The Multi-Dimensional Impact of Tourism

The Case of Aruba

Centrale Bank van Aruba
April 12, 2024

Agenda

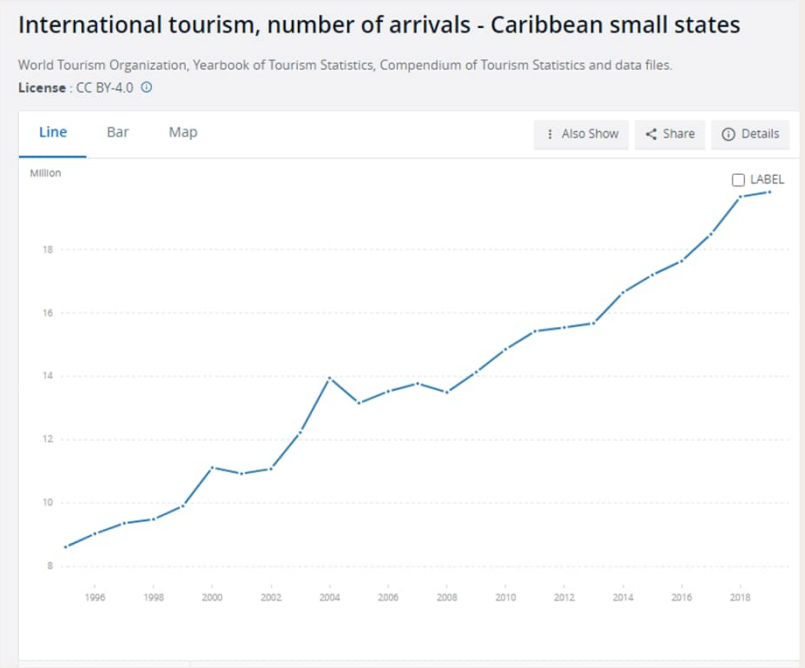
- Introduction
- The evolution of tourism
- The tourism life cycle
- Overtourism and its implications
- Maximum capacity
- Final takeaways

Introduction

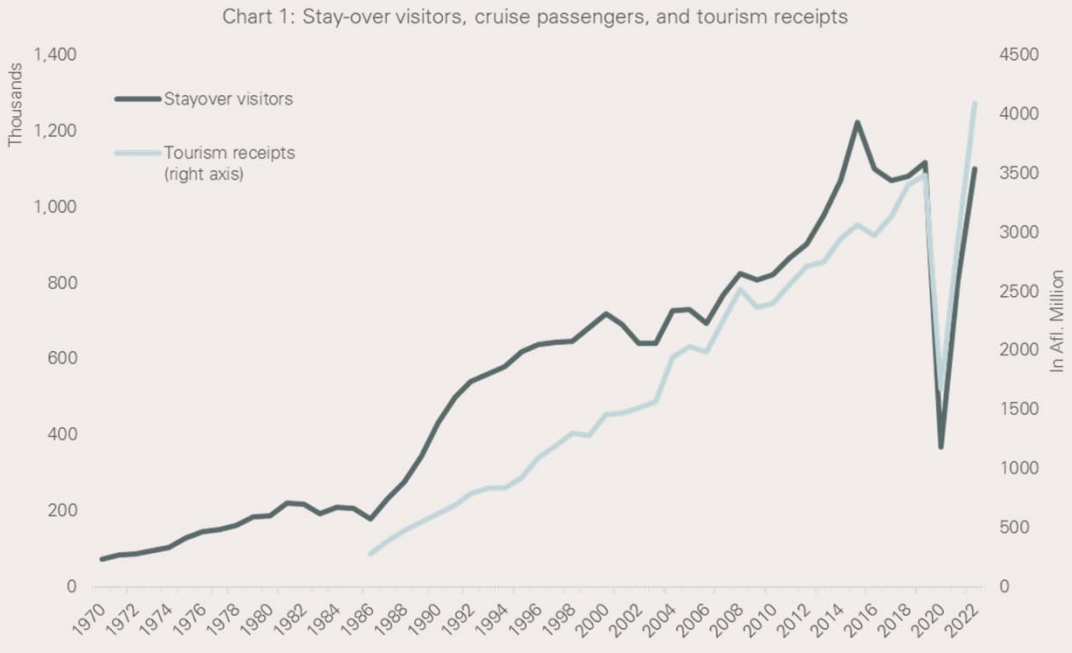
The Caribbean is one of the most tourism-intense regions in the world.

