

SS046: Science Support to Ports and Shipping in the Western Indian Ocean

Mr. Steven Weerts

Contact: sweerts@csir.co.za

The Western Indian Ocean (WIO) is experiencing significant growth in maritime trade, port development, and shipping activities, posing both opportunities and risks for coastal economies and marine ecosystems. While ports and shipping are critical to developing the region's Blue Economy they also have the potential to significantly impact coastal and marine ecosystems and reduce ecosystem services that coastal communities depend upon for their livelihoods. On the landside, ports are closely linked to the cities they are located in, which has an impact city planning, land use zoning, and socio-spatial arrangements. The port and city have a unique relationship driven by economic development, logistics, and land needs for port related activities, leading to significant changes land use in the city, waste management challenges, traffic, housing needs etc. This special session will focus on the critical role of science in guiding the sustainable transformation of the port and shipping sectors. As the region navigates increasing pressures from port expansion, vessel traffic, and associated environmental impacts, there is an urgent need for scientific research to inform policy, planning, and operational decisions. The session invites contributions that advance understanding of key issues such as marine pollution, habitat disturbance, carbon emissions, and climate vulnerability linked to port and shipping activities land use land cover change, and planning in cities. Emphasis will be placed on interdisciplinary and applied research that supports evidence-based strategies for minimizing ecological harm and ecosystem service loss, and advancing socio-spatial planning. The session also seeks to highlight how science can contribute to regional initiatives and transboundary cooperation under mechanisms like the Nairobi Convention. By foregrounding the scientific foundations of sustainable maritime development, this session aims to foster dialogue among researchers, decision-makers, and industry leaders to chart a resilient and inclusive path forward for sustainable ports, cities and shipping in WIO's growing Blue Economy.