

newsletter

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Margarita Stancheva, Editor

Norbert P. Psuty, 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://www.igu-ccs.org/>.

MESSAGE FROM THE CHAIR

The COVID-19 pandemic has had a devastating impact across the world in 2020. When we produced the Commission's newsletter in January of this year, it was with the anticipation of the role that researchers could play at the start of a decade in which coastal environments will be increasingly impacted, both by anthropogenic stresses and by the subtle effects of climate change. Since then, I am sure that you have all been affected, one way or another, by the restrictions that have been necessary in order to attempt to control the global spread of this sinister virus. I hope that each of you is in good health and that you have been able to cope with whatever implications these limitations have had for you.

At the start of the year, we looked forward to a rich program of conferences championing coastal issues and promoting coastal management and maritime planning. Organisers of those symposia have had to make difficult decisions as to the fate of the meetings; and each in succession has needed to re-design, modify, and in many cases postpone events. International travel has been decimated, and it is clear that it will be months, or more probably years, before we travel with the ease that made attending these networking opportunities possible.

At this time, I expected to have been preparing to attend the International Geographic Congress in Istanbul, where Margarita Stancheva and I were looking forward to welcoming many of you to a session we would have been convening on "**Sustaining coastal and marine environments in the Anthropocene**". The IGC, like many conferences, has now been postponed to 2021. So too have several other conferences that the Commission on Coastal Systems is pleased to be sponsoring. Details of these forthcoming meetings and their plans as of now can be found in the pages that follow, as can links to their webpages on which updates will appear as circumstances unfold.

The International Geographical Union, in collaboration with the Geographical Society of China, acted speedily to contribute geographical expertise to the global coronavirus research effort. Prof. Yukio Himiyama, President of IGU, forwarded a call for joint efforts from geographers worldwide to combat the virus. The IGU Commission on Health and Environment together with the IGU Commission on Agriculture Geography and Land Engineering were quick to respond and there have been papers published as well as a special IGU working group set up to analyse the

interdisciplinary lessons learned in the context of global health and comprehensive approaches to health geography and spatial epidemiology.

The Commission on Coastal Systems, although not directly able to contribute in the context of health issues, could also play a role in facilitating new ways to disseminate information about coastal issues. It seems inevitable that conferences as we knew them will be changed forever. Although international meetings, workshops and symposia provide unequalled opportunities to meet with colleagues with common interests and to build networks, it is clear that there are other ways to communicate across the continents, and it is going to be important to embrace these instead of, and in addition to, these traditional gatherings.

I do believe that CCS could play a much more prominent role than it has in the exchange of ideas and resources relevant to coastal systems. As I move rapidly towards delivering teaching materials online, I am becoming more aware of the potential of virtual fieldtrips. As it becomes harder to travel, internationally, domestically, even locally, I wonder about the untapped potential of global databases, of interactive mapping applications, and the wider availability of imagery, whether from satellite, aircraft or drone, ROV, AUV or glider. I am keen to foster a broader discussion of these potentialities, and would welcome contributions on these topics, to future newsletters, or through email and more immediate platforms for data sharing.

The good news is that there are still plenty of opportunities to share the outcomes of research and to facilitate wider discussion. The following pages are full, not only of information on forthcoming conferences and workshops, many of which are delayed, but also of those events that have been successfully held in these difficult times. Foremost amongst the latter are the special sessions convened at the EGU General Assembly on 8 May 2020. Although the usual annual meeting did not go ahead in Vienna, virtual sessions were held with presentations uploaded to the EGU website and available for free viewing and comment on Chat. I thank Derek Jackson and co-conveners: Emilia Guisado-Pintado and Irene Delgado-Fernandez for the session on **Coastal morphodynamics: nearshore, beach and dunes**, and Hannes Tönisson and co-conveners: Margarita Stancheva, Andreas Baas, Giorgio Anfuso, and Guillaume Brunier for the session on **Coastal Zone Geomorphological Interactions: Natural versus Human-Induced Driving Factors**. These sessions were well attended (virtually; there are further details later in this newsletter) and it has given me an insight into one way in which future conferences might be increasingly offered.

What was particularly pleasing were the many presentations by early career researchers. I would also like to mention a further coastal session held at EGU, convened by Deirdre Ryan and colleagues from Bremen, which covered some very topical sea-level issues. Deidre has contributed a summary of the new Marine and Coastal Division of the Geological Society of America to this newsletter. And in that respect, I have also been pleased to discover a very active network of Young Coastal Scientists and Engineers. I was unaware of this organisation, but it appears to have held conferences in the United Kingdom for more than a decade, and to have commenced in the United States in 2014. I learned of this with the inaugural Australian Young Coastal Scientists and Engineers Conference planned for 2020. As with the UK and US groups, the get-together could not be held this year, but Hannah Power, of Newcastle University (in New South Wales) has just hosted a very successful online Zoom event. This comprised a keynote session, panel discussion, express courses, and four sessions of lightning 3-minute research presentations. My congratulations to the organisers of this event and to the contributors for their high standard of presentation. It is re-assuring that our coastal disciplines have such high calibre young practitioners; as Hannah said in her welcome to this event, many of these postgraduates and post-doctoral researchers are the driving force of research, having the time and energy to undertake the field investigations and the social networking skills to share their results.

You can read about these and other initiatives in this mid-2020 Newsletter. I thank Margarita for compiling this information, Norb Psuty for his ongoing support, and David R. Green for taking on the role of Vice-Chair. The longer-term success of the Commission on Coastal Systems depends upon its members. The Commission would be interested to hear from early or mid-career researchers who could assist in setting a direction for CCS and joining the Steering Committee. I hope you enjoy this newsletter and I urge you to participate by sharing information and disseminating this newsletter to other potential members and interested readers. I wish you all a very safe time in these challenging conditions.

COLIN WOODROFFE

PHOTO OF THE ISSUE



The oblique photograph of the saltmarsh at Tynninghame, near Dunbar, Scotland, UK was taken with a DJI Mavic 2 Pro Drone (photographer and pilot: Billy J. Gregory of DroneLite: www.dronelite.co.uk) and the vertical photograph of the saltmarsh at Tynninghame, near Dunbar, Scotland, UK was taken on the same day - as part of the same project - with a Wingtra VTOL (photographer and pilot: Dave Harrison of Geo4D (<https://www.geo-4d.com/>))



Photo credits:

Billy J. Gregory (DroneLite)/David R. Green (UoA)/Dmitri Mauquoy (UoA)/Andrew Smith (UoA)/Dave Harrison (Geo4D) (L to R).

Submitted by CCS Vice Chair: David R. Green, Aberdeen University, Scotland, UK.

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

POSTPONED: AUGUST 16 – 20, 2021, 34th INTERNATIONAL GEOGRAPHICAL CONGRESS (IGC) “GEOGRAPHY: BRIDGING THE CONTINENTS”, ISTANBUL, TURKEY

**34th International
GEOGRAPHICAL
Congress**
17-21 AUGUST, 2020 • Istanbul
Istanbul University
"Geography: bridging the continents"



At IGC, CCS will convene a session entitled “Sustaining coastal and marine environments in the Anthropocene”. The burgeoning populations of the continents are placing increasing pressures on the coastline and the marine areas that surround them. The seaside is generally an area of beauty and bounty. People value these environments for

their abundant resources, as well as for cultural and recreational sustenance. However, as the global population expands, the connections and conflicts between people and nature are nowhere more apparent than in Coastal Systems. The **Commission on Coastal Systems** encourages the study of coastal areas throughout the world and welcomes papers on sustaining coastal and marine environments in the Anthropocene. The focus of this session is on interactive systems, both human and physical. Coastal and adjacent marine zones are threatened by natural and anthropogenic activities in the catchments. The low-lying plains associated with deltas and estuaries support ever increasing populations engaged in agriculture, fishing, aquaculture and industrial activities. Rapid urbanization is being experienced with many of the world’s megacities on deltas associated with big rivers; deltaic cities are home to more than 150 million people and seem likely to exceed 200 million in the next two decades. These human activities are directly impacting coastal and marine ecosystem services through pollution and degradation. The pressures are exacerbated by climate change which is particularly evident in these areas through observed trends of sea-level rise. There is pressing need for adaptation along much of the world’s coastlines.

This coastal session will provide a chance for a wide range of physical and social scientists, students, administrators, stakeholders and decision makers to share their insights and invaluable experiences on the state of the coast, and to move towards much wiser use and management of coastal and marine resources so humans can protect and sustain these critical, yet vulnerable habitats for generations to come.

The session is being organized by Colin Woodroffe (Australia) and Margarita Stancheva (Bulgaria)

The 34th IGC conference has been postponed due to the ongoing global COVID-19 spread and it will be held at the same venue between 16-20 August 2021. Due to the postponement the important dates of the conference have been rescheduled, find the details below:

Deadline for abstract papers and posters submission – 11 January 2021

Notification of acceptance (new abstracts) – 08 February 2021

Authors’ registration deadline – 05 April 2021

Early bird registration – 05 April 2021

Regular registration – 06 April – 21 June 2021

Late & On-site registration – 22 June – 20 August 2021

Previously the organizers have received total of 170 sessions suggested for the conference and after the abstract submission deadline 140 session have received submissions. They have decided to keep these active sessions only and the submission platform for next year will only include these active topics. It is not planning to open session applications for next year, **however any session proposals regarding the COVID-19 pandemic will be welcomed by the local organizing committee.**

Stay tuned via the congress website for more information on abstract submission, deadlines, registration and other details: <https://www.igc2020.org/en/default.asp>.

