

Low-frequency anomalies of cyclonic activity in the Mediterranean-Black Sea region associated with ocean-atmosphere interaction in the North Atlantic and North Pacific

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Separate manifestations of the Atlantic multidecadal oscillation (AMO) and Pacific decadal oscillation (PDO) were studied in decadal-multidecadal variability of cyclonic activity in the Mediterranean-Black Sea region in winter period with the use of NCEP/NCAR reanalysis data sets in 1948 – 2006. AMO and PDO joint manifestations were studied in global and regional conditions in winter period during certain combination of phases of these oscillations.

It was shown that AMO and PDO have significant manifestations in decadal-multidecadal variability of cyclonic activity in the studied region via specific shifts of North Atlantic storm tracks. It was found out that the combination of negative phases of the AMO and PDO is accompanied by weakening of the NAO and intensification of cyclonic activity in the Mediterranean-Black Sea region. And vice versa, the combination of the positive PDO phase and negative AMO phase causes strengthening of the NAO and reduction of cyclonic activity in the studied region.