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RUSSIAN ANTARCTIC SEA ICE AND SOUTHERN OCEAN ICEBERGS DATA BASES

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Fast ice thickness observations were conducted in all coastal Russian bases. As a rule, they include decade measurements in a fixed place and measurements taken at the end of each month at a profile of an average 1 km length (every 100 m), which starts from the fixed place.

The most long-term and continual series of observations are collected at the bases Mirny (since 1956 and to present day), Molodezhnaya (1963-1998), Russkaya (1980-1990), At Bellingshausen station these observations had been conducted annually since 1968, but they were stopped in 1998 due to the beginning of the warm winters period. At Leningradskaya station observations were held for 5 years (1971-1974, 1977). Observations at Progress station are of irregular character (1988-1991, 1998-2000, 2003- to present day).

A great volume of ship-borne information on drifting ice thickness for the 50 year period were collected along the routes of Russian Antarctic Expedition vessels. At present the information on 16 cruises of research and support icebreakers “Mikhail Somov” and “Akademik Fedorov” from 1991 to 2005 have been entered in the computer database. The database contains more than 10 000 measurements on ice thickness. The ship-borne observations also include estimates of the snow cover thickness and information on ice concentration, ice age, ice forms and types and pressure ridges.

Data from radar measurements of iceberg’s quantity and visual observations of iceberg’s height and length made from the Russian ships were also included to the Southern Ocean icebergs data base. The data base contains about 35 thousands measurements of the number of icebergs and 2500 estimates of iceberg parameters for the part of the Southern ocean from 62° W to 110° E during the last 50 years.

The ship-borne data collected during 12 cruises from 1991 to 2000 as well as fast ice measurements at the stations Progress and Mirny were used to reconstruct of the Commonwealth Sea (area from 54° to 82° E) ice cover morphological structure.