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**Topic :** Tracking shoreline change and visitation – lessons from NSW

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The forum showcased two approaches to tracking shoreline change using a fixed data capture system and a citizen science / community engagement approach. It included local government examples from NSW and Victoria.

**Date:** Wednesday 20<sup>th</sup> May 2020

**Speakers:** Chris Drummond .  
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**Evaluation:** [Click here](#) to complete the 3-question survey

**Recording:** [Click here](#) to access a recording of this forum and all other *Talk of the Tide* events.  
Access password: !m@v!

**Resources:**

[University of NSW Water research laboratory](#) – bridge between research and industry

[Narrabeen-Collaroy Coastal Monitoring Program](#) – 30 years of monitoring since 1976.

[Tracking shoreline change and beach users with a low-cost smart camera system](#)

[New beach monitoring system unlocking unprecedented information about coastal zone](#)

[Ocean Beach, Umina – Tracking shoreline change and beach users with a low cost smart camera system](#)

[Time-lapse of beach change at North Narrabeen CoastSnap station](#)

[Drone generated interactive 3D model of Palm Beach](#)

**[About Coast Snap](#)**

- CoastSnap Victoria  
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Facebook: [www.facebook.com/coastsnap](https://www.facebook.com/coastsnap) [#CoastSnapManly](#) [#CoastSnapNarra](#)

**Publications:**

Harley, M *et al* (2019) [Shoreline change mapping using crowd-sourced smartphone images](#), Coastal Engineering.

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## Your Questions

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**Q. What have councils or state governments done with the information Coast Snap provides?**

Time lapse videos generated using the community images have been used in communicating with the general public about coastal change. Also used the information to map rapid changes before / after major storms. Used to monitor lagoon/estuarine changes, opening or closing.

Shoreline change information can inform coastal hazard assessments – providing a historical record of beaches and changes.

**Q. Who are the CoastSnap partner agencies in Victoria?**

DELWP through Victorian Coastal Monitoring Program – being used at Inverloch.

**Q. How do we get one?**

Lots of councils in NSW have one. Best way is to contact Mitch/Chris directly and get a quote based on the scale and outputs you're interested in.

**Q. Who monitors and provides information back to community?**

CoastSnap maintain the database and the technology behind it. They provide the outputs and reports back to council – images or time-lapse video of shoreline change. This can be regular reports as well as monthly to quarterly for the time-lapse videos. CoastSnap survey team conducts the precise measurements of camera cradle and fixed points for images.

**Q. What is the cost to a council of rectifying and collating the data to produce a time lapse video or indication of shoreline changes.?**

Installation in order of \$2,000 for camera cradle including specifics for the site and signage. Camera cradles can be a manufactured locally by council or provided as part of the cost.

Monitoring annual fee based on interest – images \$5,000 and up from there if including time lapse videos / shorelines changes in cost eg. \$10,000 time-lapse

Important not to disregard the value of the community engagement.

**Q. Are there any privacy issues when using these cameras on public beaches?**

Public somewhat used to seeing CCTV signs at beaches already. Well established that if in public place there is CCTV signage you may be recorded.

Camera recognition is less clear. As camera recognition getting more sophisticated important that people's privacy is maintained. The Uni NSW camera system uses face blurring. Purpose if to count numbers of individual people on the beach, not to identify them. Uni NSW team also have strict standards about who has access to camera systems and data.

**Q. What sort of range does this system cover (distance from camera)?**

For people counting – up to 200m before people get too small to track

For CoastSnap key to the range is elevation of the camera cradle. Well elevated sites can cover shorelines over 1-2kms. In Port Phillip Bay elevation not possible, so can get 300-400m using structures at least a few metres above sea level such as jetties.

**Q. Could these platforms be used to monitor a seaweed accumulation?**

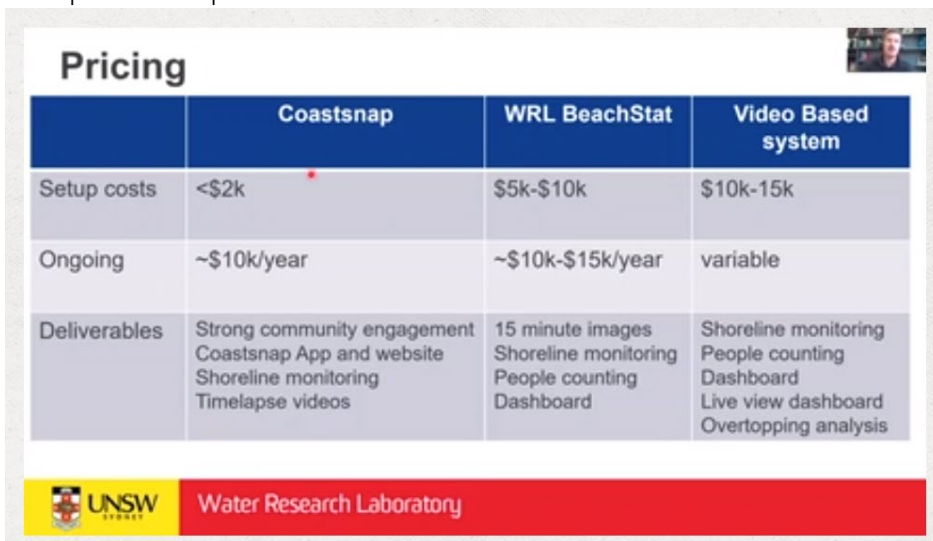
The technology has endless potential. Just need to train the model – has been used to detect litter on beaches, algae and for monitoring seaweed.

