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# Chapter 7

# References

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**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Abbasnia, A., Yousefi, N., Mahvi, A. H., Nabizadeh, R., Radfard, M., Yousefi, M., & Alimohammadi, M. (2019). Evaluation of groundwater quality using water quality index and its suitability for assessing water for drinking and irrigation purposes: Case study of Sistan and Baluchistan province (Iran). *Human and Ecological Risk Assessment: An International Journal*, 25(4), 988-1005. <https://doi.org/10.1080/10807039.2018.1458596>
- Ahmadov, M., Humbatov, F., Mammadzada, S., Balayev, V., Ibadov, N., & Ibrahimov, Q. (2020). Assessment of heavy metal pollution in coastal sediments of the western Caspian Sea. *Environmental monitoring and assessment*, 192, 1-18. <https://doi.org/10.1007/s10661-020-08401-3>
- Akkajit, P., Fajriati, P., & Assawadithalerd, M. (2018). Metal accumulation in the marine bivalve, *Marcia optima* collected from the coastal area of Phuket Bay, Thailand. *Environmental Science and Pollution Research*, 25(36), 36147-36157. <https://doi.org/10.1007/s11356-018-3488-7>
- Al-Garni, M., Al Abboud, M., & Essa, A. (2024). Characterization of Opportunistic Pathogenic Multi-Drug Resistant Bacteria Isolated from Marine Coastal Water in Jazan, Saudi Arabia [journal article]. *Polish Journal of Environmental Studies*, 33(6), 6037-6046. <https://doi.org/10.15244/pjoes/185339>
- Al-Kahtany, K., Nour, H. E., Giacobbe, S., Alharbi, T., & El-Sorogy, A. S. (2023). Heavy metal pollution in surface sediments and human health assessment in southern Al-Khobar coast, Saudi Arabia. *Marine Pollution Bulletin*, 187, 114508. <https://doi.org/10.1016/j.marpolbul.2022.114508>
- Ali, M. M., Hossain, D., Al-Imran, A., Khan, M., Begum, M., & Osman, M. (2021). Environmental pollution with heavy metals: A public health concern. In M. Nazal & H. Zhao (Eds.), *Heavy Metals - Their Environmental Impacts and Mitigation* (pp. 771-783). IntechOpen. <https://doi.org/10.5772/intechopen.96805>
- Ali, M. M., Islam, M. S., Islam, A. R. M. T., Bhuyan, M. S., Ahmed, A. S. S., Rahman, M. Z., & Rahman, M. M. (2022). Toxic metal pollution and ecological risk assessment in water and sediment at ship breaking sites in the Bay of Bengal Coast, Bangladesh. *Marine Pollution Bulletin*, 175, 113274. <https://doi.org/10.1016/j.marpolbul.2021.113274>
- Allan, J. D. (1995). *Stream ecology: structure and function of running waters* (1 ed.). Springer Dordrecht. <https://doi.org/10.1007/978-94-011-0729-7>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Alongi, D. M. (1997). *Coastal Ecosystem Processes* (1 ed.). CRC Press. <https://doi.org/10.1201/9781003057864>
- Anbalagan, S., Krishnakumar, S., Kasilingam, K., Herbert Singh, S., Pradhap, D., Saravanan, P., Neelavannan, K., Magesh, N. S., & Selvakumar, S. (2024). Evaluation of potential trace element contamination and ecological risks of beach sediments, Andaman and Nicobar Archipelago, India. *Total Environment Advances*, 9, 200091. <https://doi.org/10.1016/j.teadva.2023.200091>
- Anbuselvan, N., Nathan, S. D., & Sridharan, M. (2018). Heavy metal assessment in surface sediments off Coromandel Coast of India: Implication on marine pollution. *Marine Pollution Bulletin*, 131, 712-726. <https://doi.org/10.1016/j.marpolbul.2018.04.074>
- Angulo, R. J., Lessa, G. C., & Souza, M. C. d. (2006). A critical review of mid- to late-Holocene sea-level fluctuations on the eastern Brazilian coastline. *Quaternary Science Reviews*, 25(5), 486-506. <https://doi.org/10.1016/j.quascirev.2005.03.008>
- APHA. (2012). *Standard methods for the examination of water and waste water, 22nd edn.* American Public Health Association, American Water Works Association, Water Environment Federation.
- Aravindraja, C., Viszwapriya, D., Valliammai, A., & Pandian, S. K. (2022). Community-Based 16S rDNA Fingerprinting Analysis of Geographically Distinct Marine Sediments of Unexplored Coastal Regions of Palk Bay and Gulf of Mannar. *Current Microbiology*, 79(2), 60. <https://doi.org/10.1007/s00284-021-02692-6>
- Arienzo, M., Trifuoggi, M., Ferrara, L., Donadio, C., Mondal, P., Muthuswamy Ponniah, J., Sarkar, S. K., & Toscanesi, M. (2023). Influence of monsoon season on heavy metal composition of Hooghly River estuary sediments, West Bengal, India. *Journal of Geochemical Exploration*, 248, 107181. <https://doi.org/10.1016/j.gexplo.2023.107181>
- Athira, T., Nefla, A., Shifa, C., Shamna, H., Aarif, K., AlMaarofi, S. S., Rashiba, A., Reshi, O. R., Jobiraj, T., & Thejass, P. (2022). The impact of long-term environmental change on zooplankton along the southwestern coast of India. *Environmental monitoring and assessment*, 194(4), 316. <https://doi.org/10.1007/s41976-020-00036-9>
- Avendaño, K. A., Ponce-Jahen, S. J., Valenzuela, E. I., Pajares, S., Samperio-Ramos, G., Camacho-Ibar, V. F., & Cervantes, F. J. (2024). Nitrogen loss in coastal sediments driven by anaerobic ammonium oxidation coupled to microbial reduction of Mn(IV)-oxide. *Science of The Total Environment*, 923, 171368. <https://doi.org/10.1016/j.scitotenv.2024.171368>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Aydin, H., Ustaoglu, F., Tepe, Y., & Soyly, E. N. (2021). Assessment of water quality of streams in northeast Turkey by water quality index and multiple statistical methods. *Environmental Forensics*, 22(1-2), 270-287. <https://doi.org/10.1080/15275922.2020.1836074>
- Ayyam, V., Palanivel, S., & Chandrakasan, S. (2019). Coastal Ecosystems and Services. In *Coastal Ecosystems of the Tropics - Adaptive Management* (pp. 21-47). Springer Singapore. [https://doi.org/10.1007/978-981-13-8926-9\\_2](https://doi.org/10.1007/978-981-13-8926-9_2)
- Baird, R. B., Eaton, A. D., & Rice, E. W. (1999). *Standard Methods for the Examination of Water and Wastewater* (23rd ed.). American Public Health Association, American Water Works Association and Water Environmental Federation.
- Barbier, E. B. (2017). Marine ecosystem services. *Current Biology*, 27(11), R507-R510. <https://doi.org/10.1016/j.cub.2017.03.020>
- Basha, S., Gaur, P. M., Thorat, R. B., Trivedi, R. H., Mukhopadhyay, S. K., Anand, N., Desai, S. H., Mody, K. H., & Jha, B. (2007). Heavy Metal Content of Suspended Particulate Matter at World's Largest Ship-Breaking Yard, Alang-Sosiya, India. *Water, Air, and Soil Pollution*, 178(1), 373-384. <https://doi.org/10.1007/s11270-006-9205-z>
- Basu, S., Matondkar, S. G. P., & Furtado, I. (2013). Retrieved bacteria from Noctiluca miliaris (green) bloom of the northeastern Arabian Sea. *Chinese Journal of Oceanology and Limnology*, 31(1), 10-20. <https://doi.org/10.1007/s00343-013-2017-2>
- Beazley, M. J., Martinez, R. J., Rajan, S., Powell, J., Piceno, Y. M., Tom, L. M., Andersen, G. L., Hazen, T. C., Van Nostrand, J. D., Zhou, J., Mortazavi, B., & Sobecky, P. A. (2012). Microbial Community Analysis of a Coastal Salt Marsh Affected by the Deepwater Horizon Oil Spill. *PLOS ONE*, 7(7), e41305. <https://doi.org/10.1371/journal.pone.0041305>
- Behera, B. C., Mishra, R. R., Singh, S. K., Dutta, S. K., & Thatoi, H. (2016). Cellulase from *Bacillus licheniformis* and *Brucella* sp. isolated from mangrove soils of Mahanadi river delta, Odisha, India. *Biocatalysis and Biotransformation*, 34(1), 44-53. <https://doi.org/10.1080/10242422.2016.1212846>
- Beiras, R. (2018). *Marine pollution: sources, fate and effects of pollutants in coastal ecosystems*. Elsevier.
- Belhouchet, N., Inal, A., Nait-Mohand, H., Belkacem, Y., & Chenchouni, H. (2024). Assessment of pollutants in coastal waters, sediments, and biota of marine ecosystems

- in Algeria, North Africa. *Regional Studies in Marine Science*, 70, 103355. <https://doi.org/10.1016/j.rsma.2023.103355>
- Bell, P. S., Bird, C. O., & Plater, A. J. (2016). A temporal waterline approach to mapping intertidal areas using X-band marine radar. *Coastal Engineering*, 107, 84-101. <https://doi.org/10.1016/j.coastaleng.2015.09.009>
- Bera, R., & Maiti, R. (2019). Quantitative analysis of erosion and accretion (1975–2017) using DSAS — A study on Indian Sundarbans. *Regional Studies in Marine Science*, 28, 100583. <https://doi.org/10.1016/j.rsma.2019.100583>
- Bertness, M. D. (2007). *Atlantic shorelines: natural history and ecology*. Princeton University Press. <https://doi.org/10.2307/jj.14799942>
- Bhadja, P., & Kundu, R. (2012). Status of the seawater quality at few industrially important coasts of Gujarat (India) off Arabian Sea.
- BIS. (2012). 10500 Indian standard drinking water–specification, second revision. *Bureau of Indian Standards, New Delhi*, 1-16.
- Blust, R. (2011). 6 - Cobalt. In C. M. Wood, A. P. Farrell, & C. J. Brauner (Eds.), *Fish Physiology* (Vol. 31, pp. 291-326). Academic Press. [https://doi.org/10.1016/S1546-5098\(11\)31006-0](https://doi.org/10.1016/S1546-5098(11)31006-0)
- Böke Özkoç, H., & Arıman, S. (2023). Contamination and risk assessment of heavy metals in coastal sediments from the Mid-Black Sea, Turkey. *Stochastic Environmental Research and Risk Assessment*, 37(1), 375-394. <https://doi.org/10.1007/s00477-022-02300-4>
- Boyd, C. E. (2015). Total Hardness. In C. E. Boyd (Ed.), *Water Quality: An Introduction* (pp. 179-187). Springer International Publishing. [https://doi.org/10.1007/978-3-319-17446-4\\_9](https://doi.org/10.1007/978-3-319-17446-4_9)
- Briffa, J., Sinagra, E., & Blundell, R. (2020). Heavy metal pollution in the environment and their toxicological effects on humans. *Heliyon*, 6(9), e04691. <https://doi.org/10.1016/j.heliyon.2020.e04691>
- Brown, A. E., & Smith, H. R. (2014). *Benson's Microbiological Applications Laboratory Manual*. Mc Graw Hill.
- Brown, K. A. (1982). Sulphur in the environment: A review. *Environmental Pollution Series B, Chemical and Physical*, 3(1), 47-80. [https://doi.org/10.1016/0143-148X\(82\)90042-8](https://doi.org/10.1016/0143-148X(82)90042-8)
- Calmano, W., Ahlf, W., & Förstner, U. (1996). Sediment Quality Assessment: Chemical and Biological Approaches. In W. Calmano & U. Förstner (Eds.), *Sediments and Toxic*

