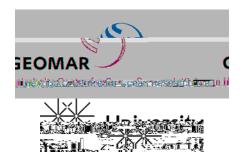
## **Press release**



## 16/2015 | Please note the embargo until 20 April 2015, 16:00 -

sea floor along the ocean shores. When the hydrates dissolve or when the ga the sea floor to ascend, the methane can be released into the water and rise to emitted into the atmosphere, it acts as a very potent greenhouse gas twenty carbon dioxide. Fortunately, marine bacteria exist that consume part of the reaches the water surface. Geomicrobiologists and oceanographers from Swi Great Britain and the U.S. were able to show in an interdisciplinary study that have a strong impact on this bacterial methane removal. The international scie *Geoscience* has published the study.

The data was collected during an expedition in the summer of 2012 aboard t MARIA S. MERIAN. At that time, the international research team was studying off the west coast of the Norwegian Svalbard archipelago. "Already then, we w the level of activity of the methane consuming bacteria changed drastically o spans, while at the same time many oceanographic parameters such as wat salinity also changed", explains Lea Steinle, first-author of the study and F University of Basel and the GEOMAR Helmholtz Centre for Ocean Research thesis, Steinle studies where and how much methane is consumed in the ocea bacteria.

In order to test if the fluctuations measured during the four weeks of the exrandom observations or based on typical and recurring processes, ocea GEOMAR later took a closer look at the region with a high resolution ocean moto see that the observed fluctuations of the oceanographic data and the a bacteria can be traced back to recurring shifts in the West Spitsbergen Curre-Arne Biastoch from the GEOMAR. The West Spitsbergen Current is a rel current that carries water from the Norwegian Sea to the Arctic Ocean. "It mo to the coast. Shifts in the current strength are responsible for the meandering o in a matter of a few days, the current moves miles away from the coast", Biastoch further.



If the current runs directly over the methane seeps near the coast or continues on the open sea, impacts the methane filtration. "We were able to show that strength and variability of ocean currents control the prevalence of methanotrophic bacteria", says Lea Steinle, "therefore, large bacteria