Coastal Hazards and Sea Level Rise

PORT PHILLIP EMERGENCY CLIMATE ACTION NETWORK

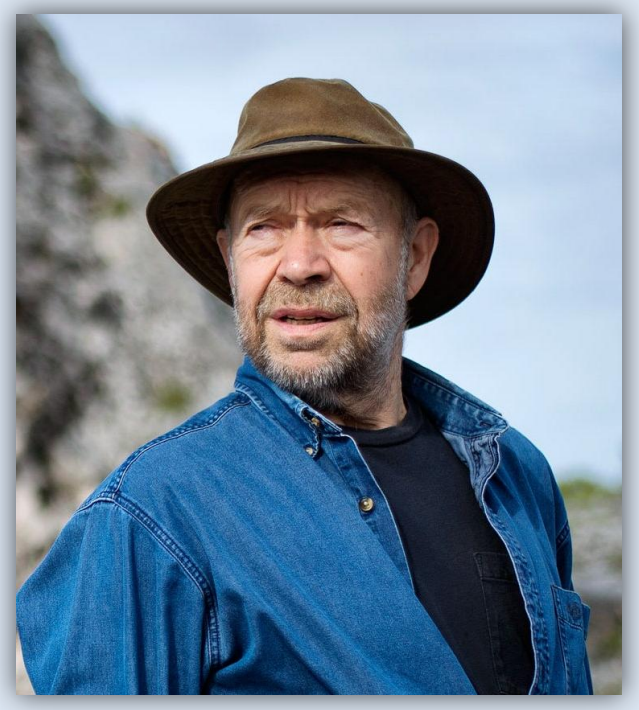
PECAN Blue/Green Working Group

Justin Halliday

- Convener of PECAN's Blue/Green Working Group
- Worked on PECAN's analysis, response, and engagement with Council initiatives over the last 4 years
- Independent candidate for Alma Ward in coming election...

State of the science

Michael E Mann
1998 Hockey stick graph



James Hansen
Testified to congress in the 1980s about global warming

State of the climate

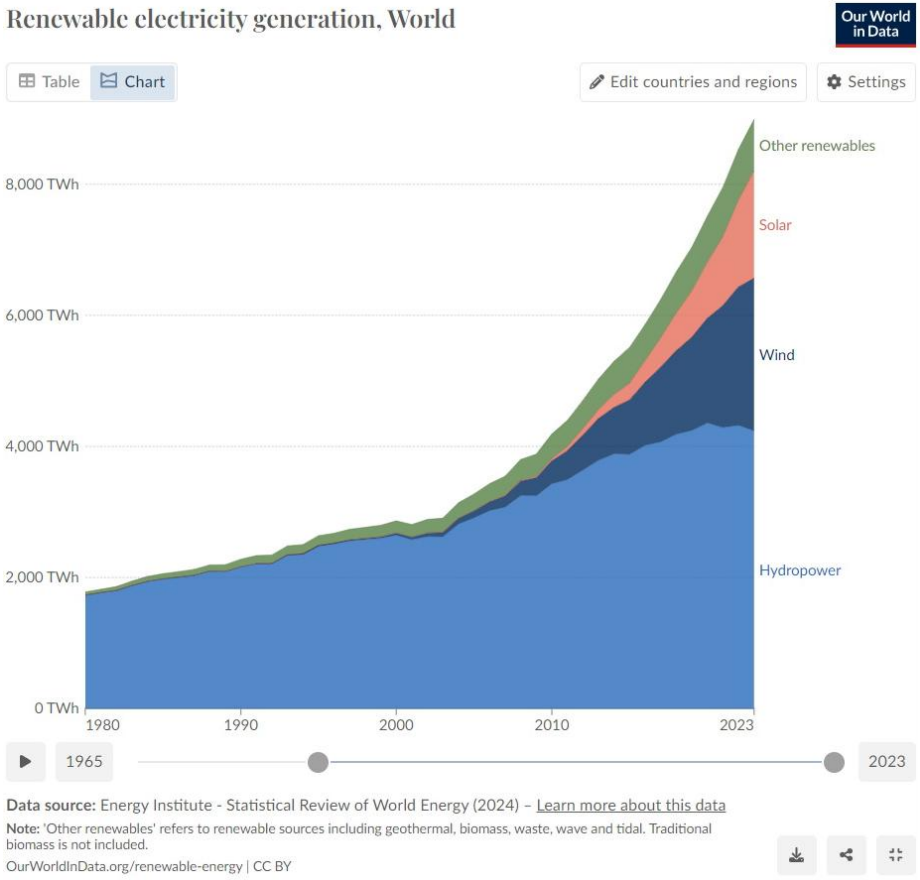
IPCC 2015 (Paris Agreement)

