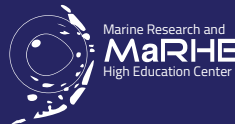


IGU Thematic Conference. Milan (Italy) - University of Milano-Bicocca

The Ocean and Seas in Geographical Thought

Milan 6-7/06/2023

Book of Abstracts



This book of abstracts would not have been possible without a major teamwork.

I would first like to thank the IGU, its President Michael Meadows, the Vice-President Maria Paradiso and all IGU members who made this conference possible. I thank the keynote speakers for their brilliant contribution that gave meaning to the conference and a new perspective to the study of the Ocean, the IGU Organising Commissions of this conference and all session organisers for their scientific and practical contribution in the implementation of the programme. Thank you also to all members of the scientific committee and to the institutions that endorsed this event. In particular to the University of Milan-Bicocca, the "Riccardo Massa" Department of Human Sciences for Education, the MaRHE Centre and all the colleagues, researchers, PhD students, students and administrative staff involved in this event, with a special thanks to Prof. Stefano Malatesta without whom neither these Proceedings nor the conference would exist. For the post-conference we thank the University of Venice Ca' Foscari, in particular Prof. Stefano Soriani and Prof. Francesco Vallerani, Prof. Luca Muscarà from the University of Molise, Ocean Space/TBA21-Academy, CNR-ISMAR and the Wigwam Venice Lab. Finally, these Proceedings and the whole conference would never have seen the light of day without the immense contribution and creative work of the Organising Local Committee who devoted so much time to it: a huge thank you to Valentina Anzoise, Alice Salimbeni, Beatrice Ruggieri and Massimiliano Fantò.

Marcella Schmidt di Friedberg

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Roberto Casati

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Senior Researcher of CNRS, Professor at EHESS, director of the Jean Nicod Institute of ENS/EHESS in Paris, one of the leading research centers in cognitive science, works currently on spatial disorientation and on cognitive tools for remediating or preventing it. He is the author of 120 research papers and book chapters on perception, spatial representation and the use of maps and images, as well as of ten books, some of which have been translated in many languages. His seminal work on Digital Colonialism has spurred a large debate on the use of technology in schools. An avid sailor, his latest achievement is a transatlantic crossing on Albatros, a Challenge 67 monohull, as a crew member and on board researcher. Albatros was 2nd in the Cruising B class of the 2019 ARC, after 17 days in the trade winds. The Cognitive Life of Maps will be published by MIT Press (forthcoming); he is the editor of the collection The Sailing Mind (Springer, 2021). His latest book project is Ocean: a Philosopher's Route (Einaudi, 2022)

Territorialising the sea: equilibrium, seaward projection and seaward exposure of world countries

If the sea can be conceived of as a territory, how do its partitions reflect the power structures related to land territories? What are the balances and imbalances between sea and land? What does it mean to be a maritime power? Building from some basic data (a state's land area, that of its Exclusive Economic Zone, population and coastline length) it is possible to construct indices (equilibrium, marine population density, marine projection and exposure) by which to order the various forms of expression of "hybrid territorial power."

Sanjay Chaturvedi

South Asian University (New Delhi)



Professor in International Relations, South Asian University, New Delhi, he is currently the Dean, Faculty of Social Sciences. He has authored two, co-authored three and co-edited eight books including *Climate Terror: A Critical Geopolitics of Climate Change* (Palgrave, 2015, with Timothy Doyle). During early 1990s, he received Nehru Centenary British Commonwealth Fellowship, followed by the award of Leverhulme Research Grant, to pursue post-doctoral research on 'Polar Regions in International Relations' at Scott Polar Research Institute, University of Cambridge, England. During his stay at Cambridge he published *Polar Regions: A Political Geography* (John Wiley, 1996), and travelled to Antarctica lecturing on board MS Alla Tarasova during November-December 1994. He has remained engaged with both the polar regions in his research pursuits and has served on a number of Indian delegation to Antarctic Treaty Consultative Meetings (ATCMs). President of Indian Ocean Research Group (IORG), an Observer to Indian Ocean Rim Association (IORA), he is the Chief Editor of the *Journal of the Indian Ocean Region*. He has served on the Steering Committee of the IGU Commission on Political Geography, and was a Lead Author for Chapter 10: (Asia) of the Working Group II Contribution to the IPCC Sixth Assessment Report (2019-2021).

Re-spatializing the Southern (Global) Ocean: Constructions, Conversations and Contestations

Seen as 'wild', 'remote', and 'elusive', the Southern Ocean has a far more complex and contested geography and history to it than is commonly believed. It was against the backdrop of the so-called "Heroic Age" (1897-1922) that the Southern Polar Region was spatialized by European imperial waves. The post-colonial cartography of seven territorial claims and counterclaims is legally frozen under Article IV of the Antarctic Treaty of 1961, but remains geopolitically volatile. The popular map of pie-shaped Antarctic territorial claims converging at the South Pole carries a continental bias, and conceals a convoluted geopolitics that continues to unfold in the Southern Ocean space, including high seas, continental shelves and coastal waters. Fast forward to the 'Anthropocene', the Southern Ocean is currently undergoing profound material and discursive transformations. What are the values – materialistic and/or post materialistic – ascribed to the Southern Ocean, and by whom and why? As reinvigorated Antarctic nationalisms intersect with intense resource geopolitics and the marine protected area (MPA) process, the dominant narrative of Antarctic 'exceptionalism' looks increasingly displaced. How the Southern Ocean governance under the 1982 Convention of the Conservation of Antarctic Marine Living Resources (CCAMLR) will be impacted by the geostrategic fallouts of the interplay between the return and rise of 'Indo-Pacific' and China's global quest for connectivity under BRI, needs critical reflection. With re(spatialization) of the Southern Ocean well under way, the conventional territorialized

Farah Obaidullah

Women4Oceans



Ocean Advocate, Consultant and the Founder of Women4Oceans. She holds both a Master of Science and a Bachelor of Science from Imperial College in London. With 18 years experience in ocean advocacy, Farah has travelled the world, observing the beauty of the ocean and witnessing some of the most egregious practices happening at sea. Among her achievements, Farah has executed campaigns to end destructive fishing, worked with affected communities, lobbied for ocean protection and been deeply involved in exposing fish crimes, including slavery and labour abuse at sea. Farah is currently campaigning together with hundreds of scientists, civil society groups and businesses for a moratorium on deep-sea mining, a reckless emerging industry that will cause irreversible harm to deep-sea ecosystems, and for which the consequences of disturbing locked-away carbon are unknown. Farah has also produced a book: *The Ocean and Us* (2023), which explores all the ways our lives interact with the ocean. It brings together the expertise of over 35 ocean specialists. Farah strongly believes that to restore our relationship with nature, and all beings we share this planet with, we must rediscover our place in the natural world, embrace our diversity and ensure all our voices are heard.

The Ocean and Us

The past ten years has seen increased attention for the ocean. From the role the ocean plays in regulating our climate to the importance of the blue economy, we are slowly recognizing our dependence on healthy oceans. The increasing challenges the oceans face can no longer be left to scientists, conservationists and activists alone. From overfishing to the impacts of a changing climate and to the looming threat of deep-sea mining, it is more important than ever to engage everyone for the ocean. As we increase our focus on the vast blue spaces of our planet we must at the same time enhance ocean literacy across society and embrace local and indigenous knowledge as well as feminine perspectives. As we celebrate World Oceans Day, Farah will discuss the threats facing our ocean, elaborate on the growing number of initiatives around the ocean and talk about the groundswell movement underway to stop the next disaster from taking hold in our oceans. Farah will draw from her new book: *The Ocean and Us* (2023). A book that explores all the ways our lives interact with the ocean. *The Ocean and Us* brings together the expertise of over 35 ocean specialists and can be ordered at TheOceanAndUs.com

Gloria Pungetti

University of Sassari (Italy)



Chiara-Fama Professor in Landscape Science and chair of CBLS, the Centre for Biocultural Landscape and Seascape at the University of Sassari, IT, as well as founder of CCLP at the University of Cambridge, UK, from where she developed for over 30 years a holistic approach to landscape research, linking nature with culture and theory with practice. She has been awarded prestigious fellowships from CNR, NATO, Leverhulme Trust, European Commission, National and Regional Governments, and has cooperated worldwide with universities, organisations and local communities, promoting bottom-up and participatory approaches for biocultural heritage. She has coordinated international conferences and projects on landscape, seascape and islandscape reflecting the integration of their cultural and spiritual values into nature conservation and biocultural diversity. Coeditor-in-chief of the Journal of Marine and Island Cultures, she is author of over a hundred international academic articles and books, including Ecological Networks and Greenways (Cambridge University Press, 2004), The Right to Landscape and Island Landscapes (Routledge, 2011 and 2017). The last book, Routledge Handbook of Seascapes (Routledge, 2022), is the core of her presentation.

Anthropogenic and ecosystemic legacy for character assessment, planning and governance: advances in holistic seascape research

Human relationships with coastal and marine environment have a multiple character which requires interdisciplinary studies and integrative approaches. These have been advanced in the holistic research on seascape of a group of experts, who provided an overview on the concept of seascape and related areas of study and practice in the northern hemisphere. A biocultural approach has been chosen, linking coastal and marine ecosystems with anthropogenic biomes. Their investigation from past to present has shown a current altered environment made up of a global ecosystem, as a result of the human interaction with nature. A discussion on the concept of seascape has been carried out by all the scholars involved. Their different perspectives outlined the scope to address the approach's challenges to alternative ways of thinking and working, developing a sense of mutual relevance across the contributory fields of seascape ecology, history, character assessment, design, planning and management. The research has been published in the Routledge Handbook of Seascapes, which illustrates multiple coastal and marine landscapes techniques, case studies and practices for future seascape development and conservation worldwide.

Philip Steinberg

Durham University (UK)



UArctic Chair in Political Geography at Durham University (UK), where he directs the Durham Arctic Research Centre for Training and Interdisciplinary Collaboration (DurhamARCTIC) and IBRU: Durham University's Centre for Borders Research. He has published widely on oceans and islands and, more broadly, on the political construction of territory beyond the limits of land. He has authored or edited seven books including *The Social Construction of the Ocean* (Cambridge, 2001), *Contesting the Arctic: Politics and Imaginaries in the Circumpolar North* (Bloomsbury, 2015), *Territory Beyond Terra* (Rowman and Littlefield, 2018), and, most recently *The Routledge Handbook of Ocean Space* (Routledge, 2022).

"...Upon a painted ocean": Lines and legends of oceanic division

When Samuel Taylor Coleridge writes in *The Rime of the Ancient Mariner* that his vessel was 'As idle as a painted ship / Upon a painted ocean,' the references to 'painting' have a double meaning: 'Painting' draws attention to how the ocean and ship are reduced (or elevated) to drawn, allegorical features, abstracted from material reality, and it also highlights their existence as still and frozen, without dynamic character. Reflecting on Coleridge's notion of a 'painted ocean', this paper explores some of the ways that lines are drawn on the sea, and how line-drawing supports a form of abstraction that excludes dynamic, experienced nature. Building on examples from maritime boundary delimitation, marine spatial planning, and uses of bounded ocean-space to evoke state sovereignty, this paper argues that 'painting' the ocean with lines can do as much to obscure as reveal the lines that we draw in ocean-space, and that the ocean draws on us.

Elena dell'Agnese

University of Milano-Bicocca (Italy)



Professor of Cultural and Political Geography at the University of Milano-Bicocca, where she teaches Environmental Justice and Geopolitics of the sea. After having been Chair of the International Geographical Union-IGU Commission on Political Geography, Vice-President of the IGU and of the Società Geografica Italiana, she is now President of the Association of Italian Geographers-AGel. Her research focuses on political and cultural geography and the political aspects of tourism, ecocritical geopolitics and animal studies. In the field of Ocean and Island Studies, she has worked especially on Bali and West New Guinea, the Maldives, and Sardinia, and is now studying the small islands of the Tuscan archipelago. Her most recent books include *Bon Voyage. Per una geografia critica del turismo* (Utet, 2018) and *Ecocritical Geopolitics. Popular culture and environmental discourse* (Routledge, 2021).

Maria Paradiso

University of Naples Federico II (Italy)



Professor of Political and Economic Geography, University of Naples Federico II, Italy. Ordinary Member of the International Science Council (ISC) Governing Board (2021-2024). Member of the Standing Committee for Outreach and Engagement (2022-2025). ISC Fellow. In 2022 Maria has been elected Vice President of the Geographical Union. Maria has served as the Chair of Social Sciences Section in Academia Europaea (London); currently she is the Chair of Academia Europaea's (London) 'Mobility, Governance, Environment, Space' Section. She chair of the Italian National Committee for IGU (International Geographical Union), Italy and is Representative for CNR National Research Council. Her main interest in last years has been the exploration of changes in the Mediterranean relationships through narratives of people in mobilities across the Mediterranean and the better understanding of cultural dialogue and human development. Recently she is starting cooperation and new endeavours in Marine studies (oceans and seas as social spaces) and continues scientific activities in exploring human life in the Internet Age. Maria is interested in cooperation for developing methodologies and practices for Science commitment towards more equitable societies across the Globe. Maria is currently research leader in PNRR Marine Biodiversity Centre, Margeo-Lab, spoke University Federico II.

Marcella Schmidt di Friedberg

University of Milano Bicocca (Italy)



Marcella Schmidt di Friedberg is Professor of Geography at the University of Milano-Bicocca, (Italy). She has been Steering Committee member of the IGU Commission on Gender and Geography and now, since 2016, she is Chair of the IGU Commission on the History of Geography. Vice director of the Marine Research and High Education Center (MaRHE) in Faaf-Magoodhoo (Rep of Maldives). Her research interests concerns landscape and biodiversity conservation, hazard and resilience, cultural and gender geography and history of the geographical thought. Her current research focuses on the culture and heritage of the Maldives. She has been working and publishing extensively on the relations between nature, culture, memory and landscape in different contexts, from the Mediterranean, to Japan. Her publications include *Geographies of Disorientation* (Routledge, 2017).

Stefano Soriani

Ca' Foscari University (Venice)



Stefano Soriani is Professor of Economic and Political Geography, Department of Economics, Ca' Foscari University, Venice. He is Director of SELISI (Director, School of Economics, Languages and Entrepreneurship, Ca' Foscari University of Venice). He studied at the Universities of Venice (Ca' Foscari) and Rotterdam (EUR). Before moving to the Department of Economics in 2013, he worked for 17 years in the Department of Environmental Sciences at Venice University. He has a multi-disciplinary background, particularly at the interaction between applied economics and geography, and environmental studies. Soriani's main areas of expertise are in economic geography and environmental governance. In particular, Professor Soriani made research on port-city evolution and change (urban waterfront redevelopment, re-utilisation of redundant areas and urban marketing), Integrated Coastal Zone Management (no-statutory plans and voluntary programs), climate change, environmental policies and resilience in urban areas, with particular reference to coastal cities.

Takashi Yamazaki

Osaka Metropolitan University (Japan)



Professor of Geography at Osaka Metropolitan University, Japan. He received his Ph.D. in political geography from the University of Colorado at Boulder in USA. His current research interest concerns Okinawa's (de)militarization and critical geopolitics on the East China Sea. He was a Steering Committee member of the IGU Commission on Political Geography from 2004 to 2016 (Co-chair from 2014 to 2016). Within Japan, he established and chaired the Political Geography Research Group of the Human Geographical Society of Japan from 2011 to 2015 and organized the IGU Thematic Conference on "Islands in Relations" in Osaka, Japan, in 2023. His publications include *Space, Place, and Politics: Towards a Geography of Politics* (Nakanishiya, 2013 in Japanese), 'The US militarization of a 'host' civilian society: the case of post-war Okinawa, Japan' in S. Kirsch and C. Flint eds. *Reconstructing Conflict: Integrating War and Post-War Geographies* (Ashgate, 2011), and 'The reinstitutionalization of island identities in Japan' in D. Kaplan and G. Herb eds. *Scaling Identities: Nationalism and Territoriality* (Rowman & Littlefield, 2017), and 'The COVID-19 pandemic and bio/geopolitics in Japan' in S. Brunn and D. Gilbreath eds. *COVID-19 and a World of Ad Hoc Geographies* (Springer, 2022).

01

Adaptability and resilience of Indian Ocean Coastal and Maritime areas: In the context of Sustainable Coastal Management

Chair

Bhanwar Vishvendra Raj Singh
Mohanlal Sukhadia University, India

01

Lopamudra Bakshi Basu
Heramba Chandra College

Sustainable Coastal Tourism in Parts of Sundarban Region of West Bengal: A Perception of the Residents

Indian Sundarban is the nature school of eco-tourist and tourism at present is one of the largest industry in the India. To keep pace with the development environmental concern is also becoming an integral part of coastal tourism in Sundarbans. The largest delta of the world is posed by climate change as echoed in the continuous global warming, rising sea level, erosion and frequency of floods. Conservation methods put an end to exploitation but has direct impact on the local community. Therefore, sustainable tourism development has become an issue and is identified with responsible tourism with proper strategy and framework. Again a tourism-based economy to sustain itself, it is important to understand the attitude of the local residents towards sustainable development. Their perception regarding the livelihood, culture and environment must be continually assessed. This paper is an attempt to study the residents' perception of Gosaba region of Sundarban, regarding the economic, social and cultural impact of coastal tourism. As the Indian Sunderbans, is susceptible to frequent climatic hazard, Gosaba block has been found to be highly vulnerable. With constant exposure to hazard and trivial infrastructural setup this block saliently encourages tourism. It is thus necessary to check the impoverish social condition and weeping of loss for an overall socio-economic upliftment. Both primary and secondary data has been taken for the research work. The secondary data has been collected from various sources like journals, internet and other media sources. A detailed questionnaire was designed to note the perception of people. To understand the attitude and perception of the residents a 5-point Likert Scale was designed. For statistical analysis Chi-square test has been applied. To ensure more participation of local residents it is important to involve them in tourism as cooperation from all the stake holders will benefit both the residents and tourism industry.

sustainable tourism; climatic hazard; socio-economic upliftment; infrastructural setup alternative employment

Anindya Basu
Diamond Harbour Women's University

Cyclone Preparedness Plan for Coastal Blocks of Indian Sundarban

Sundarban is a designated world heritage with world's largest contiguous mangrove forest cover, shared by India and Bangladesh. The Indian part is divided into two morphological units: reclaimed section and non-reclaimed mangrove forests. Here alarming changes are reported in light of erratic monsoons, increasing sea levels, salinity, frequent cyclones and coastal flooding, vanishing islands and socio-economic crisis; leading to growing numbers of ecological refugees. It is one of the most cyclone prone areas in the world. Though there are piecemeal efforts in tackling the menace of cyclone, a holistic cyclone preparedness plan with bottom-up approach is still missing. This lacuna was glaringly highlighted during cyclone Amphan on 20 May, 2020 when the state was reeling under the COVID-19 pandemic. To minimize the loopholes in the existing cyclone mitigation practices the paper tries to prepare a process prototype by involving – a) Occurrence-Resistance-Resilience Analysis and b) Preparedness-Risk Reduction-Capacity Assessment – encompassing physical and socio-economic parameters. For the first part, vulnerable zone identification through – data mining of cyclone occurrence and identification of eroding and stable sections; analysing landuse change; studying hydrographic and hydrologic condition affecting the embankment stability and scrutinising the socio-economic condition and infrastructural amenities present needs to be conducted. The second part entails devising effective management strategies through – upgradation of disaster warning system; optimising the location of cyclone shelters and relief distribution centres; efficient relief distribution and viability checking of insurance cover. This proactive approach reflecting the ground reality would be beneficial for formulating an effective Cyclone Preparedness Plan with participatory approach.

Sundarban; climate change; cyclone; vulnerability; disaster management

Cristina Canella
University of Milan Bicocca

Towards the establishment of MPA networks and OECMs in the Maldives

The Republic of Maldives is a small island developing State (SIDS) surrounded by the Indian Ocean, claiming an archipelagic status under the United Nations Convention on the Law of the sea (Montego Bay, 1982) and with a proclaimed exclusive economic zone covering almost one million square kilometres, presently partially contested by Mauritius. The Maldives is a party to most international environmental conventions and is particularly vocal as regards the concerns raised by climate change. Additionally, this State is committed to the fight against environmental crimes such as illegal fishing, illegal dumping of waste and chemicals, and unauthorized coral and sand mining. Nevertheless, less than 1% of the Maldivian waters is protected. Area-based management is the most widely used approach to protect ocean resources, pursued through the establishment of marine protected areas (MPAs) and so-called other effective area-based conservation measures (OECMs). However, covering only a minimal part of the environment, such measures in the Maldives contribute relatively little to the conservation of marine and coastal biodiversity.

This work aims at strengthening area-based management practices in the Maldives that are in line with the international legal framework. The research has been supported by the MoU between University of Milano-Bicocca (Italy) and the Ministry of Environment, Climate Change and Technology (Maldives), signed in Lisbon in 2022 on the occasion of the United Nations Ocean Conference. The MaRHE Center and the Maldivian Environmental Protection Agency have been working together to survey the potential marine and coastal areas in need of protection.

This work contributes to the United Nations Sustainable Development Goals, in particular Goal 14. It pertains to Target 3 of the Kunming-Montreal Global Biodiversity Framework (Montreal, 2022), which calls for 30% of the land and sea to be conserved by establishing, inter alia, MPAs and OECMs by 2030.

Maldives, small islands developing State (SIDS), archipelagic State, marine protected areas (MPAs), other-effective area-based conservation measures (OECMs)

Bhanwar Vishvendra Raj Singh
Mohanlal Sukhadia University

Saniya Chawda
Mohanlal Sukhadia University

Adaptability and Resilience of Kutch Biosphere Reserve (KBR) Indian Maritime Areas: In the Context of Sustainable Coastal Resources Management

The maritime Indian oceans have huge diversity in terms of geography, geologically, and biologically. But this diversity is deteriorating through anthropogenic pressures, especially in coastal regions. In the Arabian Sea, the Kachchh Biosphere Reserve (KBR) is a unique characterize coastal site located in North-Western Gujarat, India, which is experiencing major environmental concerns, owing to anthropogenic influences in particular. Major research questions are how to cope with natural and social resources in the era of climate change. In this paper, using satellite images from Landsat TM, ETM, and OLI, this study assesses morphological, total vegetation, water index, and coastline changes during the last three decades (1990-2020). Due to numerous anthropogenic and natural activities, the study area is constantly changing at the local level. Significant variations in the shape of vegetation and coastline alterations were discovered during an investigation of changes in the coastal region of Kachchh, Gujarat. In addition, for the years 1990, 2000, 2010, and 2020, land use and land-cover (LULC) maps for the study region are shaped utilizing the band ratio, followed by an amalgamation of supervised and unsupervised classification. The result of this study will aid in the formulation of sustainable coastal resource management, land use plans as well as coastline conservation actions, all of which will contribute to the region's long-term marine sustainability.

Adaptability; Resilience; Maritime resources; coastal management; sustainability

Bhaswati Ray
University of Kolkata

Stakeholder Participation and Citizen Science for Increased Resilience in Deltaic and Coastal Bengal: Case Studies from South Bengal

The delta regions and coastal areas of Bengal are threatened by sea level rise, increased coastal erosion, cyclones, storm surges and coastal flooding. The freshwater sources including ground water are affected by increased salinity and arsenic amounts above permissible limits set by WHO and BIS. Increased human intervention in the form of excessive groundwater extraction for the purposes of drinking and agriculture, rapid transition from agricultural land use to shrimp cultivation and poor water management practices have turned matters worse. Water conflicts are also not uncommon. The affected communities are facing changes in livelihood patterns, lowered agricultural yield, increased contamination of water sources. Salinization and arsenic contamination are also showing adverse health impacts that range from severe hypertension to skin disorders and skin cancer amongst a large section of the population inhabiting these regions. Aggressive population increase and climate change are likely to further exacerbate these problems. Water management practices have been far from adequate. Engineering solutions geared towards protection from inundation have worsened matters with interruptions of the flood dynamics. Deltaic Bengal need meaningful solutions through community-based approaches and stakeholder participation. This paper hence aims to assess the impact of salinization and arsenic contamination on the livelihood and health of the affected communities as well as the perception of such hazards by the local communities. It also explores management strategies already adopted, if any. The paper also aims to come up with effective and integrated strategies through stakeholder participation and citizen science for water management and increased community resilience. Such strategies help ensure local cooperation and effective implementation. The study is based on few case study villages in selected blocks in south Bengal affected by salinity and arsenic contamination.

threats; contamination; health hazard; resilience; stakeholder

02

*Colonial Oceans: Critiquing environmental
narratives of ocean governance*

Chairs

Liam Saddington
University of Cambridge, UK

Greta Ferloni
Durham University, UK

02

Fábio Campos
University of Campinas

Maria Tereza Duarte Paes
University of Campinas

From narratives of the sea to its representations: the Ilhabela State Park and the North Coast Marine Protection Area of São Paulo State, Brazil

With an area 70% composed of environmental protected areas, the Northern Coast of São Paulo, Brazil is characterized by an intense growth due to the tourism, real estate, and port sectors. At the same time, and contradictorily, it's an area marked by indigenous, *caíçaras* and *quilombolas* territorialities. Thus, the sea possesses in the region several attributes and meanings that have been historically reimagined and redefined in accordance with each social actor in the region. There is, therefore, an articulation of territorial practices with this symbolic/material redefinition of the landscape and the coastal ecological processes. In other words, there are changes in the representations of the sea, and so, in how these processes work as knowledge capable of serving as a basis for environmental action. Such spatial practices occur especially in protected areas, which this research focuses on through the Ilhabela State Park, in the archipelago city of Ilhabela, and the North Coast Marine Protection Area, which surrounds the park. In the process of managing these areas, all these sectors dispute their interests with those of maritime protection. With that, this research investigates how the territorialized actors in the areas in question - protected areas management, *caíçaras*, artisanal fisherfolk and city residents - represent and envision their maritimity, and dispute with it, the legitimation and power over the use of the sea (material and symbolic). To this end, photography and participatory mapping operate in this research as tools that can express these actors' narratives, enabling visual comparison with the marine zoning. In doing so, the processes of environmental discourse of these territories and landscapes can be discussed, taking into account how social relations with the sea - in its usage, practices and imagery - structure such narratives and forms of knowledge to support Ilhabela's socioenvironmental protection of its marine environment.

Social representations; narratives and images; maritime protection; sea use management; Ilhabela State Park

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Royal Netherlands Institute of Southeast Asian and Caribbean Studies

Eric Mijts
University of Aruba

"30x30": colonial marine conservation imaginaries?

Healthy oceans play a crucial role in preserving biodiversity as well as in the struggle against climate change. To guarantee this health, the international community has committed to increasing and enlarging so-called marine protected areas (MPAs). In December 2022, the UN Biodiversity Conference COP15 held in Montreal came to an end with the landmark agreement to put 30% of the planet, hence also 30% of the oceans under protection by 2030 (the so called 30x30 agenda), meeting little resistance. Yet the effectiveness of these areas with regard to both nature conservation and climate change adaptation has been strongly contested. Zooming into case studies in Indonesia and the Caribbean, we aim to disentangle tensions between the international level imaginaries of marine protected areas on the one hand and what they are capable of achieving on the local level on the other.

conservation; marine protection; climate change; imaginaries

Alex Midlen
University of Oxford

Enacting the blue economy in the Western Indian Ocean: a 'collaborative blue economy governmentality'

The Blue Economy represents a new development paradigm, being promoted through multilateral institutions. I examine its emerging nature in the context of the Western Indian Ocean region of Africa. I situate the blue economy within the global sustainable development discourse and argue that it represents a form of global governmentality. I note its utopian nature and argue that discourses of utopian thought and risk act to 'responsibilise' States to collaborate in regional sea management in pursuit of human and environmental security goals – which I call a 'collaborative blue economy governmentality'. I draw attention to multiple sites of resistance ('counter conducts') to this governmentality. These counter conducts are diverse, encompassing community resistance to development priorities, insufficient technical capacities and resources, and the material character of ocean and coastal ecosystems. I therefore characterise the blue economy as an immature governmentality, necessitating State and multilateral intervention to put in place or strengthen the governmental capacities needed to enact it. I conclude that the BE governmentality is largely of a neoliberal character, but with hints of an emergent post-neoliberal regime.

blue economy; governmentality; collaborative governance; discourse; ocean development

Borja Nogué Alguero
Universitat Autònoma de Barcelona

Blue Degrowth: Contesting the Marine Cornucopia Paradigm

In recent years, several global actors such as intergubernamental bodies, think tanks, financial institutions, and eNGOs have been promoting the ocean as the latest global economic frontier and as a key asset in the resolution of humanity's most pressing social and environmental problems. At the same time, the ocean and the vulnerable communities that depend on it are under increasing pressure from the growth of the global economy, resulting in severe social and environmental impacts, particularly in the global south, for which high-income nations are disproportionately responsible. In the name of blue growth, indigenous and resource-dependent communities are being dispossessed of their livelihoods through processes of 'ocean grabbing' to the benefit of conservation projects, renewable energy production or ecotourism, amongst other forms of neocolonial domination and exploitation such as with financial instruments like the 'blue bonds.' Mainstream ocean governance narratives incorporate economic growth as discursive and policy pillar, hence legitimizing and reproducing the capitalist imperative of constantly looking new avenues for accumulation. Stemming from critique of development tradition and building upon theories of unequal exchange, degrowth argues that sustainable development and economic growth are the contemporary ideological bedrocks for the maintenance of the imperial arrangements in the global economy. 'Blue degrowth' is hence defined by being both a radical critique to the colonial legacies of the blue economy and as a counter-paradigm to capitalist ocean cornucopias that advocates for embracing social and limits to growth for the benefit of people and the sea. Therefore, blue degrowth is articulated amongst a pluriverse of alternatives visions, emancipatory projects and traditional practices of relating to the sea that resist and contest capitalist modernity in the ocean space.

