

# Coastal Resilience Short Course

GRIFFITH UNIVERSITY  
GOLD COAST & BYRON BAY 2024



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# Coastal Resilience Short Course

*Coastal and Marine Research Centre*





# The Metro Challenges:

- Funding
- Protection of public & private assets
- High recreation usage in high management areas
- Destruction for long term benefit
- Traverses' local government boundaries

# Further Challenges – Regional Councils



- Not restricted to small Councils – similar challenges across LGAs
- Limited Resources
- Expertise Gaps
- Regulatory Complexity
- Community Expectations
- Long Term Planning V Immediate Needs
- Financial Constraints
- Coordination with other agencies



# Field Trip Highlights & the South Australian Context

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# Point Danger & Tweed River



YEARS OF OPERATION: 16

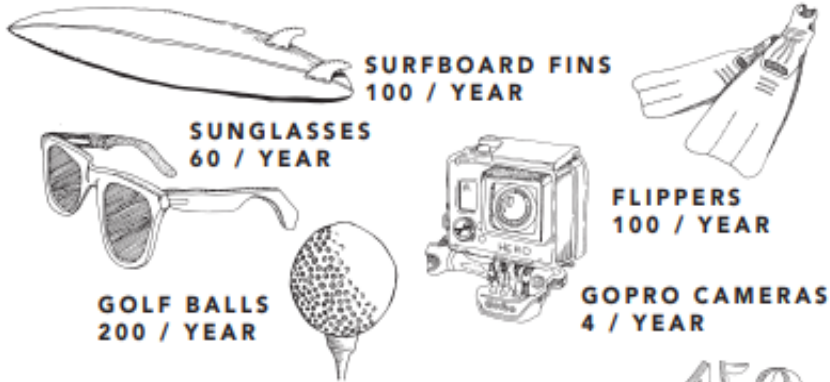
AMOUNT OF SAND PUMPED: 8.5 MILLION CUBIC METRES  
AMOUNT OF SAND DREDGED: 2.2 MILLION CUBIC METRES

NUMBER OF  
OSPREYS  
CURRENTLY  
LIVING AT  
THE JETTY: 4



10 OSPREY CHICKS HAVE HATCHED SINCE  
THE JETTY NEST WAS BUILT

OBJECTS THAT GET SUCKED UP THE JET PUMPS



LENGTH OF THE JETTY 450 M

JET PUMPS: 11

PROJECT STAFF: 10



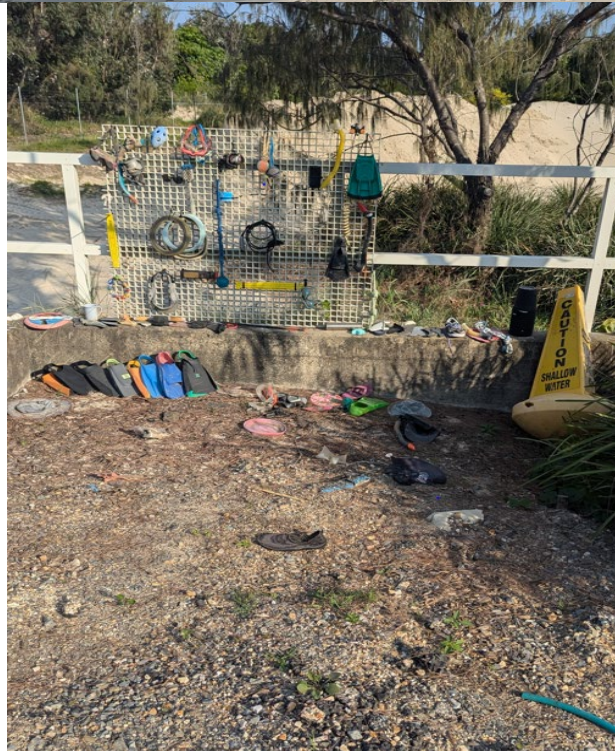
11,760

AVERAGE NUMBER  
OF BOATS THAT  
PASS THROUGH  
THE TWEED RIVER  
ENTRANCE PER  
YEAR PRE-PROJECT  
(<1995)

22,246

AVERAGE NUMBER  
OF BOATS THAT  
PASS THROUGH  
THE TWEED RIVER  
ENTRANCE PER YEAR  
POST-PROJECT  
(1996-2016)

APPROXIMATE  
DISTANCE THE  
FIRST GRAIN OF  
SAND PUMPED  
TO  
SNAPPER  
ROCKS  
EAST HAS  
TRAVELLED  
7km



Letitia  
Spit



# Burleigh Heads





A wide-angle photograph of a beach with the Miami skyline in the background. The beach is sandy with some greenery on the left. The water is calm, and the sky is clear. The text 'Miami Beach & Nobbys Beach' is overlaid on the right side of the image in a white serif font. A small blue horizontal line is positioned above the text.

