

Poster Program

All posters will be displayed for the duration of the conference, with discussion and questions taking place according to the schedule below:

Poster Session 1 - Themes A: Environment & B: Biodiversity
Monday 3 September, 17:15-18:15 & Tuesday 4 September, 13:10-14:00

Poster Session 2 - Themes C: People & D: Integration
Wednesday 5 September, 12:40-13:00 & Thursday 6 September, 13:10-14:00

- [P.A.001] **Regularities of the bottom sediments suspension in the frequency domain**
R.D. Kosyan*, B.V. Divinskii, *Shirshov Institute of Oceanology, Russia*
- [P.A.002] **Contribution of wind wave components to the climatic alongshore sediment flux (on the example of the Anapa bay-bar, Black Sea)**
B.V. Divinskii*, R.D. Kosyan, *Shirshov Institute of Oceanology, Russia*
- [P.A.003] **The seasonal morphological evolution pattern of the mouth bar in Modaomen estuary of the Pearl River**
G.L. Huang*^{1,2}, C. Tan^{1,2}, B.S. Huang^{1,2}, J. Qiu^{1,2}, J.L. Huang^{1,2}, ¹*Guangdong Research Institute of Water Resources and Hydropower, China*, ²*Guangdong Key Laboratory of Hydrodynamic Research, China*
- [P.A.004] **Spatio-temporal variability of phytoplankton biomass in relation to salinity in the southeast area of Setiu lagoon during high and low river flow conditions**
Z. Zainol*, M.F. Akhir, A. Johari, R. Latif, *Universiti Malaysia Terengganu, Malaysia*
- [P.A.005] **Prevalence of microplastics in east coast of Peninsular Malaysia's coastal marine environment**
S.A. Zainal*, M.F. Akhir, *Universiti Malaysia Terengganu, Malaysia*
- [P.A.006] **Monthly variations in the intracellular nutrient pools of phytoplankton in Jaran Bay, Korea**
S.H. Lee*¹, J.H. Lee¹, H.C. Kim², T. Lee³, W.C. Lee², J.J. Kang¹, N. Jo¹, D. Lee¹, K.W. Kim¹, J-O. Min⁴, ¹*Pusan National University, Republic of Korea*, ²*National Institute of Fisheries Science, Republic of Korea*, ³*Korea Institute of Ocean Science & Technology, Republic of Korea*, ⁴*Hanyan University ERICA Campus, Republic of Korea*
- [P.A.007] **A 1,000year seabed history, Pelorus Sound/Te Hoiere, Marlborough, New Zealand**
S.J. Handley*, M. Gibbs, A. Swales, *National Institute of Water and Atmospheric Research Ltd. (NIWA), New Zealand*
- [P.A.008] **A modelling study on the behaviour of sluice-gate outflow in the Saemangeum dike, South Korea**
C. Cho*, Y. Song, *GeoSystem Research, Republic of Korea*
- [P.A.009] **Characteristics of upwelling in the northwest Sabah during northeast monsoon**
M.N. Satar*, M.F. Akhir, *Universiti Malaysia Terengganu, Malaysia*
- [P.A.010] **The late Quaternary transgression recorded in the coastal barrier-lagoon system off Cabo Frio (E-Brazil)**
A. Conforti*¹, G. De Falco¹, S-J. Batenburg², A. Bosman³, F. Budillon¹, K. Hatsukano⁴, S. Simeone¹, S. Voigt⁴, A. Bahr⁴, ¹*Istituto Ambiente Marino Costiero CNR, Italy*, ²*University of Oxford, UK*, ³*Istituto di Geologia Ambientale e Geoingegneria, Italy*, ⁴*Heidelberg University, Germany*
- [P.A.011] **Trophic status of Vembanad Lake, a Ramsar site in Kerala, India**
P.A. Krishnan*¹, T.R. Krishnapriya¹, S.G.T. Vincent¹, T.C. Jennerjahn², ¹*University of Kerala, India*, ²*Leibniz Centre for Tropical Marine Research, Germany*
- [P.A.012] **Modern sedimentary processes and the sedimentary organic matter behaviour in a tropical estuarine system associated to shrimp farming areas**
R.L. Barcellos*¹, C.S. Alves¹, P.B. Camargo², A.F.H. Fetter Filho³, ¹*Federal University of Pernambuco, Brazil*, ²*University of São Paulo, Brazil*, ³*Federal University of Santa Catarina, Brazil*
- [P.A.013] **Submerged Sand Reservoir (SSR) management in a sea level rise scenario**
W. Brambilla¹, A. Conforti¹, S. Simeone¹, P. Carrara², S. Lanucara², G. De Falco*¹, ¹*Istituto per l'Ambiente Marino Costiero CNR, Italy*, ²*Istituto per il Rilevamento Elettromagnetico dell'Ambiente CNR, Italy*

