



Earth Sciences
New Zealand

Managing uncertainty in a changing climate

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Outline

1. Updated climate projections
2. Uncertainty grows with time
3. Risk assessment and adaptive planning

Updated climate projections

Aotearoa New Zealand climate projections

Climate change is already happening in New Zealand and around the world. In the future climate change is likely to have an even more significant impact on our environment, our way of life and how we make a living.

Climate projections

Projections show how the climate change could change in Aotearoa New Zealand over the rest of this century.

[About climate projections](#)



Climate projections insights

Projections on how climate change could affect New Zealand as a whole and for different regions.

Understanding climate variables and scenarios used in the projections

This page has a definitions of the climate variables and climate change projections terms used within the data.

Climate projections map

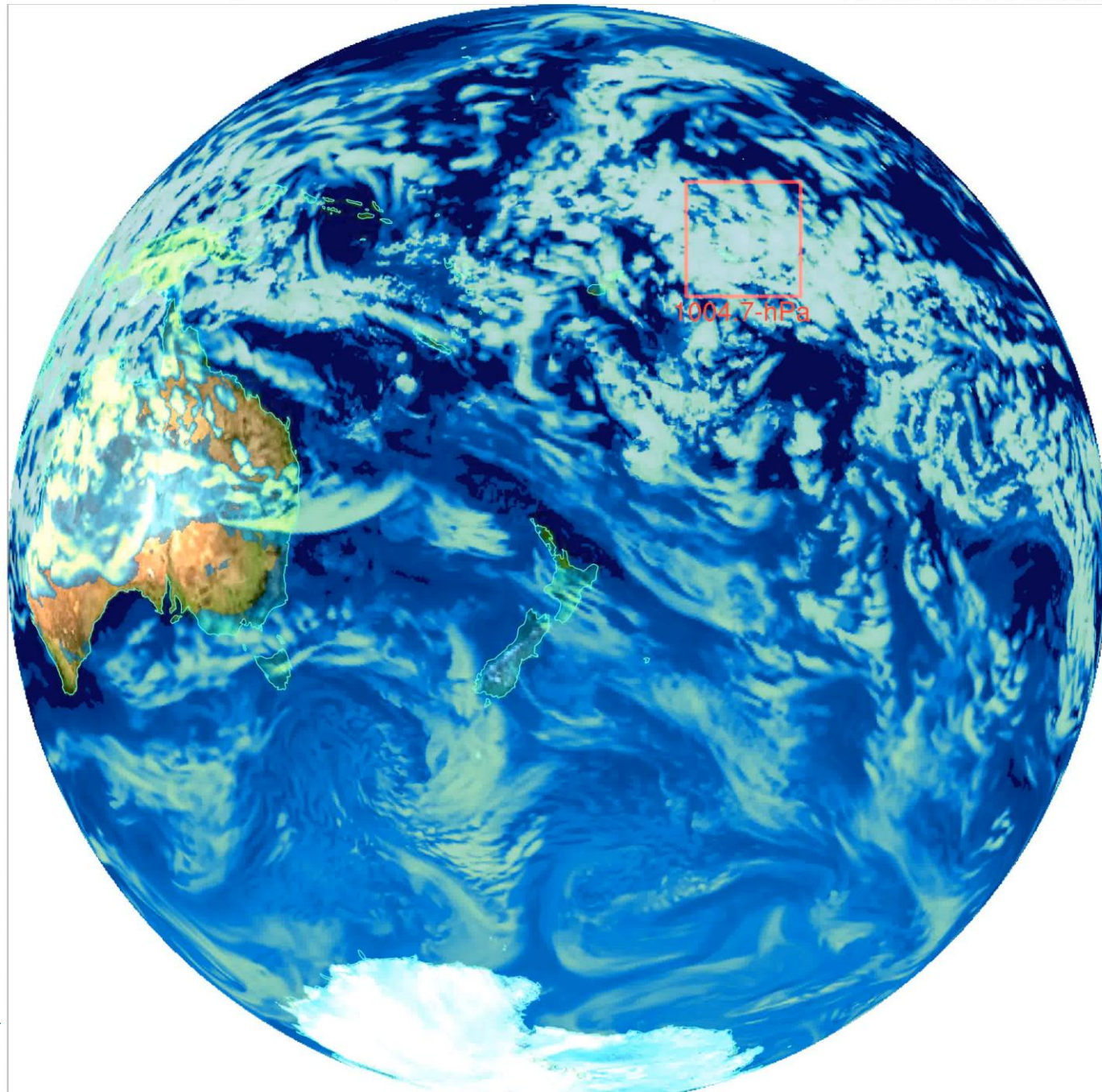
Explore and understand what our future climate may look like on the climate projections map.

