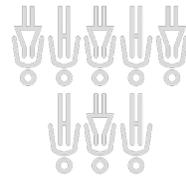


POPULATION



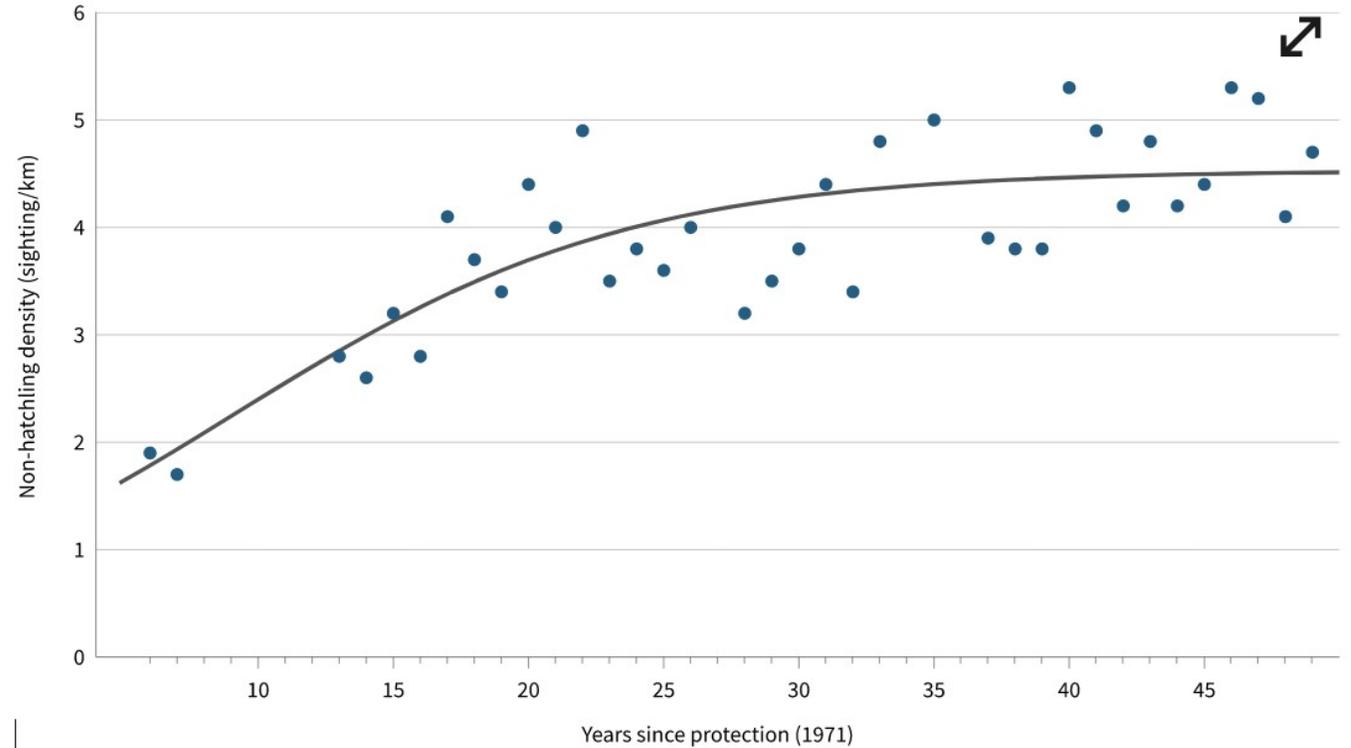
ROBERT CUNNINGHAM

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

- Urban Spaces
- Densification
- Climate Change



THE WORLD IS URBANISING

1975

1990

2010

WHAT ARE URBAN SPACES

AND WHY ARE THEY IMPORTANT?

