



Tuesday, 13th June 2023

16:00 - 18:00 **Registration**
Reception

18:00 - 19:00 **Welcome Drinks Reception & Opening of Michael Aw Photo Exhibition**
Hall 1

Wednesday, 14th June 2023

08:00 - 08:30 **Registration**
Reception

08:30 - 09:30 **Opening Session**
Arena 1B
Jan-Olaf Meynecke

08:30-08:45 Welcome to the conference
08:45-09:00 Welcome to the country
09:00-09:15 The role of science in addressing the climate and biodiversity crises
Brendan Mackey, Griffith University, Australia
09:15-09:30 Solutions for urbanised coastlines
Mariana Mayer Pinto, University of New South Wales, Australia

09:30 - 10:30 **Plenary Speakers 1 and 2: Emma Johnston and Michelle Maloney**
Arena 1B
Jan-Olaf Meynecke

09:30 - 10:00 [PLN1]
Ideas for marine stewardship and sustainability in a time of acceleration
Emma Johnston
The University of Sydney, Sydney, Australia

10:00 - 10:30 [PLN2]
Can we shift our governance systems to support, rather than destroy, the living world?
Michelle Maloney
Australian Earth Laws Alliance (AELA), Queensland, Australia

10:30 - 11:00 **Refreshment Break**
Hall 1

<p>11:00 - 12:30</p> <p>11:00- 12:15 Session 1: Coastal development and engineering Arena 1B Mariana Mayer-Pinto</p> <p>11:00 - 11:15 [O1.1] Cost-benefit analysis of Wamberal terminal coastal protection options <u>Shima Madani</u>, Grant Leslie <i>Balm Group, Sydney, FL, Australia</i></p> <p>11:15 - 11:30 [O1.2] Assessing the impact factors and corresponding weights on the coastal morphology of Taiwan Wei Po Huang, <u>Jui Chan Hsu</u>, Chun Jhen Ye <i>National Taiwan Ocean University Department of Harbor and River Engineering, Keelung, Taiwan</i></p> <p>11:30 - 11:45 [O1.3] Nature-based solutions for resilient and multifunctional coastal landscapes <u>Yuting Tai</u> <i>Wageningen University & Research, Wageningen, The Netherlands</i></p> <p>11:45 - 12:00 [O1.4] A biomimicry-based engineering solution to recover seagrass beds and associated ecosystem services <u>Marion Maréchal</u>^{1,2,3}, Julien Dalle⁴, Mathis Cognat⁴, Isabelle Bertrand⁵, Remi Dugue⁶, Clara Schubert⁷, Lorenzo Rossi⁸, Margot Ahr⁸, Alessandro Florio^{1,2,3}, Xavier Le Roux^{1,2,3}</p>	<p>11:00- 12:15 Session 2: Marine ecology Arena 1A Jasper de Bie</p> <p>11:00 - 11:15 [O2.1] Responses of <i>Stichopus</i> cf. <i>horrens</i> juveniles to predation by <i>Dardanus megistos</i> <u>Giniel Mae Tiongson</u>¹, Marie Antonette Meñez¹, Nadia Abesamis² ¹<i>University of the Philippines - Marine Science Institute, Quezon City, The Philippines.</i> ²<i>Silliman University, Dumaguete City, The Philippines</i></p> <p>11:15 - 11:30 [O2.2] Effects of marine microplastics on zooplankton reproduction and its molecular mechanisms <u>Taekyoung Seong</u>, Sae Yamamoto, Mitsuharu Yagi, Hisayuki Nakatani, Yusaku Kyoizuka, Cyril Glenn Satuito, Hee-Jin Kim <i>Nagasaki University, Nagasaki, Japan</i></p> <p>11:30 - 11:45 [O2.3] Ocean warming induces thermal tolerance plasticity but reduces reproductive output of marine amphipods: eco-evolutionary implications in a changing ocean <u>Joana F. Fernandes</u>^{1,2,3,4}, Luísa Marques¹, Piero Calosi², Mário S. Diniz^{5,4}, Diana Madeira¹ ¹<i>ECOMARE – Laboratory for Innovation and Sustainability of Marine Biological Resources, CESAM – Centre for Environmental and Marine Studies,</i></p>	<p>11:00- 12:30 Session 3: C reef stressors Meeting Room 5 Morgan Pratchett</p> <p>11:00 - 11:15 [O3.1] Identification of persistent thermal refugia : how ocean circulation can mitigate warming and heat-driven bleaching <u>Clothilde Langlais</u>¹, Mike Herzfeld¹, Eduardo Klein², Craig Steinberg² ¹<i>CSIRO Environment, Hobart, Australia.</i> ²<i>Australian Institute of Marine Science, Townsville, Australia</i></p> <p>11:15 - 11:30 [O3.2] Photophysiology and proteomic signatures of a soft c exposed to a marine heatwave simulation under different light regimes: stress biology and recovery potential <u>Diana Madeira</u>¹, Margarida Travesso¹, Madalena Missionário^{1,2}, Sónia Cruz¹, Ricardo Calado¹ ¹<i>University of Aveiro, Aveiro, Portugal.</i> ²<i>Novo University of Lisbon, Lisboa, Portugal</i></p> <p>11:30 - 11:45 [O3.3] The future outlook for water quality impacts on the Great Barrier Reef <u>Jodie Schlaefer</u>, Clothilde Langlais, Mathieu Mongin <i>CSIRO Environment, Hobart, Australia</i></p> <p>11:45 - 12:00 [O3.4] Restructuring of associated microbiota assists the c Tubastrea aurea to be resilient</p>	<p>11:00- 12:30 Session 4: Rivers, catchments and wetlands Meeting Room 6 Amanda Reichelt-Brushett</p> <p>11:00 - 11:15 [O4.1] Remote sensing and GIS-based assessment of the Dehgaon-Bamori forest range: An implication of restoration and conservation of Betwa River Basin, Central India Nguyen Thanh Van^{1,2}, Sanchit Kumar², Rahul Kumar Pandey², Roja Eliza², Rahul Kumar Gupta², <u>Anshumali</u> .² ¹<i>Institute of Labour Science and Social Affairs, Ministry of Labour, Invalids and Social Affairs, Hanoi, Vietnam.</i> ²<i>Indian Institute of Technology (Indian School of Mines) Dhanbad, Dhanbad, India</i></p> <p>11:15 - 11:30 [O4.2] Machine Learning to quantify and upscale manure nutrients budgets in agricultural watersheds of the Southeast Coastal Plain of the United States <u>Clement Sohoulade</u> <i>USDA-ARS Coastal Plain Soil Water and Plant Conservation Research Center, Florence, SC, USA</i></p> <p>11:30 - 11:45 [O4.3] Green engineering: a critical tool to build river resilience in an unpredictable climate <u>Mark Waud</u>¹, Nathaniel Parker² ¹<i>Healthy Land and Water, Brisbane, Australia.</i> ²<i>Airborn Insight, Toowoomba, Australia</i></p>	<p>11:00- 12:15 Session 5: Symposium - Restoring marine, coastal and estuary ecosystems for a sustainable future I Meeting Room 7 Nathan Waltham</p> <p>11:00 - 11:15 [O5.1] How industry can aid coastal marine ecosystem restoration <u>Remment ter Hofstede</u>^{1,2}, Tjeerd Bouma³, Mark van Koningsveld^{2,1} ¹<i>Delft University and Technology Section Hydraulic Engineering, Delft, The Netherlands.</i> ²<i>Van Oord Dredging and Marine Contractors, Rotterdam, The Netherlands.</i> ³<i>Netherlands Institute of Sea Research, Yerseke, The Netherlands</i></p> <p>11:15 - 11:30 [O5.2] The NSW Oyster Reef Restoration project – delivering integrated solutions to restoring a lost ecosystem <u>Kylie Russell</u>¹, Victoria Cole¹, Charlotte Jenkins², Jillian Keating³ ¹<i>NSW Department of Primary Industries, Port Stephens Fisheries Institute, Australia.</i> ²<i>NSW Department of Primary Industries, Wollongar, Australia.</i> ³<i>NSW Department of Primary Industries, Batemans Bay, Australia</i></p> <p>11:30 - 11:45 [O5.3] Study on the ecological degradation of Iashihai area based on potential vegetation <u>Yanan Qi</u>¹, Hongtao Dou², Haiping Li³</p>	<p>11:00- 12:15 Session 6: Symposium - Coupled human and natural ecosystems for sustainability - Sponsored by Elsevier’s Geography and Sustainability Meeting Room 8 Jie Gong</p> <p>11:00 - 11:15 [O6.1] Integrated coupled human and natural system complexity management for climate change adaptation <u>Dhanushki Perera</u>, Ziyad Abunada <i>Central Queensland University - Melbourne Campus, Melbourne, Australia</i></p> <p>11:15 - 11:30 [O6.2] UNESCO Biosphere Reserve models of sustainable living <u>Toby Gifford</u>, Leah Barclay <i>University of the Sunshine Coast, Sippy Downs, Australia</i></p> <p>11:30 - 11:45 [O6.3] Progress and challenges in social-ecological system research: From science to practice <u>Jie Gong</u>, Yixu Wang <i>Lanzhou University College of Earth and Environmental Sciences, Lanzhou, China</i></p> <p>11:45 - 12:00 [O6.4] A local composite index for the sustainability of human well-being <u>Uma Umot Baysal</u>, <u>Paul Sutton</u> <i>University of Denver, Denver, CO, USA</i></p>	<p>11:00- 12:15 Session 7: Policies and governance/Science and policy Meeting Room 9 Anya Phelan</p> <p>11:00 - 11:15 [O7.1] The designs of international public policies towards to promotion of zero carbon and negative carbon projects <u>José Carlos Jesus Lopes</u>, Suellyn Salin Lovera, Paula Silva Santos, Denise Barros Azevedo <i>Federal University of Mato Grosso do Sul, Campo Grande, Brazil</i></p> <p>11:15 - 11:30 [O7.2] Synecoculture experiments: Human augmentation of ecosystems <u>Masatoshi Funabashi</u> <i>Sony Computer Science Laboratories Inc, Shinagawa-Ku, Japan</i></p> <p>11:30 - 11:45 [O7.3] Climate change adaption strategies in urban communities: new evidence from Islamabad, Pakistan <u>Naeem Ahmed</u>¹, Ihtisham Ul Haq Padda², Azra Khan² ¹<i>National University of Modern Languages, Islamabad, Pakistan.</i> ²<i>Federal Urdu University of Arts Science and Technology - Islamabad Campus, Islamabad, Pakistan</i></p> <p>11:45 - 12:00 [O7.4] An analysis of business formalization policies to mitigate flood loss and</p>	<p>11:00- 11:45 Session 8: Symposium - Currents: Navigating positive connections between oceans and human health Meeting Room 4 Catherine Pirkle</p> <p>11:00 - 11:15 [O8.1] A systematic review on systems mapping in environmental health <u>Kristin Lau</u>, Catherine Pirkle, Lorinda Riley <i>University of Hawai’i at Mānoa Office of Public Health Studies, Honolulu, HI, USA</i></p> <p>11:15 - 11:30 [O8.2] Identifying Hawaiian resident’s relationships with coastal blue spaces during a time of declining ocean health <u>Lauryn Hansen</u>^{1,2}, Lorinda Riley¹, Rachel Dacks³, Catherine Pirkle¹ ¹<i>University of Hawai’i at Mānoa, Honolulu, HI, USA.</i> ²<i>University of Hawai’i at Mānoa Kewalo Marine Laboratory, Honolulu, HI, USA.</i> ³<i>University of Hawai’i at Mānoa Hawai’i Institute of Marine Biology, Kaneohe, HI, USA</i></p> <p>11:30 - 11:45 [O8.3] The value of surfing ecosystems: why it matters and how it can be protected <u>Ana Manero</u> <i>Australian National University Crawford School of Public Policy, Canberra, Australia</i></p>	<p>Session 9: Symposium -</p>
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<p>¹Microbial Ecology, Villeurbanne, France. ²National Research Institute for Agriculture Food and Environment Lyon-Grenoble Auvergne-Rhône-Alpes Center, Villeurbanne, France. ³CNRS INSERM Univ Lyon 1, Lyon, France. ⁴Seabio, Montpellier, France. ⁵National Research Institute for Agriculture Food and Environment Occitanie-Montpellier Center, Montpellier, France. ⁶Institute of Development Research Occitanie Regional Delegation, Montpellier, France. ⁷Egis, Montpellier, France. ⁸Soil.is, Nanterre, France</p> <p>12:00 - 12:15 [O1.5] Mangrove ecosystem services and gender relation among the Sundarbans dependent communities in the coastal polders of Bangladesh <u>Moin Uddin Ahmed</u>¹, Khandkar- Siddikur Rahman¹, Md. Iftakharul Alam^{2,3}, Selim Reza Hasan¹ ¹Solidaridad Network Asia, Dhaka, Bangladesh. ²Department of Fisheries, Ministry of Fisheries and Livestock, Dhaka, Bangladesh. ³Wageningen Institute of Animal Sciences, Aquaculture and Fisheries Group, Wageningen University & Research, Wageningen, The Netherlands</p>	<p>Department of Biology, University of Aveiro, Aveiro, Portugal. ²University of Quebec in Rimouski (UQAR), Department of Biology, Chemistry and Geography, Rimouski, Canada. ³Associate Laboratory i4HB - Institute for Health and Bioeconomy, NOVA School of Science and Technology, NOVA University, Lisbon, Portugal. ⁴UCIBIO – Applied Molecular Biosciences Unit, Department of Life Sciences, NOVA School of Science and Technology, NOVA University Lisbon, Lisbon, Portugal. ⁵Associate Laboratory i4HB - Institute for Health and Bioeconomy, NOVA School of Science and Technology, NOVA University Lisbon, Lisbon, Portugal</p> <p>11:45 - 12:00 [O2.4] Effect of environmental factors on zooplankton community and their response to eutrophication in the coastal waters of Zhoushan islands (East China Sea) <u>BINGBING JIANG</u>¹, Jiaying Bian², Qiang Wang³, Cuicui Hou⁴, Gang Li⁵ ¹Zhejiang Ocean University, Zhoushan, China. ²Zhoushan Marine Workstation of East China Sea Bureau, Zhoushan, China. ³East China Normal University, Shanghai, China. ⁴Henan Normal University, Xinxiang, China. ⁵Anhui Jianzhu University, Hefei, China</p> <p>12:00 - 12:15 [O2.5]</p>	<p>towards extreme habitats of North Eastern Taiwan <u>Gowri Krishna Girija</u>¹, Jiang-Shiou Hwang^{1,2}, Ying-Ning Ho^{1,2} ¹National Taiwan Ocean University Institute of Marine Biology, Keelung, Taiwan. ²National Taiwan Ocean University Center of Excellence for the Oceans, Keelung, Taiwan</p> <p>12:00 - 12:15 [O3.5] The impacts of perfluorooctanoic acid exposure on Hawaiian cs <u>Lauryn Hansen</u> Kewalo Marine Laboratory, Honolulu, USA. University of Hawai'i at Mānoa, Honolulu, HI, USA</p> <p>12:15 - 12:30 [O3.6] Achievements to date and future challenges for managing GBR Water quality <u>Andrew Brooks</u>¹, James Daley¹, John Spencer¹, Nicholas Doriean¹, Justin Stout², Robin Thwaites¹ ¹Griffith University - Gold Coast Campus, Southport, Australia. ²University of Canterbury, Christchurch, New Zealand</p>	<p>11:45 - 12:00 [O4.4] Challenges for laboratory and controlled field trial testing of stormwater treatment measures <u>Luke Verstraten</u>¹, Darren Drapper², Jane-Louise Lampard¹, Andy Hornbuckle³ ¹University of the Sunshine Coast, Sippy Downs, Australia. ²Griffith University, Nathan, Australia. ³SPEL Stormwater, Parkinson, Australia</p> <p>12:00 - 12:15 [O4.5] Temp convolutional networks to predict future river outflows and inform regional hydrodynamic model projections <u>Lachlan Phillips</u>, Jodie Schlaefer, Clothilde Langlais, Mathieu Mongin, Sascha Frydman CSIRO Oceans and Atmosphere, Hobart, Australia</p> <p>12:15 - 12:30 [O4.6] The aggregated economic benefits of 'doing good for fish and ecosystems' for NSW inland rivers: Examples to speed the use of benefit estimates in supporting public policy decision making <u>Boyd Blackwell</u> Department of Primary Industries, Armidale, Australia. Australia New Zealand Society for Ecological Economics, Armidale, Australia</p>	<p>¹Ministry of Transport Research Institute of Highways, Beijing, China. ²Institute of Spatial Planning & Regional Economy, Chinese Academy of Macroeconomic Research, Beijing, China. ³Renmin University of China School of Environment and Natural Resource, Beijing, China</p> <p>11:45 - 12:00 [O5.4] A case for below-ground biodiversity restoration in marine systems <u>Ana Bugnot</u>¹, Paul Gribben², Katherine Dafforn³ ¹Commonwealth Scientific and Industrial Research Organisation, St. Lucia, Australia. ²University of New South Wales, Sydney, Australia. ³Macquarie University, Sydney, Australia</p> <p>12:00 - 12:15 [O5.5] No-take marine protected areas enhance the benefits of kelp-forest restoration for fish but not fisheries <u>Jess Hopf</u>¹, Jennifer Caselle², Will White¹ ¹Oregon State University, Corvallis, OR, USA. ²University of California Santa Barbara, Santa Barbara, CA, USA</p>	<p>12:00 - 12:15 [O6.5] Developing a comprehensive regional ESG scoring system: the case of South Korea Hyungna Oh¹, Youn-Sik Choi², <u>Jin-Oh Kim</u>¹, Sungeun Kim², Ohbyung Kwon² ¹Kyung Hee University - Global Campus, Yongin, Republic of Korea. ²Kyung Hee University, Seoul, Republic of Korea</p>	<p>damage for informal businesses in Sri Lanka <u>Vindya Hewawasam</u>, Kenichi Matsui University of Tsukuba, Tsukuba, Japan</p> <p>12:00 - 12:15 [O7.5] Timing, degree, and levels of stakeholder involvement in water environment governance to conserve lentic water systems: Case studies from Japan Yukako Inamura¹, <u>Pankaj Kumar</u>¹, Naoko Hirayama², Ngoc-Bao Pham¹ ¹Institute for Global Environmental Strategies, Miura-gun, Japan. ²The University of Shiga Prefecture, Hikone, Japan</p>	<p>Climate change impacts to ecosystem services and potential management responses (ONLINE ONLY- recordings of talks will only be available on the online platform and mobile app and will not be presented in-person)</p> <p>[O9.1] Climate change effects on ecosystem services: disentangling drivers of mixed responses Marcy Delos¹, Sarah Weiskopf², Ciara Johnson¹, <u>Janet Cushing</u>² ¹George Mason University, Fairfax, VA, USA. ²U.S. Geological Survey National Climate Adaptation Science Center, Reston, USA</p> <p>[O9.2] Examining the effects of climate on American Indian uses of forests in the United States-Pacific Northwest and Northern California <u>Frank Lake</u>¹, Jonathan Long¹, Kari Norgaard², Kathy Lynn² ¹USDA Forest Service Pacific Southwest Research Station, Albany, CA, USA. ²University of Oregon, Eugene, OR, USA</p> <p>[O9.3] Spatial targeting to preserve marine biodiversity in the face of climate change: an economic perspective Carlo Fezzi¹, Derek Ford², <u>Kirsten Oleson</u>²</p>
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¹University of Trento, Trento, Italy. ²University of Hawai'i at Mānoa, Honolulu, HI, USA

Prospecting for bioactive compounds with antifouling activity from marine sponges
Joseph Kamau, Collins Kitaka, Kelvin Osotsi, Anthony Chege, Diana Chepngetch
Kenya Marine and Fisheries Research Institute, Mombasa, Kenya

12:30 - 13:15 Lunch
Hall 1

13:00-14:00
Editor review sessions
Organizers office 1

13:15 - 14:30 Poster Session 1
Hall 1

14:30 - 15:30 Plenary Panel 1: Finding a Future for Cs
 Arena 1B
 Jan-Olaf Meynecke

Panelists:
 John Veron, "Godfather of C", Cs of the World
 Morgan Pratchett, ARC Centre of Excellence for C Reef Studies, Australia
 Emily Howells, Southern Cross University, Australia
 Andrew Brooks, Griffith University, Australia

15:30 - 16:00 Refreshment Break
Hall 1

16:00 - 18:00 Session 10: Coastal conservation
 Arena 1B
 Jodie Schlaefer

16:00 - 16:15 [O10.1]
An evaluation of the effectiveness of environmental impact assessment procedures in protecting coastal ecosystems in the Caribbean
Leon Radix
St. George's University, St. George's, Grenada

16:15 - 16:30 [O10.2]
Impact of intense urbanisation on the services of coastal

16:00 - 18:00 Session 11: Coastal marine habitats
 Arena 1A
 Daryl McPhee

16:00 - 16:15 [O11.1]
The changing landscape and seascape of Ra's al-Hadd, Oman; an archaeological perspective from the Bronze Age to the present
Caroline Cartwright
British Museum, London, UK

