

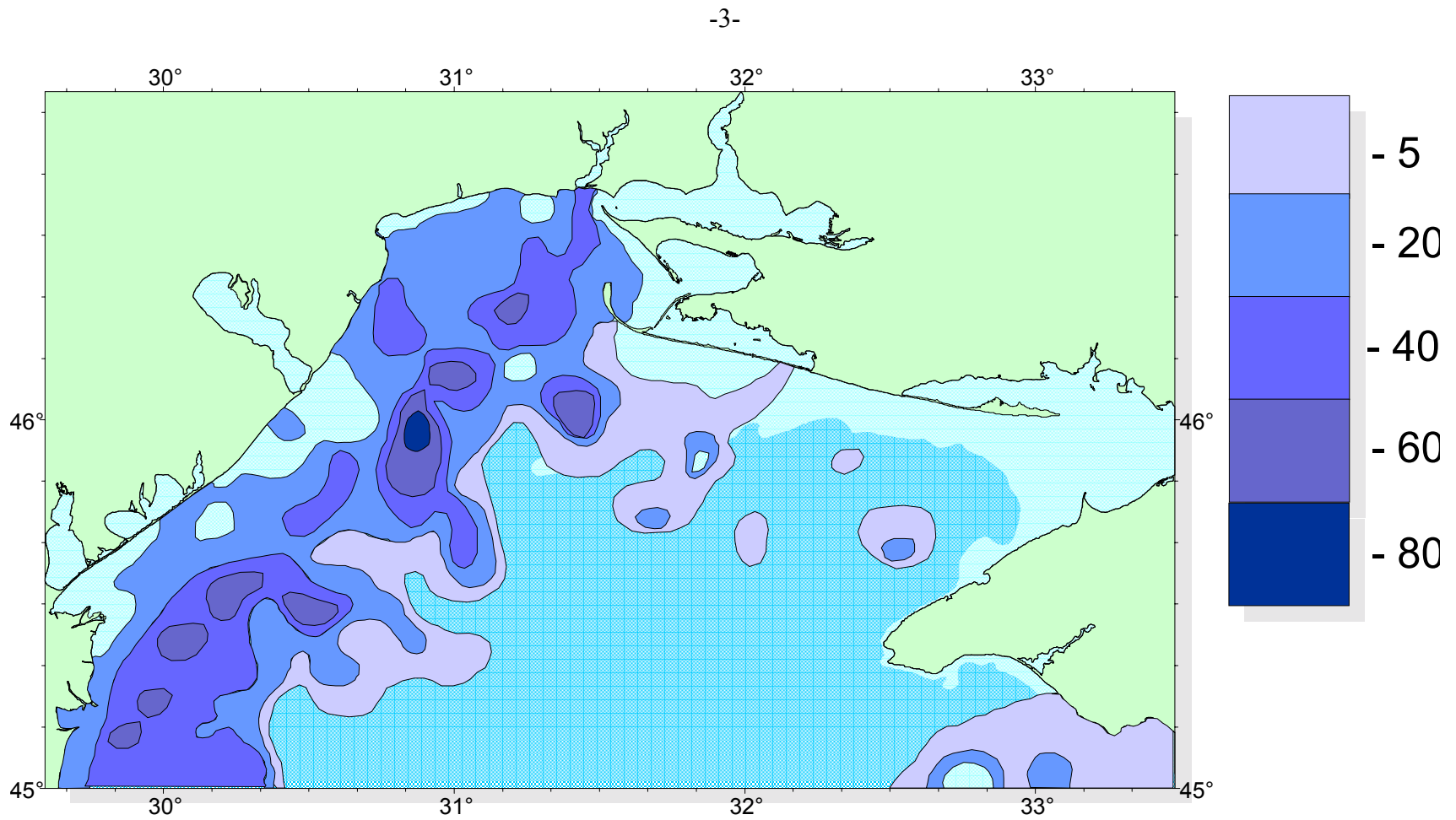
**Statistical characteristics distribution of dissolved oxygen in  
seawaters and hypoxia phenomena in bottom layer of the  
Northwestern part of the Black Sea**

Under the influence of eutrophication mechanisms ensuring the stability of ecosystem are destroyed, there are negative consequences coming up, such, for example, as hypoxia (deficiency of oxygen).