- [P.A.014] Assessment of emerging pollutants in marine sediments from a coastal lagoon in Baja California Sur, Mexico**
O.F. Becerra-Rueda^{*1}, J.C. Durán-Álvarez², G.M. Rodríguez-Figueroa¹, S.F. Martínez-Díaz¹, M.R. Rodríguez-Varela², R.A. Palencia Reyes², S. Aguiñiga-García¹, ¹Marinas-Instituto Politécnico Nacional (CICIMAR-IPN), Mexico, ²Universidad Nacional Autónoma de México (CCADET-UNAM), Mexico
- [P.A.015] Closure depth changes impacts on coastal response to sea-level rise**
S.A. Figueiredo^{*}, L.J. Calliari, E.S. Goulart, *Universidade Federal do Rio Grande, Brazil*
- [P.A.016] Use of stable isotopes to determine the origin of organic matter in a tropical estuary sedimentary record**
T.S. Oliveira¹, P.B. Camargo², E.J. França³, L.D. Santos¹, R.L. Barcellos^{*1}, ¹Federal University of Pernambuco, Brazil, ²University of São Paulo, Brazil, ³Nuclear Sciences Regional Center of Northeast, Brazil
- [P.A.017] Dissolved inorganic carbon system in late winter during the 1996 DOE Ocean Margins Program (OMP) - A baseline study in the Mid Atlantic Bight**
T.H. Huang^{*1}, W.J. Cai², P. Vlahos³, D. Wallace⁴, C.T.A. Chen¹, ¹National Sun Yat-sen University, Taiwan, ²University of Delaware, USA, ³University of Connecticut, USA, ⁴Dalhousie University, Canada
- [P.A.018] Numerical modelling of seagrass**
K. Nakayama^{*1}, Y. Nakanishi¹, Y. Nakagawa², H. Moki³, K. Tada⁴, M. Hipsey⁵, T. Kuwae³, ¹Kobe University, Japan, ²Kyushu University, Japan, ³Port and Airport Research Institute, Japan, ⁴Chuden Engineering Consultants, Japan, ⁵The University of Western Australia, Australia
- [P.A.019] Numerical modelling of the spatial variation of CO₂ fugacity in water at Komuke lagoon in Hokkaido, Japan**
K. Tada^{*1}, K. Nakayama², K. Komai³, J.W. Tsai⁴, Y. Sato⁵, T. Kuwae⁶, ¹Chuden Engineering Consultants, Japan, ²Kobe University, Japan, ³Kitami Institute of Technology, Japan, ⁴China Medical University, Taiwan, ⁵Housui Engineering Consultants, Japan, ⁶Port and Airport Research Institute, Japan
- [P.A.020] Effects of rainfall on the erodibility of sediment and microphytobenthos in the intertidal flat**
H.J. Ha^{*1}, H. Kim², H.K. Ha¹, J.S. Khim², J. Noh², ¹Inha University, Republic of Korea, ²Seoul National University, Republic of Korea
- [P.A.021] Impact of the cyclone Debbie on the ocean circulation features in the Great Barrier Reef from HF radar observations**
S. Cosoli^{*}, C. Pattiaratchi, Y. Hetzel, *Ocean Graduate School and the UWA Oceans Institute, The University of Western Australia, Australia*
- [P.A.022] Anomalous phytoplankton events**
K.S. McDonald^{*}, A.J. Hobday, E.A. Fulton, P.A. Thompson, K. Kordubel, *CSIRO, Australia*
- [P.A.023] Polluted estuarine sediments in a changing climate**
O.A. Onabule, S.B. Mitchell^{*}, F. Couceiro, *University of Portsmouth, UK*
- [P.A.024] Improvement of tidal harmonic analysis in Yangtze Estuary**
M. Gan^{*1,2}, Y.P. Chen^{1,2}, J.X. Li^{1,2}, ¹State Key Laboratory of Hydrology-Water Resources and Hydraulic Engineering, Hohai University, China, ²College of Harbour, Coastal and Offshore Engineering, Hohai University, China
- [P.A.025] Phytoplankton response to nutrient pulses assessed through a microcosm experiment**
A. Ferreira^{*1}, C. Sá^{1,2}, N. Silva³, C. Beltrán¹, A.C. Brito^{1,4}, ¹MARE/FCUL, Portugal, ²CIMA, Portugal, ³Pontificia Universidad Católica de Valparaíso, Chile, ⁴Departamento Biología Vegetal, FCUL, Portugal
- [P.A.026] Ingestion, accumulation and trophic transfer of microplastics in the benthos of the Belgian part of the North Sea and Westerschelde estuary**
C. Van Colen^{*}, B. Vanhove, Y. Ryckebusch, H. Vrieling, T. Moens, *Ghent University, Belgium*
- [P.A.027] Algae community in the summer upwelling system off eastern Hainan, China**
H. Xu^{*1}, S. Liu¹, B. Hong², ¹Institute of Deep-Sea Science and Engineering, Chinese Academy of Sciences, China, ²South China University of Technology, China
- [P.A.028] Changes of nitrogen and carbon budget by effluent of land-based aquaculture farm in the coastal area of Jeju, Korea**
T. Lee^{*1}, S.J. Yoo¹, Y.B. Son¹, J.H. Moon², T.H. Kim², ¹Korea Institute of Ocean Science & Technology, Republic of Korea, ²Jeju National University, Republic of Korea

- [P.A.029] **From extent to elevation models: Improving our characterisation of Australia's intertidal zone**
R. Bishop-Taylor*, S. Sagar, L. Lymburner, *Geoscience Australia, Australia*
- [P.A.030] **Non-stationary harmonic analysis of river tides in Yangtze Estuary**
M. Gan*^{1,2}, Y.P. Chen^{1,2}, J.X. Li^{1,2}, Y. Pan^{1,2}, ¹State Key Laboratory of Hydrology-Water Resources and Hydraulic Engineering, Hohai University, China, ²College of Harbour, Coastal and Offshore Engineering, Hohai University, China
- [P.A.031] **Go with the flow - Flushing behaviour of marinas and harbours**
J.J. Jiang, M. Klabbers*, A. Karunaratna, *Advisian, Australia*
- [P.A.032] **Tidal induced variations in discharge division at bifurcations in the Pearl River Delta**
X.M. Ji*, W. Zhang, *Hohai University, China*
- [P.A.033] **Decadal and inter-annual sea level variations along the Vietnam coast**
T. Bui*, C.B. Pattiaratchi, *University of Western Australia, Australia*
- [P.A.034] **Spatial variability of bed shear stresses in the presence of emergent canopies**
M. Conde-Frias*¹, R. Lowe¹, M. Abdolohpour¹, M. Ghisalberti², V. Etminan¹, ¹University of Western Australia, Australia, ²University of Melbourne, Australia
- [P.A.035] **Can hydrodynamic processes explain the absence of Western Rock Lobster (*Panulirus cygnus*) in an area of pristine habitat**
J. Kolbusz*, C. Pattiaratchi, T. Langlois, S. de Lestang, *The University of Western Australia, Australia*
- [P.A.036] **Uptake rate of anthropogenic CO₂ in the Ulleung Basin, East/Japan Sea**
G-H. Park*, S-E. Lee, *Korea Institute of Ocean Science and Technology, Republic of Korea*
- [P.A.037] **Tracking changes in mangrove-marsh ecosystems using object-based classification remote sensing techniques**
A. Whitt*¹, C. Duncan¹, D. Ierodiaconou¹, C. Lovelock², P. Macreadie¹, ¹Deakin University, Australia, ²University of Queensland, Australia
- [P.A.038] **Coastal monitoring of the Korean waters using multi-platform remotely sensed data**
J.H. Ryu*, K.L. Kim, D.J. Hwang, *KIOST, Republic of Korea*
- [P.A.039] **The influence nearshore sandbars on coastal stability in Port Geographe, south-west Australia**
C.B. Pattiaratchi*, S. Wijeratne, *The University of Western Australia, Australia*
- [P.A.040] **Scenario-based approach to addressing uncertainty of marine ecosystem management outside reclaimed coastal area**
J. Nam*¹, S. Jung¹, Y. Oh¹, Y. Song², ¹Korea Maritime Institute, Republic of Korea, ²Geosystem Research, Republic of Korea
- [P.A.041] **Habitability conditions for the genus *Halophila*: A case study from Nakagusuku Bay, Japan**
T. Inoue, *Port and Airport Research Institute, Japan*
- [P.A.042] **Modelling sea level rise and extreme climatic events in Guadalquivir Estuary (Spain)**
J. Delgado¹, J. Moreno-Navas*¹, A. Pulido², R. García², J. García-Lafuente¹, ¹Málaga University, Spain, ²Port Authority of Sevilla, Spain
- [P.A.043] **Phytoplankton in a small coastal embayment amidst upwelling and anthropogenic pressure (Algarrobo, central Chile)**
A.M. Ferreira*¹, C. Sá^{1,2}, N. Silva³, C. Beltrán¹, A.M. Dias¹, A.C. Brito^{1,4}, ¹MARE/FCUL, Portugal, ²CIIMA, Portugal, ³Pontificia Universidad Católica de Valparaíso, Chile, ⁴Departamento Biología Vegetal, FCUL, Portugal
- [P.A.044] **Seasonal variation of biogenic elements and phytoplankton biomass in a temperate bay, Gwangyang Bay of Korea, subjected to low-turbidity river water discharge**
R. Bibi*, D. Kim, G.K. Kundu, J. Jang, T-M. Kim, J. Seong, C-K. Kang, *Gwangju Institute of Science and Technology, Republic of Korea*
- [P.A.045] **Occurrence, distribution and risk assessment of antibiotics in estuarine and coastal surface water of Taizhou Bay, China**
J. Cheng*¹, S.H. Zhang², D.A. Lu¹, ¹Second Institute of Oceanography, SOA, China, ²Nanjing Institute of Environmental Sciences, Ministry of Environmental Protection, China
- [P.A.046] **Morphological equilibrium state of tidal channels in Lingding bay**
Y.W. Xu*^{1,2}, W. Zhang^{1,3}, J.H. Zheng^{1,3}, ¹Hohai University, China, ²Key Laboratory of Coastal Disasters and Defense of Ministry of Education, China, ³State Key Laboratory of Hydrology-Water Resources and Hydraulic Engineering, China

