

Sedimentary characteristics of the 2011 Tohoku-oki tsunami deposits of Oirase, Aomori Prefecture, Japan

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The sedimentary characteristics of the 2011 Tohoku-oki tsunami deposits of the town of Oirase, Aomori Prefecture, were surveyed in August 2017. Lithofacies descriptions, magnetic susceptibility, anisotropy of magnetic susceptibility (magnetic fabric), and grain size data of two undisturbed oriented samples extracted from sites A-01 and I-01 were examined. The results are summarized as follows:

1. Based on grain size analysis, both tsunami deposits consisted of multiple (three) units with normal to inverse grading.
2. The estimated paleocurrent directions of site A-01 were 7°, 308°, and 291°, in ascending order, and those for site I-01 were 239°, 283°, 257°, 240°, 247°, 210.5°, and 231°.
3. The 95 % confidence angles of magnetic fabric data from cubes sampled from each horizon of the tsunami deposit were smaller (“better”) than the data calculated from all samples of the tsunami deposit.
4. Tsunami deposits of the Oirase area sampled from six years and 21 weeks following the 2011 Tohoku-oki tsunami retained their initial sedimentary features.

Keywords: tsunami deposits, grain size distribution, magnetic fabric