Commission on Coastal Systems
Commission sur les Systèmes Côtiers

newsletter

Union Géographique Internationale
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Norbert P. Psuty, Co-Editor
Irene Delgado-Fernandez, Co-Editor

Objectives: The Commission on Coastal Systems encourages the study of coastal systems throughout the world. The Commission sponsors and supports activities leading to the exchange of information regarding coastal systems among our members and throughout the IGU at large. The focus of attention is on interactive systems, both human and physical, and the areas of inquiry include issues such as sea-level rise, land-use changes, estuarine resources, coastal tourism and shoreline development, coastal recreation, and coastal zone management. The Commission will make concerted efforts to emphasize issues of Global Change. Copies of our Newsletter and announcements are on our website: http://igu-coast.org/

MESSAGE FROM THE CHAIR

Welcome to the mid-year edition of the Commission on Coastal Systems newsletter. We are pleased to share with you information about coastal sessions recently held, imminent, or on the horizon. A thank you to the conveners of a coastal morphodynamics session held at this year's EGU General Assembly; we would like to encourage coastal researchers to consider further sessions at next year's EGU. We wish the organisers of Coastal Transitions in November a successful conference with their emphasis on re-imagining the Blue Economy. The 35th International Geographical Congress will be held in Dublin in August 2024, and the call for sessions is open. Several other coastal meeting are also forthcoming.

It is with great sadness that I inform the coastal community that Eric C.F. Bird passed away a few weeks ago. He made a major contribution to the geomorphology of coastlines around the world, and I note, in reviewing below some of the highlights of his contribution, that much of the global synthesis was undertaken while he was Chair of a forerunner of this Commission.

The newsletter highlights the EuroCoast webinar series and recent publications with a coastal focus. I am particularly grateful to Margarita Stancheva for collating this information, and welcome Irene Delgado-Fernandez as Co-Editor, and thank her for her willingness to help built our network. Details of the Commission can be found on our website, http://igu-coast.org; Take a moment to look at our Resources page, https://igu-coast.org/resources/. The Commission welcomes your participation, we would love to hear from you. Please share this newsletter with other interested coastal colleagues.

COLIN WOODROFFE

PHOTO OF THE ISSUE

The sea meets the archaeological site of Baelo Claudia at the beach of Bolinia (Andalusia, Spain). The Romans settled at this location some 2,000 years ago and developed an industry based on tuna fishing, salt extraction, and the production of *garum*. Bolonia is also well known for the large mobile dune system on its western end, and for the strong winds attracting thousands of windsurfers to this section of the Cadiz coastline.

Photo credits: CCS Committee Member Irene Delgado-Fernandez, Spain.

MEETINGS / SESSIONS SPONSORED OR CO-SPONSORED BY THE COMMISSION ON COASTAL SYSTEMS

NOVEMBER 8-10, 2023. COASTAL TRANSITIONS III CONFERENCE 2023. RE-IMAGINING COASTAL TRANSITIONS: DIVERSE BLUE ECONOMIES, CONNECTICUT, USA.

RE-IMAGINING COASTAL TRANSITIONS: DIVERSE BLUE ECONOMIES. COASTAL TRANSITIONS III CONFERENCE will be held in November 8 to 10 at the University of Connecticut Avery Point Campus, Groton, Connecticut, 2023. This conference aims to re-imagine the Blue Economy, not as a business-as-usual approach to economic development, but as an innovative framework that recognizes the diversity of economies, facilitates energized transdisciplinary dialogue and enables multi-stakeholder activation and empowerment in order to radically reframe coastal and marine economies.

“The post-Covid 19 recovery represents a once-in-a generation opportunity to radically reframe coastal and marine economies. The timing has never been more favorable, or indeed more critical, to urgently design, plan and deliver sustainable, innovative and Just Blue Economies” [Heidkamp, Garland, Morrissey, Germond-Duret, Kokorsch 2023]

Sub Themes:
Theoretical and methodological as well as empirical or case study contributions related (but not limited) to the following sub-themes are welcome:

- Justice and the Blue Economy (Blue Justice, Energy Justice, Food Justice, Climate Justice, etc.)
- Politicization and territorialization of Blue Economy spaces (security, safety and regulatory enforcement)
- Sustainable Prosperity and the Blue Economy - Employment, job creation, and poverty eradication
- Transdisciplinarity and/or Real Laboratories in the Blue Economy
- Sustainability Discourses of the Blue Economy (transformations, transitions; blue washing and extractivism)
- Socio-cultural dimensions of Diverse Blue Economies (social capital, cultural capital, adaptive capacity, etc.)
- Indigenous paradigms and traditional ecological knowledge of diverse Blue Economies
- The role of ocean/maritime clusters in fostering a just and sustainable Blue Economy
- Innovations in the Blue Economy – policy, practice, entrepreneurship and inclusion
- Evaluation and assessment of Blue Economy initiatives
- Communicating and representing diverse Blue Economies
- Participatory governance and stakeholder integration in Blue Economy decision making
- New academic practices and performances for the Blue Economy
- Smart shipping, ports, green ports, transportation, and global connectivity

Conference Organizers:

C. Patrick Heidkamp, Ph.D.; Southern Connecticut State University; heidkampc1@southernct.edu
Michaela Garland; University of Connecticut; michaela.garland@uconn.edu
Nat Trumbull, Ph.D.; University of Connecticut; trumbull@uconn.edu
Syma Ebbin, Ph.D.; University of Connecticut; syma.ebbin@uconn.edu
John Morrissey, Ph.D., Mary Immaculate College, University of Limerick; john.morrissey@mic.ul.ie

Follow the conference website for more info: http://www.coastaltransitions.org/

AUGUST 24-30, 2024. 35TH INTERNATIONAL GEOGRAPHICAL CONGRESS - PRE-MEETING FIELDTRIPS FROM DUBLIN, IRELAND

Theme: Coastal Dynamics in a Changing World

The IGU Coastal Commission is delighted to host a few short ½ day to 1 day field trips in advance of the IGC2024. The pre-meeting trips will include:

*Daytrip to **Wexford (Ireland's South-East):***
Various stops covering dynamic dune and beach areas as well as talks from citizen science, government and nature conservation organisations around challenges ahead for coastal management.



