

PLANNING FOR GREEN URBAN INFRASTRUCTURE AND SUPPORTING CLIMATE ADAPTATION

Simone Bröschke/ Sandra Naumann, SenMVKU, City of Berlin
Ankara, 30 May 2024

BERLIN



Figures and facts about Berlin

- Population: ca. 3.8 Mio., 12 districts
- Size: ca. 891.85 km²
- ca. 20% of the area covered by forest, 12% public green areas, 7% blue areas
- Capital of bats, nightingales, wild boars and wild bees

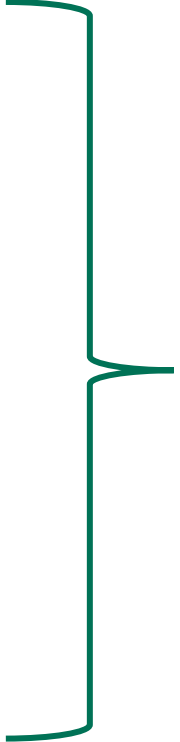


Policy targets:

- Climate neutral by 2045 (Berlin Climate Protection and Energy Transition Act)
- Every citizen can reach a green space within 500 m, 6 m² recreational space /inhabitant (Charter Urban Green, Biodiversity Strategy)
- Halt the loss of wild species by 2030, positive development trend and good status of species (Biodiversity Strategy)

Plans and Actions and linkages to climate adaptation

- New Biodiversity Strategy 2030+:
Integrating wellbeing, climate and biodiversity
- Landscape and species protection programme
- City-wide compensation concept/Ecological account
- Charter for Urban Green
- Integrated Urban Development concept 2030
- Upcoming Sustainability strategy
- Berlin Urban Nature Pact



Climate and
adaptation and
mitigation as cross-
cutting issue

Urban Development Plan (StEP) Climate 2.0 - planning approaches to climate change

Berlin Energy and Climate Programme – supporting e.g. climate-nature projects

Thank you for your attention.

Senatsverwaltung
für Mobilität, Verkehr,
Klimaschutz und Umwelt

BERLIN





CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

National workshop: Building climate-smart and resilient cities in Türkiye: Climate Action Planning & Green Urban Infrastructure

CCT: Spatial Planning & Environment: Environmental Management
Ankara, Türkiye – 30 May 2024

Making progress possible. **Together.**

General

- Southern-most metro in Africa
- Population: 4.5 million
- Extent: $\pm 2,400\text{km}^2$
- Unique heritage

Environmental

- Most biodiverse city globally
- Green space:
 - 1,349ha+ natural public green space
 - 55,000ha+ mostly publically owned, accessible protected areas
 - Table Mountain National Park
 - 2 x WHS (TMNP, Robben Island)
 - 1 x Ramsar site
 - 14 district parks, 354 greenbelts
- 307km coastline (City: 240km)
- Ramsar Wetland City with large river & wetland network