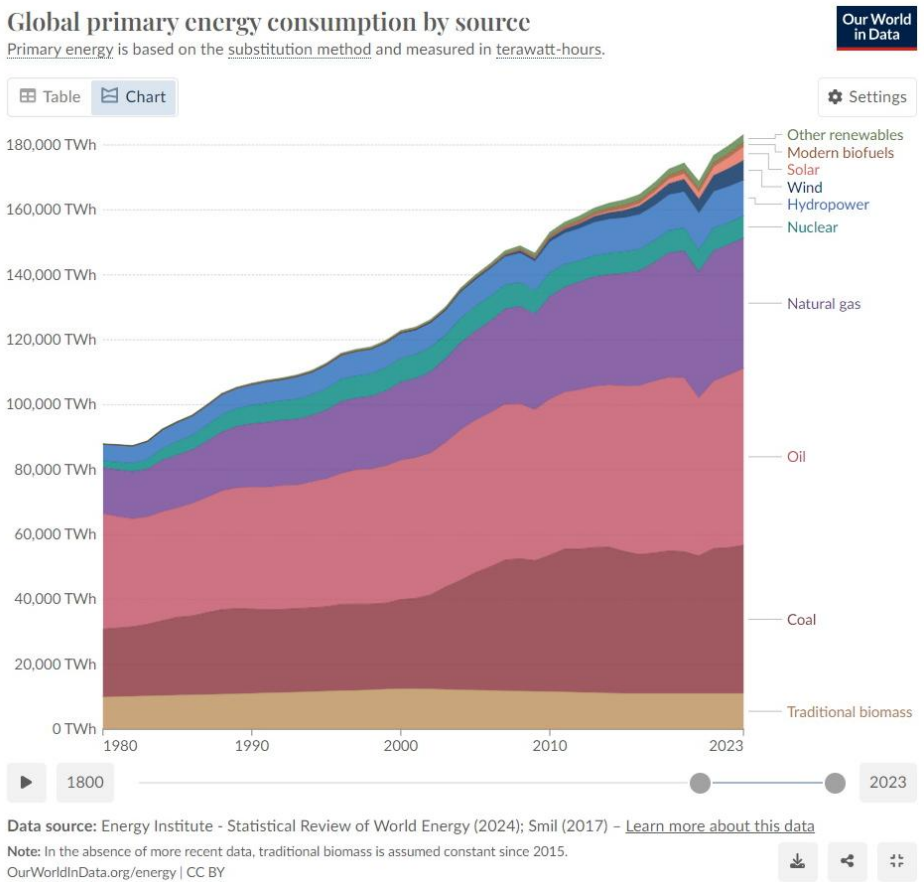
- Reach net zero by 2050
- Limit warming to +1.5C by 2100 (with mid-century overshoot)
- Draw down excess CO2 (BECCS and carbon CCS)

Reality

- Failing to achieve trajectory to reach net zero by 2050
- Breached +1.5C last year
- On track for +2.5C to +3.5C
- BECCS and CCS are fantasy technologies

How are we going with decarbonisation?






We're not gonna make it, are we? Humans, I mean.

But what about sea levels?