**Q. What is the cost to get something like the dashboard implemented?**

Refer to presentation at 1:09 minutes for pricing discussion.

Costs range from less than \$2,000 to \$15,000 + depending on the scale, duration and deliverables required. By way of example, the overtopping project at Manly beach was \$40,000 and provided valuable coastal and safety data for the council.

Excerpt from the presentation:



	Coastsnap	WRL BeachStat	Video Based system
Setup costs	<\$2k	\$5k-\$10k	\$10k-15k
Ongoing	~\$10k/year	~\$10k-\$15k/year	variable
Deliverables	Strong community engagement Coastsnap App and website Shoreline monitoring Timelapse videos	15 minute images Shoreline monitoring People counting Dashboard	Shoreline monitoring People counting Dashboard Live view dashboard Overtopping analysis

UNSW Water Research Laboratory

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**Your Feedback**

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*This has been a most informative and interesting presentation. Thank you.*

*Brilliant presentations very much appreciated!*

*This has been excellent. Thank you so much!*

*Great presentation - one of the best so far*

*Yeah, fantastic presentations!*

*Thank you that was great!*

*Great presentations! Thank you*

*These workshops have been excellent.*

*Great forum.*

*Perhaps more interaction during the presentation.*

*Powerpoints worked well, same with video.*

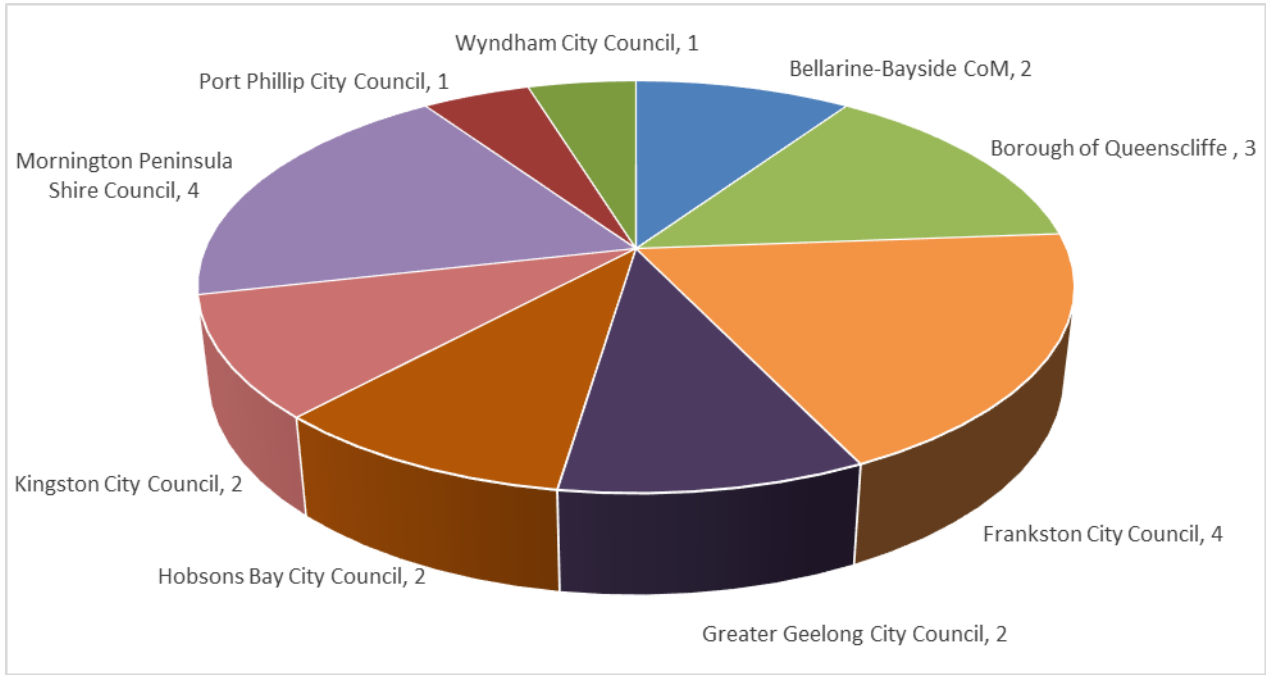
**Ideas for future forums**

Would love to have a discussion with ABM members on potential collaboration opportunities using these various opportunities we are learning about.

Due to moving into more difficult economic times, is there a way to look at partnership funding of public infrastructure / monitoring in these coastal reserves?

**Attendance:**

26 participants



**Disclaimer**

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