Tourism is a major driver of economic growth.

Tourism accounts overall for more than forty percent of the GDP shares in the Caribbean (WTO, 2018).



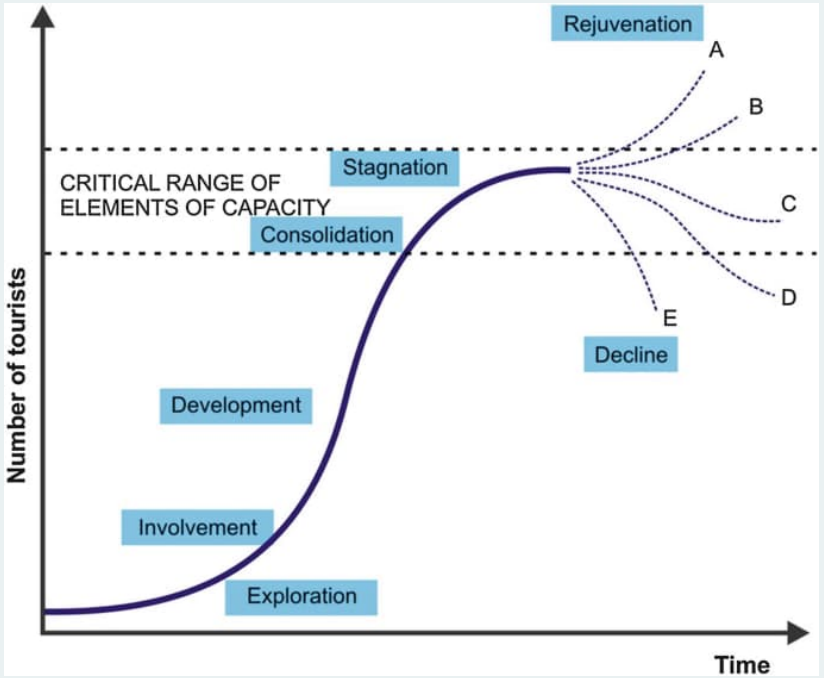
The evolution of tourism



Source: CBA (1985-2022), World Bank (1970-1984)

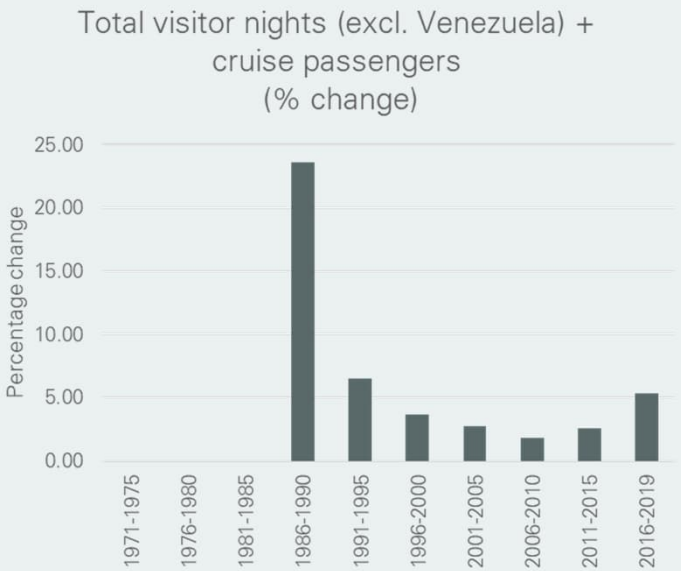
Tourism life cycle

1. Exploration stage
2. Involvement stage
3. Development stage
4. Consolidation stage
5. Stagnation stage
6. Declining stage