Top row: Dunes of Curralcloe, Wexford.
Bottom left: Kilmore Quay, Wexford.

(Photo credits: Iris Möller)

*Day or ½-day trip around sites in the **Dublin Bay Biosphere Reserve and bar-built east coast estuary:***
Various stops around Dublin Bay and north of Dublin: a very recently evolved urban coastal spit, south Dublin Bay; sites that highlight challenging coastal land use changes in a 21st Century urban context; the 'accidentally evolved' urban barrier Island of North Bull Island; a typical east-coast bar-built estuary and key management challenges around it.


Left: severe coastal erosion at Portrane, Co. Fingal; right: young coastal spit protecting infrastructure in south Dublin Bay.
(Photo credits: Iris Möller)

More details on the above trips and any additional trips offered will follow soon.

IGC delegates who may wish to visit Northern Ireland's coast may also wish to note that there are a number of day-trips offered by local tourism organisations that include visits to the Giant's Causeway and are available to book privately online via a number of well-established tourist companies (see the Tourist Information Centre (https://www.visitdublin.com/).

The Coastal Commission encourages anyone interested in attending the IGC to submit proposals for Coastal Sessions on the **IGC Call for Session Proposals, which is to close on 9th September**: https://igc2024dublin.org/call-for-sessions/

Please contact Prof Iris Möller (moelleri@tcd.ie) if you wish to register for the pre-meeting coastal fieldtrips.

APRIL 23-28, 2023. EUROPEAN GEOSCIENCES UNION GENERAL ASSEMBLY, VIENNA, AUSTRIA.

The General Assembly 2023 of the European Geosciences Union (EGU) was held at the Austria Centre Vienna (ACV) in Vienna, Austria and online, from 23–28 April 2023. One session was co-sponsored by the Commission on Coastal Systems:

GM 6.1: Coastal morphodynamics: nearshore, beach and dunes
The Coastal Morphodynamics session is now well established and was organised for the sixth time at the EGU2023 General Assembly. It examined coastal morphodynamics from the nearshore through to inland dune systems which are fundamental in understanding short- to long-term coastal behaviour. The session focused on dunes that provide the physical barrier to flooding during high energy storms, whereas beaches and nearshore areas help dissipate storm impact through a series of dynamic interactions involving sediment transfers and at times rapid morphological changes. Investigation of complex interactions between these three interconnected systems has become essential for understanding coastal behaviour.

The Coastal Morphodynamics session welcomed contributions from coastal scientists working at various spatial and temporal scales on measuring and modelling physical processes and responses within the three sub-units of the coastal profile. The solicited speaker this year was Prof. Ana Vila-Concejo, University of Sydney, who presented some her latest work on the Great Barrier Reef in Australia. Oral talks covered various topics ranging from reef dynamics to beach and nearshore environments, and dune processes. As usual, the poster session provided the perfect opportunity for lively discussions and networking.

The session was organised by Emilia Guisado-Pintado (Spain), Derek Jackson (UK), and Irene Delgado-Fernandez (Spain). It welcomed three additional conveners this year: Susana Costas (Portugal), Melanie Biausque (UK) and Edoardo Grottoli (UK).

Session link: https://meetingorganizer.copernicus.org/EGU23/session/47072

The next **EGU General Assembly 2024 will be on 14-19 April 2024 in Vienna, Austria. As usual, we are looking forward to your active participation again!**

Poster session at the GM 6.1 Coastal Morphodynamics: nearshore, beach and dunes EGU 2023 Assembly

(Photo credit: Emilia Guisado-Pintado)

SEPTEMBER 4-6, 2023. 10TH SHORT COURSE/CONFERENCE ON APPLIED COASTAL RESEARCH, ISTANBUL / TURKEY

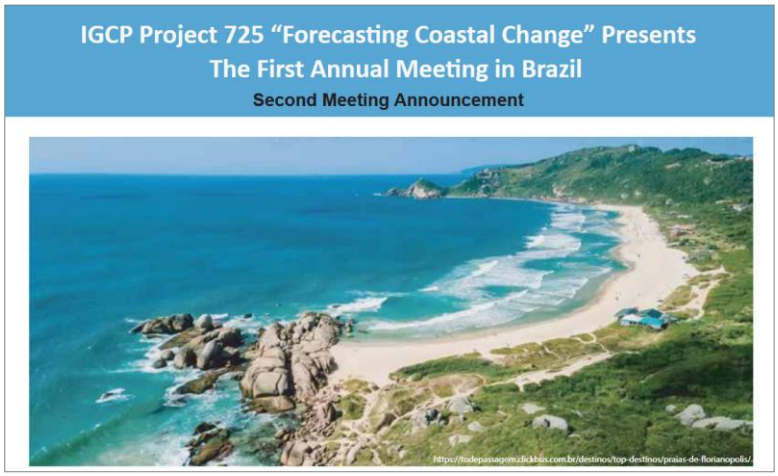
The SCACR brings together MSc and Ph.D. students, field and lab experimentalists, theoreticians and modelers in the field of coastal and port engineering. The aim of the SCACR events is to provide all participants with information on the latest developments from both scientific and engineering perspectives in coastal, port and offshore engineering and to exchange views with users and stake holders of the coastal zone.

