

## **A05-O02**

### **EVOLVING ICE AND OCEAN CONDITIONS IN THE EAST SIBERIAN AND LAPTEV SEAS RELEVANT TO METHANE EMISSIONS**

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The emission of methane gas into the atmosphere from offshore plumes in the East Siberian and Laptev Seas is assumed to be caused by the disintegration of methane hydrates trapped under a cap of offshore permafrost, due to a pressure release caused by the cap thawing. To understand this process it is important to know how fast the thawing horizon is moving downwards into the sediment, and to model this we need to know the heat flow into the sediment from the water column. In recent years the shelf water has been able to warm up every summer because the retreat of sea ice permits insolation of the water column and the ice is no longer present to subtract latent heat from the water as it melts. In this study we examine satellite evidence for the duration of ice-free water in the coastal regions of these seas during recent years, and we examine all sources of information (especially satellite infra-red and in situ CTD observations) on temperatures in the water column. From these data we make a first approximation to the annual oceanic heat flow into the sediment.