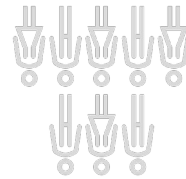


# POPULATION



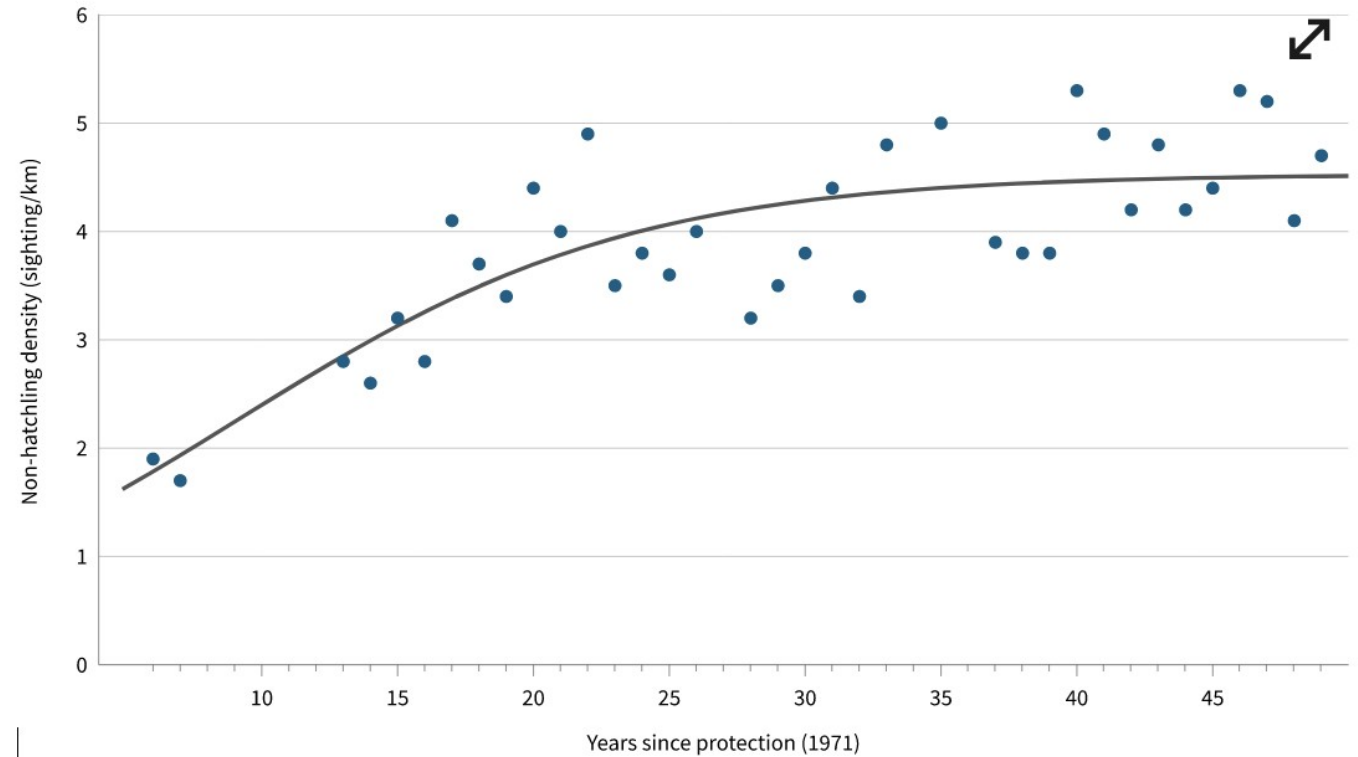
ROBERT CUNNINGHAM

# WHY?

POPULATION  
PEOPLE ARE  
FORTUNE  
TELLERS



**Figure 20** Saltwater crocodile (*Crocodylus porosus*) populations in monitored rivers in the Northern Territory since 1971



km = kilometre



# THREE TOPICS

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- Urban Spaces
- Densification
- Climate Change



# THE WORLD IS URBANISING

197  
5

199  
0

201  
0

# WHAT ARE URBAN SPACES

AND WHY ARE THEY IMPORTANT?