16:15 - 16:30 [O11.2]
Will South Korea have mangrove forests under

16:00 - 18:00 Session 12: Symposium - Marine mammals in a changing world
 Meeting Room 5
 Jan-Olaf Meynecke

16:00 - 16:15 [O12.1]
Short-term studies complement long-term datasets to guide humpback whale conservation in East Australia
Barry McGovern, Emily Gregory, Teresa Hipolito, Stephanie Stack
Pacific Whale Foundation Australia, Urangan, Australia

16:00 - 17:45 Session 13: Symposium - Providing Solutions to a Current Environmental Problem Facing our changing world: Improving methods and models used to measure and scale evapotranspiration (ET) to the landscape scale in urban regions, catchments and wetlands
 Meeting Room 6
 Pamela Nagler

16:00 - 18:00 Session 14: Symposium - Restoring marine, coastal and estuary ecosystems for a sustainable future II (continued)
 Meeting Room 7
 Nathan Waltham

16:00 - 16:15 [O14.1]
Consumer effects intensify on breakwaters: consequences for failure and success of eco-engineering interventions at rehabilitating intertidal biodiversity

16:00 - 17:45 Session 16: Symposium - Ecosystem-based management of deep-sea mining
 Meeting Room 8
 Jayden Hyman

16:00 - 16:15 [O16.1]
Learnings from the first test of a Polymetallic Nodule Collection System in 50 years and implications for ecosystem-based management of a mining lease
Michael Clarke
The Metals Company, Vancouver, Canada

16:00 - 17:45 Session 17: Ecological indicators
 Meeting Room 9
 Haojie Chen

16:00 - 16:15 [O17.1]
Coupling coordination degree between social-economic development and water environment: A case study of Taihu lake basin, China
Liting Xu^{1,2}, Sophia Shuang Chen^{3,2}
¹*School of Geography and Environment / Key Laboratory of Poyang Lake Wetland and Watershed Research, Jiangxi Normal*

16:00 - 17:30 Session 18: Marine ecosystems/Aquatic environments
 Meeting Room 4
 Joana Filipa da Cunha Fernandes

16:00 - 16:15 [O18.1]
Preliminary assessment of microplastic pollution in commercial freshwater fish species collected from four districts in Bac Ninh province
Huong Mai¹, Thi Thao Nhi Ngo², Danh Thien Nguyen³
¹*University of Science and Technology of Hanoi, Vietnam Academy of*

wetlands: a case study on the world's largest megalopolis

Felix Leung¹, Phil Doherty², Mingfeng Liu³, Kristian Metcalfe², Brendan Godley², Shing Yip Lee⁴

¹The Nature Conservancy, Hong Kong, China. ²The University of Exeter, Exeter, UK. ³The Chinese University of Hong Kong, Hong Kong, Hong Kong. ⁴The Chinese University of Hong Kong School of Life Sciences, Hong Kong, Hong Kong

16:30 - 16:45 [O10.3] Coping with trade-offs and synergies between multiple ecosystem services when implementing nature-based solutions for coastal restoration

xavier Le Roux¹, Nuno Caiola², Olivier Boutron³, Francesca Coccon⁴, Julien Dalle⁵, Mindert De Vries⁶, Alessandro Florio⁷, Carles Ibanez⁸, Marion Marechal⁷, Agustin Sanchez Arcilla⁹

¹INRAE, Lyon, France. ²Technology Centre of Catalonia Eurecat, Barcelona, Spain. ³Tour du Valat, Arles, France. ⁴CORILA, Venezia, Italy. ⁵Seaboost, Montpellier, France. ⁶Deltares, Delft, The Netherlands. ⁷French National Institute for Agricultural Research INRAE, Paris, France. ⁸Technology Centre of Catalonia Eurecat, Cerdanyola del Valles, Spain. ⁹Polytechnic University of Catalonia, Barcelona, Spain

16:45 - 17:00 [O10.4] Absolute sea level in the Pacific: A consistent approach

accelerated climate change?

Jungho Nam¹, Jongseo Yim¹, Jae Young Park¹, Bong-Oh Kwon², Jong Seong Khim³

¹Korea Maritime Institute, Busan, Republic of Korea. ²Kunsan National University, Gunsan, Republic of Korea. ³Seoul National University, Gwanak-gu, Republic of Korea

16:30 - 16:45 [O11.3] Using earth observations to inform the valuation of ecosystem services

Valerie Seidel¹, Dan Doure¹, Grant Leslie¹, Jonathan Thompson²

¹Balm Group, Winter Park, FL, USA. ²Balm Group, Brisbane, FL, Australia

16:45 - 17:00 [O11.4] Dispersal of pesticides over seagrass and c in the Great Barrier Reef

Jennifer Skerratt, Mathieu Mongin, Mark Baird

Coastal and Oceanic Systems, CSIRO Environment, Hobart, Australia

17:00 - 17:15 [O11.5] Using eReefs to determine how the Great Barrier Reef is being impacted by anthropogenic stressors and how to manage them

Mathieu Mongin, Jenny Skerratt, Mark Baird

Commonwealth Scientific and Industrial Research Organisation, hobart, Australia

17:15 - 17:30 [O11.6] The fate of Zostera marina as part of beach

16:15 - 16:30 [O12.2] Environmental drivers influencing humpback whale migration in a changing climate

Jan-Olaf Meynecke, Jasper de Bie

Whales and Climate Program, Griffith University, Gold Coast, Australia

16:30 - 16:45 [O12.3] Distribution of humpback whales (megaptera novaeangliae) in response to climate drivers in the great barrier reef, Australia

Consuelo Fariello, Jasper de Bie, Jan-Olaf Meynecke

Griffith University - Gold Coast Campus, Southport, Australia

16:45 - 17:00 [O12.4] Humpback whales in a changing environment: evidence of supplementary feeding from Australia and beyond

Sarah McCulloch¹, Olaf Meynecke¹, Jasper De Bie¹, Madeleine Brasier²

¹Griffith University - Gold Coast Campus, Southport, Australia. ²University of Tasmania, Hobart, Australia

17:00 - 17:15 [O12.5] Presence and movement of mother and newborn calves sighted in Gold Coast Bay, Australia

Laura Torre-Williams¹, Aurora Kwan², Jan-Olaf Meynecke¹

¹Griffith University - Gold Coast Campus, Southport, Australia. ²Hong Kong Metropolitan

Co-chairs: Hamideh Nouri, Huade Guan, Genxu Wang

16:00 - 16:15 [O13.1] Integrated science and technology in the Colorado River Basin to support resource management decisions for long-term sustainability

Katharine Dahm¹, Jason Alexander², Eric Anderson³, Patrick Anderson⁴, William Andrews⁵, Jessica Driscoll¹, Jennifer Erxleben⁶, Rebecca Frus⁷, Jeanne Godaire¹, Joseph Hevesi⁸, Sally House⁹, Daniel Jones¹⁰, Adrian Monroe⁴, Sharon Qi¹¹, Kathryn Thomas¹², Alicia Torregrosa¹³

¹US Geological Survey, Lakewood, CO, USA. ²US Geological Survey Wyoming-Montana Water Science Center Montana Office Library, Cheyenne, MT, USA. ³USGS Geology Geophysics and Geochemistry Science Center, Denver, CO, USA. ⁴US Geological Survey Fort Collins Science Center, Fort Collins, CO, USA. ⁵US Geological Survey, Oklahoma City, CO, USA. ⁶US Geological Survey Office of the Associate Chief Information Officer, Bozeman, CO, USA. ⁷US Geological Survey Nevada Water Science Center, Boulder City, NV, USA. ⁸US Geological Survey California Water Science Center, Sacramento, CA, USA. ⁹US Geological Survey California Water Science Center, San Diego, CA, USA. ¹⁰US Geological

Moisés Aguilera
Universidad Adolfo Ibáñez, Santiago, Chile

16:15 - 16:30 [O14.2] Restoring coastal wetlands using a values based process - case study from Great Barrier Reef coastal wetlands
Nathan Waltham, Marcus Sheaves

James Cook University, Townsville, Australia

16:30 - 16:45 [O14.3] Eco-engineering marine built structures through complexity enhancement: it's not one-size-fits-all
Melanie Bishop¹, Mariana Mayer-Pinto², Maria Vozzo³, Gemma Clifton¹, Katherine Dafforn¹

¹Macquarie University, Sydney, Australia. ²University of New South Wales, Sydney, Australia. ³CSIRO, Brisbane, Australia

Session 15: Symposium - Developing Indigenous-specific Ecosystem Services framework for marketing

Meeting Room 7
Kamaljit K Sangha

17:00 - 17:15 [O15.1] A systematic literature review of non-market valuation of Indigenous peoples' values: current knowledge, best-practice and framing questions for future research
Ana Manero

16:15 - 16:30 [O16.2] Proactive environmental management of deep-sea mining: a systems approach
Jayden Hyman

Griffith University - Gold Coast Campus, Southport, Australia

16:30 - 16:45 [O16.3] Utilizing benthic foraminifera to monitor the effects of a PCV test in the Southeastern Clarion-Clipperton Zone, NORI-D

Bryan O'Malley^{1,2}, Patrick Schwing¹, Rebekka Larson¹, Gregg Brooks¹

¹Eckerd College, Saint Petersburg, FL, USA. ²Ecofera, Saint Petersburg, USA

16:45 - 17:00 [O16.4] Assessment and management of polymetallic nodule mining in CCZ ecosystems
Jeffrey Dambacher¹, Piers Dunstan²

¹Commonwealth Scientific and Industrial Research Organisation, Hobart, Australia. ²CSIRO Oceans and Atmosphere, Hobart, Australia

17:00 - 17:15 [O16.5] Adaptive Management as a tool for effective environmental management of deep-sea mining
Malcolm Clark¹, Jayden Hyman², Richard Johnson³

¹National Institute of Water and Atmospheric Research Wellington, Wellington, New Zealand. ²Griffith University - Gold Coast Campus, Southport,

University, Nanchang, China. ²Key Laboratory of Watershed Geographic Sciences, Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, Nanjing, China. ³Research Centre of Urban Sustainable Development, School of Geographical Sciences, Nanjing University of Information Science and Technology, Nanjing, China

16:15 - 16:30 [O17.2] Machine learning approaches to retrieval of daily soil moisture using satellite and meteorological data
Nari Kim, Yangwon Lee

Pukyong National University, Busan, Republic of Korea

16:30 - 16:45 [O17.3] Successes and challenges on the use of lichen as indicators of global change in cities

Pedro Pinho¹, Bernardo Rocha², Paula Matos³, Cristina Branquinho¹

¹CE3c - Center for Ecology, Evolution and Environmental Changes & CHANGE - Global Change and Sustainability Institute, Faculdade de Ciências, Universidade de Lisboa, Lisbon, Portugal. ²CE3c - Center for Ecology, Evolution and Environmental Changes & CHANGE - Global Change and Sustainability Institute, Faculdade de Ciências, Universidade de Lisboa, Lisbon, Portugal. ³CEG - Centro de Estudos Geográficos do Instituto de Geografia e Ordenamento do

Science and Technology, Hanoi, Vietnam. ²School of Environmental Science and Technology, Hanoi University of Science and Technology, Hanoi, Vietnam. ³University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, Hanoi, Vietnam

16:15 - 16:30 [O18.2] Evaluating the effect of oceanic environmental factors on narrow-barred Spanish mackerel (Scomberomorus commerson) in the Taiwan Strait using ensemble modeling: An approach towards sustainable development

Sandipan Mondal, Ming-An Lee

National Taiwan Ocean University College of Ocean Science and Resource, Keelung, Taiwan

16:30 - 16:45 [O18.3] Serotype distribution and antimicrobial resistance of Streptococcus parauberis isolated from farmed fish in South Korea

Yoonhang Lee, Do-Hyung Kim

Pukyong National University, Busan, Republic of Korea

16:45 - 17:00 [O18.4] Marine Pollution –past, present and future
Amanda Reichelt-Brushett

Southern Cross University, Lismore, Australia

Jane Warne¹, [Lachlan Nicholls](#)¹, James Chittleborough², Bill Mitchell², Grant Smith¹, Herve Damlamian³, Zulfikar Begg³, Nichalas Brown⁴, Anna Riddell⁴
¹Australian Bureau of Meteorology, Melbourne, Australia. ²Australian Bureau of Meteorology National Tidal Centre, Adelaide, Australia. ³Pacific Community, Suva, Fiji. ⁴Geoscience Australia, Canberra, Australia

17:00 - 17:15 [O10.5]
Folly beach resiliency study: Natural resource management, public education, & urban design implications from a snapshot in time
Kimberly Morganello¹, [Amy Scaroni](#)²
¹Clemson University, Charleston, USA. ²Clemson University, Georgetown, USA

17:15 - 17:30 [O10.6]
Coastal area zoning and coastal resource management plan for Bato, Camarines Sur, Philippines
[Agnes Faustino](#)¹, Raul Burce², Caryl Dioneda¹, Ronnel Sr. Dioneda³, Nasser Posada¹
¹Central Bicol State University of Agriculture, Pili, The Philippines. ²Partido State University, Goa, The Philippines. ³Bicol University, Legazpi City, The Philippines

17:30 - 17:45 [O10.7]
Nitrogen isotopic signatures and fluxes of N2O in response to land-use change on coastal saline-alkaline soil in the

wrack at the micro-tidal Baltic Sea coast in Poel, Germany
[Philipp-Konrad Schätzle](#)¹, Hendrik Schubert¹, Katharina Keszy², Mia Bengtsson², Katarzyna Kozirowska-Makuch³, Karol Kuliński³
¹University of Rostock Institute of Biological Sciences, Rostock, Germany. ²University of Greifswald, Greifswald, Germany. ³Institute of Oceanology Polish Academy of Sciences, Sopot, Poland

17:30 - 17:45 [O11.7]
An efficient and low-cost survey method for making wide area seafloor map using portable Speedy Sea Scanner (P-SSS): a field test at Mayo and Pujada bays, Philippines
Shulei Wang¹, [Katsunori Mizuno](#)¹, Kei Terayama², Shigeru Tabeta¹, Shingo Sakamoto³, Yusuke Sugimoto³, Kenichi Sugimoto³, Hironobu Fukami⁴, Lea Jimenez⁵
¹The University of Tokyo, Bunkyo-Ku, Japan. ²Yokohama City University, Yokohama, Japan. ³Windy Network Corp., Shimoda, Japan. ⁴University of Miyazaki Faculty of Agriculture Graduate School of Agriculture, Miyazaki, Japan. ⁵Davao Oriental State University,, Mati, The Philippines

17:45 - 18:00 [O11.8]
Blue carbon storage in tropical seagrass beds: effects of plant community structure
[Devi Choessin](#), Aldina Muliawati, Amelia Kumala, Dian Rosleine

University, Hong Kong, Hong Kong

17:15 - 17:30 [O12.6]
Trace metals and organic pollutants in various cetaceans stranded and deceased on Australia's east coast, with a focus on rare Ziphiidae species
[Natalie Palmer](#)¹, Amanda Reichelt-Brushett¹, Jane Hall², Karrie Rose², Duane March³
¹Southern Cross University, Lismore, Australia. ²The Australian Registry of Wildlife Health, Sydney, Australia. ³Wildlife Solutions, Coff's Harbour, Australia

17:30 - 17:45 [O12.7]
Smart natural technology & maintenance of sustainable aquatic environment: A study during lockdown
[Sucharita Bhattacharyya](#)¹, Anwesh Bhowmick²
¹Guru Nanak Institute of Technology, Kolkata, India. ²Birla Institute of Technology, Ranchi, India

17:45 - 18:00 [O12.8]
First assessment of humpback whale swimming speeds in two east Australian bays to identify resting areas
[Hilla Kela](#)^{1,2}, Jasper De Bie¹, Karlien Paas¹, Stephanie Stack³, Wally Franklin^{4,5}, Trish Franklin^{4,5}, Jan-Olaf Meynecke^{1,2}
¹Griffith University - Gold Coast Campus, Southport, Australia. ²Humpbacks and High-Rises Inc., Gold Coast, Australia. ³Pacific Whale Foundation, Hervey Bay, Australia. ⁴Southern

Survey Utah Water Science Center, Salt Lake City, UT, USA. ¹¹US Geological Survey Colorado Water Science Center, Portland, CO, USA. ¹²US Geological Survey Southwest Biological Science Center, Tucson, AZ, USA. ¹³US Geological Survey, Sacramento, CO, USA

16:15 - 16:30 [O13.2]
Multiscale evapotranspiration mapping for water budget estimation, trend analysis, and drought monitoring in diverse ecosystems
[Gabriel Senay](#)
U.S. Geological Survey Earth Resources Observation Science Center/North Central Climate Adaptation Science Center, Fort Collins, USA

16:30 - 16:45 [O13.3]
Impacts of vegetation restoration on evapotranspiration, water yield and carbon sequestration in Northern China
[Dawen Yang](#), Taihua Wang
Department of Hydraulic Engineering, Tsinghua University, Beijing, China

16:45 - 17:00 [O13.4]
Estimation of land surface evaporation by blending the evaporation precipitation ratio with the generalized complementary principle
[Lu Zhang](#)^{1,2}, Wilfried Brutsaert³
¹Wuhan University School of Water Resources and Hydropower Engineering, Wuhan, China. ²CSIRO

Australian National University Crawford School of Public Policy, Canberra, Australia

17:15 - 17:30 [O15.2]
Reflecting first nations perspectives of value within an ecosystem accounting framework for the great barrier reef
Diane Jarvis¹, [Victoria Graham](#)², Anthea Coggan³, Jeremy De Valck^{4,5}, Petina Pert⁶, Maxine Newlands⁷, Mara Emmerling⁸
¹James Cook University College of Business, Law and Governance, Ngumbada campus, Cairns, Australia. ²James Cook University Cairns Institute, Cairns, Australia. ³Commonwealth Scientific and Industrial Research Organisation (CSIRO), Environment, Brisbane, Australia. ⁴CQUniversity, Centre for Regional Economies and Supply Chains, Rockhampton, Australia. ⁵CQUniversity, Coastal Marine Ecosystems Research Centre, Gladstone, Australia. ⁶Commonwealth Scientific and Industrial Research Organisation (CSIRO), Environment, Townsville, Australia. ⁷James Cook University Political Science, School of Humanities & Social Science, Townsville, Australia. ⁸James Cook University, College of Business, Law and Governance, Bebegu Yumba campus, Townsville, Australia

17:30 - 17:45 [O15.3]
The Manoin spirit: braiding knowledge systems from the roots

Australia. ³Consultant, Wellington, Nicaragua

17:15 - 17:30 [O16.6]
Framework for operationalising definitions of serious harm for management of deep-sea mining
[Daniel Leduc](#)¹, Ashley Rowden^{1,2}, Malcolm Clark¹, Thomas Schlacher³, Tim O'Hara⁴, Jayden Hyman⁵, Beth Fulton⁶, Rod Connolly⁵, Geoff Hosack⁶, Piers Dunstan⁹, Jeffrey Dambacher⁶
¹National Institute of Water and Atmospheric Research, Wellington, New Zealand. ²Victoria University of Wellington, Wellington, New Zealand. ³University of the Sunshine Coast, Sippy Downs, Australia. ⁴Museums Victoria, Melbourne, Australia. ⁵Griffith University, Southport, Australia. ⁶CSIRO, Hobart, Australia

17:30 - 17:45 [O16.7]
A model-based decision support system for environmental impact assessments of sediment plume dynamics resulting from deep-sea mining operations
[Andy Banks](#), Jan Van Smirren, Tom Foster, Ole Peterson
DHI Water Environment, Hoersholm, Denmark

Território da Universidade de Lisboa, Lisbon, Portugal

16:45 - 17:00 [O17.4]
Validating the space-for-time approach using ecological indicators for climate change impacts
[Bernardo Rocha](#)¹, Pedro Pinho¹, Paolo Giordani², Cristina Branquinho¹, Paula Matos³, Helena Serrano¹
¹CE3c - Center for Ecology, Evolution and Environmental Changes & CHANGE - Global Change and Sustainability Institute, Faculdade de Ciências, Universidade de Lisboa, FCUL, Campo Grande, Lisbon, Portugal. ²DIFAR, University of Genova, Italy, Genoa, Italy. ³CEG - Centro de Estudos Geográficos do Instituto de Geografia e Ordenamento do Território da Universidade de Lisboa, Lisbon, Portugal

17:00 - 17:15 [O17.5]
Microscale matters to model ecological indicators response to climate change in Antarctica
[Paula Matos](#)¹, Bernardo Rocha², Pedro Pinho², Vasco Miranda³, Pedro Pina⁴, Gabriel Goyanes¹, Gonçalo Vieira¹
¹Centro de Estudos Geográficos, Instituto de Geografia e Ordenamento do Território, Lisboa, Portugal. ²CE3c - Centre for Ecology, Evolution and Environmental Changes & CHANGE - Global Change and Sustainability Institute, FCUL, Lisboa, Portugal. ³CERENA-Centro de

