

4TH AUSTRALASIAN

YOUNG COASTAL SCIENTISTS & ENGINEERS CONFERENCE

2023

SYDNEY | ONLINE | LOCAL HUBS (AUS & NZ)

Central Hub: Dixon Room, NSW State Library
1 Shakespeare Pl, Sydney NSW 2000

GOLD SPONSOR:



Biodiversity Conservation Division
Department of Planning and Environment

Wednesday 6 September

Welcome to Country by Marcia Lynne Ella-Duncan OAM

Conference Opening

10:00–12:00 Gold Sponsor Address by NSW DPE Biodiversity Conservation
Division Hunter Central Coast Branch

Keynote by **Catherine Kerr**

What's your manifesto? Science impact in the Anthropocene

Break

Express Course 1 – Maddy Broadfoot and Dr Tom Doyle

13:00–14:00 *Drones for Coastal Research and Management*
Session sponsored by Sydney Water

Break

Lightning Presentations 1:

Coastal observations & monitoring, vegetation and structures and engineering

Session sponsored by NSW DPE Science, Economics and Insights

Session Introduction & Bronze Sponsor Address

Md. Yousuf Gazi, University of Sydney

Morphometric classification of cross-shore profiles in the beaches in estuaries and bays (BEBs)

14:30–16:30

Dylan McLaughlin, University of Wollongong

Monitoring Coastal Changes: Which Data Suits Best?

Oxana Repina, University of Wollongong

Calibrating shoreline change models with field measurements, satellite imagery, and photogrammetry

Jokotola Omidiji, University of Otago

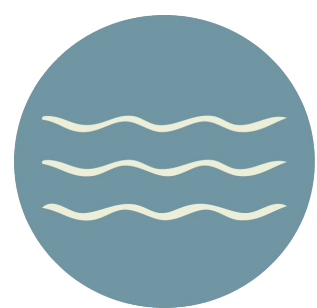
Pre- and post-uplift shore platform erosion in active regions: Implications for rock coast evolution

Elisabeth Boles, Stanford University

Measuring coastal carbon and oxygen fluxes in coral reef environments with complex topography and waves

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Jonathan Chan, UNSW Water Research Laboratory

The Future of Coastal Management: Gold Coast's Cutting-edge Imaging Network

Hayden Golding, University of Wollongong

Digging Deeper into Severe Storm Recovery in SE Australia

Yarran Doherty, UNSW Water Research Laboratory

Merimbula Lake entrance bar: Insights from 35 years of satellite imagery

Yanyan Zhang, Royal Haskoning

Enhancing Beach Accessibility: Overcoming Design Challenges for Beach Access in NSW

Melanie James, Central Coast Council

A collaborative approach to identify and remediate sources of microbial contamination

14:30–16:30

Fred Chaaya, UNSW Water Research Laboratory

CoastSnap: community-powered coastal monitoring using smartphones

Aminath-Inan Abdul Muhsin, University of Dublin

Using remotely sensed imagery for estimating biomass in an Irish salt marsh

Claire Phillips, Geoscience Australia

Mapping and investigating intertidal exposure on Australian coastlines using open-source satellite data

Sanne Vaassen, University of Waikato

Unravelling the Physical Controls on Shifts in the Mangrove-Marsh Ecotone

Alfredo Jaramillo, Universidad de Antioquia

Comparison of Beach Profiles Methods According to Technical, Operational and Economic Criteria

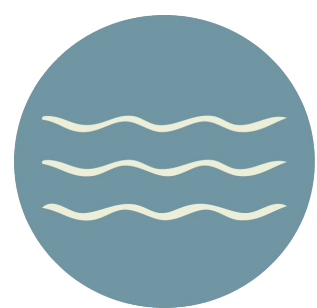
Maria Kottermair, University of Queensland

3D Field Survey of Heron Island

Session conclusion

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Thursday 7 September

Lightning Presentations 2:

