



SDG 14: Life Below Water



14.1 Research on life below water

The University of Tabuk contributes to SDG 14: Life Below Water through research focused on marine ecosystems and environmental sustainability, as evident in its growing number of publications.

- **Abomostafa, H.M., Isawi, H., Abulyazied, D.E. and Abouhaswa, A.S., 2023.** Advanced photocatalytic degradation of organic pollutants using magnetic nanostructured PVA membrane under solar irradiation. *Surfaces and Interfaces*, 42, p.103402.
- **Eid, E.M., Keshta, A.E., Alrumman, S.A., Arshad, M., Shaltout, K.H., Ahmed, M.T., Al-Bakre, D.A., Alfarhan, A.H. and Barcelo, D., 2023.** Modeling soil organic carbon at coastal Sabkhas with different vegetation covers at the Red Sea Coast of Saudi Arabia. *Journal of Marine Science and Engineering*, 11(2), p.295.
- **Ahmed Alsharif, M., Alatawi, A., Hamdalla, T.A., Alfadhli, S. and Darwish, A.A.A., 2023.** CuO nanoparticles mixed with activated BC extracted from algae as promising material for supercapacitor electrodes. *Scientific Reports*, 13(1), p.22321.

14.2 Supporting aquatic ecosystems through education

14.2.1 Fresh-water ecosystems (community outreach)

The University of Tabuk offers educational programs focused on freshwater ecosystems, water management, and conservation for both local and national communities. The university also organizes workshops, forums, and scientific meetings that address water irrigation practices and effective water management techniques, helping raise awareness and equip participants with the knowledge to promote environmental sustainability.

Environmental Protection and Natural Resources

<https://www.ut.edu.sa/ar/Faculties/Applied/Pages/default.aspx#v-pills-collegeDepartments>

<https://www.spa.gov.sa/2370813>

Biology program: The study plan for the Bachelor of Biology program includes several courses concerned with marine biology

<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/study-plan.aspx>

<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/Study-plan-M.aspx>

Workshops:

https://x.com/dsa_ut/status/1704896836090159254?s=48

https://x.com/dsa_ut/status/1511653508189196291?s=12

Master's degree in Biodiversity

<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/Study-plan-M.aspx>

Forums and scientific meetings

https://x.com/u_tabuk/status/1786045919495881116?s=48

https://x.com/u_tabuk/status/1777090825052196874?s=12



14.2.2 Sustainable fisheries (community outreach)

The University of Tabuk offers educational programs and outreach initiatives that focus on the sustainable management of fisheries, aquaculture, and tourism.

Environmental Protection and Natural Resources

<https://www.ut.edu.sa/ar/Faculties/Applied/Pages/default.aspx#v-pills-collegeDepartments>

<https://www.spa.gov.sa/2370813>

Biology program: The study plan for the Bachelor of Biology program includes several courses concerned with marine biology

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<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/Study-plan-M.aspx>

Workshops:

https://x.com/dsa_ut/status/1704896836090159254?s=48

https://x.com/dsa_ut/status/1511653508189196291?s=12

Master's degree in Biodiversity

<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/Study-plan-M.aspx>

Forums and scientific meetings

https://x.com/u_tabuk/status/1786045919495881116?s=48

https://x.com/u_tabuk/status/1777090825052196874?s=12

14.2.3 Overfishing (community outreach)

The University of Tabuk is committed to raising awareness about overfishing and related issues through educational outreach activities for local and national communities. The university organizes forums and scientific meetings that facilitate discussions on illegal, unreported, and unregulated fishing, as well as destructive fishing practices. Additionally, workshops are conducted to engage the community and provide practical knowledge about sustainable fishing practices, fostering a greater understanding of the importance of marine conservation and responsible fishing.

Forums and scientific meetings

https://x.com/u_tabuk/status/1786045919495881116?s=48

https://x.com/u_tabuk/status/1777090825052196874?s=12

Workshops:

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https://x.com/dsa_ut/status/1511653508189196291?s=12

14.3 Supporting aquatic ecosystems through action

14.3.1 Conservation and sustainable utilisation of the oceans (events)

The University of Tabuk supports and organizes events that promote the conservation and sustainable use of oceans, seas, and marine resources. Through forums and scientific meetings, as well as initiatives from the Artificial Intelligence and Sensing Technologies Research Centre, the university fosters discussions and advancements aimed at enhancing marine conservation efforts.

Forums and scientific meetings

https://x.com/u_tabuk/status/1786045919495881116?s=48

https://x.com/u_tabuk/status/1777090825052196874?s=12

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<https://www.ut.edu.sa/ar/Centers/Artificial-and-Sensing/Pages/default.aspx>

14.3.2 Food from aquatic ecosystems (policies)

The University of Tabuk works to ensure that food sourced from aquatic ecosystems on campus is sustainably harvested, aligning with broader sustainability goals as demonstrated through partnerships

<https://www.redseaglobal.com/ar/-/media-center/red-sea-global-commits-to-act4sdgs-with-launch-of-new-program>

<https://www.ut.edu.sa/ar/Centers/Artificial-and-Sensing/Pages/default.aspx>

14.3.3 Maintain ecosystems and their biodiversity (direct work)

14.2.4 Technologies towards aquatic ecosystem damage prevention (direct work)

The University of Tabuk actively works to maintain and extend existing ecosystems and their biodiversity, focusing on both plants and animals, especially those under threat. Through forums and scientific meetings, the university engages with various stakeholders to discuss conservation strategies. Additionally, partnerships and initiatives from the Artificial Intelligence and Sensing Technologies Research Centre contribute to research efforts aimed at understanding and protecting vulnerable ecosystems, ensuring a collaborative approach to biodiversity conservation.