17:00 - 17:15 [O18.5]
Seasonal phytoplankton blooms dynamics revealed by remote sensing and ecosystem modeling data: temperate sea and polar ocean cases
[Hongjun Song](#)
First Institute of Oceanography, MNR, Qingdao, China

17:15 - 17:30 [O18.6]
Microplastics and the ocean ecosystems: a disturbance ecology perspective
[Srinidhi Sridharan](#)^{1,2}, Lal Singh^{1,2}
¹CSIR-National Environmental Engineering Research Institute, Nagpur, India. ²Academy of Scientific and Innovative Research (AcSIR), Ghaziabad, India

	<p>Chinese Bohai Sea Coastal Area Arbindra Timilsina¹, Wenxu Dong¹, Jiafa Luo², Stuart Lindsey³, Yuying Wang¹, <u>Chunsheng Hu</u>¹ ¹Hebei Key Laboratory of Soil Ecology, Center for Agricultural Resources Research, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Shijiazhuang, China. ²Land and Environment, AgResearch, Hamilton, New Zealand. ³AgResearch Ltd Science Group Land and Environment, Hamilton, New Zealand</p>	<p><i>Bandung Institute of Technology, School of Life Sciences and Technology, Bandung, Indonesia</i></p>	<p><i>Cross University, Lismore, Australia. ⁵The Oceania Project, Hervey Bay, Australia</i></p>	<p><i>Environment, Canberra, Australia. ³Cornell University School of Civil and Environmental Engineering, Ithaca, NY, USA</i></p> <p>17:00 - 17:15 [O13.5] Interactions between radiation, surface temperature and evaporation over saturated surfaces <u>Yuting Yang</u> <i>Tsinghua University Department of Hydraulic Engineering, Beijing, China</i></p> <p>17:15 - 17:30 [O13.6] Broad scale assessment of tree stress in the Murray-Darling Basin to inform environmental flow management <u>Tanya Doody</u>¹, Sicong Gao², Pamela Nagler³ ¹Commonwealth Scientific and Industrial Research Organisation, Adelaide, Australia. ²Commonwealth Scientific and Industrial Research Organisation, Adelaide, Australia. ³US Geological Survey, Tucson, VA, USA</p> <p>17:30 - 17:45 [O13.7] Advancing broadscale spatial evapotranspiration modelling by incorporating sun-induced chlorophyll fluorescence measurements <u>Sicong Gao</u>^{1,2}, Tanya Doody¹ ¹Commonwealth Scientific and Industrial Research Organisation, Adelaide, Australia. ²University of Canberra, Canberra, Australia</p>	<p><u>Samantha Mehlretter</u>¹, Andrea Bradford¹, Sheri Longboat², Brittany Luby³ ¹University of Guelph School of Engineering, Guelph, ON, Canada. ²University of Guelph School of Environmental Design and Rural Development, Guelph, ON, Canada. ³University of Guelph Department of History, Guelph, ON, Canada</p> <p>17:45 - 18:00 [O15.4] Understanding the importance of Indigenous capabilities in managing country and supporting peoples' well-being <u>Kamaljit K Sangha</u> Charles Darwin University, Darwin, Australia</p>		<p><i>Recursos Naturais e Ambiente, Instituto Superior Técnico, Lisboa, Portugal. ⁴Departamento de Ciências da Terra, IA-Instituto de Astrofísica e Ciências do Espaço, Universidade de Coimbra, Coimbra, Portugal</i></p> <p>17:15 - 17:30 [O17.6] A global synthesis of multi-factors affecting water storage capacity in forest canopy, litter and soil layers <u>Wenjiao Shi</u> Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China</p> <p>17:30 - 17:45 [O17.7] Water footprint assessment of water sensitive urban design plans to meet the challenges of climate change <u>Rashid Farooq</u> Swinburne University of Technology, Hawthorn, Australia. International Islamic University, Islamabad, Pakistan</p>	
19:00 - 21:00	Cocktail Function – Hosted by Griffith University Location: SkyPoint, Surfers Paradise							

08:30 - 09:30	<p>Plenary Speakers 3 and 4: Jigmi Y. Thinley and Jacqueline McGlade Arena 1B Robert Costanza</p> <p>08:30 - 09:00 [PLN3] Limits of adaptation: The imperative of changing change <u>Jigmi Thinley</u> <i>Prime Minister of Bhutan (2008-2013), Thimphu, Bhutan</i></p> <p>09:00 - 09:30 [PLN4] Natural prosperity, well-being and the universal value of nature <u>Jacqueline McGlade</u> <i>Institute for Global ProsperityGP University College London, London, UK. Strathmore University, Nairobi, Kenya. Downforce Technologies, Oxford, UK</i></p>
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09:30 - 10:00	<p>Refreshment Break Hall 1</p>
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10:00 - 11:30	<p>10:00 - 11:30 Session 19: Ecosystem services I Arena 1B Brendan Mackey</p> <p>10:00 - 10:15 [O19.1] Carbon dynamics response to multiple urban vegetation cover in Dhaka city, Bangladesh: a study based on intensive field investigation <u>Md Shahariar Jaman</u>^{1,2}, Zhang Xiang³, Ferzana Islam¹ ¹<i>Sher-e-Bangla Agricultural University, Dhaka, Bangladesh.</i> ²<i>Institute of Agricultural Resources and Regional Planning, GSCAAS, Beijing, China.</i> ³<i>Inner Mongolia Normal University, Hohot, China</i></p> <p>10:15 - 10:30 [O19.2] Exploring connections between mining, ecosystem services, and Indigenous well-being in Australia</p>	<p>10:00 - 11:15 Session 20: Aboriginal rights and land use Arena 1A Paul Burton</p> <p>10:00 - 10:15 [O20.1] Social value mapping native Hawaiian Kuleana to place <u>Alohi Nakachi</u>¹, Kirsten Leong², Kirsten Oleson¹ ¹<i>University of Hawai'i at Mānoa, Honolulu, HI, USA.</i> ²<i>Pacific Islands Fisheries Science Center National Marine Fisheries Service-NOAA, Honolulu, USA</i></p> <p>10:15 - 10:30 [O20.2] First Nations led fire management and innovative solutions Darren Burns¹, Dan Crouch¹, Dave Kington¹, <u>Diana Virkki</u>², Joel Bolzenius² ¹<i>Quandamooka Yoolooburrabee Aboriginal Corporation, North Stradbroke Island, Australia.</i> ²<i>Healthy Land</i></p>	<p>10:00 - 11:30 Session 21: Ecological economics Meeting Room 5 Xuehua Liu</p> <p>10:00 - 10:15 [O21.1] A sufficiency approach between producers and consumers: A configurational analysis <u>Mauricio Hernández</u> <i>Universidad de Los Lagos, Osorno, Chile</i></p> <p>10:15 - 10:30 [O21.2] Coastal ecosystem accounting for Hawai'i <u>Kirsten Oleson</u>¹, Louis Chua¹, Elanur Ural¹, Alemarie Ceria¹, Carlo Fezzi² ¹<i>University of Hawai'i at Mānoa, Honolulu, HI, USA.</i> ²<i>University of Trento, Trento, Italy</i></p> <p>10:30 - 10:45 [O21.3] Tourism industry through the lens of diversification and economic development: Evidence from Gold Coast</p>	<p>10:00 - 11:15 Session 22: Symposium - A model for sustainable coastal landscapes: policies, programs, and strategies from the University of Florida, Florida-Friendly Landscaping™ I Meeting Room 6 Gail Marie Hansen De Chapman</p> <p>10:00 - 10:15 [O22.1] UF/IFAS Florida-Friendly Landscaping™ program's nine principles that promote water and environmental conservation Lynn Barber¹, CJ Bain¹, Esen Momol¹, Emily Brown², Mike Scheinkman², John Bossart¹, Gail Hansen¹, <u>Eva Pabon</u>¹ ¹<i>University of Florida, Gainesville, USA.</i> ²<i>FL Dept. of Environmental Protection, Tallahassee, USA</i></p> <p>10:15 - 10:30 [O22.2]</p>	<p>10:00 - 11:30 Session 23: Ecosystem creation and restoration Meeting Room 7 Nathan Waltham</p> <p>10:00 - 10:15 [O23.1] Anthropogenic disturbances caused declines in the wetland area and carbon pool in China during the last four decades <u>Mingzhi Lu</u>^{1,2}, Xianguo Lu^{3,4}, Yuanchun Zou^{5,6}, Qilei Xun^{7,8}, Deli Wang^{9,10}, Lianxi Sheng¹¹ ¹<i>Key Laboratory of Vegetation Ecology, Ministry of Education, Changchun, China.</i> ²<i>School of Life Sciences, Northeast Normal University, Changchun, China.</i> ³<i>Key Laboratory of Wetland Ecology and Environment & Jilin Provincial Joint Key Laboratory of Changbai Mountain Wetland and Ecology, Changchun, China.</i> ⁴<i>Northeast Institute of Geography</i></p>	<p>10:00 - 11:30 Session 24: Symposium - Network models inform interdisciplinary research in sustainability and resilience Meeting Room 8 Brian Fath</p> <p>10:00 - 10:15 [O24.1] A definitive measure of 'social license to operate' <u>Scott Condie</u>^{1,2}, Corrine Condie^{3,2} ¹<i>CSIRO Environment, Hobart, Australia.</i> ²<i>University of Tasmania Centre for Marine Socioecology, Hobart, Australia.</i> ³<i>University of Tasmania Institute for Marine and Antarctic Studies, Hobart, Australia</i></p> <p>10:15 - 10:30 [O24.2] The persistence and resilience of inherently variable estuarine</p>	<p>10:00 - 11:30 Session 25: Working Group - Ecosystem-based management of deep-sea mining (only invited participants) Meeting Room 9 Jayden Hyman</p>	<p>10:00 - 10:45 Session 26: Marine and aquatic ecosystems health and monitoring Meeting Room 4 Jasper de Bie</p> <p>10:00 - 10:15 [O26.1] Colony formation of <i>Phaeocystis globosa</i>: competitive strategies for environmental adaptation in algal bloom <u>Kebi Wu</u>^{1,2}, Si Tang², Xiaotian Wu², Jianming Zhu³, Junting Song², Yanlin Zhong², Jin Zhou², Zhonghua Cai² ¹<i>School of Life Sciences, Tsinghua University, Beijing, China.</i> ²<i>Shenzhen Public Platform for Screening and Application of Marine Microbial Resources, Shenzhen International Graduate School, Shenzhen, China.</i> ³<i>School of Environment, Harbin Institute of Technology, Harbin, China</i></p> <p>10:15 - 10:30 [O26.2] Great barrier reef catchment loads monitoring program Dane Hawes¹, Catherine Neelamraju², <u>David Orr</u>², Reinier Mann², Ben Ferguson²,</p>
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through a systematic literature review
Samy Leyton-Flor¹, Kamaljit Sangha¹, Ruth Wallace¹, Kirsty Howey²
¹Charles Darwin University, Darwin, Australia.
²Environment Centre NT, Darwin, Australia

10:30 - 10:45 [O19.3]
Water purification – an essential forest ecosystem service for stream water quality in Pong River Basin, Northeast Thailand
Hathaichanaok Jaikawna¹, Adcharaporn Pagdee^{1,2}
¹Department of Environmental Science, Khon Kean University, Khon Kean, Thailand.
²The Integrated Land and Water Resource Management Research and Development Center in Northeast Thailand, Khon Kaen University, Khon Kean, Thailand

10:45 - 11:00 [O19.4]
Dimensions of natural capital for participatory decision making in river management
Caitlin Hinson¹, Jimmy O'Keefe², Ana Mijic¹, Alexandra Collins¹
¹Imperial College London, London, UK.
²Dublin City University, Dublin, Ireland

11:00 - 11:15 [O19.5]
Real-time monitoring can improve management of urban nature-based solutions
Brandon Winfrey¹, Leigh Oliver², Jayden

and Water, Brisbane, Australia

10:30 - 10:45 [O20.3]
Enterprising community identity and solutions to environmental and social issues in remote regions: the role of community-based enterprises
Anya Phelan¹, Hurriyet Babacan²
¹Griffith University, Nathan, Australia.
²James Cook University - Cairns Campus, Cairns, Australia

10:45 - 11:00 [O20.4]
Visualising the invisible: collaborative approaches to local-level resilient development in the Pacific Islands region
Rebecca McNaught¹, Kalara McGregor², Matthew Kensen³, Rob Hales¹, Johanna Nalau¹
¹Griffith University - Gold Coast Campus, Southport, Australia.
²Griffith University, Nathan, Australia.
³The University of the South Pacific, Suva, Fiji

11:00 - 11:15 [O20.5]
Adapting to climate change in rural Fiji: Themes, challenges, and recommendations
Amy Lykins¹, Suzanne Cosh¹, Roselyn Kumar², Cassandra Sundaraja¹, Patrick Nunn²
¹University of New England, Armidale, Australia.
²University of the Sunshine Coast, Sippy Downs, Australia

Safdar Khan^{1,2}, Alexandra Bec¹
¹Gold Coast City Council, Gold Coast, Australia.
²Bond University School of Business, Gold Coast, Australia

10:45 - 11:00 [O21.4]
The economics of climate change, a damage function dilemma
Mlondi Ndovela, Mark Swilling
Stellenbosch University, Stellenbosch, South Africa

11:00 - 11:15 [O21.5]
Assessing 'value for money' for environmental project funding: An application to riverine recovery funding in Queensland Australia
Steve Charlton-Henderson¹, Amar Doshi², Jim Binney¹, Paul Maxwell², Misko Ivezich³, Konrad Uebel², Kim Piercy⁴
¹Natural Capital Economics, Brisbane, Australia.
²EcoFutures, Brisbane, Australia.
³Alluvium Consulting Australia Pty Ltd, Brisbane, Australia.
⁴Queensland Department of Environment and Science, Brisbane, Australia

11:15 - 11:30 [O21.6]
Building a green Olympics legacy through technically-robust and economically-viable mechanisms for nature positive investment in South East Queensland
Andrew O'Neill¹, Paul Chatterton²

Implementing wildlife conservation in Florida golf course out-of-play areas
Bonnie C. Wells
University of Florida, Cocoa, FL, USA

10:30 - 10:45 [O22.3]
Understanding environmental behavior change: The role of values, beliefs, and norms in anticipating water-savings behaviors
Taylor Clem, Gail Hansen
University of Florida, Gainesville, FL, USA

10:45 - 11:00 [O22.4]
A public outreach program to improve water conservation and quality in florida's urban landscapes
Gail Hansen, John Bossart
University of Florida, Gainesville, FL, USA

11:00 - 11:15 [O22.5]
Florida-friendly landscaping™ and gardening as components of the Florida healthy lifestyle
Terra Freeman¹, Jamie Daugherty², Wendy Lynch¹, Tim Momol³
¹University of Florida, St. Augustine, USA.
²University of Florida, Lake City, USA.
³University of Florida, Gainesville, USA

and Agroecology, CAS, Changchun, China. ⁵Key Laboratory of Wetland Ecology and Environment & Jilin Provincial Joint Key Laboratory of Changbai Mountain Wetland and Ecology, Changchun, China. ⁶Northeast Institute of Geography and Agroecology, CAS, Changchun, China. ⁷Key Laboratory of Vegetation Ecology, Ministry of Education, Chagchun, China. ⁸Northeast Normal University, Changchun, China. ⁹School of Environment, Northeast Normal University, Changchun, China. ¹⁰Institute of Grassland Sciences, Northeast Normal University, Changchun, China. ¹¹School of Environment & State Environment Protection Key Laboratory of Wetland Ecology and Vegetation Restoration, Northeast Normal University, Changchun, China

10:15 - 10:30 [O23.2]
When good animals love bad restored habitats: how maladaptive habitatselection can constrain restoration of coastal marine habitats
Stephen Swearer^{1,2}, Valeriya Komyakova³, Luke Barrett², Robin Hale⁴
¹National Centre for Coasts and Climate, Melbourne, Australia.
²The University of Melbourne School of BioSciences, Melbourne, Australia.
³University of Tasmania Institute for Marine and Antarctic Studies, Hobart,

ecosystems: ecological network measures
Ursula Scharler, Gemma Gerber, Abigail Rohde, Amy Shurety, Ben Brooker
University of KwaZulu-Natal, Durban, South Africa

10:30 - 10:45 [O24.3]
Comparative analysis of machine learning-based methods for decision-making under resource constraint scenarios
Mihir Rambhia^{1,2}, Behzad Rismanchi¹, Stephan Winter¹, Rebekka Volk², Frank Schultmann²
¹The University of Melbourne, Parkville, Australia.
²Karlsruhe Institute of Technology, Karlsruhe, Germany

10:45 - 11:00 [O24.4]
Spatial analysis, geospatial data and land-change models for modelling agricultural land changes
Cláudia M. Viana
University of Lisbon Institute of Geography and Spatial Planning, Lisboa, Portugal

11:00 - 11:15 [O24.5]
A novel vegetation index was proposed to estimate forest stock volume based on sentinel-2 data and random forest algorithm in helan mountains
Yang Hu
Ningxia University, Yinchuan, China

11:15 - 11:30 [O24.6]
3DP technology and applications for response to

Cameron Roberts², Francisco Souza Dias², Kylee Welk², Rae Huggins², Shaun Fisher², Stephen Wallace², Hayley Kaminsky², Eleanor Smith², Alexander Bezzina², Ben Houseman², Jordan Glen², Megan Skelton², David Keenan², Owen Carey-Foster²
¹Queensland Department of Environment & Science, Brisbane, Australia.
²Queensland Department of Environment and Science, Brisbane, Australia

10:30 - 10:45 [O26.3]
Groundwater research and monitoring at Springbrook, in the Gold Coast Hinterland
Lucy Reading¹, Grant Periott²
¹Queensland University of Technology, Brisbane, Australia.
²City of Gold Coast, Gold Coast, Australia

Eddy¹, Arianna Dada³,
Giovanna Grossi³
¹Monash University
Department of Civil
Engineering, Clayton,
Australia. ²Monash
University Department
of Electrical and
Computer Systems
Engineering, Clayton,
Australia. ³University
of Brescia Department
of Civil Engineering
Architecture Territory
Environment and
Mathematics, Brescia,
Italy

11:15 - 11:30 [O19.6]
**Brazilian public
policies aimed at
biomass production as
an instrument for
mitigating climate
change**

José Carlos Jesus
Lopes, Gilson Gomes
Infran, Paula da Silva
Santos, Arthur Caldeira
Sanches
Federal University of
Mato Grosso do Sul,
Campo Grande, Brazil

¹Healthy Land and
Water, Qld, Australia.
²Landscape Finance
Laboratory, Vienna,
Austria

Australia. ⁴Arthur Rylah
Institute for
Environmental
Research, Heidelberg,
Australia

10:30 - 10:45 [O23.3]
**Guiding coastal
restoration to deal with
the trade-off between
carbon sequestration
and greenhouse gas
emissions**

Marion Maréchal^{1,2,3},
Julien Dalle⁴, Mathis
Cognat⁴, Isabelle
Bertrand⁵, Remi Dugue⁶,
Clara Schubert⁷, Lorenzo
Rossi⁸, Margot Ahr⁸,
Olivier Boutron⁹, Emilie
Lunalaurent⁹, Hugo
Fontes⁹, Francesca
Coccon¹⁰, Caterina
Dabalà¹⁰, Fabienne
Horneman¹¹, Silvia
Torresan¹¹, Silvia Rova¹²,
Alice Stocco¹², Alberto
Barausse¹³, Paolo
Comandini¹⁴, Alessandro
Florio^{1,2,3}, Xavier Le
Roux^{1,2,3}

¹Microbial Ecology,
Villeurbanne, France.

²National Research
Institute for Agriculture
Food and Environment
Lyon-Grenoble
Auvergne-Rhône-Alpes
Center, Villeurbanne,
France. ³CNRS INSERM
Univ Lyon 1, Lyon,
France. ⁴Seaboost,
Montpellier, France.

⁵National Research
Institute for Agriculture
Food and Environment
Occitanie-Montpellier
Center, Montpellier,
France. ⁶Institute of
Development Research
Occitanie Regional
Delegation, Montpellier,
France. ⁷Egis,
Montpellier, France.

⁸Soil.is, Nanterre,
France. ⁹Tour du Valat
Research Institute,
Arles, France.

