

Report of the Secretary-General on oceans and the law of the sea, on the topic of “Ocean Observing”

Contribution by UNCTAD

At the start of the UN Decade of Ocean Science, which was formally launched on 1 June 2021, in accordance with UN General Assembly resolution 72/73, ocean science, including observation, has become a key priority in generating the scientific knowledge, data and information needed for effective implementation of many of the sustainable development goals. Ocean monitoring programmes and observations, including through the deployment of buoys and shipboard observations, provide critical data and information to a broad range of key economic sectors including fisheries, aquaculture, maritime transport, tourism, weather and climate models, and coastal early warning systems. Such data and information are critically required for the purposes of monitoring progress – notably on SDG 14, which focuses on conservation and sustainable use of the oceans and their resources – and to inform risk assessment, as well as decision - and policymaking, including in response to the important challenges of increasing climate variability and change and growing disaster risks.

Thus, with respect to international maritime transport, which accounts for over 80 per cent of global merchandise trade (by volume), ocean science and observations, play an important role in providing data and information required to ensure the safety of navigation, effectively monitor compliance with environmental regulations and respond to ship-source marine pollution incidents, among others. Relevant considerations were highlighted at the 2019 WMO workshop on enhancing ocean observations and research, and the free exchange of data, to foster services for the safety of life and property (Ocean-safe), at which UNCTAD participated; further collaboration in this regard among international organizations and key stakeholders, including the shipping industry, should be encouraged, with a view to facilitating and enhancing the collection, availability and dissemination of marine weather and other ocean observations and research, and to address and remove potential legal obstacles. Relevant data and information is also key in developing effective measures for the purposes of coastal protection and coastal zone management, monitoring and early warning systems for effective disaster risk reduction and management and effective emergency response, as well as for climate-risk assessment, adaptation and resilience building for seaports and other coastal transport infrastructure, including as part of COVID-19 recovery efforts (see for instance the UNFCCC Policy Brief [Technologies for Averting, Minimizing and Addressing Loss and Damage in Coastal Zones](#), 2020).

Seaports - key nodes in the global network of closely interconnected supply chains and gateways to the ocean economy - are likely to be affected directly and indirectly by climatic changes, such as rising sea levels, extreme weather events and rising temperatures, with broader implications for international trade and for the development prospects of the most vulnerable nations. However, these assets are projected to be at an increasing risk of coastal flooding, from as early as in the 2030s, unless effective adaptation action is taken ([Monioudi et. al, Regional Environmental Change 2018, IPCC 2018, IPCC 2019 SROCC](#)).

Given the strategic role of seaports and of other key transport infrastructure as part of the global trading system and bearing in mind the potential for climate-related delays and disruptions across global supply-chains, enhancing the climate-resilience of key transport infrastructure is a matter of strategic economic importance and one in respect of which UNCTAD's extensive research and technical assistance work, as

well as the outcomes of a series of UNCTAD expert meetings, since 2008, have helped to raise awareness and advance the international debate (For further information, see <https://unctad.org/ttl/legal>).

In view of the long service life of transport infrastructure, effective adaptation requires re-thinking established approaches and practices early. Moreover, a good understanding of risks and vulnerabilities is required for the development of well-designed adaptation measures that minimize the adverse effects of climatic factors. This, however, constitutes a major challenge. The potential adverse impacts of climate variability and change may be wide-ranging, but they vary considerably by physical setting, climate forcing, as well as other factors. Thus, for instance, ports in river deltas face different challenges from open-sea ports; and extreme events and flooding may affect coastal transport infrastructure in some parts of the world, whereas melting permafrost could become a major problem in others.

For the purposes of risk-assessment and with a view to developing effective adaptation measures, generation and dissemination of more tailored data and information is important, as are targeted case studies and effective multi-disciplinary and multi-stakeholder collaboration. Guidance, best practices, checklists, [methodologies](#), and other tools in support of adaptation are urgently required, and targeted capacity building is going to be critical, especially for the most vulnerable countries. This includes SIDS, which depend on their ports and airports for food and energy needs, external trade and – crucially – tourism, which typically accounts for a major share of GDP (see the recent UNCTAD capacity building project: [SIDSport-ClimateAdapt.unctad.org](https://sidsport-climateadapt.unctad.org)). In this context it is important for to explore ways to generate the necessary financial resources, especially for developing countries, and to ensure that relevant funding is made available in the form of grants, rather than loans, to avoid further increasing debt burdens.