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Substances: Environmental Effects and Ecotoxicity* (pp. 1-35). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-642-79890-0\\_1](https://doi.org/10.1007/978-3-642-79890-0_1)
- Car, C., Quevarec, L., Gilles, A., Réale, D., & Bonzom, J.-M. (2024). Evolutionary approach for pollution study: The case of ionizing radiation. *Environmental Pollution*, 349, 123692. <https://doi.org/10.1016/j.envpol.2024.123692>
- Carbery, M., O'Connor, W., & Palanisami, T. (2018). Trophic transfer of microplastics and mixed contaminants in the marine food web and implications for human health. *Environment International*, 115, 400-409. <https://doi.org/10.1016/j.envint.2018.03.007>
- Carpenter, K. E., Abrar, M., Aeby, G., Aronson, R. B., Banks, S., Bruckner, A., Chiriboga, A., Cortés, J., Delbeek, J. C., Devantier, L., Edgar, G. J., Edwards, A. J., Fenner, D., Guzmán, H. M., Hoeksema, B. W., Hodgson, G., Johan, O., Licuanan, W. Y., Livingstone, S. R., . . . Wood, E. (2008). One-third of reef-building corals face elevated extinction risk from climate change and local impacts. *Science*, 321(5888), 560-563. <https://doi.org/10.1126/science.1159196>
- Chambers, L. G., Reddy, K. R., & Osborne, T. Z. (2011). Short-Term Response of Carbon Cycling to Salinity Pulses in a Freshwater Wetland. *Soil Science Society of America Journal*, 75(5), 2000-2007. <https://doi.org/10.2136/sssaj2011.0026>
- Chathalingath, N., Kingsly, J. S., & Gunasekar, A. (2023). Biosynthesis and biodegradation of poly(3-hydroxybutyrate) from *Priestia flexa*; A promising mangrove halophyte towards the development of sustainable eco-friendly bioplastics. *Microbiological Research*, 267, 127270. <https://doi.org/10.1016/j.micres.2022.127270>
- Chaudhuri, N., Tyagi, P. C., Niyogi, N., Thergaonkar, V., & Khanna, P. (1992). BOD test for tropical countries. *Journal of Environmental Engineering*, 118(2), 298-303.
- Che, Y., Lin, C., Li, S., Liu, J., Zhu, L., Yu, S., Wang, N., Li, H., Bao, M., Zhou, Y., Si, T., & Bao, R. (2024). Influences of hydrodynamics on microbial community assembly and organic carbon composition of resuspended sediments in shallow marginal seas. *Water research*, 248, 120882. <https://doi.org/10.1016/j.watres.2023.120882>
- Chen, J., McIlroy, S. E., Archana, A., Baker, D. M., & Panagiotou, G. (2019). A pollution gradient contributes to the taxonomic, functional, and resistome diversity of microbial communities in marine sediments. *Microbiome*, 7(1), 104. <https://doi.org/10.1186/s40168-019-0714-6>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Clark, E. V., Lanier, J., & Odhiambo, B. K. (2023). Assessment of Dam Sediment and Grab Samples for Metal Contamination in a Historically Industrialized New England City. *Water, Air, & Soil Pollution*, 235(1), 17. <https://doi.org/10.1007/s11270-023-06767-x>
- Clark, R. B. (2001). *Marine Pollution* (5 ed.). Oxford University Press.
- Clifford, H. M., Potocki, M., Koch, I., Sherpa, T., Handley, M., Korotkikh, E., Introne, D., Kaspari, S., Miner, K., Matthews, T., Perry, B., Guy, H., Gajurel, A., Singh, P. K., Elvin, S., Elmore, A. C., Tait, A., & Mayewski, P. A. (2021). A case study using 2019 pre-monsoon snow and stream chemistry in the Khumbu region, Nepal. *Science of The Total Environment*, 789, 148006. <https://doi.org/10.1016/j.scitotenv.2021.148006>
- Cronin, M. F., Gentemann, C. L., Edson, J., Ueki, I., Bourassa, M., Brown, S., Clayson, C. A., Fairall, C. W., Farrar, J. T., & Gille, S. T. (2019). Air-sea fluxes with a focus on heat and momentum. *Frontiers in Marine Science*, 6, 430. <https://doi.org/10.3389/fmars.2019.00430>
- Dave, S. R., & Desai, H. B. (2006). Microbial diversity at marine salterns near Bhavnagar, Gujarat, India. *Current science*, 90(4), 497-500. <http://www.jstor.org/stable/24088939>
- de Andrés, M., Barragán, J. M., & Scherer, M. (2018). Urban centres and coastal zone definition: Which area should we manage? *Land Use Policy*, 71, 121-128. <https://doi.org/10.1016/j.landusepol.2017.11.038>
- de Pablo, H., Sobrinho, J., Garaboa-Paz, D., Fonteles, C., Neves, R., & Gaspar, M. B. (2022). The Influence of the River Discharge on Residence Time, Exposure Time and Integrated Water Fractions for the Tagus Estuary (Portugal) [Original Research]. *Frontiers in Marine Science*, 8. <https://doi.org/10.3389/fmars.2021.734814>
- Debnath, A., Singh, P. K., & Sharma, Y. C. (2024). Spatial distribution of heavy metals in the sediments of River Ganges, India: Occurrence, contamination, source identification, seasonal variations, mapping, and ecological risk evaluation. *Marine Pollution Bulletin*, 198, 115910. <https://doi.org/10.1016/j.marpolbul.2023.115910>
- Derraik, J. G. B. (2002). The pollution of the marine environment by plastic debris: a review. *Marine Pollution Bulletin*, 44(9), 842-852. [https://doi.org/10.1016/S0025-326X\(02\)00220-5](https://doi.org/10.1016/S0025-326X(02)00220-5)
- Dewiyanti, I., Darmawi, D., Muchlisin, Z. A., Helmi, T. Z., Arisa, I. I., Rahmiati, R., Destri, E., & Fanisha, S. (2022). Characteristic and activity of cellulolytic bacteria isolated from mangrove soil in Northern Coast of Aceh Province, Indonesia. *Biodiversitas Journal of Biological Diversity*, 23(12). <https://doi.org/10.13057/biodiv/d231258>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Dey, S., Botta, S., Kallam, R., Angadala, R., & Andugala, J. (2021). Seasonal variation in water quality parameters of Gudlavalleru Engineering College pond. *Current Research in Green and Sustainable Chemistry*, 4, 100058. <https://doi.org/10.1016/j.crgsc.2021.100058>
- Dholakiya, R. N., Kumar, R., Mishra, A., Mody, K. H., & Jha, B. (2017). Antibacterial and Antioxidant Activities of Novel Actinobacteria Strain Isolated from Gulf of Khambhat, Gujarat [Original Research]. *Frontiers in microbiology*, 8. <https://doi.org/10.3389/fmicb.2017.02420>
- Doney, S. C., Fabry, V. J., Feely, R. A., & Kleypas, J. A. (2009). Ocean Acidification: The Other CO<sub>2</sub> Problem. *Annual Review of Marine Science*, 1(Volume 1, 2009), 169-192. <https://doi.org/10.1146/annurev.marine.010908.163834>
- Du, Y., Ren, Z., Zhong, Y., Zhang, J., & Song, Q. (2024). Spatiotemporal pattern of coastal water pollution and its driving factors: implications for improving water environment along Hainan Island, China. *Frontiers in microbiology*, 15. <https://doi.org/10.3389/fmicb.2024.1383882>
- Durães, N., Novo, L. A. B., Candeias, C., & da Silva, E. F. (2018). Chapter 2 - Distribution, Transport and Fate of Pollutants. In A. C. Duarte, A. Cachada, & T. Rocha-Santos (Eds.), *Soil Pollution* (pp. 29-57). Academic Press. <https://doi.org/10.1016/B978-0-12-849873-6.00002-9>
- Eddie, B., Juhl, A., Krembs, C., Baysinger, C., & Neuer, S. (2010). Effect of environmental variables on eukaryotic microbial community structure of land-fast Arctic sea ice. *Environmental Microbiology*, 12(3), 797-809. <https://doi.org/10.1111/j.1462-2920.2009.02126.x>
- El-Sorogy, A. S., Al-Hashim, M. H., Almadani, S. A., Giacobbe, S., & Nour, H. E. (2024). Potential contamination and health risk assessment of heavy metals in Hurghada coastal sediments, Northwestern Red Sea. *Marine Pollution Bulletin*, 198, 115924. <https://doi.org/10.1016/j.marpolbul.2023.115924>
- Eyre, B. (1993). Nutrients in the sediments of a tropical north-eastern Australian estuary, catchment and nearshore coastal zone. *Marine and Freshwater Research*, 44(6), 845-866. <https://doi.org/10.1071/MF9930845>
- Fatoki, O., Lujiza, N., & Ogunfowokan, A. (2002). Trace metal pollution in Umtata River. *Water SA*, 28(2), 183-190.