For more details, please contact **Colin Woodroffe**: colin@uow.edu.au

POSTPONED: COASTGIS 2020: "SUSTAINABLE COASTAL PLANNING IN A CHANGING WORLD" RASEBORG FINLAND



Photo: Ekenäs Old Town by Johan Ljungqvist for Visit Raseborg

CoastGIS 2020 will not be held as planned on 17-19 September 2020.

Instead, **CoastGIS 2021** will be held on **16-18 September 2021** in Raseborg, Finland as a hybrid event, enabling both in-person and virtual participation. We will communicate further about the new submission and registration periods, programme, and other information when more arrangements have been made. This information will be shared on the CoastGIS 2021 website and via newsletter.

If you would like to be added to the newsletter mailing list, please send an email to coastgis2020@novia.fi with the subject line "Newsletter".

Overview

CoastGIS 2021 will be held in Raseborg on the South Coast of Finland at Novia University of Applied Sciences. The symposium will be the 14th consecutive symposium for an international exchange of knowledge, ideas and experience on how spatial data and information technologies aid marine and coastal zone managers and stakeholders in better understanding and managing coastal space and resources. As in previous years, a wide range of topics will be covered including technological advances and analyses, as well as applications and policies for solving coastal challenges. Field trips to the spectacular Finnish archipelago and the historical town Fiskars will be organized!

The symposium theme "**Sustainable Coastal Planning in a Changing World**" refers to the challenges faced worldwide in light of sustainable development and emphasis will be on cooperation in spatial planning between countries. The symposium aims to address recent challenges in managing our coastlines effectively and sustainably.

What is CoastGIS?

CoastGIS is a biennial series of symposia that brings together practitioners and researchers in the fields of marine and coastal Geographic Information Systems, remote sensing, and computer cartography. It is an established major international coastal and marine event attracting delegates from around the globe. A wide range of topics have been covered in previous years covering technological advances and progress, and the evolving challenges.

The **CoastGIS International Symposium** is usually held once every two years under the joint scientific sponsorship of the Commission on Coastal Systems of the International Geographical Union (IGU/CCS) and the Commission on Marine Cartography of the International Cartographic Association (ICA/CMC).

The first International Symposium on GIS and Computer Cartography for Coastal Zone Management, CoastGIS, took place at University College Cork in Ireland in 1995. The second CoastGIS meeting took place in Aberdeen, Scotland, two years later and, since then, CoastGIS symposia have been held in Brest, France in 1999; Halifax, Nova Scotia in 2001; Genoa, Italy in 2003; Aberdeen again in 2005; Sydney and Wollongong, Australia, in 2006; Santander, Spain in 2007; Santa Catarina, Brazil, in 2009; Oostende, Belgium, in 2011; Victoria, on Canada's West Coast in 2013, Cape Town, South Africa in 2015 and Ísafjörður, Iceland in 2018. Over the years the CoastGIS events continue to provide a showcase for new developments in information management and technology as well as a learning experience for all involved in coastal zone management, science, and research.

Abstract submission and registration

Abstract submission and early bird registration will tentatively open in early 2021. We will communicate finalized schedules on the CoastGIS website and via newsletter. **Tentative schedule:**

- **Abstract submission** will be open from **15 January – 31 March 2021**
- **Early bird registration** will be open from **15 January – 31 March 2021**
- **Notification of abstract acceptance** will be provided on **15 April 2021**
- **Release of symposium programme** will be made on **15 April 2021**
- **General registration** will be open from **15 April – 31 August 2021**

Contributions related to the following themes, but not restricted to them, are invited for abstract submission:

- **Coastal surveys and mapping**
 - Satellite applications
 - Seabed mapping
 - Ecological surveys
- **Data Analyses / Analytical approaches**
 - Statistical modelling
 - Data bases and meta data
 - Marine spatial planning
 - Decision support for marine spatial planning and management
 - Conservation prioritization
 - Remote sensing and spatial analysis in coastal zone management
- **Policy**
 - International perspectives/applications
 - Governmental perspectives/applications
 - Consumer/citizen perspectives/applications
 - GIS applications for fisheries and coastal resources management
- **Sustainability**
- **Climate change**
 - Impacts and adaptation of coastal settlements
 - Coastal vulnerability assessment – strategies for mitigation and adaptation
- **Coastal Societies**
 - Data on demographic and social changes in coastal settlements

Follow the conference website for further updates and details: <https://www.novia.fi/coastgis2020>

For further information, please contact: coastgis2020@novia.fi

To be added to the CoastGIS 2021 newsletter mailing list, please send an email to coastgis2020@novia.fi with the subject line "Newsletter".

OCTOBER 27-29, 2020. COASTAL HAZARDS IN AFRICA, 2020, DURBAN, SOUTH AFRICA



Due to the pandemic Covid-19 situation the symposium has been scheduled as a **virtual conference over the 27th to 29th October 2020.**

A Coastal Hazards in Africa Special Issue will follow the symposium where delegates will be invited to contribute complete manuscripts for consideration. The purpose of this meeting is to bring together scientists and managers interested in African coastal zones in order to develop our understanding of these risks and hazards while considering the current state

of coastal zones around Africa. Additionally, this meeting provides a platform to discuss and propose measures to address and manage these risks.

Main Topics:

Erosion and coastal flooding hazards in Africa

- Coastal system dynamics (continental and marine influences);
- Shoreline mobility (indicators, processes, coastal cliffs landslides, anthropogenic effects, Holocene, ...);
- Coastal flooding (sea levels, extreme events, sedimentary and historical archives, processes, ...);
- Climate change and risks of coastal erosion and flooding in Africa.

Pollution and oil spill risks

- Land occupation and use in African coastal areas;
- Water quality (marine and continental) and pollution in coastal areas;
- Maritime traffic and oil spill risks in African coastal areas;
- Anthropogenic loads and natural disasters in Africa: ecological sensitivity of coastal areas.

Coastal hazards management in Africa

- Socioeconomic consequences;
- Coastal facilities vs coastal risks;
- Management (stakeholders, territories, public policies, decisions, regulations, networks): Examples from African countries;
- GIS: Coastal systems planning and management tools;
- Integrated Coastal Zone Management and Maritime Spatial Planning: Examples of projects implemented in Africa (interdisciplinary, systemic approaches ...).
- Coastal and marine Early Warning and Decision Support Systems

Find more information and updates at the symposium website: <https://chia2020.wixsite.com/chia>

Submitted by CCS Steering Committee Member: Dr. Abdelmounim El M'rini, Morocco

REPORTS ON MEETINGS



MAY 3-8, 2020. VIENNA, AUSTRIA. EUROPEAN GEOSCIENCES UNION (EGU)

The European Geosciences Union (EGU) General Assembly has gone online this year due to the COVID-19. Sessions have been freely available to everyone, including presentations, discussions and many other interesting activities.

The EGU General Assembly 2020 in the online format *Sharing Geoscience Online* was an exciting experiment in response to the COVID-19 pandemic and a great success: 18,036 abstracts formed the programme with 701 scientific sessions, 11,380 presentation materials accompanied the abstracts and received 6,297 comments. A fantastic number of 26,219 individual users joined the 721 live text chats and posted 200,400 messages.

The Commission on Coastal Systems of the IGU co-sponsored two coastal sessions conducted online back-to-back at the EGU2020:

GM 6.3 Session: Coastal morphodynamics: nearshore, beach and dunes

Session link: <https://meetingorganizer.copernicus.org/EGU2020/session/37488>

The session was successfully conducted for the fourth time (in the online format) and was convened by Derek Jackson (UK), Emilia Guisado-Pintado (Spain) and Irene Delgado-Fernandez (UK).

The session chat was scheduled on Friday, 08 May 202, 08:30–10:15 (CEST) and the online chat closed with over 100 participants and there is a wealth of information online. Chat questions, display summaries, and all presentations that authors kindly uploaded can be downloaded following the session link: <https://meetingorganizer.copernicus.org/EGU2020/displays/37488>

GM 6.4 Session: Coastal Zone Geomorphological Interactions: Natural versus Human-Induced Driving Factors

The session was successfully conducted for the twelfth year in success at the EGU General Assembly (this year in the online format by showing displays) on 8 May 2020, for more information follow the session link: <https://meetingorganizer.copernicus.org/EGU2020/displays/37494>. The session was organised by Hannes Tonnison (Estonia), Margarita Stancheva (Bulgaria), Andreas Baas (UK), Giorgio Anfuso (Spain) and Guillaume Brunier (France).

The session chat was scheduled on Friday, 08 May 202, 10:45–12:30 (CEST), it was joined by 76 active users all around the world with intense discussions and included 15 presented studies on a great variety of coastal zone geomorphology topics including climate change and human-induced impacts. All presentations that authors kindly uploaded can be downloaded following the session link:

<https://meetingorganizer.copernicus.org/EGU2020/displays/37494>

The conveners of the both sessions and the Chair of CCS really enjoyed the online chats and amazing presentations as well as productive discussions with wide coastal and marine community. **We look very much forward to seeing you again at the next EGU General Assembly 2021, 25–30 April 2021 in Vienna, Austria (hopefully in person).**

6 MAY, 2020. INTEGRATING ECOSYSTEM-BASED APPROACH IN MARINE SPATIAL PLANNING: - MSPGLOBAL ONLINE SEMINAR



CCS Secretary Margarita Stancheva participated at the **sixth MSPglobal online seminar** – the first in English – organised on 6 May 2020, with a theme “**How to ensure Ecosystem-Based Approach (EBA) principles in the context of Marine Spatial Planning (MSP)**”. More than 300 participants joined the online seminar from over 45 different countries and had the opportunity to hear the perspective of five different speakers all across the world:

- **Ant Turkmen**, Ecological Research Society (Turkey)- presented two examples of ecosystem-based management (EBM) approach in MSP developed in Turkey: the Gulf of Iskenderun and Gokova Bay.

