

## 1997 Spring Meeting

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### Quasi-Periodic Eruptions on Karymsky Volcano, Kamchatka, 1996

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Karymsky Volcano, situated in central Kamchatka, commenced a renewed period of eruptive activity in January, 1996, and is still erupting today. The main eruption on Karymsky is characterized by Strombolian type activity. Three different magmas were extruded contemporaneously during the recent eruptive phases of Karymsky: basalt, andesite and rhyolite, suggesting a complex plumbing system and shallow magma chamber involving extensive magma mixing. By the second half of 1996, andesitic lava flows were observed in addition to quasi-periodic explosions from the central crater. Explosions have been occurring, on average, every three minutes, although the interval of explosive activity fluctuates between one and six minutes. The height of the ash plume varies from 250 to 600 m elevation above the summit crater. During two intervals of field study in September and October of 1996, we recorded careful temporal measurements of eruption activity and plume height. Seismic signals, recorded simultaneously, show a strong correlation with observed explosions, providing information linking periodic activity to eruption dynamics of Karymsky volcano. Eruptive events, recorded on 3-component instruments, are emergent and have dominant frequencies between 1.0 and 2.5 Hz. Preliminary results suggest that our observations are similar to records of periodic activity at the much larger Kliuchevskoi volcano, where periodicity and harmonic tremor has been used to model several normal mode vibrations associated with conduits of varying diameter in the volcano plumbing system.

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