The space between the  
buildings  
Social

Nature Connection  
Change



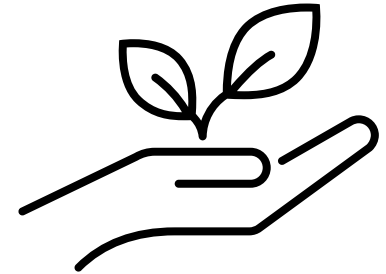
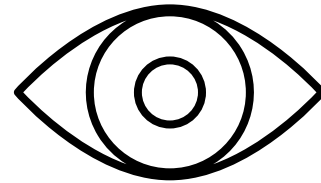
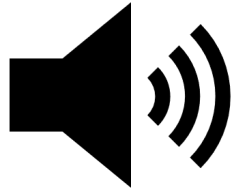
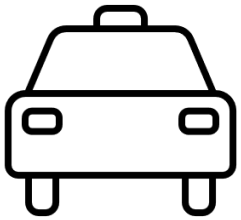


# MYTH #1

ITS ALWAYS SUNNY IN THE PHOTOS



# WHAT AFFECTS USABILITY



# MYTH #2

PERCEIVED WEATHER - LONDON/AUCKLAND

Precipitation (mm)

City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
London	43.73	50.05	39.36	38.88	53.8	67.82	59.0	64.08	40.03	59.99	43.61	49.83	50.85
