Geophysical Research Abstracts,
Vol. 11, EGU2009-6757-1, 2009
EGU General Assembly 2009

Water withdrawal and Subsidence in Iran

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Subsiding the Earth surface due to natural phenomena and human activities, is a threat to human society and life. In Iran, many important and populated regions like south Tehran are subsiding. Therefore, revealing and controlling the regions exposed to subsidence have to be considered. Subsidence can be observed using different geodetic measurements. In Iran, repeat measurement of the leveling networks has provided valuable information including detection of subsiding regions and subsiding rate. This study focuses on important subsiding areas in Iran detected by re-levelling of the Iranian national leveling network. One of the main reasons behind subsidence is withdrawal of underground water and according to the reports from Iranian state ministry of power (Department of water resources); underground water level decreases in numerous locations of Iran and at the moment, 600 locations in Iran are known as forbidden points for underground water withdrawal. Verifying the situation of underground water resources in subsiding areas is also considered here and results show good correlation between underground water level changes and subsiding rate of the Earth surface.