City of Cape Town context





SFA 1: URBAN COOLING AND HEAT RESPONSIVENESS



SFA 2: WATER SECURITY AND DROUGHT-READINESS



SFA 3: WATER SENSITIVITY, FLOOD-READINESS AND STORM MANAGEMENT

Strategic Focus Areas: Adaptation

SFA 4: COASTAL MANAGEMENT AND RESILIENCE



SFA 5: MANAGING FIRE RISK AND RESPONSIVENESS





SFA 6: SPATIAL AND RESOURCE INCLUSIVITY



SFA 7: CARBON-NEUTRAL ENERGY FOR WORK CREATION AND ECONOMIC DEVELOPMENT



SFA 8: ZERO-EMISSION BUILDINGS AND PRECINCTS

Strategic Focus Areas: Mitigation

SFA 9: MOBILITY FOR QUALITY OF LIFE AND LIVELIHOODS



SFA 10: CIRCULAR WASTE ECONOMY

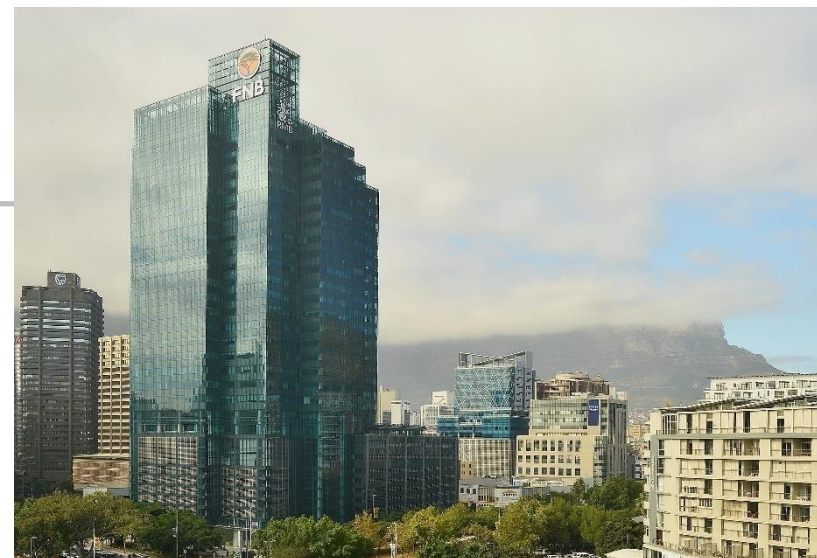




CCWA 1: MAINSTREAMING, GOVERNANCE, RESEARCH AND KNOWLEDGE MANAGEMENT



CCWA 2: ECONOMIC IMPACTS AND GREEN ECONOMY OPPORTUNITIES



CCWA 3: BUSINESS MODELS, REVENUE AND FINANCING CLIMATE CHANGE RESPONSE

Cross-Cutting Work Areas

CCWA 4: COMMUNICATION, COLLABORATION AND SKILLS DEVELOPMENT



CCWA 5: PROMOTE, PROTECT, AND ENHANCE HUMAN AND ECOSYSTEM HEALTH



Example of climate adaptation and cross-cutting options:

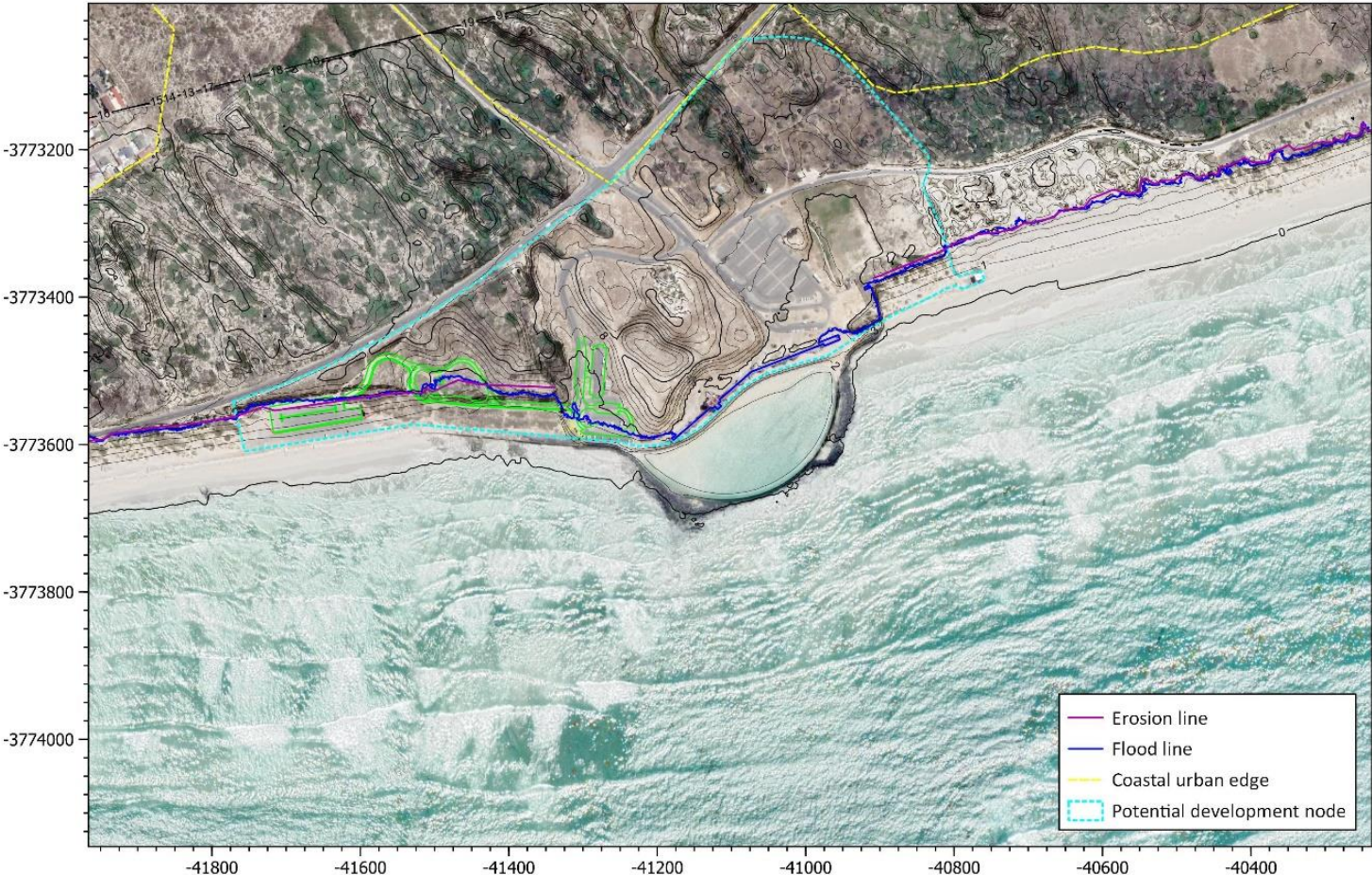
Nature-based Solutions (dune rehabilitation) & socio-institutional / governance (coastal setback lines)



Table View rehabilitation,
vegetated dune corridor

Strandfontein Coastal Node:
flood risk and erosion lines used to
inform Coastal Setback Lines

2078 (50 years after construction)
100-year event



Hout Bay dune
rehabilitation





CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD



Thank You

Contact: Bronwen Griffiths Bronwen.Griffiths@capetown.gov.za

Making progress possible. Together.

City of Copenhagen



Greater Copenhagen
Cooperation between Denmark and Sweden



INHABITANTS

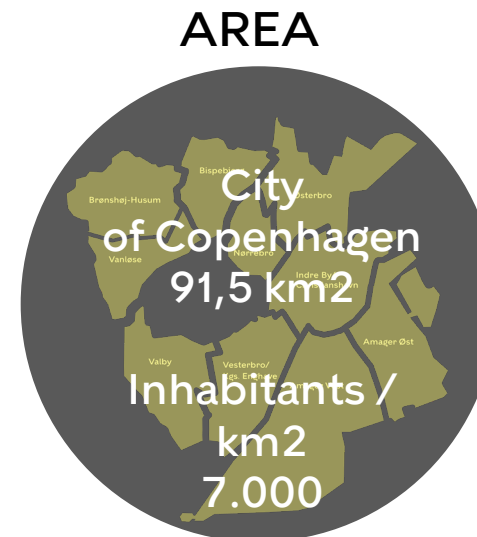
City of Copenhagen
660.000 (2024)

The metropolitan area
1.359.000

Greater Copenhagen
4.400.000

New inhabitants per
month in Copenhagen
500

Average age
36 years



WATER

131 km coastline (76 km
harbor and 55 km
embankment or beach)