# Miami Beach & Nobbys Beach





# Kings cliff Foresore Revitalisation





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# A Case Study – Byron Bay





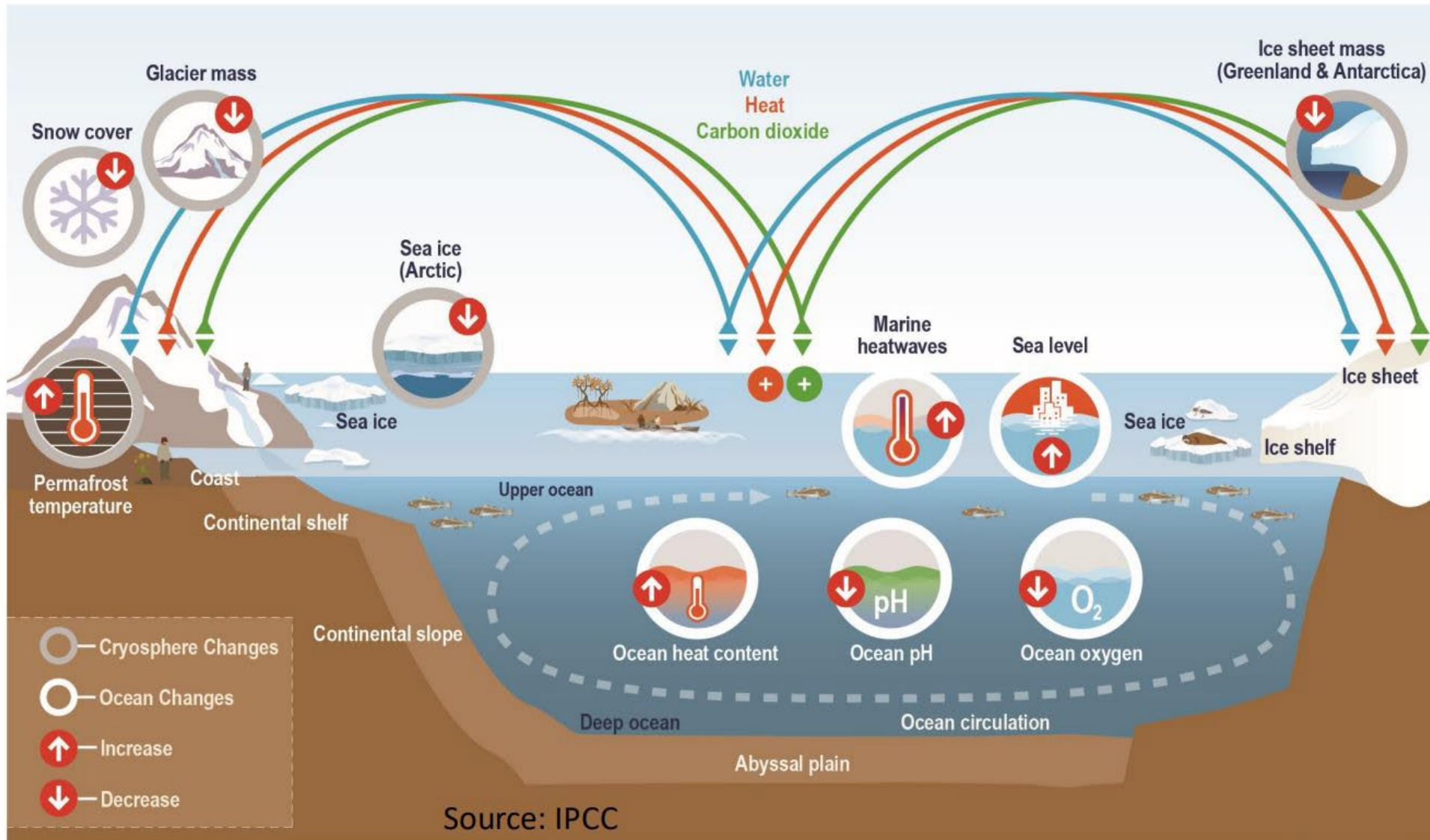
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# Community Engagement

- Positively engaged communities – key to successful outcomes
- Do low numbers mean we are not engaging properly – or are the majority happy for the experts to solve the issues?
- Resistance to Change – skepticism, fear, reluctance
- Successful results – Kingscliff
- Don't fix it if it's not broken
- Example - 'sea level rise isn't happening' 'experts don't make sense – predicting different levels in different places





