



Multisource geophysical investigation of the Acıgöl caldera structure (central Turkey): preliminary results

İ. Ulusoy (1), P. Labazuy (2), E. Aydar (3), O. Atak (3), T. Yürür (3), H. Artuner (4), and T. Dahlin (5)

(1) Lund University, Department of Geology, Litosphere and Biosphere Sciences, Sölvegatan 12, 223 62, Lund, Sweden (inan.ulusoy@geol.lu.se), (2) Univ. Blaise Pascal, OPGC, Lab. Magmas et Volcans - UMR-6524 CNRS, 5 rue Kessler, 63038 Clermont Ferrand Cedex, France, (3) Hacettepe Univ. Department of Geological Engineering, 06532, Beytepe, Ankara, Turkey, (4) Hacettepe Univ. Department of Computer Science and Engineering, Beytepe, 06532, Ankara, Turkey, (5) Lund University, Engineering Geology, LTH, Box 118, S-221 00 Lund, Sweden

Neogene and Quaternary volcanic activity formed the large volume ignimbritic units (about 10 different units, namely Cappadocian ignimbritic field) around Nevşehir, Derinkuyu and Acıgöl districts. These large volume ignimbrites are mostly caldera-related products but the calderas are partially or totally buried by later pyroclastic and sedimentary cover. Source estimations for the caldera-related pyroclastics in Nevşehir plateau indicate that the calderas concentrate around Derinkuyu and Acıgöl plains.

Geophysical methods (resistivity imaging, self-potential, TDEM and magnetic surveys) were applied around Acıgöl plain and Mt. Erdaş to reveal out the near-surface structural elements related to the Acıgöl caldera system. Additionally, remote sensing coupled with morphology was used. Preliminary results show that the Acıgöl caldera complex may have an elongated shape. Possible structural models for the caldera system/complex are explained. Future geophysical studies and a detailed study of the geological relationship between the caldera-related products are necessary to better understand the Acıgöl caldera system.