96 km of waterways
Goal +10%

0.3 km² of lake and
wetland areas (3.6% of the
entire area of
Copenhagen)
Goal +10%



GREENARY

Green areas
29% (2024)
Goal 30%

Acces to green area within
300m (2022)
93%
Goal 100%

Average of m² green
area/citizen
(2024)
41 m²

Vegetation coverage
56% (2022)

Tree canopy coverage
17,5 % (2019)
Goal 20%

Storm Surge Protection

- **First security in the south, then in the north**
- **Nature-based solutions**
- **4,5 meters above water protection in South before year 2100**





PLANNING FOR CLIMATE CHANGE

CURITIBA | BRAZIL



CURITIBA



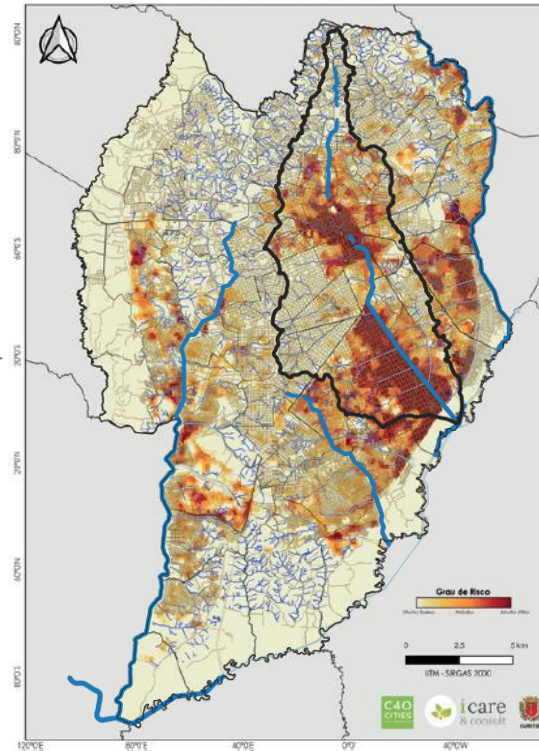
IPPUC

CURITIBA – CLIMATE ACTION PLAN

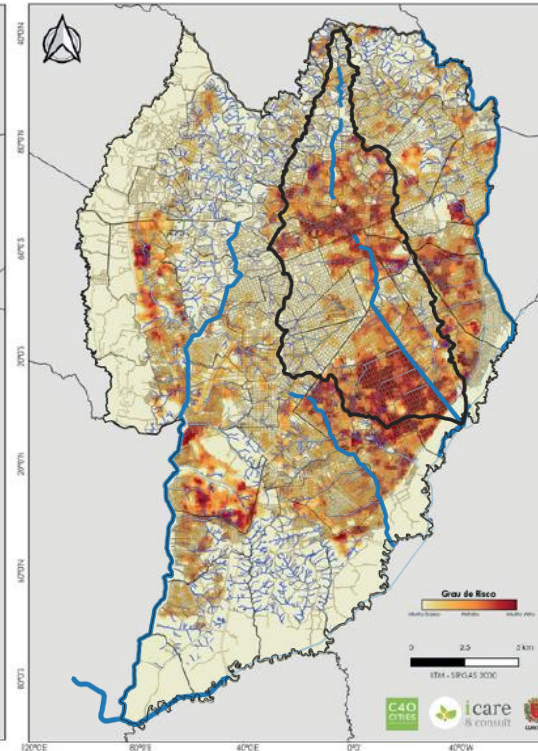


1,773,733 inhabitants

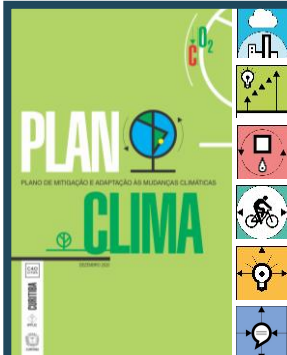
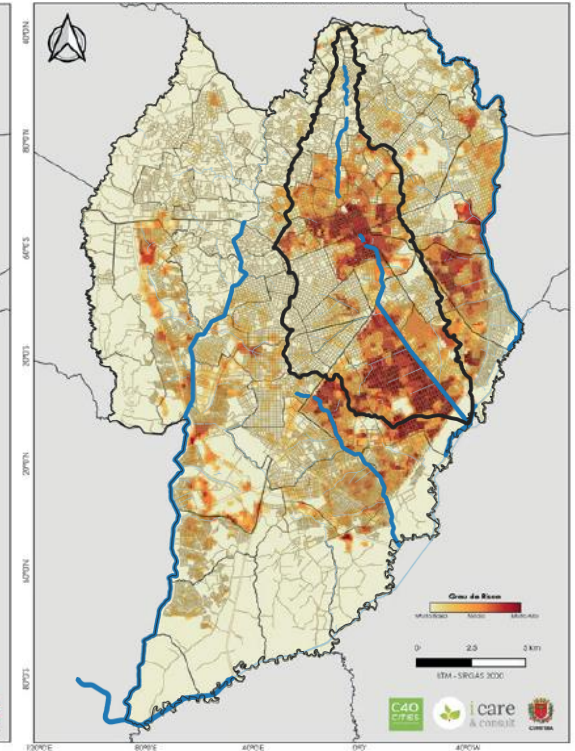
Flooding



Urban drainage problems



Heat waves



Increase of 1.2 °C in the average temperature, with a tendency to rise



Higher probability of extreme storm events with the potential to cause flooding



Increase in the frequency of consecutive days without rain, which may lead to long periods of drought



URBAN AND ENVIRONMENTAL QUALITY

ACTION 1 - Expansion of green areas to increase carbon stock.

ACTION 2 - Permeability and improvement of drainage conditions, shading and natural cooling.

ACTION 3 - Rainwater management based on concepts of sustainable urban drainage and solutions based on nature.

ACTION 4 - Promotion of water security.

ACTION 5 - Establishment and regulation of criteria for resilient buildings.

ACTION 6 - Improvement and expansion of food and nutrition security policies.



GOVERNANCE

- IPPUC + SMMA
- State and Central government
- External Institutions
- Private Sector stakeholders