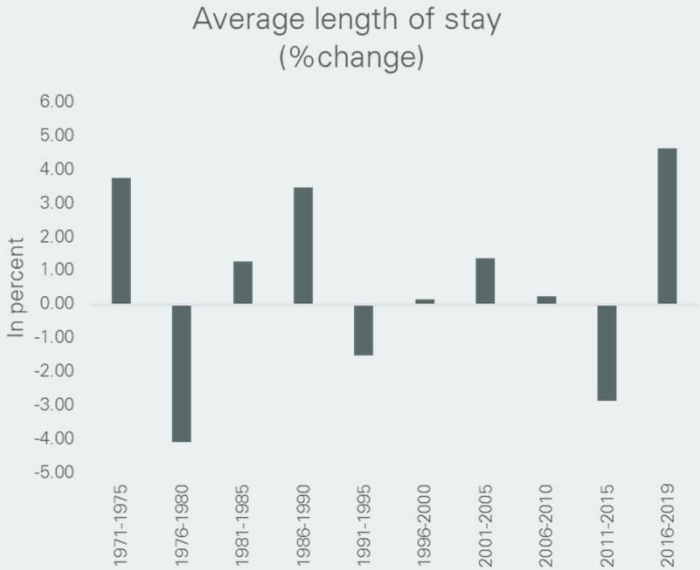
Source: Butler (1980)