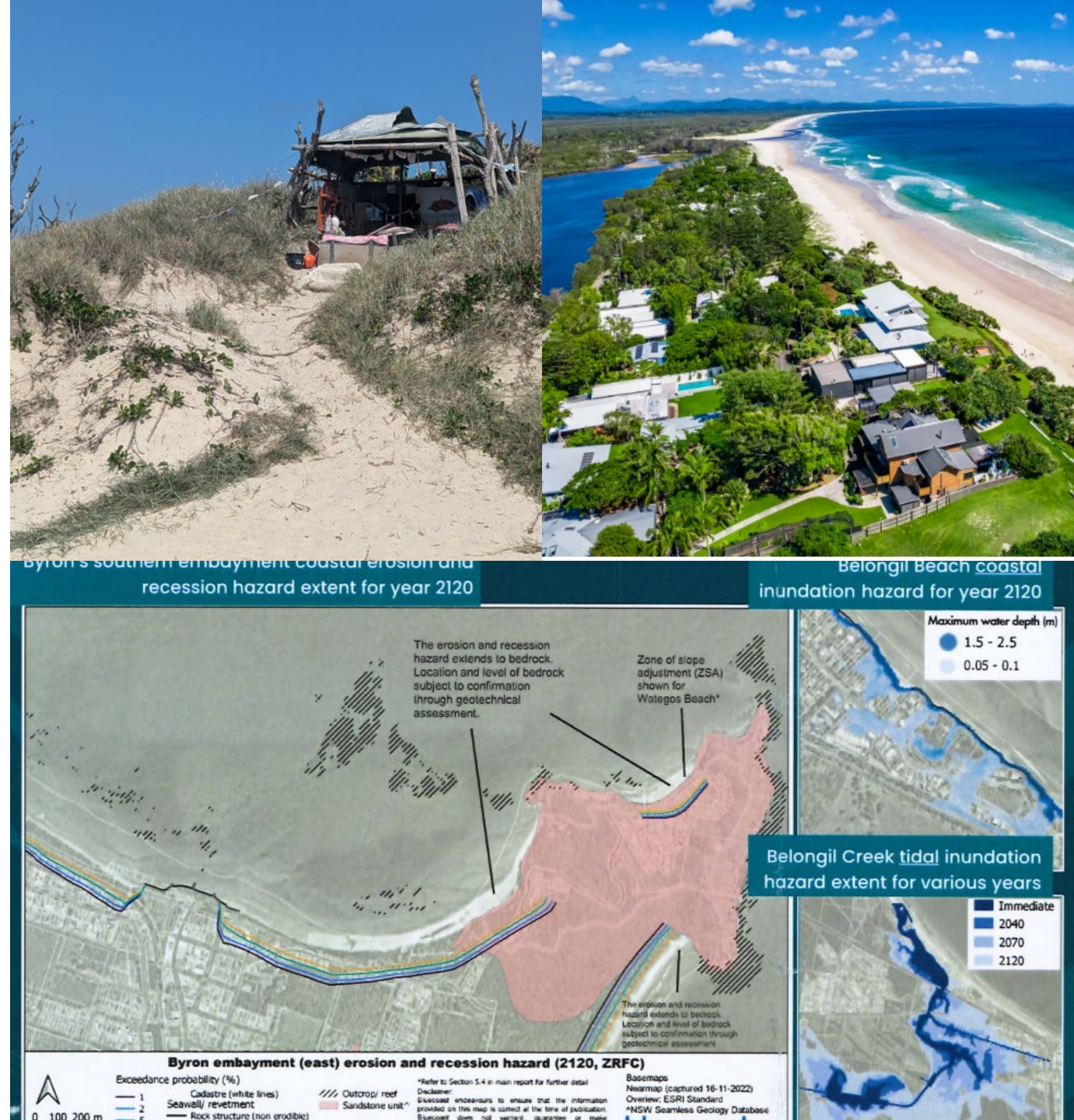


non-uniform spatial pattern in sea level rise



# Belongil Beach

- Erosion, tidal & coastal inundation
- Reactive works
- Planned retreat – policies challenged; management required
- Integrated approach needed
- Community divide and engagement





# Long Term Planning V Immediate Needs



- Byron Bay 1972 Erosion Events – 1988 adopted Byron Development Control Plan introduced 'planned retreat'
- Despite long term coastal hazard management approach – still issues
- Long history of litigation
- Legal conflict
- Highly engaged community active in space for decades (isn't this what we want ??)
- Diverse community views – wealthy investor v long term landholder
- Answer ?





