

Video image of seafloor near the epicenter of the 2011 Great Tohoku Earthquake

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Video image of seafloor near the hypocenter of the 2011 Tohoku Great Earthquake will be presented. The image was obtained during an operation for retrieval of ocean bottom monitoring instruments using an ROV, remote operating vehicle. At the occurrence of the Tohoku Earthquake, on Mar. 11 2011, almost 20 instruments were in place. Although we tried to retrieve these instruments by ordinary acoustic releasing, some of them did not come up and it seemed that they were arrested at the seafloor. We sent an ROV to recover four ocean bottom pressure recorders (OBPRs) deployed near the epicenter of the mainshock. Although no remarkable deformation associated with strong seafloor motions could be observed, it was found that fine-grained sediments covered the seabed. The sediments were not consolidated at all and the thickness was about 15 cm. The sediments covered the bottom parts of the OBPRs. Judging from the pressure records, it appears unlikely that the OBPR sank into the sediments due to hard shaking during the strong ground motion. It seems that flung up particles fell and piled up on the seabed after the earthquake.

Keywords: video image of seafloor, ocean bottom instruments