In addition to the lectures from well recognized experts a number of technical papers is presented during the specialist sessions. SCACR is addressed to people who want to present their papers and to attend the short course lectures dealing with some of the "hot" topics in present coastal and port design research. All accepted and presented papers are published in the SCACR Proceedings. There will be a Special Issue of the peer reviewed journal (under Scopus indexing evaluation process), open access and free of charge, titled Coastal and Offshore Science and Engineering (COSE). The 10th SCACR will be held in Istanbul, Turkey.

Early registration deadline: July 31, 2023

Stay tuned for more information following the conference webpage: https://www.scacr2023.org/en/

OCTOBER 21-27, 2023. IGCP PROJECT 725 "FORECASTING COASTAL CHANGE", FLORIANOPOLIS, BRAZIL



The IGCP Project annual meeting announces its first conference in Brazil. The event will include oral and poster presentations, workshops, and various field trips to explore coastal evolution and Holocene sea-level changes among other topics.

For more information, please contact Project Leader Jessica Pilarczyk at jessica_pilarczyk@sfu.ca

OCTOBER 10-11, 2023. EUROCEAN "ONE OCEAN, ONE MISSION, ONE DECADE – ONE VOICE", VIGO, SPAIN

The EurOCEAN 2023 conference will take place on 10-11 October 2023 as an in-person event at the Auditorio y Palacio de Congresos Mar de Vigo, Galicia, Spain. EurOCEAN conferences are major European marine science-policy conferences organized every 4-5 years. They provide a forum for the marine and maritime research community and wider stakeholders to interface with European and Member State policymakers and strategic planners. The aim of the EurOCEAN 2023 science-policy conference is to highlight the synergies between the EU Mission: Restore our Ocean and Waters by 2030, other EU research and innovation, and management initiatives, and the UN Decade of Ocean Science for Sustainable Development. EurOCEAN 2023 will attract marine policy makers, marine scientists, science stakeholders and communicators, maritime industry representatives and European and national decision makers and programme managers, i.e. those that set, manage and implement the marine science agenda.

Conference topics include enabling ecosystem-based management for fisheries and conservation, addressing pharmaceutical pollution from inland to sea, transforming ports at the interface between land, society and the Blue Economy, ensuring ocean knowledge in the age of the Digital Ocean, changing humanity's relationship with the ocean: youth and art as agents of change, resilience of coastal cities (tbc), and rallying actions for Oceans & Waters.

Register by Friday 15 September 2023. More information: info@marineboard.eu
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APRIL 10-12, 2024. UN OCEAN DECADE CONFERENCE, BARCELONA, SPAIN

Hosted by Spain and co-organized with UNESCO's Intergovernmental Oceanographic Commission (IOC/UNESCO), the 2024 UN Ocean Decade Conference will take place on 10-12 April 2024 in the coastal city of Barcelona.

It will be a 3-day, in-person event co-led with a range of partners: Government of Catalonia and the Barcelona City Council through the Barcelona Capital Náutica Foundation, and the Spanish National Ocean Decade Committee, which is led by the Ministry of Science and Innovation through the Spanish Research Council (CSIC).

A key outcome of the 2024 UN Ocean Decade Conference will be the publication of a set of white papers related to the 10 Decade Challenges, that will identify future priorities for the Ocean Decade to generate the knowledge needed for science-based solutions related to global challenges, such as climate change, food security, biodiversity conservation, sustainable ocean economy, pollution and natural hazards.

More details: https://oceandecade.org/news/barcelona-to-host-2024-un-ocean-decade-conference/

EUROCOAST ZOOMINAR SERIES

The EuroCoast Zoominar series is an informal forum for coastal researchers across Europe to connect and share ideas. The focus is on bringing in a wide range of speakers to speak informally on their work or hot topics of the day. The secondary focus is to provide a safe platform for PhD students and post-docs to present a 'hot plot' of their work to make their research visible to the community, but to also get some constructive feedback from the community. Last, but not least, it is a great opportunity for coastal colleagues to keep up with each other's work!

Zoominars are held monthly, usually on the 3rd Friday of the month, at 1500 GMT. The Zoominar hosting moves around academic institutions within Europe that have coastal research groups. So far, the following institutions have hosted an EuroCoast Zoominar (and we´re always looking for more!): Plymouth University (UK), Université de Bordeaux (France), Edge Hill University (UK), TU Delft (Netherlands), Universidad de Cádiz (Spain), Liverpool University (UK).

Over 35 speakers from 10 different countries have contributed since the session first started in June 2020 (see the table below). Many students and early career scientists have participated with hot-plot presentations. All colleagues are thoroughly thanked for making the EuroCoast Zoominar series an o-going success!