- **Shannon Hampton**, International Ocean Institute (South Africa) - presented the MamI Wata project for development of an integrated ocean management approach for West, Central and Southern Africa through capacity building activities and sharing expert knowledge using three different tools (Ecologically or Biologically Significant Marine Areas – EBSAs, State of the Marine Environment reporting – SoME and MSP process) in Côte d’Ivoire, Ghana and Benin.

- **Luke McEachron**, Florida Fish and Wildlife Conservation Commission (United States)- presented the case of the Florida Keys National Marine Sanctuary (FKNMS), and main tasks with managing fish and wildlife for their long-term well-being involving an EBM approach.

- **Lisa Sousa**, Centre for Environmental and Marine Studies – CESAM and Department of Environment and Planning, University of Aveiro (Portugal)- presented the experience of the EBM approach in the MSP implementation process in Portugal in the development of the Situation Plan, also the principles of adaptive management, integrated management, precautionary approach, etc.

- **Janica Borg**, WWF European Policy Office – presented a WWF Position Paper published in February 2020 to support and guide countries and regions in developing ecosystem-based marine spatial plans (this includes the need to establish measurable goals and carry out cumulative impact assessments, the importance of EIA and SEA and the need to adopt the precautionary principle).

A couple of key recommendations suggested by the audience in order to improve the application of EBM principles into MSP were summarised by the MSPglobal team, focusing on:

- Developing a transparent process where all stakeholders are equally engaged in order to build trust
- Promoting training and capacity development in institutions in charge of MSP
- Enhancing awareness and improving education, communication and dialogue
- Improving coordination and cooperation between institutions with interests on the sea and with those on land whose activities might affect the sea
- Generating political will and setting EBM principles as a national priority
- Increasing research, improving data collection, establishing standards and a holistic set of environmental indicators as well as effective monitoring
- Enhancing cooperation between academia, authorities and society

- Establishing long-term ecological assessments and flexible adaptive management
- Developing cumulative impact assessment prior to the formulation of planning scenarios
- Directing more resources to operationalize EBM in MSP

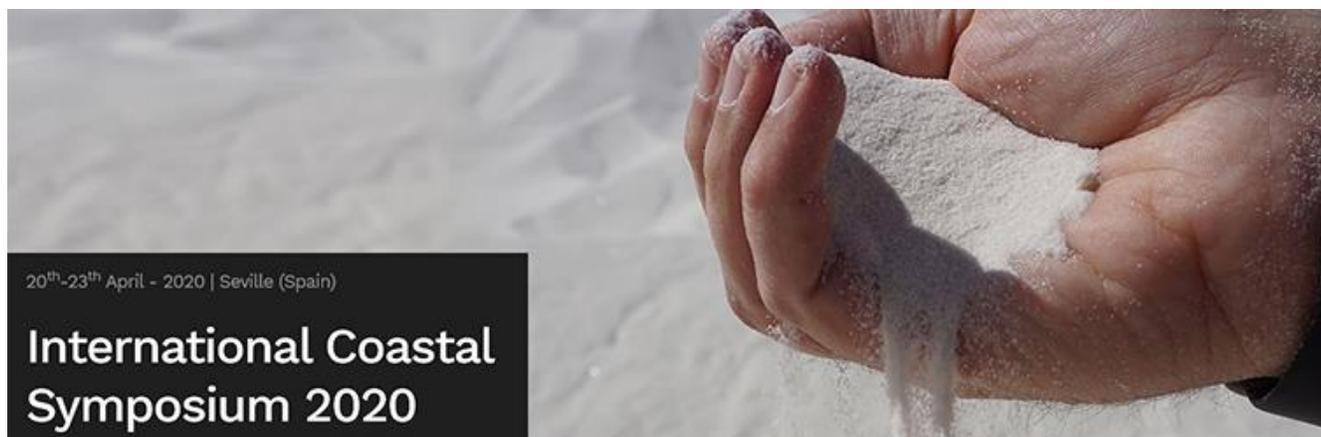
For more details and published documents from the online seminar follow on the MSPglobal webpage: <http://www.mspglobal2030.org/perspectives-on-implementing-ebm-in-msp/>

Submitted by: CCS Secretary Margarita Stancheva (CCMS, Bulgaria)

MEETINGS WITH COASTAL INTEREST

POSTPONED: MAY 3-6, 2021. INTERNATIONAL COASTAL SYMPOSIUM 2021, SEVILLE, SPAIN

In the interest of global safety and at the recommendation of health advisors worldwide, it was decided to postpone the International Coastal Symposium (ICS) until next year. The ICS2020 was planned for April 2020 in Seville, Spain. The Symposium is now re-scheduled for May 2021 (May 3-6), at the same location (Seville, Spain).



The paid registration will be honoured at the conference next year and will guarantee that accepted papers will be published this year (2020) as part of Global Coastal Issues of 2020. The symposium will be hosted by the Coastal Environments Research Group, Universidad Pablo de Olavide de Sevilla, under the auspices of the Coastal Education and Research Foundation (CERF) and the Journal of Coastal Research (JCR).

The ICS brings together delegates from all over the world to collaborate and discuss the most current coastal research studies and projects. The proceedings of the conference, published as peer-reviewed papers in the Journal of Coastal Research, represent an invaluable resource for coastal scientists, engineers and managers.

For further information and updates visit the event website: <https://www.ics2020.org/>

POSTPONED: JUNE 14 – 18, 2021. ECOSUMMIT 2020 BUILDING A SUSTAINABLE AND DESIRABLE FUTURE: ADAPTING TO A CHANGING LAND AND SEA-SCAPE, GOLD COAST, QUEENSLAND, AUSTRALIA



The **6th International EcoSummit Congress - EcoSummit 2021 – Building a sustainable and desirable future: Adapting to a changing land and sea-scape**, will take place at the same venue, the Gold Coast Convention Centre, Gold Coast, Australia, from 14th – 18th June 2021.

This conference series was founded in 1996 in Copenhagen, as a forum for scientists, practitioners and policy-makers working across disciplines to solve the integrated environmental, social, and economic problems facing the world today. Since 1996, EcoSummits have occurred around the world (Canada, China, USA and Europe), with EcoSummit 2016 hosting 1400 participants from 87 countries in Montpellier, France.

EcoSummit 2021 will have a focus on coastal and marine ecosystems including adjacent terrestrial ecosystems and all habitats that are integrated within those ecosystems, including river networks, wetlands and catchments. Further focus will be placed on fragile systems that are more likely to suffer the consequences of climate change and anthropogenic pressure such as islands, coastal communities and arid landscapes. The conference topics will include all aspects of environmental modelling, engineering, science, and policy to be covered under the focus of climate adaptation and the need for developing socio-economic and environmental resilience and sustainable prosperity around the world.

In the current context of an increasing world population, in particular in coastal regions, it is evident that building sustainable cities and using resources sustainably is inevitable. It is envisaged that the Summit will produce a declaration encompassing its vision and policy recommendations.

For further details and information on important dates for session and abstract submission, the conference topics, how to submit an abstract and new deadlines follow the conference website:

<http://www.ecosummitcongress.com/>

POSTPONED: SEPTEMBER 6-10, 2021. ECSA 58 - EMECS 13, ESTUARIES AND COASTAL SEAS IN THE ANTHROPOCENE, STRUCTURE, FUNCTIONS, SERVICES AND MANAGEMENT, HULL, UK



The ECSA's next major symposium, ECSA 58 - EMECS 13: Estuaries and coastal seas in the Anthropocene – Structure, functions, services and management, will take place from the 6-10 September 2021 in Hull, UK.

The structure and functioning of our estuaries and seas are shifting within what is now termed the Anthropocene due to diverse drivers and pressures from local to global scales. The resulting threats to the natural and human features of these systems are often all too apparent, yet such changes can also present new opportunities. The

challenge is to harness these opportunities through new ways of thinking, scientific developments, innovative technology and more effective integration of science and management.

ECSA 58 & EMECS 13 brings together a global multi-disciplinary community of researchers, educators and practitioners to address issues of outstanding importance in the science (both natural and social) and management of estuaries and coastal seas in this rapidly changing world.

Contributions are invited within the following broad topics, covering the diversity of threats and opportunities facing estuarine, coastal and marine ecosystems and the people they support:

- Physical, chemical and ecological structure and functioning
- Hydrodynamics and hydrology, including modelling
- Adequacy of modelling and prediction of change
- Endogenic Managed Pressures and Exogenic Unmanaged Pressures
- Interference with connectivity across and between systems
- Repercussions of the loss of resources (space, energy, water, etc.)
- Loss and gain of habitats and ecosystems
- Recovery, restoration and creation of habitats and populations
- Recovering and increasing resilience to future changes
- Urbanisation and industrialisation of estuaries and semi-enclosed seas
- Ecosystem Services and Societal Goods & Benefits
- Blue Growth and Green Growth – maximising benefits and minimising impacts
- Governance and adaptive management – from the local to the global
- Holistic approach to successful and sustainable management
- Coping with moving baselines
- Science-Policy communication

A number of special sessions are also envisaged, such as: **Anthropogenic pressure, Climate adaptation and mitigation, Coastal conservation, Coastal marine habitats, Ecosystem creation and restoration, Rivers, catchments and wetlands, Sustainability and resilience, and other.**

Supporting Publications are foreseen in:



Abstracts are now invited on the above topics. They should be submitted using the online abstract submission system.

