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Sommario/riassunto

Published by the American Geophysical Union as part of the Lecture Notes on Coastal and Estuarine Studies Series, Volume 9. A wealth of information on osmotic and ionic regulation in Estuarine and Marine Animals has been accumulated over the past decades. Beyond early studies of whole-animal responses to changes in environmental salinities, efforts have been made later on to identify, to localize and to characterize the organs and structures responsible for the control of the characteristics of the cell's environmental fluid. When considering the problem of cell volume control in animals facing media of fluctuating salinities, we are indeed dealing with two different categories of mechanisms. A first one is concerned with the control of the osmolality of the intracellular fluid, hence with the processes directly implicated in the maintenance of cell volume and shape. They have been extensively described in several recent review papers.