July 2023	Jenny Brown	National Oceanography Centre (UK)	Exploring observations of local processes that influence wave overtopping hazard
June 2023	Ap van Dongeren	Deltares/IHE (Netherlands)	Modelling coastal flooding and erosion at continental scales
April 2023	Paola Passalacqua	University of Texas, Austin (US)	Analysis of spatial and temporal patterns of river-floodplain connectivity in river deltas
March 2023	Edward Anthony	Aix-en-Marseille (France)	River delta geomorphology and humans: a long and uneasy relationship
February 2023	Giovanni Coco	The University of Auckland (New Zealand)	The unbearable lightness of Machine Learning
January 2023	Britt Raubenheimer	Woods Hole Oceanographic Institution (US)	Groundwater, Storms, and the Beach
December 2022	Kathelijne Wijnberg	University of Twente (Netherlands)	Nature-based-engineering solutions for urbanized shores: effects of beach-zone buildings on aeolian morphodynamics´
November 2022	Chris Blenkinsopp	Bath University (UK)	Dynamic Cobble Berm Revetments for Coastal Protection on High-Energy Coastlines
October 2022	Nicoletta Leonardi	Liverpool University (UK)	Investigating Coastal Dynamics through Modelling and Deep Learning
September 2022	Clara Armroli	Universitá di Bologna (Italy)	A European Copernicus Coastal Flood Awareness System: the ECFAS project
July 2022	Aart Kroon	University of Copenhagen (Denmark)	Coastal evolution of Artic deltas in Greenland
June 2022	Curt Storlazzi	USGS (Santa Cruz, US)	Assessing the Role of Coral Reefs in Coastal Hazard Risk Reduction from the Scale of Kilometers to Centimeters'
May 2022	Eugene Farrell	NUI Galway (Ireland)	Building coastal resilience: one local community directing national policy
April 2022	Andrew Cooper	Ulster University (UK)	Predicting shoreline change: lessons from geomorphology
March 2022	Brad Murray	Duke University (US)	Coastline morphodynamics and anthropomorphodynamics: responses to climate change
February 2022	Karin Bryan	University of Waikato (New Zealand)	Incorporating wave dynamics in planning for coastal adaptation
January 2022	Bregje van Wesenbeeck	Deltares (Netherlands)	Building with Nature via full-scale experiments on wave attenuation by willow trees
December 2021	Stuart Pearson	Technical University Delft (Netherlands)	Sediment connectivity: a framework for analyzing coastal sediment transport pathways'

November 2021	Gerben Ruessink	Utrecht University (Netherlands)	Predicting monthly to multi-annual growth of an eroded foredune with a fetch-based aeolian sand transport model
October 2021	Marion Tissier	Technical University Delft (Netherlands)	'Bore merging on mildly sloping beaches
September 2021	Carlos Loureiro	University of Stirling (UK)	Geological controls on beach and nearshore morphodynamics
June 2021	Gerd Masselink	University of Plymouth (UK)	Response of reef islands to sea-level rise
May 2021	Robinson Davidson-Arnott	University of Guelph (Canada)	Coastal dune response to relative sea level rise
April 2021	Irene Delgado-Fernandez	Edge-Hill University (UK)	Coastal aerodynamics and sand transfers to coastal dunes with sea-level rise
March 2021	Fernando Mendez	Universidad de Cantabria (Spain)	Weather-type-based models for the analysis of coastal flooding and erosion
February 2021	Daniel Buscombe	United States Geological Survey (US)	Beyond x,y,z(t): unlocking the potential of Machine Learning for large-scale coastal observation
Dicember 2020	Helene Burningham	University College London (UK)	Exploring the variability in patterns of shoreline change
November 2020	Stefan Aarninkhof	Technical University Delft (Netherlands)	Building with Nature: An approach for climate resilient infrastructure
October 2020	Melanie Biausque	Ulster University (UK)	Multiple Intertidal bars on beaches
September 2020	Valerie Reijers	Utrecht University (Netherlands)	The dance of Ammophilia: the role of individual-scale movement processes in coastal dune formation
August 2020	Konstantinos Matsoukis	University of Lancaster (UK)	Investigation of the spatial & temporal salinity distribution in river deltas through idealised modelling
July 2020	Charlotte Lyddon	Liverpool University (UK)	Quantifying the impacts of uncertainty in coastal hazard prediction
June 2020	Jak McCarroll	D. Environment, Land, Water & Planning (Victoria, AU)	A novel rules-based shoreface translation model for predicting future coastal change

For signing up to the EuroCoast Zoominar Series, please email one of the following contact points:

- Gerd Masselink (gerd.masselink@plymouth.ac.uk), University of Plymouth (UK)
- Bruno Castelle (bruno.castelle@u-bordeaux.fr) and Olivier Burvingt (olivier.burvingt@u-bordeaux.fr), Université de Bordeaux (France):
- Irene Delgado-Fernandez (irene.delgado@uca.es), Universidad de Cádiz, Spain

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SPECIAL ISSUE: "Learning from Geomorphological Adaptation of Coasts at Different Time Scales"

Journal of *Marine Science and Engineering*

A Special Issue is currently open to submissions on topics ranging from coastal barrier evolution, beach and dune morphodynamics, coastal adaptation and cross-scale integration of sandy coastline change, among other themes

Guest editors are **Dr Susana Costas** (Centro de Investigação Marinha e Ambiental (CIMA), Universidade do Algarve, Portugal) and **Prof. Dr. Duncan M. FitzGerald (**Department of Earth and Environment, Boston University, USA). The objective of the SI is to bring in examples that show how coastal systems react and adapt at different temporal scales and to different stressors.

Natural systems respond and adapt to changing environmental conditions or other disturbances through time. A major constraint in understanding coastal adaptation at long-term temporal scales lies in the elevated degree of complexity of the responses, a consequence of their non-linearity and the many feedbacks that exist among the different components of a coastal system. This prevents extrapolating observations capturing short- to medium-term coastal adaptations. The stratigraphic record may significantly contribute to understanding the response of natural systems at longer time scales. However, the testimony left by the continuum of change in the coast may be partially incomplete or may not capture all possible response pathways. As coastal resilience is inextricably linked to these adaptation

strategies, taking place over the full spectrum of coastal change, it is extremely relevant to explore and compile examples assessing the different scales of change, in order to identify not only possible tipping points but also the consequences of crossing such boundaries.

More details available at the Journal of Marine Science and Engineering website here:
https://www.mdpi.com/journal/jmse/special_issues/geomorphological_adaptation#info

For information on submissions, please contact SI Editor, Dr Susana Costas (Universidade do Algrave, Portugal)

NEW RESOURCES: Coast2Cast Podcasts

The Coast2Cast series is a series of interviews conducted by Giovanni Coco (University of Auckland) and Ana Vila-Concejo (University of Sydney) since 2021. These two world-leading academics decided to interview scientists around the world, asking them the same set of questions. The aim was to know a bit more about their life, interests, and their take on general research issues.