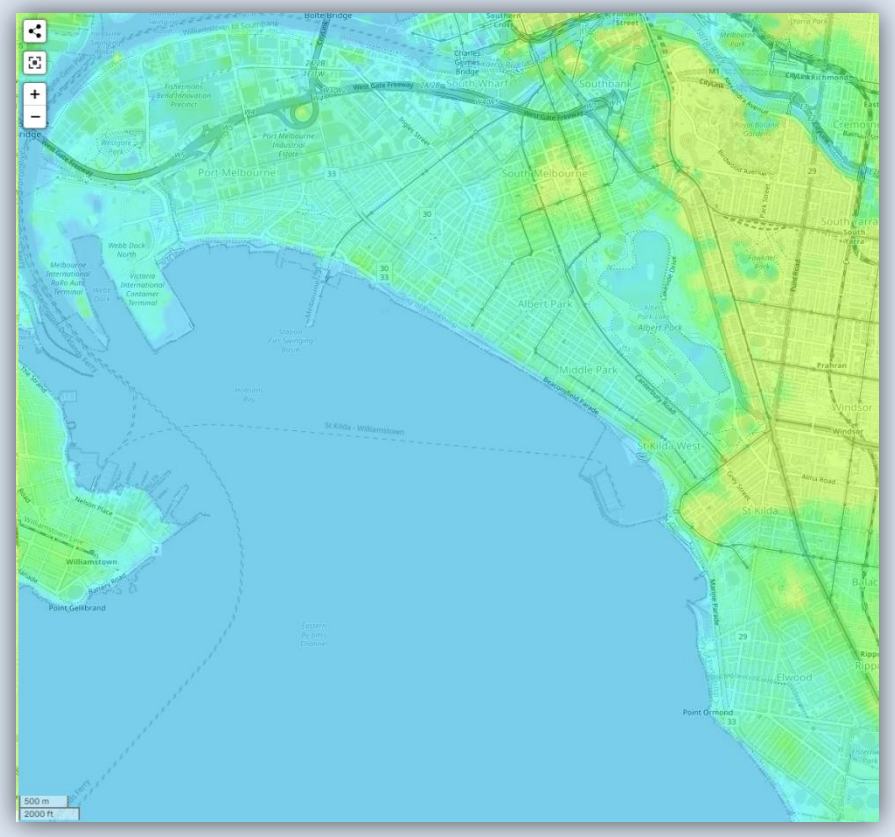
IPCC Report 2014

- 0.8m sea-level rise by 2100
- Antarctic and Greenland unlikely to contribute significantly to sea level rise

Reality

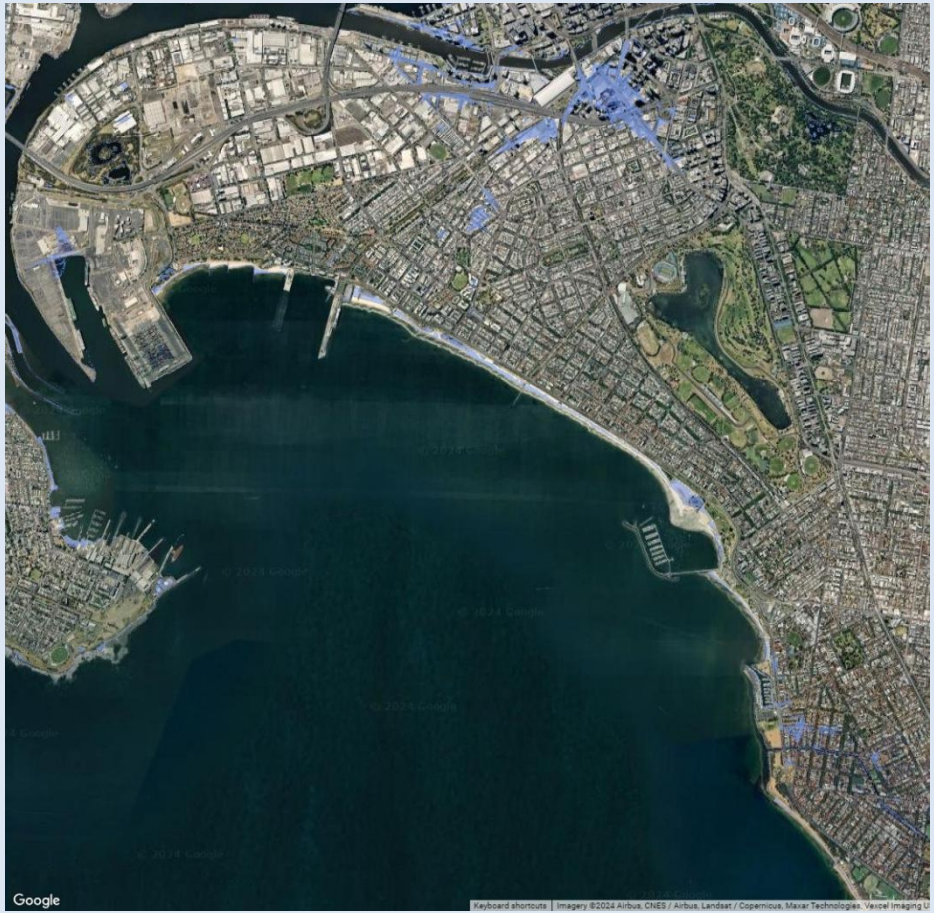
- In 2019, IPCC updated sea-level rise projections to 1.2m
- Multiple sea-level rise tipping points breached (Greenland, Antarctica), accelerating possible sea level rise, possibly to 1.6m or more this century


"THE LAST TIME THERE WAS THIS MUCH CO2 IN THE AIR, THE OCEANS WERE 80 FEET HIGHER THAN THEY ARE NOW."