Coastal Hazards and Sediment Dynamics

Session sponsored by AUS SEABED

Katie Wilson, UNSW Water Research Laboratory

Seasonal variability and climate controls of shoreline position in Australia

Daniel Gilbert, UNSW Water Research Laboratory

The use of 2D, 3D and quasi-3D modelling for coastal applications

Ben Hague, BOM

Australian coastal flooding trends, forcing factors and future projections

Tomás León Cortés, University of Queensland

Exploring hybrid modelling of the 1877, 2015 tsunamis in North-Central Chile

Valeria Fanti, Universidade do Algarve

Assessing the impact of storms on barrier island systems using global models

10:00–11:30

Athavan Rasenthiram, Norwegian University of Science and Technology

Exploration of Risk Assessment for the Ebro Delta of Spain

Emily Lazarus, JCU and Alluvium

Resolving the spatiotemporal scale of cay morphodynamics on the Great Barrier Reef

Stephanie Doumstis, Alluvium

Building pathways for adaptation: Learnings from the Torres Strait Islands

Billy Howitt, Alluvium

Living with coastal hazards now and into the future – six First Nations communities

Joshua Sargent, University of Waikato

Simulating rural coastal flooding impacts: a socio-hydrological approach

Pandian Soundara Pandian, University of Western Australia

The influence of vegetation flexibility and blade configuration on wave-induced drag forces

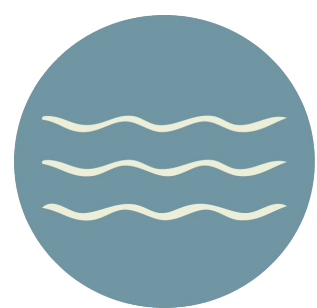
Hannah Power, University of Newcastle

The next generation of coastal scientists and engineers: where to next?

Session conclusion

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Break

Panel Discussion

How to make your science have impact!

12:30-14:00

Session sponsored by UNSW Water Research Laboratory

Davena Bond (Northern Beaches Council), Matthew Adams (DPE), Dr Ana Paula da Silva (University of Sydney), Emma Maratea (Rhelm)

Break

Field Trip and/or Conference Dinner

Central Hub Field Trip Sponsored by Royal Haskonings in partnership with Prof Bruce Thom AM

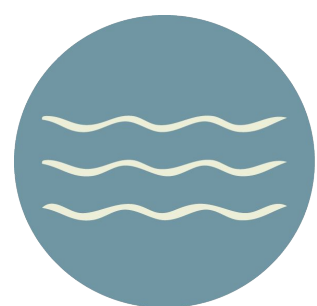
14:30-late

Central Hub Conference Dinner at East Village Darlinghurst following the field trip

(Contact your local hub to find out what events are happening in your area)

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Friday 8 September

Lightning Presentations 3:

Estuaries, Nature Based Solutions and Metocean

Session sponsored by RBR

Margot Mason, UNSW Water Research Laboratory
Collecting and Incorporating Field Data in Estuarine Models

Laura Montano, UNSW Water Research Laboratory
Entrance management impact on water quality and hydrology of Werri Lagoon

Julia Sa, Rhelm
Use of Spatial Analysis to Identify Triggers for the Opening of Intermittently Closed and Open Lakes and Lagoons (ICOLs)

Hannah McKnight, Sydney Water
How community values are driving coastal management within the Greater Sydney Basin.

Dana Lanceman, UNSW
Assessing spatio-temporal evolution of ecosystem services and values in restoring coastal ecosystems

10:00–12:00

Courtney Smith, University of Sydney
Offshore Wave Climate of the Great Barrier Reef

Brooke Conroy, University of Wollongong
Blue carbon contributes to climate mitigation and vertical adjustments of coasts to sea-level rise

Miranda James, University of Wollongong
Observing Resilience of Clyde River Mangroves after the 2019–20 Bushfires

Kate Tunstill, University of Newcastle
*Determining inundation regime of ICOLs to understand conservation of *Litoria aurea**

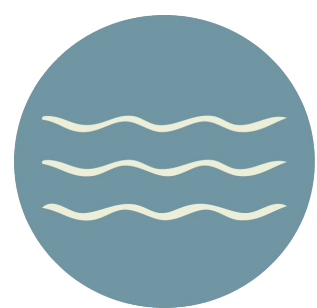
Audilia Sanjaya, Royal Haskoning
Lake Cathie-Innes Estuary: Integrated Catchment and Coastal Modelling for an ICOLL