The series covers interviews with researchers from many different backgrounds around the globe. The links to podcasts can be found on Spotify, Google Podcasts and Podbean, with more than 50 scientists interviewed to date.

More details on the https://igu-coast.org/ "Resources tab" and on the Coast and Ocean Collective's website:
https://coastalhub.science/coast2cast

By Ana Vila-Concejo and Giovanni Coco

GEO-VIRTUAL FIELDTRIPS

The Geo-Virtual Fieldtrips platform includes virtual field trips in coastal geomorphology among other topics. It has been established by a new working group at the International Association of Geomorphologist. The aim of the newly created WG is to form an international network of geomorphologists that help share expertise and promote virtual field trips among the scientific community and beyond.

The virtual platform facilitates the distribution of 3D animations, VR videos, and other educational materials. Virtual fieldtrips can be a valuable addition to the promotion of different interesting and unique geomorphological sites that can attract more geo-tourists and contributes to the sustainable economy of the local society. Virtual field trips will enable the societies to acquire knowledge about the causes and consequences of geomorphological hazards through which the value of geomorphology among the common mass will be increased. It will also increase the awareness of scientists from other disciplines, stakeholders, decision makers, planners, authorities, and the general public about the role of geomorphology in understanding the evolution, promotion and protection of different landforms.

More details, including how to join the IAG virtual field trips WG, can be found here: https://geovirtualfieldtrips.com/

Information sent by CCS Committee member Dr Niki Evelpidou

FUTURE EARTH COASTS

Future Earth Coasts (FEC) (https://www.futureearthcoasts.org/) is a multi-disciplinary Global Research Network of Future Earth (https://futureearth.org/) focused on promoting coastal research from wide range of researchers. FEC is currently involved in global initiatives ranging from understanding anthropogenic stress in mega deltas to building circles of coastal sustainability.

Subscribe to their newsletter for more information- https://www.futureearthcoasts.org/email-newsletter/#"

Information sent by CCS Committee member Dr Dhritiraj Sengupta
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IN MEMORIAM: PROF. ERIC BIRD

It is with the greatest sadness that we inform the coastal community that Eric Charles Frederick Bird (born 2 September 1930) passed away on 8 June 2023.

Eric was an internationally acclaimed geographer best known for his textbooks on coastal geomorphology. His classic book, "*Coasts"* (Australian National University Press, first published in Australia in 1968, reprinted in 1972, and in second edition in 1976), was an updated version of his earlier teaching studies entitled "*Coastal Landforms: an introduction to coastal geomorphology with Australian examples*" (1964), published while he was a Senior Lecturer in Geography at the Australian National University. He brought together his familiarity with the coast of Britain (he was trained at King's College London) and the knowledge he gained from his studies in Australia, and augmented these with first-hand experience in parts of Western Europe and the United States. Having held academic appointments at King's College and University College London, the Australian National University, the University of Melbourne and the United Nations University in Tokyo, these teaching materials were later expanded in "*Coastal Geomorphology: An Introduction"* (Wiley, 2000, and second edition 2008) when he was Principal Fellow in the Department of Geography, University of Melbourne.

Eric completed a PhD under the supervision of Joe Jennings at the Australian National University on the geomorphology of Gippsland Lakes in Victoria, an estuarine system of segmented lagoons occluded behind the sandy barrier of Ninety Mile Beach. His studies were published in *"Geomorphological Study of the Gippsland Lakes*" in 1965 as a monograph of the Research School of Pacific Studies ANU. Eric continued to work on this part of the Victorian coast, revising his interpretation as new evidence and new technologies provided greater insights into landform evolution. His studies there continue to provide inspiration for ongoing research into how the area has evolved, as well as a foundation for considering how the wetlands and low-lying settlement called Lakes Entrance will respond in the face of anthropogenic pressures and sea-level rise. Eric produced a book, *"The Coast of Victoria"* (Melbourne University Press, 1993) which is a comprehensive assessment of the entire coastline of that state.

Eric was an astute observer with an inquiring mind, and he was a prolific writer. He wrote insightful descriptions of a wide range of coastal landforms, and published across a broad spectrum of academic outlets. Whereas his assessments of various estuarine systems around the Australian coast and the formation of beach-ridge plains were published largely in specialist Australian journals of geography and science, he wrote many more local studies, including on mangrove shorelines and coral reefs, which appeared in naturalist or other regional publications. In 1993, he published *"Submerging coasts: the effects of a rising sea level on coastal environments"* (Wiley), in the Coastal Morphology and Research series of which he was editor. This book arose from his involvement with the United Nations Environment Programme (UNEP) that had sponsored research on an assessment of the effects of rising sea level on various coastlines around the world. This synthesis is an underappreciated compilation of the effects of sea-level rise on different coasts. His ability to synthesise his own knowledge, together with that of other specialists, is apparent in a further sequence of books on particular coastal topics, including *"Beach Management"* (Wiley, 1996), *"Beach Renourishment"* (Springer, 2015, with Nick Lewis), and *"Coastal Cliffs: Morphology and Management"* (Springer, 2016). Eric also wrote a number of more local guides (The Geology and Scenery of Dorset, and The Shaping of the Isle of Wight: With an Excursion Guide), as well as accounts of what he called literary journeys of writers (such as Thomas Hardy and John Fowles) from along the south coast of Britain. He continued his prodigious publication output into his late eighties, producing a guide to Melbourne's Bayside Geology and Scenery (Sandringham and District Historical Society, 2019).

