



The October-November 2010 seismic crisis near Sampeyre (Piemonte Region, Italian Alps) – Preliminary results.

Maxime Godano (1), Jean Charléty (1), Françoise Courboux (1), Anne Deschamps (1), Perrine Deshayes (1), Gabriele Ferretti (2), Christophe Larroque (1), Thomas Romero (1), Jerome Salichon (1), and Daniele Spallarossa (2)

(1) Géoazur, Université de Nice-Sophia Antipolis - CNRS, Valbonne, France, (2) DIPTERIS, Università degli Studi di Genova, Genova, Italy

The Piemonte area (Italian Alps) was struck during October and November 2010 by a seismic crisis with a maximum ML magnitude of 3.4. The automatic locations given by the French Southeastern broadband stations network and the Regional Seismic network of Northwestern Italy (RSNI) show that the activity clusters in the Mount Viso and Dora Maira Massifs, between the localities of Sampeyre (Varaita Valley) and Sanfront (Po Valley).

This seismic crisis is characterized by a first period of intensive activity between the 12/10/2010 and the 27/10/2010 with more than 300 events located in the epicentral area. A decrease in the activity is observed between the 28/10/2010 and the 10/11/2010 (about 20 located events). A new peak of activity is observed the 11/11 and 12/11/2010 with more 40 located earthquakes. Since the 13/11/2010, the activity is very moderate and only two earthquakes are recorded in the epicentral area during December 2010.

In case of a new increase in the seismic activity and in order to improve the earthquakes locations, we have deployed in the epicentral region since mid-November 2010, a temporary network of four seismological stations (velocimeters coupled with accelerometers).

We present preliminary relocations results obtained by merging the data of the French and Italian seismological networks. We improve the automatic locations by manually picking the P and S arrival times. The location of the earthquakes recorded by the permanent networks and our temporary network allows estimating the accuracy of locations obtained from only the permanent networks. We finally discuss the potential links between this seismic crisis and the regional tectonic activity.