Blue Economy; Blue Growth; Ocean Grabbing; Degrowth; Blue Degrowth

Maria Paradiso
University of Naples Federico II and International Science Council

Decolonising oceans science: challenges and prospects for indigenous communities stemmed from gene sequencing and data ownerships

The intensification of innovation and technological uptake in the agricultural and marine spaces have exposed the centrality of data as pivotal intellectual assets in resources exploitation on a Earth, with a specific impact on oceans. A combination of many of these technologies – notably synthetic biology and the application of DSI dna sequencing – presents new challenges as well as prospects for norm setting about data ownerships. The paper critically explores this frontier. It discusses about data ownerships, norm setting and conflict of interests among multinationals, Global North states as colonial actors and indigenous communities' interests. Conflicts are stemmed from models of data ownerships of information generated by gene sequencing. They are likely to produce increasing disparities, injustice in access to food and vital basic resources for marine and agriculture indigenous communities. This paper's view can pertain to the movement of open science and decolonising science. Proprietary science from Global North is indeed a legacy of colonialist attitude.

oceans; decolonising science; indigenous; data ownership

Fostering baseline for stakeholders composition at Remote Marine Protected Areas

The partially known but incipiently-implemented challenges to ocean governance effectiveness have been turned into a global issue with emphasis on remote areas. Regionalization of marine space also seeks for its geopolitical methods and international agreements, while the conservation matter has become a vanguard category, since Aichi's Treaty and a prominent scholar field of research. Remote Marine Protected Areas (ReMPA) poses as a territory to be managed in its ecological, but not exclusive to their several potential uses. How to implement and manage the ReMPAs is still new to modern society, and the participation criteria in the decision-making processes is undermost in a legitimate perspective. The proposed framework highlights the importance of emerging studies to untangle Oceans territorialization and use(r)s, in order to establish composition parameters for shared and legitimate management. The initial application is exemplified by taking two Brazilian ReMPA. The preliminary results seek to support the priorities of Scientific innovative methodological appropriation in Ocean decision-making, as envisioning new baselines of legitimacy for ReMPAS governance. Thus, the two asymmetries found represent baseline challenges towards a framework to be considered as a starting point for ReMPA participative governance guidelines. These asymmetries pose emerging questions about how ReMPAs territories will be governed since the stakeholder's composition shall be considered in future decision councils and multidisciplinary scholars research fields. The highlights argue about the questions posted above and point to preliminary conclusions pointing to an analytical model to better fit criteria for the participative management of ReMPAs in the present days.

Remote Marine Protected Areas; Blue Economy paradigm; Power Asymmetries; Stakeholders

03

*Current and emerging challenges and prospects in the
Mediterranean coastal and marine scenery*

Chairs

Anastasia Stratigea
National Technical University of Athens, Greece

Tommy Inkinen
University of Turku, Finland

03

Ioanna Argyrou
NAYS Ltd, Consultants of Environmental Planning and Project Development, Athens, Greece

Anastasia Stratigea
National Technical University of Athens

Setting the scene for visualizing the future of aquaculture in the Greek Seas – A foresight exercise

Sustainable blue economy sets the ground for maritime investments in a number of sectors, among which falls also aquaculture, as a complementary to the fishery sector. In fact, interest in aquaculture is nowadays steadily growing as the result of the: globally rising healthy dietary patterns and related demand; policy directions at the global and the European/national level, seeking to achieve a sustainable future of the sector that additionally contributes to the integrated coastal zone management and the protection of marine resources; and technological advances that can abrogate adverse environmental repercussions of aquaculture; all framing, in a way, the future development of the sector. Taking into consideration the dynamics of the broader decision-making environment, as well as the current spatial and developmental policy contexts in Greece, the present paper attempts to explore the future of aquaculture in the Greek marine environment by: keeping track with its multiple dimensions, i.e. spatial, social, economic, technological, environmental, etc.; and placing emphasis on the methodological approach. That said, a foresight exercise is conducted that is grounded on developments in the broader decision environment (dietary trends, blue economy, marine spatial planning, technological developments in the sector, etc.) at the global, European and national level; and attempts to structure and evaluate alternative scenarios of future aquaculture development in the Greek seas, also sketching the spatial context of such a future. Results demonstrate the prevalence of a hybrid aquaculture future development model, marked by both: large offshore, technology-intensive, highly extroverted and competitive aquaculture firms; and smaller, labour-intensive and traditional local businesses, steering social and economic cohesion in coastal and insular areas.

sustainable blue economy; maritime aquaculture; Greek coastal and insular areas; foresight; scenario analysis

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Climate mediated changes in seawater chemistry and their potential effects on marine lightning intensity in Mediterranean Sea

In 2016, the World Meteorological Organization declared that lightning is an essential climate variable. To date, global change studies have only considered the effect of warming on lightning flash frequency and the global distribution of lightning activity. Furthermore, none of these studies considered the effects of climate change on lightning flash intensity. In our previous studies we suggested based on laboratory experiments that lightning intensity over water surfaces may be influenced by their chemical properties, including salinity (S), pH and total alkalinity (TA). In this study we tested the combined effects of changes in S, TA and pH in Mediterranean Sea surface water on the intensity of laboratory generated electrical sparks, which are considered to be analogous to cloud to sea-surface intensity of lightning discharges. The range of values tested in the lab correspond to changes in S, pH and TA of Mediterranean surface water that were caused by the anthropogenic climate change, ocean acidification and damming of the Nile in the 1960s. Where, the damming of the Nile is generally accepted to have caused nearly 30% of the total salination of Mediterranean surface water until now. The experimental results were used to develop a multivariate linear model of Lightning Flash Intensity (LFI) as a function of S, TA/S, which and pH. The model was validated with wintertime (DJF) LFI measurements along a Mediterranean Sea zonal profile during the period 2009-2020 compared to corresponding climate model outputs of S, TA and pH. Based on this model, the combined effects of climate change, ocean acidification and the damming of the Nile, may have increased LFI in the Levantine Sea by $16 \pm 14\%$ until now relative to the pre-Aswan Dam period. Furthermore, assuming that salinization and acidification of the Levantine Sea will continue at current trends, the LFI is predicted to increase by $25 \pm 13\%$ by the year 2050.

Lightning; Ocean Acidification; Salinity; pH

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The Mediterranean Sea in the Scientific Literature: Depth and Environmental Monitoring (1945-2021)

This is a bibliographical analysis directed to assess the history of marine sciences about the Mediterranean Sea after World War II. Traditionally, the Mediterranean Sea has been studied from different research areas such as environmental sciences ecology or oceanography. However, the number of articles have been increasing in the last decades, including from the humanities and social sciences.

For this reason, we ask five fundamental set of questions: 1. How did the Sea and the Region interact in the

scientific literature around the Mediterranean? 2. How have studies of the sea-atmosphere system developed in this period? 3. How does the Mediterranean Sea feature in the literature with respect to other seas and oceans in different disciplines, for instance through the notions of "Mediterraneans" and "miniature ocean"? 4. To what extent does the analysis of depth correlate with human and environmental studies of change, including climate? 5. How can the human sciences contribute to future studies of environmental change in the Mediterranean? As part of the ERC-CoG funded DEEPMED project, our starting hypothesis is that there has an increasing gap in the literature regarding the natural environment and the anthropological Mediterranean and that this gap is starting to narrow with the increase of climate change studies and the unique roles that the Mediterranean Sea has acquired in those studies.

Mediterranean Sea; literature review; environmental humanities; digital humanities; climate change

Gabriele Casano
University of Genoa

Mauro Spotorno
University of Genoa

Pantelleria, insularity and thalassophobia at the core of its territorialization process: the impacts of globalization and tourism

Pantelleria is located in the middle of the Mediterranean Sea, the island has been a strategic commercial hub for centuries; nowadays, it is an affirmed tourist location where it is possible to combine both seaside tourism with a wide range of alternative activities from enogastronomic experiences to trekking, horseriding and cyclo-tourism. Pantelleria is often described as an "island of land and wind", because of its agricultural vocation and the incessant rage of the winds that have shaped the trajectories of its territorialization process. Historically, the inhabitants have been devoted exclusively to agricultural activities, relegating fishing activities to a marginal role. The results in terms of landscape configuration are the most relevant evidence of this historic process of "taming" to which the island's space has been subjected to.

Based on the existing literature in this field and, above all, on the data and interviews collected between July and September 2022 in Pantelleria, this contribution wants to explore the current situation in terms of land-marine interaction considering those local touristification trends that are redefining the historical process of territorialization of Pantelleria. The focus will be on the change observed in/by the agricultural sector and the implication of this latter in terms of landscape maintenance, local traditions conservation and tourist attractiveness. The research intends to highlight how the effects of tourism on local agriculture can be described as ambiguous. In addition, it will bring to light the possible consequences that the phenomenon of touristification currently underway on Pantelleria could entail in terms of the landscape and tourist attractiveness of the island itself, in the medium to long term.

Land-sea interaction; tourism; landscape; tradition; Pantelleria

Clara Di Fazio
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A critical approach to marine biodiversity: geodiversity and Mediterranean maritime transport context

The sustainable development of the maritime transport sector is changing. It is currently one of the greatest challenges that the European Union is facing in order to ensure the preservation of biodiversity and the survival of the marine ecosystem. Maritime transport seems to primarily impact the marine ecosystem - in terms of noise pollution and in relation to the introduction of non-native species into the local ecosystems -. No less important is hydrocarbon pollution and the need for the use of alternative fuels and hybrid electric ships as well as innovative solutions and digital technologies to increase the competitiveness and, at the same time, the sustainability of maritime transport, according to the objectives of the European Green Deal.

Biodiversity provides and supports ecosystem services and demands for increased levels of protection for species and ecosystems and is being translated into new modes of spatial governance at national, regional, and local scales. Starting from these considerations and from a critical view of the concept of "biodiversity", in the light of geographical studies on "geodiversity", this research - through the analysis and processing data provided by the National Geoportal and other international territorial data on the evolution of maritime transport - analyse the quantitative and qualitative aspects of the maritime transport impact on marine biodiversity in Mediterranean contexts. Through the application of ICT for the marine environment, this research also provides a starting point for a new governance model that aims at strengthening ecosystem resilience and the better and green/smart use of maritime traffic.

marine biodiversity; Mediterranean maritime transport; geodiversity; governance model; ecosystem resilience

Despina Dimelli
Technical University of Crete

The diachronic spatial development of tourism constructions in Greek coastal insular zones.

The Mediterranean islands and more specifically the Greek islands are depending their economy on tourism, so the country's policies promote the construction of tourism infrastructures in the country's coastal zones. As mass tourism is during the last decades an important economic pillar for the country's development, the corresponding infrastructures are developed in many of the Country's insular coastal zones, in some cases beyond their carrying capacity.

The proposed paper analyzes the spatial typologies of tourism constructions in the costal zones of the Greek islands. The aim of the paper is to examine the spatial forms of development in three islands of Greece: Crete, Mykonos, and Rhodes. The case studies are chosen because they present a common characteristic, intense tourism infrastructures construction, and main differences, as they are islands with different size and population, tourism history, spatial policies, and landscapes.

The paper will be structured in three sections:

- In the first section it will examine models of tourism spatial development (Smith and Andriotis models)
- In the second section it will analyze the forms and types of the case studies' spatial tourism infrastructures

expansion. The analysis will be based on three different dates (2000-2010-2020) to investigate the size, forms and types of tourism infrastructures and their diachronic expansion.

- It will proceed to conclusions about the types and forms of these infrastructures development, and it will evaluate the factors that shape the constructions for tourism in the insular coastal zones of Greece.

The research will examine the ways coastal zones during the last 20 years are covered with tourism constructions, the forms, and types of these structures', their diachronic spatial development and evaluate the parameters that shape this kind of development.

spatial forms; tourism development; Greece

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Land-based multi-level spatial and developmental policy directions and their implications in the marine environment: Case study Northern Aegean Sea, Greece

European strategic policy directions towards a sustainable blue economy have strengthened interest in maritime investments and increased sectoral competition for marine space. Emerging problems out of such an interest need to be handled by Maritime Spatial Planning (MSP) as an important tool for: properly allocating, in an integrated and place-based way, marine space to various uses; managing conflicts and promoting synergies among diverse uses; and pursuing a multi-use perspective of this space. Such a marine spatial planning endeavour is not carried out on "white paper". On the contrary, it takes place in a marine space that, apart from current maritime uses and their dynamics, is in close interaction with the mainland – especially its coastal part – and is affected by the outcomes of current and future-oriented land-based policies at various spatial scales, i.e. local, regional, and national/supranational. Thus a critical stage of each MSP exercise is the exploration of such land-based spatial/developmental directions and their current/potential repercussions in the marine environment in order for constraints but also perspectives in policy choices/maritime uses in the MSP context to be featured; and attainment of a successful coordination between land and marine spatial/developmental policies to be ensured, realizing thus the Land-Sea-Interaction (LSI) concept in MSP. Along these lines, the focus of this paper is on illuminating critical issues emerging from land-based (terrestrial) policy frameworks, as a necessary step for properly feeding relevant MSP endeavours. This effort is accomplished in a specific part of the Greek marine environment – the Northern Aegean Sea – where an MSP exercise is currently in progress. The steps of this effort follow a multilevel approach that indulges into diverse policy contexts at the local, regional and national/European level; and aims at contributing towards a more informed MSP exercise in the specific case study region.

Marine Spatial Planning (MSP); land-based spatial policy contexts; national and regional developmental policy; Land-Sea-Interaction (LSI); Northern Aegean Sea

Kengo Hozumi
Waseda University

Recent Regional Studies on Mariculture in Japan and The Western Countries -Towards Sustainable Mariculture

Mariculture is one of the central issues of sustainable Blue Economy. Geographical studies on mariculture are accumulating in The Western Countries. In Japan, on the hand, geographical studies are limited, though mariculture has already been practiced since 1970s. However, in the relevant disciplines, mainly Fisheries Economics, studies are more animated and local areas are focused on like Geography. In this report, thus, regional studies in Japan and geographical studies in The Western Countries on mariculture will be reviewed and compared, and the perspective needed in geographical studies towards sustainable mariculture will be presented.

In Japan, it is considered how to improve and sustain the economic sustainability of mariculture, as production has leveled off since the late 1990s. Specific arguments are the following: how large-scale farmers operate by taking advantage of their scale merit, how small-scale farmers sustain their management by cooperating with other farmers, and how farmers sell aquatic animals. In these studies, focal points are efforts in production and shipment by individual farmers.

In The Western Countries, it is considered how to improve and sustain the socio-ecological sustainability of mariculture, as production has been increasing. Specific arguments are the following: not only how mariculture has been increasing but also how the intensification of mariculture affects local areas socially and ecologically and how to diminish these bad influences by technologies and regulations. In these studies, focal points are the role and position of research institutions, governments, and coastal residents.

As explained, the implication of "sustainability" of mariculture and focused actor are different between Japan and Western countries. However, using both perspectives complementarily will be helpful. Namely, in geographical studies towards sustainable mariculture, individual farmers should be recognized in the broader context.

mariculture; sustainability; farmers; Japan; The Western Countries

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Featuring key issues towards the sustainable and resilient management of Underwater Cultural Heritage in Greece - A participatory approach

During the last decades, Cultural Heritage (CH) has gained a prominent role in policy agendas as a key enabler in pursuing global Sustainable Development Goals (SDGs). In fact, SDGs offer a new framework for conceptualizing integrated CH management approaches and redesigning CH policies for encompassing environmental protection and sound management of these resources, while going hand-in-hand with local visions and expectations. Integrated approaches, in turn, imply socially innovative thinking and stakeholders' engagement in related cultural planning processes, issues that become critical when it comes to Underwater Cultural Heritage (UCH). This lies on the nature of UCH, i.e. an asset located in a less explored and, in many cases, highly contested marine environment, where economic, environmental, social and cultural interests and conflicts are met. Taking into consideration the growing interest and related legal action undertaken by the Greek state towards opening up

UCH as a 'common good' and a means for serving national, regional and mostly local sustainable development objectives, this paper presents results of an effort to collect interdisciplinary and multi-spatial level views as to UCH management. In doing so, a Focus Group-based participatory exercise is conducted, which aims at gathering knowledge from the scientific, policy and entrepreneurial community as to the critical issues towards the sustainable and resilient UCH management and UCH's role as a pillar for local/regional development. Based on a structured dialogue among stakeholders engaged in this participatory endeavour, key concerns are identified with respect to strategic directions for UCH management, cultural governance concerns, main obstacles/risks, etc.

(Underwater) Cultural Heritage (U)CH; marine environment; UCH management; participatory planning; Focus Groups

Maria Laura Pappalardo
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3D cartography of the sea and oceans: a reality to spread.

The 3D cartography of the seabed created by LACasa della cartografia (the only Italian cartographic company able to produce this type of product and one of the very few still present in the world) is an indispensable tool for understanding the marine reality. In a clear and simple, but at the same time rigorous and scientific way, these artifacts allow to acquire multiple information on the multiform characteristics present in the seabed. The seabed represented, for example, in the "Relief map of underground volcanic representations present in the Italian seas" highlights the complexity of the volcanic system found in the Tyrrhenian Sea, between the Aeolian Islands and Campania, demonstrating not only the "vitality" of these systems (the Marsili above all) but also the impossibility of realizing projects that are highly acclaimed today (such as that of the bridge over the Strait of Messina).

cartography; sea, ocean; education; sustainability

Orli Ronen
Tel Aviv University

Ophir Paz Pines
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Coastal cities at the forefront of climate change

HEATING CITIES OF THE MEDITERRANEAN - Almost 100% of the Mediterranean population reside in urban localities, in 1,600 cities (of more than 10,000 inhabitants), covering about 40% of the land area. This is one of the world's HOTSPOTS for climate change, especially rising temperatures. In a 2018 survey of 885 cities across Europe (Reckien et al.), the analysis shows that most cities have some sort of climate plan. However, out of the 885 cities, only 88 are Mediterranean cities, and most of their plans are predominantly in the mitigation category, focused on energy planning. The relatively limited mainstreaming of environmental policies in Mediterranean cities is also apparent in the Sustainable Cities Index of Arcadis (Arcadis, 2017), where only six Mediterranean cities are listed out of 32 European and 100 global cities, none in the first two deciles and only two in the third decile. These findings are disturbing, especially considering the climate change impacts on the region, especially on coastal cities.

Coastal adaptation plans are more prevalent since coastal cities are naturally more vulnerable to climate change.

Many cities utilize the Coastal Vulnerability Mapping tool and indices, as a starting point for their adaptation planning. These instruments are extremely useful in conceptualizing the actual threats of climate change to specific cities, and even more so, to specific areas and neighborhoods within the city. Israel's coastline is affected by climate change. Over the past two decades, a rise of more than 10 cm was recorded in the Mediterranean Sea, with future scenarios ranging from one to 10cm per decade. Undoubtedly, climate change brings a new front to the city - coping with continuous stresses and shocks that directly affect the physical and human space. The presentation will demonstrate the Israel Coastal Cities Forum as a viable mechanism to improve climate adaptation in coastal urban coastal settlements.

climate change; coastal adaptation; rising sea level; sensitivity mapping

Jona Maria Seguí Pons
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University of the Balearic Islands

Espaces insulaires dans l'Union européenne et transformations territoriales, un regard comparé (1990-2018)

La transformation des territoires insulaires est un fait multidimensionnel, explicité, entre autres valeurs, à travers la VAB ou la population occupée par secteurs d'activité. Parallèlement, l'étude des changements d'occupation des sols, sur ces mêmes territoires, à travers le programme Corine Land Cover, montre comment les terres agricoles cèdent la place à des surfaces artificielles, telles que des zones urbaines ou des infrastructures telles que des routes, et à des espaces naturalisés. Ces mutations illustrent la perte de poids du secteur primaire dans l'économie et sur le territoire, avec l'augmentation des surfaces urbanisées surtout pour le développement des activités de loisirs et touristiques. Le secteur secondaire a peu de poids dans la répartition des richesses et la construction se présente comme un moteur du secteur secondaire et de la transformation vers le secteur tertiaire dans les îles. Malte et Chypre sont les territoires où cette valeur est la plus élevée. La pression de la population flottante mesurée à travers les touristes et les passagers aériens révèle comment, malgré la forte présence touristique, la génération de richesse ne se produit pas avec la même intensité. Les îles méridionales de la mer Égée et de la mer Ionienne, avec une perte de surfaces agricoles et une augmentation des surfaces artificielles, ont un nombre élevé de visiteurs, mais sont celles qui ont le revenu par habitant le plus bas. Un cas à part serait les îles Baléares, avec une forte pression touristique et, par conséquent, des processus d'urbanisation élevés au cours des trente dernières années, mais avec un revenu par habitant plus élevé, bien qu'inférieur à celui de l'Europe, bien que cela ne soit pas un indicateur suffisant de bien-être ni d'une distribution équitable des richesses.

usages du sol; îles européennes; tourisme; secteur tertiaire

Building towards more effective governance and participatory planning approaches to improve MSP implementation efficiency in Greek waters

Considering the current situation of the legal framework related to MSP in Greece, and the existing institutional fragmentation between competent authorities for the management of different maritime sectors, targeted actions that refer to governance issues have been proposed within the Interreg ADRION PORTODIMARE project. Indeed, as there are a number of different authorities dealing with the management of coastal and marine space, MSP should constitute a governance process including effective horizontal and vertical integration mechanisms and applying a decentralized governance system that features participatory approaches responsive to regional/local conditions. What is more, targeted actions referring to stakeholder engagement in the MSP process have been suggested in PORTODIMARE based on outcomes from organized interactions with key focus groups (mainly fishers and representatives from aquaculture units in the Region of Western Greece, as well as administrators at both the central and regional levels). Stakeholder perspectives, and particularly their visions, expectations and concerns were crucial for developing participatory planning processes; their engagement from the beginning of the process seemed to enable building trust through developing a better and common understanding of the social-ecological system under consideration and subsequently participating in co-designing tailor-made planning proposals considering sustainable development opportunities. The latter approach may also increase stakeholders' acceptance and compliance to the decisions/measures that would be implemented. However, outcomes suggested that a successful participatory approach can be guaranteed only if properly organized by the national/regional competent authorities in the country/region, who should also facilitate transfer of good practices referring to environmental, economic, socio-cultural, policy issues, supporting thus inclusive, fair and integrated MSP concepts.

social-ecological systems; stakeholders; capacity; integration

Karim Zaouaq
Sidi Mohamed Ben Abdellah University

Addressing marine plastic litter in the Mediterranean Sea: framework, limits, and prospects

The impacts of plastic waste on aquatic life are very noticeable, both on marine fauna and flora, insofar as the lives of hundreds of marine species are now threatened by plastic waste dumped in the Mediterranean ocean, especially microplastics. To address this global scourge, many international instruments were adopted, including the London Convention on the Prevention of Marine Pollution by Dumping of Waste and the International Convention for the Prevention of Pollution from Ships (MARPOL). At the level of the Mediterranean Region, the Convention for the Protection of the Mediterranean Sea against Pollution, known as the "Barcelona Convention" is the main legal instrument to preserve the marine environment within the framework of the Mediterranean Action Plan (MAP).

However, these instruments are not effective in combating marine plastic litter, not only because of their scattered nature but also because of the general nature of their provisions and the limits concerning the implementation of responsibility. As a result, most of the measures advocated in the Mediterranean were taken by national and local legislators and actors, hence the diversity of legal instruments and public policies adopted from one country to another in the fight against marine plastic waste. This work will try to highlight the international, regional, and national legal instruments that enshrine provisions related to the protection of the marine environment in the Mediterranean or at most the management and disposal of waste, before noting the main limitations inherent to these instruments. It will also attempt to draw up a set of guidelines for the development of a binding agreement or an efficient strategy at the Mediterranean level capable of providing a coherent and precise response to the problems posed by marine plastic waste.

Plastic litter; Mediterranean Sea; Policies; Law; Marine Environment

Addressing marine plastic litter in the Mediterranean Sea: framework, limits, and prospects

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Plastic litter; Mediterranean Sea; Policies; Law; Marine Environment

04

Deep seabed mining

Chairs

Marco Grasso
University of Milano Bicocca, Italy

Michael Sattich
University of Stavanger, Norway

04

Sarah de Rijcke
Leiden University

Deep-seabed mining and quality control in ocean science

Ocean science is increasingly multivalent. Not only is it expected to contribute to a more systemic understanding of the ocean as an ecosystem, it is also called on to analyse environmental effects of climate change, and help fight effects of intensified exploitation. At the same time, it operates in a highly research-focused and efficiency-oriented academic system whose norms partly work against societal relevance.

Deep-seabed mining is seen by some as a solution in the transition from oil and gas to green energy (e.g. the nickel and cobalt in these nodules are in high demand for manufacturing batteries). For others, deep-seabed mining is hugely problematic, because the environmental impact of mining the ocean floor - a very complex technological challenge - is both unknown and highly contested. How is the transition to a clean-energy economy being addressed oceanographically within public-private partnerships that include ocean scientists, national governments, and the shipping and mining industry? These collaborations raise complex questions about scientific quality and integrity, sustainable R&D, and environmental justice.

evaluation; quality control; ocean science; STS

Beatrice Ruggieri
University of Milano-Bicocca

Into the unknown: social and community impacts of deep sea mining in Pacific Island Countries

Pacific Small Island Developing States (SIDS) are at the forefront of the deep seabed mining debate. Their exclusive economic zones are so broad that, looking at the SIDS from an oceanic perspective, they could be better identified as Large Ocean States (Jumeau, 2013) and it is precisely this peculiarity that makes them crucial political actors in the oceanic governance.

Seabed mining in the Pacific is a controversial issue. On the one hand, Nauru is pushing for this practice by being the sponsoring country of the Canadian deepsea mining company DeepGreen; on the other hand, Fiji and Palau

are calling for a moratorium because of its extremely invasive character. Moreover, many are even challenging the need for deep seabed metals for the energy transition, thus questioning the idea of seabed mining as the ideal solution to our ecological, capitalistic-driven problems (Miller et al., 2021).

In this regard, it has to be stated that, if environmental impacts of deep seabed mining remain largely unknown, this becomes even more true when considering its socio-cultural effects on Pacific islands communities, whose relationship with the ocean is so strong that the Pacific scholar Hau'ofa (2008) has referred to them as "people from the sea". While colonialism and globalization have compromised it, the sense of interdependency and urgency to protect the ocean as a source of life and identity is still felt and actively performed in Oceania, especially in the context of the climate crisis; nonetheless, so far the socio-cultural implications of seabed mining in the region have been poorly investigated (Roche and Bice, 2013; Tilot et al., 2021).