- [P.A.047] **Spatial dynamics in the source of sedimentary organic matter in the tropical Ashtamudi estuary, Kerala, South India**
J.H. Salahudeen^{*1}, S.G.T. Vincent¹, T. Jennerjahn², ¹University of Kerala, India, ²Leibniz Centre for Tropical Marine Research (ZMT), Germany
- [P.A.048] **Hydrodynamic changes in Guadalquivir Estuary (Spain) due to a hypothetical tidal marsh restoration project**
J. Delgado^{*1}, J. García-Lafuente¹, J. Moreno-Navas¹, A. Pulido², R. García², ¹Málaga University, Spain, ²Port Authority of Sevilla, Spain
- [P.A.049] **Distribution and origin of organic matter in a tropical estuarine system associated to a port area in Northeastern Brazil**
T.S. Oliveira¹, P.B. Camargo², R.L. Barcellos^{*1}, ¹Federal University of Pernambuco, Brazil, ²University of São Paulo, Brazil
- [P.A.050] **Preliminary study of evolutionary dynamics of mangrove coasts**
F. Sidik^{*1}, A. Lubis¹, N. Widagti², ¹Ministry of Marine Affairs and Fisheries, Indonesia, ²National Nuclear Energy Agency, Indonesia
- [P.A.051] **Coupling geomorphic and hydrodynamic modelling to predict the response of a shallow estuary to future sea level rise**
K. Palmer^{*}, A.M. Fischer, C.S. Watson, University of Tasmania, Australia
- [P.A.052] **Hydraulic and numerical experiments for transmission coefficient of artificial reefs**
I.R. Bae^{*1}, Y.T. Kim², J.I. Lee¹, ¹Chonnam National University, Republic of Korea, ²Korea Institute of Construction Technology, Republic of Korea
- [P.A.054] **Comparison and optimization of biofilm DNA extraction methods from two types of soft microplastics in the coastal environment**
C. Tu^{*1}, T. Chen¹, P.P. Guo¹, Q. Zhou¹, Y.M. Luo^{1,2}, ¹Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, China, ²Institute of Soil Science, Chinese Academy of Sciences, China
- [P.A.055] **Refined use of submergence curves**
M.J. Eliot, Damara WA Pty Ltd, Australia
- [P.A.056] **Impact of anthropogenic stressors with special reference to organochlorine pesticides pollution on *mugil cephalus* in the Kadinamkulam estuary, South India**
D.S. Jaya^{*}, S.L. Aryasree, S. Sonu, University of Kerala, India
- [P.A.057] **Long term monitoring uncovers drivers of aquatic plant community dominance in a highly-modified estuary**
J.M. Chambers^{*}, R.L. Paice, E.T. Chester, C.J. Conway, Murdoch University, Australia
- [P.A.058] **An OTEC thermal discharge dispersion in coastal waters of Tarawa, Kiribati**
J.K. Kim^{*1}, T.S. Kang², H.J. Kim³, ¹Chonnam National University, Republic of Korea, ²GeoSystem Research Corp, Republic of Korea, ³Korea Research Institute of Ships and Ocean Engineering, Republic of Korea
- [P.A.060] **Foraminifera and sedimentological analysis in a tropical estuarine environment associated to a harbour area. Study of case: Suape Port (PE-Brazil)**
T.R.S. Oliveira¹, J.C.A. Silva¹, L.D. Santos¹, P.P.B. Eichler², R.L. Barcellos^{*1}, ¹Federal University of Pernambuco, Brazil, ²University of Southern Santa Catarina, Brazil
- [P.A.061] **A review and synthesis of the vulnerability of South African estuaries to climate change**
L. Van Niekerk^{*1,2}, S.J. Lamberth^{3,4}, N. James⁴, S. Taljaard^{1,2}, A. Theron⁵, M. Krug¹, ¹Council for Scientific and Industrial Research, South Africa, ²Nelson Mandela University, South Africa, ³Forestry and Fisheries, South Africa, ⁴South African Institute for Aquatic Biodiversity, South Africa, ⁵University of Stellenbosch, South Africa
- [P.A.062] **Coastal vulnerability to the significant sea level rise in the coastal zone of Mumbai**
M. Pramanik, Jawaharlal Nehru University, India
- [P.B.001] **Influence of freshwater discharge on zooplankton community distribution in the mudflat wetlands of the hangzhou bay**
G-G. Li¹, J-G. Chen², J-F. Yang^{*1}, ¹Zhejiang Wanli University, China, ²Municipal Key Laboratory of Microorganism and Environmental Engineering, Ningbo, China
- [P.B.002] **Effects of the marine environment and the growth and development of *Anadara broughtonii* in Jinju Bay of the south coast of the Korean peninsula**
J.B. Kim^{*}, W-C. Lee, H.C. Kim, S. Hong, G.E. Jeon, National Institute of Fisheries Science, Republic of Korea
- [P.B.003] **Benthic ecological quality assessment of coastal waters in Jinhae and Samcheok, Korea**
H. Bae^{*1}, J-H. Lee², S.J. Song¹, J. Ryu², J. Noh¹, B-O. Kwon¹, K. Choi¹, J.S. Khim¹, ¹Seoul National University, Republic of Korea, ²Anyang University, Republic of Korea