Dr Eric Bird depicted with two of his students among the mangroves of Western Port Bay on Australia's south-east coast, Victoria, [photograph1986] Australian Information Service. National Library of Australia, nla.obj-137161671

In the early 1970s Eric commenced a long association with the International Geographical Union (IGU). He became Chairman of the Working Group on the "*Dynamics of Coastline Erosion*" (1972-76). In 1976 he produced a report with Vincent May, entitled *"Shoreline changes in the British Isles during the past century"* (Bournemouth College of Technology), building on studies undertaken by the Royal Commission on Coastal Erosion in Britain in the early years of the 20th century. As Chair of the IGU Commission on the Coastal Environment (1976-84), Eric served as convenor for worldwide studies of coastline changes and he brought together information from over 200 correspondents representing 127 countries in *"Coastline Changes: A Global Review"* (Wiley, 1985). A conclusion of these wide-ranging studies was that "erosion has been more extensive than deposition around the world's coastline in recent decades, especially on low-lying sandy coasts". In the same year, he and Maurice Schwartz edited a more comprehensive account of these studies, published as *"The World's Coastline"* (Van Nostrand Reinhold, New York). Ever ready to embrace new opportunities for sharing information, this compendium formed the basis for ***The World's Coasts: Online*** (Springer), an online encyclopedia that expanded on the World's Coastline hardbound book content to pull together the vast data available on coastlines around the world. Then in 2010, Eric edited a further expansion entitled the *"Encyclopedia of the World's Coastal Landforms"* (Springer).

A major outcome of this immense compilation was recognition of the widespread prevalence of coastal erosion, and that the assumption that 'erosion on some sectors of sandy shorelines is balanced by deposition on other sectors' is incorrect. The results of his extensive travels and experience through this association with the IGU Commission on the Coastal Environment and the United Nations University, and the contributions of the many international contributors, indicated that more than 70% of the world's sandy coastlines had retreated, and less than 10% had prograded. Inevitably, such a generalisation became frequently referred to as an increasing number of researchers examined the effects of rising sea levels and the complexities of beach management. Many of the beaches that show signs of erosion recover in the intervals between storms, and there remains much work to do to discriminate the longer-term trajectory of particular sectors of coastline. Eric clearly acknowledged that there was not a simple explanation to explain widespread coastal erosion, and that it involved a number of factors.

In the Preface of his book *"Geology and Scenery of Dorset"* (Ex Libris Press, 1995), Eric describes how he was inspired, as a student, during a field excursion in 1951 to the coast of Dorset organised by the Lyell Club of King's College London. The fieldtrip leader, Professor Kirkaldy, had delineated (with the stem of his pipe) the landscape geology and structure and its dissection by river and coastal erosion, from the vantage point of the Downs. Eric wrote 'I found it a fascinating story, and by the time we were walking down the cliff path towards Studland I had resolved that, if I could, I would become a geomorphologist, a student of landforms and their evolution'.

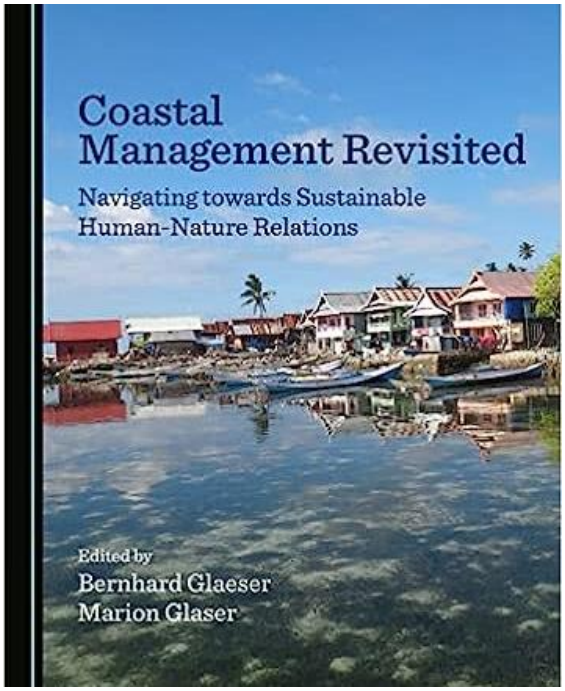
He saw 'pleasure, as well as scientific rewards' in exploring coastal landscapes, and he has shared those inspirational insights across the globe, through his collaborations with coastal researchers and the publications he has written or edited. A personal appreciation of his contribution to coastal geomorphological studies in Australia has been written by Bruce Thom in his blog for the Australian Coastal Society, and can be read at https://australiancoastalsociety.org.au/acs-blog/2023/06/vale-eric-bird-international-coastal-geomorphologist/

Much of Eric Bird's review of coastlines around the world was achieved through the Commission on Coastal Environment, and he has made an enormous contribution to the IGU and to coastal researchers, in Australia, in the United Kingdom, and around the world. The coastal community has lost a giant in the field; his legacy will provide a foundation on which coastal researchers can build as our shorelines are threatened by ever more anthropogenic and climate-related impacts.

BOOKS & REPORTS ON COASTAL AND MARINE TOPICS

COASTAL MANAGEMENT REVISITED. Navigating towards Sustainable Human-Nature Relations

Edited by Bernhard Glaeser and Marion Glase



Coastal Management Revisited: Navigating Towards Sustainable Human-Nature Relations presents an account of twenty plus years of research on coasts, oceans and small islands, linking social and ecological systems, in close collaboration with natural scientists, managers, policy makers and the local populations involved.