The space between the
buildings
social

Nature Connection

Change

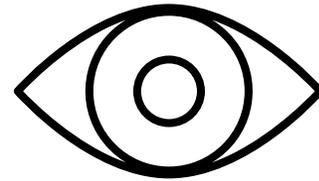
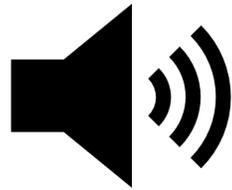
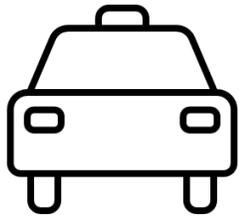


MYTH #1

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

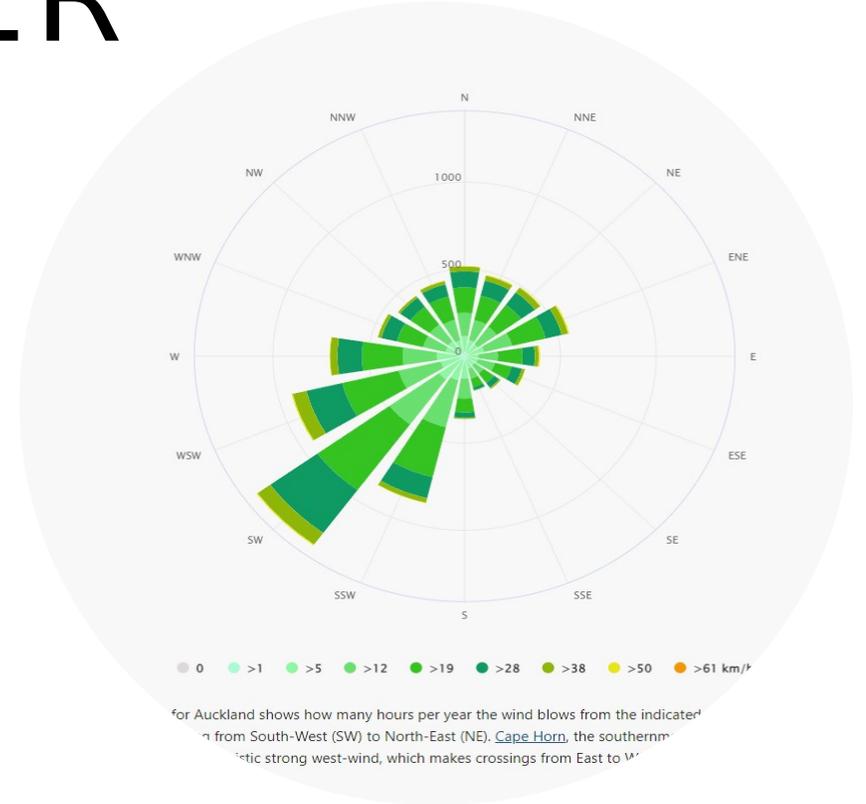
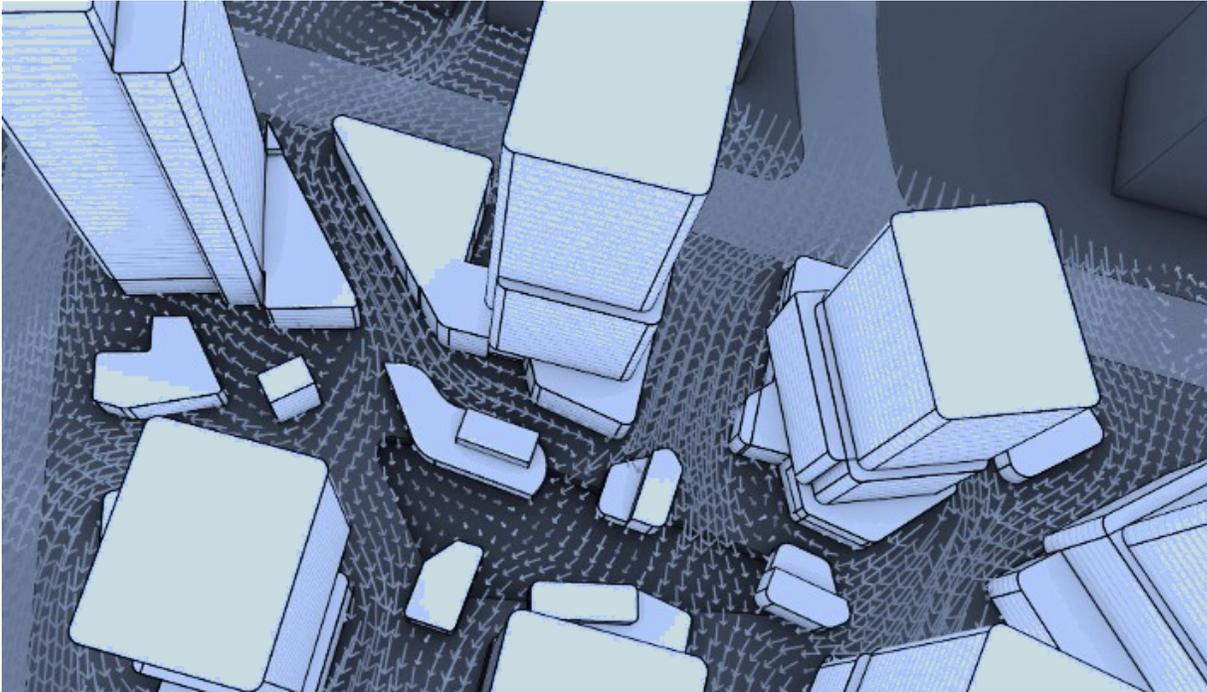
Average Number of Rainy Days (Days)

