

Sharp Changes of Hydrometeorological Conditions in The Northwestern Pacific during the 1997/1998 El Niño Event

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The unusual development of the last El Niño (for the first time the event appeared in April 1997, instead of November or December as usual) was reflected on natural conditions of remote regions of the northern North Pacific Ocean. In the present work, observations of anomalous changes of hydrometeorological conditions in the northwestern Pacific, including the far-eastern seas, are summarized:

- A significant weakening of cyclonic activity was observed at the region 30–70°N and 130–180°E in January–March, 1997. The number of cyclone-days for the Earth, counted on 5° squares, was low (247) compared to the previous three years (337 in 1994, 335 in 1995, 296 in 1996). It was especially expressed for the western part of the circulation and corresponded to a minimum solar activity (based on data from V.F. Chistyakov, Ussuriskaya Observatory).
- Less ice was seen in the Sea of Okhotsk and Bering Sea.
- The summer was unusually warm in Primorye. Positive temperature anomalies were registered in the north Okhotsk Sea, western Kamchatka and in the northwestern part of the Bering Sea.

- Data collected by TINRO-Centre specialists show an unusual distribution of marine hydrobiotics: the appearance of *Eumicrotremus soldatovi*, low abundant year-class (Melnikov, 1997), displacement of *Paralithodes camste-hatica* to the south (Myasoedov, 1997), spreading of *Chionocetes opilio* to the north near the cape Navarin and even in the Anadir Bay (Slizkin, 1997).

In January–March 1998, the meteorological situation changed abruptly.

- The number of cyclone days increased relatively (319 in 1997). In February 1998, not one cyclone reached the Sea of Okhotsk.
- The ice coverage for the Sea of Okhotsk (84% for 9 March) was significantly higher than in previous years with low ice conditions.
- The ice edge in the Bering Sea was 90–100 miles farther south than in 1997.

All the above-mentioned facts reflect indirectly the impacts of the 1997/98 El Niño event on the N. Pacific Ocean and its marginal seas.