THE **ONCE AS IT WAS** THE ANCESTRAL FAMILY ESTATES OF MELBOURNE'S FIRST PEOPLE

0.8m sea level rise

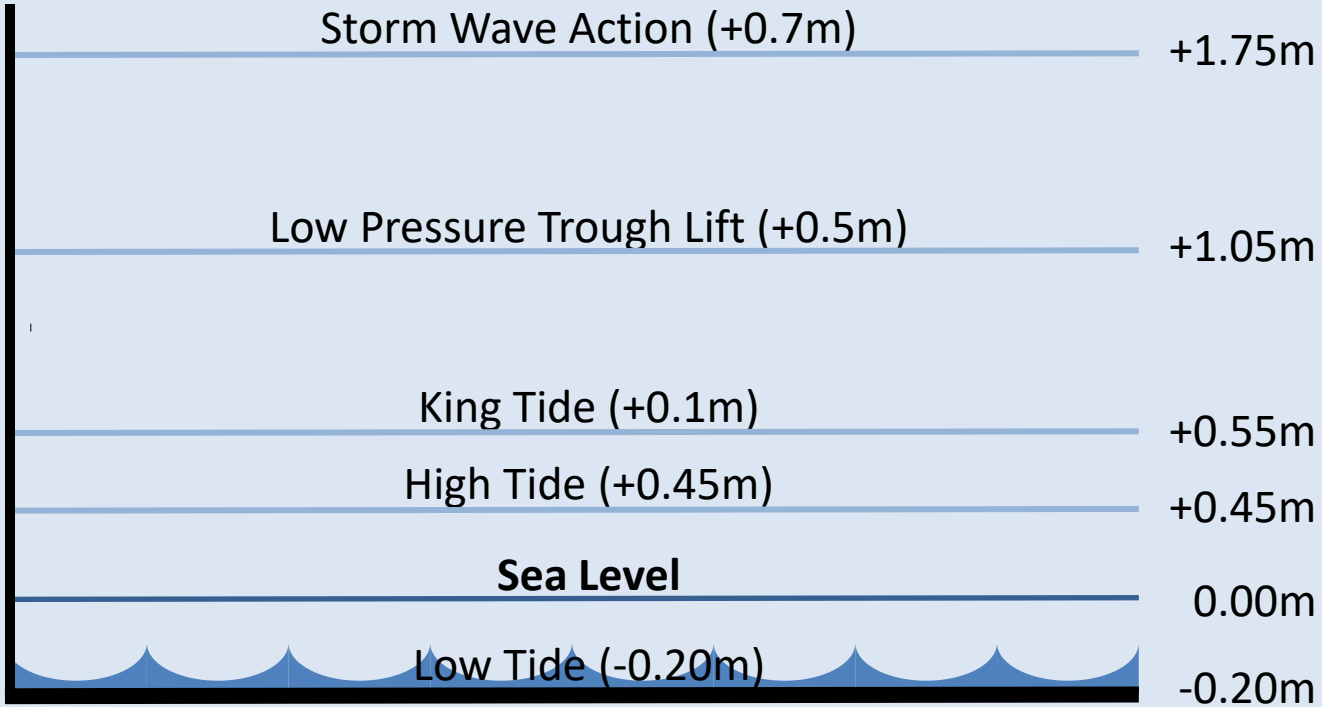


1.4m sea level rise

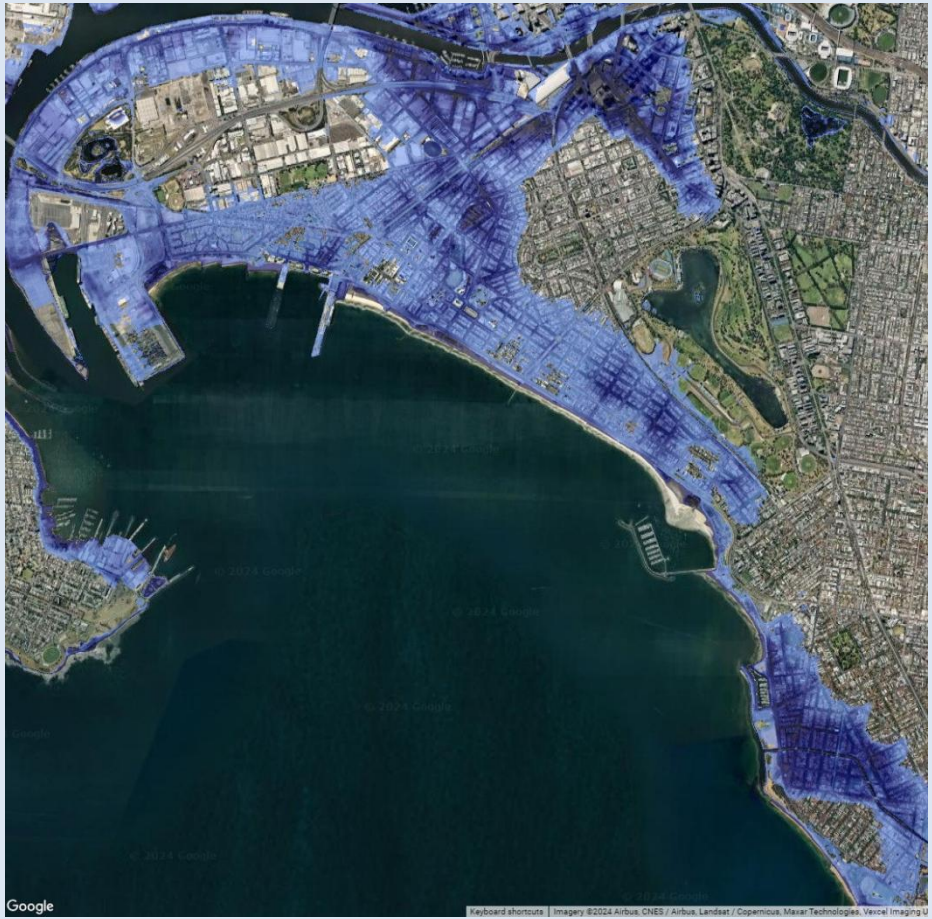
https://coastalrisk.com.au/


1.4m
NOT GREAT, NOT TERRIBLE
imgflip.com

What about storm surge?



2.4m sea level rise



3.0m sea level rise

https://coastalrisk.com.au/


"Okay, but that's worse."
"You do see how that's worse, right?"

Surely these are future problems?

Port Melbourne Focus

[redacted]
May 6, 2022 ·

Hi everyone ! Has anyone else received a letter from their home insurance provider to say due to being in a flood zone , the rate is rising to $20,000 per year ? We called the insurer and they said this is now happening all over Australia ?

17 64 comments

[redacted]
That must be very tough. Unfortunately the flood risk is well known. Port Melbourne, Elwood and Altona are all high risk flood areas. Insurance prices are all based on risk. The floods in NSW this year have shown that the risk is increasing. Definitely... See more

DOMAIN.COM.AU
The inner city Melbourne suburbs at growing risk of coastal flooding

2y Like Reply 3

View all 7 replies

[redacted] Author
An insurance update ..
after many calls we were advised they had a CBD address in for our property and revised it down to $8000 for flood cover . $10,500 full premium . We dropped optional flood related to the sea . It's worth shopping around but is a current issue with insurers .

2y Like Reply

[redacted]
I got my insurance renewal today with Shannon's and it was a 25% increase. When I called to ask they said the suburb had been reclassified as a high risk suburb. Seems the insurers are re-assessing their risk. I will be phoning around for alternative quotes on Monday.

2y Like Reply

[redacted]
I think the insurance company may be taking advantage of the recent CoreLogic report. CoreLogic is a US firm that assesses real estate risk all over the world and sells their info to insurance and real estate orgs. They recently released a report assessing Port Melbourne as the suburb with the third highest coastal risk (in Australia) to real estate with property to the value of around $484M at some degree of risk. Note that because this is coastal risk, they are referring to inundation due to climate change, not specifically flooding. A summary of the report can be found at https://www.corelogic.com.au/.../25-billion-in-australian...