Abstract Submission Deadline: 9 April 2021.

Stay tuned for further information following the conference website: <http://www.estuarinecoastalconference.com/>

POSTPONED: OCTOBER 20-22, 2020. OUR COASTAL FUTURES – FEC OPEN SCIENCE CONFERENCE, GOLD COAST, AUSTRALIA

Transitioning towards a respectful custodianship of our oceans and coasts



The Our Coastal Futures Conference (OCF) committee have made the difficult decision to postpone OCF2020 which was due to take place from 19 – 22 October 2020 at Southern Cross University, Gold Coast, due to the current situation concerning the spread of the coronavirus (COVID-19) and the unknown future impact this may have. **The new dates defined by the committee are: 17 – 20 October 2021 at the same venue.** The organizers are thankful to everyone who submitted a proposal for a session, workshop, artistic expression, panel, or one of our other formats, these will be carried over into the dates. For any questions on the postponement please contact our Conference Managers via email: ocf2020@yrd.com.au.

Our Coastal Futures will be a transdisciplinary, multi-format **International conference** to share and generate knowledge and enable effective action. It is organized together by [Future Earth Coasts](#) and [Future Earth Australia](#) and is an official supporting action towards the [UN Decade of Ocean Science for Sustainable Development](#).

The 2021 Our Coastal Futures conference celebrates four main themes exploring our understanding of the oceans, the communities they support and their diverse ecosystems:

- **Ontologies** - What we Know
- **Sciences** - Understanding from Diverse Knowledge Systems
- **Economies** - Prosperity and Livelihoods
- **Reciprocity** - Mutually Beneficial Interactions

For information contact: enquiries@coastalfuturesconference.com

You can also find updates and more information on the conference website: coastalfuturesconference.com

HIGHLIGHTS & FEATURES

The International Geographical Union (IGU) promotes the study of geographical problems; initiates and coordinates geographical research requiring international cooperation; promotes scientific discussion and publication; provides for the participation of geographers in the work of relevant international organizations; facilitates the collection and diffusion of geographical



data and documentation in and among its member countries; promotes International Geographical Congresses, Regional Conferences and specialized symposia related to the objectives of the IGU; and participates in any other appropriate form of international cooperation that advances the study and application of geography. The first International Geographical Congress was held in Antwerp in 1871. Subsequent meetings led to the establishment of the permanent organization in 1922. The IGU's working languages are English and French. See the IGU webpage - <https://igu-online.org/>.

The International Geographical Union Executive Committee, at its meeting in mid-2020, **approved the continuation of the Commission on Coastal Systems**, details of CCS Officers and Steering Committee members can be found at the end of this newsletter. The Executive Committee also announced the outcomes of IGU elections. **Professor Michael Meadows (South Africa) has been elected President**, and Professors Nathalie Lemarchand (France), Holly Barcus (USA), Barbaros Gonencgil (Turkey) and Celine Rozenblat (Switzerland) have been elected Vice Presidents.

The **Commission on Coastal Systems (CCS)** is one of the Commissions within IGU. The CCS has a website that can be found at: <http://www.igu-ccs.org/>. Contact information for CCS Officers and Steering Committee members can be found on the website along with past and present newsletters.

If you are interested in becoming a member **of the CCS, an on-line membership form is available.**



The official **Newsletter of the Coastal Education and Research Foundation, JUST CERFing**, is available for viewing at: <http://cerf-jcr.org>, under the JCR CONTENT heading. The Newsletter has information about the current issue of the Journal of Coastal Research, series of short articles, as well as information on the Special Issues of the journal and recently published books. It is an extremely well-produced review of the materials conveyed by the Foundation.

MAPPING THE GLOBAL COASTLINE

Every shoreline is different. In studying coastal systems, we look for similarities, and try to understand coastal systems, the processes which shape them, and their future characteristics, by classifying and mapping them. There have been many attempts to apply different coastal classifications to characterise the diversity of landforms and habitats around shorelines of the world. However, in recent years rapid developments in acquisition of remote sensing imagery and parallel image processing have enabled a range of new global datasets and accessible databases. It seems timely to reflect on how far we have come and the tremendous future potential that the increasing number of global syntheses appear to offer in terms of addressing major societal questions and environmental challenges.

The coast has always held a fascination and mapping it has been a primary objective of explorers and navigators. Depicting it is a fundamental goal of cartographers, and several earth science disciplines focus on describing its geographical variation. One mid-20th century effort to identify and classify coastal features was initiated by William C. Putnam of the Department of Geology, University of California, Los Angeles, with support from the Geography Branch, Office of Naval Research. Collaboration between specialists in geomorphology, in climatology, and in botany led to publication by John T. McGill of a global map of 'Coastal landforms of the world' in 1958 (*Geographical Review* 48: 402-405, with fold-out map insert) that used Briesemeister's elliptical equal-area projection at a scale of 1:5,000,000. The map built on an earlier classification by Hartmut Valentin (1952, *Die Küsten der Erde*) discriminating coasts undergoing advance (by emergence or construction) from those experiencing retreat. McGill's map placed emphasis on the interdependent associations of rock, soil, landforms,

climate, vegetation and other natural phenomena; it differentiated what were called constructional from destructional coasts, as well as considering backshore, foreshore and offshore.

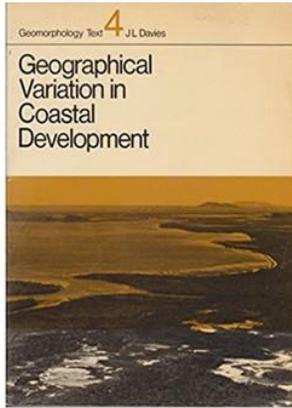
A book that was particularly influential was *Geographical Variation in Coastal Development* by Jack Davies, published in 1972 (2nd edition 1980, Longman). Extending concepts using a morphogenic approach to world shorelines, outlined in a paper in 1964 (*Zeitschrift für Geomorphologie* 8: 127-142), Davies demonstrated the functioning of large-scale coastal systems, and provided the first analyses of major driving forces around the world that shaped the diverse range of coastal landforms. The book presented generalisations founded on “hypotheses erected with varying degrees of confidence on the basis of available fact”. In July 2017, Jack Davies was awarded the Griffith Taylor Medal by the Institute of Australian Geographers in recognition that he had “demonstrated to the world the contribution a geographic perspective could bring to understanding coastal systems”; he sadly passed away in August 2019 aged 97.

The quest for a coastal typology has continued. One effort with which I was involved was by the LOICZ (Land Ocean Interactions in the Coastal Zone) project, one of the core projects of the International Geosphere-Biosphere Programme (IGBP). In recognition of the need for an objective typology of coastal units to serve as a sampling framework in the preparation of global syntheses, scenarios and models, LOICZ used a GIS (Geographical Information Systems) platform, which was innovative for the time. Commenced in 1995, and led by Bob Buddemeier, the overall aim was to categorise the world’s coastal zone on the basis of differences and similarities in both natural and socio-economic features, summarised in a paper in 2008 (*Estuarine Coastal and Shelf Science* 77: 197-205).

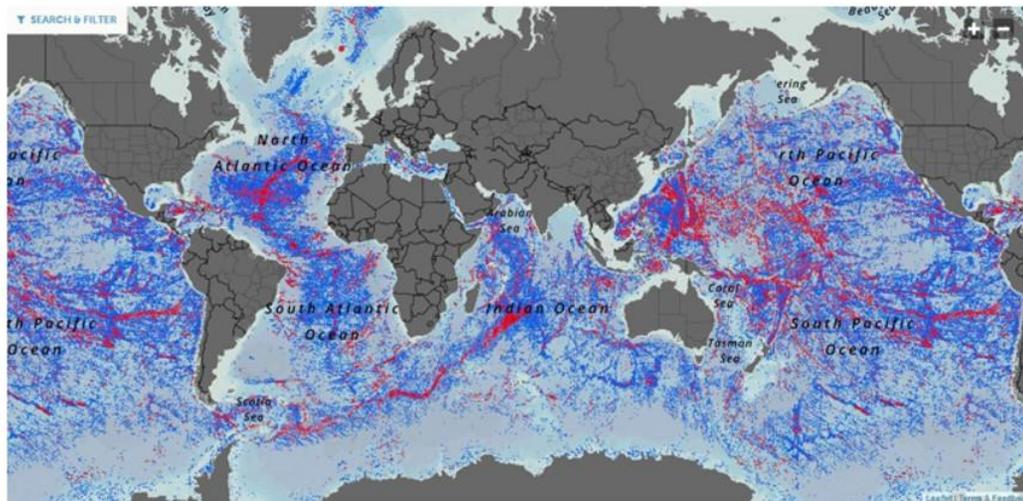
Our view of the world has changed since the 1960s, both physically and conceptually. A spectacular photograph was taken by the crew of *Apollo 8* in December 1968, showing Earth as they saw it rising during their orbit of the Moon. In December 1972, astronauts aboard NASA’s *Apollo 17* took a series of photos of the Earth with a handheld camera; these are often credited with triggering a greater concern for the fragility of our planet. This view of the ‘blue marble’ has subsequently been supplemented with an abundance of images of the world from space. An indispensable source of geospatial information has been raster image data from Earth observation satellites. Since the launch of Landsat-1 in 1972 by NASA, and the making of such imagery accessible over the internet under a free and open data policy in 2008, the volume of data has expanded exponentially.