Tourism life cycle



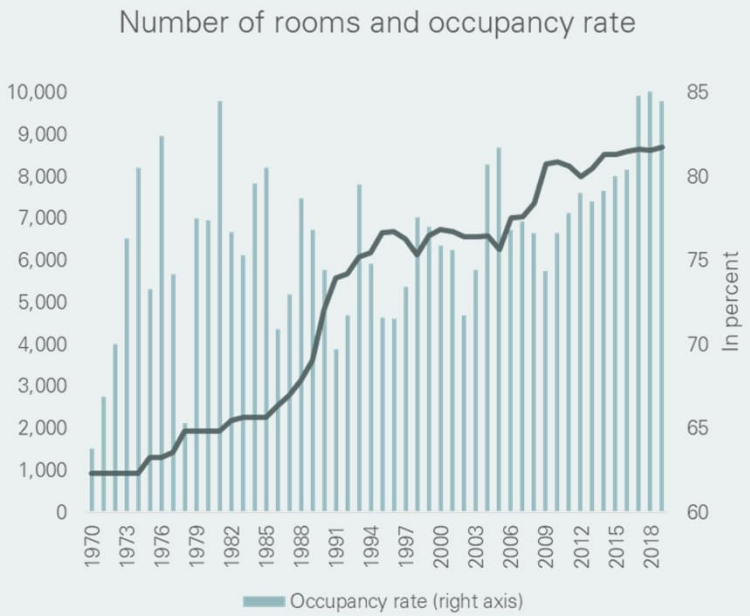
Source: CBA

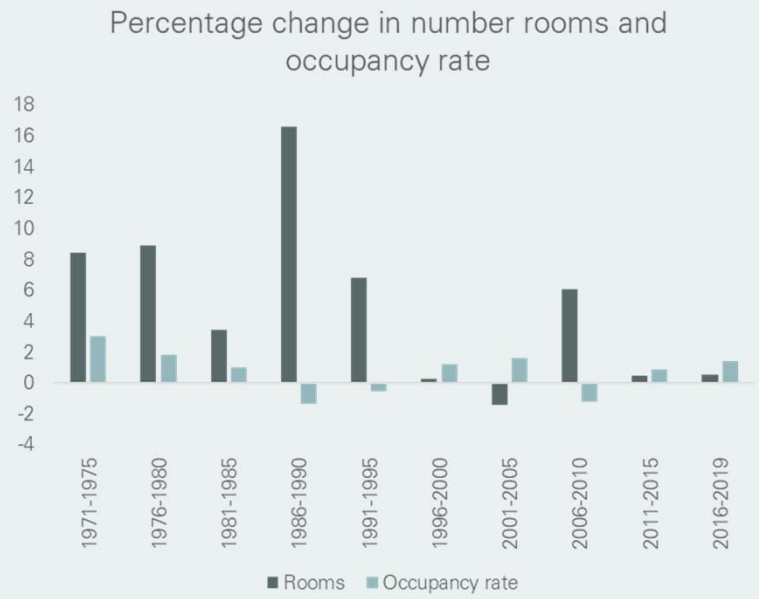
Tourism life cycle



Source: CBA

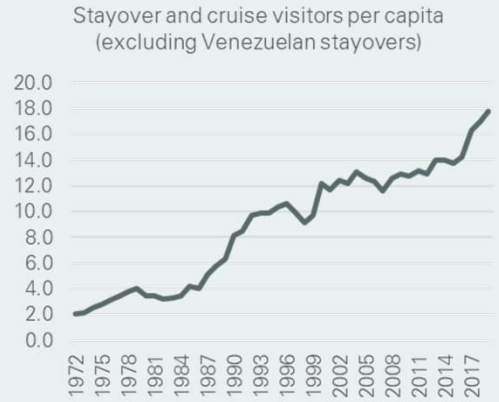
Tourism life cycle

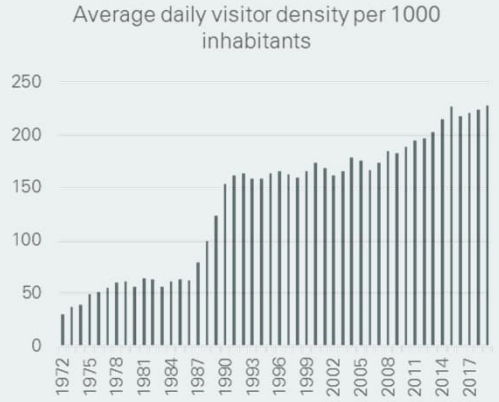


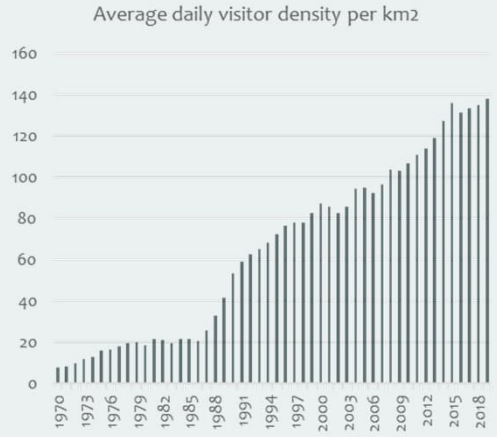


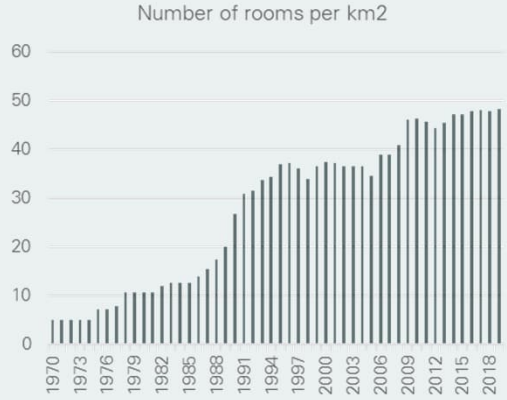
Source: CBA

Tourism life cycle







