Secretary-General's report on challenges related to sea-level rise and on ways and approaches to address this issue, pursuant to General Assembly Decision 78/558

SUMMARY

Challenges related to sea-level rise

In Germany, the northern coastal *Länder* (federal states) – Bremen, Hamburg, Mecklenburg-Western Pomerania, Lower Saxony, Schleswig-Holstein – play a critical role in addressing the challenges posed by sea-level rise, as they are directly affected by the impacts of the rising North and Baltic Sea. Densely populated coastal regions, tourism as a major economic factor and archaeological sites, historic Hanseatic cities and fragile ecosystems such as the UNESCO Wadden Sea World Heritage Site are all threatened by sea-level rise. Adapting coastal protection measures poses major challenges in terms of staffing and financing.

In Germany, **financial support for national coastal risk management (CRM), meaning coastal protection and flood defence,** is enshrined in Article 91a Basic Law (GG). It is one of the two key elements of the "Joint Task for the Improvement of Agricultural Structures and Coastal Protection" (GAK) shared between the Federal Government and the *Länder*. The Federal Government provides up to 70% of the financing for improvements in coastal protection and its adaptation to climate change; the coastal *Länder* as well as local communities are responsible for planning, executing and maintaining coastal protection measures, and the *Länder* contribute 30% to financing. In an international context, the official development assistance (ODA) remains a crucial instrument for LDCs and SIDS, many already impacted negatively by sea-level rise. Germany continuously engages in and supports partner countries, and assists them in finding new ways to mobilise private capital sources. It also ensures that resource mobilisation from all sources is accompanied by reforms of national public financial management (PFM). These in turn can help support the design and implementation of crucial planning processes such as Integrated Coastal Zone Management (ICZM) as well as Marine Spatial Planning (MSP).

In the field of knowledge, data and science, boosting the open exchange of essential ground- and space-based Earth observation data on a worldwide level is one key challenge. Enhanced observation systems and open, standardised data exchange are essential to improving comparability, accessibility and the capacity for informed decision-making worldwide. Sustained political support is needed to ensure long-term monitoring and effective translation of scientific findings into adaptation strategies.

From a **legal perspective** on sea-level rise, Germany submitted three written contributions to the International Law Commission (ILC) Study Group on sea-level rise in relation to international law, with a particular focus on the following matters: (1) continuity of statehood, (2) delimitation and preservation of baselines and maritime zones, (3) protection of persons and peoples affected by sea-level rise. Germany's findings and efforts were reflected in the final ILC report.
Besides this, Germany supported the request for an advisory opinion submitted to ITLOS by the Commission of Small Island States on Climate Change and International Law on 12 December 2022. Germany also became a member of the Core Group initiated by Vanuatu, whose efforts led to resolution 77/276 of 29 March 2023 requesting an advisory opinion by the ICJ on states' obligations in respect of climate change.

Approaches to address the challenges

Adaptation measures, such as early warning systems, risk assessments and infrastructure improvements, including the use of green-grey solutions where appropriate, are essential for building resilience in coastal communities. At international level, a comprehensive, global approach is necessary to address the challenges posed by sea-level rise.

At national level, Germany adopted the first Federal Climate Adaptation Act (KAnG) in December 2023, establishing a binding framework for climate adaptation at federal, *Land* and municipal level. The Act requires the Federal Government, *Länder* and municipalities to address the impacts of climate change across the board and identify adaptation measures. In December 2024, Germany adopted the German Strategy for Adaptation to Climate Change (DAS) to strengthen resilience in key sectors, including water, infrastructure, land and land use and human health. The strategy contains 33 measurable targets for adaptation to the impacts of climate change and specifies over 180 measures for its implementation.

Furthermore, there is the 'nationwide spatial plan for flood protection' (BRPH), which entered into force in 2021. It sets uniformly high spatial planning standards throughout Germany for optimised flood protection, in particular to minimise flood risks for settlement areas and important transport and energy networks ('risk-based approach'). The coastal *Länder* have set out their CRM strategies in coastal flood defence and protection master plans (GPK) or guidelines, and update them regularly, following the EU Floods Directive as well as Germany's Federal Water Act (WHG). From the technical side, the *Länder* are currently using a precautionary measure of 1.00 m, based on projected sea-level rise by 2100 and potential changes in hydrodynamic loads in the planning of coastal flood defence structures (like dikes). Besides this, there is a German Working Group on water issues (LAWA), bringing together federal and *Land* authorities, which adopts recommendations for action regarding flood and coastal protection in the context of climate change with special attention to climate adaptation.

When talking about **data**, monitoring and data exchange are the key components to ensure effective protection. Satellite missions are an indispensable tool, in addition to in situ monitoring. The German Federal Government has developed a national strategy for the use of satellite data. While radar altimetry is a proven method for observing the instantaneous sea level globally, there are still open challenges on a regional scale that require an integrated view on satellite as well as in situ data. Therefore, Germany advocates for increased exchange and use of both satellite and complementary ground-measured data to gain a better knowledge of hydrology and to better protect us from marine hazards. Locally adjusted information is essential for safeguarding coastal infrastructure, ensuring the resilience of transportation routes, and enhancing the management of coastal protection and flood defence like dikes.

At international/UN-level, a 'source-to-sea approach' is necessary to cover the full dynamics of sea-level rise, which directly connect hydrological cycles on land with ocean processes and coastal resilience. To effectively address these challenges, Germany advocates for regular UN Water Conferences, complementary to the UN Ocean Conferences, for exchange on comprehensive cross-cutting issues. This includes strengthening the collaboration between the UN Special Envoy on Water and Special Envoy for the Ocean as well as close coordination between the 2026 UN High-Level Meeting on Sea Level Rise, the 2026 UN Water Conference and future UN Ocean Conferences. Through its engagement as co-chair of the C-SET initiative and as a major contributor to the Rising Nations Initiative (RNI), Germany is deeply involved in putting sea-level rise at the top of the international agenda.

(Selected) Exemplary actions

- Germany is a founding member and co-chair of the Coalition for Addressing Sea-Level Rise and its Existential Threats (C-SET),
- Germany is a major contributor to the RNI, overseen by the Global Centre for Climate Mobility (GCCM), including through the project on the Tuvalu Digital Repository for Cultural Heritage, a cooperation between the RNI, the German Archaeological Institute and the Department of Culture within the Ministry of Home Affairs, Climate Change and Environment of Tuvalu , funded by the Federal Foreign Office,
- The DAS Core Service 'Climate and Water', an operational climate service,
- The federal research programme MARE:N – Coastal, Marine and Polar Research for Sustainability (research mission mareXtreme and research framework for the Coastal Engineering Research Council),
- The Blue Action Fund supports amongst other things Climate Vulnerability Assessments and ecosystem-based adaptation activities such as restoration and maintenance of mangroves as buffer zones for sea-level rise,
- Germany contributes to innovative finance vehicles such as the Global Fund for Coral Reefs (GFCR), which supports efforts including insurance mechanisms to fund rapid post-storm reef restoration and for fishers to safeguard livelihoods disrupted by events like flooding,
- The MeerWissen Initiative,
- The 'climate dike' strategy,
- Germany is a major contributor to the systematic observation infrastructure through regional in situ monitoring networks and global water data centres for precipitation, soil moisture, water quality and river discharge.