Initially satellite imagery was expensive and its processing was esoteric; it has since become widely available. The view of Earth from 11,000 km above its surface is now accessible to everyone. It is the image as seen on the home page of Google Earth. Google Earth was launched in 2005, after the take-over of Keyhole (a company founded in 2001 that had pioneered a way to display graphic information on a globe using the mark-up language kml and kmz). At the time Google was just one of several companies providing map interfaces and a part of what Al Gore envisaged when he promoted the idea of ‘The Digital Earth’. Google Earth has since become the clear leader in the field and through its rendering of imagery from Digital Globe, Geoeye and others, it enables anyone who installs it on their computer to zoom to any section of the world’s coastline and examine it in detail. Anja and Sander Scheffers, together with Dieter Kelletat, produced a beautifully illustrated synopsis of the wonder of both Google Earth and our global coastlines in their 2012 book *The Coastlines of the World with Google Earth* (Springer, Coastal Research Library 2).

With the wider accessibility of global imagery, it has become possible to map in greater detail the distribution of coastal ecosystems and coastal landforms. A major repository for such data is the **Ocean Data Viewer** - <https://data.unep-wcmc.org/>. This links to global maps and datasets of a wide range of features, for example seamounts (not particularly coastal but, as shown in the accompanying figure, showing a wide distribution across the oceans). Some of these datasets have been developed gradually over several decades. The distribution of coral reefs has been overseen by the United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC) WorldFish Centre. Mark Spalding and collaborators have played an important role in producing the *World Atlas of Coral Reefs*, as well as atlases of other tropical ecosystems, such as mangroves. There have been several recent iterations to a global map of mangroves, with successive updates from Global Mangrove Watch. Within the Ocean Data Viewer, there are global maps of tidal flat ecosystems based on a compilation by Nicholas Murray and others (*Nature* 565: 222-225, 2019); saltmarshes by Chris Mcowen and collaborators (*Biodiversity Data Journal* 5, e11764, 2017); and seagrasses by Dinusha Jayatilake and Mark Costello (*Biological Conservation* 226, 120-126, 2018).



Ocean Data Viewer -- <https://data.unep-wcmc.org/>



Ocean Data Viewer

- Seamounts
- Coral Reefs
- Mangroves (GMW)
- Salt marshes
- Seagrass
- Tidal flat ecosystems

Derived datasets

- Beaches
- Nearshore slopes
- Eroding Beaches
- Mangrove Biomass
- Mangrove soil carbon
- Mangrove settings

Geomorphology

- Deltas
- Estuaries
- Incised valleys
- Cliffs

Big data and remote sensing techniques have developed rapidly enabling unprecedented assessments of the world's coasts and a proliferation of open-access databases. Recently the advent of cloud computing platforms such as Google Earth Engine (GEE) and Amazon Web Services (AWS) has made several petabytes of orbital and geospatial data available for statistical analysis enabling relatively reliable estimates of the extent of coastal phenomena at local, regional and global scales, as described by Noel Gorelick and others (Remote Sensing of Environment 202, 18-27, 2017).

'Big Earth data' are enabling new opportunities for scientific discovery and knowledge in Earth System Science; there is now a journal dedicated to this, called Big Earth Data. In terms of coastal landforms, it has become possible to produce more reliable estimates of the extent and distribution of particular types of coastline around the world. In recent years several papers have appeared that attempt such syntheses, for example Sarah McSweeney and others record more than 53,000 estuaries around the world (Geomorphology 292, 142-152, 2017), Ru Wang and others analyse 151 incised valleys (Sedimentology 66, 2134-2168, 2019), and Jaap Nienhuis and colleagues examine ~11,000 deltas (Nature 577, 514-518, 2020).

Adam Young and Jessica Carilli have automated a GIS-based perusal of the near-global terrain layer in Google Earth, based primarily on the Shuttle Radar Topography Mission 3-arc second digital elevation data, to produce an estimate that cliffs comprise about 52% of the global shoreline (*Earth Surface Processes and Landforms* 44, 1309-1316, 2019). It is interesting to note that one of the most challenging potential confusions of this approach was between low-elevation cliffs and shorelines fringed by mangroves, two fundamental shoreline types distinguishing destructional and constructional shores in the original classification by Valentin.

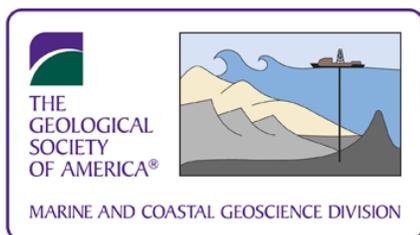
These big data analyses provide a first-order estimate of the distribution and extent of various coastal types that can be useful in setting broad policy goals, and indicate the benefit of past collaborations and the potential of future integration and data-sharing. We are already beginning to see further derived products in which more functional outputs are purported to be represented at global scale, for example in the case of mangroves, there have been estimates of mangrove biomass and soil carbon storage. These products are predicated on the reliability of the initial mapping, but also contain assumptions about the relationships which make possible the derivation of these secondary datasets. They inevitably contain uncertainties associated with the assignment of classes in the original typology, augmented by further fuzziness because of the need to generalise about the calculation of biomass or substrate characteristics on the basis of a few selected field calibration sites.

A recent dataset that has generated a lot of interest is the identification of beaches of the world, by Arjen Luijendijk and others (*Scientific Reports* 8, 2045-2322, 2018). The approach they have pioneered involves discriminating the land-sea boundary using a derivative of the normalized difference water index (NDWI) and applying a pixel-based supervised classification to spectral signatures of a global cloud-free composite image for 2016 using all available Sentinel-2 images to indicate sand and gravel. The global beach database is described further in the recently published book on *Sandy Beach Morphodynamics* (Jackson and Short, 2020, Springer, chapter 26) indicating that 31% of ice-free shorelines around the world appear to be sandy. Although the validity of the beach detection has been examined at several sites around the world, further investigation by independent studies has revealed some disparities. In this case, attempts by associated researchers including Lorenzo Mentaschi and Michalis Voudoukas to take the analysis further (*Scientific Reports* 8, 12876, 2018; *Nature Climate Change* 10, 260-263, 2020), generalising shoreline gradients and inferring erosion, have generated some criticism. Perhaps not surprisingly their application of the Bruun rule has reignited controversy over the suitability of the broad application of this heuristic.

There is great potential in the combination of multi-petabytes of satellite imagery and geospatial datasets with planetary-scale analysis capabilities. These include scalable solutions to the storage, management and parallel processing of large volumes of data. An example, providing an alternative technique to identify beaches and their long-term behaviour, is CoastSat, an open-source software toolkit written in Python that enables users to obtain time-series of shoreline position at any coastline worldwide from 30+ years (and growing) of publicly-available satellite imagery described by Killian Vos and others (*Environmental Modelling and Software* 12, 104528, 2019; *Coastal Engineering* 150, 160-174, 2019).

Since 2015 new satellites (for example Sentinel-2) have been launched that will significantly expand the capabilities of satellite imagery. As still more sources of satellite data become available at increasing spatial and temporal resolution, with repeat revisits approaching daily, the potential for mapping in greater and greater detail becomes more widely available. These are exciting times. Nevertheless, big data does not always mean better data, and there is too often inadequate consideration or validation in terms of resolution and accuracy. Mapping has always been task-specific. Different classification systems have been devised, and are necessary, for different purposes. Fuzzy reality defies simplistic classification. What may be a beach to one researcher may be something else to another. And as Shari Gallop and co-authors stress (*Science of the Total Environment* 731, 139123, 2020) many beaches are geologically constrained; it is unrealistic to imagine that any section of coast can be unambiguously classified as a beach or a cliff, with many rock platforms covered, sometimes ephemerally, by sand or gravel. Similarly, coastlines might not be differentiable into mangrove or saltmarsh, or discriminated from tidal flat. **There will continue to be a need for detailed local studies to complement and verify the grand hypotheses that can be generated from big data along the extensive global shorelines.**

Submitted by: CCS Chair Colin Woodroffe, Australia.



The new Marine and Coastal Geoscience (MCG) division was approved by the GSA Council late in 2019 following efforts spearheaded by Rónadh Cox, Williams College. **Its purpose is to bring together scientists in all areas of geoscience related to the marine and coastal realms as part of an inclusive and diverse community and encompass all geoscience related to oceans.** This includes, but is not limited to: ocean-land interactions, waves and tides, and the geology, geomorphology and environmental processes/hazards of the coast. The MCG division will facilitate the

presentation and discussion of questions, ideas, and opportunities in marine and coastal geoscience; promote research and publication of results in those fields; advise and assist the officers and committees of the Society in matters pertaining to marine and coastal geoscience; and act as an organized group in promoting these objectives within the framework of the Geological Society of America.



GSA 2020 will now be a 100% online meeting

Abstracts and registration will open in early July

The GSA 2020 is delighted to announce that numerous MCG technical sessions will be included in GSA 2020 Connects Online (<https://community.geosociety.org/gsa2020/home>). The move to a 100% virtual experience has been confirmed. Abstract submissions opened July 1st, with an August 4th deadline. To help boost student participation in GSA 2020, and to support their student members, the MCG Division plans to help fund student members who submit abstracts to the meeting.