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Ferreira, L., Rosales, E., Danko, A. S., Sanromán, M. A., & Pazos, M. M. (2016). *Bacillus thuringiensis* a promising bacterium for degrading emerging pollutants. *Process Safety and Environmental Protection*, *101*, 19-26. <https://doi.org/10.1016/j.psep.2015.05.003>
- Förstner, U., & Wittmann, G. T. (1981). *Metal pollution in the aquatic environment*. Springer Science & Business Media. <https://doi.org/10.1007/978-3-642-69385-4>
- Freedman, B. (1995). 6 - Oil Pollution. In *Environmental Ecology (Second Edition)* (pp. 159-188). Academic Press. <https://doi.org/10.1016/B978-0-08-050577-0.50011-X>
- Furukawa, K., Wolanski, E., & Mueller, H. (1997). Currents and Sediment Transport in Mangrove Forests. *Estuarine, Coastal and Shelf Science*, *44*(3), 301-310. <https://doi.org/10.1006/ecss.1996.0120>
- Gage, J. D. (1978). Animals in deep sea sediments. *Proceedings of the Royal Society of Edinburgh, Section B: Biological Sciences*, *76*(1-3), 77-93. <https://doi.org/10.1017/S0269727000002803>
- Gandhi, S. K., Pradhap, D., Krishnakumar, S., & Kanagaraj, V. (2024). Seasonal variability in trace metal concentrations in sediment samples from the Puducherry and Cuddalore coasts of Tamil Nadu, India. *Total Environment Advances*, *9*, 200092. <https://doi.org/10.1016/j.teadva.2023.200092>
- Ganju, N. K. (2023). Climatic Drivers of Estuarine Sediment Dynamics. In *Climate Change and Estuaries* (1 ed., pp. 18). <https://doi.org/10.1201/9781003126096-14>
- Ganugapenta, S., Nadimikeri, J., Chinnapolla, S. R. R. B., Ballari, L., Madiga, R., K. N., & Tella, L. P. (2018). Assessment of heavy metal pollution from the sediment of Tupilipalem Coast, southeast coast of India. *International Journal of Sediment Research*, *33*(3), 294-302. <https://doi.org/10.1016/j.ijsrc.2018.02.004>
- Gaonkar, C., & Matta, V. M. (2019). Assessment of metal contamination in a tropical estuary, West Coast of India. *Environmental Earth Sciences*, *79*(1), 2. <https://doi.org/10.1007/s12665-019-8745-7>
- George, B., Nirmal Kumar, J. I., & Kumar, R. N. (2012). Study on the influence of hydro-chemical parameters on phytoplankton distribution along Tapi estuarine area of Gulf of Khambhat, India. *The Egyptian Journal of Aquatic Research*, *38*(3), 157-170. <https://doi.org/10.1016/j.ejar.2012.12.010>
- Ghate, S. D., Shastry, R. P., Arun, A. B., & Rekha, P. D. (2021). Unraveling the bacterial community composition across aquatic sediments in the Southwestern coast of India by

