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Upper Silesian Geophysical Observation System - a unit of European Plate Observing System

Abstract

The Upper Silesian Geophysical Observation System (USGOS) is a newly created within the frame of the project POIR No 04.02.00-14-A003/16-000, concerning research and measurement structure for long-term observation of dynamic geophysical phenomena taking place in the lithosphere of the Upper Silesian Coal Basin (USCB). Its logistical and data acquisition/processing centre is located in the Central Mining Institute in Katowice. The structure to be developed will integrate dispersed ground and underground systems of regional geodetic, geophysical, geotechnical and hydro-geological surveys with aerial and satellite measurement systems and then, through Thematic Core Service of Anthropogenic Hazard (TCS AH) will integrate them with other observations carried out in the European Plate Observing System project (EPOS) and with National Observing Systems. As a result, a digital spatial-temporal database will be developed allowing for multi-parameter analysis of geodynamics of the Upper Silesian region, its changes in time and relation to mining activities. The system is created by consortium consisting of Institute of Geophysics (IGF PAN), Central Mining Institute (GIG), Institute of Geodesy and Cartography (IGiK), Military University of Technology (WAT), Wrocław University of Environmental and Life Sciences (UPWr) and Polish Coal Group (PGG S.A.) as an industrial partner. The article describes the assumptions and configuration of the observation network being created, its research goals and examples of data already acquired.