

General Coastal Users (GCUs) Survey

This survey questionnaire targeted the six general coastal user communities (coastal residents, Indigenous coastal communities, tourists, Surf Life Saving Club members, teachers and coastal council employees). It consists of tailored questions for each of the six communities, and 39 generic questions asked of all communities.

COASTAL RESIDENTS

i) Do you live in a (please circle your answer):

- House
- Apartment
- Other (please specify)

ii) Approximately how many years have you been living at your current address?

.....years

iii) What was the main reason you chose to live at this location?

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iv) While living at this location, have you ever experienced direct damage or loss to your property due to any of the following?

a) Coastal erosion (loss of land or sand) caused by daily wave and tidal effects	Yes	No
b) Coastal erosion caused by extreme high tides	Yes	No
c) Coastal erosion caused by storm waves	Yes	No
d) Coastal flooding caused by high tides	Yes	No
e) Coastal flooding caused by storm waves	Yes	No

v) If you have answered yes to any of the above, please indicate how often these events occur:

- a. More than once a year
- b. Roughly once a year
- c. Once every 1-2 years
- d. Once every 3-5 years
- e. Once every 5-10 years
- f. Less than once every 10 years
- g. Don't know

vi) When was the last time an event like this occurred?

vii) Please describe the event, including any damage caused to your property:

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.....

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.....
.....

COASTAL INDIGINOUS COMMUNITIES

1a. Do you identify as

- Aboriginal/Torres Strait Islander
- Non-indigenous

TOURISTS

i) What type of coastal accommodation are you currently staying in:

- Holiday/caravan park
- Camp ground
- Motel
- Hotel
- Resort
- Other (please specify)

ii). Have you stayed in this particular accommodation before?

- No, this is the first time I have stayed here
- Yes, but I have been here only once before
- Yes, I come here roughly once a year
- Yes, I come here more than once a year

iii). Why did you choose to stay at this accommodation site?

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SURF LIFE SAVERS

1. Are you a member of a surf lifesaving club?

Yes

No (defaults to end of survey)

2. Which surf lifesaving club are you a member of?

3. How long have you been a member of this club?

Less than one year

1 – 2 years

3 – 5 years

5 – 10 years

More than 10 years

4. In an average summer season, how often do you take part in patrols at this club?

19. Do you think that conditions at your surf club beach, in terms of waves and currents, are changing due to climate change?

25. On a scale of 1 -10 (with 1 = not at all concerned and 10= extremely concerned), how concerned are you about the impacts of storm erosion on your club and it's activities?

DECISION-MAKERS

1. What is your role/association with the coast and coastal community in terms of your profession or organisation you represent:

- Local Government
- State Government
- Consultant – engineer
- Consultant – scientist
- Educator or academic (all levels)
- Community group
- Other (please specify)

2. Which coastal local government area in NSW are you most familiar with in terms of your profession/where you work?

3. Are you aware of any locations within your coastal local government area that are at risk of coastal erosion or coastal flooding caused by storm surges or high tides? (Y/N) please specify

TEACHERS

1. What role do you perform as an educator in NSW?

Primary school teacher

High school teacher

Other (please specify)

I am not an educator (if selected, skip to end of survey)

2. How long have you been teaching?

Less than a year

1-3 years

3 – 5 years

5 -10 years

10-20 years

20 + years

3. Do you teach subject matter on CLIMATE CHANGE as part of your curriculum?

Yes /No /Don't know

4. Do you teach COASTAL ENVIRONMENTAL CHANGE as part of your curriculum?

Yes (if selected, go to 4a)/No/don't know

4a. What would you say is the level of student interest about this topic (Likert; 1-10)

5. Do you feel there is enough focus given to CLIMATE CHANGE in the NSW Curriculum

Yes/No/Don't know

6. How relevant do you think information about SEA LEVEL RISE and COASTAL STORMS is to your students (Likert; 1-10)

Section 1:

First we need to know a little bit about you and your relationship with the coast

1. What is your gender?

- Male
- Female
- Identify as other

2. What age group do you fall into?

- Under 18 (to the end of the online survey)
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 years and older

3. What is your postcode?

4. Approximately how far do you live from the nearest coastal water?

- Don't know
- Adjacent to it
- Less than 1km
- 1 – 5km
- 5-10 km
- 10-50 km
- More than 50 km

5. Do you own your own home, pay rent, or something else?

- Don't know
- Own
- Pay rent
- Something else

6. Do you belong to a community group that has an interest in the coastal environment? (e.g. Surf Lifesaving, community action group, sports group, State Emergency Service)

- Yes (please specify)
- No

For the following questions, the coast refers to; beaches, dunes, headlands, estuaries, coastal wetlands and coastal lakes and lagoons connected to the ocean.



