The observed TIF2005 residual horizontal velocity pattern with respect to an Eurasian frame is shown in figure 5a. The interpreted velocity field and the related horizontal strain rate pattern are illustrated in figures 5b and 5c. The velocity field indicates that a large area of the Southern Adriatic basin is characterized by a near-horizontal dilatation, typical of a diffuse shear structure with a complex deformation pattern, consisting of a conjugate set of mostly right-lateral shear movement. In the Eastern Adriatic region, a region of high negative shear (> 2.5 mm/yr) is observed between the Adriatic plate and the Iberian plate and the limit to the south with the Ebro-Spanish plate. The horizontal strain rate pattern shows a large area of compressive strain (blue arrows) in the Eastern Adriatic region, typical of a ductile, sheared, compressive regime. In the Western Adriatic region, a compressive strain zone is observed near the Istrian Peninsula, with a convergence rate of about 0.7 mm/yr. In the Southern Adriatic region, a nearly horizontal dilatation is observed, typical of a diffuse shear structure.

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Figure 12. Vertical velocity field. The cyan and pink colours indicate uplifting and subsiding regions respectively.

European reference frame

Figure 13. GPS velocimetry and associated vertical velocity. The blue arrows indicate the average velocity field over the period 2005-2012. The green arrow indicates the position of the June 5 event.