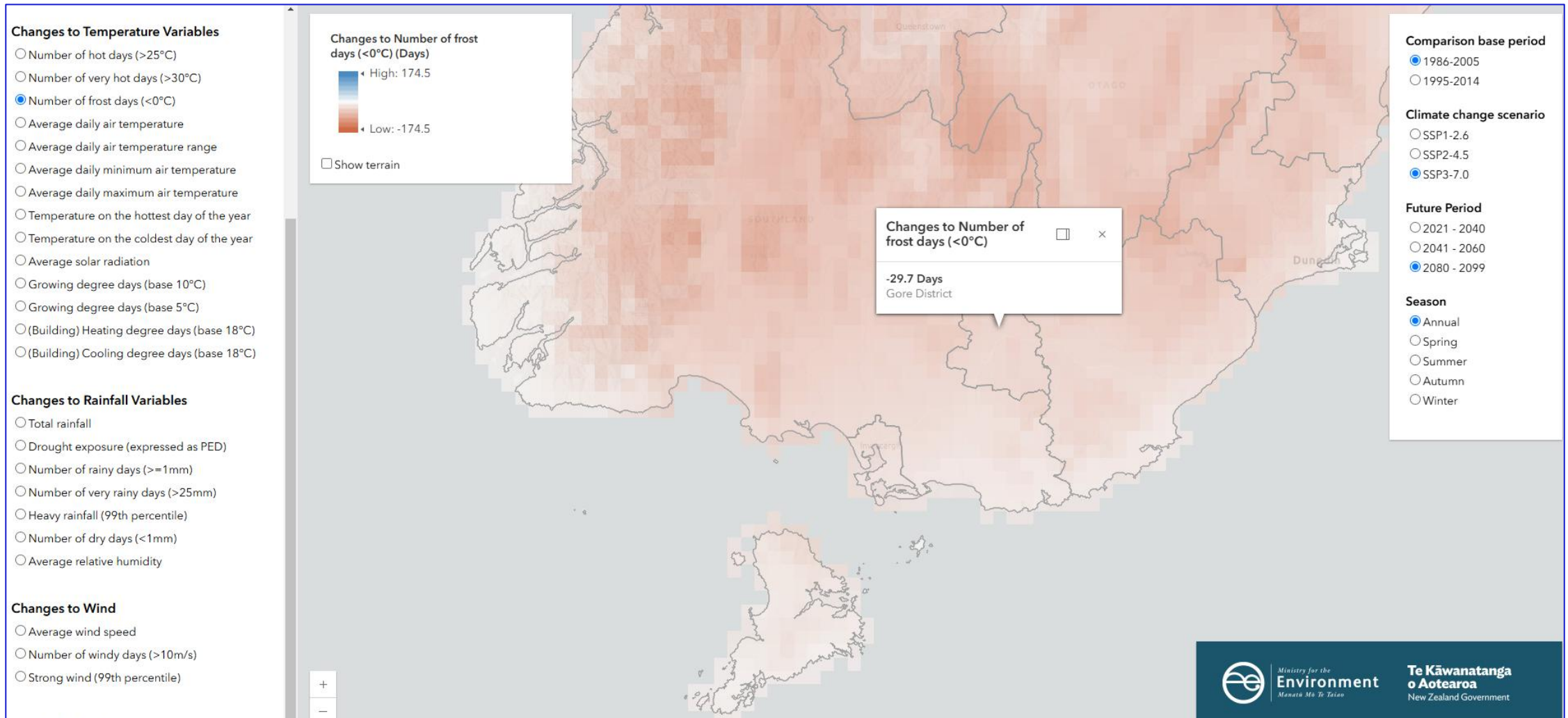
Climate projections summary dashboard

Explore and understand how key climate variables are projected to change for territorial authorities