Forums and scientific meetings

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https://x.com/u_tabuk/status/1777090825052196874?s=12

Partnerships:

https://x.com/event_ut/status/1751511515826463001?s=48

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<https://www.ut.edu.sa/ar/Centers/Artificial-and-Sensing/Pages/default.aspx>

14.4 Water sensitive waste disposal

14.4.1 Water discharge guidelines and standards

The university of Tabuk uses advanced Membrane Bio-Reactor (MBR) technology, as detailed in the Water Treatment Plant Report (STP). This system is crucial to the university's water sanitation efforts, ensuring efficient and sustainable water management

<https://drive.google.com/drive/folders/1GujYIZCfviPUdR0bNol5AaDEhOI84UQD>



14.4.2 Action plan to reducing plastic waste

There is a memorandum of understanding with the Center for Waste Management aimed at cooperating in the field of waste treatment (page 6)

14.4.3 Reducing marine pollution (policy)

The University of Tabuk works with its partners and research centers to prevent and reduce marine pollution of all kinds, particularly from land-based activities.

<https://www.redseaglobal.com/ar/-/media-center/red-sea-global-commits-to-act4sdgs-with-launch-of-new-program>

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Partnership%20Agreements%202.pdf>

<https://www.ut.edu.sa/ar/Centers/Artificial-and-Sensing/Pages/default.aspx>

14.5 Maintaining a local ecosystem

14.5.1 Minimizing alteration of aquatic ecosystems (plan).

The University of Tabuk has a plan to minimize physical, chemical, and biological alterations to related aquatic ecosystems through partnerships and research centers.

Partnerships:

https://x.com/event_ut/status/1751511515826463001?s=48

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Partnership%20Agreements%202.pdf>

Supporting scientific research in aquatic systems and preserving marine organisms

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Red%20Sea%20globe%20UT%20collaboration.pdf>

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14.5.2 Monitoring the health of aquatic ecosystems

The University of Tabuk actively monitors the health of aquatic ecosystems through collaborations with various partners and research centers. These partnerships enable the university to conduct comprehensive assessments of water quality, biodiversity, and ecosystem health. By leveraging advanced technologies and research methodologies, the university aims to identify threats to aquatic environments, implement effective conservation strategies, and promote sustainable management practices.

Supporting scientific research in aquatic systems and preserving marine organisms

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Red%20Sea%20globe%20UT%20collaboration.pdf>

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14.5.3 Programmes towards good aquatic stewardship practices

The University of Tabuk contributes to the development and support of programs that encourage and maintain good aquatic stewardship practices through a variety of initiatives. The university offers educational programs focusing on sustainable water management and conservation techniques. Additionally, the university organizes workshops and community outreach activities that promote awareness about the importance of responsible aquatic resource use and preservation. Collaborations with local industries and government agencies further enhance these efforts by facilitating the exchange of knowledge and best practices in aquatic stewardship. Through research and engagement, the

University of Tabuk plays a vital role in fostering a culture of stewardship that prioritizes the health and sustainability of aquatic ecosystems.

On-Going Programs and Incentives

Marine Biology Courses:

Biology program: The study plan for the Bachelor of Biology program includes a number of courses concerned with marine biology

<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/study-plan.aspx>

Master's degree in Biodiversity

<https://www.ut.edu.sa/ar/Faculties/science/Biology-section/Pages/Study-plan-M.aspx>

Environmental Clubs and Societies:

https://x.com/dsa_ut/status/1704896836090159254?s=48

https://x.com/dsa_ut/status/1699367715461300373?s=48

https://x.com/dsa_ut/status/1658488601817264128?s=48

Partnerships with Conservation Organizations (see file: Partnership Agreements 1&2):

<https://www.ut.edu.sa/ar/administration/vrgsr/Partnerships-and-International/Pages/default.aspx>



بحضور وكيل #جامعة_تبوك للدراسات العليا والبحث العلمي د.سعد المطيري، ومشاركة وفد من شركة #البحر_الأحمر_الدولية برئاسة د.أحمد الأنصاري، نظمت جامعة تبوك #ورشة_عمل بعنوان "الأنشطة البحثية في التقنية البيئية"، بهدف إيجاد حلول مبتكرة للتحديات البيئية في المنطقة.

@U_Tabuk
@RedSeaGlobalAR

Translate post



11:06 PM · Jan 29, 2023 · 23.8K Views

14.5.4 Collaboration for shared aquatic ecosystems

The University of Tabuk collaborates with the local community to maintain shared aquatic ecosystems by engaging in outreach programs and initiatives that promote sustainable practices. Through workshops, educational campaigns, and partnerships with local organizations, the university facilitates knowledge sharing and encourages community involvement in conservation efforts. This collaboration aims to enhance awareness of the importance of preserving aquatic resources and fosters a collective responsibility towards maintaining the health of these vital ecosystems.

Partnerships with Conservation Organizations

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Red%20Sea%20globe%20UT%20collaboration.pdf>

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Partnership%20Agreements%202.pdf>

<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Partnership%20Agreements%201.pdf>

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14.5.5 Watershed management strategy

The University of Tabuk has implemented a watershed management strategy that is tailored to the specific diversity of aquatic species in its region. This strategy involves comprehensive assessments of local ecosystems to identify key aquatic species and their habitats. The strategy also includes monitoring programs to track the health of aquatic ecosystems and adaptive management practices that respond to changing environmental conditions, ultimately supporting the resilience of the region's aquatic species.

Partnerships with Conservation Organizations

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<https://www.ut.edu.sa/ar/administration/vrgssr/Partnerships-and-International/Documents/Partnership%20Agreements%202.pdf>

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