Recent UNCTAD work highlighting the importance of scientific data and evidence-based information in the context of climate change impacts and adaptation for critical coastal transport infrastructure, as well as in the context of disaster risk reduction and response includes the following:

Drawing on [UNCTAD's earlier related work](#) since 2008, including extensive related technical assistance (see <https://sidsport-climateadapt.unctad.org/>; see also the [2019 UNCTAD contribution](#) to the Report of the Secretary-General on oceans and the law of the sea, on the topic of “Ocean Science and the United Nations Decade of Ocean Science for Sustainable Development”), a technical assistance project on [Climate resilient transport infrastructure for sustainable trade, tourism and development in SIDS](#) (2019-2020), was jointly implemented with UNEP. As part of the project, a High Level Panel discussion was held as a UNFCCC COP 25 [side event](#), with the support of the OECS Commission, Commonwealth Secretariat, UNFCCC, and ISO. The discussion was informed by a substantive [concept note](#) and a related [outcome document](#) was prepared to summarize key points emerging from the discussion. All panelists highlighted the urgent need for action and expressed the commitment of their respective organizations/offices to continue and strengthen related support to SIDS, and to harness synergies in the context of a number of intergovernmental processes and meetings. A substantive proposal for a joint follow-up technical assistance project has since been prepared as part of the project, with a view to securing funding for further related work. The proposed follow-up work responds to an urgent request by the OECS Commission for technical assistance on “Climate change impacts and adaption assessment for coastal transport infrastructure in OECS”, which was last reiterated at two UNCTAD meetings in 2020 and 2021, namely: the UNCTAD Multiyear Expert Meeting on Transport, Trade Logistics and Trade Facilitation: [Climate change adaptation for seaports in support of the 2030 Agenda for Sustainable Development](#) (October 2020) where expert panelists stressed the value of UNCTAD's technical assistance work in the Caribbean region, and the pressing need for this work to be continued, deepened and expanded across the Organization of Eastern Caribbean States region, in collaboration with others, in

order to assess climate-related risks and develop technical and policy solutions using a network approach (see [report of the meeting](#), particularly at p.13, 14); and the [UNCTAD15 pre-event: Harnessing the benefits of the ocean economy for sustainable development](#) (June 2021), where policymakers and experts underlined the urgent need for support in addressing the growing impacts of climate change on ports in SIDS, and the OECS Commission called on UNCTAD to provide further technical assistance “to map and reduce vulnerabilities for effective infrastructure adaptation.” In addition, UNCTAD was responsible for the substantive servicing of a session on “Sustainable transport and green development: climate change mitigation, adaptation and resilience” at the [2nd UN Global Sustainable Transport Conference](#), held in Beijing on 14-16 October 2021 and contributed to the [interagency report](#) which informed the Conference (led by DESA).

The important trade related implications of weather and climate-related extreme events were also highlighted at UNFCCC COP 26 in Glasgow, where UNCTAD participated among others in a panel as part of the Transport Action Day, and as an invited speaker at a UK International Maritime Hub at COP 26, two-day workshop ([Practical climate change adaptation solutions for ports](#)). In addition, a recent article ([Asariotis, 2021](#)) considered the increasing risks of extreme sea-levels for global ports in the light of recent trends and projections and highlighted the associated growing threat to sustainable trade and development, sending an important message for policymakers, industry, international organizations and development partners - that there is no time to lose and “all hands on deck” are needed. An interconnected world depends on well-functioning transportation links. In the absence of timely planning and implementation of requisite adaptation measures, the projected impacts on seaports may have broad economic and trade-related repercussions and may severely compromise the sustainable development prospects of the most vulnerable groups of countries, such as SIDS. Effective adaptation requires ‘fit-for-purpose’ risk assessment procedures (at local and facility levels), bridging of potential data and [knowledge gaps](#), and the development of appropriate technical and management solutions that reduce vulnerability and allow for decision-making under uncertainty. It also requires finance, technology, and capacity-building, as well as coordinated policy responses and supportive legal and regulatory approaches, as highlighted in a recent UNCTAD report ([Climate Change Impacts and Adaptation for Coastal Transport Infrastructure: A Compilation of Policies and Practices](#)). [Standards](#), [guidance](#), and [methodological tools](#) also have an important role to play. Investment in energy efficiency, [decarbonization](#) and renewables, including offshore, may also provide major co-benefits, in terms of climate change mitigation and adaptation, as well as reduced dependency on energy imports and related expenditure.

Evidence-based information and high quality observational data is required to support effective decision making and policy coherence in respect of climate-change adaptation and DRR, as well as sustainable development, which will be critical for progress on the objectives and commitments of the 2030 Sustainable Development Agenda as well as related international agreements, such as the Paris Agreement, Sendai Framework for Disaster Risk Reduction, the Addis Ababa Action Agenda and SAMOA Pathway.