Auckland	86.39	93.66	97.37	117.53	145.44	159.64	134.13	146.75	136.98	86.55	99.47	104.85	117.4

Average Number of Rainy Days ( Days )

City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
London	10.55	9.27	7.55	8.82	11.18	13.18	12.91	11.64	8.18	10.0	9.55	10.0	10.24
Auckland	9.18	11.18	11.73	13.36	15.36	15.64	15.45	17.36	16.0	13.45	12.36	11.64	13.56

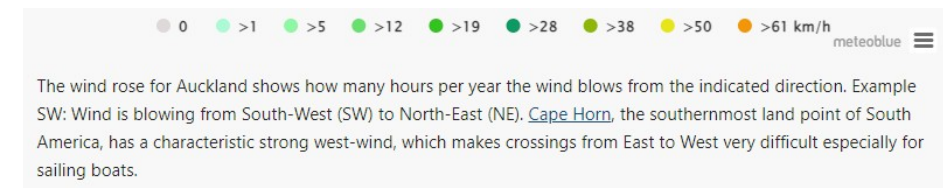
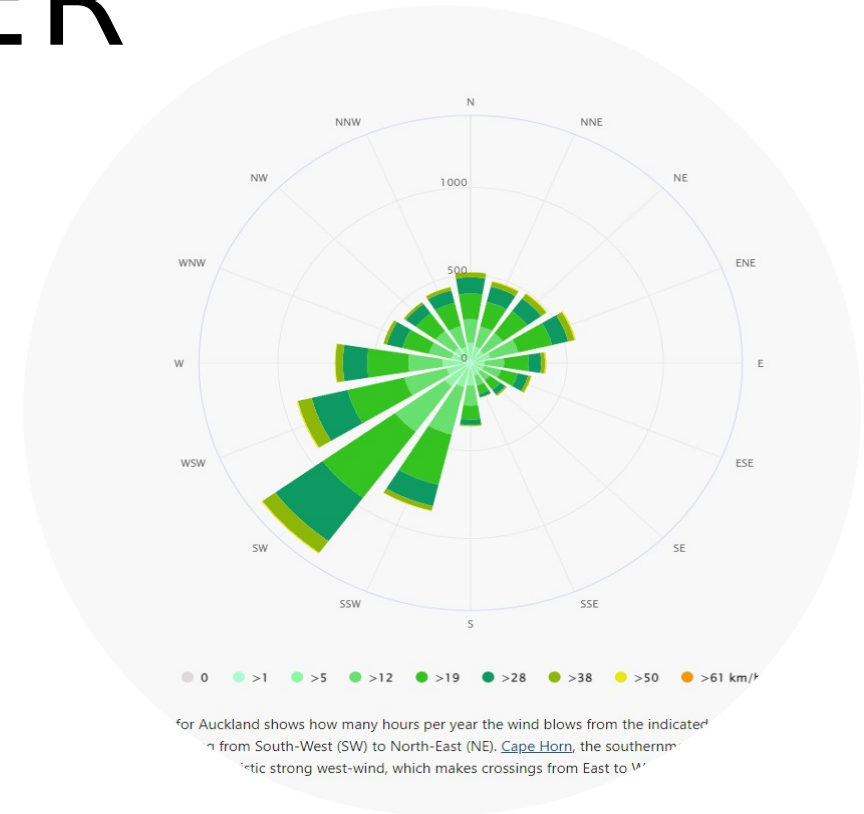
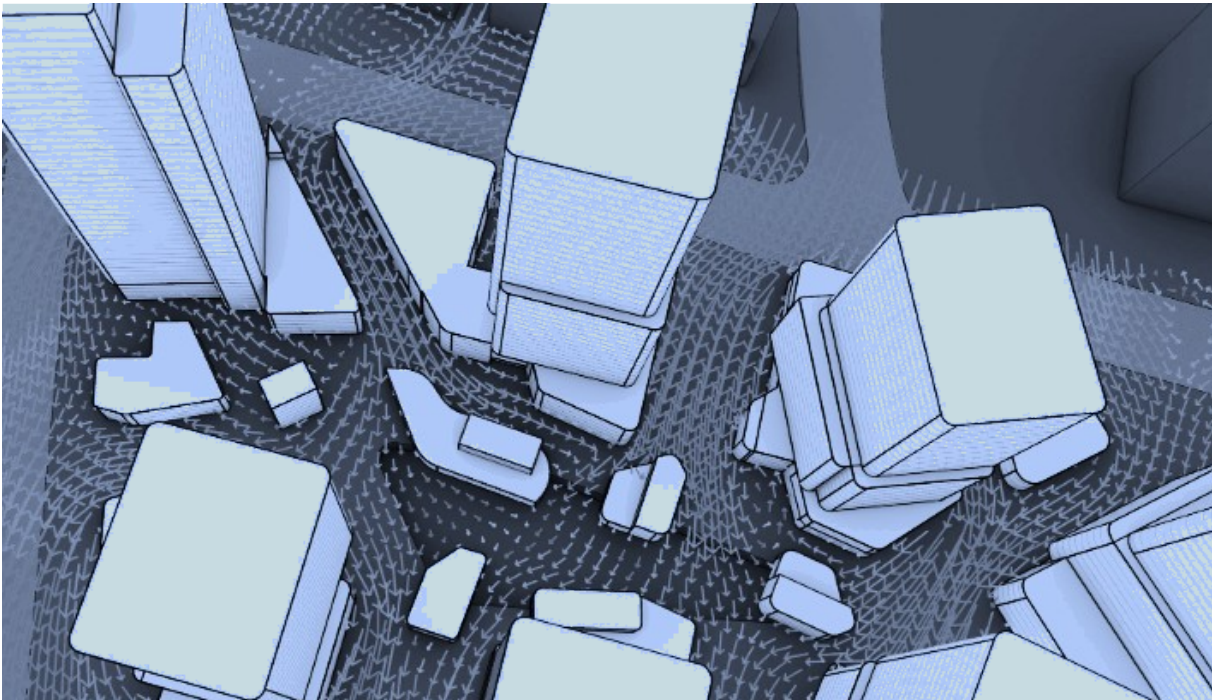
Average Wind Speed ( km/h )

