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Raikoke aerosol clouds observed from Tbilisi, Georgia and Halle, Belgium using ground-based twilight sky brightness spectral measurements.

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Raikoke volcano (Kuril Islands, Russia) eruption on 21 June 2019 sent an ash plume at 10-13 km altitude, which is higher than the local tropopause. Volcanic aerosols were transported around the globe, causing spectacular purple twilights. We will present ground-based measurements of monochromatic twilight sky brightnesses at 780 nm wavelength in two geographical points: Tbilisi, Georgia (41° 43' N, 44° 47' E) and Halle, Belgium (50° 44' N, 4° 14' E). Aerosol extinction vertical profiles in the lower stratosphere-upper troposphere were retrieved with the help of the Levenberg–Marquardt algorithm. Monte Carlo code Siro was used to design a forward model. Raikoke aerosols observed above the both sites have shown essentially cloudy and variable structure. Multiple layers were observed between 10 and 17 km with extinction up to 0.01 km⁻¹. We will present Raikoke aerosol cloud evolution in the period July 2019 –January 2020.