Ryan Cope, University of Wollongong
Blue Carbon Opportunities in the Lower Shoalhaven River

Grace Isdale, NRM South, Hobart
Restoring Essential Fish Habitat in the Saltmarshes of Pitt Water-Orielton Lagoon

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Lightning Presentations 3:

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Arnold van Rooijen, University of Western Australia

Observations and modelling of wave runup reduction by salt marsh vegetation

Diana Vargas Ortega, University of Western Australia

Analysis of different formulations for drag coefficients associated with mangroves

Duphrin Joseph, University of Western Australia

Improving surface wave predictions using data assimilation

Jin Liu, University of Melbourne

A high-resolution wave power assessment of south-east Australia

Session Conclusion

Break

13:00–14:00

Express Course 2 – Dr Michelle Linklater

From Data to Discovery: Crafting StoryMaps using coastal GIS data

Break

14:30–16:30

Lightning Presentations 4:

Coastal Observations, Climate Change Adaptation and Change Management and Risk

Session sponsored by Geoscience Australia

Charlotte Uphues, Flinders University

Storm response of beaches in complex coastal environments featuring reefs and headlands

Ben Perry, Flinders University

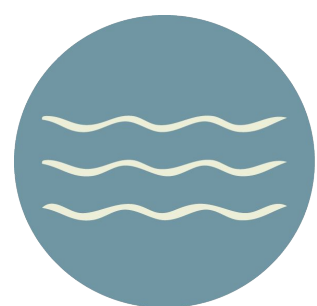
What can we learn from one-line shoreline models? Two case studies applying Shorelines

Abdulla Alson Athif, University of Western Australia

Improving nearshore wave predictions by incorporating spatially variable friction

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Lightning Presentations 4:

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Session sponsored by Geoscience Australia

Robbi Bishop-Taylor, Geoscience Australia

Time and tide: A new pixel-based method for mapping dynamic intertidal topography

Braiya White, Shoalhaven Council

The Shoalhaven Foreshore Education Project: promoting best-practice dune management by foreshore residents

Michael Thompson, University of Queensland

Swash TV – in-water side view swash zone observations

Mia Gustavsson, Alluvium

Expanding beyond assets for understanding climate risk – a systems-thinking approach

14:30–16:30

Stephen Rigney, University of Wollongong

Flux and flow: inundation and salinity drive coastal wetland GHG emissions

Porni Mollick, University of Wollongong

Dynamic Mangrove Seaward Extent in Mary River, Northern Territory

Lachlan Perris, University of Sydney

Hydrodynamic observations of Cyclone Gabrielle at One Tree Island Reef, southern Great Barrier Reef

Alysha Johnson, University of Wollongong

The Coastal Geomorphology of Norfolk Island

Ashvittha Santhaseelan, Royal Haskoning

The Role of Clear and Effective Communication Tools in Climate Adaptation Decision-Making

Ana Paula da Silva, University of Sydney

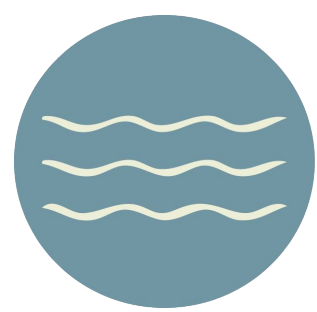
The Eco-Morphodynamics of the Great Barrier Reef: Past, Present and Future

Kate Whitton, University of Sydney

Investigating the compound effects of coral reef stressors over the last 40 years in the Great Barrier Reef

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Lightning Presentations 4:

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Session sponsored by Geoscience Australia

Colby Lawton, Alluvium

14:30-16:30

Developing a strategic partnership approach to Marine Spatial Planning in Victoria

Jack Harkness, Advisian

Coastal Protection at South Mollmook Beach: Past, Present and Future

Session closing

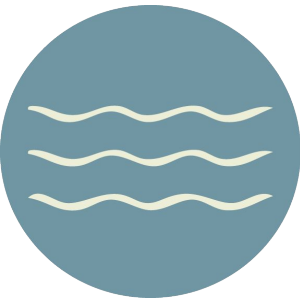
Light Presentations People Choice Awards

16:30-16:45

Conference Closing , acknowledgments

– Dr Tom Doyle and Ruby Hammond

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