Download climate projections dataset

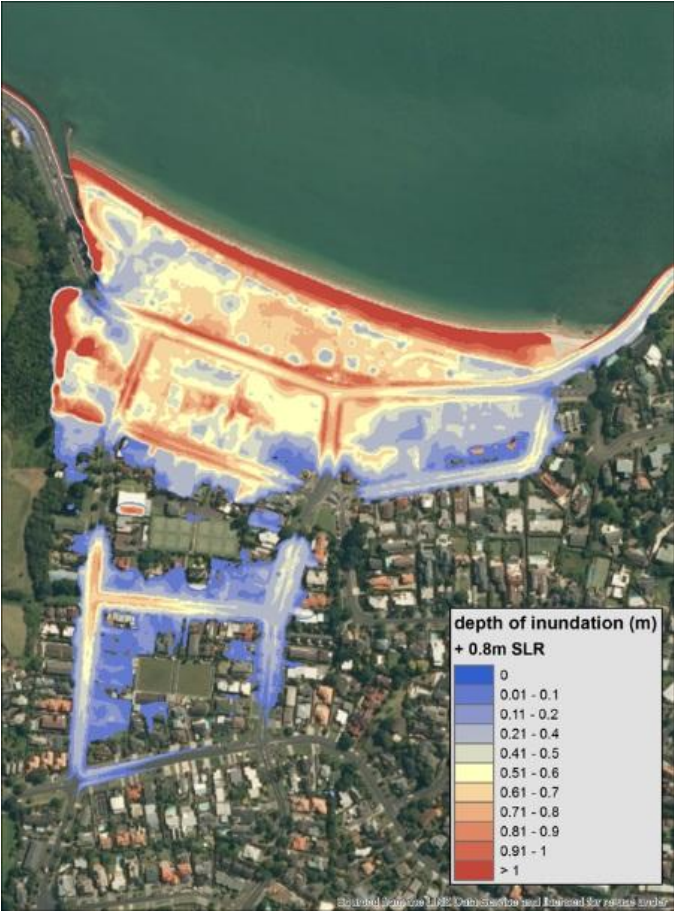
The climate projections data is freely accessible under licence.



