

Interactive comment on “Detailed quantification of delta subsidence, compaction and interaction with man-made structures: the case of the NCA airport, France” by O. Cavalié et al.

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The discussion paper by Cavalié and co-authors provides an interesting application of a SAR-based method to characterize the land displacements experienced by the Var delta and the NCA airport over the period 2003–2011. The use of combined ascending and descending Envisat scenes has allowed the authors to distinguish between the vertical and the easting components of the movement.

The importance of an accurate monitoring of land displacements in the study area is appropriately pointed out by the authors: due to the location of the Nice airport, which

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is settled on a reclamation area close to the boundary of the alluvium Holocene margin, large land displacements can be the precursor of sudden collapse as occurred in 1979. Hence, the paper addresses a relevant technical topic perfectly matching the scope of NHESS 4, although standard methodologies of investigation are used.

The paper is well written, the overall presentation is well structured, clear and easy to understand. The authors give proper credit to related work, with an appropriate number and quality of references.

Clarity of the paper would benefit from a minor revision of the following few aspects:

- how ascending and descending LoS displacements are combined to get the vertical and easting movements? Pixels and acquisition times are different with the two orbits;
- quantitative geotechnical / geomechanical information would make more robust the research conclusions. In the present version, only qualitative arguments are provided to support the outcome interpretation;
- Figures 3c, 3d, 3e : use the same range for the vertical axis to make easier the comparison between the movement of the various areas;
- Figure 4: the subpanels are too small and the texts are impossible to read;
- p5, line 18: 2011 instead of 2001.

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