IPPUC



CURITIBA
SMMA



COHAB
Curitiba



SANEPAR



AMEP
AGÊNCIA DE ASSISTÊNCIA METROPOLITANA DO PARANÁ



INSTITUTO
ÁGUA E TERRA

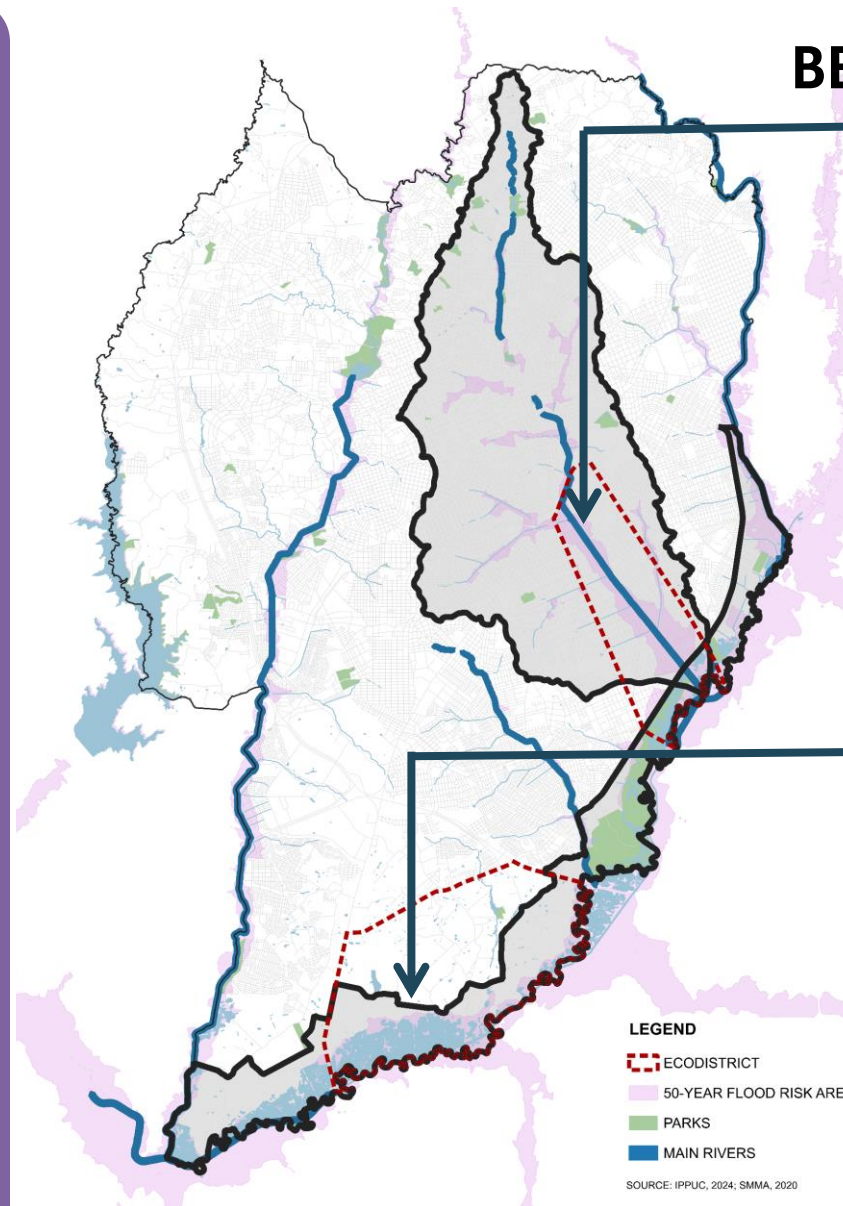
BELEM BASIN RESTORATION

FLOOD RISK AREA

- Nature-based Solutions
- Resilient City
- Urban Biodiversity
- Urban Renewal

WATER RESERVE

- Emergency water supply – drought periods
- Ecosystem services preservation



Thank you

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CURITIBA



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SÃO PAULO
CITY HALL
GREEN AND
ENVIRONMENT

SÃO PAULO GREEN CAPITAL

COMPENDIUM FOR CITY

Daniel Reis / Anhanguera Wildlife Refuge

SÃO PAULO

DATA

City population: 11.96 million

City density: 7,528.26 people/km²

Total Area of City: 1,528 km²

Permeable green surfaces: 728 km²(47,6% of all land)

Parks: 114 (84 urban, 24 linear and 6 naturals)

Protected Areas: 437.08 km² (28.61% of all area)

Tree canopy cover: More than 50%

Biodiversity:

- 1,354 registered species of Fauna (with 22 new)
- 673 registered native species of Flora

Green Plans: Urban afforestation, Climate action, Protected areas and open green spaces, Environmental education, Atlantic Forest conservation, Payment for environmental services

Budget: City: US\$ 22.3 billion

Green and Environment: US\$ 126.2 million

INVEST IN NATURE

City committed to the environment and green connectivity

Reach at least 25% of the municipality of São Paulo in protected green areas, with the acquisition of around 169km² of its territory



Reduce emissions estimated at 25% of nitrogen oxides, 40% of particulate matter and 12% of carbon oxides through the municipal public transport system