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- employing high-throughput 16S rRNA gene sequencing. *Regional Studies in Marine Science*, 46, 101890. <https://doi.org/10.1016/j.rsma.2021.101890>
- Gilley, J. E. (2005). EROSION | Water-Induced. In D. Hillel (Ed.), *Encyclopedia of Soils in the Environment* (pp. 463-469). Elsevier. <https://doi.org/10.1016/B0-12-348530-4/00262-9>
- Gireeshkumar, T. R., Deepulal, P. M., & Chandramohanakumar, N. (2013). Phosphorous speciation in surface sediments of the Cochin estuary. *Environmental monitoring and assessment*, 185(3), 2535-2552. <https://doi.org/10.1007/s10661-012-2729-3>
- Gosai, H. G., & Mankodi, P. (2023). Metal Contamination Status in Sediment along the Western Belt of Gulf of Khambhat, Gujarat, India. In *Animal Agriculture Modern Practices and Issues* (Vol. 1, pp. 33-56). Excel India Publishers.
- Gosai, H. G., & Mankodi, P. (2024a). Evaluation of Coastal Sediments for Heavy Metal Contamination, Bhavnagar Coast, Gulf of Khambhat, Gujarat, India. *Soil and Sediment Contamination: An International Journal*, 1-26. <https://doi.org/10.1080/15320383.2024.2319857>
- Gosai, H. G., & Mankodi, P. (2024b). Evaluation of Surface Water from the Western Coast Bhavnagar, Gulf of Khambhat, Gujarat, India. *Thalassas: An International Journal of Marine Sciences*, 40, 669–684. <https://doi.org/10.1007/s41208-023-00656-0>
- Grabemann, I., & Krause, G. (1989). Transport processes of suspended matter derived from time series in a tidal estuary. *Journal of Geophysical Research: Oceans*, 94(C10), 14373-14379. <https://doi.org/10.1029/JC094iC10p14373>
- Grant, A., & Middleton, R. (1990). An assessment of metal contamination of sediments in the Humber Estuary, UK. *Estuarine, Coastal and Shelf Science*, 31(1), 71-85. [https://doi.org/10.1016/0272-7714\(90\)90029-Q](https://doi.org/10.1016/0272-7714(90)90029-Q)
- Grasshoff, K., Kremling, K., & Ehrhardt, M. (1999). *Methods of Seawater Analysis*. John Wiley & Sons. <https://doi.org/10.1002/9783527613984>
- Gress, B., Zheng, Y., Goodhue, R., Grieneisen, M., Wei, H., Del Pozo-Valdivia, A., Grettenberger, I., Zalom, F., Steggall, J., & Mace, K. (2024). Developing agricultural pest management strategies with reduced-risks to surface water: An economic case study of California's Central Coast region. *Journal of Environmental Management*, 359, 121022. <https://doi.org/10.1016/j.jenvman.2024.121022>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Guézennec, L., Lafite, R., Dupont, J.-P., Meyer, R., & Boust, D. (1999). Hydrodynamics of suspended particulate matter in the tidal freshwater zone of a macrotidal estuary (the Seine Estuary, France). *Estuaries*, 22(3), 717-727. <https://doi.org/10.2307/1353058>
- Gunn, B. A., Singleton, F. L., Peele, E. R., & Colwell, R. R. (1982). A note on the isolation and enumeration of Gram positive cocci from marine and estuarine waters. *Journal of Applied Bacteriology*, 53(1), 127-129. <https://doi.org/10.1111/j.1365-2672.1982.tb04742.x>
- Häder, D.-P., Banaszak, A. T., Villafañe, V. E., Narvarte, M. A., González, R. A., & Helbling, E. W. (2020). Anthropogenic pollution of aquatic ecosystems: Emerging problems with global implications. *Science of The Total Environment*, 713, 136586. <https://doi.org/10.1016/j.scitotenv.2020.136586>
- Hakanson, L. (1980). An ecological risk index for aquatic pollution control. A sedimentological approach. *Water research*, 14(8), 975-1001. [https://doi.org/10.1016/0043-1354\(80\)90143-8](https://doi.org/10.1016/0043-1354(80)90143-8)
- Hammer, K. J., Kragh, T., & Sand-Jensen, K. (2019). Inorganic carbon promotes photosynthesis, growth, and maximum biomass of phytoplankton in eutrophic water bodies. *Freshwater Biology*, 64(11), 1956-1970. <https://doi.org/10.1111/fwb.13385>
- Hänsch, R., & Mendel, R. R. (2009). Physiological functions of mineral micronutrients (Cu, Zn, Mn, Fe, Ni, Mo, B, Cl). *Current Opinion in Plant Biology*, 12(3), 259-266. <https://doi.org/10.1016/j.pbi.2009.05.006>
- Hardikar, R., Haridevi, C., Chowdhury, M., Shinde, N., Ram, A., Rokade, M., & Rakesh, P. (2017). Seasonal distribution of phytoplankton and its association with physico-chemical parameters in coastal waters of Malvan, west coast of India. *Environmental monitoring and assessment*, 189, 1-16. <https://doi.org/10.1007/s10661-017-5835-4>
- Harrison, A. D., & Elsworth, J. F. (1958). Hydrobiological Studies on the Great Berg River, Western Cape Province. *Transactions of the Royal Society of South Africa*, 35(3), 125-226. <https://doi.org/10.1080/00359195809520025>
- Hasan, A. B., Reza, A. H. M. S., Siddique, M. A. B., Akbor, M. A., Nahar, A., Hasan, M., Zaman, M. N., Hasan, M. I., & Moniruzzaman, M. (2023). Spatial distribution, water quality, human health risk assessment, and origin of heavy metals in groundwater and seawater around the ship-breaking area of Bangladesh. *Environmental Science and Pollution Research*, 30(6), 16210-16235. <https://doi.org/10.1007/s11356-022-23282-4>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- He, Q., & Silliman, B. R. (2019). Climate Change, Human Impacts, and Coastal Ecosystems in the Anthropocene. *Current Biology*, 29(19), R1021-R1035. <https://doi.org/10.1016/j.cub.2019.08.042>
- Hedgpeth, J. W. (1957). Chapter 2: Classification of Marine Environments. In *Treatise on Marine Ecology and Paleoecology* (Vol. 1). Geological Society of America. <https://doi.org/10.1130/MEM67V1-p17>
- Hennessey, T. M., & Sutinen, J. G. (2005). *Sustaining Large Marine Ecosystems: The Human Dimension* (1 ed.).
- Henri, C. V., Harter, T., & Diamantopoulos, E. (2020). On the conceptual complexity of non-point source management: impact of spatial variability. *Hydrology and Earth System Sciences*, 24(3), 1189-1209.
- Horton, A. A. (2022). Plastic pollution: When do we know enough? *Journal of Hazardous materials*, 422, 126885. <https://doi.org/10.1016/j.jhazmat.2021.126885>
- Horton, D. J., Theis, K. R., Uzarski, D. G., & Learman, D. R. (2019). Microbial community structure and microbial networks correspond to nutrient gradients within coastal wetlands of the Laurentian Great Lakes. *FEMS Microbiology Ecology*, 95(4). <https://doi.org/10.1093/femsec/fiz033>
- Hossain, M. S., Ahmed, M. K., Liyana, E., Hossain, M. S., Jolly, Y. N., Kabir, M. J., Akter, S., & Rahman, M. S. (2021). A Case Study on Metal Contamination in Water and Sediment near a Coal Thermal Power Plant on the Eastern Coast of Bangladesh. *Environments*, 8(10), 108. <https://www.mdpi.com/2076-3298/8/10/108>
- Hou, C., Feng, C., & Liu, S. (2023). Distribution, risk evaluation, and source analysis of the heavy metals in the sediment deposition of the lower Shichuanhe River, Shaanxi, China. *Acta Geochimica*, 42(5), 832-844. <https://doi.org/10.1007/s11631-023-00619-5>
- Hou, T., Sun, W., Chen, C., Yang, G., Meng, X., & Peng, J. (2022). Marine floating raft aquaculture extraction of hyperspectral remote sensing images based decision tree algorithm. *International Journal of Applied Earth Observation and Geoinformation*, 111, 102846. <https://doi.org/10.1016/j.jag.2022.102846>
- Hou, W., Wang, Q., Xiang, Z., Jia, N., Hu, J., Wu, Z., & Dong, W. (2024). Comprehensive assessment of occurrence, temporal-spatial variations, and ecological risks of heavy metals in Jiaozhou Bay, China: A comprehensive study. *Marine Pollution Bulletin*, 198, 115883. <https://doi.org/10.1016/j.marpolbul.2023.115883>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Hullas, S. S., Priya, A., Nagalakshmi, R., & Stella, C. (2023). Seasonal changes in physico-chemical parameters of Thondi Coast waters, Palk Bay, South East coast, India. *Sustainability, Agri, Food and Environmental Research*, 11. <https://doi.org/10.7770/safer-V11N1-art2711>
- Hutton, M. (1983). Sources of cadmium in the environment. *Ecotoxicology and Environmental Safety*, 7(1), 9-24. [https://doi.org/10.1016/0147-6513\(83\)90044-1](https://doi.org/10.1016/0147-6513(83)90044-1)
- Islam, M. S., Idris, A. M., Islam, A. R. M. T., Ali, M. M., & Rakib, M. R. J. (2021). Hydrological distribution of physicochemical parameters and heavy metals in surface water and their ecotoxicological implications in the Bay of Bengal coast of Bangladesh. *Environmental Science and Pollution Research*, 28, 68585-68599. <https://doi.org/10.1007/s11356-021-15353-9>
- Jayakumar, R., Steger, K., Chandra, T. S., & Seshadri, S. (2013). An assessment of temporal variations in physicochemical and microbiological properties of barmouths and lagoons in Chennai (Southeast coast of India). *Marine Pollution Bulletin*, 70(1), 44-53. <https://doi.org/10.1016/j.marpolbul.2013.02.005>
- Jones, B. R., & Laslett, R. (1994). *Methods for analysis of trace metals in marine and other samples*. Directorate of Fisheries Research.
- Jung, M. Y., Kim, J.-S., Paek, W. K., Lim, J., Lee, H., Kim, P. I., Ma, J. Y., Kim, W., & Chang, Y.-H. (2011). *Bacillus manliponensis* sp. nov., a new member of the *Bacillus cereus* group isolated from foreshore tidal flat sediment. *The Journal of Microbiology*, 49(6), 1027-1032. <https://doi.org/10.1007/s12275-011-1049-6>
- Kalwasińska, A., Felföldi, T., Szabó, A., Deja-Sikora, E., Kosobucki, P., & Walczak, M. (2017). Microbial communities associated with the anthropogenic, highly alkaline environment of a saline soda lime, Poland. *Antonie van Leeuwenhoek*, 110(7), 945-962. <https://doi.org/10.1007/s10482-017-0866-y>
- Kang, G., Chen, H., Hu, C., Wang, F., & Qi, Z. (2024). Spatiotemporal Distribution Characteristics and Influencing Factors of Dissolved Potentially Toxic Elements along Guangdong Coastal Water, South China. *Journal of Marine Science and Engineering*, 12(6), 896. <https://doi.org/10.3390/jmse12060896>
- Kang, H., Kang, J., Cha, I., Kim, H., Joung, Y., Jang, T. Y., & Joh, K. (2020). *Bacillus salinus* sp. nov., isolated from commercial solar salt. *International Journal of Systematic and Evolutionary Microbiology*, 70(4), 2696-2702. <https://doi.org/10.1099/ijsem.0.004096>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Karbasdehi, V. N., Dobaradaran, S., Nabipour, I., Ostovar, A., Arfaeinia, H., Vazirizadeh, A., Mirahmadi, R., Keshtkar, M., Ghasemi, F. F., & Khalifei, F. (2017). Indicator bacteria community in seawater and coastal sediment: the Persian Gulf as a case. *Journal of Environmental Health Science and Engineering*, 15(1), 6. <https://doi.org/10.1186/s40201-017-0266-2>
- Konko, Y., Okhimambe, A., Nimon, P., Asaana, J., Rudant, J. P., & Kokou, K. (2020). Coastline change modelling induced by climate change using geospatial techniques in Togo (West Africa). <https://doi.org/10.4236/ars.2020.92005>
- Kouassi, K. M., Kinimo, K. C., Yao, K. M., & Coulibaly, A. S. (2024). Water Physicochemical Characteristics and Health Risk Assessment of Trace Metals in River Mouths Along a Tropical Coastline of Gulf Guinea, West Africa. *Chemistry Africa*, 7(3), 1497-1507. <https://doi.org/10.1007/s42250-023-00815-z>
- Kroeker, K. J., Kordas, R. L., Crim, R., Hendriks, I. E., Ramajo, L., Singh, G. S., Duarte, C. M., & Gattuso, J.-P. (2013). Impacts of ocean acidification on marine organisms: quantifying sensitivities and interaction with warming. *Global Change Biology*, 19(6), 1884-1896. <https://doi.org/10.1111/gcb.12179>
- Kumar, M., Kumar, R., Chaudhary, D. R., & Jha, B. (2022). An appraisal of early stage biofilm-forming bacterial community assemblage and diversity in the Arabian Sea, India. *Marine Pollution Bulletin*, 180, 113732. <https://doi.org/10.1016/j.marpolbul.2022.113732>
- Kumar, R., Mishra, A., & Jha, B. (2019). Bacterial community structure and functional diversity in subsurface seawater from the western coastal ecosystem of the Arabian Sea, India. *Gene*, 701, 55-64. <https://doi.org/10.1016/j.gene.2019.02.099>
- Kumkar, P., Verma, C. R., Hýsek, Š., Pise, M., Żółtowska, S., Gosavi, S. M., Mercl, F., Božik, M., Praus, L., Hanková, K., Rinn, R., Klouček, P., Petrtyl, M., & Kalous, L. (2023). Contaminants and their ecological risk assessment in beach sediments and water along the Maharashtra coast of India: A comprehensive approach using microplastics, heavy metal(oid)s, pharmaceuticals, personal care products and plasticisers. *Science of The Total Environment*, 892, 164712. <https://doi.org/10.1016/j.scitotenv.2023.164712>
- Lavanya, R., Rohit, P., Sulochanan, B., Pranav, P., & Raj, R. (2024). Seasonal variability in physicochemical parameters and fish larval abundance along the coastal waters of Dakshina Kannada, southwest coast of India. *Journal of the Marine Biological Association of India*, 66(1), 22-34. <http://eprints.cmfri.org.in/id/eprint/18535>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Lebreton, L. C. M., van der Zwet, J., Damsteeg, J.-W., Slat, B., Andrady, A., & Reisser, J. (2017). River plastic emissions to the world's oceans. *Nature Communications*, 8(1), 15611. <https://doi.org/10.1038/ncomms15611>
- Lee, J.-C., Lee, G. S., Park, D.-J., & Kim, C.-J. (2008). *Bacillus alkalitelluris* sp. nov., an alkaliphilic bacterium isolated from sandy soil. *International Journal of Systematic and Evolutionary Microbiology*, 58(11), 2629-2634. <https://doi.org/10.1099/ijs.0.65733-0>
- Levin, L. A., Boesch, D. F., Covich, A., Dahm, C., Erséus, C., Ewel, K. C., Kneib, R. T., Moldenke, A., Palmer, M. A., Snelgrove, P., Strayer, D., & Weslawski, J. M. (2001). The Function of Marine Critical Transition Zones and the Importance of Sediment Biodiversity. *Ecosystems*, 4(5), 430-451. <https://doi.org/10.1007/s10021-001-0021-4>
- Li, D., Lu, D., Li, N., Wu, M., & Shao, X. (2019). Quantifying annual land-cover change and vegetation greenness variation in a coastal ecosystem using dense time-series Landsat data. *GIScience & Remote Sensing*, 56(5), 769-793. <https://doi.org/10.1080/15481603.2019.1565104>
- Li, J., He, M., Sun, S., Han, W., Zhang, Y., Mao, X., & Gu, Y. (2009). Effect of the behavior and availability of heavy metals on the characteristics of the coastal soils developed from alluvial deposits. *Environmental monitoring and assessment*, 156, 91-98. <https://doi.org/10.1007/s10661-008-0465-5>
- Liu, Y., Lai, Q., Du, J., & Shao, Z. (2017). Genetic diversity and population structure of the *Bacillus cereus* group bacteria from diverse marine environments. *Scientific Reports*, 7(1), 689. <https://doi.org/10.1038/s41598-017-00817-1>
- Lu, Y., Yuan, J., Lu, X., Su, C., Zhang, Y., Wang, C., Cao, X., Li, Q., Su, J., Ittekkot, V., Garbutt, R. A., Bush, S., Fletcher, S., Wagey, T., Kachur, A., & Sweijid, N. (2018). Major threats of pollution and climate change to global coastal ecosystems and enhanced management for sustainability. *Environmental Pollution*, 239, 670-680. <https://doi.org/10.1016/j.envpol.2018.04.016>
- Ma, X.-y., Kang, X., Su, C.-x., Chen, Y.-q., & Sun, H.-m. (2023). Effects of water chemistry on microfabric and micromechanical properties evolution of coastal sediment: A centrifugal model study. *Science of The Total Environment*, 866, 161343. <https://doi.org/10.1016/j.scitotenv.2022.161343>
- Macaulay, B. (2015). Understanding the behaviour of oil-degrading micro-organisms to enhance the microbial remediation of spilled petroleum. *Applied ecology and environmental research*, 13(1), 247-261.