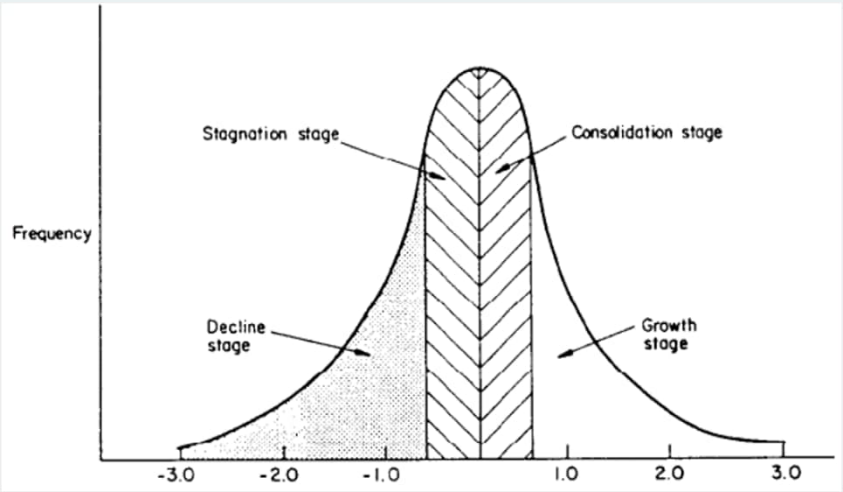


Source: CBA

Tourism life cycle

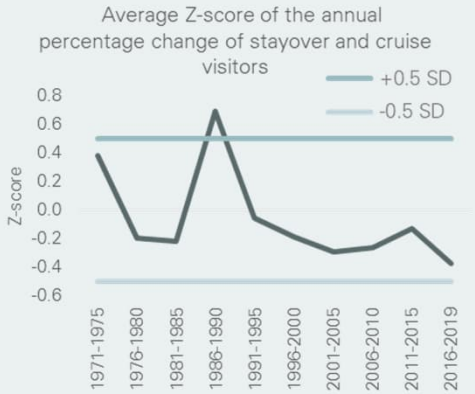
Determining the stage in the tourism life cycle

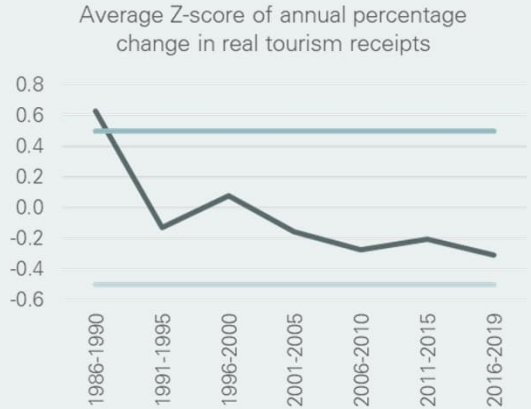
1. Decline stage
2. Stagnation stage
3. Consolidation stage
4. Growth stage

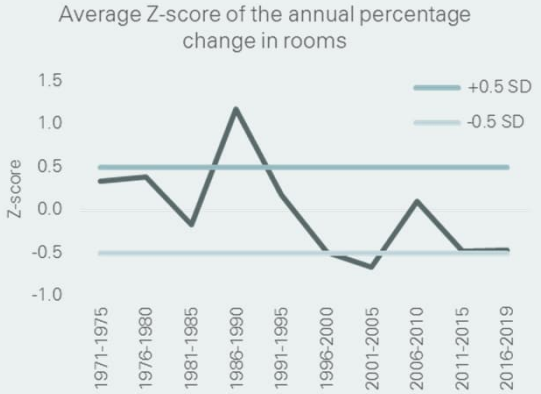


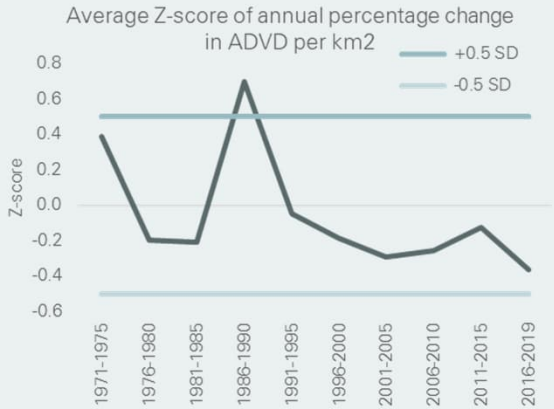
Source: Haywood (1986)

