

Preliminary analyses on the high resolution imagery (Quickbird and Ikonos) suitable for investigation of the North flank fracture of Mount Etna, Italy

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During Mount Etna eruption in 2002, two main fractures have opened in the northern and in the southern flank respectively. The fracture in the northern flank is the one we are focusing on.

The northern fracture has been characterised by a rapid expansion from the top of Mount Etna towards the bottom. It started from the subterminal North-East crater following a N20°E, N45E° trajectory. As a whole, the Northern fracture is 5.3Km long.

In order for us to identify the coordinate of the Northern fracture a sketch made by Marco Neri at INGV (fig 1) has been scanned and rectified. The rectification has been performed by the use of a DEM. The results are shown in the following figures.

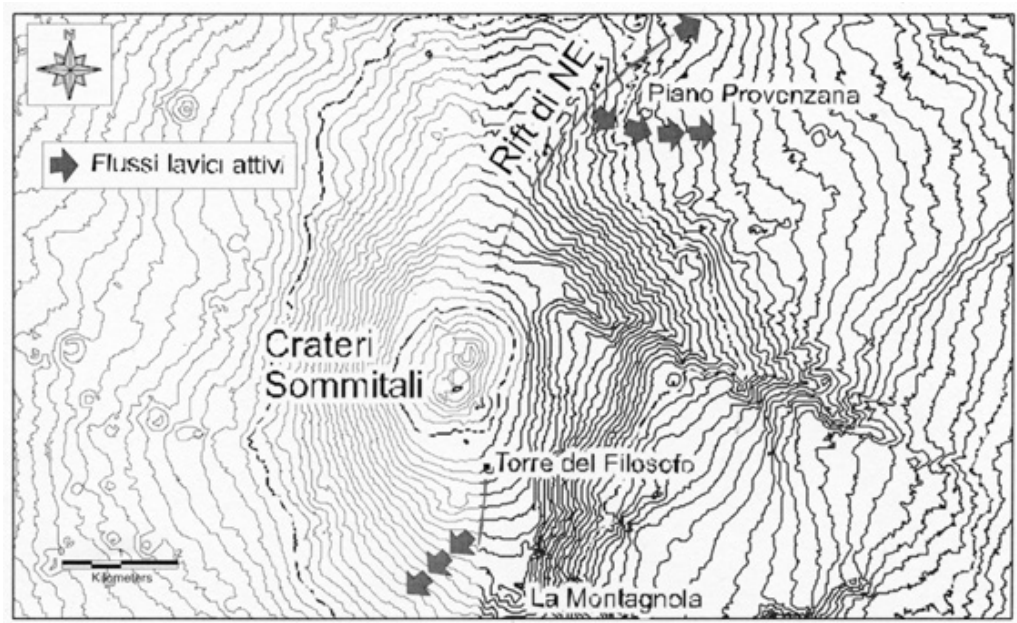
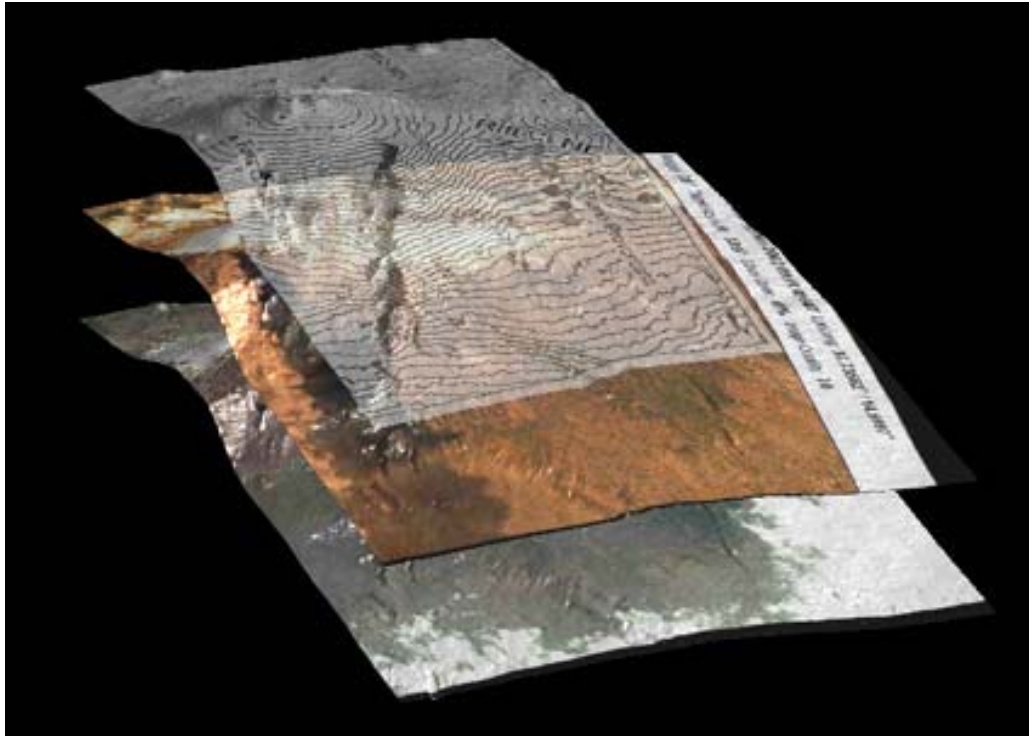