Therefore, the present contribution is an attempt to retrace the main stages of the debate on deep seabed mining in the Pacific islands by specifically considering the socio-cultural dimension of this highly contentious and potentially harmful practice with the aim of providing further reflections to expand knowledge on the subject.

deep seabed mining; Pacific Ocean; Indigenous island communities; extractivism; socio-cultural implications

Anna Zalik

Global Geography, York University, Canada

On Moratoria, Extractive Geopolitics and Financial Power at the International Seabed Authority

Over the past two years, the International Seabed Authority (ISA) has seen a considerable upswing in calls from member states for a moratorium on deep sea mining, led in part by Costa Rica and Chile and widely supported by environmental NGO coalitions. The increased demands for a moratorium respond to Nauru's triggering of the 'two year rule' at the ISA in June 2021, a clause in the UNCLOS Implementing Agreement that impels the ISA to finalize a mining code within 24 months of its invocation, thus by June 2023. Nauru's act was widely considered the outcome of pressure from The Metals Company (TMC, formerly Deep Green) which holds an ISA exploration contract sponsored by Nauru. Ironically, rather than increasing its fortunes, following the invocation of the rule, TMCs market valuation plummeted as investors became aware of the risks associated with deep seabed mining (DSM), particularly under an inadequate regulatory regime. The triggering of the two- year rule received considerable media attention, yet public critique of goings-on at the ISA are also notable in their omission of the role of United States, which has yet to ratify the UNCLOS. Indeed, a significant epistemological struggle is apparent in the debate over DSM that shapes both resource access to, and ecological regimes around, mineral exploration sites. This paper explores these dynamics and omissions from two vantage points: 1) the geopolitical conditions prompting various Northern countries to join the call for a Southern-led moratorium on deep seabed mining at and beyond the ISA and 2) the financial interests influencing the timeline of deep sea mining development and thus the position of seabed investment as a spatio-temporal fix for 'green' extractives. The latter includes the dual option legal framework available to the US firm Lockheed Martin - whose has access to deep seabed mineral licenses both via its British subsidiary at the ISA, and autonomously via US ocean-minerals legislation.

Spatio-temporal fix; moratoria; geopolitics; seabed mining

05

Images and imaginaries of the sea

Chairs

Enrico Squarcina
University of Milano Bicocca, Italy

Erica Neri
University of Milano Bicocca, Italy

Stefania Benetti
University of Milano Bicocca, Italy

Giovanni Modaffari
University of Milano Bicocca, Italy

05

Pietro Agnoletto
Università di Milano-Bicocca

Italian seascapes through the tourist's gaze. Liguria's touristic imaginaries during the economic boom

The touristic phenomenon which interested Liguria Region during the Second Post-War radically changed the urban aspect of involved localities, with an almost uncontrolled building development tied to the growing need of "second houses". Starting from this context, the contribution will investigate how tourists perceived mass tourism and how they represented the suffocating concrete sea surrounding them. Postcards and amateur cinema will be used as visual sources to explore touristic imaginaries vehiculated to the tourists from above and the free representations of touristic spaces made by the tourists themselves; with the aim to observe the evolution of the relationship between tourists and the sea, as well as the historical gaze towards the evolving seascapes of the region. With this purpose the Touring Club Italiano in Milan and the National Enterprise Cinema Archive in Ivrea have been taken in analysis with a study involving hundreds of postcards and home movies.

Amateur cinema, postcards, Liguria, seascape, ecocritical geopolitics

Sarah Ahmad
Banaras Hindu University, India

Seafaring with the Saint: An Ethnogeographical Study of Fisherfolks in Nagore Shrine, Tamil Nadu, India

For the fishermen community, the sea is permeated by many kinds of challenges and uncertainty, ranging from the catch of fish to the threat of their life. However, in coastal parts of Southern India, the capricious nature of sea is consistent with a sentient spiritual figure known as Shahul Hamid. A 16th century Sufi master known as "Protector of Navigation" rests on the coast of Bay of Bengal in a small town of Nagore, Tamil Nadu. His popu-

larity extends beyond the oceans, to the extent that many roohi dargahs (replica or empty shrines) have been built by seafarers across the world—from Sri Lanka in South Asia to Malaysia, Singapore, Myanmar and Vietnam in South-East Asia and the Caribbean in Americas, with recent additions in Toronto and New York. It can be said, in all these sites, the everyday life of fisherfolks is deeply influenced by the saint. Hence, this transcends the physicality of the seascape into saintscape. However, cultural geographers have largely overlooked how these saintscape influence fisherfolk behaviours and perceptions. Therefore, this study uses the concept of sense of place to explore the material and perceptual relations between the fishermen's community of Nagore and the saint's shrine. This study is mainly based on qualitative techniques such as semi-structured interviews and focus group discussions. Further, the transcribed interviews have been analysed by the MAXqda qualitative analysis software. It was found that, for every fisherman, the saint's shrine is a womb and a tomb for security and survival, and amid modernization they still maintain their ancestral heritage of activities such as annual worshipping of the saint, the ritual of naming a new boat, performing prayer, spells, and seaward rituals before sailing. The analysis reveals that the fisherfolks have developed a range of relationships with the Nagore shrine, from purely spiritual to biographical, narrative, commodified, ideological, and dependent.

Saintscape; Shrine; Sense of place; Seafarers; Dargah

Stefania Benetti
University of Milano-Bicocca

"Life in plastic, it's fantastic" ...?

Marine plastic pollution is one of the most important global challenges: domestic waste, fish nets, and micro-plastics feed plastic islands in seas and oceans. One of the latest estimates of plastic waste expects an increase of between 36 and 90 million metric tonnes in 2030 in the world's waters. Different global recommendations outline how to combat land-based sources of plastic pollution and plenty of sensibilization initiatives try to raise awareness of the problem. Videos produced by international organizations, murals by street artists, video clips by musicians, and other artistic forms produce a new imaginary of the seascape, away from the idyllic vacation place idea. Focusing on the last 20 years, the contribution explores artistic-creative actions, media activism, and public information campaigns able to convey a greater sensitivity towards the sea and the ocean. The study collects audiovisual and photographic material found in public and private archives and, through visual analysis, explores how these materials have conveyed environmental discourses related to seascapes and to which audience they are intended. The research aims to understand the role of the arts and visual tools in constructing the image of polluted seas and oceans, portraying disgusting seascapes that need to be saved.

Plastic pollution; Environmentalism; Ecocritical Geopolitics; Visual analysis; Artistic representations

Tamami Fukuda
Osaka Metropolitan University

Examination of the Representation of Northern Natural Landscape in Hokkaido through Hanyu Hikaru's Seashore Landscape paintings

Hanyu Hikaru is a nihonga (Japanese-style painting) artist based in Kushiro, Hokkaido, whose work is characterized by his continuous adherence to depictions of Hokkaido's landscapes. Landscapes of this region were typically represented through the perspective of mainlanders about the north and portrayed as cold, dark, and dull, or as pastoral

in comparison to the mainland. In contrast, Hanyu's works reveal an inhospitable, austere, and majestic natural environment. His seashore paintings, in particular, were produced in harsh, extremely cold, and natural environment. In fact, Hanyu sketched these landscapes outdoors during the middle of winter. This study examines the image of the northern seashore in his works and explores the relationship between human beings and marine spaces. The discussion of the northern seaside landscape begins with an observation of the image itself and moves on to examine the methods used by the artist to produce the image. Our analysis of his production process is not limited to technical aspects, such as his innovative techniques of Japanese-style painting, or objective aspects such as the size of the works. This study investigates his life history as a painter who lived in Kushiro since childhood and as an artist involved in the art world in both Hokkaido and Japan. Subsequently, this study inspects the social and geopolitical contexts surrounding the Hokkaido region. Furthermore, as Gillian Rose (2016) shows in a framework (consisting of three modalities and four sites) used for interpreting visual materials, when approaching the visual we must carefully consider aspects of "audiencing" and distribution of the images. These points are indispensable for studying visual geography. Thus, this study also inquires how and where Hanyu's works have been exhibited and evaluated, and how they have been circulated, since they must be considered as not only images but also moving objects.

Hanyu Hikaru; Hokkaido; Japanese-style painting; seashore Landscape; northern image

Laurence Le Dû
Université Rennes 2

Les paysages sous-marins : un imaginaire en construction

Le séminaire organisé à Brest en 2011 a marqué une étape dans la reconnaissance des paysages sous-marins, le paysage étant compris au sens de la Convention Européenne du Paysage: « partie de territoire telle que perçue par les populations, dont le caractère résulte de facteurs naturels et/ou humains et de leurs interrelations » (1). L'expérience des paysages sous-marins est particulière, l'engagement corporel est important, la présence au milieu et la présence à soit sont plus intenses, la spécificité de cette expérience tactile est déterminante comme l'explicite l'apnéiste Guillaume Néry. Cette perception alimente et est alimentée par les représentations du paysage sous-marins qui abondent dans la littérature, le cinéma, la bande dessinée, la photographie. Jules Verne a bien sûr ouvert la voie, Hergé produit une icône populaire en 1944, avec le Trésor de Rackham le Rouge (2), suivi depuis par de nombreux auteurs de BD. Dans l'après-guerre Jacques-Yves Cousteau va avoir un rôle majeur dans la diffusion auprès du grand public des images de paysages sous-marins, ouvrant la voie à tous les styles de cinéma sous-marin, des Dents de la mer de Steven Spielberg (1975) au Grand bleu de Jean-Luc Besson (1988). La sortie en décembre 2022 du film de James Cameron La voie de l'eau, second volet d'Avatar, est en ce sens très symptomatique et vecteur de stéréotypes sur les paysages sous-marins, contrairement aux explorations artistiques du photographe Nicolas Floc'h. Cette communication s'attachera à décrypter l'évolution des catégories de représentations des paysages sous-marins et l'émergence à l'anthropocène de nouveaux regards sur les paysages sous-marins, où la crainte de l'inconnu fait place à l'empathie envers l'étrange.

Paysages - sous-marins - représentations

Serena Lucrezi
North-West University

Are young marine scientists ready to tap the potential of the arts and visual tools for dissemination? Reflections from a Master's course at an Italian University

The arts and visual tools are becoming important in the communication and dissemination of scientific facts about the sea and the relationship between people and the sea. Young marine scientists should be equipped with the ability to engage with the public using these instruments. Despite young people being confident in the use of certain media, particularly visual ones, their ability to make the most of these to communicate and disseminate scientific facts cannot be overestimated. This presentation offers reflections on the value of introducing marine science dissemination with a focus on the arts and visual tools, as curricular material for university programmes. The case study is the Polytechnic University of Marche, which in 2018 launched an elective course in marine science dissemination for Master's students in marine biology. In 2020, the course was also included as part of the elective courses within the International Master of Science in Marine Biological Resources. The course requires students to execute, with zero budget, works including a conference presentation, posts on social media platforms, board games, infographics, animations, comics, podcasts, and broadcasts. In 2022, an addition was made to the course which included photography, videography, and postproduction, requiring marine biology students to create a video on the relationship between people and the coast. Reflections on the value of the course include: whether the course is comprehensive enough to prepare marine biology students in using different forms of dissemination; what forms of dissemination the students favour; the students' feedback on the course; whether the course has some influence on student's study and career choices; whether the students have changed over the years in their ability to engage with the course and its structure; and what should be the way forward concerning the course's objectives to equip young marine scientists with scientific dissemination skills.

scientific dissemination; visual tools; marine biology students; Italy

Giovanni Modaffari
Università di Milano Bicocca

The scars of industrialization along the post-war Italian coastline: postcards from the Gulfs of Cagliari and Trieste

During the preparation of the GreenAtlas (<http://greenatlas.cloud/>), the environmental atlas of Italian landscapes, as researchers we collected many audio-visual representations which contributed to the development of discourse on the environment in Italy, both from a historical perspective (beginning in the 1960s) and in relation to contemporary practices. The analysis of the visual documentation found in public and private archives lays bare narratives of space and of human action upon it, building a repertoire of representations of places. In these representations, values and hierarchies can be traced that call into question the Foucauldian notion of discourse as the construction of reality and identity, a process localized in time and space and incorporated in cultural objects.

In the first part of this contribution, we explain the theoretical framework underlying the GreenAtlas, delving into the relationship between visual methodologies and environmental history in Italy. In the second part, we consider some specific case studies – the Gulfs of Cagliari and Trieste – with particular attention to the relevance of the representations and their meaningfulness for the development of the contemporary environmental discourse. In our conclusion, we attempt to frame an aesthetic paradigm which might also be useful for the description of other similar cases in Italy.

Visual research, Cagliari, Trieste, GreenAtlas, Environmental Discourse

Letícia Parente Ribeiro
Universidade Federal do Rio de Janeiro

Leite Thomaz Menezes
Universidade Federal do Rio de Janeiro

The wild ocean comes crashing down in Rio de Janeiro: Picturing a metropolis by-the-sea at the dawn of the twentieth century

In March 1913, the image of a sea storm makes its debut in the press of Rio de Janeiro, then the capital of Brazil. A snapshot captures the "decisive moment" when the ocean wave collides with the coast, in the location where a seaside avenue had just been opened. In its composition, the photograph highlights the presence of automobiles and the new lighting system flanking the avenue, integrating the "marine nature" to a scenario of urban modernity. This event would become publicly known as "the great sea storm". Over the next twenty years, pictures of similar events were regularly published by the local press, and the damage to urban infrastructure recorded by photographers on behalf of the municipality. In the same period, the city expanded rapidly from its colonial core, built on the sheltered shores of Guanabara Bay, towards the Atlantic coast. The dynamics of this "urban pioneer front" gave rise to new neighborhoods, landscapes and social practices associated with the emergence of a "metropolis by the sea". Sea storms are part of the imaginary of different societies, appearing in oral, textual and visual media. Such representations commonly evoke the blind force of nature, violence, chaos, death and destruction. How are these meanings re-elaborated when such events take place in the contact zone between urban settlements and the sea? How does photography describe them, combining elements from both seascapes and cityscapes to generate new visual syntheses? The primary sources of this research are the photographic records of sea storms that occurred in Rio de Janeiro in the first three decades of the twentieth century. Our goal is to analyze the role of these pictures in constructing an imaginary that associates the interface between the urban fabric and the sea, and its continuous transformation, as a distinctive aspect of a metropolis situated on the periphery of the modern world system.

Sea storm; Photography; Atlantic Ocean; Rio de Janeiro

Lorena Rocca
Suisse University of Applied Sciences and Arts of Southern Switzerland (SUPSI) and University of Padova

Silvia Stocco
Università di Padova

Manlio Piva
Università di Padova

Place-Based Education approach to image and shape images of our ocean

Sense of place is rooted in people. Several studies show that attachment to a place is connected with the development of identity through spatial, material, and emotional dimensions. It fosters identification and the development of one's social and cognitive skills. In education, cultivating a sense of place means inviting the individual to gather many authentic experiences that strengthen ties. This study discusses the place-based education (PBE) approach for the development of Ocean Literacy (OL) considering that PBE can help to create images and imaginaries of the sea through a multidisciplinary approach. Moreover, PBE can build a new assumption of being a collective resource and support a positive partnership between the individual and the place (Gola e Rocca, 2021).

An innovative teaching programme was promoted involving 176 students on the fourth year of Primary Education degree at the University of Padova attending the Didactics of Geography and Art and Media Education course. The project involved Prof. Squarcina and Dr. Neri for the GREAM group of Milano Bicocca and also Francesca Santoro, programme Specialist of the UNESCO, co-ordinator of the OL programme. Students participated in fieldwork on a sailing boat in which they experienced educational missions of discovery of the sea with the aim of producing short films representing their relationship with marine spaces. The short films as part of internationally recognised activities promoting the Ocean Decade proclaimed by Unesco and are now part of the GreenAtlas implementing the PRIN materials Greening the Visual: an Environmental Atlas of Italian Landscape coordinate by Prof. Elena Dall'Agnese.

This study showed that transforming the ocean into something familiar, experiencing it from within, through the promotion of the PBE and the multidisciplinary collaboration between researchers, professionals and territory, increases the sense of responsibility oriented to the development of an ocean citizenship.

Place-Based Learning; Teacher Education; Ocean literacy; Didactics of Geography; Art and Media Education

Antje Scharenberg
University of St. Gallen

Alternative media at sea: on the role of media technologies in ocean activism

This interdisciplinary paper brings together geographic and media scholarship with ethnographic research on ocean activism to discuss the role of media technologies in the work of civil sea rescue organisations in the Mediterranean Sea. As both geographers and media scholars have shown the planetary ocean is a highly mediated environment. Ocean media is a phenomenon that may be understood in different ways: materially, such as in the shape of the subsea cables (Starosielski, 2015); metaphorically, with regards to issues of representing, imagining and sensing of the sea (Lehman, 2016, 2018; Elias, 2019; Jue, 2020); (counter-)culturally, such as in pirate radio (Peters, 2013); or politically, as a tool of ocean governance (Rothe, 2020). One area that deserves further scholarly attention is how media are used by sea-oriented activists and social movements. For instance, more than mediating sea-based grievances (Damjanov and Crouch, 2011; Lester, 2011), digital media technologies in particular afford grassroots actors with new ways of acting politically in ocean space (Drakopoulos et al., 2022; Fish, 2022).

This paper emerged through a wider research project, which investigates ocean activism and what it means for maritime civil society to act politically at sea. Specifically, the paper draws on six months of ethnographic research with civil sea rescue actors in the Mediterranean Sea, including participant observation, qualitative interviews and textual analysis of alternative media, from December 2022 to May 2023. The paper argues that alternative media fulfil three functions here. Firstly, media fulfil a mobilising function, articulating sea-based grievances and raising awareness. Secondly, media technologies fulfil a forensic function through the monitoring and archiving of human rights violations at sea. Thirdly, they have a visionary function, developing alternative imaginations of maritime politics from below.

ocean activism; social movements; civil sea rescue; agency; Mediterranean

Enrico Squarcina
Università di Milano Bicocca

Erica Neri
Università di Milano Bicocca

The sea on the body

The practice of tattooing has been attested to for thousands of years, but in Europe it came back into particular vogue after 1769 when, on the return of James Cook's first voyage of exploration from the Pacific Ocean, his logbook in which he described the practice was made public and some members of his crew returned home with his indelible marks on their bodies. Among sailors in particular, tattoos became so widespread that they became a distinctive sign identifying the individual as belonging to their community. A nomadic and multinational community and, as such, considered by those who were well rooted ashore to be transgressive, based on the common frequentation of the sea, shared experiences and the use of terms and expressions that, although formulated in several languages, were exclusively seafaring.

Sailors' tattoos narrated through the visual language imprinted on their bodies experiences, desires, fears and above all their relationship with the marine space that forged their identity. This contribution aims to show how the reading of the complex and polysemic symbols of seafaring tattoos can be a key to understanding the relationship of certain human beings with oceanic spaces, even now that this practice has lost its identity, symbolic and initiatory significance to assume a simple ornamental value.

Visual geography; tattoos; sea scape; identity

Maya Vinai
Birla Institute of Technology and Sciences (BITS) Pilani - Hyderabad Campus

Spice Wars, Explorers and Pirates in the Indian Ocean as represented in Comic Books for Children

Over millennia, Indian Ocean has been a site for several clashes and a contact zone for myriad cultures. The maritime hegemony and contestations on sea by the European enterprise stood as a sharp contrast to the horizontal consolidation of terrestrial power and state building employed by the local rulers. The Arab Al- Karimi merchants and Italians controlled the Mediterranean ports and spice trade since the 6th C. However, Portuguese explorer Vasco-da-Gama tried to bypass this monopoly of the Arab middle men, by sailing around the Cape of Good Hope in 1498 and reaching the southern tip of India in Malabar. The period from 1498 till 17th C marked the decline of Arabs and their descendants called Marakkars and saw the rise of Portuguese in the spice trade.

These spice wars in the Indian Ocean has been represented in the comic books for children multiple ways. Interestingly, in these textual and visual representations, the sea becomes a historical site for spice monopoly, pirate attacks, and cultural conquests/ negotiations that embodies the maritime performance through various imageries and metaphors. In my essay, We would be exploring three comics published by Amar Chitra Katha namely Sea Routes to India, Kunjali Marrakar and Rani Abakka- all three of which deal with the Portuguese expedition to the Malabar Coastline starting with explorer Vasco da Gama. Apart from the historical plot, the most fascinating aspect of these comics nevertheless remains the graphic imagery incorporating the backdrop of sea, repetitive ecological motifs, masts of ship, pirates, embarking and disembarking of goods in the port, symbols on ship plying in the Indian Ocean, the body language, costume and emotions of the sea farers while being on sea. To build the essay, we would borrow broadly from the area of Indian Ocean World (IOW) Studies and from the works of critical thinkers like Stephen Mucke, Pius Malekandathil, Sanjay Subramaniam, Isabel Hofmyer, Reila Mukherjee and Dilip Menon.

Spice trade; Portuguese; Indian Ocean; Malabar

06

Institutional factors affecting resilience to extreme weather events in coastal and marine communities in developed and developing countries

Chairs

Ambe J. Njoh
University of South Florida, USA

Lucy Deba Leonel
University of South Florida, USA

06

Lucy Deba Leonel
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Institutional Factors Affecting Resilience Initiatives to Extreme Weather Events in Limbe City, Cameroon

In response to the changing cultural, social, and economic conditions, climate change resilience initiatives have changed over time in most coastal communities in Cameroon. Many of these changes are executed by the government and local authorities. As a result, there are significant gaps in the understanding of what makes communities more resilient to catastrophic weather or climate change events. This paper seeks to highlight institutional barriers to the adaptation of climate resilience efforts in Limbe city, a coastal city in Cameroon. The study examines past events of floods in Limbe, and how the state and municipal government tackled the situations. In this case study, we evaluate the Cameroon national disaster risk reduction (DRR) and management institutional frameworks and state strategies. This paper identifies administrative bureaucracy, corruption, lack of transparency, and lack of financial resources as the main institutional barriers influencing the ability to adapt to changing climatic conditions, retain functionality, or recover from climate related events like annual flooding and occasional landslides in Limbe. Based on the review of literature, the administrative bureaucracy involved in issuing a disaster alert slows down response times, makes it stressful, and raises the number of casualties and damage claims. This analysis allows us to examine some of the facilitators to the adaptation of resilience efforts in other coastal cities across the globe that can be applicable in Limbe City climate change resilience initiatives. Data and Methodology: The study draws upon a qualitative review of peer reviewed articles and other documents readily available online.

climate events; resilience initiatives; coastal communities; institutional challenges; facilitators

Ramona Madhosingh-Hector
University Of South Florida

Institutional Factors that Impede Sustainability and Resilience Activities: A Case Study Approach

It is often said that sustainability efforts are driven by local actors and actions; ground zero is a complex "playground" for addressing impacts and determining solutions for extreme weather events. These local actions can influence national and global responses and determine the trajectory of future policy responses while contributing to the literature of case studies that offer best management practices. The devolution of decision-making that occurs at local, regional, and state levels can fracture a collaborative response to extreme events and impede progressive responses that address immediate concerns. By using a Weberian lens of analysis, session attendees will gain insights into the institutional factors that impact initiatives to support resilience activities through a comparative case study analysis of a densely populated coastal Florida county and small island developing states with limited professional and technical support, and high dependency on tourism. Bureaucratic ideals such as division of labor, rules and regulations, hierarchy of authority, and impersonality in relations are typical characteristics of institutional actors and aid or impede progress. By analyzing and offering alternatives, it is possible to support long-term resilience planning within the confines of institutional bureaucracy.

Coastal communities; extreme weather events; institutional capacity; densely populated

Ambe Njoh
University Of South Florida

Impact of Institutional Capacity on Response to Extreme Weather Events in Coastal and Island Communities in the Developed and Developing Worlds: The Case of Hurricane Ian

Extreme weather events are indiscriminate in their frequency in developed and developing countries. However, factors affecting the institutional capacity to prepare for, and manage, the aftermath of these events appears to be a function of a country's level of development. The proposed study employs the case of Hurricane Ian to interrogate the tenability of this hunch. Originating from a tropical wave in West Africa, this hurricane, which lasted from September 21 to October 2, 2022, traveled across the central tropical Atlantic and through Caribbean island countries and communities such as Trinidad and Tobago, ABC Islands, Cuba, Jamaica as well as onshore locales in South America and the United States. By some estimates, Hurricane Ian caused at least 157 deaths; as many as 146 of these were in Florida alone, while 5 were in Cuba, and an equal number in North Carolina, with 1 in Virginia. The financial losses were in the billions of dollars, and occurred mainly, although not exclusively in coastal locales in the United States such as Fort Myers Beach and Naples, Florida. Because it affected disparate communities in both onshore and island locales, Hurricane Ian provides a unique opportunity to undertake a comparative analysis of the institutional capacity to prepare for and manage the impact of extreme weather events in impoverished and affluent communities.

Data and Methodology: Both qualitative and quantitative data will be collected and analyzed using an assortment of techniques to be determined.

Coastal communities; extreme weather events; hurricanes; institutional capacity; island communities

Hanbo Zhou
University Of South Florida

Analysis of Dunedin City Government's response to extreme weather in Tampa Bay, Florida

There is no shortage of research and articles on extreme weather events in coastal and Marine communities, but what is lacking is research comparing these responses in developing and developed countries. As one of the cities in the Tampa Bay area of Florida, the Dunedin City government has its own experience and understanding of how to deal with the impacts of extreme weather and how to maintain the resilience of the community. The Dunedin City Government has taken appropriate measures and emergency plans to deal with the possible waterlogging disasters caused by extreme weather in the community. This paper mainly analyzes the prevention and control measures of waterlogging disaster and extreme weather changes in Dunedin from four perspectives: Social/Demographic, Economic, Infrastructural and Environmental. and through development and redevelopment principles, strategies, and engineering solutions to illustrate the City of Dunedin's ability to adapt or adjust and maintain functions and recover from disturbances in the changing climate conditions of the Tampa Bay region.

coastal city, extreme weather, flooding, urban planning, community resilience

07

Labours of Offshore Fishing

Chairs

Sallie Yea
La Trobe University, Australia

Christina Stringer
University of Auckland, New Zealand

Rebecca Strating
La Trobe University, Australia

07

Katja Hržić
University of Glasgow

The effects of UK border politics on migrant fishers and Scottish fishing communities

Geographers have recently called to consider the practices surrounding the employment of migrants working on Scottish fishing vessels (Jones et al, 2019; Djohari and White, 2021). Around 30% of fishers working in Scotland in 2015 were from outside the UK (Marine Scotland, 2016). Those from outside the EEA are usually employed on transit visas which restrict them to working in territories 12 nautical miles offshore, living on vessels for months at a time. The bordering-at-sea in post-Brexit UK has had detrimental effects on migrants seeking employment, and knock-on effects for the livelihoods of fishing communities amid labour shortages and rising operational costs. This paper will firstly demonstrate how current UK bordering politics have increased precarity among fishers and hyper-precarity (Lewis et al, 2015) among migrant fishers through constraining their mobilities, thus perpetuating exploitative employment practices. The paper will then present results from policy analysis and interviews with migrant fishers, UK fishers, and recruiters (fieldwork just completed) to explore the application of Philip Steinberg's and Kimberly Peters' (2015, 2019) work on (more-than-)wet ontologies in the context of labour migration in fisheries. Specifically, it will explore how the conceptualisation of oceanic space in policy and in our geographical imaginations as a fluid, mobile, transformative place can enable, obfuscate and challenge the precarious labour practices in Scottish fisheries.

Bordering; fisheries; migration; precarity

Alin Kadfak
Swedish University of Agricultural Sciences

Peter Vandergeest
York University

Labour governance in fisheries through boundary work: Moving from modern slavery framing to labour standards

Lack of fish workers participation in labour governance in Thailand continues to be the main problem regardless of the intense labour reform since 2015. Labour reform in fisheries reduces physical abuses and extreme forms of forced labour; it does not however help leveraging negotiate power of fishworkers toward boat owners and Thai authority. We aim to explore why fish workers are being excluded from contributing to labour governance. We argue that it is more useful to view labour governance through assembling of territory, expertise, subject, and objects of concern. This framework allows us to see the overlapping of two boundary processes, initiated by of modern slavery discourse and EU/ILO led labour reform. A case of migrant fish workers in Thailand is analysed to show how the objects of concern, referred to the labour relations and working conditions in this case, are not prioritised in the labour governance. While we agree that the improvements in working conditions require regulation, monitoring and inspection, it is also crucial to facilitate the ability of workers to improve their situations through individual and collective action. In particular, we need to pay more attention to workers' agency in order to address the problem of precarity.

labour; boundary work; workers' agency; fishworkers; Thailand

Philip Kelly
York University

Social Reproduction and Distant Water Fisheries: Home, Family and Labour Regimes in the Philippines

Social reproduction is an implicit part of any labour control regime, but reproduction does much more than simply socializing, supporting and supplying the labour force. As Baglioni (2022: 448) points out, the home "is simultaneously a core site for reproducing and disciplining workers" (emphasis added).

