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Statement on Coastal Resilience and Integrated Coastal Ocean Observing and Prediction Systems

Submitted by CMCC Foundation-Euro-Mediterranean Centre on Climate Change in collaboration with UNESCO-IOC's Global Ocean Observing System (GOOS) CoastPredict Ocean Decade Programme, the CoastPredict GlobalCoast Network, and the Decade Collaborative Centre for Coastal Resilience (DCC-CR)

We underscore the cross-cutting relevance of coastal resilience within the Ocean Action Panel themes and highlight its critical importance as a strategic and urgent priority for the coming years.

Nearly two billion people live within 100 kilometers of a coastline. These coastal zones are at the frontline of the climate crisis, increasingly affected by sea-level rise, coastal erosion, flooding, marine heatwaves, and extreme weather events. The risks posed to human lives, livelihoods, and ecosystems continue to grow, disproportionately impacting the most vulnerable populations.

Recent real-world events causing loss of life have highlighted the urgent need to advance integrated coastal observing and prediction capabilities. In 2023, Storm Daniel in Libya claimed 6,000 lives, and in the same year, hundreds of people died when Cyclone Mocha struck coastal countries along the Bay of Bengal. The implications of inadequate predictions are profound for low-lying coastal areas, island nations, and vulnerable coastal communities, where early warnings can mean the difference between life and death. Enhancing equitable global capacity for people-centred, multi-hazard early warning systems and adaptation planning must be a top priority.

The rapid technological advancements and extensive scientific knowledge we have accumulated will enable the deployment of a global, scalable, and inclusive integrated coastal ocean observing and prediction system. This system must be informed by local knowledge, equitably accessible, and capable of delivering reliable, actionable data and services to policymakers, coastal managers, practitioners, and communities.

Advances in satellite technologies and cost-effective in situ monitoring solutions are transforming how we assess and understand coastal hazards. The use of cloud computing platforms further enables standardised, interoperable data practices - helping to eliminate technological disparities between the Global South and North. The CoastPredict Programme, through its GlobalCoast Network and more than 130 Pilot Sites across the global coastal ocean, is demonstrating the application of these innovative tools and approaches in real-world settings.

Such a system will strengthen coastal resilience through increased and enhanced integrated observation and prediction systems, particularly in areas that critically

lack observations and prediction capabilities. Central to this process is the ongoing engagement of stakeholders across all levels - from local communities, the private sector, national and regional authorities and governments.

We urge the establishment of a formal, UNESCO/IOC-led international consultation process to gather information and assess coastal resilience in UN Member States. This process would facilitate regular, inclusive engagement with stakeholders to gather insights, co-develop solutions, and define standardised indicators of coastal resilience that are aligned with the Sustainable Development Goals (SDGs).

Signed:

Il Presidente
Dott. Antonio Navarra

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