



Foreword

Tectonics of the Levant fault system



In June 2013, for the second time, an international workshop dedicated to the tectonics of the Levant fault system and the Arabic plate was held in Paris. During two days, this meeting gathered researchers from 19 institutions and 12 countries, with 24 presentations. During this meeting, a large variety of topics were addressed, ranging from new insights into the geodynamics of the Red Sea to earthquake history along the Dead Sea fault. A key point of this meeting was actually to gather contributions focused on the same object, here the Levant fault system, but with different perspectives, to foster new collaborations and research projects. In line with this idea, several presentations were actually dealing with issues related to the palaeoclimate of this specific region, engineering issues about earthquake destructions, or the impact of the Dead Sea active tectonics on the evolution of hominins, aside from general tectonics.

At the end of this meeting, the journal *Comptes rendus Geoscience* offered to publish some of the contributions, after a classical peer-review process. As a result, five contributions are presented in this issue, giving a sense of the variety of the topics addressed during this meeting.

The first contribution, by Frédéric Masson et al. (Masson et al., 2015), describes a new velocity field determined in the region located south of the Dead Sea from repeated GPS surveys. Although their results are consistent with previously published GPS measurements, increased resolution allows the authors to address the matter of locking depth, critical to earthquake hazard assessment, in more detail, because the different surveys encompass a longer time period.

Then two contributions address issues related to the record of historical earthquakes through the destruction of historical buildings. Yacine Benjelloun et al. (Benjelloun et al., 2015) document details of the material used to build, and potentially rebuild after an earthquake, an aqueduct in

Turkey, at the northern end of the Dead Sea fault. Miklós Kázmér et al. (Kázmér and Major, 2015), along the same line, report damage to several buildings along the Ghab basin, in Syria, which are attributed to some historical earthquakes. Details of the destructions and damage in a nearby stone quarry are given, which confirm the earthquake origin of destructions.

A contribution by Yossi Mart et al. (Mart and Vachtman, 2015) discusses the geodynamics of the Dead Sea fault to emphasize its extensional component. Despite the fact that they do not necessarily support the most consensual view of the regional geodynamics, Mart and his colleagues present solid field evidence that need to be incorporated into the regional geodynamical models.

The last contribution, by Maud Hélène Devès et al. (Devès et al., 2015), addresses the interaction between evolving landscapes and the evolution of hominins in East Africa and in the Levant region. They point how the distribution of key minerals in soil, essential to the growth of a mega fauna in the region, was driving the hominins' survival strategies in these areas.

Eventually, these five contributions give a nice sampling of all topics discussed during the 2013 “Levant meeting”, and are solid scientific contributions to the field of earth sciences.

Yann Klinger, as the organizer of the “Levant fault” meeting, wants to thank Vincent Courtillot, for having offered to publish some of the results presented during the meeting in the *Comptes rendus Geoscience*.

References

- Benjelloun, Y., Sigoyer, J. (de), Carlut, J., Hubert-Ferrari, A., Dessales, H., Pamir, H., Karabacak, V., 2015. Characterization of building materials from the aqueduct of Antioch-on-the-Orontes (Turkey). *C.R. Geoscience* 347, (this issue).

- Devès, M.H., Reynolds, S., King, G.C.P., Sturdy, D., Godet, N., 2015. Insights from Earth Sciences into Human Evolution studies: the example of prehistoric landscape use in Africa and the Levant. *C.R. Geoscience* 347, (this issue).
- Kázmér, M., Major, B., 2015. Safita castle and rockfalls in the “dead villages” of coastal Syria – an archaeseismological study. *C.R. Geoscience* 347, (this issue).
- Mart, Y., Vachtman, D., 2015. The geodynamic interaction between the Neogene rivers and the segmented Levant rift system. *C.R. Geoscience* 347, (this issue).
- Masson, F., Hamiel, Y., Agnon, A., Klinger, Y., 2015. Variable behavior of the Dead Sea Fault along the southern Arava segment from GPS measurements. *C.R. Geoscience* 347, (this issue).

Guest Editor

Yann Klinger

Tectonique et mécanique de la lithosphère – Sismologie,
Institut de physique du globe de Paris, 1, rue Jussieu,
75238 Paris cedex 05, France
E-mail address: klinger@ipgp.fr

Available online 8 August 2015