Tourism life cycle





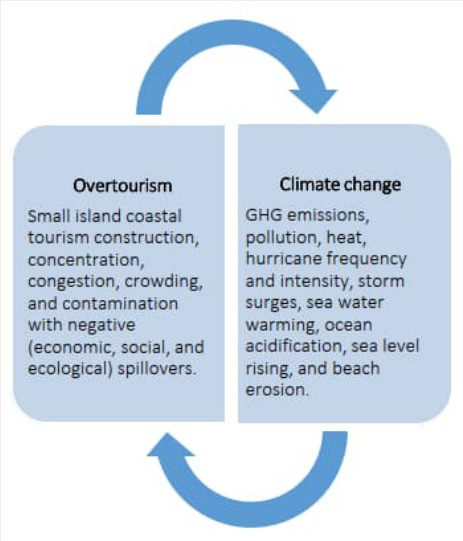




Source: CBA

Overtourism and its implications

Overtourism

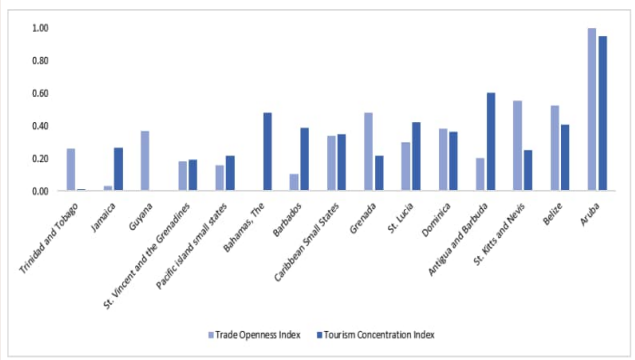


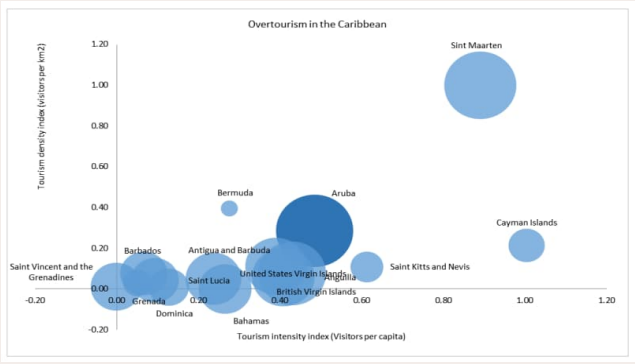
Source: Peterson (2019)

Overtourism:

- The adverse impacts of uncontrolled tourism growth.
- Rooted in development economics.
- Direct and indirect transmission channels.
- Supply and demand impacts of climate change

Overtourism



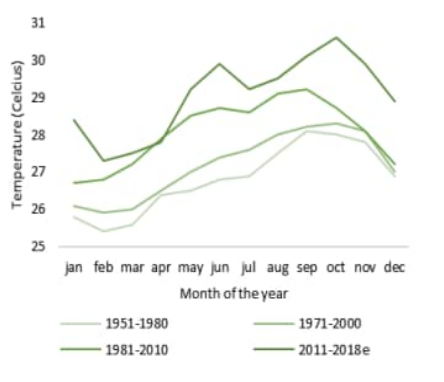


	Independent variable: Overtourism Control variables: Population and Inflation				
Dependent variables	Adjusted R^2	Coefficient	Overtourism vertex (v)	Significance (p)	Tourism overshoot
Real GDP per capita	0.37	-0.59	12.3	< 0.10	+4.6
Tourism receipts per visitor	0.36	-5.04	13.8	< 0.10	+3.1
Visitor satisfaction	0.87	-1.2	12.2	< 0.05	+4.7
Labor participation rate	0.87	-.50	14.4	< 0.05	+2.5
Income inequality	0.81	1.31	13.1	< 0.05	+3.8
Ecological pressure	0.74	113.9	13.3	< 0.05	+3.6
Resource consumption	0.74	63.6	14.5	< 0.05	+2.4

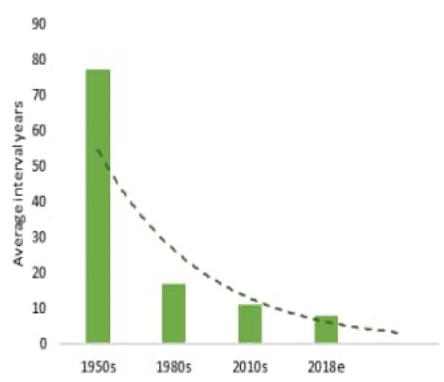
Source: Peterson (2019)

Overtourism

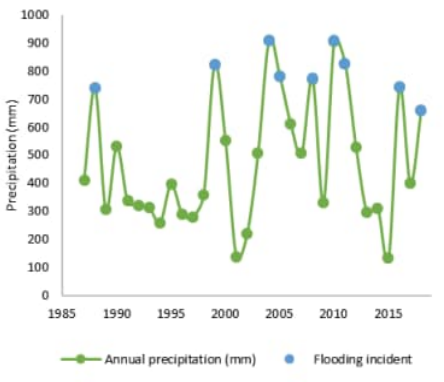
Stylized environmental and climate indicators (Aruba, 1951-2018)