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- MacFaddin, J. F. (1999). *Biochemical Tests for Identification of Medical Bacteria* (3 ed.). Lippincott Williams and Wilkins.
- Madigan, M. T., & Martinko, J. (2005). *Brock biology of microorganisms, 11th edn.* SciELO Espana.
- Madsen, E. L. (2011). Microorganisms and their roles in fundamental biogeochemical cycles. *Current Opinion in Biotechnology*, 22(3), 456-464. <https://doi.org/10.1016/j.copbio.2011.01.008>
- Mahajan, M., Manek, D., Vora, N., Kothari, R. K., Mootapally, C., & Nathani, N. M. (2021). Fungi with high ability to crunch multiple Polycyclic Aromatic Hydrocarbons (PAHs) from the pelagic sediments of Gulfs of Gujarat. *Marine Pollution Bulletin*, 167, 112293. <https://doi.org/10.1016/j.marpolbul.2021.112293>
- Mahrt, L. (1999). The Coastal Zone. In G. L. Geernaert (Ed.), *Air-Sea Exchange: Physics, Chemistry and Dynamics* (pp. 247-267). Springer Netherlands. [https://doi.org/10.1007/978-94-015-9291-8\\_10](https://doi.org/10.1007/978-94-015-9291-8_10)
- Maliki, A. A. A., Chabuk, A., Sultan, M. A., Hashim, B. M., Hussain, H. M., & Al-Ansari, N. (2020). Estimation of Total Dissolved Solids in Water Bodies by Spectral Indices Case Study: Shatt al-Arab River. *Water, Air, & Soil Pollution*, 231(9), 482. <https://doi.org/10.1007/s11270-020-04844-z>
- Manasa, R. L., & Mehta, A. (2020). Wastewater: Sources of Pollutants and Its Remediation. In K. M. Gothandam, S. Ranjan, N. Dasgupta, & E. Lichtfouse (Eds.), *Environmental Biotechnology Vol. 2* (pp. 197-219). Springer International Publishing. [https://doi.org/10.1007/978-3-030-38196-7\\_9](https://doi.org/10.1007/978-3-030-38196-7_9)
- Marais, A. E., Abi-Zeid, I., Rodriguez, M. J., & Lavoie, R. (2024). A Multicriteria Model for the Assessment of Source Water Contamination by Anthropogenic Activities to Support Land Use Management. *Environmental Modeling & Assessment*. <https://doi.org/10.1007/s10666-024-09964-y>
- Martinez, R. M., & Rusch, E. (2014). *Understanding the Connections Between Coastal Waters and Ocean Ecosystem Services and Human Health: Workshop Summary*. The National Academies Press. <https://doi.org/10.17226/18552>
- Masselink, G., Hughes, M., & Knight, J. (2014). *Introduction to coastal processes and geomorphology* (2 ed.). Routledge. <https://doi.org/10.4324/9780203785461>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Mathew, R., & Winterwerp, J. C. (2020). Sediment dynamics and transport regimes in a narrow microtidal estuary. *Ocean Dynamics*, 70(4), 435-462. <https://doi.org/10.1007/s10236-020-01345-9>
- Mathivanan, K., & Rajaram, R. (2014). Anthropogenic influences on toxic metals in water and sediment samples collected from industrially polluted Cuddalore coast, Southeast coast of India. *Environmental Earth Sciences*, 72(4), 997-1010. <https://doi.org/10.1007/s12665-013-3017-4>
- Mejjad, N., Rossi, A., & Pavel, A. B. (2022). The coastal tourism industry in the Mediterranean: A critical review of the socio-economic and environmental pressures & impacts. *Tourism Management Perspectives*, 44, 101007. <https://doi.org/10.1016/j.tmp.2022.101007>
- Miah, M. G., Islam, M. R., Roy, J., Rahman, M. M., & Abdullah, H. M. (2023). A changing coastal ecosystem: Cox's Bazar in southeastern coastal region of Bangladesh. *Environment, Development and Sustainability*, 25(7), 6141-6165. <https://doi.org/10.1007/s10668-022-02297-4>
- Mitra, A., Kumar, V. S., & Jena, B. K. (2020). Tidal characteristics in the Gulf of Khambhat, northern Arabian Sea – based on observation and global tidal model data. *Oceanologia*, 62(4, Part A), 443-459. <https://doi.org/10.1016/j.oceano.2020.05.002>
- MM&FICCI. (2019). *Summit on Global Chemicals & Petrochemicals Manufacturing Hubs in India November 2019*.
- Mohapatra, M., Yadav, R., Rajput, V., Dharne, M. S., & Rastogi, G. (2021). Metagenomic analysis reveals genetic insights on biogeochemical cycling, xenobiotic degradation, and stress resistance in mudflat microbiome. *Journal of Environmental Management*, 292, 112738. <https://doi.org/10.1016/j.jenvman.2021.112738>
- Mootapally, C., Nathani, N. M., Poriya, P., Beleem, I., Dabhi, J. C., Gadhvi, I. R., & Joshi, C. G. (2019). Antibiotic Resistome Biomarkers associated to the Pelagic Sediments of the Gulfs of Kathiawar Peninsula and Arabian Sea. *Scientific Reports*, 9(1), 17281. <https://doi.org/10.1038/s41598-019-53832-9>
- Morillo, J., Usero, J., & Gracia, I. (2004). Heavy metal distribution in marine sediments from the southwest coast of Spain. *Chemosphere*, 55(3), 431-442. <https://doi.org/10.1016/j.chemosphere.2003.10.047>
- MSME-GOI. (2011). *Brief Industrial Profile of Bhavnagar District*. G. o. I. Ministry of MSME.

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Muller, G. (1969). Index of geoaccumulation in sediments of the Rhine River. *Geojournal*, 2, 108-118.
- Naik, S., Mishra, R. K., Panda, U. S., Mishra, P., & Panigrahy, R. (2020). Phytoplankton community response to environmental changes in Mahanadi estuary and its adjoining coastal waters of bay of Bengal: a multivariate and remote sensing approach. *Remote Sensing in Earth Systems Sciences*, 3, 110-122. <https://doi.org/10.1007/s41976-020-00036-9>
- Naseem, K., Imran, Q., Ur Rehman, M. Z., Tahir, M. H., & Najeeb, J. (2023). Adsorptive removal of heavy metals and dyes from wastewater using *Azadirachta indica* biomass. *International Journal of Environmental Science and Technology*, 20(5), 5799-5822. <https://doi.org/10.1007/s13762-022-04389-0>
- Nathani, N. M., Mootapally, C., & Dave, B. P. (2019). Antibiotic resistance genes allied to the pelagic sediment microbiome in the Gulf of Khambhat and Arabian Sea. *Science of The Total Environment*, 653, 446-454. <https://doi.org/10.1016/j.scitotenv.2018.10.409>
- Nayak, N. S., Thacker, S. C., Tipre, D., & Dave, S. (2020). *Bacillus pumilus*—A marine bacterium: Unexplored source for potential biosurfactant production. *Bioscience Biotechnology Research Communications*, 13(1), 180-187.
- Nayak, R. K., & Shetye, S. R. (2003). Tides in the Gulf of Khambhat, west coast of India. *Estuarine, Coastal and Shelf Science*, 57(1), 249-254. [https://doi.org/10.1016/S0272-7714\(02\)00349-9](https://doi.org/10.1016/S0272-7714(02)00349-9)
- Nubi, O. A., Oyatola, O. O., & Adeleye, A. O. (2024). Hydrological distribution of physicochemical parameters, heavy metals, and their ecotoxicological implications in Lagos Lagoon, off the Gulf of Guinea Basin. *Sustainable Water Resources Management*, 10(2), 84. <https://doi.org/10.1007/s40899-024-01054-x>
- Orth, R. J., Carruthers, T. J. B., Dennison, W. C., Duarte, C. M., Fourqurean, J. W., Heck, K. L., Hughes, A. R., Kendrick, G. A., Kenworthy, W. J., Olyarnik, S., Short, F. T., Waycott, M., & Williams, S. L. (2006). A Global Crisis for Seagrass Ecosystems. *BioScience*, 56(12), 987-996. [https://doi.org/10.1641/0006-3568\(2006\)56\[987:Agcfse\]2.0.Co;2](https://doi.org/10.1641/0006-3568(2006)56[987:Agcfse]2.0.Co;2)
- Paissé, S., Coulon, F., Goñi-Urriza, M., Peperzak, L., McGenity, T. J., & Duran, R. (2008). Structure of bacterial communities along a hydrocarbon contamination gradient in a coastal sediment. *FEMS Microbiology Ecology*, 66(2), 295-305. <https://doi.org/10.1111/j.1574-6941.2008.00589.x>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Palmer, M. A., Covich, A. P., Lake, S., Biro, P., Brooks, J. J., Cole, J., Dahm, C., Gibert, J., Goedkoop, W., Martens, K., Verhoeven, J., & Van De Bund, W. J. (2000). Linkages between Aquatic Sediment Biota and Life Above Sediments as Potential Drivers of Biodiversity and Ecological Processes: A disruption or intensification of the direct and indirect chemical, physical, or biological interactions between aquatic sediment biota and biota living above the sediments may accelerate biodiversity loss and contribute to the degradation of aquatic and riparian habitats. *BioScience*, *50*(12), 1062-1075. [https://doi.org/10.1641/0006-3568\(2000\)050\[1062:Lbasba\]2.0.Co;2](https://doi.org/10.1641/0006-3568(2000)050[1062:Lbasba]2.0.Co;2)
- Pandion, K., Arunachalam, K. D., Dowlath, M. J. H., Chinnapan, S., Chang, S. W., Chang, W., Milon, A. R., Gengan, R. M., & Ravindran, B. (2022). The spatial distribution of physicochemical parameters in coastal sediments along the Bay of Bengal Coastal Zone with statistical analysis. *Environmental monitoring and assessment*, *195*(1), 126. <https://doi.org/10.1007/s10661-022-10568-w>
- Pandion, K., Dowlath, M. J. H., Arunachalam, K. D., Abd-Elkader, O. H., Yadav, K. K., Nazir, N., Rajagopal, R., Mani, R. R., Jones, S., Chang, S. W., & Ravindran, B. (2023). Seasonal influence on physicochemical properties of the sediments from Bay of Bengal coast with statistical approach. *Environmental Research*, *235*, 116611. <https://doi.org/10.1016/j.envres.2023.116611>
- Pandit, P. R., & Fulekar, M. (2017). Quality characterization of Coastal water in Gujarat coast, India. *Journal of Biotechnology and Biochemistry*, *3*(4), 8-15.
- Pandya, J., Kheni, M., Jani, R., & Mehta, S. (2022). SEA WATER & COASTAL SOIL ANALYSIS FROM SELECTED COSTAL AREAS OF BHAVNAGAR DISTRICT, GUJARAT, INDIA. *International Association of Biologicals and Computational Digest*, *1*(2), 196-201.
- Panseriya, H. Z., Gosai, H. B., Gavali, D. J., & Dave, B. P. (2023). Assessment of surface water quality during different tides and an anthropogenic impact on coastal water at Gulf of Kachchh, West Coast of India. *Environmental Science and Pollution Research*, *30*(10), 28053-28065. <https://doi.org/10.1007/s11356-022-24205-z>
- Panseriya, H. Z., Gosai, H. B., Vala, A. K., Gavali, D. J., & Dave, B. P. (2021). Assessment of surface water of Gulf of Kachchh, west coast of India: A chemometric approach. *Marine Pollution Bulletin*, *170*, 112589. <https://doi.org/10.1016/j.marpolbul.2021.112589>
- Parvathi, A., Krishna, K., Jose, J., Joseph, N., & Nair, S. (2009). Biochemical and molecular characterization of *Bacillus pumilus* isolated from coastal environment in Cochin,

