

The volcanic activity on the Kuril Islands in 2024: Ebeko volcano (Paramushir Island)

@Degterev, Artem V. (<https://orcid.org/0000-0001-8291-2289>), d_a88@mail.ru

Chibisova, Marina V. (<https://orcid.org/0000-0003-0677-6945>), m.chibisova@imgg.ru

Institute of Marine Geology and Geophysics of the Far Eastern Branch of RAS, Yuzhno-Sakhalinsk, Russia

[Abstract](#) [PDF ENG](#) [PDF RUS](#)

[Full text](#) [PDF RUS](#)

Abstract. In 2024, 616 ash emissions were registered at Ebeko volcano (Paramushir Island, Northern Kurils) to heights from 1.5 to 4.5 km above sea level (181 of them reached a height of 3 km or more). The distribution of emission frequency and height during the year turned out to be unusual compared to the periods 2018–2021 and 2022–2023. The period from February to April was characterized by increased explosive activity: the total number of emissions and their maximum height significantly exceeded the values of the same months of the previous years. From May to September, on the contrary, the eruptive activity significantly decreased relative to the average values of 2018–2021 and 2022–2023 (previously, the peak activity occurred during the summer months, when more than 100 events per month could be registered). From October 2024, a further decrease in the height and frequency of emissions, as well as a decrease in the concentration of ash in eruptive clouds, has been recorded. The last vapor-gas emission with insignificant ash content occurred on January 16, 2025. The pause in the activity of the Ebeko volcano since mid-January 2025 still maintains the need for continuous monitoring, given its high activity in recent years and its proximity to the settlement.

Keywords:

volcano, eruption, Ebeko volcano, Paramushir, the Kuril Islands, volcanic ash, satellite images

For citation: Degterev A.V., Chibisova M.V. The volcanic activity on the Kuril Islands in 2024: Ebeko volcano (Paramushir Island). *Geosistemy perehodnykh zon = Geosystems of Transition Zones*, 2025, vol. 9, No. 2, pp. 197–203.

<https://doi.org/10.30730/qtrz.2025.9.2.197-203>; <https://elibrary.ru/fzefsa>

Для цитирования: Дегтерев А.В., Чибисова М.В. Вулканическая активность на Курильских островах в 2024 г.: вулкан Эбеко (о. Парамушир). *Геосистемы переходных зон*, 2025, т. 9, № 2, с. 197–203. <https://doi.org/10.30730/qtrz.2025.9.2.197-203>; <https://elibrary.ru/fzefsa>

References

1. Gorshkov G.S. **1967**. [*Volcanism of the Kuril island arc*]. Moscow: Nauka, 287 p. (In Russ.).
2. Menyajlov I.A., Nikitina L.P., Budnikov V.A. **1992**. Activity of Ebeko volcano in 1987–1991: eruption character, their product features, danger for the city of Severo-Kurilsk. *Volcanology and Seismology*, 5-6: 21–33. (In Russ.).
3. Kotenko T.A., Smirnov Z.3, Timina T.Y. **2023**. The 2022 Activity of Ebeko volcano: The mechanism and ejecta. *Journal of Volcanology and Seismology*, 17: 259–277. <https://doi.org/10.1134/s0742046323700264>
4. Belousov A., Belousova M., Auer A. et al. **2021**. Mechanism of the historical and the ongoing Vulcanian eruptions of Ebeko volcano, Northern Kuriles. *Bull. of Volcanology*, 83(4). <https://doi.org/10.1007/s00445-020-01426-z>
5. Akulov A.Yu. **2022**. The Ainu toponymics of Northern Kuriles. *Vestnik Sahalinskogo muzeya*, 1: 118–134. (In Russ.).
6. Rybin A.V., Chibisova M.V., Degterev A.V. **2017**. Activity of the Kurile Islands volcanoes in 2016. *Vestnik KRAUNTS. Nauki o Zemle = Bull. of KRAESC. Earth Sciences*, 1(33): 83–88. (In Russ.). <https://doi.org/10.31431/1816-5524-2018-2-38-102-109>