The book presents an overview and historic perspectives of a novel scientific field coming of age today: coastal and ocean management. It covers diverse and changing issues, ranging from conflict resolution to governance and ethical-political imperatives, natural disasters and climate change, culminating in coastal and ocean typologies, the basis for a future theory of coasts and oceans. Eighteen chapters, written by two main authors in cooperation with international experts, review 25 years of research. The authors address challenges to society related to global change issues that have been generated by human activity in both temperate (Sweden, Germany and the United States) and tropical regions (Brazil, Indonesia).

Ultimately, the book documents the maturation of a field and responds to changing societal needs and scientific outlooks. It gathers recent analyses along with important earlier research, with a foreword by Biliana Cicin-Sain and Richard Delaney, globally renowned as coastal and ocean experts in theory and practice. Its broad approach makes

the book a must-read for graduate and postgraduate students, as well as coastal management and marine spatial planning practitioners, and for researchers in the fields of geography, anthropology, history of science, human and social ecology, and environmental and development studies.

February 2023, Cambridge Scholars Publishing: https://www.cambridgescholars.com/product/978-1-5275-9267-4.

ANNUAL STATE OF THE GLOBAL CLIMATE REPORT highlights continuous advance of climate change.

Published by: Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO)

Featuring the latest data from IOC/UNESCO on ocean acidification levels across the global ocean, the WMO State of the Global Climate report 2022 focuses on key climate indicators: greenhouse gases, temperatures, sea level rise, ocean heat and acidification, sea ice and glaciers.

It also highlights the impacts of climate change and extreme weather. Contents include:

- Drought, floods and heatwaves affect large parts of the world and the costs are rising
- Global mean temperatures for the past 8 years have been the highest on record
- Sea level and ocean heat are at record levels – and this trend will continue for many centuries
- Antarctic sea ice falls to lowest extent on record
- Europe shatters records for glacier melt

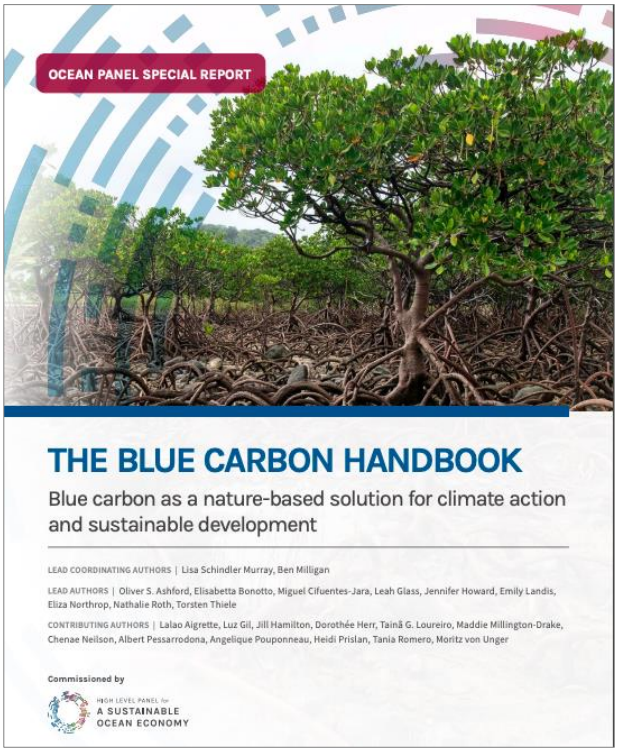
From mountain peaks to ocean depths, climate change continued its advance in 2022, according to the annual report from the World Meteorological Organization (WMO). Droughts, floods and heatwaves affected communities on every continent and cost many billions of dollars. Antarctic sea ice fell to its lowest extent on record and the melting of some European glaciers was, literally, off the charts. The State of the Global Climate 2022 shows the planetary scale changes on land, in the ocean and in the atmosphere caused by record levels of heat-trapping greenhouse gases. For global temperature, the years 2015-2022 were the eight warmest on record despite the cooling impact of a La Niña event for the past three years. The melting of glaciers and sea level rise - which again reached record levels in 2022 - will continue to up to thousands of years.

The full report can be read ***here*****!**

BLUE CARBON HANDBOOK: Managing blue carbon as a nature-based solution for supporting sustainable development.

Published by Ocean Panel: https://oceanpanel.org/publication/blue-carbon/

With the urgent need for accelerated climate action to halt the worst impacts of climate change, the world's coastlines offer a natural solution in 'blue carbon' ecosystems that can have an immediate impact. Blue carbon ecosystems such as mangrove forests, seagrass beds and tidal marshes are vital natural assets. Their importance in helping to mitigate climate change is, on its own, a strong argument for their active protection and conservation.



Yet, these ecosystems also provide a myriad of other local and global benefits such as enhancing biodiversity, supporting the food and economic security of coastal communities, and buffering and protecting coasts from erosion and flooding, reinforcing their wider importance for sustainable development. While global interest in blue carbon is rising, the full potential of this nature-based solution for delivering on the ambitions of the Paris Agreement, the Kunming-Montreal Global Biodiversity Framework, and a sustainable ocean economy is not yet being realised. Meanwhile these ecosystems continue to be destroyed and degraded worldwide.

The *Blue Carbon Handbook: Managing blue carbon as a nature-based solution for supporting sustainable development* is an essential guide to blue carbon ecosystems and the benefits they provide to people and nature. The handbook was developed to provide decision-makers with a broad understanding of blue carbon, and to help support decision-making and project implementation.

It covers topics ranging from the sequestration potential of different blue carbon ecosystems to the policy landscape surrounding blue carbon and the carbon market and other financing options for blue carbon projects. This report can be read 'cover to cover', or used as a quick reference guide.

Read full report *here*!