Check out the GSA website, <https://community.geosociety.org/mcgd/home>, to learn about the Division Officers, connect with the social media, or join the community. **And consider submitting an abstract to one of the Marine and Coastal Geoscience sessions at GSA 2020!**

Submitted by: Deirdre Ryan, First Vice Chair, MCG Division of GSA.

BOOKS & REPORTS ON COASTAL AND MARINE TOPICS

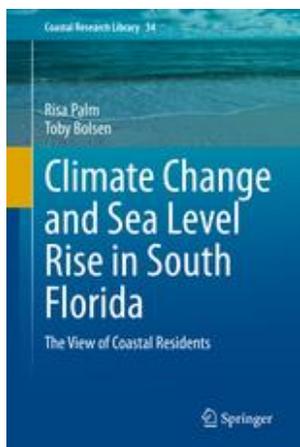
CLIMATE CHANGE AND SEA LEVEL RISE IN SOUTH FLORIDA THE VIEW OF COASTAL RESIDENTS

Authors: Palm, Risa, Bolsen, Toby

South Florida is frequently cited as the part of the United State of America as most susceptible to the devastation accompanying sea level rise. Several scholarly studies have shown the negative impact of coastal location in Florida on housing values.

Are the residents of South Florida concerned? Is susceptibility to sea level rise actually affecting the housing market in terms of demand, the availability of home mortgages, or house prices? Are people living at particular risk from sea level rise aware of this risk and more open to new information about climate change? Do they support

policies and laws to mitigate the pace and extent of climate change? Answers to these questions are not only of general interest, but they are also key to our understanding of the human dimensions of this problem.

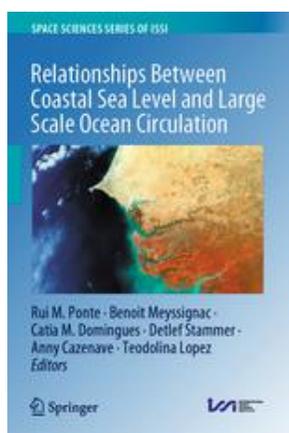


This book describes the results of a detailed survey in which respondents viewed a local map displaying flooding to their own community that would result from a Category 3 hurricane in 2033. It discusses political party identification and ideology that has an overwhelming impact in shaping views about sea level rise and climate change. This book has enormous implications for the effectiveness of communicating risk information. The text is important if we, as a nation, are to design communication strategies that will lead to broader policy to combat or mitigate this risk.

Springer, 2020: <https://www.springer.com/gp/book/9783030326012>

RELATIONSHIPS BETWEEN COASTAL SEA LEVEL AND LARGE SCALE OCEAN CIRCULATION

Editors: Ponte, R.M., Meyssignac, B., Domingues, C., Stammer, D., Cazenave, A., Lopez, T. (Eds.)



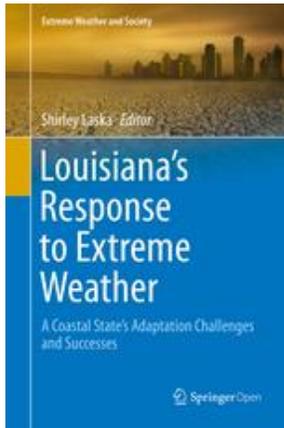
This volume offers a broad and comprehensive examination of observational, modeling and theoretical aspects of coastal sea level science. The collection of overview articles provides up-to-date information on the causes of coastal sea level variability and change, contributes to better understanding of the influence of large-scale climate signals and open ocean processes on the coast, and addresses effects of waves, storm surges, and tides on extreme sea level and coastal flooding. Projections of long-term coastal changes and associated uncertainties are also proposed. The volume contributes to better identifying priorities for the development of an optimal and integrated (satellite and ground-based) coastal observing system and highlights present modeling and observing challenges for monitoring and predicting coastal sea level on daily to multi-decadal time scales.

Springer, 2020: <https://www.springer.com/gp/book/9783030456337>

LOUISIANA'S RESPONSE TO EXTREME WEATHER A COASTAL STATE'S ADAPTATION CHALLENGES AND SUCCESSES

Editors: Laska, Shirley (Eds.)

This book takes an in-depth look at Louisiana as a state which is ahead of the curve in terms of extreme weather events, both in frequency and magnitude, and in its responses to these challenges including recovery and enhancement of resiliency. Louisiana faced a major tropical catastrophe in the 21st century, and experiences the fastest rising sea level. Weather specialists, including those concentrating on sea level rise acknowledge that what the state of Louisiana experiences is likely to happen to many more, and not necessarily restricted to coastal states.



This book asks and attempts to answer what Louisiana public officials, scientists/engineers, and those from outside of the state who have been called in to help, have done to achieve resilient recovery. How well have these efforts fared to achieve their goals? What might these efforts offer as lessons for those states that will be likely to experience enhanced extreme weather? Can the challenges of inequality be truly addressed in recovery and resilience? How can the study of the Louisiana response as a case be blended with findings from later disasters such as New York/New Jersey (Hurricane Sandy) and more recent ones to improve understanding as well as best adaptation applications – federal, state and local?

Springer, 2020: <https://www.springer.com/gp/book/9783030272043>

SANDY BEACH MORPHODYNAMICS

1st Edition

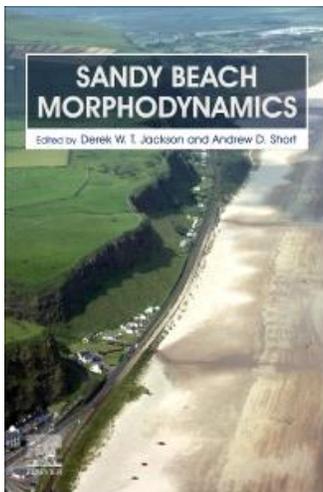
Editors: Derek Jackson, Andrew Short

Paperback ISBN: 9780081029275

eBook ISBN: 9780081029282

Imprint: Elsevier

Published Date: 20th May 2020



Sandy beaches represent some of the most dynamic environments on Earth and examining their morphodynamic behaviour over different temporal and spatial scales is challenging, relying on multidisciplinary approaches and techniques. *Sandy Beach Morphodynamics* brings together the latest research on beach systems and their morphodynamics and the ways in which they are studied in 29 chapters that review the full spectrum of beach morphodynamics. The chapters are written by leading experts in the field and provide introductory level understanding of physical processes and resulting landforms, along with more advanced discussions. It covers state-of-the-art techniques, bringing the reader the latest technologies/methods being used to understand beach systems. Presents a clear-and-concise description of processes and techniques that enables a clear understanding of coastal processes.

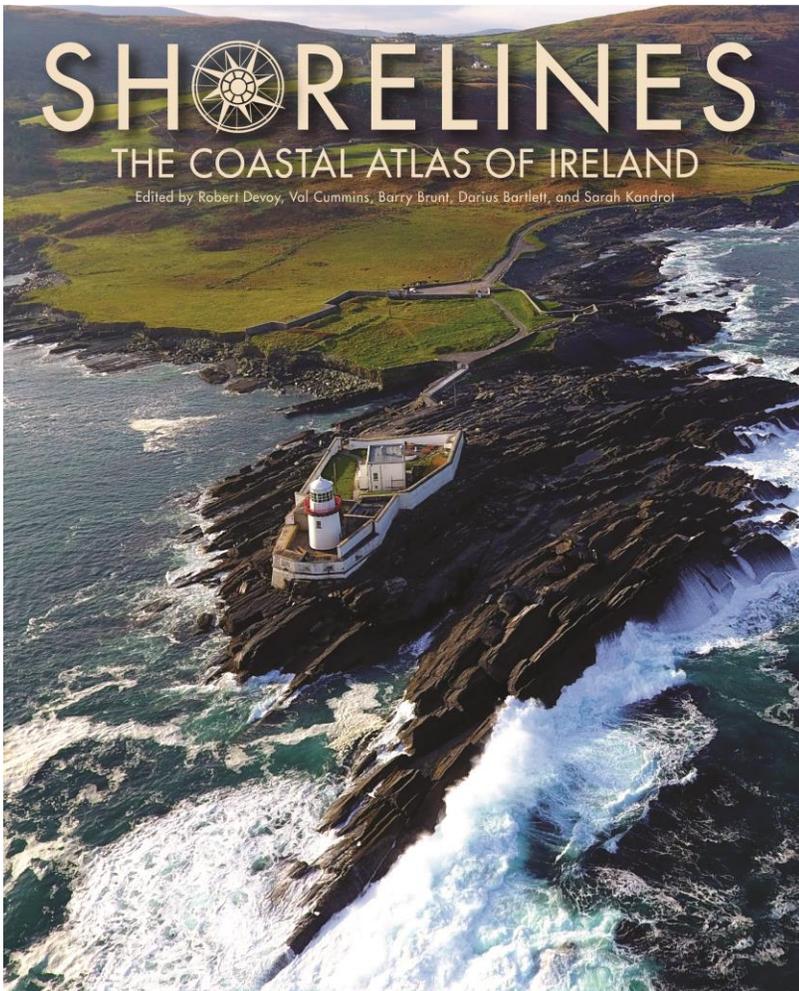
Elsevier, 2020:

<https://www.elsevier.com/books/sandy-beach-morphodynamics/jackson/978-0-08-102927-5>

See more feedbacks and inspirations from this comprehensive book on sandy beaches shared on the Prof. Bruce Thom's Blog: <https://www.australiancoastalsociety.org/blog/2020/june/21/sandy-beach-morphodynamics-a-new-book/>



THE ATLAS SERIES, CORK UNIVERSITY PRESS



The Cork University Press (CUP) atlases are comprised currently by four separate volumes, with the fifth, **Shorelines: The Coastal Atlas of Ireland published in Spring 2021**. This atlas series has been extremely successful as publications, providing an innovative mix of high-quality maps and graphics developed on different environmental, geographical and historical themes within Ireland. The approach taken was based initially on The Atlas of the Irish Rural Landscape, published by CUP in 1997 and now in its 2nd edition, which was progressed conceptually, particularly through the style and layout of the first in the series, The Atlas of Cork City. Happily, all the atlases have been found to be of significant interest to international audiences.