**sustainability and
climate change needs**
Muammer Koc¹, Shoukat
Alim Khan²
¹Hamad Bin Khalifa
Univeristy, Doha, Qatar.
²Hamad Bin Khalifa
University, doha, Qatar

¹⁰*Consorzio per il coordinamento delle ricerche inerenti al sistema lagunare di Venezia, Venice, Italy.*

¹¹*Euro-Mediterranean Center for Climate Change, Lecce, Italy.*

¹²*Università Ca' Foscari, Venice, Italy.*

¹³*Università degli studi di Padova, Padua, Italy.*

¹⁴*Università di Bologna, Bologna, Italy*

**10:45 - 11:00 [O23.4]
The potential impact of human interventions at different scales to promote shellfish reef development in offshore wind farms**

Remment ter Hofstede^{1,2}, Gregory Williams², Mark van Koningsveld^{1,2}

¹*Delft University of Technology, Delft, The Netherlands.* ²*Van Oord Dredging and Marine Contractors, Rotterdam, The Netherlands*

**11:00 - 11:15 [O23.5]
The recycling of poultry waste for land application: Chicken litter-based biochar as soil enrichment**

Ambar Pertiwinigrum¹, Margaretha Arnita Wuri², Berlian Apriyanti Regitasari²

¹*Universitas Gadjah Mada, Yogyakarta, Indonesia.* ²*Gadjah Mada University, Yogyakarta, Indonesia*

**11:15 - 11:30 [O23.6]
Heterogeneous farmer preferences for newer rice varieties in salinity prone areas of coastal Bangladesh: Evidence from a discrete choice experiment**

Jaba Sarker^{1,2}, John Rolfe³, Jayanath Ananda¹
¹Central Queensland University, Melbourne, Australia.
²Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur, Bangladesh.
³Central Queensland University, Rockhampton, Australia

11:30 - 12:30 Plenary Panel 2: Transformation to a Sustainable and Desirable Future
 Arena 1B
 Robert Costanza

Panelists:
 Jacqueline McGlade, University College London, UK
 Jigmi Y. Thinley, Former Prime Minister of Bhutan (2008-2013) / World Leadership Alliance - Club de Madrid / Asian Peace and Reconciliation Council
 Robert Costanza, Institute for Global Prosperity, University College London, UK
 Kate Jones, Executive Director for the Tech Council of Australia / Independent Director on the Paralympics Australia Board / Strategic Advisor at Soda

12:30 - 13:15 Lunch
 Hall 1

12:45 - 13:15 Elsevier Article Transfer Service
 Arena 1A
 Neha Garg

Submitting your paper for publication is a critical point in the research cycle, and finding the right journal for your work can be challenging. It may be that your first choice of journal turns out not to be the right one, requiring you to look elsewhere to publish. At Elsevier, the expert editorial teams (consists of Scientific Managing Editors) can help in finding best destination for your paper. We work to provide authors "shortest path to publication" by ensuring transfer process as seamless and efficient. If you want to know more details about the Elsevier article transfer service, how it actually works, what are the benefits, analytics of process and about the Scientific Managing Editors, we welcome you to join the session.

13:15 - 14:30 Poster Session 1 (continued)
 Hall 1

<p>14:30 - 16:00</p>	<p>Session 27: Ecosystem services II Arena 1B Haojie Chen</p> <p>14:30 - 14:45 [O27.1] Negative air ion is driven more directly by the vegetation photosynthesis than by forest climate, while forest climate</p>	<p>Session 28: Sustainability and resilience I Arena 1A Ida Kubiszewski</p> <p>14:30 - 14:45 [O28.1] WEF Nexus: Digitalisation of resource flows towards justice, socio-ecological transformation and policy integration</p>	<p>Session 29: Symposium - Ecosystem services: From science to policy I Meeting Room 5 Shang Chen</p> <p>14:30 - 14:45 [O29.1] Marine gross ecosystem product accounting: methods and cases</p>	<p>14:30 - 15:30 Session 30: Symposium - A model for sustainable coastal landscapes: policies, programs, and strategies from the University of Florida, Florida-Friendly</p>	<p>Session 31: Socio-economics Meeting Room 7 Andrew O'Neill</p> <p>14:30 - 14:45 [O31.1] Temp analysis of light pollution levels for cities of the world Namrata Chatterjee, Paul Sutton <i>University of Denver, Denver, CO, USA</i></p>	<p>14:30 - 15:45 Session 32: Innovative technology for ecological sustainability Meeting Room 8 Brian Fath</p> <p>14:30 - 14:45 [O32.1] Sustainable and recyclable Lignik</p>	<p>Session 33: Symposium - Nature-based coastal defence: developing the knowledge needed for wider implementation I Meeting Room 9 Rebecca Morris</p> <p>14:30 - 14:45 [O33.1]</p>	<p>Session 34: Working Group - Gaming the system: the role of games in facilitating ecological education Meeting Room 4 Keri Hopeward</p> <p>Co-organizer - James Hopeward, University of South Australia - Mawson Lakes Campus, Australia</p>
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mainly affects NAI through indirect effects on vegetation photosynthesis in forest ecosystems
GuangYao Shi
Ningxia University, NingXia, China

14:45 - 15:00 [O27.2]
The framework of the principles of sustainable urban ecosystems development and functioning
Zaneta Stasiskiene, Gabriele Cepeliauskaite
Kaunas University of Technology, Kaunas, Lithuania

15:00 - 15:15 [O27.3]
LUTO 2.0 - A new model for assessing sustainable futures for Australia's food and land system
Brett Bryan
Deakin University - Melbourne Burwood Campus, Burwood, Australia

15:15 - 15:30 [O27.4]
Tackling adaptive waste management challenges between inland and coastal community: An importance and performance analysis of community participation factors
I Wayan Koko Suryawan^{1,2}, Chun-Hun Lee²

¹Universitas Pertamina, Jakarta, Indonesia. ²National Dong Hwa University, Shoufeng, Taiwan

15:30 - 15:45 [O27.5]
Developing a framework for

Garth Malan
Stellenbosch University, Stellenbosch, South Africa

14:45 - 15:00 [O28.2]
An alternate response to post-disaster housing well-being using capability approach
Anshul Puriya, Arindam Biswas
Indian Institute of Technology Roorkee Department of Architecture and Planning, Roorkee, India

15:00 - 15:15 [O28.3]
Green finance: bringing sustainability and resilience home
Sandhir Sharma, Shivani Uder
Chitkara University, Punjab, Rajpura, India

15:15 - 15:30 [O28.4]
Sustainable economic and ecological grazing systems - Learning from innovative practitioners
Lisa Norton¹, Claire Waterton², Laurence Smith³, Alistair McVittie⁴
¹UK Centre for Ecology and Hydrology, Lancaster, UK.
²Lancaster University Social Science, Lancaster, UK.
³University of Reading, Applied Economics and Marketing, Reading, UK.
⁴Scottish Rural College - Elmwood Campus, Cupar, UK

15:30 - 15:45 [O28.5]
Using bioinoculants to improve nature-based solutions for stormwater management
Kanglin Tian, Anna Lintern, Yussi Palacios, Brandon Winfrey

Shang Chen, Shuai He, Wenwen Li, Linhua Hao, Tao Xia
First Institute of Oceanography, Ministry of Natural Resources of China, Qingdao, China

14:45 - 15:00 [O29.2]
Tripartite evolutionary game and simulation analysis of fishermen participating in cooperative management under government supervision
Meng Su, Jintian Gao
Ocean university of China, Qingdao, China

15:00 - 15:15 [O29.3]
Estimating the non-market value of island biodiversity in China: controlling for warm glow bias in CVM
Jingzhu Shan, Jingmei Li
Ocean University of China, Qingdao, China

15:15 - 15:30 [O29.4]
Research on the technical system of standard measurement of forest ecological benefit compensation
Wu Lianbei, Zhang Weimin
Beijing Forestry University, Beijing, China

15:30 - 15:45 [O29.5]
The ecological restoration through shrub plantation in arid grassland ecosystems: benefit and lose
Rentao Liu, Zhendong Yang
Ningxia University, Yinchuan, China

15:45 - 16:00 [O29.6]
An Indigenous-specific framework linking

Landscaping™ II (continued)
Meeting Room 6
Gail Marie Hansen De Chapman

14:30 - 14:45 [O30.1]
Irrigation technologies increase landscapes resilience
Michael Dukes
University of Florida, Gainesville, USA

14:45 - 15:00 [O30.2]
Assessing the impacts of water quantity and quality resulting from Florida-Friendly Landscaping™ Extension outreach in Central Florida
Yilin Zhuang¹, Tina McIntyre², Tiare Silvasy³, William Lester⁴, Jamielyn Daugherty⁵, Amanda Marek⁶, Terra Freeman⁷, Eva Pabon⁸, Alexander Reisinger⁹, Timur Momol⁹
¹University of Florida, Apopka, USA. ²University of Florida, Sanford, USA.
³University of Florida, Orlando, USA. ⁴University of Florida, Brooksville, USA.
⁵University of Florida, Tavares, USA. ⁶University of Florida, Ocala, USA.
⁷University of Florida, St. Augustine, USA. ⁸University of Florida, Kissimmee, USA.
⁹University of Florida, Gainesville, USA

15:00 - 15:15 [O30.3]
Florida-friendly ponds, maintaining ecosystem services in pond management
Michelle Atkinson
University of Florida, Gainesville, USA

15:15 - 15:30 [O30.4]
UF/IFAS Florida-Friendly Landscaping™ Program's

14:45 - 15:00 [O31.2]
Spatial vulnerability assessment of urbanites of Rawalpindi to the combined effects of climate change and COVID-19 using GIS mapping
Naeem Ahmed¹, Malik Nadeem²
¹National University of Modern Languages, Islamabad, Pakistan.
²Federal Urdu University of Arts Science and Technology - Islamabad Campus, Islamabad, Pakistan

15:00 - 15:15 [O31.3]
Ocean plastic crisis – mental models of plastic pollution from remote Indonesian coastal communities
Anya Phelan^{1,2}, Helen Ross²
¹Griffith University, Nathan, Australia.
²University of Queensland, Brisbane, Australia

15:15 - 15:30 [O31.4]
Big data for wildlife connectivity planning and design in urban areas – integrating multi-source high-resolution remote sensing data and citizen science input
Weimin Li
California State Polytechnic University, Pomona, USA

15:30 - 15:45 [O31.5]
Best practices in business planning and risk management for growing sustainable agri/ecotourism businesses
Doolarie Singh-Knights

biomaterials for the construction and prefabricated home industries in the developing countries
Adeel Ghayur
CO2CRC, Melbourne, Australia. Federation University Australia, Churchill, Australia

14:45 - 15:00 [O32.2]
Carbon negative biorefining technology producing sustainable biodegradable plastics for a circular economy
Adeel Ghayur^{1,2}, T. Vincent Verheyen²
¹CO2CRC, Melbourne, Australia. ²Federation University Australia, Churchill, Australia

15:00 - 15:15 [O32.3]
Dimethyl ether as a commercially viable renewable fuel for replacing fossil fuels in circular bioeconomies
Adeel Ghayur^{1,2}, Jaikant Pandit³, Kwong Soon Chan¹
¹CO2CRC, Melbourne, Australia. ²Federation University Australia, Churchill, Australia

15:15 - 15:30 [O32.4]
Farming with Alternative Pollinators benefits pollinators, natural enemies, yields, and offers transformative change to agriculture
Stefanie Christmann¹, Youssef Bencharki², Soukaina Anougmar^{3,4}, Pierre Rasmont⁵, Moulay Chrif Smaili⁶, Athanasios Tsvilikas³, Aden Aw-Hassan⁷
¹ICARDA, Rabat, Morocco. ²International Center for Agricultural Research in the Dry

It's all about location. Effective implementation of nature based coastal defence structures
Brenda Walles¹, Bram van Prooijen², Tom Ysebaert^{1,3}
¹Wageningen Marine Research, Yerseke, The Netherlands. ²Delft University of Technology Department of Geoscience & Engineering, Delft, The Netherlands. ³Royal Netherlands Institute for Sea Research, Yerseke, The Netherlands

14:45 - 15:00 [O33.2]
Ecosystem services dynamics under managed realignment in the dykelands of Nova Scotia, Canada
Lara Cornejo¹, Kate Sherren¹, Jeremy Lundholm²
¹Dalhousie University, Halifax, NS, Canada. ²Saint Mary's University, Halifax, NS, Canada

15:00 - 15:15 [O33.3]
Sustainability in Chesapeake Bay shorescapes: climate change, management decisions, and ecological functions
Donna Marie Bilkovic¹, Amanda Guthrie², Robert Isdell¹, Sarah Stafford³, Wie Yusef⁴, Randy Chambers³, Matthias Leu³, Shana Jones⁵, Carl Hershner¹
¹William & Mary Virginia Institute of Marine Science, Gloucester Point, VA, USA. ²South Carolina Sea Grant Consortium, Charleston, SC, USA. ³William & Mary, Williamsburg, VA, USA. ⁴Old Dominion University, Norfolk, VA,

This session requires pre-registration. If you would like to sign-up to attend please email the Working Group organizer, Keri Hopeward, at Keri.Hopeward@unisa.edu.au

Delegates attending the session are encouraged to bring a game they have used before to share with the group.

sustainable wastewater reuse
MhdAmmar Hafiz¹,
Mohamed Ayari¹,
Radwan Alfahe^{1,2}, ali
altaee³, alaa alhawari¹
¹*Qatar University,
Doha, Qatar.* ²*Hamad
Bin Khalifa University,
Doha, Qatar.*
³*University of
Technology Sydney,
Broadway, Australia*

**15:45 - 16:00 [O27.6]
Coastal landscape
planning for reducing
flood vulnerability**
Min Kim¹, Jinyhung
Chon^{2,1}
¹*OJEong Resilience
Institute, Seoul,
Republic of Korea.*
²*Division of
Environmental Science
and Ecological
Engineering, Korea
University, Seoul,
Republic of Korea*

*Monash University,
Clayton, Australia*

**15:45 - 16:00 [O28.6]
Adaptation of densely
populated cities to
increased temperature
and urban heat island
effect: case study of
South Korea**
Suhyun An, Aysin
Dedekorkut-Howes
*Griffith University - Gold
Coast Campus,
Southport, Australia*

**ecosystem services
with peoples' well-
being**
Kamaliit K Sangha
*Charles Darwin
University Research
Institute for the
Environment and
Livelihoods, Darwin,
Australia*

**Green Industries Best
Management Practices
training promotes
sustainable urban
landscapes**
Tom Wichman¹, Susan
Haddock², Esen Momol¹,
C.J. Bain¹, Don Rainey¹, John
Bossart¹
¹*University of Florida IFAS
Extension, Gainesville, FL,
USA.* ²*University of Florida
IFAS Extension Hillsborough
County, Tampa, FL, USA*

*West Virginia University,
Morgantown, WV, USA*

**15:45 - 16:00 [O31.6]
Regenerative
ecotourism prospects in
Queensland**
Zainab Burton-Tairu
*Pacific Social Mapping
Pty Ltd, Brisbane,
Australia*

*Areas Morocco, Rabat,
Morocco.* ³*International
Center for Agricultural
Research in the Dry
Areas, Rabat, Morocco.*
⁴*SupAgro, Montpellier,
France.* ⁵*University of
Mons, Mons, Belgium.*
⁶*INRA, Kenitra, Morocco.*
⁷*independent consultant,
Edmonton, Canada*

**15:30 - 15:45 [O32.5]
Sustainable biomass
supply chain for thermal
energy applications in
Sri Lanka**
Thusitha Sugathapala
*University of Moratuwa,
Moratuwa, Sri Lanka*

USA. ⁵*University of
Georgia Athens, Athens,
GA, USA*

**15:15 - 15:30 [O33.4]
Implementing nature-
based coastal defences:
Government
perspectives of barriers
and opportunities, from
Victoria, Australia**
Anthony Boxshall^{1,2},
Karen Byrush³, Frank
Fardell³, Darren James⁴,
Jodi Kennedy⁵,
Cassandra Philippou⁴,
Shaun Young³, Jacquie
White⁶
¹*The University of
Melbourne, Melbourne
University, Australia.*
²*Victorian Marine &
Coastal Council,
Melbourne, Australia.*
³*Hobsons Bay City
Council, Altona,
Australia.* ⁴*Department
of Energy, Environent
and Climate Action,
Melbourne, Australia.*
⁵*Bass Coast Shire
Council, Wonthaggi,
Australia.* ⁶*Association of
Bayside Municipalities,
Melbourne, Australia*

**15:30 - 15:45 [O33.5]
Assessing the coastal
protection services of
natural mangrove
forests and artificial
rock revetments**
Elisabeth Strain¹, Tom
Kompas², Anthony
Boxshall², Jaya Kelvin³,
Stephen Swearer²,
Rebecca Morris²
¹*University of Tasmania,
Hobart, Australia.* ²*The
University of Melbourne,
Melbourne University,
Australia.* ³*Deakin
University, Geelong,
Australia*

15:45 - 16:00 [O33.6]

Mitigating bank erosion with hybrid mangrove living shorelines
Sophie Cheuk Yan Chan,
 Stephen Swearer,
 Rebecca Morris
*National Centre for Coasts and Climate,
 School of BioSciences,
 The University of Melbourne, Victoria,
 Australia*

16:00 - 16:30 **Refreshment Break**
 Hall 1

<p>16:30 - 18:00</p>	<p>16:30 - 17:45 Session 35: Integrating socio-economics and ecology Arena 1B Anya Phelan</p> <p>16:30 - 16:45 [O35.1] Livelihood resilience among herder communities: methodological and field insights from Qinghai-Tibetan Plateau <u>Tong Li</u> <i>Centre for Planetary Health and Food Security, Griffith University, Nathan, Australia</i></p> <p>16:45 - 17:00 [O35.2] Application of a sustainability framework integrating ecosystem services and life cycle assessment to quantify local and global (socio-)environmental impacts of an offshore wind energy case study in the Belgian Continental Shelf <u>Laura Vittoria De Luca Peña</u>, Sue Ellen</p>	<p>Session 36: Sustainability and resilience II Arena 1A Ida Kubiszewski</p> <p>16:30 - 16:45 [O36.1] Tenure and social impacts of offshore extractives in periphery and semi-periphery states <u>Henry Mooney</u> <i>Mooney Concepts, Olympia, USA. Pax Environmental, Inc., Ojai, USA</i></p> <p>16:45 - 17:00 [O36.2] Effect of tenure reform on grassland natural capitals and its implication for the new round of grassland titling implementation <u>Shuhao Tan</u> <i>Renmin University of China, Beijing, China</i></p> <p>17:00 - 17:15 [O36.3] The need for regional sustainability transition strategies <u>Bryan Jenkins</u> <i>University of Adelaide, Adelaide, Australia</i></p> <p>17:15 - 17:30 [O36.4] Integrated sub-watershed</p>	<p>Session 37: Symposium - Ecosystem services: From science to policy II (continued) Meeting Room 5 Shang Chen</p> <p>16:30 - 16:45 [O37.1] An approach to operationalize ecosystem services - Insight from Poland Andrzej Mizgajski, <u>Małgorzata Stepniowska</u> <i>Adam Mickiewicz University, Poznań, Poland</i></p> <p>16:45 - 17:00 [O37.2] The global spectrum of reef habitat structure in tropical and subtropical areas <u>Shurong Liu</u>, Ling Cao <i>School of oceanography, shanghai jiao tong university, Shanghai, China</i></p> <p>17:00 - 17:15 [O37.3] Study on the establishment of ecological performance evaluation indicators system of Marine restoration projects</p>	<p>Session 38: Symposium - Climate change and coastal cities Meeting Room 6 Bhishna Bajracharya, Damian Cox</p> <p>16:30 - 16:45 [O38.1] Climate litigation update: How recent case law is driving change in private and public sector responses to climate change <u>Nick James</u> <i>Bond University, Gold Coast, Australia</i></p> <p>16:45 - 17:00 [O38.2] Value of blue and green space for our mental and physical health and well-being: Drawing on the First Nations Social and Emotional Well-being (SEWB) framework <u>Michelle McLean</u> <i>Faculty of Health Sciences & Medicine, Bond University, Gold Coast, Australia</i></p> <p>17:00 - 17:15 [O38.3] Climate change, coastal erosion, and beachfront developments: planning for community resilience <u>Mark Ellis</u>, Daniel O'Hare, Bhishna Bajracharya</p>	<p>16:30 - 17:45 Session 39: Symposium - The future of governance Meeting Room 7 Anne-Marie Grisogono</p> <p>16:30 - 16:45 [O39.1] Insights from a conceptual model of governance <u>Anne-Marie Grisogono</u>¹, Tim Booker² ¹<i>Flinders University, Adelaide, Australia.</i> ²<i>Complexity Science Hub Vienna, Wien, Austria</i></p> <p>16:45 - 17:00 [O39.2] Navigating the backloop of a complex adaptive system <u>Brian Walker</u> <i>CSIRO Land and Water, Black Mountain, Australia</i></p> <p>17:00 - 17:15 [O39.3] Governing in the Anthropocene: A biophysical perspective <u>john finnigan</u> <i>CSIRO, Environment, Canberra, Australia. Australian National University, Canberra, Australia</i></p>	<p>16:30 - 17:45 Session 40: Symposium - Nature-based coastal defence: developing the knowledge needed for wider implementation II (continued) Meeting Room 8 Rebecca Morris</p> <p>16:30 - 16:45 [O40.1] Maximising the ecological and engineering outcomes of hybrid living shorelines <u>Rebecca Morris</u>, Stephen Swearer <i>The University of Melbourne, Melbourne University, Australia</i></p> <p>16:45 - 17:00 [O40.2] The use of mangrove planters at eroding temperate and tropical coasts <u>Amanda Hsiung</u>¹, Stephen Swearer¹, Peter Todd², Rebecca Morris¹ ¹<i>The University of Melbourne School of BioSciences, Melbourne, Australia.</i> ²<i>National</i></p>	<p>Session 41: Working Group - A working group to improve the communication of risks from marine pollution and its impacts on environmental and human health to diverse stakeholders Meeting Room 9 Catherine Pirkle</p>	<p>Session 42: Working Group - A model for sustainable coastal landscapes: policies, programs, and strategies from the University of Florida, Florida-Friendly Landscaping™ Meeting Room 4 Gail Marie Hansen De Chapman</p>
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Taelman, Nils Pr at,
Bilge Bas, Jo Dewulf
*Ghent University,
Ghent, Belgium*