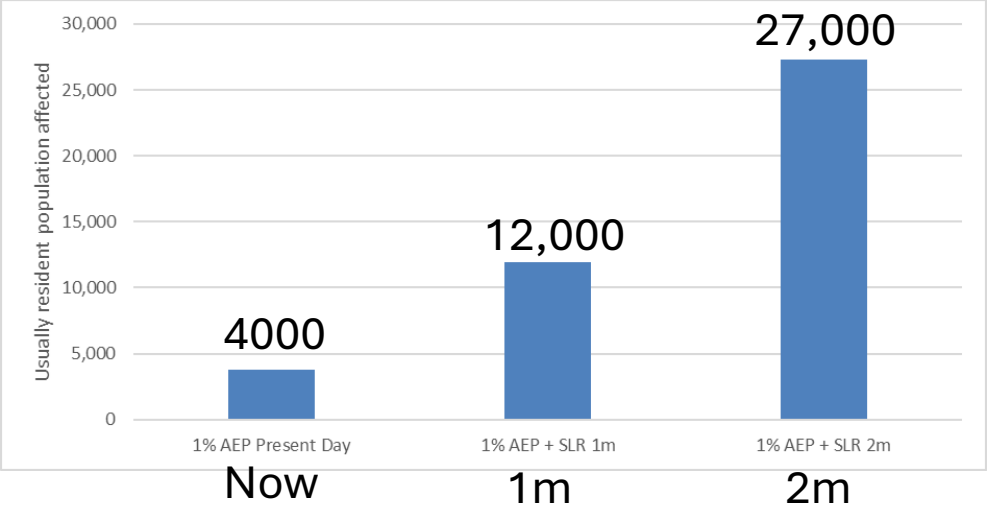


<https://map.climatedata.environment.govt.nz/>

Auckland's Mission Bay, 1-in-100 year storm tide + SLR



Population affected



<https://niwa.co.nz/hazards/coastal-hazards/extreme-coastal-flood-maps-aotearoa-new-zealand>