- [P.B.004] **Interannual variability of Karimata Strait throughflow and the interconnection with the South China Sea**
M.F. Akhir*, P.H. Kok, *Institute of Oceanography and Environment, Malaysia*
- [P.B.005] **Stable isotope additions of ¹³C and ¹⁵N to investigate the importance of microphytobenthos as a food source to meiofauna in subtropical mangroves**
M.M. Abdullah*^{1,2}, J.M. Oakes^{1,3}, S.Y. Lee¹, R.M. Connolly¹, B.D. Eyre³, B. Fry¹, ¹Griffith University, Australia, ²Universiti Malaysia Terengganu, Malaysia, ³Southern Cross University, Australia
- [P.B.007] **Relationship between different salinity states and the dominance of *Oreochromis mossambicus* in the St Lucia Estuarine system**
Q. Schutte*, L. Vivier, D.P. Cyrus, *University of Zululand, South Africa*
- [P.B.008] **Sand temperature projections for turtle nesting sites in the Red Sea: Implications for hatchling sex ratios**
L.K. Tanabe*¹, J. Ellis¹, M.L. Berumen¹, B.H. Jones¹, G.J. Williams², ¹King Abdullah University of Science and Technology, Saudi Arabia, ²Bangor University, UK
- [P.B.009] **Habitat variation enhances benthic macrofaunal biodiversity in a bay**
K. Momota*, S. Hosokawa, *Port and Airport Research Institute, Japan*
- [P.B.010] **Impacts on ecosystem functioning through sub-lethal effects on marine habitat-forming species**
M. Mayer-Pinto*^{1,2}, K.A. Dafforn¹, T.P. Crowe³, M.J. Ledet¹, A.B. Bugnot^{1,2}, T.M. Glasby⁴, E.L. Johnston¹, ¹The University of New South Wales, Australia, ²Sydney Institute of Marine Sciences, Australia, ³University College Dublin, Ireland, ⁴Port Stephens Fisheries Institute, Australia
- [P.B.011] **Which characteristics affect the richness of benthic biota in marine sediments?**
S. Hosokawa*, K. Momota, *Port and Airport Research Institute, Japan*
- [P.B.012] **The diversity of *Alexandrium* species in Hawkesbury River**
A. Barua*, P. Ajani, S. Murray, *University of Technology Sydney, Australia*
- [P.B.013] **A study on the corneal cells structure of *Boleophthalmus* and *Periophthalmus* mudskippers with reference to their terrestrial adaptation**
J. Zhang*, W.X. Hu, B. Kang, *Institute of Zoology, Chinese Academy of Sciences, China*
- [P.B.014] **Distributional pattern of two sympatric *Pseudopolydora* species (Annelida: Spionidae) in a shallow eutrophic lagoon after the 2011 tsunami disturbance**
T. Kondoh*, W. Sato-Okoshi, *Graduate School of Agricultural Science, Tohoku University, Japan*
- [P.B.015] **Temperature effect on primary production of microphytobenthos and temperature-based primary production estimation algorithms on Korean mudflat**
B.O. Kwon*¹, H.C. Kim², J. Ryu³, J.S. Khim¹, ¹Seoul National University, Republic of Korea, ²I.M. Systems Group, USA, ³Anyang University, Republic of Korea
- [P.B.016] **Spatial distribution of microphytobenthic primary production in mudflat, mangrove, and salt marsh in tropical, subtropical, and temperate regions**
H. Kim*¹, B.O. Kwon¹, S.Y. Lee², J. Nam³, J.S. Khim¹, ¹Seoul National University, Republic of Korea, ²The Chinese University of Hong Kong, Hong Kong, ³Korea Maritime Institute, Republic of Korea
- [P.B.017] **Somatic and reproductive growth of the bay scallop *Argopecten irradians* newly introduced to and cultured in suspension in Korean water: Biochemical and isotopic analyses**
H.Y. Kang*¹, Y-J. Lee¹, W.C. Lee², C. Kim¹, H-C. Kim², C-K. Kang¹, ¹Gwangju Institute of Science and Technology, Republic of Korea, ²National Institute of Fisheries Science, Republic of Korea
- [P.B.018] **Longitudinal shift in isotopic niche of macrozoobenthos assemblages along the main channel of a temperate bay, Gwangyang Bay of Korea, subjected to low-turbidity river water discharge**
C. Kim*¹, H.Y. Kang¹, Y-J. Lee¹, S-G. Yun², C-K. Kang¹, ¹Gwangju Institute of Science and Technology, Republic of Korea, ²Daegu University, Republic of Korea
- [P.B.019] **Patterning multitrophic community and trophic structure in a temperate, low-turbidity estuarine bay of Korea**
C-K. Kang*¹, H.Y. Kang¹, Y-J. Lee¹, S-G. Yun², C. Kim¹, H.J. Park³, J.H. Kwak³, Y.G. Kim¹, ¹Gwangju Institute of Science and Technology, Republic of Korea, ²Daegu University, Republic of Korea, ³Gangneung-Wonju National University, Republic of Korea

