

**SOME REGULARITIES OF FORMATIONS OF EXTREMELY LOW-ICE WINTER
SEASONS IN THE OKHOTSK SEA**
MUKTEPAVEL L.S. and SHATILINA T.A.
(TINRO-Center, Vladivostok)

The ice conditions are formed as a result of the complex mechanisms of interaction between atmosphere and ocean. Continuation of research into a revelation different interdependency on atmospheric and ice characteristics needs the further concrete definition, and is the important stage of the exploration of causal relationships for prediction developments. The evolution of ice-conditions in the Okhotsk Sea for the whole existing period of observations is divided into relatively low-ice and extremely ice periods. There is a certain cyclic recurrence in distribution of interannual variability estimations of ice conditions. However these regularities have generalized character. The prevalence of cold condition winters in the Okhotsk Sea was noted since mid 80s. Later on a radical turn occurred in the course of average annual ice conditions values. The prevalence of low-ice winter seasons was noted since 1984. Concrete situations of the ice-cover distribution at separated years or even at separated periods can break average statistical regularities. So, extremely low-ice winters in the Okhotsk Sea were noted in 1991, 1996, 1997 and 2006. The baric fields above the central part of the Northern hemisphere second sector (30° - 70° N, 120° - 160° E) were analyzed for the purpose of revelation mechanism of the forming phenomena. The reanalysis database archive of the air temperature, maps of the AT-500 field structure, H500 geopotential database (CD-ROM NCERP/CAR Reanalysis Monthly Mean 1948-1998) were used. The complete database of decade ice-square of the Okhotsk Sea, obtained mainly on the most informative regular cosmic imageries was attracted. It's shown that such ice condition extremes are formed as a result of anomalous 500 hPa geopotential growth above the Okhotsk Sea. The anomalous atmospheric circulation promotes carrying of warm air masses to offshore water. These masses are localized above the central part of the Okhotsk Sea, where the temperature anomalies are $+8^{\circ}$.