Figure 1 a predominantly natural coast



Figure 2 an urbanised coast

7. In a typical year, how often do you spend time at the coast (e.g. beach, harbour, estuary)?

- Every day (or close to it)
- At least once a week
- At least once a month
- A few times a year
- Once a year
- Never

8. Which type of coast do you most often spend time at?

- Ocean beaches (*please answer 8a*)
- Cliffs/headlands
- Rock platforms
- An estuary, coastal lake or lagoon (*please answer 8b*)
- Wetlands
- Other

8a. Are these beaches typically:

- In an urban, heavily populated area
- In a more regional, moderately populated area
- In a natural environment (little or no development)

8b. Are these estuarine water bodies typically:

- In an urban, heavily populated area
- In a more regional, moderately populated area
- In a natural environment (little or no development)

9. What activity do you mostly use the coast for? Tick all that apply

I work there		Shopping / eating / socialising	
Bathing / swimming		Boating/sailing	
Surfing / boardriding		Exercise e.g. walking, jogging, fitness group	
Snorkelling/diving		Enjoying the view / connecting with nature	
Sunbathing		Hiking or bushwalking	
Fishing		Dog walking	
Other (please specify).....			

10. In twenty years time, do you feel that you will be able to continue to enjoy your coast in the same way as you do now?

- Don't know
- Yes
- No (please state why not).....

11. What do you think is the biggest threat to your future use of your coast?

.....

Section 2: Coastal Hazards

12. How much of a risk do you think the following hazards will pose to you within the next 20 years? (1 = extremely low, 10 = extremely high) *Please circle an answer for each hazard*

a) Bushfires	1	2	3	4	5	6	7	8	9	10
b) Drought	1	2	3	4	5	6	7	8	9	10
c) Heatwaves	1	2	3	4	5	6	7	8	9	10
d) Severe coastal storms (e.g. cyclones)	1	2	3	4	5	6	7	8	9	10
e) Cliff collapse	1	2	3	4	5	6	7	8	9	10
f) Flooding	1	2	3	4	5	6	7	8	9	10
g) Sea level rise	1	2	3	4	5	6	7	8	9	10
h) Coastal erosion	1	2	3	4	5	6	7	8	9	10

13. Which statement best describes what you think about climate change and sea level rise?

- It's not happening (go to question 14)
- It is happening (Please answer question 13a)
- Unsure (Please answer question 13a)

13a. Which statement best reflects your opinion about sea level rise and climate change

- It isn't a problem for the NSW coast
- It's occurring so slowly that it's not really a problem in NSW at the moment
- It's already having negative impacts on the NSW coast
- It will definitely have an effect on the NSW coast within the next 50 years
- Other (please specify)

14. How much do you think sea level will change in the next 20-50 years?

- Don't know
- It won't change
- It will fall
- It will rise somewhere between 1 - 25cm
- It will rise somewhere between 25 – 50cm
- It will rise somewhere between 50 cm to 1 m
- It will rise by more than 1 m

15. How much do you agree or disagree with each of the following statements about sea level rise?

(1= Strongly disagree, 2= disagree, 3= neither agree/disagree, 4= agree, 5= strongly agree)

Sea level rise will mostly affect other countries	1	2	3	4	5
The NSW coast will be affected by sea level rise	1	2	3	4	5
The coast I most frequently visit will feel the effects of sea level rise	1	2	3	4	5
Sea level rise will have a big impact on me	1	2	3	4	5

This photograph is an example of **COASTAL INUNDATION**



16. Which of the following do you consider to be the main causes of ‘coastal inundation’? Circle all that apply:

- I don't know
- Heavy rain
- High tides
- King tides
- Storm surges
- Sea level rise
- Overflowing estuaries or lagoons
- Overflowing storm water drains

17. In NSW, which type of coasts do you think are MOST susceptible to damage caused by coastal inundation? Please rank your top 3 (e.g. 1,2,3)

Don't know		Dunes	
Beaches in developed areas (cities, towns)		Lagoons	
Beaches in less populated or natural areas		Rock platforms	
Shorelines of estuaries in developed areas (cities, towns)		Harbours and ports	
Shorelines of natural, undeveloped estuaries		Mangroves, salt marshes	
Cliffs and headlands			

18. Generally speaking, do you think the chance of **COASTAL INUNDATION** occurring in NSW will decrease, stay about the same, or increase over the next 20 years?