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- India. *Brazilian Journal of Microbiology*, 40, 269-275. <https://doi.org/10.1590/S1517-83822009000200012>
- Pascoe, S., Paredes, S., & Coglan, L. (2023). The Indirect Economic Contribution of Fisheries to Coastal Communities through Tourism. *Fishes*, 8(3), 138. <https://doi.org/10.3390/fishes8030138>
- Pasumpon, N., Varma, R., & Vasudevan, S. (2023). Bioaccumulation level of metals and health risk assessment of selected red and green seaweeds validated by ICP-MS. *Environmental Science and Pollution Research*, 30(25), 66781-66799. <https://doi.org/10.1007/s11356-023-27192-x>
- Patale, V. V., & Tank, J. G. (2022). Evaluation of the edaphic and water properties of Diu coast (Saurashtra, Gujarat, India) in relation to the population density of *Avicennia marina*. *Applied Water Science*, 12(4), 78. <https://doi.org/10.1007/s13201-022-01602-w>
- Patel, V., Munot, H., Shouche, Y. S., & Madamwar, D. (2014). Response of bacterial community structure to seasonal fluctuation and anthropogenic pollution on coastal water of Alang–Sosiya ship breaking yard, Bhavnagar, India. *Bioresource Technology*, 161, 362-370. <https://doi.org/10.1016/j.biortech.2014.03.033>
- Patra, A., Das, S., Mandal, A., Mondal, N. S., Kole, D., Dutta, P., & Ghosh, A. R. (2023). Seasonal variation of physicochemical parameters and heavy metal concentration in water and bottom sediment at harboring areas of Digha coast, West Bengal, India. *Regional Studies in Marine Science*, 62, 102945. <https://doi.org/10.1016/j.rsma.2023.102945>
- Pattanaik, S., Acharya, D., Sahoo, R. K., Satapathy, D. R., Panda, C. R., Choudhury, S. B., Nagamani, P., & Roy, R. (2019). Short-term variability of physico-chemical properties and pCO<sub>2</sub> fluxes off Dhamra estuary from North-Eastern India. *Journal of the Indian Society of Remote Sensing*, 47, 1197-1208. <https://doi.org/10.1007/s12524-019-00983-x>
- Pokazeev, K., Sovga, E., & Chaplina, T. (2021). *Pollution in the Black Sea: Observations about the Ocean's Pollution* (1 ed.). Springer Cham. <https://doi.org/10.1007/978-3-030-61895-7>
- Potter, I. C., Warwick, R. M., Hall, N. G., & Tweedley, J. R. (2015). The physico-chemical characteristics, biota and fisheries of estuaries. In *Freshwater Fisheries Ecology* (pp. 48-79). <https://doi.org/10.1002/9781118394380.ch5>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Pramono, H., Mariana, A., Ryandini, D., & Sudiana, E. (2021). Diversity of cellulolytic bacteria isolated from coastal mangrove sediment in Logending Beach, Kebumen, Indonesia. *Biodiversitas: Journal of Biological Diversity*, 22(4). <https://doi.org/10.13057/biodiv/d220433>
- Prasad, K. M. B., & Ramanathan, A. L. (2008). Sedimentary nutrient dynamics in a tropical estuarine mangrove ecosystem. *Estuarine, Coastal and Shelf Science*, 80(1), 60-66. <https://doi.org/10.1016/j.ecss.2008.07.004>
- Rabari, V., Patel, K., Patel, H., & Trivedi, J. (2022). Quantitative assessment of microplastic in sandy beaches of Gujarat state, India. *Marine Pollution Bulletin*, 181, 113925. <https://doi.org/10.1016/j.marpolbul.2022.113925>
- Rai, S. (2020). Dahej Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR) in Gujrat: Performance Analysis. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 7(3), 788-799.
- Raiyani, N. M., & Singh, S. P. (2023). Microbial community and predictive functionalities associated with the marine sediment of Coastal Gujarat. *Environmental Science and Pollution Research*, 30(15), 43245-43266. <https://doi.org/10.1007/s11356-023-25196-1>
- Rajak, P., Ganguly, A., Nanda, S., Mandi, M., Ghanty, S., Das, K., Biswas, G., & Sarkar, S. (2024). 14 - Toxic contaminants and their impacts on aquatic ecology and habitats. In P. K. Shit, D. K. Datta, B. Bera, A. Islam, & P. P. Adhikary (Eds.), *Spatial Modeling of Environmental Pollution and Ecological Risk* (pp. 255-273). Woodhead Publishing. <https://doi.org/10.1016/B978-0-323-95282-8.00040-7>
- Rajeev, M., Sushmitha, T. J., Aravindraja, C., Toleti, S. R., & Pandian, S. K. (2021). Exploring the impacts of heavy metals on spatial variations of sediment-associated bacterial communities. *Ecotoxicology and Environmental Safety*, 209, 111808. <https://doi.org/10.1016/j.ecoenv.2020.111808>
- Rajitha, K., Nancharaiah, Y. V., & Venugopalan, V. P. (2020). Acid soluble extracellular matrix confers structural stability to marine *Bacillus haynesii* pellicle biofilms. *Colloids and Surfaces B: Biointerfaces*, 194, 111160. <https://doi.org/10.1016/j.colsurfb.2020.111160>
- Raju, K., Vijayaraghavan, K., Seshachalam, S., & Muthumanickam, J. (2011). Impact of anthropogenic input on physicochemical parameters and trace metals in marine surface sediments of Bay of Bengal off Chennai, India. *Environmental monitoring and assessment*, 177(1), 95-114. <https://doi.org/10.1007/s10661-010-1621-2>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Rakhasiya, B., Munisamy, S., Mathew, D. E., Tothadi, S., Yadav, A., & Mantri, V. A. (2023). Potential utility of industrially unwanted constituent under the framework of waste to wealth: Edible salt from commercial marine red seaweed *Kappaphycus alvarezii* (Doty) L.M. Liao. *Bioresource Technology Reports*, 23, 101529. <https://doi.org/10.1016/j.biteb.2023.101529>
- Ramesh, R., Chen, Z., Cummins, V., Day, J., D'Elia, C., Dennison, B., Forbes, D. L., Glaeser, B., Glaser, M., Glavovic, B., Kremer, H., Lange, M., Larsen, J. N., Le Tissier, M., Newton, A., Pelling, M., Purvaja, R., & Wolanski, E. (2015). Land–Ocean Interactions in the Coastal Zone: Past, present & future. *Anthropocene*, 12, 85-98. <https://doi.org/10.1016/j.ancene.2016.01.005>
- Ratnam, K., Jha, D. K., Prashanthi Devi, M., & Dharani, G. (2022). Evaluation of Physicochemical Characteristics of Coastal Waters of Nellore, Southeast Coast of India, by a Multivariate Statistical Approach. *Frontiers in Marine Science*, 229. <https://doi.org/10.3389/fmars.2022.857957>
- Ravichandran, M., Devi, N. R., Rasheeq, A. A., Muthusamy, A., Subbiah, S., Kumar, B. P., Rangesh, K., Preethi, B. A., Dineshkumar, R., & Arumugam, A. (2022). Spatiotemporal dynamics of physicochemical and sediment parameters in Gulf of Mannar waters, Southeast coast of India. *Regional Studies in Marine Science*, 56, 102603. <https://doi.org/10.1016/j.rsma.2022.102603>
- Reang, L., Bhatt, S., Tomar, R. S., Joshi, K., Padhiyar, S., Vyas, U. M., & Kheni, J. K. (2022). Plant growth promoting characteristics of halophilic and halotolerant bacteria isolated from coastal regions of Saurashtra Gujarat. *Scientific Reports*, 12(1), 4699. <https://doi.org/10.1038/s41598-022-08151-x>
- Reddy, Y., Ganguly, D., Singh, G., Prasad, M. H., Arumughan, P. S., Banerjee, K., Kathirvel, A., Ramachandran, P., & Ramachandran, R. (2021). Assessment of bioavailable nitrogen and phosphorus content in the sediments of Indian mangroves. *Environmental Science and Pollution Research*, 28(31), 42051-42069. <https://doi.org/10.1007/s11356-021-13638-7>
- Reed, H. E., & Martiny, J. B. H. (2012). Microbial composition affects the functioning of estuarine sediments. *The ISME Journal*, 7(4), 868-879. <https://doi.org/10.1038/ismej.2012.154>
- Reyes-Sosa, M. B., Apodaca-Hernández, J. E., & Arena-Ortiz, M. L. (2018). Bioprospecting for microbes with potential hydrocarbon remediation activity on the northwest coast of