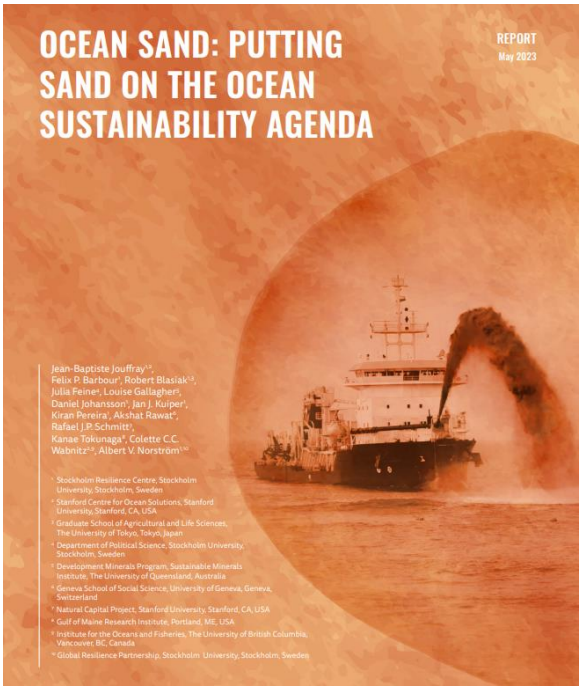
OCEAN SAND: PUTTING SAND ON THE OCEAN SUSTAINABILITY AGENDA

Published by the Ocean Risk and Resilience Action Alliance (ORRAA)

Sand in the ocean ecosystem. The marine and coastal environment is both a sink for sand delivered from rivers and an active source of sand, continuously subject to erosional and depositional processes, longshore currents, tides, waves and bio-erosion. Naturally-occurring sand acts as both a connector and a buffer at the land-sea interface.

Australian Conservation Foundation (ACF) members unfurl a banner protesting sand mining on Minjerribah/North Stradbroke Island, August 2013. Credit: ACF

It functionally links the marine and terrestrial ecosystems while protecting the land and stabilizing the coastline in what is generally considered one of the most cost-effective climate mitigation strategies to enhance coastal resilience. It underpins island morphology, shapes the seabed, controls coastal erosion, offers essential nutrients and maintains biodiversity through the formation of sand bars, beaches, dunes and other coastal landforms that support highly specialized biotic assemblages and provide habitat for a wide variety of species.



Environmental impacts. By their very nature, dredging and coastal sand mining practices imply the relocation of large volumes of earth, resulting in critical habitat destruction, loss of biodiversity, sediment suspension, and changes in the bathymetry and topography of the seabed. This causes direct loss of organisms and disrupts entire food webs, leading to a decline in ecosystem functions and services, and a long-term loss of resilience to other stressors. Sand extraction is also a major driver of coastal erosion, accelerating the loss of protective features such as beaches, dunes and sandbars. This increases the vulnerability of the shoreline to floods and storm surges (including salinization of coastal aquifers) and puts at risk the integrity of coastal infrastructure and assets.

Other widespread ecological impacts include noise and chemical pollution, transfer of invasive species, and greenhouse gas emissions. In some cases, it can take up to several decades to recover from damage to the ecosystem whereas other changes are irreversible.

Read the full report here:
https://oceanrisk.earth/wp-content/uploads/2023/05/ORRAA_Ocean_Sand_report.pdf
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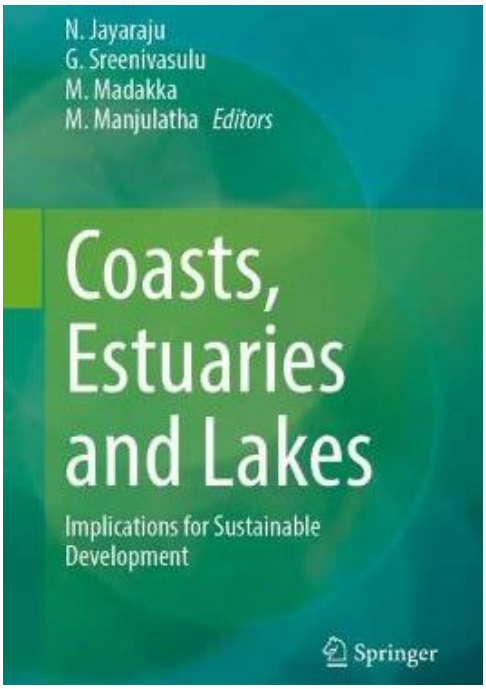
COASTS, ESTUARIES AND LAKES: IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

Edited by N. Jayaraju, M. Madakka, M. Manjulatha, G. Sreenivasulu



This volume discusses geological, biological and sustainability aspects of coastal, estuary and lake environments. It offers a comprehensive understanding of biotic, physico-chemical, sedimentological and socio-environmental factors associated with the sustainable development of these environments in areas vulnerable to climate change and other anthropogenic activities.

The book is divided into several main sections, covering the geological and biological processes and dynamics of these environments, water quality and hydrological modeling, sediment characteristics, bio-indicators and ecological analysis, climate change impacts, geospatial applications, and sustainable development practices and scenarios. The book aims to be a useful resource for academics, scientists, coastal and marine practitioners, meteorologists, environmental consultants, and computing experts working in the areas of earth & ocean sciences.

Published by: Springer International Publishing AG:
https://www.summerfieldbooks.com/product/coasts-estuaries-and-lakes-implications-for-sustainable-development/

The IGU Commission on Coastal Systems (CCS) website is at: http://igu-coast.org/

Mike Meadows, Professor at the Department of Environmental & Geographical Science, University of Cape Town, South Africa, President of the International Geographical Union (IGU), is our liaison with the executive committee of the IGU: michael.meadows@uct.ac.za

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Thank you for your cooperation. Margarita, Norb, and Irene

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