The Cork City atlas was published first in 2005, and ran quickly into a 2nd edition. It was developed by staff in the Department of Geography, University College Cork (UCC), to help celebrate Cork's year as the European City of Culture.

The contents covered most aspects of the city's life as the regional capital of County Cork, the largest of Ireland's counties. Material ranges through the themes of the physical geography and geology, the environment, the city's historical roots, its subsequent social and trading activities, through to present times. It includes also many aspects of contemporary urban, social and economic matters. As a renowned harbour city, the coast features in the Atlas too. The aim of this work was that people should be able to read and enjoy a diverse range of material without getting stuck in deep detail: to be able to dip into a chapter in the volume wherever they liked, rather than read it from cover to cover. Even so, **the Atlas has been recognised as a valuable reference work, with the maps and graphics winning international cartographic awards.** The maps are accompanied by an informative and referenced text written by well-established practitioners in the many subject fields covered. There have been three subsequent Atlases: The Iveragh Peninsula: A Cultural Atlas of The Ring of Kerry (CUP, 2009); The Atlas of The Great Irish Famine (CUP, 2012) and The Atlas of the Irish Revolution (CUP, 2017), which has received international acclaim as a scholarly work and formed the basis for a national TV series on the Revolution.

The atlases have followed largely the approach developed by the Cork City work, with the Iveragh atlas forming a distinct, rural environmental contrast to the earlier work. It presents an informed view of the landscapes, origins, life, histories and folklore of this well-known coastal area of County Kerry, southwest Ireland. As part of the rural history and cultural themes presented, coverage is given in the work to the impacts of the Great Famine (1845-1849), which affected heavily people on the coasts of the region. This major event in Irish history and society provided the focussed theme of the third volume. The atlas developed as the published product of the previous two decades of mapping and data survey by historical geographers in UCC and of earlier very successful map exhibition tours in Ireland and the USA.

The volume marked a little of a seed change in direction; with the atlas at c.700 pages being a third as long again in size of the previous atlases, as well as becoming a more detailed reference work, but not exclusively so. The work has won again numbers of international awards in cartography. The fourth atlas has followed in similar vein and provides new perspectives on the pivotal years in Ireland from the 1912 Home Rule crisis to the end of the Irish Civil War in 1923. Based around innovative uses of maps and graphics, it includes contributions across a range of disciplines, incorporating the 'big issues' of the period; such as gender, class, community, religion and ethnicity, the nature of violence, periodization and the geography of revolution, whilst all the time rooting these matters into the impacts of events at a local level.

The fifth and most recent in the series examines the nature of coastal Ireland and its multiple linkages to the life and times of this island nation. The importance of the coastal zone to Ireland is extremely high, given the economic value derived from tourism and recreation, fishing, aquaculture, offshore energy, ports and linked industries, as well as the environmental significance of coasts. Consequently, **the Shorelines atlas provides a 1000-page view of the physical geography, geology and ecology of these coasts, together with particularly analyses of the historical, economic, social and cultural significance of the island's coastal zone.** In spite of the length, the work returns more to the dip-in, browsing concept of the Cork City atlas, as well as providing a fresh and contemporary appeal in the presentation of its maps and graphics. This comprehensive view of an island and its nation is embedded thematically into in a world highly aware of change and global-scale concerns, such as matters of climate and ocean resources. Of course, there are more atlases in the pipeline!

Submitted by: Prof. Robert J.N. Devoy (Emeritus Professor of Geography, University College Cork, National University of Ireland)

2020 BLUE ECONOMY REPORT: BLUE SECTORS CONTRIBUTE TO THE RECOVERY AND PAVE WAY FOR EU GREEN DEAL

The European Commission published "**The EU Blue Economy Report 2020**": an overview of the performance of the EU economic sectors related to oceans and the coastal environment. With a turnover of €750 billion in 2018, the EU blue economy is in good health. There were also 5 million people working in the blue economy sector in 2018, representing a significant increase of 11.6% compared to the year before.



Although sectors such as coastal and marine tourism, as well as fisheries and aquaculture are severely affected by the coronavirus pandemic, **the blue economy as a whole presents a huge potential in terms of its contribution to a green recovery.**

European Commissioner for Environment, Oceans and Fisheries Virginijus Sinkevičius said: *"Maritime renewable energy, food from the sea, sustainable coastal and maritime tourism, the blue bio-economy and many other activities constituting the blue economy will help us come out of this crisis stronger, healthier, more resilient and more sustainable. We are doing everything we can to cushion the impact of the lockdown, protect the jobs in the blue economy and the wellbeing of our coastal communities, while retaining our environmental ambitions."*

Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth, responsible for the Joint Research Centre (JRC), said: *"We continue to support sustainable growth in the marine and maritime sectors through the European Union Blue Growth Strategy. Research and innovation are fundamental pillars of this European response. We will make sure that research, innovation and education contribute to the transition towards a European Blue Economy. Today's report is part of this scientific support. It provides valuable insights into the economic performance of European marine activities and highlights the areas for priority action."*

While the marine environment is typically associated with traditional activities such as fishing or transport, it houses an increasing number of emerging, innovative sectors including marine renewable energy. The EU, world leader in ocean energy technology, is on track to produce up to 35% of its electricity from offshore sources by 2050.

For the first time, the report addresses the environmental dimension of the blue economy in detail, thereby also contributing to achieving environmental objectives. With a decrease of 29% of CO₂ per unit of gross value added between 2009 and 2017, fisheries and aquaculture growth is firmly decoupled from greenhouse gas production. Moreover, the report stresses the correlation between sustainable fishing and positive economic performance.

Greening is also ongoing in other sectors. Fuelled by the International Maritime Organisation's 2020 sulphur cap, maritime transport is looking increasingly towards less carbon-intensive energy sources. In addition, a network of "green ports" is reducing the ecological footprint of these economically important hubs between the ocean and the mainland.

The report also looks at the economic value of several ecosystem services provided by the ocean, including habitats for marine life, carbon sequestration, and processes that influence climate change and biodiversity.

Blue jobs

With 5 million people employed in 2018, the number of jobs in the EU blue economy has increased by 11.6% from the previous year. This growth was mainly driven by the coastal tourism sector. Jobs in the offshore wind energy sector have multiplied nine-fold in less than 10 years.

These figures illustrate that the EU Blue Economy has overcome the devastating impact of the economic and financial crisis of 2008. As the current coronavirus crisis has an impact on all economic sectors, including the blue economy, the European Commission has taken [strong measures](#) early on to protect the EU economy, including the various sectors of the blue economy.

Background

The EU supports the blue economy through various instruments. The European Fund for Strategic Investments has invested over €1.4 billion in offshore wind projects and offered substantial support to other parts of the blue economy, including port development and clean shipping.

The BlueInvest Platform of the European Commission and the European Investment Fund has provided grants of €22 million in 2019 and €20 million in 2020, to innovative, starting blue economy entrepreneurs. In addition, a new BlueInvest Fund was created in 2020. Also the European Bank for Reconstruction and Development is financing a series of blue economy projects.

For more information

[Blue Economy Report](#)

[Blue economy indicators online dashboard](#)

[European Commission – Maritime Affairs – blue economy](#)

[BlueInvest](#)

2020 Blue Economy Report:

https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/2020_06_blueeconomy-2020-ld_final.pdf

The organization of the IGU Commission on Coastal Systems and the current member list of the Steering Committee of the CCS is as follows:

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The **IGU Commission on Coastal Systems (CCS) website** is at: <http://www.igu-ccs.org/>.

Contact information for CCS Officers and Steering Committee members can be found on the website along with past and present newsletters. If you are interested in becoming a member of the CCS, an on-line membership form is available at the end of the Newsletter.

R.B. Singh, Professor at the Department of Geography, Delhi School of Economics, University of Delhi, General Secretary of the International Geographical Union (IGU), is our liaison with the executive committee of the IGU: rbsgeo@hotmail.com.

THE STEERING COMMITTEE MEMBERS: WHO WE ARE

Colin Woodroffe (CCS Chair since 2015)



Colin is Professor in the School of Earth and Environmental Sciences at the University of Wollongong. He has a PhD and ScD from the University of Cambridge. Colin has studied the stratigraphy and development of coasts in Australia and New Zealand, as well as on islands in the West Indies, and Indian and Pacific Oceans. He has written a comprehensive book on *Coasts, form, process and evolution*, co-authored a book on *The Coast of Australia*, and is also co-author of a book *Quaternary Sea-Level Changes: a global perspective*. Colin was a lead author on the coastal chapter in the 2007 Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment report. He teaches coastal geomorphology and the application of geospatial techniques to coastal environments.