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- the Yucatan Peninsula, Mexico, using DNA sequencing. *Science of The Total Environment*, 642, 1060-1074. <https://doi.org/10.1016/j.scitotenv.2018.06.097>
- Richard, F. C., & Bourg, A. C. M. (1991). Aqueous geochemistry of chromium: A review. *Water research*, 25(7), 807-816. [https://doi.org/10.1016/0043-1354\(91\)90160-R](https://doi.org/10.1016/0043-1354(91)90160-R)
- Riechers, M., Brunner, B. P., Dajka, J.-C., Duş, I. A., Lübker, H. M., Manlosa, A. O., Sala, J. E., Schaal, T., & Weidlich, S. (2021). Leverage points for addressing marine and coastal pollution: A review. *Marine Pollution Bulletin*, 167, 112263. <https://doi.org/10.1016/j.marpolbul.2021.112263>
- Saber Kelany, M., Aly Beltagy, E., Khalil, A. E.-F., Ahmed El-Shenawy, M., & El-Shouny, A. E.-F. (2019). Isolation, characterization, and detection of antibacterial activity of a bioactive compound produced by marine *Bacillus* sp. MH20 from Suez Bay, Egypt. *Novel Research in Microbiology Journal*, 3(1), 258-270. <https://doi.org/10.21608/nrmj.2019.28112>
- Sachaniya, B., Gosai, H., Panseriya, H., & Dave, B. (2021). Isolation and screening of multiple polycyclic aromatic hydrocarbons (PAHs) degrading bacteria from historically contaminated coastal sites of Gujarat India. *J Mar Biol Assoc India*, 63, 18-25.
- Saha, A., Das, B. K., Sarkar, D. J., Samanta, S., Vijaykumar, M. E., Khan, M. F., Kayal, T., Jana, C., Kumar, V., Gogoi, P., & Chowdhury, A. R. (2024). Trace metals and pesticides in water-sediment and associated pollution load indicators of Netravathi-Gurupur estuary, India: Implications on coastal pollution. *Marine Pollution Bulletin*, 199, 115950. <https://doi.org/10.1016/j.marpolbul.2023.115950>
- Saher, N. U., & Siddiqui, A. S. (2019). Occurrence of heavy metals in sediment and their bioaccumulation in sentinel crab (*Macrophthalmus depressus*) from highly impacted coastal zone. *Chemosphere*, 221, 89-98. <https://doi.org/10.1016/j.chemosphere.2019.01.008>
- Sahoo, M. M., & Swain, J. B. (2023). Investigation and comparative analysis of ecological risk for heavy metals in sediment and surface water in east coast estuaries of India. *Marine Pollution Bulletin*, 190, 114894. <https://doi.org/10.1016/j.marpolbul.2023.114894>
- Salgado Bernal, I., Sivalingam, P., Martínez Sardiña, A., Manduca Artiles, M., Carballo Valdés, M. E., & Poté, J. (2024). Chemical characteristics with attention on toxic metals content in sediments of the urban tropical ecosystem Río Almendares, Havana, Cuba: Pollution risk assessment. *Journal of South American Earth Sciences*, 133, 104691. <https://doi.org/10.1016/j.jsames.2023.104691>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Salomons, W., & Förstner, U. (2012). *Metals in the Hydrocycle* (1 ed.). Springer Berlin, Heidelberg. <https://doi.org/10.1007/978-3-642-69325-0>
- Saravanan, A., Kumar, P. S., Vo, D.-V. N., Jeevanantham, S., Karishma, S., & Yaashikaa, P. R. (2021). A review on catalytic-enzyme degradation of toxic environmental pollutants: Microbial enzymes. *Journal of Hazardous materials*, 419, 126451. <https://doi.org/10.1016/j.jhazmat.2021.126451>
- Satpathy, K. K., Mohanty, A. K., Natesan, U., Prasad, M. V. R., & Sarkar, S. K. (2010). Seasonal variation in physicochemical properties of coastal waters of Kalpakkam, east coast of India with special emphasis on nutrients. *Environmental monitoring and assessment*, 164(1), 153-171. <https://doi.org/10.1007/s10661-009-0882-0>
- Satpathy, K. K., Mohanty, A. K., Prasad, M. V. R., Natesan, U., & Sarkar, S. K. (2012). Studies on the variations of heavy metals in the marine sediments off Kalpakkam, East Coast of India. *Environmental Earth Sciences*, 65(1), 89-101. <https://doi.org/10.1007/s12665-011-1067-z>
- Scheffer, M., & Carpenter, S. R. (2003). Catastrophic regime shifts in ecosystems: linking theory to observation. *Trends in ecology & evolution*, 18(12), 648-656. <https://doi.org/10.1016/j.tree.2003.09.002>
- Scialabba, N. (1998). *Integrated coastal area management and agriculture, forestry and fisheries*. Food & Agriculture Organization (FAO).
- Sdiri, A., Higashi, T., Chaabouni, R., & Jamoussi, F. (2012). Competitive Removal of Heavy Metals from Aqueous Solutions by Montmorillonitic and Calcareous Clays. *Water, Air, & Soil Pollution*, 223(3), 1191-1204. <https://doi.org/10.1007/s11270-011-0937-z>
- Senapati, S., & Gupta, V. (2014). Climate change and coastal ecosystem in India: Issues in perspectives. *International Journal of Environmental Sciences*, 5(3), 530-543. <https://doi.org/10.6088/ijes.2014050100047>
- Sengupta, D., Choi, Y. R., Tian, B., Brown, S., Meadows, M., Hackney, C. R., Banerjee, A., Li, Y., Chen, R., & Zhou, Y. (2023). Mapping 21st Century Global Coastal Land Reclamation. *Earth's Future*, 11(2), e2022EF002927. <https://doi.org/10.1029/2022EF002927>
- Sharma, A. K., Kikani, B. A., & Singh, S. P. (2021). Diversity and Phylogeny of Actinomycetes of Arabian Sea Along the Gujarat Coast. *Geomicrobiology Journal*, 38(4), 347-364. <https://doi.org/10.1080/01490451.2020.1860165>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Sheppard, S. C., Grant, C. A., Sheppard, M. I., de Jong, R., & Long, J. (2009). Risk Indicator for Agricultural Inputs of Trace Elements to Canadian Soils. *Journal of Environmental Quality*, 38(3), 919-932. <https://doi.org/10.2134/jeq2008.0195>
- Siddiqui, E., & Pandey, J. (2019). Assessment of heavy metal pollution in water and surface sediment and evaluation of ecological risks associated with sediment contamination in the Ganga River: a basin-scale study. *Environmental Science and Pollution Research*, 26(11), 10926-10940. <https://doi.org/10.1007/s11356-019-04495-6>
- Singh, A. K., Hasnain, S., & Banerjee, D. (1999). Grain size and geochemical partitioning of heavy metals in sediments of the Damodar River—a tributary of the lower Ganga, India. *Environmental geology*, 39, 90-98. <https://doi.org/10.1007/s002540050439>
- Singh, J., Yadav, P., Pal, A. K., & Mishra, V. (2020). Water Pollutants: Origin and Status. In D. Pooja, P. Kumar, P. Singh, & S. Patil (Eds.), *Sensors in Water Pollutants Monitoring: Role of Material* (pp. 5-20). Springer Singapore. [https://doi.org/10.1007/978-981-15-0671-0\\_2](https://doi.org/10.1007/978-981-15-0671-0_2)
- Singh, J. K., Kumar, P., & Vishwakarma, S. (2022). Multivariate and Statistical Evaluation of Coastal Water Quality and Seasonal Variation in the Physicochemical Properties of Gulf of Khambhat Region, Gujarat, India. *Water, Air, & Soil Pollution*, 233(9), 358. <https://doi.org/10.1007/s11270-022-05799-z>
- Singh, V. (2024). Biogeochemical Cycles. In *Textbook of Environment and Ecology* (pp. 75-94). Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-8846-4\\_5](https://doi.org/10.1007/978-981-99-8846-4_5)
- Skórczewski, P., Mudryk, Z. J., Miranowicz, J., Perlinski, P., & Zdanowicz, M. (2014). Antibiotic resistance of Staphylococcus-like organisms isolated from a recreational sea beach on the southern coast of the Baltic Sea as one of the consequences of anthropogenic pressure. *Oceanological and Hydrobiological Studies*, 43(1), 41-48. <https://doi.org/10.2478/s13545-014-0115-1>
- Soltani, M., Ghosh, K., Hoseinifar, S. H., Kumar, V., Lymbery, A. J., Roy, S., & Ringø, E. (2019). Genus bacillus, promising probiotics in aquaculture: Aquatic animal origin, bioactive components, bioremediation and efficacy in fish and shellfish. *Reviews in Fisheries Science & Aquaculture*, 27(3), 331-379. <https://doi.org/10.1080/23308249.2019.1597010>
- Spanier, E., & Zviely, D. (2023). Key Environmental Impacts along the Mediterranean Coast of Israel in the Last 100 Years. *Journal of Marine Science and Engineering*, 11(1), 2. <https://doi.org/10.3390/jmse11010002>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Spanò, A., Gugliandolo, C., Lentini, V., Maugeri, T. L., Anzelmo, G., Poli, A., & Nicolaus, B. (2013). A Novel EPS-Producing Strain of *Bacillus licheniformis* Isolated from a Shallow Vent Off Panarea Island (Italy). *Current Microbiology*, 67(1), 21-29. <https://doi.org/10.1007/s00284-013-0327-4>
- Srinivasan, R., Karaoz, U., Volegova, M., MacKichan, J., Kato-Maeda, M., Miller, S., Nadarajan, R., Brodie, E. L., & Lynch, S. V. (2015). Use of 16S rRNA Gene for Identification of a Broad Range of Clinically Relevant Bacterial Pathogens. *PLOS ONE*, 10(2), e0117617. <https://doi.org/10.1371/journal.pone.0117617>
- Strickland, J. D. H., & Parsons, T. R. (1972). *A practical handbook of seawater analysis*.
- Su, Z., Dai, T., Tang, Y., Tao, Y., Huang, B., Mu, Q., & Wen, D. (2018). Sediment bacterial community structures and their predicted functions implied the impacts from natural processes and anthropogenic activities in coastal area. *Marine Pollution Bulletin*, 131, 481-495. <https://doi.org/10.1016/j.marpolbul.2018.04.052>
- Sundar, S., Roy, P. D., & Chokkalingam, L. (2022). Spatial distribution and enrichment of metals in surface sediments from different coastal landforms at southernmost Indian subcontinent. *Journal of Coastal Conservation*, 26(4), 35. <https://doi.org/10.1007/s11852-022-00881-4>
- Sundaramanickam, A., Shanmugam, N., Cholan, S., Kumaresan, S., Madeswaran, P., & Balasubramanian, T. (2016). Spatial variability of heavy metals in estuarine, mangrove and coastal ecosystems along Parangipettai, Southeast coast of India. *Environmental Pollution*, 218, 186-195. <https://doi.org/10.1016/j.envpol.2016.07.048>
- Swaathy, S., Kavitha, V., Sahaya Pravin, A., Sekaran, G., Mandal, A. B., & Gnanamani, A. (2014). Phylogenetic Framework and Biosurfactant Gene Expression Analysis of Marine *Bacillus* spp. of Eastern Coastal Plain of Tamil Nadu. *International Journal of Bacteriology*, 2014(1), 860491. <https://doi.org/10.1155/2014/860491>
- Taylor, S. R. (1964). Abundance of chemical elements in the continental crust: a new table. *Geochimica et cosmochimica acta*, 28(8), 1273-1285. [https://doi.org/10.1016/0016-7037\(64\)90129-2](https://doi.org/10.1016/0016-7037(64)90129-2)
- Thalayappil, S., Mullungal, M. N., Peediyakkathodi, S., C. S, R. K., Panikkaveetil, R., P. M, S., & C. H, S. (2024). Composition and vertical distribution of organic matter in Central Indian Ocean sediment cores. *Scientific Reports*, 14(1), 2157. <https://doi.org/10.1038/s41598-023-49116-y>