- [P.B.020] **Significant contribution of microalgae to the diet of the mysid neomysis awatschensis (brandt, 1851) in the Yura river estuary, Japan**
J.O. Omweri*¹, K.W. Suzuki¹, H. Yokoyama¹, S. Houki², E. Lavergne¹, H. Inoue¹, Y. Yamashita¹, ¹Kyoto University, Japan, ²Mie University, Japan
- [P.B.021] **How environmental drivers influence the maturation of an estuarine nursery-dependent species: European flounder**
D. Silva¹, D. Santos¹, J. Cunha¹, S. Rodrigues¹, V. Neves¹, E. Rocha¹, V. Freitas^{1,2}, M. Ferreira^{3,1}, S. Ramos*^{1,4}, ¹University of Porto, Portugal, ²Utrecht University, The Netherlands, ³The University of the South Pacific, Fiji, ⁴University of Hull, UK
- [P.B.023] **Variation in the foraging ecology of two syntopic mudskippers in heterogeneous mangrove patches in Singapore**
T.L. Su*, Z. Jaafar, N. Sivasothi, National University of Singapore, Singapore
- [P.B.024] **Past environmental changes during the late Holocene sea-level fall (last 2.7 Ka) at the NE coastal plain of Argentina**
M. Luengo^{1,2}, E. Bernasconi^{1,3}, I. Vilanova*^{1,4}, E. Fucks², ¹CONICET, Argentina, ²Universidad Nacional de LaPlata, Argentina, ³Universidad del Comahue, Argentina, ⁴Museo Argentino de Ciencias Naturales, Argentina
- [P.B.025] **Organic nutrient come from terrestrial discharge increased pico-phytoplankton and dinoflagellates ratio in the Daya Bay**
Y.H. Tan*, J.X. Liu, C.H. Xiang, South China Sea Institute of Oceanology, China
- [P.B.026] **Seed post-dispersal fates in dynamic tidal wetland: A conceptual framework using *Spartina alterniflora***
Z.Y. Zhao*, L. Yuan, B. Tian, L.Q. Zhang, W. Li, H. Li, X.J. Zhu, East China Normal University, China
- [P.B.027] **Responses of plankton community metabolism to warming and nutrients input in Daya Bay, South China Sea**
X.Y. Song*¹, F.W. Xie^{1,2}, Y.H. Tan¹, L.M. Huang¹, ¹Chinese Academy of Sciences, China, ²Chinese Academy of Fisheries Sciences, China
- [P.B.028] **Subsurface low dissolved oxygen occurred at fresh- and saline-water intersection of the Pearl River estuary during a summer period**
G. Li, J.X. Liu, X.Y. Song, Y.H. Tan, L.M. Huang*, South China Sea Institute of Oceanology, Chinese Academy of Sciences, China
- [P.B.029] **Vastly different mollusc populations in two south-western Australian estuaries**
K. Bennett*¹, M. Sanchez-Alarcon¹, K. Kilminster^{1,2}, A. Brearley², ¹Department of Water and Environmental Regulation, Australia, ²University of Western Australia, Australia
- [P.B.030] **Exploring sexual reproduction strategies of seagrasses in estuaries**
M. Sanchez-Alarcon*¹, K. Kilminster^{1,2}, K. Bennett¹, ¹Department of Water and Environmental Regulation, Government of Western Australia, Australia, ²University of Western Australia, Australia
- [P.B.031] **Uncoupling macromolecular composition of POM between water column and sediments in a shallow Geoje-Hansan Bay, South Korea**
H.C. Kim*¹, J.H. Lee², W.C. Lee¹, J.J. Kang², D. Lee², N. Jo², P.S. Bhavya², ¹National Institute of Fisheries Science, Republic of Korea, ²Pusan National University, Republic of Korea
- [P.C.001] **Effects of time-series data resolution on modelling shoreline change**
A. Seenath*, I. Shennan, R.J. Hardy, L. Turnbull-Lloyd, Durham University, UK
- [P.C.002] **The distribution of pelagic and epi-benthic fish around a multi-module artificial reef-field: Close module spacing supports a connected assemblage**
A. Becker*¹, J.A. Smith², M.D. Taylor¹, J. McLeod¹, M.B. Lowry¹, ¹NSW Department of Primary Industries, Australia, ²University of New South Wales, Australia
- [P.C.003] **Estuarine fishes and connectivity between estuaries and mangrove, coral reef and sandy beach environments**
A.C.G. Paiva¹, P.T. Chaves*², M.E. Araujo³, ¹Federal University of Alagoas, Brazil, ²Federal University of Parana, Brazil, ³Federal University of Pernambuco, Brazil
- [P.C.004] **Formerly productive fishing grounds get in trouble with jellyfish: Comparative analysis of the ecosystem in the Inland Sea of Japan and the northern Adriatic Sea**
S. Uye*¹, T. Kogovšek^{1,2}, M. Vodopivec², F. Raicich³, A. Malej², ¹Hiroshima University, Japan, ²National Institute of Biology, Slovenia, ³CNR-Institute for Marine Sciences, Italy
- [P.C.005] **Estuaries under fishing pressure: Commercial and recreational objectives, different practices, similar threats**
P.T. Chaves, Federal University of Parana, Brazil