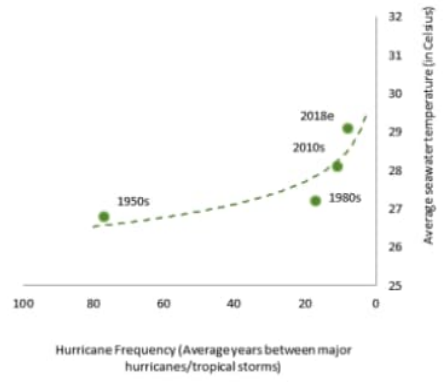
Average monthly seawater temperature



Frequency of extreme water events



Annual precipitation and flooding



Hurricane frequency (avg yrs between major hurricanes/tropical storms)

Source: Peterson (2019)

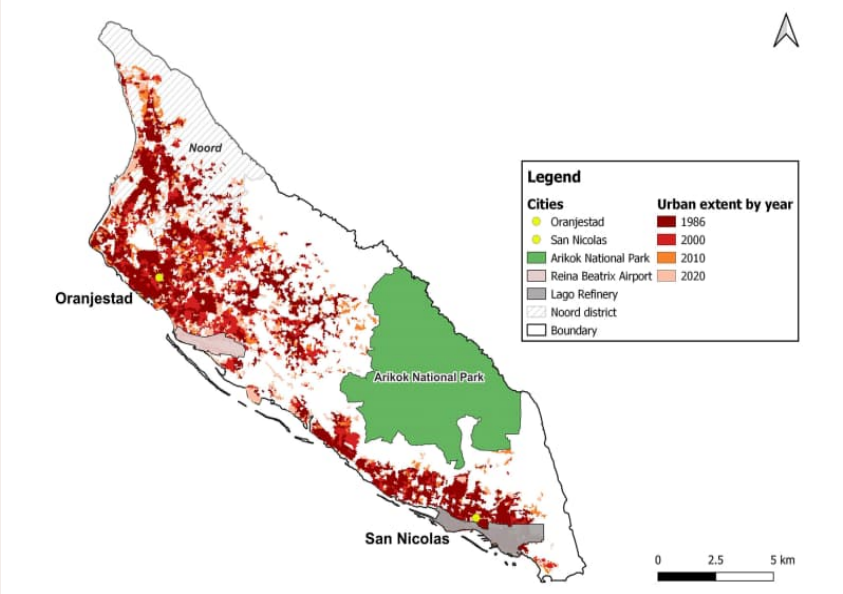
Overtourism

Framing overtourism and climate change in Aruba

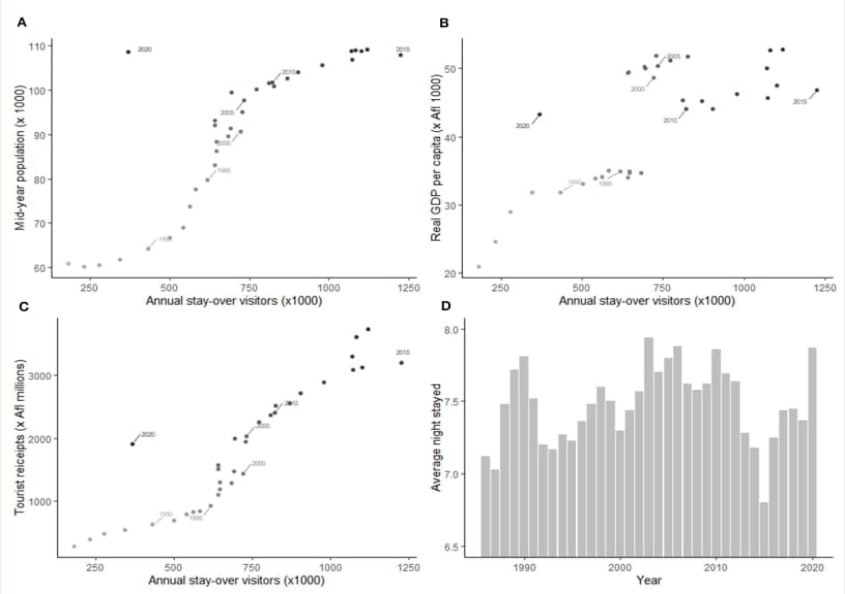
Overtourism	*Direct channels (short to medium term)*	*Economic contribution*
		(+) Significant economic contribution and main economic pillar
		(+) Main contributor to foreign exchange earnings
		(-) Diminishing growth of average tourism income (tourism credits per visitor)
		Labor markets and productivity
		(+) Main contributor to direct and indirect employment
		(-) Increasing youth unemployment and aging tourism employment
		(-) Declining labor productivity and persistent tourism income gap (median wage difference)
		Trade dependency and leakage
		(+) Significant driver of goods import and service export growth (trade openness)
		(-) Limited local tourism ownership and local industry linkages (import leakages)
		(-) Weak supply and market demand diversification
	Indirect channels (medium to long term)	*Income inequality*
		(-) Rising income inequality and vulnerable employment
		(-) Increasing social exclusion and loss of sociocultural identity
		(-) Growing apprehension and antagonistic community sentiments towards tourism growth
		Fiscal space
		(-) Surging government expenditures and structural fiscal deficits
		(-) Increasing costs of public sector services and infrastructure
		(-) Rising costs of doing business and cost of living
		Environmental impacts
		(-) Increasing energy consumption, CO2 emissions, environmental pollution, and beach erosion
		(-) Escalating loss of natural habitats and coastal zone destruction
		(-) Growing loss of biodiversity, marine ecosystems, and ecological services
		Climate change risks
		(-) Increasing spatial concentration of tourism services and infrastructure (high density and concentration levels)
		(-) Continuing decay of coastal areas due to waste landfills, ocean acidification, and beach erosion
		(-) Growing risks of storm surges and flooding in tourism zones and residential areas