On the basis of a significant number of data (1971 - 1999 yy.) areas are revealed, where the probability of occurrence and development of the deficiency of oxygen in near bottom waters of the NWS is maximal (Fig. 1). The most adverse situation was observed in the 30-40-mile zone contiguous to the northern and western coast of NWS (Odessa kotlovina, Dniestrovskya bank, Pridunayskiy region).

On maps of the spatial distribution of dissolved oxygen in 20-minute squares the basic statistical characteristics for it for the time period 1955 - 1999 are submitted (fig. 2-3).

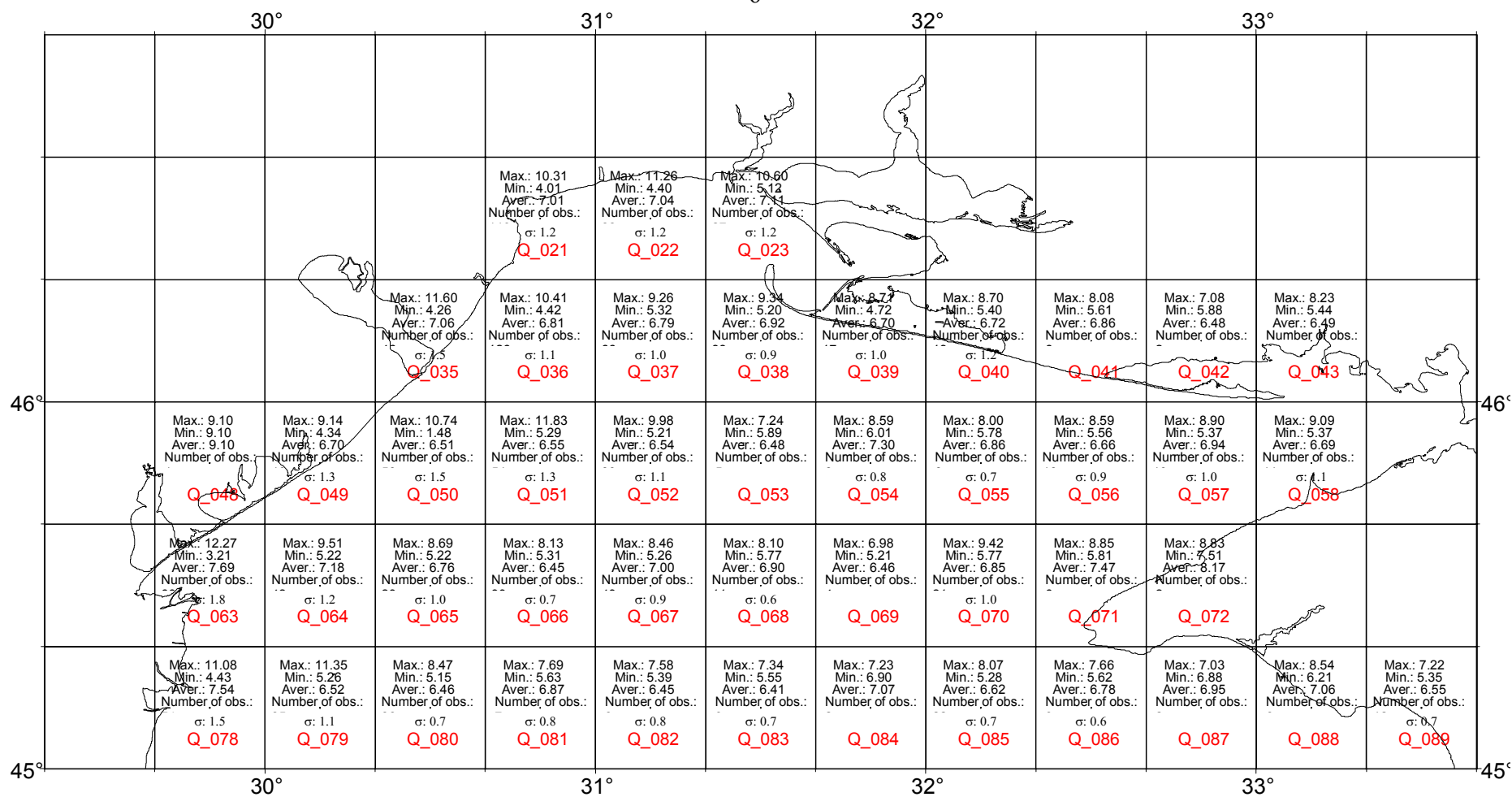
The interannual variability of the squares engaged by hypoxia, is submitted in figure 4, that illustrates the periods of the maximal development of this phenomenon.



