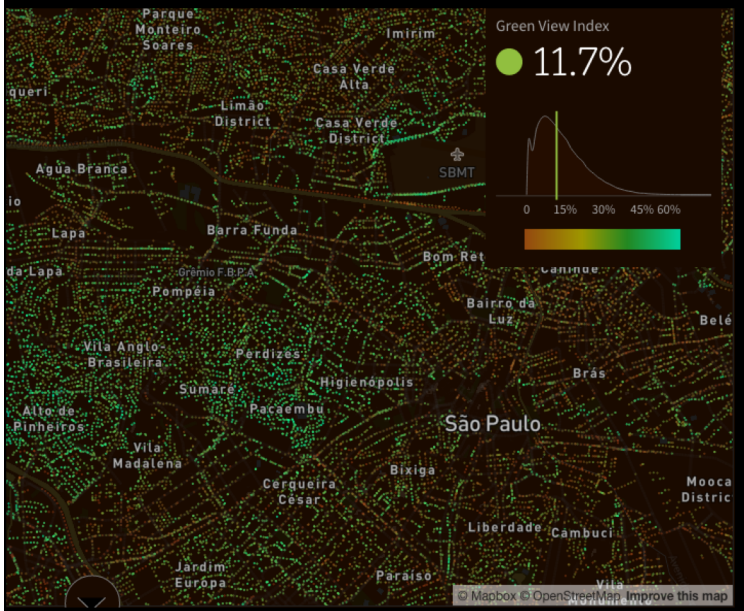
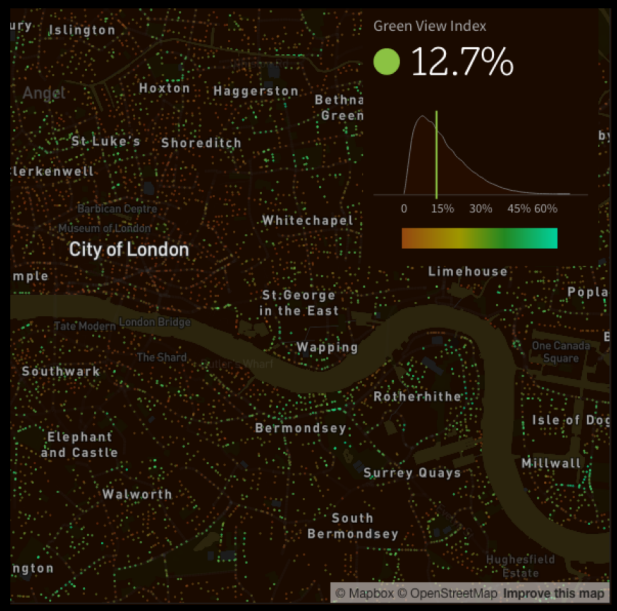
Treepedia

