Data and data science for low-carbon food from the ocean

Panel discussion at the 3rd United Nations Oceans Conference in Nice
on 9 June 2025, from 11:00 to 12 :15, in the Pavilion “La Baleine / The Whale"

1. Background

The production of food from the ocean and its delivery to consumers overseas at affordable costs and the preservation of viable coastal ecosystems are important for economic development in Small Island Developing States (SIDS). For the state of the Planet, it is increasingly important to cut greenhouse gas (GHG) emissions caused by the production and delivery of those foods and to keep coastal ecosystems in equilibrium. It is estimated that fisheries account for 0.5 percent and maritime transport for 3 percent of global GHG emissions. Reducing the carbon footprint of their economic activity is high on the agenda in SIDS and pursued by emerging global regulatory frameworks, such as the Paris Agreement and the International Maritime Organization (IMO) GHG Strategy. For the achievement of that ambitious goal, it is essential to understand the linkages between emissions, maritime transport, fishery production, economic output, food security and social welfare. Yet, national statistical systems remain under-resourced and fragmented, preventing producing the statistics needed for efficient impact assessment and monitoring.

Thanks to developments in satellite-based tracking systems, geographic information systems, and coordinated efforts for the compilation of cross-national harmonized data repositories, new possibilities have emerged that allow comprehensive measurement of ocean-based activities and their emissions. However, advanced statistical methods and data science techniques are required to leverage their full potential, due to the high volume, high frequency and noisiness of those data and their dispersion across different sources. However, once the underlying methodological framework has been established, in line with the statistical resources of the country, once the required statistical processes have been set up and incorporated into official statistics, and once data compilers have been trained in their use, those statistics can be maintained and regularly updated with few additional efforts.

Within the capacity development project “Evidence-based Climate Action through Artificial Intelligence and Data Innovation for Caribbean SIDS”, UNCTAD and UNDESA will provide targeted assistance for Caribbean SIDS to leverage the new opportunities for carbon footprint statistics on maritime transport, maritime trade and fisheries, and to use those statistics for evidence-based policy making to manage the energy transition towards low-carbon fuel in the ocean economy.

2. Goal of the session

This session will kickstart the thinking process for promoting evidence-based climate action through artificial intelligence and data innovation for Caribbean SIDS in the scope of the technical assistance project above by discussing the main challenges and opportunities for SIDS arising from the energy transition in maritime transport and fisheries, identifying main data needs for evidence-based policies to address those challenges and seize opportunities, and taking stock of the latest approaches to use satellite-based vessel tracking systems combined with data from national sources for production of high-quality statistics on GHG emissions of ocean-based activities.

3. Agenda

Time	Item	Speaker
11:00 – 11:05	Introduction	*Chantal Line Carpentier* Head of the Trade, Environment, Climate Change and Sustainable Development Branch, UNCTAD
11:05 – 11:15	Technical assistance for evidence-based climate action through artificial intelligence and data innovation in Caribbean SIDS	*Onno Hoffmeister* Chief of the Statistics Production Unit, Statistics Service, UNCTAD.
11:15 – 11:25	Fishery production and maritime trade in the face of the transition towards low GHG emissions	*Ludovic Arnaud* Associate Economic Affairs Officer, Trade, Environment, Climate Change and Sustainable Development Branch, UNCTAD
11:25 – 11:35	Challenges and opportunities of the energy transition in the blue economy for economic and social policy in Caribbean SIDS	*Joanna Kazana* UN Resident Coordinator of Trinidad and Tobago
11:35 – 11:45	Challenges and opportunities of the energy transition in the blue economy for business in the Caribbean	*Damien Andre Prescod* Consultant Manager, Bloom Clean Technology & Climate-Tech Center of Excellence, Barbados Investment & Development Corporation
11:45 – 11:55	New data and data science techniques for GHG emission statistics in maritime trade and fisheries	*Domagoj Baresic* Senior Research Fellow, UCL Energy Institute, University College London

11:55 – 12:10	Discussion	*Panel, plenum*
12:10 – 12:15	Concluding remarks	*Onno Hoffmeister* (see above)