17:00 - 17:15 [O35.3]
**Envisioning and
facilitating livestock
agri-food system
transformation:
drivers of path
dependency and
levers to enable
transitions towards
more sustainable agri-
food systems**
Tianchu Lu
*University College
London, London, UK*

17:15 - 17:30 [O35.4]
**Broadening our
understanding of
what drives
stewardship
engagement:
relationships between
social capital and
willingness to engage
in nature stewardship**
Emma Church¹, Angela
Dean¹, Kerrie Wilson²
¹*University of
Queensland, Brisbane,
Australia.* ²*Queensland
University of
Technology, Brisbane,
Australia*

17:30 - 17:45 [O35.5]
**Are people making
correct choices?
Quality perceptions,
source choices and
drinking water quality
in rural India**
Shiuli Vanaia
*Azim Premji University,
Bangalore, India*

**management towards
climate-resilient cities
in the Philippines**
Damasa Magcale-
Macandog¹, Brian
Johnson², Isao Endo²,
Masayuki Kawai²,
Milben Bragais¹, Pankaj
Kumar², Rajarshi
Dasgupta²
¹*University of the
Philippines Los Banos,
Laguna, The Philippines.*
²*Institute for Global
Environmental
Strategies, Miura-gun,
Japan*

17:30 - 17:45 [O36.5]
**Envisioning
sustainability through
the voices of indigenous
communities in India**
Mamata Verlekar,
Sulochana Pednekar
*Goa University,
Taleigao, India*

17:45 - 18:00 [O36.6]
**Environmental impacts
assessment of textile
effluent treatments in
Mediterranean
countries**
Malika Ghazi¹, Joelle
Duplay², Raja Ben
Amar³, Suheyda Atalay⁴,
Gulin Ersoz⁴, Burcu
Palas⁴, Zora Elberichi⁵,
Nor- El Houda Fardjaoui⁵
¹*TERIVA, Strasbourg,
France.* ²*Earth and
Environment Institute of
Strasbourg, Strasbourg,
France.* ³*University of
Sfax, Sfax, Tunisia.* ⁴*Ege
University, Izmir, Turkey.*
⁵*University of 8 May
1945 Guelma, Guelma,
Algeria*

**oriented to
management
shuai he**
*First Institute of
Oceanography Ministry
of Natural Resources,
Qingdao, China*

17:15 - 17:30 [O37.4]
**SEABORNE: An
ecosystem accounting
database assessing
competing uses,
benefits and values in
the Great Barrier Reef**
Petina Pert¹, Anthea
Coggan¹, Jeremy De
Valck^{2,3}, Victoria
Graham⁴, Diane Jarvis⁵,
Maxine Newlands⁶, Ella
Schirru^{7,1}, Mara
Emmerling^{7,1}
¹*CSIRO Environment,
Black Mountain,
Australia.* ²*Central
Queensland University -
Centre for Regional
Economies and Supply
Chains, Rockhampton,
Australia.* ³*Central
Queensland University -
Coastal Marine
Ecosystems Research
Centre, Gladstone,
Australia.* ⁴*James Cook
University Cairns
Institute, Cairns,
Australia.* ⁵*James Cook
University - College of
Business, Law and
Governance - Nguma-
bada campus, Cairns,
Australia.* ⁶*James Cook
University - College of
Arts, Society and
Education - Bebegu
Yumba campus,
Townsville, Australia.*
⁷*James Cook University -
College of Business, Law
and Governance -
Bebegu Yumba campus,
Townsville, Australia*

17:30 - 17:45 [O37.5]
**Cultural ecosystem
services and
discounting**

*Bond University Faculty of
Society and Design, Robina,
Australia*

17:15 - 17:30 [O38.4]
**Sustainability meets
geopolitics in the maritime
domain: The case for
cooperative governance**
Rosita Dellios
*Faculty of society and
design, Bond University,
Robina, Australia*

17:30 - 17:45 [O38.5]
**Shark attacks, climate
change and coastal
management**
Daryl McPhee
*Bond University, Robina,
Australia*

17:45 - 18:00 [O38.6]
**Frugal innovation of trans-
border floating
infrastructure for bridging
people-to-people link**
Liew Kian Heng, Liew Yu
Qiang
*LiEW
STRATEGICS/CONSULTANTS,
Singapore, Singapore*

17:15 - 17:30 [O39.4]
**The long and winding
road ... to Earth system
governance**
Roger Bradbury¹, Paul
Oppenheimer², Anne-
Marie Grisogono³
¹*Australian National
University Crawford
School of Public Policy,
Canberra, Australia.*
²*The University of
Adelaide, Adelaide,
Australia.* ³*Flinders
University, South
Australia, Australia*

17:30 - 17:45 [O39.5]
**Emerging new methods
to implement
sustainable governance
in the Anthropocene**
Robert Costanza
*University College
London, London, UK*

*University of Singapore,
Singapore, Singapore*

17:00 - 17:15 [O40.3]
**Designing restoration
substrates to enhance
shellfish larval
settlement**
Brendan Lanham¹,
Rebecca Morris¹,
Andrew Pomeroy¹,
Stephen Swearer¹, Ivan
Marusic², David Bushek³
¹*The University of
Melbourne School of
BioSciences, Melbourne,
Australia.* ²*The University
of Melbourne,
Melbourne, Australia.*
³*Rutgers The State
University of New Jersey,
New Brunswick, NJ, USA*

17:15 - 17:30 [O40.4]
**Exploring the potential
of mangroves as a
nature-based solution
for water and climate
change challenges in
Macao SAR: from
research to education**
Karen Tagulao¹, Cristina
Calheiros^{2,1}
¹*Institute of Science and
Environment, University
of St. Joseph, Macao,
Macao.* ²*University of
Porto Interdisciplinary
Centre of Marine and
Environmental Research,
Matosinhos, Portugal*

17:30 - 17:45 [O40.5]
**Resilience of intertidal
communities on eco-
engineered artificial
shorelines**
Thea Bradford¹, Chi Chiu
Lo², Juan Carlos Astudillo
Placencia³, Rainbow
Leung¹, Kenneth M. Y.
Leung¹
¹*City University of Hong
Kong, Hong Kong, Hong
Kong.* ²*The University of
Hong Kong, Hong Kong,
Hong Kong.* ³*Hong Kong*

Louis Chua, Kirsten Oleson
University of Hawai'i at Mānoa, Honolulu, HI, USA

17:45 - 18:00 [O37.6]
Promotion strategies for the acceptance of community sanitation welfare schemes through a localized qualitative survey in Kho Nagorian (Jaipur), India

Vinayak Gupta^{1,2}, Hazel B. Gonzales³, Douglas Hungwe⁴, Yamsomphong Kanokwan¹, Aura Amca Diputra¹, Fumitake Takahashi¹
¹*Tokyo Institute of Technology Department of Transdisciplinary Science and Engineering Global Engineering for Development Environment and Society, Yokohama, Japan.* ²*National University of Singapore Department of Civil and Environmental Engineering, Singapore, Singapore.* ³*Tokyo Institute of Technology Interdisciplinary Graduate School of Science and Engineering, Yokohama, Japan.* ⁴*Hosei University - Tama Campus, Machida, Japan*

*Metropolitan University
Department of Science,
Hong Kong, Hong Kong*

18:00 - 21:30

Evening Rainforest and Glow Worm Experience

08:30 - 09:30	<p>Plenary Speakers 5 and 6: Bojie Fu and Robert Costanza Arena 1B Jacqueline McGlade</p> <p>08:30 - 09:00 [PLN5] Human and environment interactions for sustainable development Bojie Fu <i>Research Centre for Eco-Environmental Sciences, Beijing, China</i></p> <p>09:00 - 09:30 [PLN6] Societal therapy for a sustainable wellbeing future Robert Costanza <i>University College London, London, UK</i></p>
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09:30 - 10:00	<p>Refreshment Break Hall 1</p>
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10:00 - 11:30	<p>Session 43: Climate adaptation and mitigation I Arena 1B Jenelle Bartlett</p> <p>10:00 - 10:15 [O43.1] The historical trends and dynamics of climate-induced migration in Southern Africa: A review Lazarus Chapungu, Godwell Nhamo <i>University of South Africa, Pretoria, South Africa</i></p> <p>10:15 - 10:30 [O43.2] Land use scenario analysis for disaster risk reduction with the protective action decision process Kikuko Shoyama <i>College of Agriculture, Ibaraki University, Inashiki-gun, Japan</i></p> <p>10:30 - 10:45 [O43.3] Conceptualizing the role of adaptive integrated water management to assess and enhance</p>	<p>Session 44: Sustainability and resilience III Arena 1A Robert Rollin</p> <p>10:00 - 10:15 [O44.1] Spatial and temp characteristics of landscape pattern in the Three-River Headwaters Road network from 2010 to 2020 Zhaoming Wang, Dong Ni, Yanan Qi, Shaogang Shao <i>Ministry of Transport Research Institute of Highways, Beijing, China</i></p> <p>10:15 - 10:30 [O44.2] Scope of alternative finance mechanism for wetland restoration & conservation- a conceptual model using system dynamics Aditi Samant Singhar, Haripriya Gundimeda <i>Indian Institute of Technology Bombay, Mumbai, India</i></p> <p>10:30 - 10:45 [O44.3]</p>	<p>Session 45: Climate change and carbon neutrality Meeting Room 5 Brett Bryan</p> <p>10:00 - 10:15 [O45.1] Nexus of political-institutional quality, environment-related technologies, and international trade-adjusted carbon emissions in a panel of top five emitters Muzzammil Hussain^{1,2}, Jawad Ahmad Khan³ ¹University of Gujrat, Gujrat, Pakistan. ²Fuzhou University, Fuzhou, China. ³University of Chenab, Gujrat, Pakistan</p> <p>10:15 - 10:30 [O45.2] CO2 sequestration-based ecologic restoration in post-mining fields for a sustainable future – A pilot case study of great lakes region in Eastern Africa Leonard Kabeya Mukeba^{1,2}, D. K. Nahum³</p>	<p>10:00 - 11:15 Session 46: Ecosystem health Meeting Room 6 Russell Richards</p> <p>10:00 - 10:15 [O46.1] Multiscale remote sensing for monitoring and conservation of shallow waters habitat of small islands, Indonesia Nuriannah Nurdin^{1,2}, Khairul Amri¹, Syafyudin Yusuf¹, Syazwi Qutbhi Al Azizi^{3,2}, Syauqi Tsabitah Aushaf⁴, Teruhisa Komatsu^{5,6} ¹Department of Marine Science, Hasanuddin University, Makassar, Indonesia. ²Research and Development Center for Marine, Coast and Small Islands, Hasanuddin University, Makassar, Indonesia. ³Urban Planning Department, Bandung Institute of Technology, Bandung, Indonesia. ⁴Environmental Engineering Department, Hasanuddin University,</p>	<p>Session 47: Symposium - Imagining and planning for uncertain water futures – perspectives on capabilities, ethics, decision-contexts and youth engagement Meeting Room 7 Carla Alexandra</p> <p>10:00 - 10:15 [O47.1] What is futures literacy, why is it important for water governance, and how can we cultivate it? Lorrae van Kerkhoff <i>The Australian National University, Institute for Water Futures, Acton, Australia</i></p> <p>10:15 - 10:30 [O47.2] A role for creativity and imagination in decision making for sustainable futures Stephanie Rosestone</p>	<p>Session 48: Sustainability and resilience of cities Meeting Room 8 Nathan Waltham</p> <p>10:00 - 10:15 [O48.1] How and why becoming a National Park City can contribute to the health, resilience and sustainability of cities Sheryn Pitman <i>Green Adelaide, Department for Environment and Water, Adelaide, Australia</i></p> <p>10:15 - 10:30 [O48.2] Identifying the challenges in cities of India with the rise of flyovers Manpreet Kaur, Roopali Bansal <i>Chitkara School of Planning & Architecture, Chitkara University, Punjab, India</i></p> <p>10:30 - 10:45 [O48.3] Spatial planning within environmental policies</p>	<p>Session 49: Working Group - Developing an environmental sports field management academy and engaging managers to environmentally certify sports field facilities. Meeting Room 9 Alex Lindsey</p>	<p>Session 50: Working Group - Satellite-based radar model for illegal discharges at the Eastern Tropical Pacific Marine Ecoregion according to MARPOL73_78 Annex I Meeting Room 4 Ana Halabi-Echeverry</p>
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adaptability of water resources in arid regions of Sudan as ecological-social systems case study: Khor Arbaat
Khalid Ibrahim
Omdurman Ahlia University, Omdurman, Sudan

10:45 - 11:00 [O43.4]
Is land use planning in Australia up to the task of adaptation?

Paul Burton
Griffith University Cities Research Institute, Gold Coast, Australia

11:00 - 11:15 [O43.5]
Evaluation of local level coastal climate adaptation in Queensland

Aysin Dedekorkut-Howes¹, Caitlyn Christie², Kate McGuire²

¹Griffith University - Gold Coast Campus, Southport, Australia.
²Griffith University, Nathan, Australia

11:15 - 11:30 [O43.6]
A conceptual framework for developing digital twins of ecosystems in unreal engine 5

Solomon Inyang¹, Firouzeh Rosa Taghikhah², Justin Borevitz³, Timothy Brown¹
¹Australian National University, Canberra, Australia. ²The University of Sydney Business School, Sydney, Australia

Reimagining education-building sustainable universities

Tanvi Verma¹, Rashmi Aggarwal¹, Sandhir Sharma¹, Akhilesh Ojha², Nedra Bahri Ammari³
¹Chitkara University, Rajpura, India. ²Truman State University, Kirksville, MO, USA. ³IHEC of Carthage, Tunisia, Tunisia

10:45 - 11:00 [O44.4]

Resilience to climate change threats can be enhanced through machine learning applications to climate model outputs
Jennifer Richkus, Jeffrey Arnold, Dhanuj Gandikota, Tasia Gladkova
The MITRE Corporation, McLean, VA, USA

11:00 - 11:15 [O44.5]
GOOD-Agroecology for Weeds: a Horizon Europe-funded project to promote the agroecological transition of agri-food value chains

Helena Freitas¹, Lara Agnoli², Monica Agnolucci³, Joana Alves¹, Dimitrios Argyropoulos⁴, Marie Bartz¹, Stefano Bortolucci⁵, Milan Brankov⁶, Harm Brinks⁷, Michalakis Christoforou⁸, Nicoletta Darra⁹, Fyllio Demirtzoglou¹⁰, Kostas Diamantopoulos¹¹, Stefan Doebelin¹², Maria-Martha Fernandez¹³, Spyros Fountas⁹, Nikolaos Georgantzis², Manuela Giovanetti³, Dea Hvillum¹³, Panagiotis Kanatas⁹, Maria D. Osuna¹⁴, Lasma Ozola¹⁵, Sara Lombardo¹⁶, Marine Louargant¹³, Wouter Maes¹⁷, Giovanni

¹High Institute of Applied Techniques, ISTA, Kinshasa, Democratic Republic of Congo.

²Academy of Science and Engineering for Africa Development, ASEAD, Kinshasa, Democratic Republic of Congo.

³Federation University, Institute of Innovation, Science and Sustainability, Melbourne, Australia

10:30 - 10:45 [O45.3]
Addressing social benefits through the introduction of small-scale renewable energy technologies in the Asia-Pacific region: Exploring the co-ownership model in rural areas of Indonesia

Deanty Mulia Ramadhani¹, Masachika Suzuki¹, Mahesti Okitasari², Tarek Katramiz³, Sujahangir Kabir Sarkar⁴

¹Sophia University, Chiyoda-Ku, Japan.

²United Nations University Institute for the Advanced Study of Sustainability, Shibuya-Ku, Japan. ³Keio University, Minato-Ku, Japan. ⁴Patuakhali Science and Technology University, Patuakhali, Bangladesh

10:45 - 11:00 [O45.4]
Comparative assessment of jurisdiction-based REDD+ benefit sharing policy options in Indonesia

Riko Wahyudi^{1,2}, Christian Silangen¹, Muis Fajar¹

¹Research Centre for Climate Change - University of Indonesia, Jakarta, Indonesia.

²Indonesia Expert

Makassar, Indonesia.

⁵Atmosphere and Ocean Research Center Institute, The University of Tokyo, Tokyo, Japan. ⁶Present Address: Japan Fisheries Resource Conservation Association, Tokyo, Japan

10:15 - 10:30 [O46.2]
Integrated assessment of the natural purification capacity of tidal flat for persistent toxic substances in contaminated sediments using advanced sediment quality triad and machine learning

Taewoo Kim¹, Changkeun Lee¹, Inha Kwon¹, Junghyun Lee¹, Shin Yeong Park¹, Dong-U Kim¹, Jongmin Lee¹, Gayoung Jin¹, Junsung Noh², Seongjin Hong³, Bong-Oh Kwon⁴, Hanna Bae⁵, Jung-ho Nam⁶, Gap Soo Chang⁷, Jong Seong Khim¹

¹Seoul National University, Gwanak-gu, Republic of Korea.

²Sejong University, Gwangjin-gu, Republic of Korea. ³Chungnam National University, Daejeon, Republic of Korea. ⁴Kunsan National University, Gunsan, Republic of Korea.

⁵Geosystem Research Corporation, Gunpo, Republic of Korea. ⁶Korea Maritime Institute, Busan, Republic of Korea.

⁷University of Saskatchewan, Saskatoon, SK, Canada

10:30 - 10:45 [O46.3]
Spatial and temp assessment of floodplain vegetation response to floods

Sicong Gao^{1,2}, Tanya Doody¹

Australian National University, Canberra, Australia

10:30 - 10:45 [O47.3]
Are multi-scale scenarios useful for scenario-based adaptive planning?

Caroline Rosello^{1,2}, Joseph Guillaume^{1,2}, Carmel Pollino³, Anthony Jakeman^{1,2}

¹Australian National University Fenner School of Environment and Society, Canberra, Australia. ²Institute of Water Futures, Canberra, Australia. ³CSIRO Land and Water, Black Mountain, Australia

10:45 - 11:00 [O47.4]
Futures-thinking in water governance - perceptions of futures-oriented knowledge and capacities in the Coorong, South Australia
Carla Alexandra
Australian National University, Canberra, Australia

11:00 - 11:15 [O47.5]
Youth voices in a low water future: how youth engagement can shape long term decision making in complex environmental systems
Hannah Feldman
Australian National University, Canberra, Australia

11:15 - 11:30 [O47.6]
M-epistemic responsibilities for uncertain and contentious topics in socio-environmental systems modelling
Adrian Hinds, Joseph Guillaume, Steven Lade, Tony Jakeman

and legislation: An ideology or a reality?