**Fig. 1 Frequency of hypoxia phenomena detection cases in bottom waters of Northwestern part of Black sea in summer - autumn period 1971-1999**

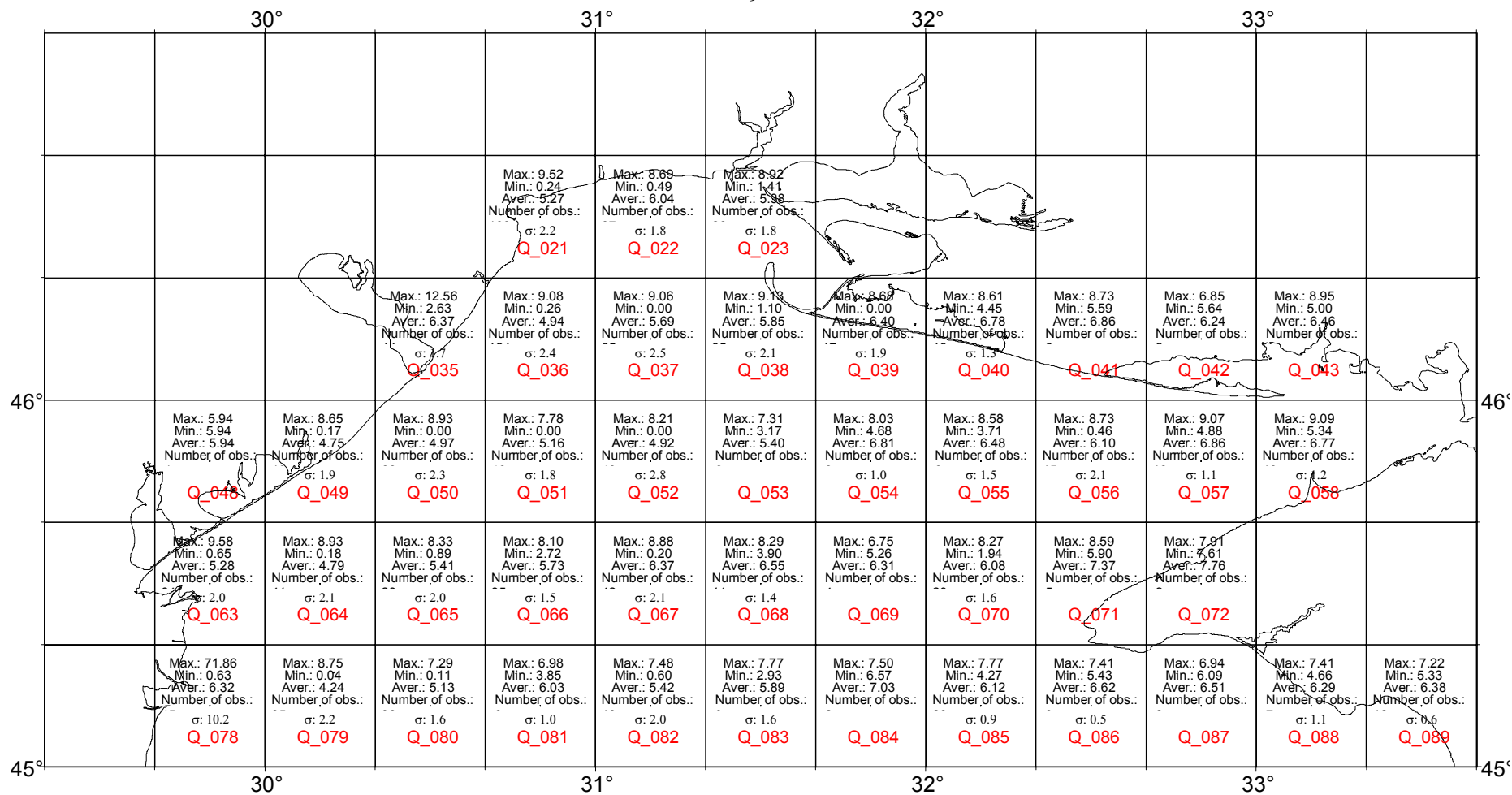
**Fig. 2 Distribution of statistical characteristics of dissolved oxygen  
in standard 20-minute squares  
(Northwestern part of Black Sea, surface)**



