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Geodetic activities carried out for Teide-Pico Viejo volcanic complex monitoring (Tenerife, Canary Islands, Spain)

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The presence of a volcanic complex as Teide-Pico Viejo in an island of one million inhabitants and 5 million of tourists a year, requires the presence of well developed geodetic networks for ground deformation monitoring: TEGETEIDE network, composed of seven benchmarks distributed over island, two of them are GNSS permanent stations; geodetic levelling, carried out in the surroundings of the central volcanic complex, composed of 23 more benchmarks; and the presence of a spatial inclinometer, spread out in the northeast slopes of Teide volcano, makes the geodetic studies in Tenerife a fundamental tool for understanding the kinematics of land deformation in an active volcanic complex. Being the main aim of these geodetic studies to obtain a first precise geoid and a preliminary model of the deformation source for Teide-Pico Viejo volcanic complex.