

Interactive comment on “Seismic observations at the Sodankylä Geophysical Observatory: history, present and the future title of the manuscript” by E. Kozlovskaya et al.

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Received and published: 2 February 2016

The manuscript describes the historical and present work of the Sodankylä Geophysical Observatory in terms of seismic observations, whether through permanent networks or temporary deployments.

I actually quite enjoyed this rather unusual paper (the evaluation criteria above don't really apply). We rarely take the time and energy to properly trace the historical effort and implication of institutions of people to build our facilities, and it was nice to see a big effort going into this. I can imagine that the 'getting it right' has been quite an effort, especially as the university of Helsinki is also deeply involved in seismic observations in Finland. It seems like the authors have tried to honestly describe what they did, and

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in the appropriate places acknowledges the role of the University of Helsinki, without falling into the trap of describing the Helsinki contributions in too much detail. I recommend only minor revisions. The comments below are simply aimed at helping the authors to further improve the manuscript.

1. My main comment is that there could still be some homogenization between the descriptions of temporary experiments. There are basically two categories, and it should be clear whether an experiment is in one or the other:
 - a. Experiments where SGO was a participant. In that case there are 2 options: either list the full partnership for each experiment or write something about 'an international cooperation involving X partners; for a full list of partners we refer to ... I think the second (shorter) way of doing it should be sufficient
 - b. Experiments coordinated by SGO was coordinating (e.g. POLENET/LAPNET). For those, the full partnership should be listed and more detail can be given: the coordination effort is an important one for big geophysical experiments, and that effort can be acknowledged. If this distinction and clarification is made, it would not be necessary to have the long acknowledgement section for the POLENET/LAPNET experiment. Considering the content of the article, I wonder whether there wouldn't be a better approach to how to build the acknowledgements? (Sorry to comment on this, but I think this particular manuscript warrants to think especially about that – thanking partners, participants, staff, funders etc. might be a lot more elegant than referring to one specific experiment).
2. Are there any specific challenges of installing and maintaining temporary and/or permanent seismic stations, either due to weather conditions (cold) or due to the weathered Archean rocks if vary varied type? If so, it would be interesting to see a paragraph on that.
3. The very short conclusion (4 lines) are embedded in the EPOS section. I would suggest that the authors write a real conclusion with a bit more outlook to the future and gives it a dedicated section

Additional comments:

1. Change FOSFORE Data Centre to RESIF Data Centre (appears twice)
2. The authors use the word 'found' in places where it is not the correct word. For example, a seismic station is installed, not founded. You found an organization, for example.
3. In underground tunnel -> in an underground tunnel
4. The agreement was reached -> An agreement

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was reached 5. Network code FN -> FDSN network code FN 6. Add: The Finnish data are, via the GFZ) distributed through the ORFEUS (EIDA) data distribution system 7. For each time windows -> for each time window 8. Quatum -> Quantum 9. Non-ideal one for the tomography -> non-ideal case for traveltime tomography 10. mycroseismic ->microseismic 11. Figure 8 is rather difficult to read

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., doi:10.5194/gi-2015-36, 2016.

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