Within the labour regime that deploys migrant crew members in distant water fishing fleets, the role of social reproduction in the household and the family has not received a great deal of attention. And yet, as Baglioni implies, relations in the home do far more than just reproduce workers for another day's work or another contract at sea. They are relationships that fundamentally shape the possibilities, motivations, and decisions of workers in the labour regime.

This paper is based on over 40 interviews conducted with migrant fishery workers, family members, manning agencies, and other key informants in Manila and on the island of Cebu in the Philippines. The argument draws upon this material to examine the role of home, family and household in the deployment of migrant fishermen. This role is enacted in various ways. It is usually immediate and extended family members who: connect new migrants to employment opportunities; advise recruits on the intricacies of the training and deployment process; socialize workers into their expectations of the job; and lend the funds needed to undertake a deployment. Once aboard, responsibilities and commitments to family members back home shape the nature of the engagement of migrant crew members with the labour process; homesickness frames the experience of life at sea; and plans for future livelihoods and children's upward mobility make repeated contracts palatable. In these and other ways, the sphere of the home and the family is indivisible from the disciplinary mechanisms of the labour regime in fishing, even when the work may be carried out, quite literally, on the other side of the world.

Fisheries; Social Reproduction; Labour; Migration

Hyunjung Kim
Queen Mary University of London

What difference does the sea make? Comparing labour regimes in tuna fisheries

The paper intervenes in debates on the significance of different environmental conditions and ecological processes in shaping labour regimes through a comparison of two types of workplace in distinct global value chains. Working conditions and employment relations on longliners catching (mainly) for Japan's sashimi market are widely seen as a lot worse than on purse seiners catching tuna for canning. We explain this difference through a comparative labour regime analysis examining similarities and differences along three axes: (1) tuna population dynamics, oceanography and the political economy of resource access; (2) industrial organisation, GVC governance and value distribution; and (3) systems of recruitment and composition of multinational crew. The paper contributes to labour regime analysis by demonstrating the specificity of work at sea as well as the relative significance of the materiality of the commodity and GVC governance in creating difference in labour regimes, even in industries extracting the very same species.

Labour Regimes; Global Value Chains; Tuna Fisheries; ecology and labour

Melissa Marschke
University of Ottawa

Peter Vandergeest
York University

Migrant workers in Irish fisheries: The bad, the good, and strategies for improving working conditions

This paper we explore the contradictions and patterns in working conditions for migrant workers in fishing, as they have emerged in Irish fisheries. Fish work is dangerous, risky, and exhausting, more so in some fisheries than others. Workers often experience unacceptably poor working conditions including extremely long working days, wages that are less than legal minimum wages, poor living conditions on vessels, verbal and physical abuse, and racism spurred by racialized hierarchies on board vessels. At the same time, work in fishing can be a good career for migrant workers coming from low income countries where there are few good employment opportunities. These contradictions are apparent in fisheries around the world including not only those based in Asia, which have been the target of considerable attention among scholars and activists, but also those based in Europe and North America. The often unacceptable working conditions in the Irish fisheries has drawn considerable attention recently, in part because of a campaign by labour activists and workers which has taken a multi-pronged approach that includes both legal strategies, and actions to make the problems visible as a way of provoking policy responses. The Irish fisheries illustrates some of the concrete strategies that have led to improvements for migrant workers, even as working conditions remain far short of most land-based sectors in that country.

Fishing; labour; migrant workers; campaign work; Ireland

Rebecca Strating
La Trobe University

Jurisdictional Gaps in Addressing Human Rights at Sea

The sheer vastness of the world's oceans creates a range of security and law enforcement challenges for states and the international community, including in preventing and punishing human rights abuses at sea. While human rights apply at sea the same as they do on land, this paper examines the limits of national and international systems of human rights governance and international law in addressing issues such as human trafficking and forced labour in Asia's fishing industries. It considers four barriers addressing human rights at sea: overlapping jurisdictions; cross-jurisdictional movement of fishing vessels; multiple international legal regimes; and, political will. Responding to human security challenges requires a collective and coordinated approach among states that centres the rights and safety of individuals at sea.

international law; international relations; human rights; forced labour

Christina Stringer
University of Auckland

The Informalisation of Precarious Work as Fishing Crew: Experiences of Fijian Fishers on Distant Water Vessel

Migrant fishing crew in the distant waters fishing industry have been variously characterised as victims of modern slavery, forced labour and human trafficking in media and academic accounts. Key labour source countries in Southeast Asia, including Indonesia and the Philippines have received particular scrutiny in these accounts. This paper turns to examine the experiences of local fishing crew in Pacific Island states who join distant waters fishing vessels, drawing on Fijian fishers as case study for our discussion. We argue that locally recruited and deployed fishers often face precarious labour conditions on fishing vessels, including deceptive recruitment and contract substitution, unsafe and exploitative working conditions at sea, wage theft, and lack of protection after exiting their work on board the vessels. We contest the characterisation of forced labour on distant water fishing vessels as primarily a problem that inheres to Southeast Asian migrants. In developing a greater understanding the experiences of Fijian fishing crew, we draw out how their mode of entry onto fishing vessels, and location as Pacific Island nationals can contribute to their vulnerability to exploitation in ways that can provide marked departures from migrant fishing crew from Southeast Asia.

Forced labour, precarious work, Fiji, distant waters fishing industry

Peter Vandergeest
York University, Canada

Subhan Usman
Destructive Fishing Watch (Indonesia)

Wendy Medina de Leora
York University, Canada

Negotiating distant water fishing crew recruitment in Indonesia

Southeast Asia-based crewing agencies and worker organizations are a key node in the recruitment and deployment of migrant fish workers in global fisheries. This paper outlines the character and actions of these agencies and organizations in Indonesia. It builds on previous research on crewing agencies in Indonesia and the region (e.g., Stringer, Yea), and is based on ongoing collaborative research in Central Java, Indonesia. Key themes may include the emerging unions and collective bargaining agreements (CBAs) between some worker organizations and crewing agencies and/or fishing companies, with attention to the degree of independence of worker organizations; how the CBAs express what working conditions are important for workers; what workers identify as most important to them during participatory group processes and how this compares to the various international standards (e.g., forced labour indicators, ILO C-188; private standards such as those being applied for FIPS); how workers are recruited to fisheries with very different working conditions; the work of support organizations in Indonesia including both NGOs and national, regional and village-based worker organizations; and the significance of work in global fisheries for family livelihoods and aspirations in Java.

Fishing; Crewing Agencies; Indonesia Labour Standards; Worker Organization

Sallie Yea
La Trobe University

Becoming Stranded: Exploited Migrant Fishing Crew and the Geographies of Forced Waiting

Forced labour and human trafficking on long haul fishing vessels has been documented extensively recently. Whilst much of the extant literature highlights the difficulty for fishers to escape from these exploitative situations on the vessels due to the remoteness of fishing operations, fishers do often manage to leave their employment, often becoming stranded in transit/ port states. This presentation examines in further detail this relatively neglected aspect of vulnerability in the work stints of migrant fishing crew. Focusing on the experiences of Filipino and Indonesian fishers, who numerically comprise the largest proportion of low-skilled crew on Taiwanese, South Korea and Chinese vessels, I examine the time-spaces of strandedness. Drawing on insights from literature on stranded refugees, I argue that being stranded is a distinct moment in labour trajectories that produce new subjectivities and vulnerabilities for the fishers.

offshore fishing; labour exploitation; human trafficking; strandedness

08

Liquid worlds: historical geographies and cartographies of the sea

Chairs

Federico Ferretti
University of Bologna, Italy

Marcella Schmidt di Friedberg
University of Milan-Bicocca, Italy

08

Hannah Campbell Hewson
Queen's University Belfast

Bermuda: a forgotten representation of Atlantic Ocean Space

At the dawn of the Modern era, as European maps and map-making became defined by intellectual objectivity and accuracy, the binary of 'land' and 'sea' became increasingly important in cartographic representations of the ocean. This in turn led to islands being represented as fixed spaces demarcated by coastlines grounded in the strict insular difference between these two categories. However, this delineation is a cultural construct, as it is based on 'natural' geographic forms that were socially created to enforce the idea of oceans, islands and shores being internally coherent. By contrast, within early modern geographic thought these components made up interdependent and connected spaces which were not simply defined by their physical differences. Rather than a meeting point between 'land' and 'sea', island space in the earlier era was its own unique construction, being neither-land-nor-sea. By considering the cartographic representation of Bermuda, from early mapping by Diego Ramirez and John Smith to the notable Lempriere chart in the eighteenth century, it is possible to consider how cartography grappled with the conceptual issues of depicting islands, and in turn, address a space which was 'of the ocean' whilst also 'developable'.

Ocean space; Atlantic ocean; Bermuda

Yannan Ding
Fudan University

Reporting from the Seven Seas: The Naval Chronicle (1799-1818) and Periodical Geography at the Turn of the Nineteenth Century

Geography changed tremendously between the eighteenth and nineteenth century. The early decades of the nineteenth century saw the foundation of geographical societies and the appearance of geographical journals. They differ from their eighteenth century precedents in, among other aspects, the institutional endorsement. How did this change come to be? In this paper, I examine the correspondances contained in the 40 volumes of

The Naval Chronicle, published between 1799 and 1818 under the indirect auspices of the Admiralty. The officers of the Royal Navy that were despatched around the globe to combat during the Napoleonic Wars, were the main contributors to the Correspondance and the Hydrography section, but there were also other British and foreign correspondants. Taken together, they formed a network, with London as its clearing house, exchanging and improving geographical knowledge, and hydrographical knowledge in particular. Some of the active members involved in The Naval Chronicle, including John Barrow and James Horsburgh, also involved in the founding of the Royal Geographical Society and its journal. Arguably, the dire need of geographical and hydrographical information at such a critical moment in British history helped to elevate not only the status of geography, but also the social standing of the contributors, who were otherwise unlikely part of the Republic of Letters. In a way, this under-studied period paved the way for the transformation of geography into what is known today.

The Naval Chronicle; Periodical Geography; Nineteenth Century; Naval History; Geographical Knowledge

Effie Dorovitsa
University of Sevilla

From foreign patronage to reclaiming maternal influence on the Mediterranean Sea: Greek hydrography in transit, 1900-1940

Robert Shannan Peckham (2000) has illustrated how geographical culture and its promise to guarantee territorial sovereignty fostered Greek nationalism from the 1830s onwards and resulted in 'map mania'. He further noted that geology could play a similar role as a patriotic discipline. This paper hypothesizes that if geography and geology could act as pillars of nationalist ideology, so could hydrography.

This paper unfolds the trajectory of hydrographic research by the Greek Hydrography Service between 1900 and 1940. It argues that deep sea research of Greek waters shifted from being an accessible terrain of multifaceted foreign scientific and political endeavours to an ideologically loaded vehicle that promoted Greek maritime prowess within the Mediterranean basin and nurtured the military irredentist ideology of the 'Great Idea' that called for the expansion of the newly sovereign State's borders. This transition further hinged on ancestral claims of Greece as being the archetypal Mediterranean maritime nation that could no longer lag behind in hydrographical advancements. However, as long as inherently rigid structural pitfalls in the organizational and managerial front persisted within the Greek Navy, Greek hydrographic research maintained its transient status for at least the first 40 years of its existence.

Hydrography; foreign patronage; Greece; Great Idea

Antonio Ferraz de Oliveira
University of Groningen

'La lutte des eaux': Camille Vallaux's geopolitics, oceanography and climate futures

In this paper, I review the oceanic imaginations of the French geographer Camille Vallaux (1870-1945), engaging both with his political and geophysical geographical writing. To begin with, I examine Vallaux's early intellectual engagement with maritime political geography from 1908 to 1914, focusing especially on his dialogue with German geographical writing and naval politics. In a second part, tracking Vallaux's responses to the First World War and its aftermath, I examine his growing reflection on new maritime technologies and their revolutionary potential, from submarines to fishing-factory boats, to airplanes. In a third and final phase, I then

discuss Vallaux's marked turn to oceanography and his involvement in debates about oceanic climate change in the interwar period. To conclude, I reflect on how Vallaux's oceanic geopolitics may be engaged with today, both as an artefact of European imperialism and as an early reflection of the political sensitiveness of global oceanic environmental changes.

geopolitics; Anthropocene; climate; oceanography; technology

Federico Ferretti
Università di Bologna

Challenging dualisms and cartographic reason: Eric Dardel's geographies of liquid spaces

Rediscovered in the 1970s and 1980s in humanistic and poststructuralist geographical milieus, the work of French geographer Eric Dardel (1899-1967) was considered as a pioneering and neglected contribution to question positivism and to value human experience and perception as geographical matters. Yet, when both humanistic and poststructuralist approaches started to be variously questioned by tendencies such as post-phenomenology, the 'material turn' and relational ontologies, Dardel was kept aside again. Strikingly, his main works were never translated into English. In this paper, I first argue that Dardel's work should be rediscovered as an inspiration for current questionings of dualisms such as humankind-nature and subject-object, given the relational nature of his views on humans and the Earth. Second, Dardel's ideas of water as liquid space can help destabilizing fixed notions of territory and of 'cartographic reason', potentially nourishing the fields of critical geographies and geopolitics. To this end, I analyse the parts of Dardel's work in which the French geographer addresses water as one of his key 'geographical spaces', a category that included 'material space', 'telluric space', 'aquatic space' and 'aerial space'. As noted by Anne Buttimer in her contribution to the Italian edition of Dardel's *L'Homme et la Terre* (a title that was a tribute to Elisée Reclus) edited by Clara Copeta, water can be considered as a particularly mobile and instable element. According to Buttimer, waters' mobility 'emancipates', in opposition to land, which is 'the metaphor of stability'. For Dardel, water (like other material elements) is provided with life and agency, as numerous (geo)historical examples show, being defined as 'movement and life, that derides [geometric] space'. Therefore, Dardel's contribution should be rediscovered as something more than mere 'phenomenology', as it also anticipated some aspects of current ideas on materiality and material agency.

Material Turn; Eric Dardel; Material Agency; Critical Geography; History and Philosophy of Geography

Arturo Gallia
Università Roma Tre

Mirko Castaldi
Università Roma Tre

From Geography to Cartography: oceans, seas and "Open Mediterraneans" into the dialogue between Adriano Balbi and Evangelista Azzi

In the first half of the 19th century Adriano Balbi (1782-1848) was one of the greatest geographers in Italy and Europe. His scientific output was extremely vast and was constantly being updated. He tried to keep up with new discoveries of 'unknown and unexplored' territories, which were gradually available to the scientific community. His work influenced geographers and cartographers, who used it as a source. Evangelista Azzi (1793-1848), a cartographer and military

topographer from Parma Duchies, produced a wide corpus of school maps. His Mappamondo in two Hemispheres (1838) was of great relevance, conceived as an enormous wall map (2 x 4 mt) that summarised the geographical, historical and ethnographic knowledge of the time, as an encyclopedic work. For the collection of data, he used contemporary geographical and cartographic works, including those of Adriano Balbi, with whom he had a close epistolary relationship. The 'master of geography' understood the importance of a cartographic restitution of his works and supported the cartographer, transferring numerous notions to him. Among these was the one related to seas and oceans, which in the Hemispheres are named as they appear in Balbi's works. Specifically, the Mappamondo is the first map where the Balbi's definition of "Open Mediterraneans" along the American coasts appears.

The primary objective of the speech is to show the synthesis between the studies of historical geography and historical cartography on seas, with a direct transposition of knowledge from text to map. Understanding the dialogue between geographers and cartographers in conveying a common narrative of the seas, we can analyse Azzi's cartographies as the visual synthesis of Balbi's geographical proposals. Finally, the metaphor of water and liquid worlds lends itself well to observing the dynamism of small pre-unitary Italian actors that dialogued on global issues, going beyond state borders and moving within a common Risorgimento context.

Adriano Balbi; World Map; "Open Mediterraneans"; Evangelista Azzi

Josefina Gómez-Mendoza
Universidad Autónoma de Madrid

Connaissances et cartographies des océans à l'époque des grandes découvertes d'après Humboldt dans son Examen Critique de l'Histoire de la Géographie du Nouveau Monde

L'édition complète de l'Examen Critique de l'Histoire de la Géographie du Nouveau Continent (1836-1839) de Humboldt vient d'apparaître en espagnol. C'est un grand livre qui veut placer les découvertes maritimes de la fin du XV^{ème} et XVI^{ème} dans la perspective des enchaînements des idées et des connaissances cosmographiques à partir des présomptions gréco latines de l'existence de terres à l'ouest et de la possibilité d'une navigation vers l'est par l'ouest.

Humboldt; History of Geography; Ocean's Renaissance cartographies; Maritime expeditions; Colón and Magallanes

Akio Onjo
Kyushu University

On the ideas of ocean and land in the works of Paul Vidal de la Blache

The aim of this paper will reexamine the ideas of relationality of ocean and land in the works of P. Vidal de la Blache. He had a great interest in the 'modernization' of the world in general and Asia in particular from the beginning of his academic career as a geographer. Especially he addressed the phenomena of 'circulation' and discussed the influences of rapid changes of 'absolute and relative space-time' on the geo-economic and geopolitical relationships between ocean and land. When he developed his geographical perspective, it seems that India, China, and Japan became the essential fields. Because the modernization of non-European regions changed the existing world system and increased the economic competition, military tension, and cultural conflict in global scale. Vidal addressed the potential conflicts between Russia and Great Britain in central Asia (1875). He regarded the colonization of central Asia as the power struggle between continental and oceanic power, and paid attention to its impacts on military balance in Asia and Europa. Although his ideas may be similar to the geopolitical relations between 'land power' and 'sea power' conceived by H. Mackinder (1904), there are some

differences between them. Vidal was also interested in the differences between China and Japan on modernization. He considered that Japanese society could select and accept various cultural and technical elements from abroad due to its historical experiences of 'insularity', while the attitudes of continental civilization such as China and India were more conservative and resisted the European invasions. He tried to understand the regional difference and diversity of the modernization from the point of ocean and land. Although his geographical ideas of land and sea may be traditional, it is important to reconsider them in order to understand his perspective about the modernization and the modern world-system.

P. Vidal de la Blache; Asia; ocean power; modernization

Marie-Vic Ozuf-Marignier
Ehess-Paris

Relations between geography and oceanography in France (1891-1911)

In France, 1891 was the year of the creation of a new periodical, the *Annales de géographie*, designed to diffuse the work of a discipline in full institutionalization and of a current asserting its principles and methods, that of Vidal de la Blache and his disciples. The same year, the textbook on oceanography by Julien Thoulet (1843-1936), recognized as the first French oceanographer, was published. At the turn of the century, the Prince of Monaco, fascinated by the oceans, worked to encourage expeditions, to create an institute of oceanography in Monaco and then in Paris and to encourage research in oceanography. How did the relationship between a new science, geography, and a new science, oceanography, develop, both of which were strongly based on natural sciences and nourished by field experiences (voyages and expeditions)? How did they compare with the pioneering work carried out in other countries such as England (which was at the origin of the famous oceanographic expedition of the Challenger, whose scientific report also appeared in 1891) or Germany?

geography; oceanography; expedition; institutionnalisation

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The ocean surface, a laboratory for the language of thematic cartography

The ocean, far from being a neutral surface, appears in the history of cartography as a heuristic surface, allowing graphic innovation. Indeed, if they wanted to mark out this fluid space devoid of concrete objects (except for the islands), cartographers were obliged to express abstract data, which were not optical but ontological in nature. Thus, at the turn of the 17th century and in the period that followed, special or thematic nautical charts multiplied in Europe, expressing in particular knowledge about magnetism, marine currents, and winds. To show these phenomena, cartographers had to forge a new graphic language, a system of signs that could express these data, more abstract than the various objects of the landscape shown on general maps. To do this, they drew on several sources: the figurative tradition, but also the conventions of general or topographic cartography. We will observe this transitional moment from several examples, chosen in particular from the French cartography of the 17th and 18th centuries, developed following the pioneering work of Edmund Halley or Benjamin Franklin. Combining a selective spirit with the expression of more abstract phenomena, these marine maps may appear as the first true thematic maps, according to their modern definition.

Cartography (history of); Graphic Signs; Modern Period; Thematic mapping

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Mariana Araújo Lamego
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Bordering Antarctica: Therezinha de Castro and the use of cartography in the geopolitics of the sea

Antarctica's borders were a significant topic in South American geopolitics during the mid-twentieth century. The criteria to define territories in the uninhabited continent often encompassed the geopolitics of the seas. This paper focuses on the cartographic project proposed by the Brazilian geopolitician and geographer Therezinha de Castro (1930-2000). Disciple of the notorious Brazilian geographer Delgado de Carvalho (1884-1980), Castro became one of the great thinkers on Brazilian geopolitics in the 1950s, using cartography as an important tool to illustrate and circulate her geographical thinking. In 1956, she wrote the first version of her most impactful work, the article "Heading to Antarctica", published in the Military journal. This was the first time that Castro presented her map with the "theory of confrontation", in which the South American countries project their territories to the seas to define national areas in Antarctica. Her theory was not well received either by neighbouring countries, who thought that Brazil intended an area too large or by the United States, which accused Brazil of violating the mare liberum principle. Although contested internationally, Castro's ideas were widely circulated in South America and were disseminated in Brazil through many subsequent publications, such as educational atlases and academic books. By exploring Castro's geopolitical thinking and cartographic practices, this paper argues how the geopolitics of the seas and the lands are deeply linked with map histories.

Therezinha de Castro; Brazilian geopolitics; Antarctica borders; geopolitics of the seas

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Reporting from the Seven Seas: The Naval Chronicle (1799-1818) and Periodical Neglected historical geographies of coastal tourism: Mossel Bay, South Africa c1850-1991

As recently documented by Germond-Duret (2022) and Heidkamp et al (2023) during the past decade there has occurred a burst of international research and debate on the 'blue economy' including a growth of geography-specific scholarship. Geographical scholars call for critical engagement with the blue economy and incorporating key concepts such as place, space and locality. Arguably, however, within the extant geographical literature there is an overwhelming 'present-mindedness' and limited historical perspectives. This paper modestly addresses this neglected knowledge gap by using an historical approach and archival sources to undertake a locality-based study of the historical transitions which have shaped and reshaped one coastal settlement in South Africa. The Mossel Bay area is of considerable historical significance because of its long history of indigenous settlement before the first European contacts triggered by the arrival in 1488 of Bartholomew Diaz and crew who were in search for a trading sea route for Portugal to India. The coastal town's 'modern' history dates from the mid-19th century with a local economy anchored initially on farming, fishing and activities around the port. As a result of the area's natural beauty this coastal town experienced during the early 20th century

a socio-economic transition with health and leisure tourism diversifying the local economy. The nature of this colonial growth of tourism in Mossel Bay and the distinctive tourism economy of the town under apartheid is interrogated. This culminated in the scripting of the controversial 1988 Dias festival hosted to celebrate the opening of 'apartheid's last museum', an event which occurred before Mossel Bay would experience a radical social transition following South Africa's democratic elections. Overall, the evolutionary pathways and transitions in the historical geography of this coastal locality are the central focus.

tourism geography; blue economy; coastal tourism; historical geography; South Africa

Toshiyuki Shimazu
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Representing a maritime empire: allegorical artworks at the East India House in London, 1729-1799

Public and monumental artworks have in some cases been infused with territorial claims and ambitions on the part of art producers. They formed part of the visible environment at different scales from the room interior to the city's public place. Allegory and symbolism have been commonly used to communicate these ideas and the visibility of artworks has helped in the process of signification and interpretation. The deployment of allegorical artworks in territorial terms flourished in the European long nineteenth century; however, its origin would go back to the post-Westphalian early modern era. This paper focuses on several allegorical artworks featuring Britannia placed on the inside and outside of the East India House on Leadenhall Street in London. East India House had functioned there as the headquarter of the British East India Company between 1648 and 1858. The edifice experienced major rebuilding twice in 1729 and 1799, resulting respectively in Palladian and Neoclassical architecture, along with the growth of Georgian Britain as a global sea power. Soon after the first rebuilding, a mantelpiece with bas-relief "Britannia receiving the riches of the East" was set up in the Directors' Court Room. In 1778, the Revenue Committee Room acquired a ceiling painting "The East offering its riches to Britannia." Upon the second rebuilding, the Neoclassical façade was topped by a pediment with relief sculptures including Britannia, the personified Thames and Ganges. On the top of the pediment were placed the statues of Britannia, personified Europe and Asia. These artworks formed together a network of visible signs in order to signify the expanding British maritime empire.

sea power; imperialism; Eurocentrism; imaginative geographies; personification

Julijan Sutlović
University of Zadar

The Evolution Of Signs Related To The Safety Of Navigation On Early Modern Nautical Charts Of The Adriatic Sea

The Adriatic Sea is one of the Mediterranean's most interconnected navigational areas that had the same development problems as the Mediterranean did. It was referred to by Ferdinand Braudel as the "Mediterranean within the Mediterranean" as it was one of the most dynamic socio-economic components of the Mediterranean. The Adriatic has a millennia-long history of maritime navigation, which makes it significant for this study. Approximately 100 nautical charts depicting the Adriatic Sea, both early modern manuscript nautical charts with rhumb networks and early modern printed nautical charts with or without graticules, make up the research

sample. The study's main goal is to examine the evolution of the signs, related to the safety of navigation, drawn on early modern nautical charts of the Adriatic Sea. According to a review of the literature, there is no research, of this kind, specifically focused only on the representations of the Adriatic Sea. Each chart will be examined, and all the signs will be tabulated. According to preliminary research, the signs can convey two different types of information, either danger or navigational aid. For instance, shoals and rocks are those that represent danger, and safe anchorages and depths are those that can be of help. The study's findings are anticipated to serve as a supplement to existing knowledge and understanding of how nautical chart signs have changed over time.

Early modern nautical charts of the Adriatic Sea are an important source of information, a means of navigation, and a medium of communication. The development of signs enhanced the navigator's capacity to communicate with the outside world through the mediation of the cartographer.

NOTE: This research is a part of the Scientific project IP-2020-02-5339 Early Modern Nautical Charts of the Adriatic Sea: Information Sources, Navigation Means and Communication Media (NACHAS) funded by the Croatian Science Foundation.

early modern period; nautical charts; Adriatic Sea; cartographic signs; safety of navigation

9

Livelihoods of small-scale fishers in Latin America and the Caribbean

Chairs

Christopher D. Malcolm
Brandon University, Canada

Rosa Maria Chavez Dagostino
Centro Universitario de la Costa, Mexico



Rosa María Chávez Dagostino
Universidad de Guadalajara

Ricardo Adrian Ojeda Adame
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Fishermen-Crocodile relationship in a mexican tourist context

The coast of Jalisco state, in México, has been subject to more than 40 years of differentiated tourism development, including enclave, massive, emergent, and social models, which have synergistic, conflictive, or neutral relationships with small-scale fishing activity. It has been suggested that a touristic context and a synergistic relationship may provide an effective perception of individual fishers' quality of life in the region of Puerto Vallarta. What impact does the river crocodile have on this positive perception between tourism and fishing in the region? On the one hand, people living in Pacific coastal zones perceive a rising population growth of crocodiles, but on the other hand, fishermen-crocodile-conflicts have been documented

The objective of this study was to analyze the relationship between fishermen and river crocodiles in a tourism context. Independent and associated fishermen who had more than 10 years of experience in the municipality of Puerto Vallarta were invited to participate in semi-structured interviews. They were recorded, then a narrative analysis and synthesis were made.

