



Ringfault activity at Tendürek volcano investigated by using high resolution TSX data

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The historically active Tendurek volcano located in eastern Anatolia, shows continuous long term subsidence that was first visible in satellite radar data in 1993. The subsidence is accompanied by active fault structures circumscribing the uppermost part of the volcano edifice. These ring faults around the volcano edifice therefore may have an important influence on the deformation process at Tendurek, possibly interacting with the deep contracting magma source. These faults are best visible at the surface at the southern volcano flanks and not in the North. To investigate the mechanisms that could be responsible for this surface structure we perform model simulations of the deformation signal of a TSX deformation time series with a boundary element code including the topography of the volcano with an extended source. The code allows studying feedback mechanisms between the free surface, the ring faults, and the magmatic source.