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

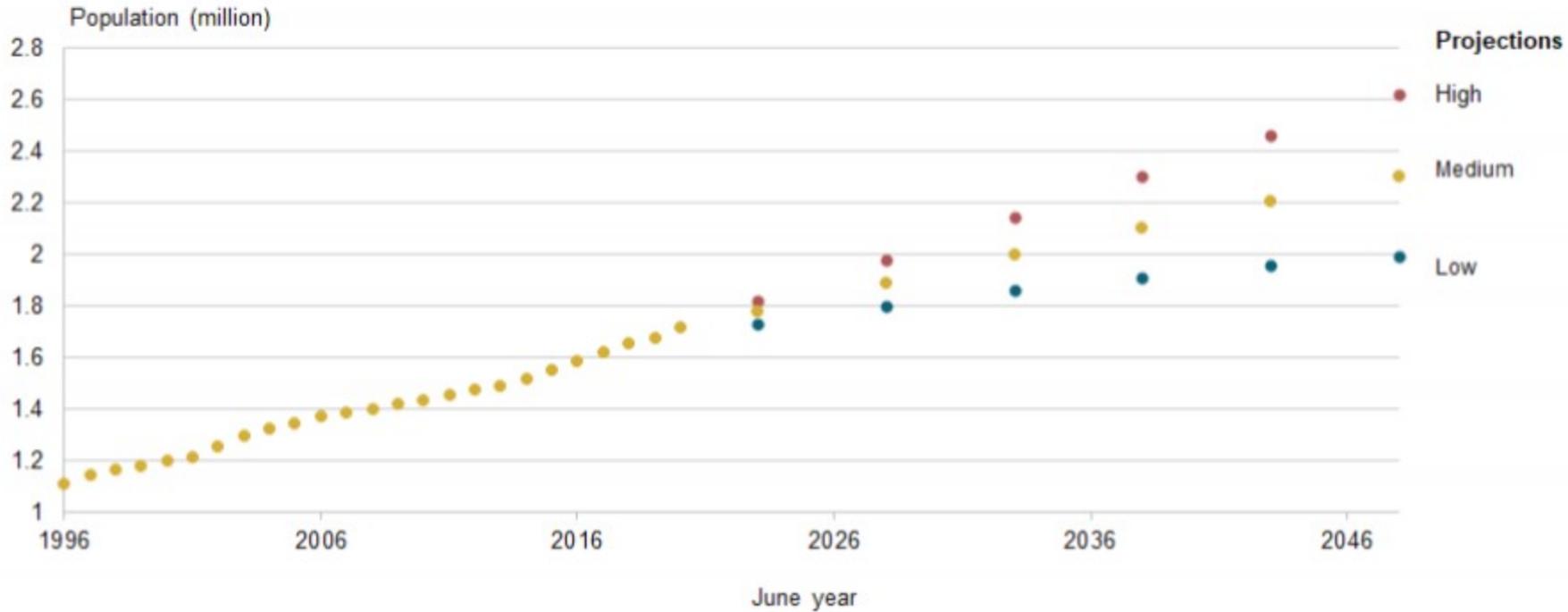


0 >1 >5 >12 >19 >28 >38 >50 >61 km/h meteoblue

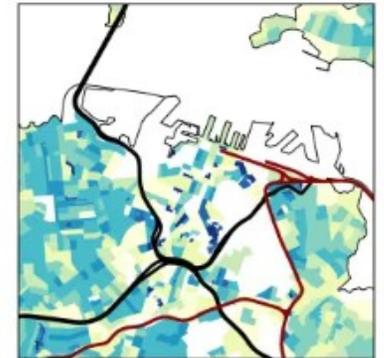
The wind rose for Auckland shows how many hours per year the wind blows from the indicated direction. Example SW: Wind is blowing from South-West (SW) to North-East (NE). [Cape Horn](#), the southernmost land point of South America, has a characteristic strong west-wind, which makes crossings from East to West very difficult especially for sailing boats.

POPULATION DENSIFICATION

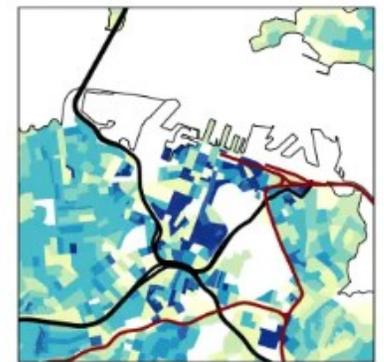
Auckland region population, estimated (up to 2020) and projected (from 2023), 1996–2048