Conflictive and harmonious relationships were found between artisanal fishermen and crocodiles, but also a perceived negative influence on tourism activity that would affect their lives too, producing unfavorable scenarios for crocodile conservation.

conflict; fishermen; tourism; crocodile

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Rosa María Chávez Dagostino
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Myrna L. Bravo Olivas
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Demographics, fishing behaviour, perceptions of fishing conditions, and attitudes toward fisheries management of artisanal fishers along the Bahía de Banderas coast in Jalisco, Mexico

We administered 99 questionnaires to artisanal fishers, representing 12 different regional fishing collectives, along the Jalisco coast of the Bahía de Banderas, on the Pacific Coast of Mexico. The aims of the study were to collect data on fisher demographics, their fishing behaviours, perceptions of past, current, and future fishing, and attitudes towards fisheries management. The respondents represented an aging demographic with a low level of education that had fished for many decades. They reported catching 27 different species of fish, primarily of the Family Lutjanidae (snappers). The majority of respondents fish year-long, but half of them supplement fishing with a second form of income. Half of the participants indicated that fishing was currently average, while reporting that it was better in the past and predicting it will be poorer in the future. Almost all fishers were concerned about the health of fish populations and three-quarters of them felt that fish populations are disappearing. Specific fishing practices were the highest cited problems facing fishing. Almost every fisher felt they have an important role to play in fishery conservation. Making changes to specific fishing practices were the main items identified with respect to improving fishing. Half the respondents felt that there is conflict between artisanal and commercial sport fishers but almost 90% believe the two forms of fishing can coexist. Finally, respondents indicated that fishery managers need to do their job and apply the laws in order to help improve regional fisheries.

small-scale fisheries; fisheries management; Mexico

Ricardo Adrian Ojeda Adame
Universidad de Guadalajara

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Universidad de Guadalajara

Tourism As A Tool To Reduce Conflicts Between Fishermen And Crocodiles: Three Case Studies In Western Mexico

Small-scale fisheries are a complex activity because diverse factors are involved. In western Mexico, fishermen are involved in innumerable situations such as the relationship with aquatic predators like the *Crocodylus acutus*, which produces ecosystemic benefits for fishermen but also risks to their lives, production losses and various operational difficulties, producing negative scenarios for the conservation of these saurians and for fisheries. As a result, social sectors focused on conservation are looking for productive alternatives that generate more harmonious scenarios. In this research, participatory workshops were conducted in three coastal communities in the states of Jalisco and Colima, analyzing the content of the narrative, focusing on the relationship of fishermen with crocodiles and tourism projects oriented to conservation. The relationship with the crocodiles was both

negative and positive. With respect to tourism projects, three scenarios were found, according to each entity studied: In one community, fishing was prohibited in an estuary and its use was exclusively dedicated to tourism, obliging fishermen to carry out their activity in the sea, despite this, few conflicts are reported in another site, tourism is carried out by a government institution that employs retired fishermen while fishing continues in the site, maintaining conflicts between conservation and fishing, finally, in the third community, fishermen associated in a cooperative partnership are implementing an emerging model that aims to integrate fishing, extractive production and tourism.

conflict; american crocodile; tourism; small-scale fisheries

Maria Giovanna Stoppani
Univeristy of Milano-Bicocca

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Small-Scale Fisheries and Sustainable Tourism. Challenges and opportunities. The case of Costa Grande, Guerrero, Mexico

Given the recent importance associated with SSFs at international level, such as in the UN Sustainable Development Goals of the Agenda 2030, or in the FAO Blue Transformation and EU Blue Growth model, several new instruments are being produced in order to support this often-underrepresented sector. The aim of the contribution is to provide a socio-ecological overview of the state of small-scale fisheries (SSF) in rural coastal communities, taking into analysis the case study of two local cooperatives in the region of Costa Grande in the Mexican state of Guerrero. SSFs represent an important form of subsistence for the communities in the region - together with agriculture and livestock - and whether the organization into cooperatives is fundamental for commercial purposes and governmental subsidies. Our presentation reports the preliminary stages of the research, developed through semi-structured interviews, conducted over a two-month period of time, with the aim of understanding the actual state of the sector, its main challenges, the history and importance of the fishing activities in the area, and the future of the sector, maintaining a transdisciplinary approach. The research focuses women's role in the industry and the interaction of SSFs with the sustainable tourism industry. Finally, we propose a set of recommendations and guidelines talking the main challenges local fishers cope with.

Tourism; Small-Scale Fisheries; Cooperatives; Mexico

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Local Governance and Planning of Coastal and Maritime Areas

Chairs

Carlos Nunes Silva
University of Lisbon, Portugal

Anna Trono
University of Salento, Italy

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Najimi Chaymae
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Cherkaoui Essediya, Khamar Mohamed
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Environmental Assessment of a Coastal Development Project Impacts A Case Study of the Bouregreg Estuary in Morocco

The Bouregreg Estuary, one of the main estuaries on Morocco's Atlantic coast, located in the heart of the Rabat-Salé conurbation, this area is rich in natural, ecological, and historical heritage, as well as a hub of economic activity. However, the increasing pace of urbanization in the region has placed the estuary at risk of anthropogenic disturbances. It has seen numerous comprehensive planning and Spatial management policies that have been implemented to promote Coastal development that balances urban and economic progress with preservation of the estuary's cultural, historical and environmental heritage.

This study was conducted with the aim of assessing the impacts of a major coastal development hallmark project in Bouregreg, which is an integral part of the Moroccan National Coastal Plan aimed at achieving sustainable economic and social development of the coasts while protecting its coastline and natural environment. Our objective is to evaluate its sustainable performance regarding the environmental pillar by evaluating the response of estuarine communities to morphological changes of the estuary in response to urban development over time and space.

This coastal development plan devoted significant emphasis on the environmental concerns, as evidenced, by its contribution to the depollution of the estuarine and coastal region, achieved through the elimination of various infrastructure sources of water and landscape pollution. Consequently, the execution of such measures will usher in a salubrious impact on the water quality of the estuarine ecosystem and the adjacent coastal beaches considering their intimate association. However, other planning decisions related to the improvement of navigation and the reduction of flood risk have the potential to significantly alter the hydrodynamic and sedimentary conditions of the estuary, thus disrupting its flora and fauna, leading to changes in the composition of benthic macrofauna and the disappearance of endemic vertebrate species.

It is therefore crucial that spatial planning decisions incorporate environmental respect to ensure its longterm sustainability and the rational management of natural resources. However, this expectation is not always easy to achieve because it is often hampered by compelling socio-economic requirements.

Tourism; Small-Scale Fisheries; Cooperatives; Mexico

Florian Drouaud
Nantes Université

La gouvernance des risques fluvio-marins dans le geo système de l'estuaire de la Loire (France) en contexte d'incertitude

L'estuaire de la Loire est un ensemble de zones de basses altitudes particulièrement exposé aux inondations fluvio-marines, en particulier avec la perspective de l'élévation du niveau marin. Ce système à l'interface terre/mer est comme de nombreux estuaires, un espace polarisé, regroupant de fortes disparités de développement et de cohésion sociale (Godoy De Lesky, 2021, Guyard, 2009 ; Chadenas, 2015), où la frontière rive nord/rive sud freine fortement les projets de territoire (Menard, 2009). Néanmoins, la gestion du risque et des stratégies d'adaptation qui émergent mettent en jeu plusieurs modes d'appropriation de l'espace, qui doivent être pensés aux échelles spatiotemporelles adéquates, à la fois à travers l'urbanisme opérationnel et la planification du territoire. Ainsi, face aux enjeux de l'adaptation, la volonté d'un espace d'action politique (Carter et Lawn, 2015) commun grandit localement. Dans ce contexte, quels processus sont mobilisés afin de mettre en risque l'estuaire ? Quels acteurs se partagent la gouvernance de l'adaptation et comment cela prend forme localement ? Comment l'incertitude, inhérente à l'élévation du niveau marin, est-elle appropriée par les acteurs de cette gouvernance ? Cette communication propose d'interroger un système de gouvernance particulier à l'heure des politiques d'adaptation dans un contexte de décentralisation des compétences de l'État français vers les localités. Il s'agira de comprendre la gouvernance des risques côtiers et fluviaux en étudiant sa territorialisation, ses échelles, le rôle des acteurs et leurs représentations socio-spatiales.

gouvernance; estuaire; risques côtiers; adaptation

Massimiliano Farris
University of Chile

Alonso Laborda
University of Chile

Constitution. Territories in tension between the sea, the river and the forestry industry

The coastal city of Constitución, in south-central Chile, a traditionally agricultural and recently forested territory, has undergone multiple processes of territorialisation and reterritorialisation, determined by changes in the preferred economic orientation and which have involved the daily life of the territory and the relationship between the local community and places such as the Maule River, the Mutrún Hill and the South Pacific Ocean. In this way, the city has gone through different periods where the protagonism in the construction of the space has passed through the port sector, with the boom and decline of the shipyards, then the tourist development associated with its coastal nature and its difficult relationship with the forestry industry, once the CELCO pulp mill was built, between the city beach and the estuary of the Maule River.

The research proposes to reconstruct this historical-territorial transition, focusing on analysing specifically the process of reterritorialisation that has taken place since the dramatic earthquake and tsunami of 2010, which devastated an important part of the city.

We propose an analysis of the results over time (2010-2022) of the Sustainable Reconstruction Plan of Constitución (PRES) and its scope in contributing to the most recent reconfiguration of this urban-rural territory in its relationship with the ocean and the river. Through archival work, local oral memory and cartographic analysis, dynamics, changes and rootedness are identified in this process in which an asymmetry of power and interests between different territorial actors such as the state, the transnational forestry company ARAUCO, the tourist industry and the local community is evident. The PRES has been configured, particularly in its initial design phase, as a milestone in the change of paradigm in territorial planning, as it has been defined and financed mainly by the transnational forestry company ARAUCO.

Sustainable territorial planning; forestry industry; territorial hegemony; Maule River; Pacific Ocean

Eleonora Gioia
Sapienza University of Rome

Eleonora Guadagno
University of Naples "L'Orientale"

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Sapienza University of Rome

Analyzing coastal planning and risk perception in an area of the central Tyrrhenian Sea (Gaeta Gulf): A multidimensional approach

The coasts, in their complexity and, at the same time, anthropic and natural fragility can be considered as a crucial element of the geography of risk and a key element in territorial governance. In those contexts, a high socio-environmental vulnerability has always been associated with planning and management practices, whose actions have sometimes aggravated the coastal exposure making it more prone to extreme natural phenomena, such as coastal floods and storm surge, as well as degradation. The case of the physiographic unit of the Gaeta Gulf (Central Tyrrhenian Sea, Italy), 15 municipalities with a total population of almost 500,000 inhabitants, allows to investigate these criticalities, both in coastal areas and inland structurally related, and to understand how administrations and populations perceive, experience and face the coastal risks posed to the community and the riparian ecosystems. These aspects will be analyzed through a multidisciplinary approach that highlights the political, social, environmental, and economic practices of these areas and the possible impacts on coastal planning policies. In addition, this contribution will show the results of a qualitative survey involving the administration of questionnaires related to the perception of coastal risk, the level of information such as the mitigation and adaptation practices of communities living in these areas.

Gaeta Gulf; coastal planning; local governance; risk perception; climate change

Elizabeth Havice
University of North Carolina Chapel Hill

Ocean Data Science Initiatives and the Making of Ocean Worlds

New data about, and visualizations of, the oceans have proliferated in recent years, making previously unknown ocean processes, resources, and uses visible and legible for governance in a moment that coincides with the UN Decade of Ocean Science for Sustainable Development and the rise of 'blue economy.' These new ways of 'knowing' are possible through the work of ocean data science initiatives (ODSIs) -- collaborations of scientists, non-government organizations, businesses, state and/or inter-state agencies developing and mobilizing new data technologies to gather and analyze data on oceans with the express goal of informing or improving ocean conditions. The data and visualizations that ODSIs produce and circulate are powerful; they provide new insights into oceans and play a role in setting governance agendas and suggesting governance possibilities. As such, ODSIs have world-making effects and are important 'actors' in the moment of contemporary, expanding, global and regional oceans governance (Drakopoulos et al 2022). In this paper, we explore our Catalog of Ocean Data Science Initiatives (n= >100) to broaden understanding of the ways in which ODSIs collectively reimagine oceans and their governance. We analyze the funding, partnerships, purpose, and data products -- including data visualizations -- across ODSIs in order to illustrate the networks and logics that enable the production and circulation of data and data products, and the implications thereof in a moment of expanding efforts to govern the oceans.

Ocean Data Science Initiatives; data; data products; world making

Martina Jakovčić
University of Zagreb

Military heritage of the Socialist era on the Croatian Adriatic. Potential for future development as maritime heritage or forgotten monsters by the sea?

Throughout the centuries, the eastern Adriatic coast has been a traditional frontier and a place of conflict. This delicate geostrategic position led to the development of various military complexes, from Venetian and Austrian fortresses to the construction of numerous barracks by the Yugoslav army. After the 1990s, the process of demilitarization began. The Croatian Army left most of these sites to local authorities, which often lack both knowledge and money to redevelop them. While Venetian and Austrian fortresses are often rebuilt with European funds, most barracks are still empty and ruined. This paper focuses on barracks and military brownfields built or rebuilt on the Croatian coast during the socialist era. The aim of the paper is to map military brownfields on the Croatian coast, categorize them according to their former use, and examine their current condition and potential for future development. The second part of the paper deals with two case studies for the city of Pula, the former Muzil Barracks and the Barracks Sveta Katarina - Monumenti, and the local government's plans for their redevelopment.

Military heritage; brownfield redevelopment; Croatian Adriatic; Maritime heritage

Elisa Magnani
University of Bologna

Annaclaudia Martini
University of Bologna

Managing risk in coastal communities: a comparison between Japan and Senegal

The use of seawalls as a tool for disaster risk reduction and post-disaster management has been accompanied by a public debate encompassing political, economic and cultural aspects. In modern societies, governmental agencies and international institutions and donors, as well as in a consistent number of academic works, seawalls and technological sea defences have been identified as the most efficient solutions to counteract short-term risks (sudden disasters such as tsunamis) and long-term ones such as the coastal erosion that affects many islands and coastal areas facing the impacts of climate change. However, such technocratic solutions -as the technological tools supported by international institutions are defined- are not the only viable solutions to reduce environmental/climate risks in coastal areas. Many local communities support more environmentally-friendly -nature-based or community-based- solutions aimed at creating integrated plans to reduce environmental risks. The Authors propose a reflection on the controversial implementation of technocratic strategies to counteract risk -the construction of seawalls, embankments, and other sea-defence infrastructures- and their socioeconomic impacts in two case studies: Senegal and Japan. In Japan, after the 2011 unpredictable and unprecedented triple disaster (earthquake, tsunami and nuclear meltdown in Fukushima), the government promoted the construction of 400 km of sea defense along the northeastern coast, highly contested by local communities. In Senegal, technological solutions to limit coastal erosion have often produced critical or even negative results that have worsened the living condition of the local population, who promote other, nature-based, actions. While very different, a comparison between the two cases allows us to address crosscultural understandings of risk, and the unpredictable nature and increasing size of catastrophes today (be it tsunamis or climate change-induced changes).

Risk management; Coastal communities; Technological sea defences; Japan; Senegal

Alice Moret
École Normale Supérieure de Lyon

A double regulation to protect the Bosphorus

Being a waterway of first importance going through a growing metropolis of more than 16 million inhabitants, the Bosphorus strait (Turkey) provides a good example of the governance, reglementation and planning practices in both maritime and inland areas, in order to protect a much appreciated scenery. In this talk, we aim at analyzing the double specific regulation of both the Bosphorus strait and the nearby neighbourhoods, regarding both navigation and urbanization.

At sea, the navigation in the strait is highly regulated, especially since the implementation of the Turkish Straits Vessel Traffic Service in the 1990s (with lines, lights, signs, pilots, requirements...). This regulation is justified by the specific geographical, hydrological and meteorological features of the Strait (tricky currents, narrowness, sharp bends, fog...) but also by the importance of the population, activities, heritage and scenery of the surrounding urbanised areas. I will address the goals of this traffic system and reglementation, its means of implementation, its effects on navigation, on the risks of accidents and also on the maritime landscape (such as buildings, equipments or presence of ships queuing).

Inland, the shores of the Bosphorus are regulated by a specific planning office of the Istanbul Metropolitan Municipality, with special plans. They are also governed by the Bosphorus Protection Law, adopted in 1983 with the

aim of protecting the scenery. This law, based on the view, prohibits new constructions in some areas. However, urbanization, densification and transformation are going on. I will discuss these planning instruments and regulations, and the exceptions, circumventions and adaptations by the local actors in the coastal districts of the city. In this talk, I will address the articulations between this maritime regulation and these inland reglementations and planning, with a focus on the everyday practices of institutional as well as ordinary actors.

strait; scenery; protected area; urbanization; expeditions

Carlos Nunes Silva
University of Lisbon, Portugal

Spatial Planning Systems and Marine Spatial Plans: instruments and practices

The paper explores recent developments in the governance and spatial planning of coastal and maritime areas. If spatial plans for coastal areas have been part of spatial planning systems, marine spatial plans are more recent and still scarcely considered in practice. The spatial planning system in some countries include a spatial plan specific for the coastal area, in some cases a land strip of few hundred metres along the coast, and whose constraints the municipal spatial plans (e.g. municipal land use plans) must consider. However, even in these cases, marine spatial planning tends to be part of a different planning framework. The aim of this paper is to map and discuss the way the two planning frameworks - inland spatial plans and marine spatial plans - are articulated, and to explore the challenges with which planning authorities are confronted in coastal and marine areas. The paper addresses two research questions: How are coastal and maritime areas considered in the spatial planning system in inland countries and in small island states? What is the role of Local Government in marine spatial planning? The analysis is illustrated with evidence from the spatial planning systems in Portugal and in Cape Verde.

governance; coastal areas; marine areas; spatial planning system; marine spatial plans

Bhanwar Vishvendra Raj Singh
Mohanlal Sukhadia University

Saniya Chawda
Mohanlal Sukhadia University

Role of Ecotourism in Sustainable Coastal Management; In the context of local governance, India

The impact of climate change in coastal areas is gradually stressing local ecosystems that are already under intense and growing gravity. Numerous countries are facing severe impacts such as aggregate cyclones, flood occurrence probabilities, erosion, inundation, rising water tables, saltwater interloping, and biological effects. Meanwhile, coastal areas with enormous potential for environmental resources and are connected to social, economic wellness, and cultural activities. Anthropogenic activities and physical development in coastal areas are currently causing concern since they are unregulated.

This research paper addressed local governance initiatives regarding land use change, surface water, and forest resource availability as well as key features that could be assessed from Gujarat to West Bengal. As we know, resilience is a multi-disciplinary approach to operationalize pliability in environmental management and specifically Indian coastal governance thorough understanding of the concept of resilience and its different approaches is indispensable.

In the era of climate change, at the local level, there is a variety of area-based management approaches for

coastal governance, such as Integrated Coastal Zone Management (ICZM), and Marine Protected Areas (MPA) in which the concept of local coastal resilience to climate change can be embedded.

Climate change; Eco-tourism; Sustainable Coastal Management

Charlotte Röhl
HZ University of Applied Sciences

Jessica Borgs-Rongen
HZ University of Applied Sciences

Maarten Soeters
Research Centre for Coastal Tourism

Coastal and maritime tourism stakeholders' needs and motivations to learn about regenerative destination design

Coastal and maritime tourism is the largest maritime activity in the European Union. However, limited awareness of the specific skill needs, existing skill gaps and mismatches hamper the competitiveness of the sector. A European project has started that aims to make a fundamental change to sector-specific skills development and the quality and digitalization of thematic higher education in CMT. An international project team investigated the needed sector-specific skills and qualifications in CMT to tackle skills gaps and mismatches. These were used to develop a curriculum to strengthen the strategic and structured cooperation of higher education institutions in CMT education. In the developed education, the use of innovative digital technologies, methods and tools as well as open educational resources (OER) for skills development in CMT is integrated. The curriculum itself consists of four courses, 5 European credits each, forming a specialization in coastal and maritime tourism. Although the education is offered to higher education and vocational institutions, the primary target group also exists of tourism industry stakeholders as for example the potential and existing labour force, tourism entrepreneurs and others that are somehow related to tourism development in the coastal zone.

The project and the curriculum that has been created focuses on European cold water destinations: the Baltic Sea, the North Sea and the Atlantic Ocean. In this related research, it is studied to what extent stakeholders in the Dutch province of Zeeland are interested in actually completing the online curriculum. A key theme in this is regional regeneration in relation to destination design. Results indicate what kind of stakeholders have what particular interest in completing which part of the curriculum in which way. In this, the possibility of online education is extended to have related in-person workshops at the higher education institute within the region.

coastal tourism; destination design; stakeholder learning

Orli Ronen
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Ophir Paz Pines
Tel Aviv University

Central government and local government? Can the two meet? Israel case study in the context of coastal zones

Local authorities of the Mediterranean are continuously challenged with balancing development and management in the pursuit of sustainability. At the present, existing tools and experience are relatively limited, specifically in Israel and the friction between Central and Local is ever present. The case study will present the Israel Coastal Authorities Forum, as an emerging mechanism for integrating between local and central government in the context of coastal planning and management.

The Israeli Mediterranean coastline extends 195 kilometers from north to south-west. The responsibility for the management of the coastline is divided among 13 Government ministries and between 21 Local municipalities. The authorities are highly diverse, ranging from 14,000 residents to nearly half a million, from one km of coast to 42 km's. The authorities also differ greatly in their economic and social composition. There are also enormous differences in municipal budget and ability to invest in coastal preservation and maintenance. Coastal zones are certainly an economic opportunity for local municipalities, in developing tourism and hospitality together with marine and port industries. The coastal and marine areas are not considered as one integrated unit there are multiple authorities governing these areas. This can lead to poor management of problems artificially divided across jurisdictions. The Israel Coastal Cities Forum was established in 2015 with the understanding that coastal authorities face unique challenges, and share common boundaries and responsibilities. The forum is a voluntary mechanism, embraced by the local authorities and the government but with no formal standing or authority. This unique platform is succeeding in bridging the gaps, because of its unique characteristics and possibly because of its lack of status and jurisdiction.

coastal authorities; integrated management; central government; planning; coastal zone

Dritan Rustja
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Establishing and managing Marine Protected Areas in Albania: the case of Buna River - Velipojë Protected Landscape

This proposal takes into consideration the creation and development of Marine Protected Areas (MPAs) in Albania. Along 427 km of coastline, its marine ecosystems and coastal wetlands are rich in habitat typologies and associated biodiversity. In situ nature preservation in Albania started some 50 years ago, but it was strongly developed after 1990. There are currently 15 national parks in Albania: anyway, despite the long coastline and the important role of the marine ecosystem in the country's nature and biodiversity, history, culture and tourism, there were no marine protected areas established in Albania until 2010. The first MPA proclaimed was the Sazani Island - Karaburun Peninsula in 2010, with the status of National Marine Park, which remains the only one to date. Other areas have been proposed as potential MPAs: among them is also the Protected Landscape of Buna River - Velipojë, which we take into special consideration in this proposal. This Protected Landscape was established in 2005 and part of it is the Buna River mouth - Viluni lagoon area, which was proposed to be nominated as an MPA in 2013 but has not yet been established. By analyzing the data in disposition, it results that the main threats to this area and to the coastal marine environments in Albania are: uncontrolled urban and tourism development; increased pollution in particular due to untreated waste

and sewage discharged into the sea; deforestation and erosion; low public awareness and education level on marine and coastal issues; abusive interventions in river beds and watersheds; unsustainable land reclamation in coastal wetlands; illegal fishing and hunting; and unsustainable fishery and aquaculture. Focusing on our specific case study, this proposal concludes on giving some useful recommendations about the measures that should be taken to preserve marine ecosystems and landscapes in Albania, where it is strongly indicated to legally recognize the proposed MPA.

Marine protected areas; Albania; Buna River – Velipojë; protected landscape; management

Barbara Stanisca
Sapienza University of Rome

Environmental conflicts and protected areas in coastal regions: a case study in central Italy

According to the UNEP-WCMC (2022) statistics, 8.97% of the marine and coastal areas in the European territory are covered by Marine Protected Areas (MPA), and 13.63% of the land areas in the European territory are covered by Terrestrial and Inland Waters Protected Areas (TIWPA). Those figures are even higher in Italy, where MPA cover 10.61% of the marine and coastal areas, and TIWPA cover 21.58% of the land areas.

Despite these large figures, the process leading to the designation of protected areas is not free of conflicts. These latter occur especially in highly densely populated areas as coastal regions are. Conflicts emerge because of conflictual interests of the local stakeholders; according to several scholars, local community involvement and participation is a way to manage those conflicts. Nonetheless, there is evidence that participatory processes are not always enough to reach conflicts' resolution.

This paper aims at exploring the 20-year history of environmental conflicts that have characterized the delimitation of the Costa Teatina National Park (CTNP) boundaries, along the Teatina coastal area, in central Italy. Officially designated in 2001, the CTNP has not been implemented yet, due to the opposition of some groups of stakeholders and public representatives, both at local and regional levels.

This paper will unearth the roles played by the different stakeholders, their salience and representativeness, and the local groups' relations and dynamics in the CTNP case study. It will highlight lessons learned and viable solutions for conflicts mitigation.

environmental conflicts; coastal areas; protected areas; national parks; central Italy

Tim Stojanovic
University of St Andrews

Planning and governance of marine and coastal areas: comparative approaches

Efforts to govern the oceans have expanded dramatically over the last two decades, with over 128 commitments to develop marine spatial planning worldwide (IOC Unesco, 2021), and the proliferation of networks of marine protected areas, with a Convention on Biodiversity target to protect 30% of the world oceans. This paper considers how marine and coastal planning systems can be evaluated in a comparative perspective- within nations, between regimes, across jurisdictions, or through time. Such a perspective needs to remain cognisant of the unique characteristics of marine spaces and places, whilst also considering the broader lessons and principles which can be elucidated across varying geographies. A key intellectual question is to understand whether these efforts at planning are leading to more sustainable futures, how states and other actors frame their approaches to planning, and what is causing failures in implementation giving rise to continued environmental degradation, reduced social and economic benefits and/or

ineffective bureaucracies. Geographical thought is of considerable relevance to these issues, with ideas on multi-scalar governance, human-environment interactions and theorisation of sustainability. The paper will illustrate the relevance of a comparative approach and the deployment of these concepts through two case studies. Firstly development of marine planning in England, Wales, Scotland and Northern Ireland 2006-2022, and secondly the growth of a marine protected area network within Scotland 1994-2022. The paper will conclude with a consideration of how the mobilisation of geographical ideas can contribute to both theory development and professional practice for oceans governance.

Marine Spatial Planning; Marine Protected Areas; Comparative Analysis; Multi-scalar governance; Sustainability Appraisal

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Dynamics of the coastline of the city of SALE

Coastal areas are environments known for their fragility and their importance from the economic and environmental point of view. The coasts constitute a transition zone (Ecotones) between marine and terrestrial ecosystems and as such provide fundamental ecosystem services. In recent years, the change in morphology of coastal areas has become one of the most important environmental problems facing coastal areas due to climate change.

The Atlantic coast of the city of Sale, with its important city and activities, plays the role of a structuring pole of the national economy. This coveted space knows of this fact important forms of pressure, at the origin of degradations and pollutions. It is the place of a strong land speculation and anarchic urbanization, but also of installation of important projects of industrialization, logistics and tourist development, in addition to the functions pertaining to the port and the halieutic.

This study evaluates the environmental impact of climate change due to anthropic activities that the coastline of the city of Sale has experienced. In this work we have evaluated the dynamics of the coastline of the Atlantic coastline of the city of Sale. The methodological approach is based on geomatics: collection, processing and analysis of cartographic data. This perspective is completed by transects along the coast to characterize the nature, type and condition of the coast. The results show that the impact of climate change on the coastline of the city of Sale seems to have diminished at first sight (by a few millimeters per year).

The Atlantic salt coast; dynamics; climate change; coastline, geomatics.

Anna Trono
University of Salento

Cultural heritage and tourism in Eastern Mediterranean isles and coastal areas

In the general pattern of tourism flows in Europe, the strong and constant growth of the Mediterranean isles and coastal areas as destinations constitutes one of the most significant tendencies of the last ten years. This is producing strong tourist pressure with a tendency to standardise and stereotype the experience, which then takes on the character of mass tourism, with the loss of specificity, environmental quality and the slow corrosion of autochthonous social structures.