- [P.C.006] **Cultural ecosystem services derived from estuaries important for local people's wellbeing, and considerations of continued supply**
C.L. Martin, *The University of Newcastle, Australia*
- [P.C.007] **Environmental change affecting coastal ecosystems of tropical China during the Anthropocene**
T.C. Jennerjahn^{*1}, B. Fedder¹, D.R. Wang², D.F. Xu³, F. Yang⁴, F. Günther¹, G. Jost⁵, H.L. Zhou⁴, H.W. Zhao⁴, I. Nordhaus¹, ¹Leibniz Centre for Tropical Marine Research, Germany, ²Hainan Academy of Ocean and Fishery Science, China, ³Second Institute of Oceanography, China, ⁴Hainan University, China, ⁵Leibniz Institute for Baltic Sea Research, Germany
- [P.C.008] **Zostera muelleri as a bioindicator for oceanic heavy metal levels in south-eastern Australia**
Y.H. Lee^{*}, J.D. Orbell, R.W. Robinson, *Victoria University, Australia*
- [P.C.009] **Nutrients, chlorophyll and suspended solids from three rivers into Hakodate Bay, Hokkaido, Japan**
A. Kasai^{*1}, R. Sugimoto², N. Itoh¹, K. Tsukagawa¹, K. Todate¹, ¹Hokkaido University, Japan, ²Fukui Prefectural University, Japan
- [P.C.010] **Variations of growth, condition factor, diet and feeding ecology of Glossogobius giuris**
Q.M. Dinh^{*1}, L.T. Le², ¹Can Tho University, Vietnam, ²Phan Van Hung High School, Vietnam
- [P.C.011] **Reproductive traits of Acentrogobius viridipunctatus and Glossogobius aureus**
Q.M. Dinh^{*1}, T.T. Truong², T.K. Tran³, ¹Can Tho University, Vietnam, ²Tap Son High School, Vietnam, ³Nguyen Dinh Chieu Specializing High School, Vietnam
- [P.C.012] **Dynamics and disappearance of the parasitic sea spider Nymphonella tapetis in Matsukawaura Lagoon, Japan**
T. Tomiyama^{*1}, T. Iwasaki², K. Wakui², T. Wada³, K. Yamada⁴, H. Abe⁵, M. Tamaoki⁶, K. Miyazaki⁷, ¹Hiroshima University, Japan, ²Fukushima Prefecture, Japan, ³Fukushima University, Japan, ⁴Kumamoto University, Japan, ⁵Iwate Medical University, Japan, ⁶National Institute for Environmental Studies, Japan, ⁷Niigata University, Japan
- [P.C.014] **Influence of environmental factors on Phyllospadix japonicus seed germination**
J-I. Park^{*}, J-H. Kim, J.H. Kim, *Marine Eco-Technology Institute, Republic of Korea*
- [P.C.015] **Incidental fishery of ray fishes in coastal waters of Pakistan**
S.F. Siddiqui^{*}, J. Baloch, *University of Karachi, Pakistan*
- [P.C.016] **Established coastal environment condition assessment off Yunlin, southwestern Taiwan**
P. Chen^{*1}, T.K. Liu², B.R. Su², C.K. Kang¹, ¹Tainan Hydraulics Laboratory, Taiwan, ²National Cheng Kung University, Taiwan
- [P.C.017] **Predation on commercial clams by the red stingray Dasyatis Akajei in the estuary of the Hii River, Japan**
K. Suzuki^{*}, K. Yamaguchi, *Shimane University, Japan*
- [P.C.018] **Determining spatial distribution and migration to support management of an exploited species in NSW: An otolith chemistry study**
A.L. Russell^{*2}, B.M. Gillanders¹, D.D. Johnson², M.D. Taylor¹, ¹University of Adelaide, Australia, ²NSW Department of Primary Industries, Port Stephens Fisheries Research Institute, Australia
- [P.C.019] **Utilisation of a recovering wetland by a commercially important species of penaeid shrimp**
C. Hart¹, T.F. Gaston^{*1}, M.D. Taylor², ¹University of Newcastle, Australia, ²New South Wales Department of Primary Industries, Australia
- [P.C.020] **Sustainable-use protected areas on the coasts: Spatial planning and management**
R. Borges^{*1,2}, R. Barboza³, I. Eyzaguirre³, E. Ferreira⁴, ¹University of Bremen, Germany, ²Leibniz-Centre for Tropical Marine Research (ZMT), Germany, ³Universidade Federal do Pará (UFPA), Brazil, ⁴Universidade Federal Fluminense (UFF), Brazil
- [P.C.021] **Neotropical mangroves: Conservation and sustainable use in a scenario of global climate changes**
R. Borges^{*1,2}, A. Ferreira³, L. Lacerda³, ¹University of Bremen, Germany, ²Leibniz-Centre for Tropical Marine Research (ZMT), Germany, ³Universidade Federal do Ceara, Brazil

- [P.C.022] Role of seagrass meadows as sinks of Zn, Pb and Cd in a region contaminated by smelting activities**
A. Lafratta*¹, O. Serrano¹, P. Masqué^{1,3}, M. Fernandes^{4,6}, S. Gaylard⁵, P. Lavery^{1,2}, ¹Edith Cowan University, Australia, ²Consejo Superior de Investigaciones Científicas, Spain, Australia, ³Universitat Autònoma de Barcelona, Spain, ⁴South Australian Water Corporation, Australia, ⁵South Australian Environment Protection Authority, Australia, ⁷Flinders University, Australia
- [P.C.023] Assessment of heavy metals in aquaculture shellfishes in Southwest Taiwan and consumption risk**
Y.R. Ju, C.D. Dong, C.F. Chen, X.Y. Chuang, C.W. Chen*, National Kaohsiung University of Science and Technology, Taiwan
- [P.C.024] The release of dissolved sediment nutrients from a nutrient rich embayment: Implication of tidal impact**
G. Jin*^{1,2}, S. Onodera¹, M. Saito³, Y. Tomozawa¹, Y. Ohira¹, ¹Graduate School of Integrated Arts and Sciences, Hiroshima University, Japan, ²College of Ocean and Meteorology, Guangdong Ocean University, China, ³Graduate School of Environmental and Life Science, Okayama University, Japan
- [P.C.025] Effect of management practices on the biodiversity of Chilika lagoon**
B. Sahu, CSIR Institute of Minerals and Materials Technology, India
- [P.C.026] Documentation, care, and release of sea turtles captured by coastal fisheries in the northern Sulu Sea: A museum works with fishers and government**
T.U. Bagarinao, SEAFDEC Aquaculture Department, The Philippines
- [P.C.027] Hydrochemical impacts of urbanization on nutrient discharge to the coastal zone in alluvial plane catchments in Japan**
S. Onodera*¹, M. Saito², Y. Shimizu³, G. Jin⁴, Y. Tomozawa¹, ¹Hiroshima University, Japan, ²Okayama University, Japan, ³NARO, Japan, ⁴Guangdong Ocean University, China
- [P.C.028] Deposition of solid intertidal wastes at the beach of Santos- SP, Brazil**
A.A. Carminatto, C. Matuck, E. Farrabotti*, F.A.C. Adami, J.A. Klein, M.G.F. Santos, W. Barrella, Universidade Santa Cecília, Brazil
- [P.C.029] Evaluation for submarine groundwater discharge in a temperate coastal zone covered by seagrass meadows**
M. Saito*¹, S. Onodera², A. Zhu^{2,3}, G. Jin^{2,4}, Y. Shimizu⁵, Y. Tomozawa², K. Okubo¹, ¹Okayama University, Japan, ²Hiroshima University, Japan, ³Sun Yat-sen University, China, ⁴Guangdong Ocean University, China, ⁵National Agriculture and Food Research Organization, Japan
- [P.C.030] No marine deserts here! Multitudes of polychaetes and amphipods in Australian offshore waters**
M.E. Platell*^{1,2}, T.F. Gaston¹, C.E. Evans¹, T. Ryan¹, T. Smith¹, V. Raoult¹, D. O'Brien³, D. Whyte⁴, E. Lovell⁴, W. O'Connor⁵, ¹University of Newcastle, Australia, ²Murdoch University, Australia, ³Aquaculture Management and Development Pty Ltd, Australia, ⁴Huon Aquaculture Pty Ltd, Australia, ⁵DPI Fisheries (NSW), Australia
- [P.C.031] Dynamics of climate change impact on mariculture in Korea**
J. Nam*, S. Jung, C. Ma, S. Jeong, Korea Maritime Institute, Republic of Korea
- [P.C.032] Mapping threats to detect aquatic ecosystem impacts in a semi-urbanised, iconic Australian estuary**
D.E. Moffitt*¹, G.A. Skilleter¹, N.R. Loneragan², ¹University of Queensland, Australia, ²Murdoch University, Australia
- [P.C.033] The mechanism of the progress of hypoxia in Ariake Sea without the increase of terrestrial load**
Y. Hayami*¹, S. Yamaguchi², N. Fujii¹, ¹Saga University, Japan, ²Kyushu University, Japan
- [P.C.034] Mechanism of red tide outbreaks in winter in the western area of the inner Ariake Sea**
S. Yamaguchi*, N. Minamiura, Kyushu University, Japan
- [P.C.035] Examine geomorphologic units and its spatio-temporal changes of Pigeon Island Marine National Park in Sri Lanka**
N. Thasarathan*¹, K. Suthakar², ¹University of Jaffna, Sri Lanka, ²University of Jaffna, Sri Lanka
- [P.C.036] Maintaining ecosystem services of coral reefs for sustainable tourism**
M. Sutthacheep*, T. Yeemin, S. Pongsakun, W. Suebpala, W. Klinthong, W. Samsuvan, Ramkhamhaeng University, Thailand

