**Figures Guide**

**Introduction:** These figures show information about 3685 seismic events (templates) occurred between 2010 and 2014 on the Alto-Tiberina fault plane. The considered stations are 19 INGV stations in 2010-2011, and one more INGV station (BAT3) has been considered to the previous ones between 2012 and 2014. The following figures have been produced separately for every year and then, are related to the templates occurred in the considered year.

1. **80th percentile of Hypocentral Distance**

***Plot Construction Explanation****:* for every template a good channels set has been obtained for the INGV stations using Kurtosis methodology. For each channels set the station hypocentral distance has been considered and the 80th percentile of the resultant hypocentral distance distribution has been obtained for every template. These values have been interpolated on a regular grid having spatial step of 0.1° (value close to the minimum station distance) and showed using a contour plot in order to have a more regular variation of distance values on the map.

***Interpretation of the results:*** In first approximation the resulting maps are similar for every year. In particular, they show small hypocentral distance values in correspondence of the center of the considered INGV stations set and high values close to the borders of the network (especially the E-SE border). These results seems to indicate that templates that occur in the center of the network can be well detected by the closer central stations. On the contrast, the events close to the network border can be well detected only by considering the distant stations. In addition, it is interesting noting that maximum hypocentral distance values tend to decrease after 2010. This behavior is related to the position of the seismicity respect to the spatial distribution of the INGV network. In fact, in 2010 the barycenter of seismicity appears to be significantly far from the center of the network while, after 2010, seismicity is localized in areas closer to the center of the considered INGV stations set.

1. **Local Magnitude**

***Plot Construction Explanation****:* for every template epicenter the local magnitude has been reported. These values have been interpolated on a regular grid having spatial step of 0.1° (value close to the minimum station distance) and showed using a contour plot in order to have a more regular variation of magnitude values on the map.

***Interpretation of the results:*** Despite the magnitude maps of every year are sensibly different from each other, it is possible noting that during the period 2010-2014 lower magnitude events are on average located in the westernmost part of the considered network area that corresponds to the shallower volume of the ATF Plane. On the contrast, higher magnitude events seem to occur more frequently in correspondence of the deeper volume of ATF Plane.

1. **Number of Good Channels**

***Plot Construction Explanation****:* for every template epicenter the number of good channels (according to the Kurtosis methodology) for considered INGV stations has been reported. These values have been interpolated on a regular grid having spatial step of 0.1° (value close to the minimum station distance) and showed using a contour plot in order to have a more regular variation of the good channels number on the map.

***Interpretation of the results:*** Comparing these maps with the local magnitude ones (figures 2), in first approximation the higher values for the number of good channels can be retrieved in correspondence of higher magnitude values areas. A weaker relation could be retrieved also for the lower values of good channels number and the smaller magnitude values areas. These findings are supported by the figure 5.

1. **Templates Depth**

***Plot Construction Explanation****:* for every template epicenter the correspondent hypocenter depth has been reported. These depth values have been interpolated on a regular grid having spatial step of 0.1° (value close to the minimum station distance) and showed using a contour plot in order to have a more regular variation of magnitude values on the map.

***Interpretation of the results:*** All the maps obtained for the 5 years show a very similar to each other. In particular they show the dipping of the fault plane from NW to SE. In addition, the highest values of depth, represented with red color, seem to indicate a steeper dipping of the fault plane in the northernmost part of the ATF volume.

1. **Number of Good Channels VS Local Magnitude**

***Plot Construction Explanation****:* The Number of good channels (according to the Kurtosis methodology) has been reported as a function of the local magnitude for every template.

***Interpretation of the results*:** For each of 5 years the figure shows a good correlation between the number of good channels and the magnitude of the template. This result can contribute to the interpretation of the figure 3 and shows that, in the most of cases, a large set of good channels is available for the higher magnitude events.

1. **Number of Good Channels VS Depth**

***Plot Construction Explanation***: The Number of good channels (according to the Kurtosis methodology) has been reported as a function of the depth for every template.

***Interpretation of the results:*** For each of 5 years the figure doesn’t shows a clear correlation between the number of good channels and the depth of the template.