CORELOGIC.COM.AU
$25 billion in Australian residential property exposed to high coastal risk

2y Like Reply 5

View all 3 replies

[redacted]
Live in Crockford St, PM and our house and contents insurance increased by 64%. Have been with Alliance for many years with no claims. I think it's time to shop around.

2y Like Reply Edited 3

[redacted] Author
It's with Allianz through the NAB. Just a letter saying our yearly rate was increasing and all flood zones are included . In the past there have been issues from flooding apparently.

2y Like Reply Edited

View all 4 replies

[redacted]
I should add that they don't assess specifically on risk of inundation or flooding but on high residential apartment value and density of apartment dwellings within close proximity to the coastline.

2y Like Reply

Banks taking action

Real estate agents expect the new flood zoning could result in Kensington Banks property prices falling by 20 per cent, while insurance premiums are expected to rise.

Property owners in newly designated flood zones, who purchased their property in recent years, could also find their home is valued at less than the amount they owe the bank.

Mr Mallon said banks were factoring in climate change when writing new loans.

"What we are seeing is banks around the world start to say 'we're not going to issue mortgages on properties where either you can't get insurance now or we as the bank don't believe that, you're going to be able to get affordable insurance for the life of the mortgage'," Mr Mallon said.

"They're looking at 30 years forward and they are including climate change into those calculations.

> "Our view is that we're going to see places where it's going to be very hard to get a mortgage."

Experts say thousands of home owners face property value loss due to new flood modelling. In Melbourne, the process has begun

https://www.abc.net.au/news/2024-06-13/kensington-banks-melbourne-water-flood-mapping-value-loss-fears/103960736

Table 16: Rank of the 40 suburbs with the greatest number of High-Risk Properties (#HRP) due to coastal inundation in 2100 within the state of Victoria. Alongside are corresponding counts of Moderate and Low Risk Properties (#MRP, #LRP), average and total Technical Insurance Premiums (TIP, $), percentage increase of #HRP from 2040-2100, count of exposed properties and percentage of High-Risk Properties (HRP%) from the suburb total.

Rank	Suburb	Exposed	HRP(%)	#HRP	#MRP	#LRP	Average TIP($)	Total TIP($)	#HRP Increase 2040-100
1	Southbank	41,464	85.1	37,589	1,496	5,105	264,329	11,680,701,389	126.0
2	Docklands	23,625	83.5	21,140	1198	2,970	217,848	5,513,308,718	546.0
3	Port Melbourne	14,699	67.9	10,069	2,131	2,629	123,546	1,832,066,754	2,168.0
4	Elwood	7,726	43.9	5,185	635	6,000	99,305	1,173,787,152	833.0
5	Altona	6,185	58.6	4,655	407	2,884	119,523	949,728,042	3,374.0
6	Seaford	7,489	36.8	4,350	281	7,188	89,156	1,053,736,778	1,800.0
7	Melbourne	6,228	3.5	4,027	383	111,505	10,767	1,248,061,602	1,117.0
8	Patterson Lakes	4087	93.4	3,841	104	166	256,066	1,052,688,367	1,840.0
9	S Melbourne	6,271	29.1	3,696	430	8,576	66,961	850,542,857	411.0
10	Rosebud West	6,716	40.1	3,556	521	4,798	23,148	205,435,585	88,800.0
11	Chelsea	4,295	50.7	2847	204	2567	127,526	716,438,980	1,824.0
12	Middle Park	2,727	84.6	2,306	357	64	163,968	447,141,915	22,960.0
13	Golden Beach	2,442	54.5	2,236	28	1,842	167,181	686,447,098	43.0
14	Edithvale	2,945	58	2148	47	1,510	161,101	596,878,497	471.0
15	Point Lonsdale	2,344	55.9	2,130	28	1,655	173,171	660,299,385	131.0
16	Barwon Heads	2,660	67.7	2,040	100	873	183,107	551,700,991	1,572.0
17	Bonbeach	3,119	47.8	2,008	151	2,044	121,605	511,103,831	681.0
18	Aspendale	2,873	54.7	1,991	86	1,560	148,788	541,140,595	1,468.0
19	Aspendale Gdn	2,732	72.8	1,989	378	365	180,283	492,534,259	5,425.0
20	Lakes Entrance	2,160	43.2	1,974	27	2,570	131,823	602,562,019	64.0
21	Carrum	2,400	57.4	1,657	56	1,176	169,148	488,669,687	198.0
22	Albert Park	3,710	39	1,617	458	2,068	41,610	172,389,812	3,269.0
23	Chelsea Heights	2370	63.2	1,595	141	789	153,045	386,439,455	1,999.0
24	Loch Sport	1,724	44.4	1,356	63	1,633	119,925	366,012,624	153.0
25	St Kilda	3,548	5.6	1,289	56	21,595	14,521	333,122,784	691.0
26	Kensington	3,429	14	1,275	562	7,254	28,728	261,168,111	912.0
27	St Kilda West	2,532	39.3	995	318	1,220	42,031	106,463,446	24,775.0
28	Mordialloc	3,049	16.1	991	185	4,978	26,552	163,400,564	6,507.0