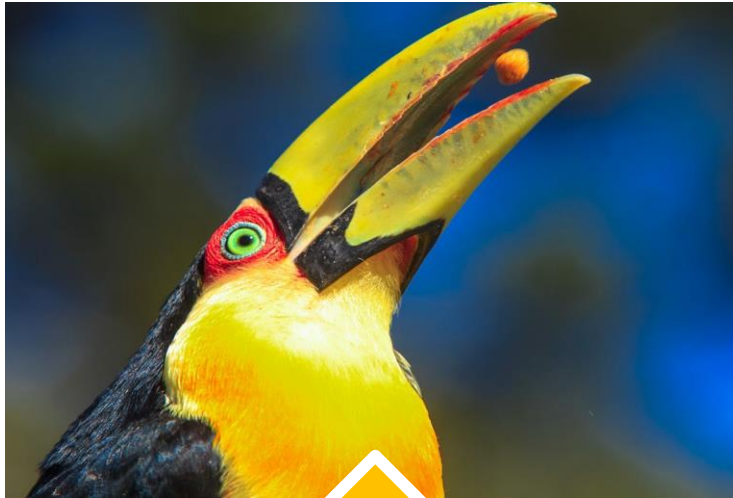
Implement 200 new parks in the city of São Paulo, to comply with the determinations proposed by Agenda 2030



INVEST IN NATURE

City committed to the environment and green connectivity

Enable monitoring via remote sensing of digital coverage. Promote the conservation and recovery of vegetation cover Stimulate actions based on Nature



Operationalize the Payment of Environmental Services to rural properties



Acquire equipment, materials and vehicles necessary to operate the wildlife monitoring inventory





SÃO PAULO
CITY HALL
GREEN AND
ENVIRONMENT

RODRIGO RAVENA

Green and Environment Secretary

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Green Infrastructure for Climate Adaptation in Seattle, Washinton The "Emerald City in the Evergreen State..."

