

SEASONAL VARIABILITY OF ALUMINIUM DISTRIBUTION IN THE SURFACE WATERS AT THE ESTOC STATION

Poster

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Aluminium distribution at the ESTOC fixed station (15°30'W 29°10'N, North of Canary Islands) can provide insights on this coupling between atmosphere and ocean as the metal is a dust derived metal in surface waters. The sampling site was chosen because of ship facilities to the seasonal sampling and oceanographic knowledge of the area.

Aluminium was sampled during 10 months between 1996 and 1998. The metal was measured using an electrochemical method (Hernández-Brito et al., 1994). Determinations were carry out on board or within a few days after the sampling.

The annual variability of the metal distributions shows the higher concentrations in the surface waters on summer, while the lowest concentrations appears in winter during the year 1997. The annual patterns of dust concentrations in the airs showed maximum concentrations during winter and summer. The dissolution experiments carry out with dust samples shows a fast release (a few days) of aluminium from the dust. Thus, we conclude that surface distributions of aluminium were uncoupled with the atmospheric inputs. Evidences show that aluminium concentrations were higher in waters coming from the oligotrophic subtropical gyre. There, dust inputs over long periods (months or years) together with low concentrations of particulate organic matter increase aluminium concentrations. The seasonal pattern of aluminium at ESTOC station could be strongly affected by the annual shift of the subtropical gyre in the sampling area.

References

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SEASONAL VARIABILITY OF CHLOROPHYL NORTH OF CANARY ISLANDS. SATELLITE ESTIMATIONS AND IN SITU MEASUREMENTS.

Oral

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