To counter mass tourism new forms of quality tourism have been growing steadily in the last years and make it necessary for providers to adapt and differentiate their product range. Indeed, tourists are increasingly interested in the 'local' as a source of material culture and nature, and they demand tailor-made products yielding experiences that meet specific expectations. The presence of considerable cultural and natural heritage, confers great value on the Mediterranean isles and coastal areas and gives them a competitive advantage and the certainty of success.

Cultural itineraries can be the cornerstone of this holistic process for a significant number of quality tourists, and they represent the new frontier of cultural tourism. Combining rural villages and urban attractions, they reawaken the history of places and recover the value of their cultural heritage and landscapes. In line with these new trends in supply and demand, local government plans on all geographical scales have recognized cultural routes and itineraries as not only an expression of a qualitatively different approach to safeguarding and preserving the landscape and cultural heritage, but also as an opportunity for gaining recognition and for the sustainable development of new tourist destinations. The paper shows how cultural routes, considered to be a complex cultural product, can contribute to sustainable development, especially in inlands and/or marginal regions of Eastern Mediterranean isles and coastal areas.

Cultural heritage; Mediterranean coastal areas and isles; Cultural routes; European Mediterranean plans

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The transformation of Russia's Arctic Ocean coast and its coastal cities

Russia's Arctic Ocean coast and the coastal cities of this extensive maritime region - ranging from Murmansk to the Bering Strait - are undergoing a dramatic transformation. Under the pressure of accelerating re-militarization, colonization caused by resource extraction, and rapid urbanization necessary for the development of the naval route north of the Siberian continent, Russia is developing a maritime spatial strategy based on the closure of the world's longest Arctic coastline. However, by proclaiming its exclusive right to its "internal waters," understood as a border to be defended, it is also developing a chaotic strategy that is hardly sustainable. Military pressures cause the reopening of dozens of bases on the coast, the settlement of thousands of people, and the installation of nuclear weapons and infrastructure in vulnerable areas. Resource extraction, offshore and on the coastline, attracts large ships and encourages the construction of new ports, which mayors increasingly have difficulty to manage, with the arrival of Chinese and Indians interested in natural resources. Coastal erosion forces the relocation of coastal villages to the inland. Ecological problems, caused by state-owned, oil and mining companies as well as Arctic cities, are multiplying for the circumpolar region's ecosystem, which is the most fragile on the planet: just as international monitoring is hampered. This research, based on a multidisciplinary approach and direct experience from international expeditions (to the mouths of the Yenisei, the Kara Sea, and the Yamal Peninsula) aims to elucidate the processes of local governance of a coastal area that is becoming the most enclosed on the planet.

Arctic Russia; Arctic cities; local governance processes; environmental problems; multidisciplinary approach and expeditions

Jing Xie
Sun Yat-Sen University, Guangzhou

The role of wetlands in mitigating land surface temperature variations in subtropical coastal cities in South China

Wetlands influence land surface temperatures of coastal cities. However, their impacts on mitigating surface urban heating islands in comparison to impervious surfaces, built types, and heavily and lightly vegetated spaces in different urban–rural local climate zones, remain unknown yet. Here, we use land surface temperature (LST) data and local climate zone (LCZ) maps derived from the earth observation data to infer the strength of wetlands in mitigating LST variation

through seasons across urban–rural LCZ gradients. We examine nine subtropical cities of the Guangdong–Hong Kong–Macau Greater Bay Area in China, from 2000 and 2021. We show that the wetlands exhibit the smallest difference between daytime and nighttime LST among all LCZ types through spring, autumn, and winter. Both daytime and nighttime LST in wetlands tended to be lower in pace with the urban–rural gradient, i.e, a higher LST is more pronounced in downtown having compact and high-rise built areas than some regions farther in suburban and countryside.

In the daytime, wetlands mainly exhibit cooling effects that are pronounced in downtown throughout the year; however, in the nighttime, wetlands mainly show warming effects that are significant in suburbs and the countryside. While the potential of wetlands to mitigate the warming effects is secondary to the dense trees, the warming and cooling extremes overall have not been observed in wetlands. Besides, the spatial urban–rural variation and inter-annual changes of the daytime cooling or the nighttime warming effects of wetlands, are more negatively associated with evapotranspiration than albedo in spring and summer, but they are more positively correlated with albedo than evapotranspiration in autumn and winter. Our study revealed that the effect of wetlands on LST variations could highlight the benefits of wetlands for professionals of urban local climate planning and wetland management for coastal cities.

Wetlands; Land surface temperatures; Local climate zones; Urban–rural gradients; urbanized areas in coastal cities

Guohan Yin
Lund University

Marine spatial planning in Morocco: from regulatory framework to integrated blue growth

This paper offers a historicised overview of the development of maritime and coastal planning in Morocco since its independence in 1956. In Morocco's early post-independence decades, ocean governance was almost absent from its national agenda except a few legislations on marine fisheries. With the ratification of the UNCLOS, Morocco declared its EEZ in 1981. Since then, a regulatory framework was gradually established with subsequent legislations defining major governance bodies (such as L'office National des Pêches and Les Chambres des Pêches Maritimes) and their responsibilities. With the turn of the new millennium, the Moroccan state started to take more proactive roles in developing its ocean economy by implementing strategic plans on coastal tourism (Le Plan Azur) and marine fisheries (Le Plan Halieutis) which aimed to strengthen the productivity, competitiveness, and sustainability of its marine sectors simultaneously. From the 2010s onwards, Morocco embraced the vision of blue growth by developing collaborative projects on marine pollution control, aquaculture investment, and institutional reforms with the World Bank. The approval of Le Plan National du Littoral – the first national-level comprehensive coastal plan in Morocco – on May 23, 2022 marked a more ambitious endeavour by the state to direct its marine sectors with the prospect of blue growth and spatial integration. Its major objectives also revealed the prevalence of neoliberal and sustainability di-

scourses in Morocco's coastal governance in recent years. While claiming to promote the welfare of coastal communities with this latest plan, the voices from local people remained very weak in the planning process. Without balancing the unequal power relations between extractivist capital and coastal communities through stakeholder participations, maritime and coastal planning as a policy instrument seems unlikely to achieve social objectives such as environmental justice and food sovereignty in Morocco.

marine spatial planning; blue growth; ocean governance; Morocco

11

Maritime Heritage in Mediterranean Sea

Chairs

Carmen Bizzarri
Università Europea di Roma, Italy

Silvia Grandi
University of Bologna, Italy

Stefania Cerrutti
University of Piemonte Orientale "Amedeo Avogadro", Italy

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Stefania Benetti
Università del Piemonte Orientale

Submerged maritime heritage: a case study from the Egadi Islands

Marine Protected Areas are privileged sites and ideal places to monitor the state of the marine environment and promote interventions that can lead to a better future and a healthier and more sustainable relationship with the sea. Moreover, the protected marine environment can have significant historical, archaeological-environmental, and cultural value. For instance, the archipelago of the Egadi Islands, with the three islands of Favignana, Levanzo, and Marettimo, represents a significant reality of the naturalistic, cultural, and landscape heritage of the smaller Mediterranean islands. The archipelago is home to the Marine Protected Area of the Egadi Islands, the largest marine protected area in the Mediterranean. On the eastern coast of Levanzo island, the underwater archaeological site of Cala Minnola is located. The site preserves the wreck of a Roman cargo ship, at a depth of about 30 meters, and its amphorae remain on the seabed in their original position. In order to avoid depredations and allow the public to admire its characteristics directly, a remote control system has been activated based on underwater cameras. The video surveillance system offers a valid tourist alternative allowing even those who do not dive to see the wreck live on a large screen, comfortably seated in a museum. The site falls in the VISAS project, financed by the Italian Ministry of Education, University and Research, which enhances the valorization capacity of underwater archaeological sites, in a responsible and sustainable way, improving the tourist-cultural offer and expanding the target of user's reference. This is the first example of a virtual tour of a wreck in its original position and the project also has a highly innovative character in terms of intervention, management, and conservation methodologies, and the avant-garde technologies used.

maritime heritage; Mediterranean sea; policies; tourism; cultural heritage

Emanuela Caravello
University of Palermo

Giulia de Spuches
University of Palermo

Cultural heritage in Sicilian maritime villages: the REIMAR project

This paper aims to analyse the REIMAR project (Register of Mediterranean fishing identities and maritime villages) funded by the Sicilian Region for the enhancement of maritime cultural heritage. In line with the European Convention on the Role of Cultural Heritage for Society of 2005, the project promotes a shared responsibility for heritage. On the one hand, REIMAR uses ICT as a decision-making tool to promote the tangible and intangible heritage, meanings and uses of objects, memories, and places related to the sea. On the other, it aims to encourage the implementation of sustainable innovative actions (diffuse museums, gastronomic and cultural itineraries, new businesses, etc.) using the heritage of the sea as a development flywheel for Sicilian coastal communities. The criteria for selecting maritime villages bring the past and the present together by emphasising the communities' connection with the sea. In fact, the project aims to recover and promote both tangible heritage (historical buildings, tuna fisheries, churches and chapels used for fishermen's worship) and intangible heritage (traditions, festivities, technical knowledge, legends, and stories).

We intend to study maritime heritage through the case study of Sciacca. In particular, we will analyse how heritage can be a tool for constructing identity (Watson and Waterton, 2010) and how it can activate processes of affectivity through the materialisation of a social memory (Tolia-Kelly, Waterton and Watson, 2017). In the context of this interesting example of participatory governance, the case study allows us to explore the ongoing effects of the application of this management model.

Cultural Heritage; Heritage Community; Affective Memory; Co-production; Participatory Governance

Stefania Cerutti
Università del Piemonte Orientale

Abdessamad El Jaouzi
Senior Advisor e Independent Reasercher

Domenico Letizia
Giornalista e Communication Manager

Water cultures and heritages in the Mediterranean: a proposal on the wave of the liquid future

New perspectives for economic and sustainable development can arise from a perfect combination of tourism and digitisation, historical knowledge and heritage valorisation in the Mediterranean. Networking to share the best existing national and international tourism experiences in the protection of liquid heritage is undoubtedly the key aspect. Within this framework of context and significance also on a scientific level, the idea of a digital museum created by the territories linked to the sea emerges. An extended and scattered museum, composed of concrete physical locations, which aims to offer the wider public a representative platform – both physical and digital – of the exemplary heritage of water civilisations and cultures in the Mediterranean. This would allow tourists to learn about the past and, at the same time, come into contact today with those institutional and entrepreneurial realities that develop water-based-tourism with sustainable practices

of economic growth. It would also link the area involved and its local educational activities with the rest of the world, enabling young museum visitors to become conscious storytellers and actors of their own liquid future, whether they are in Europe or Africa or the Americas.

heritage; tourism; digitisation; museum; liquid future

Silvia Grandi
University of Bologna

Carmen Bizzarri
European University of Rome

Michele Ravaioli
University of Bologna

Maritime heritage in Euro-Mediterranean policies and projects: nexus among cultural heritage, tourism and seas

The European Union Blue Med initiative and its Strategic Research and Innovation Agenda (SRIA) highlighted the importance of "Sustainable tourism and cultural heritage in the Mediterranean" recalling the concept of maritime heritage as a potential objective of the EU research and beyond. Starting from this point, this paper investigates the nexus among cultural heritage, tourism and seas in European and Euro-Mediterranean policies as geographical 'objects' through a plurality of approaches. The Mediterranean sea can be considered one of the most relevant areas of the world where maritime cultural heritage has been developed, thanks to the historic deepness and varieties of cultures and its relationship with the sea. Moreover, it is a significant tourism system. In the latest decade, a lot of European and other Mediterranean funding programmes (i.e. Union for the Mediterranean, European Fisheries and Maritime Funds, Cohesion funds and the INTERREG programmes, Westmed, Bluemed, Eusair, Council of Europe and its European cultural itineraries, European Neighboring Instruments, etc.) funded a large number of projects. These have been developed and carried out recalling cultural heritage and, more specifically, maritime heritage. However, the analysis of these highlights the need to find convergences and points of contact between projects, policies and strategies in order to ensure that maritime heritage can be a tourism value and to avoid jeopardization.

maritime heritage; Mediterranean sea; policies; tourism; cultural heritage

Giovanni Modaffari
University of Milano-Bicocca

Artificial reefs in the Mediterranean. Towards a future as a sustainable tourist destination?

After WWII, first in US, Russia, Canada and then in Europe, several artificial reefs were built aimed at increasing the fish population and protecting the seabed. The reefs were often made with wrecks and scrap metal from the automobile industry, such as tyres, car bodies, and decommissioned streetcars. Some of the most notable examples were put in place in California (1958, 1960), in France (1968-1969, 1971) and in Italy (1970s), but with controversial results. Many of them disintegrated due to the movement of the waves, while others are still in place: for others still, very delicate dismantling operations are being pondered over. Nonetheless, at the time, many of

these initiatives, were characterized, at least on paper, by a spirit of attention to the sea and a wish to protect it. In the first part of this contribution, we give an account of these historical examples, as well as the motivations and dynamics at their base. In the second part, we consider the development of artificial reefing up to the most recent examples in which old subway cars were still being used, constituting underwater seascapes which are particularly attractive to photographers and film-makers. At the end, some conclusions are drawn as to the historical significance of artificial reefs as regards what they tell us about the relationship between human beings and the environment, and also about their potential use as future sustainable tourist destinations.

Artificial reefs; Mediterranean; Environmental discourse; Sustainable Tourism; Submerged maritime heritage

Yolanda Youngs
California State University

Maritime Heritage, Regenerative Tourism, and UNESCO World Heritage Sites: A Case Study of Historical Boating Cultures and Climate Resiliency in Venice, Italy

Maritime heritage is a key element to cultural heritage, a driver of sustainable development in the Mediterranean Sea, and a potential pathway for innovative approaches to regenerative tourism and adaptive strategies for climate resilience in UNESCO World Heritage Sites (WHS). Building on scholarship from geography, environmental science, tourism, hazards and risk studies, ecology, and cultural heritage, this paper explores new interdisciplinary and transdisciplinary ways to conceptualize and enact sustainable futures for coastal cities and WHS facing climate change. Focusing on the World Heritage Site of Venice, Italy and its lagoon and previous studies in U.S. National Park Service locations, I suggest that historical boating cultures (HBC) offer powerful forms of regenerative tourism for maritime communities facing the challenges of sea level rise, overtourism, and threats to cultural heritage preservation. Historical boating cultures can be a conduit for an authentic tourism experience whereby locals share aspects of their immaterial maritime heritage with visitors in ways that are personal, social, and place-based. HBC can encompass intangible heritage such as oral boating traditions, dialects, navigation routes, and traditional boat building techniques or cultural landscapes of boat houses and ship building sites. Empowering and encouraging locals to share their HBC in meaningful ways offers an alternative, cross-cultural ballast to overtourism. It can enlist visitors as enduring climate stewards and energize climate action in protecting the maritime heritage. HBC tourism is low impact on the environment. In Venice, non-motorized boating such as rowing kayaks or traditional Venetian craft of *Batela conda de gamero* leaves no wake to damage fragile historic structures along the canals or the lagoon ecosystem. This paper will present a preliminary case study of Venice and offer suggestions that can be generalized to other locations and regions.

maritime cultural heritage; UNESCO World Heritage Sites; regenerative tourism; historical boating cultures; climate change and social resilience

13

Maritime geopolitics

Chair

Virginie Mamadouh
University of Amsterdam, The Netherlands

13

Edward Boyle
International Research Center for Japanese Studies

Fixed yet Fluid: the ocean and Japan

This paper examines the turbulent waters of Northeast Asia that surround and constitute Japan in order to review the liquidity that pervades ideas of Japan's national body. The state's current map of maritime space reflects both future insecurities and past entanglements, and indicates that liquids cannot easily hold their shape, while bodies constitute potentially "leaky bags of water, constantly sloughing off pieces of themselves" (Thrift 2006).

Postwar perceptions of Japan as a small island nation able to be detached from its Asian neighbors and effortlessly incorporated into the ranks of capitalist Western democracies relied on an oceanic presence, one that spatially and temporally demarcated Japan off from the concerns and conditions of the continent.

Today, however, an ability to map the sea into Japan is considered central to the nation's sustainability and future security. Through the normative assertion of UNCLOS in the region, Japan's possession of comparatively small islands is now represented as expanding its "territory sixfold" through what comes with their being mapped into the state. The decision in early 2017 to single out 71 of these islands as "inhabited border territories", able to avail themselves of special support because "letting islands become uninhabited is bad for national security", shows how national territorial concerns refracted through small scraps of land with vast maritime hinterlands constitute the space of the state today.

The focus of this paper is on how the sea is constituted and represented as marking both the edge of the state and the essential component of it, a fluid vector at once part of and demarcating state and nation under conditions of liquid modernity. The paper will trace out the effects and implications that these obviously obverse ontologies have on ideas and understandings of Japan, its place in the world, and the liquid cosmography that results.

Japan; security; cartography; cosmography; Bauman

Elena dell'Agnese
Università di Milano-Bicocca

Energies: lascars, "human salamanders", and non-human animals as hidden actors of steamboats geopolitics

"Steamboats were to nineteenth-century empire-builders what caravels had been to the conquistadores" (Jasanoff 2013). So, in the maritime geopolitics of steamships, "the" fundamental energy source is usually considered coal. However, it was not the only one. Here, I want to highlight the importance of other (human and non-human) energies in the same scenario, how these energies were extracted with highly coercive dynamics, and how these dynamics were grounded on a hierarchical view both of human relations and of relation between humans and non-human animals.

steamboats geopolitics; coal geopolitics; lascars; non-human animals

Piguet Etienne
Università di Milano-Bicocca

New Atlantis redux? The threat of sea-level rise for island nations

Alarmist publications have forecast that numerous Nation-States will be put under threat of disappearing by rising sea levels related to global warming. Such a situation would imply a form of statelessness never before experienced in history. In this paper we examine the available literature on that topic, clarify confusing concepts, and present basic geographic data allowing us to estimate the accuracy of the danger. We then enumerate possible policy paths to face climatic statelessness from very pragmatic dykes such as the one erected around the Maldives to sci-fi solution such as the replication of the State in the metaverse recently announced by Tuvalu.

Sea level rise; Island Nations; Statelessness

Fabrizio Eva
Independent scholar

The presumption of bordering the water: from the big mistake of the 1982 UNCLOS-EEZ to the disputed islands in the Asian seas

Despite attempts to precisely define the criteria for the claim of sovereignty in the UN Convention on the Law of the Sea (UNCLOS) of 1982, the international geopolitical practice of the states, both on land and on the sea, is largely based on the "law of the strongest" as well as the unilateral acts of force.

The underlying problem is that at the level of international relations, everywhere, the mental and conceptual ideas of sovereignty, of the territorial integrity, "cages" the minds and the policies of the decision makers orienting, sometimes pushing them toward dynamics of conflict and of demonstrations of force instead of seeking concrete and not conflicting practical solutions. This is always possible, as long as you know how to distinguish between form and substance, hubris and benefits.

A possible "psychological" explanation is that the presence of fixed physical elements (islands and anything similar) in the sea waters arouses ancestral possession impulse fostered by a few thousand years of wars of con-

quest of "lands" and fostered by a contemporary diplomacy, based on treaties but, as for that of Montego Bay in 1982, which did the mistake (for the not perceived side effects) to "invent" the marine Exclusive Economic Zones up to 200 nautical miles from the coast. Unfortunately, the GPS technology, with its locating precision, supports this destructive attitude of thinking that marine boundaries can be "fixed" as the terrestrial ones with barbed wires and walls. A reversal of this conceptual approach is required: only the transfer of the geographical flexibility of the oceans to the land can support, as iconography, sharing policies, and cooperation in the exploitation of marine and terrestrial resources.

This presentation attempts to underline why the cooperative approach could be applied to the disputed islands within the South Chinese Sea and the Senkaku/Diaoyu Islands.

territorial integrity; sovereignty; EEZ; cooperation; acts of force

Julien Gautier
Université d'Orléans

La frontière limnique, une limite aqueuse écosystémique

Cette présentation a pour but d'apporter un regard épistémologique sur la frontière lacustre. D'une frontière définie sur le papier, d'une ligne sur une carte, l'objectif est de montrer l'évolution des études frontalières sur la frontière lacustre. L'objectif de cette historiographie amènera à penser ses limites pour intégrer une approche héritée de la pensée limnologique. La vision d'une frontière en plusieurs dimensions permet une meilleure prise en compte de la réalité écologique des lacs, l'intégrant dans une réflexion limnosystémique (TOUCHART & BARTOUT, 2018) avec l'exemple des services écosystémiques lacustres ; BAULAZ, 2020). Son caractère aqueux, point commun avec les frontières maritimes, permet de questionner la manière de présenter cette limite, de la légitimer et d'étudier son appropriation et les représentations des sociétés riveraines. La définition du nouveau concept de frontière limnique (GAUTIER, 2022), à travers d'exemples de grands lacs (Léman, lac Peïpous), permettra de définir des critères de réflexion pour repenser les frontières de milieux fortement liés à la nature. Le choix des grands lacs pourra permettre aussi un angle de comparaison face à la limite maritime, pour illustrer leurs points communs et leurs limites, parfois difficilement différenciable (SCHROËTER, 1992).

frontière limnique; lac; limnosystème; territoire limnique; border studies

Ioannis Georgikopoulos
UMR 8504 Géographie-Cités

From Mahan to Stavridis: The Relevance of Maritime Geopolitics

Since the 19th century, maritime geopolitics have gained significant visibility and traction among operational and strategic thinkers. Over the years, the influence of sea power and its resilient nature have been analysed under multiple perspectives. From the American standpoint, although considering different contexts, values, and possibilities, A.T. Mahan and I. Bowman stressed the importance of maritime geopolitics in times of war and peace. The causal connection between these approaches and the British perspective, proposed by H. Mackinder's Heartland theory, characterized Western sea powers' external geopolitics for decades. On the other hand, K. Haushofer tried to create an analytical framework which would outweigh the dangers and risks associated with geopolitical antagonisms between well-organized naval powers and continental systems. After the end of the Second World War, J. Gottmann's advanced and sophisticated theoretical framework made a new contribution to political geography and maritime geopolitics. By explaining the interdependence between iconography (symbolic representations) and circulation, Gottmann analysed the extremely complex process of geographical space partitioning and, as a result, the importance of maritime networks in the new globalized context. Recently, Adm.

J. Stavridis established a new connection between sea power and world power by arguing that seas and oceans have always shaped international relations and they continue to play a crucial role in contemporary geopolitics at various scales. By presenting different conceptualizations, this paper examines the relevance of maritime geopolitics in understanding today's multi-polar world.

Sea Power; Maritime Geopolitics; Political Geography

Elizabeth Havice
University of North Carolina Chapel Hill

The geopolitical economy of foreign fisheries access arrangements

Extraction of fish by marine industrial fishing fleets is an important human use of ocean resources, and one that continues to intensify, particularly in tropical waters. A key element of industrial fishing is the activity of foreign industrial distant water fleets (often flagged to higher-income state) within the exclusive economic zones of (often lower-income) coastal states. Foreign fishing access arrangements are the legal and political mechanism that facilitates resource access across national boundaries in the sector. More broadly, they play an important (and perhaps intensifying) role in geopolitical, geoeconomic relations in the oceans as countries aim to expand their influence via oceanic presence and activities. Furthermore, access arrangements mediate equity aspirations and ecological outcomes of human uses of fisheries resources. This piece builds from work our team has undertaken over several years, and most recently as part of a multi-stage UNFAO project on access arrangements, to develop a framework for exploring the geopolitical economy of industrial marine fishing access arrangements. The framework attends to geopolitical economy and geographic questions about power and influence in the oceans more broadly by recognizing the constellation of states and firms that make up the world economy, and that their 'interests' are contingent, context-specific, and reflect a combination of economic, ecological, legal, and geopolitical forces. In the talk, I will review this framework and provide a 'snapshot' of current state of industrial fisheries access arrangements to illustrate the utility of the geopolitical economy approach. Conclusions highlight key findings and reflect on their implications for understanding of transboundary fisheries access relations specifically, and maritime geopolitics more broadly.

industrial fisheries; geopolitics; access arrangements; geoeconomics, environment

Tamás László Péter
University of Pécs

The general geopolitical context of Bosnia and Herzegovina and the Pelješac Bridge

The Pelješac Bridge, which opened in July 2022, is the new gem of Croatia. The construction was a nationwide Croatian project to unite the southern regions and Dubrovnik with the "motherland" after 300 years. The new bridge is more than just a bridge, as the above sentence shows the Croatian sentiment. The patriotism was already present in the choice of the bridge's name, with many patriotic name variations (e.g. Libertas, Most Domovine, Most hrvatske cjelovitosti) being suggested, but in the end the infrastructure was simply named after the Pelješac peninsula.

What is a joy for Croatia is a headache for Bosnia. After opening the bridge, the transit traffic decreased drastically which caused financial troubles primarily for catering and hotel businesses. It was the direct economic impact of the bridge, but the underlying political and geopolitical processes are much more significant. The bridge crosses the Bosnian sea

corridor and it is a potential danger for the future traffic development opportunities of the Neum's marine port. Therefore, and also because the Bosnian side was completely excluded from the planning and preparation processes, the central government in Sarajevo opposed the project from the beginning. The dispute between the Bosnian and Croatian states almost escalated to an international court, but the parties were able to reach an agreement. The bridge also had (or still has) a crucial role in Bosnian domestic politics. The internal negotiations with the state presidents brought out the constitutional veto, ethno-political principles and the usual threats. The bridge was built with EU funding and a Chinese contractor. This is an unusual combination in the region.

This presentation will focus on the political environment of the The Pelješac Bridge: the geopolitical discussion between the two involved states (Croatia, Bosnia-Herzegovina), and the internal ethno-political attitude of the nations in Bosnia.

geopolitics; infrastructure; sea corridor; Bosnia; Pelješac Bridge

Virginie Mamadouh
University of Amsterdam

European integration and the seven seas: Variegated maritime geopolitical visions for the European Union

The European Union has evolved into a sui generis multiscalar governance arrangement governing the northwestern peninsula of the larger landmass known as Eurasia. Despite the peninsular characteristic of its territory, the naval history of many of its member states and their territories overseas, the maritime dimension of European integration has long been overlooked. Over the past decade the awareness that all sea-based activities are interconnected raised and landmark policy documents have been adopted, such as the European Union Maritime Security Strategy, (EUMSS) the Integrated Maritime Policy (IMP) and The Blue Book.

ocean governance; maritime security; critical geopolitics; European Union; overseas territories

Matteo Marconi
Sapienza

Francesco Zampieri
Istituto di studi militari marittimi

The renewed centrality of the inland seas: towards a 'hybrid' geopolitical paradigm

In public debate, concepts are often used, and issues have been discussed that need to be in keeping with the geopolitical and geo-strategic realities that have been emerging for several decades.

For the most part, contemporary public debate is still dominated by the concepts that have been established in modern Europe since the 16th Century: international politics and war are only made by states; civil activities are separated from military ones; the space of war is separated from the area of peace; politics is about land, as opposed to the freedom of the seas. These are enduringly successful concepts, accompanied by consequent geopolitical practices, such as the superiority of oceans over inland seas. They seem very distant reasoning orders, but Carl Schmitt's reflection has taught us to hold them together. European modernity is marked by the separation of land and sea and the rise of oceanic 'thalassocratic' powers. The inland seas became subsidiary.

However, contemporary reality is progressively changing these old interpretations, redefining the classical for-

ms of separateness between land and sea. The appearance of new actors capable of 'playing a role' in maritime spaces is leading to the 'hybridisation' of elements of land sovereignty with aspects of freedom of the seas. In the neglected inland seas, these transformations appear most evident and, above all, most impactful, making them less and less subject to the high seas, the typical environment of oceanic powers.

Thinkers such as Giuseppe Fioravanzo, known only among maritime strategy experts, have demonstrated the operational obsolescence of the contrast between land and sea in favour of the renewed centrality of the inland seas.

The purpose of the presentation will be to reflect in geopolitical and geostrategic terms on the consequences of the crisis of the land/sea opposition. We will show the increased importance of the inland seas to the detriment of the oceanic dimension.