- Increase
- Stay about the same
- Decrease
- Don't know

In the next series of questions, **COASTAL EROSION** refers to the natural removal of sand or sediments from a shoreline (i.e. beach, estuary, lagoon).



Erosion at Jimmy's Beach, NSW

19. In NSW, which type of coasts do you think are **MOST** susceptible to coastal erosion? Please rank your top 3 (e.g. 1,2,3)

Don't know		Dunes	
Beaches in developed areas (cities, towns)		Lagoons	
Beaches in less populated or natural areas		Rock platforms	
Shorelines of estuaries in developed areas (cities, towns)		Harbours and ports	
Shorelines of natural, undeveloped estuaries		Mangroves, salt marshes	
Cliffs and headlands			

20. Generally speaking, do you think the chance of coastal erosion occurring in NSW will decrease, stay about the same, or increase over the next 20 years?

- Increase
- Stay about the same
- Decrease
- Don't know

In early June 2016, the NSW coast experienced a major coastal storm that lasted several days, generating large and powerful waves that impacted the coast, with heavy rainfall. Significant damage to property, erosion on almost all beaches facing the ocean and coastal inundation occurred.



Figure 3 This figure shows severe coastal erosion at Collaroy-Narrabeen Beach (June 2016).

21. How often do you think storms like this occur?

- About once every 100 years
- About once every 50 years
- About once every 20 years
- About once every 5 years
- About once per year
- More than once per year
- Not sure

22. In the future, do you think damaging storms like this will:

- Occur more often
- Occur less often
- Happen about the same amount as they always have
- Don't know

23. In the future, do you think storms like this will be:

- More damaging
- About the same
- Less damaging
- Don't know

24. How concerned would you be about the following possible impacts of a storm like this?

(1= not at all concerned, 10 = very concerned)

a) Damage to recreation areas like surf breaks, dive spots

1	2	3	4	5	6	7	8	9	10
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b) Loss of life or injury

1	2	3	4	5	6	7	8	9	10
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c) Reduced public access to the coast

1	2	3	4	5	6	7	8	9	10
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d) Damage to private land and property

1	2	3	4	5	6	7	8	9	10
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e) Interruption to electricity supply, water or other utilities

1	2	3	4	5	6	7	8	9	10
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f) Road closures

1	2	3	4	5	6	7	8	9	10
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g) Loss of sand from the beach

1	2	3	4	5	6	7	8	9	10
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h) Damage to plants and animals

1	2	3	4	5	6	7	8	9	10
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h) Pollution (e.g. overflowing drains, debris on the beach)

1	2	3	4	5	6	7	8	9	10
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25. Generally speaking, when damage occurs, who should pay for clean-up and repair?

(Please rank your top 3, e.g. 1,2,3)

No one, nature is unpredictable	
The owners of properties that were damaged	
The local council where the damage occurred	
State government	
Federal government	
Insurance companies	
Other (specify).....	

Section 3: Coastal Management

26. Which coastal management options do you think are the best way to manage damage by COASTAL INUNDATION? Please select up to 3 options

Do nothing, leave it alone		Build houses higher and stronger	
Add sand to the beach, often called beach nourishment		Build an artificial reef offshore, beyond the breaking waves	
Relocate any buildings or infrastructure that are at risk some distance inland		Maintain a sand dune through revegetation	
Build a long, narrow pile of rocks sticking out from the beach (often called a groyne)		Government purchase of any land directly at risk of future flooding	
Build a wall, or place rocks, along the back of the beach, in front of the houses (often called a seawall)		Improve stormwater drainage systems	
Other (please specify)			

27. Which coastal management options do you think are the best way to manage COASTAL EROSION? Please select up to 3 options

Do nothing, leave it alone		Build houses higher and stronger	
Add sand to the beach, often called beach nourishment		Build an artificial reef offshore, beyond the breaking waves	
Relocate any buildings or infrastructure that are at risk some distance inland		Maintain a sand dune through revegetation	
Build a long, narrow pile of rocks sticking out from the beach (often called a groyne)		Government purchase of any land directly at risk of future flooding	
Build a wall, or place rocks, along the back of the beach, in front of the houses (often called a seawall)		Other (please specify	

28. Please indicate to what extent you agree with the following statements

(1= Strongly disagree, 2= disagree, 3= neither agree/disagree, 4= agree, 5= strongly agree)

People should have the freedom to live where they want	1	2	3	4	5
People who choose to live in hazardous areas should be prepared to accept the risk and costs of living there	1	2	3	4	5
The government should prevent people living near a coast threatened by erosion, coastal flooding or sea level rise	1	2	3	4	5
People given the appropriate information about coastal hazards will voluntarily move out of harm's way	1	2	3	4	5
People should have the right to protect their property	1	2	3	4	5



29. If you had both the opportunity and means to buy this house, would you buy it and live in it?

- Yes
- No
- Unsure

29a. Please explain your answer

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30. If you did own this house, what actions would you take to protect it from natural hazards like EROSION and COASTAL FLOODING caused by high tides or storm surges?

