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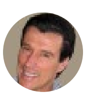
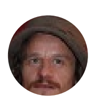


Fernando O Marques
University of Lisbon

Joao Catalao
University of Lisbon

C. Demets
University of Wisconsin–Madison



Anthony Hildenbrand
French National Centre for Scientific Resea…

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Corrigendum

Corrigendum to “GPS and tectonic evidence for a diffuse plate boundary at the Azores Triple Junction” [Earth Planet. Sci. Lett. 381 (2013) 177–187]

F.O. Marques [a,*], J.C. Catalão [b], C. DeMets [c], A.C.G. Costa [b,d], A. Hildenbrand [d,e]

[a] *Universidade de Lisboa, Lisboa, Portugal*
[b] *Universidade de Lisboa, Instituto Dom Luiz, Lisboa, Portugal*
[c] *Department of Geoscience, University of Wisconsin–Madison, Madison, USA*
[d] *Université Paris-Sud, Laboratoire IDES, UMR 8148, Orsay, F-91405, France*
[e] *CNRS, Orsay, F-91405, France*

A R T I C L E I N F O

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Figs. 6 and 7 of this paper are images of high-resolution bathymetry of the Azores Plateau, kindly provided to us by Dr. Joaquim Luis. However, because these data are not yet released or published, Dr. Luis did not intend to give formal permission to include the images in our paper. We therefore regret our premature publication, in Figs. 6 and 7, of parts of the image offered by Dr. Luis, and have revised our paper accordingly.

Below is the new text and new versions of Figs. 6 and 7, which should take the place of the original figures and text. The new figures were made using the low-resolution bathymetry made available by Luis at http://w3.ualg.pt/~jluis/misc/ac_plateau1km.grd (Lourenço et al., 1998).

4.1. Structural data

In the mostly submarine Azores region, bathymetric maps are useful for interpreting recent seafloor deformation, because faults are abundant, young (as evidenced by the abundance of seismic activity), clearly revealed due to low sedimentation rates, and easily recognized due to their significant vertical offsets. We thus invest significant effort below in interpreting the available bathymetry (http://w3.ualg.pt/~jluis/misc/ac_plateau1km.grd) to provide a framework for understanding both the regional-scale deformation at the western end of the Nubia–Eurasia boundary and for interpreting the GPS velocities. The Nubia–Eurasia plate boundary in the Azores is defined by the following series of features:

(1) The Terceira Rift, which is a prominent sigmoidal and deep graben that extends several hundred km from the MAR axis (at ca. 39°00′ N, 30°02′ W) to the East Formigas Basin near the junction with the Azores–Gibraltar Fault (Fig. 1 and Fig. 6). The rift is filled at regular spaces (ca. 80 km) by concentrated volcanism forming islands or seamounts that rise near to the sea surface.
(2) A curved graben-horst structure (Figs. 6A and 7), west of Faial and S. Jorge islands, bounded by faults that gradually change strike from azimuth N160° in the N to azimuth N110° in the S (Fig. 6B). The grabens are here called S. Jorge graben and Faial Half-graben, and the intervening tectonic high here called S. Jorge/Faial Horst (Fig. 7). The main fault scarps bounding these grabens are as high as 400 m.
(3) Smaller trapezoidal basins bounded on all four sides by faults (marked Ba in Fig. 6). These basins occur mostly between the Graciosa Island and the MAR axis.
(4) Faults arranged en échelon in an ENE-WSW band running from the N edge of the West Graciosa Basin to close to the MAR axis (dashed lines in Fig. 6B). Fault strike varies gradually from N100° in the E to N145° in the W. From their bathymetric expressions, the faults appear to be normal faults dipping to W (mostly) and E, thus defining grabens (e.g. the S. Jorge graben), half grabens (e.g. the Faial Half-graben) and horsts (e.g. the S. Jorge/Faial Horst) (Fig. 7).
(5) Faults with different trends, mostly concentrated along the azimuths N110° (long dashed lines in Fig. 6B) and N150° (long dash-dotted lines). The MAR fabric (dotted lines) is disrupted

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* Corresponding author. Tel.: +351217500000; fax: +351217500064.
E-mail address: fomarques@fc.ul.pt (F.O. Marques).

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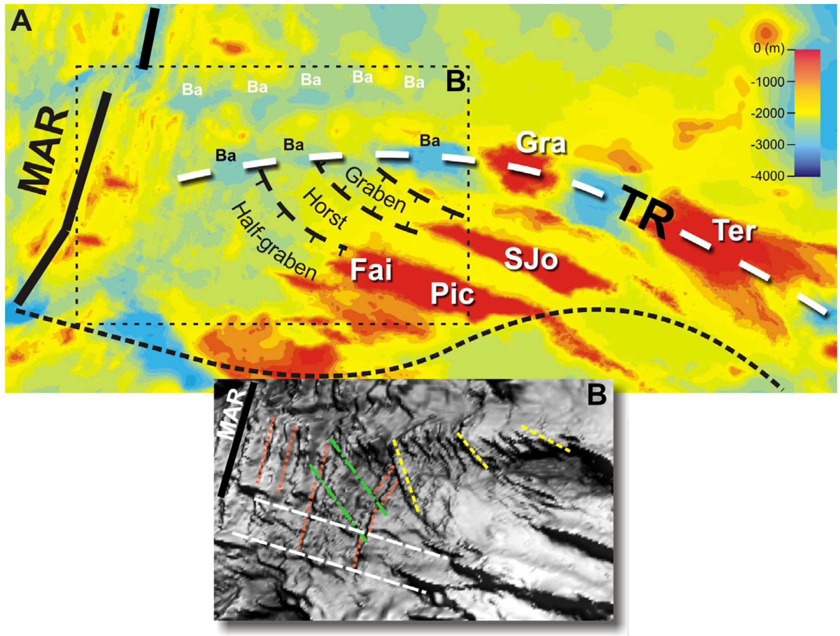

