

## ***Interactive comment on “Do crustal deformations observed by GPS in Tierra del Fuego (Argentina) reflect glacial-isostatic adjustment?” by L. Mendoza et al.***

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Received and published: 5 November 2010

### **1 General comments**

The paper analyses and interprets GPS-derived vertical crustal deformations in Tierra del Fuego with respect to glacial isostatic adjustment and tectonics. It presents new data in a region that, to my knowledge, has not been subject of this kind of investigation before. The paper is concisely and well written. The figures are clear and comprehensible and illustrate the content of the paper.

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As the title of the paper is formulated as a question, at some point, probably in the conclusions, it should be clearly stated that the answer is No.

### **2 Specific comments**

According to the interdisciplinary nature of TC, the authors concentrate on the interpretation of the derived crustal deformations and give little detail on technical aspects of the measurements and the processing. They rather refer to another recently submitted paper by the same authors about the horizontal deformations derived from a larger set of GPS data (Mendoza et al., 2010). However, independently from the insecure status of this apparently more comprehensive paper, the authors should consider to give some information about, for instance, number of epochs, occupation time or processing strategy in the paper itself to provide confidence in the small deformation rates they discuss. For the same reason, error bounds should be stated and discussed.

The closing remark of the abstract about the necessity to extent the area covered by GPS sites should be clarified as the paper only use a subset of 11 out of 30 existing sites.

### **3 Technical corrections**

- p. 1636 l. 16: deformation of the earth crust and mantle.
- p. 1636 l. 19: consider to include citations of other groups working on this subject
- p. 1638 l. 15: retreat instead of retread
- p. 1642 l. 13: Southernmost instead of Southernmos

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- p. 1643 Fig. 1: mark Cordillera Darwin, consider a larger font depending on the final size of the figure

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Interactive comment on The Cryosphere Discuss., 4, 1635, 2010.

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