Idea369

Estimation of the temporal- spatial scales of global processes impact on environment and biota of the Arctic shelves in their interaction with the deep-water seas and sub-basins of the Arctic Ocean.

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Target. On the basis of the oceanological climatic CD- atlases uniting in the basis of the common methodical and technological ground unique massifs of hydrological, hydrochemical and biological data to carry out investigations of the Arctic ecosystems response of different scales to the global and circumpolar climate dynamics for the period since the beginning of the XX century.
Brief content. Preliminary joint data analysis on the natural environment and biota state for the preceding decades showed that in particular in the Barents sea and adjacent waters ecosystem tendencies (for instance, dynamics and abundance of plankton, marine mammals migrations and others.) do not always coincide with trends of the thermohaline characteristics (cooling instead of warming). Complex complicated rhythm of different scales of both: biotic and abiotic processes, passing in the water column demand attracting of much more voluminous amount data of different nature so that to consider the whole set of the ecosystem connections especially in the regional scale.Generalization and analysis of the more complete massifs collected during the International Polar Year allows obtaining significantly new knowledge on the Arctic ecosystems reaction on the complicated manifestations of global natural and anthropogenic manifestations.
Planned result. Empirical phenomenological and statistic models of the Arctic ecosystems reactions on the global changes. CD-atlases of the Arctic climatic characteristics (natural environment, biota) for the last 100 years.
Main types of studies. Complex marine and terrestrial expedition investigations in the Barents and White Seas on board the R/V “Dalnye Zelentsy” and “Pomor”, ice-breakers expeditions on board the Murmansk Marine Shipping Companies ships, field works of the expedition teams on the coasts of Spitzbergen, Kanin peninsula, Murman and others. Collection, transfer into electronic carriers, quality control, systematization of new massifs of new disciplinary data from different sources. Formation on CD- ROM of complex databases into technologies of the earlier published atlases (considering technical improvements).
Time, places and resources of field works. 2007-2008 May- September on board the R/V, all the year round on board the icebreakers – Barents Sea, east of Norwegian, Greenland Seas, Kara sea, North Sea Route course.