



Interactive comment on “Hydrogeological settings of a volcanic island (San Cristóbal, Galapagos) from joint interpretation of airborne electromagnetics and geomorphological observations” by A. Pryet et al.

Anonymous Referee #2

Received and published: 4 October 2012

This work investigates the hydrogeological model of San Cristóbal Island on the base of 3-D resistivity model and geo-morphological observations. The paper is very well written; it presents an exciting data set, contain relevant results, and satisfies all usual publication criteria.

I have only few minor suggestions on results and interpretation: Fig 1: Could you indicate the same locations in Fig 1.and in Fig 5 (it's EPO and PBZ in Fig1 and “San Joaquin” and “El Junco” in Fig 5)?

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



L.11 9671: The resistivity of unit 3 is indicated as 10-40 Ohmm; in caption to Fig 4 it is 10-70 Ohmm.

Fig. 5: Four cross-sections in the NS direction seem to show a more homogeneous resistivity distribution between the windward and leeward sides than the 3-D model (in Fig 5 and in supplementary material). At least at shallow depths, the resistivity along these profiles is shown with green colour everywhere; therefore, it does not exceed 200 Ohmm even on the northern side. The 3-D model however indicates systematically > 1000 Ohmm in direct vicinity at both sides of the NS profiles. How can this difference be explained?

L. 18 9672: The resistivity contrast between the northern and southern sides of the Island are interpreted in terms of weathering difference and not as result of different water saturation. I agree with authors that this latter hypothesis is not compatible with the resistivity values of unit 6 (perched aquifer) and of the spring water. I think however that the saturation degree could explain the difference between the resistivity of the unit 2 and 7 (>400 Omm and 100-400 Ohmm respectively). A significant difference in water saturation seems very probable, taking into account huge precipitation difference between the northern and southern sides.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 9661, 2012.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

