Southeastern Section - 63rd Annual Meeting (10–11 April 2014)

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Presentation Time: 8:00 AM-12:00 PM

HYDROCHEMICAL ASSESSMENT AND FACTOR CONTROLLING WATER CHEMISTRY OF THE GORGAN BAY, NE OF IRAN

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In Present Study, hydrochemical characteristics of the internationally protected “Gorgan Bay wetland” in NE Iran (SE of the Caspian Sea) were studied in order to assess the contribution of environmental factors controlling the water quality of the bay. Eleven water samples and 10 sediment samples were collected from Gorgan Bay, also 10 water samples collected from drainage basin of the bay including five rivers. Major anions and cations of the water samples were measured through titration and AAS analysis in Ferdowsi University of Mashhad (in Iran). Mineral contents of sediments were determined by X-Ray diffraction (XRD) technique. Hydrochemical data were used to characterize the hydrogeological type of the water samples, Ionic ratios, source of dissolved ions and saturation Index of the water. Chemical type of Bay’s water was determined due to Piper diagram (1944) as well as Ionic ratios and Gibbs diagram (1970), which illustrate marine source as the main source of the water. Saturation Index (SI) data showes that all collected samples are under-saturated for evaporates, but highly saturated for aragonite, calcite, dolomite, and huntite. Our data show that the Caspian Sea plays main controlling role on the bay’s water chemistry, rather than two other factors of Gorgan Bay’s sediments, and the rivers ending to the bay. Regarding to constructions developing around the bay, it should be focused on the chemical and environmental factors controlling water quality and ecological conditions, in order to prevent harmful influences on Physical, Chemical, and biological properties of the Gorgan bay.

Session No. 9--Booth# 36
T23. Water Quality issues in the Southeast U.S. (Posters)
Thursday, 10 April 2014: 8:00 AM-12:00 PM

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