Maritime geopolitics; Carl Schmitt; Domenico Fioravanzo; Hybrid power; Inland Sea

Claudio Melli

University of Milano-Bicocca

Between Land and Sea: Reclaiming Maldivian Island

The Republic of the Maldives is a state whose territorial extent is unknown. Not because it is characterized by a primary settlement frontier or because it is engaged in a war of conquest (things no longer contemplated by the contemporary system of international relations), but because it is engaged in a spectacular struggle against the sea. Indicated by many as one of the states most at risk of 'disappearing' due to rising sea levels and climate change, the Republic of the Maldives has embarked on a territorial strategy leading to the opposite direction: territorial expansion through land reclamation. To this end, they are not just building artificial islands to alleviate the demographic density of the most crowded islands, as has been the case with the creation of Hulhumalé, an ambitious urban development project near the capital-island, Malé, or to consolidating the territory of the islands most severely affected by the 2004 tsunami (such as Meedhoo); they have launched a national program, in which each inhabited island can receive government funding to expand its territory through land reclamation. The plan undoubtedly has positive aspects from the point of view of human settlement, as enlarging the islands means not only defending them from rising sea levels but also enabling the construction of services for the population (sports fields, landing and take-off runways for small planes, port infrastructure) or new residential settlements; it also certainly has dark sides from an environmental point of view, as it entails the removal of large quantities of sand from the seabed and the alteration of the coral reefs that accompany the islands. After a presentation of the situation at the national level, the paper will focus on the case study of Magoodhoo Island. Regarding methodology, participant observation was done with different stakeholders on the territory. Data were also collected through visual research and a fieldwork during different stages of the process.

land reclamation; maldivian archipelago; territorial expansion; small island adaptivity; sealevel rise

Alex Midlen

University of Oxford

From piracy to development in the Western Indian Ocean: securing a blue economy space

In this paper I argue that a new maritime order is emerging – the blue economy – characterised by a plethora of non-traditional security threats. Using the case of the Western Indian Ocean I demonstrate how the creation of spaces of risk in response to traditional security threats by world powers has led to a new, regionally-led

governance regime in response to the new maritime order. International efforts to protect shipping lanes from the threat of piracy off the coast of Somalia have evolved into wider security measures. I analyse these changes through the lens of governmentality and argue that this case represents an example of a global collaborative governmentality in which states are responsabilised to act by the international community through discourses of risk. Regional States have turned this to their advantage, acting together to construct and secure a new development frontier. I draw parallels with Foucault's notions of securitisation through surveillance in how States, small regional maritime powers, have collaborated to create a shared blue economy space in an extensive and difficult-to-govern territory.

maritime security; blue economy; governmentality; spaces of risk; panoptic surveillance

Konstantinos Petrakos
National Technical University of Athens

Acceleration of geopolitical tensions in eastern Mediterranean: When and how hydrocarbon extraction imaginary meets green deal. Insights from Greece

This paper examines the emerging geopolitical realities in the Southeastern Mediterranean, specifically in relation to the extraction of hydrocarbons and the development of 'green' energy infrastructures. The study investigates how the prospect of hydrocarbon extraction in the region has become a source of geopolitical antagonism, and how international and European policies around 'blue growth' have contributed to this arena of exploitation and competition.

In the rush to promote blue growth, the focus of many national policies is often limited to accommodating as many uses within the marine space as possible. Wind energy, maritime energy infrastructures, oil and gas extraction and deep-sea mining of rare minerals used for renewable energy technologies (Brent et al., 2020) have been perceived as the new frontier of sea exploitation. In this framework, states are viewing blue growth as a means to solve conflicts between competing ocean industries, while at the same time coastal and marine spatial planning is relegating to acts of arbitration in order to balance the competing interests of the big industrial players. As a result, a blue growth agenda is rising which transforms marine resources into drivers of energy expansion able "to satisfy our insatiable appetites" (Agardy, 2020).

Based on the latter, the study explores the impact of intensive and extensive exploitation of natural resources on marine ecosystems as well as the implications of the European Green Deal on the increasing usurpation of coastal and marine space. Using Greece as a case study, this paper aims to illustrate these issues and question the technomanagerial governance solutions that are promoting to address socio-environmental concerns.

An initial exploration into these observations in Greece reveals that Greek governments boost policies that prioritize every unsustainable activity including oil and gas extraction in Ionian Sea and in south-west of Crete and generation of offshore wind energy.

Hydrocarbon extraction; "Green" energy infrastructures; Blue growth; Marine spatial planning; Greece

Peter Rees
Goldsmiths College, University of London

Antje Scharenberg
University of St. Gallen

The Sea in Sea Rescue: Conceptualising Solidarity with Maritime Migrants

This paper analyses the challenges and opportunities that the techno-material and socio-legal specificity of the sea presents to solidarity action with maritime migrants.

Theoretically, the article proposes a novel conceptualisation of solidarity at sea by bringing together two sets of literature: migration and ocean studies. We propose that migration studies' critique of methodological nationalism (Anderson, 2021) and focus on mobility (Scheel and Tazzioli, 2022) can be fruitfully combined with the challenge that ocean studies puts towards modernity's "terracentric normative ideal" (Brown and Peters, 2019, p.1). Consequently, the article asks what happens when you detach solidarity from the "national order of things" and conceptualise it, instead, starting from the sea's "more-than-wet ontology" (Peters and Steinberg, 2019) - a context that is essentially in motion.

Empirically, the article draws on original ethnographic and archival research conducted with civil sea-rescue and migrant solidarity actors in two European seas: the English Channel and the Mediterranean Sea. Drawing on these empirical case studies, we demonstrate that the sea presents migrant solidarity action with both techno-material (such as its vastness and constant movement) and socio-legal (such as maritime zones and port state control) challenges. At the same time, the paper argues, the sea's specific qualities also open up opportunities for conceptualising solidarity practices that are not tied to conventional, nation-based notions of borders, citizenship and territory.

Borders; migration; sea rescue; solidarity; oceans

Paolo Sellari
Università Sapienza

Vallega and the transition from "transport geography" to "transport geopolitics"

Adalberto Vallega was IGU President from 2004 to 2006. He introduced into the Italian geographical school, innovative methods of investigation in the transportation geography, starting from the relationship between hinterland, coastal area and oceanic spaces. All three of these elements are constitutive of a spatial configuration underlying geopolitical dynamics that are realized in the relationship between oceanic horizon and land horizon: for example, taking as a reference system the stages of development of maritime transport, of the identification of "dominant oceans" and "geopolitical choke points" in different historical periods, of ports as geopolitical actors, especially in the recent trans-industrial stage on which economic globalization is grafted, of the port hinterland as a highly differentiated spatial element. Precisely for these reasons, it seems appropriate to reflect on Vallega's thought about sea and its different components, which in later years allowed geopolitical approaches to a field of geography, that of transport, which until then had been predominantly economic.

Maritime transports; geopolitics; hinterland

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Modern community-based approaches for water conflict mitigation

Chairs

Giovanna Giulia Zavettieri
Università degli Studi di Roma "Tor Vergata", Italy

Monica Morazzoni
Iulm University of Milan

14

Thomas Andersson
President, Water & Humanity

Forestation and wetlands development in the Middle East. Spatial data analysis in support of sustainability

The current lack of adequate policies as well as market responses in support of sustainable land and resource use with a bearing on the food, water and energy nexus, contributes to the combined systemic crisis we associate with climate change, biodiversity losses, disturbed water cycles, and threatened food security. A shift towards combined policy and market responses requires improved practices for measuring and making use of robust data linking investment and resource use to key impact measures. This presentation addresses the conditions pertaining to forestation and wetlands development in the Middle East, outlining ways for improved spatial data collection and analysis to help strengthen investment behaviours in support of sustainability, also in line with the progress made across COP27.

Policies; Sustainability; Water; Middle East; Spatial data analysis

Matteo Francesco Di Napoli
Iulm University of Milan

Monica Morazzoni
Iulm University of Milan

The Sea Looks At The Mountain: Concerns, Discordances And New Hopes In Alpine Contexts

This research highlights the importance of the relationship between snow cover, glacier health, water resources availability and local economies in the Alpine region. Snow has the strategic task of protecting glaciers, feeding freshwater reserves, regulating sea level and supporting local economies centered on winter sports. However, snowfall is decreasing and snow is melting faster due to global warming (Rumpf et alii, 2022). As a matter of

fact, the sensitivity of the Alps to climate change has been acknowledged by the Alpine Convention in 2006. Therefore, planning future risk management strategies is indispensable for the Alpine economy, which currently still invests in the expansion of ski facilities.

snow; Alps; Engadin; policies

Andrea Gallo
University of Trieste

The problem of water accessibility in the insular context of the Pacific Ocean - The case of Tuvalu and Kiribati

This contribution proposes to analyze the problem of the water accessibility for the Pacific Island Counties. For this aim, a careful analysis of the geographical, social, and economic context of the 14 countries that make-up the Pacific Island Counties (PICs) has been provided: with over 6000 islands spread over an area of more than 25 million km² with a land area of fewer than 0.5 million km² in the Pacific Ocean, this territories represent an extremely rough and vulnerable environment, not only because of the effects of climate change which is leading to sea level rise, but also for what concern the accessibility to the clean water. The problem of the availability of drinking water is an extremely central challenge to be addressed in terms of water scarcity, but also to improve the efficiency of infrastructure and distribution network and the vulnerability of the water system to unexpected weather events (for example, flooding, or contamination of water reserves caused by rising tidal levels). The challenge of the water scarcity and related to the water accessibility in the context of the Pacific Island Counties will be pursue using an integrated approach, taking into account the policies adopted by the different governments, the economic conditions, the analysis of land use, the demographic situation, and a survey of existing infrastructure. Once defined in the framework of the analysis, we will then focus in detail the strategies and policies of water management adopted for the states of Tuvalu and Kiribati. This case study will allow us to further highlight the main critical issues related to the water shortage for the islands of the Pacific Ocean.

Water Management; Water Scarcity; Pacific Ocean Counties (PICs); Water Accessibility

Dino Gavinelli
Università degli Studi di Milano

Giovanni Baiocchi
Università degli Studi di Milano

The cross-border Ticino River catchment basin: cooperations, mediations and conflicts between Italy and Switzerland

With a surface area of 6.599 square kilometres, the catchment basin of the Ticino River and its tributaries is politically almost equally distributed between Switzerland (3.379 km²) and Italy (3.299 km²). The international border between the two republics not only divides the basin itself between the two states, but also intersects the path of many watercourses and some lakes (Lake Maggiore and Lake Lugano), dividing them into two portions, one Swiss (administratively falling within the cantons of Valais, Ticino, and Grisons) and the other Italian (administratively falling within the regions of Piedmont and Lombardy). The cross-border dimension of the Tici-

no catchment basin consolidated several habitual principles between the two political communities (territorial damage prevention, fair and reasonable use of shared waters, pollution control, cooperation in case of natural events), but it also led to a number of international treaties, also signed by Italy and Switzerland, as well as to the signing of some more specific bilateral Italian-Swiss agreements. These latter will serve as the starting point for this contribution, mainly focusing on a geographical analysis of the Ticino basin. To this end, a reading on a regional scale will be adopted to investigate alternatively the conflicts, the mediations or the political and economic cooperation implemented in the space across the two states as well as the main impacts on the environment, on the territory and on the landscape of the areas involved.

Ticino River catchment basin; cross-border cooperation and conflict; territorial water administration; Italian-Swiss border; Lake Maggiore

Majid Labbaf Khaneiki
University of Nizwa

Abdullah Saif Al-Ghafri
University of Nizwa

The hydro-sociology of falaj

Falaj is a gently sloping subterranean or open channel that drains out groundwater or valley runoffs, and transfers it to the farmlands. This system has proved to be the most crucial water source across northern Oman over the past millennia. What marks f. out as a precious heritage is not only its role in sustainably supplying water, but also its contribution to the cultural and social fabric of Oman. In Arabic, f. means "to split into shares". The name is expressive of an accurate water division system that played a pivotal role in configuring a socio-economic structure. In other words, f. and water management go hand in hand.

This article attempts to shed light on some important topics such as social justice and water cooperation, which are mostly anchored in f. system and its management in Omani society. Local people have always had to solve the dilemma of social justice in the face of the unequal distribution of water shares on the f. irrigation cycle (dawrān). Therefore, the socio-economic foundation of waqf (endowment) evolved into an effective intricate mechanism that facilitated the redistribution of wealth and mitigated the class struggle in the f. holding communities.

In Oman, environmental conditions put restrictions on available water resources, such that an elaborate water division system is developed as a collective solution to water scarcity. The water division system motivates and sustains cooperation at two different levels: within local communities and between them. More cooperation paves the way for a more cohesive society that proves more adaptable to such a harsh environment. This paper also tries to answer how f. system has managed to defuse the diverging force of tribalism, when it comes to inter-territorial cooperation. The paper portrays f. as a socio-economic system that underlies a high level of consensus and convergence, which is manifest in every aspect of social life in Oman's f. communities.

Falaj; hydro-sociology; heritage

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*Names and naming of oceans and seas as
a specific and politically delicate issue*

Chairs

Cosimo Palagiano
Sapienza University of Rome, Italy

Peter Jordan
Austrian Academy of Sciences, Austria
University of the Free State, South Africa

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Sungjae Choo
Kyung Hee University

Names of seas and oceans as a container of identity and perception: Issues and prospects

As those of land features, names of seas and oceans reflect people's perception and feeling on water bodies and thus represent culture and history of the society that faces them, either in short or long distances. Littoral states or linguistic groups have devised their own ways of naming seas and oceans; but after their names were settled, they began to accumulate lots of identities and memories in those names. All those names deserve respecting as endonyms. In order to secure the names, water bodies are sometimes separated into smaller ones. Dual or multiple naming is also proposed to retain identities or perceptions that each name has maintained. However, the basic nature of maritime names, which are normally given to features beyond a single sovereignty, has invoked political controversies between countries concerned. This paper presents how those issues have been unfolded with the case of the names of the sea between Korea and Japan, the East Sea/Sea of Japan. It specifically focuses on how the discourses for dual naming have developed.

maritime names; endonym; East Sea; Sea of Japan; dual naming

Wenchuan Huang
National Dong Hwa University

Naming policy and Practice on the Land reclamations of Hong Kong Island

According to the topography of Hong Kong Island is mountainous and slopes from the north to the south, only a very small area of flat land is available for development. In order to accommodate the growing population and develop as an entrepot trade center of the Asia-Pacific region, land reclamation was most useful for solving the problem of land shortage in the city's core district. In carrying out reclamation projects, one has to balance the society's needs, its political and economic development, and the interests of various parties. Who were these land reclamation blocks from? In what way were these developed? How are these reclaimed land blocks develo-

ped? Whether different developers use the operation of naming to construct the desired linguistic landscape? This research seeks to advance the critical toponymical study through the history and spatial changes of Hong Kong's Land reclamations to explore the naming operations with different regions, and further discusses about business, national governance and the local viewpoint before and after 1997.

Naming policy; Land reclamation; critical toponymy; national governance; Hong Kong Island

Peter Jordan
University of the Free State

Is the endonym/exonym divide applicable on oceans and seas?

This paper deals with the question, how the concepts endonym and exonym can be applied to oceans and seas, when endonym is conceived as the name used and accepted by the local community and exonym as the name not used by the local, but by external communities and differing from the endonym. Is there a 'local community' related to oceans and seas? Aren't oceans and seas external to all communities, even to coastal dwellers? Or do coastal dwellers have a special relation to 'their sea', at least to this part of the sea, which they see day by day, which is also a resource, a traffic and recreation area for them? The paper discusses three views in this respect on the status of sea names. The first to discuss is Naftali KADMON's that the term endonym can be applied to coastal waters, but that there is a need for an additional term besides endonym and exonym for international waters, where the term endonym would not apply and also the term exonym would not be applicable because it lacks its counterpart. The paper then refers to Paul WOODMAN's view that a name cannot change its terminological status from endonym to exonym, which means that all names in languages well-established in the riparian countries of a sea are endonyms all over the feature. Names in other languages have according to him the status of exonyms, since there is everywhere the counterpart of an endonym, even in international waters. The paper ends with a synthesis of these views postulating that the term exonym, the name used by external communities, does not require the counterpart of an endonym and can – besides endonym – very well be applied to maritime features. The paper highlights in this way the close correspondence between the endonym/exonym divide and the dichotomy of 'ours' and 'theirs' as well as human territoriality, which may comprise the coastal waters of a sea, and the case of oceans and seas seems to be the ultimate test for the validity and importance of this conceptual divide.

endonyms; exonyms; toponyms; maritime features

Joseph Stoltman
Western Michigan University

Education and media: using alternative geographical names for spaces and features

During the first two decades of the 21st century the rules of nomenclature for scientific subjects have been applied, adjusted, revisited, and revised. Geography has been part of those activities as the names of geographical places and features have been the subject of discussions and negotiations that proposed and sometimes resulted in changes in toponyms. Alternative and dual-naming for current, formally recognized geographical names on maps in both print and electronic formats has sometimes resulted in an impasse among the countries involved. If a proposed or deviated name is to move forward in geographical science without formal approval, then other options are needed. Education and media are two means in which the formal naming process has been bypassed. Within education and media, new toponyms may be used to designate geographical places or featu-

res based on social and economic influences. In doing so, they are reflective of the changing balance between traditional and 21st century means to recognize the importance of toponyms that address such issues. Education and media are powerful social change agencies and their influences may supersede traditional processes of nomenclature in determining the ways in which geographical names deviate and gain wide acceptance.

Geographical names; geography education; media

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The new geography and planning of port regionalization. Exploring the multiple scales, actors, and projects of port cities change

Chairs

Mark Wilson
Michigan State University, USA

Simonetta Armondi
Politecnico di Milano

Stefano Di Vita
Politecnico di Milano

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Giuseppe Borruso
University of Trieste

Marco Mazzarino
IUAV University

Marinas, Tourist Ports and Inner Areas. A conceptual framework for local development policies

The proposed research is focused on the consideration of the marinas and tourist port areas as important areas of local coastal development, as well as access points for inner areas, through the development of multi-mode transport corridors. Marinas and tourist ports represent important nodes in tourism development, acting as elements of important litoralisation. Recently, an important role is being assigned to such structures, particularly in terms of promoting the quest towards sustainability of tourism, including energy saving, green energy production and fostering local development.

The idea hereby presented is that of coupling the concept of transport corridor development, as originally studied by Taaffe, Morrill, and Gould (1963) to explain the process of development in Western African countries, to the recent issues of two-fold development of marine, coastal areas on one side, and inner areas on the other side. Several regions, in fact, are characterized by the presence of economically developed coastal areas, as well as inner areas with difficulties in sustaining economic performances and tackling demographic decrease and depopulation. In such sense, the idea is that of examining the potentiality of a set of test areas of representing access point for inner areas, in that paving the way for developing ad hoc policies of local development, aimed at linking coastal and inner areas in a common framework of sustainable development.

Marinas; Tourist Ports; Inner Areas; corridor development model; Sustainable Development

Andrea Gallo
University of Trieste

Sustainable development and green ports - The case of the Croatian Marinas

The proposal presented aims to deepen the sustainable development of tourist marinas in Croatia, examining the implementation of intelligent technologies and their effects on various aspects of tourist marinas operations such as service quality, environmental impact mitigation, energy consumption, and operational efficiency. The technological and infrastructural development we are witnessing concerning Croatia's marinas finds its methodological foundation in the concept of green ports: the study proposes as its goal the evaluation of different practices related to the efficiency and sustainability of port areas, such as non-invasive port spatial design and planning for the environment and ecosystem, the energy transition aimed at optimizing the production of electricity from renewable sources, the reduction of pollution emissions in the harbor through the electrification of docks and quays with the cold ironing, the integrated waste management, and the use of digital technologies (ICT) related to the tracking of boats in harbor (with the AIS, automatic information systems) and the digital services offered by tourist marinas. This research wants to highlight the importance of an integrated approach to the development of nautical tourism ports and the principles of sustainable development to fully exploit the potential of nautical tourism in Croatia and improve this represents an important territorial development driver of the coastal and insular areas of the Croatian context, generating an economically significant spin-off. The proposal presented aims to provide an overview of the current application of sustainability principles and the concept of "green ports" to Croatian tourist marinas in order to optimize energy efficiency, environmental performance, and economic and attractiveness competitiveness.

Green Ports; Croatian Marinas; Sustainable Development; Nautical Tourism; Seaports

Manuela Gutberlet
University of Johannesburg

Exploring the expansion of mega-cruise tourism development on the Arabian Peninsula

During the 1950s, Italy experienced what was called its "economic miracle". It was a period of accelerated socio Countries on the Arabian Peninsula have been expanding their maritime and aviation infrastructure on a large scale and in a fast pace in the past decades, while also competing with each other. The tourism sector promises to create jobs for the young population and tourism is seen as a tool to diversify the economies. My presentation is based on my long-term research conducted on tourism development on the Arabian Peninsula. The Sultanate of Oman is one of the emerging, smaller cruise destinations. The country receives cruise tourists in winter and in spring. Initially, it's mega-cruise tourism was promoted by the rapid growth of mega-cruise tourism in neighboring United Arab Emirates and in particular in the Emirate of Dubai. In my presentation I will highlight the fast development of mega-cruise tourism from the Global North on the Arabian Peninsula and in particular in the Omani capital Muscat. Cruise tourism has been connecting the countries on the Arabian Peninsula creating modern home ports and smaller ports for stop-over. Oman has been promoted as an Oriental destination.

Cruise tourism, port development, Oriental destination, The Sultanate of Oman, Arabian Peninsula

Tommi Inkinen
University of Turku

A Systematic Outlook to Strategic Management of Sea and Maritime Studies in the University of Turku, Finland

This presentation looks at an interdisciplinary collaboration (network) platform for multidisciplinary research and education. The case concerns large sized Finnish university, namely University of Turku (UTU), located in the main port city of the archipelago in Southwest Finland. The presentation details issues relevant for maritime city place branding through internal unit collaboration and external stakeholder involvement. The initial starting point for the maritime collaboration in UTU derives from the current university level strategy reaching until 2030. Initial goal of the sea and maritime studies thematic collaboration is to establish a collective for research, education, and societal impact of across all disciplines at UTU. There are three main parts under consideration: research (goal 1), education (goal 2), and societal relevance (goal 3). All these three actions are in an interdisciplinary framework including three main scientific fields: nature, economy and culture. The presentation provides a schematic for academic profile development and discusses limitations and management challenges in such endeavors.

Maritime studies; University profiling; Archipelago; Port city; Higher education

Giulio Mellinato
University of Milano Bicocca

Gateways of globalization. Italian port reform and Europe in the 1960s.

During the 1950s, Italy experienced what was called its "economic miracle". It was a period of accelerated socio-economic transformation, and a very effective reconnection with the global economy.

Between 1957-1966, the goods handled in Italian ports jumped from 78,5 to 214 million tons. In 1962, the Italian government decided to set up a Parliamentary commission in order to prepare a comprehensive reform, expected to deal with both the technical and the administrative aspects of the clear inadequacy the Italian port system was demonstrating in the face of such a fast increase in traffic.

The Italian port reform substantially failed, not finding an efficient and effective solution in dealing with the very complex relationship between the slow-evolving land-linked interests and the fast-changing shipping business needs. The port reform was a sort of double verification: on the one hand, the ability to develop an adequate level of governance was tested; on the other hand, the traditional disequilibrium in the balance of power between land operators and shipping companies was confirmed in favor of the firsts. In brief, the opportunity to catch-up with the ongoing maritime globalization was missed, and Italy continued to entrust its maritime connectability to a backward, expensive, unspecialized and geographically dispersed port system, while the rest of the world was going the other way. Being the first country in Europe for port activities (in quantity, at that time) the Italian port backwardness soon became a problem for the entire European Economic Community.

The presentation will describe the context and the main elements of the Italian reform, together with a comparative analysis of similar reforms adopted at the time by other countries, such as France, Germany, and Great Britain.

history; ports; port governance; reform; Italy

Stefano Soriani
Università Ca' Foscari Venezia

Transport networks evolution, port governance and coastal management in the process of port regionalization. The case of Venice seaport-Padua inland port relation

Venice port and industrial area underwent in past decades a dramatic process of restructuring. While the oil and chemical sectors suffered from severe decline, the commercial port has recently increased its role, acting as gateway for North East Italian regions. The commercial port is now an engine of the spatial and economic transformation of Porto Marghera. However, marine accessibility to the port and the difficult cleaning-up of redundant industrial sites still represent important weaknesses; moreover, the expected entering into operation of the MOSE system (that is, the system to defend the city from high tide) is likely to have negative impacts on port activity. At the same time, the Interporto di Padova (Padua interporto), 25 kilometers north of Venice has recently become one of the most important intermodal node of North Italy, thanks to the provision of a wide range of rail services to the most important ports in the Ligurian Sea (for instance, Genoa) and in the Northern Range of Europe (for instance, Rotterdam). The development of the two transport infrastructures has not been the result of coordination or integration policies. This can be regarded as a very important example of how containerization and intermodality, and their impact on the organization of maritime-continental routes can result in divergent dynamics in the evolution of transport nodes at metropolitan and regional scales. Against this background, this paper explores the evolution of the two transport nodes and the importance that the issue of coordination in port and transport nodes planning and governance can play in sustaining, or hampering the process of port regionalization. Moreover, the paper also considers the importance that coastal management, in particular in dealing with expected sea level rise might have in promoting a new synergic relationship between Venice seaport and Padua interporto in future.

Venice port; Padua inland port; governance; coastal management

Xiaohong Zhang
University of Turku

Jing Luo
History Institute of Shanghai Academy of Social Science

Tao Sun
Institute of Chinese Historical Geography

Harbour to City: The Formation of Urban Waterfront in Hongkou, Shanghai, in the early Opening Up

After Shanghai opened its port in 1842, its economy was incorporated into the world economic system, and soon developed rapidly. At the same time, because the urban area of Shanghai was under the management of the Chinese government and the British, French and American municipal councils, there were obvious regional differences in urban area due to the different management systems and residents. The urban space was of a typical colonial type. This paper is based on the "Plan of the Hongkew (Hong Que) or American Settlement at Shanghai 1864-1866", held at the Library of Congress, which is combined with additional data derived from the "Hong List", the "Shanghai Title Deed" and the "Minutes of Shanghai Municipal Council". This paper studies the formation process of urban space of Hongkou District, which was located on the north bank of the Huangpu River in Shanghai, during 1850-1860, which was the early stage of the opening of the port. Because this district

was separated from the British Settlement and the old Chinese City by the Soochow Creek, and in addition, the American Settlement was poorly managed at the early stage of its establishment, so this region only formed a singular port economy on the north bank of the Huangpu River. However, with the incorporation of the American Settlement into the British Settlement in 1863, the Shanghai Municipal Council consolidated the management of this area. It not only built a bridge across the Suzhou River to strengthen its connection with the highly urbanized British Settlement, but also improved the quality of urban space in Hongkou District through administrative intervention to form a diversified economic form. These measures not only changed the urban form of Hongkou area from the early linear distribution along the river to the extended blocks, but also changed the characteristics of the original Chinese traditional single-bank urban form of Shanghai, and evolved into a double-bank city across the Soochow Creek.

Waterfront; Urban space; Hongkou Area; Shanghai; the Early Opening Up

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*Powered by blowing winds, routed by glittering stars,
drifted by unfavourable streams? Being at sea as a tourism
resource in geographical thought*

Chairs

Alberto Forte
Alma Mater Studiorum University of Bologna, Italy

Alessia Mariotti
Alma Mater Studiorum University of Bologna, Italy

Julie Wilson
University Roberta de Catalunya, Spain

18

Alberto Amore
University of Oulu

Alix Varnajot
University of Oulu

Jarkko Saarinen
University of Oulu

Seascapes of liminality: imageries and experiences of the Arctic Ocean in climate changed geographies

Navigation in Polar waters is regarded as the last frontier of travelling at sea. The possibility of being 'out there' while enjoying the comfort of daily lives onboard cruise vessels, represents a liminal zone for those seeking an idealized rite of passage rooted in imaginaries and perceptions of the wild in Polar regions. Grounded in recent developments on post-Arctic tourism, this paper investigates cruise passengers' liminal experiences and interactions with the Arctic Ocean in the context of the Anthropocene.