Auckland, 2001

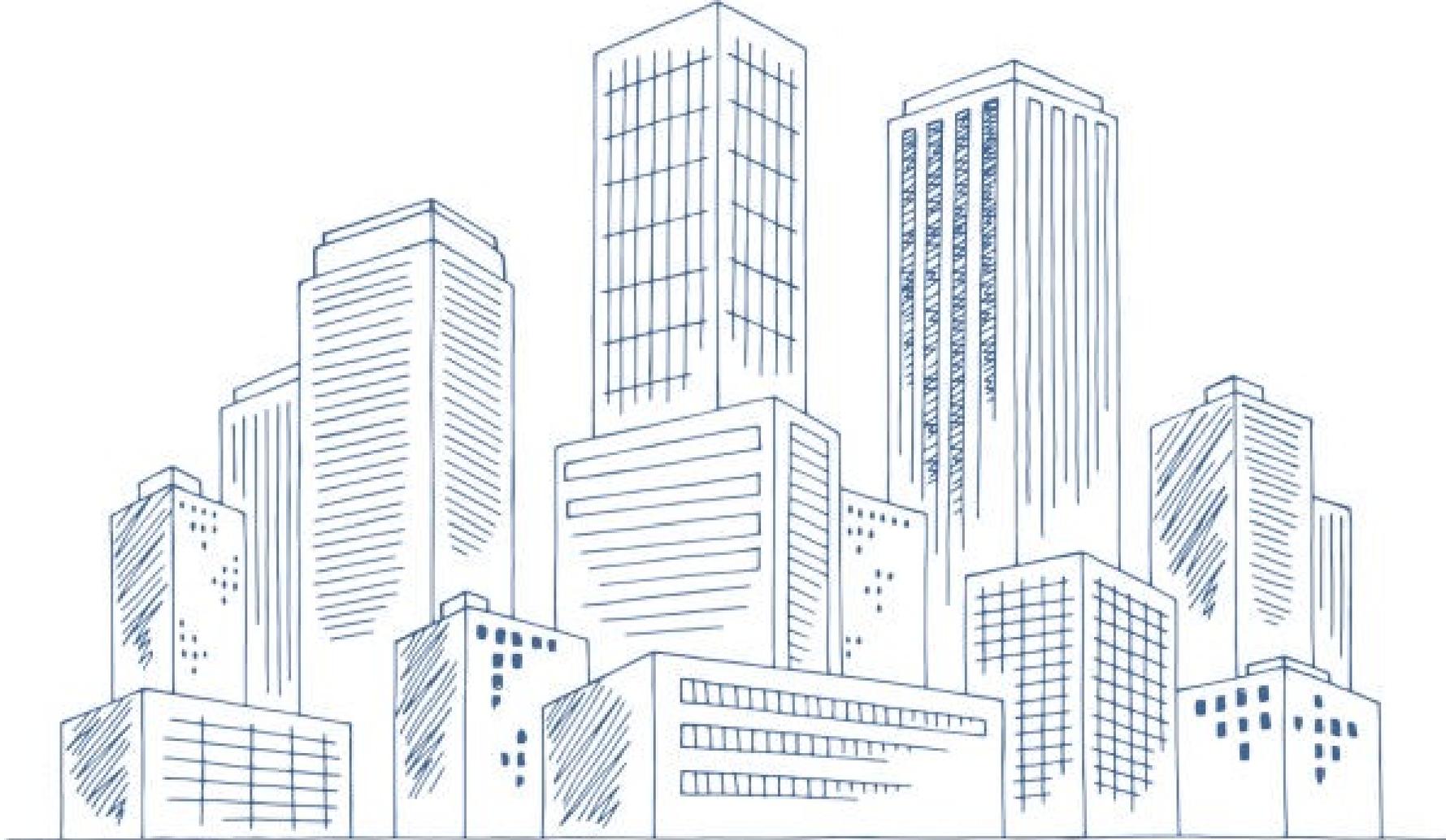


Auckland, 2013



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



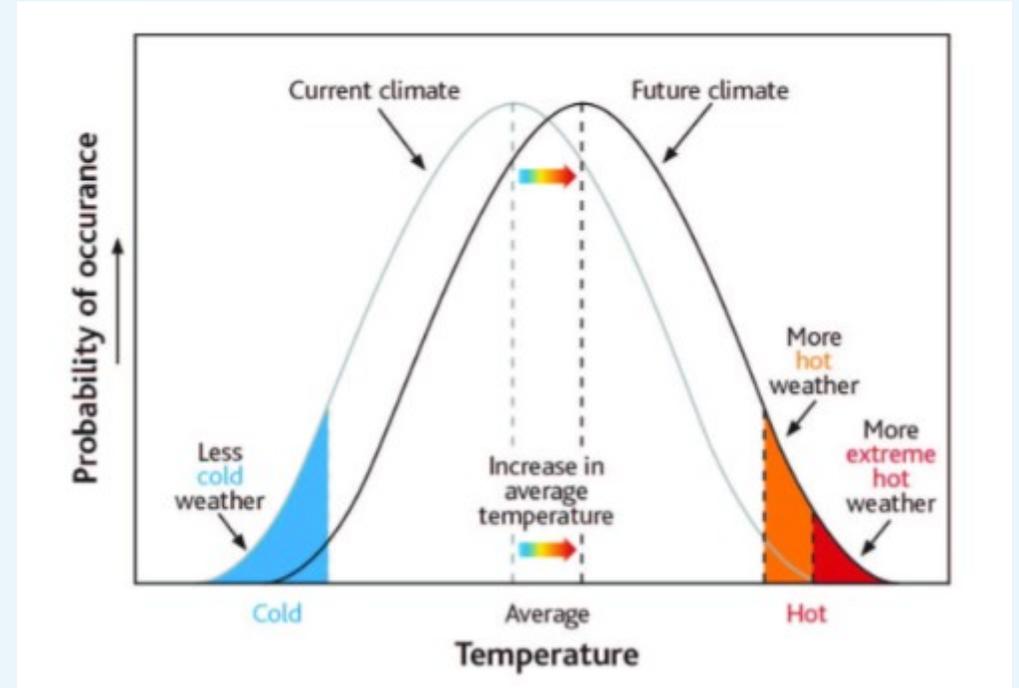


CLIMATE CHANGE

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