AP Diaz, Superintendent | May 30, 2024
Urban Nature Program, Ankara - Türkiye



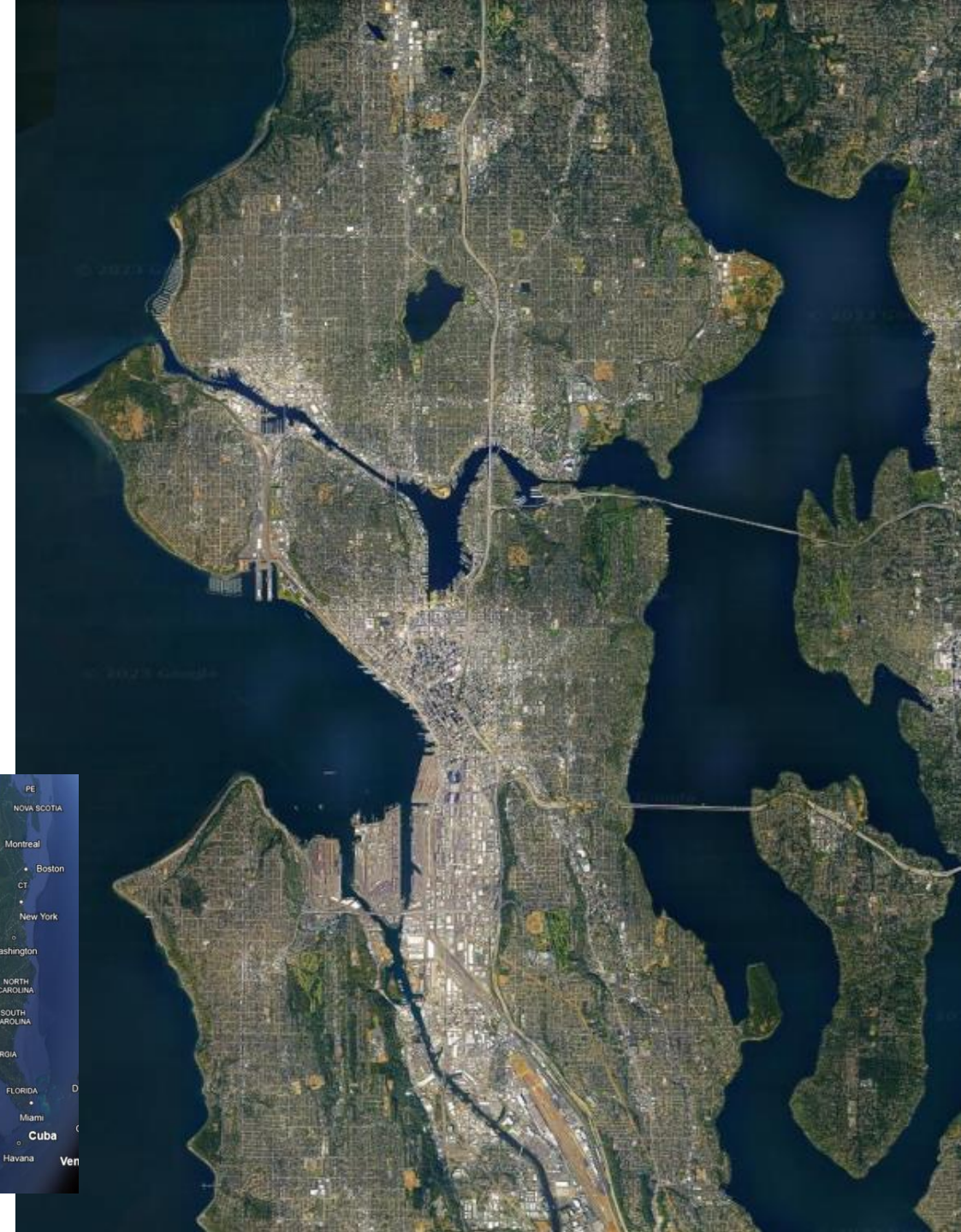
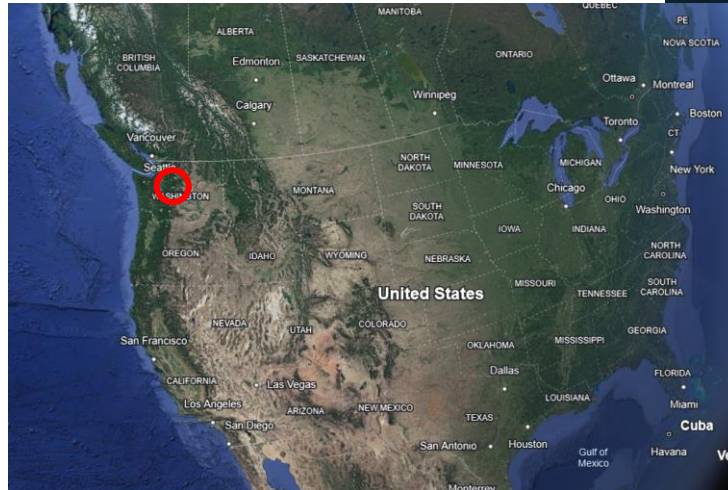
Healthy People, Thriving Environment, Vibrant Community

#SeattleShines

A horizontal bar composed of several overlapping rectangular segments in the colors of the rainbow: yellow, orange, red, orange, yellow, green, and blue.

Seattle, Washington USA

- a city of land & seascapes
 - 217 square kilometers
 - Salish Sea to west
 - Lake Washington to east
 - Home of the indigenous Coast Salish
 - Founded 1851
 - 750,000 people



Climate Impacts

- Sea-level Rise
- Extreme Heat Events
- Intense Winter Storms
- Invasive Species
- Water Shortages



Climate Resiliency & Green Infrastructure

- Water Conservation & Plant Establishment
- Rain Gardens
- Adaptive Plant Species
- Tree Planting
- Urban Forest Restoration
- Pollinator Habitat
- Coastal Impacts Study



Thank You



Seattle
Parks & Recreation

Healthy People, Thriving Environment, Vibrant Community