Fig. 6. Bathymetry (A) and shaded relief (B) built using available bathymetry data (http://w3.ualg.pt/~jluis/misc/ac_plateau1km.grd). A – Bathymetry of the western end of the Terceira Rift (TR), in its junction with the MAR axis. Note the succession of rhomboidal basins (black Ba) and seamounts/ridges making up the TR axis and shoulders, respectively. White long-dashed line – TR axis. Black dashed-line – southern limit of deformation and seismicity, here proposed as the southern boundary of the diffuse Nubia–Eurasia boundary, based on extension-related structures, seismicity and GPS measurements. Ba – basin. Dashed rectangle – position of B. B – Shaded relief (lighting from NE) of the area marked by dashed rectangle in A. Dotted orange lines – MAR fabric. Dashed yellow lines – en échelon faults with strike varying from N110° to N160°. Dash-dotted green lines – N150° fault system. Long-dashed white lines – N110° fault system, which also mark the limits of a strip of concentrated N110° normal faulting. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

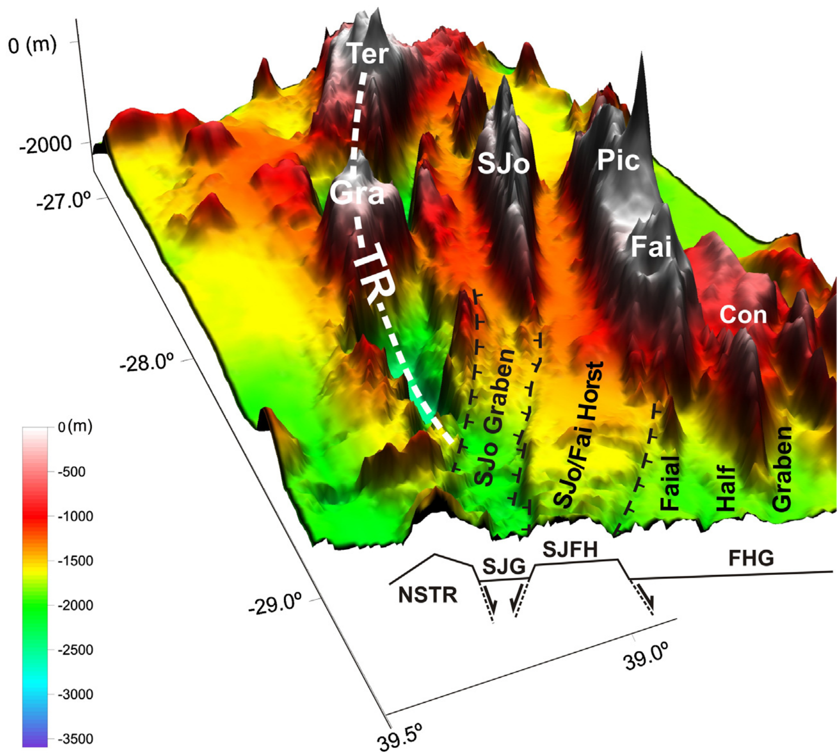

Fig. 7. 3D surface built using available bathymetry data (http://w3.ualg.pt/~jluis/misc/ac_plateau1km.grd). Note the prominent graben-horst structure close to the junction between the TR and the MAR. The islands of Terceira (Ter), Graciosa (Gra), S. Jorge (SJo), Pico (Pic) and Faial (Fai) are shown. Con – Condor seamount. NSTR – northern shoulder of the Terceira Rift (TR). SJG – S. Jorge Graben. SJFH – S. Jorge/Faial Horst. FHG – Faial Half-graben. Vertical lighting.

by the N110° and N150° faults. The S. Jorge/Faial Horst is bounded by faults that gradually change direction from N160° to N110° (Figs. 6 and 7).

(6) Linear volcanic ridges that seem to have grown mostly along N110° fractures/faults, at least during the last 400 kyr (Hildenbrand et al., 2008, 2012a, 2012b, 2013). The S. Jorge Island lies on top of the S. Jorge graben, and the Pico–Faial ridge sits on top of the northern edge of the Faial Half-graben.

(7) Strip of N110° normal faulting stretching from the MAR axis to the Faial–Pico ridge. This concentration of normal faulting

can be the result of MAR change in strike at around 39° N (Fig. 6B).

This proposed model of distributed deformation is consistent with high-resolution bathymetry (Luis, personal communication, 2012), which shows faults that crosscut the seafloor fabric.

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