Tom Kompas, Karl Mallon, Michael Bojko, Tuong Nhu Che, Beth Strain, Max McKinlay, Pham Van Ha, Quentin Grafton and Natalie Stoeckl, (2022), ***Economic Impacts from Sea Level Rise and Storm Surge in Victoria, Australia over the 21st Century***, *Report prepared for the* Victorian Marine and Coastal Council (VMACC), with support from the Department of Energy, Environment and Climate Action (DEECA) and Life Saving Victoria, Centre for Environmental and Economic Research, University of Melbourne, Melbourne and Climate Risk Pty Ltd., Sydney

How will this impact individuals?

- Insurance costs
- Retrofitting expense
- Property value impacts
- Emergency preparation
- Flood damage
- Flood endangerment
- Unlivable homes

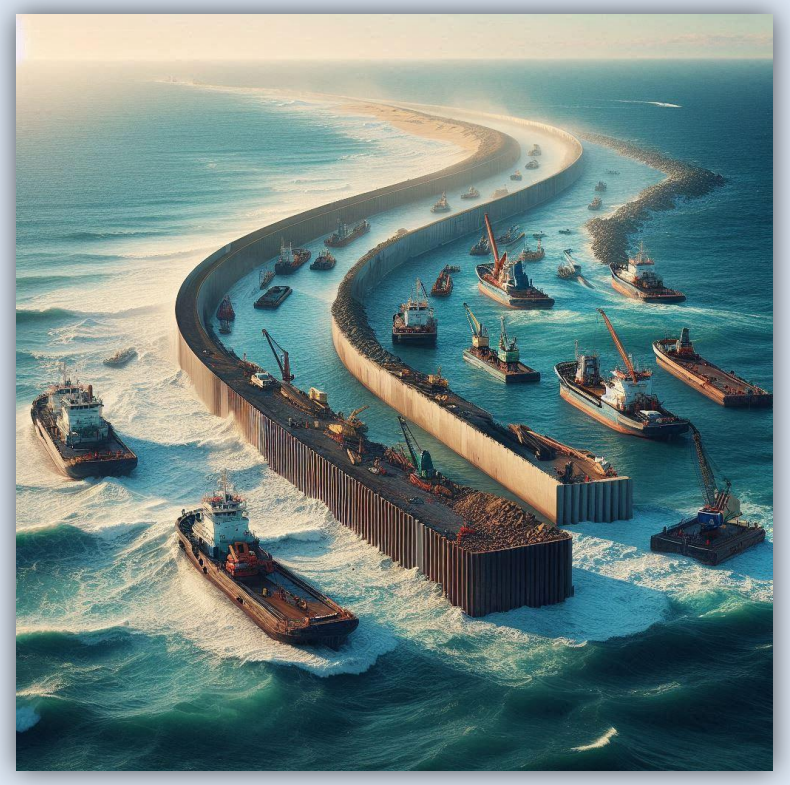
What impact will this have on Council?