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31. Do you think enough action is currently being taken to manage the effects of COASTAL INUNDATION at your most visited coast?

- Yes, existing action is appropriate
- No, not enough is being done
- Don't know

32. Do you think enough action is currently being taken to manage the effects of COASTAL EROSION in NSW?

- Yes, existing action is appropriate
- No, not enough is being done
- Don't know

33. In Australia, local governments (councils) are largely responsible for managing coastal areas. How much confidence do you have that your local council is managing the coast appropriately?

[Scale: 1 = no confidence; 10 = full confidence]

1	2	3	4	5	6	7	8	9	10
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Section 4: Talking about coastal hazards

In this section, we'd like to know where you get information about sea level rise, coastal erosion, coastal flooding and coastal storms.

34. Where have you previously received information about COASTAL EROSION?

select all that apply

I have never received any information about coastal erosion		Dedicated websites, YouTube videos	
Local council or government		Social media (i.e. Facebook, twitter)	
Insurance company		School / university	
News media (newspapers/television/online news)		Community group	
Documentary (film or TV)		Books	
Brochures/pamphlets		Personal/direct experience	
Neighbours, friends, family		Other	

35. Where have you previously received information about COASTAL INUNDATION?

select all that apply

I have never received any information about coastal inundation		Dedicated websites, YouTube videos	
Local council or government		Social media (i.e. Facebook, twitter)	
Insurance company		School / university	
News media (newspapers/television/online news)		Community group	
Documentary (film or TV)		Books	
Brochures/pamphlets		Personal/direct experience	
Neighbours, friends, family		Other	

36. How much do you TRUST the following sources of information in regards to COASTAL EROSION, COASTAL INUNDATION and SEA LEVEL RISE?

(1= Not at all, 2= not much trust, 3= neither trust/distrust, 4= trust a little, 5= trust completely)

Government publications (pamphlets, brochures, websites)	1	2	3	4	5
My insurance company	1	2	3	4	5
News media (e.g. TV news, newspaper, websites, radio)	1	2	3	4	5
Social media (e.g. Facebook, YouTube, Instagram)	1	2	3	4	5
Neighbours, friends or family	1	2	3	4	5
Local council	1	2	3	4	5

37. Of the following, which topics would you like to know more about? *Select all that apply*

None, I don't want any information	<input type="checkbox"/>	Extreme high tides	<input type="checkbox"/>
Actions I can take to reduce my own risk in regards to coastal hazards	<input type="checkbox"/>	Sea level rise	<input type="checkbox"/>
How I can get involved in coastal management	<input type="checkbox"/>	Coastal storms	<input type="checkbox"/>
How coastal hazards work (like erosion and inundation)	<input type="checkbox"/>	Insurance availability	<input type="checkbox"/>
The impacts of climate change on my coast	<input type="checkbox"/>	Solutions e.g seawalls, beach nourishment, managed retreat	<input type="checkbox"/>
The key players in coastal management (who is responsible)	<input type="checkbox"/>	Other (specify).....	<input type="checkbox"/>

38. How would you prefer to receive this information? *Select all that apply*

From the government	<input type="checkbox"/>	Print media	<input type="checkbox"/>
From my insurance company	<input type="checkbox"/>	Documentary (film or tv)	<input type="checkbox"/>
In the national news	<input type="checkbox"/>	On social media (Facebook, Twitter, Instagram)	<input type="checkbox"/>
In my local newspaper	<input type="checkbox"/>	Dedicated websites, youtube videos	<input type="checkbox"/>
Other (specify).....			<input type="checkbox"/>

39. Do you have anything else you would like to add about coastal erosion, coastal inundation, coastal storms or sea level rise?

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END OF SURVEY

Thank you for taking part in our survey. If you would like to receive information from UNSW regarding the outcomes of this research, please contact Anna Attard at a.attard@unsw.edu.au