

Aerogeophysical surveys over Usu volcano, Hokkaido, Japan

Shigeo Okuma[1], Tadashi Nakatsuka[2], Rie Morijiri[3], Masahiko Makino[4], Toshihiro Uchida[4], Yasuo Ogawa[5], Shinichi Takakura[4], Nobuo Matsushima[6]

[1] AIST, [2] Geol. Surv. Japan, [3] Geophys.Dept., G.S.J., [4] Geological Survey of Japan, [5] TITECH, VFRC, [6] G.S.J

<http://www.gsj.go.jp/~okuma/amag/>

A helicopter-borne high-resolution aeromagnetic survey (HRAM) and an airborne EM survey with a HRAM were conducted at an interval of four months to better understand the subsurface structure of Usu volcano, Hokkaido, Japan, with a special reference to an eruption, which started on March 31, 2000. The high-resolution aeromagnetic map shows many magnetic anomalies correspond to known geologic features such as lava domes, cryptodomes, Usu somma lava and Zenkoji debris avalanche deposits. Magnetic lows, lying around the Nishi-yama west craters, probably correspond to the distribution of reversely magnetized Neogene volcanic rocks. An apparent resistivity low is distributed over the Nishi-yama west craters, implying the effect of severe volcanic and successive geothermal activities.