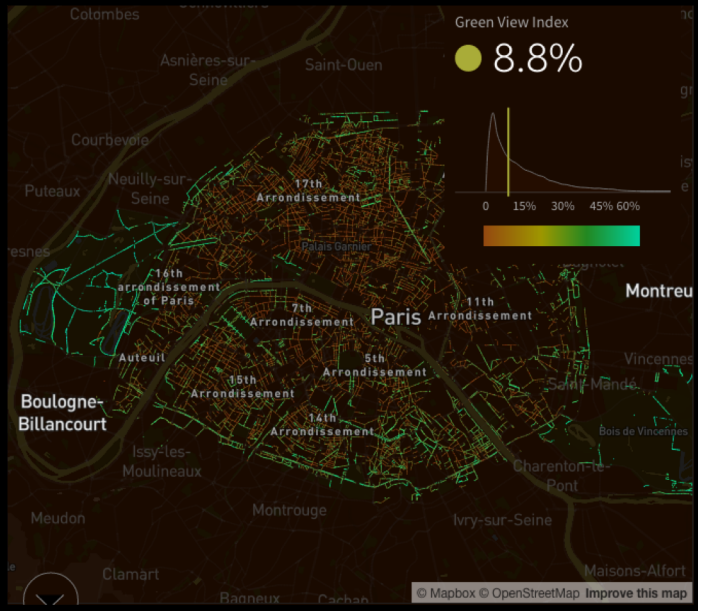
MIT | SENSEABLE CITY LAB

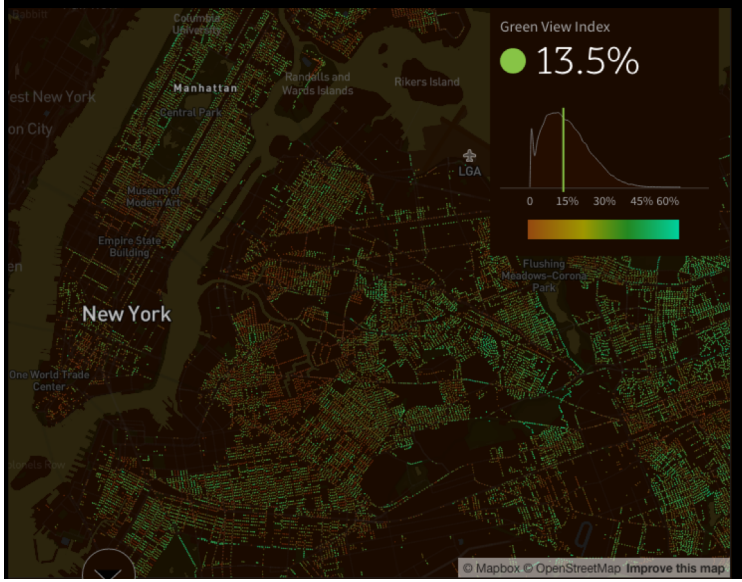
GLOBAL SHAPERS COMMUNITY

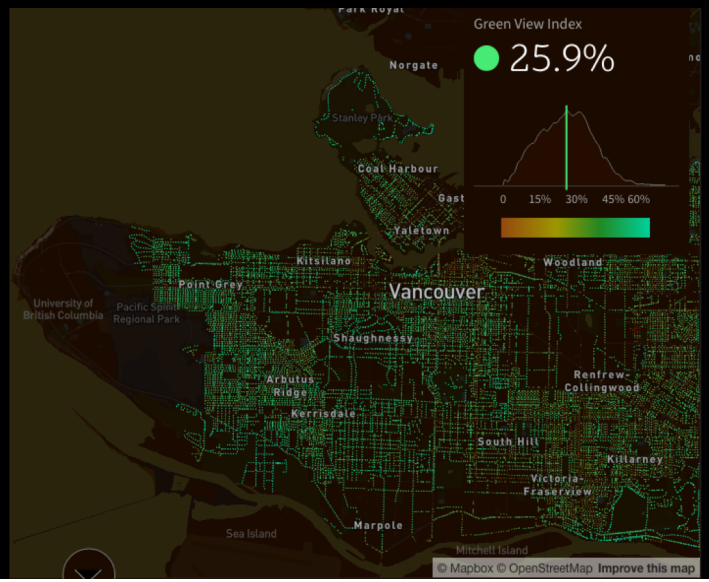
WORLD ECONOMIC FORUM

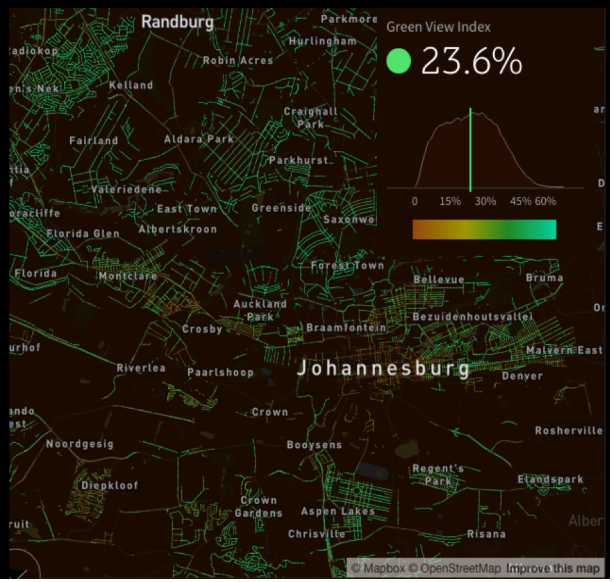






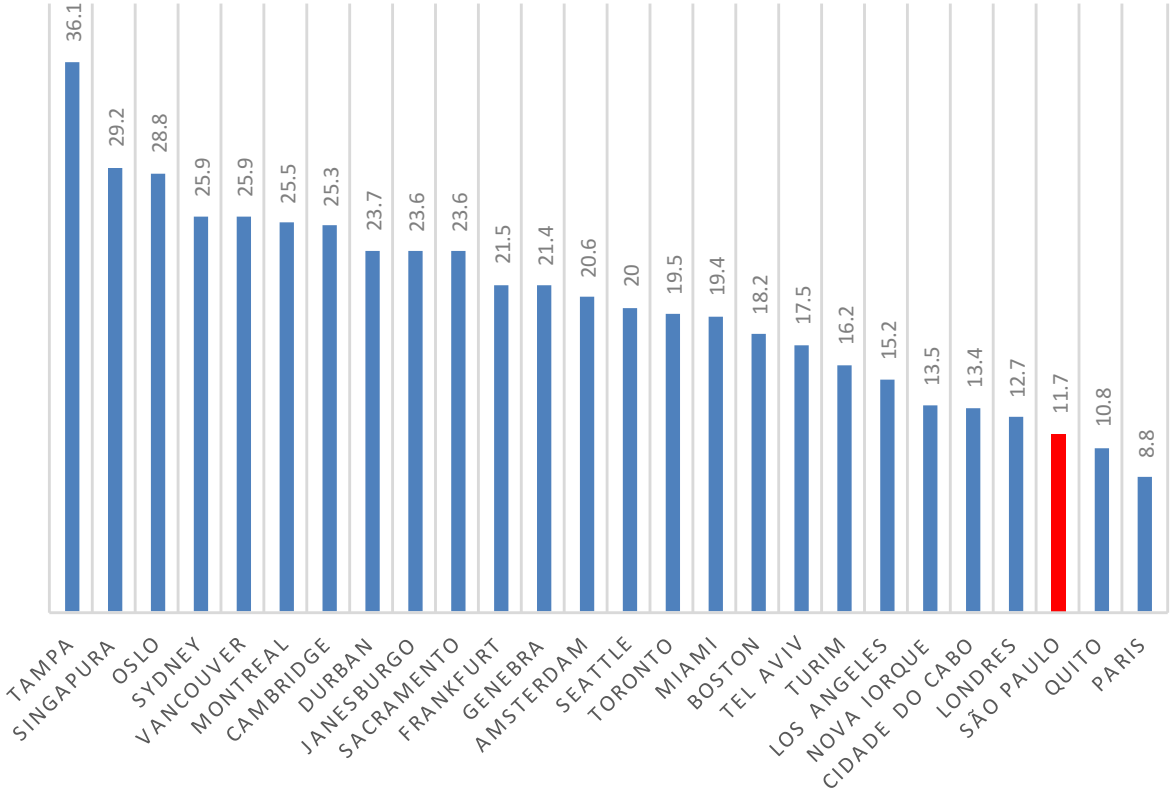


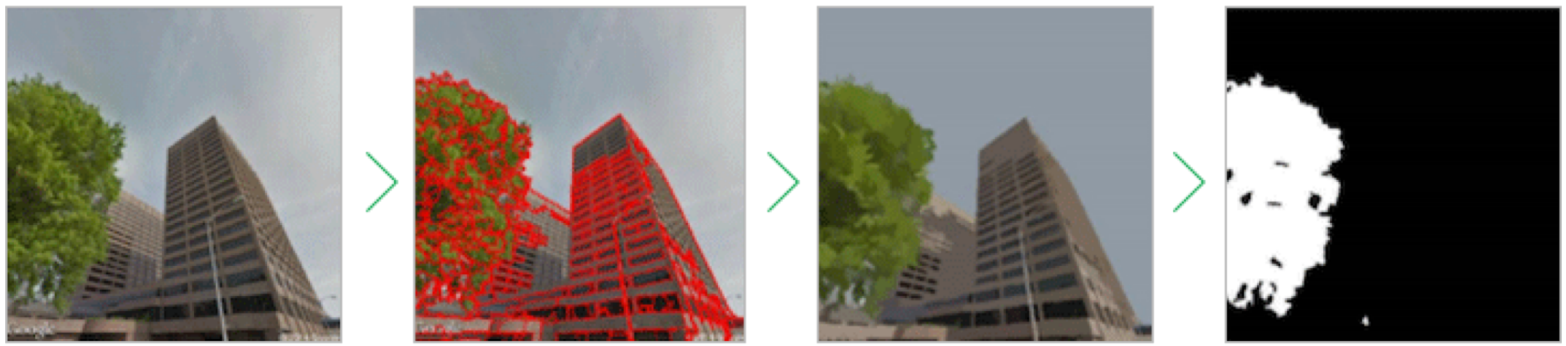




PERCEPTION OF ARBORIZATION (GVI – TREEPEDIA %) EM 26 CIDADES GLOBAIS

At USP, a similar tool has been developed (called INACITY)





Treepedia and INACITY uses Google Street View (GSV) para calculate the Green View Index (GVI)
