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Theme 1: Design, Optimization and Implementation of the Observing System

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Poster title (brief) Features of spatial and temporal variability of the great Siberian Rivers and small glacial streams runoff and its impact on carbonate system of the Arctic marginal seas

Abstract - text box

Great Siberian rivers such as Ob', Yenisey and Lena are undergoing serious changes in its runoff volume and chemical composition owing to climate changes in the Arctic region. By the chemical composition of the waters, the dynamics of its parameters and changes in the volume of river runoff, one can confidently judge changes in the hydrometeorological conditions and the intensity of the anthropogenic (industrial and household) load in the river catchment area. The amount of the river runoff, as well as its chemical composition, serves as an integral indicator of the biogeochemical state of the catchment area, which is for the three Arctic rivers is 5.4% of total dry land on Earth. Big part of this area is covered with permafrost and different forms of carbon are flowing into the river due to thermal abrasion and then entering the marginal seas. Thus the carbonate equilibrium of the seas shifting and acid conditions are formed. The local influence of runoff from the Arctic archipelagoes may be expressed by an increase of nutrients content and therefore primary production growth. As a result, the impact on the carbonate system of the Arctic marginal Seas is occurring from the different sources. This may affect the functioning of Arctic ecosystems.