San Fernando Naval observatory has deployed a Geodetic Continuous GPS network in the Gulf of Cadiz – Strait of Gibraltar – Alboran Sea Region, including some stations in the North of Africa coast, and even another one in the Averroes Observatory, close to Casablanca, Morocco. The most of the stations have already produced positioning time series long enough to get some conclusions on the kinematics as well as in the vertical behaviour. Recorded daily data files are used to calculate precise point positioning by using the JPL GIPSY software latest versions, fixing the ambiguities when it is possible. A further time series analysis is made with the Simon William’s CATS software, to get trends separated of the seasonal effects, while jump values are also derived. This information is used to feed an algorithm which is producing deformation patterns and strain maps of the area. It should be useful not only to constrain dynamic models, but also to add to natural hazard prevention programs. The horizontal deformation pattern is going to be completed by showing the vertical displacements we have got from the corresponding time series. Since the most of the CGPS are collocated with Very Broad Band Seismometers, comparisons of both technique results could also be made.