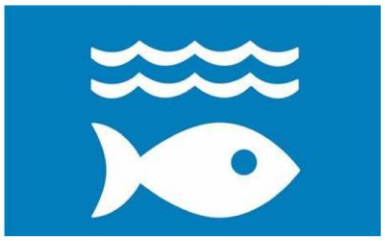
ANNUAL REPORT

SDG-14
LIFE
BELOW WATER



UNIVERSITY OF CHITTAGONG

Chittagong-4331, Bangladesh

SGD 14: LIFE BELOW WATER AND CHITTAGONG UNIVERSITY

Supporting aquatic ecosystems through education

Supporting aquatic ecosystems through action

Conservation and sustainable utilization of the oceans (events)

The University of Chittagong plays a vital role in raising awareness and promoting ocean conservation and sustainable use of marine resources. Through celebrations of World Ocean Day, Fisheries Day, World River Day, and the Ocean Literacy Campaign, the university creates dynamic platforms for students, faculty, and researchers to come together and address pressing issues impacting marine and freshwater ecosystems. By actively participating in these events, the university not only educates its academic community on the importance of conserving marine environments but also inspires a broader commitment to protecting these resources for future generations. These celebrations highlight the essential roles of oceans, rivers, and aquatic ecosystems, encouraging sustainable practices and environmental responsibility on campus and within the local community. Such efforts contribute significantly to cultivating a culture of conservation and affirm the University of Chittagong's position as a leading voice in marine and environmental advocacy in Bangladesh.

Photo: Rally on World Ocean Day

Some of the remarkable activities are as follows-

- World Ocean Day celebration in CU https://worldoceanday.org/event/world-ocean-day-celebration-at-university-of-chittagong/
- Advanced Training Workshop on Ocean Color Remote Sensing (SatCO2-2024) https://web.facebook.com/groups/fisheriessocietybd/posts/3851807581730538/?_rdc=1&_rdr#

Food from aquatic ecosystem (policies)

The food sources in aquatic ecosystems come from a variety of primary producers and consumers, including: Phytoplankton: Also known as microalgae, these are the foundation of many aquatic food webs. They are similar to terrestrial plants in that they contain chlorophyll and require sunlight to grow.

Photo*: Spirulina* mass culture at IMSF old building, CU

Some of the remarkable activities are as follows:

- Phytoplankton culture at the institute of marine sciences, CU https://www.facebook.com/photo/?fbid=10162351675023474&set=pcb.10162351680683474

Maintain ecosystem and their biodiversity (direct work)

The University of Chittagong leads the field in marine biodiversity research, making vital contributions to the health of marine ecosystems and the sustainability of coastal livelihoods. Through extensive research, the university explores the complex networks within marine life, studying diverse species and their interactions to inform conservation efforts and promote sustainable practices. This commitment goes beyond academic study, as the university actively engages local communities in its initiatives, fostering a collaborative approach to marine ecosystem management. By effectively bridging research and real-world application, the University of Chittagong plays a critical role in strengthening the resilience of coastal ecosystems and supporting the well-being of communities that depend on the resources of the sea.

Some highlighted research works are mentioned below-

- Delineation of Shoreline and Associated Land Use/Land Cover Changes along the Coast of Chattogram, Bangladesh Based on Remote Sensing and GIS Techniques. https://doi.org/10.1142/S2345748124500143
- Coastal vulnerability assessment to multi hazards in the exposed coast of Southeastern Coastal Region of Bangladesh https://doi.org/10.1016/j.rsma.2024.103484
- Dissolved trace elements in the Ganges–Brahmaputra–Meghna River Basin: A new approach for estimating trace element flux inputs from rivers into the world's oceans https://doi.org/10.1016/j.jenvman.2024.121389

- Microplastics occurrence in sea cucumbers and impacts on sea cucumbers & human health: A systematic review https://doi.org/10.1016/j.scitotenv.2024.175792
- Geospatial analysis of shoreline and areal dynamics in the Ganges deltaic island of Bangladesh using the GIS-DSAS technique https://doi.org/10.1016/j.rsma.2024.103495
- A Systematic Review and Global Trends on Blue Carbon and Sustainable Development: A Bibliometric Study from 2012 to 2023 https://doi.org/10.3390/su16062473
- Impact of wild fish faces to deep sea dissolved organic carbon as revealed by laboratory incubations https://doi.org/10.1016/j.dsr.2023.104148
- Microbiome pattern and diversity of an anadromous fish, hilsa shad (*Tenualosa ilisha*) https://doi.org/10.1007/s11033-023-08965-6
- Structural and functional effects of the L84S mutant in the SARS-COV-2 ORF8 dimer based on microsecond molecular dynamics study https://doi.org/10.1080/07391102.2023.2228919
- Bioaccumulation of Heavy Metals in Water and Mollusks in the Karnafully Estuary: Potential Human Health Risk and Environmental Contamination. https://doi.org/10.1016/j.rsma.2024.10375
- Present Scenario of Ocean Warming (OW) and Ocean Acidification (OA) in the Coastal and Marine Waters of the Bay of Bengal, Bangladesh and Implications of OW and OA on Fisheries and Seafood of Bangladesh: A First Regional Review Study https://doi.org/10.3233/JCC240012
- Microcystin-LR induces histopathological injury and cell apoptosis in the hepatopancreas of white shrimp, *Litopenaeus vannamei* https://doi.org/10.1016/j.ecoenv.2024.117059
- Exploring the antioxidant and antimicrobial potential of three common seaweeds of Saint Martin's Island of Bangladesh https://doi.org/10.1016/j.heliyon.2024.e26096
- The proximate composition of Nappi and its marketing methods in Bangladesh https://doi.org/10.1186/s42779-024-00231-9
- Colonization dynamics of periphytic protozoa in a tropical marine ecosystem https://doi.org/10.1017/S0025315423000528
- White sardine (*Escualosa thoracata*) stock status in coastal waters of Bangladesh https://doi.org/10.1111/fme.12690
- Morphological description of two scallops, *Chlamys albida* (Arnold, 1906) and *Volachlamys tranquebaria* (Gmelin, 1791) from the coastal waters of the northern Bay of Bengal https://doi.org/10.13057/biodiv/d250250
- Computational design and evaluation of a polyvalent vaccine for viral nervous necrosis (VNN) in fish to combat Betanodavirus infection https://doi.org/10.1038/s41598-024-72116-5
- Quantitative Assessment of *Ailia coila* (Hamilton, 1822) Fish Population in Kaptai Lake: A Length-Based Approach https://doi.org/10.1111/lre.12460
- Assessing the pomfret stock for setting catch limits in the northern Bay of Bengal, Bangladesh https://doi.org/10.1016/j.aaf.2022.07.003

Ongoing