Kumud Dhanwantri¹, Ashwin Joe¹, Subhash Chander Yadav², Meenakshi Dhote³
¹Amity University - Haryana Campus, Gurgaon, India. ²Gurugram Metropolitan Development Authority, Gurugram, India. ³School of Planning and Architecture, New Delhi, India

10:45 - 11:00 [O48.4]
Evaluation and selection of regional revitalization alternatives in coastal communities

Li-Pei Peng¹, Chung-Te Chen¹, Wei-Ming Wang²
¹Department of Bio-Industry Communication and Development, National Taiwan University, Taipei, Taiwan. ²Department of Architecture and Urban Planning, Chung Hua University, Hsinchu, Taiwan

11:00 - 11:15 [O48.5]
Confronting urban inequality in coastal city: Linking the socio-economic impact of new town development to quality of life of local communities

Rahmat Aris Pratomo^{1,2}, D. Ary A. Samsura^{1,3}, Erwin van der Krabben¹
¹Radboud University Institute for Management Research, Nijmegen, The Netherlands. ²Kalimantan Institute of Technology Department of Urban and Regional Planning, Balikpapan, Indonesia. ³National Institute of Technology Bandung, Bandung, Indonesia

Mauromicale¹⁶, Maria-Rosa Mosquera Losada¹⁸, Nikos Mylonas¹⁹, Rui S. Oliveira¹, Giovanna Piluzza²⁰, María Ramos-García¹⁴, Giovanni A. Re²⁰, Federico Sanna²⁰, Ana de Santiago¹⁴, Abdoul Nasser Seyni¹³, Aurelio Scavo¹⁶, Milena Simic⁶, Jose Paulo Sousa¹, Leonardo Sulas²⁰, Ilias Travlos³, Dimitrios Tsaltas⁸, Alessandra Turrini³, Alexandros Tataridas¹
¹Centre for Functional Ecology, University of Coimbra, Coimbra, Portugal. ²Burgundy School of Business, Dijon, France. ³University of Pisa, Department of Agriculture, Food and Environment, Pisa, Italy. ⁴University College Dublin School of Biosystems Engineering, Dublin, Ireland. ⁵Associazione Italiana Agricoltura Biologica, Bova Marina, Italy. ⁶Maize Research Institute Zemun Polje, Beograd, Serbia. ⁷Delphy, Wageningen, The Netherlands. ⁸Cyprus University of Technology, Lemesos, Cyprus. ⁹Agricultural University of Athens, Athens, Greece. ¹⁰Humofert, Athens, Greece. ¹¹Cosmocert, Athens, Greece. ¹²Living Seeds, Idanha a Nova, Portugal. ¹³Interprofessional Technical Centre for Fruit and Vegetables, Paris, France. ¹⁴Centro de Investigaciones Científicas y Tecnológicas de Extremadura, Badajoz, Spain. ¹⁵Latvian Rural Advisory and Training Centre, Ozolnieki, Latvia. ¹⁶University of Catania Department of Agriculture Food and

Association for Climate Change and Forestry, Jakarta, Indonesia

11:00 - 11:15 [O45.5]
Consumer confidence and climate action in the BRICS: The role of energy structure and technology to control ecological footprints for sustainable environment
Muzzammil Hussain
University of Gujrat, Gujrat, Pakistan. Fuzhou University, Fuzhou, China

11:15 - 11:30 [O45.6]
Distribution of organic carbon stocks in the sediment of tidal flat in Korea
Dong-U Kim¹, Jongmin Lee¹, Taewoo Kim¹, Inha Kwon¹, Hyunseo Song¹, Yujung Byeon¹, Cheongjae Lee¹, Changkeun Lee¹, Kyu-Hee Son², Bong-Oh Kwon³, Jong Seong Khim¹
¹Seoul National University, Gwanak-gu, Republic of Korea. ²SekwangENG, Gangnam-gu, Republic of Korea. ³Kunsan National University, Gunsan, Republic of Korea

¹Commonwealth Scientific and Industrial Research Organisation, Adelaide, Australia. ²University of Canberra, Canberra, Australia

10:45 - 11:00 [O46.4]
An assessment of future aapa mire wetlands under the Red List of Ecosystems protocol
Aniko Toth¹, Teemu Tahvanainen², Antti Sallinen³, Tiina Kolari², David Keith¹
¹University of New South Wales, Sydney, Australia. ²University of Eastern Finland, JOENSUU, Finland. ³Finnish Environmental Institute, Helsinki, Finland

11:00 - 11:15 [O46.5]
Sustainable agriculture in arid climates related to increasing soil quality and microbial function in agro-ecosystems – a long term study of soil quality parameters and microbial diversity in greenhouse organic cropping systems in Oman
Rhonda Janke
Sultan Qaboos University College of Agricultural and Marine Sciences, Muscat, Oman

Australian National University Fenner School of Environment and Society, Canberra, Australia

11:15 - 11:30 [O48.6]
Inter-governmental functionaries and institutional framework for environmental governance in India
Kumud Dhanwantri¹, Prof. K.K. Yadav², Dr. Meenakshi Dhote³, Dr. Kushagra Rajendra¹
¹Amity University - Haryana Campus, Gurgaon, India. ²Former Chief Town Planner, Government of Haryana, Panchkula, India. ³School of Planning and Architecture, New Delhi, India

Environment, Catania, Italy. ¹⁷*Ghent University, Gent, Belgium.*
¹⁸*University of Santiago de Compostela, Santiago de Compostela, Spain.*
¹⁹*Edencore, Athens, Greece.* ²⁰*Istituto per il Sistema Produzione Animale in Ambiente Mediterraneo, Consiglio Nazionale delle Ricerche, Sassari, Italy*

11:15 - 11:30 [O44.6]
Examining the ecosystem service and social well-being contributions of beach grass (*Ammophila breviligulata*) and the implications for integrated coastal planning along the southeastern shoreline of Lake Huron, Canada
Charlotte Hings
University of Waterloo, Waterloo, ON, Canada

11:30 - 12:30 Plenary Panel 3: Ecocivilisation
 Arena 1B
 B. Larry Li

Panelists:
 Robert Costanza, Institute for Global Prosperity, University College London, UK
 Bojie Fu, Chinese Academy of Sciences, China
 B. Larry Li, University of California, Riverside, USA
 Junguo Liu, North China University of Water Resources and Electric Power/Southern University of Science and Technology, China
 Xuehua Liu, Tsinghua University, China

12:30 - 13:15 Lunch
 Hall 1

13:00-14:00
Editor review sessions
Organizers office 1

13:15 - 14:30 Poster Session 2
 Hall 1

14:30 - 16:00 Session 51: Climate adaptation and mitigation II
 Arena 1B
 Anthony Boxshall
14:30 - 14:45 [O51.1]

Session 52: Sustainability and resilience IV
 Arena 1A
 Robert Rollin
14:30 - 14:45 [O52.1]

Session 53: Environmental policies and framework I
 Meeting Room 5
 Johanna Nalau

14:30 - 15:45 Session 54: Ecotoxicology & Scaling from genomes to ecosystems

Session 55: Eco-health and public health diseases
 Meeting Room 7
 Russell Richards
14:30 - 14:45 [O55.1]

14:30 - 15:45 Session 57: Symposium - Plastic waste: From sources to solutions I

Session 58: Working Group - Reimagining education: Building sustainable universities

Session 59: Working Group - Organizational culture and environmental

<p>Acclimatizing to climate change in Himalayan terrain: Strategy for water resource conservation through springshed management <u>Santanu Patnaik</u> <i>Rajiv Gandhi University, Itanagar, India</i></p> <p>14:45 - 15:00 [O51.2] Resourcing effective managed retreat <u>Andrew Buckwell</u> <i>Griffith University, Nathan, Australia</i></p> <p>15:00 - 15:15 [O51.3] Using adaptation pathways planning in local climate change adaptation <u>Ruby Stockham, Aysin Dedekorkut-Howes</u> <i>Griffith University - Gold Coast Campus, Southport, Australia</i></p> <p>15:15 - 15:30 [O51.4] Adaptation strategies for climate change impacts on water quality in South East Queensland: the water professionals' perspective <u>Jenelle Bartlett¹</u>, Aysin Dedekorkut-Howes² ¹<i>Griffith University, Nathan, Australia.</i> ²<i>Griffith University - Gold Coast Campus, Southport, Australia</i></p> <p>15:30 - 15:45 [O51.5] Understanding the housing design and aboriginal architecture of the Andaman and Nicobar Islands <u>Jency John¹</u>, Anshul Puriya², Afreen Ansari³ ¹<i>Annamalai University, Annamalainagar, Tamil Nadu, India.</i> ²<i>Indian Institute of Technology Roorkee Department of Architecture and</i></p>	<p>Integrated agrivoltaic farm modelling for enhanced sustainability and resiliency <u>Firouzeh Rosa Taghikhah¹</u>, Nagesh Kolagani², Alexey Voinov³ ¹<i>The University of Sydney, Sydney, Australia.</i> ²<i>Centurion University of Technology and Management, Visakhapatnam, India.</i> ³<i>University of Twente, Enschede, The Netherlands</i></p> <p>14:45 - 15:00 [O52.2] Understanding citizens' perceptions about urban environmental consequences of a major water diversion project in China's Zhengzhou city <u>Yiyuan Luo</u>, Kenichi Matsui <i>University of Tsukuba, Tsukuba, Japan</i></p> <p>15:00 - 15:15 [O52.3] A comparison of fire risk mapping methodologies: Analytical hierarchy process weighted overlay, fuzzy GIS, and CSIRO method <u>Andrea Brushett¹</u>, Aysin Dedekorkut Howes¹, Heather Shearer² ¹<i>School Engineering and Built Environment, Griffith University, Gold Coast, Australia.</i> ²<i>Cities Research Institute, Gold Coast, Australia</i></p> <p>15:15 - 15:30 [O52.4] Economic sustainability of the 2018 Gold Coast Commonwealth games <u>Kava Piran</u>, Aysin Dedekorkut-Howes <i>Griffith University - Gold Coast Campus, Southport, Australia</i></p>	<p>14:30 - 14:45 [O53.1] Social, ecological and governance of marine protected areas in Malaysia <u>Gazi Islam¹</u>, Prateep Nayak² ¹<i>Universiti Tun Abdul Razak, Kuala Lumpur, Malaysia.</i> ²<i>University of Waterloo, Waterloo, Canada</i></p> <p>14:45 - 15:00 [O53.2] Analogizing global climate negotiations with Maslow's hierarchy of needs <u>Eshani Chaturvedi</u> <i>Stanford University, Stanford, CA, USA</i></p> <p>15:00 - 15:15 [O53.3] Responding to climate change: the dilemma of urban planning practice in Botswana <u>Mutakela Kingsley Minyoi</u> <i>University of Botswana, Gaborone, Botswana</i></p> <p>15:15 - 15:30 [O53.4] Five pathways towards achieving a more ecologically literate world <u>Sheryn Pitman</u> <i>Green Adelaide, Department for Environment and Water, Adelaide, Australia</i></p> <p>15:30 - 15:45 [O53.5] Integrating first nations values, perspective and knowledge into state of environment reporting: Queensland case study <u>Tayla Miller</u> <i>Griffith University - Gold Coast Campus, Southport, Australia</i></p> <p>15:45 - 16:00 [O53.6] Examining the capacity of Mongolian customs'</p>	<p>Meeting Room 6 Yixin Zhang</p> <p>14:30 - 14:45 [O54.1] Tackling the toxic impact of pesticide mixtures in our waterways: calculation, engagement, and action <u>Catherine Neelamraju^{1,2}</u>, Michael Warne^{1,2,3}, Reinier Mann², Ryan Turner^{4,2}, Rachael Smith⁵, Peta Neale¹, Rob Sluggett⁶, Michael Macpherson⁶ ¹<i>Reef Catchments Science Partnership, School of Earth & Environmental Sciences, University of Queensland, Brisbane, Australia.</i> ²<i>Water Quality & Investigations, Queensland Department of Environment & Science, Brisbane, Australia.</i> ³<i>Centre for Agroecology, Water and Resilience, Coventry University, Coventry, UK.</i> ⁴<i>Reef Catchments Science Partnership, School of Earth & Environmental Sciences, Brisbane, Australia.</i> ⁵<i>Office of the Great Barrier Reef, QLD Department of Environment and Science, Brisbane, Australia.</i> ⁶<i>Farmacist Pty Ltd, Homebush, Australia</i></p> <p>14:45 - 15:00 [O54.2] Assessing ecological risk of emerging contaminants: New approaches to old challenges <u>Anu Kumar¹</u>, Gunjan Pandey², Tom Walsh³ ¹<i>CSIRO Environment, Urrbrae, Australia.</i> ²<i>CSIRO Environment, Balck Mountain, Australia.</i> ³<i>CSIRO Environment, Black Mountain, Australia</i></p>	<p>Enhancing well water safety through university extension outreach <u>Yilin Zhuang¹</u>, Andrea Albertin² ¹<i>University of Florida, Apopka, USA.</i> ²<i>University of Florida, Quincy, USA</i></p> <p>14:45 - 15:00 [O55.2] Public health innovation connecting urban communities with nature for health: designing and cultivating 'place' for social, environmental and financial impact <u>Eric Brymer¹</u>, JR Baker¹, Chris Lines² ¹<i>Southern Cross University - Gold Coast Campus, Coolangatta, Australia.</i> ²<i>Australian Social Prescribing Institute for Research and Education (ASPIRE), Gold Coast, Australia</i></p> <p>Session 56: Symposium - Sustainable circular economy and bioeconomy in management, economics, and policy Meeting Room 7 Jennifer Yarnold</p> <p>15:15 - 15:30 [O56.1] Effects of mitigation strategies on subjective well-being under circular economy: M licensing as moderator <u>Tai-Kuei Yu¹</u>, Tai-Yi Yu², Cheng-Min Chao³ ¹<i>National Quemoy University, Jinning, Taiwan.</i> ²<i>Ming Chuan University, Taipei, Taiwan.</i> ³<i>National Taichung University of</i></p>	<p>Meeting Room 8 Tanveer Adyel</p> <p>14:30 - 14:45 [O57.1] Microplastic sequestration by mangroves within a restoration site in Biscayne Bay, FL, USA <u>Melinda Paduani^{1,2}</u>, Michael Ross¹, Stefanie Landeweer^{1,2}, Piero Gardinali^{1,2} ¹<i>Florida International University, Miami, FL, USA.</i> ²<i>NSF CREST Center for Aquatic Chemistry and Environment, Miami, USA</i></p> <p>14:45 - 15:00 [O57.2] Characterization of persistent organic pollutants (POPs) in microplastic debris in deep marine sediments off southwestern Taiwan <u>Ta-Kang Liu¹</u>, Jia-An Ye¹, Lin-Chi Wang² ¹<i>National Cheng Kung University, Tainan, Taiwan.</i> ²<i>Chung Yuan Christian University, Taoyuan, Taiwan</i></p> <p>15:00 - 15:15 [O57.3] Estimating waste leaking in the environment in Australia using new technology <u>Justine Barrett</u>, Denise Hardesty, Kathryn Willis <i>CSIRO Oceans and Atmosphere, Hobart, Australia</i></p> <p>15:15 - 15:30 [O57.4] Investigation of the presence of microplastics and other anthropogenic fibres in large apex sharks <u>Hsuan-Cheng Lu</u>, Julia Smith, Shima Ziajahromi, Frederic Leusch <i>Griffith University, Australian Rivers</i></p>	<p>Meeting Room 9 Tanvi Verma</p>	<p>crimes for Mongolian customs Meeting Room 4 Bayarmaa Gur</p>
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Planning, Roorkee, India.
³Rajiv Gandhi Pradyogiki Vishwavidyalaya, Bhopal, India

15:45 - 16:00 [O51.6]
How to make a strategic plan implementable and up-scalable: case studies of climate resilience transition of the Mekong delta
Long Phi Ho¹, Leon Hermans^{2,3}, Wim Douven²
¹enCity group, Singapore, Singapore. ²IHE Delft Institute for Water Education, Delft, The Netherlands. ³Delft University of Technology, Delft, The Netherlands

15:30 - 15:45 [O52.5]
Sustainable management and operation on sand movement of through-type adjustable check dam: a numerical approach
Chia-Yang Lee, Kuo-Wei Liao, Chia-Hung Hsia, Chun-Che Tai
National Taiwan University Department of Bioenvironmental Systems Engineering, Taipei City, Taiwan

15:45 - 16:00 [O52.6]
Challenges to sustain ancient town of China in the face of booming ancient town tourism: A case of Manchuanguan town in Shaanxi
Jieyuan Zheng¹, Kenichi Matsui²
¹Graduate School of Science and Technology, Tsukuba, Japan. ²Faculty of Life and environmental science, Tsukuba, Japan

organizational culture for reducing environmental crime
Bayarmaa Gur, Kenichi Matsui
University of Tsukuba, Tsukuba, Japan

15:00 - 15:15 [O54.3]
Airborne emissions of microplastic fibres from domestic laundry dryers
Stacey O'Brien¹, Elvis Okoffo¹, Jake O'Brien¹, Francisca Ribeiro¹, Xianyu Wang¹, Stephanie Wright², Saer Samanipour³, Cassandra Rauert¹, Tania Toapanta¹, Rizsa Albarracin⁴, Kevin Thomas¹
¹The University of Queensland Queensland Alliance for Environmental Health Sciences, Woolloongabba, Australia. ²Imperial College London, London, UK. ³University of Amsterdam, Amsterdam, The Netherlands. ⁴Queensland Health, Brisbane, Australia

15:15 - 15:30 [O54.4]
Multilayer molecular networks in fish adaptation to labile environments
Carolina Madeira¹, Madalena Missionário¹, Célia Almeida², Inês Moutinho Cabral¹, Miguel Nunes¹, Joana F. Fernandes², Margarida Travesso², Carla António³, Ana M. Rodrigues³, Vanessa Mendonça^{4,5}, Catarina Vinagre^{4,5}, Pedro M. Costa¹, Diana Madeira²
¹Nova University of Lisbon, Lisboa, Portugal. ²University of Aveiro, Aveiro, Portugal. ³University of Lisbon Higher Institute of Agronomy, Lisboa, Portugal. ⁴Algarve Centre of Marine Sciences, Faro, Portugal. ⁵University of Lisbon Faculty of Sciences, Lisboa, Portugal

Science and Technology, Taichung, Taiwan

15:30 - 15:45 [O56.2]
Social preferences regarding waste management policies – a case study of Tricity, Poland
Jakub Zawieska¹, Katarzyna Zagórska², Michal Jakubczyk¹, Ewa Duda³, Ari Krisna Mawira Tarigan⁴, Cristian Tosa⁴
¹SGH Warsaw School of Economics, Warsaw, Poland. ²Faculty of Economic Sciences, University of Warsaw, Warsaw, Poland. ³Maria Grzegorzewska University, Institute of Education, Warsaw, Poland. ⁴Department of Safety, Economics and Planning, University of Stavanger., Stavanger, Norway

15:45 - 16:00 [O56.3]
The emergence of circular economies: barriers and enablers to government waste reduction goals
Jarnae Leslie, Paul Brown, Susanne Pratt, Melissa Edwards
University of Technology Sydney - City Campus, Ultimo, Australia

Institute, School of Environment and Science, Southport, Australia

15:30 - 15:45 [O57.5]
Exploring influencing factors of demand and purchase of plastic and non-plastic materials: A case study of Nigeria
Morolake Bolaji^{1,2}, Motoi Kusadokoro¹, Atsushi Chitose¹
¹Tokyo University of Agriculture and Technology, Fuchu, Japan. ²Nigerian Institute of Social and Economic Research, Ibadan, Nigeria

15:30 - 15:45 [O54.5]
Quantification of selected microplastics in Australian urban road dust
Stacey O'Brien, Elvis Okoffo, Cassandra Rauert, Jake O'Brien, Francisca Ribeiro, Stephen Burriows, Tania Toapanta, Kevin Thomas
The University of Queensland Queensland Alliance for Environmental Health Sciences, Woolloongabba, Australia

16:00 - 16:30 Refreshment Break
 Hall 1

16:30 - 18:00

Session 60: Climate adaptation and mitigation III
 Arena 1B
 Johanna Nalau

16:30 - 16:45 [O60.1]
Taking blue carbon to sea: expert views on the potential governance of the offshore carbon system for climate change mitigation
Jack Smith^{1,2}, Tiziana Luisetti², Irene Lorenzoni¹
¹University of East Anglia, Norwich, UK. ²Centre for Environment Fisheries and Aquaculture Science, Lowestoft, UK

16:45 - 17:00 [O60.2]
NRM leadership in landscape-scale fire management planning – Queensland leading the charge
 Sam Lloyd¹, Diana Virkki¹, Rachael Naspeles¹, Jaime Kruusmaa²
¹Healthy Land and Water, Brisbane, Australia.

