International Council for
the Exploration of the Sea.

C.M. 1974/C:13

ON THE CONDITIONS OF EMISSION AND TRANSFER OF SEA CONCENTRATES IN THE SOUTHERN BALTIC

/Summary/ [x]

by

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Investigations into the effect the various parameters of the air-sea interaction have on the transfer processes of marine aerosols were undertaken in conjunction with the problem regarding the pollution of the Baltic. The studies carried out so far were indicative of the possibility to use the sea-salt nuclei as tracers in these researches. From this more general point of view, the values have been calculated of the dimensionless wind speed parameter d. This factor, in princeple defines the dynamic conditions for emission intensity of sea concentrates /i.e. small maritime droplets and the residual particulate matter remaining in the atmosphere after the ejected sea-droples evaporate/.

In connection with outlined task the directions of air transport over the Baltic area were traced and typified. The calculation were done basing on the availaible data on the wind speed over the sea, and then the variations of factor d values were investigated. Fig.1 presents the mean year values of factor d in the South Baltic region.

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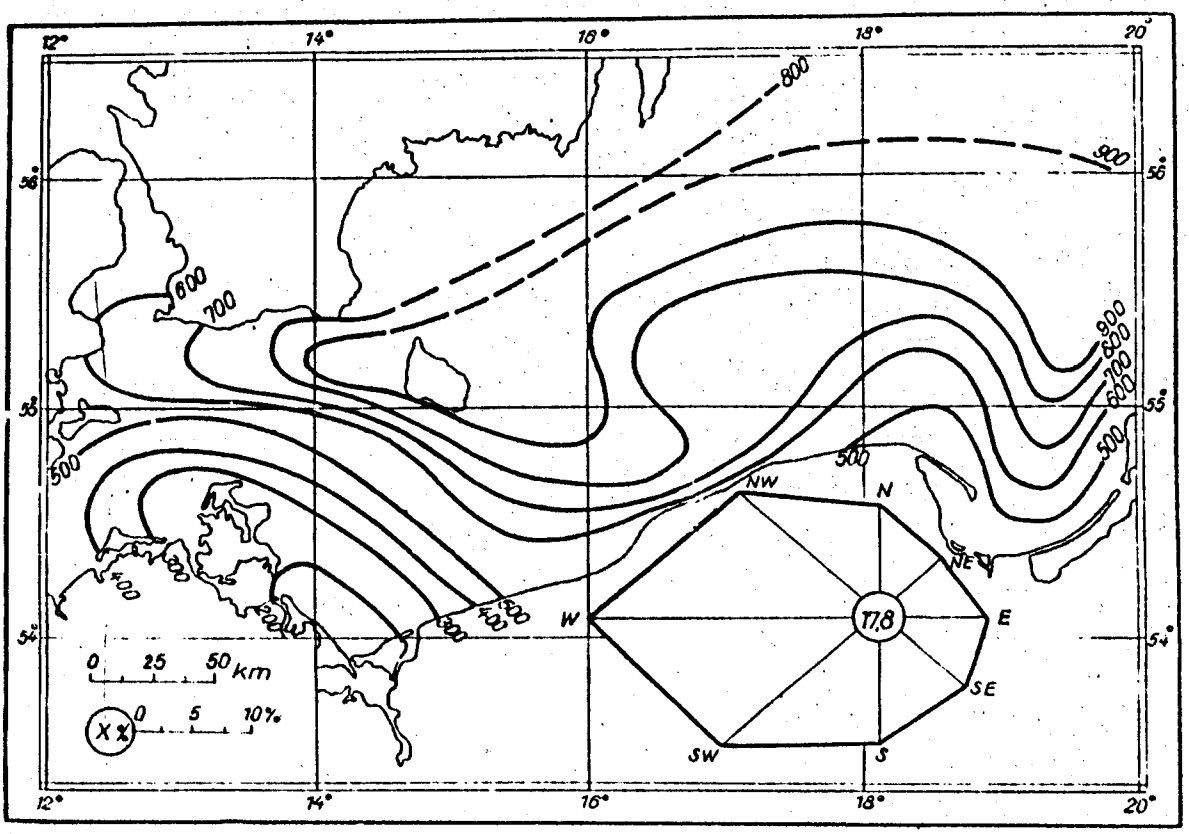
[x] The full text of the paper will appear in the proceedings of the 9th Conference of Baltic Oceanographers in Kiel 1974

A large range of differences was ascertained with regard to the values, received for the cold and warm periods of the year.

The results might be useful in the forecasting of air pollution variations originated by emission from the polluted sea surface. In that case they also might be useful to indicate the presence of the polluting admixtures in the sea. The expected concentrations of the sea-to-airborne substances under non-homogeneous effectivity of the ions fractionating processes have to be defined taking into the consideration the value of the factor of fractionation as well. It should be noted that the necessity to investigate the influence of such physico-chemical properties as the sea surface tension, the composition and structure of sea surface films and water layers, and to clarify the rôle of individual components in the emission mechanism indicate that the work should be continues in mamy directions.


12°
14°
16°
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800
900
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700
500
400
300
200
100
0 25 50 km
X %
0 5 10%
NW
N
NE
W
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SW
S
SE
17,8

Fig. 1