Benthic microbial community in the sediment cores collected from active continental margin around New Britain Trench

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New Britain Trench (NBT) lies along the northern margin of the Solomon Sea basin, close to the landmass of Papua New Guinea at the shortest distance of 55 km. The continental shelf is narrow to non-existent, dropping off quickly into the depths of NBT. The leading edge of the continent crashing into an Solomon Sea basin belongs to an active continental margin which is the commonly site of tectonic activity: earthquakes, volcanoes, mountain building, etc. The NBT has received limited biological attention with the majority of published studies focusing instead on its geology. Sediment was collected by gravity coring from 4524 m of the active continental margin near NBT in August 2016. Gravity core WS1 (length, 112 cm) was immediately dissected into 2~10 cm sections onboard as soon as it was retrieved. The microbial communities of 19 sediment horizons within the gravity core were studied by high throughput sequencing. Small-subunit ribosomal RNA gene was used to characterize the assemblages of bacteria and archaea in different sediment horizons. Combined with chemical parameters of pore water, the ecological patterns of microbial community structures along the depth in the gravity core were discussed.