Margarita Stancheva (CCS Secretary, Editor of Newsletter)



Margarita is Co-founder and Director of the Center for Coastal and Marine Studies (CCMS) in Bulgaria. She has special interests in coastal geomorphology, coastal processes, sand beaches/dunes, coastal erosion/cliff retreat, shoreline changes, MSP and sustainable coastal development. She has a PhD in Oceanology with thesis: "Beach dynamics and modifications under impact of port and coast-protection structures". Since 2009 she has been convener of Geomorphology Session at the EGU General Assembly: "Coastal zone geomorphologic interactions: natural versus human-induced driving factors". Research Fellow to the Programme for the Study of Developed Shorelines (PSDS), WCU – USA. Author of a chapter for Bulgaria in a book on *Coastal Erosion and Protection in Europe - A Comprehensive Overview*, co-author in coastal atlas on *Sensitivity Mapping and Analysis of the Bulgarian Black Sea Coastal Zone* and primary author of a book on *Burgas Case Study: Land-Sea Interactions*.

David R. Green (CCS Vice-Chair since 2020)



David is Director of the Aberdeen Institute for Coastal Science and Management (AICSM); Director of the M.Sc. Degree Programme in Geographical Information Systems (GIS); and Director of the UAV Centre for Environmental Monitoring and Mapping (UCEMM) at the Department of Geography and Environment, University of Aberdeen, Scotland, United Kingdom. His interests lie with Remote Sensing, UAVs, GIS and Mobile GIS, Digital Mapping and Hydrography, Coastal Management, and Marine Spatial Planning (MSP).

Edward Anthony (Past Chair)



Edward Anthony is currently professor of coastal geomorphology at Aix-Marseille University and Editor-in-Chief of Marine Geology. Author of nearly 130 published papers, E.A. has carried out research over the last 30 years on the Amazon-influenced coasts of South America, the coasts of West Africa, the Mediterranean, the English Channel and North Sea coasts, and recently the Mekong and Irrawaddy River deltas. His scientific interests focuses on the inter-related connections between the human and natural dimensions of coasts, and how human activities and developments impact on coastal geomorphology, sediment dynamics, ecology and management, especially in the face of global change, sea-level rise and sediment supply perturbations on river systems. A particular area of focus is river deltas, largely based on experimental field (measurements and observations) and laboratory work, and employs innovative techniques in remote sensing and modelling based on statistical and cartographic data. This activity is supported by various on-going grants and projects and involves collaboration with French universities, the IRD, Japanese, American, Indian, Vietnamese and Moroccan colleagues specialised in coastal studies. EA has supervised nearly 30 PhD thesis, and teaches at both undergraduate and post-graduate levels.

Françoise Breton



Emeritus Professor at the Universitat Autònoma de Barcelona, she is involved in research on coastal and sea socio-environmental systems and resource management. Anthropologist, geographer and environmental science expert, work focused on integrated management, co-management of ecosystems and habitats, and governance. Formed in Paris X University, later at the Boston University (1978-1980), and at the UAB, she created and directed the Centre for Sea study in Sitges, Barcelona Diputación (1981-90), working on fisheries, fishermen knowledge, and fishery anthropology in collaboration with A. Geistdorffer and the Museum of Natural History of Paris. Head of the UAB Interfase Research Group since 1990. After different collaborations with international institutions in Europe, she coordinated the EU FP7 project PEGASO, on ICZM and governance in the Mediterranean and the Black Sea (2010-2014), She developed with IRD responsible research with local communities on ecosystem services and food security in the West-African coast. Since 2015, she focussed research on marine mammals in the Arctic and their interactions with people, collaborating with the Norwegian College of Fishery Sciences, University of the Arctic - Tromso, and the Svalbard University, Norway. The Research Center on the ARCTIC was Inaugurated the 1st December 2017 at the Universitat Autònoma de Barcelona, together with the 2017 Stefansson Memorial Lecture, by the Stefansson Arctic Institute (Iceland), where she is Associate Professor, and the Institute of Arctic Studies, Dartmouth College, USA.

In February 2016, she awarded the Narcís Monturiol medal of the Catalan govern in recognition to her high research and innovation trajectory.

Paolo Ciavola



Paolo is an Associate Professor of Coastal Dynamics and Geomorphology in the Department of Physics and Earth Sciences of the University of Ferrara, where he teaches Physical Geography and Geomorphology, Coastal Risk, GIS and Remote Sensing. His current main research interests include coastal processes, the impact of climate change on coastal morphology, the role of extreme storm events in generating coastal risk, river delta and estuarine dynamics, sedimentation in coastal lagoons. He is on the Editorial Board of the Journal of Coastal Research, Continental Shelf Research and the Journal of Integrated Coastal Zone Management of Portuguese Speaking Countries. He was an expert reviewer of the IPCC WGII AR5 report- Europe Chapter and is currently a Science Officer of the European Geoscience Union for the Natural Hazard sub-group. Recently he has published for Wiley two books dealing with coastal storms (*Management of the Effects of Coastal Storms: Policy, Scientific and Historical Perspectives*; *Coastal Storms: Processes and Impacts*).

Abdelmounim El M'rini



Abdelmounim is Professor at the Department of Earth Sciences at Abdelmalek Essaâdi University of Tetouan (Morocco). He has a PhD from Abdelmalek Essaâdi University and from Nantes University (France). His research activities focus on the characterization of coastal systems and the impacts of human activities on their processes at the short, medium and long terms. He has participated at many projects that focus on coastal areas with technical approaches (coastal morphodynamics, coastline kinematics, impact of coastal facilities, coastal flooding hazards, sedimentological, geochemical and isotopic studies), as well as coastal planning and management (in this context, in Integrated Coastal Zone Management projects). This works are done mainly in collaboration with Moroccan, French, Spanish and Italian colleagues. He teaches coastal geomorphology, interactions on coastal systems, Integrated Coastal Zone Managements and the application of remote sensing to coastal environments.

Jeffrey Ollerhead



Jeff Ollerhead is a member of the Geography and Environment Department at Mount Allison University in Sackville, NB, Canada. He is a coastal geomorphologist who studies beaches and salt marshes. In recent years, he has been particularly involved in designing and monitoring salt marsh restorations in the upper Bay of Fundy. He was Dean of Science and Graduate Studies for 10 years and is now Provost and VP, Academic and Research, at Mount Allison.

Norbert Psuty



Norb is Professor Emeritus at Rutgers University and is currently Director of the Sandy Hook Cooperative Research Programs. He is a coastal geomorphologist whose research encompasses the dynamics of the coastal zone, incorporating process-response studies of beaches, coastal dune processes and morphology, sediment budget studies, barrier island dynamics, estuarine sedimentation, and sea-level rise. His research has been conducted primarily in various portions of coastal New Jersey and New York and it has both a basic science component as well as an applied side. He has been and continues to be consultant to the U.S. National Park Service and the U.S. Fish and Wildlife Service on shoreline dynamics and change in coastal parks and refuges.

Paul Rooney



Paul is the Deputy Head for the Department of Geography and Environmental Science at Liverpool Hope University, United Kingdom. Following studying at university, Paul became a Coastal Ranger on the Sefton Coast, the largest area of open dunes in England. In 1995 he was appointed as the Project Officer for an EU funded LIFE-Nature project to implement species and habitat restoration and to develop a conservation strategy for the Special Area of Conservation (SAC) for that dune coast. Paul joined the Liverpool Hope University in 1999 and established the UK Sand Dune and Shingle Network in 2006. The aim of the network is to help to conserve sand dunes and shingle as dynamic landscapes by linking science and management. Paul's research interests are mainly in coastal dune ecology, change and management. He is a Chartered Environmentalist, a full member of the Chartered Institute of Ecology and

Environmental Management, a Chartered Geographer through the Royal Geographical Society (with IBG), and a Fellow of the Higher Education Academy (now part of Advance HE).

Marinez Scherer



Marinez has a degree in Biological Sciences (Federal University of Santa Catarina / Brazil) and a PhD in Marine Science at University of Cadiz / Spain. She has been teaching Integrated Coastal Management at Federal University of Santa Catarina, and is the Research Leader of the Integrated Coastal Management Group and Laboratory. Marinez is also visiting professor at the University of Cadiz. She is the executive secretary of the Brazilian Sea Forum and the Technical Director of the Brazilian Agency for Coastal Management. She is also one of the Brazilian Coordinators of the Ibero American Network on Coastal Management (IBERMAR). Her main research interests are on integrated coastal and marine management, ecosystem based management, coastal and marine protected areas, and networks.

Toru Tamura



Toru is senior researcher at the Geological Survey of Japan, National Institute of Advanced Industrial Science. He has a PhD in Geology at Kyoto University, and is also a visiting associate professor at Graduate School of Frontier Sciences, University of Tokyo. His primary research interest is multi-temporal scale evolution of the coastal landform in sandy beach and muddy deltaic systems. He has studied many coastal systems mainly in Asia and Australia using a combination of sediment cores, radiocarbon dating, optically-stimulated luminescence dating, remote sensing and ground-penetrating radar, for better understanding of the present and predicting future coast. He also manages an OSL dating laboratory at the Geological Survey to enhance the dating of Pleistocene and Holocene coastal landforms and stratigraphy.

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Thank you for your cooperation. Margarita and Norb

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