By using GSV, GVI gives an account of the urban arborization

X Li, C Zhang, W Li, R Ricard, Q Meng, W Zhang (2015). Assessing street-level urban greenery using Google Street View and a modified green view index. Urban Forestry & Urban Greening 14 (3), 675-685
I Seiferling, N Naikc, C Ratti, R Proulx (2017). Green streets – Quantifying and mapping urban trees with street-level imagery and computer vision. Landscape and Urban Planning 165: 93–101

METAS PARA AUMENTAR AS ÁREAS VERDES EM SÃO PAULO

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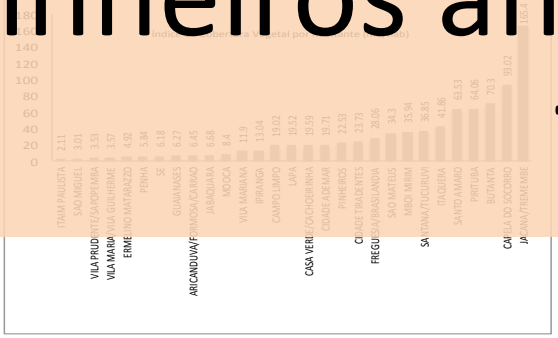
The 650,000 trees of São Paulo are equivalent to 15% of the River Pinheiros and 3% of the River Tietê

The 79 km² of the preserved Cantareira Forest add 12 Tietê Rivers to the city of São Paulo

Preto: regiões de prioridade 1 (8,4 a 8,5)
Vermelho: regiões de prioridade 2 (8,5 a 13)
Azul: regiões de prioridade 3 (13,1 a 22,5)

São 5 faixas de ICV

0-5	muito baixo
5-11	baixo
11-20	médio-baixo
20-35	médio-alto
35-65	alto
75+	muito alto



