

## Re-examination of the 1857 eruption of Tokachi-dake based on Mr. Takeshiro Matsuura's documents

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Tokachi-dake is an active volcano located in central Hokkaido, Japan. In the 20th century, it experienced magmatic eruptions in 1926, 1962, and 1988-89. In particular, the 1926 eruption caused a snowmelt type lahar and killed 144 people in the towns of Kamifurano and Biei. Mr. Takeshiro Matsuura recorded the following in *Ishikari Diary* (published 1861): On the flank halfway up the mountain fire and high rising black smoke were visible. From the context of his report, this passage must be a description of the 1857 eruption of Tokachi-dake, which is the first eruption of this volcano on historical records. However, ejected materials corresponding to the 1857 eruption have not been identified. It is important to reveal the eruption history for considering the future eruptions, we therefore re-examine the 1857 eruption by reviewing Mr. Takeshiro Matsuura's documents.

We extracted descriptions of Tokachi-dake from field notes, reports and maps written by Mr. Takeshiro Matsuura. There is no description of the eruption of Tokachi-dake in his field notes. The 1857 eruption was only described in *Ishikari Diary*, which was known to be embellished. According to geological and historical records, it is likely that the 1857 eruption of Tokachi-dake does not happen.

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