City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
London	16.43	17.66	15.98	13.56	13.36	13.38	12.63	12.9	12.73	14.71	14.97	16.72	14.59
Auckland	15.57	13.71	14.76	15.22	17.17	18.59	18.38	17.26	18.65	17.61	15.87	15.13	16.49



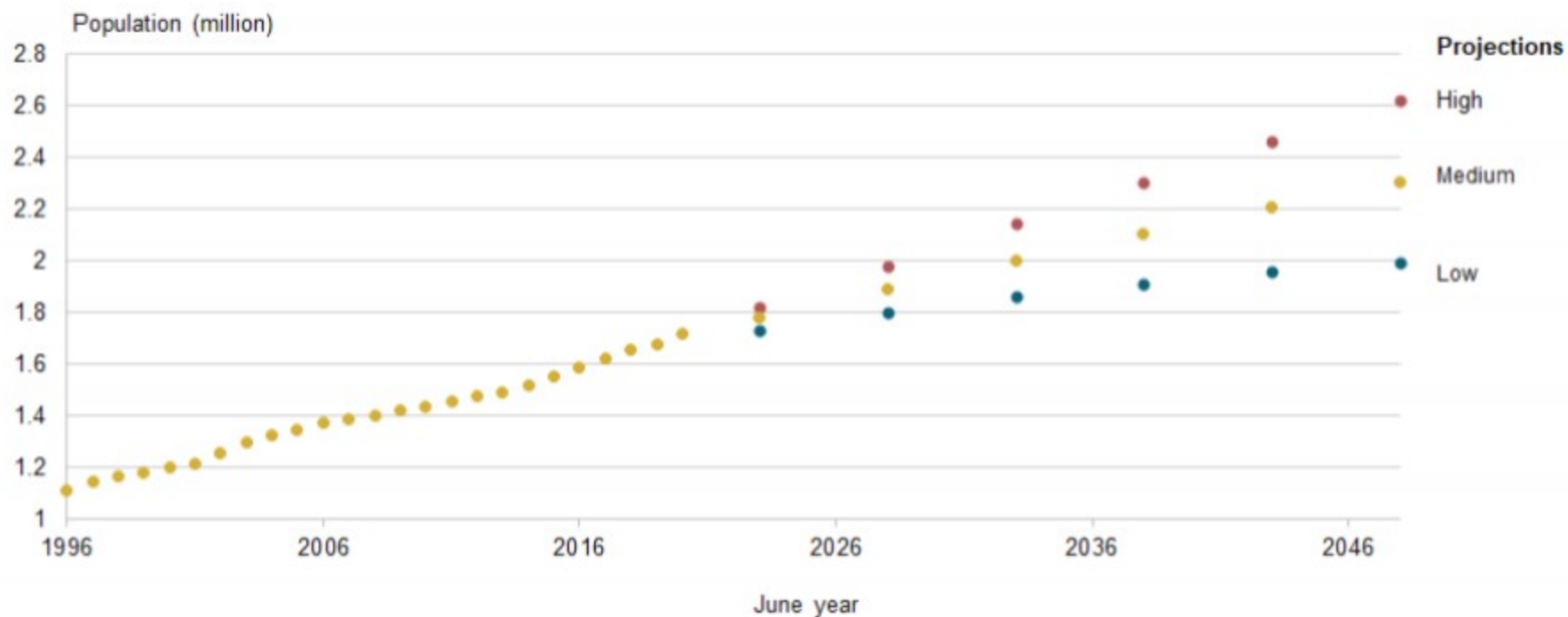


# WEATHER



# POPULATION DENSIFICATION

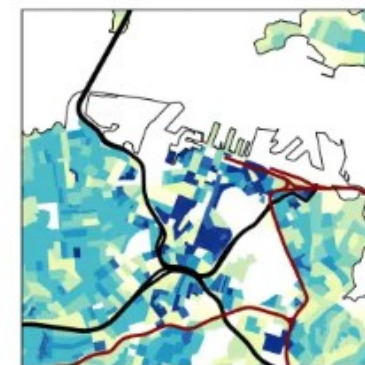
Auckland region population, estimated (up to 2020) and projected (from 2023), 1996–2048



Auckland, 2001



Auckland, 2013



Stats NZ

# VERTICALITY





# DENSITY

“Green space per-person fell by at least 30 percent in Auckland, and more than 20 percent in Hamilton.”  
-Upton



