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**Title:** *Sea Spray Emission from the surface of the open Arctic Seas*

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We would like to show data collected and analyzed during Arctic cruises of the s/yOceania. Data obtained during the polar research of the s/yOceaniain years 2009 – 2012 were analysed.

Marine aerosol emitted from the sea surface helps clean boundary layer from other aerosol particle. The emitted droplets do not dry out in the highly humid surface layer air and because of their size most of them are deposited quickly at the sea surface. We have estimated the effectiveness of the process using our own in situ measurements of vertical aerosol fluxes in theNordicSea. The vertical aerosol concentration gradients were measured with a laser particle counter moving vertically on mast of s/yOceania. The levels at which the measurements were carried out were 8, 11, 14, 17 and20 metersaround sea level. At ever level concentration of aerosol were count 2 minutes. The aerosol vertical concentration profile measurements were accompanied by visual observation of sea surface conditions and meteorological measurements. The wind speed at10 maround sea level was measured with acoustic anemometer.