

## عنوان مقاله:

Pumping-induced land subsidence in Marvdasht Plain, SE Iran

## محل انتشار:

هفتمین کنفرانس بین المللی مدیریت جامع بحران (سال: 1394)

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## خلاصه مقاله:

Land subsidence due to over-extraction of groundwater resources has been one of the most prevailing phenomena in many plain aquifers of Iran. The process has also caused a lot of problems including substantial damages to infrastructures and farmlands. Reliable assessment of land deformation in areas with high potential for subsidence is therefore necessary for a better understanding of subsidence process and mitigation its associated hazards. Space-borne Interferometric Synthetic Aperture Radar (InSAR) has developed rapidly over the past 20 years and has proven to be a valuable tool for topographic mapping and surface deformation measurements. Because of its dense spatial coverage and competitive accuracy, InSAR has now become one of the most preferred geodetic methods to study surface deformation processes at developed groundwater basins. In this research we investigate the land subsidence in Marvdasht plain in Fars province of southeast Iran. The plain is one of the most important wheat-producers in the country and a great amount of its underground water has been utilized in the past to irrigate its agricultural lands. We apply InSAR technique and develop a series of velocity maps from 2002 to 2016 using SAR data from a variety of satellites including European Space Agency (ESA's) Envisat, Japanese ALOS, German TerraSAR-X and the recently launched ESA's Sentinel 1A to precisely detect spatiotemporal pattern of land subsidence in the region

## کلمات کلیدی:

Land Subsidence, InSAR, Marvdasht Plain

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