- [P.C.037] Evaluating the costs and benefits of aquaculture-based enhancement in small-scale commercial and recreational fisheries**
J.R. Tweedley*, D. Abagna, M. Tull, A. Garnett, N. Loneragan, *Murdoch University, Australia*
- [P.D.001] A tropical seagrass, *Zostera muelleri*, as a potential metal bioindicator**
A. Skillington^{*1}, N. Flint¹, A. Anastasi¹, G. Dwane², E.L. Jackson¹, ¹*CQUniversity, Australia*, ²*Gladstone Ports Corporation, Australia*
- [P.D.002] Universities as a boundary organization for co-production of knowledge: A study case in a coastal Brazilian city**
D.A. de Carvalho¹, D.M. de Freitas^{*1}, E.K. Hosokawa², ¹*São Paulo State University, Brazil*, ²*Urban Development Secretary of Santos, Brazil*
- [P.D.003] Comparison of different sampling designs for macrozoobenthos survey in a tidal flat**
B. Xu^{*1}, J. Wang¹, Y. Chen², C. Zhang¹, Y. Xue¹, Y. Ren^{1,3}, ¹*Ocean University of China, China*, ²*University of Maine, USA*, ³*Qingdao National Laboratory for Marine Science and Technology, China*
- [P.D.004] Nature-based coastal protection in the Pearl River Delta: The ANCODE project**
J. Wolf^{*1}, T.J. Bouma^{2,4}, Z. Hu³, S. Jevrejeva¹, M. De Dominicis¹, R. van Hespen^{2,4}, T. Ysebaert^{2,4}, P. Yao³, C. Wang⁵, M. Li⁶, ¹*National Oceanography Centre, UK*, ²*Royal Netherlands Institute for Sea Research, The Netherlands*, ³*Sun Yat-sen University, China*, ⁴*University of Utrecht, The Netherlands*, ⁵*Satellite Environment Centre, China*, ⁶*University of Liverpool, UK*
- [P.D.005] The coastal erosion and socio-economic development in the coasts of central Vietnam**
T-Y. Lin^{*1}, L.P. Vo², D.T. Nguyen², T.V. Bui², ¹*National Taiwan Normal University, Taiwan*, ²*Ho Chi Minh City University of Technology, Vietnam*
- [P.D.006] Impact of beach placer mining on benthic macrofaunal communities in the intertidal Environment of Southwest Coast, Tamil Nadu, India**
P.S. Godson^{*1}, N. Chandrasekar², N.S. Magesh³, S. Krishnakumar³, T.S. Peter², A.A.J. Kumar⁴, S.G.T. Vincent¹, ¹*University of Kerala, India*, ²*Manonmaniam Sundaranar University, India*, ³*Anna University, India*, ⁴*King Abdul Aziz University, Saudi Arabia*
- [P.D.007] Setting up a reference database to monitor macrobenthos using metabarcoding**
S. Derycke, A. De Backer*, H. Hillewaert, S. Maes, J. Wittoeck, K. Hostens, *Institute for Agricultural and Fisheries Research (ILVO), Belgium*
- [P.D.008] From grey to green: Assessing the value of coastal vegetation for nature-based coastal defense**
E.M.A. Strain*, R. Morris, S. Swearer, *University of Melbourne, Australia*
- [P.D.009] Analysis of a long-term data set of water quality and seagrass distributions in the nearshore zone of the urbanised estuary, Tuggerah Lakes, New South Wales**
R. Swanson, *Office of Environment and Heritage, NSW, Australia*
- [P.D.010] An innovative approach to help clean oil spills: Native microbial consortia with bioremediation capacity**
R. Mendes¹, S. Ramos^{*1}, D.A.M. Alexandrino¹, M. Boto^{1,2}, ¹*University of Porto, Portugal*, ²*University of Hull, UK*
- [P.D.011] A highly sensitive UHPLC-MS/MS method for analyzing marker phytoplankton pigments**
J. Zhang^{*1,2}, D. Liu^{1,5}, P. Cao³, Y. Wang¹, J.K. Keesing⁴, J. Li¹, L. Che¹, ¹*Yantai Institute of Coastal Zone Research, China*, ²*Ludong University, China*, ³*Yantai Entry-Exit Inspection and Quarantine Bureau, China*, ⁴*CSIRO Oceans and Atmosphere, Australia*, ⁵*East China Normal University, China*
- [P.D.012] Fine-scale autonomous survey of dissolved oxygen in Macquarie Harbour, west coast Tasmania**
K.A. Wild-Allen*, A. Revill, J. Andrewartha, K. Forcey, R. Gregor, *CSIRO Oceans & Atmosphere, Australia*
- [P.D.013] Healing old wounds: Restoring *Posidonia australis* in mooring scars**
S. Powell^{1,2}, T.M. Glasby^{*3}, L. Kajlich^{1,2}, G. Ferretto^{1,2}, G. Housefield³, J. Statton⁴, E.A. Sinclair⁴, G.A. Kendrick⁴, A.G.B. Poore^{1,2}, A. Vergés^{1,2}, ¹*UNSW Sydney, Australia*, ²*Sydney Institute of Marine Science, Australia*, ³*New South Wales Department of Primary Industries, Australia*, ⁴*UWA Oceans Institute, Australia*
- [P.D.014] Influence of the sand-bar opening on the water quality in Wilson Inlet, Western Australia**
E.S. Reichwaldt*, E.T. da Silva, A. Mantovanelli, P. Kelsey, A. Maughan, S. Ranford, D. Bloomfield, K. Hennig, C. Thomson, E. Van Looij, *Department of Water and Environmental Regulation, Australia*

