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A CONTRIBUTION TO CHEMICAL OCEANOGRAPHY OF THE ADRIATIC SEA

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S u m m a r y

With regard to Adriatic chemico-oceanographic activities performed till now, obtained results were summarized and some incompleteness were critically pointed out. Indicating on the most important geochemical factors and dynamical agitators of Adriatic basin, some recomandations for solution of complex oceanographic problems of Adriatic were made. The international cooperative research program for Adriatic, focussing on dynamics of water masses, under auspicies of ICSEM was proposed.

R é s u m é

Eu égard a l'activité océanographique chimique de la Mer Adriatique jusqu'a présent, on a résumé les résultats obtenus, et en meme temps, on a aussi indiqué quelques manques. Grâce a l'exposition des principaux facteurs géochimique et des initiateurs dynamiques du chimisme adriatique, on a indique la proposition du travail futur sur la solution complex du problême adriatique.

En outre, on a recommandé de fair un programme international de recherches pour l'Adriatique dans le cadre du programme international pour la Méditerranée sous les asupices du C.I.E.S.M.

Introduction

Prevalent part of recent chemical oceanography sutdies of the Adriatic Sea are performed by means of activity and research programs of Institutions situated on both part of Adriatic coast.

Investigated area and methods

The most investigated Adriatic region, from chemico-oceanographic point of view, were: The North Adriatic area (Venetian Gulf), performed by Institutes from Venezia, Trieste, Rovinj, Portorož and Fano prevalently. The Middle Adriatic (transect Split-Monte Gargano) with a station on Jabuka pit and another one in the South Adriatic basin, performed by Institute for Oceanography and Fisheries-Split. During International Geophysical Year, the middle and southern Adriatic were investigated by Italian and Yugoslav scientists. South part was studied also during R/V "Atlantis" cruise in the Mediterranean Sea. The following chemical parameters will be reported: Salinity, pH, alkalinity, oxygen and nutrients. Great incompleteness of all these works was nonexistance of a common coordination for all the Adriatic, absence of sufficiently number of representative stations, no continuous time sequence for investigations, no mtheodological intercalibrations, not enough clear defined dynamical situation.

Results and discusion

All these fact are reflected on quality and results of chemical oceanographic work. However, obtained results give us a general view into chemical--oceanography relation of the Adriatic basin and also the line of direction for a future more comprehensive work. For the chemical conditions in the Adriatic basin is very important to stress existence of two different influences: continental rich in

nutrients and in part with Ca-Mg hydrocarbonate content. The second, maritime (Mediterranean) is originated by penetration of saltic Ionian water with a higher nutrient level into the Adriatic. Strong wind influences during winter on the North Adriatic shelf are expressed on chemical conditions too. All mentioned influences were studied on the basis of classical conception of permanent and seasonal streaming inside and outside of the Adriatic basin. By these conception was impossible to explain some chemical conditions obtained during the most recent complex oceanographic work in the Adriatic (Andrija Mohorovičić" expedition - 1974).

Conclusion

To better knowledge of chemical conditions of the Adriatic as a whole I like propose:

1. Organisation of one Italo-Yugoslav-Greek Committee under auspices of C.I.E.S.M. for coordination of national investigation programme of the Adriatic Sea.

2. Elaboration of detail international programme for oceanographical study of Adriatic Sea, focussed on dynamics of water masses.

DISCUSSION

Question and comment:

1. The chemical, physical and biological parameters are in a very close connection and usefull for a dynamic comprehension of general circulation of the Adriatic Sea. We need use a synoptic information which could be obtained from satelite and overcraft remote sensing systems. (A. BALLESTER, Spain).