Source: Peterson (2019)

Maximum capacity



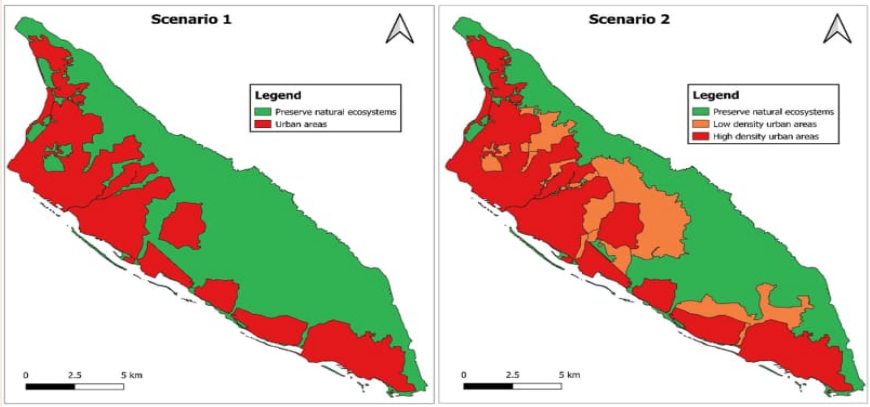
Urban extent map of Aruba from 1986-2020



A-C Overview of socio-economic indicators vs. corresponding stay-over visitors (1986-2020)

Source: Jurgens S.S., Mijts E., Van Rompaey A. (2024)

Maximum capacity



Restrictive (Scenario 1) and conservative (Scenario 2)

CBS projections		Scenario 1	Scenario 2
Model	Total population	Population density in urban area (ppkm^2)	Population density in urban area (ppkm^2)
Low	102,768	1,427	988
Moderate	132,225	1,836	1,271
High	146,674	2,036	1,410

A-C Overview of socio-economic indicators vs. corresponding stay-over visitors (1986-2020)

Source: Jurgens S.S., Mijts E., Van Rompaey A. (2024)

Final takeaways

- Various studies conducted on Aruba show similar trends and developments of the stages and impact of tourism.
- Findings of the studies suggest that utilizing the same growth model as in the past can exacerbate the multi-dimensional implications for Aruba.
- The studies indicate limited space for continuing to grow the sector in this manner.

References

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Peterson R.R. (2019)
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Jurgens S.S., Mijts E., Van Rompaey A. (2024)
Are there limits to growth of tourism on the Caribbean islands? Case-study Aruba
Frontiers in Sustainable Tourism

Thank you

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