- [P.D.015] **Developing long term data products from IMOS sustained observation system off Western Australian coast**
M. Chen*, M. Snell, I. Darby, R. Crossing, M. Feng, *CSIRO Oceans and Atmosphere, Australia*
- [P.D.016] **Analyzing biases in N, $\delta^{15}\text{N}$, and $\delta^{13}\text{C}$ values arising from acidified marine sediments with different CaCO_3 concentrations**
Y.J. Peng*¹, D.Y. Liu^{2,3}, Y.J. Wang³, K. John⁴, R. Pierre⁵, ¹Guizhou University of Finance and Economics, China, ²East China Normal University, China, ³Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, China, ⁴UMR 7266 CNRS-Université de La Rochelle, France, ⁵CSIRO Oceans and Atmosphere, Australia
- [P.D.017] **Variable yet predominantly additive effects of concurrent hypoxia and elevated pCO_2 on marine biota**
A. Steckbauer*, S.G. Klein, C.M. Duarte, *King Abdullah University of Science and Technology (KAUST), Saudi Arabia*
- [P.D.018] **Influence of inundation and sediment characteristics to the fine root establishment of four mangrove species**
Y.S. Peng*^{1,2}, H.J. Huang^{1,2}, Z.Y. He^{1,2}, G.Z. Chen¹, Z. Hu³, ¹School of Environmental Science and Engineering, Sun Yat-sen University, China, ²Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology, China, ³Institute of Estuarine and Coastal Research, School of Marine Science, Sun Yat-sen University, China
- [P.D.019] **Bridging the science-policy- practice divide for the management of estuaries**
J.B. Adams*¹, L. Van Niekerk^{1,2}, S. Taljaard^{1,2}, ¹Nelson Mandela University, South Africa, ²CSIR, South Africa
- [P.D.020] **Institutional arrangements for sustainable use of marine resources: The role of marine spatial planning**
D. Hassan, M. Alam*, *International Center for Ocean Governance (ICOG), Australia*
- [P.D.021] **Changes in the total content and speciation patterns of heavy metals in the dredged sediments after ocean dumping**
C.F. Chen, C.W. Chen, Y.R. Ju, C.D. Dong*, *National Kaohsiung University of Science and Technology, Taiwan*
- [P.D.022] **A case study approach for identifying the characteristics of urban coral reefs**
E.C. Heery*¹, N.K. Browne², B.K. Hoeksema³, J.D. Reimer⁴, P.O. Ang⁵, D.A. Friess¹, D. Huang^{1,6}, L.M. Chou⁶, A.G. Bauman¹, L.H.L. Loke¹, ¹National University of Singapore, Singapore, ²Curtin University, Australia, ³Naturalis Biodiversity Center, The Netherlands, ⁴University of the Ryukyus, Japan, ⁵The Chinese University of Hong Kong, Hong Kong, ⁶Tropical Marine Science Institute, Singapore
- [P.D.023] **High Resolution Remote Sensing for estuarine benthic mapping: The Suape Bay - Pernambuco, Brazil**
L.A. Conti*¹, G.T. Motta¹, R.L. Barcellos^{1,2}, ¹University of São Paulo, Brazil, ²Universidade Federal de Pernambuco, Brazil
- [P.D.024] **Decision-making for coastal hazard mitigation on the world's most dynamic coast**
M.J. Eliot*¹, M.R. Lawless², J. Castano Isaza³, ¹Damara WA Pty Ltd, Australia, ²JBA Consulting, UK, ³The World Bank, USA
- [P.D.025] **Understanding socio-ecological systems: A case study protocol for two small-scale estuarine fisheries in Western Australia**
C. Obregón*, M. Hughes, J.R. Tweedley, N.R. Loneragan, *Murdoch University, Australia*
- [P.D.026] **Translating outputs from a hydrodynamic model into user-accessible tools to support managers and stakeholders – spotlight on the Vasse and Wonnerup estuaries**
E.T. da Silva*¹, M. Mantovanelli¹, P. Kelsey¹, L. Kalnejais¹, J. Browne¹, A. Charles¹, K. Kilminster¹, K. Lynch¹, J. Tweedley², J. Chambers², ¹Government of Western Australia, Australia, ²Murdoch University, Australia
- [P.D.027] **Assessing Open Source Software for 3D reconstruction of reef habitat from dive photos to monitor environmental change**
D. Slawinski*, D. Thomson, M. Trapon, *Commonwealth Scientific Industrial Research Organisation, Australia*
- [P.D.028] **Assessing abundance of the snowflake coral (*Carijoa riisei*) in estuarine habitats**
T. Yeemin*, M. Sutthacheep, P. Putthayakool, S. Pengsakun, W. Samsuvan, *Ramkhamhaeng University, Thailand*

**[P.D.029] How important are the coastal and marine environments in an Australian industrial port?
Societal values of Gladstone Harbour in the Great Barrier Reef World Heritage Area**

P. Rodriguez-Salinas*^{1,2}, M.L. Campbell^{2,3}, C.L. Hewitt¹, E. Jackson⁴, ¹University of Waikato, New Zealand, ²The Environmental Research Institute, University of Waikato, New Zealand, ³Harry Butler Institute, Murdoch University, Australia, ⁴Central Queensland University, Australia