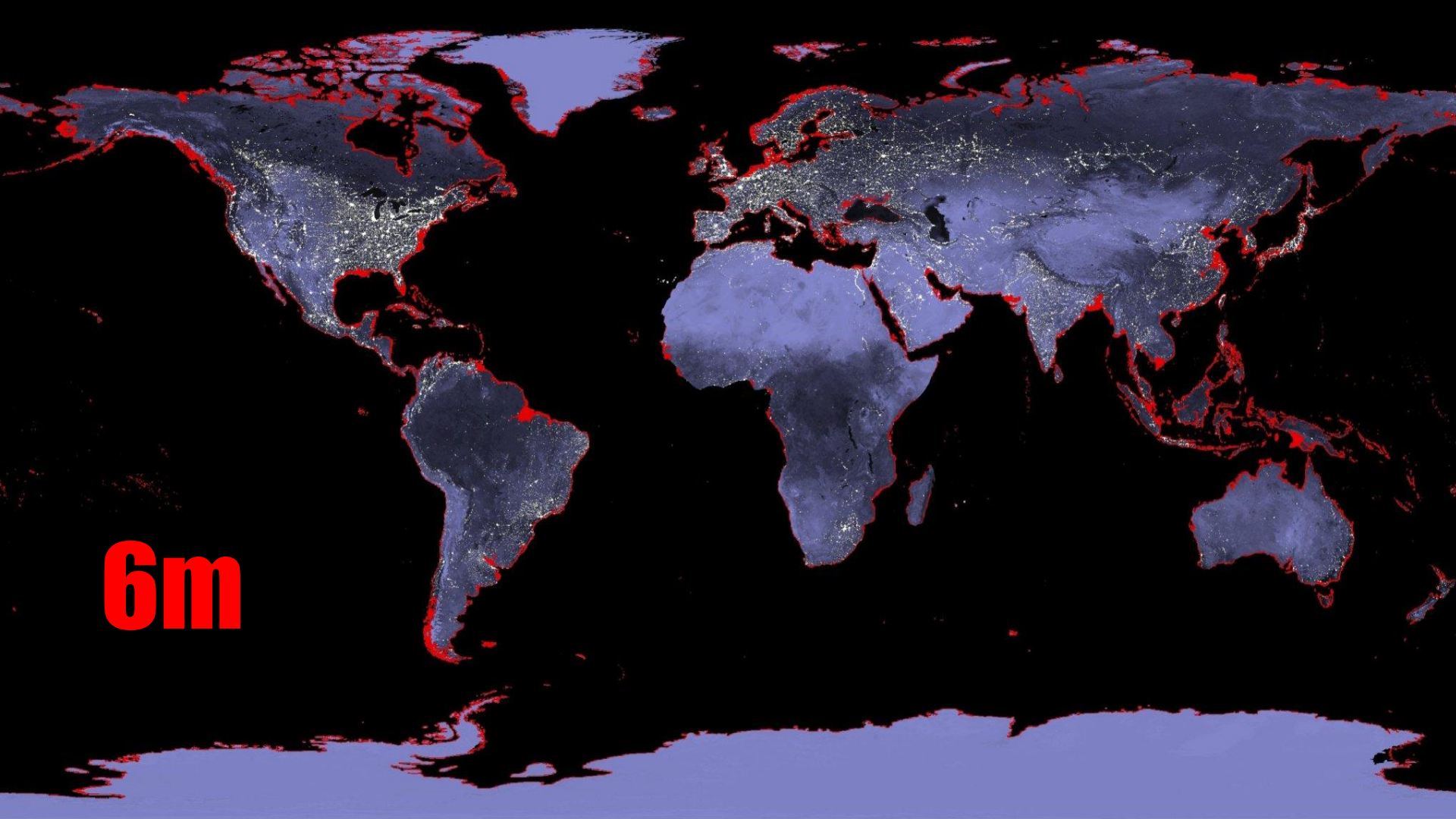
- Currently making 50-year+ planning and infrastructure decisions
- Hundreds of millions of dollars of foreshore assets
- $30m allocated to Elwood foreshore works
- Liable for $10m+ of preliminary works for the St Kilda Marina project
- Liable for future insurance costs for that St Kilda Marina project
- Just spent $12m on the aptly-named Lagoon Reserve
- Stormwater and sewerage infrastructure will stop working
- Unclear future liability for property owner compensation ($5b-$20b)
- Erosion of council rates
- Increased council expenditure

What should Council do?

1. Seek updated sea level rise and flood maps from Melbourne Water
2. Revise sea level rise projections (at least 1.4m)
3. Update planning scheme and flood resilience guidance for flood-affected housing
4. Heritage exemptions to retrofit properties
5. Review infrastructure strategy (foreshore, stormwater, and sewerage)
6. Review projects (St Kilda Marina, Fishermans Bend, etc)
7. Advocate to state government

But, can’t we stop this?

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