



“Gheorghe Asachi” Technical University of Iasi, Romania



EFFECTS OF SEASONAL CHANGE ON COASTAL WATER QUALITY PARAMETERS IN THE INDUSTRIAL AREA, ASALOUYEH, IRAN

Alireza Hemmati¹, Fazel Amiri^{2*}, Esmail Kouhgard¹

¹*Department of Environment, Bushehr Branch, Islamic Azad University, Bushehr, Iran*

²*Department of Environment and Natural Resources, Bushehr Branch, Islamic Azad University, Bushehr, Iran*

³*Department of Environment, Bushehr Branch, Islamic Azad University, Bushehr, Iran*

Abstract

This study investigates seasonal changes in standard water quality parameters and dissolved heavy metals in Iranian coastal waters north of the Persian Gulf. The studied areas are heavily affected by industrial and urban wastewater. Iran's surface water quality index was chosen to assess the quality of coastal waters and heavy metals dissolved in water. Twelve stations were randomly selected, and sampling took place over four seasons in 2020. According to this study, three stations (4-6 and 12) out of 12 closer to industrial and urban areas have lower water quality and higher levels of heavy metals. Furthermore, testing the water quality in different seasons reveals that the water quality is lowest in the winter. The concentration of dissolved heavy metals and its comparison with the standards indicate that the measured heavy metals Zn, Cd, Pb, Cu, Fe, Ni, and Cr are higher than the permissible limits in most stations. Because winter is the rainy season in the region, heavy metal contamination is caused by washing industrial areas and water entering the sea. Therefore, since the measurement stations are located near densely populated and industrial areas, it can be concluded that these areas have had a negative impact on coastal waters.

Keywords: coastal area, developments, heavy metals, Persian Gulf, water quality

Received: February, 2022; Revised final: January, 2023; Accepted: January, 2023; Published in final edited form: January 2023

* Author to whom all correspondence should be addressed: e-mail: Fazel.Amiri@iau.ac.ir, Tel: +989177798200. Fax: (+98)-7733337503