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## Preliminary results of land subsidence monitoring project in Konya Closed Basin between 2006–2010 by means of GNSS observations

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**Abstract.** One of the potential dangers that might arise as a result of bringing excessive amounts of groundwater to the surface of the land is land subsidence. Such surface deformations – these velocities may range from a few millimetres to a few metres per year – do the greatest damage to infrastructure facilities and buildings in residential units. Agricultural lands, in which excessive irrigation is performed, and densely populated cities are more likely to suffer from land subsidence. Konya Closed Basin (KCB), where a rapid groundwater withdrawal has been observed in the last 30–40 years, is faced with such a threat. In this study, the possibility of the occurrence of land subsidence, related to groundwater withdrawal for the KCB, is assessed and the geodetic studies conducted up to now, with the intention of identifying land subsidence, are reviewed and introduced. The vertical displacements of between -12 and -52 mm have been detected through GNSS observations collected on the test network. The land subsidence phenomenon has been developed in the areas where the groundwater is extensively used for irrigation in daily life. The results support the findings derived from the historical leveling records and point out the need of an extended study based on both GNSS and InSAR techniques for spatial and temporal mapping of land subsidence in the KCB.

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