Session 61: Sustainability and resilience V
 Arena 1A

16:30 - 16:45 [O61.1]
The impacts of more reliable water supply on crop production and land price: Evidence from a new off-stream reservoir in Taiwan
Chia-Chen Hsu, Yau-Huo (Jimmy) Shr
National Taiwan University, Taipei, Taiwan

16:45 - 17:00 [O61.2]
Why should we move? Examining the dynamics of individual decision-making in public sector workers' mobilization in the Indonesian capital relocation plan
Edwin Dunhot Simanjuntak
The University of Edinburgh, Edinburgh, UK. Ministry of Internal Affairs, Jakarta, Indonesia

Session 62: Environmental policies and framework II
 Meeting Room 5
 Daryl McPhee

16:30 - 16:45 [O62.1]
Making land use planning more adaptive
Ian McNicol
Cities Research Institute, Griffith University, Gold Coast, Australia

16:45 - 17:00 [O62.2]
A framework for 'climate ready' objective setting in environmental flow management
Meegan Judd
Goulburn Broken Catchment Management Authority, Shepparton, Australia. La Trobe University, Wodonga, Australia

17:00 - 17:15 [O62.3]
Socio-ecological influence modelling

Session 63: Ecological modelling I
 Meeting Room 6
 Brian Fath

16:30 - 16:45 [O63.1]
Predicting the habitat suitability of Philippine Cockatoo (*Cacatua haematuropygia* Muller, 1776) with species distribution models
 Garry Oca, Tomas Jr. Reyes
University of the Philippines Los Banos, Laguna, The Philippines

16:45 - 17:00 [O63.2]
Modelling the ecological carrying capacity of the 7 crater lakes in Laguna, Philippines towards sustainable management
 Damasa Magcale-Macandog, Joseph Campang, John Vincent Pleto, Yves Christian Cabillon, Nathaniel Jireh Larida, Ma. Grechelle Lyn Perez, Fatima Natuel,

Session 64: Disturbance ecology & Ecological complexity
 Meeting Room 7
 Yixin Zhang

16:30 - 16:45 [O64.1]
Effects of exotic *Spartina alterniflora* invasion on benthic environments in the Yellow Sea
Jongmin Lee¹, Junsung Noh², Changkeun Lee³, In Ok Lee⁴, Inha Kwon⁴, Bong-Oh Kwon⁵, Moo Joon Lee⁶, Jung-Ho Lee⁶, Jongseong Ryu⁶, Hojeong Kang⁷, Ho Kyung Ha⁸, Jong Seong Khim⁴
¹Blue Carbon Research Center, Seoul National University, Seoul, Republic of Korea. ²Sejong University Department of Energy and Environment, Seoul, Republic of Korea. ³Marine Environmental Impact Statement Institute, Seoul National University, Seoul,

16:30 - 17:30 Session 65: Symposium - Plastic waste: From sources to solutions II (continued)
 Meeting Room 8
 Tanveer Adyel

16:30 - 16:45 [O65.1]
Plastic pollution in the world's largest mangrove forest
Tanveer Adyel, Peter Macreadie
Deakin University, Burwood, Australia

16:45 - 17:00 [O65.2]
Identification and quantification of airborne microplastics in indoor and outdoor air in a developing and developed country
Kushani Perera¹, Shima Ziajahromi¹, Susan Bengtson Nash², Pathmalal M. Manage³, Frederic D.L. Leusch¹
¹Australian Rivers Institute, School of

Session 66: Working Group: Surface modelling of nature futures
 Meeting Room 9
 TianXiang Yue

Session 67: Working Group - Climate change adaptation and resilience amongst migrants and displaced people: Towards the fortification of at-risk communities against climate hazards
 Meeting Room 4
 Lazarus Chapungu

²Healthy Land and Water Ltd, Brisbane, Australia

17:00 - 17:15 [O60.3]
Interdisciplinary analysis of coastal hazards and risks: Applied examples from Queensland Australia
Steve Charlton-Henderson¹, Boris Lam²
¹Natural Capital Economics, Brisbane, Australia. ²Natural Capital Economics, Melbourne, Australia

17:15 - 17:30 [O60.4]
In science we trust – exploring climate nudge attitudes in Finland
Jukka Sivonen, Vuokko Härmä, Sakari Karvonen
Finnish Institute for Health and Welfare, Helsinki, Finland

17:30 - 17:45 [O60.5]
Artificial Neural Network and Multiple Regression for seasonal rainfall forecasting in northern territory of Australia
Rashid Farooq, Monzur Imteaz
Department of Civil and Construction Engineering, Swinburne University of Technology, Hawthorn, ON, Australia.
Department of Civil Engineering, International Islamic University, Islamabad, Pakistan

17:45 - 18:00 [O60.6]
Changes in cascading effects of maladaptation: a decade tracking case of Jiadung Coastal Township, Taiwan
Chia-Fa Chi^{1,2}, Shiau-Yun Lu³, Willow Hallgren⁴
¹Climate Change Division, National Science and

17:00 - 17:15 [O61.3]
Resilient slum redevelopment: A step towards sustainable development
Manpreet Kaur, Roopali Kansal
Chitkara School of Planning and Architecture, Patiala, India

17:15 - 17:30 [O61.4]
Downscaling projected land conversion using a machine learning model: assessing implications for biodiversity, ecosystems, and emissions
Robert Beach¹, Graedon Martin¹, Stanley Lee¹, Jonathan Holt¹, Kemen Austin²
¹RTI International, Research Triangle Park, NC, USA. ²Wildlife Conservation Society, Bronx, NY, USA

17:30 - 17:45 [O61.5]
A conceptual approach to designing pandemic resilient cities
Ramasubramaniam Shankar¹, Anshul Puriya²
¹Indian Institute of Technology Roorkee, Roorkee, India. ²Atal Bihari Vajpayee Institute of Good Governance and Policy Analysis, Bhopal, India

17:45 - 18:00 [O61.6]
Cultural enhancement of SDGs: Socially engaged art in halting coastal and marine plants biodiversity loss
Anastasia Maksimova, Dr Birut Zemits
Charles Darwin University, Darwin, Australia

reveals effective strategies for reducing community conflict
Corrine Condie¹, Joanna Vince², Beth Fulton³, Marcus Haward¹, Karen Alexander⁴, Scott Condie³
¹University of Tasmania, Hobart, Australia.
²University of Tasmania - Launceston Campus, Launceston, Australia.
³CSIRO, Hobart, Australia.
⁴Heriot-Watt University, Orkney, UK

17:15 - 17:30 [O62.4]
The effect of community solar on energy burden
Yu-Hsien Chen
National Taiwan University, Taipei, Taiwan

17:30 - 17:45 [O62.5]
ESG: A tool for local governments to meet their national climate targets
IS Khulal Magar
Public Administration Campus, Tribhuvan University, Kirtipur, Nepal. Youth For Environment Education and Development Foundation (YFEED Foundation), Kathmandu, Nepal

17:45 - 18:00 [O62.6]
Integrating deforestation risk for fairness REDD+ benefit sharing in Indonesia: A case study of jurisdictional-based REDD+ program in Jambi province
Riko Wahyudi^{1,2}, Christian Silangen¹, Muis Fajar¹
¹Research Centre for Climate Change - University of Indonesia, Jakarta, Indonesia.
²Indonesia Expert Association for Climate

Canesio Predo, Jaderick Pabico, Maximo Tandang, Jose Duya, Vachel Gay Paller
University of the Philippines Los Banos, Laguna, The Philippines

17:00 - 17:15 [O63.3]
Multi-stakeholder involved structured conservation decision-making and early-stage conceptual modelling - a conservation practice case study from Hainan, China
Yurong Yu¹, Samuel Turvey², Hui Liu³, Heidi Ma², Mark Burgman¹
¹Imperial College London, London, UK. ²The Zoological Society of London, London, UK.
³Hainan University, Haikou, UK

17:15 - 17:30 [O63.4]
Habitat distribution modeling of Agarwood (Aquilaria cumingiana [Decne] Ridley) in Bohol, Central Visayas, Philippines
Tomas, Jr. Reyes, Cristino Jr. Tiburan, Albert Piñon
University of the Philippines Los Banos, Laguna, The Philippines

17:30 - 17:45 [O63.5]
Small population, big emissions: Exploring the disparity in global leisure carbon footprint
Peilin Chen¹, Arunima Malik¹, Jiahang Song², Manfred Lenzen¹, Zhan-Ming Chen²
¹The University of Sydney, Sydney, Australia.
²Renmin University of China, Beijing, China

17:45 - 18:00 [O63.6]
Carbon sequestration modelling of the coal

Republic of Korea. ⁴Seoul National University School of Earth and Environmental Sciences, Seoul, Republic of Korea.
⁵Department of Marine Biotechnology, Kunsan National University, Kunsan, Republic of Korea.
⁶Department of Marine Biotechnology, Anyang University, Incheon, Republic of Korea.
⁷Yonsei University School of Civil and Environmental Engineering, Seoul, Republic of Korea.
⁸Department of Ocean Sciences, Inha University, Incheon, Republic of Korea

16:45 - 17:00 [O64.2]
Native bird assemblages benefit from habitat restoration by local volunteer communities
Daria Erastova¹, Ellen Hume^{2,3}, Bruce Keeley⁴, Tony Woodrooffe⁵
¹Pest Free Howick Ward, Auckland, New Zealand.
²The University of Auckland, School of Biological Silences, Auckland, New Zealand.
³The University of Auckland, Te Pūnaha Matatini, Auckland, New Zealand.
⁴Friends of Mangemangeroa Society Inc., Auckland, New Zealand.
⁵The Royal Forest and Bird Protection Society of New Zealand, Auckland, New Zealand

17:00 - 17:15 [O64.3]
Fire and tree species diversity in tropical peat swamp forests
Luba Volkova¹, Haruni Krisnawati², Muhammad Qirom², Wahyu Adinugroho², Rinaldi Imanuddin², Freddy

Environment and Science, Griffith University, Southport, Australia.
²Centre for Planetary Health and Food Security, School of Environment and Science, Griffith University, Southport, Australia.
³Centre for Water Quality and Algae Research, Department of Zoology, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka

17:00 - 17:15 [O65.3]
Microplastics in urban stormwater: abundance, characteristics, and potential mitigation strategies
Shima Ziaiahromi¹, Hsuan-Cheng Lu¹, Darren Drapper², Andy Hornbuckle³, Frederic Leusch¹
¹Griffith University - Gold Coast Campus, Southport, Australia.
²Drapper Environmental Consultants, Australia, Gold Coast, Australia.
³SPEL SPEL Stormwater, Carole Park, Australia

17:15 - 17:30 [O65.4]
Meta-analysis on the factors, mechanisms, and implications of antibiotic sorption of microplastics in water
Michael Stapleton, Ashley Ansari, Faisal Hai
University of Wollongong, Wollongong, Australia
17:30 - 18:00 Discussion

Technology Center for Disaster Reduction (NCDR), New Taipei, Taiwan. ²Taiwan Climate Change Projection Information and Adaptation Knowledge Platform, New Taipei, Taiwan. ³Department of Marine Environment and Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan. ⁴Commonwealth Scientific and Industrial Research Organisation, Agriculture and Food, St Lucia, Queensland, Australia

Change and Forestry, Jakarta, Indonesia

mining industries in NCL region using InVEST

Varsha B¹, Rahul Kumar Pandey², Sanchit Kumar¹, Roja Eliza¹, Rahul Kumar Gupta¹, Nguyen Thanh Van^{1,3}, Anshumali¹

¹Laboratory of Biogeochemistry, Department of Environmental Science and Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, India.

²Laboratory of Biogeochemistry, Department of Environmental Science and Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, India.

³Institute of Labour Science and Social Affairs, Ministry of Labour, Invalids and Social Affairs, Hanoi, Vietnam

Hutapea^{2,1}, Michael McCarthy¹, Julian Di Stefano¹, Chris Weston¹
¹The University of Melbourne School of Ecosystem and Forest Sciences, Melbourne, Australia. ²National Research and Innovation Agency Republic of Indonesia, Jakarta, Indonesia

17:15 - 17:30 [O64.4]

Black it out: hot burns increase long-term fire risk adjacent communities

Diana Virkki¹, David Kington^{2,3}, Paul Williams³, Darren Burns³

¹Healthy Land and Water, Brisbane, Australia.

²Quandamooka Yoolooburrabee Aboriginal Corporation, North Stradbroke Island, Australia. ³Vegetation Management Science, Malanda, Australia

17:30 - 17:45 [O64.5]

Roads and the future of Tanzania's forests

Philipo Jacob^{1,2,3}, Abraham Eustace⁴, Mahmoud Nady^{1,2,3}

¹University of Bonn, Bonn, Germany.

²LANUSYNCON, Bonn, Germany. ³University of Bonn Center for Development Research, Bonn, Germany.

⁴Tanzania Wildlife Management Authority, Morogoro, Tanzania, United Republic of

17:45 - 18:00 [O64.6]

Revisiting the secondary succession of tropical forest trees

Vania Pivello¹, Renato Toledo^{1,2}, Kris Verheyen³, Pieter Vangansbeke³,

Luciano Verdade⁴,
Renato AF Lima⁵
¹University of Sao Paulo
Institute of Biosciences
LEPAC, Sao Paulo, Brazil.
²Ghent University
FORNALAB, Melle-
Gontrode, Belgium.
³Ghent University -
Forest and Nature Lab,
Melle-Gontrode, Belgium.
⁴University of Sao Paulo
Luiz de Queiroz College of
Agriculture - LE²AVe,
Piracicaba, Brazil.
⁵University of Sao Paulo
Luiz de Queiroz College of
Agriculture, Piracicaba,
Brazil

19:00 - 22:30

Conference Dinner (Ticketed Event)

The Island Gold Coast, Surfers Paradise

08:30 - 09:30	<p>Plenary Speakers 7 and 8: Brian Fath and Alan Hastings Arena 1B B. Larry Li</p> <p>08:30 - 09:00 [PLN7] Systems Ecology and Sustainability: Learning to flourish within limits <u>Brian Fath</u> <i>Towson University, Towson, MD, USA. International Institute for Applied Systems Analysis, Laxenburg, Austria. Masaryk University, Brno, Czech Republic</i></p> <p>09:00 - 09:30 [PLN8] Transient dynamics in ecology <u>Alan Hastings</u> <i>University of California Davis, Davis, CA, USA. Santa Fe Institute, Santa Fe, NM, USA</i></p>
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09:30 - 11:00	<p>09:30 - 10:30 Session 68: Biodiversity and biological conservation I Arena 1B Junguo Liu</p> <p>09:30 - 09:45 [O68.1] Urban sugar-water feeding has positive and negative effects on native bird communities <u>Daria Erastova</u>¹, Margaret Stanley¹, Kristal Cane¹, Josie Galbraith², Yolanda van Heezik³, Ellen Hume^{1,4}, Antoine Filion³ ¹The University of Auckland, School of Biological Sciences, Auckland, New Zealand. ²Auckland War Memorial Museum, Auckland, New Zealand. ³The University of Otago, Zoology Department, Dunedin, New Zealand. ⁴The University of Auckland, Te Pūnaha Matatini, Auckland, New Zealand</p> <p>09:45 - 10:00 [O68.2] Developing the Makiling Biodiversity Information System (MAKIBIS): A prototype for centralized biodiversity information</p>	<p>Session 69: Ecological modeling II Arena 1A Jan-Olay Meynecke</p> <p>09:30 - 09:45 [O69.1] Spatial ecosystem services based Food-Water-Nexus analysis in a traded oriented city considering local land use mechanism under climate changes <u>Shafira Wuryandani</u>, Chen Hsuan Chang, Yu-Pin Lin <i>National Taiwan University, Taipei, Taiwan</i></p> <p>09:45 - 10:00 [O69.2] Finding spatial correlates of agricultural land use through a coupled machine learning and model-agnostic approach <u>Cláudia Morais Viana</u>^{1,2}, Jorge Rocha^{1,2} ¹University of Lisbon Institute of Geography and Spatial Planning, Lisboa, Portugal. ²Associate Laboratory Terra, Lisbon, Portugal</p> <p>10:00 - 10:15 [O69.3]</p>	<p>09:30 - 10:45 Session 70: Symposium - Invasions of bamboos and it's consequences Meeting Room 5 Maihe Li</p> <p>09:30 - 09:45 [O70.1] Biochar-root interactions drive the priming of soil organic carbon associated with the C sources sensibility <u>Xiaogai Ge</u>, Benzhi Zhou <i>Research Institute of Subtropical Forestry, Chinese Academy of Forestry, Hangzhou, China</i></p> <p>09:45 - 10:00 [O70.2] Impact of moso bamboo forests invasion on native vegetation and soil: A literature review <u>Benzhi Zhou</u> <i>Research Institute of Subtropical Forestry Chinese Academy of Forestry, Hangzhou, China</i></p> <p>10:00 - 10:15 [O70.3] Landscape dynamics and succession prediction of chinese moso bamboo</p>	<p>09:30 - 10:45 Session 71: Symposium - Facilitating biodiversity research and conservation at landscape scale using multi-techniques I Meeting Room 6 Xuehua Liu</p> <p>09:30 - 09:45 [O71.1] Identifying otter conservation hotspots in human-dominated coastal wetlands of peninsular Thailand <u>Naruemon Tantipisanuh</u>, Wanlop Chutipong, Dusit Ngoprasert, Anucha Kamjing, Kitipat Phosri <i>King Mongkut's University of Technology Thonburi, Bangkok, Thailand</i></p> <p>09:45 - 10:00 [O71.2] Pattern of Human-elephant conflict over space as well as time and delineating potential pathways for elephant movement among their habitats</p>	<p>09:30 - 10:45 Session 72: Symposium - Floating treatment wetlands: Past, present, and future I Meeting Room 7 William Strosnider, Sarah White</p> <p>09:30 - 09:45 [O72.1] Optimizing the treatment performance of constructed floating wetlands through effective design <u>Christopher Walker</u>^{1,2}, Terry Lucke^{1,3,4}, Simon Beecham², John Awad^{5,2} ¹Covey Associates, Maroochydore, Australia. ²University of South Australia, Adelaide, Australia. ³University of South Australia Library, Mawson Lakes, Australia. ⁴Charles Sturt University - Bathurst Campus, Bathurst, Australia. ⁵CSIRO Land and Water, Urrbrae, Australia</p> <p>09:45 - 10:00 [O72.2] Identifying resident preferences for floating wetlands in coastal stormwater ponds to</p>	<p>Session 73: Symposium - Indicators of human and ecological wellbeing Meeting Room 8 Paul Sutton</p> <p>09:30 - 09:45 [O73.1] Fragmentation and complexity undermine implementation of beyond-GDP measures of progress <u>Juan Pablo Rios-Ocampo</u>, Giovanni Cunico, Michael Shayne Gary <i>University of New South Wales Business School, Kensington, Australia</i></p> <p>09:45 - 10:00 [O73.2] Recent spatiotemp trend in Southeast Asia's forest loss: What does it indicate? <u>Ronald C. Estoque</u> <i>Forestry and Forest Products Research Institute, Tsukuba, Japan</i></p> <p>10:00 - 10:15 [O73.3] Principal threats to the conservation of peatland habitats in the continental biogeographical region of Central Europe</p>	<p>09:30 - 10:30 Session 75: Symposium - On ecological modelling of multidimensional attributes of embedded ecosystems Meeting Room 9 Shastri Nimmagadda</p> <p>09:30 - 09:45 [O75.1] Big data guided design science information system development for sustainability manifested management and accounting <u>Shastri Nimmagadda</u>¹, Torsten Reiners¹, Neel Mani² ¹Curtin University, Perth, Australia. ²CAIR, DSV, Haridwar, India</p> <p>09:45 - 10:00 [O75.2] Finite element modeling of flexible floating elements of naval shuttles used for water-hydrocarbon mixture transport <u>Carmen Mihai</u>¹, Alexandra - Gabriela Ene¹, Mihaela Jomir¹, Constantin Jomir²</p>	<p>Session 76: Working Group - Combining health and biodiversity conservation - How to increase public awareness on conservation Meeting Room 4 Yurong Yu</p>
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management system in the Philippines
Damasa Magcale-Macandog, Fermin Roberto Lapitan, Jandrel Ian Valerio, Jansen Christian Aguila, Clouie Ann Mesina, Twinkle Marie Santos, Andrea Nicole Cuevas, Kimberley Baylon, Jeoffrey Laruya
University of the Philippines Los Banos, Laguna, The Philippines

10:00 - 10:15 [O68.3] Pollinator loss can cause interlinked environmental, economic and social degradation sprials
Stefanie Christmann
International Center for Agricultural Research in the Dry Areas, Rabat, Morocco

10:15 - 10:30 [O68.4] University-government collaboration to protect marine ecosystem through ALDFG removal and responsible marine tourism in Penghu, Taiwan
Chih-Cheng Lin, Kuo-Huang Ting, Wen-Hong Liu
National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan

Ecological dynamics, resilience and sustainability
William Grace
The University of Western Australia Faculty of Arts Business Law and Education, Perth, Australia

10:15 - 10:30 [O69.4] Application of Bayesian Networks to support Koala conservation in SEQ
Grace Muriuki¹, Paul Wu², Shannon Mooney¹, Kerrie Mengersen², Thom Saunders², Kate Thompson², Jegar Pitchforth³, Jacqueline Davies³, Michael Castiglione¹
¹*Healthy Land and Water, Brisbane, Australia.*
²*Queensland University of Technology, Brisbane, Australia.*
³*Mirror Analytics, Brisbane, Australia*

10:30 - 10:45 [O69.5] Holistic modelling of ecosystem services and multifunctionality of social-ecological systems
ZHUN MAO¹, Julia Centanni², Franck Pommereau³, Alexia Stokes¹, Cédric Gauchere¹
¹*National Research Institute for Agriculture Food and Environment Occitanie-Toulouse Center, Montpellier, France.*
²*Paul-Valery University 3 Montpellier, Montpellier, France.*
³*Paris-Saclay University, Evry, France*

10:45 - 11:00 [O69.6] Modelling environmental information system framework articulations

forest based on machine learning
Juan Wei, Yongde Zhong
Central South University of Forestry and Technology, Changsha, China

10:15 - 10:30 [O70.4] Shrub invasion of grasslands enhances soil C, N, P and their stoichiometry: a meta-analysis
Zhong Du¹, Huan Zheng¹, Decai Gao², Shirui Nie¹, Yanmin He¹, Mai-He Li³
¹*China West Normal University, Nanchong, China.*
²*Northeast Normal University, Changchun, China.*
³*Swiss Federal Institute for Forest Snow and Landscape Research WSL, Birmensdorf, Switzerland*

