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Distribution of Calcium and Magnesium in Adriatic Sea

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S u m m a r y

Calcium, magnesium and chlorinity content of 300 samples were analysed. The samples were collected at 30 stations in the Adriatic sea during two cruises. Distribution of calcium and magnesium and ion-chlorinity ratio in northern, middle and south part of Adriatic was discussed. The mean ratio of Ca/Cl was determined.

I n t r o d u c t i o n

Numerous recent studies of macroconstituents chlorinity ratios especially calcium and magnesium have resulted in conflicting opinions as to the relative constancy of these ratios (ATWOOD et al.). There are some data on calcium and magnesium distribution in Northern Adriatic sea and in Otranto channel (MAMELI and MOSETTI, and CATALANO et al.) We have studied the calcium and magnesium contents in seawater samples collected during two cruises in the Adriatic sea.

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S a m p l i n g a n d a n a l y s i s t e c h n i q u e

About 300 seawater samples were collected at 33 stations on April-May 1975 cruise and at 28 stations on February 1976 cruise of R/V "ANDRIJA MOHOROVIČIĆ" in the Adriatic sea. Calcium and magnesium were determined by titrimetric method using EDTA solution with murexide for calcium and indicator buffer pill for magnesium as indicator. Accuracy of titration was ± 0.005 g/kg.

R e s u l t s a n d d i s c u s s i o n

We shall discuss results for three characteristic profiles: Profile A joining Punta Maestra and Rovinj, Profile B joining Ortona and Žirje and Profile C joining Brindisi and Bar.

Profile A is under strong continental supply. The range of its chlorinity values goes from a minimum value of 13.07 to a maximum of 20.97.

Profile B is crossing the Jabuka pit, where the heavy North Adriatic's water is accumulated.

In Profile C the contribution of both Ionic and Adriatic waters is felt.

C o n c l u s i o n s

From ours results, taking in consideration the precision of used analytical method, we conclude that there are no variations in the Ca/Cl ratio unless such variation are less than the error of our method. We calculated that the mean Ca/Cl ratio value is 0.0212.

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