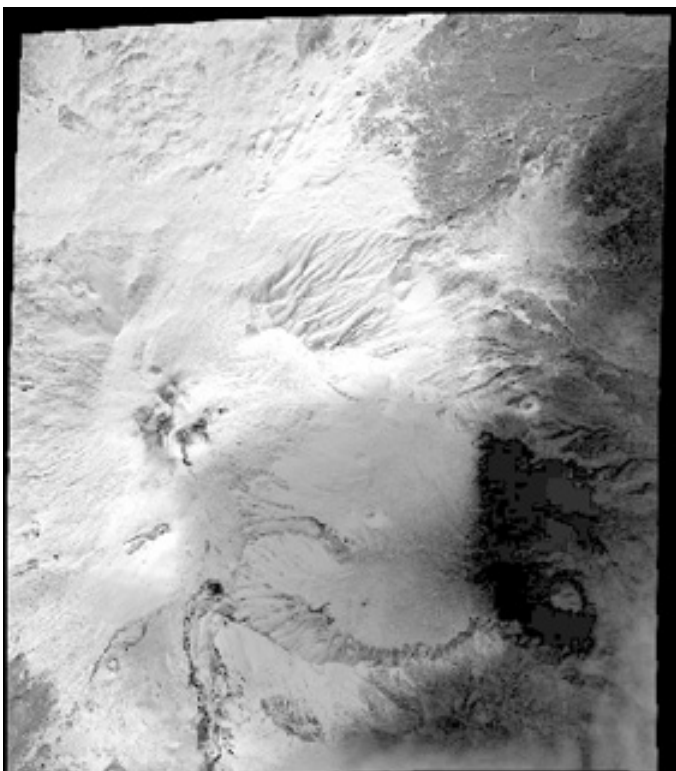
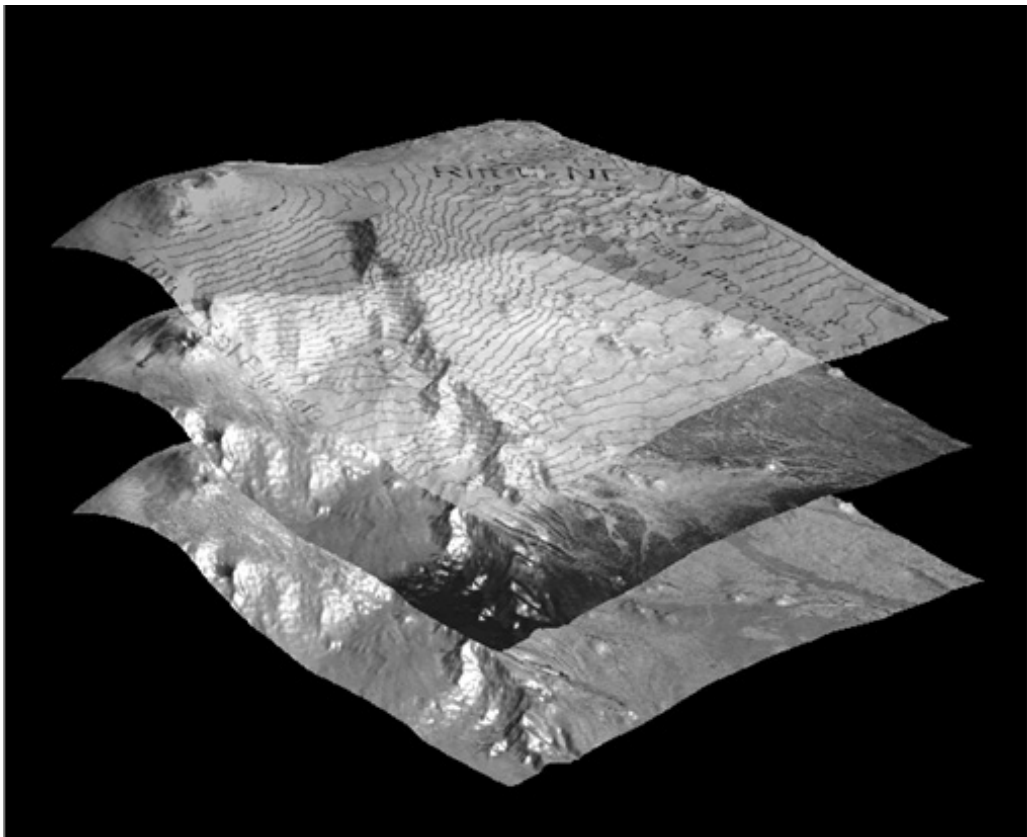
Fig 1. Sketch of the active fractures during 2002/2003 eruption (www.INGV.it)

Given the coordinate of the Northern fracture, Quickbird and Ikonos databases has been consulted.

Imagery available: Quickbird, two suitable images
-08/april/2002
-23/november/2002



Imagery available: Ikonos
- 12/february/2002
- 04/january/2003



The images draped over the DEM show that the fracture is within the datasets. The images showed above represent a preview, in jpg format, which is particularly bad in the case of quickbird. This is the reason why in the Quickbird images the fracture (and especially the lava flow in the post eruption datasets) is not visible. Nevertheless, Quickbird images, seem to suit better the pourpose of our study.