

# ESP 11 World Conference

## “From global to local ecosystem services: pathways to Nature-based Solutions inspired from Down Under”

23-27 June 2025 | Darwin, Australia

### SESSION DESCRIPTION

ID: B1a

**Blue carbon ecosystems – accounting and advocating for nature-based solutions for sustainable coasts**

**Hosts:**

	Name	Organisation	E-mail
<b>Host:</b>	Kremena Burkhard	Ludwig Franzius Institute of Hydraulic, Estuarine and Coastal Engineering, Leibniz University Hannover, Germany	burkhard@lufi.uni-hannover.de
<b>Co-host(s):</b>	Miguel Inácio	Mykolas Romeris University, Lithuania	rinacio.miguel@gmail.com
	Luke Brander	Leibniz University Hannover, Germany	lukebrander@gmail.com
	Sophie Russell	University of Adelaide, Australia	sophie.russell@adelaide.edu.au
	Sabine Dittmann	Flinders University, College of Science & Engineering, Adelaide, Australia	sabine.dittmann@flinders.edu.au
	Joanne Tingey	UniSA Business, University of South Australia, Australia	Joanne.Tingey@unisa.edu.au
	Jeff Connor	UniSA Business, University of South Australia, Australia	Jeff.Connor@unisa.edu.au

**Abstract:**

Blue carbon ecosystems (e.g., mangroves, seagrass meadows) play a significant role in decarbonisation initiatives due to their high efficiency for carbon capture and storage. Besides, these ecosystems are important suppliers of other ecosystem services (e.g., coastal protection, habitat provision, recreation and heritage) and support high biodiversity, both essential drivers of the vulnerable socio-ecological systems of coastal areas. These aspects led to the development and implementation of so-called blue carbon Nature-Based Solutions (e.g., mangrove restoration). Nevertheless, despite the role and importance of these nature-based solutions for both biodiversity and human wellbeing, there are still some barriers to its widespread implementation and scale-up, including a lack of understanding of costs and benefits. Measuring co-benefits and identifying beneficiaries of blue carbon initiatives is needed in order to incentivise investment and local implementation of conservation and restoration programs, as well as inclusion of those ecosystems in carbon markets. This is due to the fact that for example, the beneficiaries of carbon storage of blue carbon ecosystems are often spatially detached from those ecosystems, while the beneficiaries of coastal protection and fishing/habitat provision are usually adjacent. It is necessary to better acknowledge the interactions between service providing and service benefiting areas, as well as ecosystem services stocks and flows of blue carbon ecosystems, in order to facilitate their conservation, restoration and deserved role in green economies. This requires

measurement and reporting which can be challenging given the temporal and spatial scale of restoration projects. In this session, we will explore the barriers and gaps as well as the necessary steps to further promote the implementation of blue carbon nature-based solutions.

**Goals and objectives of the session:**

- Identify pathways to bring forward the conservation and restoration of blue carbon ecosystems as nature-based solutions for climate change mitigation, adaptation and green economy;
- Exchange know-how and experience from case studies around the world on related measurement and reporting tools, practices and incentives, e.g. SEEA, carbon offsets and credits;
- Identify gaps, obstacles and steps needed to advance blue carbon nature-based solutions.

**Planned output / Deliverables:**

Short report on global initiatives and tools for supporting the implementation of conservation and restoration of blue carbon ecosystems as nature based solutions for sustainable coasts.

**Session format:**

Oral presentations: 10–12 min talks + 2–3 min Q&A.

Synthesis: 30 min for a round-table discussion – identification of strengths, gaps and important steps forward.

**Voluntary contributions accepted:**

Yes, I allow any abstract to be submitted to my session for review

**Related to ESP Working Group:**

[BWG 1 – Marine systems](#)