Kaitiaia

Current Climate

Depth

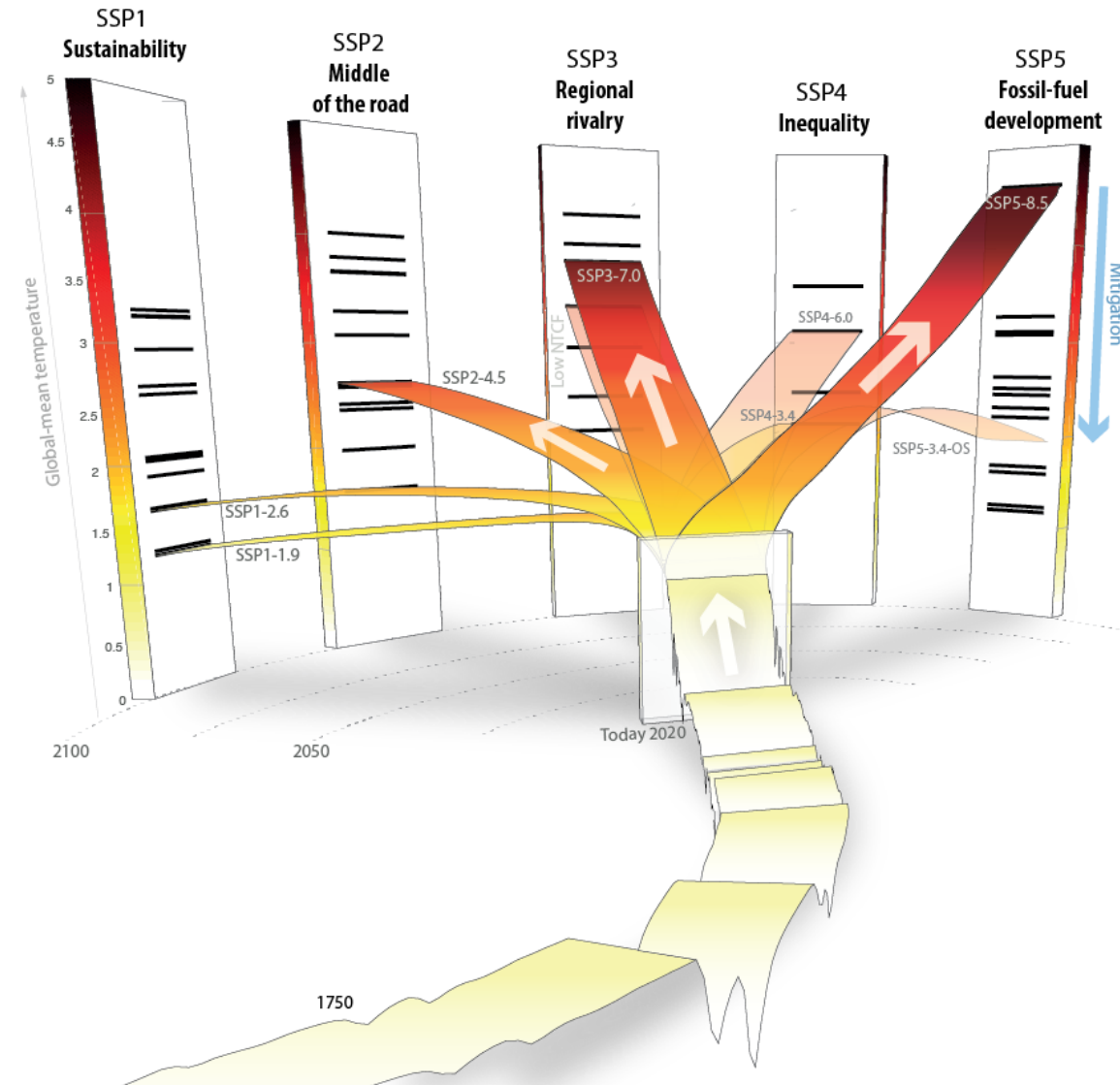


<https://www.earthsciences.nz/news/nationwide-study-reveals-escalating-flood-risk>

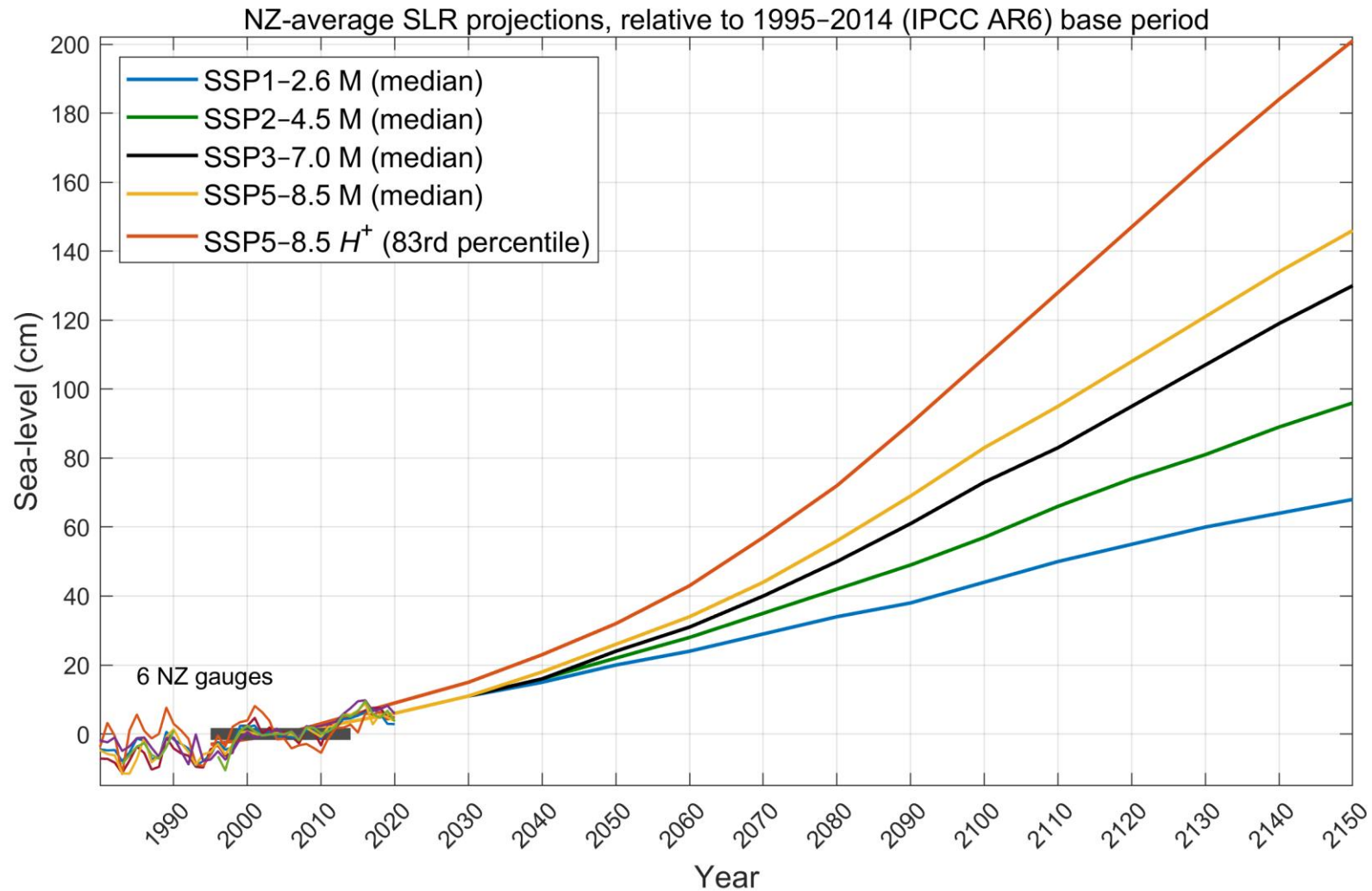
Exposed to flooding	Current climate	+1°C warming	+2°C warming	+3°C warming
 Population	754,000	810,000	857,000	902,000
 Buildings (value)	\$235 billion	\$254 billion	\$272 billion	\$288 billion
 Roads	26,800 kms	28,200 kms	29,500 kms	30,800 kms
 Electricity sites (national grid, e.g. substations)	21%	25%	26%	29%
 Stormwater pipelines	14,100 kms	14,600 kms	15,000 kms	15,400 kms