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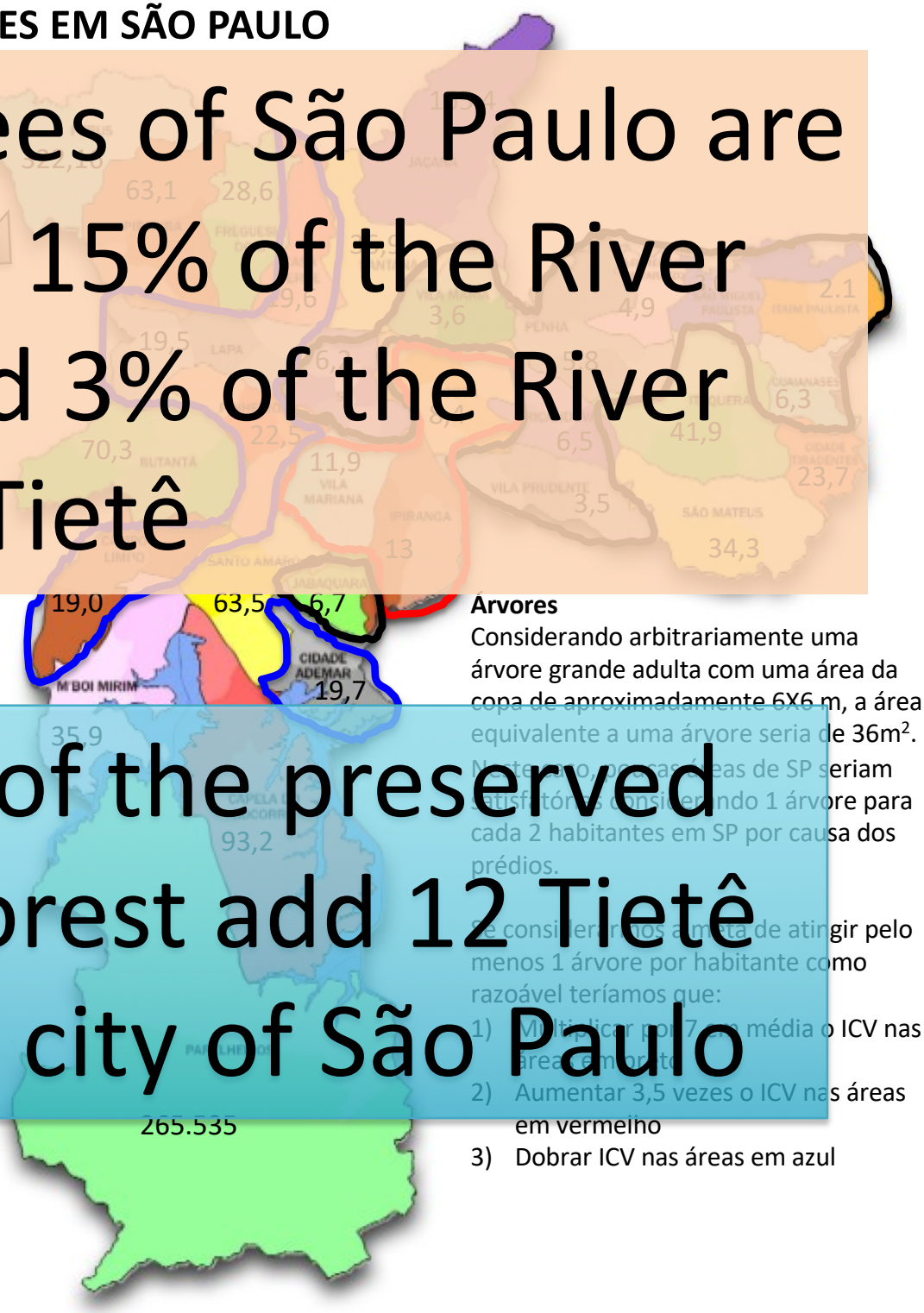

Árvores

Considerando arbitrariamente uma árvore grande adulta com uma área da copa de aproximadamente 6X6 m, a área equivalente a uma árvore seria de 36m². Nesse caso, as áreas de SP seriam satisfatórias considerando 1 árvore para cada 2 habitantes em SP por causa dos prédios.

Se considerarmos a meta de atingir pelo menos 1 árvore por habitante como razoável teríamos que:

1) Multiplicar por 7 a média o ICV nas áreas em azul
2) Aumentar 3,5 vezes o ICV nas áreas em vermelho
3) Dobrar ICV nas áreas em azul

ROUTES TO THE FUTURE FOR SÃO PAULO 2050

São Paulo 2017
SSP2-SSP4

- Asymmetric Tree Cover
- High Violence
- High Inequality
- Low level of Health
- Renewables falling
- High Cultural Level
- High Corruption

?

SP 2030
Crossing the
1,5°C planet treshold

Sustainable São Paulo
SSP1

- Symmetric Tree Cover
- Low Violence
- Inequality falling
- High level of Health
- High Renewables
- High Cultural Level
- Low Corruption

Unequal São Paulo
SSP4

- Asymmetric Tree Cover
- Violence without control
- Inequality rising
- Health only for the rich
- High fossil fuel
- Low Cultural Level
- High Corruption

Note that São Paulo has already crossed the temperature transition (it is above 2°C). Thus, it serves as a "laboratory" for other cities

THANK YOU

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