



Revised methane emissions from the East Siberian Arctic Shelf

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The Arctic Ocean Continental Shelf (ESAS) emits very uncertain amounts of methane into the atmosphere. Representing a great portion of the Arctic Ocean, with important sedimentation on the continental plateau from the Lena river, ESAS may contribute significantly to regional methane emissions into the atmosphere. Previous studies based on oceanographic campaigns estimated emissions from this area at $17 \text{ TgCH}_4 \cdot \text{y}^{-1}$.

Here, comparing observations and regional simulations of atmospheric methane mixing ratios, methane emissions from ESAS are revised at $1.6 \pm 2.6 \text{ TgCH}_4 \cdot \text{y}^{-1}$ for the East Siberian Arctic Shelf, 6 to 10 times smaller than previously estimated. We also confirm the high variability and heterogeneity of the methane releases from this region.