Cruise tourism in the Arctic benefits from and is affected by climate change. Places and settlements usually inaccessible in the short summer season are now featured in new routes to lure tourists to remote Arctic regions. However, the retreat of the sea ice induced by global warming and the Arctic amplification threaten the already fragile Arctic ecosystem. Arguably, tourists can turn into advocates for nature conservation and less intrusive forms of human-nature interaction after visiting and experiencing the vulnerable Arctic Ocean. Nevertheless, there is no consensus regarding this positive outcome, with research raising ethical concerns and challenges such as voyeurism.

In the Arctic Ocean, the Marginal Ice Zone (MIZ) acts as the very last frontier cruise vessels can reach. Due to complex interactions between the water, the ice, and the air, the MIZ is a rich ecosystem, concentrating the iconic wildlife that is attracting cruise vessels and tourists, but is also highly impacted by anthropogenic processes. To date, research on tourist experience of the Arctic Ocean MIZ in the Anthropocene is limited. In particular, liminal experience of cruise passengers across the MIZ deserve a closer attention to understand how such transcendental experiences are embodied and idealized. The following study proposes a framework to support research on space-time constrained experiences in the Arctic Ocean and their role in reframing travel behavior.

Marginal Ice Zone (MIZ); Liminality; Imagery; Embodied Experience; Anthropocene

Giovanna Di Matteo
Università degli Studi di Padova

Federica Letizia Cavallo
Università Ca' Foscari Venezia

Maritime heritage of Socotra Island: community-based fishing tourism perspectives.

The Socotra Archipelago (Yemen) is universally renowned because of its unique marine and terrestrial biodiversity; nonetheless, the material and immaterial cultural heritage – such as the centuries-old culture of small fishing communities – is not of minor importance. Even though Socotra Island is still hardly accessible to mass tourism, the number of tourists visiting it has been increasing. The main tourist practice being a one-week organised camping tours to visit the main natural attractions of the island, which is now sold as 'ecotourism', but that can be identified as a small-scale nature-based tourism with a strong component of seaside tourism.

Concurrently, fishing tourism is growing on Socotra, attracting amateurs and professionals from all over the world. This contribution aims at investigating if and how community-based fishing tourism could be implemented on the island in order to be a possible source of extra income for fishermen. At the same time, we investigate how it could incentivize sustainable tourism development and the preservation of traditional fishing techniques and equipment (i.e. vessels, fishing nets, lines, and boat shelters).

The research is based on semi-structured interviews to key stakeholders such as representatives of the cooperatives and local administration, leaders of fishing villages, and local and international tour operators. Moreover, observation during two weeks of fieldwork was conducted.

Fishing tourism; community-based tourism; heritage; islands; Socotra

Alberto Forte
University of Bologna

Alessia Mariotti
University of Bologna

The bio-cultural dimension of 'being at' and 'going by' sea in novel forms of yachting tourism

The advent of the UN Decade of Ocean Science has indeed responded to the need of locating the marine environment at the centre of the global agenda for sustainable development. Based on the relational notion that life on land largely depends on the state of being of oceans and seas, the resulting web of ocean-based initiatives seems to be well equipped to foster a socio-economic shift that aspires to tackle what much of the sustainability scholarship describes in terms of incumbent wicked issues of global magnitude. In the face of this catching narrative of urgency for change and action we substantiate the issue concerning a progressive separation of humans from the nature and culture of the sea and contend that this separation may well hinder efforts put in place alongside the Ocean Decade. We therefore investigate the potential of yachting generally, and a novel and promising yachting tourism format in the specific, as an enabler of direct social contact with the materiality of the sea: 'going by sea' and 'being at sea' becomes not only a valuable tourism resource but a tool to spatialise and de-objectify the marine environment whilst offering the opportunity to reunite the open sea with landed life. Selected elements of an exploratory, grounded theory-based research into the human geography of the sea/land continuum in the Adriatic Sea, reveals a variegated narrative of clashing yachting tourism practices and intents. Whilst some perpetrate a consumerist and objectifying culture, others aspire to democratise a deep encounter with the culture and nature of the sea in a unified bio-cultural perspective.

yachting tourism; bio-cultural; Adriatic Sea; Grounded Theory

Lilia Khelifi
Sorbonne Université

The Reappropriations of Surfing in Madagascar and Morocco: An Activity That Conveys Hope for the Young Generations

This doctoral research, which is part of the social and cultural geography movement, studies surfing as a bodily (cultural) practice that circulates and is shaped by a diversity of actors at different scales. A multi-sited study was conducted in several localities in Madagascar and Morocco to understand the modalities of diffusion and reappropriation of a practice that has been transformed either into a sport or a tourist activity. An ethnographic approach was adopted during the fieldwork (one month in 2017 and five weeks in 2022 in Madagascar; one month and six weeks in 2022 in Morocco), combining different forms of observation, semi-structured interviews, conversations, and photographs. The research results revealed a weakness – or even an absence – of public policies in Madagascar, particularly in the coastal areas, as investments are focused on the highlands around the capital city (Antananarivo). Initiatives from individuals are mainly involved in the establishment and development of surfing. Whereas in Morocco, the development of coastal tourism based on nautical activities is strongly encouraged by the government and the king. But these incentives are concentrated in specific regions (Dakhla is an archetype) because the localities surveyed (Safi and Imsouane) are not concerned by this national policy. Indeed, it is mainly informal activities that are set up around surfing (accommodation, schools, restaurants, etc.) and are regularly threatened or even dismantled by the public authorities. Although legal systems exist in Morocco and Madagascar, the study demonstrated that a permissive policy prevails. Informal activities represent significant economic opportunities, especially for young people, and would help to keep them away from potential criminal activities and poverty.

surfing; Madagascar; Morocco; tourism; coastline

Tarja Salmela
The Arctic University of Norway

Britt Kramvig
The Arctic University of Norway

Rhythmic worldmaking with the Norwegian Sea, islands of Træna, and havfolk

Havfolk - people of the sea - live their everyday life on the Helgeland coast in Northern Norway in tight symbiosis with the Norwegian Sea and its constantly re-emerging materiality. As visitors we are welcomed to this symbiosis, becoming part of its world-making, a relationality that makes life possible in the harsh conditions of life in this group of islands of Træna. Situated 33 nautical miles from the mainland and inhabited by just under 500 people, the network of islands invites us to understand the tangible, material rhythms of mobilities that take us there, back, and between. Working together with a longitudinal project of crafting alternative stories of tourism with these island communities, in this presentation we will take you to a journey of an embodied experience when partaking in a winter festival Ta Træna med Storm (Take Træna by Storm). This "little sister" of the popular Træna summer festival makes it possible for artists, scientists, chefs, locals and visitors alike to become part in the worldmaking of the islands during the winter in the North, drawing us to the centre of humans' place in/as nature, as inseparable and in constant process of co-becoming. In this journey, we become storytellers, together with the ocean and its people, united by rhythms of movement, sound, togetherness and solitude. This journey allows us to reconsider and re-evaluate the very meaning of "tourism" in the island communities of Træna.

Worldmaking; relationality; tourism; islands; sea; mobility

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Territorialising the High Sea

Chair

Chiara Certomà
University of Turin, Italy

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Pamela Buchan
University of Exeter

Team Challenge 10: A transdisciplinary co-conceptualisation of marine/ocean identity

Transformation of humanity's relationship with the ocean is identified as Challenge 10 for the UN Decade of Ocean Science. There is a body of research and practice focused on ocean literacy with a view to changing individual behaviour through better understanding of the ecosystem relationships, mutual impact, and dependency between humankind and the natural world. Yet there is also a body of research, and evidence from continuing marine degradation, indicating that there is a gap between knowledge and action, and between values and action. Recent research into marine citizenship – exercising the right to participate in the transformation of the human-ocean relationship – has found that deeper marine citizenship is particularly associated with dependency upon the marine environment and that the unique qualities of the ocean have the power to generate deep emotional attachment that transcends specific localities. It also suggests that the knowledge- and value-action gaps might be filled by an identity rooted in how the ocean as a place supports the sense of self. This marine identity is a novel concept in the academic world. To support development and understanding of the concept, an international workshop of marine researchers and practitioners was convened in 2022 to co-produce a shared understanding of this identity and provide a baseline for future research and practice aimed at moving people towards action for the ocean. The findings of this transdisciplinary approach to co-conceptualisation are shared together with a provocation for future research aimed at driving marine citizenship action.

Transdisciplinary; Marine Citizenship; Marine Identity; Ocean Literacy; Transformation

Chiara Certoma'
University of Turin

Territorialising the Open Sea. Insights from a socio-cultural geography perspective

The presentation is intended to discuss the theoretical standpoint of a research project focusing on participatory knowledge creation and sharing about the interaction between society and the Ocean.

As suggested by the UN declaration for the "Decade of Ocean", tightening the emotional link between society and the ocean cannot be achieved by technological solutions alone, but requires developing ocean literacy, i.e. a multidisciplinary understanding of the ocean influence on human society and of the human society on the oceans (McKinley et al., 2020). On this belief my research investigates whether cultural geographers can contribute to strengthening and better the quality of human societies attachment with the sea. In the geographical research the ocean, and Mediterranean in particular, have been extensively regarded as an environmental, political and economic space (Marconi 2021), despite limited attention has been devoted to the ocean as a socio-cultural space (e.g. Steinberg, Peters, 2015). However, emerging research in cultural geography signals that a paradigm shift is required to promote an emotional, affective and care-based relationship (Peters et al. 2022). The proposed approach builds upon the nascent ocean social sciences perspective and critical ocean geography (Germond and Germond-Duret 2017; Steinberg 2015) to develop a novel process of socio-cultural territorialization of the sea -including the open sea (Squarcina, 2015). Geography is called therefore to explore the socio-cultural territorialisation (i.e. the socio-geographical process that creates a bond between people and spaces; Raffestin, 1980; Turco, 2010) of the open seas (Squarcina, 2015).

My research hypothesises that a territorialisation process can fill the existing "cognitive and emotional gap" (EC, 2020b); and can be realised by adopting participatory knowledge creation and sharing processes toward a socio-cultural territorialisation of the open sea (Germond-Duret 2022).

socio-cultural territorialisation; participatory knowledge; marine social studies; ocean literacy

Nicolò Fenu
Unito-ESOMAS

Paolo Giaccaria
Unito-ESOMAS

Reterritorialize the seaside threshold and its geographical imagination

The presentation focuses on the territorial research project "The Water Profile", which aims to build a contemporary mapping of the coastal space of Sardinia through cartographic and photographic mapping work. The project engages with the sea-coast geographical imagination coast and the possibility of a reterritorialization of the coastal space as sea-side, moving beyond the use of coasts as a recreational or commercial space and focusing on the sea rather than on its terrestrial side. What is at stake is a process of "territorial involvement", the participatory construction and the creation of an imaginary on the sea-side as a threshold between land and sea, to arrive at a shared management of the commons.

The sea-side, understood as a "dynamic ecosystem", is in continuous transformation due to natural and anthropic processes that change its morphological, physical and biological connotations. Understanding sea-side implies delocalizing the anthropic gaze from the land to the sea that is implicit in a consolidated utilitarian geographical imagination, focusing on belvedere, beaches, and ports. "The Water Profile" attempts to reverse such an imagination, starting from cartography and photography representations that are founding the hegemony

of land over the sea. The mapping formally respects the orthodoxy of GIS (it uses the database of the Regional Territorial Information System, the geoportal of the Sardinia Region and the Territorial Data Infrastructure, SI-TR-IDT) while challenging and reversing it by adopting an aesthetics of nautical cartography, representing land with criteria of the sea. The photographic campaign, conducted by the photographer Cédric Dasesson, is set up with an observation methodology that uses three points of view: one aerial and zenithal, one at sea level but still terrestrial/coastal, and one from inside the sea towards the coast.

geographical imagination; mediterranean coast; Reterritorialize

Federico Fornaro

Lega Navale Italiana/ Raw-News

Territorialising the Open Sea. Insights from Oceanic Sailing

The contribution revolves around the tell and the video showing of the 2013 solo Mini-Transat regatta in the Atlantic Sea, in a 6.5 meters boat, without charts and with only basic orientation instruments on board. Via images, stories and sensorial descriptions, also based on over 20 years of oceanic sailing experience, the contribution helps at redefining some of the basic concept of geographical investigation, from processes of local definition to localisation, to the creation of a sense of place in the open sea.

oceanic sailing; solo regatta; marine territorialisation; sense of place; visual documentation

Gabriella Palermo

University of Palermo

Trans-oceanic figurations: becoming-with the turbulent materiality in the High Sea

In this contribution I present a part of my PhD research and its expanding nodes on the more-than-wet Ontologies (Peters and Steinberg 2015, 2019) developed within the recent Oceanic Turn (Peters et al. 2022) of the geographies of the sea.

In my research, I observed the definition of Oceanic Turbulence (Lehman, Johnson and Steinberg 2021) in connection with the "Trouble" as developed by Haraway in "Staying with the Trouble. Making Kin in the Chthulucene" (2016). Volumes, liquidities and circular temporalities, as properties of this oceanic materiality, collaborate in this way with the possibility to stay in contact with a turbulence "stirring, disturbing", suggesting other relations, other kin, other alternative futures. This is particularly true in the High Sea, where human, non-human and more-than-human lives and deaths co-compose alternative ecologies through processes of co-digestion, regeneration and becoming-with. Whales, human bodies, coral reef: the companion species (cum-panis) weave imaginaries, practices, collaborations, spaces and times of the trans-oceanic as a tool to imagine and act.

This contribution wants to look at some specific trans-oceanic figurations and more-than-human kin happening at the High Sea as alternative ecologies. In this way, as proposed by the session, the High Sea will emerge not only as the space where territorialisation takes place through geopolitical control, but also as the space in which practices of belonging, care and becoming-with can be regenerated, incorporated, imagined, and so practiced.

Trouble; Turbulent Materiality; Oceanic Turn; Chthulucene; Figurations

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*A turbulent materiality: oceanic turn(s) and
more-than-human geographies*

Chair

Gabriella Palermo
University of Palermo, Italy

Giulia de Spuches
University of Palermo, Italy

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Luca Bertocci
Politecnico di Torino

The Sea in Massimo Cacciari's Geophilosophy

With this contribution the role of the sea in the geophilosophy proposed by Italian philosopher Massimo Cacciari will be analyzed. I will refer in particular to two of his essays dated 1994 and 1997, respectively: *Geofilosofia dell'Europa* and *L' Arcipelago*. In light of rising sea levels due to climate change, it is indeed necessary not only to know the Ocean outside modern cartographic and telluric epistemologies, but also - without them - to cope with the coming planetary flood. I suggest that a fruitful encounter may be possible between some insights that have emerged from the Oceanic turn (Pugh, 2013, 2016; Steinberg & Peters, 2015; Stratford, Baldacchino, McMahon, Farbotko, & Harwood, 2011) and the Italian philosopher's reflections, in order not to leave the turbulent materiality of the ocean to those who would like to domesticate it. Rather, aim should be to accommodate it in a common, more-than-human becoming (Haraway, 2019). Specifically, to imagine an ethos of space production freed from the telluric nomos, a free wet encounter (Rodenbiker, 2022) between urbanization and the sea (Couling, Hein, 2020) impossible to be reified in a particular hybrid project, in an ideological form. Therefore, I will show how combining Peters and Steinberg's (2019) perspectives with the archè-pelagos - with the truth of the sea (Cacciari, 1997) - the opportunity and possibility emerges to think open-ended projects for the rain oceans (da Cunha, 2018) to come, thus the urban as a more-than-wet aspect of the ocean.

Ocean; Urban; Wet; Archipelago

Alessandra Bonazzi
Università degli Studi di Bologna

"Hypersea" and the Whale: some suggestions for "float light and right" in the turmoil of the present

I assume the swirling theoretical excess caused by the oceanic element - the "material turn" (Anderson, Wylie, 2009), the idea of "thinking with the oceanic", Astrida Neimanis's "lyrical-philosophical exploration of becoming

a body of water" (2019), and the "more-than-wet-ontology" with its "ocean in excess" (Peters, Steinberg 2019) – as a pretext and critical theoretical positioning for (re)turning to an equally swirling and excessive literary-philosophical (radically and materially oceanic) narrative of the novelist who wrote with the ocean of human bodies of water and the "enormous power" of a more-than-human body of water that embodies the Ocean's planetary excess. The obvious reference is to Herman Melville's *The Whale*. The reason is simple: amidst metaphysics, ontology and ecology, the Whale emerges, without the mediation of the evanescent, superfluous subjects on the hunt, as ungovernable, and submerges the illusion of such subjects to govern its strength. While the ocean removes the solid ground from under their feet, Melville materially decapitates the reasonings of terrestrial metaphysics, transforming them into fish, and then dispatches them: "So, when on one side you hoist in Locke's head, you go over that way; but now, on the other side, hoist in Kant's and you come back again; but in very poor plight. Thus some minds for ever keep trimming boat. Oh, ye foolish! Throw all these thunder-heads overboard, and then you will float light and right" (Melville, 1983, p. 337).

Oceanic Turn; Hypersea; Whale

Alain Boucher
Université Laval

Guy Mercier
Université Laval

Every one of us: POSSESS THE SEA

The sea is accessible to each and everyone, unreservedly, as a result of the differentiated concepts of possession and ownership. Unappropriable upon decision and international agreement, the sea still offers itself to all, on all scales, in possession of "substitute goods", namely mobilities and positions that anyone (individuals, groups, States, etc.) is permitted to reach and occupy. However, as an ereme ('erhmoz – erêmos, uninhabited space), the sea offers only a few typical positions, severely regulated and, furthermore, temporary.

sea; ereme; chorology; control of mobility; normativity; position; possession; mer; érème; chorologie; contrôle de la mobilité; normativité

Chiara Certoma'
University of Turin

Federico Fornaro
Raw-News - Lega Navale Italiana

Paolo Giaccaria
University of Turin

"Staying with the problem in the Ocean. On the plastisphere as hybrid ecological formation of the Chthlucene"

Following the session's call to elaborate on "new materialisms work to foster the possibility of thinking with the oceanic in order to develop new ecologies", we propose a provocative exploration of hybrid assemblages that are re-signifying the ecological global life supporting systems in the Open Sea.

Building upon the material semiotic and politics of more-than-human assemblages we suggest that Haraway's speculations on the Chthlucene (2016) can help us at reversing the capitalocentric narrative of the Anthropocene and coping with pressing environmental problems, notably ocean pollution. We engage with the sympoiesis as the chief process forging new kins between societies and the sea so to "stay with the problem" (Haraway, 2016); and draw on the compositions of materialities, imaginaries and forces in the liquid space (Neimanis, A. 2017) to reconceive our common belongingness to the ocean (Peters et al, 2022).

Through photographic documentation we explore the emerging ecologies of the plastisphere (i.e. the new biodiversity patterns that have evolved to live on microplastics in marine environments, Zettler et al. 2013) as exemplary topoi of the Chthlucene. These include underwater rests of the Anthropocene (e.g. relicts, ghost nets, infrastructures, and polluted sites...) largely present in the Mediterranean Sea. The sympoietic process of microplastic bacteria is fore-front biological research and at the same time allows us to exercise the Chthlucene "tentacular thinking" (Haraway, 2016).

Framed within the marine social science perspective, this perspective makes biology to appear as "a process of constant change and transformation, of 'posthuman becoming' and 'biocultural hope'" (Chandler, 2020, p.102). Therefore, the human/non-human/more-than-human kinship allows us to understand and shape relational values connecting human society and the marine world to deliver behavioral change (McKinley et al., 2020).

chthlucene; open sea; plastisphere; hybrid ecologies

Massimiliano Fantò
University of Milan-Bicocca

Alien Invasive Species as assemblages: a critical analysis

Like many other invasive species, the Blue Crab appears as one of the main threats to protecting and preserving biodiversity in the Mediterranean area (Mannino, Balistreri, 2021). Its strong claws damage fishermen's equipment as well as putting in danger autochthonous fish. Alien invasive species presence is determined by several factors: voluntary introductions, such as aquaculture, or aquariophilia; involuntary introductions such as migrations from the Suez Canal; and maritime traffic through ships' ballast water (Bella, et al, 2007). Their ability to proliferate and settle in the territory is caused in the first instance by the warming of the sea, and the consequent topicalization of the Mediterranean.

However, allochthonous species, analyzed from a critical perspective, are the uncanny symbol of the Anthropocene and Capitalism. While it is well established that since the past, animal movements have produced new forms of naturalization, it is since the discovery of America that the process appears as a form of Imperialism (Crosby,

2004). Accelerated by the global movements of capitalist society, animals have been catapulted as commodities and objects (Collard, 2020) into alien habitats.

The proposal aims to return an alternative look at the presence of invasive alien species with a focus on the Blue Crab. I will analyze the polymorphism that such entities activate from contact with different actors and how it acts as a propeller for new forms of imagination: How do biologists must think of new tools for protection? How does invasiveness is seen from a social and cultural perspective? How do these species manipulate seascapes? Following the lines (Ingold, 2020) of the Blue Crabs we can analyze the interconnections and the entanglements that constituted the "assemblages" (Bear, 2017), which are in this specific case the allochthonous species, moving from the goal of biosecurity to the reasons of their presence.

alien invasive species; assemblages; pest management; critical analysis

Tovi Fenster
Tel Aviv University

Gendered Bodies and Clothings as marking invisible boundaries between the sea and the city

A lot has been written about the interface between the sea, seashores and the city from touristic, economic, climate change, urban planning and other perspectives. However, only few academic works dedicate research on the sea and the city to gendered bodies and clothing as marking the (invisible) boundaries between the sea and the city, boundaries that might be totally different than those marked by economic, leisure, touristic or other activities.

This paper presents preliminary findings on how women and men's clothing in the Tel Aviv seashores define where the 'sea' ends, and the city begins each with its specific cultural codes of clothing and behavior. Notions such as comfort, modesty, cultural costumes, permitted and forbidden clothing, etc. are what mark these invisible boundaries between daily clothing and beach clothing. The research methodology is based on in depth interviews and other methods such as mental maps

This research is a continuation of previous research on women, modesty, clothing and the city which focused on ultraorthodox women in Jerusalem and women in Bedouin towns in the Negev South Israel and the cultural constructions of modesty they are obliged to follow (Fenster, 1999, 2004, 2012)

gendered bodies; sea and city; cultural construction of space; forbidden – permitted

Friederike Gesing
University of Graz

Caring for the coast: The more-than-human political ecologies of coastal protection

So-called "soft" coastal protection approaches promise more sustainable and just alternatives to structural engineering solutions. This contribution explores the role of the more-than-human in such practices, building on ethnographic material from Aotearoa New Zealand. Arguing that the popular framing of coastal protection as "working with nature" is a strategic naturalization, the paper aims to develop a more-than-human take on the political ecology of coastal protection. The analysis shows that the "multispecies agencies" (Locke 2013) at work in various caring practices include communities of plants and animals, human care work and artefacts, as well as abiotic elements such as sand, wind, water and concrete. The article argues that to foster political and practical engagements for more sustainable coastal naturecultures, these entanglements should be made explicit and accountable. A more-than-human political ecology approach to understanding the promises of soft coastal protection therefore combines three analytic sensibilities. Firstly, it looks at the ontological politics and categoriza-

tion practices that define and enact specific versions of coastal nature. Secondly, it focuses on the politics of care in multispecies worlds, including the abiotic. And thirdly, it takes into account the “ordinary politics” of contested coastal space, decision-making and planning.

Aotearoa New Zealand; more-than-human political ecology; coastal protection; ethnography; sociomaterial practices

Jessica Lehman
Durham University

Feminist new materialism and history at sea

This paper brings together emerging scholarship on feminist new materialisms and scholarship that considers the ocean as a historical space – not a timeless void, but an archive of entwined human and natural histories. Feminist new materialism in the space of the sea is attentive to different forms of embodiment and relationality between human and nonhuman others. This work is beginning to catch the attention of scholars of oceanic histories, working across disparate disciplines from maritime history to postcolonial Caribbean studies to Black feminism, who until recently have treated the ocean as a curiously ‘empty’ stage for human dramas. In this paper, I ask what feminist new materialisms can learn from scholarship on oceanic histories, and vice versa, drawing on themes such as ontology, narrative, subjectivity, and metaphor. Ultimately, however, this is not an evaluation of the utility of bringing these perspectives together, but a meditation on the nature of history and how it is lived and known through ocean space.

new materialism; history; feminism; postcolonialism

Losleben Lisa Katrin
The Arctic University of Norway

Elizabeth Barron
NTNU

Angus Carlyle
University of the Arts London

Britta Sweers
University of Bern

Paula Ryggvik Mikalsen
UiT

Becoming-with Sound. Diffractive Listening with Arctic Waters

“Arctic Auditories – Hydrospheres in the High North” (NFR 325506, 2021-25) focuses on water environments in Tromsø and its surroundings in the North of Norway. We (five researchers from Norway, Switzerland, and England) engage scholarship and methods from sound arts, human geography, applied ethnomusicology, and feminist methodologies (Alaimo 2012, Neimanis 2019) to develop strategies for understanding environmental change through sound. The project aims to deliver empowering and democratic listening strategies to help individuals and society more broadly, cultivate radical imaginations of futures beyond environmental anxiety. Therefore, we seek to understand collectively non-hegemonic, local and indigenous knowledges about how

humans and more-than-humans become-with changing Arctic waters.

In this paper, we want to present the methodological approach we take in the project to explore new forms of environmental narrative as auditory/experiential. Applying the method of sound walks, as developed by Hildegard Westerkamp, local agents will have conducted sound walks/sittings focusing on the sea and other bodies of water. They will hereby display sounds that are meaningful to them which allows to what sound anthropologist Steven Feld calls "listening to the listeners". In addition, there will be solicited journals, recorded walk and talks, group discussions, and recordings in which the ocean is understood as a space of possibility for sound and environment. To understand them, we will read/listen diffractively through the audio materials, maps and sounds and queer the existing cartography of Arctic waters (Barad 2007).

sound, more-than-human, becoming with water, anthropogenic waters, cartography

Albrecht Moritz

University of Eastern Finland

Unfolding alternative spatial imaginaries in novel blue bioeconomy developments: sectoral study on seaweed farming and recirculating aquaculture

Considering the mismatch between aquatic based bioresource use in society compared to the spatial prevalence of wet materialities on the earth's surface (and volume) the blue bioeconomy has become a political and henceforth economical focal area for increased investment and resource exploitation. Tied predominantly with UN SDG's such as zero hunger, climate action or sustainable consumption and production but also with high potentials to revitalize coastal communities and to provide a yet unknown array of bio-applications in medicine, energy and biomaterials it has become a field to generate novel developments. The paper critically addresses two such novel and politically hyped sectors in the blue bioeconomy: seaweed farming in Norway and recirculating aquaculture systems in Finland. Framed within a sustainability transition rhetoric and equipped with capacities to contribute towards alternative engagements with the spaces of (blue) production and consumption some of the sectors current, early-stage developments and their spatial imaginaries question this potential, however. Following, the paper unfolds the interrelations between the sectors rhetorical claims and practices, the interrelationship between governmental conduct and blue materialities, and the inherent socio- economic and spatial assembling processes of the two sectors that challenge their potential to engage in alternative imaginaries for blue development. By highlighting the frictions, contestations and multiple values that underpin the sectoral development the key barriers but also the multiple capacities towards a just transformation are dissected and displayed.

Blue bioeconomy; spatial imaginaries; blue assemblages; seaweed; recirculating aquaculture

Koki Takahashi

Hokkaido University

The importance and meanings of built environments constructed between mainland Japan and its peripheral islands: A bridge as a positive and negative materiality in Suo-oshima Island, Japan

This study investigates the current tourism situation in Suo-oshima Island, Yamaguchi prefecture, Japan. Furthermore, it examines the meanings of the Oshima Ohashi Bridge, crossing between mainland Japan and this island, for the island's residents. A mixed method is used in the study, including spatial analyses of tourism resources and accommodations on the island, a traffic count at the island entry point at the bridge on Friday, Saturday, and Sunday in August 2019m and reactions of the residents to the 2018 crush incident of a foreign

vessel onto the Ohshima Ohashi Bridge and the COVID-19 pandemic beginning from spring, 2020. The crush incident severely prevented the free movement of people between mainland Japan and the island. In addition, it halted the water supply from the mainland to the island due to physical damage to the bridge with which the water pipe is harnessed. The study's findings and their interpretation will be shared at the conference.

tourism; disaster; pandemic; island; Japan