## Belongil landowners sue independent coastal panel

The Echo - August 15, 2018



## MLC claims Belongil homes 'unapproved'

Chris Dobney - May 27, 2016



## 300 rally to stop the rocks

Chris Dobney - June 9, 2015



## Sacrificing public beaches for private gain

Chris Dobney - March 7, 2016



## How a handful of wealthy Belongil residents won the right to keep their seawalls

The Echo - August 24, 2016

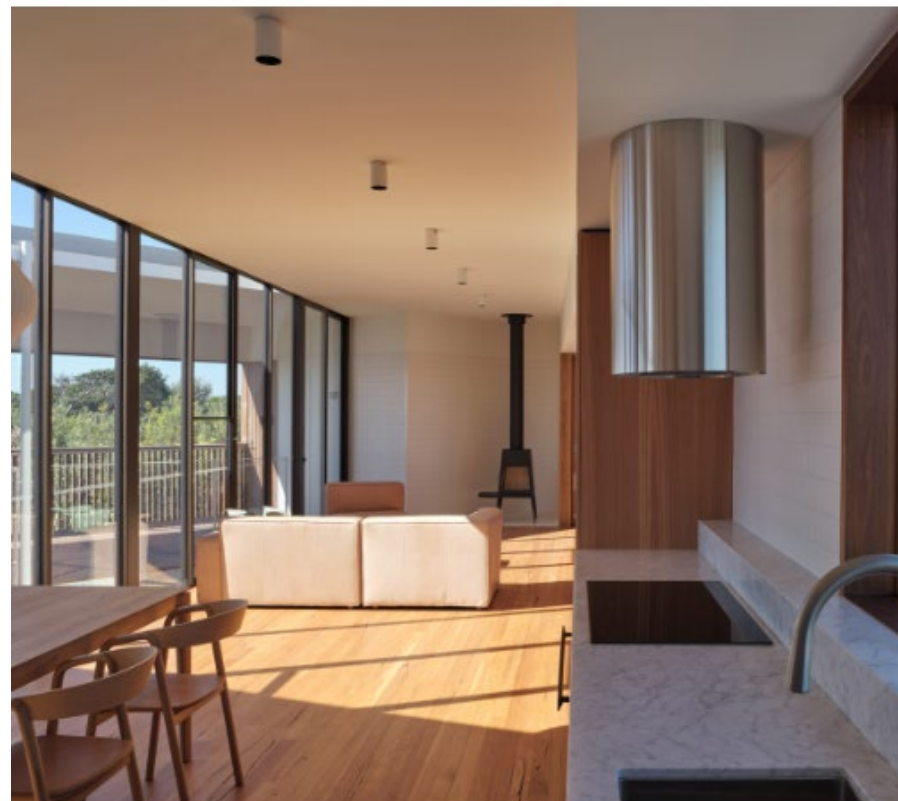


# Blok Belongil



At Belongil, prefab construction met the council's requirement that new buildings be readily demountable.







**FOR SALE**  
**\$45 Million**  
**2000square meters**  
**40m of beach frontage**  
**'Everyone's favourite place –**  
**nothing quite like it !**



An aerial view of the Bluewater cottages at 1-3 Don St, Belongil Beach.





The site offers 40m of beachfront.





## Part J DCP Coastal Erosion Planning Precincts, Byron Bay

### Legend

- Land Parcels
- Erosion Precinct 1
- Erosion Precinct 2
- Erosion Precinct 3



Disclaimer : While all reasonable care has been taken to ensure the information contained on this map is up to date, no warranty is given that the information contained on this map is free from error or omission. Any reliance placed on such information shall be at the sole risk of the user. Please verify the accuracy of the information prior to using it. Note : The information shown on this map is a copyright of the Byron Shire Council and the NSW Department of Lands.

1,713

Meters

( Scale @ A4 Size )



1 : 25,000

30-May-2016

### Notes

**\$45 Million  
investment in  
Erosion Precinct 1**

Figure 2: Part J coastal hazard planning precincts relevant to Belongil Beach, Byron Bay. Source: © Byron Shire Council.





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## Actual examples of erosion impacts – Collaroy Beach

- Collaroy pool was designed to withstand impact of one in 100 year storm





# Tumby Bay Experience

- History of Coastal Works
- Community Engagement – in the past and recent
- Kingscliff - 'Greening the Grey' - creates another issue – not all solutions work everywhere
- Nature Based V Engineering Based Solutions
- Current state and challenges





# The Quiz KAHOOT

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