

FLUXES OF DISSOLVED AND PARTICULATE TRACE ELEMENTS AT THE STRAITS OF GIBRALTAR AND SICILY

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During the European River Ocean System programme (EROS 2000), intensive measurements of the distribution and fluxes of dissolved and particulate trace elements were performed within the western Mediterranean sea as well as at the boundaries of the system (river, atmosphere, sediment, straits). This exceptional set of data allowed one to establish a coherent mass balance for the system.

Two cruises performed during the Valdivia and Discovery were especially devoted to the determination of the vertical distribution of dissolved and particulate metals along small transects crossing the Straits of Gibraltar and Sicily. Various hydrodynamical models were tested in order to evaluate exchange fluxes between the western Mediterranean sea, the North Atlantic and the eastern Mediterranean sea. The water fluxes suggested by BETHOUX (1980) were selected here.

The relative importance of the exchanges at the straits will be compared to the riverine and atmospheric fluxes at the boundaries of the system for the following elements : Al, Cr, Mn, Fe, Co, Ni, Cu, Zn, Pb.

REFERENCES

BETHOUX J.-P., 1980. Mean Water fluxes across sections in the Mediterranean sea, evaluated on the basis of water and salt budgets and of observed salinities. *Oceanologica Acta*, 3, 1 : 79-88.