

The use of airborne geophysical data for environmental studies started in GTK already in the 1970's but came into common use only in the late 1990's. In recent years airborne data have been used successfully especially in environmental studies related to old mines and old mining districts, groundwater and soil contamination. This paper presents five studies where GTK's airborne data have been successfully applied for environmental and groundwater investigation purposes. In the section "Airborne methods in groundwater studies in Finland" Heikki Vanhala and Annina Mattsson discuss the use of airborne electromagnetic (AEM), magnetic and radiometric data for studying bedrock aquifers and groundwater related to glaciofluvial formations. Jouni Lerssi presents a case "Mapping a waste-water pond — a case from Lievestuore, central Finland", in which AEM data were used for mapping and characterising a large wastewater (sodium lignosulphonate) pond and its surroundings. An example of site monitoring using airborne data is given by Mari Lahti. Her contribution "Landfill monitoring at Ammassuo, southern Finland" is based on airborne measurements conducted in 1984, 1993, 1997 and 1999 over the Ammassuo municipal landfill. The contribution related to abandoned mines "Mapping the environmental risks of a wide contamination site ~ results from a mining region in eastern Germany", by Mari Lahti, discusses the use of airborne gamma-ray surveys in mapping an old uranium mining district and in monitoring radiation levels. She also presents a case of integrated use of radiometric and magnetic data in mapping an old black coal mining area and a case of the combined use of magnetic and ground resistivity data for mapping impacts of nickel mining and smelting. The last contribution "Environmental applications of the GTK AEM data in the UK", by David Beamish, is based on AEM data from four areas in the East Midlands, in the UK. Two sites, the area of the Thoresby coal mine and municipal landfills in the Langar area, are discussed in detail.