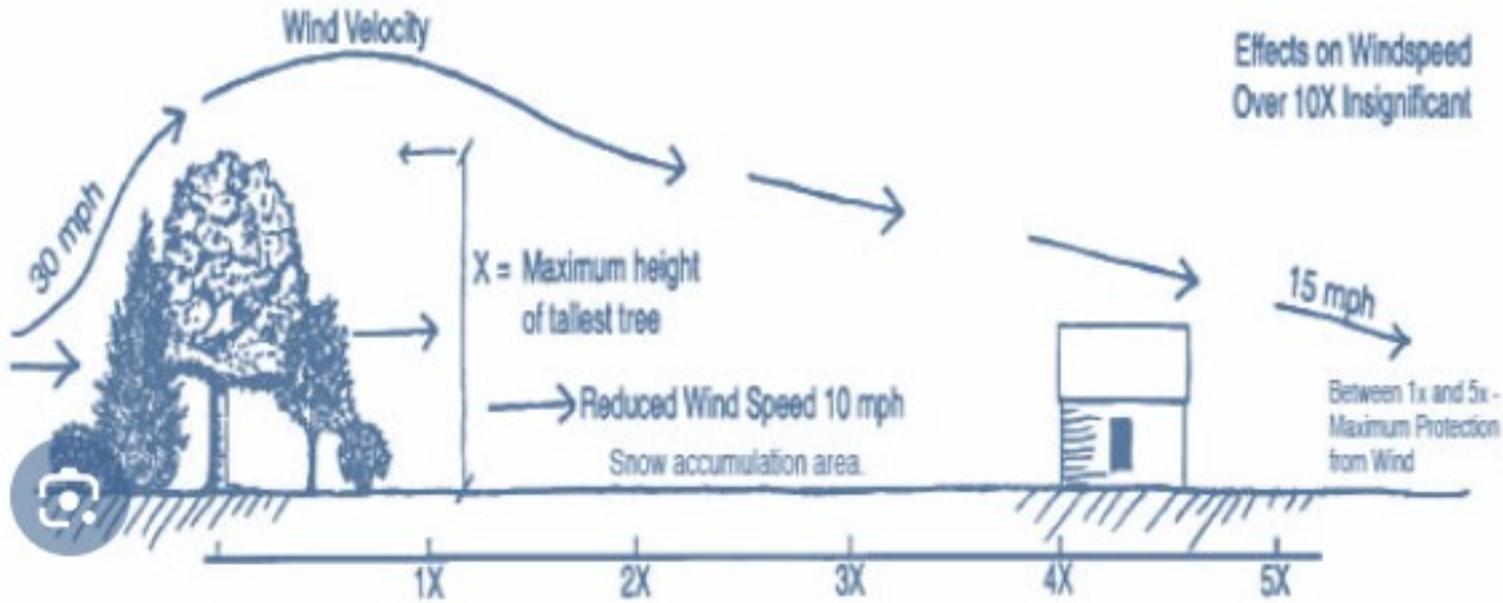
Friendship, intimacy, family, sense of connection

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
r
Water
Sanitary
ry
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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