Uncertainty grows with time

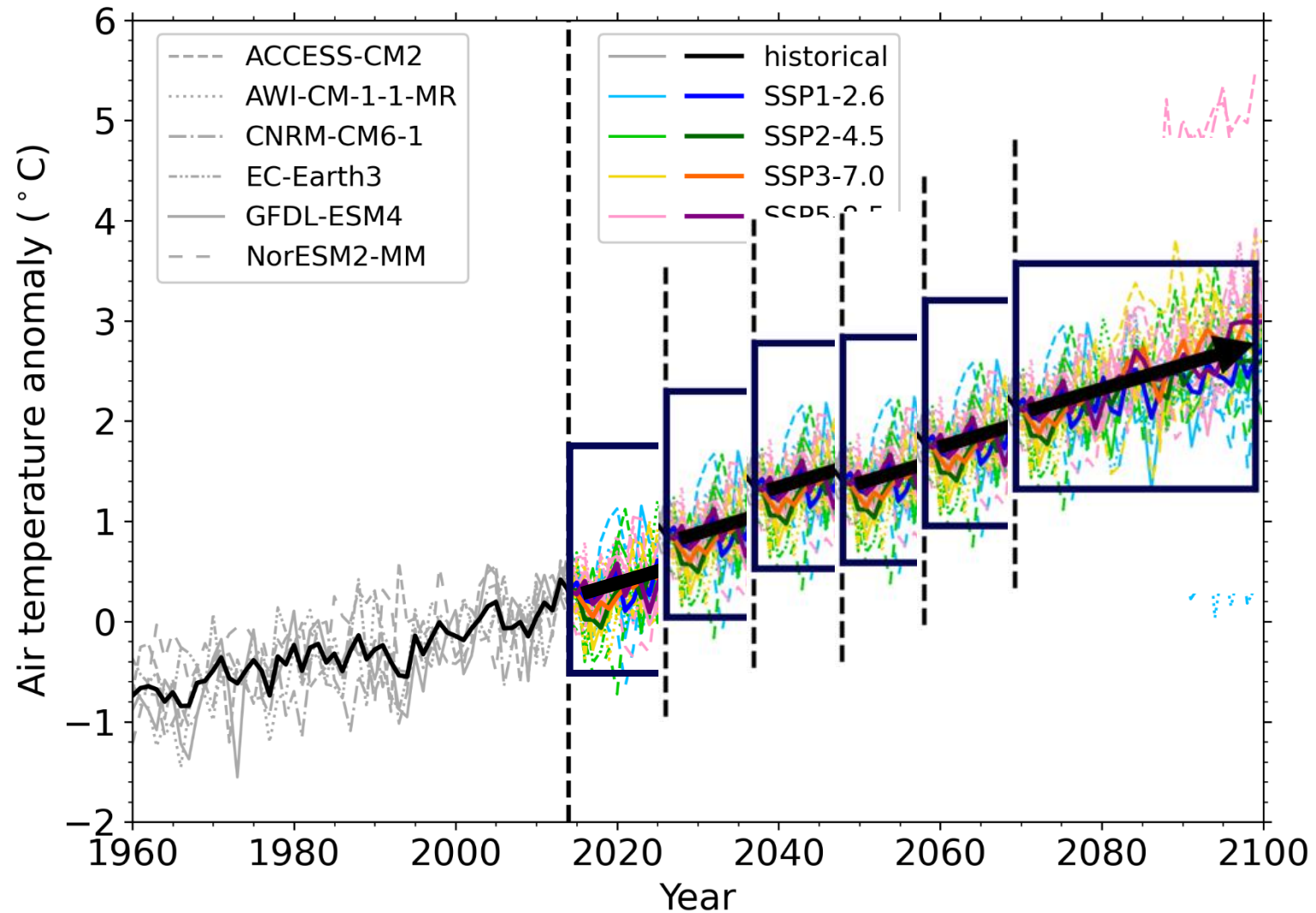
We don't know future emissions, so we have to use scenarios



