

Development of aeromagnetic survey system using multicopter.

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Aso Volcanological Laboratory of Kyoto Univ. and Neoscience Inc. has developed an aeromagnetic survey system using multicopter. This system consists DJI S1000 multicopter and Bartington Mag566 fluxgate magnetic sensor and it can be measured magnetic 3-component data at very high sampling in the specified area fully automatically. Using this system, it is expected that we can acquire the magnetic field data on the active area of the volcano even while eruption is occurring.

To test our survey system, we conducted an aeromagnetic survey on Komezuka volcano, located in the northwestern part of the post-caldera central cones of Aso volcano, central Kyushu Island, Japan, on Aug., 2016. Komezuka is a basaltic monogenetic volcano comprising a scoria cone. On this volcano, Hashimoto et al. (2007) measured dense magnetic total field anomaly by ground-based observation. Applying magnetic upward continuation to this data, we can estimate the magnetic anomaly on the arbitrary point above the Komezuka volcano. Comparing this estimated anomaly and observed data acquired by our survey system, we verified the accuracy of our survey system and in our presentation, we will report this result.

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