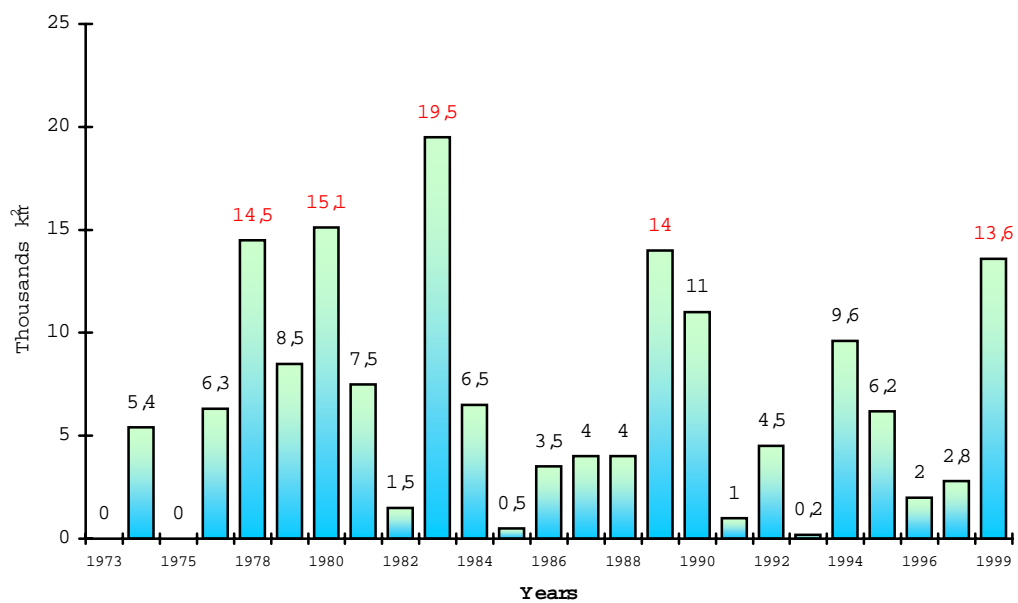


**Fig. 3 Distribution of statistical characteristics of dissolved oxygen  
in standard 20-minute squares  
(Northwestern part of Black Sea, bottom layer)**

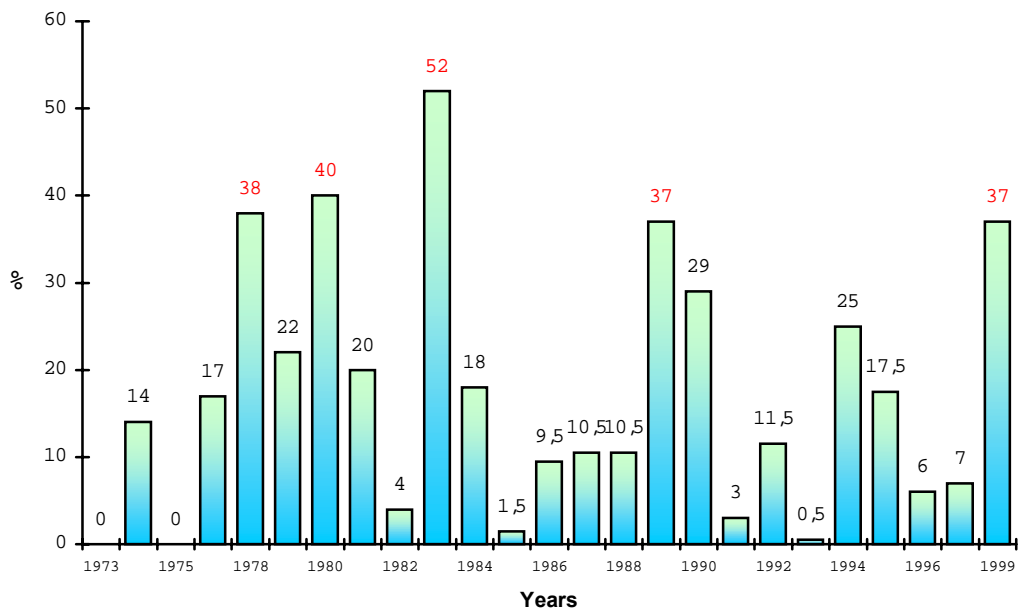




a)



b)



**Fig. 4 Distribution of hypoxia in the bottom waters of the Northwestern part of Black Sea in 1973 – 1999, thousands km<sup>2</sup> (a) and % of total sea area (b)**