# WHAT CAN BE DONE?

INCREASE EFFECTIVE URBAN SPACE

## DENSIFY



Densify  
existing  
spaces

## FOUND SPACES



Rooftops,  
building  
floors, roads  
returned to  
rivers,  
parklets

## BUILDING SOLUTIONS



Skyway,  
subterranean

## TEMPORAL



Moveable  
bollards,  
parklets,  
adjustable  
bike lanes,  
open 24/7



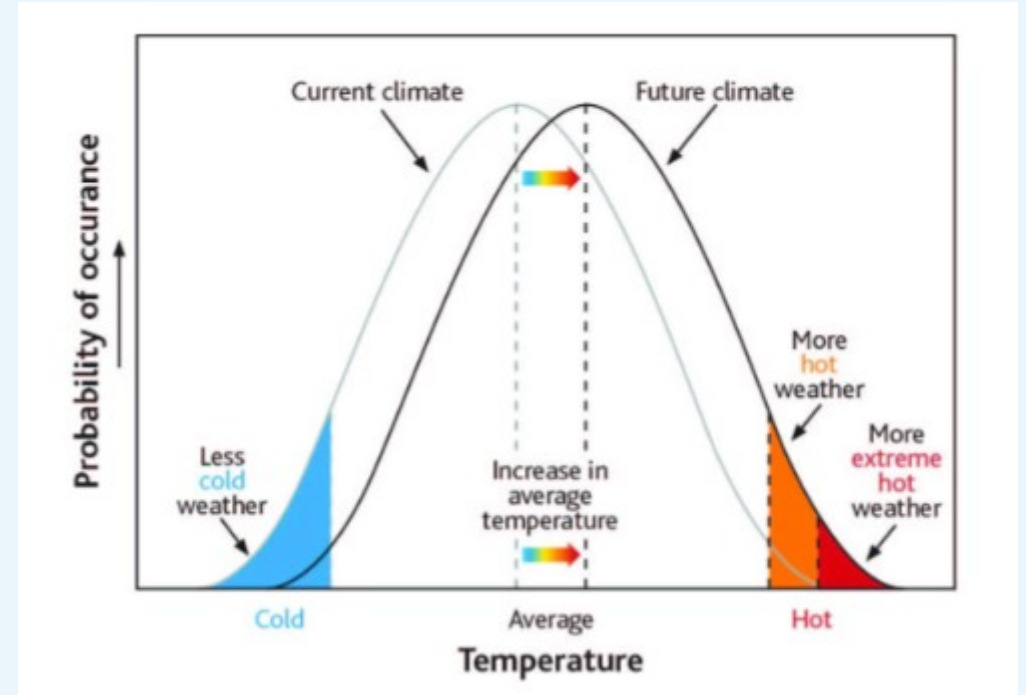


# CLIMATE CHANGE

## HOW DOES CLIMATE CHANGE AFFECT PEOPLE?



Hot | Cold | Windy | Rainy | Stormy |  
Drought



# AFFECT ON WELLBEING

## MASLOW'S HIERARCHY OF NEEDS

### SELF-ACTUALIZATION

Desire to become the most that one can be

### ESTEEM

Respect, self-esteem, status, recognition, strength, freedom

### LOVE & BELONGING

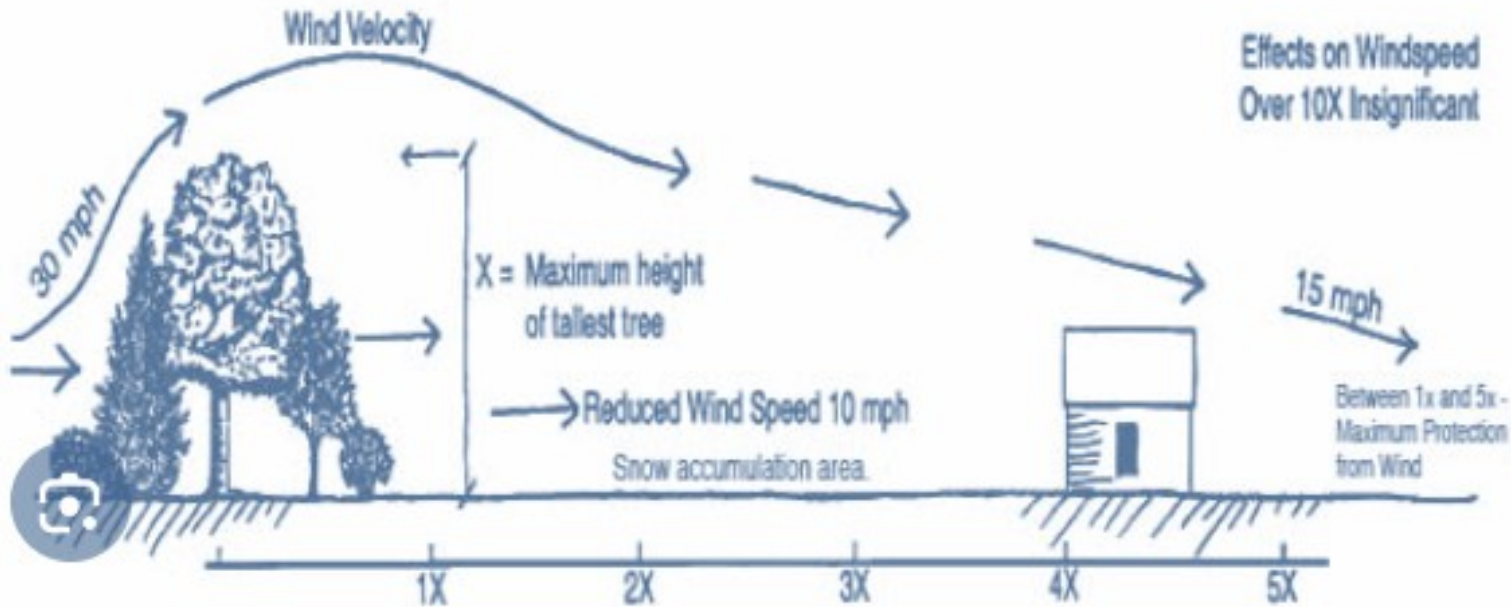
Friendship, intimacy, family, sense of connection

### SAFETY NEEDS

Personal security, employment, resources, health, property

### PHYSIOLOGICAL NEEDS

Air, water, food, shelter, sleep, clothing, reproduction



## SOLUTIONS

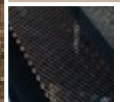
- Wind barriers
- Rain Protection
- Shade
- Flood Mitigation



# MITIGATING EFFECTS

# SANCTUARIES

Shelter  
Water  
Sanitary  
Safety



# CONCLUSION

-

Can the increasing mismatch be Balanced

Can Urban Spaces use space and time to increase usability

Can Urban Spaces become sanctuaries during and after climate events

How can population studies provide information to help answer these questions

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