

Port Phillip Bay Coastal Hazard Assessment

Communication Reference Pack Tool #1: Wave Tank



A fun and powerful interactive tool to communicate and build capacity with a variety of stakeholders.

A wave tank is a type of physical model that replicates real life conditions on a smaller scale. The wave tank is usually presented by a facilitator who introduces what coastal hazards are and discusses different adaptation options.

IAP2 Participation Goal: Inform

Purpose

A wave tank can be used as a capacity-building tool within stakeholder organisations and to communicate with a wide audience, including children. A wave tank brings excitement and energy to events, meetings and workshops. It shows the first hand and practical application of decisions and the results of different adaptation options.

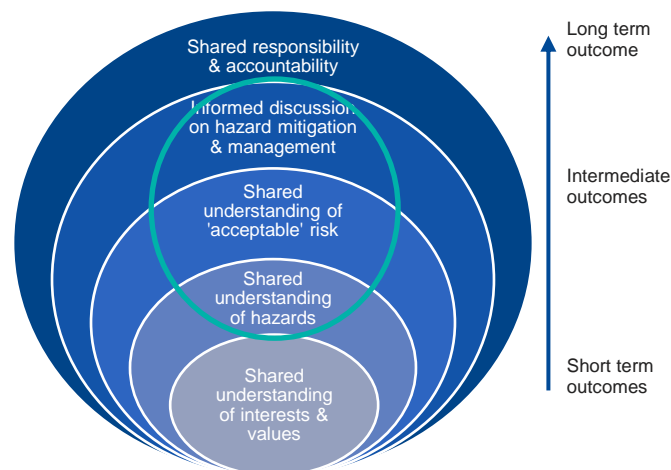


Wave tank demonstration

deeca.vic.gov.au

Desired outcomes

Use of a wave tank can contribute to achieving intermediate outcomes. These include developing a shared understanding of risk as well and informing discussion on hazard mitigation and management.



Engagement outcomes

Key outcomes for use of the wave tank include:

- Increase understanding of coastal hazards and the different adaptation options available.
- Engage and excite people about coastal management.
- Draw increased numbers of people to an event to then participate in other activities.



Energy, Environment and Climate Action

Key technical messages

- Coastal values are at increasing risk from wave energy, particularly with sea level rise.
- There are a range of adaptation options that can be implemented to reduce the hazard risk to our values.
- Hard structures reduce exposure to wave energy in some areas but can cause issues elsewhere or impact on values (e.g. sandy beaches, environment, visual amenity).
- Softer engineering options (e.g. geobags, mangrove planting) can reduce risk and provide further benefits, such as improved environmental outcomes.

Audience

Most suitable for	Less suitable for
Broader community	Traditional Owners
Coast / foreshore users and interest groups	Technical Specialists
Coastal landholders and residents	Peak bodies
Delivery Partners	

Process

1. Construct or procure a wave tank model, including model adaptation options (vegetation, sea walls, rock revetment, etc.).
2. Identify an appropriately trained / knowledgeable facilitator or upskill someone suitable.
3. Develop a wave tank script or key communication points for the demonstration, including signage. Include local examples and talking points.
4. Manage logistics to transport, set up and present.

Tips and tricks

- Allow people to be ‘hands on’ with the demonstration where possible, especially children as this can be more engaging.
- Ensure those presenting the wave tank have a good technical understanding and are confident with presenting based on key technical messages.
- Strategically utilise the wave tank at high-traffic events, given high effort in transport and set up.
- Consider size, portability and transport of the tank in your design.
- Use the wave tank to prompt discussion about local coastlines, personal experiences and reflections

about seeing coastal hazard impacts and hazards management.



“Have you noticed coastal hazards or hazard management measures on your beach?”
 “Which options do you prefer? Why?”



Ensure your messages are appropriate for the desired outcome and audience.

Use your organisation’s engagement plan/principles and local context to tailor messaging.

Seek input from delivery partners to ensure messaging is consistent, coordinated, and up to date.

Accessibility

Options to improve accessibility could include:

- Detailed audio description by the facilitator for people with visual impairments.
- Printed information provided for people with hearing impairments or in different languages.
- Facilitator fully controls the wave tank to provide demonstrations to people with physical impairments.



Potential risks

Risk	Mitigation
Information or model results get misinterpreted	Facilitator or support staff to explain and highlight how results could differ in a complex, real-world scenario.
Parts of the wave tank break with excessive force.	Care should be taken when operating the wave tank, ensure children are supervised, bring spare parts/glue.
Health and safety risks (e.g. tip over, spills, wet floors).	Ensure wave tank is on a sturdy, flat surface. Observe for hazards prior to set up and during presentation.

Strengths and weaknesses

Strengths	Weaknesses
Strong engagement potential for a wide variety of stakeholders.	Time and resource-intensive to build, transport and deliver.
Engaging for all ages, especially children and those with limited technical understanding.	Requires access to water to fill the tank and a flat surface for placement.
Effective capacity building tool.	Requires trained person to deliver activity.
Draws people to an event to complete other activities.	

Indicative cost: \$\$\$ High

Tools, materials and resources

The primary tool is the wave tank itself. For wave tank operation, a water source is required nearby. Other materials could include:

- Signage, posters, written script or prompts.
- Towels, bucket, table.
- The wave tank generally requires two staff members to transport and operate effectively.

Difficulty level:  Hard

Alternative for online delivery

- Use animations or visualisations of how coastal hazards work.
- Create a video with audio/subtitle descriptions.
- Use video in a presentation, generate an interactive discussion, prompting questions, expectations of “what might happen”.

Evaluation

Success of the wave tank can be evaluated through:

- Visual attendee counts – has the wave tank brought more people to the event/pop-up?
- Qualitative assessment:
 - Do people appear more engaged in coastal management?
 - Do people appear to have a better understanding of coastal processes and adaptation options?
- Post-event survey – targeted questions to test the effectiveness of the wave tank.



Examples and references

- 7 News Sunshine Coast Council wave tank demonstration: [fb.watch/4yvufWFUqw](https://www.facebook.com/watch/4yvufWFUqw)
- JBP wave tank: jbpacific.com.au/wavetank

We acknowledge Victorian Traditional Owners and their Elders past and present as the original custodians of Victoria's land and waters and commit to genuinely partnering with them and Victoria's Aboriginal community to progress their aspirations.



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