Sea-level rise projections

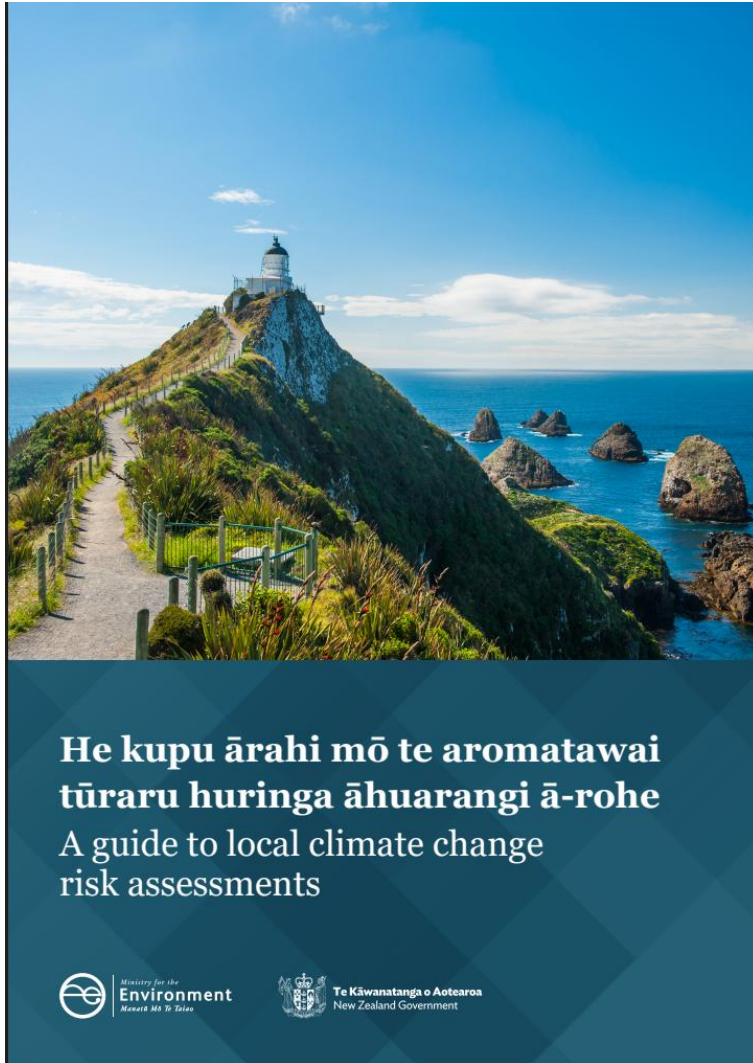


Mean air temperature projections



Risk assessment and adaptive planning

Risk assessment is a way of testing sensitivities



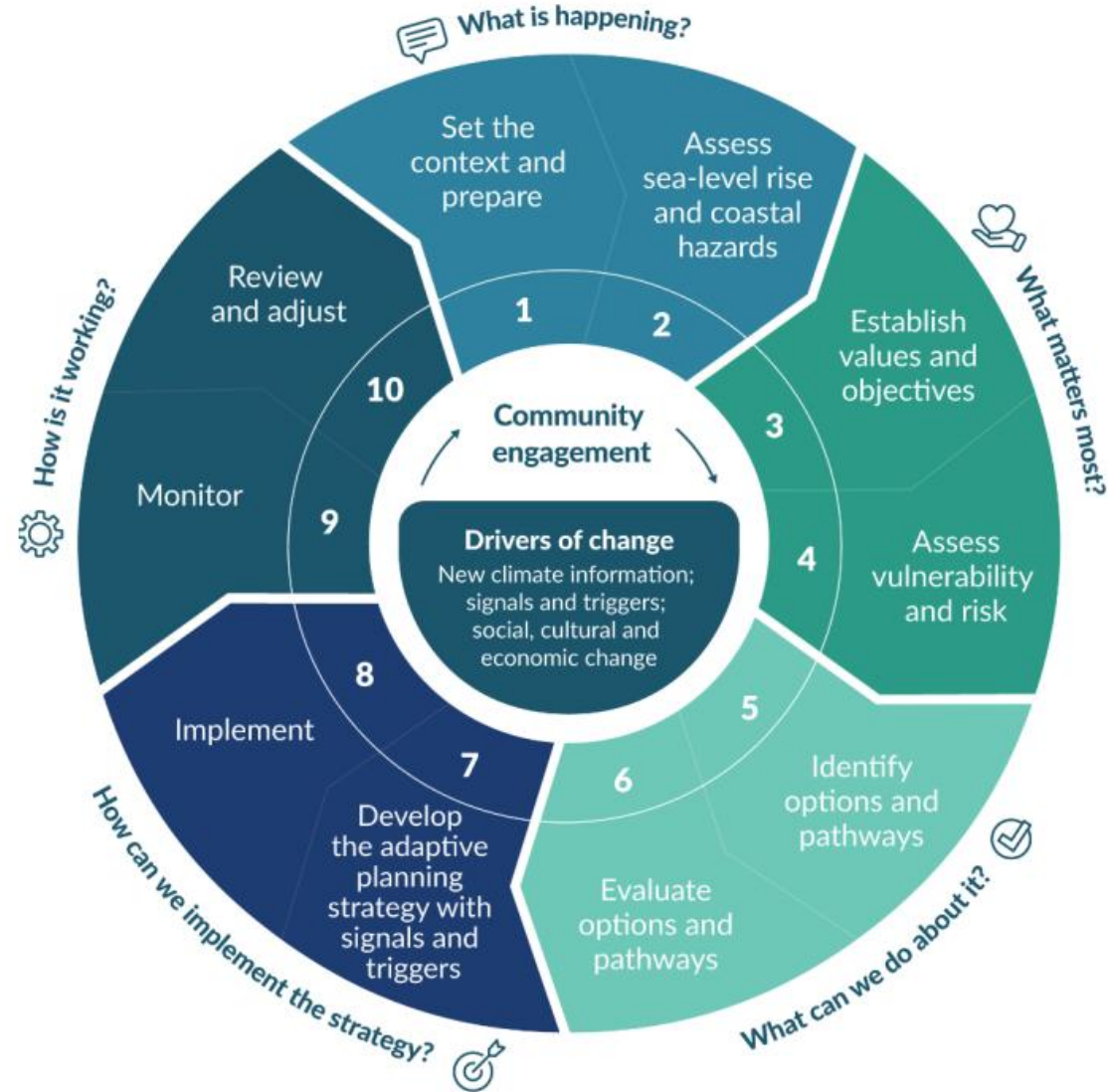
Adaptive planning allows you to continually re-assess



2024

Ngā pūmate takutai me te ārahitanga huringa āhuarangi

Coastal hazards and climate change guidance



Thank you



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