- Tokatli, C. (2019). Drinking water quality assessment of Ergene River Basin (Turkey) by water quality index: essential and toxic elements. *Sains Malaysiana*, 48(10), 2071-2081.
- Tornero, V., & Hanke, G. (2016). Chemical contaminants entering the marine environment from sea-based sources: A review with a focus on European seas. *Marine Pollution Bulletin*, 112(1), 17-38. <https://doi.org/10.1016/j.marpolbul.2016.06.091>
- Turekian, K. K., & Wedepohl, K. H. (1961). Distribution of the elements in some major units of the earth's crust. *Geological society of America bulletin*, 72(2), 175-192. [https://doi.org/10.1130/0016-7606\(1961\)72\[175:DOTEIS\]2.0.CO;2](https://doi.org/10.1130/0016-7606(1961)72[175:DOTEIS]2.0.CO;2)
- Tyler, R. H., Boyer, T. P., Minami, T., Zweng, M. M., & Reagan, J. R. (2017). Electrical conductivity of the global ocean. *Earth, Planets and Space*, 69(1), 156. <https://doi.org/10.1186/s40623-017-0739-7>
- UN. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*
- USEPA. (1986). Quality criteria for water. United States Environmental Protection Agency office of Water Regulations and Standards. 20460.
- USEPA. (1989). National primary drinking water rules and regulations. U. S. EPA surface water rule. Filtration, disinfection, turbidity, Giardia lamblia, viruses, Legionella, heterotrophic bacteria. 27486-27541.
- Valiela, I. (2015). *Marine Ecological Processes* (3 ed.). Springer <https://doi.org/10.1007/978-0-387-79070-1>
- Vase, V. K., Dash, G., Sreenath, K., Temkar, G., Shailendra, R., Mohammed Koya, K., Divu, D., Dash, S., Pradhan, R. K., & Sukhdhane, K. S. (2018). Spatio-temporal variability of physico-chemical variables, chlorophyll a, and primary productivity in the northern Arabian Sea along India coast. *Environmental monitoring and assessment*, 190, 1-14. <https://doi.org/10.1007/s10661-017-5835-4>
- Venkatramanan, S., Ramkumar, T., Anithamary, I., & Vasudevan, S. (2014). Heavy metal distribution in surface sediments of the Tirumalairajan river estuary and the surrounding coastal area, east coast of India. *Arabian Journal of Geosciences*, 7(1), 123-130. <https://doi.org/10.1007/s12517-012-0734-z>
- Ventosa, A., Nieto Joaquín, J., & Oren, A. (1998). Biology of Moderately Halophilic Aerobic Bacteria. *Microbiology and Molecular Biology Reviews*, 62(2), 504-544. <https://doi.org/10.1128/membr.62.2.504-544.1998>
- Verma, P., Pandey, V., Seleyi, S. C., Alagarsamy, A., & Dharani, G. (2024). Exploring the hidden treasures: Deep-sea bacterial community structure in the Bay of Bengal and their

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- metabolic profile [Original Research]. *Frontiers in Marine Science*, 10. <https://doi.org/10.3389/fmars.2023.1308953>
- Vetterli, A., Hyytiäinen, K., Ahjos, M., Auvinen, P., Paulin, L., Hietanen, S., & Leskinen, E. (2015). Seasonal patterns of bacterial communities in the coastal brackish sediments of the Gulf of Finland, Baltic Sea. *Estuarine, Coastal and Shelf Science*, 165, 86-96. <https://doi.org/10.1016/j.ecss.2015.07.049>
- Vidya, P. V., Rajathy, S., Ratheesh Kumar, C. S., Maneesh Kumar, S. K., Akhilesh, K. B., Mohan, R., & Sudha, A. (2024). Geochemical partitioning of sediment-bound phosphorous in Thrissur Kole Wetlands, Southwest India: Status of bioavailability and trophic state. *International Journal of Environmental Science and Technology*, 21(7), 6005-6020. <https://doi.org/10.1007/s13762-023-05382-x>
- Vineethkumar, V., Sayooj, V. V., Shimod, K. P., & Prakash, V. (2020). Estimation of pollution indices and hazard evaluation from trace elements concentration in coastal sediments of Kerala, Southwest Coast of India. *Bulletin of the National Research Centre*, 44(1), 198. <https://doi.org/10.1186/s42269-020-00455-0>
- Vipindas, P. V., Mujeeb, R. K. M., Jabir, T., Thasneem, T. R., & Mohamed Hatha, A. A. (2020). Diversity of sediment bacterial communities in the South Eastern Arabian Sea. *Regional Studies in Marine Science*, 35, 101153. <https://doi.org/10.1016/j.rsma.2020.101153>
- Virginia, B., & Davidson, M. (2012). *Coastal Impacts, Adaptation, and Vulnerabilities* (1 ed.). Island Press Washington, DC. <https://doi.org/10.5822/978-1-61091-460-4>
- Wang, L., Zheng, B., & Lei, K. (2015). Diversity and distribution of bacterial community in the coastal sediments of Bohai Bay, China. *Acta Oceanologica Sinica*, 34(10), 122-131. <https://doi.org/10.1007/s13131-015-0719-3>
- Wang, X. C., Chen, R. F., & Berry, A. (2003). Sources and preservation of organic matter in Plum Island salt marsh sediments (MA, USA): long-chain n-alkanes and stable carbon isotope compositions. *Estuarine, Coastal and Shelf Science*, 58(4), 917-928. <https://doi.org/10.1016/j.ecss.2003.07.006>
- Wang, Y., Hu, Y., Liu, Y., Chen, Q., Xu, J., Zhang, F., Mao, J., Shi, Q., He, C., Cai, R., Lønborg, C., Liu, L., Guo, A., Jiao, N., & Zheng, Q. (2024). Heavy metal induced shifts in microbial community composition and interactions with dissolved organic matter in coastal sediments. *Science of The Total Environment*, 927, 172003. <https://doi.org/10.1016/j.scitotenv.2024.172003>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Williams, A. T., Rangel-Buitrago, N. G., Anfuso, G., Cervantes, O., & Botero, C. M. (2016). Litter impacts on scenery and tourism on the Colombian north Caribbean coast. *Tourism Management*, 55, 209-224. <https://doi.org/10.1016/j.tourman.2016.02.008>
- Windom, H. L. (1992). Contamination of the marine environment from land-based sources. *Marine Pollution Bulletin*, 25(1), 32-36. [https://doi.org/10.1016/0025-326X\(92\)90180-E](https://doi.org/10.1016/0025-326X(92)90180-E)
- Wu, P.-S., Liu, C.-H., & Hu, S.-Y. (2021). Probiotic *Bacillus safensis* NPUST1 Administration Improves Growth Performance, Gut Microbiota, and Innate Immunity against *Streptococcus iniae* in Nile tilapia (*Oreochromis niloticus*). *Microorganisms*, 9(12), 2494. <https://doi.org/10.3390/microorganisms9122494>
- Xin, P., Wilson, A., Shen, C., Ge, Z., Moffett, K. B., Santos, I. R., Chen, X., Xu, X., Yau, Y. Y., Moore, W., Li, L., & Barry, D. A. (2022). Surface Water and Groundwater Interactions in Salt Marshes and Their Impact on Plant Ecology and Coastal Biogeochemistry. *Reviews of Geophysics*, 60(1), e2021RG000740. <https://doi.org/10.1029/2021RG000740>
- Xiong, J., Zheng, Y., Zhang, J., Quan, F., Lu, H., & Zeng, H. (2023). Impact of climate change on coastal water quality and its interaction with pollution prevention efforts. *Journal of Environmental Management*, 325, 116557. <https://doi.org/10.1016/j.jenvman.2022.116557>
- Yadav, A. N., Verma, P., Kumar, M., Pal, K. K., Dey, R., Gupta, A., Padaria, J. C., Gujar, G. T., Kumar, S., Suman, A., Prasanna, R., & Saxena, A. K. (2015). Diversity and phylogenetic profiling of niche-specific Bacilli from extreme environments of India. *Annals of Microbiology*, 65(2), 611-629. <https://doi.org/10.1007/s13213-014-0897-9>
- Yang, F., Zheng, Y., Tian, X., Liu, Y., Li, J., Shao, Z., & Zhao, F. (2021). Redox cycling of manganese by *Bacillus horikoshii* biET1 via oxygen switch. *Electrochimica Acta*, 375, 137963. <https://doi.org/10.1016/j.electacta.2021.137963>
- Yang, J.-W., Brandon, M., Landais, A., Duchamp-Alphonse, S., Blunier, T., Prié, F., & Extier, T. (2022). Global biosphere primary productivity changes during the past eight glacial cycles. *Science*, 375(6585), 1145-1151. <https://doi.org/10.1126/science.abj8826>
- Yousuf, J., Thajudeen, J., Rahiman, M., Krishnankutty, S., P. Alikunj, A., & A. Abdulla, M. H. (2017). Nitrogen fixing potential of various heterotrophic *Bacillus* strains from a tropical estuary and adjacent coastal regions. *Journal of Basic Microbiology*, 57(11), 922-932. <https://doi.org/10.1002/jobm.201700072>

---

**Gosai., H., G. (2024). Assessment of pollution load of coastal mudflats along the western bank of Gulf of Khambhat with special reference to microbial community structure as bioindicator.**

- Yu, Y., Wang, Z., Yao, B., & Zhou, Y. (2024). Occurrence, bioaccumulation, fate, and risk assessment of emerging pollutants in aquatic environments: A review. *Science of The Total Environment*, 923, 171388. <https://doi.org/10.1016/j.scitotenv.2024.171388>
- Zhang, H., Cui, B., Xiao, R., & Zhao, H. (2010). Heavy metals in water, soils and plants in riparian wetlands in the Pearl River Estuary, South China. *Procedia Environmental Sciences*, 2, 1344-1354. <https://doi.org/10.1016/j.proenv.2010.10.145>
- Zhang, S., Liao, S.-a., Yu, X., Lu, H., Xian, J.-a., Guo, H., Wang, A., & Xie, J. (2015). Microbial diversity of mangrove sediment in Shenzhen Bay and gene cloning, characterization of an isolated phytase-producing strain of SPC09 *B. cereus*. *Applied Microbiology and Biotechnology*, 99(12), 5339-5350. <https://doi.org/10.1007/s00253-015-6405-8>
- Zhao, F., Feng, Y.-z., Chen, R.-r., Zhang, H.-y., Wang, J.-h., & Lin, X.-g. (2014). *Bacillus fengqiensis* sp. nov., isolated from a typical sandy loam soil under long-term fertilization. *International Journal of Systematic and Evolutionary Microbiology*, 64(Pt\_8), 2849-2856. <https://doi.org/10.1099/ijs.0.063081-0>
- Zhao, R., Dong, X., Liu, Q., Xu, M., & Zhao, Y. (2023). Distribution, sources and influencing factors of organic carbon in the surface sediments of the coastal tidal flats in Jiangsu Province. *Frontiers in Marine Science*, 10. <https://doi.org/10.3389/fmars.2023.1220923>
- Zheng, Z., Fu, Y., Liu, K., Xiao, R., Wang, X., & Shi, H. (2018). Three-stage vertical distribution of seawater conductivity. *Scientific Reports*, 8(1), 9916. <https://doi.org/10.1038/s41598-018-27931-y>
- Zhong, J., Hu, X., Liu, X., Cui, X., Lv, Y., Tang, C., Zhang, M., Li, H., Qiu, L., & Sun, W. (2021). Isolation and Identification of Uranium Tolerant Phosphate-Solubilizing *Bacillus* spp. and Their Synergistic Strategies to U(VI) Immobilization [Original Research]. *Frontiers in microbiology*, 12. <https://doi.org/10.3389/fmicb.2021.676391>
- Zou, Y., Lou, S., Zhang, Z., Liu, S., Zhou, X., Zhou, F., Radnaeva, L. D., Nikitina, E., & Fedorova, I. V. (2024). Predictions of heavy metal concentrations by physiochemical water quality parameters in coastal areas of Yangtze river estuary. *Marine Pollution Bulletin*, 199, 115951. <https://doi.org/10.1016/j.marpolbul.2023.115951>