Numerical Modeling of Circulation and Salinity Distribution in Seomjin River Estuary

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Abstract

Water circulation plays a crucial role in regulating the salinity of estuaries, which is essential for the survival of estuarine organisms. Changes in freshwater inflows or sea level can have significant impacts on the distribution and abundance of species within these ecosystems. To better understand these dynamics, this paper presents a study of water circulation and salinity distribution in Seomjin River estuary using the Finite Volume Coastal Ocean Model (FVCOM) numerical model. An extreme scenario was simulated to assess the potential impact of tidal currents and river flow discharge on circulation and salinity distribution. The results of this study have important implications for managing estuarine ecosystems and conserving their associated biodiversity.

Keywords : Estuary, Salinity distribution, Water circulation, Numerical modeling, Seomjin river

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