10:30 - 10:45 [O70.5] Effects of throughfall exclusion on the stoichiometric characteristics of carbon, nitrogen and phosphorus for *Phyllostachys edulis* leaves
Yonghui Cao¹, Benzhi Zhou², Xiaogai Ge²
¹*Research Institute of Subtropical Forestry, Chinese Academy of Forestry, Hangzhou, China.*
²*Research Institute of Subtropical Forestry, Chinese Academy of Forestry, Hangzhou, China*

Xuehua Liu, Bismay Tripathy
School of Environment, Tsinghua University, Beijing, China

10:00 - 10:15 [O71.3] Compatibility between protected area effectiveness and local community development
Binbin Li¹, Shuyao Wu², Stuart Pimm³, Jingbo Cui¹
¹*Duke Kunshan University, Kunshan, China.*
²*Shandong University, Jinan, China.*
³*Duke University, Durham, NC, USA*

10:15 - 10:30 [O71.4] Large protected landscape is urgently needed to curb the loss of large mammal species
Sheng Li¹, Shuyi Zhu¹, Xiaoli Shen²
¹*Peking University, Beijing, China.*
²*Institute of Botany Chinese Academy of Sciences, Beijing, China*

10:30 - 10:45 [O71.5] Global Historical distribution range of brown bear (*Ursus arctos*)
Tariq Mahmood¹, Faiza Lehrasab¹, Muhammad Sajid nadeem¹, Faraz Akrim², Muhammad Mushtaq¹, Hira Fatima³, Amna Afraz Abbasi⁴
¹*Department of Zoology, Wildlife and Fisheries, PMAS Arid Agriculture University Rawalpindi, Rawalpindi, Pakistan.*
²*Department of Zoology, University of Kotli, AJ&K, Pakistn, Kotli, Pakistan.*
³*Department of Wildlife and Ecology, University of Okara, Pakistan, Okara, Pakistan.*
⁴*University of*

guide successful outreach
Clare Escamilla¹, Amy Scaroni², Guinn Wallover¹, Sarah White¹
¹*Clemson University, Clemson, SC, USA.*
²*Clemson University College of Agriculture Forestry and Life Sciences Baruch Institute of Coastal Ecology and Forest Science, Georgetown, SC, USA*

10:00 - 10:15 [O72.3] The role of floating treatment wetlands in the monitoring and mitigation of biogenic methane produced by impaired water
Bruce Kania¹, Darren Drapper²
¹*Floating Island Interenational, Inc, Shepherd, MT, USA.*
²*Drapper Consultants, Brisbane, Australia*

10:15 - 10:30 [O72.4] Brackish floating treatment wetland applications: plant nutrient partitioning shifts from soil-based applications
Sarah White¹, Andrea Landaverde¹, William Strosnider^{2,3}
¹*Clemson University, Clemson, SC, USA.*
²*University of South Carolina, Columbia, SC, USA.*
³*Baruch Marine Field Laboratory, Georgetown, USA*

10:30 - 10:45 [O72.5] Constructed Floating Wetlands for PFAS remediation: current knowledge and future research needs
John Awad^{1,2}, Divina Navarro¹, Albert Juhasz³, Christopher Walker^{2,4},

Katarzyna Glińska-Lewczuk, Mirosław Grzybowski, Paweł Burandt
University of Warmia and Mazury in Olsztyn, Olsztyn, Poland

10:15 - 10:30 [O73.4] Ecological health status of a deltaic estuary of north-western Borneo, East Malaysia
M. Golam Mustafa^{1,2}, Amy Halimah Rajae², Hadi Hamli², Khairul Adha A. Rahim³
¹*Department of Oceanography, Noakhali Science and Technology University, Noakhali, Bangladesh.*
²*Department of Animal Science and Fishery, Faculty of Agricultural and Forestry Sciences, Universiti Putra Malaysia Bintulu Sarawak Campus, Sarawak, Malaysia.*
³*Department of Aquatic Science, Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, Sarawak, Malaysia*

10:30 - 10:45 [O73.5] Eight years monitoring a community benefits of waterways index for the Healthy Land & Water Report Card
Emily Saeck^{1,2}, Angela Dean³, Helen Ross³
¹*Healthy Land & Water, Brisbane, Australia.*
²*Griffith University, Nathan, Australia.*
³*University of Queensland, Brisbane, Australia*

10:45 - 11:00 [O73.6] Evaluation of Urban Green Space (UGS) ecological eustainability in

¹*The Research & Development National Institute for Textiles and Leather, Bucharest, Romania.*
²*The Reserach &Development National Institute for Textiles and Leather, Bucharest, Romania*

10:00 - 10:15 [O75.3] Mathematical and statistical modeling of the impacts of catastrophic events on environmental and marine habitats
Alexey Sadovski, Maria Vasilyeva
Texas A&M University-Corpus Christi, Corpus Christi, USA

10:15 - 10:30 [O75.4] What are challenges to estimate climate related 'loss and damage' across Indian cities
Chandra Sekhar Bahinipati
Indian Institute of Technology Tirupati, Tirupati, India

		<p>and their analytics – Mitigating the ecological complexity <u>Dr Shastri Nimmagadda</u>¹, Christine Namugenyi², Torsten Reiners¹, Neel Mani³ ¹Curtin University, Perth, Australia. ²Ministry of Health, Kampala, Uganda. ³Dev Sanskriti Vishwavidyalaya, Haridwar, India</p>		<p><i>Arid Agriculture, Rawalpindi, Pakistan</i></p>	<p>Terry Lucke^{2,4}, Simon Beecham² ¹CSIRO Environment, Urrbrae, Australia. ²UniSA STEM, Mawson Lakes, Australia. ³University of South Australia Future Industries Institute, Mawson Lakes, Australia. ⁴Covey Associates, Maroochydore, Australia</p>	<p>Adelaide metropolitan area <u>Raziyeh Teimouri</u>¹, Sadasivam Karuppanan¹, Alpana Sivam¹, Ning Gu¹, Shahin Alizadeh Zenouzi² ¹University of South Australia Creative Academic Unit, Adelaide, Australia. ²University of Tabriz, Tabriz, Iran</p>			
11:00 - 11:30	Refreshment Break Hall 1								
11:30 - 13:00	<p>11:30 - 12:45 Session 77: Biodiversity and biological conservation II Arena 1B Junguo Liu</p> <p>11:30 - 11:45 [O77.1] Delivering incremental benefits for Moreton Bay's migratory shorebirds <u>Liz Gould</u>, Lisa Boyle, Melissa Walker <i>Healthy Land and Water, Brisbane, Australia</i></p> <p>11:45 - 12:00 [O77.2] Biodiversity trends in South East Queensland – the cooling of a biodiversity hotspot in a heating climate <u>Liz Gould</u>, Paul Donatiu, Grace Muriuki, Shannon Mooney <i>Healthy Land and Water, Brisbane, Australia</i></p> <p>12:00 - 12:15 [O77.3] Sustainability of harvest of <i>Aconitum spicatum</i> along an elevation gradient in north central Nepal: matrix modelling of harvesting effects</p>	<p>Session 78: Ecological modelling III Arena 1A Robert Costanza</p> <p>11:30 - 11:45 [O78.1] Time series clustering and influencing factors analysis on Qinghai Tibet plateau lake area change Hao He, <u>Weide Li</u>, Min Qian, Shujuqn Hu <i>Lanzhou University, Lanzhou, China</i></p> <p>11:45 - 12:00 [O78.2] An organized crime model of illicit trade in pangolin scales and elephant ivory <u>Adrian Lopes</u> <i>American University of Sharjah School of Business and Management, Sharjah, United Arab Emirates</i></p> <p>12:00 - 12:15 [O78.3] Surface modelling of relationship of species diversity with carbon stocks <u>TianXiang Yue</u> <i>Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China</i></p>	<p>Session 79: Fragile ecosystems and hotspot management Meeting Room 5 Jan-Olaf Meynecke</p> <p>11:30 - 11:45 [O79.1] Evaluation of land abandonment, population decline and climate change on water resources in a critical zone: Case study from North-eastern Japan <u>Pankaj Kumar</u>¹, Chihiro Haga², Osamu Saito¹, Takanori Matsui², Yukako Inamura¹ ¹Institute for Global Environmental Strategies, Miura-gun, Japan. ²Osaka University, Suita, Japan</p> <p>11:45 - 12:00 [O79.2] A pesticide decision support tool to help reduce the aquatic risk <u>Michael Warne</u>^{1,2,3}, Peta Neale¹, Michael Macpherson⁴ ¹The University of Queensland School of Earth and Environmental Sciences, St Lucia, Australia. ²Queensland Department of Environment and Science,</p>	<p>11:30 - 12:45 Session 80: Symposium - Facilitating biodiversity research and conservation at landscape scale using multi-techniques II (continued) Meeting Room 6 Xuehua Liu</p> <p>11:30 - 11:45 [O80.1] The importance of small-scale plantation in a human-dominated landscape for the Chinese mountain cat (<i>Felis bieti</i>) in Qilian Mountains and the implications for its conservation <u>Yueqiao Kong</u>, Sheng Li <i>Peking University, Beijing, China</i></p> <p>11:45 - 12:00 [O80.2] Thirty-year habitat changes induced by landscape change at the core stopover area of Asian migratory waterfowl <u>Fei Xu</u>¹, Le Yu², Yali Si³</p>	<p>Session 81: Symposium - Floating treatment wetlands: past, present, and future II (continued) Meeting Room 7 William Strosnider, Sarah White</p> <p>11:30 - 11:45 [O81.1] Harvesting floating treatment wetlands: when, why, and how? <u>Levi McKercher</u>¹, Clare Escamilla², Sarah White², Amy Scaroni², William Strosnider¹ ¹University of South Carolina, Columbia, SC, USA. ²Clemson University, Clemson, SC, USA</p> <p>11:45 - 12:00 [O81.2] Fully biodegradable floating treatment wetlands: A logical evolution <u>William Strosnider</u>, Levi McKercher <i>University of South Carolina, Columbia, SC, USA</i></p> <p>12:00 - 12:15 [O81.3] Harnessing rhizosphere microbial communities to make constructed</p>	<p>Session 82: Biological invasions Meeting Room 8 B. Larry Li</p> <p>11:30 - 11:45 [O82.1] Use of invasive species to address undernourishment in developing countries <u>Mark Morgan</u>, Sintha Santosa <i>University of Missouri, Columbia, USA</i></p> <p>11:45 - 12:00 [O82.2] Long-term dynamics of plant invasions: how population growth, functional traits, climate responses and biotic resistance change with residence time <u>Christine Sabine Sheppard</u>, Marco R. Brendel, Frank M. Schurr <i>University of Hohenheim, Stuttgart, Germany</i></p> <p>12:00 - 12:15 [O82.3] Native fish assemblages in natural lakes across Japan: endemism deterioration lasting centuries <u>Bingguo Dai</u>¹, Junjiro N. Negishi², Shin-ichiro S. Matsuzaki³, Zhijun Xia^{4,5},</p>	<p>Session 83: Working Group - Indicators of human and ecological wellbeing Meeting Room 9 Paul Sutton</p>	<p>Session 84 Meeting Room 4</p>	

Deep Chapagain^{1,2}, Henrik Meilby², Suresh Ghimire¹
¹Tribhuvan University, Kirtipur, Nepal.
²University of Copenhagen, København, Denmark

12:15 - 12:30 [O77.4]
Tastebuds and the unculti: The sensing and anchoring systems of torrential ichthyofauna
Gitartha Kaushik¹, Manash Pratim Sarma², Late Sunkam N Ramanujam³, Sabitry Bordoloi⁴
¹Rangapara College, Sonitpur, India. ²Assam DOWNTOWN UNIVERSITY, Guwahati, India. ³North-Eastern Hill University, Shillong, India. ⁴Institute of Advanced Study in Science and Technology, Guwahati, India

12:30 - 12:45 [O77.5]
Butterfly species diversity information enhancing local community participation in biodiversity conservation in Taita Hills, Kenya
Esther Kioko, Alex Mutinda, Augustine Luanga, Duncan Mwinzi, Cramswel Genga
National Museums of Kenya Zoology Department, Nairobi, Kenya

12:15 - 12:30 [O78.4]
Development of design science information system - Managing the total environmental digital ecosystem and its visual analytics
Dr Shastri Nimmagadda¹, Torsten Reiners¹, Lincoln Wood², Neel Mani³
¹Curtin University, Perth, Australia. ²University of Otago, Dunedin, New Zealand. ³Dev Sanskriti Vishwavidyalaya, Haridwar, India

12:30 - 12:45 [O78.5]
Ecological models for reporting and conservation prioritisation - meeting the rising challenges, with examples from NSW, Australia
Michael Drielsma^{1,2}, Jamie Love^{1,2}, Rajesh Thapa²
¹New South Wales Department of Planning and Environment, Sydney, Australia. ²University of New England, Armidale, Australia

12:45 - 13:00 [O78.6]
Fluttering climatic niche spaces of indian damselflies may explain their degree of endemicity
PANKAJ KOPARDE¹, Nimish Subramanian², Gokul Madhav³, Aditya Date⁴, Arajush Payra¹
¹Dr. Vishwanath Karad MIT World Peace University, Pune, India. ²Annasaheb Kulkarni Department of Biodiversity, MES Abasaheb Garware College, Pune, India. ³Indian Institute of Science Education and

Brisbane, Australia.
³Coventry University, Coventry, UK. ⁴Pharmacist Pty Ltd, Mackay, Australia

12:00 - 12:15 [O79.3]
The increasing risk of imidacloprid in Australia's Great Barrier Reef catchments
Ryan Turner^{1,2}, Michael Warne^{1,2}, Reinier Mann², Catherine Neelamraju^{1,2}, David Orr², Ben Ferguson², Aaron Davis³, Rachael Smith², Allan Huang¹
¹University of Queensland, Brisbane, Australia. ²Queensland Department of Environment and Science, Brisbane, Australia. ³James Cook University, Townsville, Australia

12:15 - 12:30 [O79.4]
A community-based proposal for a coastal-marine protected area in Uruguay: opportunities for a multi-stakeholder and social learning platform
Maria Paula Melissari¹, Marila Lazaro², Micaela Trimble³, Ernesto Brugnoli⁴, Nicolás Chacón⁵, Liliana Delfino⁶
¹Centro Universitario Regional Este - Universidad de la República, Maldonado, Uruguay. ²Facultad de Ciencias - Universidad de la República, Montevideo, Uruguay. ³South American Institute for Resilience and Sustainability Studies, Maldonado, Uruguay. ⁴Facultad de Ciencias- Universidad de la República, Montevideo, Uruguay. ⁵Intendencia de Canelones, Canelones, Uruguay. ⁶Universidad de

¹Key Laboratory of the Three Gorges Reservoir Region's Eco-Environment, Ministry of Education, Chongqing University, Chongqing, China. ²Ministry of Education Key Laboratory for Earth System Modeling, and Department of Earth System Science, Tsinghua University, Beijing, China. ³Institute of Environmental Sciences, Leiden University, Leiden, The Netherlands

12:00 - 12:15 [O80.3]
Predicting future distributions and behavior change for urban species' precautionary management : using citizen science to mitigate human-raccoon dog conflict in Shanghai, China
Fang Wang
Fudan University, Shanghai, China

12:15 - 12:30 [O80.4]
Restoration dynamics project: Managing a large-scale restoration program throughout the City of Gold Coast conservation estate
Jean-Marc Hero^{1,2}, Darren Roche¹, Jesse Kenny¹, Nathalie Caddis¹, Howard Taylor¹, Michael Duncan¹, Josh Veitch Michaelis^{3,4}, Josh Veitch Michaelis^{3,4}, Luke Shoo¹, Danni Hilton¹, Tim Robson¹, William Magnusson⁵
¹City of Gold Coast, Gold Coast, Australia. ²University of the Sunshine Coast, Maroochydore, Australia. ³Swiss Federal Institute of Technology, Zurich, Switzerland. ⁴Restor, Zurich, Switzerland.

floating wetlands more sustainable
Jowenna Sim¹, Barbara Drigo¹, Thanusshan Packiyarajah², Christopher Chow³, Christopher Walker^{3,4}, Erica Donner¹, John Awad⁵
¹University of South Australia Future Industries Institute, Mawson Lakes, Australia. ²UniSA STEM, Mawson Lakes, Australia. ³University of South Australia STEM Academic Unit, Mawson Lakes, Australia. ⁴Covey Associates, Maroochydore, Australia. ⁵CSIRO Environment, Urrbrae, Australia

12:15 - 12:30 [O81.4]
Novel floating treatment wetlands from recycled glass for water quality improvements and ecosystem creation: A case study
Peter Schwammberger, Luke Verstraten
University of the Sunshine Coast School of Science, Technology and Engineering, Sippy Downs, Australia

12:30 - 13:00
Roundtable discussion
Floating treatment wetland future research needs

Md. Khorshed Alam¹, Zhongguan Jiang⁶
¹Graduate School of Environmental Sciences, Hokkaido University, Sapporo, Japan. ²Faculty of Environmental Earth Science, Hokkaido University, Sapporo, Japan. ³Biodiversity Division, National Institute for Environmental Studies, Tsukuba, Japan. ⁴Institute of Hydrobiology, Chinese Academy of Sciences, Wuhan, China. ⁵University of the Chinese Academy of Sciences, Beijing, China. ⁶German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig, Leipzig, Germany

12:15 - 12:30 [O82.4]
The question is not if it comes, but when it comes: Predicting new introductions of the Asian tiger mosquito (Aedes albopictus) across the globe
Sandra Oliveira^{1,2}, César Capinha^{1,2}, Jorge Rocha^{1,2}
¹University of Lisbon Institute of Geography and Spatial Planning, Lisboa, Portugal. ²Associate Laboratory Terra, Lisbon, Portugal

12:30 - 12:45 [O82.5]
Public attitudes to urban wild deer and management policies
Zhuzhu Yu, Ryo Nukina, Shozo Shibata
Kyoto University, Japan city, Japan

12:45 - 13:00 [O82.6]
Lessepsian migration in the Mediterranean Sea in an era of climate change: plague or boon?

Research
Thiruvananthapuram,
Thiruvananthapuram,
India. ⁴Fergusson College,
Pune, India

la República,
Montevideo, Uruguay

12:30 - 12:45 [O79.5]
**Environmental pollution
and value of ecotourism
resources in the “no-
take” marine protected
areas: A case of
Perhentian marine park,
Malaysia**
Gazi Islam
Tun Abdul Razak
University, Kuala Lumpur,
Malaysia

12:45 - 13:00 [O79.6]
**Finding the spatial
patterns for regional
ecological conservation
and restoration based on
ecosystem degradation
and multi-functionality**
Yihe Lü^{1,2}, Siqi Sun^{1,2}
¹Research Centre for Eco-
Environmental Sciences
Chinese Academy of
Sciences, Beijing, China.
²University of the Chinese
Academy of Sciences,
Beijing, China

⁵National Institute for
Amazon Research,
Manaus, Brazil

12:30 - 12:45 [O80.5]
**Effects of grazer density,
season and habitat on
birds in a restored
alluvial ecosystem**
Lilla Lovasz^{1,2}, Valentin
Amrhein^{1,2}, Fränzi
Korner-Nievergelt³
¹University of Basel
Department of
Environmental Sciences,
Basel, Switzerland.
²Research Station Petite
Camargue Alsacienne,
Saint Louis, France.
³oikostat GmbH, Ettiswil,
Switzerland

Stelios Katsanevakis¹,
Thanasis Nikolaou¹,
Konstantinos Tsirintanis¹,
Gil Rilov²
¹University of the
Aegean, Department of
Marine Sciences, Mytilini,
Greece. ²Israel
Oceanographic and
Limnological Research
Institute, Haifa, Israel

13:00 - 13:45

Lunch
Hall 1

13:45 - 15:00

Poster Session 2 (continued)
Hall 1

15:00 - 15:30

Plenary Speaker 9: Sandrine Dixson-Declève
Robert Costanza, Jan-Olaf Meynecke

15:00 - 15:30 [PLN9]
How does Earth4All model build on The Limits to Growth?
Sandrine Dixson-Declève
The Club of Rome, Brussels, Belgium

15:30 - 16:30

Closing Session
Arena 1B
Robert Costanza, B. Larry Li, Jan-Olaf Meynecke

15:30-16:00 Presentation of Distinguished Ecologists Awards
Robert Costanza, University College London, UK
William Mitsch, Florida Gulf Coast University, USA

16:00-16:30 Closing remarks

Sunday, 18th June 2023

08:30 - 17:00

Field Trips

07:00 – 14:00 Breakfast With Koalas & Behind The Scenes Tour at Currumbin Wildlife Sanctuary

07:00 – 19:30 Cultural Heritage and Flora and Fauna Tour of North Stradbroke Island (Minjerribah)

08:00 – 18:00 Mt Tamborine, Lamington, O'Reilly's & Vineyard with lunch & wine

09:00 – 13:00 Guided Bush Tour at Guanaba Indigenous Protected Area

11:00 – 15:00 Exclusive Gold Coast Whale Tour